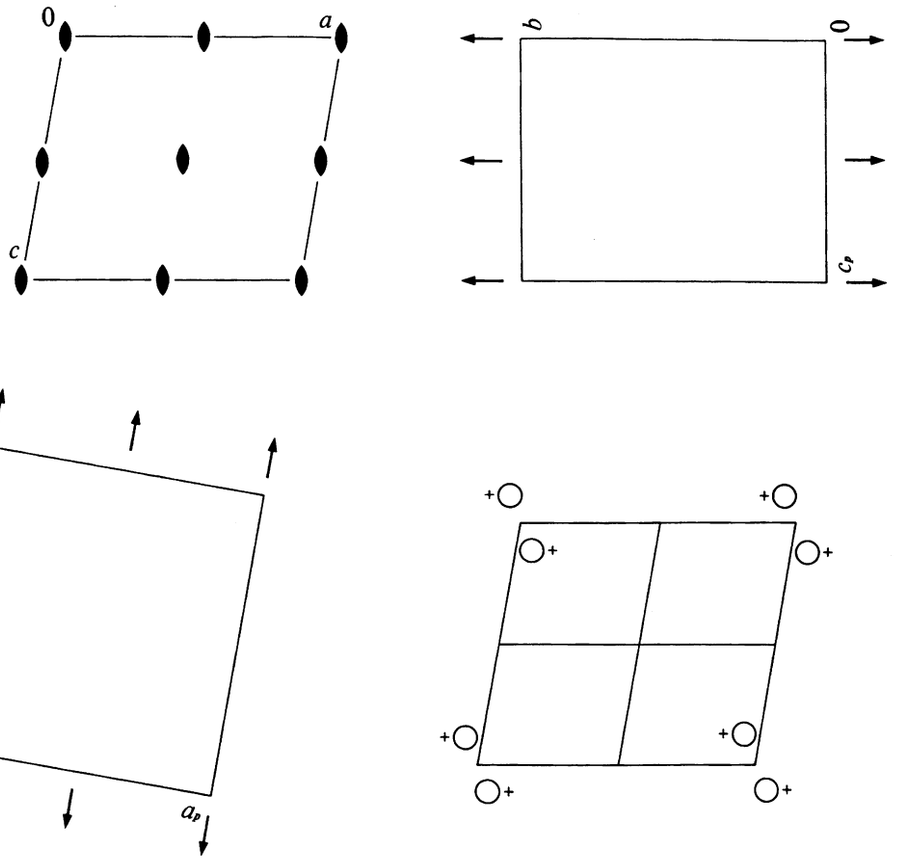
$P2$ C_2^1 2 Monoclinic

No. 3 $P121$ Patterson symmetry $P12/m1$

UNIQUE AXIS b



Origin on 2

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) 2 $0,y,0$

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	e	1	(1) x,y,z	(2) $\bar{x},y,\bar{z}$	no conditions
					Special: no extra conditions
1	d	2	$\frac{1}{2},y,\frac{1}{2}$		
1	c	2	$\frac{1}{2},y,0$		
1	b	2	$0,y,\frac{1}{2}$		
1	a	2	$0,y,0$		

Symmetry of special projections

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

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

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

Maximal non-isomorphic subgroups

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

IIa none

IIb [2] $P\,1\,2_1\,1$ ($\mathbf{b}' = 2\mathbf{b}$) ($P2_1$, 4); [2] $C\,1\,2\,1$ ($\mathbf{a}' = 2\mathbf{a}, \mathbf{b}' = 2\mathbf{b}$) ($C2$, 5); [2] $A\,1\,2\,1$ ($\mathbf{b}' = 2\mathbf{b}, \mathbf{c}' = 2\mathbf{c}$) ($C2$, 5); [2] $F\,1\,2\,1$ ($\mathbf{a}' = 2\mathbf{a}, \mathbf{b}' = 2\mathbf{b}, \mathbf{c}' = 2\mathbf{c}$) ($C2$, 5)

Maximal isomorphic subgroups of lowest index

IIc [2] $P\,1\,2\,1$ ($\mathbf{b}' = 2\mathbf{b}$) ($P2$, 3); [2] $P\,1\,2\,1$ ($\mathbf{c}' = 2\mathbf{c}$ or $\mathbf{a}' = 2\mathbf{a}$ or $\mathbf{a}' = \mathbf{a}+\mathbf{c}, \mathbf{c}' = -\mathbf{a}+\mathbf{c}$) ($P2$, 3)

Minimal non-isomorphic supergroups

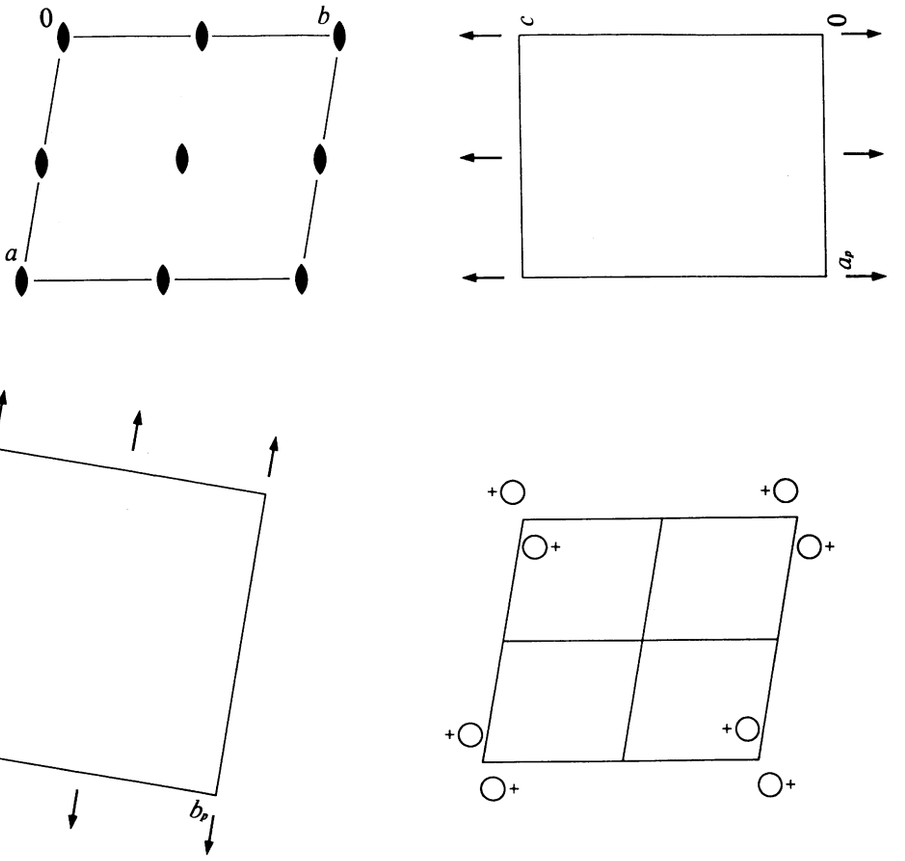
I [2] $P2/m$ (10); [2] $P2/c$ (13); [2] $P222$ (16); [2] $P222_1$ (17); [2] $P2_12_12$ (18); [2] $C222$ (21); [2] $Pmm2$ (25); [2] $Pcc2$ (27); [2] $Pma2$ (28); [2] $Pnc2$ (30); [2] $Pba2$ (32); [2] $Pnn2$ (34); [2] $Cmm2$ (35); [2] $Ccc2$ (37); [2] $P4$ (75); [2] $P4_2$ (77); [2] $P\bar{4}$ (81); [3] $P6$ (168); [3] $P6_2$ (171); [3] $P6_4$ (172)

II [2] $C\,1\,2\,1$ ($C2$, 5); [2] $A\,1\,2\,1$ ($C2$, 5); [2] $I\,1\,2\,1$ ($C2$, 5)

$P2$ C_2^1 2 Monoclinic

No. 3 $P112$ Patterson symmetry $P112/m$

UNIQUE AXIS c



Origin on 2

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

Symmetry operations

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

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	e	1	(1) x,y,z	(2) $\bar{x},\bar{y},z$	no conditions
					Special: no extra conditions
1	d	2	$\frac{1}{2},\frac{1}{2},z$		
1	c	2	$0,\frac{1}{2},z$		
1	b	2	$\frac{1}{2},0,z$		
1	a	2	$0,0,z$		

Symmetry of special projections

Along [001] $p2$
$\mathbf{a}'=\mathbf{a}$ $\mathbf{b}'=\mathbf{b}$
Origin at $0,0,z$

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

Along [010] $p11m$
$\mathbf{a}'=\mathbf{c}$ $\mathbf{b}'=\mathbf{a}_p$
Origin at $0,y,0$

Maximal non-isomorphic subgroups

I [2] $P1$ (1) 1

IIa none

IIb [2] $P112_1$ ($\mathbf{c}'=2\mathbf{c}$) ($P2_1$, 4); [2] $A112$ ($\mathbf{b}'=2\mathbf{b},\mathbf{c}'=2\mathbf{c}$) ($C2$, 5); [2] $B112$ ($\mathbf{a}'=2\mathbf{a},\mathbf{c}'=2\mathbf{c}$) ($C2$, 5); [2] $F112$ ($\mathbf{a}'=2\mathbf{a},\mathbf{b}'=2\mathbf{b},\mathbf{c}'=2\mathbf{c}$) ($C2$, 5)

Maximal isomorphic subgroups of lowest index

IIc [2] $P112$ ($\mathbf{c}'=2\mathbf{c}$) ($P2$, 3); [2] $P112$ ($\mathbf{a}'=2\mathbf{a}$ or $\mathbf{b}'=2\mathbf{b}$ or $\mathbf{a}'=\mathbf{a}-\mathbf{b},\mathbf{b}'=\mathbf{a}+\mathbf{b}$) ($P2$, 3)

Minimal non-isomorphic supergroups

I [2] $P2/m$ (10); [2] $P2/c$ (13); [2] $P222$ (16); [2] $P222_1$ (17); [2] $P2_12_12$ (18); [2] $C222$ (21); [2] $Pmm2$ (25); [2] $Pcc2$ (27); [2] $Pma2$ (28); [2] $Pnc2$ (30); [2] $Pba2$ (32); [2] $Pnn2$ (34); [2] $Cmm2$ (35); [2] $Ccc2$ (37); [2] $P4$ (75); [2] $P4_2$ (77); [2] $P\bar{4}$ (81); [3] $P6$ (168); [3] $P6_2$ (171); [3] $P6_4$ (172)

II [2] $A112$ ($C2$, 5); [2] $B112$ ($C2$, 5); [2] $I112$ ($C2$, 5)