

$\bar{4}2c$

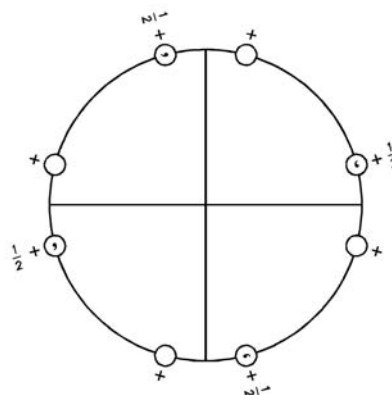
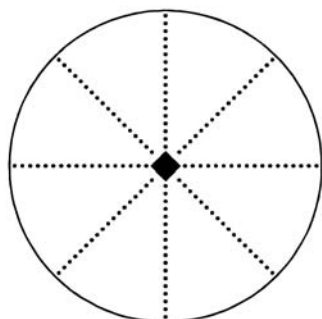
$4mm$

Tetragonal

No. 36

$\bar{4}2c$

Patterson symmetry $\bar{4}2/m$



Origin on $4c$

Asymmetric unit $0 \leq x; 0 \leq y; 0 \leq z \leq \frac{1}{2}$

Symmetry operations

- | | | | |
|--|--|---|---|
| (1) 1
(1 0,0,0) | (2) 2_{z^2} 0,0,z
(2_z 0,0,0) | (3) 4^+ 0,0,z
(4_z^+ 0,0,0) | (4) 4^- 0,0,z
(4_z^- 0,0,0) |
| (5) c_x x,0,z
(m_y 0,0, $\frac{1}{2}$) | (6) c_y 0,y,z
(m_x 0,0, $\frac{1}{2}$) | (7) $c_{\bar{x}}$ x, \bar{x} ,z
(m_{xy} 0,0, $\frac{1}{2}$) | (8) $c_{\bar{y}}$ x,x,z
($m_{\bar{xy}}$ 0,0, $\frac{1}{2}$) |

Generators selected (1); $t(0,0,1)$; (2); (3); (5)

Positions

Multiplicity, Wyckoff letter, Site symmetry	Coordinates				Reflection conditions
					General:
8 <i>b</i> 1	(1) x, y, z (5) $x, \bar{y}, z + \frac{1}{2}$	(2) \bar{x}, \bar{y}, z (6) $\bar{x}, y, z + \frac{1}{2}$	(3) \bar{y}, x, z (7) $\bar{y}, \bar{x}, z + \frac{1}{2}$	(4) y, \bar{x}, z (8) $y, x, z + \frac{1}{2}$	$l : l = 2n$
2 <i>a</i> 4..	0, 0, z	0, 0, $z + \frac{1}{2}$			Special: no extra conditions

Symmetry of special projections

Along [001] $4mm$	Along [100] $\mu 11m$	Along [110] $\mu 11m$
Origin at 0, 0, z	$\mathbf{a}' = \frac{1}{2}\mathbf{c}$ Origin at $x, 0, 0$	$\mathbf{a}' = \frac{1}{2}\mathbf{c}$ Origin at $x, x, 0$

Maximal non-isotypic non-enantiomorphic subgroups

I	$[2]\mu 411$ ($\mu 4, 23$)	1; 2; 3; 4
	$[2]\mu 2c1$ ($\mu cc2, 16$)	1; 2; 5; 6
	$[2]\mu 21c$ ($\mu cc2, 16$)	1; 2; 7; 8

IIa none

IIb none

Maximal isotypic subgroups and enantiomorphic subgroups of lowest index

IIc $[3]\mu 4cc$ ($\mathbf{c}' = 3\mathbf{c}$) (36)

Minimal non-isotypic non-enantiomorphic supergroups

I $[2]\mu 4/mcc$ (40)

II $[2]\mu 4mm$ ($\mathbf{c}' = \frac{1}{2}\mathbf{c}$) (34)