

$Fm\bar{3}m$ O_h^5 $m\bar{3}m$

Cubic

No. 225

 $F4/m\bar{3}2/m$ Patterson symmetry $Fm\bar{3}m$ Origin at centre ($m\bar{3}m$)

Positions

Multiplicity,
Wyckoff letter,
Site symmetry,
Coordinates

Patterson peaks (U, V, W (Multiplicity))

192	l 1	x,y,z; -x,-y,z; etc.	$0, 0, 0$ (192)	$2x, 2y, 0$ (8)	$2x, 0, 2z$ (8)	$0, 2y, 2z$ (8)
			$x-z, -x+y, -y+z$ (8)	$x-z, x+y, y+z$ (8)	$x+z, x+y, -y+z$ (8)	$x+z, -x+y, y+z$ (8)
			$x-y, -x+y, 2z$ (8)	$x+y, x+y, 2z$ (8)	$x-y, x+y, 0$ (16)	$0, y-z, y+z$ (16)
			$2x, y-z, -y+z$ (8)	$2x, y+z, y+z$ (8)	$x-z, 0, x+z$ (16)	$x-z, 2y, -x+z$ (8)
			$x+z, 2y, x+z$ (8)	$2x, 2y, 2z$ (4)	$0, 0, 2z$ (32)	$0, 2y, 0$ (32)
			$2x, 0, 0$ (32)	$x+z, x+y, y+z$ (8)	$x+z, -x+y, -y+z$ (8)	$x-z, -x+y, y+z$ (8)
			$x-z, x+y, -y+z$ (8)	$x+y, x+y, 0$ (16)	$x-y, -x+y, 0$ (16)	$x+y, -x+y, 2z$ (8)
			$2x, y+z, -y+z$ (8)	$0, y+z, y+z$ (16)	$0, y-z, -y+z$ (16)	$x+z, 2y, -x+z$ (8)
			$x+z, 0, x+z$ (16)	$x-z, 0, -x+z$ (16)		
96	k . . m	x,x,z; -x,-x,z; etc.	$0, 0, 0$ (96)	$2x, 2x, 0$ (8)	$2x, 0, 2z$ (8)	$x-z, 0, -x+z$ (16)
			$x-z, 2x, x+z$ (8)	$x+z, 0, x+z$ (16)	$0, 0, 2z$ (16)	$2x, 2x, 2z$ (4)
			$0, 2x, 0$ (32)	$0, x-z, x+z$ (16)	$2x, x-z, -x+z$ (8)	$2x, x+z, x+z$ (8)
96	j m . .	0,y,z; 0,-y,z; etc.	$0, 0, 0$ (96)	$0, 2y, 0$ (16)	$0, 0, 2z$ (16)	$0, 2y, 2z$ (4)
			$-z, y, -y+z$ (8)	$-z, y, y+z$ (8)	$-y, y, 2z$ (8)	$-y, y, 0$ (16)
			$0, y-z, y+z$ (8)	$0, y-z, -y+z$ (8)	$0, y+z, y+z$ (8)	$-z, 0, z$ (16)
			$-z, 2y, z$ (8)			
48	i m . m 2	1/2,y,y; 1/2,-y,y; etc.	$0, 0, 0$ (48)	$0, 2y, 0$ (16)	$0, 2y, 2y$ (4)	$1/2-y, 1/2+y, 0$ (16)
			$1/2-y, 1/2+y, 2y$ (8)			
48	h m . m 2	0,y,y; 0,-y,y; etc.	$0, 0, 0$ (48)	$0, 2y, 0$ (16)	$0, 2y, 2y$ (4)	$-y, y, 0$ (16)
			$-y, y, 2y$ (8)			
48	g 2 . m m	x,1/4,1/4; -x,3/4,1/4; etc.	$0, 0, 0$ (48)	$2x, 1/2, 0$ (8)	$3/4+x, 1/4-x, 0$ (16)	$3/4+x, 1/4-x, 1/2$ (16)
			$0, 0, 1/2$ (48)	$2x, 0, 0$ (8)		
32	f . 3 m	x,x,x; -x,-x,x; etc.	$0, 0, 0$ (32)	$2x, 2x, 0$ (8)	$0, 0, 2x$ (16)	$2x, 2x, 2x$ (4)
24	e 4 m . m	x,0,0; -x,0,0; etc.	$0, 0, 0$ (24)	$2x, 0, 0$ (4)	$x, -x, 0$ (8)	
24	d m . m m	0,1/4,1/4; 0,3/4,1/4; etc.	$0, 0, 0$ (24)	$0, 1/2, 0$ (24)	$3/4, 1/4, 0$ (16)	
8	c $\bar{4}3m$	1/4,1/4,1/4; 1/4,1/4,3/4; etc.				

$0, 0, 0$ (8) $0, 0, 1/2$ (8)4 b $m\bar{3}m$ 1/2,1/2,1/2; etc. $0, 0, 0$ (4)4 a $m\bar{3}m$ 0,0,0; etc. $0, 0, 0$ (4)

Vectors between two sets of unique atoms

Wyckoff letters

Wyckoff letters

l, l

$x1-x2, y1-y2, z1-z2$ (8)
 $x1+x2, y1+y2, z1-z2$ (8)
 $x1+x2, y1-y2, z1+z2$ (8)
 $x1-x2, y1+y2, z1+z2$ (8)
 $x1-z2, y1-x2, z1-y2$ (8)
 $x1-z2, y1+x2, z1+y2$ (8)
 $x1+z2, y1+x2, z1-y2$ (8)
 $x1+z2, y1-x2, z1+y2$ (8)
 $x1-y2, y1-z2, z1-x2$ (8)
 $x1+y2, y1-z2, z1+x2$ (8)
 $x1-y2, y1+z2, z1+x2$ (8)
 $x1+y2, y1+z2, z1-x2$ (8)
 $x1-y2, y1-x2, z1+z2$ (8)
 $x1+y2, y1+x2, z1+z2$ (8)
 $x1-y2, y1+x2, z1-z2$ (8)
 $x1+y2, y1-x2, z1-z2$ (8)
 $x1-x2, y1-z2, z1+y2$ (8)
 $x1+x2, y1-z2, z1-y2$ (8)
 $x1+x2, y1+z2, z1+y2$ (8)
 $x1-x2, y1+z2, z1-y2$ (8)
 $x1-z2, y1-y2, z1+x2$ (8)
 $x1-z2, y1+y2, z1-x2$ (8)
 $x1+z2, y1-y2, z1-x2$ (8)
 $x1+z2, y1+y2, z1+x2$ (8)
 $x1+x2, y1+y2, z1+z2$ (8)
 $x1-x2, y1-y2, z1+z2$ (8)
 $x1-x2, y1+y2, z1-z2$ (8)
 $x1+x2, y1-y2, z1-z2$ (8)
 $x1+z2, y1+x2, z1+y2$ (8)
 $x1+z2, y1-x2, z1-y2$ (8)
 $x1-z2, y1-x2, z1+y2$ (8)
 $x1-z2, y1+x2, z1-y2$ (8)
 $x1+y2, y1+z2, z1+x2$ (8)
 $x1-y2, y1+z2, z1-x2$ (8)
 $x1+y2, y1-z2, z1-x2$ (8)
 $x1-y2, y1-z2, z1+x2$ (8)
 $x1+y2, y1+x2, z1-z2$ (8)
 $x1-y2, y1-x2, z1-z2$ (8)

$x1+y2, y1-x2, z1+z2$ (8)
 $x1-y2, y1+x2, z1+z2$ (8)
 $x1+x2, y1+z2, z1-y2$ (8)
 $x1-x2, y1+z2, z1+y2$ (8)
 $x1-x2, y1-z2, z1-y2$ (8)
 $x1+x2, y1-z2, z1+y2$ (8)
 $x1+z2, y1+y2, z1-x2$ (8)
 $x1+z2, y1-y2, z1+x2$ (8)
 $x1-z2, y1+y2, z1+x2$ (8)
 $x1-z2, y1-y2, z1-x2$ (8)
l, k

$x1-x2, y1-x2, z1-z2$ (8)
 $x1+x2, y1+x2, z1-z2$ (8)
 $x1+x2, y1-x2, z1+z2$ (8)
 $x1-x2, y1+x2, z1+z2$ (8)
 $x1-z2, y1-x2, z1-x2$ (8)
 $x1-z2, y1+x2, z1+x2$ (8)
 $x1+z2, y1+x2, z1-x2$ (8)
 $x1+z2, y1-x2, z1+x2$ (8)
 $x1-x2, y1-z2, z1-x2$ (8)
 $x1+x2, y1-z2, z1+x2$ (8)
 $x1-x2, y1+z2, z1+x2$ (8)
 $x1+x2, y1+z2, z1-x2$ (8)
 $x1-x2, y1-x2, z1+z2$ (8)
 $x1+x2, y1+x2, z1+z2$ (8)
 $x1-x2, y1+x2, z1-z2$ (8)
 $x1+x2, y1-x2, z1-z2$ (8)
 $x1-x2, y1-z2, z1+x2$ (8)
 $x1+x2, y1-z2, z1-x2$ (8)
 $x1+x2, y1+z2, z1+x2$ (8)
 $x1-x2, y1+z2, z1-x2$ (8)
 $x1-z2, y1-x2, z1+x2$ (8)
 $x1-z2, y1+x2, z1-x2$ (8)
 $x1+z2, y1-x2, z1-x2$ (8)
 $x1+z2, y1+x2, z1+x2$ (8)
l, j

$x1, y1-y2, z1-z2$ (8)
 $x1, y1+y2, z1-z2$ (8)
 $x1, y1-y2, z1+z2$ (8)
 $x1, y1+y2, z1+z2$ (8)

	$x1-z2, y1, z1-y2$ (8)		$3/4+x1, y1+x2, 1/4+z1$ (8)
	$x1-z2, y1, z1+y2$ (8)		$3/4+x1, 3/4+y1, z1-x2$ (8)
	$x1+z2, y1, z1-y2$ (8)		$1/4+x1, 3/4+y1, z1+x2$ (8)
	$x1+z2, y1, z1+y2$ (8)		$3/4+x1, y1-x2, 1/4+z1$ (8)
	$x1-y2, y1-z2, z1$ (8)		$1/4+x1, y1+x2, 1/4+z1$ (8)
	$x1+y2, y1-z2, z1$ (8)		$x1-x2, 3/4+y1, 1/4+z1$ (8)
	$x1-y2, y1+z2, z1$ (8)		$x1+x2, 3/4+y1, 3/4+z1$ (8)
	$x1+y2, y1+z2, z1$ (8)		$3/4+x1, 3/4+y1, z1+x2$ (8)
	$x1-y2, y1, z1+z2$ (8)		$3/4+x1, 1/4+y1, z1-x2$ (8)
	$x1+y2, y1, z1+z2$ (8)	l, f	$x1-x2, y1-x2, z1-x2$ (8)
	$x1-y2, y1, z1-z2$ (8)		$x1+x2, y1+x2, z1-x2$ (8)
	$x1+y2, y1, z1-z2$ (8)		$x1+x2, y1-x2, z1+x2$ (8)
	$x1, y1-z2, z1+y2$ (8)		$x1-x2, y1+x2, z1+x2$ (8)
	$x1, y1-z2, z1-y2$ (8)		$x1-x2, y1-x2, z1+x2$ (8)
	$x1, y1+z2, z1+y2$ (8)		$x1+x2, y1+x2, z1+x2$ (8)
	$x1, y1+z2, z1-y2$ (8)		$x1-x2, y1+x2, z1-x2$ (8)
	$x1-z2, y1-y2, z1$ (8)		$x1+x2, y1-x2, z1-x2$ (8)
	$x1-z2, y1+y2, z1$ (8)	l, e	$x1-x2, y1, z1$ (8)
	$x1+z2, y1-y2, z1$ (8)		$x1+x2, y1, z1$ (8)
	$x1+z2, y1+y2, z1$ (8)		$x1, y1-x2, z1$ (8)
l, i	$1/2+x1, y1-y2, z1-y2$ (8)		$x1, y1+x2, z1$ (8)
	$1/2+x1, y1+y2, z1-y2$ (8)		$x1, y1, z1-x2$ (8)
	$1/2+x1, y1-y2, z1+y2$ (8)		$x1, y1, z1+x2$ (8)
	$1/2+x1, y1+y2, z1+y2$ (8)	l, d	$x1, 3/4+y1, 3/4+z1$ (8)
	$x1-y2, 1/2+y1, z1-y2$ (8)		$x1, 1/4+y1, 3/4+z1$ (8)
	$x1-y2, 1/2+y1, z1+y2$ (8)		$3/4+x1, y1, 3/4+z1$ (8)
	$x1+y2, 1/2+y1, z1-y2$ (8)		$3/4+x1, y1, 1/4+z1$ (8)
	$x1+y2, 1/2+y1, z1+y2$ (8)		$3/4+x1, 3/4+y1, z1$ (8)
	$x1-y2, y1-y2, 1/2+z1$ (8)		$1/4+x1, 3/4+y1, z1$ (8)
	$x1+y2, y1-y2, 1/2+z1$ (8)	l, c	$3/4+x1, 3/4+y1, 3/4+z1$ (8)
	$x1-y2, y1+y2, 1/2+z1$ (8)		$3/4+x1, 3/4+y1, 1/4+z1$ (8)
	$x1+y2, y1+y2, 1/2+z1$ (8)	l, b	$1/2+x1, 1/2+y1, 1/2+z1$ (8)
l, h	$x1, y1-y2, z1-y2$ (8)	l, a	$x1, y1, z1$ (8)
	$x1, y1+y2, z1-y2$ (8)	k, k	$x1-x2, x1-x2, z1-z2$ (8)
	$x1, y1-y2, z1+y2$ (8)		$x1+x2, x1+x2, z1-z2$ (8)
	$x1, y1+y2, z1+y2$ (8)		$x1+x2, x1-x2, z1+z2$ (8)
	$x1-y2, y1, z1-y2$ (8)		$x1-z2, x1-x2, z1-x2$ (8)
	$x1-y2, y1, z1+y2$ (8)		$x1-z2, x1+x2, z1+x2$ (8)
	$x1+y2, y1, z1-y2$ (8)		$x1+z2, x1+x2, z1-x2$ (8)
	$x1+y2, y1, z1+y2$ (8)		$x1+z2, x1-x2, z1+x2$ (8)
	$x1-y2, y1-y2, z1$ (8)		$x1-x2, x1-x2, z1+z2$ (8)
	$x1+y2, y1-y2, z1$ (8)		$x1+x2, x1+x2, z1+z2$ (8)
	$x1-y2, y1+y2, z1$ (8)		$x1-x2, x1+x2, z1-z2$ (8)
	$x1+y2, y1+y2, z1$ (8)		$x1-x2, x1-z2, z1+x2$ (8)
l, g	$x1-x2, 3/4+y1, 3/4+z1$ (8)		$x1+x2, x1-z2, z1-x2$ (8)
	$x1+x2, 1/4+y1, 3/4+z1$ (8)		$x1+x2, x1+z2, z1+x2$ (8)
	$3/4+x1, y1-x2, 3/4+z1$ (8)		$x1-x2, x1+z2, z1-x2$ (8)

k, j	$x1, x1-y2, z1-z2$ (8)		$1/4+x1, 3/4+x1, z1$ (8)
	$x1, x1+y2, z1-z2$ (8)	k, c	$3/4+x1, 3/4+x1, 3/4+z1$ (8)
	$x1, x1-y2, z1+z2$ (8)		$3/4+x1, 3/4+x1, 1/4+z1$ (8)
	$x1, x1+y2, z1+z2$ (8)	k, b	$1/2+x1, 1/2+x1, 1/2+z1$ (8)
	$x1-z2, x1, z1-y2$ (8)	k, a	$x1, x1, z1$ (8)
	$x1-z2, x1, z1+y2$ (8)	j, j	$0, y1-y2, z1-z2$ (8)
	$x1+z2, x1, z1-y2$ (8)		$0, y1+y2, z1-z2$ (8)
	$x1+z2, x1, z1+y2$ (8)		$0, y1-y2, z1+z2$ (8)
	$x1-y2, x1-z2, z1$ (8)		$0, y1+y2, z1+z2$ (8)
	$x1+y2, x1-z2, z1$ (8)		$-z2, y1, z1-y2$ (8)
	$x1-y2, x1+z2, z1$ (8)		$-z2, y1, z1+y2$ (8)
	$x1+y2, x1+z2, z1$ (8)		$-y2, y1-z2, z1$ (8)
k, i	$1/2+x1, x1-y2, z1-y2$ (8)		$-y2, y1+z2, z1$ (8)
	$1/2+x1, x1+y2, z1-y2$ (8)		$-y2, y1, z1+z2$ (8)
	$1/2+x1, x1-y2, z1+y2$ (8)		$-y2, y1, z1-z2$ (8)
	$1/2+x1, x1+y2, z1+y2$ (8)		$0, y1-z2, z1+y2$ (8)
	$x1-y2, x1-y2, 1/2+z1$ (8)		$0, y1-z2, z1-y2$ (8)
	$x1+y2, x1-y2, 1/2+z1$ (8)		$0, y1+z2, z1+y2$ (8)
	$x1+y2, x1+y2, 1/2+z1$ (8)		$0, y1+z2, z1-y2$ (8)
k, h	$x1, x1-y2, z1-y2$ (8)		$-z2, y1-y2, z1$ (8)
	$x1, x1+y2, z1-y2$ (8)		$-z2, y1+y2, z1$ (8)
	$x1, x1-y2, z1+y2$ (8)	j, i	$1/2, y1-y2, z1-y2$ (8)
	$x1, x1+y2, z1+y2$ (8)		$1/2, y1+y2, z1-y2$ (8)
	$x1-y2, x1-y2, z1$ (8)		$1/2, y1-y2, z1+y2$ (8)
	$x1+y2, x1-y2, z1$ (8)		$1/2, y1+y2, z1+y2$ (8)
	$x1+y2, x1+y2, z1$ (8)		$-y2, 1/2+y1, z1-y2$ (8)
k, g	$x1-x2, 3/4+x1, 3/4+z1$ (8)		$-y2, 1/2+y1, z1+y2$ (8)
	$x1+x2, 1/4+x1, 3/4+z1$ (8)		$-y2, y1-y2, 1/2+z1$ (8)
	$3/4+x1, 3/4+x1, z1-x2$ (8)		$-y2, y1+y2, 1/2+z1$ (8)
	$1/4+x1, 3/4+x1, z1+x2$ (8)	j, h	$0, y1-y2, z1-y2$ (8)
	$3/4+x1, x1-x2, 1/4+z1$ (8)		$0, y1+y2, z1-y2$ (8)
	$1/4+x1, x1+x2, 1/4+z1$ (8)		$0, y1-y2, z1+y2$ (8)
	$3/4+x1, 3/4+x1, z1+x2$ (8)		$0, y1+y2, z1+y2$ (8)
	$3/4+x1, 1/4+x1, z1-x2$ (8)		$-y2, y1, z1-y2$ (8)
k, f	$x1-x2, x1-x2, z1-x2$ (8)		$-y2, y1, z1+y2$ (8)
	$x1+x2, x1+x2, z1-x2$ (8)		$-y2, y1-y2, z1$ (8)
	$x1+x2, x1-x2, z1+x2$ (8)		$-y2, y1+y2, z1$ (8)
	$x1-x2, x1-x2, z1+x2$ (8)	j, g	$-x2, 3/4+y1, 3/4+z1$ (8)
	$x1+x2, x1+x2, z1+x2$ (8)		$x2, 1/4+y1, 3/4+z1$ (8)
	$x1-x2, x1+x2, z1-x2$ (8)		$3/4, y1-x2, 3/4+z1$ (8)
k, e	$x1-x2, x1, z1$ (8)		$3/4, y1+x2, 1/4+z1$ (8)
	$x1+x2, x1, z1$ (8)		$3/4, 3/4+y1, z1-x2$ (8)
	$x1, x1, z1-x2$ (8)		$1/4, 3/4+y1, z1+x2$ (8)
	$x1, x1, z1+x2$ (8)	j, f	$-x2, y1-x2, z1-x2$ (8)
k, d	$x1, 3/4+x1, 3/4+z1$ (8)		$x2, y1+x2, z1-x2$ (8)
	$x1, 1/4+x1, 3/4+z1$ (8)		$x2, y1-x2, z1+x2$ (8)
	$3/4+x1, 3/4+x1, z1$ (8)		$-x2, y1+x2, z1+x2$ (8)

- j, e $-x2, y1, z1$ (8)
 $0, y1-x2, z1$ (8)
 $0, y1+x2, z1$ (8)
 $0, y1, z1-x2$ (8)
 $0, y1, z1+x2$ (8)
- j, d $0, 3/4+y1, 3/4+z1$ (8)
 $0, 1/4+y1, 3/4+z1$ (8)
 $3/4, y1, 3/4+z1$ (8)
 $3/4, 3/4+y1, z1$ (8)
- j, c $3/4, 3/4+y1, 3/4+z1$ (8)
- j, b $1/2, 1/2+y1, 1/2+z1$ (8)
- j, a $0, y1, z1$ (8)
- i, i $0, y1-y2, y1-y2$ (8)
 $0, y1+y2, y1-y2$ (8)
 $0, y1+y2, y1+y2$ (8)
 $1/2-y2, 1/2+y1, y1-y2$ (8)
 $1/2-y2, 1/2+y1, y1+y2$ (8)
- i, h $1/2, y1-y2, y1-y2$ (8)
 $1/2, y1+y2, y1-y2$ (8)
 $1/2, y1+y2, y1+y2$ (8)
 $1/2-y2, y1, y1-y2$ (8)
 $1/2-y2, y1, y1+y2$ (8)
- i, g $1/2-x2, 3/4+y1, 3/4+y1$ (8)
 $1/2+x2, 1/4+y1, 3/4+y1$ (8)
 $1/4, y1-x2, 3/4+y1$ (8)
 $1/4, y1+x2, 1/4+y1$ (8)
- i, f $1/2-x2, y1-x2, y1-x2$ (8)
 $1/2+x2, y1+x2, y1-x2$ (8)
 $1/2-x2, y1+x2, y1+x2$ (8)
- i, e $1/2-x2, y1, y1$ (8)
 $1/2, y1-x2, y1$ (8)
 $1/2, y1+x2, y1$ (8)
- i, d $1/2, 3/4+y1, 3/4+y1$ (8)
 $1/2, 1/4+y1, 3/4+y1$ (8)
 $1/4, y1, 3/4+y1$ (8)
- i, c $1/4, 3/4+y1, 3/4+y1$ (8)
- i, b $0, 1/2+y1, 1/2+y1$ (8)
- i, a $1/2, y1, y1$ (8)
- h, h $0, y1-y2, y1-y2$ (8)
 $0, y1+y2, y1-y2$ (8)
 $0, y1+y2, y1+y2$ (8)
 $-y2, y1, y1-y2$ (8)
 $-y2, y1, y1+y2$ (8)
- h, g $-x2, 3/4+y1, 3/4+y1$ (8)
 $x2, 1/4+y1, 3/4+y1$ (8)
 $3/4, y1-x2, 3/4+y1$ (8)
 $3/4, y1+x2, 1/4+y1$ (8)

- h, f $-x2, y1-x2, y1-x2$ (8)
 $x2, y1+x2, y1-x2$ (8)
 $-x2, y1+x2, y1+x2$ (8)
- h, e $-x2, y1, y1$ (8)
 $0, y1-x2, y1$ (8)
 $0, y1+x2, y1$ (8)
- h, d $0, 3/4+y1, 3/4+y1$ (8)
 $0, 1/4+y1, 3/4+y1$ (8)
 $3/4, y1, 3/4+y1$ (8)
- h, c $3/4, 3/4+y1, 3/4+y1$ (8)
- h, b $1/2, 1/2+y1, 1/2+y1$ (8)
- h, a $0, y1, y1$ (8)
- g, g $x1-x2, 0, 0$ (16)
 $x1+x2, 1/2, 0$ (16)
 $3/4+x1, 1/4-x2, 0$ (16)
 $3/4+x1, 1/4-x2, 1/2$ (16)
 $x1-x2, 0, 1/2$ (16)
 $x1+x2, 0, 0$ (16)
- g, f $x1-x2, 1/4-x2, 1/4-x2$ (8)
 $x1+x2, 1/4+x2, 1/4-x2$ (8)
 $x1-x2, 1/4-x2, 1/4+x2$ (8)
 $x1+x2, 1/4+x2, 1/4+x2$ (8)
- g, e $x1-x2, 1/4, 1/4$ (8)
 $x1+x2, 1/4, 1/4$ (8)
 $x1, 1/4-x2, 1/4$ (8)
- g, d $x1, 0, 0$ (16)
 $x1, 1/2, 0$ (16)
 $3/4+x1, 1/4, 0$ (16)
- g, c $3/4+x1, 0, 0$ (16)
 $3/4+x1, 0, 1/2$ (16)
- g, b $1/2+x1, 3/4, 3/4$ (8)
- g, a $x1, 1/4, 1/4$ (8)
- f, f $x1-x2, x1-x2, x1-x2$ (8)
 $x1+x2, x1+x2, x1-x2$ (8)
 $x1-x2, x1-x2, x1+x2$ (8)
 $x1+x2, x1+x2, x1+x2$ (8)
- f, e $x1-x2, x1, x1$ (8)
 $x1+x2, x1, x1$ (8)
- f, d $x1, 3/4+x1, 3/4+x1$ (8)
 $x1, 1/4+x1, 3/4+x1$ (8)
- f, c $3/4+x1, 3/4+x1, 3/4+x1$ (8)
 $3/4+x1, 3/4+x1, 1/4+x1$ (8)
- f, b $1/2+x1, 1/2+x1, 1/2+x1$ (8)
- f, a $x1, x1, x1$ (8)
- e, e $x1-x2, 0, 0$ (8)
 $x1+x2, 0, 0$ (8)
 $x1, -x2, 0$ (8)

e, d $x1, 3/4, 3/4$ (8)
 $3/4+x1, 0, 3/4$ (8)
e, c $3/4+x1, 3/4, 3/4$ (8)
e, b $1/2+x1, 1/2, 1/2$ (8)
e, a $x1, 0, 0$ (8)
d, c $3/4, 0, 0$ (16)
d, b $1/2, 3/4, 3/4$ (8)
d, a $0, 1/4, 1/4$ (8)
c, b $3/4, 3/4, 3/4$ (8)
c, a $1/4, 1/4, 1/4$ (8)
b, a $1/2, 1/2, 1/2$ (8)