D_{3d}^{2} $P\bar{3}12/c$ No. 163 $P\bar{3}1c$

	Axes	Coordinates	Wyckoff positions					
			$2a$	$2b$	$2c$	$2d$ $6g$	$4e$ $6h$	$4f$ $12i$
I Maximal *translationengleiche* subgroups								
[2] $P31c$ (159)			$2a$	$2a$	$2b$	$2b$ $6c$	$2\times2a$ $6c$	$2\times2b$ $2\times6c$
[2] $P312$ (149)		$x,y,z+\frac{1}{4}$	$1a$; $1b$	$2g$	$1d$; $1e$	$1c$; $1f$ $6l$	$2\times2g$ $3j$; $3k$	$2h$; $2i$ $2\times6l$
[2] $P\bar{3}$ (147)			$2c$	$1a$; $1b$	$2d$	$2d$ $3e$; $3f$	$2\times2c$ $6g$	$2\times2d$ $2\times6g$
[3] $C12/c1$ (15)	**a**, **a**+2**b**, **c**	$x-\frac{1}{2}y,\frac{1}{2}y,z$	$4e$	$4a$	$4e$	$4e$ $4b$;$4c$;$4d$	$8f$ $4e$; $8f$	$8f$ $3\times8f$
conjugate:	**b**, −2**a**−**b**, **c**	$-\frac{1}{2}x+y,-\frac{1}{2}x,z$						
conjugate:	−**a**−**b**, **a**−**b**, **c**	$-(x+y),\frac{1}{2}(x-y),z$						
II Maximal *klassengleiche* subgroups								
Enlarged unit cell, non-isomorphic								
[3] $P\bar{3}c1$ (165)	2**a**+**b**, −**a**+**b**, **c**	$\frac{1}{3}(x+y),\frac{1}{3}(-x+2y),z$; $\pm(\frac{1}{3},\frac{2}{3},0)$	$2a$; $4d$	$2b$; $4d$	$6f$	$6f$ $6e$; $12g$	$4c$;$2\times4d$ $6f$; $12g$	$12g$ $3\times12g$
[3] $R\bar{3}c$ (167)	**a**−**b**, **a**+2**b**, 3**c** (hexagonal axes)	$\frac{1}{3}(2x-y),\frac{1}{3}(x+y),\frac{1}{3}z$; $\pm(0,0,\frac{1}{3})$	$6a$; $12c$	$6b$; $12c$	$18e$	$18e$ $18d$; $36f$	$3\times12c$ $18e$; $36f$	$36f$ $3\times36f$
[3] $R\bar{3}c$ (167)	2**a**+**b**, −**a**+**b**, 3**c** (hexagonal axes)	$\frac{1}{3}(x+y),\frac{1}{3}(-x+2y),\frac{1}{3}z$; $\pm(0,0,\frac{1}{3})$	$6a$; $12c$	$6b$; $12c$	$18e$	$18e$ $18d$; $36f$	$3\times12c$ $18e$; $36f$	$36f$ $3\times36f$
Enlarged unit cell, isomorphic								
[3] $P\bar{3}1c$	**a**, **b**, 3**c**	$x,y,\frac{1}{3}z$; $\pm(0,0,\frac{1}{3})$	$2a$; $4e$	$2b$; $4e$	$2d$; $4f$	$2c$; $4f$ $6g$; $12i$	$3\times4e$ $6h$; $12i$	$3\times4f$ $3\times12i$
[p] $P\bar{3}1c$	**a**, **b**, p**c** $p=$ prime >2; $u=1,\ldots,p-1$	$x,y,\frac{1}{p}z$; $+(0,0,\frac{u}{p})$	$2a$; $\frac{p-1}{2}\times4e$	$2b$; $\frac{p-1}{2}\times4e$	$2c(d^{*})$; $\frac{p-1}{2}\times4f$	$2d(c^{*})$; $\frac{p-1}{2}\times4f$ $6g$; $\frac{p-1}{2}\times12i$	$p\times4e$ $6h$; $\frac{p-1}{2}\times12i$	$p\times4f$ $p\times12i$
[4] $P\bar{3}1c$	2**a**, 2**b**, **c**	$\frac{1}{2}x,\frac{1}{2}y,z$; $+(\frac{1}{2},0,0)$; $+(0,\frac{1}{2},0)$; $+(\frac{1}{2},\frac{1}{2},0)$	$2a$; $6h$	$2b$; $6g$	$2d$; $6h$	$2c$; $6h$ $2\times12i$	$4e$; $12i$ $2\times6h$;$12i$	$4f$; $12i$ $4\times12i$
[p^2] $P\bar{3}1c$	p**a**, p**b**, **c** $p=$ prime >4;	$\frac{1}{p}x,\frac{1}{p}y,z$; $+(\frac{u}{p},\frac{v}{p},0)$ $u,v=1,\ldots,p-1$	$2a$; $(p-1)\times6h$; $\frac{(p-1)(p-2)}{6}\times12i$	$2b$; $\frac{p^2-1}{6}\times12i$	$2c(d^{\dagger})$; $(p-1)\times6h$; $\frac{(p-1)(p-2)}{6}\times12i$	$2d(c^{\dagger})$; $(p-1)\times6h$; $\frac{(p-1)(p-2)}{6}\times12i$ $6g$; $\frac{p^2-1}{2}\times12i$	$4e$; $\frac{p^2-1}{3}\times12i$ $p\times6h$; $\frac{p(p-1)}{2}\times12i$	$4f$; $\frac{p^2-1}{3}\times12i$ $p^2\times12i$

* $p=4n-1$ † $p=6n-1$

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