

Cs₆W₁₁O₃₆ Structure: A6B36C11_mC212_9_6a_36a_11a-001

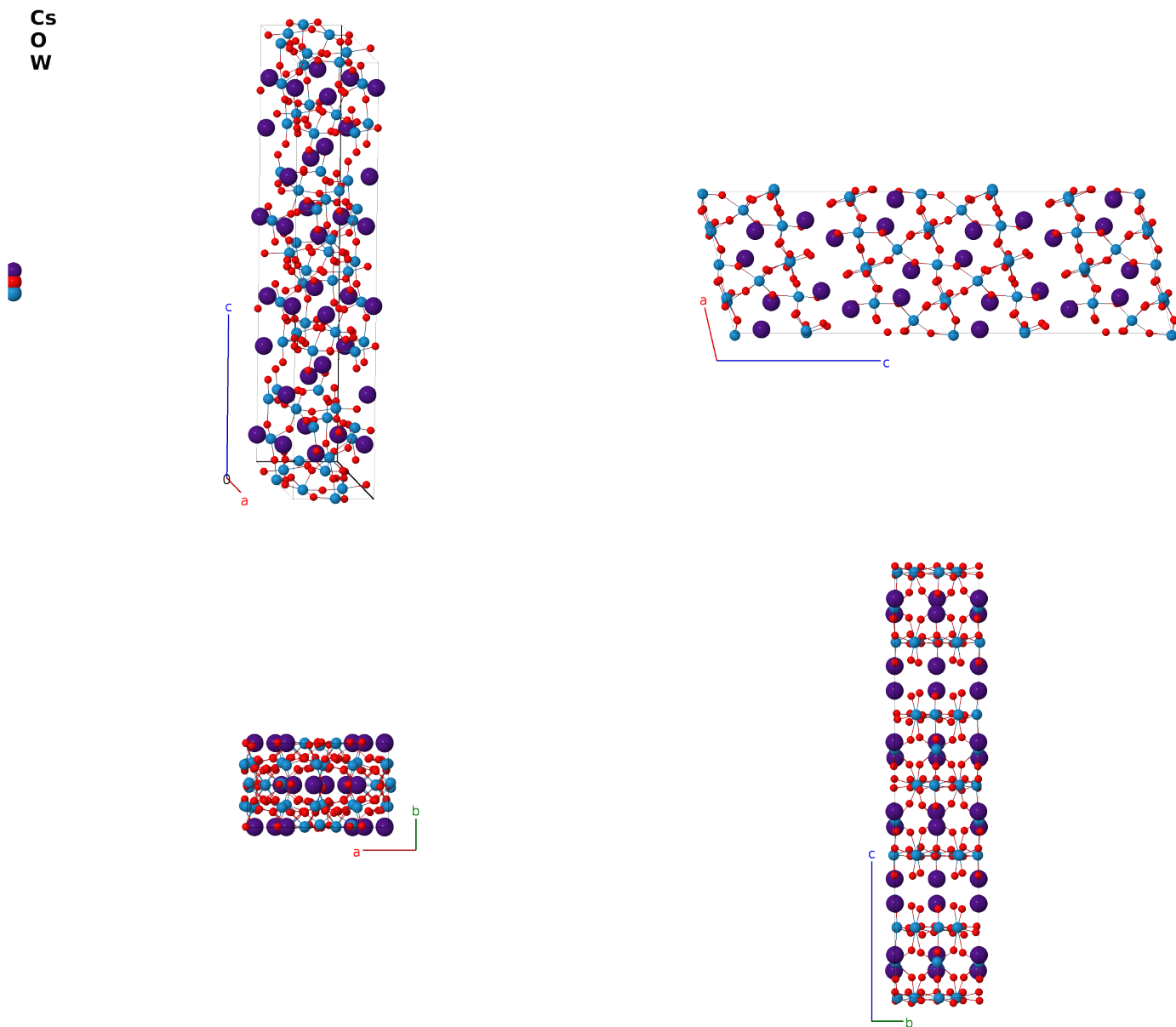
This structure previously used the label(s) **A6B36C11_mC212_9_6a_36a_11a**. Calls to these addresses will be redirected here.

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

<https://aflow.org/prototype-encyclopedia/A3V8>

https://aflow.org/prototype-encyclopedia/A6B36C11_mC212_9_6a_36a_11a-001



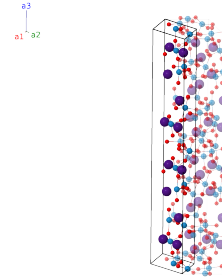
Prototype

Cs₆O₃₆W₁₁

AFLOW prototype label	A6B36C11_mC212_9_6a_36a_11a-001
ICSD	80133
CCDC	1640359
Pearson symbol	mC212
Space group number	9
Space group symbol	Cc
AFLOW prototype command	<pre> aflow --proto=A6B36C11_mC212_9_6a_36a_11a-001 --params=a,b/a,c/a,β,$x_1,y_1,z_1,x_2,y_2,z_2,x_3,y_3,z_3,x_4,y_4,z_4,x_5,y_5,z_5,x_6,y_6,z_6,x_7,y_7,z_7,x_8,y_8,z_8,x_9,y_9,z_9,x_{10},y_{10},z_{10},x_{11},y_{11},z_{11},x_{12},y_{12},z_{12},x_{13},y_{13},z_{13},x_{14},y_{14},z_{14},x_{15},y_{15},z_{15},x_{16},y_{16},z_{16},x_{17},y_{17},z_{17},x_{18},y_{18},z_{18},x_{19},y_{19},z_{19},x_{20},y_{20},z_{20},x_{21},y_{21},z_{21},x_{22},y_{22},z_{22},x_{23},y_{23},z_{23},x_{24},y_{24},z_{24},x_{25},y_{25},z_{25},x_{26},y_{26},z_{26},x_{27},y_{27},z_{27},x_{28},y_{28},z_{28},x_{29},y_{29},z_{29},x_{30},y_{30},z_{30},x_{31},y_{31},z_{31},x_{32},y_{32},z_{32},x_{33},y_{33},z_{33},x_{34},y_{34},z_{34},x_{35},y_{35},z_{35},x_{36},y_{36},z_{36},x_{37},y_{37},z_{37},x_{38},y_{38},z_{38},x_{39},y_{39},z_{39},x_{40},y_{40},z_{40},x_{41},y_{41},z_{41},x_{42},y_{42},z_{42},x_{43},y_{43},z_{43},x_{44},y_{44},z_{44},x_{45},y_{45},z_{45},x_{46},y_{46},z_{46},x_{47},y_{47},z_{47},x_{48},y_{48},z_{48},x_{49},y_{49},z_{49},x_{50},y_{50},z_{50},x_{51},y_{51},z_{51},x_{52},y_{52},z_{52},x_{53},y_{53},z_{53}$ </pre>

- (Okada, 1978) placed this in the monoclinic space group Cc #9. (Marsh, 1995) determined that their data fit in space group $R\bar{3}c$ #167.
- We changed the atomic coordinates just enough to maintain the Cc space group. The symmetrized version may be found here.
- (Okada, 1978) gave the data for this structure in the Aa setting of space group #9. We used FINDSYM to transform it to the standard Cc setting.

Base-centered Monoclinic primitive vectors

$$\begin{aligned}
\mathbf{a}_1 &= \frac{1}{2}a \hat{\mathbf{x}} - \frac{1}{2}b \hat{\mathbf{y}} \\
\mathbf{a}_2 &= \frac{1}{2}a \hat{\mathbf{x}} + \frac{1}{2}b \hat{\mathbf{y}} \\
\mathbf{a}_3 &= c \cos \beta \hat{\mathbf{x}} + c \sin \beta \hat{\mathbf{z}}
\end{aligned}$$


Basis vectors

	Lattice coordinates		Cartesian coordinates	Wyckoff position	Atom type
$\mathbf{B}_1$	$(x_1 - y_1) \mathbf{a}_1 + (x_1 + y_1) \mathbf{a}_2 + z_1 \mathbf{a}_3$	=	$(ax_1 + cz_1 \cos \beta) \hat{\mathbf{x}} + by_1 \hat{\mathbf{y}} + cz_1 \sin \beta \hat{\mathbf{z}}$	(4a)	Cs I
$\mathbf{B}_2$	$(x_1 + y_1) \mathbf{a}_1 + (x_1 - y_1) \mathbf{a}_2 + (z_1 + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_1 + c(z_1 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_1 \hat{\mathbf{y}} + c(z_1 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	Cs I
$\mathbf{B}_3$	$(x_2 - y_2) \mathbf{a}_1 + (x_2 + y_2) \mathbf{a}_2 + z_2 \mathbf{a}_3$	=	$(ax_2 + cz_2 \cos \beta) \hat{\mathbf{x}} + by_2 \hat{\mathbf{y}} + cz_2 \sin \beta \hat{\mathbf{z}}$	(4a)	Cs II
$\mathbf{B}_4$	$(x_2 + y_2) \mathbf{a}_1 + (x_2 - y_2) \mathbf{a}_2 + (z_2 + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_2 + c(z_2 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_2 \hat{\mathbf{y}} + c(z_2 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	Cs II

$\mathbf{B}_5$	$=$	$(x_3 - y_3) \mathbf{a}_1 + (x_3 + y_3) \mathbf{a}_2 + z_3 \mathbf{a}_3$	$=$	$(ax_3 + cz_3 \cos \beta) \hat{\mathbf{x}} + by_3 \hat{\mathbf{y}} + cz_3 \sin \beta \hat{\mathbf{z}}$	(4a)	Cs III
$\mathbf{B}_6$	$=$	$(x_3 + y_3) \mathbf{a}_1 + (x_3 - y_3) \mathbf{a}_2 + (z_3 + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_3 + c(z_3 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_3 \hat{\mathbf{y}} + c(z_3 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	Cs III
$\mathbf{B}_7$	$=$	$(x_4 - y_4) \mathbf{a}_1 + (x_4 + y_4) \mathbf{a}_2 + z_4 \mathbf{a}_3$	$=$	$(ax_4 + cz_4 \cos \beta) \hat{\mathbf{x}} + by_4 \hat{\mathbf{y}} + cz_4 \sin \beta \hat{\mathbf{z}}$	(4a)	Cs IV
$\mathbf{B}_8$	$=$	$(x_4 + y_4) \mathbf{a}_1 + (x_4 - y_4) \mathbf{a}_2 + (z_4 + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_4 + c(z_4 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_4 \hat{\mathbf{y}} + c(z_4 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	Cs IV
$\mathbf{B}_9$	$=$	$(x_5 - y_5) \mathbf{a}_1 + (x_5 + y_5) \mathbf{a}_2 + z_5 \mathbf{a}_3$	$=$	$(ax_5 + cz_5 \cos \beta) \hat{\mathbf{x}} + by_5 \hat{\mathbf{y}} + cz_5 \sin \beta \hat{\mathbf{z}}$	(4a)	Cs V
$\mathbf{B}_{10}$	$=$	$(x_5 + y_5) \mathbf{a}_1 + (x_5 - y_5) \mathbf{a}_2 + (z_5 + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_5 + c(z_5 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_5 \hat{\mathbf{y}} + c(z_5 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	Cs V
$\mathbf{B}_{11}$	$=$	$(x_6 - y_6) \mathbf{a}_1 + (x_6 + y_6) \mathbf{a}_2 + z_6 \mathbf{a}_3$	$=$	$(ax_6 + cz_6 \cos \beta) \hat{\mathbf{x}} + by_6 \hat{\mathbf{y}} + cz_6 \sin \beta \hat{\mathbf{z}}$	(4a)	Cs VI
$\mathbf{B}_{12}$	$=$	$(x_6 + y_6) \mathbf{a}_1 + (x_6 - y_6) \mathbf{a}_2 + (z_6 + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_6 + c(z_6 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_6 \hat{\mathbf{y}} + c(z_6 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	Cs VI
$\mathbf{B}_{13}$	$=$	$(x_7 - y_7) \mathbf{a}_1 + (x_7 + y_7) \mathbf{a}_2 + z_7 \mathbf{a}_3$	$=$	$(ax_7 + cz_7 \cos \beta) \hat{\mathbf{x}} + by_7 \hat{\mathbf{y}} + cz_7 \sin \beta \hat{\mathbf{z}}$	(4a)	O I
$\mathbf{B}_{14}$	$=$	$(x_7 + y_7) \mathbf{a}_1 + (x_7 - y_7) \mathbf{a}_2 + (z_7 + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_7 + c(z_7 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_7 \hat{\mathbf{y}} + c(z_7 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O I
$\mathbf{B}_{15}$	$=$	$(x_8 - y_8) \mathbf{a}_1 + (x_8 + y_8) \mathbf{a}_2 + z_8 \mathbf{a}_3$	$=$	$(ax_8 + cz_8 \cos \beta) \hat{\mathbf{x}} + by_8 \hat{\mathbf{y}} + cz_8 \sin \beta \hat{\mathbf{z}}$	(4a)	O II
$\mathbf{B}_{16}$	$=$	$(x_8 + y_8) \mathbf{a}_1 + (x_8 - y_8) \mathbf{a}_2 + (z_8 + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_8 + c(z_8 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_8 \hat{\mathbf{y}} + c(z_8 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O II
$\mathbf{B}_{17}$	$=$	$(x_9 - y_9) \mathbf{a}_1 + (x_9 + y_9) \mathbf{a}_2 + z_9 \mathbf{a}_3$	$=$	$(ax_9 + cz_9 \cos \beta) \hat{\mathbf{x}} + by_9 \hat{\mathbf{y}} + cz_9 \sin \beta \hat{\mathbf{z}}$	(4a)	O III
$\mathbf{B}_{18}$	$=$	$(x_9 + y_9) \mathbf{a}_1 + (x_9 - y_9) \mathbf{a}_2 + (z_9 + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_9 + c(z_9 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_9 \hat{\mathbf{y}} + c(z_9 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O III
$\mathbf{B}_{19}$	$=$	$(x_{10} - y_{10}) \mathbf{a}_1 + (x_{10} + y_{10}) \mathbf{a}_2 + z_{10} \mathbf{a}_3$	$=$	$(ax_{10} + cz_{10} \cos \beta) \hat{\mathbf{x}} + by_{10} \hat{\mathbf{y}} + cz_{10} \sin \beta \hat{\mathbf{z}}$	(4a)	O IV
$\mathbf{B}_{20}$	$=$	$(x_{10} + y_{10}) \mathbf{a}_1 + (x_{10} - y_{10}) \mathbf{a}_2 + (z_{10} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{10} + c(z_{10} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{10} \hat{\mathbf{y}} + c(z_{10} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O IV
$\mathbf{B}_{21}$	$=$	$(x_{11} - y_{11}) \mathbf{a}_1 + (x_{11} + y_{11}) \mathbf{a}_2 + z_{11} \mathbf{a}_3$	$=$	$(ax_{11} + cz_{11} \cos \beta) \hat{\mathbf{x}} + by_{11} \hat{\mathbf{y}} + cz_{11} \sin \beta \hat{\mathbf{z}}$	(4a)	O V
$\mathbf{B}_{22}$	$=$	$(x_{11} + y_{11}) \mathbf{a}_1 + (x_{11} - y_{11}) \mathbf{a}_2 + (z_{11} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{11} + c(z_{11} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{11} \hat{\mathbf{y}} + c(z_{11} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O V
$\mathbf{B}_{23}$	$=$	$(x_{12} - y_{12}) \mathbf{a}_1 + (x_{12} + y_{12}) \mathbf{a}_2 + z_{12} \mathbf{a}_3$	$=$	$(ax_{12} + cz_{12} \cos \beta) \hat{\mathbf{x}} + by_{12} \hat{\mathbf{y}} + cz_{12} \sin \beta \hat{\mathbf{z}}$	(4a)	O VI
$\mathbf{B}_{24}$	$=$	$(x_{12} + y_{12}) \mathbf{a}_1 + (x_{12} - y_{12}) \mathbf{a}_2 + (z_{12} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{12} + c(z_{12} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{12} \hat{\mathbf{y}} + c(z_{12} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O VI
$\mathbf{B}_{25}$	$=$	$(x_{13} - y_{13}) \mathbf{a}_1 + (x_{13} + y_{13}) \mathbf{a}_2 + z_{13} \mathbf{a}_3$	$=$	$(ax_{13} + cz_{13} \cos \beta) \hat{\mathbf{x}} + by_{13} \hat{\mathbf{y}} + cz_{13} \sin \beta \hat{\mathbf{z}}$	(4a)	O VII
$\mathbf{B}_{26}$	$=$	$(x_{13} + y_{13}) \mathbf{a}_1 + (x_{13} - y_{13}) \mathbf{a}_2 + (z_{13} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{13} + c(z_{13} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{13} \hat{\mathbf{y}} + c(z_{13} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O VII
$\mathbf{B}_{27}$	$=$	$(x_{14} - y_{14}) \mathbf{a}_1 + (x_{14} + y_{14}) \mathbf{a}_2 + z_{14} \mathbf{a}_3$	$=$	$(ax_{14} + cz_{14} \cos \beta) \hat{\mathbf{x}} + by_{14} \hat{\mathbf{y}} + cz_{14} \sin \beta \hat{\mathbf{z}}$	(4a)	O VIII

$\mathbf{B}_{28} =$	$(x_{14} + y_{14}) \mathbf{a}_1 +$ $(x_{14} - y_{14}) \mathbf{a}_2 + (z_{14} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{14} + c(z_{14} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{14} \hat{\mathbf{y}} +$ $c(z_{14} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O VIII
$\mathbf{B}_{29} =$	$(x_{15} - y_{15}) \mathbf{a}_1 +$ $(x_{15} + y_{15}) \mathbf{a}_2 + z_{15} \mathbf{a}_3$	$=$	$(ax_{15} + cz_{15} \cos \beta) \hat{\mathbf{x}} + by_{15} \hat{\mathbf{y}} + cz_{15} \sin \beta \hat{\mathbf{z}}$	(4a)	O IX
$\mathbf{B}_{30} =$	$(x_{15} + y_{15}) \mathbf{a}_1 +$ $(x_{15} - y_{15}) \mathbf{a}_2 + (z_{15} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{15} + c(z_{15} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{15} \hat{\mathbf{y}} +$ $c(z_{15} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O IX
$\mathbf{B}_{31} =$	$(x_{16} - y_{16}) \mathbf{a}_1 +$ $(x_{16} + y_{16}) \mathbf{a}_2 + z_{16} \mathbf{a}_3$	$=$	$(ax_{16} + cz_{16} \cos \beta) \hat{\mathbf{x}} + by_{16} \hat{\mathbf{y}} + cz_{16} \sin \beta \hat{\mathbf{z}}$	(4a)	O X
$\mathbf{B}_{32} =$	$(x_{16} + y_{16}) \mathbf{a}_1 +$ $(x_{16} - y_{16}) \mathbf{a}_2 + (z_{16} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{16} + c(z_{16} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{16} \hat{\mathbf{y}} +$ $c(z_{16} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O X
$\mathbf{B}_{33} =$	$(x_{17} - y_{17}) \mathbf{a}_1 +$ $(x_{17} + y_{17}) \mathbf{a}_2 + z_{17} \mathbf{a}_3$	$=$	$(ax_{17} + cz_{17} \cos \beta) \hat{\mathbf{x}} + by_{17} \hat{\mathbf{y}} + cz_{17} \sin \beta \hat{\mathbf{z}}$	(4a)	O XI
$\mathbf{B}_{34} =$	$(x_{17} + y_{17}) \mathbf{a}_1 +$ $(x_{17} - y_{17}) \mathbf{a}_2 + (z_{17} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{17} + c(z_{17} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{17} \hat{\mathbf{y}} +$ $c(z_{17} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XI
$\mathbf{B}_{35} =$	$(x_{18} - y_{18}) \mathbf{a}_1 +$ $(x_{18} + y_{18}) \mathbf{a}_2 + z_{18} \mathbf{a}_3$	$=$	$(ax_{18} + cz_{18} \cos \beta) \hat{\mathbf{x}} + by_{18} \hat{\mathbf{y}} + cz_{18} \sin \beta \hat{\mathbf{z}}$	(4a)	O XII
$\mathbf{B}_{36} =$	$(x_{18} + y_{18}) \mathbf{a}_1 +$ $(x_{18} - y_{18}) \mathbf{a}_2 + (z_{18} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{18} + c(z_{18} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{18} \hat{\mathbf{y}} +$ $c(z_{18} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XII
$\mathbf{B}_{37} =$	$(x_{19} - y_{19}) \mathbf{a}_1 +$ $(x_{19} + y_{19}) \mathbf{a}_2 + z_{19} \mathbf{a}_3$	$=$	$(ax_{19} + cz_{19} \cos \beta) \hat{\mathbf{x}} + by_{19} \hat{\mathbf{y}} + cz_{19} \sin \beta \hat{\mathbf{z}}$	(4a)	O XIII
$\mathbf{B}_{38} =$	$(x_{19} + y_{19}) \mathbf{a}_1 +$ $(x_{19} - y_{19}) \mathbf{a}_2 + (z_{19} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{19} + c(z_{19} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{19} \hat{\mathbf{y}} +$ $c(z_{19} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XIII
$\mathbf{B}_{39} =$	$(x_{20} - y_{20}) \mathbf{a}_1 +$ $(x_{20} + y_{20}) \mathbf{a}_2 + z_{20} \mathbf{a}_3$	$=$	$(ax_{20} + cz_{20} \cos \beta) \hat{\mathbf{x}} + by_{20} \hat{\mathbf{y}} + cz_{20} \sin \beta \hat{\mathbf{z}}$	(4a)	O XIV
$\mathbf{B}_{40} =$	$(x_{20} + y_{20}) \mathbf{a}_1 +$ $(x_{20} - y_{20}) \mathbf{a}_2 + (z_{20} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{20} + c(z_{20} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{20} \hat{\mathbf{y}} +$ $c(z_{20} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XIV
$\mathbf{B}_{41} =$	$(x_{21} - y_{21}) \mathbf{a}_1 +$ $(x_{21} + y_{21}) \mathbf{a}_2 + z_{21} \mathbf{a}_3$	$=$	$(ax_{21} + cz_{21} \cos \beta) \hat{\mathbf{x}} + by_{21} \hat{\mathbf{y}} + cz_{21} \sin \beta \hat{\mathbf{z}}$	(4a)	O XV
$\mathbf{B}_{42} =$	$(x_{21} + y_{21}) \mathbf{a}_1 +$ $(x_{21} - y_{21}) \mathbf{a}_2 + (z_{21} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{21} + c(z_{21} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{21} \hat{\mathbf{y}} +$ $c(z_{21} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XV
$\mathbf{B}_{43} =$	$(x_{22} - y_{22}) \mathbf{a}_1 +$ $(x_{22} + y_{22}) \mathbf{a}_2 + z_{22} \mathbf{a}_3$	$=$	$(ax_{22} + cz_{22} \cos \beta) \hat{\mathbf{x}} + by_{22} \hat{\mathbf{y}} + cz_{22} \sin \beta \hat{\mathbf{z}}$	(4a)	O XVI
$\mathbf{B}_{44} =$	$(x_{22} + y_{22}) \mathbf{a}_1 +$ $(x_{22} - y_{22}) \mathbf{a}_2 + (z_{22} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{22} + c(z_{22} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{22} \hat{\mathbf{y}} +$ $c(z_{22} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XVI
$\mathbf{B}_{45} =$	$(x_{23} - y_{23}) \mathbf{a}_1 +$ $(x_{23} + y_{23}) \mathbf{a}_2 + z_{23} \mathbf{a}_3$	$=$	$(ax_{23} + cz_{23} \cos \beta) \hat{\mathbf{x}} + by_{23} \hat{\mathbf{y}} + cz_{23} \sin \beta \hat{\mathbf{z}}$	(4a)	O XVII
$\mathbf{B}_{46} =$	$(x_{23} + y_{23}) \mathbf{a}_1 +$ $(x_{23} - y_{23}) \mathbf{a}_2 + (z_{23} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{23} + c(z_{23} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{23} \hat{\mathbf{y}} +$ $c(z_{23} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XVII
$\mathbf{B}_{47} =$	$(x_{24} - y_{24}) \mathbf{a}_1 +$ $(x_{24} + y_{24}) \mathbf{a}_2 + z_{24} \mathbf{a}_3$	$=$	$(ax_{24} + cz_{24} \cos \beta) \hat{\mathbf{x}} + by_{24} \hat{\mathbf{y}} + cz_{24} \sin \beta \hat{\mathbf{z}}$	(4a)	O XVIII
$\mathbf{B}_{48} =$	$(x_{24} + y_{24}) \mathbf{a}_1 +$ $(x_{24} - y_{24}) \mathbf{a}_2 + (z_{24} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{24} + c(z_{24} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{24} \hat{\mathbf{y}} +$ $c(z_{24} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XVIII
$\mathbf{B}_{49} =$	$(x_{25} - y_{25}) \mathbf{a}_1 +$ $(x_{25} + y_{25}) \mathbf{a}_2 + z_{25} \mathbf{a}_3$	$=$	$(ax_{25} + cz_{25} \cos \beta) \hat{\mathbf{x}} + by_{25} \hat{\mathbf{y}} + cz_{25} \sin \beta \hat{\mathbf{z}}$	(4a)	O XIX
$\mathbf{B}_{50} =$	$(x_{25} + y_{25}) \mathbf{a}_1 +$ $(x_{25} - y_{25}) \mathbf{a}_2 + (z_{25} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{25} + c(z_{25} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{25} \hat{\mathbf{y}} +$ $c(z_{25} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XIX

$\mathbf{B}_{51} =$	$(x_{26} - y_{26}) \mathbf{a}_1 +$ $(x_{26} + y_{26}) \mathbf{a}_2 + z_{26} \mathbf{a}_3$	$=$	$(ax_{26} + cz_{26} \cos \beta) \hat{\mathbf{x}} + by_{26} \hat{\mathbf{y}} + cz_{26} \sin \beta \hat{\mathbf{z}}$	(4a)	O XX
$\mathbf{B}_{52} =$	$(x_{26} + y_{26}) \mathbf{a}_1 +$ $(x_{26} - y_{26}) \mathbf{a}_2 + (z_{26} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{26} + c(z_{26} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{26} \hat{\mathbf{y}} +$ $c(z_{26} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XX
$\mathbf{B}_{53} =$	$(x_{27} - y_{27}) \mathbf{a}_1 +$ $(x_{27} + y_{27}) \mathbf{a}_2 + z_{27} \mathbf{a}_3$	$=$	$(ax_{27} + cz_{27} \cos \beta) \hat{\mathbf{x}} + by_{27} \hat{\mathbf{y}} + cz_{27} \sin \beta \hat{\mathbf{z}}$	(4a)	O XXI
$\mathbf{B}_{54} =$	$(x_{27} + y_{27}) \mathbf{a}_1 +$ $(x_{27} - y_{27}) \mathbf{a}_2 + (z_{27} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{27} + c(z_{27} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{27} \hat{\mathbf{y}} +$ $c(z_{27} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XXI
$\mathbf{B}_{55} =$	$(x_{28} - y_{28}) \mathbf{a}_1 +$ $(x_{28} + y_{28}) \mathbf{a}_2 + z_{28} \mathbf{a}_3$	$=$	$(ax_{28} + cz_{28} \cos \beta) \hat{\mathbf{x}} + by_{28} \hat{\mathbf{y}} + cz_{28} \sin \beta \hat{\mathbf{z}}$	(4a)	O XXII
$\mathbf{B}_{56} =$	$(x_{28} + y_{28}) \mathbf{a}_1 +$ $(x_{28} - y_{28}) \mathbf{a}_2 + (z_{28} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{28} + c(z_{28} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{28} \hat{\mathbf{y}} +$ $c(z_{28} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XXII
$\mathbf{B}_{57} =$	$(x_{29} - y_{29}) \mathbf{a}_1 +$ $(x_{29} + y_{29}) \mathbf{a}_2 + z_{29} \mathbf{a}_3$	$=$	$(ax_{29} + cz_{29} \cos \beta) \hat{\mathbf{x}} + by_{29} \hat{\mathbf{y}} + cz_{29} \sin \beta \hat{\mathbf{z}}$	(4a)	O XXIII
$\mathbf{B}_{58} =$	$(x_{29} + y_{29}) \mathbf{a}_1 +$ $(x_{29} - y_{29}) \mathbf{a}_2 + (z_{29} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{29} + c(z_{29} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{29} \hat{\mathbf{y}} +$ $c(z_{29} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XXIII
$\mathbf{B}_{59} =$	$(x_{30} - y_{30}) \mathbf{a}_1 +$ $(x_{30} + y_{30}) \mathbf{a}_2 + z_{30} \mathbf{a}_3$	$=$	$(ax_{30} + cz_{30} \cos \beta) \hat{\mathbf{x}} + by_{30} \hat{\mathbf{y}} + cz_{30} \sin \beta \hat{\mathbf{z}}$	(4a)	O XXIV
$\mathbf{B}_{60} =$	$(x_{30} + y_{30}) \mathbf{a}_1 +$ $(x_{30} - y_{30}) \mathbf{a}_2 + (z_{30} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{30} + c(z_{30} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{30} \hat{\mathbf{y}} +$ $c(z_{30} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XXIV
$\mathbf{B}_{61} =$	$(x_{31} - y_{31}) \mathbf{a}_1 +$ $(x_{31} + y_{31}) \mathbf{a}_2 + z_{31} \mathbf{a}_3$	$=$	$(ax_{31} + cz_{31} \cos \beta) \hat{\mathbf{x}} + by_{31} \hat{\mathbf{y}} + cz_{31} \sin \beta \hat{\mathbf{z}}$	(4a)	O XXV
$\mathbf{B}_{62} =$	$(x_{31} + y_{31}) \mathbf{a}_1 +$ $(x_{31} - y_{31}) \mathbf{a}_2 + (z_{31} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{31} + c(z_{31} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{31} \hat{\mathbf{y}} +$ $c(z_{31} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XXV
$\mathbf{B}_{63} =$	$(x_{32} - y_{32}) \mathbf{a}_1 +$ $(x_{32} + y_{32}) \mathbf{a}_2 + z_{32} \mathbf{a}_3$	$=$	$(ax_{32} + cz_{32} \cos \beta) \hat{\mathbf{x}} + by_{32} \hat{\mathbf{y}} + cz_{32} \sin \beta \hat{\mathbf{z}}$	(4a)	O XXVI
$\mathbf{B}_{64} =$	$(x_{32} + y_{32}) \mathbf{a}_1 +$ $(x_{32} - y_{32}) \mathbf{a}_2 + (z_{32} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{32} + c(z_{32} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{32} \hat{\mathbf{y}} +$ $c(z_{32} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XXVI
$\mathbf{B}_{65} =$	$(x_{33} - y_{33}) \mathbf{a}_1 +$ $(x_{33} + y_{33}) \mathbf{a}_2 + z_{33} \mathbf{a}_3$	$=$	$(ax_{33} + cz_{33} \cos \beta) \hat{\mathbf{x}} + by_{33} \hat{\mathbf{y}} + cz_{33} \sin \beta \hat{\mathbf{z}}$	(4a)	O XXVII
$\mathbf{B}_{66} =$	$(x_{33} + y_{33}) \mathbf{a}_1 +$ $(x_{33} - y_{33}) \mathbf{a}_2 + (z_{33} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{33} + c(z_{33} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{33} \hat{\mathbf{y}} +$ $c(z_{33} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XXVII
$\mathbf{B}_{67} =$	$(x_{34} - y_{34}) \mathbf{a}_1 +$ $(x_{34} + y_{34}) \mathbf{a}_2 + z_{34} \mathbf{a}_3$	$=$	$(ax_{34} + cz_{34} \cos \beta) \hat{\mathbf{x}} + by_{34} \hat{\mathbf{y}} + cz_{34} \sin \beta \hat{\mathbf{z}}$	(4a)	O XXVIII
$\mathbf{B}_{68} =$	$(x_{34} + y_{34}) \mathbf{a}_1 +$ $(x_{34} - y_{34}) \mathbf{a}_2 + (z_{34} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{34} + c(z_{34} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{34} \hat{\mathbf{y}} +$ $c(z_{34} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XXVIII
$\mathbf{B}_{69} =$	$(x_{35} - y_{35}) \mathbf{a}_1 +$ $(x_{35} + y_{35}) \mathbf{a}_2 + z_{35} \mathbf{a}_3$	$=$	$(ax_{35} + cz_{35} \cos \beta) \hat{\mathbf{x}} + by_{35} \hat{\mathbf{y}} + cz_{35} \sin \beta \hat{\mathbf{z}}$	(4a)	O XXIX
$\mathbf{B}_{70} =$	$(x_{35} + y_{35}) \mathbf{a}_1 +$ $(x_{35} - y_{35}) \mathbf{a}_2 + (z_{35} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{35} + c(z_{35} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{35} \hat{\mathbf{y}} +$ $c(z_{35} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XXIX
$\mathbf{B}_{71} =$	$(x_{36} - y_{36}) \mathbf{a}_1 +$ $(x_{36} + y_{36}) \mathbf{a}_2 + z_{36} \mathbf{a}_3$	$=$	$(ax_{36} + cz_{36} \cos \beta) \hat{\mathbf{x}} + by_{36} \hat{\mathbf{y}} + cz_{36} \sin \beta \hat{\mathbf{z}}$	(4a)	O XXX
$\mathbf{B}_{72} =$	$(x_{36} + y_{36}) \mathbf{a}_1 +$ $(x_{36} - y_{36}) \mathbf{a}_2 + (z_{36} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{36} + c(z_{36} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{36} \hat{\mathbf{y}} +$ $c(z_{36} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XXX
$\mathbf{B}_{73} =$	$(x_{37} - y_{37}) \mathbf{a}_1 +$ $(x_{37} + y_{37}) \mathbf{a}_2 + z_{37} \mathbf{a}_3$	$=$	$(ax_{37} + cz_{37} \cos \beta) \hat{\mathbf{x}} + by_{37} \hat{\mathbf{y}} + cz_{37} \sin \beta \hat{\mathbf{z}}$	(4a)	O XXXI

$\mathbf{B}_{74} =$	$(x_{37} + y_{37}) \mathbf{a}_1 +$ $(x_{37} - y_{37}) \mathbf{a}_2 + (z_{37} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{37} + c(z_{37} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{37} \hat{\mathbf{y}} +$ $c(z_{37} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XXXI
$\mathbf{B}_{75} =$	$(x_{38} - y_{38}) \mathbf{a}_1 +$ $(x_{38} + y_{38}) \mathbf{a}_2 + z_{38} \mathbf{a}_3$	$=$	$(ax_{38} + cz_{38} \cos \beta) \hat{\mathbf{x}} + by_{38} \hat{\mathbf{y}} + cz_{38} \sin \beta \hat{\mathbf{z}}$	(4a)	O XXXII
$\mathbf{B}_{76} =$	$(x_{38} + y_{38}) \mathbf{a}_1 +$ $(x_{38} - y_{38}) \mathbf{a}_2 + (z_{38} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{38} + c(z_{38} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{38} \hat{\mathbf{y}} +$ $c(z_{38} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XXXII
$\mathbf{B}_{77} =$	$(x_{39} - y_{39}) \mathbf{a}_1 +$ $(x_{39} + y_{39}) \mathbf{a}_2 + z_{39} \mathbf{a}_3$	$=$	$(ax_{39} + cz_{39} \cos \beta) \hat{\mathbf{x}} + by_{39} \hat{\mathbf{y}} + cz_{39} \sin \beta \hat{\mathbf{z}}$	(4a)	O XXXIII
$\mathbf{B}_{78} =$	$(x_{39} + y_{39}) \mathbf{a}_1 +$ $(x_{39} - y_{39}) \mathbf{a}_2 + (z_{39} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{39} + c(z_{39} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{39} \hat{\mathbf{y}} +$ $c(z_{39} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XXXIII
$\mathbf{B}_{79} =$	$(x_{40} - y_{40}) \mathbf{a}_1 +$ $(x_{40} + y_{40}) \mathbf{a}_2 + z_{40} \mathbf{a}_3$	$=$	$(ax_{40} + cz_{40} \cos \beta) \hat{\mathbf{x}} + by_{40} \hat{\mathbf{y}} + cz_{40} \sin \beta \hat{\mathbf{z}}$	(4a)	O XXXIV
$\mathbf{B}_{80} =$	$(x_{40} + y_{40}) \mathbf{a}_1 +$ $(x_{40} - y_{40}) \mathbf{a}_2 + (z_{40} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{40} + c(z_{40} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{40} \hat{\mathbf{y}} +$ $c(z_{40} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XXXIV
$\mathbf{B}_{81} =$	$(x_{41} - y_{41}) \mathbf{a}_1 +$ $(x_{41} + y_{41}) \mathbf{a}_2 + z_{41} \mathbf{a}_3$	$=$	$(ax_{41} + cz_{41} \cos \beta) \hat{\mathbf{x}} + by_{41} \hat{\mathbf{y}} + cz_{41} \sin \beta \hat{\mathbf{z}}$	(4a)	O XXXV
$\mathbf{B}_{82} =$	$(x_{41} + y_{41}) \mathbf{a}_1 +$ $(x_{41} - y_{41}) \mathbf{a}_2 + (z_{41} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{41} + c(z_{41} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{41} \hat{\mathbf{y}} +$ $c(z_{41} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XXXV
$\mathbf{B}_{83} =$	$(x_{42} - y_{42}) \mathbf{a}_1 +$ $(x_{42} + y_{42}) \mathbf{a}_2 + z_{42} \mathbf{a}_3$	$=$	$(ax_{42} + cz_{42} \cos \beta) \hat{\mathbf{x}} + by_{42} \hat{\mathbf{y}} + cz_{42} \sin \beta \hat{\mathbf{z}}$	(4a)	O XXXVI
$\mathbf{B}_{84} =$	$(x_{42} + y_{42}) \mathbf{a}_1 +$ $(x_{42} - y_{42}) \mathbf{a}_2 + (z_{42} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{42} + c(z_{42} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{42} \hat{\mathbf{y}} +$ $c(z_{42} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	O XXXVI
$\mathbf{B}_{85} =$	$(x_{43} - y_{43}) \mathbf{a}_1 +$ $(x_{43} + y_{43}) \mathbf{a}_2 + z_{43} \mathbf{a}_3$	$=$	$(ax_{43} + cz_{43} \cos \beta) \hat{\mathbf{x}} + by_{43} \hat{\mathbf{y}} + cz_{43} \sin \beta \hat{\mathbf{z}}$	(4a)	W I
$\mathbf{B}_{86} =$	$(x_{43} + y_{43}) \mathbf{a}_1 +$ $(x_{43} - y_{43}) \mathbf{a}_2 + (z_{43} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{43} + c(z_{43} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{43} \hat{\mathbf{y}} +$ $c(z_{43} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	W I
$\mathbf{B}_{87} =$	$(x_{44} - y_{44}) \mathbf{a}_1 +$ $(x_{44} + y_{44}) \mathbf{a}_2 + z_{44} \mathbf{a}_3$	$=$	$(ax_{44} + cz_{44} \cos \beta) \hat{\mathbf{x}} + by_{44} \hat{\mathbf{y}} + cz_{44} \sin \beta \hat{\mathbf{z}}$	(4a)	W II
$\mathbf{B}_{88} =$	$(x_{44} + y_{44}) \mathbf{a}_1 +$ $(x_{44} - y_{44}) \mathbf{a}_2 + (z_{44} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{44} + c(z_{44} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{44} \hat{\mathbf{y}} +$ $c(z_{44} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	W II
$\mathbf{B}_{89} =$	$(x_{45} - y_{45}) \mathbf{a}_1 +$ $(x_{45} + y_{45}) \mathbf{a}_2 + z_{45} \mathbf{a}_3$	$=$	$(ax_{45} + cz_{45} \cos \beta) \hat{\mathbf{x}} + by_{45} \hat{\mathbf{y}} + cz_{45} \sin \beta \hat{\mathbf{z}}$	(4a)	W III
$\mathbf{B}_{90} =$	$(x_{45} + y_{45}) \mathbf{a}_1 +$ $(x_{45} - y_{45}) \mathbf{a}_2 + (z_{45} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{45} + c(z_{45} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{45} \hat{\mathbf{y}} +$ $c(z_{45} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	W III
$\mathbf{B}_{91} =$	$(x_{46} - y_{46}) \mathbf{a}_1 +$ $(x_{46} + y_{46}) \mathbf{a}_2 + z_{46} \mathbf{a}_3$	$=$	$(ax_{46} + cz_{46} \cos \beta) \hat{\mathbf{x}} + by_{46} \hat{\mathbf{y}} + cz_{46} \sin \beta \hat{\mathbf{z}}$	(4a)	W IV
$\mathbf{B}_{92} =$	$(x_{46} + y_{46}) \mathbf{a}_1 +$ $(x_{46} - y_{46}) \mathbf{a}_2 + (z_{46} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{46} + c(z_{46} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{46} \hat{\mathbf{y}} +$ $c(z_{46} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	W IV
$\mathbf{B}_{93} =$	$(x_{47} - y_{47}) \mathbf{a}_1 +$ $(x_{47} + y_{47}) \mathbf{a}_2 + z_{47} \mathbf{a}_3$	$=$	$(ax_{47} + cz_{47} \cos \beta) \hat{\mathbf{x}} + by_{47} \hat{\mathbf{y}} + cz_{47} \sin \beta \hat{\mathbf{z}}$	(4a)	W V
$\mathbf{B}_{94} =$	$(x_{47} + y_{47}) \mathbf{a}_1 +$ $(x_{47} - y_{47}) \mathbf{a}_2 + (z_{47} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{47} + c(z_{47} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{47} \hat{\mathbf{y}} +$ $c(z_{47} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	W V
$\mathbf{B}_{95} =$	$(x_{48} - y_{48}) \mathbf{a}_1 +$ $(x_{48} + y_{48}) \mathbf{a}_2 + z_{48} \mathbf{a}_3$	$=$	$(ax_{48} + cz_{48} \cos \beta) \hat{\mathbf{x}} + by_{48} \hat{\mathbf{y}} + cz_{48} \sin \beta \hat{\mathbf{z}}$	(4a)	W VI
$\mathbf{B}_{96} =$	$(x_{48} + y_{48}) \mathbf{a}_1 +$ $(x_{48} - y_{48}) \mathbf{a}_2 + (z_{48} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{48} + c(z_{48} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{48} \hat{\mathbf{y}} +$ $c(z_{48} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	W VI

$\mathbf{B}_{97} =$	$(x_{49} - y_{49}) \mathbf{a}_1 +$ $(x_{49} + y_{49}) \mathbf{a}_2 + z_{49} \mathbf{a}_3$	$=$	$(ax_{49} + cz_{49} \cos \beta) \hat{\mathbf{x}} + by_{49} \hat{\mathbf{y}} + cz_{49} \sin \beta \hat{\mathbf{z}}$	(4a)	W VII
$\mathbf{B}_{98} =$	$(x_{49} + y_{49}) \mathbf{a}_1 +$ $(x_{49} - y_{49}) \mathbf{a}_2 + (z_{49} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{49} + c(z_{49} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{49} \hat{\mathbf{y}} +$ $c(z_{49} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	W VII
$\mathbf{B}_{99} =$	$(x_{50} - y_{50}) \mathbf{a}_1 +$ $(x_{50} + y_{50}) \mathbf{a}_2 + z_{50} \mathbf{a}_3$	$=$	$(ax_{50} + cz_{50} \cos \beta) \hat{\mathbf{x}} + by_{50} \hat{\mathbf{y}} + cz_{50} \sin \beta \hat{\mathbf{z}}$	(4a)	W VIII
$\mathbf{B}_{100} =$	$(x_{50} + y_{50}) \mathbf{a}_1 +$ $(x_{50} - y_{50}) \mathbf{a}_2 + (z_{50} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{50} + c(z_{50} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{50} \hat{\mathbf{y}} +$ $c(z_{50} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	W VIII
$\mathbf{B}_{101} =$	$(x_{51} - y_{51}) \mathbf{a}_1 +$ $(x_{51} + y_{51}) \mathbf{a}_2 + z_{51} \mathbf{a}_3$	$=$	$(ax_{51} + cz_{51} \cos \beta) \hat{\mathbf{x}} + by_{51} \hat{\mathbf{y}} + cz_{51} \sin \beta \hat{\mathbf{z}}$	(4a)	W IX
$\mathbf{B}_{102} =$	$(x_{51} + y_{51}) \mathbf{a}_1 +$ $(x_{51} - y_{51}) \mathbf{a}_2 + (z_{51} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{51} + c(z_{51} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{51} \hat{\mathbf{y}} +$ $c(z_{51} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	W IX
$\mathbf{B}_{103} =$	$(x_{52} - y_{52}) \mathbf{a}_1 +$ $(x_{52} + y_{52}) \mathbf{a}_2 + z_{52} \mathbf{a}_3$	$=$	$(ax_{52} + cz_{52} \cos \beta) \hat{\mathbf{x}} + by_{52} \hat{\mathbf{y}} + cz_{52} \sin \beta \hat{\mathbf{z}}$	(4a)	W X
$\mathbf{B}_{104} =$	$(x_{52} + y_{52}) \mathbf{a}_1 +$ $(x_{52} - y_{52}) \mathbf{a}_2 + (z_{52} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{52} + c(z_{52} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{52} \hat{\mathbf{y}} +$ $c(z_{52} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	W X
$\mathbf{B}_{105} =$	$(x_{53} - y_{53}) \mathbf{a}_1 +$ $(x_{53} + y_{53}) \mathbf{a}_2 + z_{53} \mathbf{a}_3$	$=$	$(ax_{53} + cz_{53} \cos \beta) \hat{\mathbf{x}} + by_{53} \hat{\mathbf{y}} + cz_{53} \sin \beta \hat{\mathbf{z}}$	(4a)	W XI
$\mathbf{B}_{106} =$	$(x_{53} + y_{53}) \mathbf{a}_1 +$ $(x_{53} - y_{53}) \mathbf{a}_2 + (z_{53} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{53} + c(z_{53} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - by_{53} \hat{\mathbf{y}} +$ $c(z_{53} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4a)	W XI

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