

$p\bar{3}$

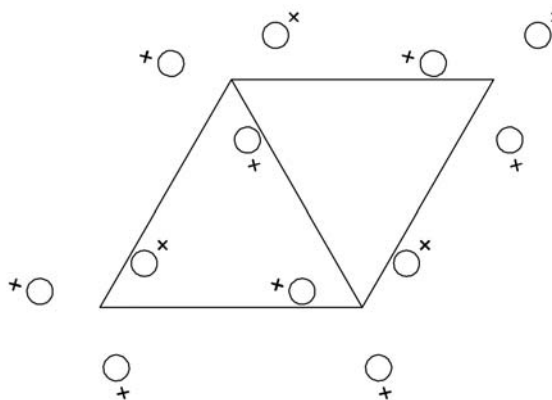
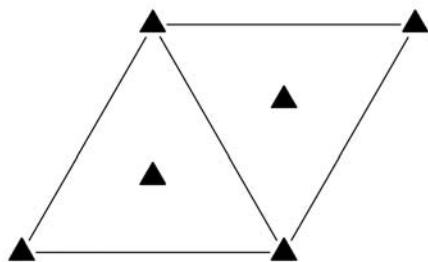
3

Trigonal/Hexagonal

No. 65

$p\bar{3}$

Patterson symmetry $p\bar{3}$



Origin on 3

Asymmetric unit $0 \leq x \leq \frac{2}{3}; \quad 0 \leq y \leq \frac{2}{3}; \quad x \leq (1+y)/2; \quad y \leq \min(1-x, (1+x)/2)$
Vertices $0, 0 \quad \frac{1}{2}, 0 \quad \frac{2}{3}, \frac{1}{3} \quad \frac{1}{3}, \frac{2}{3} \quad 0, \frac{1}{2}$

Symmetry operations

- (1) 1
 (1|0, 0, 0)
- (2) $3^+ \quad 0, 0, z$
 $(3_2^+ | 0, 0, 0)$
- (3) $3^- \quad 0, 0, z$
 $(3_2^- | 0, 0, 0)$

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

Positions

		Coordinates			Reflection conditions	
					General:	
Multiplicity,						
Wyckoff letter,						
Site symmetry						
3	<i>d</i>	1	(1) x, y, z	(2) $\bar{y}, x - y, z$	(3) $\bar{x} + y, \bar{x}, z$	no conditions
1	<i>c</i>	3..	$\frac{2}{3}, \frac{1}{3}, z$			Special: no extra conditions
1	<i>b</i>	3..	$\frac{1}{3}, \frac{2}{3}, z$			
1	<i>a</i>	3..	$0, 0, z$			

Symmetry of special projections

Along [001] $p3$
 $\mathbf{a}' = \mathbf{a}$ $\mathbf{b}' = \mathbf{b}$
 Origin at $0, 0, z$

Along [100] $\bar{1}111$
 $\mathbf{a}' = \frac{1}{2}(\mathbf{a} + 2\mathbf{b})$
 Origin at $x, 0, 0$

Along [210] $\bar{1}111$
 $\mathbf{a}' = \frac{1}{2}\mathbf{b}$
 Origin at $x, \frac{1}{2}x, 0$

Maximal non-isotypic subgroups

I [3] $p1(1)$ 1

IIa none

IIb none

Maximal isotypic subgroups of lowest index

IIc [3] $h3(\mathbf{a}' = 3\mathbf{a}, \mathbf{b}' = 3\mathbf{b})$ ($p3, 65$)

Minimal non-isotypic supergroups

I [2] $p\bar{3}$ (66); [2] $p312$ (67); [2] $p321$ (68); [2] $p3m1$ (69); [2] $p31m$ (70); [2] $p6$ (73); [2] $p\bar{6}$ (74)

II none