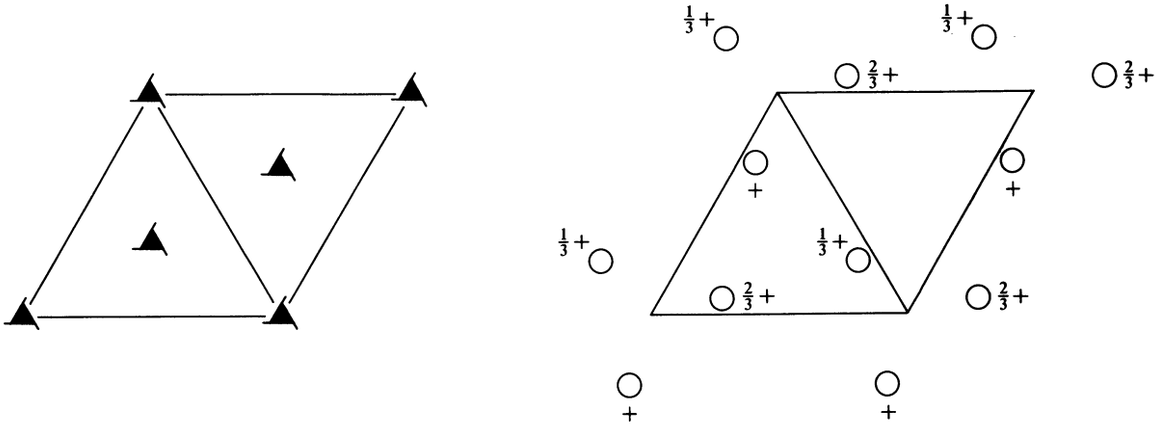
Trigonal 3 C_3^3 $P3_2$

Patterson symmetry $P\bar{3}$ $P3_2$ No. 145



Origin on 3_2

Asymmetric unit $0 \le x \le 1;\quad 0 \le y \le 1;\quad 0 \le z \le \frac{1}{3}$

Vertices $0,0,0 \quad 1,0,0 \quad 1,1,0 \quad 0,1,0$

$0,0,\frac{1}{3} \quad 1,0,\frac{1}{3} \quad 1,1,\frac{1}{3} \quad 0,1,\frac{1}{3}$

Symmetry operations

(1) 1 (2) $3^+(0,0,\frac{2}{3})$ $0,0,z$ (3) $3^-(0,0,\frac{1}{3})$ $0,0,z$

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

Positions

Multiplicity, Wyckoff letter, Site symmetry	Coordinates	Reflection conditions
		General:
3 a 1	(1) x,y,z (2) $\bar{y},x-y,z+\frac{2}{3}$ (3) $\bar{x}+y,\bar{x},z+\frac{1}{3}$	$000l$: $l=3n$

Symmetry of special projections

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

Along [100] $p1$
$\mathbf{a}' = \frac{1}{2}(\mathbf{a}+2\mathbf{b})$ $\mathbf{b}' = \mathbf{c}$
Origin at $x,0,0$

Along [210] $p1$
$\mathbf{a}' = \frac{1}{2}\mathbf{b}$ $\mathbf{b}' = \mathbf{c}$
Origin at $x,\frac{1}{2}x,0$

Maximal non-isomorphic subgroups

I [3] $P1$ (1) 1

IIa none

IIb none

Maximal isomorphic subgroups of lowest index

IIc [2] $P3_1$ ($\mathbf{c}' = 2\mathbf{c}$) (144); [3] $H3_2$ ($\mathbf{a}' = 3\mathbf{a}, \mathbf{b}' = 3\mathbf{b}$) ($P3_2$, 145); [7] $P3_2$ ($\mathbf{c}' = 7\mathbf{c}$) (145)

Minimal non-isomorphic supergroups

I [2] $P3_212$ (153); [2] $P3_221$ (154); [2] $P6_5$ (170); [2] $P6_2$ (171)

II [3] $R3$ (obverse) (146); [3] $R3$ (reverse) (146); [3] $P3$ ($\mathbf{c}' = \frac{1}{3}\mathbf{c}$) (143)