SAMB for "Oh1"

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- Generation condition
 - model type: tight_binding
 - time-reversal type: electric
 - irrep: [A1g]
 - spinful
- Unit cell:

$$a=1.0,\ b=1.0,\ c=1.0,\ \alpha=90.0,\ \beta=90.0,\ \gamma=90.0$$

• Lattice vectors:

$$\boldsymbol{a}_1 = \begin{pmatrix} 1.0 & 0 & 0 \end{pmatrix}$$

$$\boldsymbol{a}_2 = \begin{pmatrix} 0 & 1.0 & 0 \end{pmatrix}$$

$$\mathbf{a}_3 = \begin{pmatrix} 0 & 0 & 1.0 \end{pmatrix}$$

Table 1: High-symmetry line: Γ -X.

symbol	position	n	symbol	position		
Γ	$\begin{pmatrix} 0 & 0 \end{pmatrix}$	0)	X	$\left(\frac{1}{2}\right)$	0	0)

• Kets: dimension = 8

Table 2: Hilbert space for full matrix.

No.	ket	No.	ket	No.	ket	No.	ket	No.	ket
 1	(s,\uparrow) @A ₁	2	(s,\downarrow) @A ₁	3	(p_x,\uparrow) @A ₁	4	(p_x,\downarrow) @A ₁	5	(p_y,\uparrow) @A ₁
6	(p_y,\downarrow) @A ₁	7	(p_z,\uparrow) @A ₁	8	(p_z,\downarrow) @A ₁				

• Sites in (primitive) unit cell:

Table 3: Site-clusters.

site	position	mapping
S_1 [1a: m-3m] A_1	$\begin{pmatrix} 0 & 0 & 0 \end{pmatrix}$	[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48]

• Bonds in (primitive) unit cell:

Table 4: Bond-clusters.

	bond	tail	head	n	#	$oldsymbol{b@c}$ mapping
B ₁ [3d: 4/mm.m]	b_1	A_1	A_1	1	1	
	b_2	A_1	A_1	1	1	$\begin{pmatrix} 1 & 0 & 0 \end{pmatrix}$ @ $\begin{pmatrix} \frac{1}{2} & 0 & 0 \end{pmatrix}$ [6,-9,11,-12,13,-14,21,-24,-30,33,-35,36,-37,38,-45,48]
	b_3	A_1	A_1	1	1	$ \begin{pmatrix} 0 & 1 & 0 \end{pmatrix} @ \begin{pmatrix} 0 & \frac{1}{2} & 0 \end{pmatrix} \begin{bmatrix} 7,-10,15,16,-17,-18,-20,23,-31,34,-39,-40,41,42,44,-47 \end{bmatrix} $
B ₂ [3c: 4/mm.m]	b_4	A_1	A_1	2	1	$\begin{pmatrix} 0 & 1 & 1 \end{pmatrix} @ \begin{pmatrix} 0 & \frac{1}{2} & \frac{1}{2} \end{pmatrix} $ [1,-3,7,-10,-25,27,-31,34]
	b_5	A_1	A_1	2	1	$\begin{pmatrix} 0 & 1 & -1 \end{pmatrix} @ \begin{pmatrix} 0 & \frac{1}{2} & \frac{1}{2} \end{pmatrix} [-2,4,-20,23,26,-28,44,-47]$
	b_6	A_1	A_1	2	1	$\begin{pmatrix} 1 & 0 & -1 \end{pmatrix} @ \begin{pmatrix} \frac{1}{2} & 0 & \frac{1}{2} \end{pmatrix} [5,-12,13,-19,-29,36,-37,43]$
	b_7	A_1	A_1	2	1	$\begin{pmatrix} 1 & -1 & 0 \end{pmatrix} @ \begin{pmatrix} \frac{1}{2} & \frac{1}{2} & 0 \end{pmatrix} [6,-16,18,-24,-30,40,-42,48]$
	b_8	A_1	A_1	2	1	$(1 0 1)^{\circ} @ (\frac{1}{2} 0 \frac{1}{2})^{\circ} $ [-8,11,-14,22,32,-35,38,-46]
	b ₉	A_1	A_1	2	1	$\begin{pmatrix} 1 & 1 & 0 \end{pmatrix} @ \begin{pmatrix} \frac{1}{2} & \frac{1}{2} & 0 \end{pmatrix} $ [-9,15,-17,21,33,-39,41,-45]

• SAMB:

No. 1
$$\hat{\mathbb{Q}}_0^{(A_{1g})}$$
 [M₁, S₁]

$$\hat{\mathbb{Z}}_1 = \mathbb{X}_1[\mathbb{Q}_0^{(a, A_{1g})}] \otimes \mathbb{Y}_1[\mathbb{Q}_0^{(s, A_{1g})}]$$

$$\begin{tabular}{|c|c|c|c|c|}\hline No. \ 2 & \hat{\mathbb{Q}}_0^{(A_{1g})} \ [M_3,S_1] \\ \hline \end{tabular}$$

$$\hat{\mathbb{Z}}_2 = \mathbb{X}_{11}[\mathbb{Q}_0^{(a,A_{1g})}] \otimes \mathbb{Y}_1[\mathbb{Q}_0^{(s,A_{1g})}]$$

No. 3
$$\hat{\mathbb{Q}}_0^{(A_{1g})}(1,1)$$
 [M₃, S₁]

$$\hat{\mathbb{Z}}_3 = \mathbb{X}_{12}[\mathbb{Q}_0^{(a, A_{1g})}(1, 1)] \otimes \mathbb{Y}_1[\mathbb{Q}_0^{(s, A_{1g})}]$$

No. 4
$$\hat{\mathbb{Q}}_0^{(A_{1g})}$$
 [M₁, B₁]

$$\hat{\mathbb{Z}}_4 = \mathbb{X}_1[\mathbb{Q}_0^{(a,A_{1g})}] \otimes \mathbb{Y}_2[\mathbb{Q}_0^{(b,A_{1g})}]$$

No. 5
$$\hat{\mathbb{Q}}_0^{(A_{1g})}$$
 [M₂, B₁]

$$\hat{\mathbb{Z}}_5 = \frac{\sqrt{3}\mathbb{X}_5[\mathbb{T}_{1,0}^{(a,T_{1u})}] \otimes \mathbb{Y}_5[\mathbb{T}_{1,0}^{(b,T_{1u})}]}{3} + \frac{\sqrt{3}\mathbb{X}_6[\mathbb{T}_{1,1}^{(a,T_{1u})}] \otimes \mathbb{Y}_6[\mathbb{T}_{1,1}^{(b,T_{1u})}]}{3} + \frac{\sqrt{3}\mathbb{X}_7[\mathbb{T}_{1,2}^{(a,T_{1u})}] \otimes \mathbb{Y}_7[\mathbb{T}_{1,2}^{(b,T_{1u})}]}{3}$$

No. 6
$$\hat{\mathbb{Q}}_0^{(A_{1g})}(1,0) [M_2, B_1]$$

$$\hat{\mathbb{Z}}_{6} = \frac{\sqrt{3}\mathbb{X}_{10}[\mathbb{T}_{1,2}^{(a,T_{1u})}(1,0)] \otimes \mathbb{Y}_{7}[\mathbb{T}_{1,2}^{(b,T_{1u})}]}{3} + \frac{\sqrt{3}\mathbb{X}_{8}[\mathbb{T}_{1,0}^{(a,T_{1u})}(1,0)] \otimes \mathbb{Y}_{5}[\mathbb{T}_{1,0}^{(b,T_{1u})}]}{3} + \frac{\sqrt{3}\mathbb{X}_{9}[\mathbb{T}_{1,1}^{(a,T_{1u})}(1,0)] \otimes \mathbb{Y}_{6}[\mathbb{T}_{1,1}^{(b,T_{1u})}]}{3}$$

No. 7
$$\hat{\mathbb{Q}}_0^{(A_{1g})}$$
 [M₃, B₁]

$$\hat{\mathbb{Z}}_7 = \mathbb{X}_{11}[\mathbb{Q}_0^{(a,A_{1g})}] \otimes \mathbb{Y}_2[\mathbb{Q}_0^{(b,A_{1g})}]$$

No. 8
$$\hat{\mathbb{Q}}_0^{(A_{1g})}(1,1)$$
 [M₃, B₁]

$$\hat{\mathbb{Z}}_8 = \mathbb{X}_{12}[\mathbb{Q}_0^{(a, A_{1g})}(1, 1)] \otimes \mathbb{Y}_2[\mathbb{Q}_0^{(b, A_{1g})}]$$

No. 9
$$\hat{\mathbb{Q}}_0^{(A_{1g})}$$
 [M₃, B₁]

$$\hat{\mathbb{Z}}_9 = \frac{\sqrt{2}\mathbb{X}_{13}[\mathbb{Q}_{2,0}^{(a,E_g)}] \otimes \mathbb{Y}_{3}[\mathbb{Q}_{2,0}^{(b,E_g)}]}{2} + \frac{\sqrt{2}\mathbb{X}_{14}[\mathbb{Q}_{2,1}^{(a,E_g)}] \otimes \mathbb{Y}_{4}[\mathbb{Q}_{2,1}^{(b,E_g)}]}{2}$$

No. 10
$$\hat{\mathbb{Q}}_0^{(A_{1g})}(1,-1)$$
 [M₃, B₁]

$$\hat{\mathbb{Z}}_{10} = \frac{\sqrt{2}\mathbb{X}_{18}[\mathbb{Q}_{2,0}^{(a,E_g)}(1,-1)] \otimes \mathbb{Y}_{3}[\mathbb{Q}_{2,0}^{(b,E_g)}]}{2} + \frac{\sqrt{2}\mathbb{X}_{19}[\mathbb{Q}_{2,1}^{(a,E_g)}(1,-1)] \otimes \mathbb{Y}_{4}[\mathbb{Q}_{2,1}^{(b,E_g)}]}{2}$$

No. 11
$$\hat{\mathbb{Q}}_0^{(A_{1g})}$$
 [M₁, B₂]

$$\hat{\mathbb{Z}}_{11} = \mathbb{X}_1[\mathbb{Q}_0^{(a, A_{1g})}] \otimes \mathbb{Y}_8[\mathbb{Q}_0^{(b, A_{1g})}]$$

No. 12
$$\hat{\mathbb{Q}}_4^{(A_{1g})}(1,-1)$$
 [M₂, B₂]

$$\hat{\mathbb{Z}}_{12} = \frac{\sqrt{3}\mathbb{X}_2[\mathbb{M}_{2,0}^{(a,T_{2u})}(1,-1)] \otimes \mathbb{Y}_{17}[\mathbb{T}_{3,0}^{(b,T_{2u})}]}{3} + \frac{\sqrt{3}\mathbb{X}_3[\mathbb{M}_{2,1}^{(a,T_{2u})}(1,-1)] \otimes \mathbb{Y}_{18}[\mathbb{T}_{3,1}^{(b,T_{2u})}]}{3} + \frac{\sqrt{3}\mathbb{X}_4[\mathbb{M}_{2,2}^{(a,T_{2u})}(1,-1)] \otimes \mathbb{Y}_{19}[\mathbb{T}_{3,2}^{(b,T_{2u})}]}{3} + \frac{\sqrt{3}\mathbb{X}_4[\mathbb{M}_{2,2}^{(a,T_{2u})}(1,-1)] \otimes \mathbb{Y}_{19}[\mathbb{M}_{2,2}^{(a,T_{2u})}(1,-1)]}{3} + \frac{\sqrt{3}\mathbb{X}_4[\mathbb{M}_{2,2}^{(a,T_{2u})}(1,-1)] \otimes \mathbb{Y}_{19}[\mathbb{M}_{2,2}^{(a,T_{2u})}(1,-1)]}{3} + \frac{\sqrt{3}\mathbb{X}_4[\mathbb{M}_{2,2}^{(a,T_{2u})}(1,-1)]}{3} + \frac{\sqrt{3}\mathbb{M}_2[\mathbb$$

No. 13
$$\hat{\mathbb{Q}}_0^{(A_{1g})}$$
 [M₂, B₂]

$$\hat{\mathbb{Z}}_{13} = \frac{\sqrt{3}\mathbb{X}_{5}[\mathbb{T}_{1,0}^{(a,T_{1u})}] \otimes \mathbb{Y}_{14}[\mathbb{T}_{1,0}^{(b,T_{1u})}]}{3} + \frac{\sqrt{3}\mathbb{X}_{6}[\mathbb{T}_{1,1}^{(a,T_{1u})}] \otimes \mathbb{Y}_{15}[\mathbb{T}_{1,1}^{(b,T_{1u})}]}{3} + \frac{\sqrt{3}\mathbb{X}_{7}[\mathbb{T}_{1,2}^{(a,T_{1u})}] \otimes \mathbb{Y}_{16}[\mathbb{T}_{1,2}^{(b,T_{1u})}]}{3}$$

No. 14
$$\hat{\mathbb{Q}}_0^{(A_{1g})}(1,0)$$
 [M₂, B₂]

$$\hat{\mathbb{Z}}_{14} = \frac{\sqrt{3}\mathbb{X}_{10}[\mathbb{T}_{1,2}^{(a,T_{1u})}(1,0)] \otimes \mathbb{Y}_{16}[\mathbb{T}_{1,2}^{(b,T_{1u})}]}{3} + \frac{\sqrt{3}\mathbb{X}_{8}[\mathbb{T}_{1,0}^{(a,T_{1u})}(1,0)] \otimes \mathbb{Y}_{14}[\mathbb{T}_{1,0}^{(b,T_{1u})}]}{3} + \frac{\sqrt{3}\mathbb{X}_{9}[\mathbb{T}_{1,1}^{(a,T_{1u})}(1,0)] \otimes \mathbb{Y}_{15}[\mathbb{T}_{1,1}^{(b,T_{1u})}]}{3} + \frac{\sqrt{3}\mathbb{X}_{9}[\mathbb{T}_{1,1}^{(a,T_{1u})}(1,0)] \otimes \mathbb{Y}_{15}[\mathbb{T}_{1,1}^{(a,T_{1u})}]}{3} + \frac{\sqrt{3}\mathbb{X}_{9}[\mathbb{T}_{1,1}^{(a,T_{1u})}(1,0)] \otimes \mathbb{Y}_{15}[\mathbb{T}_{1,1}^{(a,T_{1u})}]}{3} + \frac{\sqrt{$$

No. 15
$$\hat{\mathbb{Q}}_0^{(A_{1g})}$$
 [M₃, B₂]

$$\hat{\mathbb{Z}}_{15} = \mathbb{X}_{11}[\mathbb{Q}_0^{(a,A_{1g})}] \otimes \mathbb{Y}_8[\mathbb{Q}_0^{(b,A_{1g})}]$$

No. 16
$$\hat{\mathbb{Q}}_0^{(A_{1g})}(1,1)$$
 [M₃, B₂]

$$\hat{\mathbb{Z}}_{16} = \mathbb{X}_{12}[\mathbb{Q}_0^{(a, A_{1g})}(1, 1)] \otimes \mathbb{Y}_8[\mathbb{Q}_0^{(b, A_{1g})}]$$

No. 17
$$\hat{\mathbb{Q}}_0^{(A_{1g})}$$
 [M₃, B₂]

$$\hat{\mathbb{Z}}_{17} = \frac{\sqrt{5}\mathbb{X}_{13}[\mathbb{Q}_{2,0}^{(a,E_g)}] \otimes \mathbb{Y}_{9}[\mathbb{Q}_{2,0}^{(b,E_g)}]}{5} + \frac{\sqrt{5}\mathbb{X}_{14}[\mathbb{Q}_{2,1}^{(a,E_g)}] \otimes \mathbb{Y}_{10}[\mathbb{Q}_{2,1}^{(b,E_g)}]}{5} + \frac{\sqrt{5}\mathbb{X}_{15}[\mathbb{Q}_{2,0}^{(a,T_{2g})}] \otimes \mathbb{Y}_{11}[\mathbb{Q}_{2,0}^{(b,T_{2g})}]}{5} + \frac{\sqrt{5}\mathbb{X}_{17}[\mathbb{Q}_{2,2}^{(a,T_{2g})}] \otimes \mathbb{Y}_{13}[\mathbb{Q}_{2,2}^{(b,T_{2g})}]}{5} + \frac{\sqrt{5}\mathbb{X}_{17}[\mathbb{Q}_{2,2}^{(a,T_{2g})}] \otimes \mathbb{Y}_{13}[\mathbb{Q}_{2,2}^{(a,T_{2g})}]}{5} + \frac{\sqrt{5}\mathbb{X}_{17}[\mathbb{Q}_{2,2}^{(a,T_{2g})}] \otimes \mathbb{Y}_{13}[\mathbb{Q}_{2,2}^{(a,T_{2g})}]}{5} + \frac{\sqrt{5}\mathbb{X}_{17}[\mathbb{Q}_{2,2}^{(a,T_{2g})}] \otimes \mathbb{Y}_{13}[\mathbb{Q}_{2,2}^{(a,T_{2g})}]}{5} + \frac{\sqrt{5}\mathbb{X}_{17}[\mathbb{Q}_{2,2}^{(a,T_{2g})}] \otimes \mathbb{Y}_{13}[\mathbb{Q}_{2,2}^{(a,T_{2g})}]}{5} + \frac{\sqrt{5}\mathbb{X}_{17}[\mathbb{Q}_{2,2}^{(a,T_{2g})}]}{5} + \frac{\sqrt{5}\mathbb{X}_{17}[\mathbb{Q}_{2,2}^{(a,T$$

No. 18
$$\hat{\mathbb{Q}}_{4}^{(A_{1g})}$$
 [M₃, B₂]

$$\hat{\mathbb{Z}}_{18} = \frac{\sqrt{30}\mathbb{X}_{13}[\mathbb{Q}_{2,0}^{(a,E_g)}] \otimes \mathbb{Y}_{9}[\mathbb{Q}_{2,0}^{(b,E_g)}]}{10} + \frac{\sqrt{30}\mathbb{X}_{14}[\mathbb{Q}_{2,1}^{(a,E_g)}] \otimes \mathbb{Y}_{10}[\mathbb{Q}_{2,1}^{(b,E_g)}]}{10} - \frac{\sqrt{30}\mathbb{X}_{15}[\mathbb{Q}_{2,0}^{(a,T_{2g})}] \otimes \mathbb{Y}_{11}[\mathbb{Q}_{2,0}^{(b,T_{2g})}]}{15} - \frac{\sqrt{30}\mathbb{X}_{15}[\mathbb{Q}_{2,1}^{(a,T_{2g})}] \otimes \mathbb{Y}_{13}[\mathbb{Q}_{2,2}^{(b,T_{2g})}]}{15}$$

No. 19
$$\hat{\mathbb{Q}}_0^{(A_{1g})}(1,-1)$$
 [M₃, B₂]

$$\hat{\mathbb{Z}}_{19} = \frac{\sqrt{5}\mathbb{X}_{18}[\mathbb{Q}_{2,0}^{(a,E_g)}(1,-1)] \otimes \mathbb{Y}_{9}[\mathbb{Q}_{2,0}^{(b,E_g)}]}{5} + \frac{\sqrt{5}\mathbb{X}_{19}[\mathbb{Q}_{2,1}^{(a,E_g)}(1,-1)] \otimes \mathbb{Y}_{10}[\mathbb{Q}_{2,1}^{(b,E_g)}]}{5} + \frac{\sqrt{5}\mathbb{X}_{20}[\mathbb{Q}_{2,0}^{(a,T_{2g})}(1,-1)] \otimes \mathbb{Y}_{11}[\mathbb{Q}_{2,0}^{(b,T_{2g})}]}{5} + \frac{\sqrt{5}\mathbb{X}_{22}[\mathbb{Q}_{2,2}^{(a,T_{2g})}(1,-1)] \otimes \mathbb{Y}_{13}[\mathbb{Q}_{2,2}^{(b,T_{2g})}]}{5}$$

No. 20
$$\hat{\mathbb{Q}}_4^{(A_{1g})}(1,-1)$$
 [M₃, B₂]

$$\hat{\mathbb{Z}}_{20} = \frac{\sqrt{30}\mathbb{X}_{18}[\mathbb{Q}_{2,0}^{(a,E_g)}(1,-1)] \otimes \mathbb{Y}_{9}[\mathbb{Q}_{2,0}^{(b,E_g)}]}{10} + \frac{\sqrt{30}\mathbb{X}_{19}[\mathbb{Q}_{2,1}^{(a,E_g)}(1,-1)] \otimes \mathbb{Y}_{10}[\mathbb{Q}_{2,1}^{(b,E_g)}]}{10} - \frac{\sqrt{30}\mathbb{X}_{20}[\mathbb{Q}_{2,0}^{(a,T_{2g})}(1,-1)] \otimes \mathbb{Y}_{11}[\mathbb{Q}_{2,0}^{(b,T_{2g})}]}{15} - \frac{\sqrt{30}\mathbb{X}_{22}[\mathbb{Q}_{2,2}^{(a,T_{2g})}(1,-1)] \otimes \mathbb{Y}_{13}[\mathbb{Q}_{2,2}^{(b,T_{2g})}]}{15} - \frac{\sqrt{30}\mathbb{X}_{20}[\mathbb{Q}_{2,2}^{(a,T_{2g})}(1,-1)] \otimes \mathbb{Y}_{13}[\mathbb{Q}_{2,2}^{(b,T_{2g})}]}{15} - \frac{\sqrt{30}\mathbb{X}_{20}[\mathbb{Q}_{2,2}^{(a,T_{2g})}(1,-1)] \otimes \mathbb{Y}_{13}[\mathbb{Q}_{2,2}^{(b,T_{2g})}]}{15} - \frac{\sqrt{30}\mathbb{X}_{20}[\mathbb{Q}_{2,2}^{(a,T_{2g})}(1,-1)] \otimes \mathbb{Y}_{13}[\mathbb{Q}_{2,2}^{(b,T_{2g})}]}{15} - \frac{\sqrt{30}\mathbb{X}_{20}[\mathbb{Q}_{2,2}^{(a,T_{2g})}(1,-1)] \otimes \mathbb{Y}_{10}[\mathbb{Q}_{2,2}^{(b,T_{2g})}]}{15} - \frac{\sqrt{30}\mathbb{X}_{20}[\mathbb{Q}_{2,2}^{(a,T_{2g})}(1,-1)] \otimes \mathbb{Y}_{20}[\mathbb{Q}_{2,2}^{(a,T_{2g})}(1,-1)]}{15} - \frac{\sqrt{30}\mathbb{X}_{20}[\mathbb{Q}_{2,2}^{(a,T_{2g})}(1,-1)] \otimes \mathbb{Y}_{20}[\mathbb{Q}_{2,2}^{(a,T_{2g})}(1,-1)]}{15} - \frac{\sqrt{30}\mathbb{X}_{20}[\mathbb{Q}_{2,2}^{(a,T_{2g})}(1,-1)] \otimes \mathbb{Y}_{20}[\mathbb{Q}_{2,2}^{(a,T_{2g})}(1,-1)]}{15} - \frac{\sqrt{30}\mathbb{X}_{20}[\mathbb{Q}_{2,2}^{(a,T_{2g})}(1,-1)] \otimes \mathbb{Y}_{20}[\mathbb{Q}_{2,2}^{(a,T_{2g})}(1,-1)]}{15} - \frac{\mathbb{Q}_{20}[\mathbb{Q}_{2,2}^{(a,T_{2g})}(1,-1)] \otimes \mathbb{Q}_{20}[\mathbb{Q}_{2,2}^{(a,T_{2g})}(1,-1)]}{15} - \frac{\mathbb{Q}_{20}[\mathbb{Q}_{2,2}^{(a,T_{2g})}(1,-1)] \otimes \mathbb{Q}_{20}[\mathbb{Q}_{20}[\mathbb{Q}_{2,2}^{(a,T_{2$$

Table 5: Atomic SAMB group.

group	bra	ket
M_1	$(s,\uparrow),(s,\downarrow)$	$(s,\uparrow),(s,\downarrow)$
M_2	$(s,\uparrow),(s,\downarrow)$	$(p_x,\uparrow),(p_x,\downarrow),(p_y,\uparrow),(p_y,\downarrow),(p_z,\uparrow),(p_z,\downarrow)$
M_3	$(p_x,\uparrow),(p_x,\downarrow),(p_y,\uparrow),(p_y,\downarrow),(p_z,\uparrow),(p_z,\downarrow)$	$(p_x,\uparrow),(p_x,\downarrow),(p_y,\uparrow),(p_y,\downarrow),(p_z,\uparrow),(p_z,\downarrow)$

Table 6: Atomic SAMB.

symbol	type	group	form
\mathbb{X}_1	$\mathbb{Q}_0^{(a,A_{1g})}$	M_1	$\begin{pmatrix} \frac{\sqrt{2}}{2} & 0\\ 0 & \frac{\sqrt{2}}{2} \end{pmatrix}$
\mathbb{X}_2	$\mathbb{M}_{2,0}^{(a,T_{2u})}(1,-1)$	M_2	$\begin{pmatrix} 0 & 0 & \frac{1}{2} & 0 & 0 & -\frac{i}{2} \\ 0 & 0 & 0 & -\frac{1}{2} & \frac{i}{2} & 0 \end{pmatrix}$
\mathbb{X}_3	$\mathbb{M}_{2,1}^{(a,T_{2u})}(1,-1)$	M_2	$\begin{pmatrix} \frac{1}{2} & 0 & 0 & 0 & 0 & \frac{1}{2} \\ 0 & -\frac{1}{2} & 0 & 0 & \frac{1}{2} & 0 \end{pmatrix}$
\mathbb{X}_4	$\mathbb{M}_{2,2}^{(a,T_{2u})}(1,-1)$	M_2	$\begin{pmatrix} 2 & 0 & 0 & 0 & \frac{1}{2} & 0 \\ 0 & -\frac{1}{2} & 0 & 0 & \frac{1}{2} & 0 \end{pmatrix} \begin{pmatrix} 0 & -\frac{i}{2} & 0 & \frac{1}{2} & 0 & 0 \\ \frac{i}{2} & 0 & \frac{1}{2} & 0 & 0 & 0 \end{pmatrix} \begin{pmatrix} \frac{\sqrt{2}i}{2} & 0 & 0 & 0 & 0 \\ 0 & \frac{\sqrt{2}i}{2} & 0 & 0 & 0 & 0 \end{pmatrix}$
\mathbb{X}_5	$\mathbb{T}_{1,0}^{(a,T_{1u})}$	M_2	$ \begin{pmatrix} \frac{\sqrt{2}i}{2} & 0 & 0 & 0 & 0 & 0 \\ 0 & \frac{\sqrt{2}i}{2} & 0 & 0 & 0 & 0 \end{pmatrix} $
\mathbb{X}_6	$\mathbb{T}_{1,1}^{(a,T_{1u})}$	M_2	$\begin{pmatrix} \frac{\sqrt{2}i}{2} & 0 & 0 & 0 & 0 & 0\\ 0 & \frac{\sqrt{2}i}{2} & 0 & 0 & 0 & 0\\ 0 & 0 & \frac{\sqrt{2}i}{2} & 0 & 0 & 0\\ 0 & 0 & 0 & \frac{\sqrt{2}i}{2} & 0 & 0 \end{pmatrix}$
\mathbb{X}_7	$\mathbb{T}_{1,2}^{(a,T_{1u})}$	M_2	$\left(\begin{array}{cccccc} 0 & 0 & 0 & 0 & \frac{\sqrt{2}i}{2} & 0 \\ 0 & 0 & 0 & 0 & 0 & \sqrt{2}i \end{array}\right)$
\mathbb{X}_8	$\mathbb{T}_{1,0}^{(a,T_{1u})}(1,0)$	M_2	$egin{pmatrix} 0 & 0 & -rac{1}{2} & 0 & 0 & -rac{i}{2} \ 0 & 0 & 0 & rac{1}{2} & rac{i}{2} & 0 \end{pmatrix}$
\mathbb{X}_9	$\mathbb{T}_{1,1}^{(a,T_{1u})}(1,0)$	M_2	$ \begin{pmatrix} \frac{1}{2} & 0 & 0 & 0 & 0 & -\frac{1}{2} \\ 0 & -\frac{1}{2} & 0 & 0 & -\frac{1}{2} & 0 \end{pmatrix} $
\mathbb{X}_{10}	$\mathbb{T}_{1,2}^{(a,T_{1u})}(1,0)$	M_2	$\begin{pmatrix} 0 & \frac{i}{2} & 0 & \frac{1}{2} & 0 & 0 \\ -\frac{i}{2} & 0 & \frac{1}{2} & 0 & 0 & 0 \end{pmatrix}$
\mathbb{X}_{11}	$\mathbb{Q}_0^{(a,A_{1g})}$	$ m M_3$	$\begin{pmatrix} \frac{\sqrt{6}}{6} & 0 & 0 & 0 & 0 & 0 \\ 0 & \frac{\sqrt{6}}{6} & 0 & 0 & 0 & 0 \\ 0 & 0 & \frac{\sqrt{6}}{6} & 0 & 0 & 0 \\ 0 & 0 & 0 & \frac{\sqrt{6}}{6} & 0 & 0 \\ 0 & 0 & 0 & 0 & \frac{\sqrt{6}}{6} & 0 \\ 0 & 0 & 0 & 0 & 0 & \frac{\sqrt{6}}{6} \end{pmatrix}$
\mathbb{X}_{12}	$\mathbb{Q}_0^{(a,A_{1g})}(1,1)$	$ m M_3$	$ \begin{pmatrix} 0 & 0 & -\frac{\sqrt{3}i}{6} & 0 & 0 & \frac{\sqrt{3}}{6} \\ 0 & 0 & 0 & \frac{\sqrt{3}i}{6} & -\frac{\sqrt{3}}{6} & 0 \\ \frac{\sqrt{3}i}{6} & 0 & 0 & 0 & 0 & -\frac{\sqrt{3}i}{6} \\ 0 & -\frac{\sqrt{3}i}{6} & 0 & 0 & -\frac{\sqrt{3}i}{6} & 0 \\ 0 & -\frac{\sqrt{3}}{6} & 0 & \frac{\sqrt{3}i}{6} & 0 & 0 \\ \frac{\sqrt{3}}{6} & 0 & \frac{\sqrt{3}i}{6} & 0 & 0 & 0 \end{pmatrix} $

Table 6

symbol	type	group	form
X ₁₃	$\mathbb{Q}_{2,0}^{(a,E_g)}$	М3	$\begin{pmatrix} -\frac{\sqrt{3}}{6} & 0 & 0 & 0 & 0 & 0 \\ 0 & -\frac{\sqrt{3}}{6} & 0 & 0 & 0 & 0 \\ 0 & 0 & -\frac{\sqrt{3}}{6} & 0 & 0 & 0 \\ 0 & 0 & 0 & -\frac{\sqrt{3}}{6} & 0 & 0 \\ 0 & 0 & 0 & 0 & \frac{\sqrt{3}}{3} & 0 \\ 0 & 0 & 0 & 0 & 0 & \frac{\sqrt{3}}{3} \end{pmatrix}$
\mathbb{X}_{14}	$\mathbb{Q}_{2,1}^{(a,E_g)}$	$ m M_3$	$\begin{pmatrix} \frac{1}{2} & 0 & 0 & 0 & 0 & 0 \\ 0 & \frac{1}{2} & 0 & 0 & 0 & 0 \\ 0 & 0 & -\frac{1}{2} & 0 & 0 & 0 \\ 0 & 0 & 0 & -\frac{1}{2} & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 &$
\mathbb{X}_{15}	$\mathbb{Q}_{2,0}^{(a,T_{2g})}$	$ m M_3$	$\begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 &$
\mathbb{X}_{16}	$\mathbb{Q}_{2,1}^{(a,T_{2g})}$	$ m M_3$	$\begin{pmatrix} 0 & 0 & 0 & 0 & \frac{1}{2} & 0 \\ 0 & 0 & 0 & 0 & 0 & \frac{1}{2} \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0$
\mathbb{X}_{17}	$\mathbb{Q}_{2,2}^{(a,T_{2g})}$	$ m M_3$	$\begin{pmatrix} 0 & 0 & \frac{1}{2} & 0 & 0 & 0 \\ 0 & 0 & 0 & \frac{1}{2} & 0 & 0 \\ \frac{1}{2} & 0 & 0 & 0 & 0 & 0 \\ 0 & \frac{1}{2} & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0$

Table 6

symbol	type	group	form
X ₁₈	$\mathbb{Q}_{2,0}^{(a,E_g)}(1,-1)$	M_3	$ \begin{pmatrix} 0 & 0 & -\frac{\sqrt{6}i}{6} & 0 & 0 & -\frac{\sqrt{6}}{12} \\ 0 & 0 & 0 & \frac{\sqrt{6}i}{6} & \frac{\sqrt{6}}{12} & 0 \\ \frac{\sqrt{6}i}{6} & 0 & 0 & 0 & 0 & \frac{\sqrt{6}i}{12} \\ 0 & -\frac{\sqrt{6}i}{6} & 0 & 0 & \frac{\sqrt{6}i}{12} & 0 \\ 0 & \frac{\sqrt{6}}{12} & 0 & -\frac{\sqrt{6}i}{12} & 0 & 0 \\ -\frac{\sqrt{6}}{12} & 0 & -\frac{\sqrt{6}i}{12} & 0 & 0 & 0 \end{pmatrix} $
\mathbb{X}_{19}	$\mathbb{Q}_{2,1}^{(a,E_g)}(1,-1)$	$ m M_3$	$\begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -\frac{\sqrt{2}}{4} \\ 0 & 0 & 0 & 0 & \frac{\sqrt{2}}{4} & 0 \\ 0 & 0 & 0 & 0 & 0 & -\frac{\sqrt{2}i}{4} \\ 0 & 0 & 0 & 0 & -\frac{\sqrt{2}i}{4} & 0 \\ 0 & \frac{\sqrt{2}}{4} & 0 & \frac{\sqrt{2}i}{4} & 0 & 0 \\ -\frac{\sqrt{2}}{4} & 0 & \frac{\sqrt{2}i}{4} & 0 & 0 \end{pmatrix}$
\mathbb{X}_{20}	$\mathbb{Q}_{2,0}^{(a,T_{2g})}(1,-1)$	$ m M_3$	$\begin{bmatrix} 0 & 0 & 0 & -\frac{\sqrt{4}}{4} & \frac{\sqrt{4}}{4} & 0 \\ 0 & 0 & \frac{\sqrt{2}}{4} & 0 & 0 & -\frac{\sqrt{2}i}{4} \\ 0 & \frac{\sqrt{2}}{4} & 0 & 0 & 0 & 0 \\ -\frac{\sqrt{2}}{4} & 0 & 0 & 0 & 0 & 0 \\ -\frac{\sqrt{2}i}{4} & 0 & 0 & 0 & 0 & 0 \\ 0 & \frac{\sqrt{2}i}{4} & 0 & 0 & 0 & 0 & 0 \end{bmatrix}$
\mathbb{X}_{21}	$\mathbb{Q}_{2,1}^{(a,T_{2g})}(1,-1)$	$ m M_3$	$\begin{bmatrix} 0 & 0 & 0 & -\frac{1}{4} & 0 & 0 \\ 0 & 0 & -\frac{\sqrt{2}i}{4} & 0 & 0 & 0 \\ 0 & \frac{\sqrt{2}i}{4} & 0 & 0 & -\frac{\sqrt{2}i}{4} & 0 \\ \frac{\sqrt{2}i}{4} & 0 & 0 & 0 & 0 & \frac{\sqrt{2}i}{4} \\ 0 & 0 & \frac{\sqrt{2}i}{4} & 0 & 0 & 0 \\ 0 & 0 & 0 & -\frac{\sqrt{2}i}{4} & 0 & 0 \end{bmatrix}$
\mathbb{X}_{22}	$\mathbb{Q}_{2,2}^{(a,T_{2g})}(1,-1)$	$ m M_3$	$ \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & \frac{\sqrt{2}i}{4} \\ 0 & 0 & 0 & 0 & \frac{\sqrt{2}i}{4} & 0 \\ 0 & 0 & 0 & 0 & 0 & -\frac{\sqrt{2}}{4} \\ 0 & 0 & 0 & 0 & \frac{\sqrt{2}}{4} & 0 \\ 0 & -\frac{\sqrt{2}i}{4} & 0 & \frac{\sqrt{2}}{4} & 0 & 0 \\ -\frac{\sqrt{2}i}{4} & 0 & -\frac{\sqrt{2}}{4} & 0 & 0 & 0 \end{pmatrix} $

Table 7: Cluster SAMB.

symbol	type	cluster	form
\mathbb{Y}_1	$\mathbb{Q}_0^{(s,A_{1g})}$	S_1	(1)
\mathbb{Y}_2	$\mathbb{Q}_0^{(b,A_{1g})}$	B_1	$\begin{pmatrix} \frac{\sqrt{3}}{3} & \frac{\sqrt{3}}{3} & \frac{\sqrt{3}}{3} \end{pmatrix}$
\mathbb{Y}_3	$\mathbb{Q}_{2,0}^{(b,E_g)}$	B_1	$\begin{pmatrix} 3 & 3 & 3 \\ -\frac{\sqrt{6}}{3} & \frac{\sqrt{6}}{6} & \frac{\sqrt{6}}{6} \\ & 6 & 6 & 6 \end{pmatrix}$
\mathbb{Y}_4	$\mathbb{Q}_{2,1}^{(b,E_g)}$	B_1	$\left(0 - \frac{\sqrt{2}}{2} \frac{\sqrt{2}}{2}\right)$
\mathbb{Y}_5	$\mathbb{T}_{1,0}^{(b,T_{1u})}$	B_1	$\begin{pmatrix} 0 & i & 0 \end{pmatrix}$
\mathbb{Y}_6	$\mathbb{T}_{1,1}^{(b,T_{1u})}$	B_1	$\begin{pmatrix} 0 & 0 & i \end{pmatrix}$
\mathbb{Y}_7	$\mathbb{T}_{1,2}^{(b,T_{1u})}$	B_1	$\begin{pmatrix} i & 0 & 0 \end{pmatrix}$
\mathbb{Y}_8	$\mathbb{Q}_0^{(b,A_{1g})}$	B_2	$ \begin{pmatrix} \frac{\sqrt{6}}{6} & \frac{\sqrt{6}}{6} & \frac{\sqrt{6}}{6} & \frac{\sqrt{6}}{6} & \frac{\sqrt{6}}{6} \end{pmatrix} $
\mathbb{Y}_9	$\mathbb{Q}_{2,0}^{(b,E_g)}$	B_2	$ \left \begin{array}{cccccccccccccccccccccccccccccccccccc$
\mathbb{Y}_{10}	$\mathbb{Q}_{2,1}^{(b,E_g)}$	B_2	$\begin{pmatrix} \frac{1}{2} & \frac{1}{2} & -\frac{1}{2} & 0 & -\frac{1}{2} & 0 \end{pmatrix}$
\mathbb{Y}_{11}	$\mathbb{Q}_{2,0}^{(b,T_{2g})}$	B_2	$\left(\begin{array}{ccccc} \sqrt{2} & -\sqrt{2} & 0 & 0 & 0 & 0 \end{array}\right)$
\mathbb{Y}_{12}	$\mathbb{Q}_{2,1}^{(b,T_{2g})}$	B_2	$\begin{pmatrix} 0 & 0 & -\frac{\sqrt{2}}{2} & 0 & \frac{\sqrt{2}}{2} & 0 \end{pmatrix}$
\mathbb{Y}_{13}	$\mathbb{Q}_{2,2}^{(b,T_{2g})}$	B_2	$\begin{pmatrix} 0 & 0 & 0 & -\frac{\sqrt{2}}{2} & 0 & \frac{\sqrt{2}}{2} \end{pmatrix}$
\mathbb{Y}_{14}	$\mathbb{T}_{1,0}^{(b,T_{1u})}$	B_2	$\begin{pmatrix} 0 & 0 & \frac{i}{2} & \frac{i}{2} & \frac{i}{2} & \frac{i}{2} \end{pmatrix}$
\mathbb{Y}_{15}	$\mathbb{T}_{1,1}^{(b,T_{1u})}$	B_2	$\begin{pmatrix} \frac{i}{2} & \frac{i}{2} & 0 & -\frac{i}{2} & 0 & \frac{i}{2} \end{pmatrix}$
\mathbb{Y}_{16}	$\mathbb{T}_{1,2}^{(b,T_{1u})}$	B_2	$ \begin{pmatrix} \frac{i}{2} & -\frac{i}{2} & -\frac{i}{2} & 0 & \frac{i}{2} & 0 \end{pmatrix} $
\mathbb{Y}_{17}	$\mathbb{T}_{3,0}^{(b,T_{2u})}$	B_2	
\mathbb{Y}_{18}	$\mathbb{T}_{3,1}^{(b,T_{2u})}$	B_2	$\left(egin{array}{ccccc} -rac{i}{2} & -rac{i}{2} & 0 & -rac{i}{2} & 0 & rac{i}{2} \end{array} ight)$
\mathbb{Y}_{19}	$\mathbb{T}_{3,2}^{(b,T_{2u})}$	B_2	$\left(\begin{array}{ccccc} \frac{i}{2} & -\frac{i}{2} & \frac{i}{2} & 0 & -\frac{i}{2} & 0 \end{array}\right)$

Table 8: Polar harmonics.

No.	symbol	rank	irrep.	mul.	comp.	form
1	$\mathbb{Q}_0^{(A_{1g})}$	0	A_{1g}	_	_	1

Table 8

No.	symbol	rank	irrep.	mul.	comp.	form
2	$\mathbb{Q}_{1,0}^{(T_{1u})}$	1	T_{1u}	_	0	x
3	$\mathbb{Q}_{1,1}^{(T_{1u})}$	1	T_{1u}	_	1	y
4	$\mathbb{Q}_{1,2}^{(T_{1u})}$	1	T_{1u}	_	2	z
5	$\mathbb{Q}_{2,0}^{(E_g)}$	2	E_g	-	0	$-\frac{x^2}{2} - \frac{y^2}{2} + z^2$
6	$\mathbb{Q}_{2,1}^{(E_g)}$	2	E_g	_	1	$\frac{\sqrt{3}(x-y)(x+y)}{2}$
7	$\mathbb{Q}_{2,0}^{(T_{2g})}$	2	T_{2g}	_	0	$\sqrt{3}yz$
8	$\mathbb{Q}_{2,1}^{(I_{2g})}$	2	T_{2g}	_	1	$\sqrt{3}xz$
9	$\mathbb{Q}_{2,2}^{(T_{2g})}$	2	T_{2g}	_	2	$\sqrt{3}xy$
10	$\mathbb{O}^{(T_{2u})}$	3	T_{2u}	_	0	$\frac{\sqrt{15}x(y-z)(y+z)}{2}$
11	$\mathbb{Q}_{3,1}^{(T_{2u})}$	3	T_{2u}	_	1	$-\frac{\sqrt{15}y(x-z)(x+z)}{2}$
12	$\mathbb{Q}_{3,2}^{(T_{2u})}$	3	T_{2u}	_	2	$\frac{\sqrt{15}z(x-y)(x+y)}{2}$

Table 9: Axial harmonics.

No.	symbol	rank	irrep.	mul.	comp.	form
1	$\mathbb{G}_{2,0}^{(T_{2u})}$	2	T_{2u}	_	0	$\sqrt{3}YZ$
2	$\mathbb{G}_{2,1}^{(T_{2u})}$	2	T_{2u}	_	1	$\sqrt{3}XZ$
3	$\mathbb{G}_{2,2}^{(T_{2u})}$	2	T_{2u}	_	2	$\sqrt{3}XY$

 \bullet Group info.: Generator = {2001|0}, {2010|0}, {3 $^{+}_{111}|0\},$ {2110|0}, {-1|0}

Table 10: Conjugacy class (point-group part).

rep. SO	symmetry operations
{1 0}	{1 0}
$\{2_{001} 0\}$	$\{2_{001} 0\}, \{2_{100} 0\}, \{2_{010} 0\}$
$\{2_{110} 0\}$	$\{2_{110} 0\}, \{2_{101} 0\}, \{2_{011} 0\}, \{2_{1-10} 0\}, \{2_{1-10} 0\}, \{2_{01-1} 0\}$
$\{3^{+}_{111} 0\}$	$\left \ \{3^{+}_{111} 0\}, \ \{3^{+}_{1-1-1} 0\}, \ \{3^{+}_{-11-1} 0\}, \ \{3^{+}_{-1-11} 0\}, \ \{3^{-}_{111} 0\}, \ \{3^{-}_{-11-1} 0\}, \ \{3^{-}_{-11-1} 0\} \right.$
$\{4^{+}_{001} 0\}$	$\left\{4^{+}_{001} 0\},\ \{4^{+}_{100} 0\},\ \{4^{+}_{010} 0\},\ \{4^{-}_{001} 0\},\ \{4^{-}_{100} 0\},\ \{4^{-}_{010} 0\}\right\}$
$\{-1 0\}$	$\{-1 0\}$
$\{m_{001} 0\}$	$\{m_{001} 0\}, \{m_{100} 0\}, \{m_{010} 0\}$
$\{m_{110} 0\}$	
$\{-3^{+}_{111} 0\}$	$\left \begin{array}{cccccccccccccccccccccccccccccccccccc$
$\{-4^{+}_{001} 0\}$	$\left\{ -4_{001}^{+} 0\}, \ \left\{ -4_{100}^{+} 0\}, \ \left\{ -4_{010}^{+} 0\}, \ \left\{ -4_{001}^{-} 0\}, \ \left\{ -4_{100}^{-} 0\}, \ \left\{ -4_{010}^{-} 0\} \right\} \right\} \right\}$

Table 11: Symmetry operations.

No.	SO	No.	SO	No.	SO	No.	SO	No.	SO
 1	$\{1 0\}$	2	$\{2_{001} 0\}$	3	$\{2_{100} 0\}$	4	$\{2_{010} 0\}$	5	$\{2_{110} 0\}$
6	$\{2_{101} 0\}$	7	$\{2_{011} 0\}$	8	$\{2_{1-10} 0\}$	9	$\{2_{-101} 0\}$	10	$\{2_{01-1} 0\}$
11	$\{3^{+}_{111} 0\}$	12	$\{3^{+}_{1-1-1} 0\}$	13	$\{3^{+}_{-11-1} 0\}$	14	$\{3^{+}_{-1-11} 0\}$	15	$\{3^{-}_{111} 0\}$
16	$\{3^{-}_{1-1-1} 0\}$	17	${3^{-}_{-11-1} 0}$	18	${3^{-}_{-1-11} 0}$	19	$\{4^{+}_{001} 0\}$	20	$\{4^{+}_{100} 0\}$
21	$\{4^{+}_{010} 0\}$	22	$\{4^{-}_{001} 0\}$	23	$\{4^{-}_{100} 0\}$	24	$\{4^{-}_{010} 0\}$	25	$\{-1 0\}$
26	$\{m_{001} 0\}$	27	$\{m_{100} 0\}$	28	$\{m_{010} 0\}$	29	$\{m_{110} 0\}$	30	$\{m_{101} 0\}$
31	$\{m_{011} 0\}$	32	$\{m_{1-10} 0\}$	33	${m_{-101} 0}$	34	$\{m_{01-1} 0\}$	35	$\{-3^{+}_{111} 0\}$
36	$\{-3^+_{1-1-1} 0\}$	37	$\{-3^{+}_{-11-1} 0\}$	38	$\{-3^{+}_{-1-11} 0\}$	39	$\{-3^{-}_{111} 0\}$	40	$\{-3^{1-1-1} 0\}$
41	$\{-3^{-}_{-11-1} 0\}$	42	$\{-3^{-}_{-1-11} 0\}$	43	$\{-4^{+}_{001} 0\}$	44	$\{-4^{+}_{100} 0\}$	45	$\{-4^{+}_{010} 0\}$
46	$\{-4^{-}_{001} 0\}$	47	$\{-4^{-}_{100} 0\}$	48	$\{-4^{-}_{010} 0\}$				

Table 12: Character table (point-group part).

	1	2_{001}	2_{110}	3^{+}_{111}	4^{+}_{001}	-1	m_{001}	m_{110}	-3^{+}_{111}	-4^{+}_{001}
A_{1g}	1	1	1	1	1	1	1	1	1	1
A_{2g}	1	1	-1	1	-1	1	1	-1	1	-1
E_g	2	2	0	-1	0	2	2	0	-1	0
T_{1g}	3	-1	-1	0	1	3	-1	-1	0	1
T_{2g}	3	-1	1	0	-1	3	-1	1	0	-1
A_{1u}	1	1	1	1	1	-1	-1	-1	-1	-1
A_{2u}	1	1	-1	1	-1	-1	-1	1	-1	1
E_u	2	2	0	-1	0	-2	-2	0	1	0
T_{1u}	3	-1	-1	0	1	-3	1	1	0	-1
T_{2u}	3	-1	1	0	-1	-3	1	-1	0	1

Table 13: Parity conversion.

\longleftrightarrow	\leftrightarrow	\leftrightarrow	\leftrightarrow	\leftrightarrow
$A_{1g} (A_{1u})$	$A_{2g} (A_{2u})$	$E_g (E_u)$	$T_{1g} (T_{1u})$	$T_{2g} (T_{2u})$
$A_{1u} (A_{1g})$	$A_{2u} (A_{2g})$	E_u (E_g)	$T_{1u} (T_{1g})$	$T_{2u} (T_{2g})$

Table 14: Symmetric product, $[\Gamma \otimes \Gamma']_+$.

	A_{1g}	A_{2g}	E_g	T_{1g}	T_{2g}	A_{1u}	A_{2u}	E_u	T_{1u}	T_{2u}
A_{1g}	A_{1g}	A_{2g}	E_g	T_{1g}	T_{2g}	A_{1u}	A_{2u}	E_u	T_{1u}	T_{2u}
A_{2g}		A_{1g}	E_g	T_{2g}	T_{1g}	A_{2u}	A_{1u}	E_u	T_{2u}	T_{1u}
E_g			$A_{1g} + E_g$	$T_{1g} + T_{2g}$	$T_{1g} + T_{2g}$	E_u	E_u	$A_{1u} + A_{2u} + E_u$	$T_{1u} + T_{2u}$	$T_{1u} + T_{2u}$
T_{1g}				$A_{1g} + E_g + T_{2g}$	$A_{2g} + E_g + T_{1g} + T_{2g}$	T_{1u}	T_{2u}	$T_{1u} + T_{2u}$	$A_{1u} + E_u + T_{1u} + T_{2u}$	$A_{2u} + E_u + T_{1u} + T_{2u}$
T_{2g}					$A_{1g} + E_g + T_{2g}$	T_{2u}	T_{1u}	$T_{1u} + T_{2u}$	$A_{2u} + E_u + T_{1u} + T_{2u}$	$A_{1u} + E_u + T_{1u} + T_{2u}$
A_{1u}						A_{1g}	A_{2g}	E_g	T_{1g}	T_{2g}
A_{2u}							A_{1g}	E_g	T_{2g}	T_{1g}
E_u								$A_{1g} + E_g$	$T_{1g} + T_{2g}$	$T_{1g} + T_{2g}$
T_{1u}									$A_{1g} + E_g + T_{2g}$	$A_{2g} + E_g + T_{1g} + T_{2g}$
T_{2u}										$A_{1g} + E_g + T_{2g}$

Table 15: Anti-symmetric product, $[\Gamma \otimes \Gamma]_-$.

A_{1g}	A_{2g}	E_g	T_{1g}	T_{2g}	A_{1u}	A_{2u}	E_u	T_{1u}	T_{2u}
_	_	A_{2g}	T_{1g}	T_{1g}	_	_	A_{2g}	T_{1g}	T_{1g}

Table 16: Virtual-cluster sites.

No.	position	No.	position	No.	position	No.	position
1	$\begin{pmatrix} 3 & 2 & 1 \end{pmatrix}$	2	$\begin{pmatrix} -3 & -2 & 1 \end{pmatrix}$	3	$\begin{pmatrix} 3 & -2 & -1 \end{pmatrix}$	4	$\begin{pmatrix} -3 & 2 & -1 \end{pmatrix}$
5	$\begin{pmatrix} 2 & 3 & -1 \end{pmatrix}$	6	$\begin{pmatrix} 1 & -2 & 3 \end{pmatrix}$	7	$\begin{pmatrix} -3 & 1 & 2 \end{pmatrix}$	8	$\begin{pmatrix} -2 & -3 & -1 \end{pmatrix}$
9	$\begin{pmatrix} -1 & -2 & -3 \end{pmatrix}$	10	$\begin{pmatrix} -3 & -1 & -2 \end{pmatrix}$	11	$\begin{pmatrix} 1 & 3 & 2 \end{pmatrix}$	12	$\begin{pmatrix} -1 & -3 & 2 \end{pmatrix}$
13	$\begin{pmatrix} 1 & -3 & -2 \end{pmatrix}$	14	$\begin{pmatrix} -1 & 3 & -2 \end{pmatrix}$	15	$\begin{pmatrix} 2 & 1 & 3 \end{pmatrix}$	16	$\begin{pmatrix} -2 & 1 & -3 \end{pmatrix}$
17	$\begin{pmatrix} -2 & -1 & 3 \end{pmatrix}$	18	$\begin{pmatrix} 2 & -1 & -3 \end{pmatrix}$	19	$\begin{pmatrix} -2 & 3 & 1 \end{pmatrix}$	20	$\begin{pmatrix} 3 & -1 & 2 \end{pmatrix}$
21	$\begin{pmatrix} 1 & 2 & -3 \end{pmatrix}$	22	$\begin{pmatrix} 2 & -3 & 1 \end{pmatrix}$	23	$\begin{pmatrix} 3 & 1 & -2 \end{pmatrix}$	24	$\begin{pmatrix} -1 & 2 & 3 \end{pmatrix}$
25	$\begin{pmatrix} -3 & -2 & -1 \end{pmatrix}$	26	$\begin{pmatrix} 3 & 2 & -1 \end{pmatrix}$	27	$\begin{pmatrix} -3 & 2 & 1 \end{pmatrix}$	28	$\begin{pmatrix} 3 & -2 & 1 \end{pmatrix}$
29	$\begin{pmatrix} -2 & -3 & 1 \end{pmatrix}$	30	$\begin{pmatrix} -1 & 2 & -3 \end{pmatrix}$	31	$\begin{pmatrix} 3 & -1 & -2 \end{pmatrix}$	32	$\begin{pmatrix} 2 & 3 & 1 \end{pmatrix}$
33	$\begin{pmatrix} 1 & 2 & 3 \end{pmatrix}$	34	$\begin{pmatrix} 3 & 1 & 2 \end{pmatrix}$	35	$\begin{pmatrix} -1 & -3 & -2 \end{pmatrix}$	36	$\begin{pmatrix} 1 & 3 & -2 \end{pmatrix}$
37	$\begin{pmatrix} -1 & 3 & 2 \end{pmatrix}$	38	$\begin{pmatrix} 1 & -3 & 2 \end{pmatrix}$	39	$\begin{pmatrix} -2 & -1 & -3 \end{pmatrix}$	40	$\begin{pmatrix} 2 & -1 & 3 \end{pmatrix}$
41	$\begin{pmatrix} 2 & 1 & -3 \end{pmatrix}$	42	$\begin{pmatrix} -2 & 1 & 3 \end{pmatrix}$	43	$\begin{pmatrix} 2 & -3 & -1 \end{pmatrix}$	44	$\begin{pmatrix} -3 & 1 & -2 \end{pmatrix}$
45	$\begin{pmatrix} -1 & -2 & 3 \end{pmatrix}$	46	$\begin{pmatrix} -2 & 3 & -1 \end{pmatrix}$	47	$\begin{pmatrix} -3 & -1 & 2 \end{pmatrix}$	48	$\begin{pmatrix} 1 & -2 & -3 \end{pmatrix}$

Table 17: Virtual-cluster basis.

symbol	1	2	3	4	5	6	7	8	9	10
$\mathbb{Q}_0^{(A_{1g})}$	$\frac{\sqrt{3}}{12}$									

Table 17

symbol	1	2	3	4	5	6	7	8	9	10
	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$								
	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$								
	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$								
	$\frac{\sqrt{3}}{12}$									
$\mathbb{Q}_{1,0}^{(T_{1u})}$	$\frac{3\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$
	$\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{28}$	$\frac{3\sqrt{14}}{56}$
	$\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$	$\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{56}$
	$\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$
	$\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$-\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$-\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$		
$\mathbb{Q}_{1,1}^{(T_{1u})}$	$\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{56}$
	$\frac{3\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$
	$\frac{\sqrt{14}}{28}$	$-\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{28}$	$-\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$
	$-\frac{\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$
	$\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$-\tfrac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$		
$\mathbb{Q}_{1,2}^{(T_{1u})}$	$\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$-rac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$
	$\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{28}$	$\frac{3\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$
	$-\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$
	$-\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$-\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$
	$-\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$	$-\frac{3\sqrt{14}}{56}$		
$\mathbb{Q}_{2,0}^{(E_g)}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$	$-\frac{11\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$
	$-\frac{\sqrt{6}}{84}$	$-\frac{\sqrt{6}}{84}$	$-\frac{\sqrt{6}}{84}$	$-\frac{\sqrt{6}}{84}$	$\frac{13\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$
	$\frac{13\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$	$\frac{13\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$
	$-\frac{\sqrt{6}}{84}$	$-\frac{11\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$	$-\frac{\sqrt{6}}{84}$	$-\frac{\sqrt{6}}{84}$	$-\frac{\sqrt{6}}{84}$	$-\frac{\sqrt{6}}{84}$	$\frac{13\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$
	$\frac{13\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$	$\frac{13\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$	$\frac{13\sqrt{6}}{168}$		
$\mathbb{Q}_{2,1}^{(E_g)}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$-\frac{3\sqrt{2}}{56}$	$\frac{\sqrt{2}}{7}$	$-\frac{5\sqrt{2}}{56}$	$-\frac{3\sqrt{2}}{56}$	$\frac{\sqrt{2}}{7}$
	$-\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$\frac{3\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$\frac{\sqrt{2}}{7}$
	$-\frac{3\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$\frac{\sqrt{2}}{7}$	$-\frac{3\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$-\frac{3\sqrt{2}}{56}$
	$\frac{\sqrt{2}}{7}$	$-\frac{5\sqrt{2}}{56}$	$-\frac{3\sqrt{2}}{56}$	$\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$\frac{3\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$
	$\frac{3\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$\frac{\sqrt{2}}{7}$	$-\frac{3\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$\frac{\sqrt{2}}{7}$	$-\frac{3\sqrt{2}}{56}$		
$\mathbb{Q}_{2,0}^{(T_{2g})}$	$\frac{1}{14}$	$-\frac{1}{14}$	$\frac{1}{14}$	$-\frac{1}{14}$	$-\frac{3}{28}$	$-\frac{3}{14}$	$\frac{1}{14}$	$\frac{3}{28}$	$\frac{3}{14}$	$\frac{1}{14}$
		·					·			

Table 17

symbol	1	2	3	4	5	6	7	8	9	10
	$\frac{3}{14}$	$-\frac{3}{14}$	3 14	$-\frac{3}{14}$	3 28	$-\frac{3}{28}$	$-\frac{3}{28}$	$\frac{3}{28}$	3 28	$-\frac{1}{14}$
	$-\frac{3}{14}$	$-\frac{3}{28}$	$-\frac{1}{14}$	$\frac{3}{14}$	$\frac{1}{14}$	$-\frac{1}{14}$	$\frac{1}{14}$	$-\frac{1}{14}$	$-\frac{3}{28}$	$-\frac{3}{14}$
	$\frac{1}{14}$	$\frac{3}{28}$	$\frac{3}{14}$	$\frac{1}{14}$	$\frac{3}{14}$	$-\frac{3}{14}$	$\frac{3}{14}$	$-\frac{3}{14}$	$\frac{3}{28}$	$-\frac{3}{28}$
	$-\frac{3}{28}$	$\frac{3}{28}$	$\frac{3}{28}$	$-\frac{1}{14}$	$-\frac{3}{14}$	$-\frac{3}{28}$	$-\frac{1}{14}$	$\frac{3}{14}$		
$\mathbb{Q}_{2,1}^{(T_{2g})}$	$\frac{3}{28}$	$-\frac{3}{28}$	$-\frac{3}{28}$	$\frac{3}{28}$	$-\frac{1}{14}$	$\frac{3}{28}$	$-\frac{3}{14}$	$\frac{1}{14}$	$\frac{3}{28}$	$\frac{3}{14}$
	$\frac{1}{14}$	$-\frac{1}{14}$	$-\frac{1}{14}$	$\frac{1}{14}$	$\frac{3}{14}$	$\frac{3}{14}$	$-\frac{3}{14}$	$-\frac{3}{14}$	$-\frac{1}{14}$	$\frac{3}{14}$
	$-\frac{3}{28}$	$\frac{1}{14}$	$-\frac{3}{14}$	$-\frac{3}{28}$	$\frac{3}{28}$	$-\frac{3}{28}$	$-\frac{3}{28}$	$\frac{3}{28}$	$-\frac{1}{14}$	$\frac{3}{28}$
	$-\frac{3}{14}$	$\frac{1}{14}$	$\frac{3}{28}$	$\frac{3}{14}$	$\frac{1}{14}$	$-\frac{1}{14}$	$-\frac{1}{14}$	$\frac{1}{14}$	$\frac{3}{14}$	$\frac{3}{14}$
(m.)	$-\frac{3}{14}$	$-\frac{3}{14}$	$-\frac{1}{14}$	$\frac{3}{14}$	$-\frac{3}{28}$	$\frac{1}{14}$	$-\frac{3}{14}$	$-\frac{3}{28}$		
$\mathbb{Q}_{2,2}^{(T_{2g})}$	$\frac{3}{14}$	$\frac{3}{14}$	$-\frac{3}{14}$	$-\frac{3}{14}$	$\frac{3}{14}$	$-\frac{1}{14}$	$-\frac{3}{28}$	$\frac{3}{14}$	$\frac{1}{14}$	$\frac{3}{28}$
	$\frac{3}{28}$	$\frac{3}{28}$	$-\frac{3}{28}$	$-\frac{3}{28}$	$\frac{1}{14}$	$-\frac{1}{14}$	$\frac{1}{14}$	$-\frac{1}{14}$	$-\frac{3}{14}$	$-\frac{3}{28}$
	$\frac{1}{14}$	$-\frac{3}{14}$	$\frac{3}{28}$	$-\frac{1}{14}$	$\frac{3}{14}$	$\frac{3}{14}$	$-\frac{3}{14}$	$-\frac{3}{14}$	$\frac{3}{14}$	$-\frac{1}{14}$
	$-\frac{3}{28}$	$\frac{3}{14}$	$\frac{1}{14}$	$\frac{3}{28}$	$\frac{3}{28}$	$\frac{3}{28}$	$-\frac{3}{28}$	$-\frac{3}{28}$	$\frac{1}{14}$	$-\frac{1}{14}$
	$\frac{1}{14}$	$-\frac{1}{14}$	$-\frac{3}{14}$	$-\frac{3}{28}$	$\frac{1}{14}$	$-\frac{3}{14}$	$\frac{3}{28}$	$-\frac{1}{14}$		
$\mathbb{Q}_3^{(A_{2u})}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$
	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$							
	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$							
	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$
(m.)	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$		
$\mathbb{Q}_{3,0}^{(T_{1u})}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$
	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$
	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$
	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$
(T.)	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	<u></u>	<u></u>
$\mathbb{Q}_{3,1}^{(T_{1u})}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$
	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$
	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$
	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$
_ (T ₁)	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$		
$\mathbb{Q}_{3,2}^{(T_{1u})}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$

Table 17

symbol	1	2	3	4	5	6	7	8	9	10
	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$
	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$
	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$
	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$		
$\mathbb{Q}_{3,0}^{(T_{2u})}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$	$-\frac{5\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$	$\frac{5\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$
	$\frac{5\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{9\sqrt{362}}{1448}$
	$-\frac{5\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$	$\frac{5\sqrt{362}}{1448}$
	$-\frac{9\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$
	$-\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$\frac{9\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$		
$\mathbb{Q}_{3,1}^{(T_{2u})}$	$-\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{9\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{5\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$	$\frac{5\sqrt{362}}{1448}$
	$\frac{9\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$
	$\frac{2\sqrt{362}}{181}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$\frac{9\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$
	$\frac{5\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$
	$\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$		
$\mathbb{Q}_{3,2}^{(T_{2u})}$	$\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$	$\frac{5\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$
	$-\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$
	$\frac{9\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{9\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$
	$-\frac{2\sqrt{362}}{181}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$
	$-\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$	$\frac{9\sqrt{362}}{1448}$		
$\mathbb{Q}_{4,0}^{(E_g)}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$-\frac{\sqrt{2}}{7}$	$\frac{5\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$-\frac{\sqrt{2}}{7}$
	$-\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$\frac{3\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$-\frac{\sqrt{2}}{7}$
	$\frac{3\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$-\frac{\sqrt{2}}{7}$	$\frac{3\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$
	$-\frac{\sqrt{2}}{7}$	$\frac{5\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$-\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$\frac{3\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$
	$\frac{3\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$-\frac{\sqrt{2}}{7}$	$\frac{3\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$-\frac{\sqrt{2}}{7}$	$\frac{3\sqrt{2}}{56}$		
$\mathbb{Q}_{4,1}^{(E_g)}$	$\frac{11\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$	$-\frac{11\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$
	$\frac{\sqrt{6}}{84}$	$\frac{\sqrt{6}}{84}$	$\frac{\sqrt{6}}{84}$	$\frac{\sqrt{6}}{84}$	$-\frac{13\sqrt{6}}{168}$	$-\frac{13\sqrt{6}}{168}$	$-\frac{13\sqrt{6}}{168}$	$-\frac{13\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$
	$\frac{13\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$	$\frac{13\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$
	$-\frac{\sqrt{6}}{84}$	$-\frac{11\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$	$\frac{\sqrt{6}}{84}$	$\frac{\sqrt{6}}{84}$	$\frac{\sqrt{6}}{84}$	$\frac{\sqrt{6}}{84}$	$-\frac{13\sqrt{6}}{168}$	$-\frac{13\sqrt{6}}{168}$
	$-\frac{13\sqrt{6}}{168}$	$-\frac{13\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$	$\frac{13\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$	$\frac{13\sqrt{6}}{168}$		
$\mathbb{Q}_{4,0}^{(T_{1g})}$	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$	$\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$

Table 17

symbol	1	2	3	4	5	6	7	8	9	10
	$\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{168}$
	$\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$	$\frac{5\sqrt{42}}{168}$
	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$
	$\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$		
$\mathbb{Q}_{4,1}^{(T_{1g})}$	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$	$\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$	$-\frac{5\sqrt{42}}{168}$
	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$
	$-rac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$	$-rac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$
	$\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$	$-\frac{5\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$
	$-\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$		
$\mathbb{Q}_{4,2}^{(T_{1g})}$	$\frac{5\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$
	$-rac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$
	$-\frac{\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$
	$-\frac{\sqrt{42}}{42}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$
	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{168}$		
$\mathbb{Q}_{4,0}^{(T_{2g})}$	$\frac{111\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{59\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$
	$-\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{11\sqrt{362}}{2534}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{111\sqrt{362}}{10136}$
	$\frac{59\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$	$-\frac{111\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$-\tfrac{111\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{59\sqrt{362}}{10136}$
	$\frac{111\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$
	$-\frac{11\sqrt{362}}{2534}$	$\frac{11\sqrt{362}}{2534}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{111\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$	$-\frac{111\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$		
$\mathbb{Q}_{4,1}^{(T_{2g})}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{111\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$	$\frac{59\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{59\sqrt{362}}{10136}$
	$\frac{111\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$
	$-\frac{11\sqrt{362}}{2534}$	$\frac{111\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{11\sqrt{362}}{2534}$	$-\tfrac{111\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$
	$\frac{59\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$
	$\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{111\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$		
$\mathbb{Q}_{4,2}^{(T_{2g})}$	$-\frac{59\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$
	$\frac{11\sqrt{362}}{2534}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{111\sqrt{362}}{10136}$	$-\tfrac{111\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$
	$\frac{111\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$	$-\tfrac{111\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$
	$-\frac{11\sqrt{362}}{2534}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$	$\frac{11\sqrt{362}}{2534}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{111\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$
	$\frac{111\sqrt{362}}{10136}$	$-\tfrac{111\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{111\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$	$-\tfrac{111\sqrt{362}}{10136}$		
$\mathbb{Q}_{5,0}^{(E_{u})}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$-\frac{\sqrt{2}}{7}$	$\frac{5\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$-\frac{\sqrt{2}}{7}$

Table 17

symbol	1	2	3	4	5	6	7	8	9	10
	$-\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$\frac{3\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$-\frac{\sqrt{2}}{7}$
	$\frac{3\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$-\frac{\sqrt{2}}{7}$	$\frac{3\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$-\frac{3\sqrt{2}}{56}$
	$\frac{\sqrt{2}}{7}$	$-\frac{5\sqrt{2}}{56}$	$-\frac{3\sqrt{2}}{56}$	$\frac{\sqrt{2}}{7}$	$\frac{\sqrt{2}}{7}$	$\frac{\sqrt{2}}{7}$	$\frac{\sqrt{2}}{7}$	$\frac{\sqrt{2}}{7}$	$-\frac{3\sqrt{2}}{56}$	$-\frac{3\sqrt{2}}{56}$
	$-\frac{3\sqrt{2}}{56}$	$-\frac{3\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$\frac{\sqrt{2}}{7}$	$-\frac{3\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$\frac{\sqrt{2}}{7}$	$-\frac{3\sqrt{2}}{56}$		
$\mathbb{Q}_{5,1}^{(E_{u})}$	$\frac{11\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$	$-\frac{11\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$
	$\frac{\sqrt{6}}{84}$	$\frac{\sqrt{6}}{84}$	$\frac{\sqrt{6}}{84}$	$\frac{\sqrt{6}}{84}$	$-\frac{13\sqrt{6}}{168}$	$-\frac{13\sqrt{6}}{168}$	$-\frac{13\sqrt{6}}{168}$	$-\frac{13\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$
	$\frac{13\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$	$\frac{13\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$-\frac{13\sqrt{6}}{168}$
	$\frac{\sqrt{6}}{84}$	$\frac{11\sqrt{6}}{168}$	$-\frac{13\sqrt{6}}{168}$	$\frac{\sqrt{6}}{84}$	$-\frac{\sqrt{6}}{84}$	$-\frac{\sqrt{6}}{84}$	$-\frac{\sqrt{6}}{84}$	$-\frac{\sqrt{6}}{84}$	$\frac{13\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$
	$\frac{13\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$\frac{\sqrt{6}}{84}$	$-\frac{13\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$\frac{\sqrt{6}}{84}$	$-\frac{13\sqrt{6}}{168}$		
$\mathbb{Q}_{5,0}^{(T_{1u},1)}$	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$	$\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$
	$\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{168}$
	$\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$	$-\frac{5\sqrt{42}}{168}$
	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$	$\frac{5\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{42}$
	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$		
$\mathbb{Q}_{5,1}^{(T_{1u},1)}$	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$-rac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$	$\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$	$-\frac{5\sqrt{42}}{168}$
	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$
	$-\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$
	$-\frac{5\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$	$\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$
	$\frac{5\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$		
$\mathbb{Q}_{5,2}^{(T_{1u},1)}$	$\frac{5\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$-rac{\sqrt{42}}{42}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$
	$-\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{168}$	$-\tfrac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$
	$-\frac{\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{168}$
	$\frac{\sqrt{42}}{42}$	$\frac{5\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$
	$-\frac{\sqrt{42}}{168}$	$\frac{\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$\frac{\sqrt{42}}{42}$	$\frac{\sqrt{42}}{168}$	$-\frac{5\sqrt{42}}{168}$	$-\frac{\sqrt{42}}{42}$	$-\frac{\sqrt{42}}{168}$		
$\mathbb{Q}_{5,0}^{(T_{2u})}$	$\frac{111\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{59\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$
	$-\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{11\sqrt{362}}{2534}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{111\sqrt{362}}{10136}$
	$\frac{59\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$	$-\frac{111\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{59\sqrt{362}}{10136}$
	$-\frac{111\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{11\sqrt{362}}{2534}$
	$\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{111\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$	$\frac{111\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$		
$\mathbb{Q}_{5,1}^{(T_{2u})}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{111\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$	$\frac{59\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{59\sqrt{362}}{10136}$

Table 17

symbol	1	2	3	4	5	6	7	8	9	10
	$\frac{111\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$
	$-\frac{11\sqrt{362}}{2534}$	$\frac{111\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{11\sqrt{362}}{2534}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{111\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$
	$-\frac{59\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$
	$-\frac{59\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{111\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$		
$\mathbb{Q}_{5,2}^{(T_{2u})}$	$-\frac{59\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$
	$\frac{11\sqrt{362}}{2534}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{111\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$
	$\frac{111\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{111\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{59\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$
	$\frac{11\sqrt{362}}{2534}$	$\frac{59\sqrt{362}}{10136}$	$-\frac{111\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{11\sqrt{362}}{2534}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{111\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$
	$-\frac{111\sqrt{362}}{10136}$	$\frac{111\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$\frac{11\sqrt{362}}{2534}$	$-\frac{111\sqrt{362}}{10136}$	$-\frac{59\sqrt{362}}{10136}$	$-\frac{11\sqrt{362}}{2534}$	$\frac{111\sqrt{362}}{10136}$		
$\mathbb{Q}_{6}^{(A_{2g})}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$
	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$
	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$
	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$
	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$		
$\mathbb{Q}_{6,0}^{(T_{1g})}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$
	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$
	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$
	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$
(m.)	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$		
$\mathbb{Q}_{6,1}^{(T_{1g})}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$
	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$
	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$
	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$
(m.)	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$		
$\mathbb{Q}_{6,2}^{(T_{1g})}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$
	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$
	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$
	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$
(T 1)	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$		
$\mathbb{Q}_{6,0}^{(T_{2g},1)}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$

Table 17

symbol	1	2	3	4	5	6	7	8	9	10
	$-\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$\frac{9\sqrt{362}}{1448}$
	$\frac{5\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$	$\frac{5\sqrt{362}}{1448}$
	$-\frac{9\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$
	$-\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$\frac{9\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$		
$\mathbb{Q}_{6,1}^{(T_{2g},1)}$	$\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$\frac{9\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$	$-\frac{5\sqrt{362}}{1448}$
	$-\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$
	$-\frac{2\sqrt{362}}{181}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$\frac{9\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$
	$\frac{5\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$
	$\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$		
$\mathbb{Q}_{6,2}^{(T_{2g},1)}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$
	$\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$
	$-\frac{9\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$	$\frac{9\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{5\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$
	$-\frac{2\sqrt{362}}{181}$	$-\frac{5\sqrt{362}}{1448}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$
	$-\frac{9\sqrt{362}}{1448}$	$\frac{9\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$-\frac{2\sqrt{362}}{181}$	$-\frac{9\sqrt{362}}{1448}$	$\frac{5\sqrt{362}}{1448}$	$\frac{2\sqrt{362}}{181}$	$\frac{9\sqrt{362}}{1448}$		
$\mathbb{Q}_{7,0}^{(E_u)}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$	$-\frac{11\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$
	$-\frac{\sqrt{6}}{84}$	$-\frac{\sqrt{6}}{84}$	$-\frac{\sqrt{6}}{84}$	$-\frac{\sqrt{6}}{84}$	$\frac{13\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$	$\frac{13\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$
	$\frac{13\sqrt{6}}{168}$	$-\frac{11\sqrt{6}}{168}$	$-\frac{\sqrt{6}}{84}$	$\frac{13\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$-\frac{13\sqrt{6}}{168}$
	$\frac{\sqrt{6}}{84}$	$\frac{11\sqrt{6}}{168}$	$-\frac{13\sqrt{6}}{168}$	$\frac{\sqrt{6}}{84}$	$\frac{\sqrt{6}}{84}$	$\frac{\sqrt{6}}{84}$	$\frac{\sqrt{6}}{84}$	$\frac{\sqrt{6}}{84}$	$-\frac{13\sqrt{6}}{168}$	$-\frac{13\sqrt{6}}{168}$
	$-\frac{13\sqrt{6}}{168}$	$-\frac{13\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$\frac{\sqrt{6}}{84}$	$-\frac{13\sqrt{6}}{168}$	$\frac{11\sqrt{6}}{168}$	$\frac{\sqrt{6}}{84}$	$-\frac{13\sqrt{6}}{168}$		
$\mathbb{Q}_{7,1}^{(E_u)}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$-\frac{3\sqrt{2}}{56}$	$\frac{\sqrt{2}}{7}$	$-\frac{5\sqrt{2}}{56}$	$-\frac{3\sqrt{2}}{56}$	$\frac{\sqrt{2}}{7}$
	$-\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$-\frac{\sqrt{2}}{7}$	$\frac{3\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$\frac{\sqrt{2}}{7}$
	$-\frac{3\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$\frac{\sqrt{2}}{7}$	$-\frac{3\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$-\frac{5\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$
	$-\frac{\sqrt{2}}{7}$	$\frac{5\sqrt{2}}{56}$	$\frac{3\sqrt{2}}{56}$	$-\frac{\sqrt{2}}{7}$	$\frac{\sqrt{2}}{7}$	$\frac{\sqrt{2}}{7}$	$\frac{\sqrt{2}}{7}$	$\frac{\sqrt{2}}{7}$	$-\frac{3\sqrt{2}}{56}$	$-\frac{3\sqrt{2}}{56}$
(T. 1)	$-\frac{3\sqrt{2}}{56}$	$-\frac{3\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$-\frac{\sqrt{2}}{7}$	$\frac{3\sqrt{2}}{56}$	$\frac{5\sqrt{2}}{56}$	$-\frac{\sqrt{2}}{7}$	$\frac{3\sqrt{2}}{56}$		
$\mathbb{Q}_{7,0}^{(T_{2u},1)}$	$-\frac{1}{14}$	$\frac{1}{14}$	$-\frac{1}{14}$	$\frac{1}{14}$	$\frac{3}{28}$	$\frac{3}{14}$	$-\frac{1}{14}$	$-\frac{3}{28}$	$-\frac{3}{14}$	$-\frac{1}{14}$
	$-\frac{3}{14}$	$\frac{3}{14}$	$-\frac{3}{14}$	$\frac{3}{14}$	$-\frac{3}{28}$	$\frac{3}{28}$	$\frac{3}{28}$	$-\frac{3}{28}$	$-\frac{3}{28}$	$\frac{1}{14}$
	$\frac{3}{14}$	$\frac{3}{28}$	$\frac{1}{14}$	$-\frac{3}{14}$	$\frac{1}{14}$	$-\frac{1}{14}$	$\frac{1}{14}$	$-\frac{1}{14}$	$-\frac{3}{28}$	$-\frac{3}{14}$
	$\frac{1}{14}$	$\frac{3}{28}$	$\frac{3}{14}$	$\frac{1}{14}$	$\frac{3}{14}$	$-\frac{3}{14}$	$\frac{3}{14}$	$-\frac{3}{14}$	$\frac{3}{28}$	$-\frac{3}{28}$
(T- 1)	$-\frac{3}{28}$	3 28	3/28	$-\frac{1}{14}$	$-\frac{3}{14}$	$-\frac{3}{28}$	$-\frac{1}{14}$	3 14		
$\mathbb{Q}_{7,1}^{(T_{2u},1)}$	$-\frac{3}{28}$	$\frac{3}{28}$	$\frac{3}{28}$	$-\frac{3}{28}$	$\frac{1}{14}$	$-\frac{3}{28}$	$\frac{3}{14}$	$-\frac{1}{14}$	$-\frac{3}{28}$	$-\frac{3}{14}$

Table 17

symbol	1	2	3	4	5	6	7	8	9	10
	$-\frac{1}{14}$	$\frac{1}{14}$	$\frac{1}{14}$	$-\frac{1}{14}$	$-\frac{3}{14}$	$-\frac{3}{14}$	$\frac{3}{14}$	$\frac{3}{14}$	$\frac{1}{14}$	$-\frac{3}{14}$
	$\frac{3}{28}$	$-\frac{1}{14}$	$\frac{3}{14}$	$\frac{3}{28}$	$\frac{3}{28}$	$-\frac{3}{28}$	$-\frac{3}{28}$	$\frac{3}{28}$	$-\frac{1}{14}$	$\frac{3}{28}$
	$-\frac{3}{14}$	$\frac{1}{14}$	$\frac{3}{28}$	$\frac{3}{14}$	$\frac{1}{14}$	$-\frac{1}{14}$	$-\frac{1}{14}$	$\frac{1}{14}$	$\frac{3}{14}$	$\frac{3}{14}$
-	$-\frac{3}{14}$	$-\frac{3}{14}$	$-\frac{1}{14}$	$\frac{3}{14}$	$-\frac{3}{28}$	$\frac{1}{14}$	$-\frac{3}{14}$	$-\frac{3}{28}$		
$\mathbb{Q}_{7,2}^{(T_{2u},1)}$	$-\frac{3}{14}$	$-\frac{3}{14}$	$\frac{3}{14}$	$\frac{3}{14}$	$-\frac{3}{14}$	$\frac{1}{14}$	$\frac{3}{28}$	$-\frac{3}{14}$	$-\frac{1}{14}$	$-\frac{3}{28}$
	$-\frac{3}{28}$	$-\frac{3}{28}$	$\frac{3}{28}$	$\frac{3}{28}$	$-\frac{1}{14}$	$\frac{1}{14}$	$-\frac{1}{14}$	$\frac{1}{14}$	$\frac{3}{14}$	$\frac{3}{28}$
	$-\frac{1}{14}$	$\frac{3}{14}$	$-\frac{3}{28}$	$\frac{1}{14}$	$\frac{3}{14}$	$\frac{3}{14}$	$-\frac{3}{14}$	$-\frac{3}{14}$	$\frac{3}{14}$	$-\frac{1}{14}$
	$-\frac{3}{28}$	$\frac{3}{14}$	$\frac{1}{14}$	$\frac{3}{28}$	$\frac{3}{28}$	$\frac{3}{28}$	$-\frac{3}{28}$	$-\frac{3}{28}$	$\frac{1}{14}$	$-\frac{1}{14}$
	$\frac{1}{14}$	$-\frac{1}{14}$	$-\frac{3}{14}$	$-\frac{3}{28}$	$\frac{1}{14}$	$-\frac{3}{14}$	$\frac{3}{28}$	$-\frac{1}{14}$		
$\mathbb{Q}_{8,0}^{(T_{1g},1)}$	$-\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$ \begin{array}{r} 14 \\ -\frac{\sqrt{14}}{56} \\ \hline \end{array} $	$\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$
	$-\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$-\frac{3\sqrt{14}}{56}$
	$-\frac{\sqrt{14}}{56}$ $\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$-\frac{3\sqrt{14}}{56}$ $\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$ $\frac{\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{56}$
	$\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$
	$\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$-\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$-\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$		
$\mathbb{Q}_{8,1}^{(T_{1g},1)}$	$-\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{28}$	$-\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{56}$
	$-\tfrac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$
	$-\frac{\sqrt{14}}{28}$	$\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{28}$	$-\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$
	$-\frac{\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$
-	$ \frac{\frac{\sqrt{14}}{56}}{-\frac{\sqrt{14}}{56}} $	$\frac{\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$		
$\mathbb{Q}_{8,2}^{(T_{1g},1)}$	$-\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$
	$-\frac{\sqrt{14}}{28}$ $\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$-\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$
	$\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$	$-\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$\frac{\sqrt{14}}{56}$	$-\frac{3\sqrt{14}}{56}$
	$-\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{28}$	$-\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$\frac{\sqrt{14}}{28}$	$-\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$
	$-\frac{3\sqrt{14}}{56}$	$\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{28}$	$\frac{3\sqrt{14}}{56}$	$-\frac{\sqrt{14}}{56}$ $\frac{\sqrt{3}}{12}$	$\frac{\sqrt{14}}{28}$	$-\frac{3\sqrt{14}}{56}$		
$\mathbb{Q}_9^{(A_{1u})}$	$-\frac{3\sqrt{14}}{56}$ $\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$
	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$
	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$
	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$
	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$	$-\frac{\sqrt{3}}{12}$		