

**Generators selected** (1);  $t(1,0)$ ;  $t(0,1)$ ; (2); (4)

**General position**

Multiplicity,  
Wyckoff letter,  
Site symmetry

Coordinates

6	$d$	1	(1) $x, y$	(2) $\bar{y}, x - y$	(3) $\bar{x} + y, \bar{x}$
			(4) $\bar{x}, \bar{y}$	(5) $y, \bar{x} + y$	(6) $x - y, x$

**I Maximal translationengleiche subgroups**

[2] $p3$ (13)	1; 2; 3
[3] $p2$ (2)	1; 4

**II Maximal klassengleiche subgroups**

• **Enlarged unit cell**

[3] $\mathbf{a}' = 3\mathbf{a}, \mathbf{b}' = 3\mathbf{b}$			
$\left\{ \begin{array}{l} h6 (16, p6) \\ h6 (16, p6) \\ h6 (16, p6) \end{array} \right.$	$\langle 2; 4 \rangle$	$\mathbf{a} - \mathbf{b}, \mathbf{a} + 2\mathbf{b}$	
	$\langle 2 + (1, -1); 4 + (2, 0) \rangle$	$\mathbf{a} - \mathbf{b}, \mathbf{a} + 2\mathbf{b}$	1, 0
	$\langle 2 + (2, -2); 4 + (4, 0) \rangle$	$\mathbf{a} - \mathbf{b}, \mathbf{a} + 2\mathbf{b}$	2, 0
[4] $\mathbf{a}' = 2\mathbf{a}, \mathbf{b}' = 2\mathbf{b}$			
$\left\{ \begin{array}{l} p6 (16) \\ p6 (16) \\ p6 (16) \\ p6 (16) \end{array} \right.$	$\langle 2; 4 \rangle$	$2\mathbf{a}, 2\mathbf{b}$	
	$\langle 2 + (1, -1); 4 + (2, 0) \rangle$	$2\mathbf{a}, 2\mathbf{b}$	1, 0
	$\langle 2 + (1, 2); 4 + (0, 2) \rangle$	$2\mathbf{a}, 2\mathbf{b}$	0, 1
	$\langle 2 + (2, 1); 4 + (2, 2) \rangle$	$2\mathbf{a}, 2\mathbf{b}$	1, 1

• **Series of maximal isomorphic subgroups**

[ $p^2$ ] $\mathbf{a}' = p\mathbf{a}, \mathbf{b}' = p\mathbf{b}$			
$p6 (16)$	$\langle 2 + (u + v, -u + 2v); 4 + (2u, 2v) \rangle$	$p\mathbf{a}, p\mathbf{b}$	$u, v$
	$p$ prime; $0 \leq u < p$ ; $0 \leq v < p$		
	$p^2$ conjugate subgroups for $p = 2$ or $p = 6n - 1$		
[ $p = q^2 + r^2 + qr$ ] $\mathbf{a}' = q\mathbf{a} - r\mathbf{b}, \mathbf{b}' = r\mathbf{a} + (q + r)\mathbf{b}$			
$p6 (16)$	$\langle 2 + (u, -u); 4 + (2u, 0) \rangle$	$q\mathbf{a} - r\mathbf{b}, r\mathbf{a} + (q + r)\mathbf{b}$	$u, 0$
	prime $p = 3$ or $p = 6n + 1$ ; $q > 0$ ; $r > 0$ ; $0 \leq u < p$		
	$p$ conjugate subgroups for each pair of $q$ and $r$		

**I Minimal translationengleiche supergroups**

[2]  $p6mm$  (17)

**II Minimal non-isomorphic klassengleiche supergroups**

none