

$\rho 222$

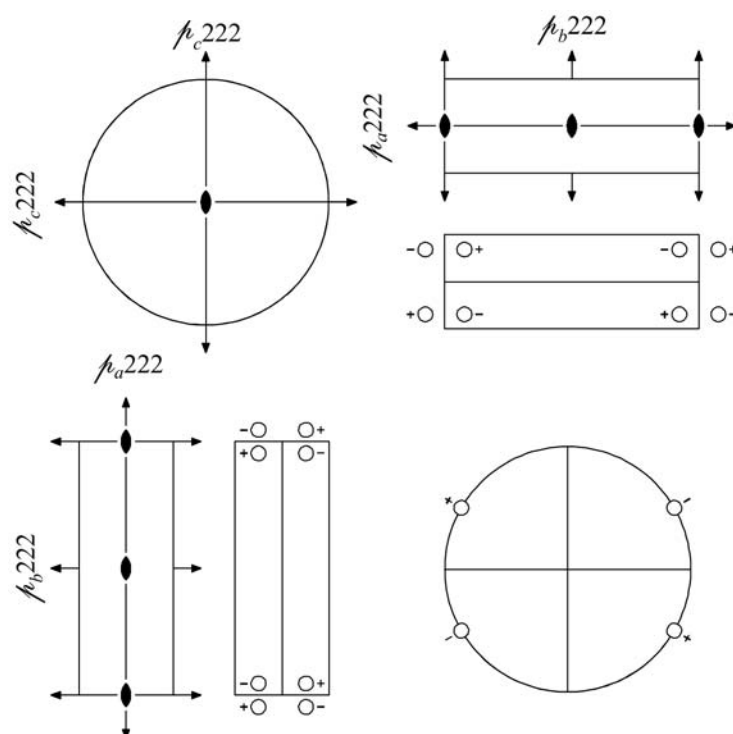
222

Orthorhombic

No. 13

$\rho 222$

Patterson symmetry  $\rho mmm$



Origin at 222

Asymmetric unit  $0 \leq x; 0 \leq y; 0 \leq z \leq 1$

Symmetry operations

- (1) 1      (2) 2  $0,0,z$       (3) 2  $0,y,0$       (4) 2  $x,0,0$

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

**Positions**

Multiplicity, Wyckoff letter, Site symmetry	Coordinates				Reflection conditions
					General: no conditions Special: no extra conditions
4 <i>h</i> 1	(1) $x, y, z$	(2) $\bar{x}, \bar{y}, z$	(3) $\bar{x}, y, \bar{z}$	(4) $x, \bar{y}, \bar{z}$	
2 <i>g</i> ..2	$0, 0, z$	$0, 0, \bar{z}$			
2 <i>f</i> .2.	$0, y, \frac{1}{2}$	$0, \bar{y}, \frac{1}{2}$			
2 <i>e</i> .2.	$0, y, 0$	$0, \bar{y}, 0$			
2 <i>d</i> 2..	$x, 0, \frac{1}{2}$	$\bar{x}, 0, \frac{1}{2}$			
2 <i>c</i> 2..	$x, 0, 0$	$\bar{x}, 0, 0$			
1 <i>b</i> 222	$0, 0, \frac{1}{2}$				
1 <i>a</i> 222	$0, 0, 0$				

**Symmetry of special projections**

Along [001]  $2mm$

Along [100]  $\rho 2mm$

Along [010]  $\rho 2mm$

Origin at  $0, 0, z$

$\mathbf{a}' = \mathbf{c}$   
Origin at  $x, 0, 0$

$\mathbf{a}' = \mathbf{c}$   
Origin at  $0, y, 0$

**Maximal non-isotypic non-enantiomorphic subgroups**

**I**  $[2] \rho 112$  (8) 1; 2  
 $[2] \rho 121$  ( $\rho 211$ , 3) 1; 3  
 $[2] \rho 211$  (3) 1; 4

**IIa** none

**IIb**  $[2] \rho 222_1$  ( $\mathbf{c}' = 2\mathbf{c}$ ) (14)

**Maximal isotypic subgroups and enantiomorphic subgroups of lowest index**

**IIc**  $[2] \rho 222$  ( $\mathbf{c}' = 2\mathbf{c}$ ) (13)

**Minimal non-isotypic non-enantiomorphic supergroups**

**I**  $[2] \rho mmm$  (20);  $[2] \rho ccm$  (21);  $[2] \rho 422$  (30);  $[2] \rho 4_222$  (32);  $[2] \rho \bar{4}2m$  (37);  $[2] \rho \bar{4}2c$  (38);  $[3] \rho 622$  (62);  $[3] \rho 6_222$  (64);  $[3] \rho 6_422$  (66)

**II** none