

P222

D_2^1

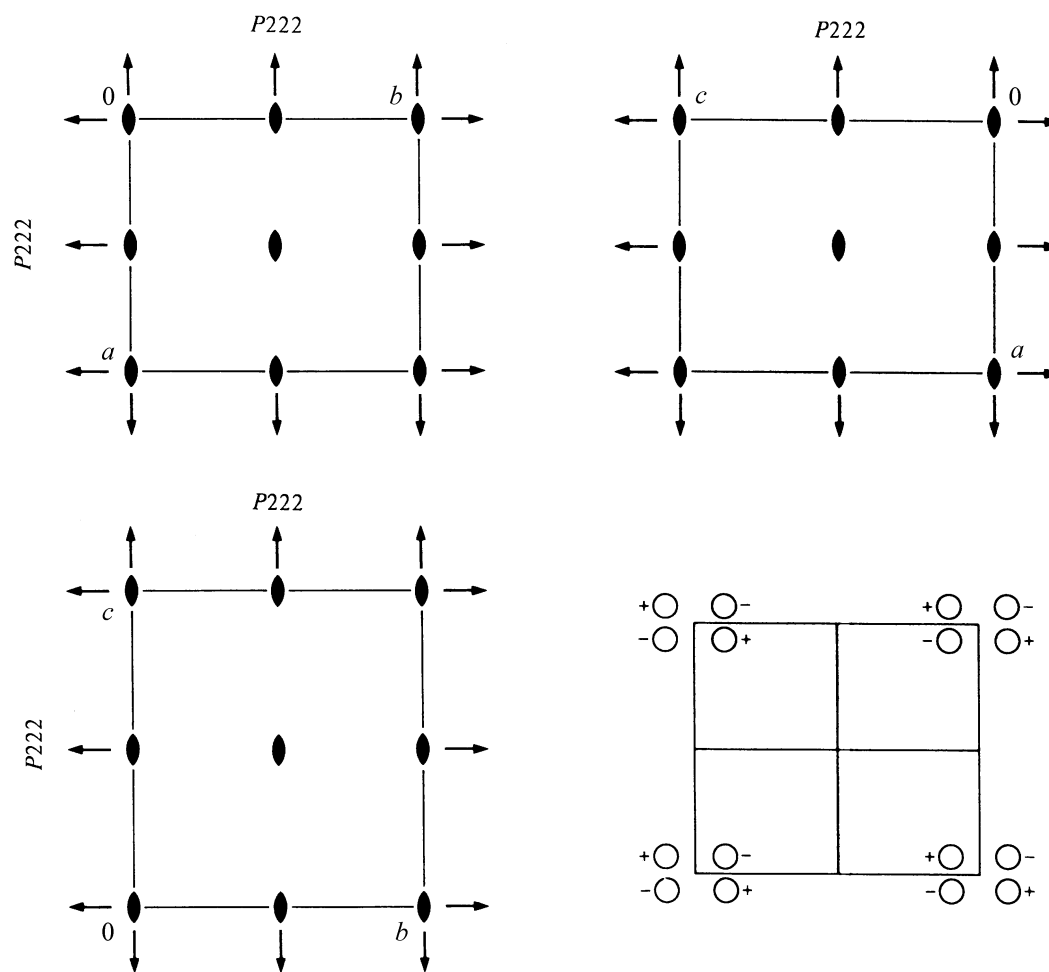
222

Orthorhombic

No. 16

P222

Patterson symmetry *Pmmm*



Origin at 222

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 $0,0,z$ (3) 2 $0,y,0$ (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
	(1) x, y, z	(2) \bar{x}, \bar{y}, z	(3) \bar{x}, y, \bar{z}	(4) x, \bar{y}, \bar{z}	General: no conditions Special: no extra conditions
4 <i>u</i> 1					
2 <i>t</i> ..2	$\frac{1}{2}, \frac{1}{2}, z$	$\frac{1}{2}, \frac{1}{2}, \bar{z}$			
2 <i>s</i> ..2	$0, \frac{1}{2}, z$	$0, \frac{1}{2}, \bar{z}$			
2 <i>r</i> ..2	$\frac{1}{2}, 0, z$	$\frac{1}{2}, 0, \bar{z}$			
2 <i>q</i> ..2	$0, 0, z$	$0, 0, \bar{z}$			
2 <i>p</i> .2.	$\frac{1}{2}, y, \frac{1}{2}$	$\frac{1}{2}, \bar{y}, \frac{1}{2}$			
2 <i>o</i> .2.	$\frac{1}{2}, y, 0$	$\frac{1}{2}, \bar{y}, 0$			
2 <i>n</i> .2.	$0, y, \frac{1}{2}$	$0, \bar{y}, \frac{1}{2}$			
2 <i>m</i> .2.	$0, y, 0$	$0, \bar{y}, 0$			
2 <i>l</i> 2..	$x, \frac{1}{2}, \frac{1}{2}$	$\bar{x}, \frac{1}{2}, \frac{1}{2}$			
2 <i>k</i> 2..	$x, \frac{1}{2}, 0$	$\bar{x}, \frac{1}{2}, 0$			
2 <i>j</i> 2..	$x, 0, \frac{1}{2}$	$\bar{x}, 0, \frac{1}{2}$			
2 <i>i</i> 2..	$x, 0, 0$	$\bar{x}, 0, 0$			
1 <i>h</i> 222	$\frac{1}{2}, \frac{1}{2}, \frac{1}{2}$				
1 <i>g</i> 222	$0, \frac{1}{2}, \frac{1}{2}$				
1 <i>f</i> 222	$\frac{1}{2}, 0, \frac{1}{2}$				
1 <i>e</i> 222	$\frac{1}{2}, \frac{1}{2}, 0$				
1 <i>d</i> 222	$0, 0, \frac{1}{2}$				
1 <i>c</i> 222	$0, \frac{1}{2}, 0$				
1 <i>b</i> 222	$\frac{1}{2}, 0, 0$				
1 <i>a</i> 222	$0, 0, 0$				

Symmetry of special projections

Along [001] $p2mm$
 $\mathbf{a}' = \mathbf{a}$ $\mathbf{b}' = \mathbf{b}$
 Origin at $0, 0, z$

Along [100] $p2mm$
 $\mathbf{a}' = \mathbf{b}$ $\mathbf{b}' = \mathbf{c}$
 Origin at $x, 0, 0$

Along [010] $p2mm$
 $\mathbf{a}' = \mathbf{c}$ $\mathbf{b}' = \mathbf{a}$
 Origin at $0, y, 0$