

$\bar{4}2cm$

$4mm$

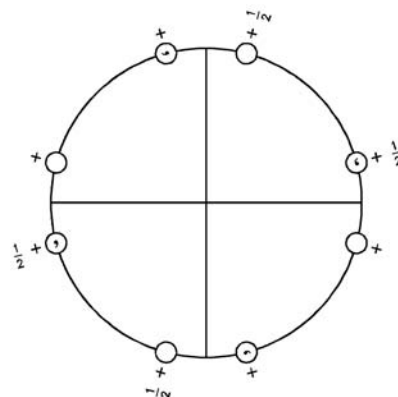
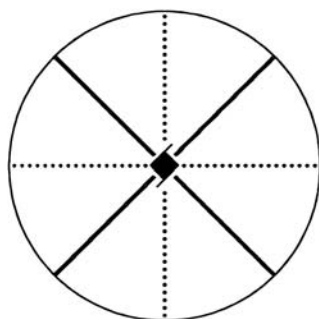
Tetragonal

No. 35

$\bar{4}2cm$

Patterson symmetry $\bar{4}4/mmm$

FIRST SETTING



Origin on $2mm$ on 4_2cm

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

Symmetry operations

- | | | | |
|---------------|---------------|------------------------------|------------------------------|
| (1) 1 | (2) 2 $0,0,z$ | (3) $4^+(\frac{1}{2}) 0,0,z$ | (4) $4^-(\frac{1}{2}) 0,0,z$ |
| (5) $c x,0,z$ | (6) $c 0,y,z$ | (7) $m x,\bar{x},z$ | (8) $m x,x,z$ |

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

Positions

Multiplicity, Wyckoff letter, Site symmetry		Coordinates				Reflection conditions
						General:
8	$c \quad 1$	(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) $\bar{y}, x, z + \frac{1}{2}$ (7) $\bar{y}, \bar{x}, z$	(4) $y, \bar{x}, z + \frac{1}{2}$ (8) y, x, z	$l : l = 2n$
						Special: no extra conditions
4	$b \quad . . m$	x, x, z	$\bar{x}, \bar{x}, z$	$\bar{x}, x, z + \frac{1}{2}$	$x, \bar{x}, z + \frac{1}{2}$	
2	$a \quad 2 . mm$	$0, 0, z$	$0, 0, z + \frac{1}{2}$			

Symmetry of special projections

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

Maximal non-isotypic non-enantiomorphic subgroups

I	$[2] \bar{4}_2 1 1 (\bar{4}_2, 25)$	1; 2; 3; 4
	$[2] \bar{4} 2 c 1 (\bar{4} c c 2, 16)$	1; 2; 5; 6
	$[2] \bar{4} 2 1 m (\bar{4} m m 2, 15)$	1; 2; 7; 8

IIa none

IIb none

Maximal isotypic subgroups and enantiomorphic subgroups of lowest index

IIc $[3] \bar{4}_2 cm (\mathbf{c}' = 3\mathbf{c}) (35)$

Minimal non-isotypic non-enantiomorphic supergroups

I	$[2] \bar{4}_2 / m m c (41)$
II	$[2] \bar{4} 4 m m (\mathbf{c}' = \frac{1}{2}\mathbf{c}) (34)$