

$\mu 6/m$

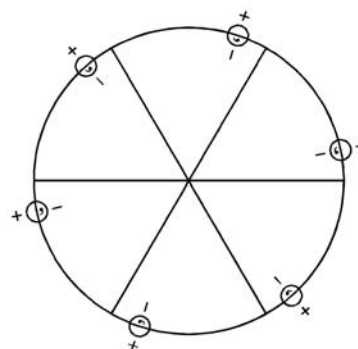
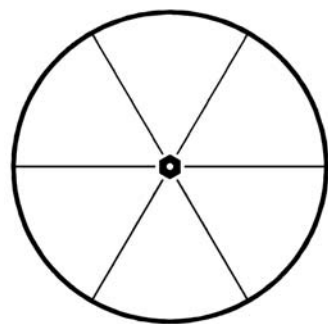
$6/m$

Hexagonal

No. 60

$\mu 6/m$

Patterson symmetry $\mu 6/m$



Origin at centre ($6/m$)

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

Symmetry operations

- | | | |
|--|---|--|
| (1) 1
(1 0,0,0) | (2) 3^+ 0,0,z
(3_z 0,0,0) | (3) 3^- 0,0,z
(3_z^{-1} 0,0,0) |
| (4) 2 0,0,z
(2_z 0,0,0) | (5) 6^- 0,0,z
(6_z^{-1} 0,0,0) | (6) 6^+ 0,0,z
(6_z 0,0,0) |
| (7) $\bar{1}$ 0,0,0
($\bar{1}$ 0,0,0) | (8) $\bar{3}^+$ 0,0,z; 0,0,0
($\bar{3}_z$ 0,0,0) | (9) $\bar{3}^-$ 0,0,z; 0,0,0
($\bar{3}_z^{-1}$ 0,0,0) |
| (10) m x,y,0
(m_z 0,0,0) | (11) $\bar{6}^-$ 0,0,z; 0,0,0
($\bar{6}_z^{-1}$ 0,0,0) | (12) $\bar{6}^+$ 0,0,z; 0,0,0
($\bar{6}_z$ 0,0,0) |

Generators selected (1); $t(0,0,1)$; (2); (4); (7)

Positions

Multiplicity, Wyckoff letter, Site symmetry	Coordinates						Reflection conditions
							General:
12 <i>f</i> 1	(1) x, y, z	(2) $\bar{y}, x - y, z$	(3) $\bar{x} + y, \bar{x}, z$				no conditions
	(4) \bar{x}, \bar{y}, z	(5) $y, \bar{x} + y, z$	(6) $x - y, x, z$				
	(7) $\bar{x}, \bar{y}, \bar{z}$	(8) $y, \bar{x} + y, \bar{z}$	(9) $x - y, x, \bar{z}$				
	(10) x, y, \bar{z}	(11) $\bar{y}, x - y, \bar{z}$	(12) $\bar{x} + y, \bar{x}, \bar{z}$				
							Special: no extra conditions
6 <i>e</i> $m..$	$x, y, \frac{1}{2}$	$\bar{y}, x - y, \frac{1}{2}$	$\bar{x} + y, \bar{x}, \frac{1}{2}$	$\bar{x}, \bar{y}, \frac{1}{2}$	$y, \bar{x} + y, \frac{1}{2}$	$x - y, x, \frac{1}{2}$	
6 <i>d</i> $m..$	$x, y, 0$	$\bar{y}, x - y, 0$	$\bar{x} + y, \bar{x}, 0$	$\bar{x}, \bar{y}, 0$	$y, \bar{x} + y, 0$	$x - y, x, 0$	
2 <i>c</i> $6..$	$0, 0, z$	$0, 0, \bar{z}$					
1 <i>b</i> $6/m..$	$0, 0, \frac{1}{2}$						
1 <i>a</i> $6/m..$	$0, 0, 0$						

Symmetry of special projections

Along [001] 6	Along [100] $\bar{6}2mm$	Along [210] $\bar{6}2mm$
Origin at $0, 0, z$	$\mathbf{a}' = \mathbf{c}$ Origin at $x, 0, 0$	$\mathbf{a}' = \mathbf{c}$ Origin at $x, \frac{1}{2}x, 0$

Maximal non-isotypic non-enantiomorphic subgroups

I	$[2]\bar{6}(59)$	1; 2; 3; 10; 11; 12
	$[2]\bar{6}(53)$	1; 2; 3; 4; 5; 6
	$[2]\bar{3}(45)$	1; 2; 3; 7; 8; 9
	$[3]\bar{1}12/m(11)$	1; 4; 7; 10

IIa none

IIb $[2]\bar{6}_3/m(\mathbf{c}' = 2\mathbf{c})(61)$

Maximal isotypic subgroups and enantiomorphic subgroups of lowest index

IIc $[2]\bar{6}/m(\mathbf{c}' = 2\mathbf{c})(60)$

Minimal non-isotypic non-enantiomorphic supergroups

I $[2]\bar{6}/mmm(73)$; $[2]\bar{6}/mcc(74)$

II none