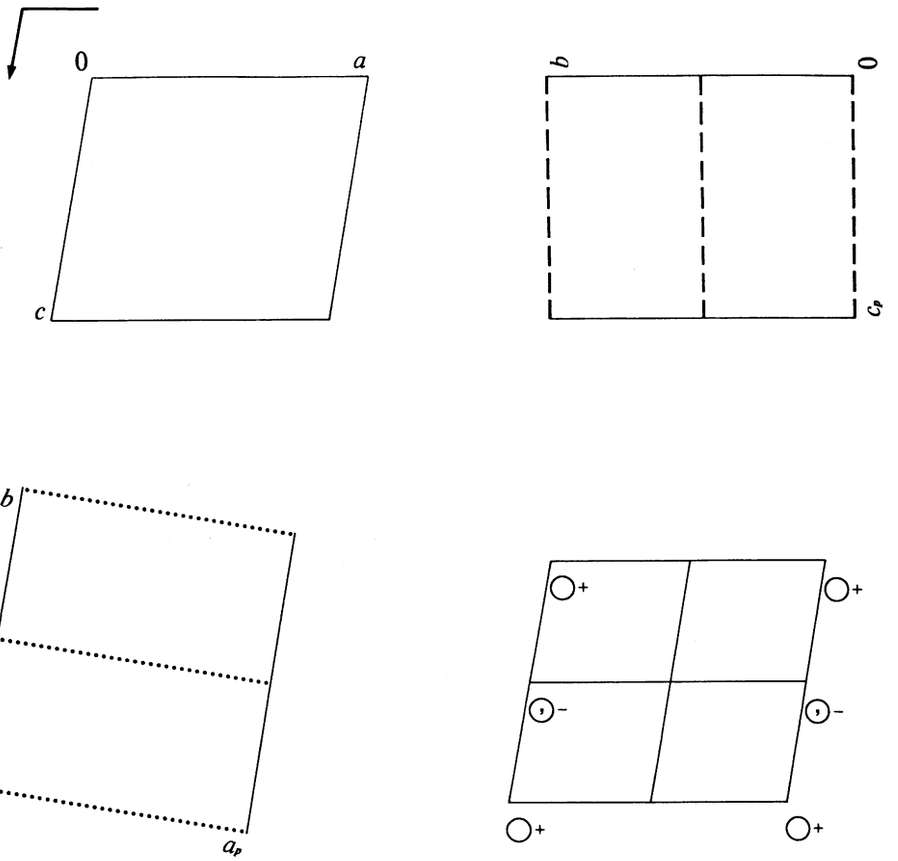
Pc C_s^2 m Monoclinic

No. 7 $P1c1$ Patterson symmetry $P12/m1$

UNIQUE AXIS b, CELL CHOICE 1



Origin on glide plane c

Asymmetric unit $0 \le x \le 1; \quad 0 \le y \le \frac{1}{2}; \quad 0 \le z \le 1$

Symmetry operations

(1) 1 (2) c $x,0,z$

Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; $t(0,0,1)$; (2)

Positions

Multiplicity, Wyckoff letter, Site symmetry	Coordinates	Reflection conditions
		General:
2 a 1	(1) x,y,z (2) $x,\bar{y},z+\frac{1}{2}$	$h0l$: $l=2n$ $00l$: $l=2n$

Symmetry of special projections

Along [001] $p\,1\,1\,m$
$\mathbf{a}'=\mathbf{a}_p$ $\mathbf{b}'=\mathbf{b}$
Origin at $0,0,z$

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

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

Maximal non-isomorphic subgroups

I [2] $P\,1$ (1) 1

IIa none

IIb [2] $C\,1\,c\,1$ ($\mathbf{a}'=2\mathbf{a},\mathbf{b}'=2\mathbf{b}$) ($Cc$, 9)

Maximal isomorphic subgroups of lowest index

IIc [2] $P\,1\,c\,1$ ($\mathbf{b}'=2\mathbf{b}$) (Pc, 7); [2] $P\,1\,c\,1$ ($\mathbf{a}'=2\mathbf{a}$ or $\mathbf{a}'=2\mathbf{a},\mathbf{c}'=2\mathbf{a}+\mathbf{c}$) ($Pc$, 7)

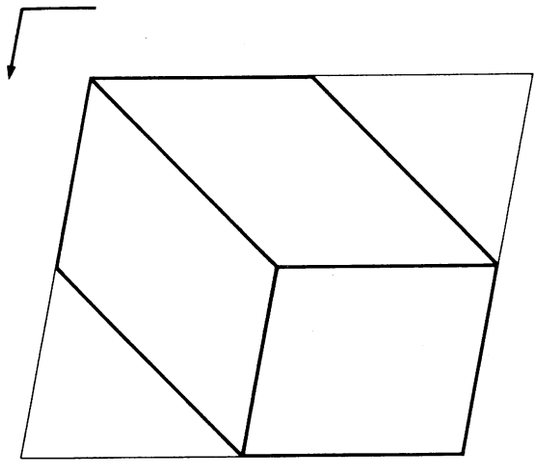
Minimal non-isomorphic supergroups

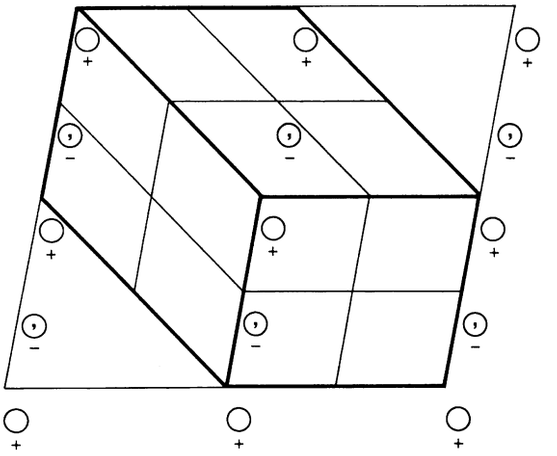
I [2] $P\,2/c$ (13); [2] $P\,2_1/c$ (14); [2] $P\,m\,c\,2_1$ (26); [2] $P\,c\,c\,2$ (27); [2] $P\,m\,a\,2$ (28); [2] $P\,c\,a\,2_1$ (29); [2] $P\,n\,c\,2$ (30); [2] $P\,m\,n\,2_1$ (31); [2] $P\,b\,a\,2$ (32); [2] $P\,n\,a\,2_1$ (33); [2] $P\,n\,n\,2$ (34); [2] $A\,e\,m\,2$ (39); [2] $A\,e\,a\,2$ (41)

II [2] $C\,1\,c\,1$ (Cc, 9); [2] $A\,1\,m\,1$ (Cm, 8); [2] $I\,1\,c\,1$ (Cc, 9); [2] $P\,1\,m\,1$ ($\mathbf{c}'=\frac{1}{2}\mathbf{c}$) ($Pm$, 6)

No. 7

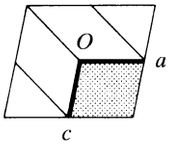
UNIQUE AXIS b, DIFFERENT CELL CHOICES





$P\,1\,c\,1$

UNIQUE AXIS b, CELL CHOICE 1



Origin on glide plane c

Asymmetric unit $0 \le x \le 1; \quad 0 \le y \le \frac{1}{2}; \quad 0 \le z \le 1$

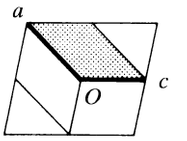
Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; $t(0,0,1)$; (2)

Positions

Multiplicity, Wyckoff letter, Site symmetry	Coordinates		Reflection conditions
			General:
2 a 1	(1) x,y,z	(2) $x,\bar{y},z+\frac{1}{2}$	$h0l$: $l = 2n$ $00l$: $l = 2n$

P 1 *n* 1

UNIQUE AXIS *b*, CELL CHOICE 2



Origin on glide plane *n*

Asymmetric unit $0 \le x \le 1; \quad 0 \le y \le \frac{1}{2}; \quad 0 \le z \le 1$

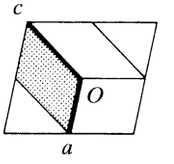
Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; $t(0,0,1)$; (2)

Positions

Multiplicity, Wyckoff letter, Site symmetry		Coordinates		Reflection conditions
				General:
2	*a* 1	(1) x,y,z	(2) $x+\frac{1}{2},\bar{y},z+\frac{1}{2}$	$h0l$: $h+l=2n$ $h00$: $h=2n$ $00l$: $l=2n$

P 1 *a* 1

UNIQUE AXIS *b*, CELL CHOICE 3



Origin on glide plane *a*

Asymmetric unit $0 \le x \le 1; \quad 0 \le y \le \frac{1}{2}; \quad 0 \le z \le 1$

Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; $t(0,0,1)$; (2)

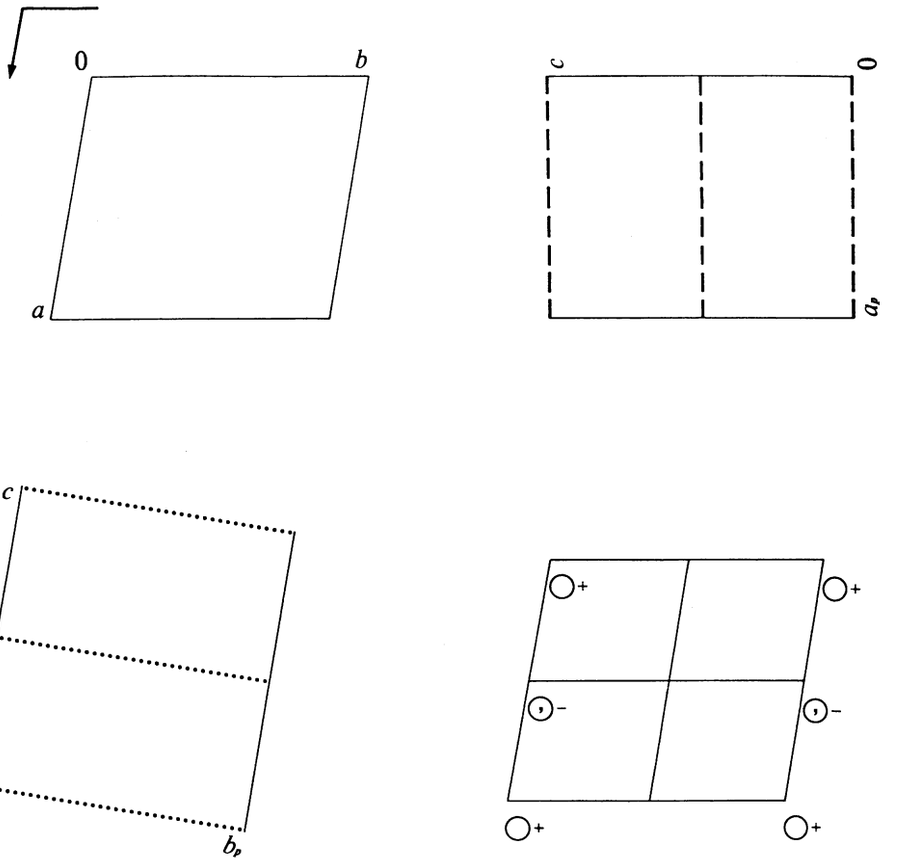
Positions

Multiplicity, Wyckoff letter, Site symmetry		Coordinates		Reflection conditions
				General:
2	*a* 1	(1) x,y,z	(2) $x+\frac{1}{2},\bar{y},z$	$h0l$: $h=2n$ $h00$: $h=2n$

Pc C_s^2 m Monoclinic

No. 7 $P11a$ Patterson symmetry $P112/m$

UNIQUE AXIS c, CELL CHOICE 1



Origin on glide plane a

Asymmetric unit $0 \le x \le 1; \quad 0 \le y \le 1; \quad 0 \le z \le \frac{1}{2}$

Symmetry operations

(1) 1 (2) a $x, y, 0$

Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; $t(0,0,1)$; (2)

Positions

Multiplicity, Wyckoff letter, Site symmetry	Coordinates	Reflection conditions
		General:
2 a 1	(1) x,y,z (2) $x+\frac{1}{2},y,\bar{z}$	$hk0$: $h=2n$ $h00$: $h=2n$

Symmetry of special projections

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

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

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

Maximal non-isomorphic subgroups

I [2] $P1$ (1) 1

IIa none

IIb [2] $A\,1\,1\,a$ ($\mathbf{b}'=2\mathbf{b},\mathbf{c}'=2\mathbf{c}$) ($Cc$, 9)

Maximal isomorphic subgroups of lowest index

IIc [2] $P\,1\,1\,a$ ($\mathbf{c}'=2\mathbf{c}$) (Pc, 7); [2] $P\,1\,1\,a$ ($\mathbf{b}'=2\mathbf{b}$ or $\mathbf{a}'=\mathbf{a}+2\mathbf{b},\mathbf{b}'=2\mathbf{b}$) ($Pc$, 7)

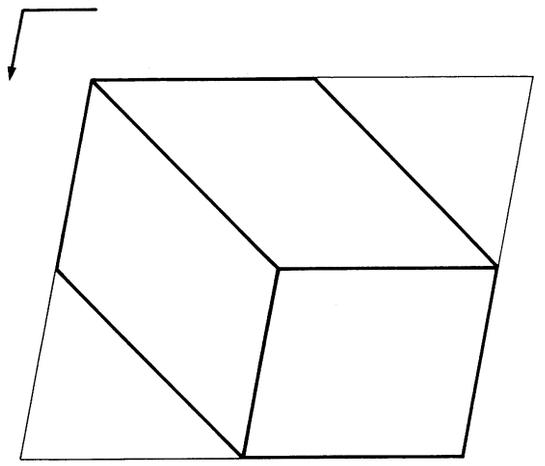
Minimal non-isomorphic supergroups

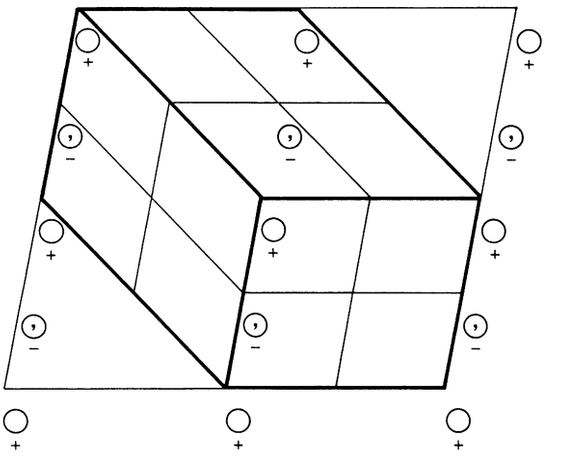
I [2] $P2/c$ (13); [2] $P2_1/c$ (14); [2] $Pmc2_1$ (26); [2] $Pcc2$ (27); [2] $Pma2$ (28); [2] $Pca2_1$ (29); [2] $Pnc2$ (30); [2] $Pmn2_1$ (31); [2] $Pba2$ (32); [2] $Pna2_1$ (33); [2] $Pnn2$ (34); [2] $Aem2$ (39); [2] $Aea2$ (41)

II [2] $A\,1\,1\,a$ (Cc, 9); [2] $B\,1\,1\,m$ (Cm, 8); [2] $I\,1\,1\,a$ (Cc, 9); [2] $P\,1\,1\,m$ ($\mathbf{a}'=\frac{1}{2}\mathbf{a}$) ($Pm$, 6)

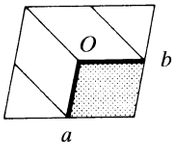
No. 7

UNIQUE AXIS c, DIFFERENT CELL CHOICES





$P11a$



UNIQUE AXIS c, CELL CHOICE 1

Origin on glide plane a

Asymmetric unit $0 \le x \le 1; \quad 0 \le y \le 1; \quad 0 \le z \le \frac{1}{2}$

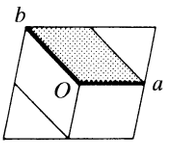
Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; $t(0,0,1)$; (2)

Positions

Multiplicity, Wyckoff letter, Site symmetry		Coordinates		Reflection conditions
				General:
2	a 1	(1) x,y,z	(2) $x+\frac{1}{2},y,\bar{z}$	$hk0:\ h=2n$ $h00:\ h=2n$

*P*11*n*

UNIQUE AXIS *c*, CELL CHOICE 2



Origin on glide plane *n*

Asymmetric unit $0 \le x \le 1; \quad 0 \le y \le 1; \quad 0 \le z \le \frac{1}{2}$

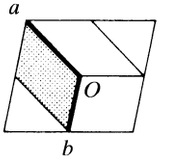
Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; $t(0,0,1)$; (2)

Positions

Multiplicity, Wyckoff letter, Site symmetry	Coordinates		Reflection conditions
			General:
2 *a* 1	(1) x,y,z	(2) $x+\frac{1}{2},y+\frac{1}{2},\bar{z}$	$hk0:\ h+k=2n$ $h00:\ h=2n$ $0k0:\ k=2n$

*P*11*b*

UNIQUE AXIS *c*, CELL CHOICE 3



Origin on glide plane *b*

Asymmetric unit $0 \le x \le 1; \quad 0 \le y \le 1; \quad 0 \le z \le \frac{1}{2}$

Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; $t(0,0,1)$; (2)

Positions

Multiplicity, Wyckoff letter, Site symmetry	Coordinates		Reflection conditions
			General:
2 *a* 1	(1) x,y,z	(2) $x,y+\frac{1}{2},\bar{z}$	$hk0:\ k=2n$ $0k0:\ k=2n$