$Ce_5Mo_3O_{16}$ Structure: A5B3C16_cP96_222_ce_d_fi-001

This structure previously used the label(s) `A5B3C16_cP96_222_ce_d_fi`. Calls to these addresses will be redirected here.

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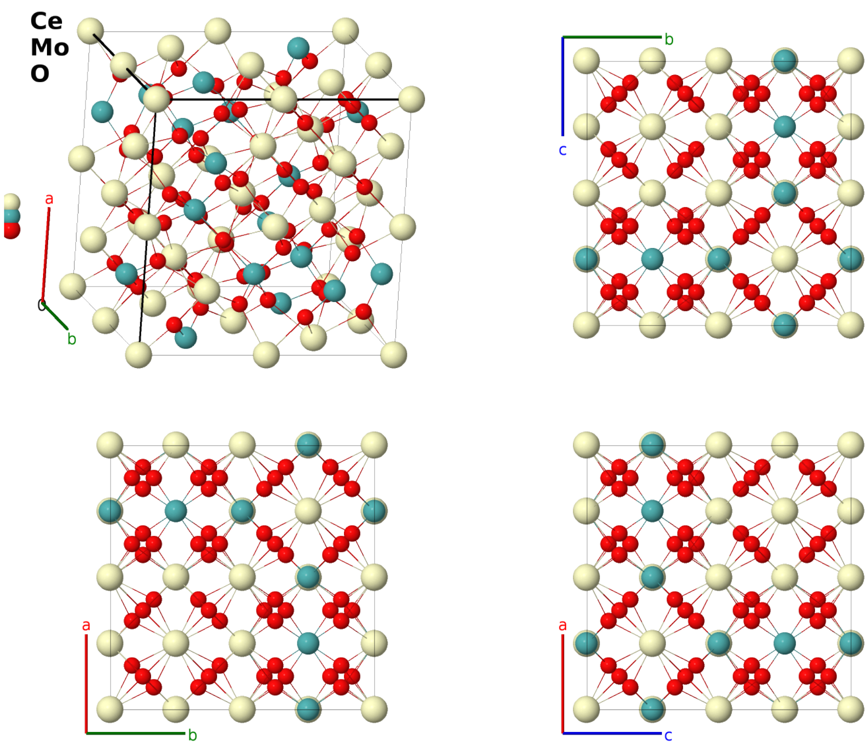
https://aflow.org/prototype-encyclopedia/3NUA

https://aflow.org/prototype-encyclopedia/A5B3C16_cP96_222_ce_d_fi-001



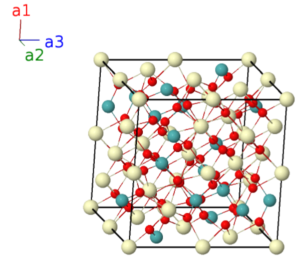
Prototype	$Ce_5Mo_3O_{16}$
AFLOW prototype label	A5B3C16_cP96_222_ce_d_fi-001
Pearson symbol	cP96
Space group number	222
Space group symbol	$Pn\bar{3}n$
AFLOW prototype command	`aflow --proto=A5B3C16_cP96_222_ce_d_fi-001` `--params=`$a, x_3, x_4, x_5, y_5, z_5$

Other compounds with this structure

$CdTm_4MoO_3O_{16}$, $CdY_4Mo_3O_{16}$, $La_5Mo_3O_{16}$, $Nd_5Mo_3O_{16}$, $Nd_4SmMo_3O_{16}$, $Pr_5Mo_3O_{16}$

Simple Cubic primitive vectors

$$
\begin{aligned}
\mathbf{a_1} &= a\,\hat{\mathbf{x}} \\
\mathbf{a_2} &= a\,\hat{\mathbf{y}} \\
\mathbf{a_3} &= a\,\hat{\mathbf{z}}
\end{aligned}
$$



Basis vectors

		Lattice coordinates		Cartesian coordinates	Wyckoff position	Atom type
$\mathbf{B_1}$	=	0	=	0	(8c)	Ce I
$\mathbf{B_2}$	=	$\frac{1}{2}\,\mathbf{a}_1 + \frac{1}{2}\,\mathbf{a}_2$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{2}a\,\hat{\mathbf{y}}$	(8c)	Ce I
$\mathbf{B_3}$	=	$\frac{1}{2}\,\mathbf{a}_1 + \frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{2}a\,\hat{\mathbf{z}}$	(8c)	Ce I
$\mathbf{B_4}$	=	$\frac{1}{2}\,\mathbf{a}_2 + \frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{y}} + \frac{1}{2}a\,\hat{\mathbf{z}}$	(8c)	Ce I
$\mathbf{B_5}$	=	$\frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{z}}$	(8c)	Ce I
$\mathbf{B_6}$	=	$\frac{1}{2}\,\mathbf{a}_1 + \frac{1}{2}\,\mathbf{a}_2 + \frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{2}a\,\hat{\mathbf{y}} + \frac{1}{2}a\,\hat{\mathbf{z}}$	(8c)	Ce I
$\mathbf{B_7}$	=	$\frac{1}{2}\,\mathbf{a}_2$	=	$\frac{1}{2}a\,\hat{\mathbf{y}}$	(8c)	Ce I
$\mathbf{B_8}$	=	$\frac{1}{2}\,\mathbf{a}_1$	=	$\frac{1}{2}a\,\hat{\mathbf{x}}$	(8c)	Ce I
$\mathbf{B_9}$	=	$\frac{3}{4}\,\mathbf{a}_2 + \frac{1}{4}\,\mathbf{a}_3$	=	$\frac{3}{4}a\,\hat{\mathbf{y}} + \frac{1}{4}a\,\hat{\mathbf{z}}$	(12d)	Mo I
$\mathbf{B_{10}}$	=	$\frac{1}{2}\,\mathbf{a}_1 + \frac{3}{4}\,\mathbf{a}_2 + \frac{1}{4}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{3}{4}a\,\hat{\mathbf{y}} + \frac{1}{4}a\,\hat{\mathbf{z}}$	(12d)	Mo I
$\mathbf{B_{11}}$	=	$\frac{1}{4}\,\mathbf{a}_1 + \frac{3}{4}\,\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{3}{4}a\,\hat{\mathbf{z}}$	(12d)	Mo I
$\mathbf{B_{12}}$	=	$\frac{1}{4}\,\mathbf{a}_1 + \frac{1}{2}\,\mathbf{a}_2 + \frac{3}{4}\,\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{1}{2}a\,\hat{\mathbf{y}} + \frac{3}{4}a\,\hat{\mathbf{z}}$	(12d)	Mo I
$\mathbf{B_{13}}$	=	$\frac{3}{4}\,\mathbf{a}_1 + \frac{1}{4}\,\mathbf{a}_2$	=	$\frac{3}{4}a\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}}$	(12d)	Mo I
$\mathbf{B_{14}}$	=	$\frac{3}{4}\,\mathbf{a}_1 + \frac{1}{4}\,\mathbf{a}_2 + \frac{1}{2}\,\mathbf{a}_3$	=	$\frac{3}{4}a\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}} + \frac{1}{2}a\,\hat{\mathbf{z}}$	(12d)	Mo I
$\mathbf{B_{15}}$	=	$\frac{3}{4}\,\mathbf{a}_1 + \frac{1}{4}\,\mathbf{a}_3$	=	$\frac{3}{4}a\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{z}}$	(12d)	Mo I
$\mathbf{B_{16}}$	=	$\frac{3}{4}\,\mathbf{a}_1 + \frac{1}{2}\,\mathbf{a}_2 + \frac{1}{4}\,\mathbf{a}_3$	=	$\frac{3}{4}a\,\hat{\mathbf{x}} + \frac{1}{2}a\,\hat{\mathbf{y}} + \frac{1}{4}a\,\hat{\mathbf{z}}$	(12d)	Mo I
$\mathbf{B_{17}}$	=	$\frac{1}{4}\,\mathbf{a}_2 + \frac{3}{4}\,\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{y}} + \frac{3}{4}a\,\hat{\mathbf{z}}$	(12d)	Mo I
$\mathbf{B_{18}}$	=	$\frac{1}{2}\,\mathbf{a}_1 + \frac{1}{4}\,\mathbf{a}_2 + \frac{3}{4}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}} + \frac{3}{4}a\,\hat{\mathbf{z}}$	(12d)	Mo I
$\mathbf{B_{19}}$	=	$\frac{1}{4}\,\mathbf{a}_1 + \frac{3}{4}\,\mathbf{a}_2 + \frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{3}{4}a\,\hat{\mathbf{y}} + \frac{1}{2}a\,\hat{\mathbf{z}}$	(12d)	Mo I
$\mathbf{B_{20}}$	=	$\frac{1}{4}\,\mathbf{a}_1 + \frac{3}{4}\,\mathbf{a}_2$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{3}{4}a\,\hat{\mathbf{y}}$	(12d)	Mo I
$\mathbf{B_{21}}$	=	$x_3\,\mathbf{a}_1 + \frac{1}{4}\,\mathbf{a}_2 + \frac{1}{4}\,\mathbf{a}_3$	=	$ax_3\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}} + \frac{1}{4}a\,\hat{\mathbf{z}}$	(12e)	Ce II
$\mathbf{B_{22}}$	=	$-\left(x_3 - \frac{1}{2}\right)\,\mathbf{a}_1 + \frac{1}{4}\,\mathbf{a}_2 + \frac{1}{4}\,\mathbf{a}_3$	=	$-a\left(x_3 - \frac{1}{2}\right)\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}} + \frac{1}{4}a\,\hat{\mathbf{z}}$	(12e)	Ce II
$\mathbf{B_{23}}$	=	$\frac{1}{4}\,\mathbf{a}_1 + x_3\,\mathbf{a}_2 + \frac{1}{4}\,\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + ax_3\,\hat{\mathbf{y}} + \frac{1}{4}a\,\hat{\mathbf{z}}$	(12e)	Ce II
$\mathbf{B_{24}}$	=	$\frac{1}{4}\,\mathbf{a}_1 - \left(x_3 - \frac{1}{2}\right)\,\mathbf{a}_2 + \frac{1}{4}\,\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} - a\left(x_3 - \frac{1}{2}\right)\,\hat{\mathbf{y}} + \frac{1}{4}a\,\hat{\mathbf{z}}$	(12e)	Ce II
$\mathbf{B_{25}}$	=	$\frac{1}{4}\,\mathbf{a}_1 + \frac{1}{4}\,\mathbf{a}_2 + x_3\,\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}} + ax_3\,\hat{\mathbf{z}}$	(12e)	Ce II
$\mathbf{B_{26}}$	=	$\frac{1}{4}\,\mathbf{a}_1 + \frac{1}{4}\,\mathbf{a}_2 - \left(x_3 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}} - a\left(x_3 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(12e)	Ce II
$\mathbf{B_{27}}$	=	$-x_3\,\mathbf{a}_1 + \frac{3}{4}\,\mathbf{a}_2 + \frac{3}{4}\,\mathbf{a}_3$	=	$-ax_3\,\hat{\mathbf{x}} + \frac{3}{4}a\,\hat{\mathbf{y}} + \frac{3}{4}a\,\hat{\mathbf{z}}$	(12e)	Ce II
$\mathbf{B_{28}}$	=	$\left(x_3 + \frac{1}{2}\right)\,\mathbf{a}_1 + \frac{3}{4}\,\mathbf{a}_2 + \frac{3}{4}\,\mathbf{a}_3$	=	$a\left(x_3 + \frac{1}{2}\right)\,\hat{\mathbf{x}} + \frac{3}{4}a\,\hat{\mathbf{y}} + \frac{3}{4}a\,\hat{\mathbf{z}}$	(12e)	Ce II

$\mathbf{B_{29}}$	=	$\frac{3}{4}\,\mathbf{a}_1 - x_3\,\mathbf{a}_2 + \frac{3}{4}\,\mathbf{a}_3$	=	$\frac{3}{4}a\,\hat{\mathbf{x}} - ax_3\,\hat{\mathbf{y}} + \frac{3}{4}a\,\hat{\mathbf{z}}$	(12e)	Ce II
$\mathbf{B_{30}}$	=	$\frac{3}{4}\,\mathbf{a}_1 + \left(x_3 + \frac{1}{2}\right)\,\mathbf{a}_2 + \frac{3}{4}\,\mathbf{a}_3$	=	$\frac{3}{4}a\,\hat{\mathbf{x}} + a\left(x_3 + \frac{1}{2}\right)\,\hat{\mathbf{y}} + \frac{3}{4}a\,\hat{\mathbf{z}}$	(12e)	Ce II
$\mathbf{B_{31}}$	=	$\frac{3}{4}\,\mathbf{a}_1 + \frac{3}{4}\,\mathbf{a}_2 - x_3\,\mathbf{a}_3$	=	$\frac{3}{4}a\,\hat{\mathbf{x}} + \frac{3}{4}a\,\hat{\mathbf{y}} - ax_3\,\hat{\mathbf{z}}$	(12e)	Ce II
$\mathbf{B_{32}}$	=	$\frac{3}{4}\,\mathbf{a}_1 + \frac{3}{4}\,\mathbf{a}_2 + \left(x_3 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$\frac{3}{4}a\,\hat{\mathbf{x}} + \frac{3}{4}a\,\hat{\mathbf{y}} + a\left(x_3 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(12e)	Ce II
$\mathbf{B_{33}}$	=	$x_4\,\mathbf{a}_1 + x_4\,\mathbf{a}_2 + x_4\,\mathbf{a}_3$	=	$ax_4\,\hat{\mathbf{x}} + ax_4\,\hat{\mathbf{y}} + ax_4\,\hat{\mathbf{z}}$	(16f)	O I
$\mathbf{B_{34}}$	=	$-\left(x_4 - \frac{1}{2}\right)\,\mathbf{a}_1 - \left(x_4 - \frac{1}{2}\right)\,\mathbf{a}_2 + x_4\,\mathbf{a}_3$	=	$-a\left(x_4 - \frac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(x_4 - \frac{1}{2}\right)\,\hat{\mathbf{y}} + ax_4\,\hat{\mathbf{z}}$	(16f)	O I
$\mathbf{B_{35}}$	=	$-\left(x_4 - \frac{1}{2}\right)\,\mathbf{a}_1 + x_4\,\mathbf{a}_2 - \left(x_4 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(x_4 - \frac{1}{2}\right)\,\hat{\mathbf{x}} + ax_4\,\hat{\mathbf{y}} - a\left(x_4 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16f)	O I
$\mathbf{B_{36}}$	=	$x_4\,\mathbf{a}_1 - \left(x_4 - \frac{1}{2}\right)\,\mathbf{a}_2 - \left(x_4 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$ax_4\,\hat{\mathbf{x}} - a\left(x_4 - \frac{1}{2}\right)\,\hat{\mathbf{y}} - a\left(x_4 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16f)	O I
$\mathbf{B_{37}}$	=	$x_4\,\mathbf{a}_1 + x_4\,\mathbf{a}_2 - \left(x_4 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$ax_4\,\hat{\mathbf{x}} + ax_4\,\hat{\mathbf{y}} - a\left(x_4 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16f)	O I
$\mathbf{B_{38}}$	=	$-\left(x_4 - \frac{1}{2}\right)\,\mathbf{a}_1 - \left(x_4 - \frac{1}{2}\right)\,\mathbf{a}_2 - \left(x_4 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(x_4 - \frac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(x_4 - \frac{1}{2}\right)\,\hat{\mathbf{y}} - a\left(x_4 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16f)	O I
$\mathbf{B_{39}}$	=	$x_4\,\mathbf{a}_1 - \left(x_4 - \frac{1}{2}\right)\,\mathbf{a}_2 + x_4\,\mathbf{a}_3$	=	$ax_4\,\hat{\mathbf{x}} - a\left(x_4 - \frac{1}{2}\right)\,\hat{\mathbf{y}} + ax_4\,\hat{\mathbf{z}}$	(16f)	O I
$\mathbf{B_{40}}$	=	$-\left(x_4 - \frac{1}{2}\right)\,\mathbf{a}_1 + x_4\,\mathbf{a}_2 + x_4\,\mathbf{a}_3$	=	$-a\left(x_4 - \frac{1}{2}\right)\,\hat{\mathbf{x}} + ax_4\,\hat{\mathbf{y}} + ax_4\,\hat{\mathbf{z}}$	(16f)	O I
$\mathbf{B_{41}}$	=	$-x_4\,\mathbf{a}_1 - x_4\,\mathbf{a}_2 - x_4\,\mathbf{a}_3$	=	$-ax_4\,\hat{\mathbf{x}} - ax_4\,\hat{\mathbf{y}} - ax_4\,\hat{\mathbf{z}}$	(16f)	O I
$\mathbf{B_{42}}$	=	$\left(x_4 + \frac{1}{2}\right)\,\mathbf{a}_1 + \left(x_4 + \frac{1}{2}\right)\,\mathbf{a}_2 - x_4\,\mathbf{a}_3$	=	$a\left(x_4 + \frac{1}{2}\right)\,\hat{\mathbf{x}} + a\left(x_4 + \frac{1}{2}\right)\,\hat{\mathbf{y}} - ax_4\,\hat{\mathbf{z}}$	(16f)	O I
$\mathbf{B_{43}}$	=	$\left(x_4 + \frac{1}{2}\right)\,\mathbf{a}_1 - x_4\,\mathbf{a}_2 + \left(x_4 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(x_4 + \frac{1}{2}\right)\,\hat{\mathbf{x}} - ax_4\,\hat{\mathbf{y}} + a\left(x_4 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16f)	O I
$\mathbf{B_{44}}$	=	$-x_4\,\mathbf{a}_1 + \left(x_4 + \frac{1}{2}\right)\,\mathbf{a}_2 + \left(x_4 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ax_4\,\hat{\mathbf{x}} + a\left(x_4 + \frac{1}{2}\right)\,\hat{\mathbf{y}} + a\left(x_4 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16f)	O I
$\mathbf{B_{45}}$	=	$-x_4\,\mathbf{a}_1 - x_4\,\mathbf{a}_2 + \left(x_4 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ax_4\,\hat{\mathbf{x}} - ax_4\,\hat{\mathbf{y}} + a\left(x_4 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16f)	O I
$\mathbf{B_{46}}$	=	$\left(x_4 + \frac{1}{2}\right)\,\mathbf{a}_1 + \left(x_4 + \frac{1}{2}\right)\,\mathbf{a}_2 + \left(x_4 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(x_4 + \frac{1}{2}\right)\,\hat{\mathbf{x}} + a\left(x_4 + \frac{1}{2}\right)\,\hat{\mathbf{y}} + a\left(x_4 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16f)	O I
$\mathbf{B_{47}}$	=	$-x_4\,\mathbf{a}_1 + \left(x_4 + \frac{1}{2}\right)\,\mathbf{a}_2 - x_4\,\mathbf{a}_3$	=	$-ax_4\,\hat{\mathbf{x}} + a\left(x_4 + \frac{1}{2}\right)\,\hat{\mathbf{y}} - ax_4\,\hat{\mathbf{z}}$	(16f)	O I
$\mathbf{B_{48}}$	=	$\left(x_4 + \frac{1}{2}\right)\,\mathbf{a}_1 - x_4\,\mathbf{a}_2 - x_4\,\mathbf{a}_3$	=	$a\left(x_4 + \frac{1}{2}\right)\,\hat{\mathbf{x}} - ax_4\,\hat{\mathbf{y}} - ax_4\,\hat{\mathbf{z}}$	(16f)	O I
$\mathbf{B_{49}}$	=	$x_5\,\mathbf{a}_1 + y_5\,\mathbf{a}_2 + z_5\,\mathbf{a}_3$	=	$ax_5\,\hat{\mathbf{x}} + ay_5\,\hat{\mathbf{y}} + az_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{50}}$	=	$-\left(x_5 - \frac{1}{2}\right)\,\mathbf{a}_1 - \left(y_5 - \frac{1}{2}\right)\,\mathbf{a}_2 + z_5\,\mathbf{a}_3$	=	$-a\left(x_5 - \frac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(y_5 - \frac{1}{2}\right)\,\hat{\mathbf{y}} + az_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{51}}$	=	$-\left(x_5 - \frac{1}{2}\right)\,\mathbf{a}_1 + y_5\,\mathbf{a}_2 - \left(z_5 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(x_5 - \frac{1}{2}\right)\,\hat{\mathbf{x}} + ay_5\,\hat{\mathbf{y}} - a\left(z_5 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{52}}$	=	$x_5\,\mathbf{a}_1 - \left(y_5 - \frac{1}{2}\right)\,\mathbf{a}_2 - \left(z_5 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$ax_5\,\hat{\mathbf{x}} - a\left(y_5 - \frac{1}{2}\right)\,\hat{\mathbf{y}} - a\left(z_5 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{53}}$	=	$z_5\,\mathbf{a}_1 + x_5\,\mathbf{a}_2 + y_5\,\mathbf{a}_3$	=	$az_5\,\hat{\mathbf{x}} + ax_5\,\hat{\mathbf{y}} + ay_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{54}}$	=	$z_5\,\mathbf{a}_1 - \left(x_5 - \frac{1}{2}\right)\,\mathbf{a}_2 - \left(y_5 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$az_5\,\hat{\mathbf{x}} - a\left(x_5 - \frac{1}{2}\right)\,\hat{\mathbf{y}} - a\left(y_5 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{55}}$	=	$-\left(z_5 - \frac{1}{2}\right)\,\mathbf{a}_1 - \left(x_5 - \frac{1}{2}\right)\,\mathbf{a}_2 + y_5\,\mathbf{a}_3$	=	$-a\left(z_5 - \frac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(x_5 - \frac{1}{2}\right)\,\hat{\mathbf{y}} + ay_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{56}}$	=	$-\left(z_5 - \frac{1}{2}\right)\,\mathbf{a}_1 + x_5\,\mathbf{a}_2 - \left(y_5 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(z_5 - \frac{1}{2}\right)\,\hat{\mathbf{x}} + ax_5\,\hat{\mathbf{y}} - a\left(y_5 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{57}}$	=	$y_5\,\mathbf{a}_1 + z_5\,\mathbf{a}_2 + x_5\,\mathbf{a}_3$	=	$ay_5\,\hat{\mathbf{x}} + az_5\,\hat{\mathbf{y}} + ax_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{58}}$	=	$-\left(y_5 - \frac{1}{2}\right)\,\mathbf{a}_1 + z_5\,\mathbf{a}_2 - \left(x_5 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(y_5 - \frac{1}{2}\right)\,\hat{\mathbf{x}} + az_5\,\hat{\mathbf{y}} - a\left(x_5 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{59}}$	=	$y_5\,\mathbf{a}_1 - \left(z_5 - \frac{1}{2}\right)\,\mathbf{a}_2 - \left(x_5 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$ay_5\,\hat{\mathbf{x}} - a\left(z_5 - \frac{1}{2}\right)\,\hat{\mathbf{y}} - a\left(x_5 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{60}}$	=	$-\left(y_5 - \frac{1}{2}\right)\,\mathbf{a}_1 - \left(z_5 - \frac{1}{2}\right)\,\mathbf{a}_2 + x_5\,\mathbf{a}_3$	=	$-a\left(y_5 - \frac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(z_5 - \frac{1}{2}\right)\,\hat{\mathbf{y}} + ax_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{61}}$	=	$y_5\,\mathbf{a}_1 + x_5\,\mathbf{a}_2 - \left(z_5 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$ay_5\,\hat{\mathbf{x}} + ax_5\,\hat{\mathbf{y}} - a\left(z_5 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II

$\mathbf{B_{62}}$	=	$-\left(y_5-\frac{1}{2}\right)\,\mathbf{a}_1-\left(x_5-\frac{1}{2}\right)\,\mathbf{a}_2-\left(z_5-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(y_5-\frac{1}{2}\right)\,\hat{\mathbf{x}}-a\left(x_5-\frac{1}{2}\right)\,\hat{\mathbf{y}}-a\left(z_5-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{63}}$	=	$y_5\,\mathbf{a}_1-\left(x_5-\frac{1}{2}\right)\,\mathbf{a}_2+z_5\,\mathbf{a}_3$	=	$ay_5\,\hat{\mathbf{x}}-a\left(x_5-\frac{1}{2}\right)\,\hat{\mathbf{y}}+az_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{64}}$	=	$-\left(y_5-\frac{1}{2}\right)\,\mathbf{a}_1+x_5\,\mathbf{a}_2+z_5\,\mathbf{a}_3$	=	$-a\left(y_5-\frac{1}{2}\right)\,\hat{\mathbf{x}}+ax_5\,\hat{\mathbf{y}}+az_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{65}}$	=	$x_5\,\mathbf{a}_1+z_5\,\mathbf{a}_2-\left(y_5-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$ax_5\,\hat{\mathbf{x}}+az_5\,\hat{\mathbf{y}}-a\left(y_5-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{66}}$	=	$-\left(x_5-\frac{1}{2}\right)\,\mathbf{a}_1+z_5\,\mathbf{a}_2+y_5\,\mathbf{a}_3$	=	$-a\left(x_5-\frac{1}{2}\right)\,\hat{\mathbf{x}}+az_5\,\hat{\mathbf{y}}+ay_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{67}}$	=	$-\left(x_5-\frac{1}{2}\right)\,\mathbf{a}_1-\left(z_5-\frac{1}{2}\right)\,\mathbf{a}_2-\left(y_5-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(x_5-\frac{1}{2}\right)\,\hat{\mathbf{x}}-a\left(z_5-\frac{1}{2}\right)\,\hat{\mathbf{y}}-a\left(y_5-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{68}}$	=	$x_5\,\mathbf{a}_1-\left(z_5-\frac{1}{2}\right)\,\mathbf{a}_2+y_5\,\mathbf{a}_3$	=	$ax_5\,\hat{\mathbf{x}}-a\left(z_5-\frac{1}{2}\right)\,\hat{\mathbf{y}}+ay_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{69}}$	=	$z_5\,\mathbf{a}_1+y_5\,\mathbf{a}_2-\left(x_5-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$az_5\,\hat{\mathbf{x}}+ay_5\,\hat{\mathbf{y}}-a\left(x_5-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{70}}$	=	$z_5\,\mathbf{a}_1-\left(y_5-\frac{1}{2}\right)\,\mathbf{a}_2+x_5\,\mathbf{a}_3$	=	$az_5\,\hat{\mathbf{x}}-a\left(y_5-\frac{1}{2}\right)\,\hat{\mathbf{y}}+ax_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{71}}$	=	$-\left(z_5-\frac{1}{2}\right)\,\mathbf{a}_1+y_5\,\mathbf{a}_2+x_5\,\mathbf{a}_3$	=	$-a\left(z_5-\frac{1}{2}\right)\,\hat{\mathbf{x}}+ay_5\,\hat{\mathbf{y}}+ax_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{72}}$	=	$-\left(z_5-\frac{1}{2}\right)\,\mathbf{a}_1-\left(y_5-\frac{1}{2}\right)\,\mathbf{a}_2-\left(x_5-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(z_5-\frac{1}{2}\right)\,\hat{\mathbf{x}}-a\left(y_5-\frac{1}{2}\right)\,\hat{\mathbf{y}}-a\left(x_5-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{73}}$	=	$-x_5\,\mathbf{a}_1-y_5\,\mathbf{a}_2-z_5\,\mathbf{a}_3$	=	$-ax_5\,\hat{\mathbf{x}}-ay_5\,\hat{\mathbf{y}}-az_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{74}}$	=	$\left(x_5+\frac{1}{2}\right)\,\mathbf{a}_1+\left(y_5+\frac{1}{2}\right)\,\mathbf{a}_2-z_5\,\mathbf{a}_3$	=	$a\left(x_5+\frac{1}{2}\right)\,\hat{\mathbf{x}}+a\left(y_5+\frac{1}{2}\right)\,\hat{\mathbf{y}}-az_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{75}}$	=	$\left(x_5+\frac{1}{2}\right)\,\mathbf{a}_1-y_5\,\mathbf{a}_2+\left(z_5+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(x_5+\frac{1}{2}\right)\,\hat{\mathbf{x}}-ay_5\,\hat{\mathbf{y}}+a\left(z_5+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{76}}$	=	$-x_5\,\mathbf{a}_1+\left(y_5+\frac{1}{2}\right)\,\mathbf{a}_2+\left(z_5+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ax_5\,\hat{\mathbf{x}}+a\left(y_5+\frac{1}{2}\right)\,\hat{\mathbf{y}}+a\left(z_5+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{77}}$	=	$-z_5\,\mathbf{a}_1-x_5\,\mathbf{a}_2-y_5\,\mathbf{a}_3$	=	$-az_5\,\hat{\mathbf{x}}-ax_5\,\hat{\mathbf{y}}-ay_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{78}}$	=	$-z_5\,\mathbf{a}_1+\left(x_5+\frac{1}{2}\right)\,\mathbf{a}_2+\left(y_5+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-az_5\,\hat{\mathbf{x}}+a\left(x_5+\frac{1}{2}\right)\,\hat{\mathbf{y}}+a\left(y_5+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{79}}$	=	$\left(z_5+\frac{1}{2}\right)\,\mathbf{a}_1+\left(x_5+\frac{1}{2}\right)\,\mathbf{a}_2-y_5\,\mathbf{a}_3$	=	$a\left(z_5+\frac{1}{2}\right)\,\hat{\mathbf{x}}+a\left(x_5+\frac{1}{2}\right)\,\hat{\mathbf{y}}-ay_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{80}}$	=	$\left(z_5+\frac{1}{2}\right)\,\mathbf{a}_1-x_5\,\mathbf{a}_2+\left(y_5+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(z_5+\frac{1}{2}\right)\,\hat{\mathbf{x}}-ax_5\,\hat{\mathbf{y}}+a\left(y_5+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{81}}$	=	$-y_5\,\mathbf{a}_1-z_5\,\mathbf{a}_2-x_5\,\mathbf{a}_3$	=	$-ay_5\,\hat{\mathbf{x}}-az_5\,\hat{\mathbf{y}}-ax_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{82}}$	=	$\left(y_5+\frac{1}{2}\right)\,\mathbf{a}_1-z_5\,\mathbf{a}_2+\left(x_5+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(y_5+\frac{1}{2}\right)\,\hat{\mathbf{x}}-az_5\,\hat{\mathbf{y}}+a\left(x_5+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{83}}$	=	$-y_5\,\mathbf{a}_1+\left(z_5+\frac{1}{2}\right)\,\mathbf{a}_2+\left(x_5+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ay_5\,\hat{\mathbf{x}}+a\left(z_5+\frac{1}{2}\right)\,\hat{\mathbf{y}}+a\left(x_5+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{84}}$	=	$\left(y_5+\frac{1}{2}\right)\,\mathbf{a}_1+\left(z_5+\frac{1}{2}\right)\,\mathbf{a}_2-x_5\,\mathbf{a}_3$	=	$a\left(y_5+\frac{1}{2}\right)\,\hat{\mathbf{x}}+a\left(z_5+\frac{1}{2}\right)\,\hat{\mathbf{y}}-ax_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{85}}$	=	$-y_5\,\mathbf{a}_1-x_5\,\mathbf{a}_2+\left(z_5+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ay_5\,\hat{\mathbf{x}}-ax_5\,\hat{\mathbf{y}}+a\left(z_5+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{86}}$	=	$\left(y_5+\frac{1}{2}\right)\,\mathbf{a}_1+\left(x_5+\frac{1}{2}\right)\,\mathbf{a}_2+\left(z_5+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(y_5+\frac{1}{2}\right)\,\hat{\mathbf{x}}+a\left(x_5+\frac{1}{2}\right)\,\hat{\mathbf{y}}+a\left(z_5+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{87}}$	=	$-y_5\,\mathbf{a}_1+\left(x_5+\frac{1}{2}\right)\,\mathbf{a}_2-z_5\,\mathbf{a}_3$	=	$-ay_5\,\hat{\mathbf{x}}+a\left(x_5+\frac{1}{2}\right)\,\hat{\mathbf{y}}-az_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{88}}$	=	$\left(y_5+\frac{1}{2}\right)\,\mathbf{a}_1-x_5\,\mathbf{a}_2-z_5\,\mathbf{a}_3$	=	$a\left(y_5+\frac{1}{2}\right)\,\hat{\mathbf{x}}-ax_5\,\hat{\mathbf{y}}-az_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{89}}$	=	$-x_5\,\mathbf{a}_1-z_5\,\mathbf{a}_2+\left(y_5+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ax_5\,\hat{\mathbf{x}}-az_5\,\hat{\mathbf{y}}+a\left(y_5+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{90}}$	=	$\left(x_5+\frac{1}{2}\right)\,\mathbf{a}_1-z_5\,\mathbf{a}_2-y_5\,\mathbf{a}_3$	=	$a\left(x_5+\frac{1}{2}\right)\,\hat{\mathbf{x}}-az_5\,\hat{\mathbf{y}}-ay_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{91}}$	=	$\left(x_5+\frac{1}{2}\right)\,\mathbf{a}_1+\left(z_5+\frac{1}{2}\right)\,\mathbf{a}_2+\left(y_5+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(x_5+\frac{1}{2}\right)\,\hat{\mathbf{x}}+a\left(z_5+\frac{1}{2}\right)\,\hat{\mathbf{y}}+a\left(y_5+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{92}}$	=	$-x_5\,\mathbf{a}_1+\left(z_5+\frac{1}{2}\right)\,\mathbf{a}_2-y_5\,\mathbf{a}_3$	=	$-ax_5\,\hat{\mathbf{x}}+a\left(z_5+\frac{1}{2}\right)\,\hat{\mathbf{y}}-ay_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{93}}$	=	$-z_5\,\mathbf{a}_1-y_5\,\mathbf{a}_2+\left(x_5+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-az_5\,\hat{\mathbf{x}}-ay_5\,\hat{\mathbf{y}}+a\left(x_5+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{94}}$	=	$-z_5\,\mathbf{a}_1+\left(y_5+\frac{1}{2}\right)\,\mathbf{a}_2-x_5\,\mathbf{a}_3$	=	$-az_5\,\hat{\mathbf{x}}+a\left(y_5+\frac{1}{2}\right)\,\hat{\mathbf{y}}-ax_5\,\hat{\mathbf{z}}$	(48i)	O II
$\mathbf{B_{95}}$	=	$\left(z_5+\frac{1}{2}\right)\,\mathbf{a}_1-y_5\,\mathbf{a}_2-x_5\,\mathbf{a}_3$	=	$a\left(z_5+\frac{1}{2}\right)\,\hat{\mathbf{x}}-ay_5\,\hat{\mathbf{y}}-ax_5\,\hat{\mathbf{z}}$	(48i)	O II

$$\mathbf{B_{96}} = \left(z_5+\frac{1}{2}\right)\mathbf{a}_1+\left(y_5+\frac{1}{2}\right)\mathbf{a}_2+\left(x_5+\frac{1}{2}\right)\mathbf{a}_3 = a\left(z_5+\frac{1}{2}\right)\hat{\mathbf{x}}+a\left(y_5+\frac{1}{2}\right)\hat{\mathbf{y}}+a\left(x_5+\frac{1}{2}\right)\hat{\mathbf{z}} \quad (48i) \quad \text{O II}$$

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