

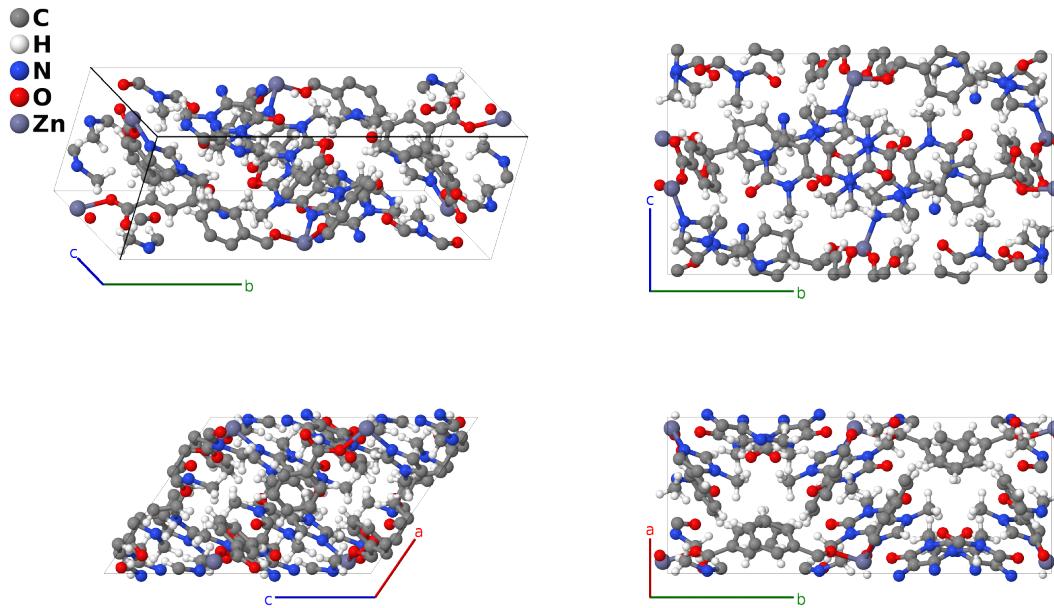
[Zn₂(Benzoato)₄(Caffeine)₂]·2-Caffeine (C₃₀H₃₀N₈O₈Zn) Structure:

A30B30C8D8E_mP308_14_30e_30e_8e_8e_e-001

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<https://aflow.org/p/6QN7>

https://aflow.org/p/A30B30C8D8E_mP308_14_30e_30e_8e_8e_e-001

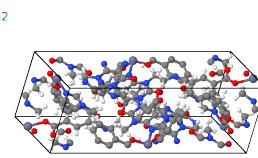


Prototype	C ₃₀ H ₃₀ N ₈ O ₈ Zn
AFLOW prototype label	A30B30C8D8E_mP308_14_30e_30e_8e_8e_e-001
CCDC	687128
Pearson symbol	mP308
Space group number	14
Space group symbol	P ₂ ₁ /c
AFLOW prototype command	<pre>aflow --proto=A30B30C8D8E_mP308_14_30e_30e_8e_8e_e-001 --params=a,b/a,c/a,\beta,x_1,y_1,z_1,x_2,y_2,z_2,x_3,y_3,z_3,x_4,y_4,z_4,x_5,y_5,z_5,x_6,y_6,z_6,x_7, 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,x_54,y_54,z_54,x_55,y_55,z_55,x_56,y_56,z_56,x_57,y_57,z_57,x_58,y_58,z_58,x_59, y_59,z_59,x_60,y_60,z_60,x_61,y_61,z_61,x_62,y_62,z_62,x_63,y_63,z_63,x_64,y_64,z_64,x_65,y_65,z_65,x_66,y_66, z_66,x_67,y_67,z_67,x_68,y_68,z_68,x_69,y_69,z_69,x_70,y_70,z_70,x_71,y_71,z_71,x_72,y_72,z_72,x_73,y_73,z_73, x_74,y_74,z_74,x_75,y_75,z_75,x_76,y_76,z_76,x_77,y_77,z_77</pre>

- (Findoráková, 2010) present this structure in the $P2_1/n$ setting of space group #14. We used FINDSYM to change this to the standard $P2_1/c$ setting.

Simple Monoclinic primitive vectors

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



Basis vectors

	Lattice coordinates	Cartesian coordinates	Wyckoff position	Atom type
\mathbf{B}_1	$x_1 \mathbf{a}_1 + y_1 \mathbf{a}_2 + z_1 \mathbf{a}_3$	$(ax_1 + cz_1 \cos \beta) \hat{\mathbf{x}} + by_1 \hat{\mathbf{y}} + cz_1 \sin \beta \hat{\mathbf{z}}$	(4e)	C I
\mathbf{B}_2	$-x_1 \mathbf{a}_1 + (y_1 + \frac{1}{2}) \mathbf{a}_2 - (z_1 - \frac{1}{2}) \mathbf{a}_3$	$-(ax_1 + c(z_1 - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_1 + \frac{1}{2}) \hat{\mathbf{y}} - c(z_1 - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C I
\mathbf{B}_3	$-x_1 \mathbf{a}_1 - y_1 \mathbf{a}_2 - z_1 \mathbf{a}_3$	$-(ax_1 + cz_1 \cos \beta) \hat{\mathbf{x}} - by_1 \hat{\mathbf{y}} - cz_1 \sin \beta \hat{\mathbf{z}}$	(4e)	C I
\mathbf{B}_4	$x_1 \mathbf{a}_1 - (y_1 - \frac{1}{2}) \mathbf{a}_2 + (z_1 + \frac{1}{2}) \mathbf{a}_3$	$(ax_1 + c(z_1 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_1 - \frac{1}{2}) \hat{\mathbf{y}} + c(z_1 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C I
\mathbf{B}_5	$x_2 \mathbf{a}_1 + y_2 \mathbf{a}_2 + z_2 \mathbf{a}_3$	$(ax_2 + cz_2 \cos \beta) \hat{\mathbf{x}} + by_2 \hat{\mathbf{y}} + cz_2 \sin \beta \hat{\mathbf{z}}$	(4e)	C II
\mathbf{B}_6	$-x_2 \mathbf{a}_1 + (y_2 + \frac{1}{2}) \mathbf{a}_2 - (z_2 - \frac{1}{2}) \mathbf{a}_3$	$-(ax_2 + c(z_2 - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_2 + \frac{1}{2}) \hat{\mathbf{y}} - c(z_2 - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C II
\mathbf{B}_7	$-x_2 \mathbf{a}_1 - y_2 \mathbf{a}_2 - z_2 \mathbf{a}_3$	$-(ax_2 + cz_2 \cos \beta) \hat{\mathbf{x}} - by_2 \hat{\mathbf{y}} - cz_2 \sin \beta \hat{\mathbf{z}}$	(4e)	C II
\mathbf{B}_8	$x_2 \mathbf{a}_1 - (y_2 - \frac{1}{2}) \mathbf{a}_2 + (z_2 + \frac{1}{2}) \mathbf{a}_3$	$(ax_2 + c(z_2 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_2 - \frac{1}{2}) \hat{\mathbf{y}} + c(z_2 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C II
\mathbf{B}_9	$x_3 \mathbf{a}_1 + y_3 \mathbf{a}_2 + z_3 \mathbf{a}_3$	$(ax_3 + cz_3 \cos \beta) \hat{\mathbf{x}} + by_3 \hat{\mathbf{y}} + cz_3 \sin \beta \hat{\mathbf{z}}$	(4e)	C III
\mathbf{B}_{10}	$-x_3 \mathbf{a}_1 + (y_3 + \frac{1}{2}) \mathbf{a}_2 - (z_3 - \frac{1}{2}) \mathbf{a}_3$	$-(ax_3 + c(z_3 - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_3 + \frac{1}{2}) \hat{\mathbf{y}} - c(z_3 - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C III
\mathbf{B}_{11}	$-x_3 \mathbf{a}_1 - y_3 \mathbf{a}_2 - z_3 \mathbf{a}_3$	$-(ax_3 + cz_3 \cos \beta) \hat{\mathbf{x}} - by_3 \hat{\mathbf{y}} - cz_3 \sin \beta \hat{\mathbf{z}}$	(4e)	C III
\mathbf{B}_{12}	$x_3 \mathbf{a}_1 - (y_3 - \frac{1}{2}) \mathbf{a}_2 + (z_3 + \frac{1}{2}) \mathbf{a}_3$	$(ax_3 + c(z_3 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_3 - \frac{1}{2}) \hat{\mathbf{y}} + c(z_3 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C III
\mathbf{B}_{13}	$x_4 \mathbf{a}_1 + y_4 \mathbf{a}_2 + z_4 \mathbf{a}_3$	$(ax_4 + cz_4 \cos \beta) \hat{\mathbf{x}} + by_4 \hat{\mathbf{y}} + cz_4 \sin \beta \hat{\mathbf{z}}$	(4e)	C IV
\mathbf{B}_{14}	$-x_4 \mathbf{a}_1 + (y_4 + \frac{1}{2}) \mathbf{a}_2 - (z_4 - \frac{1}{2}) \mathbf{a}_3$	$-(ax_4 + c(z_4 - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_4 + \frac{1}{2}) \hat{\mathbf{y}} - c(z_4 - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C IV
\mathbf{B}_{15}	$-x_4 \mathbf{a}_1 - y_4 \mathbf{a}_2 - z_4 \mathbf{a}_3$	$-(ax_4 + cz_4 \cos \beta) \hat{\mathbf{x}} - by_4 \hat{\mathbf{y}} - cz_4 \sin \beta \hat{\mathbf{z}}$	(4e)	C IV
\mathbf{B}_{16}	$x_4 \mathbf{a}_1 - (y_4 - \frac{1}{2}) \mathbf{a}_2 + (z_4 + \frac{1}{2}) \mathbf{a}_3$	$(ax_4 + c(z_4 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_4 - \frac{1}{2}) \hat{\mathbf{y}} + c(z_4 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C IV
\mathbf{B}_{17}	$x_5 \mathbf{a}_1 + y_5 \mathbf{a}_2 + z_5 \mathbf{a}_3$	$(ax_5 + cz_5 \cos \beta) \hat{\mathbf{x}} + by_5 \hat{\mathbf{y}} + cz_5 \sin \beta \hat{\mathbf{z}}$	(4e)	C V
\mathbf{B}_{18}	$-x_5 \mathbf{a}_1 + (y_5 + \frac{1}{2}) \mathbf{a}_2 - (z_5 - \frac{1}{2}) \mathbf{a}_3$	$-(ax_5 + c(z_5 - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_5 + \frac{1}{2}) \hat{\mathbf{y}} - c(z_5 - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C V
\mathbf{B}_{19}	$-x_5 \mathbf{a}_1 - y_5 \mathbf{a}_2 - z_5 \mathbf{a}_3$	$-(ax_5 + cz_5 \cos \beta) \hat{\mathbf{x}} - by_5 \hat{\mathbf{y}} - cz_5 \sin \beta \hat{\mathbf{z}}$	(4e)	C V
\mathbf{B}_{20}	$x_5 \mathbf{a}_1 - (y_5 - \frac{1}{2}) \mathbf{a}_2 + (z_5 + \frac{1}{2}) \mathbf{a}_3$	$(ax_5 + c(z_5 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_5 - \frac{1}{2}) \hat{\mathbf{y}} + c(z_5 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C V

\mathbf{B}_{21}	$x_6 \mathbf{a}_1 + y_6 \mathbf{a}_2 + z_6 \mathbf{a}_3$	$=$	$(ax_6 + cz_6 \cos \beta) \hat{\mathbf{x}} + by_6 \hat{\mathbf{y}} + cz_6 \sin \beta \hat{\mathbf{z}}$	(4e)	C VI
\mathbf{B}_{22}	$-x_6 \mathbf{a}_1 + (y_6 + \frac{1}{2}) \mathbf{a}_2 - (z_6 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-(ax_6 + c(z_6 - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_6 + \frac{1}{2}) \hat{\mathbf{y}} - c(z_6 - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C VI
\mathbf{B}_{23}	$-x_6 \mathbf{a}_1 - y_6 \mathbf{a}_2 - z_6 \mathbf{a}_3$	$=$	$-(ax_6 + cz_6 \cos \beta) \hat{\mathbf{x}} - by_6 \hat{\mathbf{y}} - cz_6 \sin \beta \hat{\mathbf{z}}$	(4e)	C VI
\mathbf{B}_{24}	$x_6 \mathbf{a}_1 - (y_6 - \frac{1}{2}) \mathbf{a}_2 + (z_6 + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_6 + c(z_6 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_6 - \frac{1}{2}) \hat{\mathbf{y}} + c(z_6 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C VI
\mathbf{B}_{25}	$x_7 \mathbf{a}_1 + y_7 \mathbf{a}_2 + z_7 \mathbf{a}_3$	$=$	$(ax_7 + cz_7 \cos \beta) \hat{\mathbf{x}} + by_7 \hat{\mathbf{y}} + cz_7 \sin \beta \hat{\mathbf{z}}$	(4e)	C VII
\mathbf{B}_{26}	$-x_7 \mathbf{a}_1 + (y_7 + \frac{1}{2}) \mathbf{a}_2 - (z_7 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-(ax_7 + c(z_7 - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_7 + \frac{1}{2}) \hat{\mathbf{y}} - c(z_7 - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C VII
\mathbf{B}_{27}	$-x_7 \mathbf{a}_1 - y_7 \mathbf{a}_2 - z_7 \mathbf{a}_3$	$=$	$-(ax_7 + cz_7 \cos \beta) \hat{\mathbf{x}} - by_7 \hat{\mathbf{y}} - cz_7 \sin \beta \hat{\mathbf{z}}$	(4e)	C VII
\mathbf{B}_{28}	$x_7 \mathbf{a}_1 - (y_7 - \frac{1}{2}) \mathbf{a}_2 + (z_7 + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_7 + c(z_7 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_7 - \frac{1}{2}) \hat{\mathbf{y}} + c(z_7 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C VII
\mathbf{B}_{29}	$x_8 \mathbf{a}_1 + y_8 \mathbf{a}_2 + z_8 \mathbf{a}_3$	$=$	$(ax_8 + cz_8 \cos \beta) \hat{\mathbf{x}} + by_8 \hat{\mathbf{y}} + cz_8 \sin \beta \hat{\mathbf{z}}$	(4e)	C VIII
\mathbf{B}_{30}	$-x_8 \mathbf{a}_1 + (y_8 + \frac{1}{2}) \mathbf{a}_2 - (z_8 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-(ax_8 + c(z_8 - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_8 + \frac{1}{2}) \hat{\mathbf{y}} - c(z_8 - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C VIII
\mathbf{B}_{31}	$-x_8 \mathbf{a}_1 - y_8 \mathbf{a}_2 - z_8 \mathbf{a}_3$	$=$	$-(ax_8 + cz_8 \cos \beta) \hat{\mathbf{x}} - by_8 \hat{\mathbf{y}} - cz_8 \sin \beta \hat{\mathbf{z}}$	(4e)	C VIII
\mathbf{B}_{32}	$x_8 \mathbf{a}_1 - (y_8 - \frac{1}{2}) \mathbf{a}_2 + (z_8 + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_8 + c(z_8 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_8 - \frac{1}{2}) \hat{\mathbf{y}} + c(z_8 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C VIII
\mathbf{B}_{33}	$x_9 \mathbf{a}_1 + y_9 \mathbf{a}_2 + z_9 \mathbf{a}_3$	$=$	$(ax_9 + cz_9 \cos \beta) \hat{\mathbf{x}} + by_9 \hat{\mathbf{y}} + cz_9 \sin \beta \hat{\mathbf{z}}$	(4e)	C IX
\mathbf{B}_{34}	$-x_9 \mathbf{a}_1 + (y_9 + \frac{1}{2}) \mathbf{a}_2 - (z_9 - \frac{1}{2}) \mathbf{a}_3$	$=$	$-(ax_9 + c(z_9 - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_9 + \frac{1}{2}) \hat{\mathbf{y}} - c(z_9 - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C IX
\mathbf{B}_{35}	$-x_9 \mathbf{a}_1 - y_9 \mathbf{a}_2 - z_9 \mathbf{a}_3$	$=$	$-(ax_9 + cz_9 \cos \beta) \hat{\mathbf{x}} - by_9 \hat{\mathbf{y}} - cz_9 \sin \beta \hat{\mathbf{z}}$	(4e)	C IX
\mathbf{B}_{36}	$x_9 \mathbf{a}_1 - (y_9 - \frac{1}{2}) \mathbf{a}_2 + (z_9 + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_9 + c(z_9 + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_9 - \frac{1}{2}) \hat{\mathbf{y}} + c(z_9 + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C IX
\mathbf{B}_{37}	$x_{10} \mathbf{a}_1 + y_{10} \mathbf{a}_2 + z_{10} \mathbf{a}_3$	$=$	$(ax_{10} + cz_{10} \cos \beta) \hat{\mathbf{x}} + by_{10} \hat{\mathbf{y}} + cz_{10} \sin \beta \hat{\mathbf{z}}$	(4e)	C X
\mathbf{B}_{38}	$-x_{10} \mathbf{a}_1 + (y_{10} + \frac{1}{2}) \mathbf{a}_2 - (z_{10} - \frac{1}{2}) \mathbf{a}_3$	$=$	$-(ax_{10} + c(z_{10} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{10} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{10} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C X
\mathbf{B}_{39}	$-x_{10} \mathbf{a}_1 - y_{10} \mathbf{a}_2 - z_{10} \mathbf{a}_3$	$=$	$-(ax_{10} + cz_{10} \cos \beta) \hat{\mathbf{x}} - by_{10} \hat{\mathbf{y}} - cz_{10} \sin \beta \hat{\mathbf{z}}$	(4e)	C X
\mathbf{B}_{40}	$x_{10} \mathbf{a}_1 - (y_{10} - \frac{1}{2}) \mathbf{a}_2 + (z_{10} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{10} + c(z_{10} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{10} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{10} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C X
\mathbf{B}_{41}	$x_{11} \mathbf{a}_1 + y_{11} \mathbf{a}_2 + z_{11} \mathbf{a}_3$	$=$	$(ax_{11} + cz_{11} \cos \beta) \hat{\mathbf{x}} + by_{11} \hat{\mathbf{y}} + cz_{11} \sin \beta \hat{\mathbf{z}}$	(4e)	C XI
\mathbf{B}_{42}	$-x_{11} \mathbf{a}_1 + (y_{11} + \frac{1}{2}) \mathbf{a}_2 - (z_{11} - \frac{1}{2}) \mathbf{a}_3$	$=$	$-(ax_{11} + c(z_{11} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{11} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{11} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C XI
\mathbf{B}_{43}	$-x_{11} \mathbf{a}_1 - y_{11} \mathbf{a}_2 - z_{11} \mathbf{a}_3$	$=$	$-(ax_{11} + cz_{11} \cos \beta) \hat{\mathbf{x}} - by_{11} \hat{\mathbf{y}} - cz_{11} \sin \beta \hat{\mathbf{z}}$	(4e)	C XI
\mathbf{B}_{44}	$x_{11} \mathbf{a}_1 - (y_{11} - \frac{1}{2}) \mathbf{a}_2 + (z_{11} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{11} + c(z_{11} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{11} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{11} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C XI
\mathbf{B}_{45}	$x_{12} \mathbf{a}_1 + y_{12} \mathbf{a}_2 + z_{12} \mathbf{a}_3$	$=$	$(ax_{12} + cz_{12} \cos \beta) \hat{\mathbf{x}} + by_{12} \hat{\mathbf{y}} + cz_{12} \sin \beta \hat{\mathbf{z}}$	(4e)	C XII
\mathbf{B}_{46}	$-x_{12} \mathbf{a}_1 + (y_{12} + \frac{1}{2}) \mathbf{a}_2 - (z_{12} - \frac{1}{2}) \mathbf{a}_3$	$=$	$-(ax_{12} + c(z_{12} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{12} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{12} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C XII
\mathbf{B}_{47}	$-x_{12} \mathbf{a}_1 - y_{12} \mathbf{a}_2 - z_{12} \mathbf{a}_3$	$=$	$-(ax_{12} + cz_{12} \cos \beta) \hat{\mathbf{x}} - by_{12} \hat{\mathbf{y}} - cz_{12} \sin \beta \hat{\mathbf{z}}$	(4e)	C XII
\mathbf{B}_{48}	$x_{12} \mathbf{a}_1 - (y_{12} - \frac{1}{2}) \mathbf{a}_2 + (z_{12} + \frac{1}{2}) \mathbf{a}_3$	$=$	$(ax_{12} + c(z_{12} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{12} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{12} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C XII

B₇₅	=	$-x_{19} \mathbf{a}_1 - y_{19} \mathbf{a}_2 - z_{19} \mathbf{a}_3$	=	$-(ax_{19} + cz_{19} \cos \beta) \hat{\mathbf{x}} - by_{19} \hat{\mathbf{y}} - cz_{19} \sin \beta \hat{\mathbf{z}}$	(4e)	C XIX
B₇₆	=	$x_{19} \mathbf{a}_1 - (y_{19} - \frac{1}{2}) \mathbf{a}_2 + (z_{19} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{19} + c(z_{19} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{19} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{19} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C XIX
B₇₇	=	$x_{20} \mathbf{a}_1 + y_{20} \mathbf{a}_2 + z_{20} \mathbf{a}_3$	=	$(ax_{20} + cz_{20} \cos \beta) \hat{\mathbf{x}} + by_{20} \hat{\mathbf{y}} + cz_{20} \sin \beta \hat{\mathbf{z}}$	(4e)	C XX
B₇₈	=	$-x_{20} \mathbf{a}_1 + (y_{20} + \frac{1}{2}) \mathbf{a}_2 - (z_{20} - \frac{1}{2}) \mathbf{a}_3$	=	$-(ax_{20} + c(z_{20} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{20} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{20} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C XX
B₇₉	=	$-x_{20} \mathbf{a}_1 - y_{20} \mathbf{a}_2 - z_{20} \mathbf{a}_3$	=	$-(ax_{20} + cz_{20} \cos \beta) \hat{\mathbf{x}} - by_{20} \hat{\mathbf{y}} - cz_{20} \sin \beta \hat{\mathbf{z}}$	(4e)	C XX
B₈₀	=	$x_{20} \mathbf{a}_1 - (y_{20} - \frac{1}{2}) \mathbf{a}_2 + (z_{20} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{20} + c(z_{20} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{20} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{20} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C XX
B₈₁	=	$x_{21} \mathbf{a}_1 + y_{21} \mathbf{a}_2 + z_{21} \mathbf{a}_3$	=	$(ax_{21} + cz_{21} \cos \beta) \hat{\mathbf{x}} + by_{21} \hat{\mathbf{y}} + cz_{21} \sin \beta \hat{\mathbf{z}}$	(4e)	C XXI
B₈₂	=	$-x_{21} \mathbf{a}_1 + (y_{21} + \frac{1}{2}) \mathbf{a}_2 - (z_{21} - \frac{1}{2}) \mathbf{a}_3$	=	$-(ax_{21} + c(z_{21} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{21} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{21} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C XXI
B₈₃	=	$-x_{21} \mathbf{a}_1 - y_{21} \mathbf{a}_2 - z_{21} \mathbf{a}_3$	=	$-(ax_{21} + cz_{21} \cos \beta) \hat{\mathbf{x}} - by_{21} \hat{\mathbf{y}} - cz_{21} \sin \beta \hat{\mathbf{z}}$	(4e)	C XXI
B₈₄	=	$x_{21} \mathbf{a}_1 - (y_{21} - \frac{1}{2}) \mathbf{a}_2 + (z_{21} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{21} + c(z_{21} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{21} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{21} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C XXI
B₈₅	=	$x_{22} \mathbf{a}_1 + y_{22} \mathbf{a}_2 + z_{22} \mathbf{a}_3$	=	$(ax_{22} + cz_{22} \cos \beta) \hat{\mathbf{x}} + by_{22} \hat{\mathbf{y}} + cz_{22} \sin \beta \hat{\mathbf{z}}$	(4e)	C XXII
B₈₆	=	$-x_{22} \mathbf{a}_1 + (y_{22} + \frac{1}{2}) \mathbf{a}_2 - (z_{22} - \frac{1}{2}) \mathbf{a}_3$	=	$-(ax_{22} + c(z_{22} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{22} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{22} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C XXII
B₈₇	=	$-x_{22} \mathbf{a}_1 - y_{22} \mathbf{a}_2 - z_{22} \mathbf{a}_3$	=	$-(ax_{22} + cz_{22} \cos \beta) \hat{\mathbf{x}} - by_{22} \hat{\mathbf{y}} - cz_{22} \sin \beta \hat{\mathbf{z}}$	(4e)	C XXII
B₈₈	=	$x_{22} \mathbf{a}_1 - (y_{22} - \frac{1}{2}) \mathbf{a}_2 + (z_{22} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{22} + c(z_{22} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{22} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{22} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C XXII
B₈₉	=	$x_{23} \mathbf{a}_1 + y_{23} \mathbf{a}_2 + z_{23} \mathbf{a}_3$	=	$(ax_{23} + cz_{23} \cos \beta) \hat{\mathbf{x}} + by_{23} \hat{\mathbf{y}} + cz_{23} \sin \beta \hat{\mathbf{z}}$	(4e)	C XXIII
B₉₀	=	$-x_{23} \mathbf{a}_1 + (y_{23} + \frac{1}{2}) \mathbf{a}_2 - (z_{23} - \frac{1}{2}) \mathbf{a}_3$	=	$-(ax_{23} + c(z_{23} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{23} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{23} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C XXIII
B₉₁	=	$-x_{23} \mathbf{a}_1 - y_{23} \mathbf{a}_2 - z_{23} \mathbf{a}_3$	=	$-(ax_{23} + cz_{23} \cos \beta) \hat{\mathbf{x}} - by_{23} \hat{\mathbf{y}} - cz_{23} \sin \beta \hat{\mathbf{z}}$	(4e)	C XXIII
B₉₂	=	$x_{23} \mathbf{a}_1 - (y_{23} - \frac{1}{2}) \mathbf{a}_2 + (z_{23} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{23} + c(z_{23} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{23} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{23} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C XXIII
B₉₃	=	$x_{24} \mathbf{a}_1 + y_{24} \mathbf{a}_2 + z_{24} \mathbf{a}_3$	=	$(ax_{24} + cz_{24} \cos \beta) \hat{\mathbf{x}} + by_{24} \hat{\mathbf{y}} + cz_{24} \sin \beta \hat{\mathbf{z}}$	(4e)	C XXIV
B₉₄	=	$-x_{24} \mathbf{a}_1 + (y_{24} + \frac{1}{2}) \mathbf{a}_2 - (z_{24} - \frac{1}{2}) \mathbf{a}_3$	=	$-(ax_{24} + c(z_{24} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{24} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{24} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C XXIV
B₉₅	=	$-x_{24} \mathbf{a}_1 - y_{24} \mathbf{a}_2 - z_{24} \mathbf{a}_3$	=	$-(ax_{24} + cz_{24} \cos \beta) \hat{\mathbf{x}} - by_{24} \hat{\mathbf{y}} - cz_{24} \sin \beta \hat{\mathbf{z}}$	(4e)	C XXIV
B₉₆	=	$x_{24} \mathbf{a}_1 - (y_{24} - \frac{1}{2}) \mathbf{a}_2 + (z_{24} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{24} + c(z_{24} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{24} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{24} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C XXIV
B₉₇	=	$x_{25} \mathbf{a}_1 + y_{25} \mathbf{a}_2 + z_{25} \mathbf{a}_3$	=	$(ax_{25} + cz_{25} \cos \beta) \hat{\mathbf{x}} + by_{25} \hat{\mathbf{y}} + cz_{25} \sin \beta \hat{\mathbf{z}}$	(4e)	C XXV
B₉₈	=	$-x_{25} \mathbf{a}_1 + (y_{25} + \frac{1}{2}) \mathbf{a}_2 - (z_{25} - \frac{1}{2}) \mathbf{a}_3$	=	$-(ax_{25} + c(z_{25} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{25} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{25} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C XXV
B₉₉	=	$-x_{25} \mathbf{a}_1 - y_{25} \mathbf{a}_2 - z_{25} \mathbf{a}_3$	=	$-(ax_{25} + cz_{25} \cos \beta) \hat{\mathbf{x}} - by_{25} \hat{\mathbf{y}} - cz_{25} \sin \beta \hat{\mathbf{z}}$	(4e)	C XXV
B₁₀₀	=	$x_{25} \mathbf{a}_1 - (y_{25} - \frac{1}{2}) \mathbf{a}_2 + (z_{25} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{25} + c(z_{25} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{25} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{25} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	C XXV

B₁₇₉ =	$-x_{45} \mathbf{a}_1 - y_{45} \mathbf{a}_2 - z_{45} \mathbf{a}_3$	=	$-(ax_{45} + cz_{45} \cos \beta) \hat{\mathbf{x}} - by_{45} \hat{\mathbf{y}} - cz_{45} \sin \beta \hat{\mathbf{z}}$	(4e)	H XV
B₁₈₀ =	$x_{45} \mathbf{a}_1 - (y_{45} - \frac{1}{2}) \mathbf{a}_2 + (z_{45} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{45} + c(z_{45} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{45} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{45} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	H XV
B₁₈₁ =	$x_{46} \mathbf{a}_1 + y_{46} \mathbf{a}_2 + z_{46} \mathbf{a}_3$	=	$(ax_{46} + cz_{46} \cos \beta) \hat{\mathbf{x}} + by_{46} \hat{\mathbf{y}} + cz_{46} \sin \beta \hat{\mathbf{z}}$	(4e)	H XVI
B₁₈₂ =	$-x_{46} \mathbf{a}_1 + (y_{46} + \frac{1}{2}) \mathbf{a}_2 - (z_{46} - \frac{1}{2}) \mathbf{a}_3$	=	$-(ax_{46} + c(z_{46} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{46} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{46} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	H XVI
B₁₈₃ =	$-x_{46} \mathbf{a}_1 - y_{46} \mathbf{a}_2 - z_{46} \mathbf{a}_3$	=	$-(ax_{46} + cz_{46} \cos \beta) \hat{\mathbf{x}} - by_{46} \hat{\mathbf{y}} - cz_{46} \sin \beta \hat{\mathbf{z}}$	(4e)	H XVI
B₁₈₄ =	$x_{46} \mathbf{a}_1 - (y_{46} - \frac{1}{2}) \mathbf{a}_2 + (z_{46} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{46} + c(z_{46} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{46} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{46} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	H XVI
B₁₈₅ =	$x_{47} \mathbf{a}_1 + y_{47} \mathbf{a}_2 + z_{47} \mathbf{a}_3$	=	$(ax_{47} + cz_{47} \cos \beta) \hat{\mathbf{x}} + by_{47} \hat{\mathbf{y}} + cz_{47} \sin \beta \hat{\mathbf{z}}$	(4e)	H XVII
B₁₈₆ =	$-x_{47} \mathbf{a}_1 + (y_{47} + \frac{1}{2}) \mathbf{a}_2 - (z_{47} - \frac{1}{2}) \mathbf{a}_3$	=	$-(ax_{47} + c(z_{47} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{47} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{47} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	H XVII
B₁₈₇ =	$-x_{47} \mathbf{a}_1 - y_{47} \mathbf{a}_2 - z_{47} \mathbf{a}_3$	=	$-(ax_{47} + cz_{47} \cos \beta) \hat{\mathbf{x}} - by_{47} \hat{\mathbf{y}} - cz_{47} \sin \beta \hat{\mathbf{z}}$	(4e)	H XVII
B₁₈₈ =	$x_{47} \mathbf{a}_1 - (y_{47} - \frac{1}{2}) \mathbf{a}_2 + (z_{47} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{47} + c(z_{47} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{47} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{47} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	H XVII
B₁₈₉ =	$x_{48} \mathbf{a}_1 + y_{48} \mathbf{a}_2 + z_{48} \mathbf{a}_3$	=	$(ax_{48} + cz_{48} \cos \beta) \hat{\mathbf{x}} + by_{48} \hat{\mathbf{y}} + cz_{48} \sin \beta \hat{\mathbf{z}}$	(4e)	H XVIII
B₁₉₀ =	$-x_{48} \mathbf{a}_1 + (y_{48} + \frac{1}{2}) \mathbf{a}_2 - (z_{48} - \frac{1}{2}) \mathbf{a}_3$	=	$-(ax_{48} + c(z_{48} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{48} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{48} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	H XVIII
B₁₉₁ =	$-x_{48} \mathbf{a}_1 - y_{48} \mathbf{a}_2 - z_{48} \mathbf{a}_3$	=	$-(ax_{48} + cz_{48} \cos \beta) \hat{\mathbf{x}} - by_{48} \hat{\mathbf{y}} - cz_{48} \sin \beta \hat{\mathbf{z}}$	(4e)	H XVIII
B₁₉₂ =	$x_{48} \mathbf{a}_1 - (y_{48} - \frac{1}{2}) \mathbf{a}_2 + (z_{48} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{48} + c(z_{48} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{48} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{48} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	H XVIII
B₁₉₃ =	$x_{49} \mathbf{a}_1 + y_{49} \mathbf{a}_2 + z_{49} \mathbf{a}_3$	=	$(ax_{49} + cz_{49} \cos \beta) \hat{\mathbf{x}} + by_{49} \hat{\mathbf{y}} + cz_{49} \sin \beta \hat{\mathbf{z}}$	(4e)	H XIX
B₁₉₄ =	$-x_{49} \mathbf{a}_1 + (y_{49} + \frac{1}{2}) \mathbf{a}_2 - (z_{49} - \frac{1}{2}) \mathbf{a}_3$	=	$-(ax_{49} + c(z_{49} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{49} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{49} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	H XIX
B₁₉₅ =	$-x_{49} \mathbf{a}_1 - y_{49} \mathbf{a}_2 - z_{49} \mathbf{a}_3$	=	$-(ax_{49} + cz_{49} \cos \beta) \hat{\mathbf{x}} - by_{49} \hat{\mathbf{y}} - cz_{49} \sin \beta \hat{\mathbf{z}}$	(4e)	H XIX
B₁₉₆ =	$x_{49} \mathbf{a}_1 - (y_{49} - \frac{1}{2}) \mathbf{a}_2 + (z_{49} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{49} + c(z_{49} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{49} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{49} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	H XIX
B₁₉₇ =	$x_{50} \mathbf{a}_1 + y_{50} \mathbf{a}_2 + z_{50} \mathbf{a}_3$	=	$(ax_{50} + cz_{50} \cos \beta) \hat{\mathbf{x}} + by_{50} \hat{\mathbf{y}} + cz_{50} \sin \beta \hat{\mathbf{z}}$	(4e)	H XX
B₁₉₈ =	$-x_{50} \mathbf{a}_1 + (y_{50} + \frac{1}{2}) \mathbf{a}_2 - (z_{50} - \frac{1}{2}) \mathbf{a}_3$	=	$-(ax_{50} + c(z_{50} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{50} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{50} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	H XX
B₁₉₉ =	$-x_{50} \mathbf{a}_1 - y_{50} \mathbf{a}_2 - z_{50} \mathbf{a}_3$	=	$-(ax_{50} + cz_{50} \cos \beta) \hat{\mathbf{x}} - by_{50} \hat{\mathbf{y}} - cz_{50} \sin \beta \hat{\mathbf{z}}$	(4e)	H XX
B₂₀₀ =	$x_{50} \mathbf{a}_1 - (y_{50} - \frac{1}{2}) \mathbf{a}_2 + (z_{50} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{50} + c(z_{50} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{50} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{50} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	H XX
B₂₀₁ =	$x_{51} \mathbf{a}_1 + y_{51} \mathbf{a}_2 + z_{51} \mathbf{a}_3$	=	$(ax_{51} + cz_{51} \cos \beta) \hat{\mathbf{x}} + by_{51} \hat{\mathbf{y}} + cz_{51} \sin \beta \hat{\mathbf{z}}$	(4e)	H XXI
B₂₀₂ =	$-x_{51} \mathbf{a}_1 + (y_{51} + \frac{1}{2}) \mathbf{a}_2 - (z_{51} - \frac{1}{2}) \mathbf{a}_3$	=	$-(ax_{51} + c(z_{51} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{51} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{51} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	H XXI
B₂₀₃ =	$-x_{51} \mathbf{a}_1 - y_{51} \mathbf{a}_2 - z_{51} \mathbf{a}_3$	=	$-(ax_{51} + cz_{51} \cos \beta) \hat{\mathbf{x}} - by_{51} \hat{\mathbf{y}} - cz_{51} \sin \beta \hat{\mathbf{z}}$	(4e)	H XXI
B₂₀₄ =	$x_{51} \mathbf{a}_1 - (y_{51} - \frac{1}{2}) \mathbf{a}_2 + (z_{51} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{51} + c(z_{51} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{51} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{51} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	H XXI

$\mathbf{B}_{231} =$	$-x_{58}\mathbf{a}_1 - y_{58}\mathbf{a}_2 - z_{58}\mathbf{a}_3$	$=$	$-(ax_{58} + cz_{58} \cos \beta) \hat{\mathbf{x}} - by_{58} \hat{\mathbf{y}} - cz_{58} \sin \beta \hat{\mathbf{z}}$	(4e)	H XXVIII
$\mathbf{B}_{232} =$	$x_{58}\mathbf{a}_1 - (y_{58} - \frac{1}{2})\mathbf{a}_2 + (z_{58} + \frac{1}{2})\mathbf{a}_3$	$=$	$(ax_{58} + c(z_{58} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{58} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{58} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	H XXVIII
$\mathbf{B}_{233} =$	$x_{59}\mathbf{a}_1 + y_{59}\mathbf{a}_2 + z_{59}\mathbf{a}_3$	$=$	$(ax_{59} + cz_{59} \cos \beta) \hat{\mathbf{x}} + by_{59} \hat{\mathbf{y}} + cz_{59} \sin \beta \hat{\mathbf{z}}$	(4e)	H XXIX
$\mathbf{B}_{234} =$	$-x_{59}\mathbf{a}_1 + (y_{59} + \frac{1}{2})\mathbf{a}_2 - (z_{59} - \frac{1}{2})\mathbf{a}_3$	$=$	$-(ax_{59} + c(z_{59} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{59} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{59} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	H XXIX
$\mathbf{B}_{235} =$	$-x_{59}\mathbf{a}_1 - y_{59}\mathbf{a}_2 - z_{59}\mathbf{a}_3$	$=$	$-(ax_{59} + cz_{59} \cos \beta) \hat{\mathbf{x}} - by_{59} \hat{\mathbf{y}} - cz_{59} \sin \beta \hat{\mathbf{z}}$	(4e)	H XXIX
$\mathbf{B}_{236} =$	$x_{59}\mathbf{a}_1 - (y_{59} - \frac{1}{2})\mathbf{a}_2 + (z_{59} + \frac{1}{2})\mathbf{a}_3$	$=$	$(ax_{59} + c(z_{59} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{59} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{59} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	H XXIX
$\mathbf{B}_{237} =$	$x_{60}\mathbf{a}_1 + y_{60}\mathbf{a}_2 + z_{60}\mathbf{a}_3$	$=$	$(ax_{60} + cz_{60} \cos \beta) \hat{\mathbf{x}} + by_{60} \hat{\mathbf{y}} + cz_{60} \sin \beta \hat{\mathbf{z}}$	(4e)	H XXX
$\mathbf{B}_{238} =$	$-x_{60}\mathbf{a}_1 + (y_{60} + \frac{1}{2})\mathbf{a}_2 - (z_{60} - \frac{1}{2})\mathbf{a}_3$	$=$	$-(ax_{60} + c(z_{60} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{60} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{60} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	H XXX
$\mathbf{B}_{239} =$	$-x_{60}\mathbf{a}_1 - y_{60}\mathbf{a}_2 - z_{60}\mathbf{a}_3$	$=$	$-(ax_{60} + cz_{60} \cos \beta) \hat{\mathbf{x}} - by_{60} \hat{\mathbf{y}} - cz_{60} \sin \beta \hat{\mathbf{z}}$	(4e)	H XXX
$\mathbf{B}_{240} =$	$x_{60}\mathbf{a}_1 - (y_{60} - \frac{1}{2})\mathbf{a}_2 + (z_{60} + \frac{1}{2})\mathbf{a}_3$	$=$	$(ax_{60} + c(z_{60} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{60} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{60} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	H XXX
$\mathbf{B}_{241} =$	$x_{61}\mathbf{a}_1 + y_{61}\mathbf{a}_2 + z_{61}\mathbf{a}_3$	$=$	$(ax_{61} + cz_{61} \cos \beta) \hat{\mathbf{x}} + by_{61} \hat{\mathbf{y}} + cz_{61} \sin \beta \hat{\mathbf{z}}$	(4e)	N I
$\mathbf{B}_{242} =$	$-x_{61}\mathbf{a}_1 + (y_{61} + \frac{1}{2})\mathbf{a}_2 - (z_{61} - \frac{1}{2})\mathbf{a}_3$	$=$	$-(ax_{61} + c(z_{61} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{61} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{61} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	N I
$\mathbf{B}_{243} =$	$-x_{61}\mathbf{a}_1 - y_{61}\mathbf{a}_2 - z_{61}\mathbf{a}_3$	$=$	$-(ax_{61} + cz_{61} \cos \beta) \hat{\mathbf{x}} - by_{61} \hat{\mathbf{y}} - cz_{61} \sin \beta \hat{\mathbf{z}}$	(4e)	N I
$\mathbf{B}_{244} =$	$x_{61}\mathbf{a}_1 - (y_{61} - \frac{1}{2})\mathbf{a}_2 + (z_{61} + \frac{1}{2})\mathbf{a}_3$	$=$	$(ax_{61} + c(z_{61} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{61} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{61} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	N I
$\mathbf{B}_{245} =$	$x_{62}\mathbf{a}_1 + y_{62}\mathbf{a}_2 + z_{62}\mathbf{a}_3$	$=$	$(ax_{62} + cz_{62} \cos \beta) \hat{\mathbf{x}} + by_{62} \hat{\mathbf{y}} + cz_{62} \sin \beta \hat{\mathbf{z}}$	(4e)	N II
$\mathbf{B}_{246} =$	$-x_{62}\mathbf{a}_1 + (y_{62} + \frac{1}{2})\mathbf{a}_2 - (z_{62} - \frac{1}{2})\mathbf{a}_3$	$=$	$-(ax_{62} + c(z_{62} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{62} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{62} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	N II
$\mathbf{B}_{247} =$	$-x_{62}\mathbf{a}_1 - y_{62}\mathbf{a}_2 - z_{62}\mathbf{a}_3$	$=$	$-(ax_{62} + cz_{62} \cos \beta) \hat{\mathbf{x}} - by_{62} \hat{\mathbf{y}} - cz_{62} \sin \beta \hat{\mathbf{z}}$	(4e)	N II
$\mathbf{B}_{248} =$	$x_{62}\mathbf{a}_1 - (y_{62} - \frac{1}{2})\mathbf{a}_2 + (z_{62} + \frac{1}{2})\mathbf{a}_3$	$=$	$(ax_{62} + c(z_{62} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{62} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{62} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	N II
$\mathbf{B}_{249} =$	$x_{63}\mathbf{a}_1 + y_{63}\mathbf{a}_2 + z_{63}\mathbf{a}_3$	$=$	$(ax_{63} + cz_{63} \cos \beta) \hat{\mathbf{x}} + by_{63} \hat{\mathbf{y}} + cz_{63} \sin \beta \hat{\mathbf{z}}$	(4e)	N III
$\mathbf{B}_{250} =$	$-x_{63}\mathbf{a}_1 + (y_{63} + \frac{1}{2})\mathbf{a}_2 - (z_{63} - \frac{1}{2})\mathbf{a}_3$	$=$	$-(ax_{63} + c(z_{63} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{63} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{63} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	N III
$\mathbf{B}_{251} =$	$-x_{63}\mathbf{a}_1 - y_{63}\mathbf{a}_2 - z_{63}\mathbf{a}_3$	$=$	$-(ax_{63} + cz_{63} \cos \beta) \hat{\mathbf{x}} - by_{63} \hat{\mathbf{y}} - cz_{63} \sin \beta \hat{\mathbf{z}}$	(4e)	N III
$\mathbf{B}_{252} =$	$x_{63}\mathbf{a}_1 - (y_{63} - \frac{1}{2})\mathbf{a}_2 + (z_{63} + \frac{1}{2})\mathbf{a}_3$	$=$	$(ax_{63} + c(z_{63} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{63} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{63} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	N III
$\mathbf{B}_{253} =$	$x_{64}\mathbf{a}_1 + y_{64}\mathbf{a}_2 + z_{64}\mathbf{a}_3$	$=$	$(ax_{64} + cz_{64} \cos \beta) \hat{\mathbf{x}} + by_{64} \hat{\mathbf{y}} + cz_{64} \sin \beta \hat{\mathbf{z}}$	(4e)	N IV
$\mathbf{B}_{254} =$	$-x_{64}\mathbf{a}_1 + (y_{64} + \frac{1}{2})\mathbf{a}_2 - (z_{64} - \frac{1}{2})\mathbf{a}_3$	$=$	$-(ax_{64} + c(z_{64} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{64} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{64} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	N IV
$\mathbf{B}_{255} =$	$-x_{64}\mathbf{a}_1 - y_{64}\mathbf{a}_2 - z_{64}\mathbf{a}_3$	$=$	$-(ax_{64} + cz_{64} \cos \beta) \hat{\mathbf{x}} - by_{64} \hat{\mathbf{y}} - cz_{64} \sin \beta \hat{\mathbf{z}}$	(4e)	N IV
$\mathbf{B}_{256} =$	$x_{64}\mathbf{a}_1 - (y_{64} - \frac{1}{2})\mathbf{a}_2 + (z_{64} + \frac{1}{2})\mathbf{a}_3$	$=$	$(ax_{64} + c(z_{64} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{64} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{64} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	N IV

B₂₅₇ =	$x_{65} \mathbf{a}_1 + y_{65} \mathbf{a}_2 + z_{65} \mathbf{a}_3$	=	$(ax_{65} + cz_{65} \cos \beta) \hat{\mathbf{x}} + by_{65} \hat{\mathbf{y}} + cz_{65} \sin \beta \hat{\mathbf{z}}$	(4e)	N V
B₂₅₈ =	$-x_{65} \mathbf{a}_1 + (y_{65} + \frac{1}{2}) \mathbf{a}_2 - (z_{65} - \frac{1}{2}) \mathbf{a}_3$	=	$-(ax_{65} + c(z_{65} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{65} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{65} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	N V
B₂₅₉ =	$-x_{65} \mathbf{a}_1 - y_{65} \mathbf{a}_2 - z_{65} \mathbf{a}_3$	=	$-(ax_{65} + cz_{65} \cos \beta) \hat{\mathbf{x}} - by_{65} \hat{\mathbf{y}} - cz_{65} \sin \beta \hat{\mathbf{z}}$	(4e)	N V
B₂₆₀ =	$x_{65} \mathbf{a}_1 - (y_{65} - \frac{1}{2}) \mathbf{a}_2 + (z_{65} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{65} + c(z_{65} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{65} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{65} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	N V
B₂₆₁ =	$x_{66} \mathbf{a}_1 + y_{66} \mathbf{a}_2 + z_{66} \mathbf{a}_3$	=	$(ax_{66} + cz_{66} \cos \beta) \hat{\mathbf{x}} + by_{66} \hat{\mathbf{y}} + cz_{66} \sin \beta \hat{\mathbf{z}}$	(4e)	N VI
B₂₆₂ =	$-x_{66} \mathbf{a}_1 + (y_{66} + \frac{1}{2}) \mathbf{a}_2 - (z_{66} - \frac{1}{2}) \mathbf{a}_3$	=	$-(ax_{66} + c(z_{66} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{66} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{66} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	N VI
B₂₆₃ =	$-x_{66} \mathbf{a}_1 - y_{66} \mathbf{a}_2 - z_{66} \mathbf{a}_3$	=	$-(ax_{66} + cz_{66} \cos \beta) \hat{\mathbf{x}} - by_{66} \hat{\mathbf{y}} - cz_{66} \sin \beta \hat{\mathbf{z}}$	(4e)	N VI
B₂₆₄ =	$x_{66} \mathbf{a}_1 - (y_{66} - \frac{1}{2}) \mathbf{a}_2 + (z_{66} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{66} + c(z_{66} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{66} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{66} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	N VI
B₂₆₅ =	$x_{67} \mathbf{a}_1 + y_{67} \mathbf{a}_2 + z_{67} \mathbf{a}_3$	=	$(ax_{67} + cz_{67} \cos \beta) \hat{\mathbf{x}} + by_{67} \hat{\mathbf{y}} + cz_{67} \sin \beta \hat{\mathbf{z}}$	(4e)	N VII
B₂₆₆ =	$-x_{67} \mathbf{a}_1 + (y_{67} + \frac{1}{2}) \mathbf{a}_2 - (z_{67} - \frac{1}{2}) \mathbf{a}_3$	=	$-(ax_{67} + c(z_{67} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{67} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{67} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	N VII
B₂₆₇ =	$-x_{67} \mathbf{a}_1 - y_{67} \mathbf{a}_2 - z_{67} \mathbf{a}_3$	=	$-(ax_{67} + cz_{67} \cos \beta) \hat{\mathbf{x}} - by_{67} \hat{\mathbf{y}} - cz_{67} \sin \beta \hat{\mathbf{z}}$	(4e)	N VII
B₂₆₈ =	$x_{67} \mathbf{a}_1 - (y_{67} - \frac{1}{2}) \mathbf{a}_2 + (z_{67} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{67} + c(z_{67} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{67} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{67} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	N VII
B₂₆₉ =	$x_{68} \mathbf{a}_1 + y_{68} \mathbf{a}_2 + z_{68} \mathbf{a}_3$	=	$(ax_{68} + cz_{68} \cos \beta) \hat{\mathbf{x}} + by_{68} \hat{\mathbf{y}} + cz_{68} \sin \beta \hat{\mathbf{z}}$	(4e)	N VIII
B₂₇₀ =	$-x_{68} \mathbf{a}_1 + (y_{68} + \frac{1}{2}) \mathbf{a}_2 - (z_{68} - \frac{1}{2}) \mathbf{a}_3$	=	$-(ax_{68} + c(z_{68} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{68} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{68} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	N VIII
B₂₇₁ =	$-x_{68} \mathbf{a}_1 - y_{68} \mathbf{a}_2 - z_{68} \mathbf{a}_3$	=	$-(ax_{68} + cz_{68} \cos \beta) \hat{\mathbf{x}} - by_{68} \hat{\mathbf{y}} - cz_{68} \sin \beta \hat{\mathbf{z}}$	(4e)	N VIII
B₂₇₂ =	$x_{68} \mathbf{a}_1 - (y_{68} - \frac{1}{2}) \mathbf{a}_2 + (z_{68} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{68} + c(z_{68} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{68} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{68} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	N VIII
B₂₇₃ =	$x_{69} \mathbf{a}_1 + y_{69} \mathbf{a}_2 + z_{69} \mathbf{a}_3$	=	$(ax_{69} + cz_{69} \cos \beta) \hat{\mathbf{x}} + by_{69} \hat{\mathbf{y}} + cz_{69} \sin \beta \hat{\mathbf{z}}$	(4e)	O I
B₂₇₄ =	$-x_{69} \mathbf{a}_1 + (y_{69} + \frac{1}{2}) \mathbf{a}_2 - (z_{69} - \frac{1}{2}) \mathbf{a}_3$	=	$-(ax_{69} + c(z_{69} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{69} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{69} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	O I
B₂₇₅ =	$-x_{69} \mathbf{a}_1 - y_{69} \mathbf{a}_2 - z_{69} \mathbf{a}_3$	=	$-(ax_{69} + cz_{69} \cos \beta) \hat{\mathbf{x}} - by_{69} \hat{\mathbf{y}} - cz_{69} \sin \beta \hat{\mathbf{z}}$	(4e)	O I
B₂₇₆ =	$x_{69} \mathbf{a}_1 - (y_{69} - \frac{1}{2}) \mathbf{a}_2 + (z_{69} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{69} + c(z_{69} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{69} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{69} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	O I
B₂₇₇ =	$x_{70} \mathbf{a}_1 + y_{70} \mathbf{a}_2 + z_{70} \mathbf{a}_3$	=	$(ax_{70} + cz_{70} \cos \beta) \hat{\mathbf{x}} + by_{70} \hat{\mathbf{y}} + cz_{70} \sin \beta \hat{\mathbf{z}}$	(4e)	O II
B₂₇₈ =	$-x_{70} \mathbf{a}_1 + (y_{70} + \frac{1}{2}) \mathbf{a}_2 - (z_{70} - \frac{1}{2}) \mathbf{a}_3$	=	$-(ax_{70} + c(z_{70} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{70} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{70} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	O II
B₂₇₉ =	$-x_{70} \mathbf{a}_1 - y_{70} \mathbf{a}_2 - z_{70} \mathbf{a}_3$	=	$-(ax_{70} + cz_{70} \cos \beta) \hat{\mathbf{x}} - by_{70} \hat{\mathbf{y}} - cz_{70} \sin \beta \hat{\mathbf{z}}$	(4e)	O II
B₂₈₀ =	$x_{70} \mathbf{a}_1 - (y_{70} - \frac{1}{2}) \mathbf{a}_2 + (z_{70} + \frac{1}{2}) \mathbf{a}_3$	=	$(ax_{70} + c(z_{70} + \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} - b(y_{70} - \frac{1}{2}) \hat{\mathbf{y}} + c(z_{70} + \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	O II
B₂₈₁ =	$x_{71} \mathbf{a}_1 + y_{71} \mathbf{a}_2 + z_{71} \mathbf{a}_3$	=	$(ax_{71} + cz_{71} \cos \beta) \hat{\mathbf{x}} + by_{71} \hat{\mathbf{y}} + cz_{71} \sin \beta \hat{\mathbf{z}}$	(4e)	O III
B₂₈₂ =	$-x_{71} \mathbf{a}_1 + (y_{71} + \frac{1}{2}) \mathbf{a}_2 - (z_{71} - \frac{1}{2}) \mathbf{a}_3$	=	$-(ax_{71} + c(z_{71} - \frac{1}{2}) \cos \beta) \hat{\mathbf{x}} + b(y_{71} + \frac{1}{2}) \hat{\mathbf{y}} - c(z_{71} - \frac{1}{2}) \sin \beta \hat{\mathbf{z}}$	(4e)	O III

References

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