

MSG No. 203.27  $Fd\bar{3}1'$  [ Type II, cubic ]

\* symmetry operation

Table 1: Symmetry operations for 3d polar vector.

No.	tag	matrix (polar)	det	TR
1	{1 0}	$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \end{bmatrix}$	1	1
2	{2 <sub>100</sub>  0 <sub>4</sub> <sup>3</sup> <sub>4</sub> <sup>3</sup> }	$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{3}{4} \end{bmatrix}$	1	1
3	{2 <sub>010</sub>   <sub>4</sub> <sup>3</sup> 0 <sub>4</sub> <sup>3</sup> }	$\begin{bmatrix} -1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & 0 \\ 0 & 0 & -1 & \frac{3}{4} \end{bmatrix}$	1	1
4	{2 <sub>001</sub>   <sub>4</sub> <sup>3</sup> <sub>4</sub> <sup>3</sup> 0}	$\begin{bmatrix} -1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & 0 \end{bmatrix}$	1	1
5	{3 <sub>111</sub> <sup>+</sup>  0}	$\begin{bmatrix} 0 & 0 & 1 & 0 \\ 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \end{bmatrix}$	1	1
6	{3 <sub>111</sub> <sup>-</sup>  0}	$\begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 1 & 0 & 0 & 0 \end{bmatrix}$	1	1
7	{3 <sub>1-1-1</sub> <sup>-</sup>   <sub>4</sub> <sup>3</sup> 0 <sub>4</sub> <sup>3</sup> }	$\begin{bmatrix} 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & 0 \\ -1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	1	1
8	{3 <sub>1-1-1</sub> <sup>+</sup>   <sub>4</sub> <sup>3</sup> <sub>4</sub> <sup>3</sup> 0}	$\begin{bmatrix} 0 & 0 & -1 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & 0 \end{bmatrix}$	1	1
9	{3 <sub>-11-1</sub> <sup>-</sup>   <sub>4</sub> <sup>3</sup> <sub>4</sub> <sup>3</sup> 0}	$\begin{bmatrix} 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{3}{4} \\ 1 & 0 & 0 & 0 \end{bmatrix}$	1	1
10	{3 <sub>-11-1</sub> <sup>+</sup>  0 <sub>4</sub> <sup>3</sup> <sub>4</sub> <sup>3</sup> }	$\begin{bmatrix} 0 & 0 & 1 & 0 \\ -1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{3}{4} \end{bmatrix}$	1	1
11	{3 <sub>-1-11</sub> <sup>-</sup>  0 <sub>4</sub> <sup>3</sup> <sub>4</sub> <sup>3</sup> }	$\begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & -1 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	1	1
12	{3 <sub>-1-11</sub> <sup>+</sup>   <sub>4</sub> <sup>3</sup> 0 <sub>4</sub> <sup>3</sup> }	$\begin{bmatrix} 0 & 0 & -1 & \frac{3}{4} \\ 1 & 0 & 0 & 0 \\ 0 & -1 & 0 & \frac{3}{4} \end{bmatrix}$	1	1
13	{-1 0}	$\begin{bmatrix} -1 & 0 & 0 & 0 \\ 0 & -1 & 0 & 0 \\ 0 & 0 & -1 & 0 \end{bmatrix}$	-1	1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
14	$\{m_{100} 0\frac{1}{4}\frac{1}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & 0 \\ 0 & 1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & \frac{1}{4} \end{bmatrix}$	-1	1
15	$\{m_{010} \frac{1}{4}0\frac{1}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{4} \\ 0 & -1 & 0 & 0 \\ 0 & 0 & 1 & \frac{1}{4} \end{bmatrix}$	-1	1
16	$\{m_{001} \frac{1}{4}\frac{1}{4}0\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & 0 \end{bmatrix}$	-1	1
17	$\{-3^+_{111} 0\}$	$\begin{bmatrix} 0 & 0 & -1 & 0 \\ -1 & 0 & 0 & 0 \\ 0 & -1 & 0 & 0 \end{bmatrix}$	-1	1
18	$\{-3^-_{111} 0\}$	$\begin{bmatrix} 0 & -1 & 0 & 0 \\ 0 & 0 & -1 & 0 \\ -1 & 0 & 0 & 0 \end{bmatrix}$	-1	1
19	$\{-3^-_{-1-1-1} \frac{1}{4}0\frac{1}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & 0 \\ 1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	-1	1
20	$\{-3^+_{-1-1-1} \frac{1}{4}\frac{1}{4}0\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{4} \\ 1 & 0 & 0 & \frac{1}{4} \\ 0 & -1 & 0 & 0 \end{bmatrix}$	-1	1
21	$\{-3^-_{-11-1} \frac{1}{4}\frac{1}{4}0\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & \frac{1}{4} \\ -1 & 0 & 0 & 0 \end{bmatrix}$	-1	1
22	$\{-3^+_{-11-1} 0\frac{1}{4}\frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & 0 \\ 1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{1}{4} \end{bmatrix}$	-1	1
23	$\{-3^-_{-1-11} 0\frac{1}{4}\frac{1}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & 0 \\ 0 & 0 & 1 & \frac{1}{4} \\ 1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	-1	1
24	$\{-3^+_{-1-11} \frac{1}{4}0\frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{4} \\ -1 & 0 & 0 & 0 \\ 0 & 1 & 0 & \frac{1}{4} \end{bmatrix}$	-1	1
25	$\{1 0\frac{1}{2}\frac{1}{2}\}$	$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{1}{2} \end{bmatrix}$	1	1
26	$\{2_{100} 0\frac{1}{4}\frac{1}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{1}{4} \end{bmatrix}$	1	1
27	$\{2_{010} \frac{3}{4}\frac{1}{2}\frac{1}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{1}{4} \end{bmatrix}$	1	1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
28	$\{2_{001} \frac{3}{4}\frac{1}{4}\frac{1}{2}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & \frac{1}{2} \end{bmatrix}$	1	1
29	$\{3^+_{111} 0\frac{1}{2}\frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & 1 & 0 \\ 1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{1}{2} \end{bmatrix}$	1	1
30	$\{3^-_{111} 0\frac{1}{2}\frac{1}{2}\}$	$\begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	1	1
31	$\{3^-_{1-1-1} \frac{3}{4}\frac{1}{2}\frac{1}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	1	1
32	$\{3^+_{1-1-1} \frac{3}{4}\frac{1}{4}\frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{1}{2} \end{bmatrix}$	1	1
33	$\{3^-_{-11-1} \frac{3}{4}\frac{1}{4}\frac{1}{2}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{1}{4} \\ 1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	1	1
34	$\{3^+_{-11-1} 0\frac{1}{4}\frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & 0 \\ -1 & 0 & 0 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{1}{4} \end{bmatrix}$	1	1
35	$\{3^-_{-1-11} 0\frac{1}{4}\frac{1}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & -1 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	1	1
36	$\{3^+_{-1-11} \frac{3}{4}\frac{1}{2}\frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{1}{4} \end{bmatrix}$	1	1
37	$\{-1 0\frac{1}{2}\frac{1}{2}\}$	$\begin{bmatrix} -1 & 0 & 0 & 0 \\ 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{1}{2} \end{bmatrix}$	-1	1
38	$\{\text{m}_{100} 0\frac{3}{4}\frac{3}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & 0 \\ 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{3}{4} \end{bmatrix}$	-1	1
39	$\{\text{m}_{010} \frac{1}{4}\frac{1}{2}\frac{3}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{3}{4} \end{bmatrix}$	-1	1
40	$\{\text{m}_{001} \frac{1}{4}\frac{3}{4}\frac{1}{2}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{1}{2} \end{bmatrix}$	-1	1
41	$\{-3^+_{111} 0\frac{1}{2}\frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & -1 & 0 \\ -1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{1}{2} \end{bmatrix}$	-1	1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
42	$\{-3_{111}^- 0\frac{1}{2}\frac{1}{2}\}$	$\begin{bmatrix} 0 & -1 & 0 & 0 \\ 0 & 0 & -1 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	-1	1
43	$\{-3_{-1-1-1}^- \frac{1}{4}\frac{1}{2}\frac{3}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	-1	1
44	$\{-3_{-1-1-1}^+ \frac{1}{4}\frac{3}{4}\frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{4} \\ 1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{1}{2} \end{bmatrix}$	-1	1
45	$\{-3_{-11-1}^- \frac{1}{4}\frac{3}{4}\frac{1}{2}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	-1	1
46	$\{-3_{-11-1}^+ 0\frac{3}{4}\frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & 0 \\ 1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{3}{4} \end{bmatrix}$	-1	1
47	$\{-3_{-1-11}^- 0\frac{3}{4}\frac{3}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & 0 \\ 0 & 0 & 1 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	-1	1
48	$\{-3_{-1-11}^+ \frac{1}{4}\frac{1}{2}\frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{3}{4} \end{bmatrix}$	-1	1
49	$\{1 \frac{1}{2}0\frac{1}{2}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & \frac{1}{2} \end{bmatrix}$	1	1
50	$\{2_{100} \frac{1}{2}\frac{3}{4}\frac{1}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{1}{4} \end{bmatrix}$	1	1
51	$\{2_{010} \frac{1}{4}0\frac{1}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & 0 \\ 0 & 0 & -1 & \frac{1}{4} \end{bmatrix}$	1	1
52	$\{2_{001} \frac{1}{4}\frac{3}{4}\frac{1}{2}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{1}{2} \end{bmatrix}$	1	1
53	$\{3_{111}^+ \frac{1}{2}0\frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{2} \\ 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & \frac{1}{2} \end{bmatrix}$	1	1
54	$\{3_{111}^- \frac{1}{2}0\frac{1}{2}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & 0 \\ 1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	1	1
55	$\{3_{-1-1-1}^- \frac{1}{4}0\frac{1}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & 0 \\ -1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	1	1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
56	$\{3^+_{1-1-1}   \frac{1}{4} \frac{3}{4} \frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{1}{2} \end{bmatrix}$	1	1
57	$\{3^-_{-11-1}   \frac{1}{4} \frac{3}{4} \frac{1}{2}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	1	1
58	$\{3^+_{-11-1}   \frac{1}{2} \frac{3}{4} \frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{1}{4} \end{bmatrix}$	1	1
59	$\{3^-_{-1-11}   \frac{1}{2} \frac{3}{4} \frac{1}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	1	1
60	$\{3^+_{-1-11}   \frac{1}{4} 0 \frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{4} \\ 1 & 0 & 0 & 0 \\ 0 & -1 & 0 & \frac{1}{4} \end{bmatrix}$	1	1
61	$\{-1   \frac{1}{2} 0 \frac{1}{2}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & 0 \\ 0 & 0 & -1 & \frac{1}{2} \end{bmatrix}$	-1	1
62	$\{m_{100}   \frac{1}{2} \frac{1}{4} \frac{3}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & \frac{3}{4} \end{bmatrix}$	-1	1
63	$\{m_{010}   \frac{3}{4} 0 \frac{3}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & 0 \\ 0 & 0 & 1 & \frac{3}{4} \end{bmatrix}$	-1	1
64	$\{m_{001}   \frac{3}{4} \frac{1}{4} \frac{1}{2}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{1}{2} \end{bmatrix}$	-1	1
65	$\{-3^+_{111}   \frac{1}{2} 0 \frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{2} \\ -1 & 0 & 0 & 0 \\ 0 & -1 & 0 & \frac{1}{2} \end{bmatrix}$	-1	1
66	$\{-3^-_{111}   \frac{1}{2} 0 \frac{1}{2}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & 0 \\ -1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	-1	1
67	$\{-3^-_{1-1-1}   \frac{3}{4} 0 \frac{3}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & 0 \\ 1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	-1	1
68	$\{-3^+_{1-1-1}   \frac{3}{4} \frac{1}{4} \frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{1}{2} \end{bmatrix}$	-1	1
69	$\{-3^-_{-11-1}   \frac{3}{4} \frac{1}{4} \frac{1}{2}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	-1	1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
70	$\{-3^+_{-11-1}   \frac{1}{2} \frac{1}{4} \frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{3}{4} \end{bmatrix}$	-1	1
71	$\{-3^-_{-1-11}   \frac{1}{2} \frac{1}{4} \frac{3}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{1}{4} \\ 1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	-1	1
72	$\{-3^+_{-1-11}   \frac{3}{4} 0 \frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{3}{4} \\ -1 & 0 & 0 & 0 \\ 0 & 1 & 0 & \frac{3}{4} \end{bmatrix}$	-1	1
73	$\{1   \frac{1}{2} \frac{1}{2} 0\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & 0 \end{bmatrix}$	1	1
74	$\{2_{100}   \frac{1}{2} \frac{1}{4} \frac{3}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{3}{4} \end{bmatrix}$	1	1
75	$\{2_{010}   \frac{1}{4} \frac{1}{2} \frac{3}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{3}{4} \end{bmatrix}$	1	1
76	$\{2_{001}   \frac{1}{4} \frac{1}{4} 0\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & 0 \end{bmatrix}$	1	1
77	$\{3^+_{111}   \frac{1}{2} \frac{1}{2} 0\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & 0 \end{bmatrix}$	1	1
78	$\{3^-_{111}   \frac{1}{2} \frac{1}{2} 0\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{1}{2} \\ 1 & 0 & 0 & 0 \end{bmatrix}$	1	1
79	$\{3^-_{1-1-1}   \frac{1}{4} \frac{1}{2} \frac{3}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	1	1
80	$\{3^+_{1-1-1}   \frac{1}{4} \frac{1}{4} 0\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & 0 \end{bmatrix}$	1	1
81	$\{3^-_{-11-1}   \frac{1}{4} \frac{1}{4} 0\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{1}{4} \\ 1 & 0 & 0 & 0 \end{bmatrix}$	1	1
82	$\{3^+_{-11-1}   \frac{1}{2} \frac{1}{4} \frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{3}{4} \end{bmatrix}$	1	1
83	$\{3^-_{-1-11}   \frac{1}{2} \frac{1}{4} \frac{3}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	1	1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
84	$\{3^+_{-1-11}   \frac{1}{4} \frac{1}{2} \frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{4} \\ 1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{3}{4} \end{bmatrix}$	1	1
85	$\{-1   \frac{1}{2} \frac{1}{2} 0\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & 0 \end{bmatrix}$	-1	1
86	$\{\text{m}_{100}   \frac{1}{2} \frac{3}{4} \frac{1}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{1}{4} \end{bmatrix}$	-1	1
87	$\{\text{m}_{010}   \frac{3}{4} \frac{1}{2} \frac{1}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{1}{4} \end{bmatrix}$	-1	1
88	$\{\text{m}_{001}   \frac{3}{4} \frac{3}{4} 0\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & 0 \end{bmatrix}$	-1	1
89	$\{-3^+_{111}   \frac{1}{2} \frac{1}{2} 0\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & 0 \end{bmatrix}$	-1	1
90	$\{-3^-_{111}   \frac{1}{2} \frac{1}{2} 0\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{1}{2} \\ -1 & 0 & 0 & 0 \end{bmatrix}$	-1	1
91	$\{-3^-_{1-1-1}   \frac{3}{4} \frac{1}{2} \frac{1}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	-1	1
92	$\{-3^+_{1-1-1}   \frac{3}{4} \frac{3}{4} 0\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & 0 \end{bmatrix}$	-1	1
93	$\{-3^-_{-11-1}   \frac{3}{4} \frac{3}{4} 0\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{3}{4} \\ -1 & 0 & 0 & 0 \end{bmatrix}$	-1	1
94	$\{-3^+_{-11-1}   \frac{1}{2} \frac{3}{4} \frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{1}{4} \end{bmatrix}$	-1	1
95	$\{-3^-_{-1-11}   \frac{1}{2} \frac{3}{4} \frac{1}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	-1	1
96	$\{-3^+_{-1-11}   \frac{3}{4} \frac{1}{2} \frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{1}{4} \end{bmatrix}$	-1	1
97	$\{1'   0\}$	$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \end{bmatrix}$	1	-1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
98	$\{2_{100}' 0\frac{3}{4}\frac{3}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{3}{4} \end{bmatrix}$	1	-1
99	$\{2_{010}' \frac{3}{4}0\frac{3}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & 0 \\ 0 & 0 & -1 & \frac{3}{4} \end{bmatrix}$	1	-1
100	$\{2_{001}' \frac{3}{4}\frac{3}{4}0\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & 0 \end{bmatrix}$	1	-1
101	$\{3_{111}' 0\}$	$\begin{bmatrix} 0 & 0 & 1 & 0 \\ 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \end{bmatrix}$	1	-1
102	$\{3_{-111}' 0\}$	$\begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 1 & 0 & 0 & 0 \end{bmatrix}$	1	-1
103	$\{3_{-1-1-1}' \frac{3}{4}0\frac{3}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & 0 \\ -1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	1	-1
104	$\{3_{1-1-1}' \frac{3}{4}\frac{3}{4}0\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & 0 \end{bmatrix}$	1	-1
105	$\{3_{-11-1}' \frac{3}{4}\frac{3}{4}0\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{3}{4} \\ 1 & 0 & 0 & 0 \end{bmatrix}$	1	-1
106	$\{3_{-11-1}' 0\frac{3}{4}\frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & 0 \\ -1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{3}{4} \end{bmatrix}$	1	-1
107	$\{3_{-1-11}' 0\frac{3}{4}\frac{3}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & -1 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	1	-1
108	$\{3_{-1-11}' \frac{3}{4}0\frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{3}{4} \\ 1 & 0 & 0 & 0 \\ 0 & -1 & 0 & \frac{3}{4} \end{bmatrix}$	1	-1
109	$\{-1' 0\}$	$\begin{bmatrix} -1 & 0 & 0 & 0 \\ 0 & -1 & 0 & 0 \\ 0 & 0 & -1 & 0 \end{bmatrix}$	-1	-1
110	$\{\text{m}_{100}' 0\frac{1}{4}\frac{1}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & 0 \\ 0 & 1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & \frac{1}{4} \end{bmatrix}$	-1	-1
111	$\{\text{m}_{010}' \frac{1}{4}0\frac{1}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{4} \\ 0 & -1 & 0 & 0 \\ 0 & 0 & 1 & \frac{1}{4} \end{bmatrix}$	-1	-1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
112	$\{m_{001}'  \frac{1}{4} \frac{1}{4} 0\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & 0 \end{bmatrix}$	-1	-1
113	$\{-3^+_{111}'  0\}$	$\begin{bmatrix} 0 & 0 & -1 & 0 \\ -1 & 0 & 0 & 0 \\ 0 & -1 & 0 & 0 \end{bmatrix}$	-1	-1
114	$\{-3^-_{111}'  0\}$	$\begin{bmatrix} 0 & -1 & 0 & 0 \\ 0 & 0 & -1 & 0 \\ -1 & 0 & 0 & 0 \end{bmatrix}$	-1	-1
115	$\{-3^-_{1-1-1}'  \frac{1}{4} 0 \frac{1}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & 0 \\ 1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	-1	-1
116	$\{-3^+_{1-1-1}'  \frac{1}{4} \frac{1}{4} 0\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{4} \\ 1 & 0 & 0 & \frac{1}{4} \\ 0 & -1 & 0 & 0 \end{bmatrix}$	-1	-1
117	$\{-3^-_{-11-1}'  \frac{1}{4} \frac{1}{4} 0\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & \frac{1}{4} \\ -1 & 0 & 0 & 0 \end{bmatrix}$	-1	-1
118	$\{-3^+_{-11-1}'  0 \frac{1}{4} \frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & 0 \\ 1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{1}{4} \end{bmatrix}$	-1	-1
119	$\{-3^-_{-1-11}'  0 \frac{1}{4} \frac{1}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & 0 \\ 0 & 0 & 1 & \frac{1}{4} \\ 1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	-1	-1
120	$\{-3^+_{-1-11}'  \frac{1}{4} 0 \frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{4} \\ -1 & 0 & 0 & 0 \\ 0 & 1 & 0 & \frac{1}{4} \end{bmatrix}$	-1	-1
121	$\{1'  0 \frac{1}{2} \frac{1}{2}\}$	$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{1}{2} \end{bmatrix}$	1	-1
122	$\{2_{100}'  0 \frac{1}{4} \frac{1}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{1}{4} \end{bmatrix}$	1	-1
123	$\{2_{010}'  \frac{3}{4} \frac{1}{2} \frac{1}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{1}{4} \end{bmatrix}$	1	-1
124	$\{2_{001}'  \frac{3}{4} \frac{1}{4} \frac{1}{2}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & \frac{1}{2} \end{bmatrix}$	1	-1
125	$\{3^+_{111}'  0 \frac{1}{2} \frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & 1 & 0 \\ 1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{1}{2} \end{bmatrix}$	1	-1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
126	$\{3_{111}^- 0\frac{1}{2}\frac{1}{2}\}$	$\begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	1	-1
127	$\{3_{1-1-1}^- 0\frac{3}{4}\frac{1}{2}\frac{1}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	1	-1
128	$\{3_{1-1-1}^+ 0\frac{3}{4}\frac{1}{4}\frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{1}{2} \end{bmatrix}$	1	-1
129	$\{3_{-11-1}^- 0\frac{3}{4}\frac{1}{4}\frac{1}{2}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{1}{4} \\ 1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	1	-1
130	$\{3_{-11-1}^+ 0\frac{1}{4}\frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & 0 \\ -1 & 0 & 0 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{1}{4} \end{bmatrix}$	1	-1
131	$\{3_{-1-11}^- 0\frac{1}{4}\frac{1}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & -1 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	1	-1
132	$\{3_{-1-11}^+ 0\frac{3}{4}\frac{1}{2}\frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{1}{4} \end{bmatrix}$	1	-1
133	$\{-1' 0\frac{1}{2}\frac{1}{2}\}$	$\begin{bmatrix} -1 & 0 & 0 & 0 \\ 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{1}{2} \end{bmatrix}$	-1	-1
134	$\{\text{m}_{100}' 0\frac{3}{4}\frac{3}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & 0 \\ 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{3}{4} \end{bmatrix}$	-1	-1
135	$\{\text{m}_{010}' 0\frac{1}{4}\frac{1}{2}\frac{3}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{3}{4} \end{bmatrix}$	-1	-1
136	$\{\text{m}_{001}' 0\frac{1}{4}\frac{3}{4}\frac{1}{2}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{1}{2} \end{bmatrix}$	-1	-1
137	$\{-3_{111}^+ 0\frac{1}{2}\frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & -1 & 0 \\ -1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{1}{2} \end{bmatrix}$	-1	-1
138	$\{-3_{111}^- 0\frac{1}{2}\frac{1}{2}\}$	$\begin{bmatrix} 0 & -1 & 0 & 0 \\ 0 & 0 & -1 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	-1	-1
139	$\{-3_{1-1-1}^- 0\frac{1}{4}\frac{1}{2}\frac{3}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	-1	-1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
140	$\{-3_{1-1-1}^+  \frac{1}{4} \frac{3}{4} \frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{4} \\ 1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{1}{2} \end{bmatrix}$	-1	-1
141	$\{-3_{-11-1}^-  \frac{1}{4} \frac{3}{4} \frac{1}{2}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	-1	-1
142	$\{-3_{-11-1}^+  0 \frac{3}{4} \frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & 0 \\ 1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{3}{4} \end{bmatrix}$	-1	-1
143	$\{-3_{-1-11}^-  0 \frac{3}{4} \frac{3}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & 0 \\ 0 & 0 & 1 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	-1	-1
144	$\{-3_{-1-11}^+  \frac{1}{4} \frac{1}{2} \frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{3}{4} \end{bmatrix}$	-1	-1
145	$\{1'  \frac{1}{2} 0 \frac{1}{2}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & \frac{1}{2} \end{bmatrix}$	1	-1
146	$\{2_{100}'  \frac{1}{2} \frac{3}{4} \frac{1}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{1}{4} \end{bmatrix}$	1	-1
147	$\{2_{010}'  \frac{1}{4} 0 \frac{1}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & 0 \\ 0 & 0 & -1 & \frac{1}{4} \end{bmatrix}$	1	-1
148	$\{2_{001}'  \frac{1}{4} \frac{3}{4} \frac{1}{2}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{1}{2} \end{bmatrix}$	1	-1
149	$\{3_{111}^+  \frac{1}{2} 0 \frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{2} \\ 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & \frac{1}{2} \end{bmatrix}$	1	-1
150	$\{3_{-111}^-  \frac{1}{2} 0 \frac{1}{2}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & 0 \\ 1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	1	-1
151	$\{3_{-1-1-1}^-  \frac{1}{4} 0 \frac{1}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & 0 \\ -1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	1	-1
152	$\{3_{1-1-1}^+  \frac{1}{4} \frac{3}{4} \frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{1}{2} \end{bmatrix}$	1	-1
153	$\{3_{-11-1}^-  \frac{1}{4} \frac{3}{4} \frac{1}{2}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	1	-1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
154	$\{3_{-11-1}'  \frac{1}{2} \frac{3}{4} \frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{1}{4} \end{bmatrix}$	1	-1
155	$\{3_{-1-11}'  \frac{1}{2} \frac{3}{4} \frac{1}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	1	-1
156	$\{3_{-1-11}'  \frac{1}{4} 0 \frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{4} \\ 1 & 0 & 0 & 0 \\ 0 & -1 & 0 & \frac{1}{4} \end{bmatrix}$	1	-1
157	$\{-1'  \frac{1}{2} 0 \frac{1}{2}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & 0 \\ 0 & 0 & -1 & \frac{1}{2} \end{bmatrix}$	-1	-1
158	$\{m_{100}'  \frac{1}{2} \frac{1}{4} \frac{3}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & \frac{3}{4} \end{bmatrix}$	-1	-1
159	$\{m_{010}'  \frac{3}{4} 0 \frac{3}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & 0 \\ 0 & 0 & 1 & \frac{3}{4} \end{bmatrix}$	-1	-1
160	$\{m_{001}'  \frac{3}{4} \frac{1}{4} \frac{1}{2}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{1}{2} \end{bmatrix}$	-1	-1
161	$\{-3_{111}'  \frac{1}{2} 0 \frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{2} \\ -1 & 0 & 0 & 0 \\ 0 & -1 & 0 & \frac{1}{2} \end{bmatrix}$	-1	-1
162	$\{-3_{111}'  \frac{1}{2} 0 \frac{1}{2}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & 0 \\ -1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	-1	-1
163	$\{-3_{-1-1-1}'  \frac{3}{4} 0 \frac{3}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & 0 \\ 1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	-1	-1
164	$\{-3_{1-1-1}'  \frac{3}{4} \frac{1}{4} \frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{1}{2} \end{bmatrix}$	-1	-1
165	$\{-3_{-11-1}'  \frac{3}{4} \frac{1}{4} \frac{1}{2}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	-1	-1
166	$\{-3_{-11-1}'  \frac{1}{2} \frac{1}{4} \frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{3}{4} \end{bmatrix}$	-1	-1
167	$\{-3_{-1-11}'  \frac{1}{2} \frac{1}{4} \frac{3}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{1}{4} \\ 1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	-1	-1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
168	$\{-3^+_{-1-11}' \frac{3}{4}0\frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{3}{4} \\ -1 & 0 & 0 & 0 \\ 0 & 1 & 0 & \frac{3}{4} \end{bmatrix}$	-1	-1
169	$\{1' \frac{1}{2}\frac{1}{2}0\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & 0 \end{bmatrix}$	1	-1
170	$\{2_{100}' \frac{1}{2}\frac{1}{4}\frac{3}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{3}{4} \end{bmatrix}$	1	-1
171	$\{2_{010}' \frac{1}{4}\frac{1}{2}\frac{3}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{3}{4} \end{bmatrix}$	1	-1
172	$\{2_{001}' \frac{1}{4}\frac{1}{4}0\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & 0 \end{bmatrix}$	1	-1
173	$\{3^+_{111}' \frac{1}{2}\frac{1}{2}0\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & 0 \end{bmatrix}$	1	-1
174	$\{3^-_{111}' \frac{1}{2}\frac{1}{2}0\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{1}{2} \\ 1 & 0 & 0 & 0 \end{bmatrix}$	1	-1
175	$\{3^-_{-1-1-1}' \frac{1}{4}\frac{1}{2}\frac{3}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	1	-1
176	$\{3^+_{-1-1-1}' \frac{1}{4}\frac{1}{4}0\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & 0 \end{bmatrix}$	1	-1
177	$\{3^-_{-11-1}' \frac{1}{4}\frac{1}{4}0\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{1}{4} \\ 1 & 0 & 0 & 0 \end{bmatrix}$	1	-1
178	$\{3^+_{-11-1}' \frac{1}{2}\frac{1}{4}\frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{3}{4} \end{bmatrix}$	1	-1
179	$\{3^-_{-1-11}' \frac{1}{2}\frac{1}{4}\frac{3}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	1	-1
180	$\{3^+_{-1-11}' \frac{1}{4}\frac{1}{2}\frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{4} \\ 1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{3}{4} \end{bmatrix}$	1	-1
181	$\{-1' \frac{1}{2}\frac{1}{2}0\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & 0 \end{bmatrix}$	-1	-1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
182	$\{m_{100}'  \frac{1}{2} \frac{3}{4} \frac{1}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{1}{4} \end{bmatrix}$	-1	-1
183	$\{m_{010}'  \frac{3}{4} \frac{1}{2} \frac{1}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{1}{4} \end{bmatrix}$	-1	-1
184	$\{m_{001}'  \frac{3}{4} \frac{3}{4} 0\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & 0 \end{bmatrix}$	-1	-1
185	$\{-3_{111}'  \frac{1}{2} \frac{1}{2} 0\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & 0 \end{bmatrix}$	-1	-1
186	$\{-3_{111}'  \frac{1}{2} \frac{1}{2} 0\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{1}{2} \\ -1 & 0 & 0 & 0 \end{bmatrix}$	-1	-1
187	$\{-3_{-1-1-1}'  \frac{3}{4} \frac{1}{2} \frac{1}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	-1	-1
188	$\{-3_{1-1-1}'  \frac{3}{4} \frac{3}{4} 0\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & 0 \end{bmatrix}$	-1	-1
189	$\{-3_{-11-1}'  \frac{3}{4} \frac{3}{4} 0\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{3}{4} \\ -1 & 0 & 0 & 0 \end{bmatrix}$	-1	-1
190	$\{-3_{-11-1}'  \frac{1}{2} \frac{3}{4} \frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{1}{4} \end{bmatrix}$	-1	-1
191	$\{-3_{-1-11}'  \frac{1}{2} \frac{3}{4} \frac{1}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	-1	-1
192	$\{-3_{-1-11}'  \frac{3}{4} \frac{1}{2} \frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{1}{4} \end{bmatrix}$	-1	-1