

$\mu m c m$

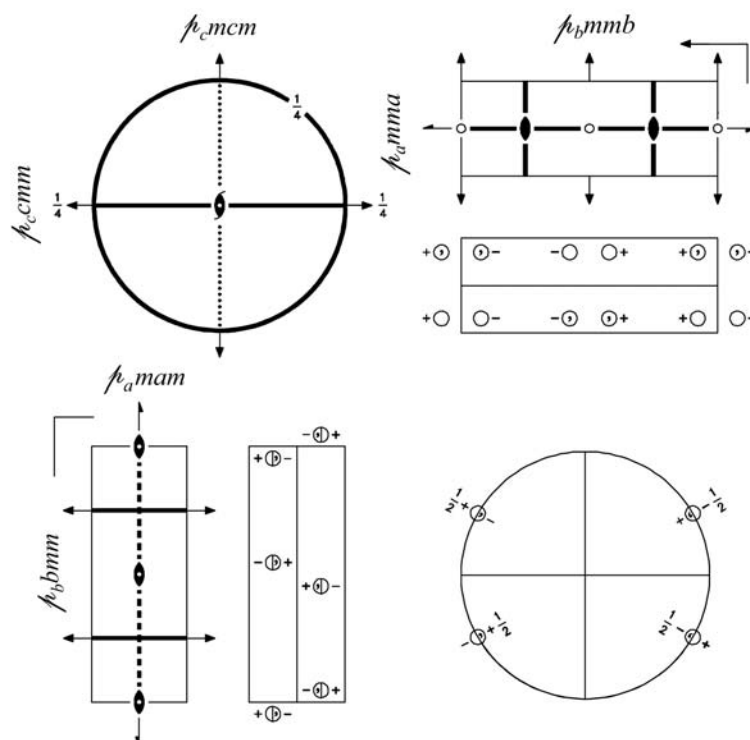
$m m m$

Orthorhombic

No. 22

$\mu 2/m 2/c 2_1/m$

Patterson symmetry $\mu m m m$



Origin at centre ($2/m$) at $2/mc2_1$

Asymmetric unit $0 \leq x; 0 \leq z \leq \frac{1}{4}$

Symmetry operations

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

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

Positions

		Coordinates				Reflection conditions	
Multiplicity, Wyckoff letter, Site symmetry						General:	
8	f 1	(1) x, y, z (5) $\bar{x}, \bar{y}, \bar{z}$	(2) $\bar{x}, y, \bar{z} + \frac{1}{2}$ (6) $x, \bar{y}, z + \frac{1}{2}$	(3) x, \bar{y}, \bar{z} (7) \bar{x}, y, z	(4) $\bar{x}, \bar{y}, z + \frac{1}{2}$ (8) $x, y, \bar{z} + \frac{1}{2}$		no conditions
							Special: no extra conditions
4	e $\dots m$	$x, y, \frac{1}{4}$	$\bar{x}, y, \frac{1}{4}$	$x, \bar{y}, \frac{3}{4}$	$\bar{x}, \bar{y}, \frac{3}{4}$		
4	d $m\dots$	$0, y, z$	$0, y, \bar{z} + \frac{1}{2}$	$0, \bar{y}, \bar{z}$	$0, \bar{y}, z + \frac{1}{2}$		
4	c $2\dots$	$x, 0, 0$	$\bar{x}, 0, \frac{1}{2}$	$\bar{x}, 0, 0$	$x, 0, \frac{1}{2}$		
2	b $m2m$	$0, y, \frac{1}{4}$	$0, \bar{y}, \frac{3}{4}$				
2	a $2/m\dots$	$0, 0, 0$	$0, 0, \frac{1}{2}$				

Symmetry of special projections

Along [001] $2mm$

Along [100] $\bar{1}2mg$

Along [010] $\bar{1}2mm$

$\mathbf{a}' = \mathbf{c}$

$\mathbf{a}' = \frac{1}{2}\mathbf{c}$

Origin at $0, 0, z$

Origin at $x, 0, 0$

Origin at $0, y, 0$

Maximal non-isotypic non-enantiomorphic subgroups

I	$[2]\bar{1}2cm$ (19)	1; 3; 6; 8
	$[2]\bar{1}m2m$ ($\bar{1}2mm$, 18)	1; 2; 7; 8
	$[2]\bar{1}mc2_1$ (17)	1; 4; 6; 7
	$[2]\bar{1}222_1$ (14)	1; 2; 3; 4
	$[2]\bar{1}112_1/m$ (12)	1; 4; 5; 8
	$[2]\bar{1}12/c1$ ($\bar{1}2/c11$, 7)	1; 2; 5; 6
	$[2]\bar{1}2/m11$ (6)	1; 3; 5; 7

IIa none

IIb none

Maximal isotypic subgroups and enantiomorphic subgroups of lowest index

IIc $[3]\bar{1}mcm$ ($\mathbf{c}' = 3\mathbf{c}$) (22)

Minimal non-isotypic non-enantiomorphic supergroups

I $[3]\bar{1}6_3/mmc$ (75)

II $[2]\bar{1}mmm$ ($\mathbf{c}' = \frac{1}{2}\mathbf{c}$) (20)