

$P2$

C_2^1

2

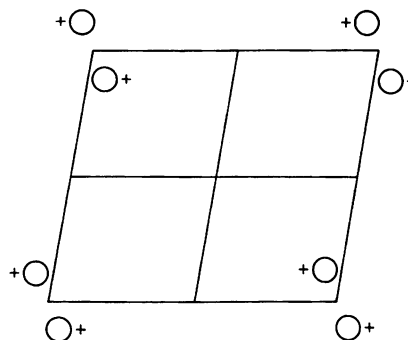
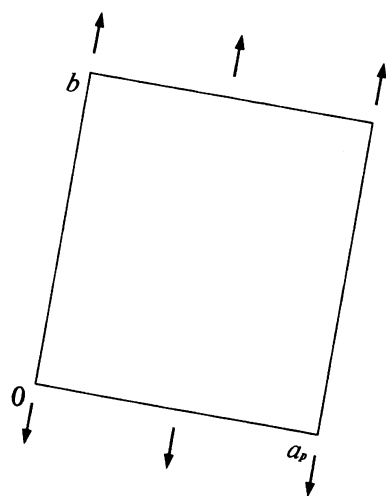
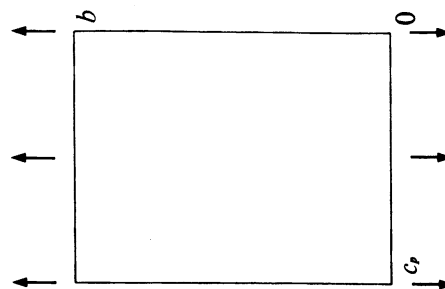
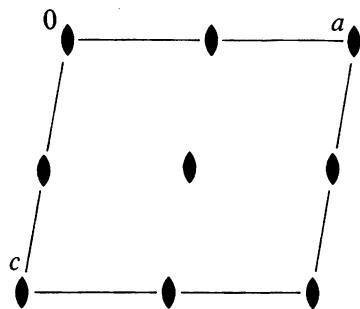
Monoclinic

No. 3

$P121$

Patterson symmetry $P12/m1$

UNIQUE AXIS b



Origin on 2

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

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

Symmetry of special projections

Along [001] $p1m1$
 $\mathbf{a}' = \mathbf{a}_p$ $\mathbf{b}' = \mathbf{b}$
 Origin at 0,0,z

Along [100] $p11m$
 $\mathbf{a}' = \mathbf{b}$ $\mathbf{b}' = \mathbf{c}_p$
 Origin at x,0,0

Along [010] $p2$
 $\mathbf{a}' = \mathbf{c}$ $\mathbf{b}' = \mathbf{a}$
 Origin at 0,y,0

Maximal non-isomorphic subgroups

I [2] $P1(1)$ 1

IIa none

IIb [2] $P12_11$ ($\mathbf{b}' = 2\mathbf{b}$) ($P2_1, 4$); [2] $C121$ ($\mathbf{a}' = 2\mathbf{a}, \mathbf{b}' = 2\mathbf{b}$) ($C2, 5$); [2] $A121$ ($\mathbf{b}' = 2\mathbf{b}, \mathbf{c}' = 2\mathbf{c}$) ($C2, 5$);
 [2] $F121$ ($\mathbf{a}' = 2\mathbf{a}, \mathbf{b}' = 2\mathbf{b}, \mathbf{c}' = 2\mathbf{c}$) ($C2, 5$)

Maximal isomorphic subgroups of lowest index

IIc [2] $P121$ ($\mathbf{b}' = 2\mathbf{b}$) ($P2, 3$); [2] $P121$ ($\mathbf{c}' = 2\mathbf{c}$ 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] $C121$ ($C2, 5$); [2] $A121$ ($C2, 5$); [2] $I121$ ($C2, 5$)