$P4_2/nmc$ No. 137 $P4_2/n2_1/m2/c$ D_{4h}^{15}

	Axes	Coordinates origin 1	Coordinates origin 2	Wyckoff positions 2a	2b	4c 8f	4d 8g	8e 16h
I	**Maximal *translationengleiche* subgroups**							
[2] $P\bar{4}m2$ (115)			$x+\frac{1}{4},y-\frac{1}{4},z+\frac{1}{4}$	1a; 1c	1b; 1d	2e; 2f 4h; 4i	2×2g 4j; 4k	8l 2×8l
[2] $P\bar{4}2_1c$ (114)			$x+\frac{1}{4},y-\frac{1}{4},z+\frac{1}{4}$	2a	2b	4c 8e	4d 8e	8e 2×8e
[2] $P4_2mc$ (105)		$x+\frac{1}{2},y,z$	$x+\frac{1}{4},y+\frac{1}{4},z$	2c	2c	2×2c 8f	2a; 2b 4d; 4e	8f 2×8f
[2] $P4_22_12$ (94)			$x+\frac{1}{4},y-\frac{1}{4},z+\frac{1}{4}$	2a	2b	4c 4e; 4f	4d 8g	8g 2×8g
[2] $P4_2/n$ (86)			$x,y+\frac{1}{2},z$	2a	2b	4f 8g	4e 8g	4c; 4d 2×8g
[2] $Pmmn$ (59)		$x,y,z+\frac{1}{4}$		2a(b*)	2a(b*)	2×2a(b*) 8g	2×2b(a*) 4e; 4f	4c; 4d 2×8g
[2] $Ccce$ (68)	**a**+**b**, −**a**+**b**, **c**	$\frac{1}{2}(x+y),\frac{1}{2}(-x+y),z$	$\frac{1}{2}(x+y),\frac{1}{2}(-x+y),z$	4a(b*)	4b(a*)	8g 8e; 8f	8h 16i	8c; 8d 2×16i
II	**Maximal *klassengleiche* subgroups**							
	Enlarged unit cell, isomorphic							
[3] $P4_2/nmc$	**a**, **b**, 3**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(b*); 4c	2b(a*); 4c	3×4c 8f; 16h	3×4d 3×8g	8e; 16h 3×16h
[p] $P4_2/nmc$	**a**, **b**, p**c** $p=$prime>2; $u=1,\ldots,p-1$	$x,y,\frac{1}{p}z;$ $+(0,0,\frac{u}{p})$	$x,y,\frac{1}{p}z;$ $+(0,0,\frac{u}{p})$	2a(b†); $\frac{p-1}{2}$×4c	2b(a†); $\frac{p-1}{2}$×4c	p×4c 8f; $\frac{p-1}{2}$×16h	p×4d p×8g	8e; $\frac{p-1}{2}$×16h p×16h
[9] $P4_2/nmc$	3**a**,3**b**,**c**	$\underbrace{\frac{1}{3}x,\frac{1}{3}y,z;}$ $\pm(\frac{1}{3},0,0);\pm(0,\frac{1}{3},0);$ $\pm(\frac{1}{3},\frac{1}{3},0);\pm(\frac{1}{3},\frac{2}{3},0)$	$\frac{1}{3}x,\frac{1}{3}y,z;$	2a(b*); 8f; 8g	2b(a*); 8f; 8g	4c; 2×8g; 16h 3×8f; 3×16h	4d; 2×8g; 16h 3×8g; 3×16h	8e; 4×16h 9×16h
[p^2] $P4_2/nmc$	p**a**,p**b**,**c** $p=$ prime >2; $u,v=1,\ldots,p-1$	$\frac{1}{p}x,\frac{1}{p}y,z;$ $+(\frac{u}{p},\frac{v}{p},0)$	$\frac{1}{p}x,\frac{1}{p}y,z;$ $+(\frac{u}{p},\frac{v}{p},0)$	2a(b†); $\frac{p-1}{2}$×8f; $\frac{p-1}{2}$×8g; $\frac{(p-1)(p-3)}{8}$×16h	2b(a†); $\frac{p-1}{2}$×8f; $\frac{p-1}{2}$×8g; $\frac{(p-1)(p-3)}{8}$×16h	4c; $(p-1)$×8g; $\frac{(p-1)^2}{4}$×16h p×8f; $\frac{p(p-1)}{2}$×16h	4d; $(p-1)$×8g; $\frac{(p-1)^2}{4}$×16h p×8g; $\frac{p(p-1)}{2}$×16h	8e; $\frac{p^2-1}{2}$×16h p^2×16h

* origin 2

† origin 2 and $p=4n-1$

