

$Pmn2_1$

$C_{2v}^7$

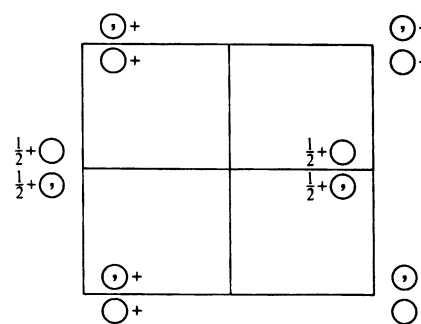
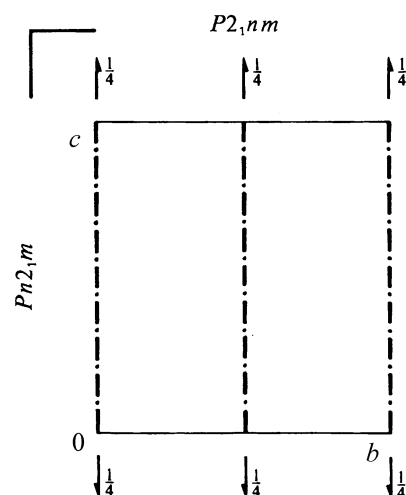
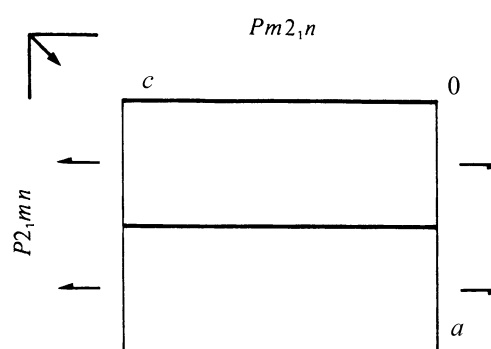
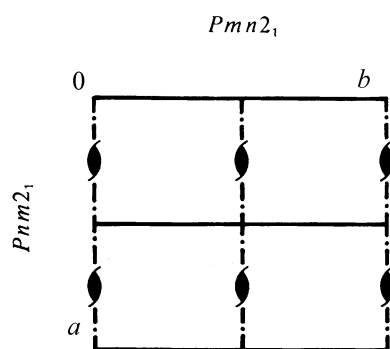
$mm2$

Orthorhombic

No. 31

$Pmn2_1$

Patterson symmetry  $Pmmm$



Origin on  $mn1$

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

Symmetry operations

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

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

General:

$h0l: h + l = 2n$   
 $h00: h = 2n$   
 $00l: l = 2n$

Special: no extra conditions

2  $a$   $m..$   $0, y, z$   $\frac{1}{2}, \bar{y}, z + \frac{1}{2}$

Symmetry of special projections

Along  $[001]$   $p2mg$   
 $\mathbf{a}' = \mathbf{a}$   $\mathbf{b}' = \mathbf{b}$   
Origin at  $\frac{1}{4}, 0, z$

Along  $[100]$   $p1g1$   
 $\mathbf{a}' = \mathbf{b}$   $\mathbf{b}' = \mathbf{c}$   
Origin at  $x, 0, 0$

Along  $[010]$   $c11m$   
 $\mathbf{a}' = \mathbf{c}$   $\mathbf{b}' = \mathbf{a}$   
Origin at  $0, y, 0$