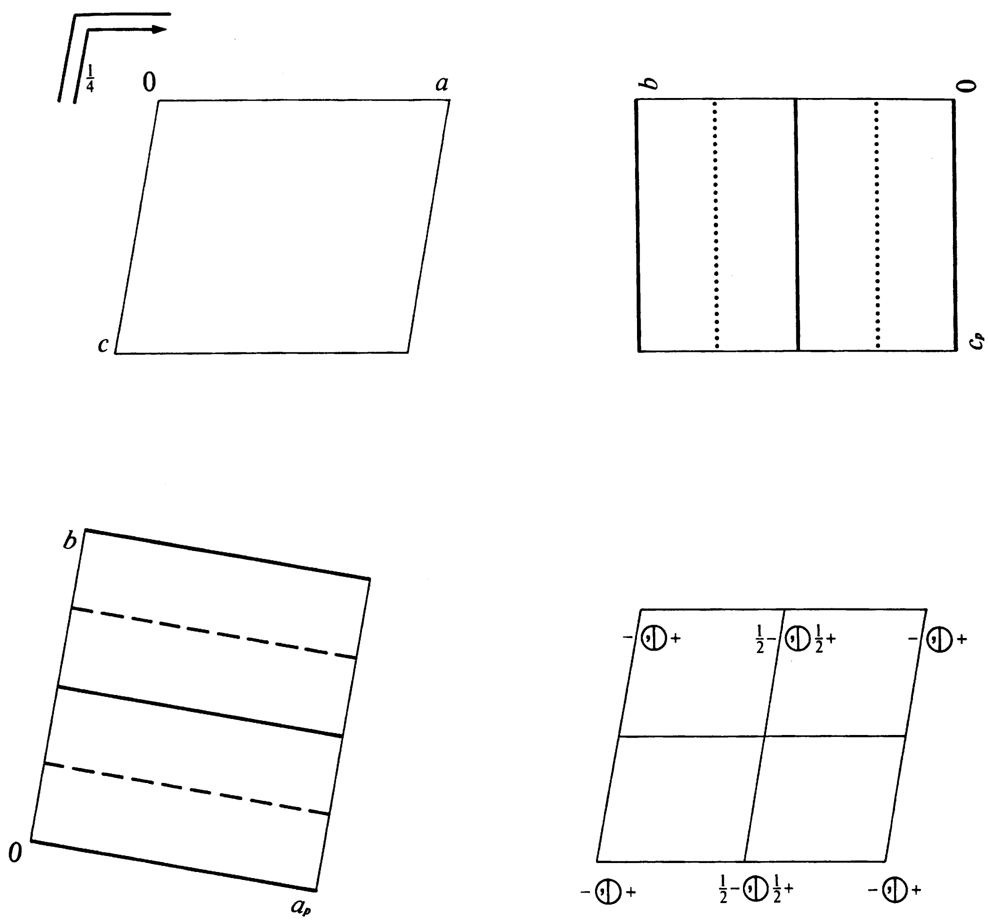
Cm C_s^3 *m*   Monoclinic

No. 8   *C* 1 *m* 1   Patterson symmetry *C* 1 2/*m* 1

UNIQUE AXIS *b*, CELL CHOICE 1



Origin on mirror plane *m*

Asymmetric unit $0 \le x \le 1; \quad 0 \le y \le \frac{1}{4}; \quad 0 \le z \le 1$

Symmetry operations

For $(0,0,0)+$ set

(1) 1   (2) $m \quad x,0,z$

For $(\frac{1}{2},\frac{1}{2},0)+$ set

(1) $t(\frac{1}{2},\frac{1}{2},0)$ (2) $a \quad x,\frac{1}{4},z$

Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; $t(0,0,1)$; $t(\frac{1}{2},\frac{1}{2},0)$; (2)

Positions

Multiplicity, Wyckoff letter, Site symmetry			Coordinates		Reflection conditions
			$(0,0,0)+$	$(\frac{1}{2},\frac{1}{2},0)+$	General:
4	b	1	(1) x,y,z	(2) $x,\bar{y},z$	$hkl: h+k=2n$ $h0l: h=2n$ $0kl: k=2n$ $hk0: h+k=2n$ $0k0: k=2n$ $h00: h=2n$
					Special: no extra conditions
2	a	m	$x,0,z$		

Symmetry of special projections

Along [001] $c11m$
$\mathbf{a}'=\mathbf{a}_p$ $\mathbf{b}'=\mathbf{b}$
Origin at $0,0,z$

Along [100] $p1m1$
$\mathbf{a}'=\frac{1}{2}\mathbf{b}$ $\mathbf{b}'=\mathbf{c}_p$
Origin at $x,0,0$

Along [010] $p1$
$\mathbf{a}'=\mathbf{c}$ $\mathbf{b}'=\frac{1}{2}\mathbf{a}$
Origin at $0,y,0$

Maximal non-isomorphic subgroups

I [2] $C1$ ($P1$, 1) 1+

IIa [2] $P1a1$ (Pc, 7) 1; $2+(\frac{1}{2},\frac{1}{2},0)$
[2] $P1m1$ (Pm, 6) 1; 2

IIb [2] $C1c1$ ($\mathbf{c}'=2\mathbf{c}$) (Cc, 9); [2] $I1c1$ ($\mathbf{c}'=2\mathbf{c}$) (Cc, 9)

Maximal isomorphic subgroups of lowest index

IIc [2] $C1m1$ ($\mathbf{c}'=2\mathbf{c}$ or $\mathbf{a}'=\mathbf{a}+2\mathbf{c},\mathbf{c}'=2\mathbf{c}$) ($Cm$, 8); [3] $C1m1$ ($\mathbf{b}'=3\mathbf{b}$) (Cm, 8)

Minimal non-isomorphic supergroups

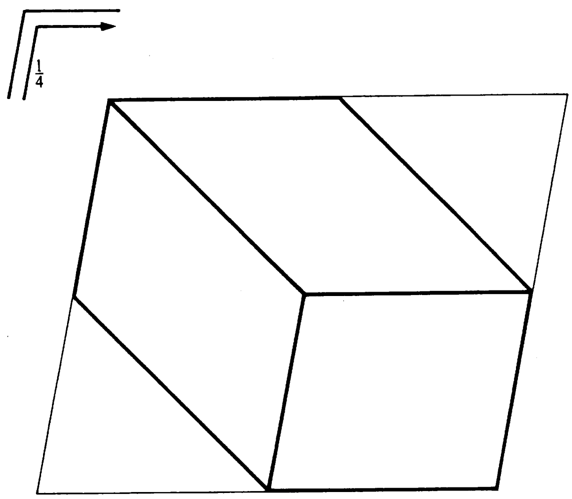
I [2] $C2/m$ (12); [2] $Cmm2$ (35); [2] $Cmc2_1$ (36); [2] $Amm2$ (38); [2] $Aem2$ (39); [2] $Fmm2$ (42); [2] $Imm2$ (44); [2] $Ima2$ (46); [3] $P3m1$ (156); [3] $P31m$ (157); [3] $R3m$ (160)

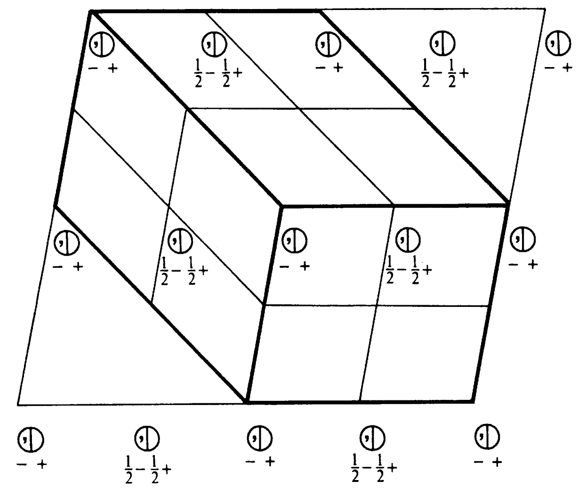
II [2] $P1m1$ ($\mathbf{a}'=\frac{1}{2}\mathbf{a},\mathbf{b}'=\frac{1}{2}\mathbf{b}$) ($Pm$, 6)

Cm C_s^3 m Monoclinic

No. 8

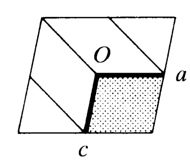
UNIQUE AXIS b, DIFFERENT CELL CHOICES





$C1m1$

UNIQUE AXIS b, CELL CHOICE 1



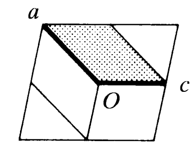
Origin on mirror plane m

Asymmetric unit $0 \le x \le 1;\quad 0 \le y \le \frac{1}{4};\quad 0 \le z \le 1$

Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; $t(0,0,1)$; $t(\frac{1}{2},\frac{1}{2},0)$; (2)

Positions

Multiplicity, Wyckoff letter, Site symmetry			Coordinates		Reflection conditions
			$(0,0,0)+$	$(\frac{1}{2},\frac{1}{2},0)+$	General:
4	b	1	(1) x,y,z	(2) $x,\bar{y},z$	hkl : $h+k=2n$ $h0l$: $h=2n$ $0kl$: $k=2n$ $hk0$: $h+k=2n$ $0k0$: $k=2n$ $h00$: $h=2n$
					Special: no extra conditions
2	a	m	$x,0,z$		



$A1m1$

UNIQUE AXIS b, CELL CHOICE 2

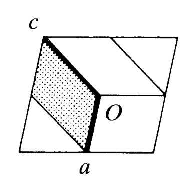
Origin on mirror plane m

Asymmetric unit $0 \le x \le 1;\quad 0 \le y \le \frac{1}{4};\quad 0 \le z \le 1$

Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; $t(0,0,1)$; $t(0,\frac{1}{2},\frac{1}{2})$; (2)

Positions

Multiplicity, Wyckoff letter, Site symmetry			Coordinates		Reflection conditions
			$(0,0,0)+$	$(0,\frac{1}{2},\frac{1}{2})+$	General:
4	b	1	(1) x,y,z	(2) $x,\bar{y},z$	hkl : $k+l=2n$ $h0l$: $l=2n$ $0kl$: $k+l=2n$ $hk0$: $k=2n$ $0k0$: $k=2n$ $00l$: $l=2n$
					Special: no extra conditions
2	a	m	$x,0,z$		



$I1m1$

UNIQUE AXIS b, CELL CHOICE 3

Origin on mirror plane m

Asymmetric unit $0 \le x \le 1;\quad 0 \le y \le \frac{1}{4};\quad 0 \le z \le 1$

Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; $t(0,0,1)$; $t(\frac{1}{2},\frac{1}{2},\frac{1}{2})$; (2)

Positions

Multiplicity, Wyckoff letter, Site symmetry			Coordinates		Reflection conditions
			$(0,0,0)+$	$(\frac{1}{2},\frac{1}{2},\frac{1}{2})+$	General:
4	b	1	(1) x,y,z	(2) $x,\bar{y},z$	hkl : $h+k+l=2n$ $h0l$: $h+l=2n$ $0kl$: $k+l=2n$ $hk0$: $h+k=2n$ $0k0$: $k=2n$ $h00$: $h=2n$ $00l$: $l=2n$
					Special: no extra conditions
2	a	m	$x,0,z$		