

$p1g1$

No. 4

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

General position

 Multiplicity,
Wyckoff letter,
Site symmetry

Coordinates

 2 a 1

 (1) x,y (2) $\bar{x},y+\frac{1}{2}$
I Maximal *translationengleiche* subgroups

 [2] $p1$ (1) 1

II Maximal *klassengleiche* subgroups

 • **Enlarged unit cell**

 [2] $\mathbf{a}' = 2\mathbf{a}$
 pg (4) $\langle 2 \rangle$
 pg (4) $\langle 2 + (1,0) \rangle$
 $2\mathbf{a}, \mathbf{b}$
 $2\mathbf{a}, \mathbf{b}$ 1/2,0

 [3] $\mathbf{a}' = 3\mathbf{a}$
 $\left\{ \begin{array}{l} pg \ (4) \\ pg \ (4) \\ pg \ (4) \end{array} \right.$ $\left\{ \begin{array}{l} \langle 2 \rangle \\ \langle 2 + (2,0) \rangle \\ \langle 2 + (4,0) \rangle \end{array} \right.$
 $3\mathbf{a}, \mathbf{b}$
 $3\mathbf{a}, \mathbf{b}$ 1,0
 $3\mathbf{a}, \mathbf{b}$ 2,0

 [3] $\mathbf{b}' = 3\mathbf{b}$
 pg (4) $\langle 2 + (0,1) \rangle$ $\mathbf{a}, 3\mathbf{b}$

 • **Series of maximal isomorphic subgroups**

 [p] $\mathbf{a}' = p\mathbf{a}$
 pg (4) $\langle 2 + (2u,0) \rangle$ $p\mathbf{a}, \mathbf{b}$ $u,0$
 prime $p > 2$; $0 \leq u < p$
 p conjugate subgroups

 [p] $\mathbf{b}' = p\mathbf{b}$
 pg (4) $\langle 2 + (0, \frac{p}{2} - \frac{1}{2}) \rangle$ $\mathbf{a}, p\mathbf{b}$
 prime $p > 2$
 no conjugate subgroups

I Minimal *translationengleiche* supergroups

 [2] $p2mg$ (7); [2] $p2gg$ (8)

II Minimal non-isomorphic *klassengleiche* supergroups

 • **Additional centring translations**

 [2] cm (5)

 • **Decreased unit cell**

 [2] $\mathbf{b}' = \frac{1}{2}\mathbf{b}$ pm (3)