$Te[OH]_6$ Structure (*Obsolete*): A6B_cF224_228_h_c-001

This structure previously used the label(s) `A6B_cF224_228_h_c`. Calls to these addresses will be redirected here.

Cite this page as:

- H. Eckert, S. Divilov, M. J. Mehl, D. Hicks, A. C. Zettel, M. Esters, X. Campilongo, and S. Curtarolo, *The AFLOW Library of Crystallographic Prototypes: Part 4*, Comput. Mater. Sci. **240**, 112988 (2024), doi: 10.1016/j.commatsci.2024.112988.
- 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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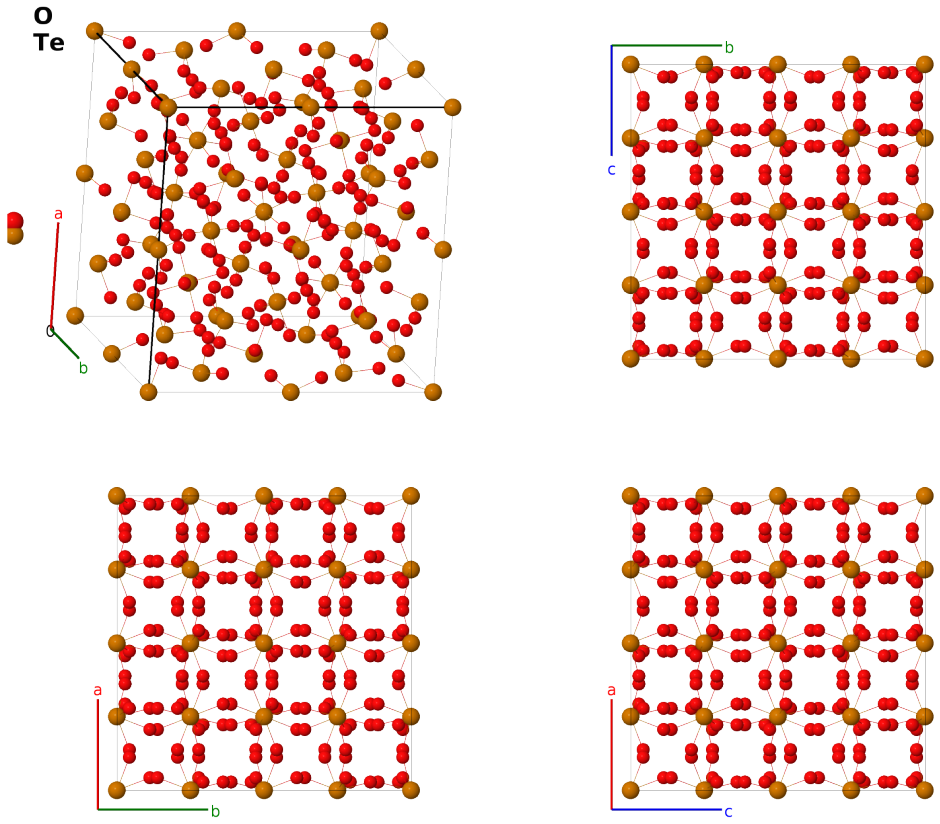
https://aflow.org/prototype-encyclopedia/MSL9

https://aflow.org/prototype-encyclopedia/A6B_cF224_228_h_c-001



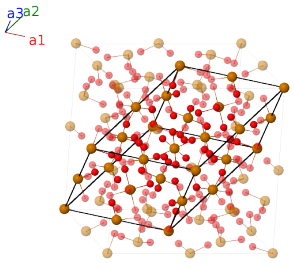
Prototype	H_6O_6Te
AFLOW prototype label	A6B_cF224_228_h_c-001
ICSD	2390
CCDC	1592291
Pearson symbol	cF224
Space group number	228
Space group symbol	$Fd\bar{3}c$

AFLOW prototype command `aflow --proto=A6B_cF224_228_h_c-001 --params=`a, x_2, y_2, z_2

- (Kirckpatrick, 1926) did not find the locations of the hydrogen atoms. When these were located by (Mullica, 1980) it was found that the true structure is in space group $F4_132$ #210.
- There is no ICSD entry for (Kirckpatrick, 1926). The ICSD/CCDC entries provided are from (Falak, 1978).

Face-centered Cubic primitive vectors

$$\begin{aligned}\mathbf{a_1} &= \tfrac{1}{2}a\,\hat{\mathbf{y}} + \tfrac{1}{2}a\,\hat{\mathbf{z}} \\ \mathbf{a_2} &= \tfrac{1}{2}a\,\hat{\mathbf{x}} + \tfrac{1}{2}a\,\hat{\mathbf{z}} \\ \mathbf{a_3} &= \tfrac{1}{2}a\,\hat{\mathbf{x}} + \tfrac{1}{2}a\,\hat{\mathbf{y}}\end{aligned}$$



Basis vectors

		Lattice coordinates		Cartesian coordinates	Wyckoff position	Atom type
$\mathbf{B_1}$	=	0	=	0	(32c)	Te I
$\mathbf{B_2}$	=	$\frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}}$	(32c)	Te I
$\mathbf{B_3}$	=	$\frac{1}{2}\,\mathbf{a}_2$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{z}}$	(32c)	Te I
$\mathbf{B_4}$	=	$\frac{1}{2}\,\mathbf{a}_1$	=	$\frac{1}{4}a\,\hat{\mathbf{y}} + \frac{1}{4}a\,\hat{\mathbf{z}}$	(32c)	Te I
$\mathbf{B_5}$	=	$\frac{1}{2}\,\mathbf{a}_1 + \frac{1}{2}\,\mathbf{a}_2$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}} + \frac{1}{2}a\,\hat{\mathbf{z}}$	(32c)	Te I
$\mathbf{B_6}$	=	$\frac{1}{2}\,\mathbf{a}_1 + \frac{1}{2}\,\mathbf{a}_2 + \frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{2}a\,\hat{\mathbf{y}} + \frac{1}{2}a\,\hat{\mathbf{z}}$	(32c)	Te I
$\mathbf{B_7}$	=	$\frac{1}{2}\,\mathbf{a}_1 + \frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{1}{2}a\,\hat{\mathbf{y}} + \frac{1}{4}a\,\hat{\mathbf{z}}$	(32c)	Te I
$\mathbf{B_8}$	=	$\frac{1}{2}\,\mathbf{a}_2 + \frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}} + \frac{1}{4}a\,\hat{\mathbf{z}}$	(32c)	Te I
$\mathbf{B_9}$	=	$(-x_2 + y_2 + z_2)\,\mathbf{a}_1 + (x_2 - y_2 + z_2)\,\mathbf{a}_2 + (x_2 + y_2 - z_2)\,\mathbf{a}_3$	=	$ax_2\,\hat{\mathbf{x}} + ay_2\,\hat{\mathbf{y}} + az_2\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{10}}$	=	$(x_2 - y_2 + z_2)\,\mathbf{a}_1 + (-x_2 + y_2 + z_2)\,\mathbf{a}_2 - \left(x_2 + y_2 + z_2 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(x_2 - \frac{1}{4}\right)\,\hat{\mathbf{x}} - a\left(y_2 - \frac{1}{4}\right)\,\hat{\mathbf{y}} + az_2\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{11}}$	=	$(x_2 + y_2 - z_2)\,\mathbf{a}_1 - \left(x_2 + y_2 + z_2 - \frac{1}{2}\right)\,\mathbf{a}_2 + (-x_2 + y_2 + z_2)\,\mathbf{a}_3$	=	$-a\left(x_2 - \frac{1}{4}\right)\,\hat{\mathbf{x}} + ay_2\,\hat{\mathbf{y}} - a\left(z_2 - \frac{1}{4}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{12}}$	=	$-\left(x_2 + y_2 + z_2 - \frac{1}{2}\right)\,\mathbf{a}_1 + (x_2 + y_2 - z_2)\,\mathbf{a}_2 + (x_2 - y_2 + z_2)\,\mathbf{a}_3$	=	$ax_2\,\hat{\mathbf{x}} - a\left(y_2 - \frac{1}{4}\right)\,\hat{\mathbf{y}} - a\left(z_2 - \frac{1}{4}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{13}}$	=	$(x_2 + y_2 - z_2)\,\mathbf{a}_1 + (-x_2 + y_2 + z_2)\,\mathbf{a}_2 + (x_2 - y_2 + z_2)\,\mathbf{a}_3$	=	$az_2\,\hat{\mathbf{x}} + ax_2\,\hat{\mathbf{y}} + ay_2\,\hat{\mathbf{z}}$	(192h)	O I

$\mathbf{B_{14}}$	$=$	$-\left(x_2+y_2+z_2-\frac{1}{2}\right)\,\mathbf{a}_1+(x_2-y_2+z_2)\,\mathbf{a}_2+(-x_2+y_2+z_2)\,\mathbf{a}_3$	$=$	$az_2\,\hat{\mathbf{x}}-a\left(x_2-\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(y_2-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{15}}$	$=$	$(-x_2+y_2+z_2)\,\mathbf{a}_1+(x_2+y_2-z_2)\,\mathbf{a}_2-\left(x_2+y_2+z_2-\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(z_2-\frac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(x_2-\frac{1}{4}\right)\,\hat{\mathbf{y}}+ay_2\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{16}}$	$=$	$(x_2-y_2+z_2)\,\mathbf{a}_1-\left(x_2+y_2+z_2-\frac{1}{2}\right)\,\mathbf{a}_2+(x_2+y_2-z_2)\,\mathbf{a}_3$	$=$	$-a\left(z_2-\frac{1}{4}\right)\,\hat{\mathbf{x}}+ax_2\,\hat{\mathbf{y}}-a\left(y_2-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{17}}$	$=$	$(x_2-y_2+z_2)\,\mathbf{a}_1+(x_2+y_2-z_2)\,\mathbf{a}_2+(-x_2+y_2+z_2)\,\mathbf{a}_3$	$=$	$ay_2\,\hat{\mathbf{x}}+az_2\,\hat{\mathbf{y}}+ax_2\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{18}}$	$=$	$(-x_2+y_2+z_2)\,\mathbf{a}_1-\left(x_2+y_2+z_2-\frac{1}{2}\right)\,\mathbf{a}_2+(x_2-y_2+z_2)\,\mathbf{a}_3$	$=$	$-a\left(y_2-\frac{1}{4}\right)\,\hat{\mathbf{x}}+az_2\,\hat{\mathbf{y}}-a\left(x_2-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{19}}$	$=$	$-\left(x_2+y_2+z_2-\frac{1}{2}\right)\,\mathbf{a}_1+(-x_2+y_2+z_2)\,\mathbf{a}_2+(x_2+y_2-z_2)\,\mathbf{a}_3$	$=$	$ay_2\,\hat{\mathbf{x}}-a\left(z_2-\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(x_2-\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{20}}$	$=$	$(x_2+y_2-z_2)\,\mathbf{a}_1+(x_2-y_2+z_2)\,\mathbf{a}_2-\left(x_2+y_2+z_2-\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(y_2-\frac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(z_2-\frac{1}{4}\right)\,\hat{\mathbf{y}}+ax_2\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{21}}$	$=$	$\left(x_2-y_2-z_2+\frac{1}{2}\right)\,\mathbf{a}_1-\left(x_2-y_2+z_2-\frac{1}{2}\right)\,\mathbf{a}_2+(x_2+y_2+z_2)\,\mathbf{a}_3$	$=$	$a\left(y_2+\frac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(x_2+\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(z_2-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{22}}$	$=$	$-\left(x_2-y_2+z_2-\frac{1}{2}\right)\,\mathbf{a}_1+\left(x_2-y_2-z_2+\frac{1}{2}\right)\,\mathbf{a}_2-\left(x_2+y_2-z_2-\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(y_2-\frac{1}{2}\right)\,\hat{\mathbf{x}}-a\left(x_2-\frac{1}{2}\right)\,\hat{\mathbf{y}}-a\left(z_2-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{23}}$	$=$	$-\left(x_2+y_2-z_2-\frac{1}{2}\right)\,\mathbf{a}_1+(x_2+y_2+z_2)\,\mathbf{a}_2-\left(x_2-y_2+z_2-\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$a\left(y_2+\frac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(x_2-\frac{1}{2}\right)\,\hat{\mathbf{y}}+a\left(z_2+\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{24}}$	$=$	$(x_2+y_2+z_2)\,\mathbf{a}_1-\left(x_2+y_2-z_2-\frac{1}{2}\right)\,\mathbf{a}_2+\left(x_2-y_2-z_2+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(y_2-\frac{1}{2}\right)\,\hat{\mathbf{x}}+a\left(x_2+\frac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(z_2+\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{25}}$	$=$	$-\left(x_2+y_2-z_2-\frac{1}{2}\right)\,\mathbf{a}_1+\left(x_2-y_2-z_2+\frac{1}{2}\right)\,\mathbf{a}_2+(x_2+y_2+z_2)\,\mathbf{a}_3$	$=$	$a\left(x_2+\frac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(z_2+\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(y_2-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{26}}$	$=$	$(x_2+y_2+z_2)\,\mathbf{a}_1-\left(x_2-y_2+z_2-\frac{1}{2}\right)\,\mathbf{a}_2-\left(x_2+y_2-z_2-\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_2-\frac{1}{2}\right)\,\hat{\mathbf{x}}+a\left(z_2+\frac{1}{4}\right)\,\hat{\mathbf{y}}+a\left(y_2+\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{27}}$	$=$	$\left(x_2-y_2-z_2+\frac{1}{2}\right)\,\mathbf{a}_1-\left(x_2+y_2-z_2-\frac{1}{2}\right)\,\mathbf{a}_2-\left(x_2-y_2+z_2-\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_2-\frac{1}{2}\right)\,\hat{\mathbf{x}}-a\left(z_2-\frac{1}{2}\right)\,\hat{\mathbf{y}}-a\left(y_2-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{28}}$	$=$	$-\left(x_2-y_2+z_2-\frac{1}{2}\right)\,\mathbf{a}_1+(x_2+y_2+z_2)\,\mathbf{a}_2+\left(x_2-y_2-z_2+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$a\left(x_2+\frac{1}{4}\right)\,\hat{\mathbf{x}}-a\left(z_2-\frac{1}{2}\right)\,\hat{\mathbf{y}}+a\left(y_2+\frac{1}{4}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{29}}$	$=$	$-\left(x_2-y_2+z_2-\frac{1}{2}\right)\,\mathbf{a}_1-\left(x_2+y_2-z_2-\frac{1}{2}\right)\,\mathbf{a}_2+(x_2+y_2+z_2)\,\mathbf{a}_3$	$=$	$a\left(z_2+\frac{1}{4}\right)\,\hat{\mathbf{x}}+a\left(y_2+\frac{1}{4}\right)\,\hat{\mathbf{y}}-a\left(x_2-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(192h)	O I

$\mathbf{B_{30}}$	=	$\left(x_2 - y_2 - z_2 + \frac{1}{2}\right)\,\mathbf{a}_1 + \left(x_2 + y_2 + z_2\right)\,\mathbf{a}_2 - \left(x_2 + y_2 - z_2 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(z_2 + \frac{1}{4}\right)\,\hat{\mathbf{x}} - a\left(y_2 - \frac{1}{2}\right)\,\hat{\mathbf{y}} + a\left(x_2 + \frac{1}{4}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{31}}$	=	$\left(x_2 + y_2 + z_2\right)\,\mathbf{a}_1 + \left(x_2 - y_2 - z_2 + \frac{1}{2}\right)\,\mathbf{a}_2 - \left(x_2 - y_2 + z_2 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(z_2 - \frac{1}{2}\right)\,\hat{\mathbf{x}} + a\left(y_2 + \frac{1}{4}\right)\,\hat{\mathbf{y}} + a\left(x_2 + \frac{1}{4}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{32}}$	=	$-\left(x_2 + y_2 - z_2 - \frac{1}{2}\right)\,\mathbf{a}_1 - \left(x_2 - y_2 + z_2 - \frac{1}{2}\right)\,\mathbf{a}_2 + \left(x_2 - y_2 - z_2 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(z_2 - \frac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(y_2 - \frac{1}{2}\right)\,\hat{\mathbf{y}} - a\left(x_2 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{33}}$	=	$\left(x_2 - y_2 - z_2\right)\,\mathbf{a}_1 - \left(x_2 - y_2 + z_2\right)\,\mathbf{a}_2 - \left(x_2 + y_2 - z_2\right)\,\mathbf{a}_3$	=	$-ax_2\,\hat{\mathbf{x}} - ay_2\,\hat{\mathbf{y}} - az_2\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{34}}$	=	$-\left(x_2 - y_2 + z_2\right)\,\mathbf{a}_1 + \left(x_2 - y_2 - z_2\right)\,\mathbf{a}_2 + \left(x_2 + y_2 + z_2 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(x_2 + \frac{1}{4}\right)\,\hat{\mathbf{x}} + a\left(y_2 + \frac{1}{4}\right)\,\hat{\mathbf{y}} - az_2\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{35}}$	=	$-\left(x_2 + y_2 - z_2\right)\,\mathbf{a}_1 + \left(x_2 + y_2 + z_2 + \frac{1}{2}\right)\,\mathbf{a}_2 + \left(x_2 - y_2 - z_2\right)\,\mathbf{a}_3$	=	$a\left(x_2 + \frac{1}{4}\right)\,\hat{\mathbf{x}} - ay_2\,\hat{\mathbf{y}} + a\left(z_2 + \frac{1}{4}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{36}}$	=	$\left(x_2 + y_2 + z_2 + \frac{1}{2}\right)\,\mathbf{a}_1 - \left(x_2 + y_2 - z_2\right)\,\mathbf{a}_2 - \left(x_2 - y_2 + z_2\right)\,\mathbf{a}_3$	=	$-ax_2\,\hat{\mathbf{x}} + a\left(y_2 + \frac{1}{4}\right)\,\hat{\mathbf{y}} + a\left(z_2 + \frac{1}{4}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{37}}$	=	$-\left(x_2 + y_2 - z_2\right)\,\mathbf{a}_1 + \left(x_2 - y_2 - z_2\right)\,\mathbf{a}_2 - \left(x_2 - y_2 + z_2\right)\,\mathbf{a}_3$	=	$-az_2\,\hat{\mathbf{x}} - ax_2\,\hat{\mathbf{y}} - ay_2\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{38}}$	=	$\left(x_2 + y_2 + z_2 + \frac{1}{2}\right)\,\mathbf{a}_1 - \left(x_2 - y_2 + z_2\right)\,\mathbf{a}_2 + \left(x_2 - y_2 - z_2\right)\,\mathbf{a}_3$	=	$-az_2\,\hat{\mathbf{x}} + a\left(x_2 + \frac{1}{4}\right)\,\hat{\mathbf{y}} + a\left(y_2 + \frac{1}{4}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{39}}$	=	$\left(x_2 - y_2 - z_2\right)\,\mathbf{a}_1 - \left(x_2 + y_2 - z_2\right)\,\mathbf{a}_2 + \left(x_2 + y_2 + z_2 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(z_2 + \frac{1}{4}\right)\,\hat{\mathbf{x}} + a\left(x_2 + \frac{1}{4}\right)\,\hat{\mathbf{y}} - ay_2\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{40}}$	=	$-\left(x_2 - y_2 + z_2\right)\,\mathbf{a}_1 + \left(x_2 + y_2 + z_2 + \frac{1}{2}\right)\,\mathbf{a}_2 - \left(x_2 + y_2 - z_2\right)\,\mathbf{a}_3$	=	$a\left(z_2 + \frac{1}{4}\right)\,\hat{\mathbf{x}} - ax_2\,\hat{\mathbf{y}} + a\left(y_2 + \frac{1}{4}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{41}}$	=	$-\left(x_2 - y_2 + z_2\right)\,\mathbf{a}_1 - \left(x_2 + y_2 - z_2\right)\,\mathbf{a}_2 + \left(x_2 - y_2 - z_2\right)\,\mathbf{a}_3$	=	$-ay_2\,\hat{\mathbf{x}} - az_2\,\hat{\mathbf{y}} - ax_2\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{42}}$	=	$\left(x_2 - y_2 - z_2\right)\,\mathbf{a}_1 + \left(x_2 + y_2 + z_2 + \frac{1}{2}\right)\,\mathbf{a}_2 - \left(x_2 - y_2 + z_2\right)\,\mathbf{a}_3$	=	$a\left(y_2 + \frac{1}{4}\right)\,\hat{\mathbf{x}} - az_2\,\hat{\mathbf{y}} + a\left(x_2 + \frac{1}{4}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{43}}$	=	$\left(x_2 + y_2 + z_2 + \frac{1}{2}\right)\,\mathbf{a}_1 + \left(x_2 - y_2 - z_2\right)\,\mathbf{a}_2 - \left(x_2 + y_2 - z_2\right)\,\mathbf{a}_3$	=	$-ay_2\,\hat{\mathbf{x}} + a\left(z_2 + \frac{1}{4}\right)\,\hat{\mathbf{y}} + a\left(x_2 + \frac{1}{4}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{44}}$	=	$-\left(x_2 + y_2 - z_2\right)\,\mathbf{a}_1 - \left(x_2 - y_2 + z_2\right)\,\mathbf{a}_2 + \left(x_2 + y_2 + z_2 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(y_2 + \frac{1}{4}\right)\,\hat{\mathbf{x}} + a\left(z_2 + \frac{1}{4}\right)\,\hat{\mathbf{y}} - ax_2\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{45}}$	=	$\left(-x_2 + y_2 + z_2 + \frac{1}{2}\right)\,\mathbf{a}_1 + \left(x_2 - y_2 + z_2 + \frac{1}{2}\right)\,\mathbf{a}_2 - \left(x_2 + y_2 + z_2\right)\,\mathbf{a}_3$	=	$-a\left(y_2 - \frac{1}{4}\right)\,\hat{\mathbf{x}} - a\left(x_2 - \frac{1}{4}\right)\,\hat{\mathbf{y}} + a\left(z_2 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(192h)	O I
$\mathbf{B_{46}}$	=	$\left(x_2 - y_2 + z_2 + \frac{1}{2}\right)\,\mathbf{a}_1 + \left(-x_2 + y_2 + z_2 + \frac{1}{2}\right)\,\mathbf{a}_2 + \left(x_2 + y_2 - z_2 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(y_2 + \frac{1}{2}\right)\,\hat{\mathbf{x}} + a\left(x_2 + \frac{1}{2}\right)\,\hat{\mathbf{y}} + a\left(z_2 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(192h)	O I

$$\mathbf{B_{47}} = \left(x_2 + y_2 - z_2 + \tfrac{1}{2}\right)\mathbf{a}_1 - \left(x_2 + y_2 + z_2\right)\mathbf{a}_2 + \left(x_2 - y_2 + z_2 + \tfrac{1}{2}\right)\mathbf{a}_3 = -a\left(y_2 - \tfrac{1}{4}\right)\hat{\mathbf{x}} + a\left(x_2 + \tfrac{1}{2}\right)\hat{\mathbf{y}} - a\left(z_2 - \tfrac{1}{4}\right)\hat{\mathbf{z}} \quad (192h) \quad \text{O I}$$

$$\mathbf{B_{48}} = -\left(x_2 + y_2 + z_2\right)\mathbf{a}_1 + \left(x_2 + y_2 - z_2 + \tfrac{1}{2}\right)\mathbf{a}_2 + \left(-x_2 + y_2 + z_2 + \tfrac{1}{2}\right)\mathbf{a}_3 = a\left(y_2 + \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(x_2 - \tfrac{1}{4}\right)\hat{\mathbf{y}} - a\left(z_2 - \tfrac{1}{4}\right)\hat{\mathbf{z}} \quad (192h) \quad \text{O I}$$

$$\mathbf{B_{49}} = \left(x_2 + y_2 - z_2 + \tfrac{1}{2}\right)\mathbf{a}_1 + \left(-x_2 + y_2 + z_2 + \tfrac{1}{2}\right)\mathbf{a}_2 - \left(x_2 + y_2 + z_2\right)\mathbf{a}_3 = -a\left(x_2 - \tfrac{1}{4}\right)\hat{\mathbf{x}} - a\left(z_2 - \tfrac{1}{4}\right)\hat{\mathbf{y}} + a\left(y_2 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (192h) \quad \text{O I}$$

$$\mathbf{B_{50}} = -\left(x_2 + y_2 + z_2\right)\mathbf{a}_1 + \left(x_2 - y_2 + z_2 + \tfrac{1}{2}\right)\mathbf{a}_2 + \left(x_2 + y_2 - z_2 + \tfrac{1}{2}\right)\mathbf{a}_3 = a\left(x_2 + \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(z_2 - \tfrac{1}{4}\right)\hat{\mathbf{y}} - a\left(y_2 - \tfrac{1}{4}\right)\hat{\mathbf{z}} \quad (192h) \quad \text{O I}$$

$$\mathbf{B_{51}} = \left(-x_2 + y_2 + z_2 + \tfrac{1}{2}\right)\mathbf{a}_1 + \left(x_2 + y_2 - z_2 + \tfrac{1}{2}\right)\mathbf{a}_2 + \left(x_2 - y_2 + z_2 + \tfrac{1}{2}\right)\mathbf{a}_3 = a\left(x_2 + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(z_2 + \tfrac{1}{2}\right)\hat{\mathbf{y}} + a\left(y_2 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (192h) \quad \text{O I}$$

$$\mathbf{B_{52}} = \left(x_2 - y_2 + z_2 + \tfrac{1}{2}\right)\mathbf{a}_1 - \left(x_2 + y_2 + z_2\right)\mathbf{a}_2 + \left(-x_2 + y_2 + z_2 + \tfrac{1}{2}\right)\mathbf{a}_3 = -a\left(x_2 - \tfrac{1}{4}\right)\hat{\mathbf{x}} + a\left(z_2 + \tfrac{1}{2}\right)\hat{\mathbf{y}} - a\left(y_2 - \tfrac{1}{4}\right)\hat{\mathbf{z}} \quad (192h) \quad \text{O I}$$

$$\mathbf{B_{53}} = \left(x_2 - y_2 + z_2 + \tfrac{1}{2}\right)\mathbf{a}_1 + \left(x_2 + y_2 - z_2 + \tfrac{1}{2}\right)\mathbf{a}_2 - \left(x_2 + y_2 + z_2\right)\mathbf{a}_3 = -a\left(z_2 - \tfrac{1}{4}\right)\hat{\mathbf{x}} - a\left(y_2 - \tfrac{1}{4}\right)\hat{\mathbf{y}} + a\left(x_2 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (192h) \quad \text{O I}$$

$$\mathbf{B_{54}} = \left(-x_2 + y_2 + z_2 + \tfrac{1}{2}\right)\mathbf{a}_1 - \left(x_2 + y_2 + z_2\right)\mathbf{a}_2 + \left(x_2 + y_2 - z_2 + \tfrac{1}{2}\right)\mathbf{a}_3 = -a\left(z_2 - \tfrac{1}{4}\right)\hat{\mathbf{x}} + a\left(y_2 + \tfrac{1}{2}\right)\hat{\mathbf{y}} - a\left(x_2 - \tfrac{1}{4}\right)\hat{\mathbf{z}} \quad (192h) \quad \text{O I}$$

$$\mathbf{B_{55}} = -\left(x_2 + y_2 + z_2\right)\mathbf{a}_1 + \left(-x_2 + y_2 + z_2 + \tfrac{1}{2}\right)\mathbf{a}_2 + \left(x_2 - y_2 + z_2 + \tfrac{1}{2}\right)\mathbf{a}_3 = a\left(z_2 + \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(y_2 - \tfrac{1}{4}\right)\hat{\mathbf{y}} - a\left(x_2 - \tfrac{1}{4}\right)\hat{\mathbf{z}} \quad (192h) \quad \text{O I}$$

$$\mathbf{B_{56}} = \left(x_2 + y_2 - z_2 + \tfrac{1}{2}\right)\mathbf{a}_1 + \left(x_2 - y_2 + z_2 + \tfrac{1}{2}\right)\mathbf{a}_2 + \left(-x_2 + y_2 + z_2 + \tfrac{1}{2}\right)\mathbf{a}_3 = a\left(z_2 + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(y_2 + \tfrac{1}{2}\right)\hat{\mathbf{y}} + a\left(x_2 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (192h) \quad \text{O I}$$

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First cited in

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