C_6^6 No. 173 $P6_3$

	Axes	Coordinates	Wyckoff positions $2a$	$2b$	$6c$
I Maximal *translationengleiche* subgroups					
[2] $P3$ (143)			$2\times 1a$	$1b$; $1c$	$2\times 3d$
[3] $P112_1$ (4)			$2a$	$2a$	$3\times 2a$
II Maximal *klassengleiche* subgroups					
Enlarged unit cell, non-isomorphic					
[3] $P6_5$ (170)	$\mathbf{a}, \mathbf{b}, 3\mathbf{c}$	$x, y, \frac{1}{3}z$; $\pm(0,0,\frac{1}{3})$	$6a$	$6a$	$3\times 6a$
[3] $P6_1$ (169)	$\mathbf{a}, \mathbf{b}, 3\mathbf{c}$	$x, y, \frac{1}{3}z$; $\pm(0,0,\frac{1}{3})$	$6a$	$6a$	$3\times 6a$
Enlarged unit cell, isomorphic					
[3] $P6_3$	$\mathbf{a}, \mathbf{b}, 3\mathbf{c}$	$x, y, \frac{1}{3}z$; $\pm(0,0,\frac{1}{3})$	$3\times 2a$	$3\times 2b$	$3\times 6c$
[p] $P6_3$	$\mathbf{a}, \mathbf{b}, p\mathbf{c}$	$x, y, \frac{1}{p}z$; $+(0,0,\frac{u}{p})$	$p\times 2a$	$p\times 2b$	$p\times 6c$
	$p =$ prime > 2; $u = 1,\ldots,p-1$				
[3] $P6_3$	$2\mathbf{a}+\mathbf{b}, -\mathbf{a}+\mathbf{b}, \mathbf{c}$	$\frac{1}{3}(x+y), \frac{1}{3}(-x+2y), z$; $\pm(\frac{1}{3},\frac{2}{3},0)$	$2a$; $2\times 2b$	$6c$	$3\times 6c$
[7] $P6_3$	$3\mathbf{a}+\mathbf{b}, -\mathbf{a}+2\mathbf{b}, \mathbf{c}$	$\frac{1}{7}(2x+y), \frac{1}{7}(-x+3y), z$; $\pm(\frac{1}{7},\frac{3}{7},0)$; $\pm(\frac{3}{7},\frac{2}{7},0)$; $\pm(\frac{5}{7},\frac{1}{7},0)$	$2a$; $2\times 6c$	$2b$; $2\times 6c$	$7\times 6c$
[7] $P6_3$	$3\mathbf{a}+2\mathbf{b}, -2\mathbf{a}+\mathbf{b}, \mathbf{c}$	$\frac{1}{7}(x+2y), \frac{1}{7}(-2x+3y), z$; $\pm(\frac{2}{7},\frac{3}{7},0)$; $\pm(\frac{3}{7},\frac{1}{7},0)$; $\pm(\frac{1}{7},\frac{5}{7},0)$	$2a$; $2\times 6c$	$2b$; $2\times 6c$	$7\times 6c$
[p] $P6_3$	$q\mathbf{a}+r\mathbf{b}$, $-r\mathbf{a}+(q-r)\mathbf{b}, \mathbf{c}$	$\frac{1}{p}((q-r)x+ry), \frac{1}{p}(-rx+qy), z$; $+(\frac{ur}{p},\frac{uq}{p},0)$	$2a$; $\frac{p-1}{3}\times 6c$	$2b$; $\frac{p-1}{3}\times 6c$	$p\times 6c$
	$p =$ prime $= q^2-qr+r^2 = 6n+1$; $q, r = 1,2,\ldots$; $q > r$; $u = 1,\ldots,p-1$				
[4] $P6_3$	$2\mathbf{a}, 2\mathbf{b}, \mathbf{c}$	$\frac{1}{2}x, \frac{1}{2}y, z$; $+(\frac{1}{2},0,0)$; $+(0,\frac{1}{2},0)$; $+(\frac{1}{2},\frac{1}{2},0)$	$2a$; $6c$	$2b$; $6c$	$4\times 6c$
[p^2] $P6_3$	$p\mathbf{a}, p\mathbf{b}, \mathbf{c}$	$\frac{1}{p}x, \frac{1}{p}y, z$; $+(\frac{u}{p},\frac{v}{p},0)$	$2a$; $\frac{p^2-1}{3}\times 6c$	$2b$; $\frac{p^2-1}{3}\times 6c$	$p^2\times 6c$
	$p =$ prime $= 3n-1$; $u, v = 1,\ldots,p-1$				