

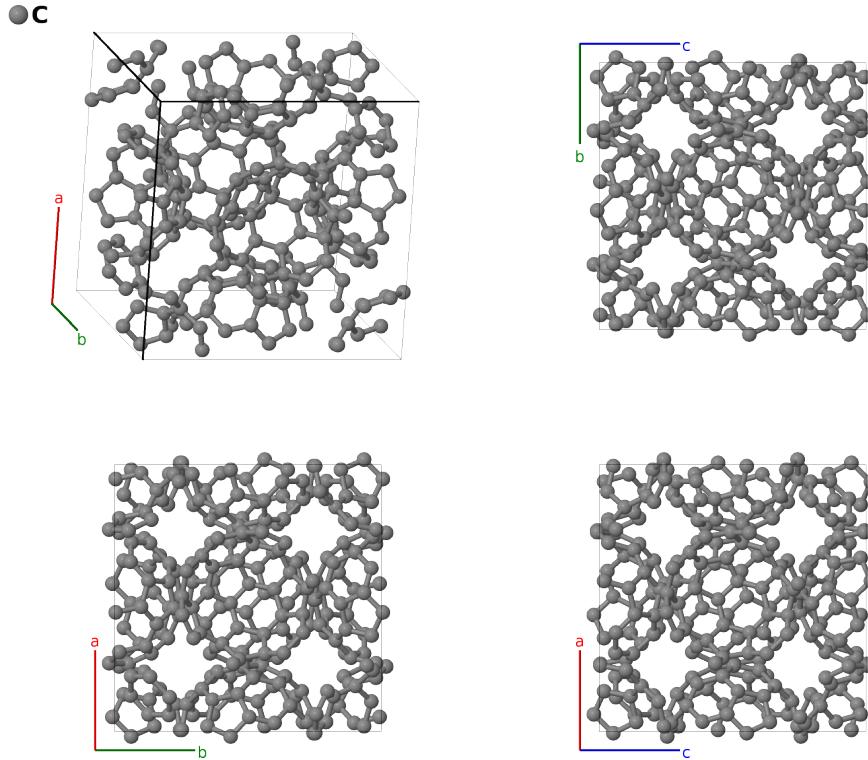
# Simple Cubic C<sub>60</sub> Buckminsterfullerene Structure: A\_cP240\_205\_10d-001

This structure originally had the label A\_cP240\_205\_10d. Calls to that address will be redirected here.

Cite this page as: D. Hicks, M. J. Mehl, E. Gossett, C. Toher, O. Levy, R. M. Hanson, G. Hart, and S. Curtarolo, *The AFLOW Library of Crystallographic Prototypes: Part 2*, Comput. Mater. Sci. **161**, S1 (2019). doi: 10.1016/j.commatsci.2018.10.043

<https://aflow.org/p/3VYE>

[https://aflow.org/p/A\\_cP240\\_205\\_10d-001](https://aflow.org/p/A_cP240_205_10d-001)



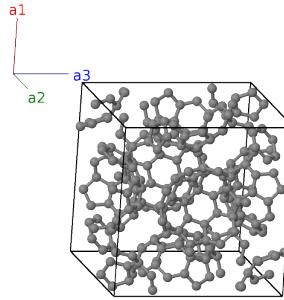
<b>Prototype</b>	C
<b>AFLOW prototype label</b>	A_cP240_205_10d-001
<b>Mineral name</b>	buckminsterfullerene
<b>ICSD</b>	66729
<b>Pearson symbol</b>	cP240
<b>Space group number</b>	205
<b>Space group symbol</b>	$Pa\bar{3}$
<b>AFLOW prototype command</b>	<pre>aflow --proto=A_cP240_205_10d-001 --params=a,x1,y1,z1,x2,y2,z2,x3,y3,z3,x4,y4,z4,x5,y5,z5,x6,y6,z6,x7,y7,z7,x8, y8,z8,x9,y9,z9,x10,y10,z10</pre>

- This is the experimentally determined structure of C<sub>60</sub> buckminsterfullerene (*aka* “buckyballs”) below 249K. Above that temperature the C<sub>60</sub> molecules are orientationally disordered and set on a face-centered cubic lattice. For computational purposes that structure is approximated by the FCC C<sub>60</sub> buckminsterfullerene structure.

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### Simple Cubic primitive vectors

$$\begin{aligned}\mathbf{a}_1 &= a \hat{\mathbf{x}} \\ \mathbf{a}_2 &= a \hat{\mathbf{y}} \\ \mathbf{a}_3 &= a \hat{\mathbf{z}}\end{aligned}$$




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### Basis vectors

	Lattice coordinates	Cartesian coordinates	Wyckoff position	Atom type
$\mathbf{B}_1$	$x_1 \mathbf{a}_1 + y_1 \mathbf{a}_2 + z_1 \mathbf{a}_3$	$ax_1 \hat{\mathbf{x}} + ay_1 \hat{\mathbf{y}} + az_1 \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_2$	$-(x_1 - \frac{1}{2}) \mathbf{a}_1 - y_1 \mathbf{a}_2 + (z_1 + \frac{1}{2}) \mathbf{a}_3$	$-a(x_1 - \frac{1}{2}) \hat{\mathbf{x}} - ay_1 \hat{\mathbf{y}} + a(z_1 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_3$	$-x_1 \mathbf{a}_1 + (y_1 + \frac{1}{2}) \mathbf{a}_2 - (z_1 - \frac{1}{2}) \mathbf{a}_3$	$-ax_1 \hat{\mathbf{x}} + a(y_1 + \frac{1}{2}) \hat{\mathbf{y}} - a(z_1 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_4$	$(x_1 + \frac{1}{2}) \mathbf{a}_1 - (y_1 - \frac{1}{2}) \mathbf{a}_2 - z_1 \mathbf{a}_3$	$a(x_1 + \frac{1}{2}) \hat{\mathbf{x}} - a(y_1 - \frac{1}{2}) \hat{\mathbf{y}} - az_1 \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_5$	$z_1 \mathbf{a}_1 + x_1 \mathbf{a}_2 + y_1 \mathbf{a}_3$	$az_1 \hat{\mathbf{x}} + ax_1 \hat{\mathbf{y}} + ay_1 \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_6$	$(z_1 + \frac{1}{2}) \mathbf{a}_1 - (x_1 - \frac{1}{2}) \mathbf{a}_2 - y_1 \mathbf{a}_3$	$a(z_1 + \frac{1}{2}) \hat{\mathbf{x}} - a(x_1 - \frac{1}{2}) \hat{\mathbf{y}} - ay_1 \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_7$	$-(z_1 - \frac{1}{2}) \mathbf{a}_1 - x_1 \mathbf{a}_2 + (y_1 + \frac{1}{2}) \mathbf{a}_3$	$-a(z_1 - \frac{1}{2}) \hat{\mathbf{x}} - ax_1 \hat{\mathbf{y}} + a(y_1 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_8$	$-z_1 \mathbf{a}_1 + (x_1 + \frac{1}{2}) \mathbf{a}_2 - (y_1 - \frac{1}{2}) \mathbf{a}_3$	$-az_1 \hat{\mathbf{x}} + a(x_1 + \frac{1}{2}) \hat{\mathbf{y}} - a(y_1 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_9$	$y_1 \mathbf{a}_1 + z_1 \mathbf{a}_2 + x_1 \mathbf{a}_3$	$ay_1 \hat{\mathbf{x}} + az_1 \hat{\mathbf{y}} + ax_1 \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_{10}$	$-y_1 \mathbf{a}_1 + (z_1 + \frac{1}{2}) \mathbf{a}_2 - (x_1 - \frac{1}{2}) \mathbf{a}_3$	$-ay_1 \hat{\mathbf{x}} + a(z_1 + \frac{1}{2}) \hat{\mathbf{y}} - a(x_1 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_{11}$	$(y_1 + \frac{1}{2}) \mathbf{a}_1 - (z_1 - \frac{1}{2}) \mathbf{a}_2 - x_1 \mathbf{a}_3$	$a(y_1 + \frac{1}{2}) \hat{\mathbf{x}} - a(z_1 - \frac{1}{2}) \hat{\mathbf{y}} - ax_1 \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_{12}$	$-(y_1 - \frac{1}{2}) \mathbf{a}_1 - z_1 \mathbf{a}_2 + (x_1 + \frac{1}{2}) \mathbf{a}_3$	$-a(y_1 - \frac{1}{2}) \hat{\mathbf{x}} - az_1 \hat{\mathbf{y}} + a(x_1 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_{13}$	$-x_1 \mathbf{a}_1 - y_1 \mathbf{a}_2 - z_1 \mathbf{a}_3$	$-ax_1 \hat{\mathbf{x}} - ay_1 \hat{\mathbf{y}} - az_1 \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_{14}$	$(x_1 + \frac{1}{2}) \mathbf{a}_1 + y_1 \mathbf{a}_2 - (z_1 - \frac{1}{2}) \mathbf{a}_3$	$a(x_1 + \frac{1}{2}) \hat{\mathbf{x}} + ay_1 \hat{\mathbf{y}} - a(z_1 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_{15}$	$x_1 \mathbf{a}_1 - (y_1 - \frac{1}{2}) \mathbf{a}_2 + (z_1 + \frac{1}{2}) \mathbf{a}_3$	$ax_1 \hat{\mathbf{x}} - a(y_1 - \frac{1}{2}) \hat{\mathbf{y}} + a(z_1 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_{16}$	$-(x_1 - \frac{1}{2}) \mathbf{a}_1 + (y_1 + \frac{1}{2}) \mathbf{a}_2 + z_1 \mathbf{a}_3$	$-a(x_1 - \frac{1}{2}) \hat{\mathbf{x}} + a(y_1 + \frac{1}{2}) \hat{\mathbf{y}} + az_1 \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_{17}$	$-z_1 \mathbf{a}_1 - x_1 \mathbf{a}_2 - y_1 \mathbf{a}_3$	$-az_1 \hat{\mathbf{x}} - ax_1 \hat{\mathbf{y}} - ay_1 \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_{18}$	$-(z_1 - \frac{1}{2}) \mathbf{a}_1 + (x_1 + \frac{1}{2}) \mathbf{a}_2 + y_1 \mathbf{a}_3$	$-a(z_1 - \frac{1}{2}) \hat{\mathbf{x}} + a(x_1 + \frac{1}{2}) \hat{\mathbf{y}} + ay_1 \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_{19}$	$(z_1 + \frac{1}{2}) \mathbf{a}_1 + x_1 \mathbf{a}_2 - (y_1 - \frac{1}{2}) \mathbf{a}_3$	$a(z_1 + \frac{1}{2}) \hat{\mathbf{x}} + ax_1 \hat{\mathbf{y}} - a(y_1 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_{20}$	$z_1 \mathbf{a}_1 - (x_1 - \frac{1}{2}) \mathbf{a}_2 + (y_1 + \frac{1}{2}) \mathbf{a}_3$	$az_1 \hat{\mathbf{x}} - a(x_1 - \frac{1}{2}) \hat{\mathbf{y}} + a(y_1 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C I

$\mathbf{B}_{21}$	$-y_1 \mathbf{a}_1 - z_1 \mathbf{a}_2 - x_1 \mathbf{a}_3$	$=$	$-ay_1 \hat{\mathbf{x}} - az_1 \hat{\mathbf{y}} - ax_1 \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_{22}$	$y_1 \mathbf{a}_1 - (z_1 - \frac{1}{2}) \mathbf{a}_2 + (x_1 + \frac{1}{2}) \mathbf{a}_3$	$=$	$ay_1 \hat{\mathbf{x}} - a(z_1 - \frac{1}{2}) \hat{\mathbf{y}} + a(x_1 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_{23}$	$-(y_1 - \frac{1}{2}) \mathbf{a}_1 + (z_1 + \frac{1}{2}) \mathbf{a}_2 + x_1 \mathbf{a}_3$	$=$	$-a(y_1 - \frac{1}{2}) \hat{\mathbf{x}} + a(z_1 + \frac{1}{2}) \hat{\mathbf{y}} + ax_1 \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_{24}$	$(y_1 + \frac{1}{2}) \mathbf{a}_1 + z_1 \mathbf{a}_2 - (x_1 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(y_1 + \frac{1}{2}) \hat{\mathbf{x}} + az_1 \hat{\mathbf{y}} - a(x_1 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C I
$\mathbf{B}_{25}$	$x_2 \mathbf{a}_1 + y_2 \mathbf{a}_2 + z_2 \mathbf{a}_3$	$=$	$ax_2 \hat{\mathbf{x}} + ay_2 \hat{\mathbf{y}} + az_2 \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{26}$	$-(x_2 - \frac{1}{2}) \mathbf{a}_1 - y_2 \mathbf{a}_2 + (z_2 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(x_2 - \frac{1}{2}) \hat{\mathbf{x}} - ay_2 \hat{\mathbf{y}} + a(z_2 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{27}$	$-x_2 \mathbf{a}_1 + (y_2 + \frac{1}{2}) \mathbf{a}_2 - (z_2 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-ax_2 \hat{\mathbf{x}} + a(y_2 + \frac{1}{2}) \hat{\mathbf{y}} - a(z_2 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{28}$	$(x_2 + \frac{1}{2}) \mathbf{a}_1 - (y_2 - \frac{1}{2}) \mathbf{a}_2 - z_2 \mathbf{a}_3$	$=$	$a(x_2 + \frac{1}{2}) \hat{\mathbf{x}} - a(y_2 - \frac{1}{2}) \hat{\mathbf{y}} - az_2 \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{29}$	$z_2 \mathbf{a}_1 + x_2 \mathbf{a}_2 + y_2 \mathbf{a}_3$	$=$	$az_2 \hat{\mathbf{x}} + ax_2 \hat{\mathbf{y}} + ay_2 \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{30}$	$(z_2 + \frac{1}{2}) \mathbf{a}_1 - (x_2 - \frac{1}{2}) \mathbf{a}_2 - y_2 \mathbf{a}_3$	$=$	$a(z_2 + \frac{1}{2}) \hat{\mathbf{x}} - a(x_2 - \frac{1}{2}) \hat{\mathbf{y}} - ay_2 \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{31}$	$-(z_2 - \frac{1}{2}) \mathbf{a}_1 - x_2 \mathbf{a}_2 + (y_2 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(z_2 - \frac{1}{2}) \hat{\mathbf{x}} - ax_2 \hat{\mathbf{y}} + a(y_2 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{32}$	$-z_2 \mathbf{a}_1 + (x_2 + \frac{1}{2}) \mathbf{a}_2 - (y_2 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-az_2 \hat{\mathbf{x}} + a(x_2 + \frac{1}{2}) \hat{\mathbf{y}} - a(y_2 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{33}$	$y_2 \mathbf{a}_1 + z_2 \mathbf{a}_2 + x_2 \mathbf{a}_3$	$=$	$ay_2 \hat{\mathbf{x}} + az_2 \hat{\mathbf{y}} + ax_2 \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{34}$	$-y_2 \mathbf{a}_1 + (z_2 + \frac{1}{2}) \mathbf{a}_2 - (x_2 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-ay_2 \hat{\mathbf{x}} + a(z_2 + \frac{1}{2}) \hat{\mathbf{y}} - a(x_2 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{35}$	$(y_2 + \frac{1}{2}) \mathbf{a}_1 - (z_2 - \frac{1}{2}) \mathbf{a}_2 - x_2 \mathbf{a}_3$	$=$	$a(y_2 + \frac{1}{2}) \hat{\mathbf{x}} - a(z_2 - \frac{1}{2}) \hat{\mathbf{y}} - ax_2 \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{36}$	$-(y_2 - \frac{1}{2}) \mathbf{a}_1 - z_2 \mathbf{a}_2 + (x_2 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(y_2 - \frac{1}{2}) \hat{\mathbf{x}} - az_2 \hat{\mathbf{y}} + a(x_2 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{37}$	$-x_2 \mathbf{a}_1 - y_2 \mathbf{a}_2 - z_2 \mathbf{a}_3$	$=$	$-ax_2 \hat{\mathbf{x}} - ay_2 \hat{\mathbf{y}} - az_2 \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{38}$	$(x_2 + \frac{1}{2}) \mathbf{a}_1 + y_2 \mathbf{a}_2 - (z_2 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(x_2 + \frac{1}{2}) \hat{\mathbf{x}} + ay_2 \hat{\mathbf{y}} - a(z_2 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{39}$	$x_2 \mathbf{a}_1 - (y_2 - \frac{1}{2}) \mathbf{a}_2 + (z_2 + \frac{1}{2}) \mathbf{a}_3$	$=$	$ax_2 \hat{\mathbf{x}} - a(y_2 - \frac{1}{2}) \hat{\mathbf{y}} + a(z_2 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{40}$	$-(x_2 - \frac{1}{2}) \mathbf{a}_1 + (y_2 + \frac{1}{2}) \mathbf{a}_2 + z_2 \mathbf{a}_3$	$=$	$-a(x_2 - \frac{1}{2}) \hat{\mathbf{x}} + a(y_2 + \frac{1}{2}) \hat{\mathbf{y}} + az_2 \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{41}$	$-z_2 \mathbf{a}_1 - x_2 \mathbf{a}_2 - y_2 \mathbf{a}_3$	$=$	$-az_2 \hat{\mathbf{x}} - ax_2 \hat{\mathbf{y}} - ay_2 \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{42}$	$-(z_2 - \frac{1}{2}) \mathbf{a}_1 + (x_2 + \frac{1}{2}) \mathbf{a}_2 + y_2 \mathbf{a}_3$	$=$	$-a(z_2 - \frac{1}{2}) \hat{\mathbf{x}} + a(x_2 + \frac{1}{2}) \hat{\mathbf{y}} + ay_2 \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{43}$	$(z_2 + \frac{1}{2}) \mathbf{a}_1 + x_2 \mathbf{a}_2 - (y_2 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(z_2 + \frac{1}{2}) \hat{\mathbf{x}} + ax_2 \hat{\mathbf{y}} - a(y_2 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{44}$	$z_2 \mathbf{a}_1 - (x_2 - \frac{1}{2}) \mathbf{a}_2 + (y_2 + \frac{1}{2}) \mathbf{a}_3$	$=$	$az_2 \hat{\mathbf{x}} - a(x_2 - \frac{1}{2}) \hat{\mathbf{y}} + a(y_2 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{45}$	$-y_2 \mathbf{a}_1 - z_2 \mathbf{a}_2 - x_2 \mathbf{a}_3$	$=$	$-ay_2 \hat{\mathbf{x}} - az_2 \hat{\mathbf{y}} - ax_2 \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{46}$	$y_2 \mathbf{a}_1 - (z_2 - \frac{1}{2}) \mathbf{a}_2 + (x_2 + \frac{1}{2}) \mathbf{a}_3$	$=$	$ay_2 \hat{\mathbf{x}} - a(z_2 - \frac{1}{2}) \hat{\mathbf{y}} + a(x_2 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{47}$	$-(y_2 - \frac{1}{2}) \mathbf{a}_1 + (z_2 + \frac{1}{2}) \mathbf{a}_2 + x_2 \mathbf{a}_3$	$=$	$-a(y_2 - \frac{1}{2}) \hat{\mathbf{x}} + a(z_2 + \frac{1}{2}) \hat{\mathbf{y}} + ax_2 \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{48}$	$(y_2 + \frac{1}{2}) \mathbf{a}_1 + z_2 \mathbf{a}_2 - (x_2 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(y_2 + \frac{1}{2}) \hat{\mathbf{x}} + az_2 \hat{\mathbf{y}} - a(x_2 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C II
$\mathbf{B}_{49}$	$x_3 \mathbf{a}_1 + y_3 \mathbf{a}_2 + z_3 \mathbf{a}_3$	$=$	$ax_3 \hat{\mathbf{x}} + ay_3 \hat{\mathbf{y}} + az_3 \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{50}$	$-(x_3 - \frac{1}{2}) \mathbf{a}_1 - y_3 \mathbf{a}_2 + (z_3 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(x_3 - \frac{1}{2}) \hat{\mathbf{x}} - ay_3 \hat{\mathbf{y}} + a(z_3 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{51}$	$-x_3 \mathbf{a}_1 + (y_3 + \frac{1}{2}) \mathbf{a}_2 - (z_3 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-ax_3 \hat{\mathbf{x}} + a(y_3 + \frac{1}{2}) \hat{\mathbf{y}} - a(z_3 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{52}$	$(x_3 + \frac{1}{2}) \mathbf{a}_1 - (y_3 - \frac{1}{2}) \mathbf{a}_2 - z_3 \mathbf{a}_3$	$=$	$a(x_3 + \frac{1}{2}) \hat{\mathbf{x}} - a(y_3 - \frac{1}{2}) \hat{\mathbf{y}} - az_3 \hat{\mathbf{z}}$	(24d)	C III

$\mathbf{B}_{53}$	$=$	$z_3 \mathbf{a}_1 + x_3 \mathbf{a}_2 + y_3 \mathbf{a}_3$	$=$	$az_3 \hat{\mathbf{x}} + ax_3 \hat{\mathbf{y}} + ay_3 \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{54}$	$=$	$(z_3 + \frac{1}{2}) \mathbf{a}_1 - (x_3 - \frac{1}{2}) \mathbf{a}_2 - y_3 \mathbf{a}_3$	$=$	$a(z_3 + \frac{1}{2}) \hat{\mathbf{x}} - a(x_3 - \frac{1}{2}) \hat{\mathbf{y}} - ay_3 \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{55}$	$=$	$-(z_3 - \frac{1}{2}) \mathbf{a}_1 - x_3 \mathbf{a}_2 + (y_3 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(z_3 - \frac{1}{2}) \hat{\mathbf{x}} - ax_3 \hat{\mathbf{y}} + a(y_3 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{56}$	$=$	$-z_3 \mathbf{a}_1 + (x_3 + \frac{1}{2}) \mathbf{a}_2 - (y_3 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-az_3 \hat{\mathbf{x}} + a(x_3 + \frac{1}{2}) \hat{\mathbf{y}} - a(y_3 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{57}$	$=$	$y_3 \mathbf{a}_1 + z_3 \mathbf{a}_2 + x_3 \mathbf{a}_3$	$=$	$ay_3 \hat{\mathbf{x}} + az_3 \hat{\mathbf{y}} + ax_3 \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{58}$	$=$	$-y_3 \mathbf{a}_1 + (z_3 + \frac{1}{2}) \mathbf{a}_2 - (x_3 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-ay_3 \hat{\mathbf{x}} + a(z_3 + \frac{1}{2}) \hat{\mathbf{y}} - a(x_3 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{59}$	$=$	$(y_3 + \frac{1}{2}) \mathbf{a}_1 - (z_3 - \frac{1}{2}) \mathbf{a}_2 - x_3 \mathbf{a}_3$	$=$	$a(y_3 + \frac{1}{2}) \hat{\mathbf{x}} - a(z_3 - \frac{1}{2}) \hat{\mathbf{y}} - ax_3 \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{60}$	$=$	$-(y_3 - \frac{1}{2}) \mathbf{a}_1 - z_3 \mathbf{a}_2 + (x_3 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(y_3 - \frac{1}{2}) \hat{\mathbf{x}} - az_3 \hat{\mathbf{y}} + a(x_3 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{61}$	$=$	$-x_3 \mathbf{a}_1 - y_3 \mathbf{a}_2 - z_3 \mathbf{a}_3$	$=$	$-ax_3 \hat{\mathbf{x}} - ay_3 \hat{\mathbf{y}} - az_3 \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{62}$	$=$	$(x_3 + \frac{1}{2}) \mathbf{a}_1 + y_3 \mathbf{a}_2 - (z_3 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(x_3 + \frac{1}{2}) \hat{\mathbf{x}} + ay_3 \hat{\mathbf{y}} - a(z_3 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{63}$	$=$	$x_3 \mathbf{a}_1 - (y_3 - \frac{1}{2}) \mathbf{a}_2 + (z_3 + \frac{1}{2}) \mathbf{a}_3$	$=$	$ax_3 \hat{\mathbf{x}} - a(y_3 - \frac{1}{2}) \hat{\mathbf{y}} + a(z_3 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{64}$	$=$	$-(x_3 - \frac{1}{2}) \mathbf{a}_1 + (y_3 + \frac{1}{2}) \mathbf{a}_2 + z_3 \mathbf{a}_3$	$=$	$-a(x_3 - \frac{1}{2}) \hat{\mathbf{x}} + a(y_3 + \frac{1}{2}) \hat{\mathbf{y}} + az_3 \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{65}$	$=$	$-z_3 \mathbf{a}_1 - x_3 \mathbf{a}_2 - y_3 \mathbf{a}_3$	$=$	$-az_3 \hat{\mathbf{x}} - ax_3 \hat{\mathbf{y}} - ay_3 \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{66}$	$=$	$-(z_3 - \frac{1}{2}) \mathbf{a}_1 + (x_3 + \frac{1}{2}) \mathbf{a}_2 + y_3 \mathbf{a}_3$	$=$	$-a(z_3 - \frac{1}{2}) \hat{\mathbf{x}} + a(x_3 + \frac{1}{2}) \hat{\mathbf{y}} + ay_3 \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{67}$	$=$	$(z_3 + \frac{1}{2}) \mathbf{a}_1 + x_3 \mathbf{a}_2 - (y_3 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(z_3 + \frac{1}{2}) \hat{\mathbf{x}} + ax_3 \hat{\mathbf{y}} - a(y_3 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{68}$	$=$	$z_3 \mathbf{a}_1 - (x_3 - \frac{1}{2}) \mathbf{a}_2 + (y_3 + \frac{1}{2}) \mathbf{a}_3$	$=$	$az_3 \hat{\mathbf{x}} - a(x_3 - \frac{1}{2}) \hat{\mathbf{y}} + a(y_3 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{69}$	$=$	$-y_3 \mathbf{a}_1 - z_3 \mathbf{a}_2 - x_3 \mathbf{a}_3$	$=$	$-ay_3 \hat{\mathbf{x}} - az_3 \hat{\mathbf{y}} - ax_3 \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{70}$	$=$	$y_3 \mathbf{a}_1 - (z_3 - \frac{1}{2}) \mathbf{a}_2 + (x_3 + \frac{1}{2}) \mathbf{a}_3$	$=$	$ay_3 \hat{\mathbf{x}} - a(z_3 - \frac{1}{2}) \hat{\mathbf{y}} + a(x_3 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{71}$	$=$	$-(y_3 - \frac{1}{2}) \mathbf{a}_1 + (z_3 + \frac{1}{2}) \mathbf{a}_2 + x_3 \mathbf{a}_3$	$=$	$-a(y_3 - \frac{1}{2}) \hat{\mathbf{x}} + a(z_3 + \frac{1}{2}) \hat{\mathbf{y}} + ax_3 \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{72}$	$=$	$(y_3 + \frac{1}{2}) \mathbf{a}_1 + z_3 \mathbf{a}_2 - (x_3 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(y_3 + \frac{1}{2}) \hat{\mathbf{x}} + az_3 \hat{\mathbf{y}} - a(x_3 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C III
$\mathbf{B}_{73}$	$=$	$x_4 \mathbf{a}_1 + y_4 \mathbf{a}_2 + z_4 \mathbf{a}_3$	$=$	$ax_4 \hat{\mathbf{x}} + ay_4 \hat{\mathbf{y}} + az_4 \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{74}$	$=$	$-(x_4 - \frac{1}{2}) \mathbf{a}_1 - y_4 \mathbf{a}_2 + (z_4 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(x_4 - \frac{1}{2}) \hat{\mathbf{x}} - ay_4 \hat{\mathbf{y}} + a(z_4 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{75}$	$=$	$-x_4 \mathbf{a}_1 + (y_4 + \frac{1}{2}) \mathbf{a}_2 - (z_4 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-ax_4 \hat{\mathbf{x}} + a(y_4 + \frac{1}{2}) \hat{\mathbf{y}} - a(z_4 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{76}$	$=$	$(x_4 + \frac{1}{2}) \mathbf{a}_1 - (y_4 - \frac{1}{2}) \mathbf{a}_2 - z_4 \mathbf{a}_3$	$=$	$a(x_4 + \frac{1}{2}) \hat{\mathbf{x}} - a(y_4 - \frac{1}{2}) \hat{\mathbf{y}} - az_4 \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{77}$	$=$	$z_4 \mathbf{a}_1 + x_4 \mathbf{a}_2 + y_4 \mathbf{a}_3$	$=$	$az_4 \hat{\mathbf{x}} + ax_4 \hat{\mathbf{y}} + ay_4 \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{78}$	$=$	$(z_4 + \frac{1}{2}) \mathbf{a}_1 - (x_4 - \frac{1}{2}) \mathbf{a}_2 - y_4 \mathbf{a}_3$	$=$	$a(z_4 + \frac{1}{2}) \hat{\mathbf{x}} - a(x_4 - \frac{1}{2}) \hat{\mathbf{y}} - ay_4 \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{79}$	$=$	$-(z_4 - \frac{1}{2}) \mathbf{a}_1 - x_4 \mathbf{a}_2 + (y_4 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(z_4 - \frac{1}{2}) \hat{\mathbf{x}} - ax_4 \hat{\mathbf{y}} + a(y_4 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{80}$	$=$	$-z_4 \mathbf{a}_1 + (x_4 + \frac{1}{2}) \mathbf{a}_2 - (y_4 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-az_4 \hat{\mathbf{x}} + a(x_4 + \frac{1}{2}) \hat{\mathbf{y}} - a(y_4 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{81}$	$=$	$y_4 \mathbf{a}_1 + z_4 \mathbf{a}_2 + x_4 \mathbf{a}_3$	$=$	$ay_4 \hat{\mathbf{x}} + az_4 \hat{\mathbf{y}} + ax_4 \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{82}$	$=$	$-y_4 \mathbf{a}_1 + (z_4 + \frac{1}{2}) \mathbf{a}_2 - (x_4 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-ay_4 \hat{\mathbf{x}} + a(z_4 + \frac{1}{2}) \hat{\mathbf{y}} - a(x_4 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{83}$	$=$	$(y_4 + \frac{1}{2}) \mathbf{a}_1 - (z_4 - \frac{1}{2}) \mathbf{a}_2 - x_4 \mathbf{a}_3$	$=$	$a(y_4 + \frac{1}{2}) \hat{\mathbf{x}} - a(z_4 - \frac{1}{2}) \hat{\mathbf{y}} - ax_4 \hat{\mathbf{z}}$	(24d)	C IV

$\mathbf{B}_{84}$	$=$	$-(y_4 - \frac{1}{2}) \mathbf{a}_1 - z_4 \mathbf{a}_2 + (x_4 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(y_4 - \frac{1}{2}) \hat{\mathbf{x}} - az_4 \hat{\mathbf{y}} + a(x_4 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{85}$	$=$	$-x_4 \mathbf{a}_1 - y_4 \mathbf{a}_2 - z_4 \mathbf{a}_3$	$=$	$-ax_4 \hat{\mathbf{x}} - ay_4 \hat{\mathbf{y}} - az_4 \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{86}$	$=$	$(x_4 + \frac{1}{2}) \mathbf{a}_1 + y_4 \mathbf{a}_2 - (z_4 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(x_4 + \frac{1}{2}) \hat{\mathbf{x}} + ay_4 \hat{\mathbf{y}} - a(z_4 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{87}$	$=$	$x_4 \mathbf{a}_1 - (y_4 - \frac{1}{2}) \mathbf{a}_2 + (z_4 + \frac{1}{2}) \mathbf{a}_3$	$=$	$ax_4 \hat{\mathbf{x}} - a(y_4 - \frac{1}{2}) \hat{\mathbf{y}} + a(z_4 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{88}$	$=$	$-(x_4 - \frac{1}{2}) \mathbf{a}_1 + (y_4 + \frac{1}{2}) \mathbf{a}_2 + z_4 \mathbf{a}_3$	$=$	$-a(x_4 - \frac{1}{2}) \hat{\mathbf{x}} + a(y_4 + \frac{1}{2}) \hat{\mathbf{y}} + az_4 \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{89}$	$=$	$-z_4 \mathbf{a}_1 - x_4 \mathbf{a}_2 - y_4 \mathbf{a}_3$	$=$	$-az_4 \hat{\mathbf{x}} - ax_4 \hat{\mathbf{y}} - ay_4 \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{90}$	$=$	$-(z_4 - \frac{1}{2}) \mathbf{a}_1 + (x_4 + \frac{1}{2}) \mathbf{a}_2 + y_4 \mathbf{a}_3$	$=$	$-a(z_4 - \frac{1}{2}) \hat{\mathbf{x}} + a(x_4 + \frac{1}{2}) \hat{\mathbf{y}} + ay_4 \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{91}$	$=$	$(z_4 + \frac{1}{2}) \mathbf{a}_1 + x_4 \mathbf{a}_2 - (y_4 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(z_4 + \frac{1}{2}) \hat{\mathbf{x}} + ax_4 \hat{\mathbf{y}} - a(y_4 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{92}$	$=$	$z_4 \mathbf{a}_1 - (x_4 - \frac{1}{2}) \mathbf{a}_2 + (y_4 + \frac{1}{2}) \mathbf{a}_3$	$=$	$az_4 \hat{\mathbf{x}} - a(x_4 - \frac{1}{2}) \hat{\mathbf{y}} + a(y_4 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{93}$	$=$	$-y_4 \mathbf{a}_1 - z_4 \mathbf{a}_2 - x_4 \mathbf{a}_3$	$=$	$-ay_4 \hat{\mathbf{x}} - az_4 \hat{\mathbf{y}} - ax_4 \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{94}$	$=$	$y_4 \mathbf{a}_1 - (z_4 - \frac{1}{2}) \mathbf{a}_2 + (x_4 + \frac{1}{2}) \mathbf{a}_3$	$=$	$ay_4 \hat{\mathbf{x}} - a(z_4 - \frac{1}{2}) \hat{\mathbf{y}} + a(x_4 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{95}$	$=$	$-(y_4 - \frac{1}{2}) \mathbf{a}_1 + (z_4 + \frac{1}{2}) \mathbf{a}_2 + x_4 \mathbf{a}_3$	$=$	$-a(y_4 - \frac{1}{2}) \hat{\mathbf{x}} + a(z_4 + \frac{1}{2}) \hat{\mathbf{y}} + ax_4 \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{96}$	$=$	$(y_4 + \frac{1}{2}) \mathbf{a}_1 + z_4 \mathbf{a}_2 - (x_4 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(y_4 + \frac{1}{2}) \hat{\mathbf{x}} + az_4 \hat{\mathbf{y}} - a(x_4 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IV
$\mathbf{B}_{97}$	$=$	$x_5 \mathbf{a}_1 + y_5 \mathbf{a}_2 + z_5 \mathbf{a}_3$	$=$	$ax_5 \hat{\mathbf{x}} + ay_5 \hat{\mathbf{y}} + az_5 \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{98}$	$=$	$-(x_5 - \frac{1}{2}) \mathbf{a}_1 - y_5 \mathbf{a}_2 + (z_5 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(x_5 - \frac{1}{2}) \hat{\mathbf{x}} - ay_5 \hat{\mathbf{y}} + a(z_5 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{99}$	$=$	$-x_5 \mathbf{a}_1 + (y_5 + \frac{1}{2}) \mathbf{a}_2 - (z_5 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-ax_5 \hat{\mathbf{x}} + a(y_5 + \frac{1}{2}) \hat{\mathbf{y}} - a(z_5 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{100}$	$=$	$(x_5 + \frac{1}{2}) \mathbf{a}_1 - (y_5 - \frac{1}{2}) \mathbf{a}_2 - z_5 \mathbf{a}_3$	$=$	$a(x_5 + \frac{1}{2}) \hat{\mathbf{x}} - a(y_5 - \frac{1}{2}) \hat{\mathbf{y}} - az_5 \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{101}$	$=$	$z_5 \mathbf{a}_1 + x_5 \mathbf{a}_2 + y_5 \mathbf{a}_3$	$=$	$az_5 \hat{\mathbf{x}} + ax_5 \hat{\mathbf{y}} + ay_5 \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{102}$	$=$	$(z_5 + \frac{1}{2}) \mathbf{a}_1 - (x_5 - \frac{1}{2}) \mathbf{a}_2 - y_5 \mathbf{a}_3$	$=$	$a(z_5 + \frac{1}{2}) \hat{\mathbf{x}} - a(x_5 - \frac{1}{2}) \hat{\mathbf{y}} - ay_5 \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{103}$	$=$	$-(z_5 - \frac{1}{2}) \mathbf{a}_1 - x_5 \mathbf{a}_2 + (y_5 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(z_5 - \frac{1}{2}) \hat{\mathbf{x}} - ax_5 \hat{\mathbf{y}} + a(y_5 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{104}$	$=$	$-z_5 \mathbf{a}_1 + (x_5 + \frac{1}{2}) \mathbf{a}_2 - (y_5 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-az_5 \hat{\mathbf{x}} + a(x_5 + \frac{1}{2}) \hat{\mathbf{y}} - a(y_5 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{105}$	$=$	$y_5 \mathbf{a}_1 + z_5 \mathbf{a}_2 + x_5 \mathbf{a}_3$	$=$	$ay_5 \hat{\mathbf{x}} + az_5 \hat{\mathbf{y}} + ax_5 \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{106}$	$=$	$-y_5 \mathbf{a}_1 + (z_5 + \frac{1}{2}) \mathbf{a}_2 - (x_5 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-ay_5 \hat{\mathbf{x}} + a(z_5 + \frac{1}{2}) \hat{\mathbf{y}} - a(x_5 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{107}$	$=$	$(y_5 + \frac{1}{2}) \mathbf{a}_1 - (z_5 - \frac{1}{2}) \mathbf{a}_2 - x_5 \mathbf{a}_3$	$=$	$a(y_5 + \frac{1}{2}) \hat{\mathbf{x}} - a(z_5 - \frac{1}{2}) \hat{\mathbf{y}} - ax_5 \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{108}$	$=$	$-(y_5 - \frac{1}{2}) \mathbf{a}_1 - z_5 \mathbf{a}_2 + (x_5 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(y_5 - \frac{1}{2}) \hat{\mathbf{x}} - az_5 \hat{\mathbf{y}} + a(x_5 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{109}$	$=$	$-x_5 \mathbf{a}_1 - y_5 \mathbf{a}_2 - z_5 \mathbf{a}_3$	$=$	$-ax_5 \hat{\mathbf{x}} - ay_5 \hat{\mathbf{y}} - az_5 \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{110}$	$=$	$(x_5 + \frac{1}{2}) \mathbf{a}_1 + y_5 \mathbf{a}_2 - (z_5 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(x_5 + \frac{1}{2}) \hat{\mathbf{x}} + ay_5 \hat{\mathbf{y}} - a(z_5 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{111}$	$=$	$x_5 \mathbf{a}_1 - (y_5 - \frac{1}{2}) \mathbf{a}_2 + (z_5 + \frac{1}{2}) \mathbf{a}_3$	$=$	$ax_5 \hat{\mathbf{x}} - a(y_5 - \frac{1}{2}) \hat{\mathbf{y}} + a(z_5 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{112}$	$=$	$-(x_5 - \frac{1}{2}) \mathbf{a}_1 + (y_5 + \frac{1}{2}) \mathbf{a}_2 + z_5 \mathbf{a}_3$	$=$	$-a(x_5 - \frac{1}{2}) \hat{\mathbf{x}} + a(y_5 + \frac{1}{2}) \hat{\mathbf{y}} + az_5 \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{113}$	$=$	$-z_5 \mathbf{a}_1 - x_5 \mathbf{a}_2 - y_5 \mathbf{a}_3$	$=$	$-az_5 \hat{\mathbf{x}} - ax_5 \hat{\mathbf{y}} - ay_5 \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{114}$	$=$	$-(z_5 - \frac{1}{2}) \mathbf{a}_1 + (x_5 + \frac{1}{2}) \mathbf{a}_2 + y_5 \mathbf{a}_3$	$=$	$-a(z_5 - \frac{1}{2}) \hat{\mathbf{x}} + a(x_5 + \frac{1}{2}) \hat{\mathbf{y}} + ay_5 \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{115}$	$=$	$(z_5 + \frac{1}{2}) \mathbf{a}_1 + x_5 \mathbf{a}_2 - (y_5 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(z_5 + \frac{1}{2}) \hat{\mathbf{x}} + ax_5 \hat{\mathbf{y}} - a(y_5 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C V

$\mathbf{B}_{116} =$	$z_5 \mathbf{a}_1 - (x_5 - \frac{1}{2}) \mathbf{a}_2 + (y_5 + \frac{1}{2}) \mathbf{a}_3$	$=$	$a z_5 \hat{\mathbf{x}} - a (x_5 - \frac{1}{2}) \hat{\mathbf{y}} + a (y_5 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{117} =$	$-y_5 \mathbf{a}_1 - z_5 \mathbf{a}_2 - x_5 \mathbf{a}_3$	$=$	$-a y_5 \hat{\mathbf{x}} - a z_5 \hat{\mathbf{y}} - a x_5 \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{118} =$	$y_5 \mathbf{a}_1 - (z_5 - \frac{1}{2}) \mathbf{a}_2 + (x_5 + \frac{1}{2}) \mathbf{a}_3$	$=$	$a y_5 \hat{\mathbf{x}} - a (z_5 - \frac{1}{2}) \hat{\mathbf{y}} + a (x_5 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{119} =$	$-(y_5 - \frac{1}{2}) \mathbf{a}_1 + (z_5 + \frac{1}{2}) \mathbf{a}_2 + x_5 \mathbf{a}_3$	$=$	$-a (y_5 - \frac{1}{2}) \hat{\mathbf{x}} + a (z_5 + \frac{1}{2}) \hat{\mathbf{y}} + a x_5 \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{120} =$	$(y_5 + \frac{1}{2}) \mathbf{a}_1 + z_5 \mathbf{a}_2 - (x_5 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a (y_5 + \frac{1}{2}) \hat{\mathbf{x}} + a z_5 \hat{\mathbf{y}} - a (x_5 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C V
$\mathbf{B}_{121} =$	$x_6 \mathbf{a}_1 + y_6 \mathbf{a}_2 + z_6 \mathbf{a}_3$	$=$	$a x_6 \hat{\mathbf{x}} + a y_6 \hat{\mathbf{y}} + a z_6 \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{122} =$	$-(x_6 - \frac{1}{2}) \mathbf{a}_1 - y_6 \mathbf{a}_2 + (z_6 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a (x_6 - \frac{1}{2}) \hat{\mathbf{x}} - a y_6 \hat{\mathbf{y}} + a (z_6 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{123} =$	$-x_6 \mathbf{a}_1 + (y_6 + \frac{1}{2}) \mathbf{a}_2 - (z_6 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-a x_6 \hat{\mathbf{x}} + a (y_6 + \frac{1}{2}) \hat{\mathbf{y}} - a (z_6 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{124} =$	$(x_6 + \frac{1}{2}) \mathbf{a}_1 - (y_6 - \frac{1}{2}) \mathbf{a}_2 - z_6 \mathbf{a}_3$	$=$	$a (x_6 + \frac{1}{2}) \hat{\mathbf{x}} - a (y_6 - \frac{1}{2}) \hat{\mathbf{y}} - a z_6 \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{125} =$	$z_6 \mathbf{a}_1 + x_6 \mathbf{a}_2 + y_6 \mathbf{a}_3$	$=$	$a z_6 \hat{\mathbf{x}} + a x_6 \hat{\mathbf{y}} + a y_6 \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{126} =$	$(z_6 + \frac{1}{2}) \mathbf{a}_1 - (x_6 - \frac{1}{2}) \mathbf{a}_2 - y_6 \mathbf{a}_3$	$=$	$a (z_6 + \frac{1}{2}) \hat{\mathbf{x}} - a (x_6 - \frac{1}{2}) \hat{\mathbf{y}} - a y_6 \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{127} =$	$-(z_6 - \frac{1}{2}) \mathbf{a}_1 - x_6 \mathbf{a}_2 + (y_6 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a (z_6 - \frac{1}{2}) \hat{\mathbf{x}} - a x_6 \hat{\mathbf{y}} + a (y_6 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{128} =$	$-z_6 \mathbf{a}_1 + (x_6 + \frac{1}{2}) \mathbf{a}_2 - (y_6 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-a z_6 \hat{\mathbf{x}} + a (x_6 + \frac{1}{2}) \hat{\mathbf{y}} - a (y_6 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{129} =$	$y_6 \mathbf{a}_1 + z_6 \mathbf{a}_2 + x_6 \mathbf{a}_3$	$=$	$a y_6 \hat{\mathbf{x}} + a z_6 \hat{\mathbf{y}} + a x_6 \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{130} =$	$-y_6 \mathbf{a}_1 + (z_6 + \frac{1}{2}) \mathbf{a}_2 - (x_6 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-a y_6 \hat{\mathbf{x}} + a (z_6 + \frac{1}{2}) \hat{\mathbf{y}} - a (x_6 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{131} =$	$(y_6 + \frac{1}{2}) \mathbf{a}_1 - (z_6 - \frac{1}{2}) \mathbf{a}_2 - x_6 \mathbf{a}_3$	$=$	$a (y_6 + \frac{1}{2}) \hat{\mathbf{x}} - a (z_6 - \frac{1}{2}) \hat{\mathbf{y}} - a x_6 \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{132} =$	$-(y_6 - \frac{1}{2}) \mathbf{a}_1 - z_6 \mathbf{a}_2 + (x_6 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a (y_6 - \frac{1}{2}) \hat{\mathbf{x}} - a z_6 \hat{\mathbf{y}} + a (x_6 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{133} =$	$-x_6 \mathbf{a}_1 - y_6 \mathbf{a}_2 - z_6 \mathbf{a}_3$	$=$	$-a x_6 \hat{\mathbf{x}} - a y_6 \hat{\mathbf{y}} - a z_6 \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{134} =$	$(x_6 + \frac{1}{2}) \mathbf{a}_1 + y_6 \mathbf{a}_2 - (z_6 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a (x_6 + \frac{1}{2}) \hat{\mathbf{x}} + a y_6 \hat{\mathbf{y}} - a (z_6 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{135} =$	$x_6 \mathbf{a}_1 - (y_6 - \frac{1}{2}) \mathbf{a}_2 + (z_6 + \frac{1}{2}) \mathbf{a}_3$	$=$	$a x_6 \hat{\mathbf{x}} - a (y_6 - \frac{1}{2}) \hat{\mathbf{y}} + a (z_6 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{136} =$	$-(x_6 - \frac{1}{2}) \mathbf{a}_1 + (y_6 + \frac{1}{2}) \mathbf{a}_2 + z_6 \mathbf{a}_3$	$=$	$-a (x_6 - \frac{1}{2}) \hat{\mathbf{x}} + a (y_6 + \frac{1}{2}) \hat{\mathbf{y}} + a z_6 \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{137} =$	$-z_6 \mathbf{a}_1 - x_6 \mathbf{a}_2 - y_6 \mathbf{a}_3$	$=$	$-a z_6 \hat{\mathbf{x}} - a x_6 \hat{\mathbf{y}} - a y_6 \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{138} =$	$-(z_6 - \frac{1}{2}) \mathbf{a}_1 + (x_6 + \frac{1}{2}) \mathbf{a}_2 + y_6 \mathbf{a}_3$	$=$	$-a (z_6 - \frac{1}{2}) \hat{\mathbf{x}} + a (x_6 + \frac{1}{2}) \hat{\mathbf{y}} + a y_6 \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{139} =$	$(z_6 + \frac{1}{2}) \mathbf{a}_1 + x_6 \mathbf{a}_2 - (y_6 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a (z_6 + \frac{1}{2}) \hat{\mathbf{x}} + a x_6 \hat{\mathbf{y}} - a (y_6 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{140} =$	$z_6 \mathbf{a}_1 - (x_6 - \frac{1}{2}) \mathbf{a}_2 + (y_6 + \frac{1}{2}) \mathbf{a}_3$	$=$	$a z_6 \hat{\mathbf{x}} - a (x_6 - \frac{1}{2}) \hat{\mathbf{y}} + a (y_6 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{141} =$	$-y_6 \mathbf{a}_1 - z_6 \mathbf{a}_2 - x_6 \mathbf{a}_3$	$=$	$-a y_6 \hat{\mathbf{x}} - a z_6 \hat{\mathbf{y}} - a x_6 \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{142} =$	$y_6 \mathbf{a}_1 - (z_6 - \frac{1}{2}) \mathbf{a}_2 + (x_6 + \frac{1}{2}) \mathbf{a}_3$	$=$	$a y_6 \hat{\mathbf{x}} - a (z_6 - \frac{1}{2}) \hat{\mathbf{y}} + a (x_6 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{143} =$	$-(y_6 - \frac{1}{2}) \mathbf{a}_1 + (z_6 + \frac{1}{2}) \mathbf{a}_2 + x_6 \mathbf{a}_3$	$=$	$-a (y_6 - \frac{1}{2}) \hat{\mathbf{x}} + a (z_6 + \frac{1}{2}) \hat{\mathbf{y}} + a x_6 \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{144} =$	$(y_6 + \frac{1}{2}) \mathbf{a}_1 + z_6 \mathbf{a}_2 - (x_6 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a (y_6 + \frac{1}{2}) \hat{\mathbf{x}} + a z_6 \hat{\mathbf{y}} - a (x_6 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VI
$\mathbf{B}_{145} =$	$x_7 \mathbf{a}_1 + y_7 \mathbf{a}_2 + z_7 \mathbf{a}_3$	$=$	$a x_7 \hat{\mathbf{x}} + a y_7 \hat{\mathbf{y}} + a z_7 \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{146} =$	$-(x_7 - \frac{1}{2}) \mathbf{a}_1 - y_7 \mathbf{a}_2 + (z_7 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a (x_7 - \frac{1}{2}) \hat{\mathbf{x}} - a y_7 \hat{\mathbf{y}} + a (z_7 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{147} =$	$-x_7 \mathbf{a}_1 + (y_7 + \frac{1}{2}) \mathbf{a}_2 - (z_7 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-a x_7 \hat{\mathbf{x}} + a (y_7 + \frac{1}{2}) \hat{\mathbf{y}} - a (z_7 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VII

$\mathbf{B}_{148} =$	$(x_7 + \frac{1}{2}) \mathbf{a}_1 - (y_7 - \frac{1}{2}) \mathbf{a}_2 - z_7 \mathbf{a}_3$	$=$	$a(x_7 + \frac{1}{2}) \hat{\mathbf{x}} - a(y_7 - \frac{1}{2}) \hat{\mathbf{y}} - az_7 \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{149} =$	$z_7 \mathbf{a}_1 + x_7 \mathbf{a}_2 + y_7 \mathbf{a}_3$	$=$	$az_7 \hat{\mathbf{x}} + ax_7 \hat{\mathbf{y}} + ay_7 \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{150} =$	$(z_7 + \frac{1}{2}) \mathbf{a}_1 - (x_7 - \frac{1}{2}) \mathbf{a}_2 - y_7 \mathbf{a}_3$	$=$	$a(z_7 + \frac{1}{2}) \hat{\mathbf{x}} - a(x_7 - \frac{1}{2}) \hat{\mathbf{y}} - ay_7 \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{151} =$	$-(z_7 - \frac{1}{2}) \mathbf{a}_1 - x_7 \mathbf{a}_2 + (y_7 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(z_7 - \frac{1}{2}) \hat{\mathbf{x}} - ax_7 \hat{\mathbf{y}} + a(y_7 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{152} =$	$-z_7 \mathbf{a}_1 + (x_7 + \frac{1}{2}) \mathbf{a}_2 - (y_7 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-az_7 \hat{\mathbf{x}} + a(x_7 + \frac{1}{2}) \hat{\mathbf{y}} - a(y_7 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{153} =$	$y_7 \mathbf{a}_1 + z_7 \mathbf{a}_2 + x_7 \mathbf{a}_3$	$=$	$ay_7 \hat{\mathbf{x}} + az_7 \hat{\mathbf{y}} + ax_7 \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{154} =$	$-y_7 \mathbf{a}_1 + (z_7 + \frac{1}{2}) \mathbf{a}_2 - (x_7 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-ay_7 \hat{\mathbf{x}} + a(z_7 + \frac{1}{2}) \hat{\mathbf{y}} - a(x_7 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{155} =$	$(y_7 + \frac{1}{2}) \mathbf{a}_1 - (z_7 - \frac{1}{2}) \mathbf{a}_2 - x_7 \mathbf{a}_3$	$=$	$a(y_7 + \frac{1}{2}) \hat{\mathbf{x}} - a(z_7 - \frac{1}{2}) \hat{\mathbf{y}} - ax_7 \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{156} =$	$-(y_7 - \frac{1}{2}) \mathbf{a}_1 - z_7 \mathbf{a}_2 + (x_7 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(y_7 - \frac{1}{2}) \hat{\mathbf{x}} - az_7 \hat{\mathbf{y}} + a(x_7 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{157} =$	$-x_7 \mathbf{a}_1 - y_7 \mathbf{a}_2 - z_7 \mathbf{a}_3$	$=$	$-ax_7 \hat{\mathbf{x}} - ay_7 \hat{\mathbf{y}} - az_7 \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{158} =$	$(x_7 + \frac{1}{2}) \mathbf{a}_1 + y_7 \mathbf{a}_2 - (z_7 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(x_7 + \frac{1}{2}) \hat{\mathbf{x}} + ay_7 \hat{\mathbf{y}} - a(z_7 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{159} =$	$x_7 \mathbf{a}_1 - (y_7 - \frac{1}{2}) \mathbf{a}_2 + (z_7 + \frac{1}{2}) \mathbf{a}_3$	$=$	$ax_7 \hat{\mathbf{x}} - a(y_7 - \frac{1}{2}) \hat{\mathbf{y}} + a(z_7 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{160} =$	$-(x_7 - \frac{1}{2}) \mathbf{a}_1 + (y_7 + \frac{1}{2}) \mathbf{a}_2 + z_7 \mathbf{a}_3$	$=$	$-a(x_7 - \frac{1}{2}) \hat{\mathbf{x}} + a(y_7 + \frac{1}{2}) \hat{\mathbf{y}} + az_7 \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{161} =$	$-z_7 \mathbf{a}_1 - x_7 \mathbf{a}_2 - y_7 \mathbf{a}_3$	$=$	$-az_7 \hat{\mathbf{x}} - ax_7 \hat{\mathbf{y}} - ay_7 \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{162} =$	$-(z_7 - \frac{1}{2}) \mathbf{a}_1 + (x_7 + \frac{1}{2}) \mathbf{a}_2 + y_7 \mathbf{a}_3$	$=$	$-a(z_7 - \frac{1}{2}) \hat{\mathbf{x}} + a(x_7 + \frac{1}{2}) \hat{\mathbf{y}} + ay_7 \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{163} =$	$(z_7 + \frac{1}{2}) \mathbf{a}_1 + x_7 \mathbf{a}_2 - (y_7 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(z_7 + \frac{1}{2}) \hat{\mathbf{x}} + ax_7 \hat{\mathbf{y}} - a(y_7 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{164} =$	$z_7 \mathbf{a}_1 - (x_7 - \frac{1}{2}) \mathbf{a}_2 + (y_7 + \frac{1}{2}) \mathbf{a}_3$	$=$	$az_7 \hat{\mathbf{x}} - a(x_7 - \frac{1}{2}) \hat{\mathbf{y}} + a(y_7 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{165} =$	$-y_7 \mathbf{a}_1 - z_7 \mathbf{a}_2 - x_7 \mathbf{a}_3$	$=$	$-ay_7 \hat{\mathbf{x}} - az_7 \hat{\mathbf{y}} - ax_7 \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{166} =$	$y_7 \mathbf{a}_1 - (z_7 - \frac{1}{2}) \mathbf{a}_2 + (x_7 + \frac{1}{2}) \mathbf{a}_3$	$=$	$ay_7 \hat{\mathbf{x}} - a(z_7 - \frac{1}{2}) \hat{\mathbf{y}} + a(x_7 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{167} =$	$-(y_7 - \frac{1}{2}) \mathbf{a}_1 + (z_7 + \frac{1}{2}) \mathbf{a}_2 + x_7 \mathbf{a}_3$	$=$	$-a(y_7 - \frac{1}{2}) \hat{\mathbf{x}} + a(z_7 + \frac{1}{2}) \hat{\mathbf{y}} + ax_7 \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{168} =$	$(y_7 + \frac{1}{2}) \mathbf{a}_1 + z_7 \mathbf{a}_2 - (x_7 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(y_7 + \frac{1}{2}) \hat{\mathbf{x}} + az_7 \hat{\mathbf{y}} - a(x_7 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VII
$\mathbf{B}_{169} =$	$x_8 \mathbf{a}_1 + y_8 \mathbf{a}_2 + z_8 \mathbf{a}_3$	$=$	$ax_8 \hat{\mathbf{x}} + ay_8 \hat{\mathbf{y}} + az_8 \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{170} =$	$-(x_8 - \frac{1}{2}) \mathbf{a}_1 - y_8 \mathbf{a}_2 + (z_8 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(x_8 - \frac{1}{2}) \hat{\mathbf{x}} - ay_8 \hat{\mathbf{y}} + a(z_8 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{171} =$	$-x_8 \mathbf{a}_1 + (y_8 + \frac{1}{2}) \mathbf{a}_2 - (z_8 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-ax_8 \hat{\mathbf{x}} + a(y_8 + \frac{1}{2}) \hat{\mathbf{y}} - a(z_8 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{172} =$	$(x_8 + \frac{1}{2}) \mathbf{a}_1 - (y_8 - \frac{1}{2}) \mathbf{a}_2 - z_8 \mathbf{a}_3$	$=$	$a(x_8 + \frac{1}{2}) \hat{\mathbf{x}} - a(y_8 - \frac{1}{2}) \hat{\mathbf{y}} - az_8 \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{173} =$	$z_8 \mathbf{a}_1 + x_8 \mathbf{a}_2 + y_8 \mathbf{a}_3$	$=$	$az_8 \hat{\mathbf{x}} + ax_8 \hat{\mathbf{y}} + ay_8 \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{174} =$	$(z_8 + \frac{1}{2}) \mathbf{a}_1 - (x_8 - \frac{1}{2}) \mathbf{a}_2 - y_8 \mathbf{a}_3$	$=$	$a(z_8 + \frac{1}{2}) \hat{\mathbf{x}} - a(x_8 - \frac{1}{2}) \hat{\mathbf{y}} - ay_8 \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{175} =$	$-(z_8 - \frac{1}{2}) \mathbf{a}_1 - x_8 \mathbf{a}_2 + (y_8 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(z_8 - \frac{1}{2}) \hat{\mathbf{x}} - ax_8 \hat{\mathbf{y}} + a(y_8 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{176} =$	$-z_8 \mathbf{a}_1 + (x_8 + \frac{1}{2}) \mathbf{a}_2 - (y_8 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-az_8 \hat{\mathbf{x}} + a(x_8 + \frac{1}{2}) \hat{\mathbf{y}} - a(y_8 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{177} =$	$y_8 \mathbf{a}_1 + z_8 \mathbf{a}_2 + x_8 \mathbf{a}_3$	$=$	$ay_8 \hat{\mathbf{x}} + az_8 \hat{\mathbf{y}} + ax_8 \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{178} =$	$-y_8 \mathbf{a}_1 + (z_8 + \frac{1}{2}) \mathbf{a}_2 - (x_8 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-ay_8 \hat{\mathbf{x}} + a(z_8 + \frac{1}{2}) \hat{\mathbf{y}} - a(x_8 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{179} =$	$(y_8 + \frac{1}{2}) \mathbf{a}_1 - (z_8 - \frac{1}{2}) \mathbf{a}_2 - x_8 \mathbf{a}_3$	$=$	$a(y_8 + \frac{1}{2}) \hat{\mathbf{x}} - a(z_8 - \frac{1}{2}) \hat{\mathbf{y}} - ax_8 \hat{\mathbf{z}}$	(24d)	C VIII

$\mathbf{B}_{180} =$	$-(y_8 - \frac{1}{2}) \mathbf{a}_1 - z_8 \mathbf{a}_2 + (x_8 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(y_8 - \frac{1}{2}) \hat{\mathbf{x}} - az_8 \hat{\mathbf{y}} + a(x_8 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{181} =$	$-x_8 \mathbf{a}_1 - y_8 \mathbf{a}_2 - z_8 \mathbf{a}_3$	$=$	$-ax_8 \hat{\mathbf{x}} - ay_8 \hat{\mathbf{y}} - az_8 \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{182} =$	$(x_8 + \frac{1}{2}) \mathbf{a}_1 + y_8 \mathbf{a}_2 - (z_8 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(x_8 + \frac{1}{2}) \hat{\mathbf{x}} + ay_8 \hat{\mathbf{y}} - a(z_8 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{183} =$	$x_8 \mathbf{a}_1 - (y_8 - \frac{1}{2}) \mathbf{a}_2 + (z_8 + \frac{1}{2}) \mathbf{a}_3$	$=$	$ax_8 \hat{\mathbf{x}} - a(y_8 - \frac{1}{2}) \hat{\mathbf{y}} + a(z_8 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{184} =$	$-(x_8 - \frac{1}{2}) \mathbf{a}_1 + (y_8 + \frac{1}{2}) \mathbf{a}_2 + z_8 \mathbf{a}_3$	$=$	$-a(x_8 - \frac{1}{2}) \hat{\mathbf{x}} + a(y_8 + \frac{1}{2}) \hat{\mathbf{y}} + az_8 \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{185} =$	$-z_8 \mathbf{a}_1 - x_8 \mathbf{a}_2 - y_8 \mathbf{a}_3$	$=$	$-az_8 \hat{\mathbf{x}} - ax_8 \hat{\mathbf{y}} - ay_8 \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{186} =$	$-(z_8 - \frac{1}{2}) \mathbf{a}_1 + (x_8 + \frac{1}{2}) \mathbf{a}_2 + y_8 \mathbf{a}_3$	$=$	$-a(z_8 - \frac{1}{2}) \hat{\mathbf{x}} + a(x_8 + \frac{1}{2}) \hat{\mathbf{y}} + ay_8 \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{187} =$	$(z_8 + \frac{1}{2}) \mathbf{a}_1 + x_8 \mathbf{a}_2 - (y_8 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(z_8 + \frac{1}{2}) \hat{\mathbf{x}} + ax_8 \hat{\mathbf{y}} - a(y_8 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{188} =$	$z_8 \mathbf{a}_1 - (x_8 - \frac{1}{2}) \mathbf{a}_2 + (y_8 + \frac{1}{2}) \mathbf{a}_3$	$=$	$az_8 \hat{\mathbf{x}} - a(x_8 - \frac{1}{2}) \hat{\mathbf{y}} + a(y_8 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{189} =$	$-y_8 \mathbf{a}_1 - z_8 \mathbf{a}_2 - x_8 \mathbf{a}_3$	$=$	$-ay_8 \hat{\mathbf{x}} - az_8 \hat{\mathbf{y}} - ax_8 \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{190} =$	$y_8 \mathbf{a}_1 - (z_8 - \frac{1}{2}) \mathbf{a}_2 + (x_8 + \frac{1}{2}) \mathbf{a}_3$	$=$	$ay_8 \hat{\mathbf{x}} - a(z_8 - \frac{1}{2}) \hat{\mathbf{y}} + a(x_8 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{191} =$	$-(y_8 - \frac{1}{2}) \mathbf{a}_1 + (z_8 + \frac{1}{2}) \mathbf{a}_2 + x_8 \mathbf{a}_3$	$=$	$-a(y_8 - \frac{1}{2}) \hat{\mathbf{x}} + a(z_8 + \frac{1}{2}) \hat{\mathbf{y}} + ax_8 \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{192} =$	$(y_8 + \frac{1}{2}) \mathbf{a}_1 + z_8 \mathbf{a}_2 - (x_8 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(y_8 + \frac{1}{2}) \hat{\mathbf{x}} + az_8 \hat{\mathbf{y}} - a(x_8 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C VIII
$\mathbf{B}_{193} =$	$x_9 \mathbf{a}_1 + y_9 \mathbf{a}_2 + z_9 \mathbf{a}_3$	$=$	$ax_9 \hat{\mathbf{x}} + ay_9 \hat{\mathbf{y}} + az_9 \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{194} =$	$-(x_9 - \frac{1}{2}) \mathbf{a}_1 - y_9 \mathbf{a}_2 + (z_9 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(x_9 - \frac{1}{2}) \hat{\mathbf{x}} - ay_9 \hat{\mathbf{y}} + a(z_9 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{195} =$	$-x_9 \mathbf{a}_1 + (y_9 + \frac{1}{2}) \mathbf{a}_2 - (z_9 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-ax_9 \hat{\mathbf{x}} + a(y_9 + \frac{1}{2}) \hat{\mathbf{y}} - a(z_9 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{196} =$	$(x_9 + \frac{1}{2}) \mathbf{a}_1 - (y_9 - \frac{1}{2}) \mathbf{a}_2 - z_9 \mathbf{a}_3$	$=$	$a(x_9 + \frac{1}{2}) \hat{\mathbf{x}} - a(y_9 - \frac{1}{2}) \hat{\mathbf{y}} - az_9 \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{197} =$	$z_9 \mathbf{a}_1 + x_9 \mathbf{a}_2 + y_9 \mathbf{a}_3$	$=$	$az_9 \hat{\mathbf{x}} + ax_9 \hat{\mathbf{y}} + ay_9 \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{198} =$	$(z_9 + \frac{1}{2}) \mathbf{a}_1 - (x_9 - \frac{1}{2}) \mathbf{a}_2 - y_9 \mathbf{a}_3$	$=$	$a(z_9 + \frac{1}{2}) \hat{\mathbf{x}} - a(x_9 - \frac{1}{2}) \hat{\mathbf{y}} - ay_9 \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{199} =$	$-(z_9 - \frac{1}{2}) \mathbf{a}_1 - x_9 \mathbf{a}_2 + (y_9 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(z_9 - \frac{1}{2}) \hat{\mathbf{x}} - ax_9 \hat{\mathbf{y}} + a(y_9 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{200} =$	$-z_9 \mathbf{a}_1 + (x_9 + \frac{1}{2}) \mathbf{a}_2 - (y_9 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-az_9 \hat{\mathbf{x}} + a(x_9 + \frac{1}{2}) \hat{\mathbf{y}} - a(y_9 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{201} =$	$y_9 \mathbf{a}_1 + z_9 \mathbf{a}_2 + x_9 \mathbf{a}_3$	$=$	$ay_9 \hat{\mathbf{x}} + az_9 \hat{\mathbf{y}} + ax_9 \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{202} =$	$-y_9 \mathbf{a}_1 + (z_9 + \frac{1}{2}) \mathbf{a}_2 - (x_9 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-ay_9 \hat{\mathbf{x}} + a(z_9 + \frac{1}{2}) \hat{\mathbf{y}} - a(x_9 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{203} =$	$(y_9 + \frac{1}{2}) \mathbf{a}_1 - (z_9 - \frac{1}{2}) \mathbf{a}_2 - x_9 \mathbf{a}_3$	$=$	$a(y_9 + \frac{1}{2}) \hat{\mathbf{x}} - a(z_9 - \frac{1}{2}) \hat{\mathbf{y}} - ax_9 \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{204} =$	$-(y_9 - \frac{1}{2}) \mathbf{a}_1 - z_9 \mathbf{a}_2 + (x_9 + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(y_9 - \frac{1}{2}) \hat{\mathbf{x}} - az_9 \hat{\mathbf{y}} + a(x_9 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{205} =$	$-x_9 \mathbf{a}_1 - y_9 \mathbf{a}_2 - z_9 \mathbf{a}_3$	$=$	$-ax_9 \hat{\mathbf{x}} - ay_9 \hat{\mathbf{y}} - az_9 \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{206} =$	$(x_9 + \frac{1}{2}) \mathbf{a}_1 + y_9 \mathbf{a}_2 - (z_9 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(x_9 + \frac{1}{2}) \hat{\mathbf{x}} + ay_9 \hat{\mathbf{y}} - a(z_9 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{207} =$	$x_9 \mathbf{a}_1 - (y_9 - \frac{1}{2}) \mathbf{a}_2 + (z_9 + \frac{1}{2}) \mathbf{a}_3$	$=$	$ax_9 \hat{\mathbf{x}} - a(y_9 - \frac{1}{2}) \hat{\mathbf{y}} + a(z_9 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{208} =$	$-(x_9 - \frac{1}{2}) \mathbf{a}_1 + (y_9 + \frac{1}{2}) \mathbf{a}_2 + z_9 \mathbf{a}_3$	$=$	$-a(x_9 - \frac{1}{2}) \hat{\mathbf{x}} + a(y_9 + \frac{1}{2}) \hat{\mathbf{y}} + az_9 \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{209} =$	$-z_9 \mathbf{a}_1 - x_9 \mathbf{a}_2 - y_9 \mathbf{a}_3$	$=$	$-az_9 \hat{\mathbf{x}} - ax_9 \hat{\mathbf{y}} - ay_9 \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{210} =$	$-(z_9 - \frac{1}{2}) \mathbf{a}_1 + (x_9 + \frac{1}{2}) \mathbf{a}_2 + y_9 \mathbf{a}_3$	$=$	$-a(z_9 - \frac{1}{2}) \hat{\mathbf{x}} + a(x_9 + \frac{1}{2}) \hat{\mathbf{y}} + ay_9 \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{211} =$	$(z_9 + \frac{1}{2}) \mathbf{a}_1 + x_9 \mathbf{a}_2 - (y_9 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(z_9 + \frac{1}{2}) \hat{\mathbf{x}} + ax_9 \hat{\mathbf{y}} - a(y_9 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IX

$\mathbf{B}_{212} =$	$z_9 \mathbf{a}_1 - (x_9 - \frac{1}{2}) \mathbf{a}_2 + (y_9 + \frac{1}{2}) \mathbf{a}_3$	$=$	$az_9 \hat{\mathbf{x}} - a(x_9 - \frac{1}{2}) \hat{\mathbf{y}} + a(y_9 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{213} =$	$-y_9 \mathbf{a}_1 - z_9 \mathbf{a}_2 - x_9 \mathbf{a}_3$	$=$	$-ay_9 \hat{\mathbf{x}} - az_9 \hat{\mathbf{y}} - ax_9 \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{214} =$	$y_9 \mathbf{a}_1 - (z_9 - \frac{1}{2}) \mathbf{a}_2 + (x_9 + \frac{1}{2}) \mathbf{a}_3$	$=$	$ay_9 \hat{\mathbf{x}} - a(z_9 - \frac{1}{2}) \hat{\mathbf{y}} + a(x_9 + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{215} =$	$-(y_9 - \frac{1}{2}) \mathbf{a}_1 + (z_9 + \frac{1}{2}) \mathbf{a}_2 +$ $x_9 \mathbf{a}_3$	$=$	$-a(y_9 - \frac{1}{2}) \hat{\mathbf{x}} + a(z_9 + \frac{1}{2}) \hat{\mathbf{y}} + ax_9 \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{216} =$	$(y_9 + \frac{1}{2}) \mathbf{a}_1 + z_9 \mathbf{a}_2 - (x_9 - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(y_9 + \frac{1}{2}) \hat{\mathbf{x}} + az_9 \hat{\mathbf{y}} - a(x_9 - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C IX
$\mathbf{B}_{217} =$	$x_{10} \mathbf{a}_1 + y_{10} \mathbf{a}_2 + z_{10} \mathbf{a}_3$	$=$	$ax_{10} \hat{\mathbf{x}} + ay_{10} \hat{\mathbf{y}} + az_{10} \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{218} =$	$-(x_{10} - \frac{1}{2}) \mathbf{a}_1 - y_{10} \mathbf{a}_2 +$ $(z_{10} + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(x_{10} - \frac{1}{2}) \hat{\mathbf{x}} - ay_{10} \hat{\mathbf{y}} + a(z_{10} + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{219} =$	$-x_{10} \mathbf{a}_1 + (y_{10} + \frac{1}{2}) \mathbf{a}_2 -$ $(z_{10} - \frac{1}{2}) \mathbf{a}_3$	$=$	$-ax_{10} \hat{\mathbf{x}} + a(y_{10} + \frac{1}{2}) \hat{\mathbf{y}} - a(z_{10} - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{220} =$	$(x_{10} + \frac{1}{2}) \mathbf{a}_1 - (y_{10} - \frac{1}{2}) \mathbf{a}_2 -$ $z_{10} \mathbf{a}_3$	$=$	$a(x_{10} + \frac{1}{2}) \hat{\mathbf{x}} - a(y_{10} - \frac{1}{2}) \hat{\mathbf{y}} - az_{10} \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{221} =$	$z_{10} \mathbf{a}_1 + x_{10} \mathbf{a}_2 + y_{10} \mathbf{a}_3$	$=$	$az_{10} \hat{\mathbf{x}} + ax_{10} \hat{\mathbf{y}} + ay_{10} \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{222} =$	$(z_{10} + \frac{1}{2}) \mathbf{a}_1 - (x_{10} - \frac{1}{2}) \mathbf{a}_2 -$ $y_{10} \mathbf{a}_3$	$=$	$a(z_{10} + \frac{1}{2}) \hat{\mathbf{x}} - a(x_{10} - \frac{1}{2}) \hat{\mathbf{y}} - ay_{10} \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{223} =$	$-(z_{10} - \frac{1}{2}) \mathbf{a}_1 - x_{10} \mathbf{a}_2 +$ $(y_{10} + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(z_{10} - \frac{1}{2}) \hat{\mathbf{x}} - ax_{10} \hat{\mathbf{y}} + a(y_{10} + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{224} =$	$-z_{10} \mathbf{a}_1 + (x_{10} + \frac{1}{2}) \mathbf{a}_2 -$ $(y_{10} - \frac{1}{2}) \mathbf{a}_3$	$=$	$-az_{10} \hat{\mathbf{x}} + a(x_{10} + \frac{1}{2}) \hat{\mathbf{y}} - a(y_{10} - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{225} =$	$y_{10} \mathbf{a}_1 + z_{10} \mathbf{a}_2 + x_{10} \mathbf{a}_3$	$=$	$ay_{10} \hat{\mathbf{x}} + az_{10} \hat{\mathbf{y}} + ax_{10} \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{226} =$	$-y_{10} \mathbf{a}_1 + (z_{10} + \frac{1}{2}) \mathbf{a}_2 -$ $(x_{10} - \frac{1}{2}) \mathbf{a}_3$	$=$	$-ay_{10} \hat{\mathbf{x}} + a(z_{10} + \frac{1}{2}) \hat{\mathbf{y}} - a(x_{10} - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{227} =$	$(y_{10} + \frac{1}{2}) \mathbf{a}_1 - (z_{10} - \frac{1}{2}) \mathbf{a}_2 -$ $x_{10} \mathbf{a}_3$	$=$	$a(y_{10} + \frac{1}{2}) \hat{\mathbf{x}} - a(z_{10} - \frac{1}{2}) \hat{\mathbf{y}} - ax_{10} \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{228} =$	$-(y_{10} - \frac{1}{2}) \mathbf{a}_1 - z_{10} \mathbf{a}_2 +$ $(x_{10} + \frac{1}{2}) \mathbf{a}_3$	$=$	$-a(y_{10} - \frac{1}{2}) \hat{\mathbf{x}} - az_{10} \hat{\mathbf{y}} + a(x_{10} + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{229} =$	$-x_{10} \mathbf{a}_1 - y_{10} \mathbf{a}_2 - z_{10} \mathbf{a}_3$	$=$	$-ax_{10} \hat{\mathbf{x}} - ay_{10} \hat{\mathbf{y}} - az_{10} \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{230} =$	$(x_{10} + \frac{1}{2}) \mathbf{a}_1 + y_{10} \mathbf{a}_2 -$ $(z_{10} - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(x_{10} + \frac{1}{2}) \hat{\mathbf{x}} + ay_{10} \hat{\mathbf{y}} - a(z_{10} - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{231} =$	$x_{10} \mathbf{a}_1 - (y_{10} - \frac{1}{2}) \mathbf{a}_2 +$ $(z_{10} + \frac{1}{2}) \mathbf{a}_3$	$=$	$ax_{10} \hat{\mathbf{x}} - a(y_{10} - \frac{1}{2}) \hat{\mathbf{y}} + a(z_{10} + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{232} =$	$-(x_{10} - \frac{1}{2}) \mathbf{a}_1 + (y_{10} + \frac{1}{2}) \mathbf{a}_2 +$ $z_{10} \mathbf{a}_3$	$=$	$-a(x_{10} - \frac{1}{2}) \hat{\mathbf{x}} + a(y_{10} + \frac{1}{2}) \hat{\mathbf{y}} + az_{10} \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{233} =$	$-z_{10} \mathbf{a}_1 - x_{10} \mathbf{a}_2 - y_{10} \mathbf{a}_3$	$=$	$-az_{10} \hat{\mathbf{x}} - ax_{10} \hat{\mathbf{y}} - ay_{10} \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{234} =$	$-(z_{10} - \frac{1}{2}) \mathbf{a}_1 + (x_{10} + \frac{1}{2}) \mathbf{a}_2 +$ $y_{10} \mathbf{a}_3$	$=$	$-a(z_{10} - \frac{1}{2}) \hat{\mathbf{x}} + a(x_{10} + \frac{1}{2}) \hat{\mathbf{y}} + ay_{10} \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{235} =$	$(z_{10} + \frac{1}{2}) \mathbf{a}_1 + x_{10} \mathbf{a}_2 -$ $(y_{10} - \frac{1}{2}) \mathbf{a}_3$	$=$	$a(z_{10} + \frac{1}{2}) \hat{\mathbf{x}} + ax_{10} \hat{\mathbf{y}} - a(y_{10} - \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{236} =$	$z_{10} \mathbf{a}_1 - (x_{10} - \frac{1}{2}) \mathbf{a}_2 +$ $(y_{10} + \frac{1}{2}) \mathbf{a}_3$	$=$	$az_{10} \hat{\mathbf{x}} - a(x_{10} - \frac{1}{2}) \hat{\mathbf{y}} + a(y_{10} + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{237} =$	$-y_{10} \mathbf{a}_1 - z_{10} \mathbf{a}_2 - x_{10} \mathbf{a}_3$	$=$	$-ay_{10} \hat{\mathbf{x}} - az_{10} \hat{\mathbf{y}} - ax_{10} \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{238} =$	$y_{10} \mathbf{a}_1 - (z_{10} - \frac{1}{2}) \mathbf{a}_2 +$ $(x_{10} + \frac{1}{2}) \mathbf{a}_3$	$=$	$ay_{10} \hat{\mathbf{x}} - a(z_{10} - \frac{1}{2}) \hat{\mathbf{y}} + a(x_{10} + \frac{1}{2}) \hat{\mathbf{z}}$	(24d)	C X
$\mathbf{B}_{239} =$	$-(y_{10} - \frac{1}{2}) \mathbf{a}_1 + (z_{10} + \frac{1}{2}) \mathbf{a}_2 +$ $x_{10} \mathbf{a}_3$	$=$	$-a(y_{10} - \frac{1}{2}) \hat{\mathbf{x}} + a(z_{10} + \frac{1}{2}) \hat{\mathbf{y}} + ax_{10} \hat{\mathbf{z}}$	(24d)	C X

$$\mathbf{B}_{240} = \begin{pmatrix} (y_{10} + \frac{1}{2}) \mathbf{a}_1 + z_{10} \mathbf{a}_2 - \\ (x_{10} - \frac{1}{2}) \mathbf{a}_3 \end{pmatrix} = a \left( y_{10} + \frac{1}{2} \right) \hat{\mathbf{x}} + az_{10} \hat{\mathbf{y}} - a \left( x_{10} - \frac{1}{2} \right) \hat{\mathbf{z}} \quad (24d) \quad \text{C X}$$

## References

- [1] W. I. F. David, R. M. Ibberson, J. C. Matthewman, K. Prassides, T. J. S. Dennis, J. P. Hare, H. W. Kroto, R. Taylor, and D. R. M. Walton, *Crystal structure and bonding of ordered C<sub>60</sub>*, Nature **353**, 147–149 (1991), doi:10.1038/353147a0.

## Found in

- [1] D. L. Dorset and M. P. McCourt, *Disorder and the molecular packing of C<sub>60</sub> buckminsterfullerene: a direct electron-crystallographic analysis*, Acta Crystallogr. Sect. A **50**, 344–351 (1994), doi:10.1107/S0108767393012607.