

$Pna2_1$

$C_{2v}^9$

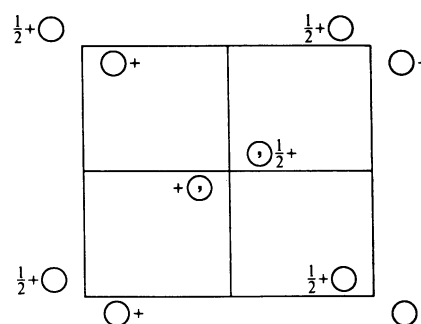
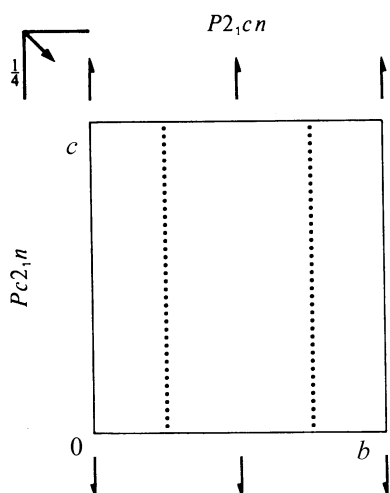
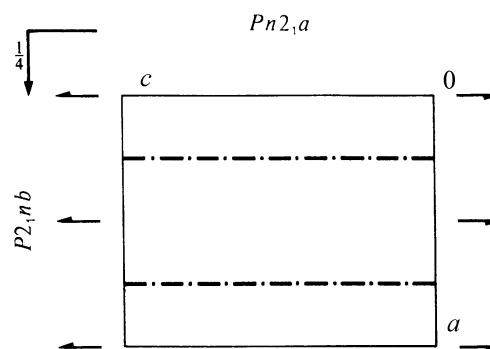
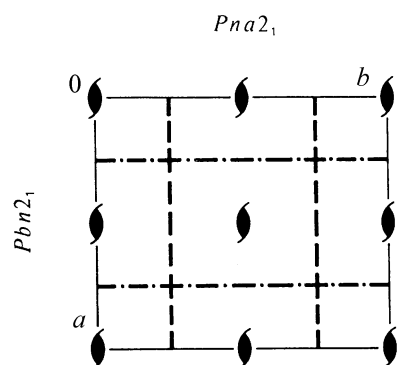
$mm2$

Orthorhombic

No. 33

$Pna2_1$

Patterson symmetry  $Pmmm$



Origin on  $112_1$

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

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

General:

$0kl: k + l = 2n$   
 $h0l: h = 2n$   
 $h00: h = 2n$   
 $0k0: k = 2n$   
 $00l: l = 2n$

Symmetry of special projections

Along  $[001]$   $p2gg$   
 $\mathbf{a}' = \mathbf{a}$   $\mathbf{b}' = \mathbf{b}$   
Origin at  $0, 0, z$

Along  $[100]$   $c1m1$   
 $\mathbf{a}' = \mathbf{b}$   $\mathbf{b}' = \mathbf{c}$   
Origin at  $x, \frac{1}{4}, 0$

Along  $[010]$   $p11g$   
 $\mathbf{a}' = \mathbf{c}$   $\mathbf{b}' = \frac{1}{2}\mathbf{a}$   
Origin at  $0, y, 0$