

$P3_2$

C_3^3

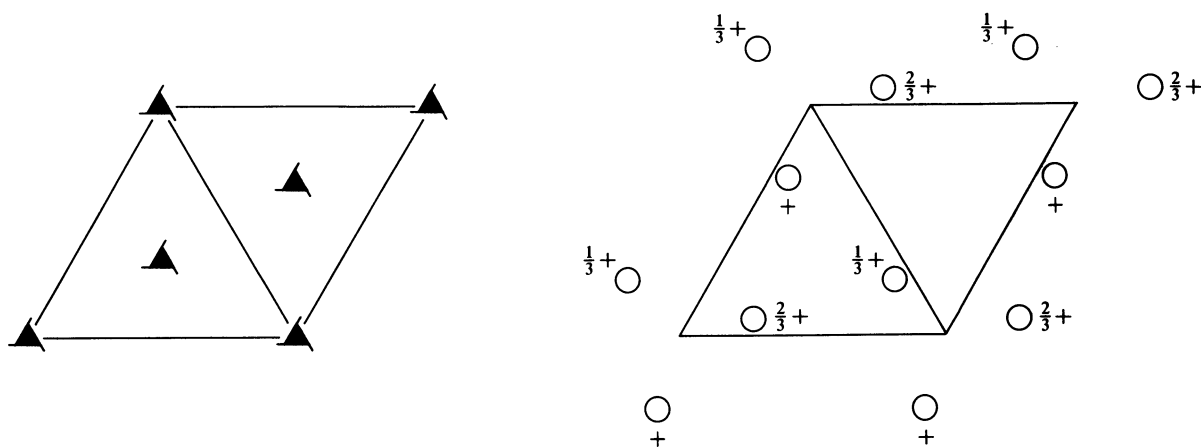
3

Trigonal

No. 145

$P3_2$

Patterson symmetry $P\bar{3}$



Origin on 3_2

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

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

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