International Tables for Crystallography (2006). Vol. A1, Wyckoff relations for space group 229, pp. 720–721.

$Im\bar{3}m$ No. 229 $I4/m\bar{3}2/m$ O_h^9

	Axes	Coordinates	Wyckoff positions						
			$2a$	$6b$	$8c$ $24h$	$12d$ $48i$	$12e$ $48j$	$16f$ $48k$	$24g$ $96l$
I Maximal *translationengleiche* subgroups									
[2] $I\bar{4}3m$ (217)			$2a$	$6b$	$8c$ $24g$	$12d$ $48h$	$12e$ $48h$	$2\times8c$ $2\times24g$	$24f$ $2\times48h$
[2] $I432$ (211)			$2a$	$6b$	$8c$ $24h$	$12d$ $2\times24i$	$12e$ $48j$	$16f$ $48j$	$24g$ $2\times48j$
[2] $Im\bar{3}$ (204)			$2a$	$6b$	$8c$ $24g$	$12e$ $48h$	$12d$ $2\times24g$	$16f$ $48h$	$2\times12e$ $2\times48h$
[4] $R\bar{3}m$ (166)	$\frac{1}{2}(-\mathbf{a}+\mathbf{b}+\mathbf{c})$, $\frac{1}{2}(\mathbf{a}-\mathbf{b}+\mathbf{c})$, $\frac{1}{2}(\mathbf{a}+\mathbf{b}-\mathbf{c})$	$y+z,x+z,x+y$ (rhombohedral axes)	$1a$	$3e$	$1b;3d$ $6f;6h$	$6g$ $2\times6g;12i$	$6h$ $2\times12i$	$2c;6h$ $2\times6h;12i$	$12i$ $4\times12i$
	$-\mathbf{a}+\mathbf{b},-\mathbf{b}+\mathbf{c}$, $\frac{1}{2}(\mathbf{a}+\mathbf{b}+\mathbf{c})$ (hexagonal axes)	$\frac{1}{3}(-2x+y+z),\frac{1}{3}(-x-y+2z)$, $\frac{2}{3}(x+y+z)$	$3a$	$9e$	$3b;9d$ $18f;18h$	$18g$ $2\times18g;36i$	$18h$ $2\times36i$	$6c;18h$ $2\times18h;36i$	$36i$ $4\times36i$
	conjugate: $\mathbf{a}+\mathbf{b}$, $-\mathbf{b}-\mathbf{c}$, $\frac{1}{2}(-\mathbf{a}+\mathbf{b}-\mathbf{c})$ (hexagonal axes)	$\frac{1}{3}(2x+y-z),\frac{1}{3}(x-y-2z)$, $\frac{2}{3}(-x+y-z)$							
	conjugate: $-\mathbf{a}-\mathbf{b}$, $\mathbf{b}-\mathbf{c}$, $\frac{1}{2}(\mathbf{a}-\mathbf{b}-\mathbf{c})$ (hexagonal axes)	$\frac{1}{3}(-2x-y-z),\frac{1}{3}(-x+y-2z)$, $\frac{2}{3}(x-y-z)$							
	conjugate: $\mathbf{a}-\mathbf{b}$, $\mathbf{b}+\mathbf{c}$, $\frac{1}{2}(-\mathbf{a}-\mathbf{b}+\mathbf{c})$ (hexagonal axes)	$\frac{1}{3}(2x-y+z),\frac{1}{3}(x+y+2z)$, $\frac{2}{3}(-x-y+z)$							
[3] $I4/mmm$ (139)			$2a$	$2b;4c$	$8f$ $8h;16n$	$4d;8j$ $16k;32o$	$4e;8i$ $16l;2\times16n$	$16m$ $16m;32o$	$8g;2\times8j$ $3\times32o$
	conjugate: $\mathbf{b},\mathbf{c},\mathbf{a}$	y,z,x							
	conjugate: $\mathbf{c},\mathbf{a},\mathbf{b}$	z,x,y							
II Maximal *klassengleiche* subgroups									
Loss of centring translations									
[2] $Pn\bar{3}m$ (224)	origin 1: x,y,z origin 2: $x+\frac{1}{4},y+\frac{1}{4},z+\frac{1}{4}$		$2a$	$6d$	$4b;4c$ $24k$	$12f$ $24i;24j$	$12g$ $48l$	$2\times8e$ $2\times24k$	$24h$ $2\times48l$
[2] $Pm\bar{3}n$ (223)			$2a$	$6b$	$8e$ $24k$	$6c;6d$ $2\times24j$	$12f$ $2\times24k$	$16i$ $48l$	$12g;12h$ $2\times48l$
[2] $Pn\bar{3}n$ (222)	origin 1: x,y,z origin 2: $x+\frac{1}{4},y+\frac{1}{4},z+\frac{1}{4}$		$2a$	$6b$	$8c$ $24h$	$12d$ $48i$	$12e$ $48i$	$16f$ $48i$	$24g$ $2\times48i$
[2] $Pm\bar{3}m$ (221)			$1a;1b$	$3c;3d$	$8g$ $12i;12j$	$12h$ $48n$	$6e;6f$ $24k;24l$	$2\times8g$ $2\times24m$	$2\times12h$ $2\times48n$
Enlarged unit cell, isomorphic									
[27] $Im\bar{3}m$	$3\mathbf{a},3\mathbf{b},3\mathbf{c}$	$\frac{1}{3}x,\frac{1}{3}y,\frac{1}{3}z;\pm(\frac{1}{3},0,0)$; $\pm(0,\frac{1}{3},0);\pm(0,0,\frac{1}{3})$; $\pm(0,\frac{1}{3},\frac{1}{3});\pm(\frac{1}{3},0,\frac{1}{3})$; $\pm(\frac{1}{3},\frac{1}{3},0);\pm(\frac{1}{3},0,\frac{2}{3})$; $\pm(\frac{1}{3},\frac{2}{3},0);\pm(0,\frac{1}{3},\frac{2}{3})$; $\pm(\frac{1}{3},\frac{1}{3},\frac{1}{3});\pm(\frac{2}{3},\frac{1}{3},\frac{1}{3})$; $\pm(\frac{1}{3},\frac{2}{3},\frac{1}{3});\pm(\frac{1}{3},\frac{1}{3},\frac{2}{3})$	$2a;12e$; $16f;24h$	$6b;12e$; $24g;24h$; $48j;48k$	$8c;16f$; $48i$; $3\times48k$ $3\times24h$; $3\times48j$; $3\times48k$; $3\times96l$	$12d;24g;48i$ $3\times48j;96l$ $3\times48i$; $12\times96l$	$3\times12e$; $3\times48j$; $3\times48k$ $9\times48j$; $9\times96l$	$3\times16f$; $6\times48k;96l$ $9\times48k$; $9\times96l$	$3\times24g$; $6\times48j$; $3\times96l$ $27\times96l$

	Axes	Coordinates	Wyckoff positions					
			$2a$ $24g$	$6b$ $24h$	$8c$ $48i$	$12d$ $48j$	$12e$ $48k$	$16f$ $96l$
$[p^3]\,Im\bar{3}m$	$p\mathbf{a}, p\mathbf{b}, p\mathbf{c}$ $p =$ prime > 2; $u, v, w = 1, \ldots, p-1$	$\frac{1}{p}x, \frac{1}{p}y, \frac{1}{p}z$; $+(\frac{u}{p}, \frac{v}{p}, \frac{w}{p})$	$2a$; $\frac{p-1}{2}\times 12e$; $\frac{p-1}{2}\times 16f$; $\frac{p-1}{2}\times 24h$; $\frac{(p-1)(p-3)}{8}\times 48j$; $\frac{(p-1)(p-3)}{4}\times 48k$; $\frac{(p-1)(p-3)(p-5)}{48}\times 96l$	$6b$; $\frac{p-1}{2}\times 12e$; $\frac{p-1}{2}\times 24g$; $\frac{p-1}{2}\times 24h$; $\frac{(p-1)(3p-5)}{8}\times 48j$; $\frac{(p-1)^2}{4}\times 48k$; $\frac{(p-1)^2(p-3)}{16}\times 96l$	$8c$; $\frac{p-1}{2}\times 16f$; $\frac{p-1}{2}\times 48i$; $\frac{p(p-1)}{2}\times 48k$; $\frac{(p^2-1)(p-3)}{12}\times 96l$	$12d$; $\frac{p-1}{2}\times 24g$; $\frac{p-1}{2}\times 48i$; $\frac{p(p-1)}{2}\times 48j$; $\frac{(p^2-1)(p-2)}{8}\times 96l$	$p\times 12e$; $\frac{p(p-1)}{2}\times 48j$; $\frac{p(p-1)}{2}\times 48k$; $\frac{p(p-1)(p-3)}{8}\times 96l$	$p\times 16f$; $p(p-1)\times 48k$; $\frac{p(p-1)(p-2)}{6}\times 96l$
			$p\times 24g$; $p(p-1)\times 48j$; $\frac{p(p-1)^2}{4}\times 96l$	$p\times 24h$; $\frac{p(p-1)}{2}\times 48j$; $\frac{p(p-1)}{2}\times 48k$; $\frac{p(p-1)^2}{4}\times 96l$	$p\times 48i$; $\frac{p(p^2-1)}{2}\times 96l$	$p^2\times 48j$; $\frac{p^2(p-1)}{2}\times 96l$	$p^2\times 48k$; $\frac{p^2(p-1)}{2}\times 96l$	$p^3\times 96l$