

pm

No. 3

 $p1m1$
Generators selected (1); $t(1,0)$; $t(0,1)$; (2)

General position

 Multiplicity,
Wyckoff letter,
Site symmetry

Coordinates

 2 c 1

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

 [2] $p1$ (1) 1

II Maximal *klassengleiche* subgroups

• Enlarged unit cell

[2] $\mathbf{a}' = 2\mathbf{a}$			
pm (3)	$\langle 2 \rangle$	$2\mathbf{a}, \mathbf{b}$	
pm (3)	$\langle 2 + (1,0) \rangle$	$2\mathbf{a}, \mathbf{b}$	$1/2, 0$
[2] $\mathbf{b}' = 2\mathbf{b}$			
pg (4)	$\langle 2 + (0,1) \rangle$	$\mathbf{a}, 2\mathbf{b}$	
pm (3)	$\langle 2 \rangle$	$\mathbf{a}, 2\mathbf{b}$	
[2] $\mathbf{a}' = 2\mathbf{a}, \mathbf{b}' = 2\mathbf{b}$			
cm (5)	$\langle 2 \rangle$	$2\mathbf{a}, 2\mathbf{b}$	
cm (5)	$\langle 2 + (1,0) \rangle$	$2\mathbf{a}, 2\mathbf{b}$	$1/2, 0$
[3] $\mathbf{a}' = 3\mathbf{a}$			
pm (3)	$\langle 2 \rangle$	$3\mathbf{a}, \mathbf{b}$	
pm (3)	$\langle 2 + (2,0) \rangle$	$3\mathbf{a}, \mathbf{b}$	$1, 0$
pm (3)	$\langle 2 + (4,0) \rangle$	$3\mathbf{a}, \mathbf{b}$	$2, 0$
[3] $\mathbf{b}' = 3\mathbf{b}$			
pm (3)	$\langle 2 \rangle$	$\mathbf{a}, 3\mathbf{b}$	
• Series of maximal isomorphic subgroups			
[p] $\mathbf{a}' = p\mathbf{a}$			
pm (3)	$\langle 2 + (2u,0) \rangle$	$p\mathbf{a}, \mathbf{b}$	$u, 0$
	prime $p > 2$; $0 \leq u < p$		
	p conjugate subgroups		
[p] $\mathbf{b}' = p\mathbf{b}$			
pm (3)	$\langle 2 \rangle$	$\mathbf{a}, p\mathbf{b}$	
	p prime		
	no conjugate subgroups		

I Minimal *translationengleiche* supergroups

 [2] $p2mm$ (6); [2] $p2mg$ (7)

II Minimal non-isomorphic *klassengleiche* supergroups

• Additional centring translations

 [2] cm (5)

• Decreased unit cell

none