

Trigonal

3

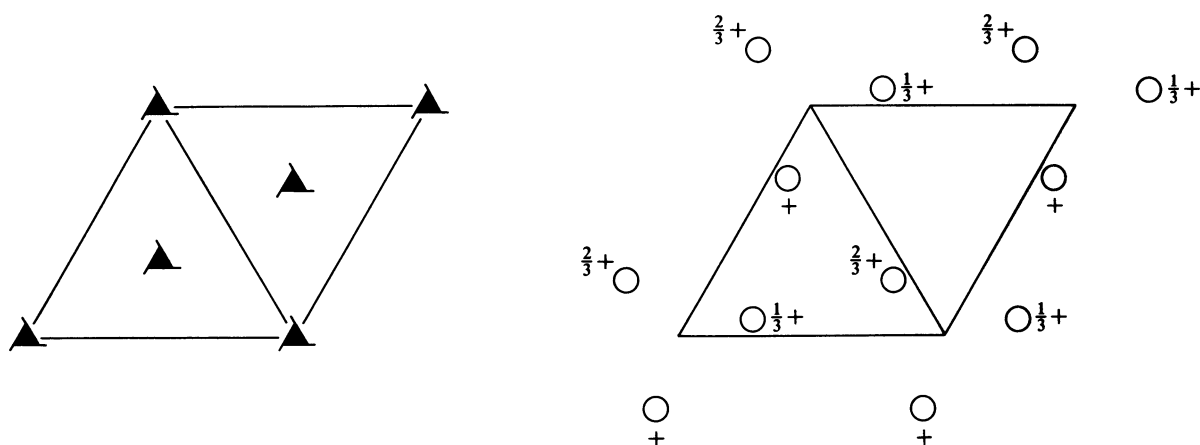
C_3^2

$P3_1$

Patterson symmetry $P\bar{3}$

$P3_1$

No. 144



Origin on 3_1

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

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

Symmetry operations

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

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

3 *a* 1 (1) x, y, z (2) $\bar{y}, x - y, z + \frac{1}{3}$ (3) $\bar{x} + y, \bar{x}, z + \frac{2}{3}$

General:

$000l: l = 3n$

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 $x, \frac{1}{2}x, 0$