$MgB_{12}H_{12}[H_2O]_{12}$ Structure: A12B36CD12_cF488_210_h_3h_a_fg-001

This structure previously used the label(s) `A12B36CD12_cF488_210_h_3h_a_fg`. Calls to these addresses will be redirected here.

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- D. Hicks, M. J. Mehl, M. Esters, C. Oses, O. Levy, G. L. W. Hart, C. Toher, and S. Curtarolo, *The AFLOW Library of Crystallographic Prototypes: Part 3*, Comput. Mater. Sci. **199**, 110450 (2021), doi: 10.1016/j.commatsci.2021.110450.

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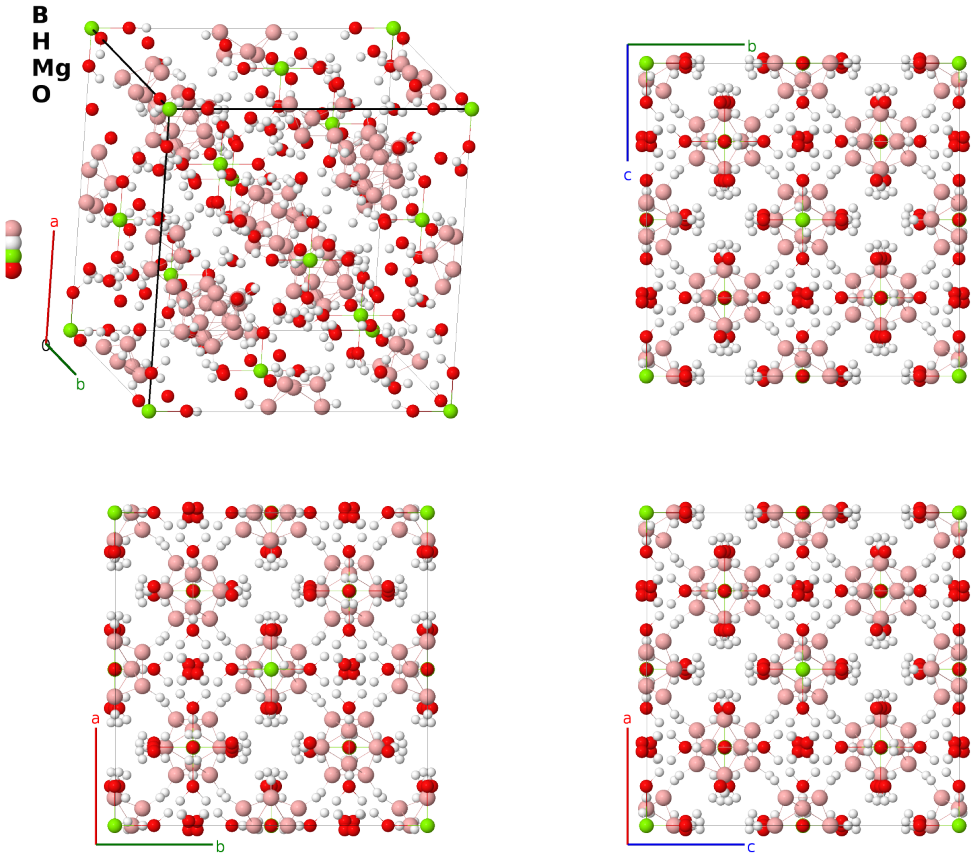
https://aflow.org/prototype-encyclopedia/X29X

https://aflow.org/prototype-encyclopedia/A12B36CD12_cF488_210_h_3h_a_fg-001



Prototype	$B_{12}H_{36}MgO_{12}$
AFLOW prototype label	A12B36CD12_cF488_210_h_3h_a_fg-001
ICSD	413594
CCDC	244449
Pearson symbol	cF488
Space group number	210
Space group symbol	$F4_132$

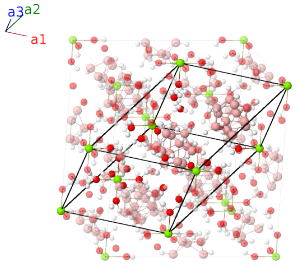
AFLOW prototype command `aflow --proto=A12B36CD12_cF488_210_h_3h_a_fg-001 --params=`$a, x_2, y_3, x_4, y_4, z_4, x_5, y_5, z_5, x_6, y_6, z_6, x_7, y_7, z_7$

Other compounds with this structure

$NiB_{12}H_{12}[H_2O]_{12}$

Face-centered Cubic primitive vectors

$$\mathbf{a_1} = \frac{1}{2}a\,\hat{\mathbf{y}} + \frac{1}{2}a\,\hat{\mathbf{z}}$$
$$\mathbf{a_2} = \frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{2}a\,\hat{\mathbf{z}}$$
$$\mathbf{a_3} = \frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{2}a\,\hat{\mathbf{y}}$$



Basis vectors

		Lattice coordinates		Cartesian coordinates	Wyckoff position	Atom type
$\mathbf{B_1}$	=	0	=	0	(8a)	Mg I
$\mathbf{B_2}$	=	$\frac{1}{4}\,\mathbf{a}_1 + \frac{1}{4}\,\mathbf{a}_2 + \frac{1}{4}\,\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}} + \frac{1}{4}a\,\hat{\mathbf{z}}$	(8a)	Mg I
$\mathbf{B_3}$	=	$-x_2\,\mathbf{a}_1 + x_2\,\mathbf{a}_2 + x_2\,\mathbf{a}_3$	=	$ax_2\,\hat{\mathbf{x}}$	(48f)	O I
$\mathbf{B_4}$	=	$x_2\,\mathbf{a}_1 - x_2\,\mathbf{a}_2 - x_2\,\mathbf{a}_3$	=	$-ax_2\,\hat{\mathbf{x}}$	(48f)	O I
$\mathbf{B_5}$	=	$x_2\,\mathbf{a}_1 - x_2\,\mathbf{a}_2 + x_2\,\mathbf{a}_3$	=	$ax_2\,\hat{\mathbf{y}}$	(48f)	O I
$\mathbf{B_6}$	=	$-x_2\,\mathbf{a}_1 + x_2\,\mathbf{a}_2 - x_2\,\mathbf{a}_3$	=	$-ax_2\,\hat{\mathbf{y}}$	(48f)	O I
$\mathbf{B_7}$	=	$x_2\,\mathbf{a}_1 + x_2\,\mathbf{a}_2 - x_2\,\mathbf{a}_3$	=	$ax_2\,\hat{\mathbf{z}}$	(48f)	O I
$\mathbf{B_8}$	=	$-x_2\,\mathbf{a}_1 - x_2\,\mathbf{a}_2 + x_2\,\mathbf{a}_3$	=	$-ax_2\,\hat{\mathbf{z}}$	(48f)	O I
$\mathbf{B_9}$	=	$\left(x_2+\frac{1}{4}\right)\mathbf{a}_1 - \left(x_2-\frac{1}{4}\right)\mathbf{a}_2 + \left(x_2+\frac{1}{4}\right)\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + a\left(x_2+\frac{1}{4}\right)\hat{\mathbf{y}} + \frac{1}{4}a\,\hat{\mathbf{z}}$	(48f)	O I
$\mathbf{B_{10}}$	=	$-\left(x_2-\frac{1}{4}\right)\mathbf{a}_1 + \left(x_2+\frac{1}{4}\right)\mathbf{a}_2 - \left(x_2-\frac{1}{4}\right)\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} - a\left(x_2-\frac{1}{4}\right)\hat{\mathbf{y}} + \frac{1}{4}a\,\hat{\mathbf{z}}$	(48f)	O I
$\mathbf{B_{11}}$	=	$-\left(x_2-\frac{1}{4}\right)\mathbf{a}_1 + \left(x_2+\frac{1}{4}\right)\mathbf{a}_2 + \left(x_2+\frac{1}{4}\right)\mathbf{a}_3$	=	$a\left(x_2+\frac{1}{4}\right)\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}} + \frac{1}{4}a\,\hat{\mathbf{z}}$	(48f)	O I
$\mathbf{B_{12}}$	=	$\left(x_2+\frac{1}{4}\right)\mathbf{a}_1 - \left(x_2-\frac{1}{4}\right)\mathbf{a}_2 - \left(x_2-\frac{1}{4}\right)\mathbf{a}_3$	=	$-a\left(x_2-\frac{1}{4}\right)\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}} + \frac{1}{4}a\,\hat{\mathbf{z}}$	(48f)	O I
$\mathbf{B_{13}}$	=	$-\left(x_2-\frac{1}{4}\right)\mathbf{a}_1 - \left(x_2-\frac{1}{4}\right)\mathbf{a}_2 + \left(x_2+\frac{1}{4}\right)\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}} - a\left(x_2-\frac{1}{4}\right)\hat{\mathbf{z}}$	(48f)	O I
$\mathbf{B_{14}}$	=	$\left(x_2+\frac{1}{4}\right)\mathbf{a}_1 + \left(x_2+\frac{1}{4}\right)\mathbf{a}_2 - \left(x_2-\frac{1}{4}\right)\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}} + a\left(x_2+\frac{1}{4}\right)\hat{\mathbf{z}}$	(48f)	O I
$\mathbf{B_{15}}$	=	$\frac{1}{8}\,\mathbf{a}_1 - \left(2y_3-\frac{3}{8}\right)\mathbf{a}_2 + \left(2y_3+\frac{7}{8}\right)\mathbf{a}_3$	=	$\frac{5}{8}a\,\hat{\mathbf{x}} + a\left(y_3+\frac{1}{2}\right)\hat{\mathbf{y}} - a\left(y_3-\frac{1}{4}\right)\hat{\mathbf{z}}$	(48g)	O II
$\mathbf{B_{16}}$	=	$-\left(2y_3-\frac{3}{8}\right)\mathbf{a}_1 + \frac{1}{8}\,\mathbf{a}_2 + \frac{5}{8}\,\mathbf{a}_3$	=	$\frac{3}{8}a\,\hat{\mathbf{x}} - a\left(y_3-\frac{1}{2}\right)\hat{\mathbf{y}} - a\left(y_3-\frac{1}{4}\right)\hat{\mathbf{z}}$	(48g)	O II
$\mathbf{B_{17}}$	=	$\left(2y_3+\frac{7}{8}\right)\mathbf{a}_1 + \frac{5}{8}\,\mathbf{a}_2 + \frac{1}{8}\,\mathbf{a}_3$	=	$\frac{3}{8}a\,\hat{\mathbf{x}} + a\left(y_3+\frac{1}{2}\right)\hat{\mathbf{y}} + a\left(y_3+\frac{3}{4}\right)\hat{\mathbf{z}}$	(48g)	O II

$\mathbf{B_{18}}$	$=$	$\frac{5}{8}\,\mathbf{a}_1 + \left(2y_3 + \frac{7}{8}\right)\,\mathbf{a}_2 - \left(2y_3 - \frac{3}{8}\right)\,\mathbf{a}_3$	$=$	$\frac{5}{8}a\,\hat{\mathbf{x}} - a\left(y_3 - \frac{1}{2}\right)\,\hat{\mathbf{y}} + a\left(y_3 + \frac{3}{4}\right)\,\hat{\mathbf{z}}$	(48g)	O II
$\mathbf{B_{19}}$	$=$	$\left(2y_3 + \frac{7}{8}\right)\,\mathbf{a}_1 + \frac{1}{8}\,\mathbf{a}_2 - \left(2y_3 - \frac{3}{8}\right)\,\mathbf{a}_3$	$=$	$-a\left(y_3 - \frac{1}{4}\right)\,\hat{\mathbf{x}} + \frac{5}{8}a\,\hat{\mathbf{y}} + a\left(y_3 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48g)	O II
$\mathbf{B_{20}}$	$=$	$\frac{5}{8}\,\mathbf{a}_1 - \left(2y_3 - \frac{3}{8}\right)\,\mathbf{a}_2 + \frac{1}{8}\,\mathbf{a}_3$	$=$	$-a\left(y_3 - \frac{1}{4}\right)\,\hat{\mathbf{x}} + \frac{3}{8}a\,\hat{\mathbf{y}} - a\left(y_3 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48g)	O II
$\mathbf{B_{21}}$	$=$	$\frac{1}{8}\,\mathbf{a}_1 + \left(2y_3 + \frac{7}{8}\right)\,\mathbf{a}_2 + \frac{5}{8}\,\mathbf{a}_3$	$=$	$a\left(y_3 + \frac{3}{4}\right)\,\hat{\mathbf{x}} + \frac{3}{8}a\,\hat{\mathbf{y}} + a\left(y_3 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48g)	O II
$\mathbf{B_{22}}$	$=$	$-\left(2y_3 - \frac{3}{8}\right)\,\mathbf{a}_1 + \frac{5}{8}\,\mathbf{a}_2 + \left(2y_3 + \frac{7}{8}\right)\,\mathbf{a}_3$	$=$	$a\left(y_3 + \frac{3}{4}\right)\,\hat{\mathbf{x}} + \frac{5}{8}a\,\hat{\mathbf{y}} - a\left(y_3 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48g)	O II
$\mathbf{B_{23}}$	$=$	$-\left(2y_3 - \frac{3}{8}\right)\,\mathbf{a}_1 + \left(2y_3 + \frac{7}{8}\right)\,\mathbf{a}_2 + \frac{1}{8}\,\mathbf{a}_3$	$=$	$a\left(y_3 + \frac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(y_3 - \frac{1}{4}\right)\,\hat{\mathbf{y}} + \frac{5}{8}a\,\hat{\mathbf{z}}$	(48g)	O II
$\mathbf{B_{24}}$	$=$	$\frac{1}{8}\,\mathbf{a}_1 + \frac{5}{8}\,\mathbf{a}_2 - \left(2y_3 - \frac{3}{8}\right)\,\mathbf{a}_3$	$=$	$-a\left(y_3 - \frac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(y_3 - \frac{1}{4}\right)\,\hat{\mathbf{y}} + \frac{3}{8}a\,\hat{\mathbf{z}}$	(48g)	O II
$\mathbf{B_{25}}$	$=$	$\frac{5}{8}\,\mathbf{a}_1 + \frac{1}{8}\,\mathbf{a}_2 + \left(2y_3 + \frac{7}{8}\right)\,\mathbf{a}_3$	$=$	$a\left(y_3 + \frac{1}{2}\right)\,\hat{\mathbf{x}} + a\left(y_3 + \frac{3}{4}\right)\,\hat{\mathbf{y}} + \frac{3}{8}a\,\hat{\mathbf{z}}$	(48g)	O II
$\mathbf{B_{26}}$	$=$	$\left(2y_3 + \frac{7}{8}\right)\,\mathbf{a}_1 - \left(2y_3 - \frac{3}{8}\right)\,\mathbf{a}_2 + \frac{5}{8}\,\mathbf{a}_3$	$=$	$-a\left(y_3 - \frac{1}{2}\right)\,\hat{\mathbf{x}} + a\left(y_3 + \frac{3}{4}\right)\,\hat{\mathbf{y}} + \frac{5}{8}a\,\hat{\mathbf{z}}$	(48g)	O II
$\mathbf{B_{27}}$	$=$	$(-x_4 + y_4 + z_4)\,\mathbf{a}_1 + (x_4 - y_4 + z_4)\,\mathbf{a}_2 + (x_4 + y_4 - z_4)\,\mathbf{a}_3$	$=$	$ax_4\,\hat{\mathbf{x}} + ay_4\,\hat{\mathbf{y}} + az_4\,\hat{\mathbf{z}}$	(96h)	B I
$\mathbf{B_{28}}$	$=$	$(x_4 - y_4 + z_4)\,\mathbf{a}_1 + (-x_4 + y_4 + z_4)\,\mathbf{a}_2 - (x_4 + y_4 + z_4)\,\mathbf{a}_3$	$=$	$-ax_4\,\hat{\mathbf{x}} - ay_4\,\hat{\mathbf{y}} + az_4\,\hat{\mathbf{z}}$	(96h)	B I
$\mathbf{B_{29}}$	$=$	$(x_4 + y_4 - z_4)\,\mathbf{a}_1 - (x_4 + y_4 + z_4)\,\mathbf{a}_2 + (-x_4 + y_4 + z_4)\,\mathbf{a}_3$	$=$	$-ax_4\,\hat{\mathbf{x}} + ay_4\,\hat{\mathbf{y}} - az_4\,\hat{\mathbf{z}}$	(96h)	B I
$\mathbf{B_{30}}$	$=$	$-(x_4 + y_4 + z_4)\,\mathbf{a}_1 + (x_4 + y_4 - z_4)\,\mathbf{a}_2 + (x_4 - y_4 + z_4)\,\mathbf{a}_3$	$=$	$ax_4\,\hat{\mathbf{x}} - ay_4\,\hat{\mathbf{y}} - az_4\,\hat{\mathbf{z}}$	(96h)	B I
$\mathbf{B_{31}}$	$=$	$(x_4 + y_4 - z_4)\,\mathbf{a}_1 + (-x_4 + y_4 + z_4)\,\mathbf{a}_2 + (x_4 - y_4 + z_4)\,\mathbf{a}_3$	$=$	$az_4\,\hat{\mathbf{x}} + ax_4\,\hat{\mathbf{y}} + ay_4\,\hat{\mathbf{z}}$	(96h)	B I
$\mathbf{B_{32}}$	$=$	$-(x_4 + y_4 + z_4)\,\mathbf{a}_1 + (x_4 - y_4 + z_4)\,\mathbf{a}_2 + (-x_4 + y_4 + z_4)\,\mathbf{a}_3$	$=$	$az_4\,\hat{\mathbf{x}} - ax_4\,\hat{\mathbf{y}} - ay_4\,\hat{\mathbf{z}}$	(96h)	B I
$\mathbf{B_{33}}$	$=$	$(-x_4 + y_4 + z_4)\,\mathbf{a}_1 + (x_4 + y_4 - z_4)\,\mathbf{a}_2 - (x_4 + y_4 + z_4)\,\mathbf{a}_3$	$=$	$-az_4\,\hat{\mathbf{x}} - ax_4\,\hat{\mathbf{y}} + ay_4\,\hat{\mathbf{z}}$	(96h)	B I
$\mathbf{B_{34}}$	$=$	$(x_4 - y_4 + z_4)\,\mathbf{a}_1 - (x_4 + y_4 + z_4)\,\mathbf{a}_2 + (x_4 + y_4 - z_4)\,\mathbf{a}_3$	$=$	$-az_4\,\hat{\mathbf{x}} + ax_4\,\hat{\mathbf{y}} - ay_4\,\hat{\mathbf{z}}$	(96h)	B I
$\mathbf{B_{35}}$	$=$	$(x_4 - y_4 + z_4)\,\mathbf{a}_1 + (x_4 + y_4 - z_4)\,\mathbf{a}_2 + (-x_4 + y_4 + z_4)\,\mathbf{a}_3$	$=$	$ay_4\,\hat{\mathbf{x}} + az_4\,\hat{\mathbf{y}} + ax_4\,\hat{\mathbf{z}}$	(96h)	B I
$\mathbf{B_{36}}$	$=$	$(-x_4 + y_4 + z_4)\,\mathbf{a}_1 - (x_4 + y_4 + z_4)\,\mathbf{a}_2 + (x_4 - y_4 + z_4)\,\mathbf{a}_3$	$=$	$-ay_4\,\hat{\mathbf{x}} + az_4\,\hat{\mathbf{y}} - ax_4\,\hat{\mathbf{z}}$	(96h)	B I
$\mathbf{B_{37}}$	$=$	$-(x_4 + y_4 + z_4)\,\mathbf{a}_1 + (-x_4 + y_4 + z_4)\,\mathbf{a}_2 + (x_4 + y_4 - z_4)\,\mathbf{a}_3$	$=$	$ay_4\,\hat{\mathbf{x}} - az_4\,\hat{\mathbf{y}} - ax_4\,\hat{\mathbf{z}}$	(96h)	B I

$$\mathbf{B_{38}} = \begin{array}{c}(x_4+y_4-z_4)\,\mathbf{a}_1+\\(x_4-y_4+z_4)\,\mathbf{a}_2-\\(x_4+y_4+z_4)\,\mathbf{a}_3\end{array} = -ay_4\,\hat{\mathbf{x}}-az_4\,\hat{\mathbf{y}}+ax_4\,\hat{\mathbf{z}} \quad (96h) \quad \text{B I}$$

$$\mathbf{B_{39}} = \begin{array}{c}\left(x_4-y_4-z_4+\frac{1}{4}\right)\,\mathbf{a}_1-\\\left(x_4-y_4+z_4-\frac{1}{4}\right)\,\mathbf{a}_2+\\\left(x_4+y_4+z_4+\frac{1}{4}\right)\,\mathbf{a}_3\end{array} = a\left(y_4+\tfrac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(x_4+\tfrac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(z_4-\tfrac{1}{4}\right)\,\hat{\mathbf{z}} \quad (96h) \quad \text{B I}$$

$$\mathbf{B_{40}} = \begin{array}{c}-\left(x_4-y_4+z_4-\frac{1}{4}\right)\,\mathbf{a}_1+\\\left(x_4-y_4-z_4+\frac{1}{4}\right)\,\mathbf{a}_2-\\\left(x_4+y_4-z_4-\frac{1}{4}\right)\,\mathbf{a}_3\end{array} = -a\left(y_4-\tfrac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(x_4-\tfrac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(z_4-\tfrac{1}{4}\right)\,\hat{\mathbf{z}} \quad (96h) \quad \text{B I}$$

$$\mathbf{B_{41}} = \begin{array}{c}-\left(x_4+y_4-z_4-\frac{1}{4}\right)\,\mathbf{a}_1+\\\left(x_4+y_4+z_4+\frac{1}{4}\right)\,\mathbf{a}_2-\\\left(x_4-y_4+z_4-\frac{1}{4}\right)\,\mathbf{a}_3\end{array} = a\left(y_4+\tfrac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(x_4-\tfrac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(z_4+\tfrac{1}{4}\right)\,\hat{\mathbf{z}} \quad (96h) \quad \text{B I}$$

$$\mathbf{B_{42}} = \begin{array}{c}\left(x_4+y_4+z_4+\frac{1}{4}\right)\,\mathbf{a}_1-\\\left(x_4+y_4-z_4-\frac{1}{4}\right)\,\mathbf{a}_2+\\\left(x_4-y_4-z_4+\frac{1}{4}\right)\,\mathbf{a}_3\end{array} = -a\left(y_4-\tfrac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(x_4+\tfrac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(z_4+\tfrac{1}{4}\right)\,\hat{\mathbf{z}} \quad (96h) \quad \text{B I}$$

$$\mathbf{B_{43}} = \begin{array}{c}-\left(x_4+y_4-z_4-\frac{1}{4}\right)\,\mathbf{a}_1+\\\left(x_4-y_4-z_4+\frac{1}{4}\right)\,\mathbf{a}_2+\\\left(x_4+y_4+z_4+\frac{1}{4}\right)\,\mathbf{a}_3\end{array} = a\left(x_4+\tfrac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(z_4+\tfrac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(y_4-\tfrac{1}{4}\right)\,\hat{\mathbf{z}} \quad (96h) \quad \text{B I}$$

$$\mathbf{B_{44}} = \begin{array}{c}\left(x_4+y_4+z_4+\frac{1}{4}\right)\,\mathbf{a}_1-\\\left(x_4-y_4+z_4-\frac{1}{4}\right)\,\mathbf{a}_2-\\\left(x_4+y_4-z_4-\frac{1}{4}\right)\,\mathbf{a}_3\end{array} = -a\left(x_4-\tfrac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(z_4+\tfrac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(y_4+\tfrac{1}{4}\right)\,\hat{\mathbf{z}} \quad (96h) \quad \text{B I}$$

$$\mathbf{B_{45}} = \begin{array}{c}\left(x_4-y_4-z_4+\frac{1}{4}\right)\,\mathbf{a}_1-\\\left(x_4+y_4-z_4-\frac{1}{4}\right)\,\mathbf{a}_2-\\\left(x_4-y_4+z_4-\frac{1}{4}\right)\,\mathbf{a}_3\end{array} = -a\left(x_4-\tfrac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(z_4-\tfrac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(y_4-\tfrac{1}{4}\right)\,\hat{\mathbf{z}} \quad (96h) \quad \text{B I}$$

$$\mathbf{B_{46}} = \begin{array}{c}-\left(x_4-y_4+z_4-\frac{1}{4}\right)\,\mathbf{a}_1+\\\left(x_4+y_4+z_4+\frac{1}{4}\right)\,\mathbf{a}_2+\\\left(x_4-y_4-z_4+\frac{1}{4}\right)\,\mathbf{a}_3\end{array} = a\left(x_4+\tfrac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(z_4-\tfrac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(y_4+\tfrac{1}{4}\right)\,\hat{\mathbf{z}} \quad (96h) \quad \text{B I}$$

$$\mathbf{B_{47}} = \begin{array}{c}-\left(x_4-y_4+z_4-\frac{1}{4}\right)\,\mathbf{a}_1-\\\left(x_4+y_4-z_4-\frac{1}{4}\right)\,\mathbf{a}_2+\\\left(x_4+y_4+z_4+\frac{1}{4}\right)\,\mathbf{a}_3\end{array} = a\left(z_4+\tfrac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(y_4+\tfrac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(x_4-\tfrac{1}{4}\right)\,\hat{\mathbf{z}} \quad (96h) \quad \text{B I}$$

$$\mathbf{B_{48}} = \begin{array}{c}\left(x_4-y_4-z_4+\frac{1}{4}\right)\,\mathbf{a}_1+\\\left(x_4+y_4+z_4+\frac{1}{4}\right)\,\mathbf{a}_2-\\\left(x_4+y_4-z_4-\frac{1}{4}\right)\,\mathbf{a}_3\end{array} = a\left(z_4+\tfrac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(y_4-\tfrac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(x_4+\tfrac{1}{4}\right)\,\hat{\mathbf{z}} \quad (96h) \quad \text{B I}$$

$$\mathbf{B_{49}} = \begin{array}{c}\left(x_4+y_4+z_4+\frac{1}{4}\right)\,\mathbf{a}_1+\\\left(x_4-y_4-z_4+\frac{1}{4}\right)\,\mathbf{a}_2-\\\left(x_4-y_4+z_4-\frac{1}{4}\right)\,\mathbf{a}_3\end{array} = -a\left(z_4-\tfrac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(y_4+\tfrac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(x_4+\tfrac{1}{4}\right)\,\hat{\mathbf{z}} \quad (96h) \quad \text{B I}$$

$$\mathbf{B_{50}} = \begin{array}{c}-\left(x_4+y_4-z_4-\frac{1}{4}\right)\,\mathbf{a}_1-\\\left(x_4-y_4+z_4-\frac{1}{4}\right)\,\mathbf{a}_2+\\\left(x_4-y_4-z_4+\frac{1}{4}\right)\,\mathbf{a}_3\end{array} = -a\left(z_4-\tfrac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(y_4-\tfrac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(x_4-\tfrac{1}{4}\right)\,\hat{\mathbf{z}} \quad (96h) \quad \text{B I}$$

$$\mathbf{B_{51}} = \begin{array}{c}(-x_5+y_5+z_5)\,\mathbf{a}_1+\\(x_5-y_5+z_5)\,\mathbf{a}_2+\\(x_5+y_5-z_5)\,\mathbf{a}_3\end{array} = ax_5\,\hat{\mathbf{x}}+ay_5\,\hat{\mathbf{y}}+az_5\,\hat{\mathbf{z}} \quad (96h) \quad \text{H I}$$

$$\mathbf{B_{52}} = \begin{array}{c}(x_5-y_5+z_5)\,\mathbf{a}_1+\\(-x_5+y_5+z_5)\,\mathbf{a}_2-\\(x_5+y_5+z_5)\,\mathbf{a}_3\end{array} = -ax_5\,\hat{\mathbf{x}}-ay_5\,\hat{\mathbf{y}}+az_5\,\hat{\mathbf{z}} \quad (96h) \quad \text{H I}$$

$$\mathbf{B_{53}} = \begin{array}{c}(x_5+y_5-z_5)\,\mathbf{a}_1-\\(x_5+y_5+z_5)\,\mathbf{a}_2+\\(-x_5+y_5+z_5)\,\mathbf{a}_3\end{array} = -ax_5\,\hat{\mathbf{x}}+ay_5\,\hat{\mathbf{y}}-az_5\,\hat{\mathbf{z}} \quad (96h) \quad \text{H I}$$

$\mathbf{B_{54}}$	$=$	$-(x_5+y_5+z_5)\,\mathbf{a}_1+$ $(x_5+y_5-z_5)\,\mathbf{a}_2+$ $(x_5-y_5+z_5)\,\mathbf{a}_3$	$=$	$ax_5\,\hat{\mathbf{x}}-ay_5\,\hat{\mathbf{y}}-az_5\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{55}}$	$=$	$(x_5+y_5-z_5)\,\mathbf{a}_1+$ $(-x_5+y_5+z_5)\,\mathbf{a}_2+$ $(x_5-y_5+z_5)\,\mathbf{a}_3$	$=$	$az_5\,\hat{\mathbf{x}}+ax_5\,\hat{\mathbf{y}}+ay_5\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{56}}$	$=$	$-(x_5+y_5+z_5)\,\mathbf{a}_1+$ $(x_5-y_5+z_5)\,\mathbf{a}_2+$ $(-x_5+y_5+z_5)\,\mathbf{a}_3$	$=$	$az_5\,\hat{\mathbf{x}}-ax_5\,\hat{\mathbf{y}}-ay_5\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{57}}$	$=$	$(-x_5+y_5+z_5)\,\mathbf{a}_1+$ $(x_5+y_5-z_5)\,\mathbf{a}_2-$ $(x_5+y_5+z_5)\,\mathbf{a}_3$	$=$	$-az_5\,\hat{\mathbf{x}}-ax_5\,\hat{\mathbf{y}}+ay_5\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{58}}$	$=$	$(x_5-y_5+z_5)\,\mathbf{a}_1-$ $(x_5+y_5+z_5)\,\mathbf{a}_2+$ $(x_5+y_5-z_5)\,\mathbf{a}_3$	$=$	$-az_5\,\hat{\mathbf{x}}+ax_5\,\hat{\mathbf{y}}-ay_5\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{59}}$	$=$	$(x_5-y_5+z_5)\,\mathbf{a}_1+$ $(x_5+y_5-z_5)\,\mathbf{a}_2+$ $(-x_5+y_5+z_5)\,\mathbf{a}_3$	$=$	$ay_5\,\hat{\mathbf{x}}+az_5\,\hat{\mathbf{y}}+ax_5\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{60}}$	$=$	$(-x_5+y_5+z_5)\,\mathbf{a}_1-$ $(x_5+y_5+z_5)\,\mathbf{a}_2+$ $(x_5-y_5+z_5)\,\mathbf{a}_3$	$=$	$-ay_5\,\hat{\mathbf{x}}+az_5\,\hat{\mathbf{y}}-ax_5\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{61}}$	$=$	$-(x_5+y_5+z_5)\,\mathbf{a}_1+$ $(-x_5+y_5+z_5)\,\mathbf{a}_2+$ $(x_5+y_5-z_5)\,\mathbf{a}_3$	$=$	$ay_5\,\hat{\mathbf{x}}-az_5\,\hat{\mathbf{y}}-ax_5\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{62}}$	$=$	$(x_5+y_5-z_5)\,\mathbf{a}_1+$ $(x_5-y_5+z_5)\,\mathbf{a}_2-$ $(x_5+y_5+z_5)\,\mathbf{a}_3$	$=$	$-ay_5\,\hat{\mathbf{x}}-az_5\,\hat{\mathbf{y}}+ax_5\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{63}}$	$=$	$\left(x_5-y_5-z_5+\frac{1}{4}\right)\,\mathbf{a}_1-$ $\left(x_5-y_5+z_5-\frac{1}{4}\right)\,\mathbf{a}_2+$ $\left(x_5+y_5+z_5+\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$a\left(y_5+\frac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(x_5+\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(z_5-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{64}}$	$=$	$-\left(x_5-y_5+z_5-\frac{1}{4}\right)\,\mathbf{a}_1+$ $\left(x_5-y_5-z_5+\frac{1}{4}\right)\,\mathbf{a}_2-$ $\left(x_5+y_5-z_5-\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$-a\left(y_5-\frac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(x_5-\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(z_5-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{65}}$	$=$	$-\left(x_5+y_5-z_5-\frac{1}{4}\right)\,\mathbf{a}_1+$ $\left(x_5+y_5+z_5+\frac{1}{4}\right)\,\mathbf{a}_2-$ $\left(x_5-y_5+z_5-\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$a\left(y_5+\frac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(x_5-\frac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(z_5+\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{66}}$	$=$	$\left(x_5+y_5+z_5+\frac{1}{4}\right)\,\mathbf{a}_1-$ $\left(x_5+y_5-z_5-\frac{1}{4}\right)\,\mathbf{a}_2+$ $\left(x_5-y_5-z_5+\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$-a\left(y_5-\frac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(x_5+\frac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(z_5+\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{67}}$	$=$	$-\left(x_5+y_5-z_5-\frac{1}{4}\right)\,\mathbf{a}_1+$ $\left(x_5-y_5-z_5+\frac{1}{4}\right)\,\mathbf{a}_2+$ $\left(x_5+y_5+z_5+\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$a\left(x_5+\frac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(z_5+\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(y_5-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{68}}$	$=$	$\left(x_5+y_5+z_5+\frac{1}{4}\right)\,\mathbf{a}_1-$ $\left(x_5-y_5+z_5-\frac{1}{4}\right)\,\mathbf{a}_2-$ $\left(x_5+y_5-z_5-\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_5-\frac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(z_5+\frac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(y_5+\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{69}}$	$=$	$\left(x_5-y_5-z_5+\frac{1}{4}\right)\,\mathbf{a}_1-$ $\left(x_5+y_5-z_5-\frac{1}{4}\right)\,\mathbf{a}_2-$ $\left(x_5-y_5+z_5-\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_5-\frac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(z_5-\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(y_5-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H I

$\mathbf{B_{70}}$	=	$-\left(x_5-y_5+z_5-\frac{1}{4}\right)\,\mathbf{a}_1+\left(x_5+y_5+z_5+\frac{1}{4}\right)\,\mathbf{a}_2+\left(x_5-y_5-z_5+\frac{1}{4}\right)\,\mathbf{a}_3$	=	$a\left(x_5+\frac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(z_5-\frac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(y_5+\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{71}}$	=	$-\left(x_5-y_5+z_5-\frac{1}{4}\right)\,\mathbf{a}_1-\left(x_5+y_5-z_5-\frac{1}{4}\right)\,\mathbf{a}_2+\left(x_5+y_5+z_5+\frac{1}{4}\right)\,\mathbf{a}_3$	=	$a\left(z_5+\frac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(y_5+\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(x_5-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{72}}$	=	$\left(x_5-y_5-z_5+\frac{1}{4}\right)\,\mathbf{a}_1+\left(x_5+y_5+z_5+\frac{1}{4}\right)\,\mathbf{a}_2-\left(x_5+y_5-z_5-\frac{1}{4}\right)\,\mathbf{a}_3$	=	$a\left(z_5+\frac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(y_5-\frac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(x_5+\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{73}}$	=	$\left(x_5+y_5+z_5+\frac{1}{4}\right)\,\mathbf{a}_1+\left(x_5-y_5-z_5+\frac{1}{4}\right)\,\mathbf{a}_2-\left(x_5-y_5+z_5-\frac{1}{4}\right)\,\mathbf{a}_3$	=	$-a\left(z_5-\frac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(y_5+\frac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(x_5+\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{74}}$	=	$-\left(x_5+y_5-z_5-\frac{1}{4}\right)\,\mathbf{a}_1-\left(x_5-y_5+z_5-\frac{1}{4}\right)\,\mathbf{a}_2+\left(x_5-y_5-z_5+\frac{1}{4}\right)\,\mathbf{a}_3$	=	$-a\left(z_5-\frac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(y_5-\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(x_5-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H I
$\mathbf{B_{75}}$	=	$(-x_6+y_6+z_6)\,\mathbf{a}_1+(x_6-y_6+z_6)\,\mathbf{a}_2+(x_6+y_6-z_6)\,\mathbf{a}_3$	=	$ax_6\,\hat{\mathbf{x}}+ay_6\,\hat{\mathbf{y}}+az_6\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{76}}$	=	$(x_6-y_6+z_6)\,\mathbf{a}_1+(-x_6+y_6+z_6)\,\mathbf{a}_2-(x_6+y_6+z_6)\,\mathbf{a}_3$	=	$-ax_6\,\hat{\mathbf{x}}-ay_6\,\hat{\mathbf{y}}+az_6\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{77}}$	=	$(x_6+y_6-z_6)\,\mathbf{a}_1-(x_6+y_6+z_6)\,\mathbf{a}_2+(-x_6+y_6+z_6)\,\mathbf{a}_3$	=	$-ax_6\,\hat{\mathbf{x}}+ay_6\,\hat{\mathbf{y}}-az_6\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{78}}$	=	$-(x_6+y_6+z_6)\,\mathbf{a}_1+(x_6+y_6-z_6)\,\mathbf{a}_2+(x_6-y_6+z_6)\,\mathbf{a}_3$	=	$ax_6\,\hat{\mathbf{x}}-ay_6\,\hat{\mathbf{y}}-az_6\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{79}}$	=	$(x_6+y_6-z_6)\,\mathbf{a}_1+(-x_6+y_6+z_6)\,\mathbf{a}_2+(x_6-y_6+z_6)\,\mathbf{a}_3$	=	$az_6\,\hat{\mathbf{x}}+ax_6\,\hat{\mathbf{y}}+ay_6\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{80}}$	=	$-(x_6+y_6+z_6)\,\mathbf{a}_1+(x_6-y_6+z_6)\,\mathbf{a}_2+(-x_6+y_6+z_6)\,\mathbf{a}_3$	=	$az_6\,\hat{\mathbf{x}}-ax_6\,\hat{\mathbf{y}}-ay_6\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{81}}$	=	$(-x_6+y_6+z_6)\,\mathbf{a}_1+(x_6+y_6-z_6)\,\mathbf{a}_2-(x_6+y_6+z_6)\,\mathbf{a}_3$	=	$-az_6\,\hat{\mathbf{x}}-ax_6\,\hat{\mathbf{y}}+ay_6\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{82}}$	=	$(x_6-y_6+z_6)\,\mathbf{a}_1-(x_6+y_6+z_6)\,\mathbf{a}_2+(x_6+y_6-z_6)\,\mathbf{a}_3$	=	$-az_6\,\hat{\mathbf{x}}+ax_6\,\hat{\mathbf{y}}-ay_6\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{83}}$	=	$(x_6-y_6+z_6)\,\mathbf{a}_1+(x_6+y_6-z_6)\,\mathbf{a}_2+(-x_6+y_6+z_6)\,\mathbf{a}_3$	=	$ay_6\,\hat{\mathbf{x}}+az_6\,\hat{\mathbf{y}}+ax_6\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{84}}$	=	$(-x_6+y_6+z_6)\,\mathbf{a}_1-(x_6+y_6+z_6)\,\mathbf{a}_2+(x_6-y_6+z_6)\,\mathbf{a}_3$	=	$-ay_6\,\hat{\mathbf{x}}+az_6\,\hat{\mathbf{y}}-ax_6\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{85}}$	=	$-(x_6+y_6+z_6)\,\mathbf{a}_1+(-x_6+y_6+z_6)\,\mathbf{a}_2+(x_6+y_6-z_6)\,\mathbf{a}_3$	=	$ay_6\,\hat{\mathbf{x}}-az_6\,\hat{\mathbf{y}}-ax_6\,\hat{\mathbf{z}}$	(96h)	H II

$\mathbf{B_{86}}$	$=$	$(x_6+y_6-z_6)\,\mathbf{a}_1+$ $(x_6-y_6+z_6)\,\mathbf{a}_2-$ $(x_6+y_6+z_6)\,\mathbf{a}_3$	$=$	$-ay_6\,\hat{\mathbf{x}}-az_6\,\hat{\mathbf{y}}+ax_6\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{87}}$	$=$	$\left(x_6-y_6-z_6+\frac{1}{4}\right)\,\mathbf{a}_1-$ $\left(x_6-y_6+z_6-\frac{1}{4}\right)\,\mathbf{a}_2+$ $\left(x_6+y_6+z_6+\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$a\left(y_6+\frac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(x_6+\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(z_6-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{88}}$	$=$	$-\left(x_6-y_6+z_6-\frac{1}{4}\right)\,\mathbf{a}_1+$ $\left(x_6-y_6-z_6+\frac{1}{4}\right)\,\mathbf{a}_2-$ $\left(x_6+y_6-z_6-\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$-a\left(y_6-\frac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(x_6-\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(z_6-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{89}}$	$=$	$-\left(x_6+y_6-z_6-\frac{1}{4}\right)\,\mathbf{a}_1+$ $\left(x_6+y_6+z_6+\frac{1}{4}\right)\,\mathbf{a}_2-$ $\left(x_6-y_6+z_6-\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$a\left(y_6+\frac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(x_6-\frac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(z_6+\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{90}}$	$=$	$\left(x_6+y_6+z_6+\frac{1}{4}\right)\,\mathbf{a}_1-$ $\left(x_6+y_6-z_6-\frac{1}{4}\right)\,\mathbf{a}_2+$ $\left(x_6-y_6-z_6+\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$-a\left(y_6-\frac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(x_6+\frac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(z_6+\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{91}}$	$=$	$-\left(x_6+y_6-z_6-\frac{1}{4}\right)\,\mathbf{a}_1+$ $\left(x_6-y_6-z_6+\frac{1}{4}\right)\,\mathbf{a}_2+$ $\left(x_6+y_6+z_6+\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$a\left(x_6+\frac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(z_6+\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(y_6-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{92}}$	$=$	$\left(x_6+y_6+z_6+\frac{1}{4}\right)\,\mathbf{a}_1-$ $\left(x_6-y_6+z_6-\frac{1}{4}\right)\,\mathbf{a}_2-$ $\left(x_6+y_6-z_6-\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_6-\frac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(z_6+\frac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(y_6+\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{93}}$	$=$	$\left(x_6-y_6-z_6+\frac{1}{4}\right)\,\mathbf{a}_1-$ $\left(x_6+y_6-z_6-\frac{1}{4}\right)\,\mathbf{a}_2-$ $\left(x_6-y_6+z_6-\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_6-\frac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(z_6-\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(y_6-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{94}}$	$=$	$-\left(x_6-y_6+z_6-\frac{1}{4}\right)\,\mathbf{a}_1+$ $\left(x_6+y_6+z_6+\frac{1}{4}\right)\,\mathbf{a}_2+$ $\left(x_6-y_6-z_6+\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$a\left(x_6+\frac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(z_6-\frac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(y_6+\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{95}}$	$=$	$-\left(x_6-y_6+z_6-\frac{1}{4}\right)\,\mathbf{a}_1-$ $\left(x_6+y_6-z_6-\frac{1}{4}\right)\,\mathbf{a}_2+$ $\left(x_6+y_6+z_6+\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$a\left(z_6+\frac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(y_6+\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(x_6-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{96}}$	$=$	$\left(x_6-y_6-z_6+\frac{1}{4}\right)\,\mathbf{a}_1+$ $\left(x_6+y_6+z_6+\frac{1}{4}\right)\,\mathbf{a}_2-$ $\left(x_6+y_6-z_6-\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$a\left(z_6+\frac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(y_6-\frac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(x_6+\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{97}}$	$=$	$\left(x_6+y_6+z_6+\frac{1}{4}\right)\,\mathbf{a}_1+$ $\left(x_6-y_6-z_6+\frac{1}{4}\right)\,\mathbf{a}_2-$ $\left(x_6-y_6+z_6-\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$-a\left(z_6-\frac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(y_6+\frac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(x_6+\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{98}}$	$=$	$-\left(x_6+y_6-z_6-\frac{1}{4}\right)\,\mathbf{a}_1-$ $\left(x_6-y_6+z_6-\frac{1}{4}\right)\,\mathbf{a}_2+$ $\left(x_6-y_6-z_6+\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$-a\left(z_6-\frac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(y_6-\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(x_6-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H II
$\mathbf{B_{99}}$	$=$	$(-x_7+y_7+z_7)\,\mathbf{a}_1+$ $(x_7-y_7+z_7)\,\mathbf{a}_2+$ $(x_7+y_7-z_7)\,\mathbf{a}_3$	$=$	$ax_7\,\hat{\mathbf{x}}+ay_7\,\hat{\mathbf{y}}+az_7\,\hat{\mathbf{z}}$	(96h)	H III
$\mathbf{B_{100}}$	$=$	$(x_7-y_7+z_7)\,\mathbf{a}_1+$ $(-x_7+y_7+z_7)\,\mathbf{a}_2-$ $(x_7+y_7+z_7)\,\mathbf{a}_3$	$=$	$-ax_7\,\hat{\mathbf{x}}-ay_7\,\hat{\mathbf{y}}+az_7\,\hat{\mathbf{z}}$	(96h)	H III
$\mathbf{B_{101}}$	$=$	$(x_7+y_7-z_7)\,\mathbf{a}_1-$ $(x_7+y_7+z_7)\,\mathbf{a}_2+$ $(-x_7+y_7+z_7)\,\mathbf{a}_3$	$=$	$-ax_7\,\hat{\mathbf{x}}+ay_7\,\hat{\mathbf{y}}-az_7\,\hat{\mathbf{z}}$	(96h)	H III

$\mathbf{B_{102}} =$	$-\left(x_7+y_7+z_7\right)\,\mathbf{a}_1+\left(x_7+y_7-z_7\right)\,\mathbf{a}_2+\left(x_7-y_7+z_7\right)\,\mathbf{a}_3$	$=$	$ax_7\,\hat{\mathbf{x}}-ay_7\,\hat{\mathbf{y}}-az_7\,\hat{\mathbf{z}}$	(96h)	H III
$\mathbf{B_{103}} =$	$\left(x_7+y_7-z_7\right)\,\mathbf{a}_1+\left(-x_7+y_7+z_7\right)\,\mathbf{a}_2+\left(x_7-y_7+z_7\right)\,\mathbf{a}_3$	$=$	$az_7\,\hat{\mathbf{x}}+ax_7\,\hat{\mathbf{y}}+ay_7\,\hat{\mathbf{z}}$	(96h)	H III
$\mathbf{B_{104}} =$	$-\left(x_7+y_7+z_7\right)\,\mathbf{a}_1+\left(x_7-y_7+z_7\right)\,\mathbf{a}_2+\left(-x_7+y_7+z_7\right)\,\mathbf{a}_3$	$=$	$az_7\,\hat{\mathbf{x}}-ax_7\,\hat{\mathbf{y}}-ay_7\,\hat{\mathbf{z}}$	(96h)	H III
$\mathbf{B_{105}} =$	$\left(-x_7+y_7+z_7\right)\,\mathbf{a}_1+\left(x_7+y_7-z_7\right)\,\mathbf{a}_2-\left(x_7+y_7+z_7\right)\,\mathbf{a}_3$	$=$	$-az_7\,\hat{\mathbf{x}}-ax_7\,\hat{\mathbf{y}}+ay_7\,\hat{\mathbf{z}}$	(96h)	H III
$\mathbf{B_{106}} =$	$\left(x_7-y_7+z_7\right)\,\mathbf{a}_1-\left(x_7+y_7+z_7\right)\,\mathbf{a}_2+\left(x_7+y_7-z_7\right)\,\mathbf{a}_3$	$=$	$-az_7\,\hat{\mathbf{x}}+ax_7\,\hat{\mathbf{y}}-ay_7\,\hat{\mathbf{z}}$	(96h)	H III
$\mathbf{B_{107}} =$	$\left(x_7-y_7+z_7\right)\,\mathbf{a}_1+\left(x_7+y_7-z_7\right)\,\mathbf{a}_2+\left(-x_7+y_7+z_7\right)\,\mathbf{a}_3$	$=$	$ay_7\,\hat{\mathbf{x}}+az_7\,\hat{\mathbf{y}}+ax_7\,\hat{\mathbf{z}}$	(96h)	H III
$\mathbf{B_{108}} =$	$\left(-x_7+y_7+z_7\right)\,\mathbf{a}_1-\left(x_7+y_7+z_7\right)\,\mathbf{a}_2+\left(x_7-y_7+z_7\right)\,\mathbf{a}_3$	$=$	$-ay_7\,\hat{\mathbf{x}}+az_7\,\hat{\mathbf{y}}-ax_7\,\hat{\mathbf{z}}$	(96h)	H III
$\mathbf{B_{109}} =$	$-\left(x_7+y_7+z_7\right)\,\mathbf{a}_1+\left(-x_7+y_7+z_7\right)\,\mathbf{a}_2+\left(x_7+y_7-z_7\right)\,\mathbf{a}_3$	$=$	$ay_7\,\hat{\mathbf{x}}-az_7\,\hat{\mathbf{y}}-ax_7\,\hat{\mathbf{z}}$	(96h)	H III
$\mathbf{B_{110}} =$	$\left(x_7+y_7-z_7\right)\,\mathbf{a}_1+\left(x_7-y_7+z_7\right)\,\mathbf{a}_2-\left(x_7+y_7+z_7\right)\,\mathbf{a}_3$	$=$	$-ay_7\,\hat{\mathbf{x}}-az_7\,\hat{\mathbf{y}}+ax_7\,\hat{\mathbf{z}}$	(96h)	H III
$\mathbf{B_{111}} =$	$\left(x_7-y_7-z_7+\frac{1}{4}\right)\,\mathbf{a}_1-\left(x_7-y_7+z_7-\frac{1}{4}\right)\,\mathbf{a}_2+\left(x_7+y_7+z_7+\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$a\left(y_7+\frac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(x_7+\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(z_7-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H III
$\mathbf{B_{112}} =$	$-\left(x_7-y_7+z_7-\frac{1}{4}\right)\,\mathbf{a}_1+\left(x_7-y_7-z_7+\frac{1}{4}\right)\,\mathbf{a}_2-\left(x_7+y_7-z_7-\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$-a\left(y_7-\frac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(x_7-\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(z_7-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H III
$\mathbf{B_{113}} =$	$-\left(x_7+y_7-z_7-\frac{1}{4}\right)\,\mathbf{a}_1+\left(x_7+y_7+z_7+\frac{1}{4}\right)\,\mathbf{a}_2-\left(x_7-y_7+z_7-\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$a\left(y_7+\frac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(x_7-\frac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(z_7+\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H III
$\mathbf{B_{114}} =$	$\left(x_7+y_7+z_7+\frac{1}{4}\right)\,\mathbf{a}_1-\left(x_7+y_7-z_7-\frac{1}{4}\right)\,\mathbf{a}_2+\left(x_7-y_7-z_7+\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$-a\left(y_7-\frac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(x_7+\frac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(z_7+\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H III
$\mathbf{B_{115}} =$	$-\left(x_7+y_7-z_7-\frac{1}{4}\right)\,\mathbf{a}_1+\left(x_7-y_7-z_7+\frac{1}{4}\right)\,\mathbf{a}_2+\left(x_7+y_7+z_7+\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$a\left(x_7+\frac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(z_7+\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(y_7-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H III
$\mathbf{B_{116}} =$	$\left(x_7+y_7+z_7+\frac{1}{4}\right)\,\mathbf{a}_1-\left(x_7-y_7+z_7-\frac{1}{4}\right)\,\mathbf{a}_2-\left(x_7+y_7-z_7-\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_7-\frac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(z_7+\frac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(y_7+\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H III
$\mathbf{B_{117}} =$	$\left(x_7-y_7-z_7+\frac{1}{4}\right)\,\mathbf{a}_1-\left(x_7+y_7-z_7-\frac{1}{4}\right)\,\mathbf{a}_2-\left(x_7-y_7+z_7-\frac{1}{4}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_7-\frac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(z_7-\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(y_7-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(96h)	H III

$\mathbf{B_{118}} = -\left(x_7 - y_7 + z_7 - \frac{1}{4}\right)\mathbf{a}_1 + \left(x_7 + y_7 + z_7 + \frac{1}{4}\right)\mathbf{a}_2 + \left(x_7 - y_7 - z_7 + \frac{1}{4}\right)\mathbf{a}_3 = a\left(x_7 + \frac{1}{4}\right)\hat{\mathbf{x}} - a\left(z_7 - \frac{1}{4}\right)\hat{\mathbf{y}} + a\left(y_7 + \frac{1}{4}\right)\hat{\mathbf{z}}$ (96h) H III

$\mathbf{B_{119}} = -\left(x_7 - y_7 + z_7 - \frac{1}{4}\right)\mathbf{a}_1 - \left(x_7 + y_7 - z_7 - \frac{1}{4}\right)\mathbf{a}_2 + \left(x_7 + y_7 + z_7 + \frac{1}{4}\right)\mathbf{a}_3 = a\left(z_7 + \frac{1}{4}\right)\hat{\mathbf{x}} + a\left(y_7 + \frac{1}{4}\right)\hat{\mathbf{y}} - a\left(x_7 - \frac{1}{4}\right)\hat{\mathbf{z}}$ (96h) H III

$\mathbf{B_{120}} = \left(x_7 - y_7 - z_7 + \frac{1}{4}\right)\mathbf{a}_1 + \left(x_7 + y_7 + z_7 + \frac{1}{4}\right)\mathbf{a}_2 - \left(x_7 + y_7 - z_7 - \frac{1}{4}\right)\mathbf{a}_3 = a\left(z_7 + \frac{1}{4}\right)\hat{\mathbf{x}} - a\left(y_7 - \frac{1}{4}\right)\hat{\mathbf{y}} + a\left(x_7 + \frac{1}{4}\right)\hat{\mathbf{z}}$ (96h) H III

$\mathbf{B_{121}} = \left(x_7 + y_7 + z_7 + \frac{1}{4}\right)\mathbf{a}_1 + \left(x_7 - y_7 - z_7 + \frac{1}{4}\right)\mathbf{a}_2 - \left(x_7 - y_7 + z_7 - \frac{1}{4}\right)\mathbf{a}_3 = -a\left(z_7 - \frac{1}{4}\right)\hat{\mathbf{x}} + a\left(y_7 + \frac{1}{4}\right)\hat{\mathbf{y}} + a\left(x_7 + \frac{1}{4}\right)\hat{\mathbf{z}}$ (96h) H III

$\mathbf{B_{122}} = -\left(x_7 + y_7 - z_7 - \frac{1}{4}\right)\mathbf{a}_1 - \left(x_7 - y_7 + z_7 - \frac{1}{4}\right)\mathbf{a}_2 + \left(x_7 - y_7 - z_7 + \frac{1}{4}\right)\mathbf{a}_3 = -a\left(z_7 - \frac{1}{4}\right)\hat{\mathbf{x}} - a\left(y_7 - \frac{1}{4}\right)\hat{\mathbf{y}} - a\left(x_7 - \frac{1}{4}\right)\hat{\mathbf{z}}$ (96h) H III

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