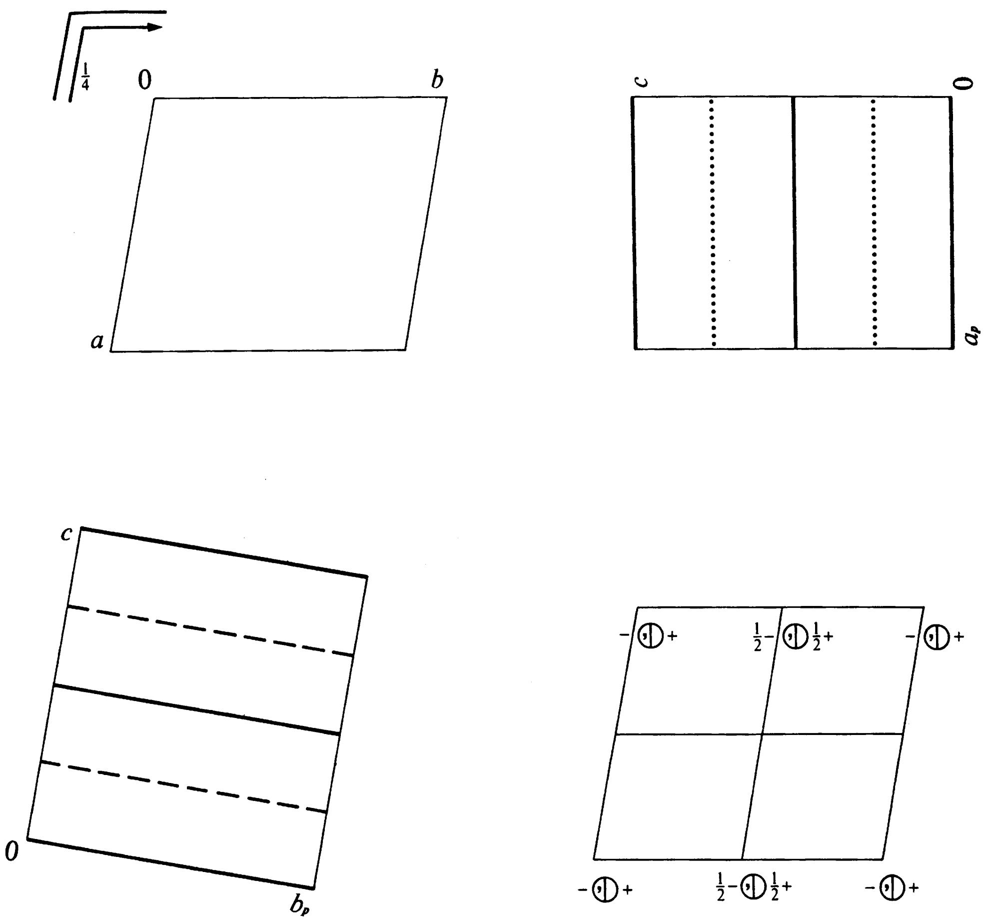
International Tables for Crystallography (2006). Vol. A, Space group 8, pp. 148–151.

Cm C_s^3 *m* Monoclinic

No. 8 *A*11*m* Patterson symmetry *A*112/*m*

UNIQUE AXIS *c*, CELL CHOICE 1



Origin on mirror plane *m*

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

Symmetry operations

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

(1) 1 (2) $m\ \ x,y,0$

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

(1) $t(0,\frac{1}{2},\frac{1}{2})$ (2) $b\ \ x,y,\frac{1}{4}$

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) $x,y,\bar{z}$	hkl : $k+l=2n$ $hk0$: $k=2n$ $0kl$: $k+l=2n$ $h0l$: $l=2n$ $00l$: $l=2n$ $0k0$: $k=2n$
					Special: no extra conditions
2	*a*	*m*	$x,y,0$		

Symmetry of special projections

Along [001] $p1$
$\mathbf{a}'=\mathbf{a}$ $\mathbf{b}'=\frac{1}{2}\mathbf{b}$
Origin at $0,0,z$

Along [100] $c11m$
$\mathbf{a}'=\mathbf{b}_p$ $\mathbf{b}'=\mathbf{c}$
Origin at $x,0,0$

Along [010] $p1m1$
$\mathbf{a}'=\frac{1}{2}\mathbf{c}$ $\mathbf{b}'=\mathbf{a}_p$
Origin at $0,y,0$

Maximal non-isomorphic subgroups

I [2] $A1$ ($P1$, 1) 1+

IIa [2] $P11b$ (Pc, 7) 1; $2+(0,\frac{1}{2},\frac{1}{2})$
[2] $P11m$ (Pm, 6) 1; 2

IIb [2] $A11a$ ($\mathbf{a}'=2\mathbf{a}$) (Cc, 9); [2] $I11a$ ($\mathbf{a}'=2\mathbf{a}$) (Cc, 9)

Maximal isomorphic subgroups of lowest index

IIc [2] $A11m$ ($\mathbf{a}'=2\mathbf{a}$ or $\mathbf{a}'=2\mathbf{a},\mathbf{b}'=2\mathbf{a}+\mathbf{b}$) ($Cm$, 8); [3] $A11m$ ($\mathbf{c}'=3\mathbf{c}$) (Cm, 8)

Minimal non-isomorphic supergroups

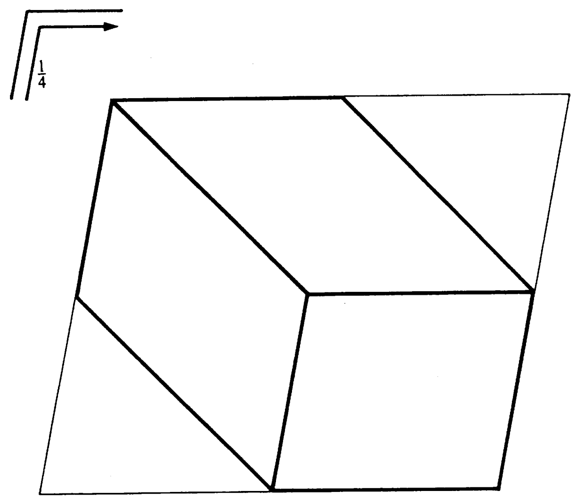
I [2] $C2/m$ (12); [2] $Cmm2$ (35); [2] $Cmc2_1$ (36); [2] $Amm2$ (38); [2] $Aem2$ (39); [2] $Fmm2$ (42); [2] $Imm2$ (44); [2] $Ima2$ (46); [3] $P3m1$ (156); [3] $P31m$ (157); [3] $R3m$ (160)

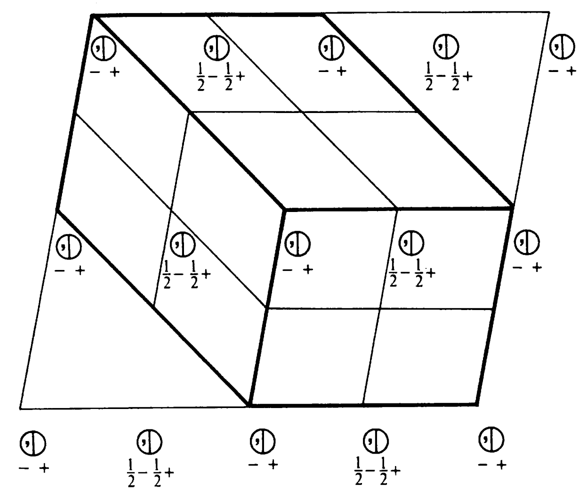
II [2] $P11m$ ($\mathbf{b}'=\frac{1}{2}\mathbf{b},\mathbf{c}'=\frac{1}{2}\mathbf{c}$) ($Pm$, 6)

Cm $\quad C_s^3$ $\quad m$ $\quad$ Monoclinic

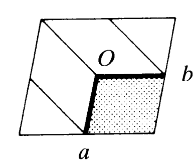
No. 8

UNIQUE AXIS c, DIFFERENT CELL CHOICES





$A11m$



UNIQUE AXIS c, CELL CHOICE 1

Origin on mirror plane m

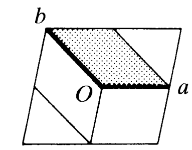
Asymmetric unit $\quad 0 \le x \le 1; \quad 0 \le y \le 1; \quad 0 \le z \le \frac{1}{4}$

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

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) $x,y,\bar{z}$	$hkl: k+l=2n$ $hk0: k=2n$ $0kl: k+l=2n$ $h0l: l=2n$ $00l: l=2n$ $0k0: k=2n$
					Special: no extra conditions
2	a	m	$x,y,0$		

$B11m$



UNIQUE AXIS c, CELL CHOICE 2

Origin on mirror plane m

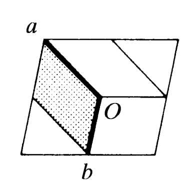
Asymmetric unit $0 \le x \le 1;\quad 0 \le y \le 1;\quad 0 \le z \le \frac{1}{4}$

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

Positions

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

$I11m$



UNIQUE AXIS c, CELL CHOICE 3

Origin on mirror plane m

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

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) $x,y,\bar{z}$	hkl : $h+k+l=2n$ $hk0$: $h+k=2n$ $0kl$: $k+l=2n$ $h0l$: $h+l=2n$ $00l$: $l=2n$ $h00$: $h=2n$ $0k0$: $k=2n$
					Special: no extra conditions
2	a	m	$x,y,0$		