

$P2_1/m$

C_{2h}^2

$2/m$

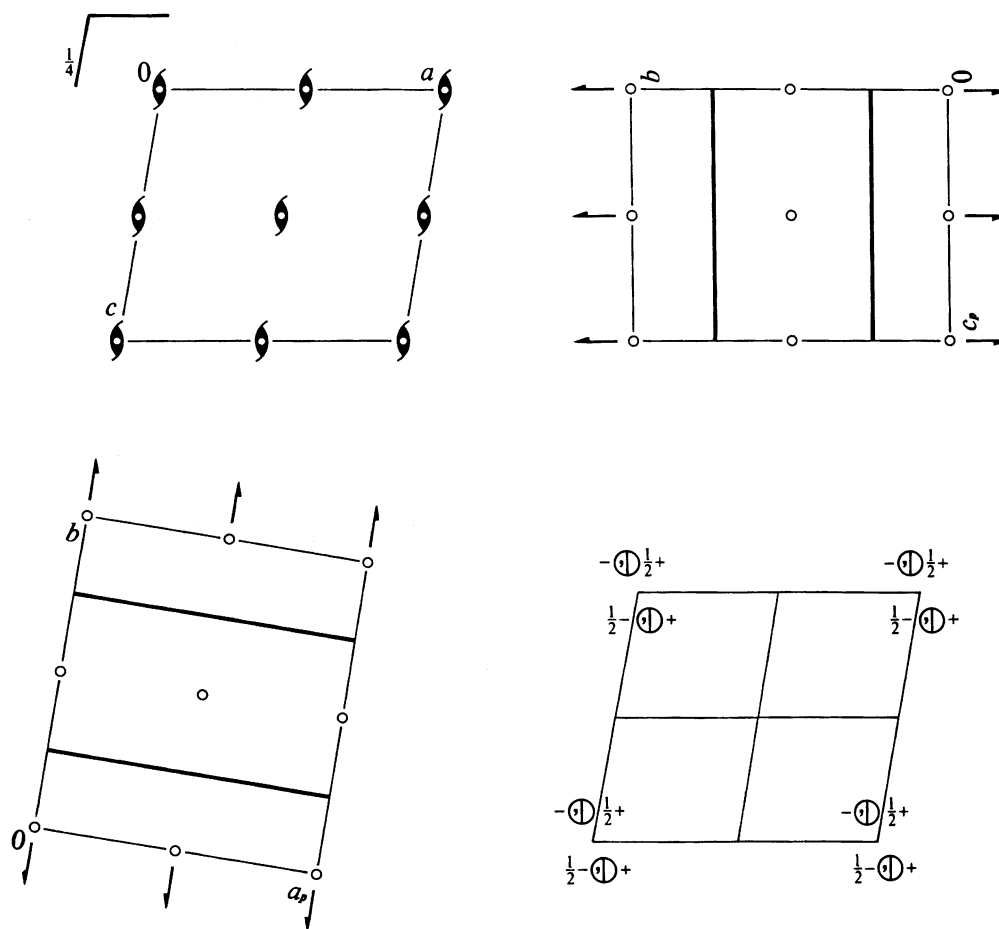
Monoclinic

No. 11

$P12_1/m1$

Patterson symmetry $P12_1/m1$

UNIQUE AXIS b



Origin at $\bar{1}$ on 2_1

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

Symmetry operations

- (1) 1 (2) $2(0, \frac{1}{2}, 0)$ $0, y, 0$ (3) $\bar{1}$ $0, 0, 0$ (4) m $x, \frac{1}{4}, z$

Generators selected (1); $t(1, 0, 0)$; $t(0, 1, 0)$; $t(0, 0, 1)$; (2); (3)

Positions

Multiplicity, Wyckoff letter, Site symmetry	Coordinates	Reflection conditions
4 f 1	(1) x, y, z (2) $\bar{x}, y + \frac{1}{2}, \bar{z}$ (3) $\bar{x}, \bar{y}, \bar{z}$ (4) $x, \bar{y} + \frac{1}{2}, z$	General: $0k0: k = 2n$ Special: as above, plus no extra conditions
2 e m	$x, \frac{1}{4}, z$ $\bar{x}, \frac{3}{4}, \bar{z}$	$hkl: k = 2n$
2 d $\bar{1}$	$\frac{1}{2}, 0, \frac{1}{2}$ $\frac{1}{2}, \frac{1}{2}, \frac{1}{2}$	$hkl: k = 2n$
2 c $\bar{1}$	$0, 0, \frac{1}{2}$ $0, \frac{1}{2}, \frac{1}{2}$	$hkl: k = 2n$
2 b $\bar{1}$	$\frac{1}{2}, 0, 0$ $\frac{1}{2}, \frac{1}{2}, 0$	$hkl: k = 2n$
2 a $\bar{1}$	$0, 0, 0$ $0, \frac{1}{2}, 0$	$hkl: k = 2n$

Symmetry of special projections

Along $[001]$ $p2gm$

$\mathbf{a}' = \mathbf{a}_p$ $\mathbf{b}' = \mathbf{b}$

Origin at $0, 0, z$

Along $[100]$ $p2mg$

$\mathbf{a}' = \mathbf{b}$ $\mathbf{b}' = \mathbf{c}_p$

Origin at $x, 0, 0$

Along $[010]$ $p2$

$\mathbf{a}' = \mathbf{c}$ $\mathbf{b}' = \mathbf{a}$

Origin at $0, y, 0$

Monoclinic

$2/m$

C_{2h}^2

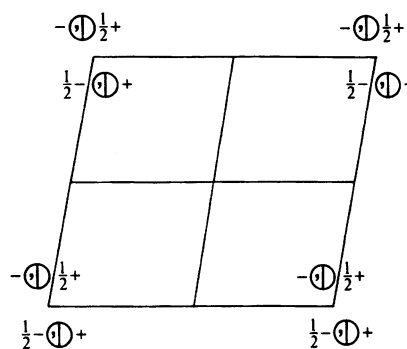
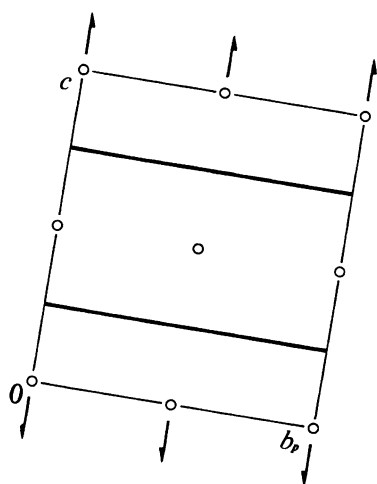
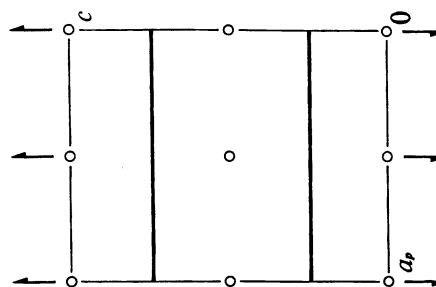
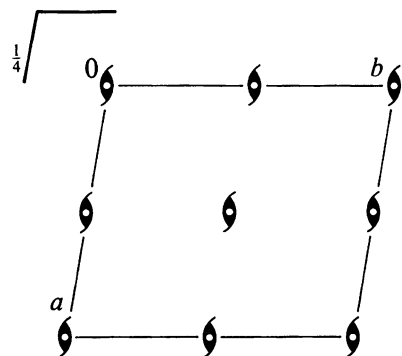
$P2_1/m$

Patterson symmetry $P112/m$

$P112_1/m$

No. 11

UNIQUE AXIS c



Origin at $\bar{1}$ on 2_1

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

Symmetry operations

(1) 1 (2) $2(0,0,\frac{1}{2})$ $0,0,z$ (3) $\bar{1}$ $0,0,0$ (4) m $x,y,\frac{1}{4}$

Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; $t(0,0,1)$; (2); (3)

Positions

Multiplicity,
Wyckoff letter,
Site symmetry

Coordinates

Reflection conditions

4 f 1 (1) x,y,z (2) $\bar{x},\bar{y},z+\frac{1}{2}$ (3) \bar{x},\bar{y},\bar{z} (4) $x,y,\bar{z}+\frac{1}{2}$

General:

$00l: l = 2n$

Special: as above, plus

no extra conditions

2 e m $x,y,\frac{1}{4}$ $\bar{x},\bar{y},\frac{3}{4}$

$hkl: l = 2n$

2 d $\bar{1}$ $\frac{1}{2},\frac{1}{2},0$ $\frac{1}{2},\frac{1}{2},\frac{1}{2}$

$hkl: l = 2n$

2 c $\bar{1}$ $\frac{1}{2},0,0$ $\frac{1}{2},0,\frac{1}{2}$

$hkl: l = 2n$

2 b $\bar{1}$ $0,\frac{1}{2},0$ $0,\frac{1}{2},\frac{1}{2}$

$hkl: l = 2n$

2 a $\bar{1}$ $0,0,0$ $0,0,\frac{1}{2}$

Symmetry of special projections

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

Along $[100]$ $p2gm$
 $\mathbf{a}' = \mathbf{b}'_p$ $\mathbf{b}' = \mathbf{c}$
Origin at $x,0,0$

Along $[010]$ $p2mg$
 $\mathbf{a}' = \mathbf{c}$ $\mathbf{b}' = \mathbf{a}'_p$
Origin at $0,y,0$