$p2$ No. 2 $p2$

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

General position

Multiplicity, Wyckoff letter, Site symmetry		Coordinates	
2	e 1	(1) x,y	(2) $\bar{x},\bar{y}$

I Maximal *translationengleiche* subgroups

[2] $p1$ (1)	1		

II Maximal *klassengleiche* subgroups

- **Enlarged unit cell**

[2] $\mathbf{a}'=2\mathbf{a}$			
$p2$ (2)	$\langle 2\rangle$	$2\mathbf{a},\mathbf{b}$	
$p2$ (2)	$\langle 2+(1,0)\rangle$	$2\mathbf{a},\mathbf{b}$	$1/2,0$
[2] $\mathbf{b}'=2\mathbf{b}$			
$p2$ (2)	$\langle 2\rangle$	$\mathbf{a},2\mathbf{b}$	
$p2$ (2)	$\langle 2+(0,1)\rangle$	$\mathbf{a},2\mathbf{b}$	$0,1/2$
[2] $\mathbf{a}'=2\mathbf{a},\ \mathbf{b}'=2\mathbf{b}$			
$c2$ (2, $p2$)	$\langle 2\rangle$	$2\mathbf{a},-\mathbf{a}+\mathbf{b}$	
$c2$ (2, $p2$)	$\langle 2+(1,0)\rangle$	$2\mathbf{a},-\mathbf{a}+\mathbf{b}$	$1/2,0$
[3] $\mathbf{a}'=3\mathbf{a}$			
$p2$ (2)	$\langle 2\rangle$	$3\mathbf{a},\mathbf{b}$	
$p2$ (2)	$\langle 2+(2,0)\rangle$	$3\mathbf{a},\mathbf{b}$	$1,0$
$p2$ (2)	$\langle 2+(4,0)\rangle$	$3\mathbf{a},\mathbf{b}$	$2,0$
[3] $\mathbf{a}'=3\mathbf{a},\ \mathbf{b}'=-\mathbf{a}+\mathbf{b}$			
$p2$ (2)	$\langle 2\rangle$	$3\mathbf{a},-\mathbf{a}+\mathbf{b}$	
$p2$ (2)	$\langle 2+(2,0)\rangle$	$3\mathbf{a},-\mathbf{a}+\mathbf{b}$	$1,0$
$p2$ (2)	$\langle 2+(4,0)\rangle$	$3\mathbf{a},-\mathbf{a}+\mathbf{b}$	$2,0$
[3] $\mathbf{a}'=3\mathbf{a},\ \mathbf{b}'=-2\mathbf{a}+\mathbf{b}$			
$p2$ (2)	$\langle 2\rangle$	$3\mathbf{a},-2\mathbf{a}+\mathbf{b}$	
$p2$ (2)	$\langle 2+(2,0)\rangle$	$3\mathbf{a},-2\mathbf{a}+\mathbf{b}$	$1,0$
$p2$ (2)	$\langle 2+(4,0)\rangle$	$3\mathbf{a},-2\mathbf{a}+\mathbf{b}$	$2,0$
[3] $\mathbf{b}'=3\mathbf{b}$			
$p2$ (2)	$\langle 2\rangle$	$\mathbf{a},3\mathbf{b}$	
$p2$ (2)	$\langle 2+(0,2)\rangle$	$\mathbf{a},3\mathbf{b}$	$0,1$
$p2$ (2)	$\langle 2+(0,4)\rangle$	$\mathbf{a},3\mathbf{b}$	$0,2$

- **Series of maximal isomorphic subgroups**

[p] $\mathbf{a}'=p\mathbf{a},\ \mathbf{b}'=-q\mathbf{a}+\mathbf{b}$			
$p2$ (2)	$\langle 2+(2u,0)\rangle$ $p>2;\ 0\le q<p;\ 0\le u<p$ p conjugate subgroups for each pair of q and prime p	$p\mathbf{a},-q\mathbf{a}+\mathbf{b}$	$u,0$
[p] $\mathbf{b}'=p\mathbf{b}$			
$p2$ (2)	$\langle 2+(0,2u)\rangle$ $p>2;\ 0\le u<p$ p conjugate subgroups for the prime p	$\mathbf{a},p\mathbf{b}$	$0,u$

I Minimal *translationengleiche* supergroups

[2] $p2mm$ (6); [2] $p2mg$ (7); [2] $p2gg$ (8); [2] $c2mm$ (9); [2] $p4$ (10); [2] $p6$ (16)

II Minimal non-isomorphic *klassengleiche* supergroups none