

Scanning of Space Groups

Tables of monoclinic/inclined scanning for
groups of orthorhombic and higher symmetries

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ORTHORHOMBIC SYSTEM	38	Amm2	62	Pnma	85	P4/n
	39	Abm2	63	Cmcm	86	P4 ₂ /n
16 P222	40	Ama2	64	Cmca	87	I4/m
17 P222 ₁	41	Aba2	65	Cmmm	88	I4 ₁ /a
18 P2 ₁ 2 ₁ 2	42	Fmm2	66	Cccm	89	P422
19 P2 ₁ 2 ₁ 2 ₁	43	Fdd2	67	Cmma	90	P42 ₁ 2
20 C222 ₁	44	Imm2	68	Ccca	91	P4 ₁ 22
21 C222	45	Iba2	69	Fmmm	92	P4 ₁ 2 ₁ 2
22 F222	46	Ima2	70	Fddd	93	P4 ₂ 22
23 I222	47	Pmmm	71	Immm	94	P4 ₂ 2 ₁ 2
24 I2 ₁ 2 ₁ 2 ₁	48	Pnnn	72	Ibam	95	P4 ₃ 22
25 Pmm2	49	Pccm	73	Ibca	96	P4 ₃ 2 ₁ 2
26 Pmc2 ₁	50	Pban	74	Imma	97	I422
27 Pcc2	51	Pmma	TETRAGONAL SYSTEM			98 I4 ₁ 22
28 Pma2	52	Pnna	75	P4	99	P4mm
29 Pca2 ₁	53	Pmna	76	P4 ₁	100	P4bm
30 Pnc2	54	Pcca	77	P4 ₂	101	P4 ₂ cm
31 Pmn2 ₁	55	Pbam	78	P4 ₃	102	P4 ₂ nm
32 Pba2	56	Pccn	79	I4	103	P4cc
33 Pna2 ₁	57	Pbcm	80	I4 ₁	104	P4nc
34 Pnn2	58	Pnnm	81	P4̄	105	P4 ₂ mc
35 Cmm2	59	Pmmn	82	I4̄	106	P4 ₂ bc
36 Cmc2 ₁	60	Pbcn	83	P4/m	107	I4mm
37 Ccc2	61	Pbca	84	P4 ₂ /m	108	I4cm

109	I4 ₁ md	133	P4 ₂ /nbc	162	P $\bar{3}$ 1m	185	P6 ₃ cm
110	I4 ₁ cd	134	P4 ₂ /nnm	163	P $\bar{3}$ 1c	186	P6 ₃ mc
111	P $\bar{4}$ 2m	135	P4 ₂ /mbc	164	P $\bar{3}$ m1	187	P $\bar{6}$ m2
112	P $\bar{4}$ 2c	136	P4 ₂ /mnmm	165	P $\bar{3}$ c1	188	P $\bar{6}$ c2
113	P $\bar{4}$ 2,m	137	P4 ₂ /nmc	166	R $\bar{3}$ m	189	P $\bar{6}$ 2m
114	P $\bar{4}$ 2,c	138	P4 ₂ /ncm	167	R $\bar{3}$ c	190	P $\bar{6}$ 2c
115	P $\bar{4}$ m2	139	I4/mmm	HEXAGONAL SYSTEM		191	P6/mmm
116	P $\bar{4}$ c2	140	I4/mcm	168	P6	192	P6/mcc
117	P $\bar{4}$ b2	141	I4 ₁ /amd	169	P6 ₁	193	P6 ₃ /mcm
118	P $\bar{4}$ n2	142	I4 ₁ /acd	170	P6 ₅	194	P6 ₃ /mmc
119	I $\bar{4}$ m2	TRIGONAL SYSTEM		171	P6 ₂	CUBIC SYSTEM	
120	I $\bar{4}$ c2	149	P312	172	P6 ₄	195	P23
121	I $\bar{4}$ 2m	150	P321	173	P6 ₃	196	F23
122	I $\bar{4}$ 2d	151	P3 ₁ 2	174	P $\bar{6}$	197	I23
123	P4/mmm	152	P3 ₁ 21	175	P6/m	198	P2 ₁ 3
124	P4/mcc	153	P3 ₂ 12	176	P6 ₃ /m	199	I2 ₁ 3
125	P4/nbm	154	P3 ₂ 21	177	P622	200	Pm $\bar{3}$
126	P4/nnc	155	R32	178	P6 ₁ 22	201	Pn $\bar{3}$
127	P4/mbm	156	P3m1	179	P6 ₅ 22	202	Fm $\bar{3}$
128	P4/mnc	157	P31m	180	P6 ₂ 22	203	Fd $\bar{3}$
129	P4/nmm	158	P3c1	181	P6 ₄ 22	204	Im $\bar{3}$
130	P4/ncc	159	P31c	182	p6 ₃ 22	205	Pa $\bar{3}$
131	P4 ₂ /mmc	160	R3m	183	p6mm	206	Ia $\bar{3}$
132	P4 ₂ /mcm	161	R3c	184	P6cc	207	P432

208 P₄₂32

209 F432

210 F4₁32

211 I432

212 P₄₃32

213 P4₁32

214 I4₁32

215 P $\bar{4}$ 3m

216 F $\bar{4}$ 3m

217 I $\bar{4}$ 3m

218 P $\bar{4}$ 3n

219 F $\bar{4}$ 3c

220 I $\bar{4}$ 3d

221 Pm $\bar{3}$ m

222 Pn $\bar{3}$ n

223 Pm $\bar{3}$ n

224 Pn $\bar{3}$ m

225 Fm $\bar{3}$ m

226 Fm $\bar{3}$ c

227 Fd $\bar{3}$ m

228 Fd $\bar{3}$ c

229 Im $\bar{3}$ m

230 Ia $\bar{3}$ d

No. 16 $P222$ $\mathcal{G} = P222$ D_2^1

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mn0)$ $(\bar{m}n0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$	L08 L01
$(0mn)$ $(0\bar{m}n)$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$	L08 L01
$(n0m)$ $(n0\bar{m})$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$	L08 L01

No. 17 $P222_1$ $\mathcal{G} = P222_1$ D_2^2

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mn0)$ $(\bar{m}n0)$	$\begin{matrix} \mathbf{c} & n\mathbf{a} - m\mathbf{b} & p\mathbf{a} + q\mathbf{b} \\ \mathbf{c} & n\mathbf{a} + m\mathbf{b} & -p\mathbf{a} + q\mathbf{b} \end{matrix}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$	L09 L01
$(0mn)$ $(0\bar{m}n)$	$\begin{matrix} \mathbf{a} & n\mathbf{b} - m\mathbf{c} & p\mathbf{b} + q\mathbf{c} \\ \mathbf{a} & n\mathbf{b} + m\mathbf{c} & -p\mathbf{b} + q\mathbf{c} \end{matrix}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$	L08 L01
$(n0m)$ $(n0\bar{m})$ $(\mathbf{c}/4)$	$\begin{matrix} \mathbf{b} & n\mathbf{c} - m\mathbf{a} & p\mathbf{c} + q\mathbf{a} \\ \mathbf{b} & n\mathbf{c} + m\mathbf{a} & -p\mathbf{c} + q\mathbf{a} \end{matrix}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$	L08 L01

No. 18 $P2_12_12$ $\mathcal{G} = P2_12_12$ D_2^3

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mn0)$ $(\bar{m}n0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$	L08 L01
$(0mn)$ $(0\bar{m}n)$ $(\mathbf{b}/4)$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$	L09 L01
$(n0m)$ $(n0\bar{m})$ $(\mathbf{a}/4)$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$	L09 L01

No. 19 $P2_12_12_1$ $\mathcal{G} = P2_12_12_1$ D_2^4

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mn0)$ $(\bar{m}n0)$ $(\mathbf{a}/4)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$	L09 L01
$(0mn)$ $(0\bar{m}n)$ $(\mathbf{b}/4)$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$	L09 L01
$(n0m)$ $(n0\bar{m})$ $(\mathbf{c}/4)$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$	L09 L01

No. 20 $C222_1$ $\mathcal{G} = C222_1$ D_2^5

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(hk0)$ $(\bar{h}k0)$	$\mathbf{c} \quad n\hat{\mathbf{a}} - m\hat{\mathbf{b}} \quad p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ $\mathbf{c} \quad n\hat{\mathbf{a}} + m\hat{\mathbf{b}} \quad -p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$				h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$
$(0mn)$ $(0\bar{m}n)$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$ n odd m even q odd m odd q odd p odd m odd q even	$C211$ $I211$ $B211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$c211$ $\hat{p}1$ $p211$ $p2_111 (\mathbf{b}'/4)$ $p1$ $p211$ $p2_111$ $p1$
$(n0m)$ $(n0\bar{m})$ $(\mathbf{c}/4)$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$ n odd p even q odd n even p odd n odd p odd	$B211$ $C211$ $I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111$ $p1$ $p211$ $p2_111 (\mathbf{b}'/4)$ $p1$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(hk0)$ $(\bar{h}k0)$	$\mathbf{c} \quad n\hat{\mathbf{a}} - m\hat{\mathbf{b}} \quad p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ $\mathbf{c} \quad n\hat{\mathbf{a}} + m\hat{\mathbf{b}} \quad -p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ L08 $p1$ L01
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$				h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$
$(0mn)$ $(0\bar{m}n)$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$ n odd m even q odd m odd q odd p odd m odd q even	$C211$ $I211$ $B211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$c211$ L10 $\hat{p}1$ L01 $p211$ L08 $p2_{111} (\mathbf{b}'/4)$ L09 $p1$ L01 $p211$ L08 $p2_{111}$ L09 $p1$ L01
$(n0m)$ $(n0\bar{m})$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$ n odd p even q odd n even m odd p odd n odd p odd	$B211$ $C211$ $I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ L08 $p2_{111}$ L09 $p1$ L01 $c211$ L10 $\hat{p}1$ L01 $p211$ L08 $p2_{111} (\mathbf{b}'/4)$ L09 $p1$ L01

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
$(hk0)$ $(\bar{h}k0)$	$\mathbf{c} \quad n\hat{\mathbf{a}} - m\hat{\mathbf{b}} \quad p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p211 $p_{2111}(\mathbf{b}'/4)$ p1 p211 p_{2111} p1 c211 $\hat{p}1$		
	$\mathbf{c} \quad n\hat{\mathbf{a}} + m\hat{\mathbf{b}} \quad -p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$					
	n odd m even					
	p even q odd					
	or					
	n even m odd					
	p odd q even					
	p odd q odd					
	n odd m odd					
	$C211$		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$			
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$						
h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$						
$(0hk)$ $(0\bar{h}k)$	$\mathbf{a} \quad n\hat{\mathbf{a}} - m\hat{\mathbf{b}} \quad p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p211 $p_{2111}(\mathbf{b}'/4)$ p1 p211 p_{2111} p1 c211 $\hat{p}1$		
	$\mathbf{a} \quad n\hat{\mathbf{a}} + m\hat{\mathbf{b}} \quad -p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$					
	n odd m even					
	p even q odd					
	or					
	n even m odd					
	p odd q even					
	p odd q odd					
	n odd m odd					
	$C211$		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$			
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$ $\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$						
h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$						
$(k0h)$ $(k0\bar{h})$	$\mathbf{b} \quad n\hat{\mathbf{a}} - m\hat{\mathbf{b}} \quad p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p211 $p_{2111}(\mathbf{b}'/4)$ p1 p211 p_{2111} p1 c211 $\hat{p}1$		
	$\mathbf{b} \quad n\hat{\mathbf{a}} + m\hat{\mathbf{b}} \quad -p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$					
	n odd m even					
	p even q odd					
	or					
	n even m odd					
	p odd q even					
	p odd q odd					
	n odd m odd					
	$C211$		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$			
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{a})/2$ $\hat{\mathbf{b}} = (\mathbf{c} + \mathbf{a})/2$						
h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$						

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
$(mn0)$ $(\overline{m}n0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$	L08		
	$\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$					$p_{2111} (\mathbf{b}'/4)$	L09		
	n odd m even					$p1$	L01		
	p even q odd								
	or								
	n even m odd			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$	L08		
	p odd q even					p_{2111}	L09		
	p odd q odd					$p1$	L01		
	n odd m odd			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$	L10		
						$\widehat{p}1$	L01		
$(0mn)$ $(0\overline{m}n)$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$	L08		
	$\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$					$p_{2111} (\mathbf{b}'/4)$	L09		
	n odd m even					$p1$	L01		
	p even q odd								
	or								
	n even m odd			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$	L08		
	p odd q even					p_{2111}	L09		
	p odd q odd					$p1$	L01		
	n odd m odd			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$	L10		
						$\widehat{p}1$	L01		
$(n0m)$ $(n0\overline{m})$	$\mathbf{b} \quad nc - ma \quad pc + qa$			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$	L08		
	$\mathbf{b} \quad nc + ma \quad -pc + qa$					$p_{2111} (\mathbf{b}'/4)$	L09		
	n odd m even					$p1$	L01		
	p even q odd								
	or								
	n even m odd			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$	L08		
	p odd q even					p_{2111}	L09		
	p odd q odd					$p1$	L01		
	n odd m odd			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$	L10		
						$\widehat{p}1$	L01		

No. 24 $I2_12_12_1$ $\mathcal{G} = I2_12_12_1$ D_2^9

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(mn0) ($\overline{m}n0$) ($\mathbf{b}/4$)	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111}(\mathbf{b}'/4)$ $p1$
	$\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$			
	n odd m even p even q odd or n even m odd p odd q even p odd q odd			
	n odd m odd		$B211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$
	n odd m odd		$C211$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\widehat{p}1$
	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111}(\mathbf{b}'/4)$ $p1$
	$\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$			
	n odd m even p even q odd or n even m odd p odd q even p odd q odd			
	n odd m odd		$B211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$
	n odd m odd		$C211$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\widehat{p}1$
(0mn) (0 $\overline{m}n$) ($\mathbf{c}/4$)	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111}(\mathbf{b}'/4)$ $p1$
	$\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$			
	n odd m even p even q odd or n even m odd p odd q even p odd q odd			
	n odd m odd		$B211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$
	n odd m odd		$C211$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\widehat{p}1$
	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111}(\mathbf{b}'/4)$ $p1$
	$\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$			
	n odd m even p even q odd or n even m odd p odd q even p odd q odd			
	n odd m odd		$B211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$
	n odd m odd		$C211$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\widehat{p}1$

No. 25 $Pmm2$ $\mathcal{G} = Pmm2$ C_{2v}^1

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{m}\bar{n}0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$
$(0mn)$ $(0\bar{m}\bar{n})$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$	$Pm11$	$s\mathbf{d}$	$pm11$
$(n0m)$ $(n0\bar{m})$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$	$Pm11$	$s\mathbf{d}$	$pm11$

No. 26 $Pmc2_1$ $\mathcal{G} = Pmc2_1$ C_{2v}^2

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{m}n0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$
$(0mn)$ $(0\bar{m}n)$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$	$Pm11$	$s\mathbf{d}$	$pm11$
$(n0m)$ $(n0\bar{m})$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$ n odd m even q odd m odd q odd m odd p odd q even	$Pb11$ $Pn11$ $Pc11$	$s\mathbf{d}$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$ $p1$ $p1$
				L12 L01 L01

No. 27 $Pcc2$ $\mathcal{G} = Pcc2$ C_{2v}^3

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
($mn0$) ($\bar{m}\bar{n}0$)	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$
($0mn$) ($0\bar{m}n$)	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$ n odd p even n even p odd n odd p odd	$Pc11$ $Pb11$ $Pn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $s\mathbf{d}$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$ $pb11$ $p1$
($n0m$) ($n0\bar{m}$)	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$ n odd m even q odd m odd q odd m odd q even	$Pb11$ $Pn11$ $Pc11$	$s\mathbf{d}$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$ $p1$ $p1$

No. 28 $Pma2$ $\mathcal{G} = Pma2$ C_{2v}^4

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{m}n0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$
$(0mn)$ $(0\bar{m}n)$ $(\mathbf{a}/4)$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$	$Pm11$	$s\mathbf{d}$	$pm11$
$(n0m)$ $(n0\bar{m})$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$ n odd p even q odd n even m odd p odd n odd p odd	$Pc11$ $Pb11$ $Pn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $s\mathbf{d}$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$ $pb11$ $p1$
				L01 L12 L01

No. 29 $Pca2_1$ $\mathcal{G} = Pca2_1$ C_{2v}^5

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\overline{m}n0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$
$(0mn)$ $(0\overline{m}n)$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$	$Pc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$
$(\mathbf{a}/4)$	n odd p even n even p odd n odd p odd	q odd m odd	$Pb11$	$s\mathbf{d}$
			$Pn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$
$(n0m)$ $(n0\overline{m})$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$	$Pc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$
	n odd p even n even p odd n odd p odd	q odd m odd	$Pb11$	$s\mathbf{d}$
			$Pn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$

No. 30 $Pnc2$ $\mathcal{G} = Pnc2$ C_{2v}^6

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{m}n0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$
$(0mn)$ $(0\bar{m}n)$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$ n odd m even p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$Pn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$
		$Pc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$
		$Pb11$	$s\mathbf{d}$	$pb11$
$(n0m)$ $(n0\bar{m})$ $(\mathbf{b}/4)$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$ n odd m even q odd m odd q odd m odd p odd q even	$Pb11$ $Pn11$ $Pc11$	$s\mathbf{d}$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$ $p1$ $p1$
				$L12$
				$L01$
				$L01$

No. 31 $Pmn2_1$ $\mathcal{G} = Pmn2_1$ C_{2v}^7

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\overline{m}n0)$ $(\mathbf{a}/4)$	$\begin{array}{lll} \mathbf{c} & n\mathbf{a} - m\mathbf{b} & p\mathbf{a} + q\mathbf{b} \\ \mathbf{c} & n\mathbf{a} + m\mathbf{b} & -p\mathbf{a} + q\mathbf{b} \end{array}$			$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$
$(0mn)$ $(0\overline{m}n)$	$\begin{array}{lll} \mathbf{a} & n\mathbf{b} - m\mathbf{c} & p\mathbf{b} + q\mathbf{c} \\ \mathbf{a} & n\mathbf{b} + m\mathbf{c} & -p\mathbf{b} + q\mathbf{c} \end{array}$			$Pm11$	$s\mathbf{d}$	$pm11$
$(n0m)$ $(n0\overline{m})$	$\begin{array}{lll} \mathbf{b} & n\mathbf{c} - m\mathbf{a} & p\mathbf{c} + q\mathbf{a} \\ \mathbf{b} & n\mathbf{c} + m\mathbf{a} & -p\mathbf{c} + q\mathbf{a} \end{array}$	n odd p even or n even p odd p odd n odd	m even q odd m odd q even q odd m odd	$Pn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$
				$Pc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$
				$Pb11$	$s\mathbf{d}$	$pb11$
						L01
						L12

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{m}n0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$ L08 L01
$(0mn)$ $(0\bar{m}n)$ $(\mathbf{a}/4)$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$ n odd m even q odd m odd q odd m odd p odd q even	$Pb11$ $Pn11$ $Pc11$	$s\mathbf{d}$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$ $p1$ $p1$ L12 L01 L01
$(n0m)$ $(n0\bar{m})$ $(\mathbf{b}/4)$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$ n odd q odd p even n even m odd p odd n odd p odd	$Pc11$ $Pb11$ $Pn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $s\mathbf{d}$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$ $pb11$ $p1$ L01 L12 L01

No. 33 $Pna2_1$ $\mathcal{G} = Pna2_1$ C_{2v}^9

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
($mn0$) ($\overline{m}n0$)	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$	L09 L01
($0mn$) ($0\overline{m}n$) ($\mathbf{a}/4$)	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$ n odd m even p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$Pn11$ $Pc11$ $Pb11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $s\mathbf{d}$	$p1$ $p1$ $pb11$	L01 L01 L12
($n0m$) ($n0\overline{m}$) ($\mathbf{b}/4$)	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$ n odd p even q odd n even p odd m odd n odd p odd	$Pc11$ $Pb11$ $Pn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $s\mathbf{d}$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$ $pb11$ $p1$	L01 L12 L01

No. 34 $Pnn2$ $\mathcal{G} = Pnn2$ C_{2v}^{10}

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{m}n0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$ L08 L01
$(0mn)$ $(0\bar{m}n)$ $(\mathbf{a}/4)$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$ n odd m even p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$Pn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$ L01
		$Pc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$ L01
		$Pb11$	$s\mathbf{d}$	$pb11$ L12
$(n0m)$ $(n0\bar{m})$ $(\mathbf{b}/4)$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$ n odd m even p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$Pn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$ L01
		$Pc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$ L01
		$Pb11$	$s\mathbf{d}$	$pb11$ L12

No. 35 $Cmm2$ $\mathcal{G} = Cmm2$ C_{2v}^{11}

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
$(hk0)$ $(\bar{h}k0)$	$\mathbf{c} \quad n\hat{\mathbf{a}} - m\hat{\mathbf{b}} \quad p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ $\mathbf{c} \quad n\hat{\mathbf{a}} + m\hat{\mathbf{b}} \quad -p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$	L08 L01	
	$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$					
	h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$					
	h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$					
$(0mn)$ $(0\bar{m}n)$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$	n odd m even q odd m odd q odd m odd q even	$Cm11$ $Im11$ $Bm11$	$s\mathbf{d}$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$cm11$ $pm11$ $pm11$	L13 L11 L11
$(n0m)$ $(n0\bar{m})$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$	n odd p even n even p odd n odd p odd	$Bm11$ $Cm11$ $Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $s\mathbf{d}$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$ $cm11$ $pm11$	L11 L13 L11

No. 36 $Cmc2_1$ $\mathcal{G} = Cmc2_1$ C_{2v}^{12}

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(hk0)$ $(\bar{h}k0)$	$\mathbf{c} \quad n\hat{\mathbf{a}} - m\hat{\mathbf{b}} \quad p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ $\mathbf{c} \quad n\hat{\mathbf{a}} + m\hat{\mathbf{b}} \quad -p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$ h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$				
$(0mn)$ $(0\bar{m}n)$				
	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$	$Cm11$	$s\mathbf{d}$	$cm11$
	n odd m even q odd			
	m odd q odd			
	m odd q odd	$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$
	p odd q even		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$
$(n0m)$ $(n0\bar{m})$				
	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$	$Bb11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$
	n odd m even p even q odd			
	n even m odd p odd q even	$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
	n even m odd p odd q odd		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
	n odd m odd p even q odd	$Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
	n odd m odd p odd q even		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
	n odd m even p odd q odd	$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$
		$Ic11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$
		$Ib11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(hk0)$ $(\bar{h}k0)$	$\mathbf{c} \quad n\hat{\mathbf{a}} - m\hat{\mathbf{b}} \quad p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ $\mathbf{c} \quad n\hat{\mathbf{a}} + m\hat{\mathbf{b}} \quad -p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$	L08 L01
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$ h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$					
$(0mn)$ $(0\bar{m}n)$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$ n odd m even p even q odd n even m odd p odd q even n even m odd p odd q odd n odd m odd p even q odd n odd m odd p odd q even n odd m even p odd q odd	$Cc11$ $Bb11$ $Ib11$ $Ic11$ $Bn11$ $Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ $pb11$ $pb11$ $pb11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$ $\hat{p}1$	L01 L12 L12 L12 L12 L01
$(n0m)$ $(n0\bar{m})$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$ n odd m even p even q odd n even m odd p odd q even n even m odd p odd q odd n odd m odd p even q odd n odd m odd p odd q even n odd m even p odd q odd	$Bb11$ $Cc11$ $Cn11$ $Bn11$ $Ic11$ $Ib11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$ $\hat{p}1$ $\hat{p}1$ $pb11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$ $pb11$	L12 L01 L01 L12 L12 L12

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mn0)$ $(\bar{m}n0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$B211$ $C211$ $I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$	
	$\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$				
	n odd				
	p even		q odd	$\hat{p}1$	
	n even		m odd	$c211$	
	p odd			$\hat{p}1$	
	n odd			$p211$	
	p odd			$p_{2111}(\mathbf{b}'/4)$	
				$p1$	
				L01	
$(0kl)$ $(\bar{k}l0)$	$\mathbf{a} \quad \hat{n\mathbf{a}} - m\hat{\mathbf{b}} \quad p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ $\mathbf{a} \quad \hat{n\mathbf{a}} + m\hat{\mathbf{b}} \quad -p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$Pm11$	$s\mathbf{d}$	$pm11$	L11
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$		k even, l odd or k odd, l even $\Rightarrow n = k + l, m = k - l$ k, l odd $\Rightarrow n = (k + l)/2, m = (k - l)/2$			
$(n0m)$ $(n0\bar{m})$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$	$Cm11$ $Im11$ $Bm11$	$s\mathbf{d}$	$cm11$	L13
	$\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$				
	n odd		m even	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	L11
			q odd		
	m odd		q odd		
			m odd		
	p odd		q even		

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{m}n0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$B211$ $C211$ $I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111$ $p1$
	$\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$			$L08$ $L09$ $L01$
	n odd			$c211$
	p even		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\mathbf{s}\mathbf{d}, -s\mathbf{d}]$	$\hat{p}1$
	q odd			$L01$
	n even	m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$
	p odd			$L08$
	n odd			$p2_111$ ($\mathbf{b}'/4$)
	p odd			$p1$
				$L09$
$(0kl)$ $(\bar{k}l0)$	$\mathbf{a} \quad n\hat{\mathbf{a}} - m\hat{\mathbf{b}} \quad p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$Pn11$ $Pc11$ $Pb11$	$[\mathbf{s}\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$
	$\mathbf{a} \quad n\hat{\mathbf{a}} + m\hat{\mathbf{b}} \quad -p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			$L01$
	n odd			$Pn11$
	m eve			$Pc11$
	p even			$Pb11$
	or			
	n even	m odd	$[\mathbf{s}\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$
	p odd			$L01$
	q even			
	p odd	q odd	$[\mathbf{s}\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$Pb11$
	n odd			$L12$
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$		$\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$	k even, l odd or k odd, l even $\Rightarrow n = k + l, m = k - l$ k, l odd $\Rightarrow n = (k + l)/2, m = (k - l)/2$	
$(n0m)$ $(n0\bar{m})$ $(\mathbf{b}/4)$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$	$Cm11$	$s\mathbf{d}$	$cm11$
	$\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$			
	n odd			
	m even	$Im11$	$[\mathbf{s}\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$
	q odd			
	m odd			
	q odd			
	p odd	$Bm11$	$[\mathbf{s}\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$
	q even			
				$L11$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
$(mn0)$ $(\overline{m}n0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{21}11$ $p1$		
	$\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$					
	n odd					
	p even		q odd	$L08$ $L09$ $L01$		
	n even	m odd				
	p odd	$C211$	$c211$ $\hat{p}1$			
	n odd	$I211$	$p211$ $p_{21}11 (\mathbf{b}'/4)$ $p1$			
	p odd		$L10$ $L09$ $L01$			
$(0kl)$ $(\bar{k}l0)$ $(\mathbf{a}/4)$	$\mathbf{a} \quad n\hat{\mathbf{a}} - m\hat{\mathbf{b}} \quad p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$Pm11$	$s\mathbf{d}$	$pm11$ $L11$		
	$\mathbf{a} \quad n\hat{\mathbf{a}} + m\hat{\mathbf{b}} \quad -p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$					
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$		$\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$				
		k even, l odd or k odd, l even $\Rightarrow n = k + l, m = k - l$ k, l odd $\Rightarrow n = (k + l)/2, m = (k - l)/2$				
$(n0m)$ $(n0\overline{m})$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$	$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ $L01$		
	$\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$					
	n odd					
	p even					
	q odd					
	n even					
	m odd					
	p odd					
	q even					
	n even					
	m odd					
	p odd					
	q odd					
	n odd	$Bb11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$ $L12$		
	m odd					
	p even	$Ib11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$ $L12$		
	q odd					
	n odd	$Ic11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ $L12$		
	m odd					
	p even	$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ $L12$		
	q odd					
	n odd	$Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ $L01$		
	m even					
	p odd					
	q odd					

No. 41 *Aba2* C_{2v}^{17}

$$\mathcal{G} = Aba2$$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(mn0) ($\bar{m}n0$)	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p211 L08
	$\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$			
	n odd			
	p even	q odd	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p2 ₁ 11 L09
	n even			
	p odd			
	n odd	m odd	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	c211 L10
	p odd		$[s\mathbf{d}, -s\mathbf{d}]$	$\hat{p}1$ L01
	n odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p211 L08
	p odd			
(0kl) ($\bar{k}l0$) ($\mathbf{a}/4$)	$\mathbf{a} \quad \hat{n\mathbf{a}} - m\hat{\mathbf{b}} \quad p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$Pn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	p1 L01
	$\mathbf{a} \quad \hat{n\mathbf{a}} + m\hat{\mathbf{b}} \quad -p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			
	n odd	m eve		
	p even	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	p1 L01	
	or			
	n even			
	p odd			
	p odd			
	n odd			
	$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$	k even, l odd or k odd, l even $\Rightarrow n = k + l, m = k - l$ k, l odd $\Rightarrow n = (k + l)/2, m = (k - l)/2$	Pc11 Pb11	
	$\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$			
(n0m) ($n0\bar{m}$) ($\mathbf{b}/4$)	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$	$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ L01
	$\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$			
	n odd	m even		
	p even	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	pb11 L12	
	n even			
	p odd			
	n even			
	p odd			
	n odd			
	p even			
	n odd			
	p odd			
	n odd			
	p odd			
	n odd	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	pb11 ($\mathbf{a}'/4$) L12	
	p odd			
	n odd	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	pb11 ($\mathbf{a}'/4$) L12	
	p odd			
	n odd	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ L01	
	p odd			

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d	Scanning group \mathcal{H}	Linear orbit s d	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(hk0) ($\bar{h}k0$)	c $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	<i>I</i> 211	[0 d , $\frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}$, $\frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	p211 p2 ₁ 11 (b' /4) p1
	c $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			
	<i>n</i> odd <i>m</i> even			
	<i>p</i> even <i>q</i> odd			L08 L09 L01
	or			
	<i>n</i> even <i>m</i> odd		[0 d , $\frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}$, $\frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	L08 L09 L01
	<i>p</i> odd <i>q</i> even			
	<i>p</i> odd <i>q</i> odd			
	<i>n</i> odd <i>m</i> odd	<i>B</i> 211	[0 d , $\frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}$, $\frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	L08 L09 L01
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$	h even, <i>k</i> odd or <i>h</i> odd, <i>k</i> even $\Rightarrow n = h + k, m = h - k$	<i>C</i> 211	0 d , $\frac{1}{2}\mathbf{d}$ [s d , $-\mathbf{s}\mathbf{d}$]	c211 p1 $\hat{p}1$
	h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$			
	$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$ $\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$	<i>I</i> m11		
		[s d , $(s + \frac{1}{2})\mathbf{d}$]	pm11	
		<i>B</i> m11	L11	
		s d	cm11	
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{a})/2$ $\hat{\mathbf{b}} = (\mathbf{c} + \mathbf{a})/2$	h even, <i>k</i> odd or <i>h</i> odd, <i>k</i> even $\Rightarrow n = h + k, m = h - k$	<i>I</i> m11	[s d , $(s + \frac{1}{2})\mathbf{d}$]	pm11
	h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$			
	<i>B</i> m11		L11	
	s d		cm11	

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(<i>hk0</i>) ($\bar{h}k0$)	$\mathbf{c} \quad n\hat{\mathbf{a}} - m\hat{\mathbf{b}} \quad p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ $\mathbf{c} \quad n\hat{\mathbf{a}} + m\hat{\mathbf{b}} \quad -p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			
	n odd m even p even q odd or n even m odd p odd q even p odd q odd	<i>I</i> 211	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	<i>p</i> 211 <i>p</i> 2 ₁ 11 ($\mathbf{b}'/4$) <i>p</i> 1
	n odd m odd	<i>B</i> 211	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	<i>p</i> 211 <i>p</i> 2 ₁ 11 <i>p</i> 1
		<i>C</i> 211	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	<i>c</i> 211 $\hat{p}1$
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$				
h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$				
(0 <i>hk</i>) (0 $\bar{h}k$) ($\mathbf{a}/8$)	$\mathbf{a} \quad n\hat{\mathbf{a}} - m\hat{\mathbf{b}} \quad p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ $\mathbf{a} \quad n\hat{\mathbf{a}} + m\hat{\mathbf{b}} \quad -p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			
	n odd m even p even q odd n even m odd p odd q even n even m odd p odd q odd n odd m odd p even q odd n odd m odd p odd q even n odd m even p odd q odd	<i>I</i> c11 <i>I</i> b11 <i>B</i> b11 <i>C</i> c11 <i>C</i> n11 <i>B</i> n11	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	<i>pb</i> 11 ($\mathbf{a}'/4$) <i>pb</i> 11 <i>pb</i> 11 $\hat{p}1$ $\hat{p}1$ <i>pb</i> 11 ($\mathbf{a}'/4$)
				L12 L12 L12 L01 L01 L12
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$ $\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$				
h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$				

Continued

No. 43 $Fdd2$

Continued

 $\mathcal{G} = Fdd2$ C_{2v}^{19}

$(k0h)$	\mathbf{b}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			
$(k0\bar{h})$	\mathbf{b}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			
$(\mathbf{a}/8)$	n odd	m even		$Ic11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
	p even	q odd		$Ib11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$
	n even	m odd		$Bb11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$
	p odd	q even		$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
	n even	m odd		$Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
	p odd	q odd		$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
	n odd	m odd				
	p odd	q even				
	n odd	m even				
	p odd	q odd				
$\begin{aligned}\hat{\mathbf{a}} &= (\mathbf{c} - \mathbf{a})/2 \\ \hat{\mathbf{b}} &= (\mathbf{c} + \mathbf{a})/2\end{aligned}$				$\begin{aligned}h \text{ even, } k \text{ odd or } h \text{ odd, } k \text{ even} &\Rightarrow n = h + k, m = h - k \\ h, k \text{ odd} &\Rightarrow n = (h + k)/2, m = (h - k)/2\end{aligned}$		

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mn0)$ $(\overline{m}n0)$	c $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p211 p ₂ 111 ($\mathbf{b}'/4$) p1	
	c $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$				
	n odd m even				
	p even q odd			L08 L09 L01	
	or				
	n even m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$		
	p odd q even				
	p odd q odd				
	n odd m odd	$B211$	L08 L09 L01		
$(0mn)$ $(0\overline{m}n)$	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$	$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	pm11 L11	
	a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$				
	n odd m even				
	p even q odd		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	L11 L13	
	or				
	n even m odd				
	p odd q even				
	p odd q odd				
	n odd m odd	$Bm11$			
$(n0m)$ $(n0\overline{m})$	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$	$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	pm11 L11	
	b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$				
	n odd m even				
	p even q odd		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	L11 L13	
	or				
	n even m odd				
	p odd q even				
	p odd q odd				
	n odd m odd	$Bm11$			

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\overline{m}n0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$
	$\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$			
	n odd m even			
	p even q odd			$L08$ $L09$
	or			
	n even m odd		$B211$	$p211$ p_{2111} $p1$
	p odd q even			
	p odd q odd			
	n odd m odd	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c211$
			$[s\mathbf{d}, -s\mathbf{d}]$	$\widehat{p}1$
$(0mn)$ $(0\overline{m}n)$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$	$Ic11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
	$\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$			
	n odd m even	$Ib11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$
	p even q odd			
	n even m odd	$Bb11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$
	p odd q even			
	n even m odd	$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}1$
	p odd q odd			
	n odd m odd	$Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}1$
	p even q odd			
	n odd m odd	$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
	p odd q even			
	n odd m even			
	p odd q odd			
$(n0m)$ $(n0\overline{m})$	$\mathbf{b} \quad nc - ma \quad pc + qa$	$Ib11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$
	$\mathbf{b} \quad nc + ma \quad -pc + qa$			
	n odd m even	$Ic11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
	p even q odd			
	n even m odd	$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
	p odd q even			
	n even m odd	$Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}1$
	p odd q odd			
	n odd m odd	$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}1$
	p even q odd			
	n odd m odd	$Bb11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$
	p odd q even			
	n odd m even			
	p odd q odd			

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\overline{m}n0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{21}11 (\mathbf{b}'/4)$ $p1$
	$\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$			
	n odd m even			
	p even q odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{21}11$ $p1$
	or			
	n even m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$c211$ $\hat{p}1$
	p odd q even			
	p odd q odd			
	n odd m odd	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$L01$
$(0mn)$ $(0\overline{m}n)$ $(\mathbf{a}/4)$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$	$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$
	$\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$			
	n odd m even			
	p even q odd		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$
	or			
	n even m odd			
	p odd q even			
	p odd q odd			
	n odd m odd		$s\mathbf{d}$	$cm11$
$(n0m)$ $(n0\overline{m})$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$	$Ic11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
	$\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$			
	n odd m even			
	p even q odd		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$
	n even m odd			
	p odd q even			
	n even m odd		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$
	p odd q odd			
	n odd m odd			
	p even q odd		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
	n odd m odd			
	p odd q even			
	n odd m even	$Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
	p odd q odd			
	n odd m even	$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
	p odd q odd			

No. 47 $Pmmm$

$$\mathcal{G} = P_{\frac{2}{m} \frac{2}{m} \frac{2}{m}}^{\frac{2}{m} \frac{2}{m} \frac{2}{m}}$$

 D_{2h}^1

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mn0)$ $(\overline{m}\overline{n}0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/m11$ $pm11$	L14 L11
$(0mn)$ $(0\overline{m}\overline{n})$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/m11$ $pm11$	L14 L11
$(n0m)$ $(n0\overline{m})$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/m11$ $pm11$	L14 L11

No. 48 $Pnnn$

$$\mathcal{G} = P_{n\bar{n}\bar{n}}^{\frac{2}{2}\frac{2}{2}\frac{2}{2}} \quad \text{origin 1}$$

 D_{2h}^2

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $\mathbf{s}\mathbf{d}$	Sectional layer group $\mathcal{L}(\mathbf{s}\mathbf{d})$			
$(mn0)$ $(\overline{m}n0)$ $[(\mathbf{a} + \mathbf{b} + \mathbf{c})/4]$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$			
	$\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$						
	n odd m even						
	p even q odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L08$ $L01$			
	or						
	n even m odd						
	p odd q even						
	p odd q odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L08$ $L01$			
	n odd m odd						
$(0mn)$ $(0\overline{m}n)$ $[(\mathbf{a} + \mathbf{b} + \mathbf{c})/4]$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$			
	$\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$						
	n odd m even						
	p even q odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L08$ $L01$			
	or						
	n even m odd						
	p odd q even						
	p odd q odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L08$ $L01$			
	n odd m odd						
$(n0m)$ $(n0\overline{m})$ $[(\mathbf{a} + \mathbf{b} + \mathbf{c})/4]$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$			
	$\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$						
	n odd m even						
	p even q odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L08$ $L01$			
	or						
	n even m odd						
	p odd q even						
	p odd q odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L08$ $L01$			
	n odd m odd						

Continued

No. 48 $Pnnn$

Continued

$$\mathcal{G} = P_{n\bar{n}\bar{n}}^{\frac{2}{2}\frac{2}{2}} \quad \text{origin 2}$$

 D_{2h}^2

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit sd	Sectional layer group $\mathcal{L}(sd)$	
	a'	b'	d				
$(mn0)$ $(\bar{m}n0)$	c	$na - mb$	$pa + qb$	$P2/n11$			
	c	$na + mb$	$-pa + qb$		$[0d, \frac{1}{2}d]$	$p\bar{1}$	
		n odd	m even		$[\frac{1}{4}d, \frac{3}{4}d]$	$L02$	
		p even	q odd		$[\pm sd, (\pm s + \frac{1}{2})d]$	$p211 (\mathbf{b}'/4)$	
		or				$L08$	
		n even	m odd			$p1$	
		p odd	q even			$L01$	
		p odd	q odd		$[0d, \frac{1}{2}d]$	$p\bar{1}$	
		n odd			$[\frac{1}{4}d, \frac{3}{4}d]$	$L02$	
		m odd			$[\pm sd, (\pm s + \frac{1}{2})d]$	$L08$	
$(0mn)$ $(0\bar{m}n)$	a	$nb - mc$	$pb + qc$	$P2/n11$			
	a	$nb + mc$	$-pb + qc$		$[0d, \frac{1}{2}d]$	$p\bar{1}$	
		n odd	m even		$[\frac{1}{4}d, \frac{3}{4}d]$	$L02$	
		p even	q odd		$[\pm sd, (\pm s + \frac{1}{2})d]$	$p211 (\mathbf{b}'/4)$	
		or				$L08$	
		n even	m odd			$p1$	
		p odd	q even			$L01$	
		p odd	q odd		$[0d, \frac{1}{2}d]$	$p\bar{1}$	
		n odd			$[\frac{1}{4}d, \frac{3}{4}d]$	$L02$	
		m odd			$[\pm sd, (\pm s + \frac{1}{2})d]$	$L08$	
$(n0m)$ $(n0\bar{m})$	b	$nc - ma$	$pc + qa$	$P2/n11$			
	b	$nc + ma$	$-pc + qa$		$[0d, \frac{1}{2}d]$	$p\bar{1}$	
		n odd	m even		$[\frac{1}{4}d, \frac{3}{4}d]$	$L02$	
		p even	q odd		$[\pm sd, (\pm s + \frac{1}{2})d]$	$p211 (\mathbf{b}'/4)$	
		or				$L08$	
		n even	m odd			$p1$	
		p odd	q even			$L01$	
		p odd	q odd		$[0d, \frac{1}{2}d]$	$p\bar{1}$	
		n odd			$[\frac{1}{4}d, \frac{3}{4}d]$	$L02$	
		m odd			$[\pm sd, (\pm s + \frac{1}{2})d]$	$L08$	

No. 49 *Pccm* D_{2h}^3

$$\mathcal{G} = P_{c\ c\ m}^{2\ 2\ 2}$$

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(<i>mn0</i>) ($\bar{m}n0$)	\mathbf{c} $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$ \mathbf{c} $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$			$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2/m11$ $pm11$ L14 L11
(0 <i>mn</i>) (0 <i>$\bar{m}n$</i>)	\mathbf{a} $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$ \mathbf{a} $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$	p even	q odd	$P2/c11$	[$0\mathbf{d}, \frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p211$ $p1$ L02 L08 L01
					$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2/b11$ $pb11$ L16 L12
					$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$ L02 L08 L01
				$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2/b11$ $pb11$ L16 L12
					$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$ L02 L08 L01
(0 <i>n0m</i>) (0 <i>$\bar{n}0m$</i>)	\mathbf{b} $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$ \mathbf{b} $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$	n odd	m even	$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2/b11$ $pb11$ L16 L12
					$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$ L02 L08 L01
					$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$ L02 L08 L01
				$P2/n11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$ L02 L08 L01
					$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p211$ $p1$ L02 L08 L01
		p odd	q even	$P2/c11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p211$ $p1$ L02 L08 L01
					$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p211$ $p1$ L02 L08 L01
					$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p211$ $p1$ L02 L08 L01

No. 50 *Pban*

$$\mathcal{G} = P_{\overline{b} \overline{a} n}^{2 \frac{2}{2} \frac{2}{2}} \text{ origin 1}$$

 D_{2h}^4

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d	Scanning group \mathcal{H}	Linear orbit s d	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(mn0) ($\overline{m}\overline{n}0$) [($\mathbf{a} + \mathbf{b}$)/4]	c $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$ c $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$ <i>n</i> odd <i>m</i> even <i>p</i> even <i>q</i> odd or <i>n</i> even <i>m</i> odd <i>p</i> odd <i>q</i> even <i>p</i> odd <i>q</i> odd <i>n</i> odd <i>m</i> odd	$P2/n11$ $P2/c11$ $P2/b11$	[0 d , $\frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}$, $\frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ L02
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}$, $\frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p211$ ($\mathbf{b}'/4$) L08
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p1$ L01
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ L02
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p211$ L08
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p1$ L01
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\pm s\mathbf{d}$, $-\mathbf{sd}$]	$p2/b11$ L16
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\pm s\mathbf{d}$, $-\mathbf{sd}$]	$pb11$ L12
(0mn) (0 $\overline{m}n$) [($\mathbf{a} + \mathbf{b}$)/4]	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$ a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$ <i>n</i> odd <i>m</i> even <i>q</i> odd <i>m</i> odd <i>q</i> odd <i>m</i> odd <i>p</i> odd <i>q</i> even	$P2/b11$ $P2/n11$ $P2/c11$	[0 d , $\frac{1}{2}\mathbf{d}$] [\mathbf{sd} , $-\mathbf{sd}$]	$p2/b11$ L16
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}$, $\frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$pb11$ L12
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}$, $\frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ L02
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p211$ ($\mathbf{b}'/4$) L08
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p1$ L01
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ L02
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p211$ L08
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p1$ L01
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\pm s\mathbf{d}$, $-\mathbf{sd}$]	$p2/b11$ L16
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\pm s\mathbf{d}$, $-\mathbf{sd}$]	$pb11$ L12
(n0m) (n $0\overline{m}$) [($\mathbf{a} + \mathbf{b}$)/4]	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$ b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$ <i>n</i> odd <i>m</i> even <i>p</i> even <i>q</i> odd <i>n</i> even <i>m</i> odd <i>p</i> odd <i>n</i> odd <i>p</i> odd	$P2/c11$ $P2/b11$ $P2/n11$	[0 d , $\frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}$, $\frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ L02
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}$, $\frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p211$ L08
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p1$ L01
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\pm s\mathbf{d}$, $-\mathbf{sd}$]	$p2/b11$ L16
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\pm s\mathbf{d}$, $-\mathbf{sd}$]	$pb11$ L12
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}$, $\frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ L02
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p211$ ($\mathbf{b}'/4$) L08
			[0 d , $\frac{1}{2}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p1$ L01

Continued

No. 50 *Pban*

Continued

$$\mathcal{G} = P_{\overline{b} \, a \, n}^{2 \, 2 \, 2} \quad \text{origin 2}$$

 D_{2h}^4

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d			Scanning group \mathcal{H}	Linear orbit s d	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
(mn0) ($\overline{m}\overline{n}0$)	c $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$			$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $\bar{1}$ p211 ($\mathbf{b}'/4$) p1			
	c $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$								
	n odd m even p even q odd or n even m odd p odd q even								
	p odd q odd				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $\bar{1}$ p211 p1			
	n odd m odd								
	p odd q even								
	p odd q odd				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $\bar{1}$ p211 p1			
	n odd m odd								
	p odd q odd								
(0mn) (0 $\overline{m}n$)	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$			$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\mathbf{s}\mathbf{d}, -\mathbf{s}\mathbf{d}]$	p2/b11 pb11			
	a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$								
	n odd m even q odd								
	m odd q odd				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $\bar{1}$ p211 ($\mathbf{b}'/4$) p1			
	p odd m odd								
	p odd q even								
	n odd m odd				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $\bar{1}$ p211 p1			
	n odd m odd								
	n odd m odd								
(n0m) (n0 \overline{m})	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$			$P2/c11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $\bar{1}$ p211 p1			
	b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$								
	n odd m even p even q odd								
	n even m odd				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\mathbf{s}\mathbf{d}, -\mathbf{s}\mathbf{d}]$	p2/b11 pb11			
	p odd m odd								
	n odd p odd				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $\bar{1}$ p211 ($\mathbf{b}'/4$) p1			
	p odd m odd								
	p odd m odd								

No. 51 *Pmma*

$$\mathcal{G} = P_{\frac{2}{m} \frac{2}{m} \frac{2}{a}}^{\frac{2}{m} \frac{2}{m} \frac{2}{a}}$$

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d	Scanning group \mathcal{H}	Linear orbit s d	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{m}n0)$	c $na - mb$ $p\mathbf{a} + q\mathbf{b}$	$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/b11$ L16
	c $na + mb$ $-p\mathbf{a} + q\mathbf{b}$			
	<i>n</i> odd		$P2/n11$	$p\bar{1}$ L02
	<i>m</i> even			
	<i>q</i> odd			$p211 (\mathbf{b}'/4)$ L08
	<i>m</i> odd			
	<i>q</i> odd		$P2/c11$	$p1$ L01
	<i>m</i> odd			
	<i>p</i> odd			
	<i>q</i> even			
$(0mn)$ $(0\bar{m}n)$	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$	$P2_1/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_1/m11$ L15
	a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$			
$(n0m)$ $(n0\bar{m})$	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/m11$ L14
	b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$			

No. 52 *Pnna* D_{2h}^6

$$\mathcal{G} = P_{\frac{n}{n} \frac{n}{n} \frac{a}{a}}^{2 \frac{2_1}{2} \frac{2}{2}}$$

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
(mn0) ($\bar{m}n0$)	c $na - mb$ $p\mathbf{a} + q\mathbf{b}$			$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2/b11$ L16		
	c $na + mb$ $-p\mathbf{a} + q\mathbf{b}$					$pb11$ L12		
	<i>n odd</i>		<i>m even</i>					
	<i>q odd</i>		<i>m odd</i>		$P2/n11$	$p\bar{1}$ L02		
	<i>q odd</i>		<i>m odd</i>			$p211 (\mathbf{b}'/4)$ L08		
	<i>p odd</i>			$P2/c11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ L02		
	<i>q even</i>					$p211$ L08		
	<i>q odd</i>					$p1$ L01		
(0mn) (0 $\bar{m}n$)	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$			$P2/n11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ L02		
	a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$					$p211 (\mathbf{b}'/4)$ L08		
	<i>n odd</i>		<i>m even</i>			$p1$ L01		
	<i>p even</i>		<i>q odd</i>		$P2/c11$	$p\bar{1}$ L02		
	or					$p211$ L08		
	<i>n even</i>			$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p1$ L01		
	<i>p odd</i>					$p2/b11$ L16		
	<i>p odd</i>					$pb11$ L12		
(n0m) (n0 \bar{m})	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$			$P2_1/n11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ L02		
	b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$					$p2_{111} (\mathbf{b}'/4)$ L09		
	<i>n odd</i>		<i>m even</i>			$p1$ L01		
	<i>p even</i>		<i>q odd</i>		$P2_1/c11$	$p\bar{1}$ L02		
	or					$p2_{111}$ L09		
	<i>n even</i>			$P2_1/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p1$ L01		
	<i>p odd</i>					$p2_1/b11$ L17		
	<i>p odd</i>					$pb11 (\mathbf{a}'/4)$ L12		

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d	Scanning group \mathcal{H}	Linear orbit s d	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(mn0) ($\bar{m}n0$)	c $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$ c $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$ <i>n</i> odd <i>m</i> even <i>q</i> odd <i>m</i> odd <i>q</i> odd <i>m</i> odd <i>p</i> odd <i>q</i> even	$P2_1/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2_1/b11$ $pb11 (\mathbf{a}'/4)$
			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p2_111 (\mathbf{b}'/4)$ $p1$
			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p2_111$ $p1$
		$P2_1/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p2_111 (\mathbf{b}'/4)$ $p1$
			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p2_111$ $p1$
			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p2_111$ $p1$
		$P2_1/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p2_111$ $p1$
			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p2_111$ $p1$
			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p2_111$ $p1$
(0mn) (0 $\bar{m}n$)	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$ a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2/m11$ $pm11$
			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$
(n0m) (n0 \bar{m})	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$ b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$ <i>n</i> odd <i>m</i> even <i>p</i> even <i>q</i> odd or <i>n</i> even <i>m</i> odd <i>p</i> odd <i>q</i> even <i>p</i> odd <i>q</i> odd <i>n</i> odd <i>m</i> odd	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$
			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p211$ $p1$
			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p211$ $p1$
		$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p211$ $p1$
			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p211$ $p1$
			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2/b11$ $pb11$

No. 54 *Pccca*

$$\mathcal{G} = P_{c\ c\ a}^{2\ 2\ 2}$$

 D_{2h}^8

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d	Scanning group \mathcal{H}	Linear orbit s d	Sectional layer group $\mathcal{L}(\mathbf{s}\mathbf{d})$
$(mn0)$ $(\bar{m}n0)$	c $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$	$P2/b11$		
	c $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$			
	<i>n</i> odd <i>m</i> even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
	<i>q</i> odd		$[\mathbf{s}\mathbf{d}, -\mathbf{s}\mathbf{d}]$	$pb11$
	<i>m</i> odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$
	<i>q</i> odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211 (\mathbf{b}'/4)$
	<i>p</i> odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
	<i>m</i> odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$
	<i>q</i> even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211$
			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
$(0mn)$ $(0\bar{m}n)$	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$	$P2_1/c11$		
	a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$			
	<i>n</i> odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$
	<i>p</i> even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_111$
	<i>q</i> odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
	<i>n</i> even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
	<i>p</i> odd		$[\mathbf{s}\mathbf{d}, -\mathbf{s}\mathbf{d}]$	$p2_1(b'/4)$
	<i>n</i> odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$
	<i>p</i> odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_111 (\mathbf{b}'/4)$
			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
$(n0m)$ $(n0\bar{m})$	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$	$P2/b11$		
	b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$			
	<i>n</i> odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
	<i>m</i> even		$[\mathbf{s}\mathbf{d}, -\mathbf{s}\mathbf{d}]$	$pb11$
	<i>q</i> odd			
	<i>m</i> odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$
	<i>q</i> odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211 (\mathbf{b}'/4)$
	<i>p</i> odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
	<i>m</i> odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$
	<i>q</i> even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211$
			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$

No. 55 *Pbam*

$$\mathcal{G} = P \frac{2_1}{b} \frac{2_1}{a} \frac{2}{m}$$

D_{2h}⁹

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mn0)$ $(\bar{m}n0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/m11$ $pm11$	L14 L11
$(0mn)$ $(0\bar{m}n)$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$ n odd m even q odd m odd q odd m odd p odd q even	$P2_1/b11$ $P2_1/n11$ $P2_1/c11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $pb11 (\mathbf{a}'/4)$ $p\bar{1}$ $p_{211} (\mathbf{b}'/4)$ $p1$ $p\bar{1}$ p_{211} $p1$	L17 L12 L02 L09 L01 L02 L09 L01
$(n0m)$ $(n0\bar{m})$	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$ n odd p even q odd n even m odd p odd n odd p odd	$P2_1/c11$ $P2_1/b11$ $P2_1/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[s\mathbf{d}, -s\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ p_{211} $p1$ $p\bar{1}$ p_{211} $p1$	L02 L09 L01 L17 L12 L02 L09 L01

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d	Scanning group \mathcal{H}	Linear orbit s d	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{m}\bar{n}0)$	c $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$
	c $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$			
	n odd m even			
	p even q odd			$L02$ $L08$
	or			
	n even m odd			$L01$
	p odd q even			
	p odd q odd			$L02$ $L08$ $L01$
	n odd m odd			
	$P2/c11$			
$(0mn)$ $(0\bar{m}\bar{n})$	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$	$P2_1/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p2_111$ $p1$
	a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$			
	n odd			
	p even q odd			$L09$ $L01$
	n even m odd			
	p odd			$L17$ $L12$
	n odd			
	p odd			
	$P2_1/b11$			
	$P2_1/n11$			
$(n0m)$ $(n0\bar{m})$	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$	$P2_1/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\mathbf{s}\mathbf{d}, -\mathbf{s}\mathbf{d}]$	$p2_1/b11$ $pb11 (\mathbf{a}'/4)$
	b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$			
	n odd m even			$L17$ $L12$
	q odd			
	m odd q odd		$P2_1/n11$	$p\bar{1}$ $p2_111 (\mathbf{b}'/4)$ $p1$
	q odd			
	m odd q even			
	p odd q even		$P2_1/c11$	$L02$ $L09$ $L01$
	$P2_1/c11$			
	$P2_1/c11$			

No. 57 *Pbcm*

D_{2h}^{11}

$$\mathcal{G} = P_{\frac{b}{b} \frac{c}{c} \frac{m}{m}}^{2 \underline{2}_1 \underline{2}_1}$$

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d	Scanning group \mathcal{H}	Linear orbit s d	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(<i>mn0</i>) ($\overline{m}n0$)	c $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$ c $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$	$P2_1/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2_1/m11$ $pm11 (\mathbf{a}'/4)$ L15 L11
(0 <i>mn</i>) (0 $\overline{m}n$)	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$ a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$ n odd m even q odd m odd q odd p odd m odd q even	$P2/b11$ $P2/n11$ $P2/c11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$] [$0\mathbf{d}, \frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$] [$0\mathbf{d}, \frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p2/b11$ $pb11$ L16 L12 $p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$ L02 L08 L01 $p\bar{1}$ $p211$ $p1$ L02 L08 L01
(<i>n0m</i>) ($n0\overline{m}$)	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$ b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$ n odd m even q odd m odd q odd p odd m odd q even	$P2_1/b11$ $P2_1/n11$ $P2_1/c11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$] [$0\mathbf{d}, \frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$] [$0\mathbf{d}, \frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p2_1/b11$ $pb11 (\mathbf{a}'/4)$ L17 L12 $p\bar{1}$ $p2_111 (\mathbf{b}'/4)$ $p1$ L02 L09 L01 $p\bar{1}$ $p2_111$ $p1$ L02 L09 L01

No. 58 *Pnnm*

D_{2h}¹²

$$\mathcal{G} = P \frac{2_1}{n} \frac{2_1}{n} \frac{2}{m}$$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
($m n 0$) ($\bar{m} n 0$)	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/m11$ $pm11$
($0 m n$) ($0 \bar{m} n$)	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$ n odd m even p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$P2_1/n11$ $P2_1/c11$ $P2_1/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p\bar{1}$ $p2_111 (\mathbf{b}'/4)$ $p1$ $p\bar{1}$ $p2_111$ $p1$ $p2_1/b11$ $pb11 (\mathbf{a}'/4)$
($n 0 m$) ($n 0 \bar{m}$)	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$ n odd m even p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$P2_1/n11$ $P2_1/c11$ $P2_1/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p\bar{1}$ $p2_111 (\mathbf{b}'/4)$ $p1$ $p\bar{1}$ $p2_111$ $p1$ $p2_1/b11$ $pb11 (\mathbf{a}'/4)$

No. 59 $Pmmn$

$$\mathcal{G} = P_{m\ m\ n}^{2\downarrow 2\downarrow 2} \quad \text{origin 1}$$

 D_{2h}^{13}

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(mn0) ($\bar{m}n0$) [($\mathbf{a} + \mathbf{b}$)/4]	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$ n odd m even p even q odd or n even m odd p odd q even p odd q odd	$P2/n11$	[0 \mathbf{d} , $\frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}$, $\frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$
			[0 \mathbf{d} , $\frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}$, $\frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}$, $(\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p211$ $p1$
			[0 \mathbf{d} , $\frac{1}{2}\mathbf{d}$] [$s\mathbf{d}$, $-s\mathbf{d}$]	$p2/b11$ $pb11$
			[0 \mathbf{d} , $\frac{1}{2}\mathbf{d}$] [$s\mathbf{d}$, $-s\mathbf{d}$]	$p2/b11$ $pb11$
			[0 \mathbf{d} , $\frac{1}{2}\mathbf{d}$] [$s\mathbf{d}$, $-s\mathbf{d}$]	$p2/b11$ $pb11$
	(0mn) (0 $\bar{m}n$) [($\mathbf{a} + \mathbf{b}$)/4]	$P2_1/m11$	0 \mathbf{d} , $\frac{1}{2}\mathbf{d}$ [$s\mathbf{d}$, $-s\mathbf{d}$]	$p2_1/m11$ $pm11 (\mathbf{a}'/4)$
			0 \mathbf{d} , $\frac{1}{2}\mathbf{d}$ [$s\mathbf{d}$, $-s\mathbf{d}$]	$p2_1/m11$ $pm11 (\mathbf{a}'/4)$
(n0m) (n0 \bar{m}) [($\mathbf{a} + \mathbf{b}$)/4]	b $n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ b $n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$	$P2_1/m11$	0 \mathbf{d} , $\frac{1}{2}\mathbf{d}$ [$s\mathbf{d}$, $-s\mathbf{d}$]	$p2_1/m11$ $pm11 (\mathbf{a}'/4)$
			0 \mathbf{d} , $\frac{1}{2}\mathbf{d}$ [$s\mathbf{d}$, $-s\mathbf{d}$]	$p2_1/m11$ $pm11 (\mathbf{a}'/4)$

Continued

No. 59 *Pmmn*

Continued

$$\mathcal{G} = P_{m\ m\ n}^{2\ 2\ \frac{1}{2}} \text{ origin 2}$$

 D_{2h}^{13}

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d	Scanning group \mathcal{H}	Linear orbit sd	Sectional layer group $\mathcal{L}(sd)$
(mn0) ($\bar{m}n0$)	c $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L02 L08 L01 L02 L08 L01 L16 L12
	c $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$			
	n odd m even			
	p even q odd			
	or			
	n even m odd			
	p odd q even			
	p odd q odd			
	n odd m odd			
(0mn) (0 $\bar{m}n$)	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$	$P2_1/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	L15 L11
	a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$			
(n0m) (n0 \bar{m})	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$	$P2_1/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	L15 L11
	b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$			

No. 60 *Pbcn*

$$\mathcal{G} = P_{\frac{b}{b} \frac{c}{c} \frac{n}{n}}^{2_1 2_2 2_1}$$

 D_{2h}^{14}

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d	Scanning group \mathcal{H}	Linear orbit s d	Sectional layer group $\mathcal{L}(\mathbf{s}\mathbf{d})$
(mn0) ($\bar{m}n0$)	c $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$	$P2_1/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $\bar{1}$ p 2_111 ($\mathbf{b}'/4$) p1
	c $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$			
	<i>n</i> odd <i>m</i> even			
	<i>p</i> even <i>q</i> odd	$P2_1/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $\bar{1}$ p 2_111 p1
	or			
	<i>n</i> even <i>m</i> odd			
	<i>p</i> odd <i>q</i> even	$P2_1/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	p $2_1/b11$ p $b11$ ($\mathbf{a}'/4$)
	<i>p</i> odd <i>q</i> odd			
	<i>n</i> odd <i>m</i> odd			
(0mn) (0 $\bar{m}n$)	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$	$P2_1/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	p $2_1/b11$ p $b11$ ($\mathbf{a}'/4$)
	a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$			
	<i>n</i> odd <i>m</i> even			
	<i>q</i> odd	$P2_1/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $\bar{1}$ p 2_111 ($\mathbf{b}'/4$) p1
	<i>m</i> odd			
	<i>q</i> odd			
	<i>m</i> odd	$P2_1/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $\bar{1}$ p 2_111 p1
	<i>p</i> odd			
	<i>q</i> even			
(n0m) (n0 \bar{m})	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$	$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	p $2/b11$ p $b11$
	b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$			
	<i>n</i> odd <i>m</i> even			
	<i>q</i> odd	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $\bar{1}$ p 211 ($\mathbf{b}'/4$) p1
	<i>m</i> odd			
	<i>q</i> odd			
	<i>m</i> odd	$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $\bar{1}$ p 211 p1
	<i>p</i> odd			
	<i>q</i> even			

$$\mathcal{G} = P_{\frac{b}{c}}^{\frac{2_1}{2_1}} \frac{2_1}{c} \frac{2_1}{a}$$

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d			Scanning group \mathcal{H}	Linear orbit sd	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
(mn0) ($\overline{m}n0$)	c $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$			$P2_1/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2_1/b11$ $pb11 (\mathbf{a}'/4)$			
	c $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$								
	<i>n odd</i>		<i>m even</i>			L17 L12			
	<i>q odd</i>		<i>m odd</i>		$P2_1/n11$	L02 L09 L01			
	<i>q odd</i>		<i>m odd</i>						
	<i>p odd</i>		<i>q even</i>	$P2_1/c11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	L02 L09 L01			
	<i>m odd</i>		<i>q even</i>						
	<i>p odd</i>		<i>q even</i>						
(0mn) (0 $\overline{m}n$)	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$			$P2_1/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2_1/b11$ $pb11 (\mathbf{a}'/4)$			
	a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$								
	<i>n odd</i>		<i>m even</i>			L17 L12			
	<i>q odd</i>		<i>m odd</i>		$P2_1/n11$	L02 L09 L01			
	<i>q odd</i>		<i>m odd</i>						
	<i>p odd</i>		<i>q even</i>	$P2_1/c11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	L02 L09 L01			
	<i>m odd</i>		<i>q even</i>						
	<i>p odd</i>		<i>q even</i>						
(n0m) (n0 \overline{m})	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$			$P2_1/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2_1/b11$ $pb11 (\mathbf{a}'/4)$			
	b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$								
	<i>n odd</i>		<i>m even</i>			L17 L12			
	<i>q odd</i>		<i>m odd</i>		$P2_1/n11$	L02 L09 L01			
	<i>q odd</i>		<i>m odd</i>						
	<i>p odd</i>		<i>q even</i>	$P2_1/c11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	L02 L09 L01			
	<i>m odd</i>		<i>q even</i>						
	<i>p odd</i>		<i>q even</i>						

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d	Scanning group \mathcal{H}	Linear orbit s d	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(mn0) ($\overline{m}n0$)	c $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$	$P2_1/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2_1/b11$ L17
	c $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$			
	n odd m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$pb11(\mathbf{a}'/4)$ L12
	q odd m odd			
	q odd m odd		$p\bar{1}$ L02	$p2_111(\mathbf{b}'/4)$ L09
	p odd q even			
	p odd q even			
	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$		$p\bar{1}$ L02	$p2_111$ L09
	a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$			
	n odd m even			
(0mn) (0 $\overline{m}n$)	p even q odd	$P2_1/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ L02
	or			
	n even m odd			
	p odd q even			
	p odd q odd	$P2_1/c11$	$p\bar{1}$ L02	$p2_111(\mathbf{b}'/4)$ L09
	n odd m odd			
	n odd m odd			
	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$	$P2_1/b11$	$p\bar{1}$ L02	$p2_111$ L09
	a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$			
(n0m) (n0 \overline{m})	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$	$P2_1/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2_1/m11$ L15
	b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$			

$$\mathcal{G} = C_{\frac{2}{m} \frac{2}{c} \frac{2}{m}}^{\frac{2}{m} \frac{2}{c} \frac{2}{m}}$$

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d	Scanning group \mathcal{H}	Linear orbit sd	Sectional layer group $\mathcal{L}(sd)$
(<i>hk0</i>) (<i>hk0</i>)	c $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ c $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$P2_1/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_1/m11$ L15 $pm11 (\mathbf{a}'/4)$ L11
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$				
<i>h</i> even, <i>k</i> odd or <i>h</i> odd, <i>k</i> even $\Rightarrow n = h + k, m = h - k$				
<i>h, k</i> odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$				
(0 <i>mn</i>) (0 <i>m̄n</i>)	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$ a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ L18 $cm11$ L13
	<i>n</i> odd <i>m</i> even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/m11$ L14
	<i>q</i> odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15
	<i>m</i> odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pm11$ L11
	<i>q</i> odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/m11$ L14
	<i>p</i> odd	$B2/m11$	$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 (\mathbf{a}'/4)$ L15
			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pm11$ L11
(n0 <i>m</i>) (n0 <i>m̄</i>)	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$ b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16 $p2_1/b11 (\mathbf{a}'/4)$ L17 $pb11$ L12
	<i>n</i> odd <i>m</i> even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$ L02
	<i>p</i> even <i>q</i> odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$ L12
	<i>n</i> even <i>m</i> odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ L01
	<i>p</i> odd	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ L02
			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$ L10
			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ L01
	<i>n</i> even <i>m</i> odd	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17
	<i>p</i> odd <i>q</i> odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$ L16
	<i>n</i> odd <i>m</i> odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12
	<i>p</i> odd	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17
			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L16
			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12
	<i>n</i> odd <i>m</i> even	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16
	<i>p</i> odd <i>q</i> odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17
	<i>n</i> odd <i>m</i> odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d	Scanning group \mathcal{H}	Linear orbit s d	Sectional layer group $\mathcal{L}(\mathbf{s}\mathbf{d})$
(hk0) ($\bar{h}k0$)	c $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$P2_1/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $\bar{1}$ $p2_111 (\mathbf{b}'/4)$ p1
	c $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			
	n odd m even			
	p even q odd			
	or			
	n even m odd			
	p odd q even			
	p odd q odd			
	n odd m odd	$P2_1/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $\bar{1}$ $p2_111$ p1
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$	h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$	$P2_1/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	p $2_1/b11$ $pb11 (\mathbf{a}'/4)$
$(0mn)$ $(0\bar{m}n)$	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	c $2/m11$ $cm11$
	a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$			
	n odd m even			
	q odd			
	m odd			
	q odd			
	m odd			
	p odd q even			
	p odd q even	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ pm11
$(n0m)$ $(n0\bar{m})$	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$	$B2/n11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$
	b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$			
	n odd m even			
	p even q odd			
	n even m odd			
	p odd q even			
	n even m odd			
	p odd q odd			
	n odd m odd			
	p odd q even			
$(n0m)$ $(n0\bar{m})$	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$	$C2/n11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ p $\bar{1}$
	b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$			
	n odd m even			
	p even q odd			
	n even m odd			
	p odd q even			
	n even m odd			
	p odd q odd			
	n odd m odd			
	p odd q even			
$(n0m)$ $(n0\bar{m})$	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$	$C2/c11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ p $\bar{1}$
	b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$			
	n odd m even			
	p even q odd			
	n even m odd			
	p odd q even			
	n odd m odd			
	p even q odd			
	n odd m odd			
	p odd q even			
$(n0m)$ $(n0\bar{m})$	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$	$B2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ p $b11$
	b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$			
	n odd m even			
	p even q odd			
	n odd m odd			
	p even q odd			
	n odd m odd			
	p odd q even			
	n odd m odd			
	p odd q even			
$(n0m)$ $(n0\bar{m})$	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$	$I2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ p $b11$
	b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$			
	n odd m even			
	p even q odd			
	n odd m odd			
	p odd q even			
	n odd m odd			
	p odd q even			
	n odd m even	$I2/c11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p $2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ p $b11 (\mathbf{a}'/4)$
	p odd q odd			

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(<i>hk0</i>) ($\bar{h}k0$)	$\mathbf{c} \quad n\hat{\mathbf{a}} - m\hat{\mathbf{b}} \quad p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ $\mathbf{c} \quad n\hat{\mathbf{a}} + m\hat{\mathbf{b}} \quad -p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/m11$ $pm11$
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$				
				h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$
(<i>0mn</i>) ($0\bar{m}n$)	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$ n odd m even q odd m odd q odd p odd m odd q even	$C2/m11$ $I2/m11$ $B2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$c2/m11$ $cm11$ $p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$ $p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$ $p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$
(<i>n0m</i>) ($n0\bar{m}$)	$\mathbf{b} \quad n\mathbf{c} - m\mathbf{a} \quad p\mathbf{c} + q\mathbf{a}$ $\mathbf{b} \quad n\mathbf{c} + m\mathbf{a} \quad -p\mathbf{c} + q\mathbf{a}$ n odd p even q odd n even m odd p odd n odd p odd	$B2/m11$ $C2/m11$ $I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$ $c2/m11$ $cm11$ $p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d	Scanning group \mathcal{H}	Linear orbit s d	Sectional layer group $\mathcal{L}(\mathbf{s}\mathbf{d})$	
(<i>hk0</i>) ($\bar{h}k0$)	c $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ c $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2/m11$ L14 $pm11$ L11	
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$				h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$	
(0 <i>mn</i>) (0 <i>m̄n</i>)	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$ a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$ n odd m even p even q odd n even m odd p odd q even n even m odd p odd q odd n odd m odd p even q odd n odd m odd p odd q even n odd m even p odd q odd	$C2/c11$ $B2/b11$ $I2/b11$ $I2/c11$ $B2/n11$ $C2/n11$	[$0\mathbf{d}, \frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$] [$0\mathbf{d}, \frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$] [$0\mathbf{d}, \frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$] [$0\mathbf{d}, \frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$] [$0\mathbf{d}, \frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$\widehat{p}\bar{1}$ $c211$ $\widehat{p}1$ $p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$ $p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$ $p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$ $\widehat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\widehat{p}1$	L02 L10 L01 L16 L17 L12 L16 L17 L12 L17 L16 L12 L17 L16 L12 L02 L10 L01
(<i>n0m</i>) (<i>n0m̄</i>)	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$ b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$ n odd m even p even q odd n even m odd p odd q even n even m odd p odd q odd n odd m odd p even q odd n odd m odd p odd q even n odd m even p odd q odd	$B2/b11$ $C2/c11$ $C2/n11$ $B2/n11$ $I2/c11$ $I2/b11$	[$0\mathbf{d}, \frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$] [$0\mathbf{d}, \frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$] [$0\mathbf{d}, \frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$] [$0\mathbf{d}, \frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$] [$0\mathbf{d}, \frac{1}{2}\mathbf{d}$] [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$ $\widehat{p}\bar{1}$ $c211$ $\widehat{p}1$ $\widehat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\widehat{p}1$ $p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$ $p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$ $p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$	L16 L17 L12 L02 L12 L01 L02 L10 L01 L17 L16 L12 L17 L16 L12 L17 L16 L12 L16 L17 L12

$$\mathcal{G} = C_{m\ m\ a}^{\frac{2}{m}\ \frac{2}{m}\ \frac{2}{a}}$$

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d	Scanning group \mathcal{H}	Linear orbit s d	Sectional layer group $\mathcal{L}(\mathbf{s}\mathbf{d})$			
$(hk0)$ $(\bar{h}k0)$	c $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$						
	c $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$						
	n odd m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$			
	p even q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211 (\mathbf{b}'/4)$			
	or		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$			
	n even m odd		$p1$				
	p odd q even		$L08$				
	p odd q odd		$P2/c11$	$L01$			
	n odd m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$			
			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L02$			
			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L08$			
			$P2/b11$	$L01$			
			$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p2/b11$			
			$[\mathbf{s}\mathbf{d}, -s\mathbf{d}]$	$L16$			
			$pb11$				
			$L12$				
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$							
$\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$							
h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$							
h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$							
$(0mn)$ $(0\bar{m}n)$	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$						
	a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$						
	n odd m even		$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$			
	q odd			$c2/m11$			
	m odd			$cm11$			
	q odd		$I2/m11$	$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$			
	m odd			$p2/m11$			
				$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$			
	p odd q even			$pm11$			
	$B2/m11$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$				
			$L14$				
$(n0m)$ $(n0\bar{m})$ $[(\mathbf{a} + \mathbf{b})/4]$	b $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$						
	b $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$						
	n odd						
	p even q odd		$B2/m11$	$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$			
	n even m odd			$p2/m11$			
				$p2_1/m11 (\mathbf{a}'/4)$			
	p odd			$pm11$			
	n odd		$C2/m11$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$			
	p odd			$L11$			
	$I2/m11$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$				
			$p2/m11$				
			$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$				
			$pm11$				
	$L11$						

Orientation orbit (<i>hkl</i>)	Conventional basis the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
$(hk0)$ $(\bar{h}k0)$ $[(\mathbf{b} + \mathbf{c})/4]$	$\mathbf{c} \quad n\hat{\mathbf{a}} - m\hat{\mathbf{b}} \quad p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$		
	$\mathbf{c} \quad n\hat{\mathbf{a}} + m\hat{\mathbf{b}} \quad -p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$					
	n odd m even					
	p even q odd			$L02$ $L08$		
	or					
	n even m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L08$ $L01$		
	p odd q even					
	p odd q odd					
	n odd m odd	$P2/c11$		$L02$ $L08$		
$(0mn)$ $(0\bar{m}n)$ $[(\mathbf{a} + \mathbf{c})/4]$	$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$		
	$\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$					
	h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$					
	h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$					
	n odd m even			$L02$ $L10$ $L01$		
	p even q odd					
	n even m odd					
	p odd q even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L17$ $L16$ $L12$		
	n even m odd	$B2/n11$				
	p odd q odd					
	n odd m odd					
	p even q odd	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L17$ $L16$ $L12$		
	n odd m odd					
$(0\bar{m}n)$ $(\bar{m}0n)$ $[(\mathbf{a} + \mathbf{c})/4]$	p even q odd	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L17$ $L16$ $L12$		
	n odd m odd					
	p odd q odd					
	n odd m odd	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L16$ $L17$ $L12$		
	n odd m even	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L16$ $L17$ $L12$		
	p odd q even					
	n odd m even					
	n odd m odd	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L10$ $L01$		
	p odd q odd					

Continued

No. 68 $Ccc\bar{a}$

Continued

 $\mathcal{G} = C_{c\bar{c}\bar{a}}^{2\frac{2}{c}2\frac{2}{a}}$ origin 1 D_{2h}^{22}

$(n0m)$ $(n0\overline{m})$ $[(\mathbf{b} + \mathbf{c})/4]$	b	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$	$B2/b11$ $C2/c11$ $C2/n11$ $B2/n11$ $I2/c11$ $I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$ $\widehat{p}1$ $c211$ $\widehat{p}1$ $p2_1/b11 (\mathbf{b}'/4)$ $pb11 (\mathbf{a}'/4)$ $p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$ $p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$	L16 L17 L12 L02 L12 L01 L02 L10 L01 L17 L16 L12 L17 L16 L12 L16 L17 L12
	b	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$				

Continued

No. 68 *Cccca*

Continued

 $\mathcal{G} = C_{c\ c\ a}^{\frac{2}{2}\frac{2}{2}\frac{2}{2}}$ origin 2 D_{2h}^{22}

Orientation orbit (<i>hkl</i>)	Conventional basis the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(hk0)$ $(\bar{h}k0)$	$\mathbf{c} \quad n\hat{\mathbf{a}} - m\hat{\mathbf{b}} \quad p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ $\mathbf{c} \quad n\hat{\mathbf{a}} + m\hat{\mathbf{b}} \quad -p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			
	n odd m even p even q odd or n even m odd p odd q even p odd q odd	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$
	n odd m odd	$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211$ $p1$
		$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/b11$ $pb11$
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$				
h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$				
$(0mn)$ $(0\bar{m}n)$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$			
	n odd m even p even q odd	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$
	n even m odd p odd q even	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$
	n even m odd p odd q odd	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$
	n odd m odd p even q odd	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$
	n odd m odd p odd q even	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$
	n odd m even p odd q odd	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$

Continued

No. 68 *Ccc*_a

Continued

 $\mathcal{G} = C_{c\ c\ a}^{2\ 2\ 2}$ origin 2 D_{2h}^{22}

$(n0m)$ $(n0\overline{m})$	b	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$			
	b	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$			
	n odd	m even	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$	L16
	p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$	L17
	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L12
	n even	m odd	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\widehat{p}\overline{1}$	L02
	p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$	L12
	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}1$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L01
	n even	m odd	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\widehat{p}\overline{1}$	L02
	p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$	L10
	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}1$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L01
	n odd	m odd	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$	L17
	p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$	L16
	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L12
	n odd	m odd	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$	L17
	p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L16
	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L12
	n odd	m even	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$	L16
	p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L17
	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L12

$$\mathcal{G} = F \frac{2}{m} \frac{2}{m} \frac{2}{m}$$

Orientation orbit <i>hkl</i>	Conventional basis of the scanning group a' b' d	Scanning group \mathcal{H}	Linear orbit s d	Sectional layer group \mathcal{L} s d
(<i>hk0</i>) ($\bar{h}k0$)	c $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ c $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			
	n odd m even p even q odd or n even m odd p odd q even p odd q odd	<i>I2/m11</i>	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$
	n odd m odd	<i>B2/m11</i>	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$
	<i>C2/m11</i>	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$	$L18$ $L13$
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$				
h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$				
(<i>0hk</i>) ($0\bar{h}k$)	a $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ a $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			
	n odd m even p even q odd or n even m odd p odd q even p odd q odd	<i>I2/m11</i>	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$
	n odd m odd	<i>B2/m11</i>	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$
	<i>C2/m11</i>	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$	$L18$ $L13$
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$ $\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$				
h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$				
(<i>k0h</i>) ($k0\bar{h}$)	b $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ b $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			
	n odd m even p even q odd or n even m odd p odd q even p odd q odd	<i>I2/m11</i>	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$
	n odd m odd	<i>B2/m11</i>	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$
	<i>C2/m11</i>	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$	$L18$ $L13$
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{a})/2$ $\hat{\mathbf{b}} = (\mathbf{c} + \mathbf{a})/2$				
h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$				

$$\mathcal{G} = F \frac{2}{d} \frac{2}{d} \frac{2}{d} \quad \text{origin 1}$$

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
$(hk0)$ $(\bar{h}k0)$ $[(\mathbf{a} + \mathbf{b} + \mathbf{c})/8]$	\mathbf{c} $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I2/c11$ $I2/b11$ $B2/b11$ $C2/c11$ $C2/n11$ $B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$ $p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$ $p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$ $\hat{p}\bar{1}$ $c211$ $\hat{p}1$ $\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$ $p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$	L17 L16 L12 L16 L17 L12 L16 L17 L12 L02 L10 L01 L02 L10 L01 L17 L16 L12		
	\mathbf{c} $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$						
	n odd m even						
	p even q odd						
	n even m odd						
	p odd q even						
	n even m odd						
	p odd q odd						
	n odd m odd						
	p even q odd						
	n odd m odd						
	p odd q even						
	n odd m even						
	p odd q odd						
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$							
h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$							
$(0hk)$ $(0\bar{h}k)$ $[(\mathbf{a} + \mathbf{b} + \mathbf{c})/8]$	\mathbf{a} $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I2/c11$ $I2/b11$ $B2/b11$ $C2/c11$ $C2/n11$ $B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$ $p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$ $p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$ $\hat{p}\bar{1}$ $c211$ $\hat{p}1$ $\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$ $p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$	L17 L16 L12 L16 L17 L12 L16 L17 L12 L02 L10 L01 L02 L10 L01 L17 L16 L12		
	\mathbf{a} $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$						
	n odd m even						
	p even q odd						
	n even m odd						
	p odd q even						
	n even m odd						
	p odd q odd						
	n odd m odd						
	p even q odd						
	n odd m odd						
	p odd q even						
	n odd m even						
	p odd q odd						
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$ $\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$							
h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$							

No. 70 $Fddd$

Continued

 $\mathcal{G} = F_{d\bar{d}\bar{d}}^{\frac{2}{d}\frac{2}{d}\frac{2}{d}}$ origin 1 D_{2h}^{24}

$(k0h)$ $(k0\bar{h})$ $[(\mathbf{a} + \mathbf{b} + \mathbf{c})/8]$	\mathbf{b}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			
	\mathbf{b}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			
	n odd	m even		$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17
	p even	q odd				$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L16
	n even	m odd		$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16
	p odd	q even				$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17
	n even	m odd		$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16
	p odd	q odd				$p2_1/b11 (\mathbf{a}'/4)$ L17
	n odd	m odd		$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p1}$ L02
	p even	q odd				$c211$ L10
	n odd	m odd		$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p1}$ L01
	p odd	q even				$c211 (\mathbf{b}'/4)$ L10
	n odd	m even		$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17
	p odd	q odd				$p2/b11 (\mathbf{a}'/4)$ L16
						$p2/b11 (\mathbf{a}'/4)$ L12
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{a})/2$		h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$				
$\hat{\mathbf{b}} = (\mathbf{c} + \mathbf{a})/2$		h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$				

Continued

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d	Scanning group \mathcal{H}	Linear orbit s d	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(hk0)$ $(\bar{h}k0)$	c $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$	
	c $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$				
	n odd m even				
	p even q odd				
	n even m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$	L16 L17 L12
	p odd q even				
	n even m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$	L16 L17 L12
	p odd q odd				
	n odd m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ $c211$ $\hat{p}1$	L02 L10 L01
	p even q odd				
	n odd m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$	L02 L10 L01
	p odd q even				
	n odd m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$	L17 L16 L12
	p odd q odd				
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$		h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$			
$(0hk)$ $(0\bar{h}k)$	a $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$	
	a $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$				
	n odd m even				
	p even q odd				
	n even m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$	L16 L17 L12
	p odd q even				
	n even m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$	L16 L17 L12
	p odd q odd				
	n odd m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ $c211$ $\hat{p}1$	L02 L10 L01
	p even q odd				
	n odd m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$	L02 L10 L01
	p odd q even				
	n odd m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$	L17 L16 L12
	p odd q odd				
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$ $\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$		h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$			

No. 70 $Fddd$

Continued

 $\mathcal{G} = F_{d\bar{d}\bar{d}}^{\frac{2}{d}\frac{2}{d}\frac{2}{d}}$ origin 2 D_{2h}^{24}

$(k0h)$ $(k0\bar{h})$	b	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			
	b	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			
	n odd	m even		$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$
	p even	q odd				L17 L16 L12
	n even	m odd		$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$
	p odd	q even				L16 L17 L12
	n even	m odd		$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$
	p odd	q odd				L16 L17 L12
	n odd	m odd		$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p1}$ $c211$ $\widehat{p1}$
	p even	q odd				L02 L10 L01
	n odd	m odd		$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p1}$ $c211 (\mathbf{b}'/4)$ $\widehat{p1}$
	p odd	q even				L02 L10 L01
	n odd	m even		$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$
	p odd	q odd				L17 L16 L12
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{a})/2$		h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$				
$\hat{\mathbf{b}} = (\mathbf{c} + \mathbf{a})/2$		h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$				

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d	Scanning group \mathcal{H}	Linear orbit s d	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{m}\bar{n}0)$	c $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14
	c $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$			
	<i>n</i> odd <i>m</i> even			
	<i>p</i> even <i>q</i> odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15
	or			
	<i>n</i> even <i>m</i> odd			
	<i>p</i> odd <i>q</i> even			
	<i>p</i> odd <i>q</i> odd			
	<i>n</i> odd <i>m</i> odd			
$(0mn)$ $(0\bar{m}n)$	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14
	a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$			
	<i>n</i> odd <i>m</i> even			
	<i>p</i> even <i>q</i> odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15
	or			
	<i>n</i> even <i>m</i> odd			
	<i>p</i> odd <i>q</i> even			
	<i>p</i> odd <i>q</i> odd			
	<i>n</i> odd <i>m</i> odd			
$(n0m)$ $(n0\bar{m})$	b $nc - ma$ $p\mathbf{c} + qa$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14
	b $nc + ma$ $-p\mathbf{c} + qa$			
	<i>n</i> odd <i>m</i> even			
	<i>p</i> even <i>q</i> odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15
	or			
	<i>n</i> even <i>m</i> odd			
	<i>p</i> odd <i>q</i> even			
	<i>p</i> odd <i>q</i> odd			
	<i>n</i> odd <i>m</i> odd			

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d			Scanning group \mathcal{H}	Linear orbit s d	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
$(mn0)$ $(\bar{m}n0)$	c $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$			$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$			
	c $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$								
	<i>n</i> odd <i>m</i> even								
	<i>p</i> even <i>q</i> odd			$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$			
	or								
	<i>n</i> even <i>m</i> odd								
	<i>p</i> odd <i>q</i> even								
	<i>p</i> odd <i>q</i> odd								
	<i>n</i> odd <i>m</i> odd			$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$			
$(0mn)$ $(0\bar{m}n)$	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$			$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$			
	a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$								
	<i>n</i> odd <i>m</i> even								
	<i>p</i> even <i>q</i> odd			$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$			
	<i>n</i> even <i>m</i> odd								
	<i>p</i> odd <i>q</i> even								
	<i>n</i> even <i>m</i> odd			$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$			
	<i>p</i> odd <i>q</i> odd			$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}\overline{1}$ $c211$ $\widehat{p}1$			
	<i>n</i> odd <i>m</i> odd								
	<i>p</i> even <i>q</i> odd								
	<i>n</i> odd <i>m</i> odd			$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}\overline{1}$ $c211 (\mathbf{b}'/4)$ $\widehat{p}1$			
	<i>p</i> odd <i>q</i> even			$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$			
	<i>n</i> odd <i>m</i> even								
	<i>p</i> odd <i>q</i> odd								

Continued

No. 72 *Ibam*

Continued

$$\mathcal{G} = I_{b\ a\ m}^{\underline{2}\ \underline{2}\ \underline{2}}$$

D_{2h}^{26}

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(n0m)$ $(n0\overline{m})$	\mathbf{b} $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$			
	\mathbf{b} $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$			
	n odd m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L16
	p even q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17
	n even m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12
	p odd q even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L17
	n even m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L16
	p odd q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12
	n odd m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$ L17
	p even q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$ L16
n odd m odd	n odd m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12
	p odd q odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\widehat{p1}$ L02
	p even q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$ L10
	p odd q even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p1}$ L01
n odd m even	n odd m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\widehat{p1}$ L02
	p odd q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$ L10
	p odd q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p1}$ L01
n odd m even	n odd m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L16
	p odd q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$ L17
	p odd q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group a' b' d	Scanning group \mathcal{H}	Linear orbit s d	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(mn0) ($\overline{m}n0$)	c $na - mb$ $p\mathbf{a} + q\mathbf{b}$	<i>I2/c11</i>	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17
	c $na + mb$ $-p\mathbf{a} + q\mathbf{b}$			$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L16
	n odd m even			$pb11 (\mathbf{a}'/4)$ L12
	p even q odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16
	n even m odd			$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17
	p odd q even			$pb11$ L12
	n even m odd	<i>B2/b11</i>	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16
	p odd q odd			$p2_1/b11 (\mathbf{a}'/4)$ L17
	n odd m odd			$pb11$ L12
	n odd m odd	<i>C2/c11</i>	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}\bar{1}$ L02
	p even q odd			$c211$ L10
	n odd m odd			$\widehat{p}1$ L01
	n odd m odd	<i>C2/n11</i>	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}\bar{1}$ L02
	p odd q even			$c211 (\mathbf{b}'/4)$ L10
	n odd m odd			$\widehat{p}1$ L01
	n odd m even	<i>B2/n11</i>	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17
	p odd q odd			$p2/b11 (\mathbf{a}'/4)$ L16
	n odd m even			$pb11 (\mathbf{a}'/4)$ L12
(0mn) (0 $\overline{m}n$)	a $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$	<i>I2/c11</i>	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17
	a $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$			$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L16
	n odd m even			$pb11 (\mathbf{a}'/4)$ L12
	n odd m even	<i>I2/b11</i>	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16
	p even q odd			$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17
	p odd q even			$pb11$ L12
	n even m odd	<i>B2/b11</i>	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16
	p odd q odd			$p2_1/b11 (\mathbf{a}'/4)$ L17
	n even m odd			$pb11$ L12
	n odd m odd	<i>C2/c11</i>	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}\bar{1}$ L02
	p even q odd			$c211$ L10
	n odd m odd			$\widehat{p}1$ L01
	n odd m odd	<i>C2/n11</i>	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}\bar{1}$ L02
	p odd q even			$c211 (\mathbf{b}'/4)$ L10
	n odd m odd			$\widehat{p}1$ L01
	n odd m even	<i>B2/n11</i>	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17
	p odd q odd			$p2/b11 (\mathbf{a}'/4)$ L16
	n odd m even			$pb11 (\mathbf{a}'/4)$ L12

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No. 73 *Ibca*

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$$\mathcal{G} = I_{\frac{b}{c}}^{\frac{2}{a}} \frac{2}{c} \frac{2}{a} \quad D_{2h}^{27}$$

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(n0m)$ $(n0\overline{m})$	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$	$I2/c11$		
	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
	n odd	m even			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
		p even	q odd		$I2/b11$	$p2/b11$
	n even	m odd			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
		p odd	q even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
	n even	m odd		$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
		p odd	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
n odd	m odd	p even		$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\widehat{p}\overline{1}$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
		q odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}1$
	n odd	m odd		$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\widehat{p}\overline{1}$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$
		p odd	q even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}1$
	n odd	m even		$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$
		p odd	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$

$$\mathcal{G} = I_{\frac{m}{m} \frac{m}{m} \frac{a}{a}}^{2\frac{1}{2} \frac{1}{2} \frac{1}{2}}$$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(mn0) ($\overline{m}n0$)	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$I2/c11$		
	$\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$			
	n odd m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$ L17
	p even q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L16
			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12
	n even m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L16
	p odd q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17
			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12
	n even m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L16
	p odd q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$ L17
			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12
	n odd m odd	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\widehat{p}\overline{1}$ L02
	p even q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$ L10
			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}1$ L01
	n odd m odd	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\widehat{p}\overline{1}$ L02
	p odd q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$ L10
			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}1$ L01
	n odd m even	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$ L17
	p odd q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$ L16
			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12
(0mn) (0 $\overline{m}n$)	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$	$I2/m11$		
	$\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$			
	n odd m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/m11$ L14
	p even q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15
	or		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pm11$ L11
	n even m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/m11$ L14
	p odd q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 (\mathbf{a}'/4)$ L15
	p odd q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pm11$ L11
	n odd m odd	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c2/m11$ L18
			$[\mathbf{s}\mathbf{d}, -\mathbf{s}\mathbf{d}]$	$cm11$ L13

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$$\mathcal{G} = I_{\frac{m}{m} \frac{m}{m} \frac{a}{a}}^{2_1 2_1 2_1}$$

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(n0m)$	\mathbf{b} $n\mathbf{c} - m\mathbf{a}$ $p\mathbf{c} + q\mathbf{a}$			
$(n0\bar{m})$	\mathbf{b} $n\mathbf{c} + m\mathbf{a}$ $-p\mathbf{c} + q\mathbf{a}$			
$(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$				
	n odd m even			
	p even q odd			
	or			
	n even m odd			
	p odd q even			
	p odd q odd			
	n odd m odd			

No. 75 $P4$

$$\mathcal{G} = P4 \quad C_4^1$$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
($mn0$)	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p211$ $p1$
($\bar{n}m0$)	$\mathbf{c} \quad m\mathbf{a} + n\mathbf{b} \quad -q\mathbf{a} + p\mathbf{b}$		$[s\mathbf{d}, -s\mathbf{d}]$	

No. 76 $P4_1$

$$\mathcal{G} = P4_1 \quad C_4^2$$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
($mn0$)	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p2_111$ $p1$
($\bar{n}m0$)	$\mathbf{c} \quad m\mathbf{a} + n\mathbf{b} \quad -q\mathbf{a} + p\mathbf{b}$		$[s\mathbf{d}, -s\mathbf{d}]$	

No. 77 $P4_2$

$$\mathcal{G} = P4_2 \quad C_4^3$$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
($mn0$)	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p211$ $p1$
($\bar{n}m0$)	$\mathbf{c} \quad m\mathbf{a} + n\mathbf{b} \quad -q\mathbf{a} + p\mathbf{b}$		$[s\mathbf{d}, -s\mathbf{d}]$	

No. 78 $P4_3$

$$\mathcal{G} = P4_3 \quad C_4^4$$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
($mn0$)	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p2_111$ $p1$
($\bar{n}m0$)	$\mathbf{c} \quad m\mathbf{a} + n\mathbf{b} \quad -q\mathbf{a} + p\mathbf{b}$		$[s\mathbf{d}, -s\mathbf{d}]$	

No. 79 I4

$\mathcal{G} = I4$

C₄⁵

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{n}m0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$
	$\mathbf{c} \quad m\mathbf{a} + n\mathbf{b} \quad -q\mathbf{a} + p\mathbf{b}$			
	n odd m even			
	p even q odd			
	or			
	n even m odd		$B211$	$p211$ $p2_111$ $p1$
	p odd q even			
	p odd q odd			
	n odd m odd			

No. 80 I4₁

$$\mathcal{G} = I4_1$$

C₄⁶

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{n}m0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111$ ($\mathbf{b}'/4$) $p1$
	$\mathbf{c} \quad m\mathbf{a} + n\mathbf{b} \quad -q\mathbf{a} + p\mathbf{b}$			
	n odd m even			
	p even q odd			
	or			
	n even m odd	$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111$ $p1$
	p odd q even			
	p odd q odd			
	n odd m odd	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$

No. 81 $P\bar{4}$

$$\mathcal{G} = P\bar{4}$$

 S_4^1

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{n}m0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad m\mathbf{a} + n\mathbf{b} \quad -q\mathbf{a} + p\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$

No. 82 $I\bar{4}$

$$\mathcal{G} = I\bar{4}$$

 S_4^2

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{n}m0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad m\mathbf{a} + n\mathbf{b} \quad -q\mathbf{a} + p\mathbf{b}$			
	n odd m even	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$ L08
	p even q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_{111} (\mathbf{b}'/4)$ L09
	or		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$ L01
	n even m odd			
	p odd q even	$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$ L08
	p odd q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_{111}$ L09
	n odd m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$ L01
		$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ L10
				$\hat{p}1$ L01

No. 83 $P4/m$ $\mathcal{G} = P4/m$ C_{4h}^1

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{n}m0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad m\mathbf{a} + n\mathbf{b} \quad -q\mathbf{a} + p\mathbf{b}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/m11$ $pm11$

No. 84 $P4_2/m$ $\mathcal{G} = P4_2/m$ C_{4h}^2

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{n}m0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad m\mathbf{a} + n\mathbf{b} \quad -q\mathbf{a} + p\mathbf{b}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/m11$ $pm11$

No. 85 $P4/n$ $\mathcal{G} = P4/n$ origin 1 C_{4h}^3

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{n}m0)$ $(\mathbf{a} + \mathbf{b})/4$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	Continued
	$\mathbf{c} \quad m\mathbf{a} + n\mathbf{b} \quad -q\mathbf{a} + p\mathbf{b}$			$p\bar{1}$
	n odd m even			L02
	p even q odd			L08
	or			L01
	n even m odd			
	p odd q even			
	p odd q odd			
	n odd m odd	$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$
				L02
$(mn0)$ $(\bar{n}m0)$ $(\mathbf{a} + \mathbf{b})/4$	$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$	Continued
				L08
				L01

Continued

No. 85 $P4/n$ $\mathcal{G} = P4/n$ origin 2 C_{4h}^3

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{n}m0)$ $(\mathbf{a} + \mathbf{b})/4$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	Continued
	$\mathbf{c} \quad m\mathbf{a} + n\mathbf{b} \quad -q\mathbf{a} + p\mathbf{b}$			$p\bar{1}$
	n odd m even			L02
	p even q odd			L08
	or			L01
	n even m odd			
	p odd q even			
	p odd q odd			
	n odd m odd	$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$
				L02
$(mn0)$ $(\bar{n}m0)$ $(\mathbf{a} + \mathbf{b})/4$	$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$	Continued
				L08
				L01

Continued

No. 86 $P4_2/n$

$$\mathcal{G} = P4_2/n \text{ origin 1}$$

C_{4h}⁴

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mn0)$ $(\bar{n}m0)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad m\mathbf{a} + n\mathbf{b} \quad -q\mathbf{a} + p\mathbf{b}$				
	n odd m even p even q odd or n even m odd p odd q even p odd q odd	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$	L02 L08 L01
		$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211$ $p1$	L02 L08 L01
	n odd m odd	$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/b11$ $pb11$	L16 L12

Continued

No. 86 $P4_2/n$

Continued

$G = P4_3/n$ origin 2

C_{4h}⁴

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mn0)$ $(\bar{n}m0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$	
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211 (\mathbf{b}'/4)$	
	n odd m even				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	
	p even q odd						
	or						
	n even m odd			$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$	
	p odd q even				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211$	
	p odd q odd				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	
	n odd m odd			$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p2/b11$	
					$[s\mathbf{d}, -s\mathbf{d}]$	$pb11$	

No. 87 $I4/m$ $\mathcal{G} = I4/m$ C_{4h}^5

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{n}m0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$ $\mathbf{c} \quad m\mathbf{a} + n\mathbf{b} \quad -q\mathbf{a} + p\mathbf{b}$			
	n odd m even p even q odd or n even m odd p odd q even p odd q odd	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14 $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15 $pm11$ L11
	n odd m odd	$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14 $p2_1/m11 (\mathbf{a}'/4)$ L15 $pm11$ L11
		$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ L18 $cm11$ L13

No. 88 $I4_1/a$ $\mathcal{G} = I4_1/a$ origin 1 C_{4h}^6

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
$(mn0)$ $(\bar{n}m0)$ $(\mathbf{b}/4 + \mathbf{c}/8)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$			$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$			
	$\mathbf{c} \quad m\mathbf{a} + n\mathbf{b} \quad -q\mathbf{a} + p\mathbf{b}$								
	n odd m even								
	p even q odd								
	n even m odd			$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$			
	p odd q even								
	n even m odd			$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$			
	p odd q odd			$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$			
	n odd m odd			$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$			
	p odd q even			$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$			
	p odd q odd								

Continued

No. 88 $I4_1/a$

Continued

 $\mathcal{G} = I4_1/a$ origin 2 C_{4h}^6

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
$(mn0)$ $(\bar{n}m0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$			$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$			
	$\mathbf{c} \quad m\mathbf{a} + n\mathbf{b} \quad -q\mathbf{a} + p\mathbf{b}$								
	n odd m even								
	p even q odd								
	n even m odd			$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$			
	p odd q even			$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$			
	n even m odd			$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$			
	p odd q odd			$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$			
	n odd m even			$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$			
	p odd q odd								

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$
$(\bar{n}m0)$	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			$L08$
$(\bar{m}n0)$	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			$L01$
$(nm0)$	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			$p1$
$(0mn)$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$
$(0\bar{m}n)$	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			$L08$
$(m0n)$	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			$L01$
$(m0\bar{n})$	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			$p1$
$(hh\bar{l})$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$
$(\bar{h}h\bar{l})$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			$\hat{p}1$
$(h\bar{h}l)$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			$L08$
$(\bar{h}hl)$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			$L01$
n odd			m even		$I211$	$p211$
q odd						$L09$
m odd						$p2_{111} (\mathbf{b}'/4)$
q odd						$L01$
m odd				$B211$	$p1$	$L08$
p odd			q even			$L09$
q even						$L01$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(mn0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$
$(\bar{n}m0)$	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
$(\bar{m}n0)$	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
$(nm0)$	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
$(0mn)$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	p_{211} $p1$
$(0\bar{m}\bar{n})$	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
$(\mathbf{b}/4)$				$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	p_{211} $p1$
$(m0n)$	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			
$(m0\bar{n})$	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
$(\mathbf{a}/4)$						
$(hh\bar{l})$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$
$(\bar{h}h\bar{l})$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
$(h\bar{h}\bar{l})$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
$(\bar{h}h\bar{l})$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
	n odd		m even		$I211$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$
	q odd					
	m odd			$B211$	$p211$ $p2_111$ $p1$	
	q odd					
	p odd		m odd			
	q even					

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
($mn0$)	\mathbf{c} $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$			$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2_111$ $p1$			
($\bar{n}m0$)	\mathbf{c} $m\mathbf{a} + n\mathbf{b}$ $-q\mathbf{a} + p\mathbf{b}$								
($\bar{m}n0$)	\mathbf{c} $na + mb$ $-pa + qb$								
($nm0$)	\mathbf{c} $ma - nb$ $qa + pb$								
($0mn$)	\mathbf{a} $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$			$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p211$ $p1$			
($\bar{0}m\bar{n}$)	\mathbf{a} $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$								
($\mathbf{c}/4$)				$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p211$ $p1$			
($m0n$)	\mathbf{b} $m\mathbf{c} - n\mathbf{a}$ $q\mathbf{c} + p\mathbf{a}$								
($m0\bar{n}$)	\mathbf{b} $m\mathbf{c} + n\mathbf{a}$ $-q\mathbf{c} + p\mathbf{a}$								
($hh\bar{l}$)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$ $p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$								
($\bar{h}h\bar{l}$)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$c211$ $\hat{p}1$			
($\mathbf{c}/8$)									
				$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$			
				$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p211$ $p2_111$ $p1$			
($hh\bar{l}$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$ $p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$c211$ $\hat{p}1$			
($\bar{h}h\bar{l}$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$ $-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$								
($3\mathbf{c}/8$)									
				$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$			
				$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p211$ $p2_111$ $p1$			

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
$(mn0)$	\mathbf{c} $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$			$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2_111$ $p1$			
$(\bar{n}m0)$	\mathbf{c} $m\mathbf{a} + n\mathbf{b}$ $-q\mathbf{a} + p\mathbf{b}$								
$(\bar{m}\bar{n}0)$	\mathbf{c} $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$								
$(nm0)$	\mathbf{c} $m\mathbf{a} - n\mathbf{b}$ $q\mathbf{a} + p\mathbf{b}$								
$(0mn)$	\mathbf{a} $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$			$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2_111$ $p1$			
$(0\bar{m}n)$									
$(\mathbf{b}/4 + 3\mathbf{c}/8)$	\mathbf{a} $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$			$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2_111$ $p1$			
$(m0n)$	\mathbf{b} $m\mathbf{c} - n\mathbf{a}$ $q\mathbf{c} + p\mathbf{a}$								
$(m0\bar{n})$									
$(\mathbf{a}/4 + \mathbf{c}/8)$	\mathbf{b} $m\mathbf{c} + n\mathbf{a}$ $-q\mathbf{c} + p\mathbf{a}$								
$(hh\bar{l})$	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$ $p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$c211$ $\hat{p}1$			
$(\bar{h}\bar{h}l)$									
$(\mathbf{c}/4)$	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$								
	n odd m even								
	q odd			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$			
	m odd								
	q odd								
	m odd			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p211$ $p2_111$ $p1$			
	p odd								
	q even								
$(hh\bar{l})$	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$ $p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$c211$ $\hat{p}1$			
$(\bar{h}hl)$									
	n odd m even								
	q odd			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$			
	m odd								
	q odd								
	m odd			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p211$ $p2_111$ $p1$			
	p odd								
	q even								

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(mn0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$
$(\bar{n}m0)$	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
$(\bar{m}n0)$	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			$L08$
$(nm0)$	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			$L01$
$(0mn)$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$
$(0\bar{m}n)$	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
$(m0n)$	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			$L08$
$(m0\bar{n})$	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			$L01$
$(hh\ell)$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$
$(\bar{h}h\ell)$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
$(h\bar{h}\ell)$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$		$I211$	$p211$ $p_{211} (\mathbf{b}'/4)$
$(\bar{h}h\ell)$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
$(\mathbf{c}/4)$		n odd	m even		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p1$
			q odd			
			m odd	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L08$ $L09$ $L01$
			q odd			
		p odd	m odd	$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L08$ $L09$ $L01$
			q even			

l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{n}m0)$ $(\bar{m}n0)$ $(nm0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
$(0mn)$ $(0\bar{m}n)$ $(\mathbf{b} + \mathbf{c})/4$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			$p2_111$ $p1$
		$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
(hhl) $(\bar{h}h\bar{l})$ $(h\bar{h}\bar{l})$ $(\bar{h}h\bar{l})$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
	n odd m even			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\widehat{p}1$
	q odd					
	m odd			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$
	q odd					
	m odd			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111$ $p1$
	p odd q even					

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
($mn0$)	\mathbf{c} $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$			$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	L09 L01			
($\bar{n}m0$)	\mathbf{c} $m\mathbf{a} + n\mathbf{b}$ $-q\mathbf{a} + p\mathbf{b}$								
($\bar{m}\bar{n}0$)	\mathbf{c} $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$								
($nm0$)	\mathbf{c} $m\mathbf{a} - n\mathbf{b}$ $q\mathbf{a} + p\mathbf{b}$								
($0mn$)	\mathbf{a} $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$			$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	L08 L01			
($\bar{0}\bar{m}n$)	\mathbf{a} $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$				$p211$ $p1$				
($\mathbf{c}/4$)									
($m0n$)	\mathbf{b} $m\mathbf{c} - n\mathbf{a}$ $q\mathbf{c} + p\mathbf{a}$			$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	L08 L01			
($m0\bar{n}$)	\mathbf{b} $m\mathbf{c} + n\mathbf{a}$ $-q\mathbf{c} + p\mathbf{a}$				$p211$ $p1$				
($hh\ell$)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$ $p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	L10 L01			
($\bar{h}h\ell$)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$				$\hat{p}1$				
($3\mathbf{c}/8$)	n odd m even q odd m odd q odd m odd p odd q even				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	L08 L09 L01			
					$p211$ $p2_{111} (\mathbf{b}'/4)$ $p1$				
	n odd m even q odd m odd q odd m odd p odd q even			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	L08 L09 L01			
					$p211$ $p2_{111}$ $p1$				
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	L08 L09 L01			
					$p211$ $p2_{111}$ $p1$				
($hh\ell$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$ $p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	L10 L01			
($\bar{h}h\ell$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$ $-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$				$\hat{p}1$				
	n odd m even q odd m odd q odd m odd p odd q even				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	L08 L09 L01			
					$p211$ $p2_{111} (\mathbf{b}'/4)$ $p1$				
	n odd m even q odd m odd q odd m odd p odd q even			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	L08 L09 L01			
					$p211$ $p2_{111}$ $p1$				
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	L08 L09 L01			
					$p211$ $p2_{111}$ $p1$				

$$l \text{ odd} \Rightarrow n = l, m = 2h; l \text{ even} \Rightarrow n = l/2, m = h$$

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
($mn0$)	\mathbf{c} $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$			$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	L09 L01			
($\bar{n}m0$)	\mathbf{c} $m\mathbf{a} + n\mathbf{b}$ $-q\mathbf{a} + p\mathbf{b}$								
($\overline{m}n0$)	\mathbf{c} $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$								
($nm0$)	\mathbf{c} $m\mathbf{a} - n\mathbf{b}$ $q\mathbf{a} + p\mathbf{b}$								
($0mn$)	\mathbf{a} $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$			$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	L09 L01			
($0\bar{m}n$)	\mathbf{a} $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$								
($\mathbf{b}/4 + 3\mathbf{c}/8$)				$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	L09 L01			
($m0n$)	\mathbf{b} $m\mathbf{c} - n\mathbf{a}$ $q\mathbf{c} + p\mathbf{a}$								
($m0\bar{n}$)	\mathbf{b} $m\mathbf{c} + n\mathbf{a}$ $-q\mathbf{c} + p\mathbf{a}$								
($\mathbf{a}/4 + \mathbf{c}/8$)									
(hhl)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$ $p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	L10 L01			
($\bar{h}hl$)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$								
($\mathbf{c}/4$)									
				$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	L08 L09 L01 L01			
				$B211$					
(hhl)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$ $p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	L10 L01			
($\bar{h}hl$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$ $-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$								
				$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	L08 L09 L01 L01			
				$B211$					

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}				
$(mn0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$				
$(\bar{n}m0)$	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$				
$(\bar{m}n0)$	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$				
$(nm0)$	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$				
		<i>n</i> odd	<i>m</i> even		$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	
		<i>p</i> even	<i>q</i> odd			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	
		or				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	
		<i>n</i> even	<i>m</i> odd		$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	
		<i>p</i> odd	<i>q</i> even			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	
		<i>p</i> odd	<i>q</i> odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	
		<i>n</i> odd	<i>m</i> odd		$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	
						$[s\mathbf{d}, -s\mathbf{d}]$	
$(0mn)$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$				
$(0\bar{m}n)$	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$				
$(m0n)$	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$				
$(m0\bar{n})$	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$				
		<i>n</i> odd	<i>m</i> even		$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	
		<i>p</i> even	<i>q</i> odd			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	
		or				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	
		<i>n</i> even	<i>m</i> odd		$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	
		<i>p</i> odd	<i>q</i> even			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	
		<i>p</i> odd	<i>q</i> odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	
		<i>n</i> odd	<i>m</i> odd		$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	
						$[s\mathbf{d}, -s\mathbf{d}]$	

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(hh\bar{l})$ $(\bar{h}hl)$	$\mathbf{a} - \mathbf{b}$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$	$B211$ n odd p even q odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111$ $p1$	L08 L09 L01
	$\mathbf{a} - \mathbf{b}$	$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$	L08 L09 L01
	$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b} + \mathbf{c})/2$						
$(h\bar{h}\bar{l})$ $(\bar{h}h\bar{l})$	$\mathbf{a} + \mathbf{b}$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$	$B211$ n odd p even q odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111$ $p1$	L08 L09 L01
	$\mathbf{a} + \mathbf{b}$	$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$	L08 L09 L01
	$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a} + \mathbf{c})/2$						

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}					
(mn0) ($\bar{n}m0$) ($\bar{m}\bar{n}0$) (nm0)		\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$				
		\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$				
		\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$				
		\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$				
				n odd m even p even q odd or n even m odd p odd q even p odd q odd	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111} (\mathbf{b}'/4)$ $p1$	L08 L09 L01
					$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$ $p1$	L08 L09 L01
					$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01
(0mn) (0 $\bar{m}n$) ($\mathbf{b}/4 + \mathbf{c}/8$)		\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$				
		\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$				
				n odd m even p even q odd or n even m odd p odd q even p odd q odd	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111} (\mathbf{b}'/4)$ $p1$	L08 L09 L01
					$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$ $p1$	L08 L09 L01
					$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01
		\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$				
			$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$				
				n odd m even p even q odd or n even m odd p odd q even p odd q odd	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111} (\mathbf{b}'/4)$ $p1$	L08 L09 L01
					$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$ $p1$	L08 L09 L01
					$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01
(m0n) (m0 \bar{n}) ($\mathbf{a}/4 + 3\mathbf{c}/8$)		\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$				
		\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$				
				n odd m even p even q odd or n even m odd p odd q even p odd q odd	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111} (\mathbf{b}'/4)$ $p1$	L08 L09 L01
					$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$ $p1$	L08 L09 L01
					$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01

Continued

No. 99 *P4mm*

$$\mathcal{G} = P4mm$$

$$C_{4v}^1$$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mn0)$			$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$	
$(\bar{n}m0)$			$\mathbf{c} \quad m\mathbf{a} + n\mathbf{b} \quad -q\mathbf{a} + p\mathbf{b}$				
$(\bar{m}n0)$			$\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$				
$(nm0)$			$\mathbf{c} \quad m\mathbf{a} - n\mathbf{b} \quad q\mathbf{a} + p\mathbf{b}$				
$(0mn)$			$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$	$Pm11$	$s\mathbf{d}$	$pm11$	
$(0\bar{m}n)$			$\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$				
$(m0n)$			$\mathbf{b} \quad m\mathbf{c} - n\mathbf{a} \quad q\mathbf{c} + p\mathbf{a}$				
$(m0\bar{n})$			$\mathbf{b} \quad m\mathbf{c} + n\mathbf{a} \quad -q\mathbf{c} + p\mathbf{a}$				
$(hh\ell)$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$Cm11$	$s\mathbf{d}$	$cm11$	
$(\overline{h}h\ell)$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$				
$(h\bar{h}\ell)$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$				
$(\overline{h}h\ell)$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$				
n odd	m even		$Im11$	$s\mathbf{d}$	$pm11$	$L11$	
q odd	m odd						
m odd	q odd			$Bm11$	$pm11$	$L11$	
p odd	q even						

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
($mn0$)	\mathbf{c} $na - mb$ $p\mathbf{a} + q\mathbf{b}$			$P211$	0 \mathbf{d} , $\frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p211$ $p1$			
($\bar{n}m0$)	\mathbf{c} $ma + nb$ $-qa + pb$								
($\bar{m}n0$)	\mathbf{c} $na + mb$ $-pa + qb$					$L08$ $L01$			
($nm0$)	\mathbf{c} $ma - nb$ $qa + pb$								
($0mn$)	\mathbf{a} $nb - mc$ $p\mathbf{b} + qc$			$Pb11$	$s\mathbf{d}$	$pb11$ $p1$			
($0\bar{m}n$)	\mathbf{a} $nb + mc$ $-pb + qc$								
($\mathbf{a}/4$)	n odd m even q odd m odd q odd m odd p odd q even								
($m0n$)	\mathbf{b} $mc - na$ $qc + pa$			$Pn11$	[$s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}$]	$p1$			
($m0\bar{n}$)	\mathbf{b} $mc + na$ $-qc + pa$								
($\mathbf{b}/4$)	n odd p even q odd n even m odd p odd n odd p odd								
(hhl)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) - mc$ $p(\mathbf{a} + \mathbf{b}) + qc$			$Pc11$	[$s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}$]	$p1$			
($\bar{h}hl$)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) + mc$ $-p(\mathbf{a} + \mathbf{b}) + qc$								
($\mathbf{a} - \mathbf{b})/4$)	n odd m even q odd m odd q odd m odd p odd q even								
($hh\bar{l}$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) - mc$ $p(\mathbf{b} - \mathbf{a}) + qc$			$Pb11$	$s\mathbf{d}$	$pb11$ $p1$			
($\bar{h}h\bar{l}$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) + mc$ $-p(\mathbf{b} - \mathbf{a}) + qc$								
($\mathbf{a} + \mathbf{b})/4$)	n odd m even q odd m odd q odd m odd p odd q even								
($hh\bar{l}$)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) - mc$ $p(\mathbf{a} + \mathbf{b}) + qc$			$Pn11$	[$s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}$]	$p1$			
($\bar{h}h\bar{l}$)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) + mc$ $-p(\mathbf{a} + \mathbf{b}) + qc$								
($\mathbf{a} - \mathbf{b})/4$)	n odd m even q odd m odd q odd m odd p odd q even								
($hh\bar{l}$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) - mc$ $p(\mathbf{b} - \mathbf{a}) + qc$			$Cm11$	$s\mathbf{d}$	$cm11$			
($\bar{h}h\bar{l}$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) + mc$ $-p(\mathbf{b} - \mathbf{a}) + qc$								
($\mathbf{a} + \mathbf{b})/4$)	n odd m even q odd m odd q odd m odd p odd q even								
($hh\bar{l}$)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) - mc$ $p(\mathbf{a} + \mathbf{b}) + qc$			$Im11$	[$s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}$]	$pm11$			
($\bar{h}h\bar{l}$)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) + mc$ $-p(\mathbf{a} + \mathbf{b}) + qc$								
($\mathbf{a} + \mathbf{b})/4$)	n odd m even q odd m odd q odd m odd p odd q even								
($hh\bar{l}$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) - mc$ $p(\mathbf{b} - \mathbf{a}) + qc$			$Bm11$	[$s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}$]	$pm11$			
($\bar{h}h\bar{l}$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) + mc$ $-p(\mathbf{b} - \mathbf{a}) + qc$								
($\mathbf{a} + \mathbf{b})/4$)	n odd m even q odd m odd q odd m odd p odd q even								

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$					
$(mn0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$	$L08$				
$(\bar{n}m0)$	\mathbf{c}	$ma + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$								
$(\bar{m}n0)$	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			$p1$	$L01$				
$(nm0)$	\mathbf{c}	$ma - n\mathbf{b}$	$qa + p\mathbf{b}$								
$(0mn)$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$Pc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$	$L01$				
$(0\bar{m}n)$	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$								
		n odd	q odd								
		p even	$Pb11$	$s\mathbf{d}$	$pb11$	$L12$					
		n even									
		p odd	$Pn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$	$L01$					
		n odd					p odd				
		p odd									
$(hh\bar{l})$	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$	$Pb11$	$s\mathbf{d}$	$pb11$	$L12$				
$(\bar{h}hl)$	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$								
		n odd	m even								
			$Pn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$	$L01$					
			$Pc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$	$L01$					
							p odd				
$(hh\bar{l})$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$Cm11$	$s\mathbf{d}$	$cm11$	$L13$				
$(\bar{h}\bar{h}\bar{l})$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$								
$(h\bar{h}l)$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$								
$(\bar{h}h\bar{l})$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			$pm11$	$L11$				
		n odd	m even								
			$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$							
				q odd			$pm11$	$L11$			
			$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$							

No. 102 $P4_2nm$ $\mathcal{G} = P4_2nm$ C_{4v}^4

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
($mn0$)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P211$	0 \mathbf{d} , $\frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p211$ $p1$	
($\bar{n}m0$)	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$				
($\bar{m}n0$)	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			$L08$ $L01$	
($nm0$)	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$				
($0mn$)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$Pn11$	[$s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}$]	$p1$ $L01$	
($0\bar{m}n$)	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$				
($m0n$)	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$				
($m0\bar{n}$)	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$				
		n odd	m even	$Pc11$	[$s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}$]	$p1$ $L01$	
		p even	q odd				
		or			[$s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}$]	$Pb11$ $L12$	
		n even	m odd				
		p odd	q even	$Cm11$	$s\mathbf{d}$	$pb11$ $L12$	
		p odd	q odd		[$s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}$]	$cm11$ $L13$	
		n odd	m odd				
(hhl)	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$Im11$	[$s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}$]	$pm11$ $L11$	
($\bar{h}hl$)	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$				
($h\bar{h}l$)	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$				
($\bar{h}h\bar{l}$)	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$		[$s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}$]	$pm11$ $L11$	
		n odd	m even				
		q odd					
		m odd		$Bm11$	[$s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}$]	$pm11$ $L11$	
		q odd					
		m odd					
		p odd	q even				

$$l \text{ odd} \Rightarrow n = l, m = 2h; l \text{ even} \Rightarrow n = l/2, m = h$$

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
($mn0$)	\mathbf{c} $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$			$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p211$			
($\bar{n}m0$)	\mathbf{c} $m\mathbf{a} + n\mathbf{b}$ $-q\mathbf{a} + p\mathbf{b}$					$L08$			
($\bar{m}n0$)	\mathbf{c} $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$					$p1$			
($nm0$)	\mathbf{c} $m\mathbf{a} - n\mathbf{b}$ $q\mathbf{a} + p\mathbf{b}$					$L01$			
($0mn$)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$		$Pc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$			
($0\bar{m}n$)		$n\mathbf{b} + m\mathbf{c}$							
		n odd							
		p even		$Pb11$	$s\mathbf{d}$	$pb11$			
		n even							
		p odd							
($m0n$)	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$		$Pn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$			
($m0\bar{n}$)		$m\mathbf{c} + n\mathbf{a}$							
		n odd							
		m even		$Pb11$	$s\mathbf{d}$	$pb11$			
		q odd							
		m odd							
	$\mathbf{a} - \mathbf{b}$	q odd		$Pn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$			
		m odd							
		q odd							
		m odd		$Pc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$			
		p odd							
		q even							
(hhl)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$ $p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$			
($\bar{h}\bar{h}l$)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$								
($h\bar{h}l$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$ $p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$								
($\bar{h}hl$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$ $-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$								
	n odd								
	m even								
	p even								
	q odd								
	n even								
	m odd								
	$Bb11$	p odd							
		q even							
		n even							
		m odd							
		p odd							
		q odd							
		n odd							
		m odd							
		p even							
		q odd							
	$Ib11$	n odd							
		m odd							
		p odd							
		q even							
		n even							
		m odd							
		p odd							
		q odd							
		n odd							
		m even							
	$Ic11$	p even							
		q odd							
		n odd							
		m odd							
		p odd							
		q even							
		n odd							
		m even							
		p odd							
		q odd							
	$Bn11$	n odd							
		m odd							
		p odd							
		q even							
		n odd							
		m even							
		p odd							
		q odd							
		n odd							
		m even							
	$Cn11$	p odd							
		q odd							
		n odd							
		m even							
		p odd							
		q odd							
		n odd							
		m even							
		p odd							
		q odd							

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
$(mn0)$	\mathbf{c} $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$			$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p211$ $p1$			
$(\bar{n}m0)$	\mathbf{c} $m\mathbf{a} + n\mathbf{b}$ $-q\mathbf{a} + p\mathbf{b}$								
$(\bar{m}n0)$	\mathbf{c} $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$								
$(nm0)$	\mathbf{c} $m\mathbf{a} - n\mathbf{b}$ $q\mathbf{a} + p\mathbf{b}$								
$(0mn)$	\mathbf{a} $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$			$Pn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$			
$(0\bar{m}n)$	\mathbf{a} $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$								
$(m0n)$	\mathbf{b} $m\mathbf{c} - n\mathbf{a}$ $q\mathbf{c} + p\mathbf{a}$								
$(m0\bar{n})$	\mathbf{b} $m\mathbf{c} + n\mathbf{a}$ $-q\mathbf{c} + p\mathbf{a}$								
	n odd m even								
	p even q odd								
	or								
	n even m odd								
	p odd q even								
	p odd q odd								
	n odd m odd								
	$Pc11$								
	$Pb11$								
$(hh\bar{l})$	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$ $p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}1$			
$(\bar{h}hl)$	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$								
$(\mathbf{a} - \mathbf{b})/4$	n odd m even								
	p even q odd								
	n even m odd								
	p odd q even								
	n even m odd								
	p odd q odd								
	p even q odd								
	n odd m odd								
	p odd q even								
	n odd m even								
	p odd q odd								
$(\bar{h}h\bar{l})$	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$ $p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}1$			
$(\bar{h}hl)$	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$ $-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$								
$(\mathbf{a} + \mathbf{b})/4$	n odd m even								
	p even q odd								
	n even m odd								
	p odd q even								
	n even m odd								
	p odd q odd								
	p even q odd								
	n odd m odd								
	p odd q even								
	n odd m even								
	p odd q odd								

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{n}m0)$ $(\bar{m}\bar{n}0)$ $(nm0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$
	\mathbf{c}	$ma + nb$	$-qa + pb$			
	\mathbf{c}	$na + mb$	$-pa + qb$			
	\mathbf{c}	$ma - nb$	$qa + pb$			
$(0mn)$ $(0\bar{m}\bar{n})$ $(m0n)$ $(m0\bar{n})$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$Pm11$	$s\mathbf{d}$	$pm11$
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-pb + qc$			
	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$qc + pa$			
	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-qc + pa$			
$(hh\ell)$ $(\bar{h}\bar{h}\ell)$ $(h\bar{\bar{h}}\ell)$ $(\bar{h}h\ell)$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - mc$	$p(\mathbf{a} + \mathbf{b}) + qc$	$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + mc$	$-p(\mathbf{a} + \mathbf{b}) + qc$			
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - mc$	$p(\mathbf{b} - \mathbf{a}) + qc$			
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + mc$	$-p(\mathbf{b} - \mathbf{a}) + qc$			
		n odd	m even			
		p even	q odd			
		n even	m odd	$Bb11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$
		p odd	q even	$Ib11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$
		n even	m odd			
		p odd	q odd	$Ic11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
		n odd	m odd			
		p even	q odd	$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
		n odd	m odd			
		p odd	q even	$Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
		p odd	q odd			

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}					
(mn0) ($\bar{n}m0$) ($\bar{m}\bar{n}0$) (nm0)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$		$I211$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$		
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$					
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$					
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$					
		n odd	m even			$L08$		
		p even	q odd			$L09$		
		or				$L01$		
		n even	m odd					
		p odd	q even					
(0mn) (0 $\bar{m}n$)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$ $n\mathbf{b} + m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$		$Ic11$	$p211 (\mathbf{a}'/4)$		
(m0n) (m0 \bar{n})	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$ $m\mathbf{c} + n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$ $-q\mathbf{c} + p\mathbf{a}$		$Ib11$	$p211$		

Continued

No. 108 $I4cm$

Continued

 $\mathcal{G} = I4cm$ C_{4v}^{10}

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(hhl) $(\bar{h}\bar{h}l)$ $(\mathbf{a}/2 \text{ or } \mathbf{b}/2)$	$\mathbf{a} - \mathbf{b} \quad n\hat{\mathbf{a}} - m\mathbf{c} \quad p\hat{\mathbf{a}} + q\mathbf{c}$ $\mathbf{a} - \mathbf{b} \quad n\hat{\mathbf{a}} + m\mathbf{c} \quad -p\hat{\mathbf{a}} + q\mathbf{c}$ n odd p even n even p odd n odd p odd	$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$ L11
	$Cm11$	$s\mathbf{d}$	$cm11$ L13	
	$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$ L11	
	$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b} + \mathbf{c})/2$			
$(h\bar{h}l)$ $(\bar{h}hl)$ $(\mathbf{a}/2 \text{ or } \mathbf{b}/2)$	$\mathbf{a} + \mathbf{b} \quad n\hat{\mathbf{a}} - m\mathbf{c} \quad p\hat{\mathbf{a}} + q\mathbf{c}$ $\mathbf{a} + \mathbf{b} \quad n\hat{\mathbf{a}} + m\mathbf{c} \quad -p\hat{\mathbf{a}} + q\mathbf{c}$ n odd p even n even p odd n odd p odd	$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$ L11
	$Cm11$	$s\mathbf{d}$	$cm11$ L13	
	$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$ L11	
	$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a} + \mathbf{c})/2$			
l odd $\Rightarrow n = 2l, m = 2h + l; l$ even $\Rightarrow n = l, m = h + l/2$				

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
(mn0)	c	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$		$I211$	
	c	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
	c	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
	c	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
			n odd			$p211$
			p even			$p_2111 (\mathbf{b}'/4)$
			or			$p1$
			n even			$L08$
			p odd			$L09$
			p odd			$L01$
(0mn)	a	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$		$B211$	
	a	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
	b	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			
	b	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
			n odd			$C211$
			p even			$p211$
			or			p_2111
			n even			$p1$
			p odd			$L08$
			p odd			$L09$
(0m̄n)	a	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$		$Im11$	
	a	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
	b	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			
	b	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
			n odd			$pm11$
			p even			$L11$
			or			
			n even			
			p odd			
			p odd			
(m0n)	a	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$		$Bm11$	
	a	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
	b	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			
	b	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
			n odd			$pm11$
			p even			$L11$
			or			
			n even			
			p odd			
			p odd			
(m0̄n)	a	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$		$Cm11$	
	a	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
	b	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			
	b	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
			n odd			$cm11$
			p even			$L13$
			or			
			n even			
			p odd			
			p odd			

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$					
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}								
(mn0) ($\bar{n}m0$) ($\overline{m}n0$) (nm0)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$								
		$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$								
		$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$								
		$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$								
		n odd		$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$	L08				
		p even			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_111 (\mathbf{b}'/4)$	L09				
		or			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01				
		n even									
		p odd		$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$	L08				
		p odd			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_111$	L09				
		q odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01				
(0mn) (0 $\overline{m}n$)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$								
		$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$								
		n odd			$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12				
		p even									
		q odd									
		n even		$Ic11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12				
		m odd									
		p odd		$Ib11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12				
		q even									
		n even		$Bb11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12				
		m odd									
(m0n) (m0 \overline{n})	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$								
		$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$								
		n odd									
		m even									
		p even									
		q odd									
		n even		$Ic11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12				
		m odd									
		p odd		$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12				
		q odd									
		n odd		$Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	L01				
		m even									
		p odd		$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	L01				
		q odd									
		n odd		$Bb11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12				
		m even									
		p odd									

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$\frac{(hh\bar{l})}{(\bar{h}hl)}$ $3(\mathbf{a} - \mathbf{b})/8$	$\mathbf{a} - \mathbf{b}$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$	$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
	$\mathbf{a} - \mathbf{b}$	$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$			
		n odd	m even			
		p even	q odd			
		n even	m odd			
		p odd	q even			
		n even	m odd			
		p odd	q odd			
		n odd	m odd			
		p even	q odd			
		n odd	m odd			
		p odd	q even			
		n odd	m even			
		p odd	q odd			
$\frac{(\bar{h}\bar{h}l)}{(h\bar{h}l)}$ $(\mathbf{a} + \mathbf{b})/8$	$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b} + \mathbf{c})/2$			$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
	$\mathbf{a} + \mathbf{b}$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$			
	$\mathbf{a} + \mathbf{b}$	$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$			
		n odd	m even			
		p even	q odd			
		n even	m odd			
		p odd	q even			
		n even	m odd			
		p odd	q odd			
		n odd	m odd			
		p even	q odd			
		n odd	m odd			
		p odd	q even			
		n odd	m even			
		p odd	q odd			
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a} + \mathbf{c})/2$				$Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}1$

No. 111 $P\bar{4}2m$

$$\mathcal{G} = P\overline{4}2m$$

D_{2d}¹

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mn0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$	
$(\bar{n}m0)$	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$				
$(\bar{m}n0)$	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$				
$(nm0)$	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$				
$(0mn)$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$	
$(0\bar{m}n)$	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$				
$(m0n)$	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$				
$(m0\bar{n})$	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$				
$(\mathbf{c}/4)$							
$(hh\ell)$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$				
$(\bar{h}\bar{h}\ell)$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$				
$(h\bar{h}\ell)$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$				
$(\bar{h}h\ell)$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$				
		n odd	m even		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	L01
		p even	q odd		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12
		n even	m odd		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12
		p odd	q even		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12
		n even	m odd		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12
		p odd	q odd		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12
		n odd	m odd		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12
		p even	q odd		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	L01

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
$(mn0)$	\mathbf{c} $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$			$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p211$ L08			
$(\bar{n}m0)$	\mathbf{c} $m\mathbf{a} + n\mathbf{b}$ $-q\mathbf{a} + p\mathbf{b}$								
$(\bar{m}n0)$	\mathbf{c} $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$								
$(nm0)$	\mathbf{c} $m\mathbf{a} - n\mathbf{b}$ $q\mathbf{a} + p\mathbf{b}$								
$(0mn)$	\mathbf{a} $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$			$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2_111$ L09			
$(0\bar{m}n)$	\mathbf{a} $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$								
$(\mathbf{b}/4)$						$p1$ L01			
$(m0n)$	\mathbf{b} $m\mathbf{c} - n\mathbf{a}$ $q\mathbf{c} + p\mathbf{a}$			$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2_111$ L09			
$(m0\bar{n})$	\mathbf{b} $m\mathbf{c} + n\mathbf{a}$ $-q\mathbf{c} + p\mathbf{a}$								
$(\mathbf{a}/4)$						$p1$ L01			
(hhl)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$ $p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			$Cm11$	$s\mathbf{d}$	$cm11$ L13			
$(\bar{h}\bar{h}l)$	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$								
$(\mathbf{a} - \mathbf{b})/4$									
				$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$ L11			
				$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$ L11			
$(hh\bar{l})$	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$ $p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			$Cm11$	$s\mathbf{d}$	$cm11$ L13			
$(\bar{h}h\bar{l})$	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$ $-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$								
$(\mathbf{a} + \mathbf{b})/4$									
				$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$ L11			
				$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$ L11			

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(mn0)$ $(\bar{n}m0)$ $(\bar{m}n0)$ $(nm0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
$(0mn)$ $(0\bar{m}n)$ $(\mathbf{b} + \mathbf{c})/4$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			$p2_111$ $p1$
		$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
$(hh\ell)$ $(\bar{h}h\ell)$ $(\mathbf{a} - \mathbf{b})/4$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
		$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
		n odd	m even			
		p even	q odd			
		n even	m odd			
		p odd	q even			
		n even	m odd			
		p odd	q odd			
		n odd	m odd			
		p even	q odd			
		n odd	m odd			
		p odd	q even			
		n odd	m even			
		p odd	q odd			
$(\bar{h}\bar{h}\ell)$ $(\bar{h}h\ell)$ $(\mathbf{a} + \mathbf{b})/4$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$	$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
		$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
		n odd	m even			
		p even	q odd			
		n even	m odd			
		p odd	q even			
		n even	m odd			
		p odd	q odd			
		n odd	m odd			
		p even	q odd			
		n odd	m odd			
		p odd	q even			
		n odd	m even			
		p odd	q odd			

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
($mn0$)	\mathbf{c} $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$			$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	L08			
($\bar{n}m0$)	\mathbf{c} $m\mathbf{a} + n\mathbf{b}$ $-q\mathbf{a} + p\mathbf{b}$								
($\bar{m}n0$)	\mathbf{c} $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$								
($nm0$)	\mathbf{c} $m\mathbf{a} - n\mathbf{b}$ $q\mathbf{a} + p\mathbf{b}$								
($0mn$)	\mathbf{a} $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$			$Pb11$	$s\mathbf{d}$	L12			
($0\bar{m}n$)	\mathbf{a} $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$								
($\mathbf{a}/4$)	n odd m even q odd m odd q odd m odd q even								
($m0n$)	\mathbf{b} $m\mathbf{c} - n\mathbf{a}$ $q\mathbf{c} + p\mathbf{a}$			$Pc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	L01			
($m0\bar{n}$)	\mathbf{b} $m\mathbf{c} + n\mathbf{a}$ $-q\mathbf{c} + p\mathbf{a}$								
($\mathbf{b}/4$)	n odd p even q odd n even m odd p odd n odd p odd								
(hhl)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$ $p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	L10			
($\bar{h}hl$)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$								
($\mathbf{a} + \mathbf{b})/4$)	n odd m even q odd m odd q odd m odd p odd q even								
($hh\bar{l}$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$ $p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	L08			
($\bar{h}h\bar{l}$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$ $-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$								
($\mathbf{a} - \mathbf{b})/4$)	n odd m even q odd m odd q odd m odd p odd q even								
($hh\bar{l}$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$ $p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	L08			
($\bar{h}h\bar{l}$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$ $-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$								
($\mathbf{a} - \mathbf{b})/4$)	n odd m even q odd m odd q odd m odd p odd q even								
($hh\bar{l}$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$ $p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	L10			
($\bar{h}h\bar{l}$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$ $-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$								
($\mathbf{a} - \mathbf{b})/4$)	n odd m even q odd m odd q odd m odd p odd q even								
($hh\bar{l}$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$ $p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	L08			
($\bar{h}h\bar{l}$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$ $-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$								
($\mathbf{a} - \mathbf{b})/4$)	n odd m even q odd m odd q odd m odd p odd q even								
($hh\bar{l}$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$ $p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	L08			
($\bar{h}h\bar{l}$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$ $-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$								
($\mathbf{a} - \mathbf{b})/4$)	n odd m even q odd m odd q odd m odd p odd q even								

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
($mn0$)	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$			$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$			
($\bar{n}m0$)	$\mathbf{c} \quad m\mathbf{a} + n\mathbf{b} \quad -q\mathbf{a} + p\mathbf{b}$								
($\bar{m}n0$)	$\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$								
($nm0$)	$\mathbf{c} \quad m\mathbf{a} - n\mathbf{b} \quad q\mathbf{a} + p\mathbf{b}$								
($0mn$)	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$			$Pn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$			
($0\bar{m}n$)	$\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$								
($\mathbf{a}/4$)	$n \text{ odd} \quad m \text{ even}$ $p \text{ even} \quad q \text{ odd}$ or $n \text{ even} \quad m \text{ odd}$ $p \text{ odd} \quad q \text{ even}$ $p \text{ odd} \quad q \text{ odd}$ $n \text{ odd} \quad m \text{ odd}$								
($Pc11$)					$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$			
($Pb11$)					$s\mathbf{d}$	$pb11$			
($L12$)									
($m0n$)	$\mathbf{b} \quad m\mathbf{c} - n\mathbf{a} \quad q\mathbf{c} + p\mathbf{a}$			$Pn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$			
($m0\bar{n}$)	$\mathbf{b} \quad m\mathbf{c} + n\mathbf{a} \quad -q\mathbf{c} + p\mathbf{a}$								
($\mathbf{b}/4$)	$n \text{ odd} \quad m \text{ even}$ $p \text{ even} \quad q \text{ odd}$ or $n \text{ even} \quad m \text{ odd}$ $p \text{ odd} \quad q \text{ even}$ $p \text{ odd} \quad q \text{ odd}$ $n \text{ odd} \quad m \text{ odd}$								
($Pc11$)					$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$p1$			
($Pb11$)					$s\mathbf{d}$	$pb11$			
($L12$)									
(hhl)	$\mathbf{a} - \mathbf{b} \quad n(\mathbf{a} + \mathbf{b}) - m\mathbf{c} \quad p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$			
($\bar{h}hl$)	$\mathbf{a} - \mathbf{b} \quad n(\mathbf{a} + \mathbf{b}) + m\mathbf{c} \quad -p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$								
($\mathbf{a} + \mathbf{b} + \mathbf{c}/4$)	$n \text{ odd} \quad m \text{ even}$ $q \text{ odd}$ $m \text{ odd}$ $q \text{ odd}$ $m \text{ odd}$ $p \text{ odd} \quad q \text{ even}$								
($I211$)					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$			
($B211$)					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111$ $p1$			
($L08$)									
(hhl)	$\mathbf{a} + \mathbf{b} \quad n(\mathbf{b} - \mathbf{a}) - m\mathbf{c} \quad p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$			
($\bar{h}hl$)	$\mathbf{a} + \mathbf{b} \quad n(\mathbf{b} - \mathbf{a}) + m\mathbf{c} \quad -p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$								
($\mathbf{a} - \mathbf{b} + \mathbf{c}/4$)	$n \text{ odd} \quad m \text{ even}$ $q \text{ odd}$ $m \text{ odd}$ $q \text{ odd}$ $m \text{ odd}$ $p \text{ odd} \quad q \text{ even}$								
($I211$)					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$			
($B211$)					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111$ $p1$			
($L09$)									

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
(mn0)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
	n odd		m even		$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$
	p even		q odd			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$
	or					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
	n even		m odd		$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$
	p odd		q even			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$
	p odd		q odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
(0mn)	n odd		m odd	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p211$
	n odd		m odd		$[s\mathbf{d}, -s\mathbf{d}]$	$L08$
	n odd		m odd		$p2_111 (\mathbf{b}'/4)$	$L09$
	n odd		m odd	$Im11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p1$
	n odd		m odd		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$L10$
	n odd		m odd		$pm11$	$L11$
	n odd		m odd	$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$L11$
	n odd		m odd		$cm11$	$L13$
	n odd		m odd		$s\mathbf{d}$	

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
$(hh\bar{l})$ $(\bar{h}hl)$	$\mathbf{a} - \mathbf{b} \quad n\hat{\mathbf{a}} - mc \quad p\hat{\mathbf{a}} + qc$ $\mathbf{a} - \mathbf{b} \quad n\hat{\mathbf{a}} + mc \quad -p\hat{\mathbf{a}} + qc$ n odd p even q odd			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111$ $p1$	L08 L09 L01	
	n even m odd				$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01	
	n odd			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$	L08 L09 L01	
	p odd							
	$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b} + \mathbf{c})/2$							
$(h\bar{h}l)$ $(\bar{h}h\bar{l})$	$\mathbf{a} + \mathbf{b} \quad n\hat{\mathbf{a}} - mc \quad p\hat{\mathbf{a}} + qc$ $\mathbf{a} + \mathbf{b} \quad n\hat{\mathbf{a}} + mc \quad -p\hat{\mathbf{a}} + qc$ n odd p even q odd			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111$ $p1$	L08 L09 L01	
	n even m odd				$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01	
	n odd			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$	L08 L09 L01	
	p odd							
	$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a} + \mathbf{c})/2$							

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}				
(mn0) ($\bar{n}m0$) ($\bar{m}n0$) (nm0)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$		$I211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{21}11 (\mathbf{b}'/4)$ $p1$	L08 L09 L01
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$				
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$				
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$				
(0mn) (0 $\bar{m}n$)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$		$Ic11$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$				
					$Ib11$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12
					$Bb11$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12
					$Cc11$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	L01
					$Cn11$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	L01
(m0n) (m0 \bar{n})	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$		$Ib11$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12
	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$				
					$Ic11$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12
					$Bn11$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12
					$Cn11$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	L01
					$Cc11$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	L01
					$Bb11$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12

Continued

No. 120 $I\bar{4}c2$

Continued

 $\mathcal{G} = I\bar{4}c2$ D_{2d}^{10}

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(hh\bar{l})$ $(\bar{h}hl)$ $(\mathbf{c}/4)$	$\mathbf{a} - \mathbf{b} \quad n\hat{\mathbf{a}} - m\mathbf{c} \quad p\hat{\mathbf{a}} + q\mathbf{c}$ $\mathbf{a} - \mathbf{b} \quad n\hat{\mathbf{a}} + m\mathbf{c} \quad -p\hat{\mathbf{a}} + q\mathbf{c}$ n odd p even q odd n even m odd p odd n odd p odd $\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b} + \mathbf{c})/2$	n odd p even q odd n even m odd p odd n odd p odd	$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$	L08 L09 L01
			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\mathbf{d}, -\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01 L01
			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111}(\mathbf{b}'/4)$ $p1$	L08 L09 L01
$(h\bar{h}l)$ $(\bar{h}hl)$ $(\mathbf{c}/4)$	$\mathbf{a} + \mathbf{b} \quad n\hat{\mathbf{a}} - m\mathbf{c} \quad p\hat{\mathbf{a}} + q\mathbf{c}$ $\mathbf{a} + \mathbf{b} \quad n\hat{\mathbf{a}} + m\mathbf{c} \quad -p\hat{\mathbf{a}} + q\mathbf{c}$ n odd p even q odd n even m odd p odd n odd p odd $\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a} + \mathbf{c})/2$	n odd p even q odd n even m odd p odd n odd p odd	$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$	L08 L09 L01
			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\mathbf{d}, -\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01 L01
			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111}(\mathbf{b}'/4)$ $p1$	L08 L09 L01

 l odd $\Rightarrow n = 2l, m = 2h + l; l$ even $\Rightarrow n = l, m = h + l/2$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mn0)$ $(\bar{n}m0)$ $(\bar{m}\bar{n}0)$ $(nm0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$	L08
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			$p2_111 (\mathbf{b}'/4)$	L09
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			$p1$	L01
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$		$B211$	$p211$	L08
			n odd			$p2_111$	L09
			p even			$p1$	L01
			or				
			n even		$C211$	$c211$	L10
			p odd			$\hat{p}1$	L01
			p odd				
$(0mn)$ $(0\bar{m}\bar{n})$ $(m0n)$ $(m0\bar{n})$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$	L08
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			$p2_111 (\mathbf{b}'/4)$	L09
	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			$p1$	L01
	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$		$B211$	$p211$	L08
			n odd			$p2_111$	L09
			p even			$p1$	L01
			or				
			n even		$C211$	$c211$	L10
			p odd			$\hat{p}1$	L01
			p odd				
$(\bar{m}0n)$ $(\bar{m}0\bar{n})$ $(0\bar{m}n)$ $(0\bar{m}\bar{n})$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$	L08
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			$p2_111 (\mathbf{b}'/4)$	L09
	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			$p1$	L01
	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$		$B211$	$p211$	L08
			n odd			$p2_111$	L09
			p even			$p1$	L01
			or				
			n even		$C211$	$c211$	L10
			p odd			$\hat{p}1$	L01
			p odd				

Continued

No. 121 $I\bar{4}2m$

Continued

 $\mathcal{G} = I\bar{4}2m$ D_{2d}^{11}

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(hh\bar{l})$ $(\bar{h}hl)$	$\mathbf{a} - \mathbf{b} \quad n\hat{\mathbf{a}} - m\mathbf{c} \quad p\hat{\mathbf{a}} + q\mathbf{c}$ $\mathbf{a} - \mathbf{b} \quad n\hat{\mathbf{a}} + m\mathbf{c} \quad -p\hat{\mathbf{a}} + q\mathbf{c}$ n odd p even q odd n even m odd p odd n odd p odd	$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$ L11
	$Cm11$	$s\mathbf{d}$	$cm11$ L13	
	$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$ L11	
	$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b} + \mathbf{c})/2$			
$(h\bar{h}l)$ $(\bar{h}hl)$	$\mathbf{a} + \mathbf{b} \quad n\hat{\mathbf{a}} - m\mathbf{c} \quad p\hat{\mathbf{a}} + q\mathbf{c}$ $\mathbf{a} + \mathbf{b} \quad n\hat{\mathbf{a}} + m\mathbf{c} \quad -p\hat{\mathbf{a}} + q\mathbf{c}$ n odd p even q odd n even m odd p odd n odd p odd	$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$ L11
	$Cm11$	$s\mathbf{d}$	$cm11$ L13	
	$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$ L11	
	$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a} + \mathbf{c})/2$			

$$l \text{ odd} \Rightarrow n = 2l, m = 2h + l; l \text{ even} \Rightarrow n = l, m = h + l/2$$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}					
$(mn0)$ $(\bar{n}m0)$ $(\bar{m}n0)$ $(nm0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	n odd p even or n even p odd p odd	m even q odd m odd q even q odd	$I211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$	L08 L09 L01
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$					
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$					
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$					
						$B211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$	L08 L09 L01
						$C211$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\mathbf{s}\mathbf{d}, -\mathbf{s}\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01
$(0mn)$ $(0\bar{m}n)$ $(\mathbf{b}/4 + \mathbf{c}/8)$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	n odd p even or n even p odd p odd	m even q odd m odd q even q odd	$I211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$	L08 L09 L01
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$					
						$B211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$	L08 L09 L01
						$C211$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\mathbf{s}\mathbf{d}, -\mathbf{s}\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01
$(m0n)$ $(m0\bar{n})$ $(\mathbf{a}/4 + 3\mathbf{c}/8)$	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$qc + pa$	n odd p even or n even p odd p odd	m even q odd m odd q even q odd	$I211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$	L08 L09 L01
	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-qc + pa$					
						$B211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$	L08 L09 L01
						$C211$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\mathbf{s}\mathbf{d}, -\mathbf{s}\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(hh\bar{l})$ $(\bar{h}hl)$	$\mathbf{a} - \mathbf{b} \quad n\hat{\mathbf{a}} - m\mathbf{c} \quad p\hat{\mathbf{a}} + q\mathbf{c}$	$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12
	$\mathbf{a} - \mathbf{b} \quad n\hat{\mathbf{a}} + m\mathbf{c} \quad -p\hat{\mathbf{a}} + q\mathbf{c}$			
	n odd	m even		
	p even	q odd		
	n even	m odd		
	p odd	q even		
	n even	m odd		
	p odd	q odd		
	n odd	m odd		
	p even	q odd		
	n odd	m odd		
	p odd	q even		
	n odd	m even		
	p odd	q odd		
$(h\bar{h}\bar{l})$ $(\bar{h}h\bar{l})$	$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b} + \mathbf{c})/2$	$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12
	$\mathbf{a} + \mathbf{b} \quad n\hat{\mathbf{a}} - m\mathbf{c} \quad p\hat{\mathbf{a}} + q\mathbf{c}$			
	$\mathbf{a} + \mathbf{b} \quad n\hat{\mathbf{a}} + m\mathbf{c} \quad -p\hat{\mathbf{a}} + q\mathbf{c}$			
	n odd	m even		
	p even	q odd		
	n even	m odd		
	p odd	q even		
	n even	m odd		
	p odd	q odd		
	n odd	m odd		
	p even	q odd		
	n odd	m odd		
	p odd	q even		
	n odd	m even		
	p odd	q odd		
$(\bar{h}\bar{h}\bar{l})$ $(\bar{h}\bar{h}l)$	$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a} + \mathbf{c})/2$	$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12
	$\mathbf{a} - \mathbf{b} \quad n\hat{\mathbf{a}} - m\mathbf{c} \quad p\hat{\mathbf{a}} + q\mathbf{c}$			
	$\mathbf{a} - \mathbf{b} \quad n\hat{\mathbf{a}} + m\mathbf{c} \quad -p\hat{\mathbf{a}} + q\mathbf{c}$			
	n odd	m even		
	p even	q odd		
	n even	m odd		
	p odd	q even		
	n even	m odd		
	p odd	q odd		
	n odd	m odd		
	p even	q odd		
	n odd	m odd		
	p odd	q even		
	n odd	m even		
	p odd	q odd		

No. 123 $P4/mmm$

$$\mathcal{G} = P \frac{4}{m} \frac{2}{m} \frac{2}{m}$$

 D_{4h}^1

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
($mn0$)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
($\bar{n}m0$)	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
($\bar{m}\bar{n}0$)	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
($nm0$)	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
($0mn$)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$			
($0\bar{m}n$)	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
($m0n$)	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			
($m0\bar{n}$)	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
(hhl)	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
($\bar{h}hl$)	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
($h\bar{h}l$)	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
($\bar{h}h\bar{l}$)	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
n odd m even				$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$c2/m11$ $cm11$
q odd						$L18$ $L13$
m odd				$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$
q odd						$L14$ $L15$ $L11$
p odd q even				$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$
l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$						$L14$ $L15$ $L11$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
($mn0$) ($\bar{m}n0$) ($\bar{m}\bar{n}0$) ($nm0$)	$\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2/m11$ $pm11$	
($0mn$) ($0\bar{m}n$)	$n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$ $n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$				n odd p even q odd n even m odd p odd n odd p odd	$P2/c11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$] $P2/b11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$s\mathbf{d}, -s\mathbf{d}$] $P2/n11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$ $p211$ $p1$ $p2/b11$ $pb11$ $p\bar{1}$ $p211(\mathbf{b}'/4)$ $p1$
($m0n$) ($m0\bar{n}$)	$m\mathbf{c} - n\mathbf{a} \quad q\mathbf{c} + p\mathbf{a}$ $m\mathbf{c} + n\mathbf{a} \quad -q\mathbf{c} + p\mathbf{a}$			$P2/b11$ $P2/n11$ $P2/c11$	n odd m even q odd m odd q odd m odd p odd q even	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$] $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$] $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p2/b11$ $pb11$ $p\bar{1}$ $p211(\mathbf{b}'/4)$ $p1$ $p\bar{1}$ $p211$ $p1$
(hhl) ($\bar{h}hl$) ($h\bar{h}l$) ($\bar{h}h\bar{l}$)	$\mathbf{a} - \mathbf{b} \quad n(\mathbf{a} + \mathbf{b}) - m\mathbf{c} \quad p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$ $\mathbf{a} - \mathbf{b} \quad n(\mathbf{a} + \mathbf{b}) + m\mathbf{c} \quad -p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$ $\mathbf{a} + \mathbf{b} \quad n(\mathbf{b} - \mathbf{a}) - m\mathbf{c} \quad p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$ $\mathbf{a} + \mathbf{b} \quad n(\mathbf{b} - \mathbf{a}) + m\mathbf{c} \quad -p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$				n odd m even p even q odd n even m odd p odd q even n even m odd p odd q odd n odd m odd p even q odd n odd m odd p odd q even n odd m even p odd q odd	$C2/c11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$] $B2/b11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$] $I2/b11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$] $I2/c11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$] $B2/n11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$] $C2/n11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$ $p2/b11$ $p2_1/b11(\mathbf{a}'/4)$ $pb11$ $p2/b11$ $p2_1/b11[(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$ $p2_1/b11$ $p2/b11[(\mathbf{a}' + \mathbf{b}')/4]$ $pb11(\mathbf{a}'/4)$ $p2_1/b11$ $p2/b11(\mathbf{a}'/4)$ $pb11(\mathbf{a}'/4)$ $\hat{p}\bar{1}$ $c211(\mathbf{b}'/4)$ $\hat{p}1$

 l odd $\Rightarrow n = l, m = 2h$; l even $\Rightarrow n = l/2, m = h$

No. 125 $P4/nbm$ $\mathcal{G} = P_{n\ b\ m}^{4\ \frac{2}{2}\ \frac{2}{m}}$ origin 1 D_{4h}^3

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(\mathbf{a} + \mathbf{b})/4$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211(\mathbf{b}'/4)$ $p1$
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
			n odd m even			$L02$
			p even q odd			
			or			$L08$
			n even m odd			
			p odd q even			
			p odd q odd			
$(\mathbf{a} + \mathbf{b})/4$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$ $n\mathbf{b} + m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$	$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\mathbf{d}, -s\mathbf{d}]$	$p2/b11$ $pb11$ $L16$
						$L02$
						$L08$
$(\mathbf{a} + \mathbf{b})/4$	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$ $m\mathbf{c} + n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$ $-q\mathbf{c} + p\mathbf{a}$	$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211$ $p1$
						$L01$
						$L02$
$(\mathbf{a} + \mathbf{b})/4$	\mathbf{b}	$n\mathbf{odd}$	$m\mathit{even}$	$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\mathbf{d}, -s\mathbf{d}]$	$p2/b11$ $pb11$ $L12$
						$L02$
						$L08$
$(\mathbf{a} + \mathbf{b})/4$	\mathbf{b}	$n\mathit{odd}$	$m\mathit{odd}$	$P2/c11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211$ $p1$
						$L01$
						$L02$
$(\mathbf{a} + \mathbf{b})/4$	\mathbf{b}	$n\mathit{odd}$	$m\mathit{odd}$	$P2/n11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211(\mathbf{b}'/4)$ $p1$
						$L08$
						$L01$

Continued

No. 125 $P4/nbm$

Continued

 $\mathcal{G} = P_{n\ b\ m}^{\frac{4}{2}\ \frac{2}{2}}$ origin 1 D_{4h}^3

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(hhl) $(\bar{h}h\bar{l})$ $(\mathbf{a} - \mathbf{b})/4$	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$ $p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$		$C2/m11$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$ L18 L13
	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
	n odd m even			
	q odd			
	m odd			
	q odd	$I2/m11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$	L14 L15 L11
	m odd			
	p odd q even			
$(\bar{h}\bar{h}l)$ $(\bar{h}hl)$ $(\mathbf{a} + \mathbf{b})/4$	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$ $p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$		$C2/m11$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$ L18 L13
	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$ $-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
	n odd m even			
	q odd			
	m odd			
	q odd	$I2/m11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$	L14 L15 L11
	m odd			
	p odd q even			

 l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Continued

No. 125 $P4/nbm$

Continued

$$\mathcal{G} = P_{n\ b\ m}^{\frac{4}{n}\ \frac{2}{b}\ \frac{2}{m}} \text{ origin 2}$$

 D_{4h}^3

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
$(mn0)$ $(\bar{n}m0)$ $(\bar{m}n0)$ $(nm0)$	c	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$		
	c	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$					
	c	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$					
	c	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$					
			n odd	m even	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L08$ $L01$		
			p even	q odd				
			or					
			n even	m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L08$ $L01$		
			p odd	q even				
			p odd	q odd				
			n odd		$P2/b11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/b11$ $pb11$		
			m odd			$L16$ $L12$		
$(0mn)$ $(0\bar{m}n)$	a	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/b11$ $pb11$		
	a	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$					
			n odd	m even	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L08$ $L01$		
				q odd				
			m odd	q odd				
				p odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L08$ $L01$		
				m odd				
				q even				
				n odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L08$ $L01$		
				p even				
				p odd				
$(m0n)$ $(m0\bar{n})$	b	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$	$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211$ $p1$		
	b	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$					
			n odd	p even				
				q odd				
			n even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L08$ $L01$		
				p odd				
				n odd				
				p odd				
				$P2/b11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[s\mathbf{d}, -s\mathbf{d}]$		$p2/b11$ $pb11$		
						$L16$ $L12$		
				$P2/n11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$		$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$		

Continued

No. 125 $P4/nbm$

Continued

$$\mathcal{G} = P_{n\ b\ m}^{\frac{4}{2}\ \frac{2}{2}} \text{ origin 2}$$

 D_{4h}^3

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(hh\bar{l})$ $(\bar{h}\bar{h}l)$ ($\mathbf{a}/2$ or $\mathbf{b}/2$)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$ $p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$		$C2/m11$ n odd m even q odd m odd q odd m odd p odd q even	$c2/m11$ L18 $cm11$ L13
	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			$p2/m11$ L14 $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15 $pm11$ L11
				$p2/m11$ L14 $p2_1/m11 (\mathbf{a}'/4)$ L15 $pm11$ L11
	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$ $p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$		$C2/m11$ n odd m even q odd m odd q odd m odd p odd q even	$c2/m11$ L18 $cm11$ L13
	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$ $-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			$p2/m11$ L14 $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15 $pm11$ L11
				$p2/m11$ L14 $p2_1/m11 (\mathbf{a}'/4)$ L15 $pm11$ L11
l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$				

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(mn0)$ $(\bar{n}m0)$ $(\bar{m}n0)$ $(nm0)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
		$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
		$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
		$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
		n odd	m even		$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
			p even			
			q odd			
			or			
		n even	m odd	$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$
		p odd	q even			
		p odd	q odd			
$(0mn)$ $(0\bar{m}n)$ $(m0n)$ $(m0\bar{n})$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$			
		$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
		$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			
		$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
		n odd	m even	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$
			p even			
			q odd			
			or			
		n even	m odd	$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211$ $p1$
		p odd	q even			
		p odd	q odd			
		n odd	m odd	$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/b11$ $pb11$

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(hh\bar{l})$ $(\bar{h}hl)$ $(\mathbf{a} - \mathbf{b} + \mathbf{c})/4$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C2/c11$		
	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ L02 $c211$ L10 $\hat{p}1$ L01
	n odd	m even				
		p even	q odd			
	n even	m odd		$B2/b11$		
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16 $p2_1/b11$ $(\mathbf{a}'/4)$ L17 $pb11$ L12
		p odd	q even			
	n even	m odd		$I2/b11$		
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16 $p2_1/b11$ $[(\mathbf{a}' + \mathbf{b}')/4]$ L17 $pb11$ L12
		p odd	q odd			
	n odd	m odd		$I2/c11$		
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17 $p2/b11$ $[(\mathbf{a}' + \mathbf{b}')/4]$ L16 $pb11$ $(\mathbf{a}'/4)$ L12
		p even	q odd			
	n odd	m odd		$B2/n11$		
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17 $p2/b11$ $(\mathbf{a}'/4)$ L16 $pb11$ $(\mathbf{a}'/4)$ L12
		p odd	q even			
	n odd	m even		$C2/n11$		
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ L02 $c211$ $(\mathbf{b}'/4)$ L10 $\hat{p}1$ L01
		p odd	q odd			
$(hh\bar{l})$ $(\bar{h}hl)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$	$C2/c11$		
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
	n odd	m even			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ L02 $c211$ L10 $\hat{p}1$ L01
		p even	q odd			
	n even	m odd		$B2/b11$		
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16 $p2_1/b11$ $(\mathbf{a}'/4)$ L17 $pb11$ L12
		p odd	q even			
	n even	m odd		$I2/b11$		
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16 $p2_1/b11$ $[(\mathbf{a}' + \mathbf{b}')/4]$ L17 $pb11$ L12
		p odd	q odd			
	n odd	m odd		$I2/c11$		
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17 $p2/b11$ $[(\mathbf{a}' + \mathbf{b}')/4]$ L16 $pb11$ $(\mathbf{a}'/4)$ L12
		p even	q odd			
	n odd	m odd		$B2/n11$		
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17 $p2/b11$ $(\mathbf{a}'/4)$ L16 $pb11$ $(\mathbf{a}'/4)$ L12
		p odd	q even			
	n odd	m even		$C2/n11$		
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ L02 $c211$ $(\mathbf{b}'/4)$ L10 $\hat{p}1$ L01
		p odd	q odd			

 l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Continued

No. 126 $P4/nnc$

Continued

 $\mathcal{G} = P_{n\ n\ c}^{\frac{4}{2}\frac{2}{2}}$ origin 2 D_{4h}^4

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}				
(mn0)	c	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$				
	c	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$				
	c	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$				
	c	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$				
		n odd	m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$	
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211 (\mathbf{b}'/4)$	
		or			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L01	
		n even	m odd		$P2/c11$	$p\bar{1}$	
		p odd	q even			$p211$	
		p odd	q odd			L08	
(m̄n0)		n odd	m odd	$P2/b11$	$p1$	L02	
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	L16	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$	
					$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	L12	
					$[s\mathbf{d}, -s\mathbf{d}]$		
				$P2/n11$	$p\bar{1}$	L02	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211 (\mathbf{b}'/4)$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L08	
(0mn)	a	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$				
	a	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$				
	b	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$				
	b	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$				
		n odd	m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$	
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211 (\mathbf{b}'/4)$	
		or			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L01	
		n even	m odd	$P2/c11$	$p\bar{1}$	L02	
		p odd	q even		$p211$	L08	
		p odd	q odd		$p1$	L01	
(0m̄n)		n odd	m odd	$P2/b11$	$p\bar{1}$	L02	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L08	
					$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	L01	
					$[s\mathbf{d}, -s\mathbf{d}]$		
				$P2/n11$	$p\bar{1}$	L16	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$pb11$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L12	

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
(a/2 or b/2)	(hhl)	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$		
	$(\overline{h}h\bar{l})$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$		
		n odd	m even	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
		n even	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
		p odd	q even	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		n even	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
		p odd	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
		n odd	m odd	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
		n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
		n odd	m odd	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
		n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
$(hh\bar{l})$	$(\overline{h}h\bar{l})$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$		
		$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$		
		n odd	m even	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
		n even	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
		p odd	q even	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		n even	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
		p odd	q even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
		n even	m odd	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
		n even	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
		n odd	m odd	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
		n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
		n odd	m odd	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
		p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$
		n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
		n odd	m even	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
		p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$
		n odd	m even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$

l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
($mn0$)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p2/m11$
($\bar{n}m0$)	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$		$[s\mathbf{d}, -s\mathbf{d}]$	$pm11$
($\bar{m}\bar{n}0$)	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
($nm0$)	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
($0mn$)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$P2_1/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p2_1/b11$
($0\bar{m}n$)	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$		$[s\mathbf{d}, -s\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
		n odd	m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\bar{p1}$
		q odd			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_{111} (\mathbf{b}'/4)$
		m odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
		q odd			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\bar{p1}$
		p odd	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_{111}$
			q even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
($m0n$)	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$	$P2_1/c11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$\bar{p1}$
($m0\bar{n}$)	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_{111}$
		n odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
		p even	q odd		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p2_1/b11$
		n even	m odd		$[s\mathbf{d}, -s\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
		p odd			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$\bar{p1}$
		n odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_{111} (\mathbf{b}'/4)$
		p odd			$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p1$
(hhl)	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c2/m11$
($\bar{h}hl$)	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$		$[s\mathbf{d}, -s\mathbf{d}]$	$cm11$
($h\bar{h}l$)	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/m11$
($\bar{h}hl$)	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$
($\mathbf{a}/2$ or $\mathbf{b}/2$)		n odd	m even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pm11$
		q odd			$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$\bar{p2}/m11$
		m odd			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11$
		q odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pm11$
		p odd	m odd	$B2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p2/m11$
			q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 (\mathbf{a}'/4)$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pm11$

l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$					
($mn0$)	\mathbf{c} $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$			$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/m11$ $pm11$					
($\bar{n}m0$)	\mathbf{c} $m\mathbf{a} + n\mathbf{b}$ $-q\mathbf{a} + p\mathbf{b}$										
($\bar{m}n0$)	\mathbf{c} $n\mathbf{a} + m\mathbf{b}$ $-p\mathbf{a} + q\mathbf{b}$										
($nm0$)	\mathbf{c} $m\mathbf{a} - n\mathbf{b}$ $q\mathbf{a} + p\mathbf{b}$										
($0mn$)	\mathbf{a} $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$			$P2_1/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p2_111 (\mathbf{b}'/4)$ $p1$					
($0\bar{m}n$)	\mathbf{a} $n\mathbf{b} + m\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$										
($m0n$)	\mathbf{b} $m\mathbf{c} - n\mathbf{a}$ $q\mathbf{c} + p\mathbf{a}$										
($m0\bar{n}$)	\mathbf{b} $m\mathbf{c} + n\mathbf{a}$ $-q\mathbf{c} + p\mathbf{a}$										
		n odd	m even								
		p even	q odd								
		or									
		n even	m odd								
		p odd	q even								
		p odd	q odd	$P2_1/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p2_111$ $p1$					
		n odd	m odd								
		n odd	m odd	$P2_1/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_1/b11$ $pb11 (\mathbf{a}'/4)$					
(hhl)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$ $p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$					
($\bar{h}\bar{h}l$)	$\mathbf{a} - \mathbf{b}$ $n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$										
($h\bar{h}l$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$ $p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$										
($\bar{h}hl$)	$\mathbf{a} + \mathbf{b}$ $n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$ $-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$										
($\mathbf{a}/2$ or $\mathbf{b}/2$)		n odd	m even								
		p even	q odd								
		n even	m odd	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$					
		p odd	q even								
		n even	m odd	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$					
		p odd	q odd								
		n odd	m odd	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$					
		p even	q odd								
		n odd	m odd	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$					
		p odd	q even								
		n odd	m even	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$					
		p odd	q odd								

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$									
$(mn0)$ $(\bar{n}m0)$ $(\bar{m}n0)$ $(nm0)$ $(\mathbf{a} + \mathbf{b})/4$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$	L02 L08 L01								
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$												
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$												
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$												
	n odd m even		p even q odd or n even m odd			$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$									
	p even q odd														
	n even m odd														
	p odd q even		p odd q odd n odd m odd	$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211$ $p1$									
	p odd q odd														
	n odd m odd														
$(0mn)$ $(0\bar{m}n)$ $(m0n)$ $(m0\bar{n})$ $(\mathbf{a} + \mathbf{b})/4$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$P2_1/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_1/m11$ $pm11 (\mathbf{a}'/4)$	L15 L11								
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$												
	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$												
	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$												
(hhl) $(\bar{h}hl)$ $(\mathbf{a} - \mathbf{b})/4$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$	L18 L13								
	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$												
	n odd m even		q odd m odd q odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$									
	q odd m odd q odd														
	m odd p odd q even				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$									
	p odd q even														
$(h\bar{l}l)$ $(\bar{h}hl)$ $(\mathbf{a} + \mathbf{b})/4$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$	L18 L13								
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$												
	n odd m even		q odd m odd q odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$									
	q odd m odd q odd														
	m odd p odd q even				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$									
	p odd q even														

 l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
$(mn0)$ $(\bar{n}m0)$ $(\bar{m}n0)$ $(nm0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$			$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$			
	$\mathbf{c} \quad m\mathbf{a} + n\mathbf{b} \quad -q\mathbf{a} + p\mathbf{b}$								
	$\mathbf{c} \quad n\mathbf{a} + m\mathbf{b} \quad -p\mathbf{a} + q\mathbf{b}$								
	$\mathbf{c} \quad m\mathbf{a} - n\mathbf{b} \quad q\mathbf{a} + p\mathbf{b}$								
	$n \text{ odd} \quad m \text{ even}$					$L02$			
	$p \text{ even} \quad q \text{ odd}$								
	or								
	$n \text{ even} \quad m \text{ odd}$					$L08$			
	$p \text{ odd} \quad q \text{ even}$								
	$p \text{ odd} \quad q \text{ odd}$								
	$n \text{ odd} \quad m \text{ odd}$			$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $p211$ $p1$			
	$n \text{ odd} \quad m \text{ odd}$			$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$L16$ $p2/b11$			
$(0mn)$ $(0\bar{m}n)$ $(m0n)$ $(m0\bar{n})$	$\mathbf{a} \quad n\mathbf{b} - m\mathbf{c} \quad p\mathbf{b} + q\mathbf{c}$			$P2_1/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$L15$ $p2_1/m11$ $pm11 (\mathbf{a}'/4)$			
	$\mathbf{a} \quad n\mathbf{b} + m\mathbf{c} \quad -p\mathbf{b} + q\mathbf{c}$								
	$\mathbf{b} \quad m\mathbf{c} - n\mathbf{a} \quad q\mathbf{c} + p\mathbf{a}$								
	$\mathbf{b} \quad m\mathbf{c} + n\mathbf{a} \quad -q\mathbf{c} + p\mathbf{a}$								
$(hh\bar{l})$ $(\bar{h}hl)$ $(\bar{h}\bar{h}l)$ $(\bar{h}hl)$ $(\mathbf{a}/2 \text{ or } \mathbf{b}/2)$	$\mathbf{a} - \mathbf{b} \quad n(\mathbf{a} + \mathbf{b}) - m\mathbf{c} \quad p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$			
	$\mathbf{a} - \mathbf{b} \quad n(\mathbf{a} + \mathbf{b}) + m\mathbf{c} \quad -p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$								
	$n \text{ odd} \quad m \text{ even}$								
	$q \text{ odd}$								
	$m \text{ odd}$				$I2/m11$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$			
	$q \text{ odd}$								
	$m \text{ odd}$								
	$p \text{ odd} \quad q \text{ even}$				$B2/m11$	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$			
	$\mathbf{a} + \mathbf{b} \quad n(\mathbf{b} - \mathbf{a}) - m\mathbf{c} \quad p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$			
	$\mathbf{a} + \mathbf{b} \quad n(\mathbf{b} - \mathbf{a}) + m\mathbf{c} \quad -p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$								
	$n \text{ odd} \quad m \text{ even}$								
	$q \text{ odd}$				$I2/m11$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$			
	$m \text{ odd}$								
	$q \text{ odd}$								
	$m \text{ odd}$				$B2/m11$	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$			
	$p \text{ odd} \quad q \text{ even}$								

 $l \text{ odd} \Rightarrow n = l, m = 2h; l \text{ even} \Rightarrow n = l/2, m = h$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(mn0)$ $(\bar{n}m0)$ $(\bar{m}n0)$ $(nm0)$ $(\mathbf{a} + \mathbf{b})/4$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
			n odd m even			$L02$
			p even q odd			$L08$
			or			
			n even m odd			$L01$
			p odd q even			
			p odd q odd			
$(0mn)$ $(0\bar{m}n)$ $(\mathbf{a} + \mathbf{b})/4$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$P2_1/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211$ $p1$
		$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
			n odd			
			p even q odd			$L02$
			n even m odd			$L09$
			p odd			
			n odd			$L01$
			p odd			
			n odd m odd			
			p odd			
$(m0n)$ $(m0\bar{n})$ $(\mathbf{a} + \mathbf{b})/4$	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$	$P2_1/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_1/b11$ $pb11 (\mathbf{a}'/4)$
		$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
			n odd m even			$L17$
			q odd			$L12$
			m odd			$L02$
			q odd			$L09$
			m odd			$L01$
			p odd			
			q even			
			m odd			
			p odd			

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(hh\bar{l})$ $(\bar{hh}l)$ $(\mathbf{a} - \mathbf{b})/4$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C2/c11$		
	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
		n odd	m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
		n even	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
		p odd	q even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		n even	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11$
		p odd	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $(\mathbf{a}'/4)$
		n odd	m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11$ $[(\mathbf{a}' + \mathbf{b}')/4]$
		n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $(\mathbf{a}'/4)$
$(hh\bar{l})$ $(\bar{hh}l)$ $(\mathbf{a} + \mathbf{b})/4$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$	$C2/c11$		
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
		n odd	m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
		n even	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
		p odd	q even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		n even	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11$
		p odd	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $(\mathbf{a}'/4)$
		n odd	m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11$ $[(\mathbf{a}' + \mathbf{b}')/4]$
		n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $(\mathbf{a}'/4)$
		n odd	m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11$ $(\mathbf{a}'/4)$
		n odd	m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
		p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$ $(\mathbf{b}'/4)$
		n odd	m even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$

 l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Continued

No. 130 $P4/ncc$

Continued

$$\mathcal{G} = P_{n\ c\ c}^{\frac{4}{n}\ \frac{2}{c}\ \frac{2}{c}} \text{ origin 2}$$

 D_{4h}^8

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
(mn0)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L08$ $L01$
			n odd m even			
			p even q odd			
			or			
			n even m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L08$ $L01$
			p odd q even			
			p odd q odd			
(0mn)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$ $n\mathbf{b} + m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$ $-p\mathbf{b} + q\mathbf{c}$	$P2_1/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p2_111$ $p1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L09$ $L01$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L17$ $L12$ $L09$
(m0n)	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$ $m\mathbf{c} + n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$ $-q\mathbf{c} + p\mathbf{a}$	$P2_1/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\pm s\mathbf{d}, -s\mathbf{d}]$	$p2_1/b11$ $p2_11 (\mathbf{a}'/4)$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L09$ $L01$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L09$ $L01$

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$					
$(hh\bar{l})$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$					
	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$								
	n odd	m even									
	p even	q odd									
	n even	m odd	$B2/b11$								
	p odd	q even									
	n even	m odd									
	p odd	q odd					$I2/b11$				
	n odd	m odd									
	p even	q odd									
$(\bar{h}hl)$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$					
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$								
	n odd	m even									
	p even	q odd									
	n even	m odd	$B2/b11$								
	p odd	q even									
	n odd	m odd									
$(\bar{h}h\bar{l})$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$					
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$								
	n odd	m even									
	p even	q odd									
	n even	m odd	$B2/b11$								
	p odd	q even									
	n odd	m odd									
$(a/2 \text{ or } b/2)$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$					
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$								
	n odd	m even									
	p even	q odd									
	n even	m odd	$B2/b11$								
	p odd	q even									
	n even	m odd									
	p odd	q odd	$I2/b11$								
	n odd	m odd									
	p even	q odd									
	n odd	m odd	$I2/c11$								
	p odd	q odd									
	n odd	m odd									
	p odd	q even	$B2/n11$								
	n odd	m odd									
	p odd	q even									
	n odd	m even	$C2/n11$								
	p odd	q odd									
	n odd	m even									
	p odd	q odd	$C2/n11$								
	n odd	m even									
	p odd	q odd									

l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

No. 131 $P4_2/mmc$

$$\mathcal{G} = P_{m m c}^{4_2 \frac{2}{m} \frac{2}{c}}$$

D_{4h}^9

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
($mn0$)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2/m11$ $pm11$
($\bar{n}m0$)	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
($\bar{m}\bar{n}0$)	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			$L14$ $L11$
($nm0$)	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
($0mn$)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2/m11$ $pm11$
($0\bar{m}n$)	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
($m0n$)	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			$L14$ $L11$
($m0\bar{n}$)	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
(hhl)	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$
($\bar{h}\bar{h}l$)	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
($h\bar{h}l$)	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
($\bar{h}hl$)	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$		n odd p even	n even p odd
				$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$
				$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$
				$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$
				$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$
				$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$

l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
($mn0$)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2/m11$	L14		
($\bar{n}m0$)	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			$pm11$	L11		
($\bar{m}\bar{n}0$)	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$						
($nm0$)	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$						
($0mn$)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$	L02		
($0\bar{m}n$)		$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			$p211$	L08		
		n odd				$p1$	L01		
		p even q odd							
		n even m odd		$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2/b11$	L16		
		p odd		$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$pb11$	L12		
		n odd				$p\bar{1}$	L02		
		p odd				$p211$ ($\mathbf{b}'/4$)	L08		
($m0n$)	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$	$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2/b11$	L16		
($m0\bar{n}$)		$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			$pb11$	L12		
		n odd m even							
		q odd		$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$	L02		
		m odd				$p211$ ($\mathbf{b}'/4$)	L08		
		q odd				$p1$	L01		
		m odd		$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p\bar{1}$	L02		
		p odd q even				$p211$	L08		
						$p1$	L01		
(hhl)	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$c2/m11$	L18		
($\bar{h}h\bar{l}$)		$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			$cm11$	L13		
($h\bar{h}\bar{l}$)		$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$						
($\bar{h}h\bar{l}$)		$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$						
		n odd m even		$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p2/m11$	L14		
		q odd				$p2_1/m11$ [($\mathbf{a}' + \mathbf{b}'$)/4]	L15		
		m odd				$pm11$	L11		
		q odd		$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p2/m11$	L14		
		m odd				$p2_1/m11$ ($\mathbf{a}'/4$)	L15		
		p odd q even				$pm11$	L11		

No. 133 $P4_2/nbc$ $\mathcal{G} = P\frac{4}{n}\frac{2}{b}\frac{2}{c}$ origin 1 D_{4h}^{11}

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
($mn0$)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
($\bar{n}m0$)	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
($\bar{m}\bar{n}0$)	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
($nm0$)	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
$(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$				$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p\bar{1}$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211 (\mathbf{b}'/4)$
						L08
						L01
						$p1$
						L02
						L08
						L01
						L16
$(0mn)$ $(0\bar{m}\bar{n})$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$				$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
						L02
						L08
						L01
						L16
					$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p2/b11$
					$[s\mathbf{d}, -s\mathbf{d}]$	$pb11$
						L12
$(m0n)$ $(m0\bar{n})$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$				$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p2/b11$
					$[s\mathbf{d}, -s\mathbf{d}]$	$pb11$
						L16
						L12
						$p\bar{1}$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211 (\mathbf{b}'/4)$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
						L02
						L08
						L01
$(m0n)$ $(m0\bar{n})$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$				$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
						L02
						L08
						L01
						L16
					$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p2/b11$
					$[s\mathbf{d}, -s\mathbf{d}]$	$pb11$
						L12
$(m0n)$ $(m0\bar{n})$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$				$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211 (\mathbf{b}'/4)$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
						L02
						L08
						L01

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(hh\bar{l})$ $(\bar{h}h\bar{l})$ $(\mathbf{a} - \mathbf{b} + \mathbf{c})/4$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C2/c11$		
	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
	n odd	m even			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
	p even	q odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
						L01
	n even	m odd		$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
	p odd	q even			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
						L12
	n even	m odd		$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
	p odd	q odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
						L12
$(hh\bar{l})$ $(\bar{h}h\bar{l})$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$	$C2/c11$		
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
	n odd	m even			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
	p even	q odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
						L01
	n even	m odd		$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
	p odd	q even			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
						L12
	n even	m odd		$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
	p odd	q odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
						L12
	n odd	m odd		$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
	p even	q odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
						L12
	n odd	m odd		$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$
	p odd	q odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
						L12
	n odd	m even		$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$
	p odd	q odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
						L01
$(hh\bar{l})$ $(\bar{h}h\bar{l})$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$	$C2/c11$		
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
	n odd	m even			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
	p even	q odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
						L01
	n even	m odd		$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
	p odd	q even			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
						L12
	n even	m odd		$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
	p odd	q odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
						L12
	n odd	m odd		$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
	p even	q odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
						L12
	n odd	m odd		$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$
	p odd	q even			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
						L12
	n odd	m even		$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$
	p odd	q odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
						L01

 l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Continued

No. 133 $P4_2/nbc$

Continued

 $\mathcal{G} = P\frac{4}{n}\frac{2}{b}\frac{2}{c}$ origin 2 D_{4h}^{11}

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(mn0)$ $(\bar{n}m0)$ $(\bar{m}n0)$ $(nm0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$		$P2/n11$	
		$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
		$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
		$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
		n odd	m even			$p\bar{1}$ $p211 (\mathbf{b}'/4)$
			p even			
		n even p odd p odd	q odd			$L02$ $L08$ $L01$
			or			
			m odd			
			q even			
		n odd	q odd	$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211$ $p1$
			m odd			
			m odd			
$(0mn)$ $(0\bar{m}n)$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$		$P2/b11$	
		$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
		n odd	m even			$p2/b11$ $pb11$
			q odd			
		m odd q odd	m odd	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$
			q odd			
			m odd			
			p odd			
		p odd	q even	$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211$ $p1$
			q even			
			m odd			
$(m0n)$ $(m0\bar{n})$	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$		$P2/c11$	
		$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
		n odd				$p\bar{1}$ $p211$
			p even			
		n even p odd	q odd	$P2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\pm s\mathbf{d}, -s\mathbf{d}]$	$L02$ $L08$ $L01$
			m odd			
			p odd			
			n odd			
		n odd p odd		$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$
			p odd			
			n odd			

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$				
(a/2 or b/2)	(hh l)	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - mc$	$p(\mathbf{a} + \mathbf{b}) + qc$	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L02			
	(\overline{hh} l)	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + mc$	$-p(\mathbf{a} + \mathbf{b}) + qc$						
		n odd	m even							
		p even	q odd	L10						
		n even	m odd				L01			
		p odd	q even				L16			
		n even	m odd				L17			
		p odd	q odd				L12			
		n odd	m odd				L16			
		p even	q odd				L17			
		n odd	m odd				L12			
(hh)l	(hh l)	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - mc$	$p(\mathbf{b} - \mathbf{a}) + qc$	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L02			
	(\overline{hh} l)	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + mc$	$-p(\mathbf{b} - \mathbf{a}) + qc$						
		n odd	m even							
		p even	q odd	L10						
		n even	m odd				L01			
		p odd	q even				L16			
		n even	m odd				L17			
		p odd	q odd				L12			
		n odd	m odd				L16			
		p even	q odd				L17			
		n odd	m odd				L12			
		n odd	m even			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L02			
		p odd	q odd							
		n odd	m odd							
		n even	m odd							
		p odd	q even							
		n even	m odd							
		n odd	m odd							
		p odd	q even							
		n odd	m odd							
		n odd	m even			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L02			
		p odd	q odd							
		n odd	m even							

l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}					
$(mn0)$ $(\bar{n}m0)$ $(\bar{m}n0)$ $(nm0)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$		
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$					
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$					
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$					
	n odd		m even			$L02$		
	p even		q odd			$L08$		
	or							
	n even		m odd			$L01$		
	p odd		q even					
	p odd		q odd					
$(0mn)$ $(0\bar{m}n)$ $(m0n)$ $(m0\bar{n})$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	\mathbf{a} \mathbf{a} \mathbf{b} \mathbf{b}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L08$ $L01$		
		$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$					
		$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$					
		$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$					
		n odd		m even		$L02$		
		p even		q odd		$L08$		
		or						
		n even		m odd		$L01$		
		p odd		q even				
		p odd		q odd				
		n odd		m odd	$P2/b11$	$L16$ $L12$		
		$P2/n11$						
		$P2/c11$						
		$P2/b11$						

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(hhl) $(\bar{h}\bar{h}l)$ $(\mathbf{a} - \mathbf{b} + \mathbf{c})/4$	$\mathbf{a} - \mathbf{b} \quad n(\mathbf{a} + \mathbf{b}) - m\mathbf{c} \quad p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$
	$\mathbf{a} - \mathbf{b} \quad n(\mathbf{a} + \mathbf{b}) + m\mathbf{c} \quad -p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$		q odd	$L18$ $L13$
	n odd		m even	
			m odd	
			q odd	$I2/m11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
		$B2/m11$	m odd	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$
			p odd	$L14$ $L15$ $L11$
			q even	
				$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$
				$L14$ $L15$ $L11$
$(\bar{h}\bar{h}l)$ $(\bar{h}hl)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	$\mathbf{a} + \mathbf{b} \quad n(\mathbf{b} - \mathbf{a}) - m\mathbf{c} \quad p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$
	$\mathbf{a} + \mathbf{b} \quad n(\mathbf{b} - \mathbf{a}) + m\mathbf{c} \quad -p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$		q odd	$L18$ $L13$
	n odd		m even	
			m odd	
			q odd	$I2/m11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
		$B2/m11$	m odd	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$
			p odd	$L14$ $L15$ $L11$
			q even	
				$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$
				$L14$ $L15$ $L11$
l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$				

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(mn0)$ $(\bar{n}m0)$ $(\bar{m}n0)$ $(nm0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
					$P2/n11$	L02
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	
					$P2/c11$	L08
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	
$(0mn)$ $(0\bar{m}n)$ $(m0n)$ $(m0\bar{n})$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$			
		$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
		$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			
		$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
					$P2/n11$	L02
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	
					$P2/c11$	L08
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	
					$P2/b11$	L16
					$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	
					$[s\mathbf{d}, -s\mathbf{d}]$	
					$p2/b11$	L12
					$p2/b11$	

Continued

No. 134 $P4_2/nm$

Continued

 $\mathcal{G} = P\frac{4}{n}\frac{2}{n}\frac{2}{m}$ origin 2 D_{4h}^{12}

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
(hhl) $(\bar{h}h\bar{l})$ $(\mathbf{a}/2 \text{ or } \mathbf{b}/2)$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$	L18
	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			$cm11$	L13
	$n \text{ odd}$		$m \text{ even}$			$p2/m11$	L14
	$q \text{ odd}$		$m \text{ odd}$			$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$	L15
	$q \text{ odd}$		$q \text{ odd}$			$pm11$	L11
	$m \text{ odd}$		$p \text{ odd}$	$B2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$	L14
	$q \text{ even}$					$p2_1/m11 (\mathbf{a}'/4)$	L15
	$p \text{ odd}$					$pm11$	L11
$(h\bar{h}l)$ $(\bar{h}h\bar{l})$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$	L18
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			$cm11$	L13
	$n \text{ odd}$		$m \text{ even}$			$p2/m11$	L14
	$q \text{ odd}$		$m \text{ odd}$			$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$	L15
	$q \text{ odd}$		$q \text{ odd}$			$pm11$	L11
	$m \text{ odd}$		$p \text{ odd}$	$B2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$	L14
	$q \text{ even}$					$p2_1/m11 (\mathbf{a}'/4)$	L15
	$p \text{ odd}$					$pm11$	L11

$$l \text{ odd} \Rightarrow n = l, m = 2h; l \text{ even} \Rightarrow n = l/2, m = h$$

$$\mathcal{G} = P \frac{4_2}{m} \frac{2_1}{b} \frac{2}{c}$$

No. 136 $P4_2/mnm$

$$\mathcal{G} = P \frac{4_2}{m} \frac{2_1}{n} \frac{2}{m}$$

D_{4h}¹⁴

No. 137 $P4_2/nmc$
 $\mathcal{G} = P_{n\ m\ c}^{4_2\ 2_1\ 2}$ origin 1
 D_{4h}^{15}

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(mn0)$ $(\bar{n}m0)$ $(\bar{m}\bar{n}0)$ $(nm0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$
			n odd m even			
			p even q odd			
			or			
			n even m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211$ $p1$
			p odd q even			
			p odd q odd			
$(0mn)$ $(0\bar{m}n)$ $(m0n)$ $(m0\bar{n})$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/m11$ $pm11 (\mathbf{a}'/4)$
		$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
		$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			
		$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}					
$(hh\bar{l})$ $(\bar{h}\bar{h}l)$ $(\mathbf{a} - \mathbf{b} + \mathbf{c})/4$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - mc$	$p(\mathbf{a} + \mathbf{b}) + qc$	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$	L02	
	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + mc$	$-p(\mathbf{a} + \mathbf{b}) + qc$			$c211$	L10	
	n odd m even p even q odd					$\hat{p}1$	L01	
	n even m odd p odd q even				$B2/b11$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$	L16 L17 L12	
	n even m odd p odd q odd				$I2/b11$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$	L16 L17 L12	
	n odd m odd p even q odd				$I2/c11$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$	L17 L16 L12	
	n odd m odd p odd q even				$B2/n11$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$	L17 L16 L12	
	n odd m even p odd q odd				$C2/n11$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$	L02 L10 L01	
$(hh\bar{l})$ $(\bar{h}\bar{h}l)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - mc$	$p(\mathbf{b} - \mathbf{a}) + qc$	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$	L02	
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + mc$	$-p(\mathbf{b} - \mathbf{a}) + qc$			$c211$	L10	
	n odd m even p even q odd					$\hat{p}1$	L01	
	n even m odd p odd q even				$B2/b11$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$	L16 L17 L12	
	n even m odd p odd q odd				$I2/b11$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$	L16 L17 L12	
	n odd m odd p even q odd				$I2/c11$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$	L17 L16 L12	
	n odd m odd p odd q even				$B2/n11$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$	L17 L16 L12	
	n odd m even p odd q odd				$C2/n11$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$	L02 L10 L01	

 l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Continued

No. 137 $P4_2/nmc$

Continued

$$\mathcal{G} = P\frac{4}{n}\frac{2}{m}\frac{2}{c} \text{ origin 2}$$

 D_{4h}^{15}

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}						
$(mn0)$ $(\bar{n}m0)$ $(\bar{m}\bar{n}0)$ $(nm0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L02 L08 L01			
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$						
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$						
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$						
		n odd	m even						
		p even	q odd						
		or							
		n even	m odd						
		p odd	q even						
		p odd	q odd						
		n odd		$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L02 L08 L01			
		m odd							
				$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	L16 L12			
$(0mn)$ $(0\bar{m}n)$ $(m0n)$ $(m0\bar{n})$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$						
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$	$P2_1/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	L15 L11			
	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$						
	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$						

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$							
$(hh\ell)$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - mc$	$p(\mathbf{a} + \mathbf{b}) + qc$	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$							
$(\bar{h}\bar{h}\ell)$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + mc$	$-p(\mathbf{a} + \mathbf{b}) + qc$										
	n odd	m even	p even										
	p odd	q odd											
	n even	m odd	p odd										
	q even												
	n even	m odd	p odd										
	q odd												
	n odd	m odd	p even										
	q odd												
	n odd	m odd	p odd	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$							
	n even	m odd											
	p odd												
	n even	m odd	p odd	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$							
	p odd												
	n odd												
	n odd	m odd	p even	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$							
	n even												
	p odd												
	n odd	m odd	p odd	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$							
	n even												
	p even												
	n odd	m even	p odd	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$							
	n even												
	p odd												
$(hh\ell)$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - mc$	$p(\mathbf{b} - \mathbf{a}) + qc$	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$							
$(\bar{h}\bar{h}\ell)$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + mc$	$-p(\mathbf{b} - \mathbf{a}) + qc$										
	n odd	m even											
	p even	q odd											
	n even	m odd											
	p odd												
	n even	m odd											
	p odd												
	n odd												
	n odd	m odd											
	p even			$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$							
	q even												
	n even												
	n odd	m odd			$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$							
	p odd												
	n odd												
	n odd	m odd			$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$							
	n even												
	p even												
	n odd	m odd			$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$							
	p odd												
	n odd												
	n odd	m even			$C2/n11$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$							
	p odd												
	n odd												

l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}						
$(mn0)$ $(\bar{n}m0)$ $(\bar{m}\bar{n}0)$ $(nm0)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211(\mathbf{b}'/4)$ $p1$			
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$						
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$						
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$						
	n odd	m even	p even			$L02$			
	n even	m odd	p odd			$L08$			
$(0mn)$ $(0\bar{m}n)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$P2_1/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$			
		$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$						
		n odd	p even			$L09$			
		n even	m odd			$L01$			
	n odd	m odd	p odd		$P2_1/b11$	$p\bar{1}$			
$(m0n)$ $(m0\bar{n})$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$	$P2_1/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\pm s\mathbf{d}, -s\mathbf{d}]$	$p2_1/b11$ $p2_11(\mathbf{a}'/4)$			
		$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$						
		n odd	m even						
		q odd	p even		$P2_1/n11$	$p\bar{1}$			
	m odd	q odd	n odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$			
	m odd	q odd	p odd		$P2_1/c11$	$p\bar{1}$			

Continued

No. 138 $P4_2/nm$

Continued

$$\mathcal{G} = P_{\frac{4}{n}}^{\frac{4}{c}} \frac{2}{c} \frac{2}{m} \text{ origin 1}$$

 D_{4h}^{16}

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(hh\bar{l})$ $(\bar{h}\bar{h}l)$ $(\mathbf{a} - \mathbf{b} + \mathbf{c})/4$	$\mathbf{a} - \mathbf{b} \quad n(\mathbf{a} + \mathbf{b}) - m\mathbf{c} \quad p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C2/m11$			
	$\mathbf{a} - \mathbf{b} \quad n(\mathbf{a} + \mathbf{b}) + m\mathbf{c} \quad -p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$	
	n odd m even			L18 L13	
	q odd				
	m odd				
	q odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$	L14 L15 L11
	m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$	L14 L15 L11
	p odd				
	q even				
$(h\bar{h}l)$ $(\bar{h}hl)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	$\mathbf{a} + \mathbf{b} \quad n(\mathbf{b} - \mathbf{a}) - m\mathbf{c} \quad p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$	$C2/m11$			
	$\mathbf{a} + \mathbf{b} \quad n(\mathbf{b} - \mathbf{a}) + m\mathbf{c} \quad -p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$				
	n odd m even		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$	L18 L13
	q odd				
	m odd				
	q odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$	L14 L15 L11
	m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$	L14 L15 L11
	p odd				
	q even				

$$l \text{ odd} \Rightarrow n = l, m = 2h; l \text{ even} \Rightarrow n = l/2, m = h$$

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$					
(mn0) ($\bar{n}m0$) ($\bar{m}\bar{n}0$) (nm0)	c	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$		$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L02 L08 L01				
	c	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$								
	c	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$								
	c	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$								
		n odd	m even								
		p even	q odd								
		or									
		n even	m odd								
		p odd	q even								
		p odd	q odd								
(0mn) (0 $\bar{m}n$)	a	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$		$P2_1/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L02 L08 L01				
		$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$								
		n odd									
		p even	q odd								
		n even	m odd								
		p odd									
		n odd									
		p odd									
$(m0n)$ $(m0\bar{n})$	b	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$		$P2_1/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\pm s\mathbf{d}, -s\mathbf{d}]$	L17 L12				
		$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$								
		n odd	m even								
		q odd									
		m odd									
		q odd									
		p odd	m odd								
		q even									

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(hh\bar{l})$ $(\bar{h}hl)$	$\mathbf{a} - \mathbf{b} \quad n(\mathbf{a} + \mathbf{b}) - m\mathbf{c} \quad p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C2/m11$		
	$\mathbf{a} - \mathbf{b} \quad n(\mathbf{a} + \mathbf{b}) + m\mathbf{c} \quad -p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$
	n odd m even			L18 L13
	q odd			
	m odd			
	q odd			
	m odd			
	p odd q even			
$(h\bar{h}l)$ $(\bar{h}hl)$ $(\mathbf{a}/2 \text{ or } \mathbf{b}/2)$	$\mathbf{a} + \mathbf{b} \quad n(\mathbf{b} - \mathbf{a}) - m\mathbf{c} \quad p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$	$C2/m11$		
	$\mathbf{a} + \mathbf{b} \quad n(\mathbf{b} - \mathbf{a}) + m\mathbf{c} \quad -p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
	n odd m even		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$
	q odd			L18 L13
	m odd			
	q odd			
	m odd			
	p odd q even			

 l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(mn0)$ $(\bar{n}m0)$ $(\bar{m}\bar{n}0)$ $(nm0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
					$B2/b11$	L16
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L17
					$C2/c11$	L02
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	L12
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	L01
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L01
$(0mn)$ $(0\bar{m}n)$ $(m0n)$ $(m0\bar{n})$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$			
		$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
		$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			
		$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
					$I2/m11$	L14
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L15
					$B2/m11$	L14
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L15
					$C2/m11$	L18
					$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	L13
					$[s\mathbf{d}, -s\mathbf{d}]$	cm11

Continued

No. 139 $I4/mmm$

Continued

$$\mathcal{G} = I_{m\ m\ m}^{\frac{4}{m}\ \underline{2}\ \underline{2}}$$

 D_{4h}^{17}

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(hh\bar{l})$ $(\bar{h}hl)$	$\mathbf{a} - \mathbf{b}$ $n\hat{\mathbf{a}} - m\mathbf{c}$ $p\hat{\mathbf{a}} + q\mathbf{c}$	$B2/m11$ n odd p even q odd n even m odd p odd n odd p odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14 $p2_1/m11 (\mathbf{a}'/4)$ L15 $pm11$ L11
	$\mathbf{a} - \mathbf{b}$ $n\hat{\mathbf{a}} + m\mathbf{c}$ $-p\hat{\mathbf{a}} + q\mathbf{c}$		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ L18 $cm11$ L13
			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $\pm s\mathbf{d}, \pm s - \frac{1}{2}\mathbf{d}$	$p2/m11$ L14 $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15 $pm11$ L11
	$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b} + \mathbf{c})/2$			
	$\mathbf{a} + \mathbf{b}$ $n\hat{\mathbf{a}} - m\mathbf{c}$ $p\hat{\mathbf{a}} + q\mathbf{c}$	$B2/m11$ n odd p even q odd n even m odd p odd n odd p odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14 $p2_1/m11 (\mathbf{a}'/4)$ L15 $pm11$ L11
	$\mathbf{a} + \mathbf{b}$ $n\hat{\mathbf{a}} + m\mathbf{c}$ $-p\hat{\mathbf{a}} + q\mathbf{c}$		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ L18 $cm11$ L13
			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $\pm s\mathbf{d}, \pm s - \frac{1}{2}\mathbf{d}$	$p2/m11$ L14 $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15 $pm11$ L11
	$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a} + \mathbf{c})/2$			

$$l \text{ odd} \Rightarrow n = 2l, m = 2h + l; l \text{ even} \Rightarrow n = l, m = h + l/2$$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
(mn0)	c	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
	c	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
	c	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
	c	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
					$B2/b11$	$p2/b11$ L16
		n odd	m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$ L17
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$pb11$ L12
		n even	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ L02
		p odd	q even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$c211$ L12
		n even	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$\hat{p}1$ L01
		p odd	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ L02
		n odd	m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$ L10
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$\hat{p}1$ L01
		n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17
		p even	q odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$ L16
		n odd	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12
		p odd	q even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17
		n odd	m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L16
		p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12
		n odd	m even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16
		p odd	q odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17
		n odd	m even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$pb11$ L12
		p odd	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L17
		n odd	m odd			
	a	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$			
	a	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
		n odd	m even		$I2/c11$	$p2_1/b11$ L17
		p even	q odd			
		n even	m odd		$I2/b11$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L16
		p odd	q even			
		n even	m odd		$B2/b11$	$p2_1/b11 (\mathbf{a}'/4)$ L17
		p odd	q odd			
		n odd	m odd		$C2/c11$	$p2/b11$ L16
		p even	q odd			
		n odd	m odd		$C2/n11$	$p2_1/b11 (\mathbf{b}'/4)$ L10
		p odd	q even			
		n odd	m even		$B2/n11$	$p2_1/b11 (\mathbf{a}'/4)$ L01
		p odd	q odd			

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(m0n)$ $(m0\overline{n})$	$\mathbf{b} \quad m\mathbf{c} - n\mathbf{a} \quad q\mathbf{c} + p\mathbf{a}$ $\mathbf{b} \quad m\mathbf{c} + n\mathbf{a} \quad -q\mathbf{c} + p\mathbf{a}$			$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$
	n odd m even p even q odd					L16 L17 L12
	n even m odd p odd q even			$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$
	n even m odd p odd q odd			$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$
	n odd m odd p even q odd			$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}\overline{1}$ $c211 (\mathbf{b}'/4)$ $\widehat{p}1$
	n odd m odd p odd q even			$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}\overline{1}$ $c211$ $\widehat{p}1$
	n odd m even p odd q odd			$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$
$(hh\bar{l})$ $(\bar{h}hl)$	$\mathbf{a} - \mathbf{b} \quad n\widehat{\mathbf{a}} - m\mathbf{c} \quad p\widehat{\mathbf{a}} + q\mathbf{c}$ $\mathbf{a} - \mathbf{b} \quad n\widehat{\mathbf{a}} + m\mathbf{c} \quad -p\widehat{\mathbf{a}} + q\mathbf{c}$			$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$
	n odd p even q odd					L14 L15 L11
	n even m odd			$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$
	n odd p odd			$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$
	$\widehat{\mathbf{a}} = (\mathbf{a} + \mathbf{b} + \mathbf{c})/2$					
$(h\bar{h}\bar{l})$ $(\bar{h}hl)$	$\mathbf{a} + \mathbf{b} \quad n\widehat{\mathbf{a}} - m\mathbf{c} \quad p\widehat{\mathbf{a}} + q\mathbf{c}$ $\mathbf{a} + \mathbf{b} \quad n\widehat{\mathbf{a}} + m\mathbf{c} \quad -p\widehat{\mathbf{a}} + q\mathbf{c}$			$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$
	n odd p even q odd					L14 L15 L11
	n even m odd			$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$
	n odd p odd			$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$
	$\widehat{\mathbf{a}} = (\mathbf{b} - \mathbf{a} + \mathbf{c})/2$					

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
($mn0$)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
($\bar{n}m0$)	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
($\bar{m}\bar{n}0$)	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
($nm0$)	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
$(\mathbf{b} + \mathbf{c})/8$				$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$
						L17
						L16
						L12
						$I2/b11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
						$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$
						L16
						L17
						L12
						$B2/b11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
						$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$
						L16
$(\mathbf{b}/4 + \mathbf{c}/8)$				$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$
						L02
						L10
						L01
						$C2/n11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
						$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$
						L02
						L10
						L01
						$B2/n11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
						$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$
						L17
$(\mathbf{a}/4 + 3\mathbf{c}/8)$				$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$
						L14
						L15
						L11
						$B2/m11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
						$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$
						L14
						L15
						L11
						$C2/m11$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $s\mathbf{d}, -s\mathbf{d}$
						$c2/m11$ $cm11$
						L13
$(m0n)$ $(m0\bar{n})$				$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$
						L14
						L15
						L11
						$B2/m11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
						$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$
						L14
						L15
						L11
						$C2/m11$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $s\mathbf{d}, -s\mathbf{d}$
						L13

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(hh\bar{l})$ $(\bar{h}hl)$ $3(\mathbf{a}/4 + \mathbf{c}/8)$	$\mathbf{a} - \mathbf{b}$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$			
	$\mathbf{a} - \mathbf{b}$	$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$			
			n odd	m even	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$
			p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$
			n even	m odd	$C2/c11$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
			p odd	q even		$\hat{p}\bar{1}$
			n even	m odd	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$
			p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$
			n odd	m odd	$B2/n11$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
			p even	q odd		$p2_1/b11$
			n odd	m odd	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$
			p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$
			n odd	m even	$I2/b11$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
			p odd	q odd		$p2/b11$
$(\bar{h}h\bar{l})$ $(\bar{h}hl)$ $(\mathbf{a}/4 + \mathbf{c}/8)$	$\mathbf{a} + \mathbf{b}$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$			
	$\mathbf{a} + \mathbf{b}$	$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$			
			n odd	m even	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$
			p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$
			n even	m odd	$C2/c11$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
			p odd	q even		$\hat{p}\bar{1}$
			n even	m odd	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$
			p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$
			n odd	m odd	$B2/n11$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
			p even	q odd		$p2_1/b11$
			n odd	m odd	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$
			p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$
			n odd	m even	$I2/b11$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
			p odd	q odd		$p2/b11$
$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b} + \mathbf{c})/2$						
$(\bar{h}h\bar{l})$ $(\bar{h}hl)$ $(\mathbf{a}/4 + \mathbf{c}/8)$	$\mathbf{a} + \mathbf{b}$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$			
	$\mathbf{a} + \mathbf{b}$	$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$			
			n odd	m even	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$
			p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$
			n even	m odd	$C2/c11$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
			p odd	q even		$\hat{p}\bar{1}$
			n even	m odd	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$
			p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$
			n odd	m odd	$B2/n11$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
			p even	q odd		$p2_1/b11$
			n odd	m odd	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$
			p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$
			n odd	m even	$I2/b11$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
			p odd	q odd		$p2/b11$
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a} + \mathbf{c})/2$						
l odd $\Rightarrow n = 2l, m = 2h + l; l$ even $\Rightarrow n = l, m = h + l/2$						

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
(mn0)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$		$I2/c11$	
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
			n odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
			p even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
			q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
			n even	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
			p odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
			q even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
			n even	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
			p odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
			q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
(nm0)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$		$C2/c11$	
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
			n odd			
			p even			
			q odd			
			or			
			n even	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
			p odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
			q even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
			n odd	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
			p odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$
			q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
(0mn)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$		$B2/n11$	
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
			n odd			
			p even			
			q odd			
			or			
			n even	$C2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/m11$
			p odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$
			q even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pm11$
			p odd	$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/m11$
			q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 (\mathbf{a}'/4)$
			n odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pm11$
$(a + b + c)/4$	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$qc + pa$		$C2/m11$	
	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-qc + pa$			
			n odd			
			m even			
			p even			
			q odd			
			or			
			n even	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$c2/m11$
			m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$cm11$
			p odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$cm11$
			q even	$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/m11$
			p odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 (\mathbf{a}'/4)$
			q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pm11$
			n odd	$C2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/m11$
			m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 (\mathbf{a}'/4)$
			p odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pm11$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
$(hh\bar{l})$ $(\overline{hh}l)$ $(\mathbf{a} - \mathbf{b} + \mathbf{c})/4$	$\mathbf{a} - \mathbf{b} \quad n\hat{\mathbf{a}} - m\mathbf{c} \quad p\hat{\mathbf{a}} + q\mathbf{c}$ $\mathbf{a} - \mathbf{b} \quad n\hat{\mathbf{a}} + m\mathbf{c} \quad -p\hat{\mathbf{a}} + q\mathbf{c}$			$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$		
	n odd m even					$p2_1/b11 (\mathbf{a}'/4)$		
	p even q odd					$pb11$		
	n even m odd			$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}\overline{1}$		
	p odd q even					$c211$		
	n even m odd					$\widehat{p}1$		
	p odd q odd			$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}\overline{1}$		
	n odd m odd					$c211 (\mathbf{b}'/4)$		
	p even q odd					$pb11 (\mathbf{a}'/4)$		
	n odd m odd			$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$		
	p even q odd					$p2/b11 (\mathbf{a}'/4)$		
	n odd m odd					$pb11 (\mathbf{a}'/4)$		
	n odd m odd			$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$		
	p odd q even					$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$		
	n odd m even					$pb11 (\mathbf{a}'/4)$		
	n odd m even			$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$		
	p odd q odd					$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$		
	n odd m even					$pb11$		
$\widehat{\mathbf{a}} = (\mathbf{a} + \mathbf{b} + \mathbf{c})/2$								
$(h\overline{hl})$ $(\overline{hh}l)$ $(\mathbf{a}/2 \text{ or } \mathbf{b}/2)$	$\mathbf{a} + \mathbf{b} \quad n\hat{\mathbf{a}} - m\mathbf{c} \quad p\hat{\mathbf{a}} + q\mathbf{c}$ $\mathbf{a} + \mathbf{b} \quad n\hat{\mathbf{a}} + m\mathbf{c} \quad -p\hat{\mathbf{a}} + q\mathbf{c}$			$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$		
	n odd m even					$p2_1/b11 (\mathbf{a}'/4)$		
	p even q odd					$pb11$		
	n even m odd			$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}\overline{1}$		
	p odd q even					$c211$		
	n even m odd					$p1$		
	p odd q odd			$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}\overline{1}$		
	n odd m odd					$c211 (\mathbf{b}'/4)$		
	p even q odd					$\widehat{p}1$		
	n odd m odd			$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$		
	p even q odd					$p2/b11 (\mathbf{a}'/4)$		
	n odd m odd					$pb11 (\mathbf{a}'/4)$		
	n odd m odd			$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$		
	p odd q even					$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$		
	n odd m even					$pb11 (\mathbf{a}'/4)$		
	n odd m even			$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$		
	p odd q odd					$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$		
	n odd m even					$pb11$		
$\widehat{\mathbf{a}} = (\mathbf{b} - \mathbf{a} + \mathbf{c})/2$								

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mn0)$ $(\bar{n}m0)$ $(\bar{m}\bar{n}0)$ $(nm0)$ $(\mathbf{b} + \mathbf{c})/8$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$				
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$				
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$				
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$				
	n odd	m even	$I2/c11$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	
	n even	m odd	$I2/b11$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$	
	n even	m odd	$B2/b11$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$	
	n odd	m odd	$C2/c11$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	
	n odd	m odd	$C2/n11$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	
	n odd	m even	$B2/n11$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	
$(0mn)$ $(0\bar{m}n)$ $(\mathbf{b}/4 + \mathbf{c}/8)$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$				
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$				
	n odd	m even	$I2/c11$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	
	n even	m odd	$I2/b11$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$	
	n even	m odd	$B2/b11$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$	
	n odd	m odd	$C2/c11$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	
	n odd	m odd	$C2/n11$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	
	n odd	m even	$B2/n11$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(m0n)$ $(m0\bar{n})$ $(\mathbf{a}/4 + 3\mathbf{c}/8)$	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$	$I2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$ $\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$
		$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
		n odd	m even			
		p even	q odd			
		n even	m odd		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$ $\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$
		p odd	q even			
		n even	m odd			
		p odd	q odd		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$ $\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$
		n odd	m odd			
		p even	q odd			
		n odd	m odd	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$ $\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$	
		p odd	q even			
		n odd	m even			
		p odd	q odd	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$ $\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$	
		n odd	m odd			
		p even	q odd			
$(hh\bar{l})$ $(\bar{h}hl)$ $(\mathbf{a}/4 + 3\mathbf{c}/8)$	$\mathbf{a} - \mathbf{b}$	$\hat{n}\mathbf{a} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$
		$\hat{n}\mathbf{a} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$			
		n odd	m even			
		p even	q odd			
		n even	m odd	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$
		p odd	q even			
		n even	m odd			
		p odd	q odd	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$
		n odd	m odd			
		p even	q odd			
		n odd	m odd	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$
		p odd	q odd			
		n odd	m odd			
		p odd	q even	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$
		n odd	m even			
		p odd	q odd			
$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b} + \mathbf{c})/2$						

Continued

No. 142 $I4_1/acd$

Continued

$$\mathcal{G} = I_{\bar{a} \ c \ \bar{d}}^{4 \frac{1}{2} \frac{2}{c} \frac{2}{d}} \text{ origin 1}$$

 D_{4h}^{20}

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(h\bar{h}l)$ $(\bar{h}hl)$ $3(\mathbf{a}/4 + \mathbf{c}/8)$	$\mathbf{a} + \mathbf{b} \quad n\hat{\mathbf{a}} - m\mathbf{c} \quad p\hat{\mathbf{a}} + q\mathbf{c}$ $\mathbf{a} + \mathbf{b} \quad n\hat{\mathbf{a}} + m\mathbf{c} \quad -p\hat{\mathbf{a}} + q\mathbf{c}$			$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$	
	n odd m even p even q odd						
	n even m odd p odd q even			$C2/c11$		$\hat{p}\bar{1}$ $c211$ $\hat{p}1$	
	n even m odd p odd q odd			$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$	
	n odd m odd p even q odd			$B2/n11$			
	n odd m odd p odd q even			$I2/c11$			
	n odd m even p odd q odd			$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$	
	$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a} + \mathbf{c})/2$						
l odd $\Rightarrow n = 2l, m = 2h + l; l$ even $\Rightarrow n = l, m = h + l/2$							

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
(mn0)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$		$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p2 ₁ /b11 L17
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$				
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$				
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$				
			n odd				
			p even				
			q odd				
			n even				
			p odd				
			q even				
			n even				
(nm0)	\mathbf{c}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$		$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p2/b11 L16
	\mathbf{c}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$				
			n odd				
			p even				
			q odd				
			n even				
			p odd				
			q even				
			n odd				
			p even				
			q odd				
(0mn)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$		$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p2/b11 L16
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$				
			n odd				
			p even				
			q odd				
			n even				
			p odd				
			q even				
			n odd				
			p even				
			q odd				
(0m̄n)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$		$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p2/b11 L16
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$				
			n odd				
			p even				
			q odd				
			n even				
			p odd				
			q even				
			n odd				
			p even				
			q odd				
(0m̄n̄)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$		$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p2/b11 L16
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$				
			n odd				
			p even				
			q odd				
			n even				
			p odd				
			q even				
			n odd				
			p even				
			q odd				
(0m̄n̄̄)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$		$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p2/b11 L17
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$				
			n odd				
			p even				
			q odd				
			n even				
			p odd				
			q even				
			n odd				
			p even				
			q odd				

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}					
$(m0n)$ $(m0\bar{n})$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$	$I2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$ $\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$	$p2/b11$ L16		
		$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17		
	n odd	m even	$pb11$ L12					
		p even	q odd			$p2_1/b11$ L17		
		p odd	q even			$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L16		
	n even	m odd	$I2/c11$			$pb11 (\mathbf{a}'/4)$ L12		
		p odd				$p2_1/b11$ L17		
		p even				$p2/b11 (\mathbf{a}'/4)$ L16		
	n even	m odd	$B2/n11$			$pb11 (\mathbf{a}'/4)$ L12		
		p odd				$p2_1/b11$ L17		
		p even				$p2/b11 (\mathbf{a}'/4)$ L16		
	n odd	m odd	$C2/n11$			$pb11 (\mathbf{a}'/4)$ L12		
		p odd				$p2_1/b11$ L17		
		p even				$p2/b11 (\mathbf{a}'/4)$ L16		
	n odd	m odd	$C2/c11$			$pb11 (\mathbf{a}'/4)$ L12		
		p odd				$p2_1/b11$ L17		
		p even				$p2/b11 (\mathbf{a}'/4)$ L16		
	n odd	m even	$B2/b11$			$pb11 (\mathbf{a}'/4)$ L12		
		p odd				$p2_1/b11$ L17		
		p even				$p2/b11 (\mathbf{a}'/4)$ L16		
$(hh\bar{l})$ $(\bar{h}hl)$	$\mathbf{a} - \mathbf{b}$	$\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$	$p2/b11$ L16		
		$\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$			$p2_1/b11 (\mathbf{a}'/4)$ L17		
		n odd	m even			$pb11$ L12		
	n even	p even	$C2/c11$			$p2_1/b11$ L17		
		p odd				$c211$ L10		
		q even				$\hat{p}1$ L01		
	n even	m odd	$C2/n11$			$\hat{p}1$ L02		
		p odd				$c211 (\mathbf{b}'/4)$ L10		
		q odd				$\hat{p}1$ L01		
	n odd	m odd	$C2/b11$			$\hat{p}1$ L02		
		p odd				$c211 (\mathbf{b}'/4)$ L10		
		p even				$\hat{p}1$ L01		
	n odd	m odd	$B2/n11$			$p2_1/b11$ L17		
		p odd				$p2/b11 (\mathbf{a}'/4)$ L16		
		p even				$pb11 (\mathbf{a}'/4)$ L12		
	n odd	m odd	$I2/c11$			$p2_1/b11$ L17		
		p odd				$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L16		
		q even				$pb11 (\mathbf{a}'/4)$ L12		
	n odd	m odd	$I2/b11$			$p2/b11$ L16		
		p odd				$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17		
		q odd				$pb11$ L12		
$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b} + \mathbf{c})/2$								

Continued

No. 142 $I4_1/acd$

Continued

$\mathcal{G} = I_{\frac{a}{c}}^{\frac{4}{2}\frac{2}{c}\frac{2}{d}}$ origin 2

$$D_{4h}^{20}$$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
$(h\bar{h}l)$ $(\bar{h}hl)$	$\mathbf{a} + \mathbf{b} \quad n\hat{\mathbf{a}} - m\mathbf{c} \quad p\hat{\mathbf{a}} + q\mathbf{c}$					
	$\mathbf{a} + \mathbf{b} \quad n\hat{\mathbf{a}} + m\mathbf{c} \quad -p\hat{\mathbf{a}} + q\mathbf{c}$					
	n odd	m even				
	p even	q odd				
	n even	m odd				
	p odd	q even				
	n even	m odd				
	p odd	q odd				
	n odd	m odd				
	p even	q odd				
	n odd	m odd				
	p odd	q even				
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a} + \mathbf{c})/2$						
$l \text{ odd} \Rightarrow n = 2l, m = 2h + l; l \text{ even} \Rightarrow n = l, m = h + l/2$						

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(\bar{h}2h\bar{h}l)$ $(\bar{h}\bar{h}2hl)$ $(2hh\bar{h}l)$	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$C211$		
	$\mathbf{b} - \mathbf{a}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
	$-(\mathbf{a} + 2\mathbf{b})$	$na - mc$	$pa + qc$			
	n odd		m even		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$
	q odd		m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$
	q odd		m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$
	p odd		q even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111$ $p1$
	q odd		m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$
	p odd		q even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$
	q odd		m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$
l odd $\Rightarrow n = l, m = 2h$; l even $\Rightarrow n = l/2, m = h$						

No. 150 $P321$ $\mathcal{G} = P321$ D_3^2

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(0\bar{h}\bar{h}l)$	\mathbf{a}	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$			
$(\bar{h}0h\bar{l})$	\mathbf{b}	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
$(h\bar{h}0l)$	$-(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) + q\mathbf{c}$			
		n odd	m even	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c211$
			q odd		$[s\mathbf{d}, -s\mathbf{d}]$	$\hat{p}1$
			m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
			q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p_{2111} (\mathbf{b}'/4)$
		p odd	m odd	$B211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p211$
			q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	p_{2111}
						$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
	l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$					

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(\bar{h}2h\bar{h}l)$	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$			
$(\bar{h}2h\bar{h}l)$ ($\mathbf{c}/3$)				C211	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111} (\mathbf{b}'/4)$ $p1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$ $p1$
				I211	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111} (\mathbf{b}'/4)$ $p1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$ $p1$
				B211	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$ $p1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$ $p1$
$(2h\bar{h}hl)$ ($\mathbf{c}/6$)				C211	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111} (\mathbf{b}'/4)$ $p1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$ $p1$
				I211	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111} (\mathbf{b}'/4)$ $p1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$ $p1$
				B211	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$ $p1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$ $p1$
	$l \text{ odd} \Rightarrow n = l, m = 2h; l \text{ even} \Rightarrow n = l/2, m = h$					

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(0h\bar{h}l)$ ($\mathbf{c}/3$)	a	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c} \quad p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$				
		$n \text{ odd} \quad m \text{ even}$	$q \text{ odd}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111} (\mathbf{b}'/4)$ $p1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$ $p1$
		$n \text{ odd} \quad m \text{ odd}$	$q \text{ odd}$	$I211$		
$(\bar{h}0hl)$ ($\mathbf{c}/6$)	b	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c} \quad -p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$				
		$n \text{ odd} \quad m \text{ even}$	$q \text{ odd}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111} (\mathbf{b}'/4)$ $p1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$ $p1$
		$n \text{ odd} \quad m \text{ odd}$	$q \text{ odd}$	$I211$		
$(h\bar{h}0l)$	c	$-(\mathbf{a} + \mathbf{b}) \quad n(\mathbf{a} - \mathbf{b}) - m\mathbf{c} \quad p(\mathbf{a} - \mathbf{b}) + q\mathbf{c}$				
		$n \text{ odd} \quad m \text{ even}$	$q \text{ odd}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111} (\mathbf{b}'/4)$ $p1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$ $p1$
		$n \text{ odd} \quad m \text{ odd}$	$q \text{ odd}$	$I211$		
		$n \text{ odd} \quad m \text{ odd}$	$q \text{ even}$	$B211$		
		$l \text{ odd} \Rightarrow n = l, m = 2h; l \text{ even} \Rightarrow n = l/2, m = h$				

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(\bar{h}2h\bar{h}l)$	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c211$
					$[s\mathbf{d}, -s\mathbf{d}]$	$\hat{p}1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
				$I211$	$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_{111} (\mathbf{b}'/4)$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
				$B211$	$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_{111}$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
$(\bar{h}h2hl)$ ($\mathbf{c}/6$)	$\mathbf{b} - \mathbf{a}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c211$
					$[s\mathbf{d}, -s\mathbf{d}]$	$\hat{p}1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
				$I211$	$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_{111} (\mathbf{b}'/4)$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
				$B211$	$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_{111}$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
$(2h\bar{h}hl)$ ($\mathbf{c}/3$)	$-(\mathbf{a} + 2\mathbf{b})$	$n\mathbf{a} - m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c211$
					$[s\mathbf{d}, -s\mathbf{d}]$	$\hat{p}1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
				$I211$	$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_{111} (\mathbf{b}'/4)$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
				$B211$	$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_{111}$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
	$l \text{ odd} \Rightarrow n = l, m = 2h; l \text{ even} \Rightarrow n = l/2, m = h$					

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(0h\bar{h}l)$ ($\mathbf{c}/6$)	a	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$		$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c211$	
		$n \text{ odd} \quad p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$			$[s\mathbf{d}, -s\mathbf{d}]$	$\hat{p}1$	
		$q \text{ odd}$			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$L01$	
		$m \text{ odd}$		$I211$	$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211$	
		$q \text{ odd}$			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L08$	
		$m \text{ odd}$			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_{111} (\mathbf{b}'/4)$	
		$p \text{ odd}$		$B211$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	
		$q \text{ even}$			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L09$	
		$p \text{ odd}$			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L01$	
$(\bar{h}0hl)$ ($\mathbf{c}/3$)	b	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$		$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c211$	
		$n \text{ odd} \quad -p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			$[s\mathbf{d}, -s\mathbf{d}]$	$\hat{p}1$	
		$m \text{ even}$			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$L01$	
		$q \text{ odd}$		$I211$	$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211$	
		$m \text{ odd}$			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L08$	
		$q \text{ odd}$			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_{111} (\mathbf{b}'/4)$	
		$m \text{ odd}$		$B211$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	
		$p \text{ odd}$			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L09$	
		$q \text{ even}$			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L01$	
$(h\bar{h}0l)$	$-(\mathbf{a} + \mathbf{b}) \quad n(\mathbf{a} - \mathbf{b}) - m\mathbf{c} \quad p(\mathbf{a} - \mathbf{b}) + q\mathbf{c}$			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c211$	
	$n \text{ odd} \quad m \text{ even}$				$[s\mathbf{d}, -s\mathbf{d}]$	$\hat{p}1$	
	$q \text{ odd}$				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$L01$	
	$m \text{ odd}$			$I211$	$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211$	
	$q \text{ odd}$				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L08$	
	$m \text{ odd}$				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_{111} (\mathbf{b}'/4)$	
	$p \text{ odd}$			$B211$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	
	$q \text{ even}$				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L09$	
	$p \text{ odd}$				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L01$	
	$l \text{ odd} \Rightarrow n = l, m = 2h; l \text{ even} \Rightarrow n = l/2, m = h$						

No. 155 $R32$ $\mathcal{G} = R32$ D_3^7

Orientation orbit

Hexagonal axes ($hkil$)	Rhombohedral axes (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(0 $h\bar{h}l$) ($\bar{h}0hl$) ($h\bar{h}0l$)	(hh) (lh) (hl)	\mathbf{a} $n\mathbf{c} - m\mathbf{c}_r$ $p\mathbf{c} + q\mathbf{c}_r$ \mathbf{b} $n\mathbf{c} - m\mathbf{a}_r$ $p\mathbf{c} + q\mathbf{a}_r$ -($\mathbf{a} + \mathbf{b}$) $n\mathbf{c} - m\mathbf{b}_r$ $p\mathbf{c} + q\mathbf{b}_r$			
		n odd m even p even q odd or n even m odd p odd q even p odd q odd	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ L08 $p_{21}11$ ($\mathbf{b}'/4$) L09 $p1$ L01
		n odd m odd	$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ L08 $p_{21}11$ L09 $p1$ L01
			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ L10 $\hat{p}1$ L01
Transformation of indices from hexagonal to auxiliary monoclinic basis l odd $\Rightarrow n = l - 2h, m = 6h; l$ even $\Rightarrow n = l/2 - h, m = 3h$					
Transformation of indices from rhombohedral to auxiliary monoclinic basis l odd $\Rightarrow n = l, m = 2h + l; l$ even $\Rightarrow n = l/2, m = h + l/2$					

No. 156 $P3m1$ $\mathcal{G} = P3m1$ C_{3v}^1

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}				
$(0h\bar{h}l)$	\mathbf{a}	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$				
$(\bar{h}0hl)$	\mathbf{b}	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$				
$(h\bar{h}0l)$	$-(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) + q\mathbf{c}$				
		n odd	m even	$Cm11$	$s\mathbf{d}$	$cm11$	L13
			q odd				
			m odd	$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11
			q odd				
			m odd	$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11
		p odd	q even				
	l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$						

No. 157 $P31m$ $\mathcal{G} = P31m$ C_{3v}^2

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$				
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}							
$(\bar{h}2h\bar{h}l)$ $(\bar{h}h2hl)$ $(2hh\bar{h}l)$	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$Cm11$	$s\mathbf{d}$	$cm11$				
	$\mathbf{b} - \mathbf{a}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$							
	$-(\mathbf{a} + 2\mathbf{b})$	$n\mathbf{a} - m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$							
	n odd		m even							
	p odd		q even							
	q odd		$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$	$L11$				
	m odd									
	q odd									
	m odd		$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$	$L11$				
	p odd									
	l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$									

No. 158 $P3c1$ $\mathcal{G} = P3c1$ C_{3v}^3

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(0h\bar{h}l)$	\mathbf{a}	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$	$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
$(\bar{h}0hl)$	\mathbf{b}	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
$(h\bar{h}0l)$	$-(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) + q\mathbf{c}$			
		n odd	m even			
		p even	q odd			
		n even	m odd			
		p odd	q even			
		n even	m odd			
		p odd	q odd			
		n odd	m odd			
		p even	q odd			
		n odd	m odd			
		p odd	q even			
		n odd	m even	$Ic11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
		p odd	q odd			
	l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$			$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
				$Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(\bar{h}2h\bar{h}l)$	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$			
$(\bar{h}\bar{h}2hl)$	$\mathbf{b} - \mathbf{a}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
$(2hh\bar{h}l)$	$-(\mathbf{a} + 2\mathbf{b})$	$n\mathbf{a} - m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$			
		n odd	m even		$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$
		p even	q odd		$Bb11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$
		n even	m odd		$Ib11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$
		p odd	q even		$Ic11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$
		n even	m odd		$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$
		p odd	q odd		$Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$
		n odd	m odd			
		p even	q odd			
		n odd	m odd			
		p odd	q even			
		n odd	m even			
		p odd	q odd			
l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$						

No. 160 $R\bar{3}m$ C_{3v}^5 $\mathcal{G} = R\bar{3}m$

Orientation orbit

Hexagonal axes ($hkil$)	Rhombohedral axes (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(0h\bar{h}l)$ $(\bar{h}0hl)$ $(h\bar{h}0l)$	$(hh\bar{l})$ $(lh\bar{h})$ $(h\bar{l}h)$	\mathbf{a} $n\mathbf{c} - m\mathbf{c}_r$ $p\mathbf{c} + q\mathbf{c}_r$ \mathbf{b} $n\mathbf{c} - m\mathbf{a}_r$ $p\mathbf{c} + q\mathbf{a}_r$ $-(\mathbf{a} + \mathbf{b})$ $n\mathbf{c} - m\mathbf{b}_r$ $p\mathbf{c} + q\mathbf{b}_r$ n odd m even p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$Im\bar{1}1$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm\bar{1}1$	L11
			$Bm\bar{1}1$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm\bar{1}1$	L11
			$Cm\bar{1}1$	$s\mathbf{d}$	$cm\bar{1}1$	L13
Transformation of indices from hexagonal to auxiliary monoclinic basis l odd $\Rightarrow n = l - 2h, m = 6h; l$ even $\Rightarrow n = l/2 - h, m = 3h$ Transformation of indices from rhombohedral to auxiliary monoclinic basis l odd $\Rightarrow n = l, m = 2h + l; l$ even $\Rightarrow n = l/2, m = h + l/2$						

No. 161 $R3c$ $\mathcal{G} = R3c$ C_{3v}^6

Orientation orbit

Hexagonal axes ($hkil$)	Rhombohedral axes (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$				
$(0h\bar{h}l)$ $(\bar{h}0hl)$ $(h\bar{h}0l)$	$(hh\bar{l})$ $(lh\bar{h})$ $(h\bar{l}h)$	a $n\mathbf{c} - m\mathbf{c}_r$ $p\mathbf{c} + q\mathbf{c}_r$	$Ib11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	L12				
		b $n\mathbf{c} - m\mathbf{a}_r$ $p\mathbf{c} + q\mathbf{a}_r$							
		$-(\mathbf{a} + \mathbf{b})$ $n\mathbf{c} - m\mathbf{b}_r$ $p\mathbf{c} + q\mathbf{b}_r$							
		n odd m even							
		p even q odd							
		n even m odd							
		p odd q even							
		n even m odd							
		p odd q odd							
		n odd m odd							
		p even q odd							
		n odd m odd							
		p odd q even							
		n odd m even							
		p odd q odd							
Transformation of indices from hexagonal to auxiliary monoclinic basis l odd $\Rightarrow n = l - 2h, m = 6h$; l even $\Rightarrow n = l/2 - h, m = 3h$									
Transformation of indices from rhombohedral to auxiliary monoclinic basis l odd $\Rightarrow n = l, m = 2h + l$; l even $\Rightarrow n = l/2, m = h + l/2$									

No. 162 $P\bar{3}1m$

$$\mathcal{G} \equiv P\overline{3}|_m$$

$$D_{3d}^1$$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(\bar{h}2h\bar{h}l)$ $(\bar{h}\bar{h}2hl)$ $(2h\bar{h}hl)$	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$	L18
	$\mathbf{b} - \mathbf{a}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			$cm11$	L13
	$-(\mathbf{a} + 2\mathbf{b})$	$n\mathbf{a} - m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$		$I2/m11$	$p2/m11$	L14
	n odd		m even			$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$
	q odd		m odd			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	
	p odd		q odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pm11$
	p odd		m odd		$B2/m11$	$p2/m11$	L14
	q even		q even			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 (\mathbf{a}'/4)$
	l odd $\Rightarrow n = l, m = 2h$		l even $\Rightarrow n = l/2, m = h$			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pm11$

No. 163 $P\bar{3}1c$ $\mathcal{G} = P\bar{3}1c$ D_{3d}^2

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(\bar{h}2h\bar{h}l)$ $(\bar{h}h2hl)$ $(2hh\bar{h}l)$	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$C2/c11$		
	$\mathbf{b} - \mathbf{a}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}1$
	$-(\mathbf{a} + 2\mathbf{b})$	$n\mathbf{a} - m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
		n odd	m even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
		p even	q odd			L02
		n even	m odd	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
		n even	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
		p odd	q odd	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		n odd	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
		p even	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
		n odd	m odd	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
		p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
		n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
		p odd	q even	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
		n odd	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$
		p odd	q even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
		n odd	m even	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
		p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$
		n odd	m even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
	l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$					

No. 164 $P\bar{3}m1$

$$\mathcal{G} \equiv P\overline{3}m1$$

D_{3d}³

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(0h\bar{h}l)$ $(\bar{h}0hl)$ $(h\bar{h}0l)$	\mathbf{a}	$n(\mathbf{a} + 2\mathbf{b}) - mc$	$p(\mathbf{a} + 2\mathbf{b}) + qc$	$C2/m11$ m odd m odd p odd	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$
	\mathbf{b}	$-n(2\mathbf{a} + \mathbf{b}) - mc$	$-p(2\mathbf{a} + \mathbf{b}) + qc$		$I2/m11$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$
	$-(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) - mc$	$p(\mathbf{a} - \mathbf{b}) + qc$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L14$ $L15$ $L11$
					$B2/m11$	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L14$ $L15$ $L11$
	l odd $\Rightarrow n = l, m = 2h$; l even $\Rightarrow n = l/2, m = h$					

No. 165 $P\bar{3}c1$

$$\mathcal{G} = P\bar{3}c1$$

 D_{3d}^4

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(0h\bar{h}l)$ $(\bar{h}0hl)$ $(h\bar{h}0l)$	\mathbf{a}	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$
	\mathbf{b}	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
	$-(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) + q\mathbf{c}$			
	n odd		m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L10$ $L01$
	p even		q odd			
	n even		m odd			
	p odd		q even	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L16$ $L17$ $L12$
	n even		m odd			
	p odd		q odd			
	n odd		m odd	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L16$ $L17$ $L12$
	p even		q odd			
	n odd		m odd			
	p odd		q even	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L17$ $L16$ $L12$
	n odd		m odd			
	p odd		q even			
	n odd		m even	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L17$ $L16$ $L12$
	p odd		q even			
	n odd		m even			
	p odd		q odd	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L02$ $L10$ $L01$
	l odd $\Rightarrow n = l, m = 2h$		l even $\Rightarrow n = l/2, m = h$			

No. 166 $R\bar{3}m$ $\mathcal{G} = R\bar{3}m$ D_{3d}^5

Orientation orbit

Hexagonal axes ($hkil$)	Rhombohedral axes (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(0h\bar{h}l)$ $(\bar{h}0hl)$ $(h\bar{h}0l)$	$(hh\bar{l})$ $(lh\bar{h})$ $(h\bar{h}h)$	\mathbf{a} $n\mathbf{c} - m\mathbf{c}_r$ $p\mathbf{c} + q\mathbf{c}_r$ \mathbf{b} $n\mathbf{c} - m\mathbf{a}_r$ $p\mathbf{c} + q\mathbf{a}_r$ $-(\mathbf{a} + \mathbf{b})$ $n\mathbf{c} - m\mathbf{b}_r$ $p\mathbf{c} + q\mathbf{b}_r$ n odd m even p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$I2/m11$ $B2/m11$ $C2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/m11$ L14 $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15 $pm11$ L11 $p2/m11$ L14 $p2_1/m11 (\mathbf{a}'/4)$ L15 $pm11$ L11 $c2/m11$ L18 $cm11$ L13
Transformation of indices from hexagonal to auxiliary monoclinic basis l odd $\Rightarrow n = l - 2h, m = 6h; l$ even $\Rightarrow n = l/2 - h, m = 3h$					
Transformation of indices from rhombohedral to auxiliary monoclinic basis l odd $\Rightarrow n = l, m = 2h + l; l$ even $\Rightarrow n = l/2, m = h + l/2$					

No. 167 $R\bar{3}c$ D_{3d}^6

$\mathcal{G} = R\bar{3}c$

Orientation orbit

Hexagonal axes ($hkil$)	Rhombohedral axes (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
(0 $h\bar{h}l$) ($\bar{h}0hl$) ($h\bar{h}0l$)	(hh) (lh) (hl)	a $n\mathbf{c} - m\mathbf{c}_r$ $p\mathbf{c} + q\mathbf{c}_r$	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16			
		b $n\mathbf{c} - m\mathbf{a}_r$ $p\mathbf{c} + q\mathbf{a}_r$			$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17			
		$-(\mathbf{a} + \mathbf{b})$ $n\mathbf{c} - m\mathbf{b}_r$ $p\mathbf{c} + q\mathbf{b}_r$			$pb11$ L12			
		n odd m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17			
		p even q odd			$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L16			
		n even m odd			$pb11 (\mathbf{a}'/4)$ L12			
		p odd q even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17			
		n even m odd			$p2/b11 (\mathbf{a}'/4)$ L16			
		p odd q odd			$pb11 (\mathbf{a}'/4)$ L12			
		n odd m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ L02 $c211 (\mathbf{b}'/4)$ L10 $\hat{p}1$ L01	$p2_1/b11$ L17			
		p even q odd			$c211$ L10			
		n odd m odd			$\hat{p}1$ L01			
		p odd q even	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ L02 $c211$ L10 $\hat{p}1$ L01	$p2/b11$ L16			
		n odd m even			$p2_1/b11 (\mathbf{a}'/4)$ L17			
		p odd q odd			$pb11$ L12			
Transformation of indices from hexagonal to auxiliary monoclinic basis l odd $\Rightarrow n = l - 2h, m = 6h$; l even $\Rightarrow n = l/2 - h, m = 3h$								
Transformation of indices from rhombohedral to auxiliary monoclinic basis l odd $\Rightarrow n = l, m = 2h + l$; l even $\Rightarrow n = l/2, m = h + l/2$								

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mnm\overline{n}0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$	L08
$(m + \overline{nnn}0)$	$\mathbf{c} \quad m\mathbf{a} + (m+n)\mathbf{b} \quad -q\mathbf{a} + (p-q)\mathbf{b}$			$p1$	L01
$(nm + \overline{nm}0)$	$\mathbf{c} \quad -(m+n)\mathbf{a} - n\mathbf{b} \quad (q-p)\mathbf{a} - p\mathbf{b}$				

No. 169 $P6_1$ $\mathcal{G} = P6_1$ C_6^2

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mnm\overline{n}0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$	L09
$(m + \overline{nnn}0)$	$\mathbf{c} \quad m\mathbf{a} + (m+n)\mathbf{b} \quad -q\mathbf{a} + (p-q)\mathbf{b}$				
$(nm + \overline{nm}0)$	$\mathbf{c} \quad -(m+n)\mathbf{a} - n\mathbf{b} \quad (q-p)\mathbf{a} - p\mathbf{b}$				L01

No. 170 $P6_5$ $\mathcal{G} = P6_5$ C_6^3

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mnm\overline{n}0)$	\mathbf{c} $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$	L09
$(m + \overline{nnn}0)$	\mathbf{c} $m\mathbf{a} + (m + n)\mathbf{b}$ $-q\mathbf{a} + (p - q)\mathbf{b}$				
$(nm + \overline{nm}0)$	\mathbf{c} $-(m + n)\mathbf{a} - n\mathbf{b}$ $(q - p)\mathbf{a} - p\mathbf{b}$				L01

No. 171 $P6_2$ $\mathcal{G} = P6_2$ C_6^4

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mnm\overline{n}0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$	L08 L01
$(m + \overline{nnn}0)$	$\mathbf{c} \quad m\mathbf{a} + (m + n)\mathbf{b} \quad -q\mathbf{a} + (p - q)\mathbf{b}$				
$(nm + \overline{nm}0)$	$\mathbf{c} \quad -(m + n)\mathbf{a} - n\mathbf{b} \quad (q - p)\mathbf{a} - p\mathbf{b}$				

No. 172 $P6_4$ $\mathcal{G} = P6_4$ C_6^5

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mnm\overline{n}0)$	\mathbf{c} $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$	L08
$(m + \overline{nnn}0)$	\mathbf{c} $m\mathbf{a} + (m + n)\mathbf{b}$ $-q\mathbf{a} + (p - q)\mathbf{b}$			$p1$	L01
$(nm + \overline{nm}0)$	\mathbf{c} $-(m + n)\mathbf{a} - n\mathbf{b}$ $(q - p)\mathbf{a} - p\mathbf{b}$				

No. 173 $P6_3$ $\mathcal{G} = P6_3$ C_6^6

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mnm\overline{n}0)$	\mathbf{c} $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$	L09 L01
$(m + \overline{nnn}0)$	\mathbf{c} $m\mathbf{a} + (m + n)\mathbf{b}$ $-q\mathbf{a} + (p - q)\mathbf{b}$				
$(nm + \overline{nm}0)$	\mathbf{c} $-(m + n)\mathbf{a} - n\mathbf{b}$ $(q - p)\mathbf{a} - p\mathbf{b}$				

No. 174 $P\bar{6}$

$$\mathcal{G} = P\bar{6}$$

 C_{3h}^1

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mnm\overline{n}0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$			
$(m + \overline{nnn}0)$	$\mathbf{c} \quad m\mathbf{a} + (m + n)\mathbf{b} \quad -q\mathbf{a} + (p - q)\mathbf{b}$	$Pm11$	$s\mathbf{d}$	$pm11$
$(nm + \overline{nm}0)$	$\mathbf{c} \quad -(m + n)\mathbf{a} - n\mathbf{b} \quad (q - p)\mathbf{a} - p\mathbf{b}$			$L11$

No. 175 $P6/m$ $\mathcal{G} = P6/m$ C_{6h}^1

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mnm\bar{n}0)$	\mathbf{c} $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/m11$ $pm11$	L14
$(m + \bar{n}nn0)$	\mathbf{c} $m\mathbf{a} + (m + n)\mathbf{b}$ $-q\mathbf{a} + (p - q)\mathbf{b}$				L11
$(nm + \bar{nm}0)$	\mathbf{c} $-(m + n)\mathbf{a} - n\mathbf{b}$ $(q - p)\mathbf{a} - p\mathbf{b}$				

No. 176 $P6_3/m$ $\mathcal{G} = P6_3/m$ C_{6h}^2

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mnm\overline{n}0)$	$\mathbf{c} \quad n\mathbf{a} - m\mathbf{b} \quad p\mathbf{a} + q\mathbf{b}$	$P2_1/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p2_1/m11$	L15
$(m + \overline{nnn}0)$	$\mathbf{c} \quad m\mathbf{a} + (m + n)\mathbf{b} \quad -q\mathbf{a} + (p - q)\mathbf{b}$		$[s\mathbf{d}, -s\mathbf{d}]$	$pm11 (\mathbf{a}'/4)$	L11
$(nm + \overline{nm}0)$	$\mathbf{c} \quad -(m + n)\mathbf{a} - n\mathbf{b} \quad (q - p)\mathbf{a} - p\mathbf{b}$				

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}					
$(m\overline{nm} + n\overline{0})$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	P211	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	L08		
$(\overline{m} + mn\overline{0})$	\mathbf{c}	$m\mathbf{a} + (m+n)\mathbf{b}$	$-q\mathbf{a} + (p-q)\mathbf{b}$					
$(\overline{nm} + \overline{nm}0)$	\mathbf{c}	$-(m+n)\mathbf{a} - n\mathbf{b}$	$(q-p)\mathbf{a} - p\mathbf{b}$			L01		
$(n\overline{nm} + \overline{n}0)$	$-\mathbf{c}$	$m\mathbf{a} - n\mathbf{b}$	$-q\mathbf{a} - p\mathbf{b}$					
$(\overline{m} + nn\overline{0})$	\mathbf{c}	$n\mathbf{a} + (m+n)\mathbf{b}$	$p\mathbf{a} + (p-q)\mathbf{b}$			p1		
$(\overline{nm} + \overline{nn}0)$	$-\mathbf{c}$	$-(m+n)\mathbf{a} - m\mathbf{b}$	$(q-p)\mathbf{a} + q\mathbf{b}$					
$(0h\overline{hl})$ $(0\overline{h}l)$ $(\overline{h}0l)$ $(\overline{h}0\overline{l})$ $(h\overline{h}0l)$ $(\overline{h}h0\overline{l})$	\mathbf{a}	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$	C211	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	L10		
	$-\mathbf{a}$	$n(\mathbf{a} + 2\mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) - q\mathbf{c}$					
	\mathbf{b}	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			L01		
	$-\mathbf{b}$	$-n(2\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) - q\mathbf{c}$					
	$-(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) + q\mathbf{c}$			c211		
	$(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) - q\mathbf{c}$					
	n odd			I211	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p211		
	m even							
	q odd					$\widehat{p}1$		
	m odd							
	q odd					$p2_111$ ($\mathbf{b}'/4$)		
	m odd							
	p odd			B211	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p211		
	q even							
$(\overline{h}2h\overline{hl})$ $(\overline{h}2h\overline{l})$ $(\overline{hh}2h\overline{l})$ $(\overline{hh}2\overline{hl})$ $(2\overline{hh}h\overline{l})$ $(2\overline{hh}h\overline{l})$	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	C211	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	L10		
	$-(2\mathbf{a} + \mathbf{b})$	$n\mathbf{b} + m\mathbf{c}$	$p\mathbf{b} - q\mathbf{c}$					
	$\mathbf{b} - \mathbf{a}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			$\widehat{p}1$		
	$\mathbf{a} - \mathbf{b}$	$-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) - q\mathbf{c}$					
	$-(\mathbf{a} + 2\mathbf{b})$	$n\mathbf{a} - m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$			p211		
	$\mathbf{a} + 2\mathbf{b}$	$n\mathbf{a} + m\mathbf{c}$	$p\mathbf{a} - q\mathbf{c}$					
	n odd			I211	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L01		
	m even							
	q odd					$\widehat{p}1$		
	m odd							
	q odd					$p2_111$ ($\mathbf{b}'/4$)		
	m odd							
	p odd			B211	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L01		
	q even							
	p odd					$\widehat{p}1$		
	q even							

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}						
$(m\overline{m} + \overline{n}0)$ $(\overline{m} + nm\overline{0})$ $(\overline{nm} + \overline{nm}0)$ $(n\overline{nm} + \overline{n}0)$ $(\overline{m} + \overline{nm}m\overline{0})$ $(\overline{mm} + nn\overline{0})$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	p_{2111} $p1$			
	\mathbf{c}	$m\mathbf{a} + (m+n)\mathbf{b}$	$-q\mathbf{a} + (p-q)\mathbf{b}$						
	\mathbf{c}	$-(m+n)\mathbf{a} - n\mathbf{b}$	$(q-p)\mathbf{a} - p\mathbf{b}$						
	$-\mathbf{c}$	$m\mathbf{a} - n\mathbf{b}$	$-q\mathbf{a} - p\mathbf{b}$						
	\mathbf{c}	$n\mathbf{a} + (m+n)\mathbf{b}$	$p\mathbf{a} + (p-q)\mathbf{b}$						
	$-\mathbf{c}$	$-(m+n)\mathbf{a} - m\mathbf{b}$	$(q-p)\mathbf{a} + q\mathbf{b}$						
$(0h\bar{h}l)$ $(0hh\bar{l})$ $\mathbf{c}/3$	\mathbf{a} $-\mathbf{a}$	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$			
		$n(\mathbf{a} + 2\mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) - q\mathbf{c}$						
		n odd							
		m even							
		q odd							
		m odd							
	\mathbf{b} $-\mathbf{b}$	q odd		$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$			
		m odd							
		p odd							
		q even		$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$			
		p odd							
		q even							
$(\bar{h}0hl)$ $(\bar{h}0\bar{h}l)$ $\mathbf{c}/6$	\mathbf{b} $-\mathbf{b}$	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$			
		$-n(2\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) - q\mathbf{c}$						
		n odd							
		m even							
		q odd							
		m odd		$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$			
		q odd							
		m odd							
	\mathbf{b} $-\mathbf{b}$	p odd		$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$			
		q even							
		p odd							
l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$									

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}					
$(\bar{h}2h\bar{l})$ $(\bar{h}2h\bar{l})$ $\mathbf{c}/12$	$2\mathbf{a} + \mathbf{b}$ $-(2\mathbf{a} + \mathbf{b})$	$n\mathbf{b} - m\mathbf{c}$ $n\mathbf{b} + m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$ $p\mathbf{b} - q\mathbf{c}$	n odd m even q odd m odd q odd	$C211$ $I211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$c211$ $\hat{p}1$ $p211$ $p_{2111}(\mathbf{b}'/4)$ $p1$	L10 L01 L08 L09 L01
	$\mathbf{b} - \mathbf{a}$ $\mathbf{a} - \mathbf{b}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$ $-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) - q\mathbf{c}$	n odd m even q odd m odd q odd	$C211$ $I211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$c211$ $\hat{p}1$ $p211$ $p_{2111}(\mathbf{b}'/4)$ $p1$	L10 L01 L08 L09 L01
$(\bar{h}h2hl)$ $(\bar{h}h2h\bar{l})$ $5\mathbf{c}/12$	$\mathbf{b} - \mathbf{a}$ $\mathbf{a} - \mathbf{b}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$ $-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) - q\mathbf{c}$	n odd m even q odd m odd q odd	$C211$ $I211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$c211$ $\hat{p}1$ $p211$ $p_{2111}(\mathbf{b}'/4)$ $p1$	L10 L01 L08 L09 L01
	$\mathbf{b} - 2\mathbf{b}$ $\mathbf{a} + 2\mathbf{b}$	$n\mathbf{a} - m\mathbf{c}$ $n\mathbf{a} + m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$ $p\mathbf{a} - q\mathbf{c}$	n odd m even q odd m odd q odd	$C211$ $I211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$c211$ $\hat{p}1$ $p211$ $p_{2111}(\mathbf{b}'/4)$ $p1$	L10 L01 L08 L09 L01
$(2hh\bar{h}l)$ $(2h\bar{h}hl)$ $\mathbf{c}/4$	$-(\mathbf{a} + 2\mathbf{b})$ $\mathbf{a} + 2\mathbf{b}$	$n\mathbf{a} - m\mathbf{c}$ $n\mathbf{a} + m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$ $p\mathbf{a} - q\mathbf{c}$	n odd m even q odd m odd q odd	$C211$ $I211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$c211$ $\hat{p}1$ $p211$ $p_{2111}(\mathbf{b}'/4)$ $p1$	L10 L01 L08 L09 L01
	$\mathbf{b} - \mathbf{a}$ $\mathbf{a} - \mathbf{b}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$ $-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) - q\mathbf{c}$	n odd m even q odd m odd q odd	$C211$ $I211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$c211$ $\hat{p}1$ $p211$ $p_{2111}(\mathbf{b}'/4)$ $p1$	L10 L01 L08 L09 L01

l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}						
$(m\overline{m}n + \overline{n}0)$ $(\overline{m} + nm\overline{0})$ $(\overline{nm} + \overline{nm}0)$ $(\overline{nmm} + \overline{n}0)$ $(\overline{m} + \overline{nmm}0)$ $(\overline{mn} + \overline{nn}0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2_{111}$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_{111}$ $p1$			
	\mathbf{c}	$m\mathbf{a} + (m+n)\mathbf{b}$	$-q\mathbf{a} + (p-q)\mathbf{b}$						
	\mathbf{c}	$-(m+n)\mathbf{a} - n\mathbf{b}$	$(q-p)\mathbf{a} - p\mathbf{b}$						
	$-\mathbf{c}$	$m\mathbf{a} - n\mathbf{b}$	$-q\mathbf{a} - p\mathbf{b}$						
	\mathbf{c}	$n\mathbf{a} + (m+n)\mathbf{b}$	$p\mathbf{a} + (p-q)\mathbf{b}$						
	$-\mathbf{c}$	$-(m+n)\mathbf{a} - m\mathbf{b}$	$(q-p)\mathbf{a} + q\mathbf{b}$						
$(0h\bar{h}l)$ $(0hh\bar{l})$	\mathbf{a} $-\mathbf{a}$	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$			
		$n(\mathbf{a} + 2\mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) - q\mathbf{c}$						
		n odd m even							
		q odd							
		m odd							
	\mathbf{b} $-\mathbf{b}$	q odd		$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111} (\mathbf{b}'/4)$ $p1$			
		m odd							
		p odd q even							
		q odd							
		m odd							
$(\bar{h}0hl)$ $(\bar{h}0\bar{h}l)$ $\mathbf{c}/6$	\mathbf{b} $-\mathbf{b}$	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$			
		$-n(2\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) - q\mathbf{c}$						
		n odd m even							
		q odd							
		m odd							
	\mathbf{b} $-\mathbf{b}$	q odd		$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111} (\mathbf{b}'/4)$ $p1$			
		m odd							
		p odd q even							
		q odd							
		m odd							
$(h\bar{h}0l)$ $(h\bar{h}0\bar{l})$ $\mathbf{c}/3$	\mathbf{b} $-\mathbf{b}$	$-(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$			
		$(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) + m\mathbf{c}$						
		n odd m even							
		q odd							
		m odd							
	\mathbf{b} $-\mathbf{b}$	q odd		$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111} (\mathbf{b}'/4)$ $p1$			
		m odd							
		p odd q even							
		q odd							
		m odd							

 l odd $\Rightarrow n = l, m = 2h$; l even $\Rightarrow n = l/2, m = h$

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
$(\bar{h}2h\bar{h}l)$ $(\bar{h}2hh\bar{l})$ $5c/12$	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$ $p211$ $p2_111 (\mathbf{b}'/4)$ $p1$			
	$-(2\mathbf{a} + \mathbf{b})$	$n\mathbf{b} + m\mathbf{c}$	$p\mathbf{b} - q\mathbf{c}$						
	n odd								
	m even								
	q odd								
	m odd			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L08$ $L09$ $L01$			
	q odd								
	m odd								
	p odd	q even			$B211$	$p211$ $p2_111$ $p1$			
		m odd							
		q even							
$(\bar{h}h2hl)$ $(\bar{h}h2h\bar{l})$ $c/12$	$\mathbf{b} - \mathbf{a}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$ $p211$ $p2_111 (\mathbf{b}'/4)$ $p1$			
	$\mathbf{a} - \mathbf{b}$	$-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) - q\mathbf{c}$						
	n odd								
	m even								
	q odd								
	m odd			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L08$ $L09$ $L01$			
	q odd								
	m odd								
	p odd	q even			$B211$	$p211$ $p2_111$ $p1$			
		m odd							
		q even							
$(2h\bar{h}hl)$ $(2h\bar{h}h\bar{l})$ $c/4$	$-(\mathbf{a} + 2\mathbf{b})$	$n\mathbf{a} - m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$ $p211$ $p2_111 (\mathbf{b}'/4)$ $p1$			
	$\mathbf{a} + 2\mathbf{b}$	$n\mathbf{a} + m\mathbf{c}$	$p\mathbf{a} - q\mathbf{c}$						
	n odd								
	m even								
	q odd								
	m odd			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L08$ $L09$ $L01$			
	q odd								
	m odd								
	p odd	q even			$B211$	$p211$ $p2_111$ $p1$			
		m odd							
		q even							

$$l \text{ odd} \Rightarrow n = l, m = 2h; l \text{ even} \Rightarrow n = l/2, m = h$$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}						
$(m\overline{m} + \overline{n}0)$ $(\overline{m} + nm\overline{0})$ $(\overline{nm} + \overline{nm}0)$ $(n\overline{m} + \overline{n}0)$ $(\overline{m} + \overline{nm}m0)$ $(\overline{mm} + nn\overline{0})$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$			
	\mathbf{c}	$m\mathbf{a} + (m+n)\mathbf{b}$	$-q\mathbf{a} + (p-q)\mathbf{b}$						
	\mathbf{c}	$-(m+n)\mathbf{a} - n\mathbf{b}$	$(q-p)\mathbf{a} - p\mathbf{b}$						
	$-\mathbf{c}$	$m\mathbf{a} - n\mathbf{b}$	$-q\mathbf{a} - p\mathbf{b}$						
	\mathbf{c}	$n\mathbf{a} + (m+n)\mathbf{b}$	$p\mathbf{a} + (p-q)\mathbf{b}$						
	$-\mathbf{c}$	$-(m+n)\mathbf{a} - m\mathbf{b}$	$(q-p)\mathbf{a} + q\mathbf{b}$						
$(0h\bar{h}l)$ $(0hh\bar{l})$ $c/6$	\mathbf{a} $-\mathbf{a}$	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$			
		$n(\mathbf{a} + 2\mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) - q\mathbf{c}$						
		n odd							
		m even							
		q odd							
		m odd							
	\mathbf{b} $-\mathbf{b}$	q odd		$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$			
		m odd							
		p odd							
		q even		$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$			
		p odd							
		q even							
$(\bar{h}0hl)$ $(\bar{h}0\bar{h}l)$ $c/3$	\mathbf{b} $-\mathbf{b}$	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$			
		$-n(2\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) - q\mathbf{c}$						
		n odd							
		m even							
		q odd							
		m odd		$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$			
		q odd							
		m odd							
	\mathbf{b} $-\mathbf{b}$	p odd		$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$			
		q even							
		p odd							
l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$									

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
$(\bar{h}2h\bar{h}l)$ $(\bar{h}2h\bar{h}l)$ $c/6$	$2\mathbf{a} + \mathbf{b}$ $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + q\mathbf{c}$ $-(2\mathbf{a} + \mathbf{b})$ $n\mathbf{b} + m\mathbf{c}$ $p\mathbf{b} - q\mathbf{c}$			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$			
	n odd m even								
	q odd								
	m odd			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$			
	q odd								
	m odd								
	p odd q even			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111$ $p1$			
	q even								
	m odd								
$(\bar{h}h2hl)$ $(\bar{h}h2h\bar{l})$ $c/3$	$\mathbf{b} - \mathbf{a}$ $-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$ $\mathbf{a} - \mathbf{b}$ $-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) - q\mathbf{c}$			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$			
	n odd m even								
	q odd								
	m odd			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$			
	q odd								
	m odd								
	p odd q even			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111$ $p1$			
	q even								
	m odd								
$(2h\bar{h}hl)$ $(2h\bar{h}h\bar{l})$	$-(\mathbf{a} + 2\mathbf{b})$ $n\mathbf{a} - m\mathbf{c}$ $p\mathbf{a} + q\mathbf{c}$ $\mathbf{a} + 2\mathbf{b}$ $n\mathbf{a} + m\mathbf{c}$ $p\mathbf{a} - q\mathbf{c}$			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$			
	n odd m even								
	q odd								
	m odd			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$			
	q odd								
	m odd								
	p odd q even			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111$ $p1$			
	q even								
	m odd								

$$l \text{ odd} \Rightarrow n = l, m = 2h; l \text{ even} \Rightarrow n = l/2, m = h$$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}						
$(m\overline{m}n + \overline{n}0)$ $(\overline{m} + nm\overline{0})$ $(\overline{nm} + \overline{nm}0)$ $(\overline{nmm} + \overline{n}0)$ $(\overline{m} + \overline{nm}m\overline{0})$ $(\overline{mn} + \overline{nn}0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$			
	\mathbf{c}	$m\mathbf{a} + (m+n)\mathbf{b}$	$-q\mathbf{a} + (p-q)\mathbf{b}$						
	\mathbf{c}	$-(m+n)\mathbf{a} - n\mathbf{b}$	$(q-p)\mathbf{a} - p\mathbf{b}$						
	$-\mathbf{c}$	$m\mathbf{a} - n\mathbf{b}$	$-q\mathbf{a} - p\mathbf{b}$						
	\mathbf{c}	$n\mathbf{a} + (m+n)\mathbf{b}$	$p\mathbf{a} + (p-q)\mathbf{b}$						
	$-\mathbf{c}$	$-(m+n)\mathbf{a} - m\mathbf{b}$	$(q-p)\mathbf{a} + q\mathbf{b}$						
$(0h\bar{h}l)$ $(0hh\bar{l})$	\mathbf{a} $-\mathbf{a}$	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$			
		$n(\mathbf{a} + 2\mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) - q\mathbf{c}$						
		n odd m even							
		q odd							
		m odd							
	\mathbf{b} $-\mathbf{b}$	q odd		$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111}(\mathbf{b}'/4)$ $p1$			
		m odd							
		p odd q even							
		m odd		$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$			
		p odd							
$(\bar{h}0hl)$ $(\bar{h}0\bar{h}l)$ $\mathbf{c}/3$	\mathbf{b} $-\mathbf{b}$	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$			
		$-n(2\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) - q\mathbf{c}$						
		n odd m even							
		q odd							
		m odd		$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111}(\mathbf{b}'/4)$ $p1$			
		q odd							
		m odd							
		p odd q even							
		m odd							
$(h\bar{h}0l)$ $(h\bar{h}0\bar{l})$ $\mathbf{c}/6$	$-(\mathbf{a} + \mathbf{b})$ $(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$			
		$n(\mathbf{a} - \mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) - q\mathbf{c}$						
		n odd m even							
		q odd							
		m odd		$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111}(\mathbf{b}'/4)$ $p1$			
		q odd							
		m odd							
		p odd q even							
		m odd							

 l odd $\Rightarrow n = l, m = 2h$; l even $\Rightarrow n = l/2, m = h$

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}					
$(\bar{h}2h\bar{l})$ $(\bar{h}2h\bar{l})$ $\mathbf{c}/3$	$2\mathbf{a} + \mathbf{b}$ $-(2\mathbf{a} + \mathbf{b})$	$n\mathbf{b} - m\mathbf{c}$ $n\mathbf{b} + m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$ $p\mathbf{b} - q\mathbf{c}$	n odd m even q odd m odd q odd m odd p odd q even	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01
						$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{211} (\mathbf{b}'/4)$ $p1$	L08 L09 L01
						$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{211} $p1$	L08 L09 L01
	$\mathbf{b} - \mathbf{a}$ $\mathbf{a} - \mathbf{b}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$ $-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) - q\mathbf{c}$	n odd m even q odd m odd q odd m odd p odd q even	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01
						$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{211} (\mathbf{b}'/4)$ $p1$	L08 L09 L01
						$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{211} $p1$	L08 L09 L01
$(\bar{h}h2hl)$ $(\bar{h}h2h\bar{l})$ $\mathbf{c}/6$	$\mathbf{b} - \mathbf{a}$ $\mathbf{a} - \mathbf{b}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$ $-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) - q\mathbf{c}$	n odd m even q odd m odd q odd m odd p odd q even	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01
						$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{211} (\mathbf{b}'/4)$ $p1$	L08 L09 L01
						$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{211} $p1$	L08 L09 L01
	$-(\mathbf{a} + 2\mathbf{b})$ $\mathbf{a} + 2\mathbf{b}$	$n\mathbf{a} - m\mathbf{c}$ $n\mathbf{a} + m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$ $p\mathbf{a} - q\mathbf{c}$	n odd m even q odd m odd q odd m odd p odd q even	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01
						$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{211} (\mathbf{b}'/4)$ $p1$	L08 L09 L01
						$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{211} $p1$	L08 L09 L01

l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
$(m\overline{nm+n}0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	L09 L01			
$(\overline{m} + mn\overline{n}0)$	\mathbf{c}	$m\mathbf{a} + (m+n)\mathbf{b}$	$-q\mathbf{a} + (p-q)\mathbf{b}$						
$(\overline{nm} + \overline{nm}0)$	\mathbf{c}	$-(m+n)\mathbf{a} - n\mathbf{b}$	$(q-p)\mathbf{a} - p\mathbf{b}$						
$(n\overline{nm+n}0)$	$-\mathbf{c}$	$m\mathbf{a} - n\mathbf{b}$	$-q\mathbf{a} - p\mathbf{b}$						
$(\overline{m} + nn\overline{m}0)$	\mathbf{c}	$n\mathbf{a} + (m+n)\mathbf{b}$	$p\mathbf{a} + (p-q)\mathbf{b}$						
$(\overline{nm} + \overline{nn}0)$	$-\mathbf{c}$	$-(m+n)\mathbf{a} - m\mathbf{b}$	$(q-p)\mathbf{a} + q\mathbf{b}$						
$(0h\overline{l})$ $(0\overline{h}l)$ $(\overline{h}0l)$ $(\overline{h}0\overline{l})$ $(h\overline{h}l)$ $(h\overline{h}\overline{l})$	\mathbf{a}	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	L10 L01			
	$-\mathbf{a}$	$n(\mathbf{a} + 2\mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) - q\mathbf{c}$						
	\mathbf{b}	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$						
	$-\mathbf{b}$	$-n(2\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) - q\mathbf{c}$						
	$-(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) + q\mathbf{c}$						
	$(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) - q\mathbf{c}$						
	n odd m even q odd			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L08 L09 L01			
	m odd q odd								
	m odd q odd								
	p odd q even			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L08 L09 L01			
$(\overline{h}2h\overline{l})$ $(\overline{h}2h\overline{l})$ $(\overline{h}h2l)$ $(\overline{h}h2\overline{l})$ $(2h\overline{h}l)$ $(2h\overline{h}\overline{l})$ $\mathbf{c}/4$	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	L10 L01			
	$-(2\mathbf{a} + \mathbf{b})$	$n\mathbf{b} + m\mathbf{c}$	$p\mathbf{b} - q\mathbf{c}$						
	$\mathbf{b} - \mathbf{a}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$						
	$\mathbf{a} - \mathbf{b}$	$-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) - q\mathbf{c}$						
	$-(\mathbf{a} + 2\mathbf{b})$	$n\mathbf{a} - m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$						
	$\mathbf{a} + 2\mathbf{b}$	$n\mathbf{a} + m\mathbf{c}$	$p\mathbf{a} - q\mathbf{c}$						
	n odd m even q odd			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L08 L09 L01			
	m odd q odd								
	q odd								
	m odd q odd			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	L08 L09 L01			
	p odd q even								

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}					
$(mnm + \bar{n}0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P211$				
$(\bar{m} + mn\bar{0})$	\mathbf{c}	$m\mathbf{a} + (m+n)\mathbf{b}$	$-q\mathbf{a} + (p-q)\mathbf{b}$		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p211$		
$(\bar{n}m + nm\bar{0})$	\mathbf{c}	$-(m+n)\mathbf{a} - n\mathbf{b}$	$(q-p)\mathbf{a} - p\mathbf{b}$		$[s\mathbf{d}, -s\mathbf{d}]$	$L08$		
$(nm\bar{m} + \bar{n}0)$	$-\mathbf{c}$	$m\mathbf{a} - n\mathbf{b}$	$-q\mathbf{a} - p\mathbf{b}$			$p1$		
$(\bar{m} + \bar{m}n\bar{0})$	\mathbf{c}	$n\mathbf{a} + (m+n)\mathbf{b}$	$p\mathbf{a} + (p-q)\mathbf{b}$			$L01$		
$(\bar{m}\bar{m} + nn\bar{0})$	$-\mathbf{c}$	$-(m+n)\mathbf{a} - m\mathbf{b}$	$(q-p)\mathbf{a} + q\mathbf{b}$					
$(0h\bar{h}l)$	\mathbf{a}	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$	$Cm11$				
$(0hh\bar{l})$	$-\mathbf{a}$	$n(\mathbf{a} + 2\mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) - q\mathbf{c}$					
$(\bar{h}0h\bar{l})$	\mathbf{b}	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$					
$(\bar{h}0\bar{h}l)$	$-\mathbf{b}$	$-n(2\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) - q\mathbf{c}$					
$(h\bar{h}0l)$	$-(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) + q\mathbf{c}$					
$(h\bar{h}0\bar{l})$	$(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) - q\mathbf{c}$					
		n odd		$Im11$	$s\mathbf{d}$	$cm11$	$L13$	
		m even						
		q odd						
		m odd						
		q odd		$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$	$L11$	
		m odd						
		q even						
		p odd						
$(\bar{h}2h\bar{h}l)$	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$Cm11$				
$(\bar{h}2h\bar{l})$	$-(2\mathbf{a} + \mathbf{b})$	$n\mathbf{b} + m\mathbf{c}$	$p\mathbf{b} - q\mathbf{c}$					
$(\bar{h}\bar{h}2h\bar{l})$	$\mathbf{b} - \mathbf{a}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$					
$(\bar{h}\bar{h}2\bar{h}l)$	$\mathbf{a} - \mathbf{b}$	$-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) - q\mathbf{c}$					
$(2\bar{h}h\bar{h}l)$	$-(\mathbf{a} + 2\mathbf{b})$	$n\mathbf{a} - m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$					
$(2h\bar{h}\bar{h}l)$	$\mathbf{a} + 2\mathbf{b}$	$n\mathbf{a} + m\mathbf{c}$	$p\mathbf{a} - q\mathbf{c}$					
		n odd		$Im11$	$s\mathbf{d}$	$cm11$	$L13$	
		m even						
		q odd						
		m odd						
		q odd		$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$	$L11$	
		m odd						
		q even						
		p odd						

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(mnm + \bar{n}0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$ $L08$ $L01$
$(\bar{m} + nm\bar{n}0)$	\mathbf{c}	$m\mathbf{a} + (m + n)\mathbf{b}$	$-q\mathbf{a} + (p - q)\mathbf{b}$			
$(\bar{n}\bar{m} + nm0)$	\mathbf{c}	$-(m + n)\mathbf{a} - n\mathbf{b}$	$(q - p)\mathbf{a} - p\mathbf{b}$			
$(n\bar{m}m + \bar{n}0)$	$-\mathbf{c}$	$m\mathbf{a} - n\mathbf{b}$	$-q\mathbf{a} - p\mathbf{b}$			
$(\bar{m} + \bar{n}nm0)$	\mathbf{c}	$n\mathbf{a} + (m + n)\mathbf{b}$	$p\mathbf{a} + (p - q)\mathbf{b}$			
$(\bar{n}m + nn0)$	$-\mathbf{c}$	$-(m + n)\mathbf{a} - m\mathbf{b}$	$(q - p)\mathbf{a} + q\mathbf{b}$			
$(0h\bar{h}l)$	\mathbf{a}	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$	$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ $L01$
$(0\bar{h}hl)$	$-\mathbf{a}$	$n(\mathbf{a} + 2\mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) - q\mathbf{c}$			
$(\bar{h}0h\bar{l})$	\mathbf{b}	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
$(\bar{h}0\bar{h}\bar{l})$	$-\mathbf{b}$	$-n(2\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) - q\mathbf{c}$			
$(h\bar{h}0l)$	$-(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) + q\mathbf{c}$			
$(\bar{h}h0\bar{l})$	$(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) - q\mathbf{c}$			
		n odd	m even			
		p even	q odd			
		n even	m odd			
		p odd	q even			
		n even	m odd			
		p odd	q odd			
		n odd	m odd			
		p even	q odd			
		n odd	m odd			
		p odd	q even			
		n odd	m even			
		p odd	q odd			
$(\bar{h}2h\bar{h}l)$	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$Bb11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$ $L12$
$(\bar{h}2h\bar{l}\bar{l})$	$-(2\mathbf{a} + \mathbf{b})$	$n\mathbf{b} + m\mathbf{c}$	$p\mathbf{b} - q\mathbf{c}$			
$(\bar{h}h2h\bar{l})$	$\mathbf{b} - \mathbf{a}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
$(\bar{h}\bar{h}2h\bar{l})$	$\mathbf{a} - \mathbf{b}$	$-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) - q\mathbf{c}$			
$(2h\bar{h}h\bar{l})$	$-(\mathbf{a} + 2\mathbf{b})$	$n\mathbf{a} - m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$			
$(2\bar{h}h\bar{h}\bar{l})$	$\mathbf{a} + 2\mathbf{b}$	$n\mathbf{a} + m\mathbf{c}$	$p\mathbf{a} - q\mathbf{c}$			
		n odd	m even			
		p even	q odd			
		n even	m odd			
		p odd	q even			
		n even	m odd			
		p odd	q odd			
		n odd	m odd			
		p even	q odd			
		n odd	m odd			
		p odd	q even			
		n odd	m even			
		p odd	q odd			
l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$						

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn\overline{m+n}0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$
$(\overline{m} + mn\overline{m}0)$	\mathbf{c}	$m\mathbf{a} + (m+n)\mathbf{b}$	$-q\mathbf{a} + (p-q)\mathbf{b}$			
$(nm + \overline{nm}0)$	\mathbf{c}	$-(m+n)\mathbf{a} - n\mathbf{b}$	$(q-p)\mathbf{a} - p\mathbf{b}$			
$(n\overline{m} + \overline{n}0)$	$-\mathbf{c}$	$m\mathbf{a} - n\mathbf{b}$	$-q\mathbf{a} - p\mathbf{b}$			
$(\overline{m} + n\overline{nm}0)$	\mathbf{c}	$n\mathbf{a} + (m+n)\mathbf{b}$	$p\mathbf{a} + (p-q)\mathbf{b}$			
$(\overline{mm} + nn\overline{0})$	$-\mathbf{c}$	$-(m+n)\mathbf{a} - m\mathbf{b}$	$(q-p)\mathbf{a} + q\mathbf{b}$			
$(0h\overline{hl})$ $(0\overline{h}h\overline{l})$ $(\overline{h}0h\overline{l})$ $(\overline{h}0\overline{hl})$ $(h\overline{h}0l)$ $(h\overline{h}0\overline{l})$	\mathbf{a}	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$	$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
	$-\mathbf{a}$	$n(\mathbf{a} + 2\mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) - q\mathbf{c}$			
	\mathbf{b}	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q$			
	$-\mathbf{b}$	$-n(2\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) - q$			
	$-(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) + q\mathbf{c}$			
	$(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) - q\mathbf{c}$			
		n odd	m even	$Bb11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$
		p even	q odd			
		n even	m odd			
		p odd	q even			
		n even	m odd			
		p odd	q odd			
$(\overline{h}2h\overline{hl})$ $(\overline{h}2\overline{h}l)$ $(\overline{hh}2hl)$ $(\overline{hh}2\overline{hl})$ $(2h\overline{h}hl)$ $(2\overline{hh}l)$	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$Cm11$	$s\mathbf{d}$	$cm11$
	$-(2\mathbf{a} + \mathbf{b})$	$n\mathbf{b} + m\mathbf{c}$	$p\mathbf{b} - q\mathbf{c}$			
	$\mathbf{b} - \mathbf{a}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
	$\mathbf{a} - \mathbf{b}$	$-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) - q\mathbf{c}$			
	$-(\mathbf{a} + 2\mathbf{b})$	$n\mathbf{a} - m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$			
	$\mathbf{a} + 2\mathbf{b}$	$n\mathbf{a} + m\mathbf{c}$	$p\mathbf{a} - q\mathbf{c}$			
		n odd	m even	$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$
		q odd				
		m odd				
		q odd				
		m odd				
		p odd	q even			

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mnm + \bar{n}0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_{111}$ $p1$
$(\bar{m} + nm\bar{n}0)$	\mathbf{c}	$m\mathbf{a} + (m+n)\mathbf{b}$	$-q\mathbf{a} + (p-q)\mathbf{b}$			
$(nm + nm\bar{0})$	\mathbf{c}	$-(m+n)\mathbf{a} - n\mathbf{b}$	$(q-p)\mathbf{a} - p\mathbf{b}$			
$(nmm + \bar{n}0)$	$-\mathbf{c}$	$m\mathbf{a} - n\mathbf{b}$	$-q\mathbf{a} - p\mathbf{b}$			
$(\bar{m} + nnm\bar{0})$	\mathbf{c}	$n\mathbf{a} + (m+n)\mathbf{b}$	$p\mathbf{a} + (p-q)\mathbf{b}$			
$(mm + nn\bar{0})$	$-\mathbf{c}$	$-(m+n)\mathbf{a} - m\mathbf{b}$	$(q-p)\mathbf{a} + q\mathbf{b}$			
$(0h\bar{h}l)$	\mathbf{a}	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$	$Cm11$	$s\mathbf{d}$	$cm11$
$(0hh\bar{l})$	$-\mathbf{a}$	$n(\mathbf{a} + 2\mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) - q\mathbf{c}$			
$(\bar{h}0h\bar{l})$	\mathbf{b}	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
$(\bar{h}0h\bar{l})$	$-\mathbf{b}$	$-n(2\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) - q\mathbf{c}$			
$(h\bar{h}0l)$	$-(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) + q\mathbf{c}$			
$(h\bar{h}0\bar{l})$	$(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) - q\mathbf{c}$			
n odd			m even			$L13$
			q odd			
			m odd			$L11$
			q odd			
p odd			m odd	$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$
			q even			
$(\bar{h}2h\bar{h}l)$	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
$(\bar{h}2h\bar{h}l)$	$-(2\mathbf{a} + \mathbf{b})$	$n\mathbf{b} + m\mathbf{c}$	$p\mathbf{b} - q\mathbf{c}$			
$(\bar{h}h2\bar{h}l)$	$\mathbf{b} - \mathbf{a}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
$(\bar{h}h2\bar{h}l)$	$\mathbf{a} - \mathbf{b}$	$-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) - q\mathbf{c}$			
$(2h\bar{h}hl)$	$-(\mathbf{a} + 2\mathbf{b})$	$n\mathbf{a} - m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$			
$(2h\bar{h}hl)$	$\mathbf{a} + 2\mathbf{b}$	$n\mathbf{a} + m\mathbf{c}$	$p\mathbf{a} - q\mathbf{c}$			
n odd			m even			$L01$
			p even			
			q odd			
			n even			
			m odd	$Bb11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$
			p odd			
			q even			
			n even	$Ib11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$
			m odd			
			p odd	$Ic11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
			q odd			
			n odd	$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
			m odd			
			p odd	$Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
			q even			
n odd			m even			
			p odd			

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(mn\overline{n}0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$Pm11$	$s\mathbf{d}$	$pm11$ L11
$(\overline{m} + nmn0)$	\mathbf{c}	$m\mathbf{a} + (m+n)\mathbf{b}$	$-q\mathbf{a} + (p-q)\mathbf{b}$			
$(\overline{nm} + \overline{nm}0)$	\mathbf{c}	$-(m+n)\mathbf{a} - n\mathbf{b}$	$(q-p)\mathbf{a} - p\mathbf{b}$			
$(n\overline{mm} + \overline{n}0)$	$-\mathbf{c}$	$m\mathbf{a} - n\mathbf{b}$	$-q\mathbf{a} - p\mathbf{b}$			
$(\overline{m} + \overline{nn}0)$	\mathbf{c}	$n\mathbf{a} + (m+n)\mathbf{b}$	$p\mathbf{a} + (p-q)\mathbf{b}$			
$(mm + nn0)$	$-\mathbf{c}$	$-(m+n)\mathbf{a} - m\mathbf{b}$	$(q-p)\mathbf{a} + q\mathbf{b}$			
$(0h\bar{h}l)$	\mathbf{a}	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$	$Cm11$	$s\mathbf{d}$	$cm11$ L13
$(0h\bar{h}\bar{l})$	$-\mathbf{a}$	$n(\mathbf{a} + 2\mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) - q\mathbf{c}$			
$(\bar{h}0hl)$	\mathbf{b}	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
$(\bar{h}0h\bar{l})$	$-\mathbf{b}$	$-n(2\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) - q$			
$(h\bar{h}0l)$	$-(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) + q\mathbf{c}$			
$(h\bar{h}0\bar{l})$	$(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) - q\mathbf{c}$			
		n odd	m even			
			q odd			
			m odd	$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$ L11
			q odd			
			m odd			
			q even			
		p odd		$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$ L11
$(\bar{h}2h\bar{h}l)$	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ L10 $\widehat{p}1$ L01
$(\bar{h}2h\bar{h}\bar{l})$	$-(2\mathbf{a} + \mathbf{b})$	$n\mathbf{b} + m\mathbf{c}$	$p\mathbf{b} - q\mathbf{c}$			
$(\overline{hh}2hl)$	$\mathbf{b} - \mathbf{a}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
$(\overline{hh}2h\bar{l})$	$\mathbf{a} - \mathbf{b}$	$-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) - q\mathbf{c}$			
$(2h\bar{h}h\bar{l})$	$-(\mathbf{a} + 2\mathbf{b})$	$n\mathbf{a} - m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$			
$(2h\bar{h}h\bar{l})$	$\mathbf{a} + 2\mathbf{b}$	$n\mathbf{a} + m\mathbf{c}$	$p\mathbf{a} - q\mathbf{c}$			
		n odd	m even			
			q odd			
			m odd	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ L08 $p_{2111} (\mathbf{b}'/4)$ L09 $p1$ L01
			q odd			
		p odd	q even	$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ L08 p_{2111} L09 $p1$ L01

l odd $\Rightarrow n = l, m = 2h$; l even $\Rightarrow n = l/2, m = h$

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(mnm\bar{n}0)$ $(\bar{m}+nmn0)$ $(\overline{nm}+\overline{nm}0)$ $(nmm\bar{n}0)$ $(\bar{m}+nnm0)$ $(\overline{mm}+\overline{nn}0)$ $(\mathbf{c}/4)$	\mathbf{c} $n\mathbf{a} - m\mathbf{b}$ $p\mathbf{a} + q\mathbf{b}$ \mathbf{c} $m\mathbf{a} + (m+n)\mathbf{b}$ $-q\mathbf{a} + (p-q)\mathbf{b}$ \mathbf{c} $-(m+n)\mathbf{a} - n\mathbf{b}$ $(q-p)\mathbf{a} - p\mathbf{b}$ $-\mathbf{c}$ $m\mathbf{a} - n\mathbf{b}$ $-q\mathbf{a} - p\mathbf{b}$ \mathbf{c} $n\mathbf{a} + (m+n)\mathbf{b}$ $p\mathbf{a} + (p-q)\mathbf{b}$ $-\mathbf{c}$ $-(m+n)\mathbf{a} - m\mathbf{b}$ $(q-p)\mathbf{a} + q\mathbf{b}$						
$(0h\bar{h}l)$ $(0\bar{h}hl)$ $(\bar{h}0h\bar{l})$ $(\bar{h}0\bar{h}\bar{l})$ $(h\bar{h}0l)$ $(h\bar{h}0\bar{l})$	\mathbf{a} $n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$ $p(\mathbf{a} + 2\mathbf{b}) + qc$ $-\mathbf{a}$ $n(\mathbf{a} + 2\mathbf{b}) + m\mathbf{c}$ $p(\mathbf{a} + 2\mathbf{b}) - qc$ \mathbf{b} $-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$ $-p(2\mathbf{a} + \mathbf{b}) + q$ $-\mathbf{b}$ $-n(2\mathbf{a} + \mathbf{b}) + m\mathbf{c}$ $-p(2\mathbf{a} + \mathbf{b}) - q$ $-(\mathbf{a} + \mathbf{b})$ $n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$ $p(\mathbf{a} - \mathbf{b}) + qc$ $(\mathbf{a} + \mathbf{b})$ $n(\mathbf{a} - \mathbf{b}) + m\mathbf{c}$ $p(\mathbf{a} - \mathbf{b}) - qc$						
	n odd m even p even q odd n even m odd p odd q even n even m odd p odd q odd n odd m odd p even q odd n odd m odd p odd q even n odd m even p odd q odd			$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}1$	L01
				$Bb11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12
				$Ib11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12
				$Ic11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12
				$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12
				$Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}1$	L01
$(\bar{h}2h\bar{h}l)$ $(\bar{h}2\bar{h}hl)$ $(\bar{h}h2h\bar{l})$ $(\bar{h}h2\bar{h}\bar{l})$ $(2h\bar{h}hl)$ $(2\bar{h}hh\bar{l})$	$2\mathbf{a} + \mathbf{b}$ $n\mathbf{b} - m\mathbf{c}$ $p\mathbf{b} + qc$ $-(2\mathbf{a} + \mathbf{b})$ $n\mathbf{b} + m\mathbf{c}$ $p\mathbf{b} - qc$ $\mathbf{b} - \mathbf{a}$ $-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) + qc$ $\mathbf{a} - \mathbf{b}$ $-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$ $-p(\mathbf{a} + \mathbf{b}) - qc$ $-(\mathbf{a} + 2\mathbf{b})$ $n\mathbf{a} - m\mathbf{c}$ $p\mathbf{a} + qc$ $\mathbf{a} + 2\mathbf{b}$ $n\mathbf{a} + m\mathbf{c}$ $p\mathbf{a} - qc$	n odd m even q odd m odd q odd m odd p odd q even n odd m even p odd q odd		$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\widehat{p}1$	L10 L01
				$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p211 (\mathbf{b}'/4)$ $p1$	L08 L09 L01
		p odd q even		$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p211$ $p1$	L08 L09 L01

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}						
$(mnm + n0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$Pm11$	$s\mathbf{d}$	$L11$			
$(m + mnn0)$	\mathbf{c}	$m\mathbf{a} + (m+n)\mathbf{b}$	$-q\mathbf{a} + (p-q)\mathbf{b}$						
$(\overline{n}m + \overline{n}m0)$	\mathbf{c}	$-(m+n)\mathbf{a} - n\mathbf{b}$	$(q-p)\mathbf{a} - p\mathbf{b}$						
$(nmm + n0)$	$-\mathbf{c}$	$m\mathbf{a} - n\mathbf{b}$	$-q\mathbf{a} - p\mathbf{b}$						
$(m + nnm0)$	\mathbf{c}	$n\mathbf{a} + (m+n)\mathbf{b}$	$p\mathbf{a} + (p-q)\mathbf{b}$						
$(\overline{m}m + \overline{n}n0)$	$-\mathbf{c}$	$-(m+n)\mathbf{a} - m\mathbf{b}$	$(q-p)\mathbf{a} + q\mathbf{b}$						
$(0h\bar{h}l)$	\mathbf{a}	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + qc$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$L10$			
$(0\bar{h}\bar{h}l)$	$-\mathbf{a}$	$n(\mathbf{a} + 2\mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) - qc$						
$(\bar{h}0h\bar{l})$	\mathbf{b}	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + qc$						
$(\bar{h}0\bar{h}\bar{l})$	$-\mathbf{b}$	$-n(2\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) - q$						
$(h\bar{h}0l)$	$-(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) + qc$						
$(h\bar{h}0\bar{l})$	$(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) - qc$						
	n odd								
	m even								
	q odd								
	m odd								
	q odd								
	m odd								
	p odd								
	q even								
$(\bar{h}2h\bar{h}l)$	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + qc$	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L08$			
$(\bar{h}2h\bar{l}l)$	$-(2\mathbf{a} + \mathbf{b})$	$n\mathbf{b} + m\mathbf{c}$	$p\mathbf{b} - qc$						
$(\bar{h}\bar{h}2h\bar{l})$	$\mathbf{b} - \mathbf{a}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + qc$						
$(hh2\bar{h}\bar{l})$	$\mathbf{a} - \mathbf{b}$	$-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) - qc$						
$(2h\bar{h}hl)$	$-(\mathbf{a} + 2\mathbf{b})$	$n\mathbf{a} - m\mathbf{c}$	$p\mathbf{a} + qc$						
$(2h\bar{h}\bar{h}l)$	$\mathbf{a} + 2\mathbf{b}$	$n\mathbf{a} + m\mathbf{c}$	$p\mathbf{a} - qc$						
	n odd								
	m even								
	q odd								
	m odd								
	q odd								
	m odd								
	p odd								
	q even								
	n odd			$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L18$			
	m even								
	q odd								
	m odd								
	q odd								
	m odd								
	p odd								
	q even								

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}				
$(mn\overline{m} + \overline{n}0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$				
$(\overline{m} + \overline{mn}0)$	\mathbf{c}	$m\mathbf{a} + (m+n)\mathbf{b}$	$-q\mathbf{a} + (p-q)\mathbf{b}$				
$(\overline{nm} + \overline{nm}0)$	\mathbf{c}	$-(m+n)\mathbf{a} - n\mathbf{b}$	$(q-p)\mathbf{a} - p\mathbf{b}$				
$(n\overline{mm} + \overline{n}0)$	$-\mathbf{c}$	$m\mathbf{a} - n\mathbf{b}$	$-q\mathbf{a} - p\mathbf{b}$				
$(\overline{m} + \overline{nm}0)$	\mathbf{c}	$n\mathbf{a} + (m+n)\mathbf{b}$	$p\mathbf{a} + (p-q)\mathbf{b}$				
$(\overline{mm} + \overline{nn}0)$	$-\mathbf{c}$	$-(m+n)\mathbf{a} - m\mathbf{b}$	$(q-p)\mathbf{a} + q\mathbf{b}$				
$(\mathbf{c}/4)$							
$(0\overline{hh}\overline{l})$	\mathbf{a}	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$				
$(0\overline{hh}\overline{l})$	$-\mathbf{a}$	$n(\mathbf{a} + 2\mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) - q\mathbf{c}$				
$(\overline{h}0\overline{hl})$	\mathbf{b}	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$				
$(\overline{h}0\overline{hl})$	$-\mathbf{b}$	$-n(2\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) - q\mathbf{c}$				
$(h\overline{h}0l)$	$-(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) + q\mathbf{c}$				
$(h\overline{h}0l)$	$(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) - q\mathbf{c}$				
		n odd	m even				
			q odd				
			m odd				
			q odd				
			m odd				
		p odd	q even				
				$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\widehat{p}1$	L10 L01
				$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$	L08 L09 L01
				$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111$ $p1$	L08 L09 L01
$(\overline{h}2h\overline{hl})$	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$				
$(\overline{h}2h\overline{hl})$	$-(2\mathbf{a} + \mathbf{b})$	$n\mathbf{b} + m\mathbf{c}$	$p\mathbf{b} - q\mathbf{c}$				
$(\overline{hh}2h\overline{l})$	$\mathbf{b} - \mathbf{a}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$				
$(\overline{hh}2h\overline{l})$	$\mathbf{a} - \mathbf{b}$	$-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) - q\mathbf{c}$				
$(2h\overline{hh}l)$	$-(\mathbf{a} + 2\mathbf{b})$	$n\mathbf{a} - m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$				
$(2h\overline{hh}l)$	$\mathbf{a} + 2\mathbf{b}$	$n\mathbf{a} + m\mathbf{c}$	$p\mathbf{a} - q\mathbf{c}$				
		n odd	m even				
		p even	q odd				
		n even	m odd				
		p odd	q even				
		n even	m odd				
		p odd	q odd				
		n odd	m odd				
		p even	q odd				
		n odd	m odd				
		p odd	q even				
		n odd	m even				
		p odd	q odd	$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}1$	L01
				$Bb11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12
				$Ib11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12
				$Ic11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12
				$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12
				$Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\widehat{p}1$	L01

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}						
$(m\overline{m} + \overline{n}0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/m11$ $pm11$			
$(\overline{m} + mn\overline{0})$	\mathbf{c}	$m\mathbf{a} + (m+n)\mathbf{b}$	$-q\mathbf{a} + (p-q)\mathbf{b}$						
$(\overline{nm} + nm\overline{0})$	\mathbf{c}	$-(m+n)\mathbf{a} - n\mathbf{b}$	$(q-p)\mathbf{a} - p\mathbf{b}$						
$(\overline{nmm} + \overline{n}0)$	$-\mathbf{c}$	$m\mathbf{a} - n\mathbf{b}$	$-q\mathbf{a} - p\mathbf{b}$						
$(\overline{m} + nn\overline{m}0)$	\mathbf{c}	$n\mathbf{a} + (m+n)\mathbf{b}$	$p\mathbf{a} + (p-q)\mathbf{b}$						
$(\overline{mm} + nn\overline{0})$	$-\mathbf{c}$	$-(m+n)\mathbf{a} - m\mathbf{b}$	$(q-p)\mathbf{a} + q\mathbf{b}$						
$(0h\overline{hl})$ $(0h\overline{hl})$ $(\overline{h}0hl)$ $(\overline{h}0h\overline{l})$ $(h\overline{h}0l)$ $(h\overline{h}0\overline{l})$	\mathbf{a}	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$			
	$-\mathbf{a}$	$n(\mathbf{a} + 2\mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) - q\mathbf{c}$						
	\mathbf{b}	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$						
	$-\mathbf{b}$	$-n(2\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) - q\mathbf{c}$						
	$-(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) + q\mathbf{c}$						
	$(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) - q\mathbf{c}$						
	n odd m even			$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$			
	q odd								
	m odd								
	q odd			$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$			
	m odd								
	p odd q even								
$(\overline{h}2h\overline{hl})$ $(\overline{h}2h\overline{hl})$ $(\overline{hh}2hl)$ $(\overline{hh}2h\overline{l})$ $(2h\overline{hh}l)$ $(2h\overline{hh}\overline{l})$	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$			
	$-(2\mathbf{a} + \mathbf{b})$	$n\mathbf{b} + m\mathbf{c}$	$p\mathbf{b} - q\mathbf{c}$						
	$\mathbf{b} - \mathbf{a}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$						
	$\mathbf{a} - \mathbf{b}$	$-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) - q\mathbf{c}$						
	$-(\mathbf{a} + 2\mathbf{b})$	$n\mathbf{a} - m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$						
	$\mathbf{a} + 2\mathbf{b}$	$n\mathbf{a} + m\mathbf{c}$	$p\mathbf{a} - q\mathbf{c}$						
	n odd m even			$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$			
	q odd								
	m odd								
	q odd			$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$			
	m odd								
	p odd q even								

l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(mnm + n\bar{0})$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
$(\bar{m} + nm0)$	\mathbf{c}	$m\mathbf{a} + (m+n)\mathbf{b}$	$-q\mathbf{a} + (p-q)\mathbf{b}$			
$(nm + \bar{nm}0)$	\mathbf{c}	$-(m+n)\mathbf{a} - n\mathbf{b}$	$(q-p)\mathbf{a} - p\mathbf{b}$			
$(nmm + \bar{n}\bar{0})$	$-\mathbf{c}$	$m\mathbf{a} - n\mathbf{b}$	$-q\mathbf{a} - p\mathbf{b}$			
$(\bar{m} + nnm0)$	\mathbf{c}	$n\mathbf{a} + (m+n)\mathbf{b}$	$p\mathbf{a} + (p-q)\mathbf{b}$			
$(mm + \bar{nn}0)$	$-\mathbf{c}$	$-(m+n)\mathbf{a} - m\mathbf{b}$	$(q-p)\mathbf{a} + q\mathbf{b}$			
$(0h\bar{hl})$	\mathbf{a}	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$			
$(0h\bar{hl})$	$-\mathbf{a}$	$n(\mathbf{a} + 2\mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) - q\mathbf{c}$			
$(\bar{h}0hl)$	\mathbf{b}	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
$(\bar{h}0h\bar{l})$	$-\mathbf{b}$	$-n(2\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) - q\mathbf{c}$			
$(h\bar{h}0l)$	$-(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) + q\mathbf{c}$			
$(h\bar{h}0\bar{l})$	$(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) - q\mathbf{c}$			
		n odd	m even			
		p even	q odd			
		n even	m odd			
		p odd	q even			
		n even	m odd			
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		p odd	<			

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(\bar{h}2h\bar{h}l)$	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$
$(\bar{h}2h\bar{l}l)$	$-(2\mathbf{a} + \mathbf{b})$	$n\mathbf{b} + m\mathbf{c}$	$p\mathbf{b} - q\mathbf{c}$			
$(\bar{h}\bar{h}2h\bar{l})$	$\mathbf{b} - \mathbf{a}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
$(\bar{h}\bar{h}2\bar{h}l)$	$\mathbf{a} - \mathbf{b}$	$-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) - q\mathbf{c}$			
$(2h\bar{h}\bar{h}l)$	$-(\mathbf{a} + 2\mathbf{b})$	$n\mathbf{a} - m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$			
$(2\bar{h}h\bar{h}l)$	$\mathbf{a} + 2\mathbf{b}$	$n\mathbf{a} + m\mathbf{c}$	$p\mathbf{a} - q\mathbf{c}$			
		n odd	m even			
		p even	q odd			
		n even	m odd	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$
		p odd	q even			
		n even	m odd	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$
		p odd	q odd			
		n odd	m odd	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$
		p even	q odd			
		n odd	m odd	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$
		p odd	q even			
		n odd	m even	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$
		p odd	q odd			

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
($m\overline{nm+n}0$)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
($m+n\overline{mn}0$)	\mathbf{c}	$m\mathbf{a} + (m+n)\mathbf{b}$	$-q\mathbf{a} + (p-q)\mathbf{b}$			
($\overline{nm}+\overline{nm}0$)	\mathbf{c}	$-(m+n)\mathbf{a} - n\mathbf{b}$	$(q-p)\mathbf{a} - p\mathbf{b}$			
($n\overline{nm+n}0$)	$-\mathbf{c}$	$m\mathbf{a} - n\mathbf{b}$	$-q\mathbf{a} - p\mathbf{b}$			
($\overline{m}+n\overline{nm}0$)	\mathbf{c}	$n\mathbf{a} + (m+n)\mathbf{b}$	$p\mathbf{a} + (p-q)\mathbf{b}$			
($\overline{mm}+\overline{nn}0$)	$-\mathbf{c}$	$-(m+n)\mathbf{a} - m\mathbf{b}$	$(q-p)\mathbf{a} + q\mathbf{b}$			
($0h\bar{h}l$)	\mathbf{a}	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$			
($0\overline{hh}\bar{l}$)	$-\mathbf{a}$	$n(\mathbf{a} + 2\mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) - q\mathbf{c}$			
($\overline{h}0hl$)	\mathbf{b}	$-n(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
($\overline{h}0\overline{h}\bar{l}$)	$-\mathbf{b}$	$-n(2\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) - q\mathbf{c}$			
($h\bar{h}0l$)	$-(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) + q\mathbf{c}$			
($h\overline{h}0\bar{l}$)	$(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} - \mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) - q\mathbf{c}$			
		n odd	m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
		n even	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
		p odd	q even			
		n even	m odd		$B2/b11$	$p2/b11$
		p odd	q odd			$p2_1/b11$ ($\mathbf{a}'/4$)
		n even	m odd			$pb11$
		p odd	q odd			$I2/b11$
		n odd	m odd			$p2/b11$
		p even	q odd			$p2_1/b11$ [$(\mathbf{a}' + \mathbf{b}')/4$]
		n odd	m odd			$pb11$
		p odd	q odd			$I2/c11$
		n odd	m odd			$p2_1/b11$
		p odd	q even			$p2/b11$ [$(\mathbf{a}' + \mathbf{b}')/4$]
		n odd	m odd			$pb11$ ($\mathbf{a}'/4$)
		p odd	q even			$B2/n11$
		n odd	m odd			$p2_1/b11$
		p odd	q even			$p2/b11$ ($\mathbf{a}'/4$)
		n odd	m even			$pb11$ ($\mathbf{a}'/4$)
		p odd	q odd			$C2/n11$
		n odd	m even			$\hat{p}\bar{1}$
		p odd	q odd			$c211$ ($\mathbf{b}'/4$)
		n odd	m even			$\hat{p}1$
		p odd	q odd			L02
		n even	m odd			L10
		p odd	q even			L01
($\overline{h}2h\bar{h}l$)	$2\mathbf{a} + \mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$			
($\overline{h}2h\overline{h}l$)	$-(2\mathbf{a} + \mathbf{b})$	$n\mathbf{b} + m\mathbf{c}$	$p\mathbf{b} - q\mathbf{c}$			
($\overline{h}h2hl$)	$\mathbf{b} - \mathbf{a}$	$-n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
($\overline{h}h2\overline{h}l$)	$\mathbf{a} - \mathbf{b}$	$-n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) - q\mathbf{c}$			
($2\overline{hh}l$)	$-(\mathbf{a} + 2\mathbf{b})$	$n\mathbf{a} - m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$			
($2h\overline{hh}l$)	$\mathbf{a} + 2\mathbf{b}$	$n\mathbf{a} + m\mathbf{c}$	$p\mathbf{a} - q\mathbf{c}$			
		n odd	m even		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c2/m11$
		q odd			$[\pm s\mathbf{d}, -s\mathbf{d}]$	$cm11$
		m odd				
		q odd				$I2/m11$
		m odd				$p2/m11$
		q odd				$p2_1/m11$ [$(\mathbf{a}' + \mathbf{b}')/4$]
		m odd				$pm11$
		p odd	q even			$B2/m11$
		m odd				$p2/m11$
		q even				$p2_1/m11$ ($\mathbf{a}'/4$)
		m odd				$pm11$
		p odd				L14
		q even				L15
		m odd				L11
		n odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$				

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(mn\overline{m+n}0)$ $(\overline{m+n}mn0)$ $(\overline{n}m+n\overline{m}0)$ $(nm\overline{m+n}0)$ $(\overline{n}mm+n\overline{0})$ $(m+n\overline{nm}0)$ $(\overline{m}\overline{n}n\overline{m}0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2_1/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2_1/m11$ $pm11 (\mathbf{a}'/4)$
	\mathbf{c}	$m\mathbf{a} + (m+n)\mathbf{b}$	$-q\mathbf{a} + (p-q)\mathbf{b}$			
	\mathbf{c}	$-(m+n)\mathbf{a} - n\mathbf{b}$	$(q-p)\mathbf{a} - p\mathbf{b}$			
	$-\mathbf{c}$	$m\mathbf{a} - n\mathbf{b}$	$-q\mathbf{a} - p\mathbf{b}$			
	\mathbf{c}	$n\mathbf{a} + (m+n)\mathbf{b}$	$p\mathbf{a} + (p-q)\mathbf{b}$			
	$-\mathbf{c}$	$-(m+n)\mathbf{a} - m\mathbf{b}$	$(q-p)\mathbf{a} + q\mathbf{b}$			
$(0h\overline{hl})$ $(0h\overline{hl})$ $(\overline{h}0hl)$ $(\overline{h}0\overline{hl})$ $(h\overline{h}0l)$ $(h\overline{h}0\overline{l})$	\mathbf{a} $-\mathbf{a}$ \mathbf{b} $-\mathbf{b}$ $-(\mathbf{a} + \mathbf{b})$ $(\mathbf{a} + \mathbf{b})$	$n(\mathbf{a} + 2\mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) + q\mathbf{c}$	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$c2/m11$ $cm11$
		$n(\mathbf{a} + 2\mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} + 2\mathbf{b}) - q\mathbf{c}$			
		$-\overline{n}(2\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) + q\mathbf{c}$		$I2/m11$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$
		$-\overline{n}(2\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(2\mathbf{a} + \mathbf{b}) - q\mathbf{c}$			
		$n(\mathbf{a} - \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) + q\mathbf{c}$			
		$n(\mathbf{a} - \mathbf{b}) + m\mathbf{c}$	$p(\mathbf{a} - \mathbf{b}) - q\mathbf{c}$		$B2/m11$	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$
		n odd	m even			
			q odd			
			m odd			
		q odd	m odd	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$
			m odd			
			p odd			
$(\overline{h}2h\overline{h}l)$ $(\overline{h}2h\overline{hl})$ $(\overline{h}h2hl)$ $(\overline{h}h2\overline{hl})$ $(2h\overline{hh}l)$ $(2h\overline{hh}\overline{l})$	$2\mathbf{a} + \mathbf{b}$ $-(2\mathbf{a} + \mathbf{b})$ $\mathbf{b} - \mathbf{a}$ $\mathbf{a} - \mathbf{b}$ $-(\mathbf{a} + 2\mathbf{b})$ $\mathbf{a} + 2\mathbf{b}$	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$\widehat{p}\overline{1}$ $c211$ $\widehat{p}1$
		$n\mathbf{b} + m\mathbf{c}$	$p\mathbf{b} - q\mathbf{c}$			
		$-\overline{n}(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
		$-\overline{n}(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) - q\mathbf{c}$		$B2/b11$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$
		$n\mathbf{a} - m\mathbf{c}$	$p\mathbf{a} + q\mathbf{c}$			
		$n\mathbf{a} + m\mathbf{c}$	$p\mathbf{a} - q\mathbf{c}$			
		n odd	m even	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$
			p even			
			q odd			
		n even	m odd	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$
			p odd			
			q odd			
		n odd	m odd	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$
			p even			
			q even			
		n odd	m odd	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$] [$\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}$]	$\widehat{p}\overline{1}$ $c211 (\mathbf{b}'/4)$ $\widehat{p}1$
			p odd			
			q odd			

 l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
($mn0$)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
($\overline{m}n0$)	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
($0mn$)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p211$
($0\overline{m}n$)	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$		$[s\mathbf{d}, -s\mathbf{d}]$	$p1$
($n0m$)	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$			L08
($n0\overline{m}$)	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$			L01

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(hk0)$ $(\bar{h}k0)$	\mathbf{c}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I211$ n odd m even p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$	L08
	\mathbf{c}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p_{2111}(\mathbf{b}'/4)$	L09
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01
					$B211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$	L08 L09 L01
				$C211$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$	L10	
					$\hat{p}1$	L01	
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$			h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$				
$(0hk)$ $(0\bar{h}k)$	\mathbf{a}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I211$ n odd m even p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$	L08
	\mathbf{a}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p_{2111}(\mathbf{b}'/4)$	L09
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01
					$B211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$	L08 L09 L01
				$C211$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$	L10	
					$\hat{p}1$	L01	
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$ $\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$			h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$				
$(k0h)$ $(k0\bar{h})$	\mathbf{b}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I211$ n odd m even p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$	L08
	\mathbf{b}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p_{2111}(\mathbf{b}'/4)$	L09
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01
					$B211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$	L08 L09 L01
				$C211$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$	L10	
					$\hat{p}1$	L01	
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{a})/2$ $\hat{\mathbf{b}} = (\mathbf{c} + \mathbf{a})/2$			h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$				

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}				
$(mn0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$	
$(\overline{m}n0)$	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$				
$(0mn)$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$				
$(0\overline{m}n)$	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_111 (\mathbf{b}'/4)$	
$(n0m)$	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$				
$(n0\overline{m})$	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$				
		n odd	m even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	
		p even	q odd				
		or					
		n even	m odd	$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$	
		p odd	q even				
		p odd	q odd				
		n odd	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_111$	
		n odd	m odd	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c211$	
					$[s\mathbf{d}, -s\mathbf{d}]$	$\hat{p}1$	

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$ $(\bar{m}n0)$ $(\mathbf{a}/4)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
$(0mn)$ $(0\bar{m}n)$ $(\mathbf{b}/4)$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
$(n0m)$ $(n0\bar{m})$ $(\mathbf{c}/4)$	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_111$ $p1$
	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$			

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
(mn0) ($\bar{m}\bar{n}0$) ($\mathbf{b}/4$)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	<i>I</i> 211	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p211 p2 ₁ 11 ($\mathbf{b}'/4$) p1	L08 L09 L01
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$				
		n odd	m even				
		p even	q odd				
		or					
		n even	m odd	<i>B</i> 211	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p211 p2 ₁ 11 p1	L08 L09 L01
		p odd	q even				
		p odd	q odd				
		n odd	m odd				
(0mn) (0 $\bar{m}n$) ($\mathbf{c}/4$)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	<i>I</i> 211	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p211 p2 ₁ 11 ($\mathbf{b}'/4$) p1	L08 L09 L01
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$				
		n odd	m even				
		p even	q odd				
		or					
		n even	m odd	<i>B</i> 211	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p211 p2 ₁ 11 p1	L08 L09 L01
		p odd	q even				
		p odd	q odd				
		n odd	m odd				
(n0m) (n0 \bar{m}) ($\mathbf{a}/4$)	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$	<i>I</i> 211	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p211 p2 ₁ 11 ($\mathbf{b}'/4$) p1	L08 L09 L01
	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$				
		n odd	m even				
		p even	q odd				
		or					
		n even	m odd	<i>B</i> 211	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p211 p2 ₁ 11 p1	L08 L09 L01
		p odd	q even				
		p odd	q odd				
		n odd	m odd				

No. 200 $Pm\bar{3}$ T_h^1

$$\mathcal{G} = P_m^{\frac{2}{m}\bar{3}}$$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
($mn0$)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
($\bar{m}n0$)	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
($0mn$)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$p2/m11$
($0\bar{m}n$)	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			$pm11$
($n0m$)	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$			
($n0\bar{m}$)	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$			

No. 201 $Pn\bar{3}$ T_h^2

$$\mathcal{G} = P_{\frac{2}{n}}\bar{3} \quad \text{origin 1}$$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}				
$(mn0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$				
$(\bar{m}n0)$	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$				
$(0mn)$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$				
$(0\bar{m}n)$	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$				
$(n0m)$	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$				
$(n0\bar{m})$	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$				
$(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$							
		n odd	m even	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$	
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211 (\mathbf{b}'/4)$	
		or			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	
		n even	m odd				
		p odd	q even	$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$	
		p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211$	
		n odd m odd		$P2/b11$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	
					$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p2/b11$	
					$[s\mathbf{d}, -s\mathbf{d}]$	$pb11$	

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}				
$(mn0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$				
$(\bar{m}n0)$	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$				
$(0mn)$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$				
$(0\bar{m}n)$	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$				
$(n0m)$	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$				
$(n0\bar{m})$	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$				
		n odd	m even		$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	
		p even	q odd			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	
		or				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	
		n even	m odd		$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	
		p odd	q even			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	
		p odd	q odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	
		n odd	m odd	$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p2/b11$	
					$[s\mathbf{d}, -s\mathbf{d}]$	$pb11$	

L02

L08

L01

L02

L08

L01

L16

L12

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(hk0)$ $(\bar{h}k0)$	\mathbf{a}' \mathbf{c}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14
		n odd p even or n even p odd p odd	m even q odd q even q odd			$p2_1/m11$ $[(\mathbf{a}' + \mathbf{b}')/4]$ L15
		n odd	m odd			$pm11$ L11
						$B2/m11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $C2/m11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[s\mathbf{d}, -s\mathbf{d}]$
						$p2/m11$ L14
						$p2_1/m11$ $(\mathbf{a}'/4)$ L15
						$pm11$ L11
						$c2/m11$ L18
						$cm11$ L13
						h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$
						h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$
$(0hk)$ $(0\bar{h}k)$	\mathbf{a} \mathbf{a}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14
		n odd p even or n even p odd p odd	m even q odd q even q odd			$p2_1/m11$ $[(\mathbf{a}' + \mathbf{b}')/4]$ L15
		n odd	m odd			$pm11$ L11
						$B2/m11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $C2/m11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[s\mathbf{d}, -s\mathbf{d}]$
						$p2/m11$ L14
						$p2_1/m11$ $(\mathbf{a}'/4)$ L15
						$pm11$ L11
						$c2/m11$ L18
						$cm11$ L13
						h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$
						h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$
$(k0h)$ $(k0\bar{h})$	\mathbf{b} \mathbf{b}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14
		n odd p even or n even p odd p odd	m even q odd q even q odd			$p2_1/m11$ $[(\mathbf{a}' + \mathbf{b}')/4]$ L15
		n odd	m odd			$pm11$ L11
						$B2/m11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $C2/m11$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[s\mathbf{d}, -s\mathbf{d}]$
						$p2/m11$ L14
						$p2_1/m11$ $(\mathbf{a}'/4)$ L15
						$pm11$ L11
						$c2/m11$ L18
						$cm11$ L13
						h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$
						h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$					
$(hk0)$ $(\bar{h}k0)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/8$	\mathbf{c} $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$					
	\mathbf{c} $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$										
	n odd		m even	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$					
	p even		q odd								
	n even		m odd	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$					
	p odd		q even								
	n even		m odd	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$					
	p even		q odd								
	n odd		m odd	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$					
	p odd		q even								
	n odd		m even	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$					
	p odd		q odd								
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$			h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$								
$\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$			h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$								
$(0hk)$ $(0\bar{h}k)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/8$	\mathbf{a} $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$					
	\mathbf{a} $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$										
	n odd		m even	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$					
	p even		q odd								
	n even		m odd	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$					
	p odd		q even								
	n even		m odd	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$					
	p odd		q odd								
	n odd		m odd	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$					
	p odd		q even								
	n odd		m even	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$					
	p odd		q odd								
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$			h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$								
$\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$			h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$								

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(k0h)$ $(k0\bar{h})$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/8$	\mathbf{b}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I2/c11$		
	\mathbf{b}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$ L17
		n odd	m even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L16
		p even	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12
		n even	m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L16
		p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17
		n even	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12
		p odd	q odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L16
		n odd	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$ L17
		p even	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12
	$C2/c11$	n odd	m odd	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$ L02
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$ L10
		n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ L01
		p odd	q even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$ L02
		n odd	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$ L10
		p odd	q even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ L01
		n odd	m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$ L17
		p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$ L16
		n odd	m even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12
		$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{a})/2$ $\hat{\mathbf{b}} = (\mathbf{c} + \mathbf{a})/2$			h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$	

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
$(hk0)$ $(\bar{h}k0)$	\mathbf{c}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$	L17	
	\mathbf{c}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L16	
		n odd	m even			$pb11 (\mathbf{a}'/4)$	L12	
		p even	q odd			$p2/b11$	L16	
		n even	m odd			$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L17	
		p odd	q even			$pb11$	L12	
		n even	m odd			$p2/b11$	L16	
		p odd	q odd			$p2_1/b11 (\mathbf{a}'/4)$	L17	
		n odd	m odd			$pb11$	L12	
		p even	q odd			$\hat{p}1$	L01	
$(0hk)$ $(0\bar{h}k)$	\mathbf{a}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	L02	
	\mathbf{a}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			$c211$	L10	
		n odd	m even			$\hat{p}1$	L01	
		p even	q odd			$p2/b11$	L16	
		n even	m odd			$p2_1/b11 (\mathbf{b}'/4)$	L10	
		p odd	q even			$\hat{p}1$	L01	
		n odd	m odd			$p2_1/b11$	L17	
		p odd	q odd			$p2/b11 (\mathbf{a}'/4)$	L16	
		n odd	m even			$pb11 (\mathbf{a}'/4)$	L12	
		p odd	q odd			$p2/b11$	L16	
$(00k)$ $(00\bar{k})$	$\hat{\mathbf{a}}$	$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$			h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$			
	$\hat{\mathbf{b}}$	$\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$			h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$			
	\mathbf{a}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$	L17	
	\mathbf{a}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L16	
		n odd	m even			$pb11 (\mathbf{a}'/4)$	L12	
		p even	q odd			$p2/b11$	L16	
		n even	m odd			$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L17	
		p odd	q even			$pb11$	L12	
		n even	m odd			$p2/b11$	L16	
		p odd	q odd			$p2_1/b11 (\mathbf{a}'/4)$	L17	
		n odd	m odd			$pb11$	L12	
$(00\bar{k})$ $(00k)$	$\hat{\mathbf{a}}$	$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$			h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$			
	$\hat{\mathbf{b}}$	$\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$			h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$			

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(k0h)$ $(k0\bar{h})$	\mathbf{b}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I2/c11$		
	\mathbf{b}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$ L17
		n odd	m even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L16
		p even	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12
		n even	m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L16
		p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17
		n even	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12
		p odd	q odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L16
		n odd	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$ L17
		p even	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12
n odd	\mathbf{b}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$C2/c11$	$[\hat{p}\bar{1}]$	$\hat{p}\bar{1}$ L02
		n odd	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$ L10
		p odd	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ L01
		n odd	m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$ L02
		p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$ L10
		n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ L01
		p odd	q even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$ L17
		n odd	m even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$ L16
		p odd	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12
		$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{a})/2$ $\hat{\mathbf{b}} = (\mathbf{c} + \mathbf{a})/2$			h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$	

$$\mathcal{G} = I_m^2 \bar{3}$$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
(mn0)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$			
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$			
	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$			
	n odd		m even		$I2/m11$	$p2/m11$
	p even		q odd			$p2_1/m11$ $[(\mathbf{a}' + \mathbf{b}')/4]$
	or					$pm11$
	n even		m odd	$B2/m11$	$p2/m11$	L14
	p odd		q even		$p2_1/m11$ $(\mathbf{a}'/4)$	L15
	p odd		q odd		$pm11$	L11
	n odd		m odd	$C2/m11$	$c2/m11$	L18
					$cm11$	L13

$$\mathcal{G} = I_a^2 \bar{3}$$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(mn0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
$(\bar{m}\bar{n}0)$	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
$(0mn)$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$			
$(0\bar{m}\bar{n})$	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
$(n0m)$	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$			
$(n0\bar{m})$	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$			
		n odd	m even		$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$
		p even	q odd			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$
		n even	m odd		$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$
		p odd	q even			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$
		n even	m odd		$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$
		p odd	q odd			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$
		n odd	m odd			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
		p even	q odd		$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$
		n odd	m odd			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$
		p odd	q even			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
		n odd	m odd		$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$
		p odd	q even			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$
		n odd	m even			$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$
		p odd	q odd		$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$
		n odd	m even			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$
		p odd	q odd			$\pm s\mathbf{d}, \pm s - \frac{1}{2}\mathbf{d}$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}						
$(mn0)$ $(\bar{m}\bar{n}0)$ $(nm0)$ $(\bar{n}\bar{m}0)$ $(0mn)$ $(0\bar{m}\bar{n})$ $(0nm)$ $(0\bar{n}m)$ $(n0m)$ $(n0\bar{m})$ $(m0n)$ $(m0\bar{n})$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p1$			
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$						
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$						
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$						
	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$						
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$						
	\mathbf{a}	$m\mathbf{b} - n\mathbf{c}$	$q\mathbf{b} + p\mathbf{c}$						
	\mathbf{a}	$m\mathbf{b} + n\mathbf{c}$	$-q\mathbf{b} + p\mathbf{c}$						
	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$						
	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$						
	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$						
	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$						
(hhl) $(\bar{h}hl)$ $(h\bar{h}l)$ $(\bar{h}h\bar{l})$ $(\mathbf{a} + \mathbf{c})/4$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$B211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$ $p1$			
	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$						
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$						
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$						
	n odd								
	p even								
	q odd								
	n even								
	p odd								
	m odd								
	n odd								
	p odd								
(lhh) $(\bar{l}h\bar{h})$ $(lh\bar{h})$ $(\bar{l}h\bar{h})$ $(\mathbf{b} + \mathbf{a})/4$	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) - m\mathbf{a}$	$p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$	$B211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$ $p1$			
	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) + m\mathbf{a}$	$-p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$						
	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) - m\mathbf{a}$	$p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$						
	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) + m\mathbf{a}$	$-p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$						
	n odd								
	p even								
	q odd								
	n even								
	p odd								
	m odd								
	n odd								
	p odd								
(hlh) $(\bar{h}\bar{l}h)$ $(h\bar{l}h)$ $(\bar{h}lh)$ $(\mathbf{c} + \mathbf{b})/4$	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) - m\mathbf{b}$	$p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$	$B211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$ $p1$			
	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) + m\mathbf{b}$	$-p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$						
	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) - m\mathbf{b}$	$p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$						
	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) + m\mathbf{b}$	$-p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$						
	n odd								
	p even								
	q odd								
	n even								
	p odd								
	m odd								
	n odd								
	p odd								
	m odd								
	n odd								
	p odd								

 l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
$(hk0)$ $(\bar{h}k0)$ $(kh0)$ $(\bar{k}h0)$	\mathbf{c} $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$		
	\mathbf{c} $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$					
	\mathbf{c} $m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$ $q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$					
	\mathbf{c} $m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$ $-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$					
	n odd m even					
	p even q odd					
	or					
	n even m odd					
	p odd q even					
	p odd q odd					
$(0hk)$ $(0\bar{h}k)$ $(0kh)$ $(0\bar{k}h)$	\mathbf{a} $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$		
	\mathbf{a} $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$					
	\mathbf{a} $m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$ $q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$					
	\mathbf{a} $m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$ $-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$					
	n odd m even					
	p even q odd					
	or					
	n even m odd					
	p odd q even					
	p odd q odd					
$(\bar{k}0h)$ $(k0\bar{h})$ $(h0k)$ $(h0\bar{k})$	\mathbf{b} $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$		
	\mathbf{b} $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$					
	\mathbf{b} $m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$ $q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$					
	\mathbf{b} $m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$ $-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$					
	n odd m even					
	p even q odd					
	or					
	n even m odd					
	p odd q even					
	p odd q odd					
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$		h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$				
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$ $\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$		h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$				
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{a})/2$ $\hat{\mathbf{b}} = (\mathbf{c} + \mathbf{a})/2$		Continued				

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
(hhl) $(\bar{h}\bar{h}l)$	$(\mathbf{a} - \mathbf{b})/2$ $n\hat{\mathbf{a}} - m\mathbf{c}$ $p\hat{\mathbf{a}} + q\mathbf{c}$			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111}(\mathbf{b}'/4)$ $p1$		
	$(\mathbf{a} - \mathbf{b})/2$ $n\hat{\mathbf{a}} + m\mathbf{c}$ $-p\hat{\mathbf{a}} + q\mathbf{c}$					$L08$ $L09$ $L01$		
	n odd m even p even q odd or n even m odd p odd q even p odd q odd					$p211$ p_{2111} $p1$		
	n odd m odd					$L08$ $L09$ $L01$		
	n odd m odd					$c211$ $\hat{p}1$		
	n odd m odd			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$L10$ $L01$		
	n odd m odd							
	n odd m odd							
	n odd m odd							
	n odd m odd							
$(h\bar{h}l)$ $(\bar{h}h\bar{l})$	$(\mathbf{a} + \mathbf{b})/2$ $n\hat{\mathbf{a}} - m\mathbf{c}$ $p\hat{\mathbf{a}} + q\mathbf{c}$			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111}(\mathbf{b}'/4)$ $p1$		
	$(\mathbf{a} + \mathbf{b})/2$ $n\hat{\mathbf{a}} + m\mathbf{c}$ $-p\hat{\mathbf{a}} + q\mathbf{c}$					$L08$ $L09$ $L01$		
	n odd m even p even q odd or n even m odd p odd q even p odd q odd					$p211$ p_{2111} $p1$		
	n odd m odd					$L08$ $L09$ $L01$		
	n odd m odd					$c211$ $\hat{p}1$		
	n odd m odd			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$L10$ $L01$		
	n odd m odd							
	n odd m odd							
	n odd m odd							
	n odd m odd							
(lhh) $(\bar{l}\bar{h}\bar{h})$	$(\mathbf{b} - \mathbf{c})/2$ $n\hat{\mathbf{a}} - m\mathbf{a}$ $p\hat{\mathbf{a}} + q\mathbf{a}$			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111}(\mathbf{b}'/4)$ $p1$		
	$(\mathbf{b} - \mathbf{c})/2$ $n\hat{\mathbf{a}} + m\mathbf{a}$ $-p\hat{\mathbf{a}} + q\mathbf{a}$					$L08$ $L09$ $L01$		
	n odd m even p even q odd or n even m odd p odd q even p odd q odd					$p211$ p_{2111} $p1$		
	n odd m odd					$L08$ $L09$ $L01$		
	n odd m odd					$c211$ $\hat{p}1$		
	n odd m odd			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$L10$ $L01$		
	n odd m odd							
	n odd m odd							
	n odd m odd							
	n odd m odd							
$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b})/2$				Continued				

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
$(hk0)$	\mathbf{c}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I211$ p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p2_{111} (\mathbf{b}'/4)$ $p1$ $p211$ $p2_{111}$ $p1$ $c211$ $\hat{p}1$			
$(\bar{h}k0)$	\mathbf{c}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$						
$(kh0)$	\mathbf{c}	$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$						
$(\bar{k}h0)$	\mathbf{c}	$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$						
$(0hk)$	\mathbf{a}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$						
$(0\bar{h}k)$	\mathbf{a}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$						
$(0kh)$	\mathbf{a}	$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$						
$(0\bar{k}h)$	\mathbf{a}	$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$						
$(h0k)$									
$(\bar{h}0k)$									
$(0k\bar{h})$									
$(0\bar{k}\bar{h})$									
$(h0\bar{k})$									
$(\bar{h}0\bar{k})$									
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$				h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$					
$\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$				h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$					
$(k0h)$	\mathbf{b}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I211$ p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p2_{111} (\mathbf{b}'/4)$ $p1$ $p211$ $p2_{111}$ $p1$ $c211$ $\hat{p}1$			
$(k\bar{0}h)$	\mathbf{b}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$						
$(h0\bar{k})$	\mathbf{b}	$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$						
$(h0k)$	\mathbf{b}	$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$						
$(k0\bar{h})$									
$(k\bar{0}\bar{h})$									
$(h0\bar{k})$									
$(h\bar{0}k)$									
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$				h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$					
$\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$				h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$					
$(k0h)$	\mathbf{b}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I211$ p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p211$ $p2_{111} (\mathbf{b}'/4)$ $p1$ $p211$ $p2_{111}$ $p1$ $c211$ $\hat{p}1$			
$(k\bar{0}h)$	\mathbf{b}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$						
$(h0\bar{k})$	\mathbf{b}	$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$						
$(h0k)$	\mathbf{b}	$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$						
$(k0\bar{h})$									
$(k\bar{0}\bar{h})$									
$(h0\bar{k})$									
$(h\bar{0}k)$									
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{a})/2$				h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$					
$\hat{\mathbf{b}} = (\mathbf{c} + \mathbf{a})/2$				h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$					
	Continued								

Orientation orbit (<i>hkl</i>)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}					
$(mn0)$ $(\bar{m}n0)$ $(nm0)$ $(\bar{n}m0)$ $(0mn)$ $(0\bar{m}n)$ $(0nm)$ $(0\bar{n}m)$ $(n0m)$ $(n0\bar{m})$ $(m0n)$ $(m0\bar{n})$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$					
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$					
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$					
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$					
	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$					
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$					
	\mathbf{a}	$m\mathbf{b} - n\mathbf{c}$	$q\mathbf{b} + p\mathbf{c}$					
	\mathbf{a}	$m\mathbf{b} + n\mathbf{c}$	$-q\mathbf{b} + p\mathbf{c}$					
	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$					
	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$					
	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$					
	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$					
		n odd	m even	<i>I</i> 211	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$	L08	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p_{2111} (\mathbf{b}'/4)$	L09	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01	
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$	L08	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	p_{2111}	L09	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01	
		n odd	m odd	<i>B</i> 211	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$	L08	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	p_{2111}	L09	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01	
					$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c211$	L10	
					$[\mathbf{s}\mathbf{d}, -\mathbf{s}\mathbf{d}]$	$\hat{p}1$	L01	
(hhl) $(\bar{h}hl)$	$\mathbf{a} - \mathbf{b}$ $\mathbf{a} - \mathbf{b}$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$					
		$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$					
		n odd	m even	<i>C</i> 211	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c211$	L10	
					$[\mathbf{s}\mathbf{d}, -\mathbf{s}\mathbf{d}]$	$\hat{p}1$	L01	
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$	L08	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p_{2111} (\mathbf{b}'/4)$	L09	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01	
		p odd	q even	<i>B</i> 211	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$	L08	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	p_{2111}	L09	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01	
		$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b} + \mathbf{c})/2$			l odd $\Rightarrow n = 2l, m = 2h + l; l$ even $\Rightarrow n = l, m = h + l/2$			
$(\bar{h}\bar{h}l)$ $(\bar{h}hl)$	$\mathbf{a} + \mathbf{b}$ $\mathbf{a} + \mathbf{b}$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$					
		$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$					
		n odd	m even	<i>C</i> 211	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c211$	L10	
					$[\mathbf{s}\mathbf{d}, -\mathbf{s}\mathbf{d}]$	$\hat{p}1$	L01	
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$	L08	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p_{2111} (\mathbf{b}'/4)$	L09	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01	
		p odd	q even	<i>B</i> 211	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$	L08	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	p_{2111}	L09	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01	
		$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a} + \mathbf{c})/2$			l odd $\Rightarrow n = 2l, m = 2h + l; l$ even $\Rightarrow n = l, m = h + l/2$			

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
(lhh) $(l\bar{h}h)$	$\mathbf{b} - \mathbf{c}$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$ $L10$ $L01$			
	$\mathbf{b} - \mathbf{c}$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$						
	n odd m even								
	q odd			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$ $L08$ $L09$ $L01$			
	m odd								
	q odd								
	p odd			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$ $L08$ $L09$ $L01$			
	q even								
	$\hat{\mathbf{a}} = (\mathbf{b} + \mathbf{c} + \mathbf{a})/2$			l odd $\Rightarrow n = 2l, m = 2h + l$; l even $\Rightarrow n = l, m = h + l/2$					
$(l\bar{h}\bar{h})$ $(\bar{l}h\bar{h})$	$\mathbf{b} + \mathbf{c}$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$ $L10$ $L01$			
	$\mathbf{b} + \mathbf{c}$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$						
	n odd m even								
	q odd			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$ $L08$ $L09$ $L01$			
	m odd								
	q odd								
	p odd			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$ $L08$ $L09$ $L01$			
	q even								
	$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{b} + \mathbf{a})/2$			l odd $\Rightarrow n = 2l, m = 2h + l$; l even $\Rightarrow n = l, m = h + l/2$					
(hlh) $(\bar{h}\bar{l}\bar{h})$	$\mathbf{c} - \mathbf{a}$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$ $L10$ $L01$			
	$\mathbf{c} - \mathbf{a}$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$						
	n odd m even								
	q odd			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$ $L08$ $L09$ $L01$			
	m odd								
	q odd								
	p odd			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$ $L08$ $L09$ $L01$			
	q even								
	$\hat{\mathbf{a}} = (\mathbf{c} + \mathbf{a} + \mathbf{b})/2$			l odd $\Rightarrow n = 2l, m = 2h + l$; l even $\Rightarrow n = l, m = h + l/2$					
$(\bar{h}lh)$ $(hl\bar{h})$	$\mathbf{c} + \mathbf{a}$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$ $L10$ $L01$			
	$\mathbf{c} + \mathbf{a}$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$						
	n odd m even								
	q odd			$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$ $L08$ $L09$ $L01$			
	m odd								
	q odd								
	p odd			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$ $L08$ $L09$ $L01$			
	q even								
	$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{c} + \mathbf{b})/2$			l odd $\Rightarrow n = 2l, m = 2h + l$; l even $\Rightarrow n = l, m = h + l/2$					

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(mn0)$ $(\bar{m}n0)$ $(nm0)$ $(\bar{n}m0)$ $(\mathbf{a}/4)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2_{111}$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_{111}$ $p1$
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
$(0mn)$ $(0\bar{m}n)$ $(0nm)$ $(0\bar{n}m)$ $(\mathbf{b}/4)$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$	$P2_{111}$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_{111}$ $p1$
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
	\mathbf{a}	$m\mathbf{b} - n\mathbf{c}$	$q\mathbf{b} + p\mathbf{c}$			
	\mathbf{a}	$m\mathbf{b} + n\mathbf{c}$	$-q\mathbf{b} + p\mathbf{c}$			
$(n0m)$ $(n0\bar{m})$ $(m0n)$ $(m0\bar{n})$ $(\mathbf{c}/4)$	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$	$P2_{111}$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2_{111}$ $p1$
	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$			
	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			
	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
$(hh\bar{l})$ $(\bar{h}hl)$ $(\mathbf{a} + \mathbf{c})/8$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$
	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
					$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}(\mathbf{b}'/4)$
$(h\bar{h}l)$ $(\bar{h}hl)$ $3(\mathbf{b} + \mathbf{c})/8$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}$
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
					$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_{111}(\mathbf{b}'/4)$

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(lhh) $(\bar{l}\bar{h}h)$ $(\mathbf{b} + \mathbf{a})/8$	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) - m\mathbf{a}$	$p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$	B211		
	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) + m\mathbf{a}$	$-p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
			n odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L08$
			p even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p_{2111}
			q odd			$L09$
			n even	m odd	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p1$
			p odd		$[s\mathbf{d}, -s\mathbf{d}]$	$L01$
			n odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$c211$
			p odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L08$
(lhh) $(\bar{l}\bar{h}h)$ $3(\mathbf{c} + \mathbf{a})/8$	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) - m\mathbf{a}$	$p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$	B211		
	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) + m\mathbf{a}$	$-p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
			n odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L08$
			p even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p_{2111}
			q odd			$L09$
			n even	m odd	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p1$
			p odd		$[s\mathbf{d}, -s\mathbf{d}]$	$L01$
			n odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$c211$
			p odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L08$
(hlh) $(\bar{h}\bar{l}h)$ $(\mathbf{c} + \mathbf{b})/8$	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) - m\mathbf{b}$	$p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$	B211		
	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) + m\mathbf{b}$	$-p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
			n odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L08$
			p even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p_{2111}
			q odd			$L09$
			n even	m odd	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p1$
			p odd		$[s\mathbf{d}, -s\mathbf{d}]$	$L01$
			n odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$c211$
			p odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L08$
(hlh) $(h\bar{l}h)$ $3(\mathbf{a} + \mathbf{b})/8$	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) - m\mathbf{b}$	$p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$	B211		
	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) + m\mathbf{b}$	$-p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
			n odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L08$
			p even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p_{2111}
			q odd			$L09$
			n even	m odd	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p1$
			p odd		$[s\mathbf{d}, -s\mathbf{d}]$	$L01$
			n odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$c211$
			p odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L08$

l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

$$\mathcal{G} = P4_132$$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(a/4)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p2_111$
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			L09
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$		$[s\mathbf{d}, -s\mathbf{d}]$	L01
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
	$(\mathbf{a}/4)$					
	(b/4)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p2_111$
		\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$			L09
		\mathbf{a}	$m\mathbf{b} - n\mathbf{c}$		$[s\mathbf{d}, -s\mathbf{d}]$	L01
		\mathbf{a}	$m\mathbf{b} + n\mathbf{c}$			
		$(\mathbf{b}/4)$				
(c/4)	(m0n)	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$P2_111$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p2_111$
		\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$			L09
		\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$		$[s\mathbf{d}, -s\mathbf{d}]$	L01
		\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$			
		$(\mathbf{c}/4)$				
	3($\mathbf{a} + \mathbf{c}$)/8	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$
		$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$			L08
						L09
						L01
(b + c)/8	3($\mathbf{a} + \mathbf{c}$)/8			$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c211$
						L10
						L01
	(b + c)/8			$I211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p211$
						L08
						L09
						L01

Continued

Continued

$\mathcal{G} = P4_132$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$3(\mathbf{b} + \mathbf{a})/8$	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) - m\mathbf{a}$	$p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$	$B211$		
	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) + m\mathbf{a}$	$-p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
			n odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L08$
			p even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p_{2111}
			q odd	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$L09$
			n even		$[s\mathbf{d}, -s\mathbf{d}]$	$p1$
			p odd			$L01$
			n odd	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
			p odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L08$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p_{2111}(\mathbf{b}'/4)$
						$L09$
$(\mathbf{c} + \mathbf{a})/8$	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) - m\mathbf{a}$	$p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$	$B211$		
	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) + m\mathbf{a}$	$-p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
			n odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L08$
			p even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p_{2111}
			q odd	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$L09$
			n even		$[s\mathbf{d}, -s\mathbf{d}]$	$p1$
			p odd			$L01$
			n odd	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
			p odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L08$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p_{2111}(\mathbf{b}'/4)$
						$L09$
$3(\mathbf{c} + \mathbf{b})/8$	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) - m\mathbf{b}$	$p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$	$B211$		
	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) + m\mathbf{b}$	$-p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
			n odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L08$
			p even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p_{2111}
			q odd	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$L09$
			n even		$[s\mathbf{d}, -s\mathbf{d}]$	$p1$
			p odd			$L01$
			n odd	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
			p odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L08$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p_{2111}(\mathbf{b}'/4)$
						$L09$
$(\mathbf{a} + \mathbf{b})/8$	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) - m\mathbf{b}$	$p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$	$B211$		
	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) + m\mathbf{b}$	$-p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
			n odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L08$
			p even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	p_{2111}
			q odd	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$L09$
			n even		$[s\mathbf{d}, -s\mathbf{d}]$	$p1$
			p odd			$L01$
			n odd	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
			p odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$L08$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p_{2111}(\mathbf{b}'/4)$
						$L09$

l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}						
(mn0) ($\bar{m}n0$) (nm0) ($\bar{n}m0$) ($\mathbf{b}/4$)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$		$I211$	$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$			
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$						
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$						
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$						
		n odd	m even						
		p even	q odd						
		or							
		n even	m odd						
		p odd	q even						
		p odd	q odd						
(0mn) (0 $\bar{m}n$) (0nm) (0 $\bar{n}m$) ($\mathbf{c}/4$)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$		$I211$	$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$			
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$						
	\mathbf{a}	$m\mathbf{b} - n\mathbf{c}$	$q\mathbf{b} + p\mathbf{c}$						
	\mathbf{a}	$m\mathbf{b} + n\mathbf{c}$	$-q\mathbf{b} + p\mathbf{c}$						
		n odd	m even						
		p even	q odd						
		or							
		n even	m odd						
		p odd	q even						
		p odd	q odd						
(n0m) (n0 \bar{m}) (m0n) (m0 \bar{n}) ($\mathbf{a}/4$)	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$		$I211$	$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$			
	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$						
	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$						
	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$						
		n odd	m even						
		p even	q odd						
		or							
		n even	m odd						
		p odd	q even						
		p odd	q odd						
(n odd) (m odd) (a odd)		n odd	m odd		$B211$	$p211$ p_{2111} $p1$			
(n even) (m even) (a even)		n even	m even		$C211$	$c211$ $\hat{p}1$			

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(hh\bar{l})$ $(\bar{h}hl)$ $(\mathbf{a} + \mathbf{c})/8$	$\mathbf{a} - \mathbf{b}$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$	$C211$ n odd m even q odd m odd q odd m odd p odd q even	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01
$\mathbf{a} - \mathbf{b}$	$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$	$I211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$		$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$	L08 L09 L01	
$B211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$	L08 L09 L01					
$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b} + \mathbf{c})/2$					l odd $\Rightarrow n = 2l, m = 2h + l$; l even $\Rightarrow n = l, m = h + l/2$		
$(h\bar{h}l)$ $(\bar{h}hl)$ $3(\mathbf{a} + \mathbf{c})/8$	$\mathbf{a} + \mathbf{b}$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$		$C211$ n odd m even q odd m odd q odd m odd p odd q even	$c211$ $\hat{p}1$	L10 L01
$\mathbf{a} + \mathbf{b}$	$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$	$I211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$		$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$	L08 L09 L01	
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a} + \mathbf{c})/2$					l odd $\Rightarrow n = 2l, m = 2h + l$; l even $\Rightarrow n = l, m = h + l/2$		
$(lh\bar{h})$ $(l\bar{h}h)$ $(\mathbf{b} + \mathbf{a})/8$	$\mathbf{b} - \mathbf{c}$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$C211$ n odd m even q odd m odd q odd m odd p odd q even	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01
$\mathbf{b} + \mathbf{c}$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$	$I211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$		$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$	L08 L09 L01	
$\hat{\mathbf{a}} = (\mathbf{b} + \mathbf{c} + \mathbf{a})/2$					$B211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$	L08 L09 L01
$\hat{\mathbf{a}} = (\mathbf{b} + \mathbf{c} + \mathbf{a})/2$					l odd $\Rightarrow n = 2l, m = 2h + l$; l even $\Rightarrow n = l, m = h + l/2$		
$(l\bar{h}\bar{h})$ $(l\bar{h}h)$ $3(\mathbf{b} + \mathbf{a})/8$	$\mathbf{b} + \mathbf{c}$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$		$C211$ n odd m even q odd m odd q odd m odd p odd q even	$c211$ $\hat{p}1$	L10 L01
$\mathbf{b} + \mathbf{c}$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$	$I211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$		$p211$ $p_{2111} (\mathbf{b}'/4)$ $p1$	L08 L09 L01	
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{b} + \mathbf{a})/2$					$B211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ p_{2111} $p1$	L08 L09 L01
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{b} + \mathbf{a})/2$			l odd $\Rightarrow n = 2l, m = 2h + l$; l even $\Rightarrow n = l, m = h + l/2$				

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
(hlh) $(\bar{h}\bar{l}\bar{h})$ $(\mathbf{c} + \mathbf{b})/8$	$\mathbf{c} - \mathbf{a}$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$	$C211$ n odd m even q odd m odd q odd m odd p odd q even	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01
	$\mathbf{c} - \mathbf{a}$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$		$I211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{21}11 (\mathbf{b}'/4)$ $p1$	L08 L09 L01
	$\mathbf{c} + \mathbf{a}$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$		$B211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{21}11$ $p1$	L08 L09 L01
	$\mathbf{c} + \mathbf{a}$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$		$\hat{\mathbf{a}} = (\mathbf{c} + \mathbf{a} + \mathbf{b})/2$	l odd $\Rightarrow n = 2l, m = 2h + l$; l even $\Rightarrow n = l, m = h + l/2$	
	$\mathbf{c} + \mathbf{a}$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$		$C211$ n odd m even q odd m odd q odd m odd p odd q even	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$
	$\mathbf{c} + \mathbf{a}$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$		$I211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{21}11 (\mathbf{b}'/4)$ $p1$	L08 L09 L01
	$\mathbf{c} - \mathbf{a}$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$		$B211$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p_{21}11$ $p1$	L08 L09 L01
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{c} + \mathbf{b})/2$			l odd $\Rightarrow n = 2l, m = 2h + l$; l even $\Rightarrow n = l, m = h + l/2$				

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
($mn0$)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	L08
($\bar{m}n0$)	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
($nm0$)	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
($\bar{n}m0$)	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
($0mn$)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$			
($0\bar{m}n$)	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
($0nm$)	\mathbf{a}	$m\mathbf{b} - n\mathbf{c}$	$q\mathbf{b} + p\mathbf{c}$			
($0\bar{n}m$)	\mathbf{a}	$m\mathbf{b} + n\mathbf{c}$	$-q\mathbf{b} + p\mathbf{c}$			
($n0m$)	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$			
($n0\bar{m}$)	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$			
($m0n$)	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			
($m0\bar{n}$)	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
$Bm11$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	L11
	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) - m\mathbf{a}$	$p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$			
	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) + m\mathbf{a}$	$-p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$			
	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) - m\mathbf{a}$	$p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$			
	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) + m\mathbf{a}$	$-p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$	$Cm11$	$s\mathbf{d}$	L13
$Cm11$	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) - m\mathbf{b}$	$p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$			
	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) + m\mathbf{b}$	$-p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$			
	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) - m\mathbf{b}$	$p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$			
	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) + m\mathbf{b}$	$-p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$			
	n odd p even q odd n even m odd p odd n odd p odd			$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	L11

l odd $\Rightarrow n = l, m = 2h; l$ even $\Rightarrow n = l/2, m = h$

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(hk0)$ $(\bar{h}k0)$ $(kh0)$ $(\bar{k}h0)$	\mathbf{c} $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ \mathbf{c} $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ \mathbf{c} $m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$ $q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$ \mathbf{c} $m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$ $-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$	n odd m even p even q odd or n even m odd p odd q even p odd q odd	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$	L08 L09 L01
			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111$ $p1$	L08 L09 L01
		n odd m odd	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$			h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$			
$(0hk)$ $(0\bar{h}k)$ $(0kh)$ $(0\bar{k}h)$	\mathbf{a} $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ \mathbf{a} $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ \mathbf{a} $m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$ $q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$ \mathbf{a} $m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$ $-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$	n odd m even p even q odd or n even m odd p odd q even p odd q odd	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$	L08 L09 L01
			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111$ $p1$	L08 L09 L01
		n odd m odd	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$ $\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$			h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$			
$(k0h)$ $(k0\bar{h})$ $(h0k)$ $(h0\bar{k})$	\mathbf{b} $n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$ $p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ \mathbf{b} $n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$ $-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$ \mathbf{b} $m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$ $q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$ \mathbf{b} $m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$ $-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$	n odd m even p even q odd or n even m odd p odd q even p odd q odd	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111 (\mathbf{b}'/4)$ $p1$	L08 L09 L01
			$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p211$ $p2_111$ $p1$	L08 L09 L01
		n odd m odd	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c211$ $\hat{p}1$	L10 L01
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{a})/2$ $\hat{\mathbf{b}} = (\mathbf{c} + \mathbf{a})/2$			h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$			

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(hhl) $(\bar{h}\bar{h}l)$	$(\mathbf{a} - \mathbf{b})/2 \quad n\hat{\mathbf{a}} - m\mathbf{c} \quad p\hat{\mathbf{a}} + q\mathbf{c}$ $(\mathbf{a} - \mathbf{b})/2 \quad n\hat{\mathbf{a}} + m\mathbf{c} \quad -p\hat{\mathbf{a}} + q\mathbf{c}$ n odd m even p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$Im11$ $Bm11$ $Cm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $s\mathbf{d}$	$pm11$ $pm11$ $cm11$
	$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b})/2$			$L11$ $L11$ $L13$
$(h\bar{h}l)$ $(\bar{h}h\bar{l})$	$(\mathbf{a} + \mathbf{b})/2 \quad n\hat{\mathbf{a}} - m\mathbf{c} \quad p\hat{\mathbf{a}} + q\mathbf{c}$ $(\mathbf{a} + \mathbf{b})/2 \quad n\hat{\mathbf{a}} + m\mathbf{c} \quad -p\hat{\mathbf{a}} + q\mathbf{c}$ n odd m even p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$Im11$ $Bm11$ $Cm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $s\mathbf{d}$	$pm11$ $pm11$ $cm11$
	$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a})/2$			$L11$ $L11$ $L13$
(lhh) $(\bar{l}\bar{h}\bar{h})$	$(\mathbf{b} - \mathbf{c})/2 \quad n\hat{\mathbf{a}} - m\mathbf{a} \quad p\hat{\mathbf{a}} + q\mathbf{a}$ $(\mathbf{b} - \mathbf{c})/2 \quad n\hat{\mathbf{a}} + m\mathbf{a} \quad -p\hat{\mathbf{a}} + q\mathbf{a}$ n odd m even p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$Im11$ $Bm11$ $Cm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $s\mathbf{d}$	$pm11$ $pm11$ $cm11$
	$\hat{\mathbf{a}} = (\mathbf{b} + \mathbf{c})/2$	Continued		$L11$ $L11$ $L13$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
$(l\bar{h}\bar{h})$	$(\mathbf{b} + \mathbf{c})/2$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	L11			
	$(\mathbf{b} + \mathbf{c})/2$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$						
		n odd	m even						
		p even	q odd		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	L11			
		or							
		n even	m odd						
		p odd	q even						
		p odd	q odd		$[s\mathbf{d}]$	L13			
		n odd	m odd						
$(\bar{h}lh)$	$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{b})/2$			$Im11$	h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$				
	$(\mathbf{c} - \mathbf{a})/2$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	L11			
	$(\mathbf{c} - \mathbf{a})/2$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$						
		n odd	m even						
		p even	q odd		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	L11			
		or							
		n even	m odd						
		p odd	q even						
		p odd	q odd		$[s\mathbf{d}]$	L13			
		n odd	m odd						
$(\bar{h}\bar{l}h)$	$\hat{\mathbf{a}} = (\mathbf{c} + \mathbf{a})/2$			$Im11$	h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$				
	$(\mathbf{c} + \mathbf{a})/2$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	L11			
	$(\mathbf{c} + \mathbf{a})/2$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$						
		n odd	m even						
		p even	q odd		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	L11			
		or							
		n even	m odd						
		p odd	q even						
		p odd	q odd		$[s\mathbf{d}]$	L13			
		n odd	m odd						
$(\bar{h}\bar{l}\bar{h})$	$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{c})/2$			$Im11$	h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$				
	$(\mathbf{a} - \mathbf{c})/2$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	L11			
	$(\mathbf{a} - \mathbf{c})/2$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$						
		n odd	m even						
		p even	q odd		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	L11			
		or							
		n even	m odd						
		p odd	q even						
		p odd	q odd		$[s\mathbf{d}]$	L13			
		n odd	m odd						

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}					
$(mn0)$ $(\bar{m}n0)$ $(nm0)$ $(\bar{n}m0)$ $(0mn)$ $(0\bar{m}n)$ $(0nm)$ $(0\bar{n}m)$ $(n0m)$ $(n0\bar{m})$ $(m0n)$ $(m0\bar{n})$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$					
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$					
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$					
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$					
	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$					
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$					
	\mathbf{a}	$m\mathbf{b} - n\mathbf{c}$	$q\mathbf{b} + p\mathbf{c}$					
	\mathbf{a}	$m\mathbf{b} + n\mathbf{c}$	$-q\mathbf{b} + p\mathbf{c}$					
	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$					
	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$					
	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$					
	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$					
		n odd	m even	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$	L08	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p_{2111} (\mathbf{b}'/4)$	L09	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01	
					$B211$	$p211$	L08	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	p_{2111}	L09	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01	
		n odd	m odd	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c211$	L10	
					$[\mathbf{sd}, -\mathbf{sd}]$	$\hat{p}1$	L01	
$(hh\bar{l})$ $(\bar{h}hl)$	$\mathbf{a} - \mathbf{b}$ $\mathbf{a} - \mathbf{b}$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$					
		$n\hat{\mathbf{a}} + m\mathbf{c}$						
		n odd	m even	$Cm11$	$s\mathbf{d}$	$cm11$	L13	
					$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11
					$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11
$(\bar{h}\bar{h}l)$ $(\bar{h}hl)$	$\mathbf{a} + \mathbf{b}$ $\mathbf{a} + \mathbf{b}$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$					
		$n\hat{\mathbf{a}} + m\mathbf{c}$						
		n odd	m even	$Cm11$	$s\mathbf{d}$	$cm11$	L13	
					$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11
					$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11
		$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b} + \mathbf{c})/2$	l odd $\Rightarrow n = 2l, m = 2h + l$; l even $\Rightarrow n = l, m = h + l/2$					
		$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a} + \mathbf{c})/2$	l odd $\Rightarrow n = 2l, m = 2h + l$; l even $\Rightarrow n = l, m = h + l/2$					

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
(lhh) $(l\bar{h}\bar{h})$	$\mathbf{b} - \mathbf{c}$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	n odd m even q odd m odd q odd m odd q even	$Cm11$	$cm11$	L13
$\mathbf{b} - \mathbf{c}$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$					
$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11				
$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11				
$\hat{\mathbf{a}} = (\mathbf{b} + \mathbf{c} + \mathbf{a})/2$				l odd $\Rightarrow n = 2l, m = 2h + l; l$ even $\Rightarrow n = l, m = h + l/2$			
$(l\bar{h}\bar{h})$ $(\bar{l}h\bar{h})$	$\mathbf{b} + \mathbf{c}$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	n odd m even q odd m odd q odd m odd q even	$Cm11$	$cm11$	L13
$\mathbf{b} + \mathbf{c}$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$					
$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11				
$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11				
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{b} + \mathbf{a})/2$				l odd $\Rightarrow n = 2l, m = 2h + l; l$ even $\Rightarrow n = l, m = h + l/2$			
(hlh) $(\bar{h}\bar{l}\bar{h})$	$\mathbf{c} - \mathbf{a}$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$	n odd m even q odd m odd q odd m odd q even	$Cm11$	$cm11$	L13
$\mathbf{c} - \mathbf{a}$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$					
$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11				
$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11				
$\hat{\mathbf{a}} = (\mathbf{c} + \mathbf{a} + \mathbf{b})/2$				l odd $\Rightarrow n = 2l, m = 2h + l; l$ even $\Rightarrow n = l, m = h + l/2$			
$(\bar{h}lh)$ $(hl\bar{h})$	$\mathbf{c} + \mathbf{a}$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$	n odd m even q odd m odd q odd m odd q even	$Cm11$	$cm11$	L13
$\mathbf{c} + \mathbf{a}$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$					
$Im11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11				
$Bm11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11				
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{c} + \mathbf{b})/2$				l odd $\Rightarrow n = 2l, m = 2h + l; l$ even $\Rightarrow n = l, m = h + l/2$			

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}						
($mn0$)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$L08$			
($\overline{m}n0$)	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$						
($nm0$)	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$						
($\overline{n}m0$)	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$						
($0mn$)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$						
($0\overline{m}n$)	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$						
($0nm$)	\mathbf{a}	$m\mathbf{b} - n\mathbf{c}$	$q\mathbf{b} + p\mathbf{c}$						
($0\overline{n}m$)	\mathbf{a}	$m\mathbf{b} + n\mathbf{c}$	$-q\mathbf{b} + p\mathbf{c}$						
($n0m$)	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$						
($n0\overline{m}$)	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$						
($m0n$)	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$						
($m0\overline{n}$)	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$						
(hhl)	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$Bb11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$L12$			
($\overline{h}hl$)	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$						
($h\overline{h}l$)	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$						
($\overline{h}hl$)	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$						
(lhh)	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) - m\mathbf{a}$	$p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$						
($\overline{l}hh$)	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) + m\mathbf{a}$	$-p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$						
($lh\overline{h}$)	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) - m\mathbf{a}$	$p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$						
($\overline{l}h\overline{h}$)	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) + m\mathbf{a}$	$-p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$						
(hlh)	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) - m\mathbf{b}$	$p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$						
($\overline{h}l\overline{h}$)	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) + m\mathbf{b}$	$-p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$						
($h\overline{l}h$)	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) - m\mathbf{b}$	$p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$						
($\overline{h}l\overline{h}$)	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) + m\mathbf{b}$	$-p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$						

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(hk0)$	\mathbf{c}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I211$ n odd m even p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$	L08
$(\bar{h}k0)$	\mathbf{c}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p_{2111} (\mathbf{b}'/4)$	L09
$(kh0)$	\mathbf{c}	$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01
$(\bar{k}h0)$	\mathbf{c}	$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$				
					$B211$	$p211$	L08
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	p_{2111}	L09
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01
					$C211$	$c211$	L10
					$[s\mathbf{d}, -s\mathbf{d}]$	$\hat{p}1$	L01
		$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$				h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$	
		$\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$				h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$	
$(0hk)$	\mathbf{a}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I211$ n odd m even p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$	L08
$(0\bar{h}k)$	\mathbf{a}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p_{2111} (\mathbf{b}'/4)$	L09
$(0kh)$	\mathbf{a}	$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01
$(0\bar{k}h)$	\mathbf{a}	$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$				
					$B211$	$p211$	L08
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	p_{2111}	L09
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01
					$C211$	$c211$	L10
					$[s\mathbf{d}, -s\mathbf{d}]$	$\hat{p}1$	L01
		$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$				h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$	
		$\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$				h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$	
$(k0h)$	\mathbf{b}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I211$ n odd m even p even q odd or n even m odd p odd q even p odd q odd n odd m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$	L08
$(k0\bar{h})$	\mathbf{b}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p_{2111} (\mathbf{b}'/4)$	L09
$(h0k)$	\mathbf{b}	$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01
$(h0\bar{k})$	\mathbf{b}	$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$				
					$B211$	$p211$	L08
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	p_{2111}	L09
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01
					$C211$	$c211$	L10
					$[s\mathbf{d}, -s\mathbf{d}]$	$\hat{p}1$	L01
		$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{a})/2$				h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$	
		$\hat{\mathbf{b}} = (\mathbf{c} + \mathbf{a})/2$				h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$	
				Continued			

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$						
(hhl) $(\bar{h}\bar{h}l)$	$(\mathbf{a} - \mathbf{b})/2$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$	n odd m even p even q odd n even m odd p odd q even n even m odd p odd q odd n odd m odd p even q odd n odd m odd p odd q even n odd m even p odd q odd	$Ib11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12				
	$(\mathbf{a} - \mathbf{b})/2$	$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$		$Ic11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12				
					$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12				
					$Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	L01				
					$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	L01				
					$Bb11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12				
					$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b})/2$			h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$				
	$(\mathbf{a} + \mathbf{b})/2$ $(\bar{h}\bar{h}l)$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$		$Ic11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12				
					$Ib11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12				
					$Bb11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12				
					$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	L01				
					$Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	L01				
					$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12				
		$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a})/2$			h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$							
	$(\mathbf{b} - \mathbf{c})/2$ $(\bar{l}\bar{h}h)$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	n odd m even p even q odd n even m odd p odd q even n even m odd p odd q odd n odd m odd p even q odd n odd m odd p odd q even n odd m even p odd q odd	$Ib11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12				
					$Ic11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12				
					$Bn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12				
					$Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	L01				
					$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	L01				
					$Bb11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12				
		$\hat{\mathbf{a}} = (\mathbf{b} + \mathbf{c})/2$			h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$							
		Continued										

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(l\bar{h}\bar{h})$ $(\bar{l}h\bar{h})$	$(\mathbf{b} + \mathbf{c})/2$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	
	$(\mathbf{b} + \mathbf{c})/2$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$			
		n odd	m even		$Ic11$	$pb11 (\mathbf{a}'/4)$
		p even	q odd		$Ib11$	$pb11$
		n even	m odd		$Bb11$	$pb11$
		p odd	q even		$Cc11$	$\hat{p}1$
		n even	m odd		$Cn11$	$\hat{p}1$
		p odd	q odd		$Bn11$	$pb11 (\mathbf{a}'/4)$
		n odd	m even			
		p odd	q odd			
$(h\bar{h}h)$ $(\bar{h}h\bar{h})$	$(\mathbf{c} - \mathbf{a})/2$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	
	$(\mathbf{c} - \mathbf{a})/2$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$			
		n odd	m even		$Ib11$	$pb11$
		p even	q odd		$Ic11$	$pb11 (\mathbf{a}'/4)$
		n even	m odd		$Bn11$	$pb11 (\mathbf{a}'/4)$
		p odd	q even		$Cc11$	$\hat{p}1$
		n odd	m odd		$Cn11$	$\hat{p}1$
		p odd	q odd		$Bb11$	$pb11$
		n odd	m even			
		p odd	q odd			
$(\bar{h}lh)$ $(hl\bar{h})$	$(\mathbf{c} + \mathbf{a})/2$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$		$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	
	$(\mathbf{c} + \mathbf{a})/2$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$			
		n odd	m even		$Ic11$	$pb11 (\mathbf{a}'/4)$
		p even	q odd		$Ib11$	$pb11$
		n even	m odd		$Bb11$	$pb11$
		p odd	q even		$Cc11$	$\hat{p}1$
		n even	m odd		$Cn11$	$\hat{p}1$
		p odd	q odd		$Bn11$	$pb11 (\mathbf{a}'/4)$
		n odd	m even			
		p odd	q odd			
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{b})/2$				h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$		
	$\hat{\mathbf{a}} = (\mathbf{c} + \mathbf{a})/2$			h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$		
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{c})/2$				h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$		

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
(mn0)	c	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
	c	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
	c	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
	c	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
	n odd		m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
	p even		q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p_{2111} (\mathbf{b}'/4)$
	or				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
	n even		m odd		$B211$	$p211$
	p odd		q even			
	p odd		q odd			
(b/4)	n odd		m odd	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
	p even				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p_{2111} (\mathbf{b}'/4)$
	or				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
	n even		m odd	$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
	p odd		q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	p_{2111}
	p odd		q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
	n odd		m odd	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c211$
	p even				$[\mathbf{sd}, -s\mathbf{d}]$	$\hat{p}1$
	or					
(0mn)	a	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$			
	a	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
	a	$m\mathbf{b} - n\mathbf{c}$	$q\mathbf{b} + p\mathbf{c}$			
	a	$m\mathbf{b} + n\mathbf{c}$	$-q\mathbf{b} + p\mathbf{c}$			
	n odd		m even	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
	p even		q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p_{2111} (\mathbf{b}'/4)$
	or				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
	n even		m odd	$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
	p odd		q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	p_{2111}
	p odd		q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
(c/4)	n odd		m odd	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c211$
	p even				$[\mathbf{sd}, -s\mathbf{d}]$	$\hat{p}1$
	or					
	n even		m odd	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
	p odd		q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	p_{2111}
	p odd		q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
	n odd		m odd	$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
	p even				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	p_{2111}
	or				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
(n0m)	b	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$			
	b	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$			
	b	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			
	b	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
	n odd		m even	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
	p even		q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p_{2111} (\mathbf{b}'/4)$
	or				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
	n even		m odd	$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
	p odd		q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	p_{2111}
	p odd		q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
(a/4)	n odd		m odd	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c211$
	p even				$[\mathbf{sd}, -s\mathbf{d}]$	$\hat{p}1$
	or					
	n even		m odd	$I211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
	p odd		q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	p_{2111}
	p odd		q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
	n odd		m odd	$B211$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p211$
	p even				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	p_{2111}
	or				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
	n even		m odd	$C211$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c211$
	p odd				$[\mathbf{sd}, -s\mathbf{d}]$	$\hat{p}1$
	or					

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$					
$(hh\bar{l})$ $(\bar{h}hl)$	$\mathbf{a} - \mathbf{b}$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$	$Cc11$ $Bb11$ $Ib11$ $Ic11$ $Bn11$ $Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ $pb11$ $pb11$ $pb11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$ $\hat{p}1$	L01 L12 L12 L12 L12 L01				
$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b} + \mathbf{c})/2$											
$(h\bar{h}\bar{l})$ $(\bar{h}h\bar{l})$	$\mathbf{a} + \mathbf{b}$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$								
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a} + \mathbf{c})/2$											
(lhh) $(\bar{l}\bar{h}h)$	$\mathbf{b} - \mathbf{c}$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$Cc11$ $Bb11$ $Ib11$ $Ic11$ $Bn11$ $Cn11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$ $[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ $pb11$ $pb11$ $pb11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$ $\hat{p}1$	L01 L12 L12 L12 L12 L01				
$\hat{\mathbf{a}} = (\mathbf{b} + \mathbf{c} + \mathbf{a})/2$											

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
$(l\bar{h}\bar{h})$ $(\bar{l}hh)$	$\mathbf{b} + \mathbf{c}$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	L01		
$\mathbf{b} + \mathbf{c}$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$						
n odd	m even							
p even	q odd							
n even	m odd							
p odd	q even							
n even	m odd							
p odd	q odd							
n odd	m odd							
p even	q odd							
(hlh) $(\bar{h}\bar{l}\bar{h})$	$\mathbf{c} - \mathbf{a}$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$	$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	L01		
$\mathbf{c} - \mathbf{a}$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$						
n odd	m even							
p even	q odd							
n even	m odd							
p odd	q even							
n even	m odd							
p odd	q odd							
n odd	m odd							
p even	q odd							
$(\bar{h}lh)$ $(h\bar{l}h)$	$\mathbf{c} + \mathbf{a}$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$	$Cc11$	$[s\mathbf{d}, (s + \frac{1}{2})\mathbf{d}]$	L01		
$\mathbf{c} + \mathbf{a}$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$						
n odd	m even							
p even	q odd							
n even	m odd							
p odd	q even							
n even	m odd							
p odd	q odd							
n odd	m odd							
p even	q odd							
$\hat{\mathbf{a}} = (\mathbf{c} + \mathbf{a} + \mathbf{b})/2$	l odd $\Rightarrow n = 2l, m = 2h + l$; l even $\Rightarrow n = l, m = h + l/2$							
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{b} + \mathbf{a})/2$	l odd $\Rightarrow n = 2l, m = 2h + l$; l even $\Rightarrow n = l, m = h + l/2$							
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{c} + \mathbf{b})/2$	l odd $\Rightarrow n = 2l, m = 2h + l$; l even $\Rightarrow n = l, m = h + l/2$							

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(mn0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$	$P2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$p2/m11$ $pm11$
$(\bar{m}n0)$	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
$(nm0)$	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
$(\bar{n}m0)$	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
$(0mn)$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$			
$(0\bar{m}n)$	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
$(0nm)$	\mathbf{a}	$m\mathbf{b} - n\mathbf{c}$	$q\mathbf{b} + p\mathbf{c}$			
$(0\bar{n}m)$	\mathbf{a}	$m\mathbf{b} + n\mathbf{c}$	$-q\mathbf{b} + p\mathbf{c}$			
$(n0m)$	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$			
$(n0\bar{m})$	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$			
$(m0n)$	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			
$(m0\bar{n})$	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
$(hh\bar{l})$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$	$B2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$
$(\bar{h}h\bar{l})$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
$(\bar{h}h\bar{l})$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
$(\bar{h}h\bar{l})$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
(lhh)	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) - m\mathbf{a}$	$p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$			
(lhh)	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) + m\mathbf{a}$	$-p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$			
$(lh\bar{h})$	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) - m\mathbf{a}$	$p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$			
$(l\bar{h}h)$	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) + m\mathbf{a}$	$-p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$			
$(h\bar{l}h)$	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) - m\mathbf{b}$	$p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$			
$(\bar{h}\bar{l}h)$	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) + m\mathbf{b}$	$-p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$			
$(\bar{h}lh)$	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) - m\mathbf{b}$	$p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$			
$(hl\bar{h})$	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) + m\mathbf{b}$	$-p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$			
		n odd				
		p even	q odd			
		n even	m odd	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$
		p odd		$I2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(mn0)$ $(\bar{m}n0)$ $(nm0)$ $(\bar{n}m0)$ $(0mn)$ $(0\bar{m}n)$ $(0nm)$ $(0\bar{n}m)$ $(n0m)$ $(n0\bar{m})$ $(m0n)$ $(m0\bar{n})$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$			
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
	\mathbf{a}	$m\mathbf{b} - n\mathbf{c}$	$q\mathbf{b} + p\mathbf{c}$			
	\mathbf{a}	$m\mathbf{b} + n\mathbf{c}$	$-q\mathbf{b} + p\mathbf{c}$			
	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$			
	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$			
	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			
	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
	n odd		m even	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$
	p even		q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211 (\mathbf{b}'/4)$
	or				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
	n even		m odd			
$(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	p odd		q even	$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$
	p odd		q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211$
	n odd		m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
				$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p2/b11$
					$[s\mathbf{d}, -s\mathbf{d}]$	$pb11$
				$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
	n odd		m even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$
	p even		q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
	n even		m odd			
	p odd		q even	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
	n even		m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$
	p odd		q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
	n odd		m odd	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
	p odd		q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
	n odd		m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
(hhl) $(\bar{h}hl)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	n odd		m even	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
	p even		q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
	n even		m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
	n odd		m odd	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
	p even		q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
	n odd		m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
	n odd		m odd	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
	p odd		q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
	n odd		m even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
	p odd		q odd			

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(hhl) $(\bar{h}hl)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$	$B2/b11$		
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		n odd	m even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
		p even	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
		n even	m odd	$C2/c11$	$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
		p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
		n even	m odd	$C2/n11$	$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
		p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$
		n odd	m odd	$B2/n11$	$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$
(lhh) $(\bar{l}hh)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) - m\mathbf{a}$	$p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$	$B2/n11$		
	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) + m\mathbf{a}$	$-p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$			
		n odd	m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$
		n even	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
		p odd	q even	$C2/n11$	$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
		n even	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$
		p odd	q odd	$C2/c11$	$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
		n odd	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
		p even	q odd	$B2/b11$	$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		n odd	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
		p odd	q even	$I2/b11$	$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		n odd	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
		p odd	q odd	$I2/c11$	$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$pb11$
		n odd	m even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11$
		p odd	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
		n odd	m even	$I2/c11$	$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
		p odd	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}						
$(Ih\bar{h})$ $(\bar{I}\bar{h}h)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) - m\mathbf{a}$	$p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$			
	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) + m\mathbf{a}$	$-p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$						
	n odd	m even							
	p even	q odd							
	n even	m odd		$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ $c211$ $\hat{p}1$			
	n even	m odd		$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$			
(hlh) $(\bar{h}\bar{l}h)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) - m\mathbf{b}$	$p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$			
		$n(\mathbf{c} + \mathbf{a}) + m\mathbf{b}$	$-p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$						
		n odd	m even						
	p even	q odd							
	n even	m odd		$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$			
	n odd	m odd		$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$			
	n odd	m even		$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$			
	n odd	m odd		$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$			
(hlh) $(\bar{h}\bar{l}h)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) - m\mathbf{b}$	$p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$			
		$n(\mathbf{c} + \mathbf{a}) + m\mathbf{b}$	$-p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$						
		n odd	m even						
	p even	q odd							
	n even	m odd		$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$			
	n even	m odd		$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$			
	n odd	m odd		$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$			
	n odd	m odd		$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$			
	n odd	m even		$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$			

Continued

No. 222 $Pn\bar{3}n$

Continued

$$\mathcal{G} = P_n^4 \bar{3}_n^2 \quad \text{origin 1}$$

 O_h^2

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(\bar{h}lh)$ $(h\bar{l}\bar{h})$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	$\mathbf{c} + \mathbf{a}$ $\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) - m\mathbf{b}$ $n(\mathbf{a} - \mathbf{c}) + m\mathbf{b}$	$p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$ $-p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$				
$(\bar{h}lh)$ $(h\bar{l}\bar{h})$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	$\mathbf{c} + \mathbf{a}$ $\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) - m\mathbf{b}$ $n(\mathbf{a} - \mathbf{c}) + m\mathbf{b}$	$p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$ $-p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$	L16 L17 L12
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$	L02 L12 L01
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$	L02 L10 L01
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$	L17 L16 L12
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$	L17 L16 L12
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$	L16 L17 L12
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$	L16 L17 L12
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$	L16 L17 L12
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$	L16 L17 L12
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$	L16 L17 L12

$$l \text{ odd} \Rightarrow n = l, m = 2h; l \text{ even} \Rightarrow n = l/2, m = h$$

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(mn0)$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
$(\bar{m}n0)$	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
$(nm0)$	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
$(\bar{n}m0)$	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
$(0mn)$	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$			
$(0\bar{m}n)$	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
$(0nm)$	\mathbf{a}	$m\mathbf{b} - n\mathbf{c}$	$q\mathbf{b} + p\mathbf{c}$			
$(0\bar{n}m)$	\mathbf{a}	$m\mathbf{b} + n\mathbf{c}$	$-q\mathbf{b} + p\mathbf{c}$			
$(n0m)$	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$			
$(n0\bar{m})$	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$			
$(m0n)$	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			
$(m0\bar{n})$	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
				$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211 (\mathbf{b}'/4)$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
				$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p\bar{1}$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p211$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$
				$P2/b11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$p2/b11$
					$[s\mathbf{d}, -s\mathbf{d}]$	$pb11$
$(hh\bar{l})$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
$(\bar{h}h\bar{l})$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
					n odd m even	
					p even q odd	
					or	
					n even m odd	
					p odd q even	
					p odd q odd	
					n odd m odd	
				$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
				$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
				$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
				$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
				$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
				$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$

Continued

No. 222 $Pn\bar{3}n$

Continued

$$\mathcal{G} = P_n^4 \bar{3}_n^2 \quad \text{origin 2}$$

 O_h^2

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(hh) $(\bar{h}h)$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$	$B2/b11$		
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		n odd	m even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
		p even	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
		n even	m odd	$C2/c11$	$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
		p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
		n even	m odd	$C2/n11$	$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
		p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$
		n odd	m odd	$B2/n11$	$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$
(lh) $(\bar{l}h)$	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) - m\mathbf{a}$	$p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$	$B2/n11$		
	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) + m\mathbf{a}$	$-p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$			
		n odd	m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$
		n even	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
		p odd	q even	$C2/n11$	$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
		n even	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$
		p odd	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
		n even	m odd	$C2/c11$	$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
		p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
(lhh) $(\bar{l}hh)$	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) - m\mathbf{a}$	$p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$	$B2/b11$		
	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) + m\mathbf{a}$	$-p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$			
		n odd	m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
		n even	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
		p odd	q even	$C2/n11$	$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
		n even	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$
		p odd	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
		n odd	m odd	$B2/b11$	$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
(ll) $(\bar{l}\bar{l})$	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) - m\mathbf{a}$	$p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$	$I2/b11$		
	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) + m\mathbf{a}$	$-p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$			
		n odd	m even		$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(a' + b')/4]$
		n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
		p odd	q even	$I2/c11$	$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		n odd	m even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(a' + b')/4]$
		p odd	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
		n odd	m odd	$I2/b11$	$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(a' + b')/4]$
		n odd	m odd	$I2/c11$	$[\mathbf{0}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(a' + b')/4]$
		n odd	m even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
\mathbf{a}'	\mathbf{b}'	\mathbf{d}				
$(Ih\bar{h})$ $(\bar{I}\bar{h}h)$	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) - m\mathbf{a}$	$p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$	$B2/b11$		
	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) + m\mathbf{a}$	$-p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		n odd	m even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
		p even	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
		n even	m odd	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}1$
		p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
		n even	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
		p odd	q odd	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}1$
		n even	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$
		p odd	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
		n odd	m odd	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$
		n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
(hlh) $(\bar{h}\bar{l}h)$	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) - m\mathbf{b}$	$p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$	$B2/n11$		
	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) + m\mathbf{b}$	$-p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$			
		n odd	m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$
		n even	m odd	$C2/n11$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
		p odd	q even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}1$
		n even	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$
		p odd	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
		n odd	m odd	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}1$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
		n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
		n odd	m odd	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
		n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
		n odd	m odd	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(a' + b')/4]$
		n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
		n odd	m even	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
		p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(a' + b')/4]$
		n odd	m even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$

Continued

No. 222 $Pn\bar{3}n$

Continued

$$\mathcal{G} = P_n^4 \overline{3}_n^2 \quad \text{origin 2}$$

$$O_h^2$$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$(\bar{h}lh)$ $(hl\bar{h})$	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) - m\mathbf{b}$	$p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$	L16
	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) + m\mathbf{b}$	$-p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$			$p2_1/b11 (\mathbf{a}'/4)$	L17
		n odd	m even			$pb11$	L12
		p even	q odd		$C2/c11$	$\hat{p}\bar{1}$	L02
		n even	m odd			$c211$	L12
		p odd	q even			$\hat{p}1$	L01
		n even	m odd	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$	L02
		p odd	q odd			$c211 (\mathbf{b}'/4)$	L10
		n odd	m odd			$\hat{p}1$	L01
		p even	q odd	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$	L17
		n odd	m odd			$p2/b11 (\mathbf{a}'/4)$	L16
		p odd	q odd			$pb11 (\mathbf{a}'/4)$	L12
		n odd	m odd	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$	L17
		p odd	q even			$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L16
		n odd	m even			$pb11 (\mathbf{a}'/4)$	L12
		p odd	q odd	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$	L16
		n odd	m even			$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L17
		p odd	q odd			$pb11$	L12

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
($mn0$)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
($\bar{m}n0$)	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
($nm0$)	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
($\bar{n}m0$)	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
($0mn$)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$			
($0\bar{m}n$)	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
($0nm$)	\mathbf{a}	$m\mathbf{b} - n\mathbf{c}$	$q\mathbf{b} + p\mathbf{c}$			
($0\bar{n}m$)	\mathbf{a}	$m\mathbf{b} + n\mathbf{c}$	$-q\mathbf{b} + p\mathbf{c}$			
($n0m$)	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$			
($n0\bar{m}$)	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$			
($m0n$)	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			
($m0\bar{n}$)	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
(hhl)	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
($\bar{h}hl$)	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) + m\mathbf{c}$	$-p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
($h\bar{h}l$)	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
($\bar{h}h\bar{l}$)	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
(lhh)	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) - m\mathbf{a}$	$p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$			
($\bar{l}\bar{h}h$)	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) + m\mathbf{a}$	$-p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$			
($lh\bar{h}$)	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) - m\mathbf{a}$	$p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$			
($\bar{l}\bar{h}\bar{h}$)	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) + m\mathbf{a}$	$-p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$			
($h\bar{l}h$)	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) - m\mathbf{b}$	$p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$			
($\bar{h}l\bar{h}$)	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) + m\mathbf{b}$	$-p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$			
($\bar{h}\bar{l}h$)	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) - m\mathbf{b}$	$p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$			
($h\bar{l}\bar{h}$)	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) + m\mathbf{b}$	$-p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$			
		n odd	m even			
		p even	q odd			
		n even	m odd			
		p odd	q even			
		n even	m odd			
		p odd	q odd			
		n odd	m odd			
		p even	q odd			
		n odd	m odd			
		p odd	q even			
		n odd	m even			
		p odd	q odd			
		n odd	m odd			
		p even	q odd			
		n odd	m odd			
		p odd	q even			
		n odd	m even			
		p odd	q odd			
		n odd	m odd			
		p even	q odd			
		n odd	m odd			
		p odd	q even			
		n odd	m even			
		p odd	q odd			
		n odd	m odd			
		p even	q odd			
		n odd	m odd			
		p odd	q even			
		n odd	m even			
		p odd	q odd			
		n odd	m odd			
		p even	q odd			
		n odd	m odd			
		p odd	q even			
		n odd	m even			
		p odd	q odd			
		n odd	m odd			
		p even	q odd			
		n odd	m odd			
		p odd	q even			
		n odd	m even			
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		p even	q odd			
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		n odd	m even			
		p odd	q odd			
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		p odd	q even			
		n odd	m even			
		p odd	q odd			
		n odd	m odd			
		p even	q odd			
		n odd	m odd			
		p odd	q even			

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}					
$(mn0)$ $(\bar{m}n0)$ $(nm0)$ $(\bar{n}m0)$ $(0mn)$ $(0\bar{m}n)$ $(0nm)$ $(0\bar{n}m)$ $(n0m)$ $(n0\bar{m})$ $(m0n)$ $(m0\bar{n})$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$					
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$					
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$					
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$					
	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$					
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$					
	\mathbf{a}	$m\mathbf{b} - n\mathbf{c}$	$q\mathbf{b} + p\mathbf{c}$					
	\mathbf{a}	$m\mathbf{b} + n\mathbf{c}$	$-q\mathbf{b} + p\mathbf{c}$					
	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$					
	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$					
	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$					
	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$					
			n odd m even p even q odd or n even m odd p odd q even p odd q odd	$P2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211 (\mathbf{b}'/4)$ $p1$		
						L02 L08 L01		
						L02 L08 L01		
						L16 L12		
(hhl) $(\bar{h}hl)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$					
	\mathbf{a}	\mathbf{b}	$n\mathbf{a} - \mathbf{b} - m\mathbf{c}$					
			$p\mathbf{a} - \mathbf{b} - q\mathbf{c}$					
			n odd					
			p even q odd					
			n even m odd					
			p odd q even					
			p odd q odd					
			n odd m odd	$P2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p\bar{1}$ $p211$ $p1$		
(hhl) $(\bar{h}hl)$ $(3\mathbf{a} + \mathbf{b} + \mathbf{c})/4$ or $(\mathbf{a} + 3\mathbf{b} + \mathbf{c})/4$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$					
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$					
			n odd					
			p even q odd					
			n even m odd					
			p odd					
			n odd					
			p odd					
			n odd m odd	$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$		
(hhl) $(\bar{h}hl)$ $(3\mathbf{a} + \mathbf{b} + \mathbf{c})/4$ or $(\mathbf{a} + 3\mathbf{b} + \mathbf{c})/4$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$					
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$					
			n odd					
			p even q odd					
			n even m odd					
			p odd					
			n odd					
			p odd					
			n odd m odd	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\pm s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ $cm11$		
(hhl) $(\bar{h}hl)$ $(3\mathbf{a} + \mathbf{b} + \mathbf{c})/4$ or $(\mathbf{a} + 3\mathbf{b} + \mathbf{c})/4$	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$					
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$					
			n odd					
			p even q odd					
			n even m odd					
			p odd					
			n odd					
			p odd					
			n odd m odd	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$		

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$	Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(lhh) $(\bar{l}h\bar{h})$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$	$\mathbf{b} - \mathbf{c} \quad n(\mathbf{b} + \mathbf{c}) - m\mathbf{a} \quad p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$ $\mathbf{b} - \mathbf{c} \quad n \mathbf{b} \quad \mathbf{c} \quad m\mathbf{a} \quad p \mathbf{b} \quad \mathbf{c} \quad q\mathbf{a}$ n odd p even q odd	$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14 $p2_1/m11 (\mathbf{a}'/4)$ L15 $pm11$ L11
	n even m odd		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ L18 $cm11$ L13
	n odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14 $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15 $pm11$ L11
	p odd			
	$(lh\bar{h})$ $(\bar{l}h\bar{h})$ $(\mathbf{a} + 3\mathbf{b} + \mathbf{c})/4$ or $(\mathbf{a} + \mathbf{b} + 3\mathbf{c})/4$	$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14 $p2_1/m11 (\mathbf{a}'/4)$ L15 $pm11$ L11
	$\mathbf{b} + \mathbf{c} \quad n(\mathbf{c} - \mathbf{b}) - m\mathbf{a} \quad p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$ $\mathbf{b} + \mathbf{c} \quad n(\mathbf{c} - \mathbf{b}) + m\mathbf{a} \quad -p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$ n odd p even q odd		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ L18 $cm11$ L13
	n even m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14 $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15 $pm11$ L11
	n odd			
	p odd			
	(hlh) $(\bar{h}l\bar{h})$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/4$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14 $p2_1/m11 (\mathbf{a}'/4)$ L15 $pm11$ L11
	$\mathbf{c} - \mathbf{a} \quad n(\mathbf{c} + \mathbf{a}) - m\mathbf{b} \quad p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$ $\mathbf{c} - \mathbf{a} \quad n(\mathbf{c} + \mathbf{a}) + m\mathbf{b} \quad -p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$ n odd p even q odd	$B2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14 $p2_1/m11 (\mathbf{a}'/4)$ L15 $pm11$ L11
	n even m odd		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ L18 $cm11$ L13
	n odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14 $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15 $pm11$ L11
	p odd			
	$(\bar{h}lh)$ $(h\bar{l}\bar{h})$ $(\mathbf{a} + \mathbf{b} + 3\mathbf{c})/4$ or $(3\mathbf{a} + \mathbf{b} + \mathbf{c})/4$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14 $p2_1/m11 (\mathbf{a}'/4)$ L15 $pm11$ L11
	$\mathbf{c} + \mathbf{a} \quad n(\mathbf{a} - \mathbf{c}) - m\mathbf{b} \quad p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$ $\mathbf{c} + \mathbf{a} \quad n(\mathbf{a} - \mathbf{c}) + m\mathbf{b} \quad -p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$ n odd p even q odd		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14 $p2_1/m11 (\mathbf{a}'/4)$ L15 $pm11$ L11
	n even m odd		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ L18 $cm11$ L13
	n odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14 $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15 $pm11$ L11
	p odd			

 l odd $\Rightarrow n = l, m = 2h$; l even $\Rightarrow n = l/2, m = h$

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
(mn0)	c	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
	c	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
	c	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
	c	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
	a	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$			
	a	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
	a	$m\mathbf{b} - n\mathbf{c}$	$q\mathbf{b} + p\mathbf{c}$			
	a	$m\mathbf{b} + n\mathbf{c}$	$-q\mathbf{b} + p\mathbf{c}$			
	b	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$			
	b	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$			
	b	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			
	b	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
(0mn)						
(0nm)						
(0m̄n)						
(m0n)						
(m0̄n)						
(hhl)	$\mathbf{a} - \mathbf{b}$	$n(\mathbf{a} + \mathbf{b}) - m\mathbf{c}$	$p(\mathbf{a} + \mathbf{b}) + q\mathbf{c}$			
	$\mathbf{a} + \mathbf{b}$	$n\mathbf{a} - \mathbf{b} - m\mathbf{c}$	$p\mathbf{a} - \mathbf{b} - q\mathbf{c}$			
(h̄hl)						
(a/2 or b/2)	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) - m\mathbf{c}$	$p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			
	$\mathbf{a} + \mathbf{b}$	$n(\mathbf{b} - \mathbf{a}) + m\mathbf{c}$	$-p(\mathbf{b} - \mathbf{a}) + q\mathbf{c}$			

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
(lhh) $(\bar{l}hh)$ $(b/2 \text{ or } c/2)$	$\mathbf{b} - \mathbf{c}$	$n(\mathbf{b} + \mathbf{c}) - m\mathbf{a}$	$p(\mathbf{b} + \mathbf{c}) + q\mathbf{a}$	$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/m11$	L14
	\mathbf{b}	$n \mathbf{b}$	$\mathbf{c} \quad m\mathbf{a}$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 (\mathbf{a}'/4)$	L15
			$n \text{ odd}$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11
			$p \text{ even}$				
			$q \text{ odd}$	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c2/m11$	L18
			$n \text{ even}$		$[\mathbf{sd}, -s\mathbf{d}]$	$cm11$	L13
			$p \text{ odd}$				
			$m \text{ odd}$				
$(lh\bar{h})$ $(\bar{l}h\bar{h})$ $(b/2 \text{ or } c/2)$	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) - m\mathbf{a}$	$p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$	$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/m11$	L14
	$\mathbf{b} + \mathbf{c}$	$n(\mathbf{c} - \mathbf{b}) + m\mathbf{a}$	$-p(\mathbf{c} - \mathbf{b}) + q\mathbf{a}$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 (\mathbf{a}'/4)$	L15
			$n \text{ odd}$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11
			$p \text{ even}$				
			$q \text{ odd}$	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c2/m11$	L18
			$n \text{ even}$		$[\mathbf{sd}, -s\mathbf{d}]$	$cm11$	L13
			$p \text{ odd}$				
			$m \text{ odd}$				
(hlh) $(\bar{h}l\bar{h})$ $(c/2 \text{ or } a/2)$	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) - m\mathbf{b}$	$p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$	$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/m11$	L14
	$\mathbf{c} - \mathbf{a}$	$n(\mathbf{c} + \mathbf{a}) + m\mathbf{b}$	$-p(\mathbf{c} + \mathbf{a}) + q\mathbf{b}$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 (\mathbf{a}'/4)$	L15
			$n \text{ odd}$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11
			$p \text{ even}$				
			$q \text{ odd}$	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c2/m11$	L18
			$n \text{ even}$		$[\mathbf{sd}, -s\mathbf{d}]$	$cm11$	L13
			$p \text{ odd}$				
			$m \text{ odd}$				
$(\bar{h}l\bar{h})$ $(hl\bar{h})$ $(c/2 \text{ or } a/2)$	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) - m\mathbf{b}$	$p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$	$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/m11$	L14
	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) + m\mathbf{b}$	$-p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 (\mathbf{a}'/4)$	L15
			$n \text{ odd}$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11
			$p \text{ even}$				
			$q \text{ odd}$	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c2/m11$	L18
			$n \text{ even}$		$[\mathbf{sd}, -s\mathbf{d}]$	$cm11$	L13
			$p \text{ odd}$				
			$m \text{ odd}$				
$(\bar{h}l\bar{h})$ $(hl\bar{h})$ $(c/2 \text{ or } a/2)$	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) - m\mathbf{b}$	$p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/m11$	L14
	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) + m\mathbf{b}$	$-p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 (\mathbf{a}'/4)$	L15
			$n \text{ odd}$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11
			$p \text{ even}$				
			$q \text{ odd}$	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c2/m11$	L18
			$n \text{ even}$		$[\mathbf{sd}, -s\mathbf{d}]$	$cm11$	L13
			$p \text{ odd}$				
			$m \text{ odd}$				
$(\bar{h}l\bar{h})$ $(hl\bar{h})$ $(c/2 \text{ or } a/2)$	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) - m\mathbf{b}$	$p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/m11$	L14
	$\mathbf{c} + \mathbf{a}$	$n(\mathbf{a} - \mathbf{c}) + m\mathbf{b}$	$-p(\mathbf{a} - \mathbf{c}) + q\mathbf{b}$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 (\mathbf{a}'/4)$	L15
			$n \text{ odd}$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pm11$	L11
			$p \text{ even}$				
			$q \text{ odd}$	$B2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$c2/m11$	L18
			$n \text{ even}$		$[\mathbf{sd}, -s\mathbf{d}]$	$cm11$	L13
			$p \text{ odd}$				
			$m \text{ odd}$				

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
(hhl) $(\bar{h}hl)$	$(\mathbf{a} - \mathbf{b})/2$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14		
	$(\mathbf{a} - \mathbf{b})/2$	$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$			$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15		
	n odd	m even				$pm11$ L11		
	p even	q odd						
	or			$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14		
	n even	m odd				$p2_1/m11 (\mathbf{a}'/4)$ L15		
	p odd	q even				$pm11$ L11		
	p odd	q odd						
	n odd		m odd	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ L18		
	n odd		m odd			$cm11$ L13		
	n odd		m odd					
	n odd		m odd					
$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b})/2$			h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$					
$(h\bar{h}l)$ $(\bar{h}hl)$	$(\mathbf{a} + \mathbf{b})/2$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14		
	$(\mathbf{a} + \mathbf{b})/2$	$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$			$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15		
	n odd	m even				$pm11$ L11		
	p even	q odd						
	or			$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14		
	n even	m odd				$p2_1/m11 (\mathbf{a}'/4)$ L15		
	p odd	q even				$pm11$ L11		
	p odd	q odd						
	n odd		m odd	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ L18		
	n odd		m odd			$cm11$ L13		
	n odd		m odd					
	n odd		m odd					
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a})/2$			h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$					
(lhh) $(\bar{l}hh)$	$(\mathbf{b} - \mathbf{c})/2$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14		
	$(\mathbf{b} - \mathbf{c})/2$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$			$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15		
	n odd	m even				$pm11$ L11		
	p even	q odd						
	or			$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14		
	n even	m odd				$p2_1/m11 (\mathbf{a}'/4)$ L15		
	p odd	q even				$pm11$ L11		
	p odd	q odd						
	n odd		m odd	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ L18		
	n odd		m odd			$cm11$ L13		
	n odd		m odd					
	n odd		m odd					
$\hat{\mathbf{a}} = (\mathbf{b} + \mathbf{c})/2$			h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$					
	Continued		h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$					

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(l\bar{h}\bar{h})$ $(\bar{l}h\bar{h})$	$(\mathbf{b} + \mathbf{c})/2$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14
	$(\mathbf{b} + \mathbf{c})/2$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$			$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15
	or					$pm11$ L11
	n odd	m even	$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14	
	p even	q odd			$p2_1/m11 (\mathbf{a}'/4)$ L15	
	n even	m odd			$pm11$ L11	
	p odd	q even	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ L18	
	p odd	q odd			$cm11$ L13	
	n odd	m odd				
$(h\bar{h}h)$ $(\bar{h}h\bar{h})$	$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{b})/2$			h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$		
	$(\mathbf{c} - \mathbf{a})/2$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14
	$(\mathbf{c} - \mathbf{a})/2$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$			$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15
	or					$pm11$ L11
	n odd	m even	$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14	
	p even	q odd			$p2_1/m11 (\mathbf{a}'/4)$ L15	
	n even	m odd			$pm11$ L11	
	p odd	q even	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ L18	
	p odd	q odd			$cm11$ L13	
	n odd	m odd				
$(\bar{h}lh)$ $(hl\bar{h})$	$\hat{\mathbf{a}} = (\mathbf{c} + \mathbf{a})/2$			h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$		
	$(\mathbf{c} + \mathbf{a})/2$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14
	$(\mathbf{c} + \mathbf{a})/2$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$			$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ L15
	or					$pm11$ L11
	n odd	m even	$B2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ L14	
	p even	q odd			$p2_1/m11 (\mathbf{a}'/4)$ L15	
	n even	m odd			$pm11$ L11	
	p odd	q even	$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$c2/m11$ L18	
	p odd	q odd			$cm11$ L13	
	n odd	m odd				
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{c})/2$	h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$					

$$\mathcal{G} = F_{\frac{n}{n}}^{\frac{4}{n}} \bar{3}_c^2$$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}						
(h00)	\mathbf{c}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$		$I2/m11$				
	\mathbf{c}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$						
	\mathbf{c}	$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$						
	\mathbf{c}	$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$						
		n odd	m even						
		p even	q odd						
		or							
		n even	m odd						
		p odd	q even						
		p odd	q odd						
(0hk)	$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$				$I2/m11$				
(0kh)	$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$ $\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$				$B2/m11$				
(k0h)	$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{a})/2$ $\hat{\mathbf{b}} = (\mathbf{c} + \mathbf{a})/2$				$C2/m11$				
Continued				h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$					

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(hhl) $(\bar{h}\bar{h}l)$	$(\mathbf{a} - \mathbf{b})/2$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16
	$(\mathbf{a} - \mathbf{b})/2$	$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$			$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17
	n odd	m even	$pb11$ L12			
	p even	q odd				
	n even	m odd	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17	
	p odd	q even			$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L16	
	n even	m odd			$pb11 (\mathbf{a}'/4)$ L12	
	p odd	q odd	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17	
	n odd	m odd			$p2/b11 (\mathbf{a}'/4)$ L16	
	p even	q odd			$pb11 (\mathbf{a}'/4)$ L12	
	n odd	m odd	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ L02	
	p even	q odd			$c211 (\mathbf{b}'/4)$ L10	
	n odd	m odd			$\hat{p}1$ L01	
	p odd	q even	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ L02	
	n odd	m odd			$c211$ L10	
	p odd	q even			$\hat{p}1$ L01	
	n odd	m even	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16	
	p odd	q odd			$p2_1/b11 (\mathbf{a}'/4)$ L17	
	n odd	m even			$pb11$ L12	
$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b})/2$				h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$		
$(h\bar{h}l)$ $(\bar{h}h\bar{l})$	$(\mathbf{a} + \mathbf{b})/2$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16
	$(\mathbf{a} + \mathbf{b})/2$	$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$			$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17
	n odd	m even	$pb11$ L12			
	p even	q odd				
	n even	m odd	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17	
	p odd	q even			$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L16	
	n even	m odd			$pb11 (\mathbf{a}'/4)$ L12	
	n odd	m odd	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ L17	
	p odd	q odd			$p2/b11 (\mathbf{a}'/4)$ L16	
	n odd	m odd			$pb11 (\mathbf{a}'/4)$ L12	
	n odd	m odd	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ L02	
	p even	q odd			$c211 (\mathbf{b}'/4)$ L10	
	n odd	m odd			$\hat{p}1$ L01	
	n odd	m odd	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ L02	
	p odd	q even			$c211$ L10	
	n odd	m odd			$\hat{p}1$ L01	
	n odd	m even	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16	
	p odd	q odd			$p2_1/b11 (\mathbf{a}'/4)$ L17	
	n odd	m even			$pb11$ L12	
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a})/2$				h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$		

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$				
(lhh) $(\bar{l}\bar{h}h)$	$(\mathbf{b} - \mathbf{c})/2$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p_{21}/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$				
	$(\mathbf{b} - \mathbf{c})/2$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$							
	n odd	m even								
	p even	q odd								
	n even	m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$I2/c11$	$p_{21}/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$	$L16$ $L17$ $L12$				
	p odd	q even								
	n even	m odd								
	p odd	q odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$B2/n11$	$p_{21}/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$	$L17$ $L16$ $L12$				
	n odd	m odd								
	p even	q odd								
	n odd	m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$C2/n11$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$	$L02$ $L10$ $L01$				
	p odd	q even								
	n odd	m odd								
	p odd	q even	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$C2/c11$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$	$L02$ $L10$ $L01$				
	n odd	m even								
	p odd	q odd								
$\hat{\mathbf{a}} = (\mathbf{b} + \mathbf{c})/2$										
h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$										
$(l\bar{h}\bar{h})$ $(\bar{l}h\bar{h})$	$(\mathbf{b} + \mathbf{c})/2$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p_{21}/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$				
	$(\mathbf{b} + \mathbf{c})/2$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$							
	n odd	m even								
	p even	q odd								
	n even	m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$I2/c11$	$p_{21}/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$	$L17$ $L16$ $L12$				
	p odd	q even								
	n even	m odd								
	p odd	q odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$B2/n11$	$p_{21}/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$	$L17$ $L16$ $L12$				
	n odd	m odd								
	p even	q odd								
	n odd	m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$C2/n11$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$	$L02$ $L10$ $L01$				
	p odd	q even								
	n odd	m odd								
	p odd	q even	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$C2/c11$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$	$L02$ $L10$ $L01$				
	n odd	m even								
	p odd	q odd								
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{b})/2$										
h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$										

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
(hlh) $(\bar{h}\bar{l}h)$	$(\mathbf{c} - \mathbf{a})/2$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$	L16
	$(\mathbf{c} - \mathbf{a})/2$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$			$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L17
		n odd	m even			$pb11$	L12
		p even	q odd				
		n even	m odd	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$	L17
		p odd	q even			$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L16
		n even	m odd	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$	L17
		p odd	q odd			$p2/b11 (\mathbf{a}'/4)$	L16
		n odd	m odd			$pb11 (\mathbf{a}'/4)$	L12
	$(\bar{h}l\bar{h})$ $(h\bar{l}h)$	$(\mathbf{c} + \mathbf{a})/2$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$	$C2/n11$	$\hat{p}\bar{1}$	L02
		$(\mathbf{c} + \mathbf{a})/2$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$		$c211 (\mathbf{b}'/4)$	L10
			n odd	m even		$\hat{p}1$	L01
			p even	q odd	$C2/c11$	$\hat{p}\bar{1}$	L02
			n odd	m odd		$c211$	L10
			p odd	q even		$\hat{p}1$	L01
			n odd	m even	$B2/b11$	$p2/b11$	L16
			p odd	q odd		$p2_1/b11 (\mathbf{a}'/4)$	L17
				$pb11$		L12	
$\hat{\mathbf{a}} = (\mathbf{c} + \mathbf{a})/2$				h odd $\Rightarrow m = h, n = 2l$; h even $\Rightarrow m = h/2, n = l$			
$(\bar{h}l\bar{h})$ $(h\bar{l}h)$	$(\mathbf{c} + \mathbf{a})/2$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$	L16
	$(\mathbf{c} + \mathbf{a})/2$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$			$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L17
		n odd	m even			$pb11$	L12
		p even	q odd				
		n even	m odd	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$	L17
		p odd	q even			$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L16
		n even	m odd	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$	L17
		p odd	q odd			$p2/b11 (\mathbf{a}'/4)$	L16
		n odd	m odd			$pb11 (\mathbf{a}'/4)$	L12
	$(\bar{h}l\bar{h})$ $(h\bar{l}h)$	$(\mathbf{c} - \mathbf{a})/2$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$	$C2/n11$	$\hat{p}\bar{1}$	L02
		$(\mathbf{c} - \mathbf{a})/2$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$		$c211 (\mathbf{b}'/4)$	L10
			n odd	m even		$\hat{p}1$	L01
			p even	q odd	$C2/c11$	$\hat{p}\bar{1}$	L02
			n odd	m odd		$c211$	L10
			p odd	q even		$\hat{p}1$	L01
			n odd	m even	$B2/b11$	$p2/b11$	L16
			p odd	q odd		$p2_1/b11 (\mathbf{a}'/4)$	L17
				$pb11$		L12	
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{c})/2$				h odd $\Rightarrow m = h, n = 2l$; h even $\Rightarrow m = h/2, n = l$			

$$\mathcal{G} = F_d^4 \bar{3}_m^2 \quad \text{origin 1}$$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}						
$(hk0)$ $(\bar{h}k0)$ $(kh0)$ $(\bar{k}h0)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/8$	\mathbf{c}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$		$I2/c11$				
	\mathbf{c}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$						
	\mathbf{c}	$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$						
	\mathbf{c}	$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$						
	n odd	m even				$p2_1/b11$			
						$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$			
	p even	q odd				$pb11 (\mathbf{a}'/4)$			
						L12			
	n even	m odd			$I2/b11$	$p2/b11$			
						$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$			
	p odd	q even				L17			
						L16			
$(0hk)$ $(0\bar{h}k)$ $(0kh)$ $(0\bar{k}h)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/8$	n even	m odd			$B2/b11$	$p2/b11$			
						$p2_1/b11 (\mathbf{a}'/4)$			
	p odd	q odd				$pb11$			
						L12			
	n odd	m odd			$C2/c11$	$\hat{p}\bar{1}$			
						L02			
	p even	q odd				$c211$			
						L10			
	n odd	m odd			$C2/n11$	$\hat{p}1$			
						L01			
	p odd	q even			$C2/n11$	$\hat{p}\bar{1}$			
						L02			
	n odd	m even			$B2/n11$	$c211 (\mathbf{b}'/4)$			
						L10			
	p odd	q odd				$\hat{p}1$			
						L01			
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$				h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$					
$\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$				h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$					
$(0hk)$ $(0\bar{h}k)$ $(0kh)$ $(0\bar{k}h)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/8$	\mathbf{a}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$		$I2/c11$				
	\mathbf{a}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$						
	\mathbf{a}	$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$						
	\mathbf{a}	$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$						
	n odd	m even				$p2_1/b11$			
						$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$			
	p even	q odd				$pb11 (\mathbf{a}'/4)$			
						L12			
	n even	m odd			$I2/b11$	$p2/b11$			
						$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$			
	p odd	q even				$pb11$			
						L12			
	n even	m odd			$B2/b11$	$p2/b11$			
						$p2_1/b11 (\mathbf{a}'/4)$			
	p odd	q odd				$pb11$			
						L12			
	n odd	m odd			$C2/c11$	$\hat{p}\bar{1}$			
						L02			
	p even	q odd				$c211$			
						L10			
	n odd	m odd			$C2/n11$	$\hat{p}1$			
						L01			
	p odd	q even			$C2/n11$	$\hat{p}\bar{1}$			
						L02			
	n odd	m odd			$B2/n11$	$c211 (\mathbf{b}'/4)$			
						L10			
	p odd	q odd				$\hat{p}1$			
						L01			
	n odd	m even			$B2/n11$	$p2_1/b11$			
						L17			
	p odd	q odd				$p2/b11 (\mathbf{a}'/4)$			
						L16			
	n odd	m even			$B2/n11$	$pb11 (\mathbf{a}'/4)$			
						L12			
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$				h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$					
$\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$				h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$					

Continued

No. 227 $Fd\bar{3}m$

Continued

 $\mathcal{G} = F_d^4 \bar{3}_m^2$ origin 1 O_h^7

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}						
$(k0h)$	\mathbf{b}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$						
$(k0\bar{h})$	\mathbf{b}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$						
$(h0k)$	\mathbf{b}	$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$						
$(h0\bar{k})$	\mathbf{b}	$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$						
$(\mathbf{a} + \mathbf{b} + \mathbf{c})/8$		n odd	m even	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$			
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$			
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$			
		n even	m odd	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$			
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$			
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$			
		n even	m odd	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$			
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$			
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$			
		n odd	m odd	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$			
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$			
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$			
		n odd	m odd	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$			
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$			
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$			
		n odd	m even	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$			
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$			
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$			
				h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$					
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{a})/2$									
$\hat{\mathbf{b}} = (\mathbf{c} + \mathbf{a})/2$									

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
(hhl) $(\bar{h}hl)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/8$	$(\mathbf{a} - \mathbf{b})/2$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$		
	$(\mathbf{a} - \mathbf{b})/2$	$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$					
	or							
	n odd	m even	$B2/m11$			$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$		
	p even	q odd						
	n even	m odd						
	p odd	q even	$C2/m11$			$c2/m11$ $cm11$		
	p odd	q odd						
	n odd	m odd						
$(h\bar{h}l)$ $(\bar{h}hl)$ $(\mathbf{a} + 3\mathbf{b} + 3\mathbf{c})/8$ or $(3\mathbf{a} + \mathbf{b} + 3\mathbf{c})/8$	$(\mathbf{a} + \mathbf{b})/2$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$		
	$(\mathbf{a} + \mathbf{b})/2$	$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$					
	or							
	n odd	m even	$B2/m11$			$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$		
	p even	q odd						
	n even	m odd						
	p odd	q even	$C2/m11$			$c2/m11$ $cm11$		
	p odd	q odd						
	n odd	m odd						
(lhh) $(\bar{l}hh)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/8$	$(\mathbf{b} - \mathbf{c})/2$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$		
	$(\mathbf{b} - \mathbf{c})/2$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$					
	or							
	n odd	m even	$B2/m11$			$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$		
	p even	q odd						
	n even	m odd						
	p odd	q even	$C2/m11$			$c2/m11$ $cm11$		
	p odd	q odd						
	n odd	m odd						
$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b})/2$	$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b})/2$			h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$				
	Continued			h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$				

Continued

$$\mathcal{G} = F_d^4 \bar{3} \frac{2}{m} \quad \text{origin 1}$$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$							
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}										
$(l\bar{h}\bar{h})$ $(\bar{l}h\bar{h})$ $(3\mathbf{a} + \mathbf{b} + 3\mathbf{c})/8$ or $(3\mathbf{a} + 3\mathbf{b} + \mathbf{c})/8$	$(\mathbf{b} + \mathbf{c})/2$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$		$I2/m11$	p2/m11 p2 ₁ /m11 $[(\mathbf{a}' + \mathbf{b}')/4]$ pm11							
	$(\mathbf{b} + \mathbf{c})/2$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$										
	n odd m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$										
	p even q odd												
	or												
	n even m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$B2/m11$									
	p odd q even												
	p odd q odd												
	n odd m odd		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$C2/m11$	c2/m11 cm11	L18 L13							
$(h\bar{h}h)$ $(\bar{h}h\bar{h})$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/8$	$(\mathbf{c} - \mathbf{a})/2$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$		$I2/m11$	p2/m11 p2 ₁ /m11 $[(\mathbf{a}' + \mathbf{b}')/4]$ pm11							
	$(\mathbf{c} - \mathbf{a})/2$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$										
	n odd m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$										
	p even q odd												
	or												
	n even m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$B2/m11$	p2/m11 p2 ₁ /m11 $(\mathbf{a}'/4)$ pm11	L14 L15 L11							
	p odd q even												
	p odd q odd												
	n odd m odd		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$C2/m11$	c2/m11 cm11	L18 L13							
$(\bar{h}lh)$ $(h\bar{l}h)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/8$	$(\mathbf{c} + \mathbf{a})/2$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$		$I2/m11$	h odd $\Rightarrow m = h, n = 2l$; h even $\Rightarrow m = h/2, n = l$							
	$(\mathbf{c} + \mathbf{a})/2$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$										
	n odd m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$										
	p even q odd												
	or												
	n even m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$B2/m11$	p2/m11 p2 ₁ /m11 $(\mathbf{a}'/4)$ pm11	L14 L15 L11							
	p odd q even												
	p odd q odd												
	n odd m odd		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$C2/m11$	c2/m11 cm11	L18 L13							
$(\bar{h}l\bar{h})$ $(h\bar{l}h)$ $(\mathbf{a} + \mathbf{b} + \mathbf{c})/8$	$(\mathbf{c} + \mathbf{a})/2$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$			h odd $\Rightarrow m = h, n = 2l$; h even $\Rightarrow m = h/2, n = l$							
	$(\mathbf{c} + \mathbf{a})/2$	$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$										
$(3\mathbf{a} + 3\mathbf{b} + \mathbf{c})/8$ or $(\mathbf{a} + 3\mathbf{b} + 3\mathbf{c})/8$	n odd m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$I2/m11$	p2/m11 p2 ₁ /m11 $[(\mathbf{a}' + \mathbf{b}')/4]$ pm11	L14 L15 L11							
	p even q odd												
	or												
	n even m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$B2/m11$	p2/m11 p2 ₁ /m11 $(\mathbf{a}'/4)$ pm11	L14 L15 L11							
	p odd q even												
	p odd q odd												
	n odd m odd		$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ $[s\mathbf{d}, -s\mathbf{d}]$	$C2/m11$	c2/m11 cm11	L18 L13							
$(\mathbf{a} - \mathbf{c})/2$	$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{b})/2$					h odd $\Rightarrow m = h, n = 2l$; h even $\Rightarrow m = h/2, n = l$							
	Continued												

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$									
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}												
$(hk0)$ $(\bar{h}k0)$ $(kh0)$ $(\bar{k}h0)$	\mathbf{c}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$		$I2/c11$										
	\mathbf{c}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$												
	\mathbf{c}	$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$												
	\mathbf{c}	$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$												
	n odd	m even				$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$									
	p even	q odd													
	n even	m odd			$I2/b11$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$									
	p odd	q even													
	n odd	m odd			$B2/b11$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$									
	p even	q odd													
	n odd	m odd			$C2/c11$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$									
	p even	q odd													
	n odd	m even			$C2/n11$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$									
	p odd	q even													
	n odd	m odd			$B2/n11$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$									
	p odd	q odd													
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$															
$\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$															
$(0hk)$ $(0\bar{h}k)$ $(0kh)$ $(0\bar{k}h)$	\mathbf{a}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$												
	\mathbf{a}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$												
	\mathbf{a}	$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$												
	\mathbf{a}	$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$												
	n odd	m even			$I2/c11$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$									
	p even	q odd													
	n even	m odd			$I2/b11$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$									
	p odd	q even													
	n even	m odd			$B2/b11$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$									
	p odd	q odd													
	n odd	m odd			$C2/c11$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$									
	p even	q odd													
	n odd	m odd			$C2/n11$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$									
	p odd	q even													
	n odd	m even			$B2/n11$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$									
	p odd	q odd													
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$															
$\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$															

Continued

No. 227 $Fd\bar{3}m$

Continued

$$\mathcal{G} = F_d^4 \bar{3}_m^2 \quad \text{origin 2}$$

 O_h^7

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}						
$(k0h)$ $(k0\bar{h})$ $(h0k)$ $(h0\bar{k})$	\mathbf{b}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$						
	\mathbf{b}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$						
	\mathbf{b}	$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$						
	\mathbf{b}	$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$						
	n odd m even		$I2/c11$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$			
	p even q odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$			
	n even m odd				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$			
	p odd q even		$I2/b11$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$			
	n even m odd		$B2/b11$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11$			
	p odd q odd				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$			
	n odd m odd				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$pb11$			
	p even q odd		$C2/c11$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$\widehat{p}\bar{1}$			
	n odd m odd		$C2/n11$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$c211$			
	p odd q even				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\widehat{p}1$			
	n odd m even				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$\widehat{p}\bar{1}$			
	p odd q odd		$B2/n11$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$c211 (\mathbf{b}'/4)$			
	n odd m even		$B2/n11$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\widehat{p}1$			
	p odd q odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11$			
	n odd m even				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$			
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{a})/2$		h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$							
$\hat{\mathbf{b}} = (\mathbf{c} + \mathbf{a})/2$		h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$							

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$				
(hhl) $(\bar{h}h\bar{l})$	$(\mathbf{a} - \mathbf{b})/2$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$				
	$(\mathbf{a} - \mathbf{b})/2$	$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$			$L14$ $L15$ $L11$				
	n odd	m even	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$			$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$				
	p even	q odd				$L14$ $L15$ $L11$				
	or									
	n even	m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$B2/m11$		$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$				
	p odd	q even				$L14$ $L15$ $L11$				
	p odd	q odd								
	n odd	m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$C2/m11$		$c2/m11$ $cm11$				
	$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b})/2$					$L18$ $L13$				
	h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$									
$(h\bar{h}l)$ $(\bar{h}hl)$ $(\mathbf{a} + \mathbf{c})/4$ or $(\mathbf{b} + \mathbf{c})/4$	$(\mathbf{a} + \mathbf{b})/2$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$				
	$(\mathbf{a} + \mathbf{b})/2$	$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$			$L14$ $L15$ $L11$				
	n odd	m even								
	p even	q odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$B2/m11$		$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$				
	or					$L14$ $L15$ $L11$				
	n even	m odd								
	p odd	q even	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$C2/m11$		$c2/m11$ $cm11$				
	p odd	q odd				$L18$ $L13$				
	n odd	m odd								
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a})/2$			h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$							
(lhh) $(\bar{l}h\bar{h})$	$(\mathbf{b} - \mathbf{c})/2$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$I2/m11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pm11$				
	$(\mathbf{b} - \mathbf{c})/2$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$			$L14$ $L15$ $L11$				
	n odd	m even	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$B2/m11$		$p2/m11$ $p2_1/m11 (\mathbf{a}'/4)$ $pm11$				
	p even	q odd				$L14$ $L15$ $L11$				
	or									
	n even	m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$C2/m11$		$c2/m11$ $cm11$				
	p odd	q even				$L18$ $L13$				
	p odd	q odd								
	n odd	m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$C2/m11$		$c2/m11$ $cm11$				
	$\hat{\mathbf{a}} = (\mathbf{b} + \mathbf{c})/2$					$L18$ $L13$				
	Continued									

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}' \quad \mathbf{b}' \quad \mathbf{d}$			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$3(\mathbf{a} + \mathbf{b} + \mathbf{c})/8$	\mathbf{c}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$	L17
	\mathbf{c}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L16
	\mathbf{c}	$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$			$pb11 (\mathbf{a}'/4)$	L12
	\mathbf{c}	$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$		n odd m even p even q odd	$p2/b11$	L16
						$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L17
						$pb11 (\mathbf{a}'/4)$	L12
				n even m odd p odd q even	$I2/b11$	$p2/b11$	L16
					$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L17	
					$pb11$	L12	
				n even m odd p odd q odd	$B2/b11$	$p2/b11$	L16
					$p2_1/b11 (\mathbf{a}'/4)$	L17	
					$pb11$	L12	
				n odd m odd p even q odd	$C2/c11$	$\hat{p}\bar{1}$	L02
					$c211$	L10	
					$\hat{p}1$	L01	
				n odd m odd p odd q even	$C2/n11$	$\hat{p}\bar{1}$	L02
					$c211 (\mathbf{b}'/4)$	L10	
					$\hat{p}1$	L01	
				n odd m even p odd q odd	$B2/n11$	$p2_1/b11$	L17
					$p2/b11 (\mathbf{a}'/4)$	L16	
					$pb11 (\mathbf{a}'/4)$	L12	
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$ $\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$				h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$			
$3(\mathbf{a} + \mathbf{b} + \mathbf{c})/8$	\mathbf{a}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$	L17
	\mathbf{a}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L16
	\mathbf{a}	$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$			$pb11 (\mathbf{a}'/4)$	L12
	\mathbf{a}	$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$		n odd m even p even q odd	$p2/b11$	L16
						$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L17
						$pb11 (\mathbf{a}'/4)$	L12
				n even m odd p odd q even	$I2/b11$	$p2/b11$	L16
					$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L17	
					$pb11$	L12	
				n even m odd p odd q odd	$B2/b11$	$p2/b11$	L16
					$p2_1/b11 (\mathbf{a}'/4)$	L17	
					$pb11$	L12	
				n odd m odd p even q odd	$C2/c11$	$\hat{p}\bar{1}$	L02
					$c211$	L10	
					$\hat{p}1$	L01	
				n odd m odd p odd q even	$C2/n11$	$\hat{p}\bar{1}$	L02
					$c211 (\mathbf{b}'/4)$	L10	
					$\hat{p}1$	L01	
				n odd m even p odd q odd	$B2/n11$	$p2_1/b11$	L17
					$p2/b11 (\mathbf{a}'/4)$	L16	
					$pb11 (\mathbf{a}'/4)$	L12	
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$ $\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$				h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$ h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$			

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}					
$(k0h)$	\mathbf{b}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$					
$(k0\bar{h})$	\mathbf{b}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$					
$(h0k)$	\mathbf{b}	$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$					
$(h0\bar{k})$	\mathbf{b}	$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$					
$3(\mathbf{a} + \mathbf{b} + \mathbf{c})/8$		n odd	m even	$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$		
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$		
		p even	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$		
						L12		
		n even	m odd	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$		
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$		
		p odd	q even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$		
						L12		
		n even	m odd	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$		
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$		
		p odd	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$		
						L12		
		n odd	m odd	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$		
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$		
		p even	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$		
						L01		
		n odd	m odd	$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$		
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$		
		p odd	q even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$		
						L01		
		n odd	m even	$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$		
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$		
		p odd	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$		
						L12		
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{a})/2$				h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$				
$\hat{\mathbf{b}} = (\mathbf{c} + \mathbf{a})/2$				h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$				

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$					
$3(\mathbf{a} + \mathbf{b} + \mathbf{c})/8$	$(\mathbf{a} - \mathbf{b})/2$ $n\hat{\mathbf{a}} - m\mathbf{c}$ $p\hat{\mathbf{a}} + q\mathbf{c}$			$I2/b11$							
	$(\mathbf{a} - \mathbf{b})/2$ $n\hat{\mathbf{a}} + m\mathbf{c}$ $-p\hat{\mathbf{a}} + q\mathbf{c}$				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L16					
	n odd		m even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17					
	p even		q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12					
	n even m odd			$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$ L17					
	p odd q even				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L16					
	n even m odd				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12					
	p odd q odd			$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$ L17					
	n odd m odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$ L16					
	p even q odd				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12					
	n odd m odd			$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$ L02					
	p even q odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$ L10					
	n odd m odd				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ L01					
	p odd q even			$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$ L02					
	n odd m odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$ L10					
	p odd q even				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ L01					
	n odd m even			$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L16					
	p odd q odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$ L17					
	n odd m even				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12					
$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b})/2$											
h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$											
$(\mathbf{a} + \mathbf{b})/2$ $(\bar{h}\bar{l})$ $(\mathbf{a} + 3\mathbf{b} + \mathbf{c})/8$ or $(3\mathbf{a} + \mathbf{b} + \mathbf{c})/8$	$(\mathbf{a} + \mathbf{b})/2$ $n\hat{\mathbf{a}} - m\mathbf{c}$ $p\hat{\mathbf{a}} + q\mathbf{c}$			$I2/b11$							
	$(\mathbf{a} + \mathbf{b})/2$ $n\hat{\mathbf{a}} + m\mathbf{c}$ $-p\hat{\mathbf{a}} + q\mathbf{c}$				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L16					
	n odd		m even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17					
	p even		q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12					
	n even m odd			$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$ L17					
	p odd q even				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L16					
	n even m odd				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12					
	n even m odd			$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$ L17					
	p odd q odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$ L16					
	n odd m odd				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12					
	n odd m odd			$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$ L02					
	p even q odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$ L10					
	n odd m odd				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ L01					
	n odd m odd			$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$ L02					
	p odd q even				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$ L10					
	n odd m even				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ L01					
	p odd q odd			$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L16					
	n odd m even				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$ L17					
	p odd q odd				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12					
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a})/2$											
h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$											

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
$3(\mathbf{a} + \mathbf{b} + \mathbf{c})/8$	(lhh)	$(\mathbf{b} - \mathbf{c})/2$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$I2/b11$		
	$(\bar{l}\bar{h}\bar{h})$	$(\mathbf{b} - \mathbf{c})/2$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L16
			n odd	m even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p_{21}/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17
			p even	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12
			n even	m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p_{21}/b11$ L17
			p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L16
			n even	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12
			p odd	q odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p_{21}/b11$ L17
			n odd	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$ L16
			p even	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12
			n odd	m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$ L02
			p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$ L10
			n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ L01
			p odd	q even	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$ L02
			n odd	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$ L10
			p odd	q even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ L01
			n odd	m even	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L16
			p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p_{21}/b11 (\mathbf{a}'/4)$ L17
			n odd	m even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12
$(\mathbf{a} + \mathbf{b} + 3\mathbf{c})/8$ or $(\mathbf{a} + 3\mathbf{b} + \mathbf{c})/8$	$(l\bar{h}\bar{h})$	$(\mathbf{b} + \mathbf{c})/2$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$I2/b11$		
	$(\bar{l}h\bar{h})$	$(\mathbf{b} + \mathbf{c})/2$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L16
			n odd	m even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p_{21}/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17
			p even	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12
			n even	m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p_{21}/b11$ L17
			p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L16
			n even	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12
			p odd	q odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p_{21}/b11$ L17
			n odd	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$ L16
			p even	q odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$ L12
			n odd	m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$ L02
			p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$ L10
			n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ L01
			p odd	q even	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$ L02
			n odd	m odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$ L10
			p odd	q even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$ L01
			n odd	m even	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L16
			p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p_{21}/b11 (\mathbf{a}'/4)$ L17
			n odd	m even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12
$\hat{\mathbf{a}} = (\mathbf{b} + \mathbf{c})/2$							
h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$							
$(\mathbf{c} - \mathbf{b})/2$	$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{b})/2$						
	h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$						

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$					
$3(\mathbf{a} + \mathbf{b} + \mathbf{c})/8$	$(\mathbf{c} - \mathbf{a})/2$ $n\hat{\mathbf{a}} - m\mathbf{b}$ $p\hat{\mathbf{a}} + q\mathbf{b}$			$I2/b11$							
	$(\bar{h}\bar{l}\bar{h})$ $(\mathbf{c} - \mathbf{a})/2$ $n\hat{\mathbf{a}} + m\mathbf{b}$ $-p\hat{\mathbf{a}} + q\mathbf{b}$				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$					
	n odd m even				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$					
	p even q odd				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$					
	n even m odd				$I2/c11$	$p2_1/b11$					
	p odd q even				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$					
	n even m odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$					
	p odd q odd			$B2/n11$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$					
	n odd m odd				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$					
	p even q odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$					
	n odd m odd				$C2/n11$	$\hat{p}\bar{1}$					
	p even q odd				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$					
	n odd m odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$\hat{p}1$					
	p odd q even				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$					
	n odd m even			$B2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$					
	p odd q odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$					
	n odd m even				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$					
	p odd q odd				$B2/b11$	$p2/b11$					
	n odd m even				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$					
	p odd q odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$					
	n odd m even				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$					
$\hat{\mathbf{a}} = (\mathbf{c} + \mathbf{a})/2$											
h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$											
$(\bar{h}\bar{l}h)$ $(hl\bar{h})$ $(3\mathbf{a} + \mathbf{b} + \mathbf{c})/8$ or $(\mathbf{a} + \mathbf{b} + 3\mathbf{c})/8$	$(\mathbf{c} + \mathbf{a})/2$ $n\hat{\mathbf{a}} - m\mathbf{b}$ $p\hat{\mathbf{a}} + q\mathbf{b}$			$I2/b11$							
	$(\mathbf{c} + \mathbf{a})/2$ $n\hat{\mathbf{a}} + m\mathbf{b}$ $-p\hat{\mathbf{a}} + q\mathbf{b}$				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$					
	n odd m even				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$					
	p even q odd				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$					
	n even m odd				$I2/c11$	$p2_1/b11$					
	p odd q even				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$					
	n even m odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$					
	p odd q odd			$B2/n11$	$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$					
	n even m odd				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$					
	p odd q odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$					
	n odd m odd				$C2/n11$	$\hat{p}\bar{1}$					
	p even q odd				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$					
	n odd m odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$\hat{p}1$					
	p odd q even				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$					
	n odd m even			$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$					
	p odd q even				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$					
	n odd m even				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$					
	p odd q odd				$B2/b11$	$p2/b11$					
	n odd m even				$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$					
	p odd q odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$					
	n odd m even				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$					
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{c})/2$											
h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$											

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$					
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}								
$(hk0)$ $(\bar{h}k0)$ $(kh0)$ $(\bar{k}h0)$	\mathbf{c}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$		$I2/c11$						
	\mathbf{c}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$								
	\mathbf{c}	$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$								
	\mathbf{c}	$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$								
	n odd	m even				$p2_1/b11$					
	p even	q odd				$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$					
						$pb11 (\mathbf{a}'/4)$					
	n even	m odd		$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$					
	p odd	q even				$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$					
	n even	m odd		$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$					
	n odd	m odd		$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$					
	p even	q odd		$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$					
	n odd	m even		$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$					
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{b})/2$				h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$							
$\hat{\mathbf{b}} = (\mathbf{a} + \mathbf{b})/2$				h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$							
$(0hk)$ $(0\bar{h}k)$ $(0kh)$ $(0\bar{k}h)$	\mathbf{a}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$								
	\mathbf{a}	$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$								
	\mathbf{a}	$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$								
	\mathbf{a}	$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$								
	n odd	m even		$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$					
	p even	q odd									
	n even	m odd		$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$					
	p odd	q even									
	n even	m odd		$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$					
	p even	q odd		$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$					
	n odd	m odd		$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$					
	n odd	m even		$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$					
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$				h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$							
$\hat{\mathbf{b}} = (\mathbf{b} + \mathbf{c})/2$				h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$							

Continued

No. 228 $Fd\bar{3}c$

Continued

$$\mathcal{G} = F_d^4 \bar{3}_c^2 \quad \text{origin 2}$$

 O_h^8

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
$(k0h)$	\mathbf{b}	$n\hat{\mathbf{a}} - m\hat{\mathbf{b}}$	$p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			
$(k0\bar{h})$		$n\hat{\mathbf{a}} + m\hat{\mathbf{b}}$	$-p\hat{\mathbf{a}} + q\hat{\mathbf{b}}$			
$(h0k)$		$m\hat{\mathbf{a}} - n\hat{\mathbf{b}}$	$q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$			
$(h0\bar{k})$		$m\hat{\mathbf{a}} + n\hat{\mathbf{b}}$	$-q\hat{\mathbf{a}} + p\hat{\mathbf{b}}$			
		n odd	m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
		p even	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
		n even	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
		p odd	q even		$I2/b11$	$p2/b11$
		n even	m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
		n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
		p even	q odd		$B2/b11$	$p2/b11$
		n odd	m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
		p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
		n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
		p even	q odd		$C2/c11$	$\hat{p}\bar{1}$
		n odd	m odd		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$L02$
		p odd	q even		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
		n odd	m odd		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
		p odd	q even		$C2/n11$	$\hat{p}\bar{1}$
		n odd	m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$L02$
		p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$
		n odd	m even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
		p odd	q odd		$B2/n11$	$p2_1/b11$
		n odd	m even		$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$L17$
		p odd	q odd		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$
		n odd	m even		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
	$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{a})/2$			h even, k odd or h odd, k even $\Rightarrow n = h + k, m = h - k$		
	$\hat{\mathbf{b}} = (\mathbf{c} + \mathbf{a})/2$			h, k odd $\Rightarrow n = (h + k)/2, m = (h - k)/2$		

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$							
(hhl) $(\bar{h}\bar{h}l)$	$(\mathbf{a} - \mathbf{b})/2$ $n\hat{\mathbf{a}} - m\mathbf{c}$ $p\hat{\mathbf{a}} + q\mathbf{c}$			$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16							
	$(\mathbf{a} - \mathbf{b})/2$ $n\hat{\mathbf{a}} + m\mathbf{c}$ $-p\hat{\mathbf{a}} + q\mathbf{c}$					$p2_1/b11$ $[(\mathbf{a}' + \mathbf{b}')/4]$ L17							
	n odd m even					$pb11$ L12							
	p even q odd				$I2/c11$	$p2_1/b11$ L17							
	n even m odd					$p2/b11$ $[(\mathbf{a}' + \mathbf{b}')/4]$ L16							
	p odd q even					$pb11$ $(\mathbf{a}'/4)$ L12							
	n even m odd				$B2/n11$	$p2_1/b11$ L17							
	p odd q odd					$p2/b11$ $(\mathbf{a}'/4)$ L16							
	n odd m odd					$pb11$ $(\mathbf{a}'/4)$ L12							
	p even q odd			$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ L02							
	n odd m odd					$c211$ $(\mathbf{b}'/4)$ L10							
	p odd q even					$\hat{p}1$ L01							
	n odd m even			$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ L02							
	p odd q even					$c211$ L10							
	n odd m even					$\hat{p}1$ L01							
	p odd q odd			$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16							
	n even m odd					$p2_1/b11$ $(\mathbf{a}'/4)$ L17							
	p odd q odd					$pb11$ L12							
$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b})/2$													
h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$													
$(h\bar{h}l)$ $(\bar{h}h\bar{l})$ $(\mathbf{a} + \mathbf{c})/4$ or $(\mathbf{b} + \mathbf{c})/4$	$(\mathbf{a} + \mathbf{b})/2$ $n\hat{\mathbf{a}} - m\mathbf{c}$ $p\hat{\mathbf{a}} + q\mathbf{c}$			$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16							
	$(\mathbf{a} + \mathbf{b})/2$ $n\hat{\mathbf{a}} + m\mathbf{c}$ $-p\hat{\mathbf{a}} + q\mathbf{c}$					$p2_1/b11$ $[(\mathbf{a}' + \mathbf{b}')/4]$ L17							
	n odd m even					$pb11$ L12							
	p even q odd				$I2/c11$	$p2_1/b11$ L17							
	n even m odd					$p2/b11$ $[(\mathbf{a}' + \mathbf{b}')/4]$ L16							
	p odd q even					$pb11$ $(\mathbf{a}'/4)$ L12							
	n even m odd				$B2/n11$	$p2_1/b11$ L17							
	p odd q odd					$p2/b11$ $(\mathbf{a}'/4)$ L16							
	n odd m odd					$pb11$ $(\mathbf{a}'/4)$ L12							
	p even q odd			$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ L02							
	n odd m odd					$c211$ $(\mathbf{b}'/4)$ L10							
	p odd q even					$\hat{p}1$ L01							
	n odd m even			$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ L02							
	p odd q even					$c211$ L10							
	n odd m even					$\hat{p}1$ L01							
	p odd q odd			$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ L16							
	n even m odd					$p2_1/b11$ $(\mathbf{a}'/4)$ L17							
	p odd q odd					$pb11$ L12							
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a})/2$													
h odd $\Rightarrow m = h, n = 2l; h$ even $\Rightarrow m = h/2, n = l$													

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
(lhh) $(\bar{l}\bar{h}h)$	$(\mathbf{b} - \mathbf{c})/2$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p_{21}/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$
	$(\mathbf{b} - \mathbf{c})/2$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$			
	n odd	m even				
	p even	q odd				
	n even	m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$I2/c11$	$p_{21}/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$	$L16$ $L17$ $L12$
	p odd	q even				
	n even	m odd				
	p odd	q odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$B2/n11$	$p_{21}/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$	$L17$ $L16$ $L12$
	n odd	m odd				
	p even	q odd				
	n odd	m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$C2/n11$	$\tilde{p}1$ $c211 (\mathbf{b}'/4)$ $\tilde{p}1$	$L02$ $L10$ $L01$
	p odd	q even				
	n odd	m odd				
$(\bar{l}h\bar{h})$ $(\bar{l}\bar{h}h)$ $(\mathbf{b} + \mathbf{a})/4$ or $(\mathbf{c} + \mathbf{a})/4$	$(\mathbf{b} + \mathbf{c})/2$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p_{21}/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$
	$(\mathbf{b} + \mathbf{c})/2$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$			
	n odd	m even				
	p even	q odd				
	n even	m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$I2/c11$	$p_{21}/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$	$L17$ $L16$ $L12$
	p odd	q even				
	n even	m odd				
	p odd	q odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$B2/n11$	$p_{21}/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$	$L17$ $L16$ $L12$
	n odd	m odd				
	p even	q odd				
	n odd	m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$C2/n11$	$\tilde{p}1$ $c211 (\mathbf{b}'/4)$ $\tilde{p}1$	$L02$ $L10$ $L01$
	p odd	q even				
	n odd	m odd				
$\hat{\mathbf{a}} = (\mathbf{b} + \mathbf{c})/2$	$(\mathbf{b} + \mathbf{c})/2$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$I2/b11$	$p2/b11$ $p_{21}/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$	$L16$ $L17$ $L12$
	$(\mathbf{b} + \mathbf{c})/2$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$			
	n odd	m even				
	p even	q odd				
	n even	m odd				
$\hat{\mathbf{a}} = (\mathbf{b} + \mathbf{c})/2$						
$(\bar{l}h\bar{h})$ $(\bar{l}\bar{h}h)$ $(\mathbf{b} + \mathbf{a})/4$ or $(\mathbf{c} + \mathbf{a})/4$	$(\mathbf{b} + \mathbf{c})/2$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p_{21}/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$
	$(\mathbf{b} + \mathbf{c})/2$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$			
	n odd	m even				
	p even	q odd				
	n even	m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$I2/c11$	$p_{21}/b11$ $p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$	$L17$ $L16$ $L12$
	p odd	q even				
	n even	m odd				
	p odd	q odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$B2/n11$	$p_{21}/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$	$L17$ $L16$ $L12$
	n odd	m odd				
	p even	q odd				
	n odd	m odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$C2/n11$	$\tilde{p}1$ $c211 (\mathbf{b}'/4)$ $\tilde{p}1$	$L02$ $L10$ $L01$
	p odd	q even				
	n odd	m odd				
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{c})/2$						

Continued

No. 228 $Fd\bar{3}c$

Continued

$$\mathcal{G} = F \frac{4}{d} \overline{3} \frac{2}{c} \quad \text{origin 2}$$

O_h⁸

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
(hlh) $(\bar{h}\bar{l}\bar{h})$	$(\mathbf{c} - \mathbf{a})/2$		$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$			
	$(\mathbf{c} - \mathbf{a})/2$		$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$			
			n odd	m even			
			p even	q odd			
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L16	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12	
			n even	m odd			
			p odd	q even			
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$ L17	
$(\mathbf{c} + \mathbf{b})/4$ or $(\mathbf{a} + \mathbf{b})/4$	$(\mathbf{c} + \mathbf{a})/2$		$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$			
	$(\mathbf{c} + \mathbf{a})/2$		$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$			
			n odd	m even			
			p even	q odd			
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L16	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12	
			n even	m odd			
			p odd	q even			
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$ L17	
$(\mathbf{a} - \mathbf{c})/2$	$(\mathbf{a} - \mathbf{c})/2$		$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$			
	$(\mathbf{a} - \mathbf{c})/2$		$n\hat{\mathbf{a}} + m\mathbf{b}$	$-p\hat{\mathbf{a}} + q\mathbf{b}$			
			n odd	m even			
			p even	q odd			
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$ L16	
					$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ L17	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$ L12	
			n even	m odd			
			p odd	q even			
					$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$ L17	

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$		
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}					
$(mn0)$ $(\bar{m}\bar{n}0)$ $(nm0)$ $(\bar{n}\bar{m}0)$ $(0mn)$ $(0\bar{m}n)$ $(0nm)$ $(0\bar{n}m)$ $(n0m)$ $(n0\bar{m})$ $(m0n)$ $(m0\bar{n})$	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$		$I2/m11$			
	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$					
	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$					
	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$					
	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$					
	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$					
	\mathbf{a}	$m\mathbf{b} - n\mathbf{c}$	$q\mathbf{b} + p\mathbf{c}$					
	\mathbf{a}	$m\mathbf{b} + n\mathbf{c}$	$-q\mathbf{b} + p\mathbf{c}$					
	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$					
	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$					
	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$					
	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$					
$(hh\bar{l})$ $(\bar{h}\bar{h}l)$	$\mathbf{a} - \mathbf{b}$ $\mathbf{a} - \mathbf{b}$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$		$B2/m11$			
		$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$					
		n odd	m even					
			q odd					
			or					
			n even	m odd				
		p odd	q even					
			p odd	q odd				
			n odd	m odd				
				$C2/m11$				
$(h\bar{h}l)$ $(\bar{h}hl)$	$\mathbf{a} + \mathbf{b}$ $\mathbf{a} + \mathbf{b}$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$		$B2/m11$			
		$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$					
		n odd	m even					
			q odd					
			m odd	q odd				
			q odd					
		p odd	m odd					
			q even					
			m odd	q even				
$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b} + \mathbf{c})/2$			l odd $\Rightarrow n = 2l, m = 2h + l; l$ even $\Rightarrow n = l, m = h + l/2$					
$(h\bar{h}l)$ $(\bar{h}hl)$	$\mathbf{a} + \mathbf{b}$ $\mathbf{a} + \mathbf{b}$	$n\hat{\mathbf{a}} - m\mathbf{c}$	$p\hat{\mathbf{a}} + q\mathbf{c}$		$C2/m11$			
		$n\hat{\mathbf{a}} + m\mathbf{c}$	$-p\hat{\mathbf{a}} + q\mathbf{c}$					
		n odd	m even					
			q odd					
			m odd	q odd				
			q odd					
		p odd	m odd					
			q even					
			m odd	q even				
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a} + \mathbf{c})/2$			l odd $\Rightarrow n = 2l, m = 2h + l; l$ even $\Rightarrow n = l, m = h + l/2$					

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group \mathbf{a}' \mathbf{b}' \mathbf{d}			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
(lhh) $(\bar{l}\bar{h}h)$	$\mathbf{b} - \mathbf{c}$ $n\hat{\mathbf{a}} - m\mathbf{a}$ $p\hat{\mathbf{a}} + q\mathbf{a}$			$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$c2/m11$ $cm11$	
	$\mathbf{b} - \mathbf{c}$ $n\hat{\mathbf{a}} + m\mathbf{a}$ $-p\hat{\mathbf{a}} + q\mathbf{a}$				q odd	$L18$	
	n odd m even				m odd	$L13$	
	q odd				q odd	$L14$	
	m odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/m11$ $p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$	
	q odd				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L15$ $pm11$	
	p odd			$B2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$]	$L14$ $p2/m11$	
	q even				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L15$ $p2_1/m11 (\mathbf{a}'/4)$	
						$pm11$	
						$L11$	
$\hat{\mathbf{a}} = (\mathbf{b} + \mathbf{c} + \mathbf{a})/2$				l odd $\Rightarrow n = 2l, m = 2h + l; l$ even $\Rightarrow n = l, m = h + l/2$			
$(l\bar{h}\bar{h})$ $(\bar{l}h\bar{h})$	$\mathbf{b} + \mathbf{c}$ $n\hat{\mathbf{a}} - m\mathbf{a}$ $p\hat{\mathbf{a}} + q\mathbf{a}$			$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$c2/m11$ $cm11$	
	$\mathbf{b} + \mathbf{c}$ $n\hat{\mathbf{a}} + m\mathbf{a}$ $-p\hat{\mathbf{a}} + q\mathbf{a}$				n odd m even	$L18$	
	q odd				q odd	$L13$	
	m odd				m odd	$L14$	
	q odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$	
	p odd				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L15$ $pm11$	
	q even			$B2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$]	$L14$ $p2_1/m11 (\mathbf{a}'/4)$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L15$ $pm11$	
						$L11$	
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{b} + \mathbf{a})/2$				l odd $\Rightarrow n = 2l, m = 2h + l; l$ even $\Rightarrow n = l, m = h + l/2$			
(hlh) $(\bar{h}\bar{l}\bar{h})$	$\mathbf{c} - \mathbf{a}$ $n\hat{\mathbf{a}} - m\mathbf{b}$ $p\hat{\mathbf{a}} + q\mathbf{b}$			$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$c2/m11$ $cm11$	
	$\mathbf{c} - \mathbf{a}$ $n\hat{\mathbf{a}} + m\mathbf{b}$ $-p\hat{\mathbf{a}} + q\mathbf{b}$				n odd m even	$L18$	
	q odd				q odd	$L13$	
	m odd				m odd	$L14$	
	q odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$	
	p odd				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L15$ $pm11$	
	q even			$B2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$]	$L14$ $p2_1/m11 (\mathbf{a}'/4)$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L15$ $pm11$	
						$L11$	
$\hat{\mathbf{a}} = (\mathbf{c} + \mathbf{a} + \mathbf{b})/2$				l odd $\Rightarrow n = 2l, m = 2h + l; l$ even $\Rightarrow n = l, m = h + l/2$			
$(\bar{h}lh)$ $(hl\bar{h})$	$\mathbf{c} + \mathbf{a}$ $n\hat{\mathbf{a}} - m\mathbf{b}$ $p\hat{\mathbf{a}} + q\mathbf{b}$			$C2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$s\mathbf{d}, -s\mathbf{d}$]	$c2/m11$ $cm11$	
	$\mathbf{c} + \mathbf{a}$ $n\hat{\mathbf{a}} + m\mathbf{b}$ $-p\hat{\mathbf{a}} + q\mathbf{b}$				n odd m even	$L18$	
	q odd				q odd	$L13$	
	m odd				m odd	$L14$	
	q odd				$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/m11 [(\mathbf{a}' + \mathbf{b}')/4]$	
	p odd				$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L15$ $pm11$	
	q even			$B2/m11$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$ [$\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}$]	$L14$ $p2_1/m11 (\mathbf{a}'/4)$	
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$L15$ $pm11$	
						$L11$	
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{c} + \mathbf{b})/2$				l odd $\Rightarrow n = 2l, m = 2h + l; l$ even $\Rightarrow n = l, m = h + l/2$			

$$\mathcal{G} = I_a^4 \bar{3}_d^2$$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
	\mathbf{a}'	\mathbf{b}'	\mathbf{d}			
($mn0$)	\mathbf{c}	$n\mathbf{a} - m\mathbf{b}$	$p\mathbf{a} + q\mathbf{b}$			
($\bar{m}\bar{n}0$)	\mathbf{c}	$n\mathbf{a} + m\mathbf{b}$	$-p\mathbf{a} + q\mathbf{b}$			
($nm0$)	\mathbf{c}	$m\mathbf{a} - n\mathbf{b}$	$q\mathbf{a} + p\mathbf{b}$			
($\bar{n}m0$)	\mathbf{c}	$m\mathbf{a} + n\mathbf{b}$	$-q\mathbf{a} + p\mathbf{b}$			
($0mn$)	\mathbf{a}	$n\mathbf{b} - m\mathbf{c}$	$p\mathbf{b} + q\mathbf{c}$			
($0\bar{m}\bar{n}$)	\mathbf{a}	$n\mathbf{b} + m\mathbf{c}$	$-p\mathbf{b} + q\mathbf{c}$			
($0nm$)	\mathbf{a}	$m\mathbf{b} - n\mathbf{c}$	$q\mathbf{b} + p\mathbf{c}$			
($0\bar{n}m$)	\mathbf{a}	$m\mathbf{b} + n\mathbf{c}$	$-q\mathbf{b} + p\mathbf{c}$			
($n0m$)	\mathbf{b}	$n\mathbf{c} - m\mathbf{a}$	$p\mathbf{c} + q\mathbf{a}$			
($n0\bar{m}$)	\mathbf{b}	$n\mathbf{c} + m\mathbf{a}$	$-p\mathbf{c} + q\mathbf{a}$			
($m0n$)	\mathbf{b}	$m\mathbf{c} - n\mathbf{a}$	$q\mathbf{c} + p\mathbf{a}$			
($m0\bar{n}$)	\mathbf{b}	$m\mathbf{c} + n\mathbf{a}$	$-q\mathbf{c} + p\mathbf{a}$			
	n odd	m even		$I2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
	p even	q odd			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$
	n even	m odd		$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
	p odd	q even			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
	n even	m odd		$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$
	p odd	q odd			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$
	n odd	m odd		$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
	p even	q odd			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
	n odd	m odd		$C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$
	p odd	q even			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$
	n odd	m even		$B2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$
	p odd	q odd			$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$
					$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$

Continued

$$\mathcal{G} = I_a^4 \bar{3}_d^2$$

$$O_h^{10}$$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$
$(hh\bar{l})$	$\mathbf{a} - \mathbf{b}$	$n\hat{\mathbf{a}} - mc$	$p\hat{\mathbf{a}} + qc$	$C2/c11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$
$(\bar{h}hl)$	$\mathbf{a} - \mathbf{b}$	$n\hat{\mathbf{a}} + mc$	$-p\hat{\mathbf{a}} + qc$			
		n odd	m even			
		p even	q odd			
		n even	m odd			
		p odd	q even			
		n even	m odd			
		p odd	q odd			
		n odd	m odd			
		p even	q odd			
$(\bar{h}h\bar{l})$	$\mathbf{a} + \mathbf{b}$	$n\hat{\mathbf{a}} - mc$	$p\hat{\mathbf{a}} + qc$	$B2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$
$(\bar{h}hl)$	$\mathbf{a} + \mathbf{b}$	$n\hat{\mathbf{a}} + mc$	$-p\hat{\mathbf{a}} + qc$			
		n odd	m even			
		p even	q odd			
		n even	m odd			
		p odd	q even			
		n odd	m odd			
		p odd	q even			
		n odd	m even			
		p odd	q odd			
$\hat{\mathbf{a}} = (\mathbf{a} + \mathbf{b} + \mathbf{c})/2$	l odd $\Rightarrow n = 2l, m = 2h + l$; l even $\Rightarrow n = l, m = h + l/2$					
$(h\bar{h}l)$	$\mathbf{a} + \mathbf{b}$	$n\hat{\mathbf{a}} - mc$	$p\hat{\mathbf{a}} + qc$	$I2/b11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11$
$(\bar{h}hl)$	$\mathbf{a} + \mathbf{b}$	$n\hat{\mathbf{a}} + mc$	$-p\hat{\mathbf{a}} + qc$			
		n odd	m even			
		p even	q odd			
		n even	m odd			
		p odd	q even			
		n even	m odd			
		p odd	q odd			
		n odd	m odd			
		p even	q odd			
$\hat{\mathbf{a}} = (\mathbf{b} - \mathbf{a} + \mathbf{c})/2$	l odd $\Rightarrow n = 2l, m = 2h + l$; l even $\Rightarrow n = l, m = h + l/2$					

Continued

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
(lhh) $(l\bar{h}\bar{h})$	$\mathbf{b} - \mathbf{c}$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$C2/c11$ n odd m even p even q odd n even m odd p odd q even n even m odd p odd q odd n odd m odd p even q odd n odd m odd p odd q even n odd m even p odd q odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$	L02
$\mathbf{b} - \mathbf{c}$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$	$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$		$c211$	L10	
$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	L01					
$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$	L16					
$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$	L17					
$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12					
$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$	L16					
$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L17					
$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12					
$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$	L17					
$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L16					
$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12					
$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$	L17					
$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$	L16					
$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12					
$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$	L02					
$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$	L10					
$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	L01					
$\hat{\mathbf{a}} = (\mathbf{b} + \mathbf{c} + \mathbf{a})/2$				l odd $\Rightarrow n = 2l, m = 2h + l; l$ even $\Rightarrow n = l, m = h + l/2$			
$(lh\bar{h})$ $(l\bar{h}h)$	$\mathbf{b} + \mathbf{c}$	$n\hat{\mathbf{a}} - m\mathbf{a}$	$p\hat{\mathbf{a}} + q\mathbf{a}$	$C2/c11$ n odd m even p even q odd n even m odd p odd q even n even m odd p odd q odd n odd m odd p even q odd n odd m odd p odd q even n odd m even p odd q odd	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$	L02
$\mathbf{b} + \mathbf{c}$	$n\hat{\mathbf{a}} + m\mathbf{a}$	$-p\hat{\mathbf{a}} + q\mathbf{a}$	$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$		$c211$	L10	
$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	L01					
$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$	L16					
$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 (\mathbf{a}'/4)$	L17					
$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12					
$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2/b11$	L16					
$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L17					
$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11$	L12					
$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$	L17					
$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 [(\mathbf{a}' + \mathbf{b}')/4]$	L16					
$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12					
$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_1/b11$	L17					
$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p2/b11 (\mathbf{a}'/4)$	L16					
$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$pb11 (\mathbf{a}'/4)$	L12					
$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$\hat{p}\bar{1}$	L02					
$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$c211 (\mathbf{b}'/4)$	L10					
$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}1$	L01					
$\hat{\mathbf{a}} = (\mathbf{c} - \mathbf{b} + \mathbf{a})/2$				l odd $\Rightarrow n = 2l, m = 2h + l; l$ even $\Rightarrow n = l, m = h + l/2$			

Continued

Continued

$$\mathcal{G} = I_a^4 \bar{3}_d^2$$

Orientation orbit (hkl)	Conventional basis of the scanning group			Scanning group \mathcal{H}	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$			
(hlh) $(\bar{h}\bar{l}\bar{h})$	$\mathbf{c} - \mathbf{a}$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$	$C2/c11$ $B2/b11$ $I2/b11$ $I2/c11$ $B2/n11$ $C2/n11$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$ $[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$ $[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$ $[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$\hat{p}\bar{1}$ $c211$ $\hat{p}1$ $p2/b11$ $p2_1/b11 (\mathbf{a}'/4)$ $pb11$ $p2/b11$ $p2_1/b11 [(\mathbf{a}' + \mathbf{b}')/4]$ $pb11 (\mathbf{a}'/4)$ $p2_1/b11$ $p2/b11 (\mathbf{a}'/4)$ $pb11 (\mathbf{a}'/4)$ $\hat{p}\bar{1}$ $c211 (\mathbf{b}'/4)$ $\hat{p}1$	L02 L10 L01 L16 L17 L12 L16 L17 L12 L17 L16 L12 L17 L16 L12 L17 L16 L12 L02 L10 L01		
$\hat{\mathbf{a}} = (\mathbf{c} + \mathbf{a} + \mathbf{b})/2$			$l \text{ odd} \Rightarrow n = 2l, m = 2h + l; l \text{ even} \Rightarrow n = l, m = h + l/2$						
$(\bar{h}lh)$ $(hl\bar{h})$	$\mathbf{c} + \mathbf{a}$	$n\hat{\mathbf{a}} - m\mathbf{b}$	$p\hat{\mathbf{a}} + q\mathbf{b}$						
$\hat{\mathbf{a}} = (\mathbf{a} - \mathbf{c} + \mathbf{b})/2$			$l \text{ odd} \Rightarrow n = 2l, m = 2h + l; l \text{ even} \Rightarrow n = l, m = h + l/2$						