

$\rho 222_1$

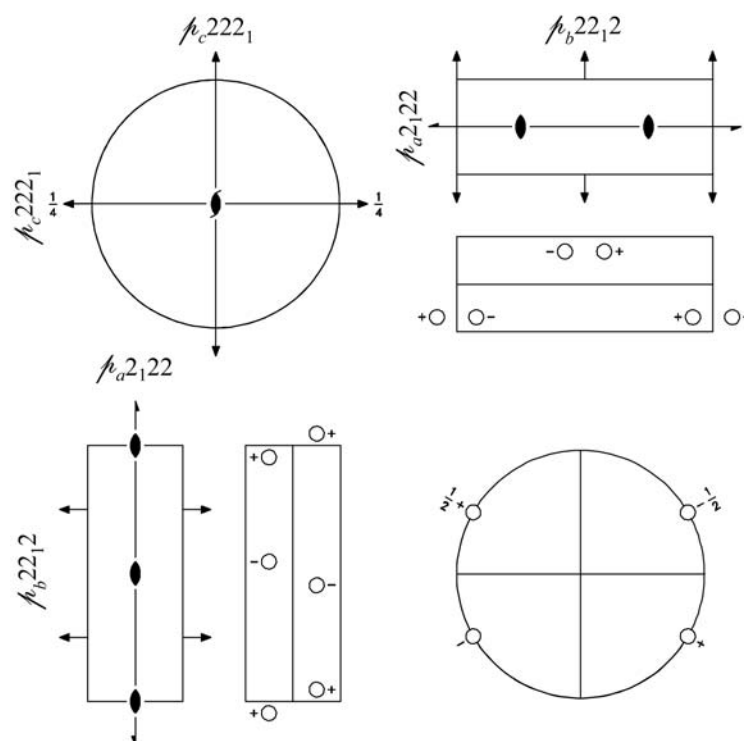
222

Orthorhombic

No. 14

$\rho 222_1$

Patterson symmetry  $\rho mmm$



Origin at  $212_1$

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

Symmetry operations

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

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

**Positions**

Multiplicity, Wyckoff letter, Site symmetry		Coordinates				Reflection conditions
4	<i>c</i> 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: $l : l = 2n$  Special: no extra conditions
2	<i>b</i> .2.	$0, y, \frac{1}{4}$	$0, \bar{y}, \frac{3}{4}$			
2	<i>a</i> 2..	$x, 0, 0$	$\bar{x}, 0, \frac{1}{2}$			

**Symmetry of special projections**

Along [001] $2mm$	Along [100] $\bar{c}2mg$	Along [010] $\bar{c}2mg$
Origin at $0, 0, z$	$\mathbf{a}' = \mathbf{c}$ Origin at $x, 0, 0$	$\mathbf{a}' = \mathbf{c}$ Origin at $0, y, \frac{1}{4}$

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

<b>I</b>	$[2] \bar{c}112_1 (9)$	1; 2
	$[2] \bar{c}121 (\bar{c}211, 3)$	1; 3
	$[2] \bar{c}211 (3)$	1; 4

**IIa** none

**IIb** none

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

**IIc**  $[3] \bar{c}222_1 (\mathbf{c}' = 3\mathbf{c}) (14)$

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

<b>I</b>	$[2] \bar{c}mcm (22)$ ; $[2] \bar{c}4_1 22 (31)$ ; $[2] \bar{c}4_3 22 (33)$ ; $[3] \bar{c}6_1 22 (63)$ ; $[3] \bar{c}6_3 22 (65)$ ; $[3] \bar{c}6_5 22 (67)$
<b>II</b>	$[2] \bar{c}222 (\mathbf{c}' = \frac{1}{2}\mathbf{c}) (13)$