International Tables for Crystallography (2006). Vol. A1, Wyckoff relations for space group 50, pp. 516–517.

Pban No. 50 $P2/b2/a2/n$ D_{2h}^{4}

	Axes	Coordinates origin 1	Coordinates origin 2	Wyckoff positions $2a$	$2b$	$2c$	$2d$	$4e$	$4f$	$4g$	$4h$ $4k$	$4i$ $4l$	$4j$ $8m$
I Maximal *translationengleiche* subgroups													
[2] $Pba2$ (32)			$x+\frac{1}{4},y+\frac{1}{4},z$	$2a$	$2b$	$2b$	$2a$	$4c$	$4c$	$4c$	$4c$ $2\times2a$	$4c$ $2\times2b$	$4c$ $2\times4c$
[2] $P2an$ (30) $\widehat{=}$ $Pnc2$	**c**, **b**, −**a**	$z,y,-x$	$x,y+\frac{1}{4},z$ $z,y+\frac{1}{4},-x$	$2a$	$2a$	$2b$	$2b$	$4c$	$4c$	$2\times2a$	$2\times2b$ $4c$	$4c$ $4c$	$4c$ $2\times4c$
[2] $Pb2n$ (30) $\widehat{=}$ $Pnc2$	**c**, **a**, **b**	z,x,y	$x+\frac{1}{4},y,z$ $z,x+\frac{1}{4},y$	$2a$	$2a$	$2b$	$2b$	$4c$	$4c$	$4c$	$4c$ $4c$	$2\times2a$ $4c$	$2\times2b$ $2\times4c$
[2] $P222$ (16)			$x+\frac{1}{4},y+\frac{1}{4},z$	$1a;1e$	$1b;1c$	$1f;1g$	$1d;1h$	$4u$	$4u$	$2i;2k$	$2j;2l$ $2q;2t$	$2m;2o$ $2r;2s$	$2n;2p$ $2\times4u$
[2] $P2/b11$ (13) $\widehat{=}$ $P12/c1$	**c**, **a**, **b**	$x+\frac{1}{4},y+\frac{1}{4},z$ $z,x+\frac{1}{4},y+\frac{1}{4}$	z,x,y	$2e$	$2e$	$2f$	$2f$	$2a;2c$	$2b;2d$	$2\times2e$	$2\times2f$ $4g$	$4g$ $4g$	$4g$ $2\times4g$
[2] $P12/a1$ (13) $\widehat{=}$ $P12/c1$	−**c**, **b**, **a**	$x+\frac{1}{4},y+\frac{1}{4},z$ $-z,y+\frac{1}{4},x+\frac{1}{4}$	$-z,y,x$	$2e$	$2e$	$2f$	$2f$	$2a;2c$	$2b;2d$	$4g$	$4g$ $4g$	$2\times2e$ $4g$	$2\times2f$ $2\times4g$
[2] $P112/n$ (13)		$x+\frac{1}{4},y+\frac{1}{4},z$		$2e$	$2f$	$2f$	$2e$	$2a;2d$	$2b;2c$	$4g$	$4g$ $2\times2e$	$4g$ $2\times2f$	$4g$ $2\times4g$
II Maximal *klassengleiche* subgroups **Enlarged unit cell, non-isomorphic**													
[2] $Pnan$ (52)	**a**, **b**, 2**c**	$x+\frac{1}{4},y+\frac{1}{4},\frac{1}{2}z;$ $+(0,0,\frac{1}{2})$	$x,y,\frac{1}{2}z;$ $+(0,0,\frac{1}{2})$	$4c$	$4c$	$4d$	$4d$	$4a;4b$	$8e$	$8e$	$2\times4d$ $8e$	$2\times4c$ $8e$	$8e$ $2\times8e$
$\widehat{=}$ $Pnna$	**a**, −2**c**, **b**	$x+\frac{1}{4},-\frac{1}{2}z,y+\frac{1}{4};$ $+(0,\frac{1}{2},0)$	$x,-\frac{1}{2}z,y;$ $+(0,\frac{1}{2},0)$										
[2] $Pnan$ (52)	**a**, **b**, 2**c**	$x+\frac{1}{4},y+\frac{1}{4},\frac{1}{2}z+\frac{1}{4};$ $+(0,0,\frac{1}{2})$	$x,y,\frac{1}{2}z+\frac{1}{4};$ $+(0,0,\frac{1}{2})$	$4d$	$4d$	$4c$	$4c$	$8e$	$4a;4b$	$2\times4d$	$8e$ $8e$	$8e$ $8e$	$2\times4c$ $2\times8e$
$\widehat{=}$ $Pnna$	**a**, −2**c**, **b**	$x+\frac{1}{4},-\frac{1}{2}z-\frac{1}{4},y+\frac{1}{4};$ $+(0,\frac{1}{2},0)$	$x,-\frac{1}{2}z-\frac{1}{4},y;$ $+(0,\frac{1}{2},0)$										
[2] $Pbnn$ (52)	**a**, **b**, 2**c**	$x+\frac{1}{4},y+\frac{1}{4},\frac{1}{2}z;$ $+(0,0,\frac{1}{2})$	$x,y,\frac{1}{2}z;$ $+(0,0,\frac{1}{2})$	$4c$	$4c$	$4d$	$4d$	$4a;4b$	$8e$	$2\times4c$	$8e$ $8e$	$8e$ $8e$	$2\times4d$ $2\times8e$
$\widehat{=}$ $Pnna$	**b**, 2**c**, **a**	$y+\frac{1}{4},\frac{1}{2}z,x+\frac{1}{4};$ $+(0,\frac{1}{2},0)$	$y,\frac{1}{2}z,x;$ $+(0,\frac{1}{2},0)$										
[2] $Pbnn$ (52)	**a**, **b**, 2**c**	$x+\frac{1}{4},y+\frac{1}{4},\frac{1}{2}z+\frac{1}{4};$ $+(0,0,\frac{1}{2})$	$x,y,\frac{1}{2}z+\frac{1}{4};$ $+(0,0,\frac{1}{2})$	$4d$	$4d$	$4c$	$4c$	$8e$	$4a;4b$	$8e$	$2\times4c$ $8e$	$2\times4d$ $8e$	$8e$ $2\times8e$
$\widehat{=}$ $Pnna$	**b**, 2**c**, **a**	$y+\frac{1}{4},\frac{1}{2}z+\frac{1}{4},x+\frac{1}{4};$ $+(0,\frac{1}{2},0)$	$y,\frac{1}{2}z+\frac{1}{4},x;$ $+(0,\frac{1}{2},0)$										
[2] $Pnnn$ (48)	**a**, **b**, 2**c**	$x,y,\frac{1}{2}z+\frac{1}{4};$ $+(0,0,\frac{1}{2})$	$x,y,\frac{1}{2}z;$ $+(0,0,\frac{1}{2})$	$4k$	$4l$	$2b;2d$	$2a;2c$	$4e;4f$	$8m$	$8m$	$4g;4h$ $2\times4k$	$8m$ $2\times4l$	$4i;4j$ $2\times8m$
[2] $Pnnn$ (48)	**a**, **b**, 2**c**	$x,y,\frac{1}{2}z;$ $+(0,0,\frac{1}{2})$	$x,y,\frac{1}{2}z+\frac{1}{4};$ $+(0,0,\frac{1}{2})$	$2a;2c$	$2b;2d$	$4l$	$4k$	$8m$	$4e;4f$	$4g;4h$	$8m$ $2\times4k$	$4i;4j$ $2\times4l$	$8m$ $2\times8m$

Axes	Coordinates origin 1	Coordinates origin 2	Wyckoff positions $2a$	$2b$	$2c$	$2d$	$4e$	$4f$ $4j$	$4g$ $4k$	$4h$ $4l$	$4i$ $8m$
Enlarged unit cell, isomorphic											
[3] $Pban$ $3\mathbf{a},\mathbf{b},\mathbf{c}$	$\frac{1}{3}x,y,z;$ $\pm(\frac{1}{3},0,0)$	$\frac{1}{3}x,y,z;$ $\pm(\frac{1}{3},0,0)$	$2a(b^*);4g$	$2b(a^*);4g$	$2c(d^*);4h$	$2d(c^*);4h$	$4e;8m$	$4f;8m$ $4j;8m$	$3\times4g$ $4k(l^*);8m$	$3\times4h$ $4l(k^*);8m$	$4i;8m$ $3\times8m$
[p] $Pban$ $p\mathbf{a},\mathbf{b},\mathbf{c}$ $p=$ prime >2; $u=1,\dots,p-1$	$\frac{1}{p}x,y,z;$ $+(\frac{u}{p},0,0)$	$\frac{1}{p}x,y,z;$ $+(\frac{u}{p},0,0)$	$2a(b^\dagger);$ $\frac{p-1}{2}\times4g$	$2b(a^\dagger);$ $\frac{p-1}{2}\times4g$	$2c(d^\dagger);$ $\frac{p-1}{2}\times4h$	$2d(c^\dagger);$ $\frac{p-1}{2}\times4h$	$4e;$ $\frac{p-1}{2}\times8m$	$4f;$ $\frac{p-1}{2}\times8m$ $4j;$ $\frac{p-1}{2}\times8m$	$p\times4g$ $4k(l^\dagger);$ $\frac{p-1}{2}\times8m$	$p\times4h$ $4l(k^\dagger);$ $\frac{p-1}{2}\times8m$	$4i;$ $\frac{p-1}{2}\times8m$ $\frac{p-1}{2}\times8m$
[3] $Pban$ $\mathbf{a},3\mathbf{b},\mathbf{c}$	$x,\frac{1}{3}y,z;$ $\pm(0,\frac{1}{3},0)$	$x,\frac{1}{3}y,z;$ $\pm(0,\frac{1}{3},0)$	$2a(b^*);4i$	$2b(a^*);4i$	$2c(d^*);4j$	$2d(c^*);4j$	$4e;8m$	$4f;8m$ $3\times4j$	$4g;8m$ $4k(l^*);8m$	$4h;8m$ $4l(k^*);8m$	$3\times4i$ $3\times8m$
[p] $Pban$ $\mathbf{a},p\mathbf{b},\mathbf{c}$ $p=$ prime >2; $u=1,\dots,p-1$	$x,\frac{1}{p}y,z;$ $+(0,\frac{u}{p},0)$	$x,\frac{1}{p}y,z;$ $+(0,\frac{u}{p},0)$	$2a(b^\dagger);$ $\frac{p-1}{2}\times4i$	$2b(a^\dagger);$ $\frac{p-1}{2}\times4i$	$2c(d^\dagger);$ $\frac{p-1}{2}\times4j$	$2d(c^\dagger);$ $\frac{p-1}{2}\times4j$	$4e;$ $\frac{p-1}{2}\times8m$	$4f;$ $\frac{p-1}{2}\times8m$ $p\times4j$	$4g;$ $\frac{p-1}{2}\times8m$ $4k(l^\dagger);$ $\frac{p-1}{2}\times8m$	$4h;$ $\frac{p-1}{2}\times8m$ $4l(k^\dagger);$ $\frac{p-1}{2}\times8m$	$p\times4i$ $\frac{p-1}{2}\times8m$
[2] $Pban$ $\mathbf{a},\mathbf{b},2\mathbf{c}$	$x,y,\frac{1}{2}z;$ $+(0,0,\frac{1}{2})$	$x,y,\frac{1}{2}z;$ $+(0,0,\frac{1}{2})$	$2a;2d$	$2b;2c$	$4l$	$4k$	$4e;4f$	$8m$ $8m$	$4g;4h$ $2\times4k$	$8m$ $2\times4l$	$4i;4j$ $2\times8m$
[2] $Pban$ $\mathbf{a},\mathbf{b},2\mathbf{c}$	$x,y,\frac{1}{2}z+\frac{1}{4};$ $+(0,0,\frac{1}{2})$	$x,y,\frac{1}{2}z+\frac{1}{4};$ $+(0,0,\frac{1}{2})$	$4k$	$4l$	$2b;2c$	$2a;2d$	$8m$	$4e;4f$ $4i;4j$	$8m$ $2\times4k$	$4g;4h$ $2\times4l$	$8m$ $2\times8m$
[3] $Pban$ $\mathbf{a},\mathbf{b},3\mathbf{c}$	$x,y,\frac{1}{3}z;$ $\pm(0,0,\frac{1}{3})$	$x,y,\frac{1}{3}z;$ $\pm(0,0,\frac{1}{3})$	$2a;4k$	$2b;4l$	$2c;4l$	$2d;4k$	$4e;8m$	$4f;8m$ $4j;8m$	$4g;8m$ $3\times4k$	$4h;8m$ $3\times4l$	$4i;8m$ $3\times8m$
[p] $Pban$ $\mathbf{a},\mathbf{b},p\mathbf{c}$ $p=$ prime >2; $u=1,\dots,p-1$	$x,y,\frac{1}{p}z;$ $+(0,0,\frac{u}{p})$	$x,y,\frac{1}{p}z;$ $+(0,0,\frac{u}{p})$	$2a;$ $\frac{p-1}{2}\times4k$	$2b;$ $\frac{p-1}{2}\times4l$	$2c;$ $\frac{p-1}{2}\times4l$	$2d;$ $\frac{p-1}{2}\times4k$	$4e;$ $\frac{p-1}{2}\times8m$	$4f;$ $\frac{p-1}{2}\times8m$ $4j;$ $\frac{p-1}{2}\times8m$	$4g;$ $\frac{p-1}{2}\times8m$ $p\times4k$	$4h;$ $\frac{p-1}{2}\times8m$ $p\times4l$	$4i;$ $\frac{p-1}{2}\times8m$ $\frac{p-1}{2}\times8m$

* origin 2 † origin 2 and $p=4n-1$

Nonconventional settings

interchange letters and sequences in Hermann–Mauguin symbols, axes and coordinates:

$Pncb$ $a\to b\to c\to a$ $\mathbf{a}\to\mathbf{b}\to\mathbf{c}\to\mathbf{a}$ $x\to y\to z\to x$

$Pcna$ $a\leftarrow b\leftarrow c\leftarrow a$ $\mathbf{a}\leftarrow\mathbf{b}\leftarrow\mathbf{c}\leftarrow\mathbf{a}$ $x\leftarrow y\leftarrow z\leftarrow x$