

$P222_1$

$D_2^2$

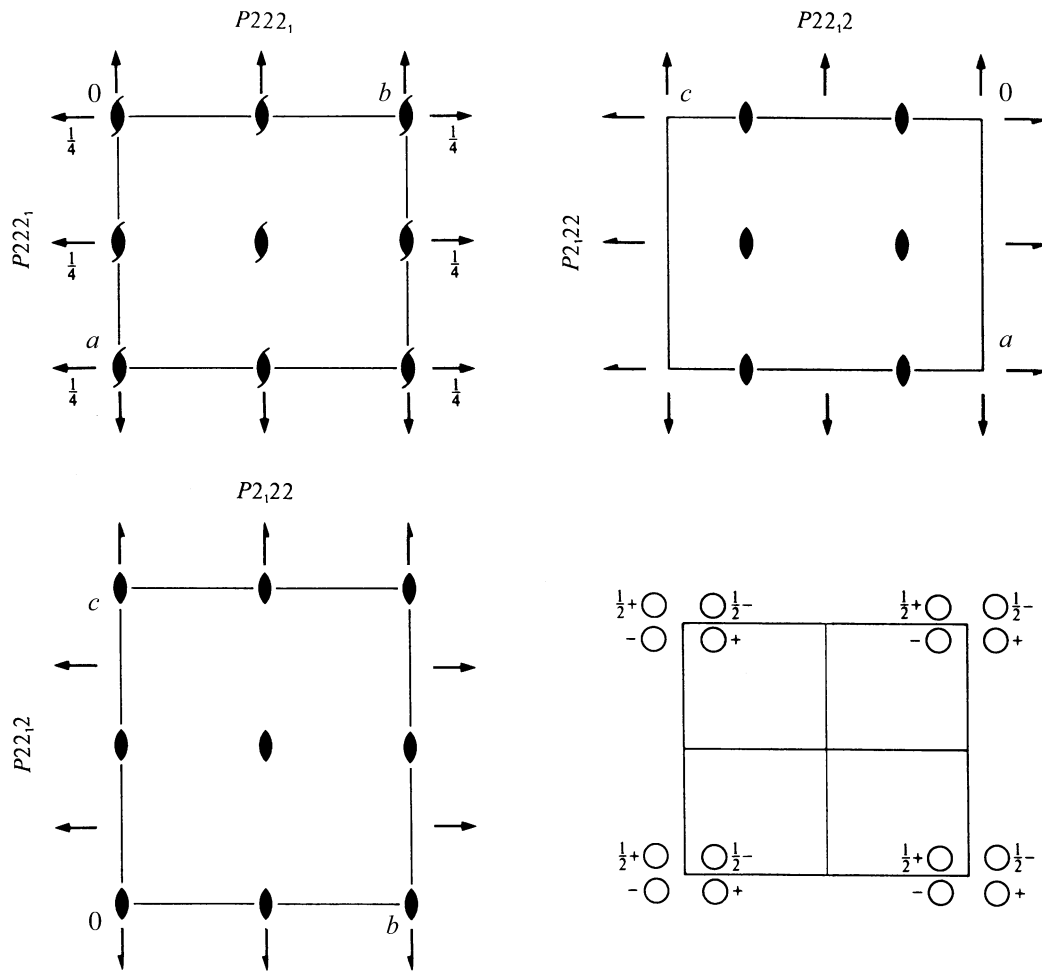
222

Orthorhombic

No. 17

$P222_1$

Patterson symmetry  $Pmmm$



Origin at  $212_1$

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)  $2$   $0, y, \frac{1}{4}$  (4)  $2$   $x, 0, 0$

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

General:

00*l*:  $l = 2n$ 

Special: as above, plus

2 *d* .2.  $\frac{1}{2}, y, \frac{1}{4}$   $\frac{1}{2}, \bar{y}, \frac{3}{4}$

*h*0*l*:  $l = 2n$ 

2 *c* .2.  $0, y, \frac{1}{4}$   $0, \bar{y}, \frac{3}{4}$

*h*0*l*:  $l = 2n$ 

2 *b* 2..  $x, \frac{1}{2}, 0$   $\bar{x}, \frac{1}{2}, \frac{1}{2}$

0*k**l*:  $l = 2n$ 

2 *a* 2..  $x, 0, 0$   $\bar{x}, 0, \frac{1}{2}$

0*k**l*:  $l = 2n$ **Symmetry of special projections**Along [001]  $p2mm$  $\mathbf{a}' = \mathbf{a}$   $\mathbf{b}' = \mathbf{b}$ Origin at 0, 0,  $z$ Along [100]  $p2gm$  $\mathbf{a}' = \mathbf{b}$   $\mathbf{b}' = \mathbf{c}$ Origin at  $x, 0, 0$ Along [010]  $p2mg$  $\mathbf{a}' = \mathbf{c}$   $\mathbf{b}' = \mathbf{a}$ Origin at 0,  $y, \frac{1}{4}$