

MSG No. 227.131  $Fd\bar{3}m'$  [ Type III, 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	$\{2_{100} 0\frac{1}{4}\frac{1}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{1}{4} \end{bmatrix}$	1	1
3	$\{2_{010} \frac{1}{4}0\frac{1}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & 0 \\ 0 & 0 & -1 & \frac{1}{4} \end{bmatrix}$	1	1
4	$\{2_{001} \frac{1}{4}\frac{1}{4}0\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & 0 \end{bmatrix}$	1	1
5	$\{3^+_{111} 0\}$	$\begin{bmatrix} 0 & 0 & 1 & 0 \\ 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \end{bmatrix}$	1	1
6	$\{3^-_{111} 0\}$	$\begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 1 & 0 & 0 & 0 \end{bmatrix}$	1	1
7	$\{3^-_{1-1-1} \frac{1}{4}0\frac{1}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & 0 \\ -1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	1	1
8	$\{3^+_{1-1-1} \frac{1}{4}\frac{1}{4}0\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & 0 \end{bmatrix}$	1	1
9	$\{3^-_{-11-1} \frac{1}{4}\frac{1}{4}0\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{1}{4} \\ 1 & 0 & 0 & 0 \end{bmatrix}$	1	1
10	$\{3^+_{-11-1} 0\frac{1}{4}\frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & 0 \\ -1 & 0 & 0 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{1}{4} \end{bmatrix}$	1	1
11	$\{3^-_{-1-11} 0\frac{1}{4}\frac{1}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & -1 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	1	1
12	$\{3^+_{-1-11} \frac{1}{4}0\frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{4} \\ 1 & 0 & 0 & 0 \\ 0 & -1 & 0 & \frac{1}{4} \end{bmatrix}$	1	1
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	$\{4^+_{100}' \frac{1}{4}0\frac{1}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & 0 \\ 0 & 1 & 0 & \frac{1}{4} \end{bmatrix}$	1	-1
26	$\{4^-_{100}' \frac{1}{4}\frac{1}{4}0\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & \frac{1}{4} \\ 0 & -1 & 0 & 0 \end{bmatrix}$	1	-1
27	$\{4^+_{010}' \frac{1}{4}\frac{1}{4}0\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{1}{4} \\ -1 & 0 & 0 & 0 \end{bmatrix}$	1	-1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
28	$\{4_{010}' 0\frac{1}{4}\frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & 0 \\ 0 & 1 & 0 & \frac{1}{4} \\ 1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	1	-1
29	$\{4_{001}' 0\frac{1}{4}\frac{1}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & 0 \\ 1 & 0 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & \frac{1}{4} \end{bmatrix}$	1	-1
30	$\{4_{001}' \frac{1}{4}0\frac{1}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{4} \\ -1 & 0 & 0 & 0 \\ 0 & 0 & 1 & \frac{1}{4} \end{bmatrix}$	1	-1
31	$\{2_{110}' \frac{1}{4}\frac{1}{4}0\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{4} \\ 1 & 0 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & 0 \end{bmatrix}$	1	-1
32	$\{2_{1-10}' 0\}$	$\begin{bmatrix} 0 & -1 & 0 & 0 \\ -1 & 0 & 0 & 0 \\ 0 & 0 & -1 & 0 \end{bmatrix}$	1	-1
33	$\{2_{011}' 0\frac{1}{4}\frac{1}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & 0 \\ 0 & 0 & 1 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{1}{4} \end{bmatrix}$	1	-1
34	$\{2_{01-1}' 0\}$	$\begin{bmatrix} -1 & 0 & 0 & 0 \\ 0 & 0 & -1 & 0 \\ 0 & -1 & 0 & 0 \end{bmatrix}$	1	-1
35	$\{2_{101}' \frac{1}{4}0\frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{4} \\ 0 & -1 & 0 & 0 \\ 1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	1	-1
36	$\{2_{-101}' 0\}$	$\begin{bmatrix} 0 & 0 & -1 & 0 \\ 0 & -1 & 0 & 0 \\ -1 & 0 & 0 & 0 \end{bmatrix}$	1	-1
37	$\{-4_{100}' \frac{1}{4}0\frac{1}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & 0 \\ 0 & -1 & 0 & \frac{1}{4} \end{bmatrix}$	-1	-1
38	$\{-4_{-100}' \frac{1}{4}\frac{1}{4}0\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{1}{4} \\ 0 & 1 & 0 & 0 \end{bmatrix}$	-1	-1
39	$\{-4_{010}' \frac{1}{4}\frac{1}{4}0\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{1}{4} \\ 1 & 0 & 0 & 0 \end{bmatrix}$	-1	-1
40	$\{-4_{-010}' 0\frac{1}{4}\frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & 0 \\ 0 & -1 & 0 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	-1	-1
41	$\{-4_{001}' 0\frac{1}{4}\frac{1}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & 0 \\ -1 & 0 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{1}{4} \end{bmatrix}$	-1	-1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
42	$\{-4_{001}' \frac{1}{4}0\frac{1}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{4} \\ 1 & 0 & 0 & 0 \\ 0 & 0 & -1 & \frac{1}{4} \end{bmatrix}$	-1	-1
43	$\{m_{110}' \frac{1}{4}\frac{1}{4}0\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & 0 \end{bmatrix}$	-1	-1
44	$\{m_{1-10}' 0\}$	$\begin{bmatrix} 0 & 1 & 0 & 0 \\ 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 \end{bmatrix}$	-1	-1
45	$\{m_{011}' 0\frac{1}{4}\frac{1}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & -1 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{1}{4} \end{bmatrix}$	-1	-1
46	$\{m_{01-1}' 0\}$	$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 \end{bmatrix}$	-1	-1
47	$\{m_{101}' \frac{1}{4}0\frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{4} \\ 0 & 1 & 0 & 0 \\ -1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	-1	-1
48	$\{m_{-101}' 0\}$	$\begin{bmatrix} 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 \\ 1 & 0 & 0 & 0 \end{bmatrix}$	-1	-1
49	$\{1 0\frac{1}{2}\frac{1}{2}\}$	$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{1}{2} \end{bmatrix}$	1	1
50	$\{2_{100} 0\frac{3}{4}\frac{3}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{3}{4} \end{bmatrix}$	1	1
51	$\{2_{010} \frac{1}{4}\frac{1}{2}\frac{3}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{3}{4} \end{bmatrix}$	1	1
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	$\{3_{111}^+ 0\frac{1}{2}\frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & 1 & 0 \\ 1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{1}{2} \end{bmatrix}$	1	1
54	$\{3_{111}^- 0\frac{1}{2}\frac{1}{2}\}$	$\begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	1	1
55	$\{3_{1-1-1}^- \frac{1}{4}\frac{1}{2}\frac{3}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	1	1

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	$\{3_{-11-1}^+   0 \frac{3}{4} \frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & 0 \\ -1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{3}{4} \end{bmatrix}$	1	1
59	$\{3_{-1-11}^-   0 \frac{3}{4} \frac{3}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & -1 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	1	1
60	$\{3_{-1-11}^+   \frac{1}{4} \frac{1}{2} \frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{4} \\ 1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{3}{4} \end{bmatrix}$	1	1
61	$\{-1   0 \frac{1}{2} \frac{1}{2}\}$	$\begin{bmatrix} -1 & 0 & 0 & 0 \\ 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{1}{2} \end{bmatrix}$	-1	1
62	$\{\text{m}_{100}   0 \frac{3}{4} \frac{3}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & 0 \\ 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{3}{4} \end{bmatrix}$	-1	1
63	$\{\text{m}_{010}   \frac{1}{4} \frac{1}{2} \frac{3}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{3}{4} \end{bmatrix}$	-1	1
64	$\{\text{m}_{001}   \frac{1}{4} \frac{3}{4} \frac{1}{2}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{1}{2} \end{bmatrix}$	-1	1
65	$\{-3_{111}^+   0 \frac{1}{2} \frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & -1 & 0 \\ -1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{1}{2} \end{bmatrix}$	-1	1
66	$\{-3_{111}^-   0 \frac{1}{2} \frac{1}{2}\}$	$\begin{bmatrix} 0 & -1 & 0 & 0 \\ 0 & 0 & -1 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	-1	1
67	$\{-3_{1-1-1}^-   \frac{1}{4} \frac{1}{2} \frac{3}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	-1	1
68	$\{-3_{1-1-1}^+   \frac{1}{4} \frac{3}{4} \frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{4} \\ 1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{1}{2} \end{bmatrix}$	-1	1
69	$\{-3_{-11-1}^-   \frac{1}{4} \frac{3}{4} \frac{1}{2}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	-1	1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
70	$\{-3^+_{-11-1} 0\frac{3}{4}\frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & 0 \\ 1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{3}{4} \end{bmatrix}$	-1	1
71	$\{-3^-_{-1-11} 0\frac{3}{4}\frac{3}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & 0 \\ 0 & 0 & 1 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	-1	1
72	$\{-3^+_{-1-11} 1\frac{1}{4}\frac{1}{2}\frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{3}{4} \end{bmatrix}$	-1	1
73	$\{4^+_{100}' 1\frac{1}{4}\frac{1}{2}\frac{3}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{3}{4} \end{bmatrix}$	1	-1
74	$\{4^-_{100}' 1\frac{3}{4}\frac{1}{2}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{1}{2} \end{bmatrix}$	1	-1
75	$\{4^+_{010}' 1\frac{3}{4}\frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	1	-1
76	$\{4^-_{010}' 0\frac{3}{4}\frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & 0 \\ 0 & 1 & 0 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	1	-1
77	$\{4^+_{001}' 0\frac{3}{4}\frac{3}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & 0 \\ 1 & 0 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{3}{4} \end{bmatrix}$	1	-1
78	$\{4^-_{001}' 1\frac{1}{4}\frac{1}{2}\frac{3}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{3}{4} \end{bmatrix}$	1	-1
79	$\{2_{110}' 1\frac{3}{4}\frac{1}{2}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{4} \\ 1 & 0 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{1}{2} \end{bmatrix}$	1	-1
80	$\{2_{1-10}' 0\frac{1}{2}\frac{1}{2}\}$	$\begin{bmatrix} 0 & -1 & 0 & 0 \\ -1 & 0 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{1}{2} \end{bmatrix}$	1	-1
81	$\{2_{011}' 0\frac{3}{4}\frac{3}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & 0 \\ 0 & 0 & 1 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{3}{4} \end{bmatrix}$	1	-1
82	$\{2_{01-1}' 0\frac{1}{2}\frac{1}{2}\}$	$\begin{bmatrix} -1 & 0 & 0 & 0 \\ 0 & 0 & -1 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{1}{2} \end{bmatrix}$	1	-1
83	$\{2_{101}' 1\frac{1}{4}\frac{1}{2}\frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	1	-1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
84	$\{2_{-101}' 0\frac{1}{2}\frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & -1 & 0 \\ 0 & -1 & 0 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	1	-1
85	$\{-4_{100}' \frac{1}{4}\frac{1}{2}\frac{3}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{3}{4} \end{bmatrix}$	-1	-1
86	$\{-4_{100}' \frac{1}{4}\frac{3}{4}\frac{1}{2}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{1}{2} \end{bmatrix}$	-1	-1
87	$\{-4_{010}' \frac{1}{4}\frac{3}{4}\frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	-1	-1
88	$\{-4_{010}' 0\frac{3}{4}\frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & 0 \\ 0 & -1 & 0 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	-1	-1
89	$\{-4_{001}' 0\frac{3}{4}\frac{3}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & 0 \\ -1 & 0 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{3}{4} \end{bmatrix}$	-1	-1
90	$\{-4_{001}' \frac{1}{4}\frac{1}{2}\frac{3}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{4} \\ 1 & 0 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{3}{4} \end{bmatrix}$	-1	-1
91	$\{\text{m}_{110}' \frac{1}{4}\frac{3}{4}\frac{1}{2}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{1}{2} \end{bmatrix}$	-1	-1
92	$\{\text{m}_{1-10}' 0\frac{1}{2}\frac{1}{2}\}$	$\begin{bmatrix} 0 & 1 & 0 & 0 \\ 1 & 0 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{1}{2} \end{bmatrix}$	-1	-1
93	$\{\text{m}_{011}' 0\frac{3}{4}\frac{3}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & -1 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{3}{4} \end{bmatrix}$	-1	-1
94	$\{\text{m}_{01-1}' 0\frac{1}{2}\frac{1}{2}\}$	$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{1}{2} \end{bmatrix}$	-1	-1
95	$\{\text{m}_{101}' \frac{1}{4}\frac{1}{2}\frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	-1	-1
96	$\{\text{m}_{-101}' 0\frac{1}{2}\frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	-1	-1
97	$\{1 \frac{1}{2}0\frac{1}{2}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & \frac{1}{2} \end{bmatrix}$	1	1

continued ...

Table 1

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

continued ...

Table 1

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

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
126	$\{4_{001}' \frac{3}{4}0\frac{3}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{3}{4} \\ -1 & 0 & 0 & 0 \\ 0 & 0 & 1 & \frac{3}{4} \end{bmatrix}$	1	-1
127	$\{2_{110}' \frac{3}{4}\frac{1}{4}\frac{1}{2}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{1}{2} \end{bmatrix}$	1	-1
128	$\{2_{1-10}' \frac{1}{2}0\frac{1}{2}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{2} \\ -1 & 0 & 0 & 0 \\ 0 & 0 & -1 & \frac{1}{2} \end{bmatrix}$	1	-1
129	$\{2_{011}' \frac{1}{2}\frac{1}{4}\frac{3}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{3}{4} \end{bmatrix}$	1	-1
130	$\{2_{01-1}' \frac{1}{2}0\frac{1}{2}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & 0 \\ 0 & -1 & 0 & \frac{1}{2} \end{bmatrix}$	1	-1
131	$\{2_{101}' \frac{3}{4}0\frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{3}{4} \\ 0 & -1 & 0 & 0 \\ 1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	1	-1
132	$\{2_{-101}' \frac{1}{2}0\frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{2} \\ 0 & -1 & 0 & 0 \\ -1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	1	-1
133	$\{-4_{100}^+ \frac{3}{4}0\frac{3}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & 0 \\ 0 & -1 & 0 & \frac{3}{4} \end{bmatrix}$	-1	-1
134	$\{-4_{100}^- \frac{3}{4}\frac{1}{4}\frac{1}{2}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{1}{4} \\ 0 & 1 & 0 & \frac{1}{2} \end{bmatrix}$	-1	-1
135	$\{-4_{010}^+ \frac{3}{4}\frac{1}{4}\frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{1}{4} \\ 1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	-1	-1
136	$\{-4_{010}^- \frac{1}{2}\frac{1}{4}\frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{1}{4} \\ -1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	-1	-1
137	$\{-4_{001}^+ \frac{1}{2}\frac{1}{4}\frac{3}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{1}{4} \\ 0 & 0 & -1 & \frac{3}{4} \end{bmatrix}$	-1	-1
138	$\{-4_{001}^- \frac{3}{4}0\frac{3}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{3}{4} \\ 1 & 0 & 0 & 0 \\ 0 & 0 & -1 & \frac{3}{4} \end{bmatrix}$	-1	-1
139	$\{\text{m}_{110}' \frac{3}{4}\frac{1}{4}\frac{1}{2}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{1}{4} \\ 0 & 0 & 1 & \frac{1}{2} \end{bmatrix}$	-1	-1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
140	$\{m_{1-10}' \frac{1}{2}0\frac{1}{2}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{2} \\ 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & \frac{1}{2} \end{bmatrix}$	-1	-1
141	$\{m_{011}' \frac{1}{2}\frac{1}{4}\frac{3}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{1}{4} \\ 0 & -1 & 0 & \frac{3}{4} \end{bmatrix}$	-1	-1
142	$\{m_{01-1}' \frac{1}{2}0\frac{1}{2}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & \frac{1}{2} \end{bmatrix}$	-1	-1
143	$\{m_{101}' \frac{3}{4}0\frac{3}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{3}{4} \\ 0 & 1 & 0 & 0 \\ -1 & 0 & 0 & \frac{3}{4} \end{bmatrix}$	-1	-1
144	$\{m_{-101}' \frac{1}{2}0\frac{1}{2}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{2} \\ 0 & 1 & 0 & 0 \\ 1 & 0 & 0 & \frac{1}{2} \end{bmatrix}$	-1	-1
145	$\{1 \frac{1}{2}\frac{1}{2}0\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & 0 \end{bmatrix}$	1	1
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	$\{2_{010} \frac{3}{4}\frac{1}{2}\frac{1}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{1}{4} \end{bmatrix}$	1	1
148	$\{2_{001} \frac{3}{4}\frac{3}{4}0\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & 0 \end{bmatrix}$	1	1
149	$\{3^+_{111} \frac{1}{2}\frac{1}{2}0\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & 0 \end{bmatrix}$	1	1
150	$\{3^-_{111} \frac{1}{2}\frac{1}{2}0\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{1}{2} \\ 1 & 0 & 0 & 0 \end{bmatrix}$	1	1
151	$\{3^-_{1-1-1} \frac{3}{4}\frac{1}{2}\frac{1}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	1	1
152	$\{3^+_{1-1-1} \frac{3}{4}\frac{3}{4}0\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & 0 \end{bmatrix}$	1	1
153	$\{3^-_{-11-1} \frac{3}{4}\frac{3}{4}0\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{3}{4} \\ 1 & 0 & 0 & 0 \end{bmatrix}$	1	1

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	$\{3^+_{-1-11} \frac{3}{4}\frac{1}{2}\frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{1}{4} \end{bmatrix}$	1	1
157	$\{-1 \frac{1}{2}\frac{1}{2}0\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & 0 \end{bmatrix}$	-1	1
158	$\{\text{m}_{100} \frac{1}{2}\frac{3}{4}\frac{1}{4}\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{1}{4} \end{bmatrix}$	-1	1
159	$\{\text{m}_{010} \frac{3}{4}\frac{1}{2}\frac{1}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{1}{4} \end{bmatrix}$	-1	1
160	$\{\text{m}_{001} \frac{3}{4}\frac{3}{4}0\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & 0 \end{bmatrix}$	-1	1
161	$\{-3^+_{111} \frac{1}{2}\frac{1}{2}0\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{1}{2} \\ 0 & -1 & 0 & 0 \end{bmatrix}$	-1	1
162	$\{-3^-_{111} \frac{1}{2}\frac{1}{2}0\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{1}{2} \\ -1 & 0 & 0 & 0 \end{bmatrix}$	-1	1
163	$\{-3^-_{1-1-1} \frac{3}{4}\frac{1}{2}\frac{1}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	-1	1
164	$\{-3^+_{1-1-1} \frac{3}{4}\frac{3}{4}0\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{3}{4} \\ 0 & -1 & 0 & 0 \end{bmatrix}$	-1	1
165	$\{-3^-_{-11-1} \frac{3}{4}\frac{3}{4}0\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{3}{4} \\ -1 & 0 & 0 & 0 \end{bmatrix}$	-1	1
166	$\{-3^+_{-11-1} \frac{1}{2}\frac{3}{4}\frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{1}{4} \end{bmatrix}$	-1	1
167	$\{-3^-_{-1-11} \frac{1}{2}\frac{3}{4}\frac{1}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	-1	1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
168	$\{-3_{-1-11}^+   \frac{3}{4} \frac{1}{2} \frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{1}{4} \end{bmatrix}$	-1	1
169	$\{4_{100}^+   \frac{3}{4} \frac{1}{2} \frac{1}{4}\}'$	$\begin{bmatrix} 1 & 0 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{1}{4} \end{bmatrix}$	1	-1
170	$\{4_{100}^-   \frac{3}{4} \frac{3}{4} 0\}'$	$\begin{bmatrix} 1 & 0 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{3}{4} \\ 0 & -1 & 0 & 0 \end{bmatrix}$	1	-1
171	$\{4_{010}^+   \frac{3}{4} \frac{3}{4} 0\}'$	$\begin{bmatrix} 0 & 0 & 1 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{3}{4} \\ -1 & 0 & 0 & 0 \end{bmatrix}$	1	-1
172	$\{4_{010}^-   \frac{1}{2} \frac{3}{4} \frac{1}{4}\}'$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	1	-1
173	$\{4_{001}^+   \frac{1}{2} \frac{3}{4} \frac{1}{4}\}'$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{1}{4} \end{bmatrix}$	1	-1
174	$\{4_{001}^-   \frac{3}{4} \frac{1}{2} \frac{1}{4}\}'$	$\begin{bmatrix} 0 & 1 & 0 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{1}{4} \end{bmatrix}$	1	-1
175	$\{2_{110}   \frac{3}{4} \frac{3}{4} 0\}'$	$\begin{bmatrix} 0 & 1 & 0 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & 0 \end{bmatrix}$	1	-1
176	$\{2_{1-10}   \frac{1}{2} \frac{1}{2} 0\}'$	$\begin{bmatrix} 0 & -1 & 0 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & 0 \end{bmatrix}$	1	-1
177	$\{2_{011}   \frac{1}{2} \frac{3}{4} \frac{1}{4}\}'$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{1}{4} \end{bmatrix}$	1	-1
178	$\{2_{01-1}   \frac{1}{2} \frac{1}{2} 0\}'$	$\begin{bmatrix} -1 & 0 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{1}{2} \\ 0 & -1 & 0 & 0 \end{bmatrix}$	1	-1
179	$\{2_{101}   \frac{3}{4} \frac{1}{2} \frac{1}{4}\}'$	$\begin{bmatrix} 0 & 0 & 1 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	1	-1
180	$\{2_{-101}   \frac{1}{2} \frac{1}{2} 0\}'$	$\begin{bmatrix} 0 & 0 & -1 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{1}{2} \\ -1 & 0 & 0 & 0 \end{bmatrix}$	1	-1
181	$\{-4_{100}^+   \frac{3}{4} \frac{1}{2} \frac{1}{4}\}'$	$\begin{bmatrix} -1 & 0 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{1}{4} \end{bmatrix}$	-1	-1

continued ...

Table 1

No.	tag	matrix (polar)	det	TR
182	$\{-4_{100}' \frac{3}{4}\frac{3}{4}0\}$	$\begin{bmatrix} -1 & 0 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{3}{4} \\ 0 & 1 & 0 & 0 \end{bmatrix}$	-1	-1
183	$\{-4_{010}' \frac{3}{4}\frac{3}{4}0\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{3}{4} \\ 1 & 0 & 0 & 0 \end{bmatrix}$	-1	-1
184	$\{-4_{010}' \frac{1}{2}\frac{3}{4}\frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{2} \\ 0 & -1 & 0 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	-1	-1
185	$\{-4_{001}' \frac{1}{2}\frac{3}{4}\frac{1}{4}\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{3}{4} \\ 0 & 0 & -1 & \frac{1}{4} \end{bmatrix}$	-1	-1
186	$\{-4_{001}' \frac{3}{4}\frac{1}{2}\frac{1}{4}\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{3}{4} \\ 1 & 0 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{1}{4} \end{bmatrix}$	-1	-1
187	$\{m_{110}' \frac{3}{4}\frac{3}{4}0\}$	$\begin{bmatrix} 0 & -1 & 0 & \frac{3}{4} \\ -1 & 0 & 0 & \frac{3}{4} \\ 0 & 0 & 1 & 0 \end{bmatrix}$	-1	-1
188	$\{m_{1-10}' \frac{1}{2}\frac{1}{2}0\}$	$\begin{bmatrix} 0 & 1 & 0 & \frac{1}{2} \\ 1 & 0 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & 0 \end{bmatrix}$	-1	-1
189	$\{m_{011}' \frac{1}{2}\frac{3}{4}\frac{1}{4}\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{2} \\ 0 & 0 & -1 & \frac{3}{4} \\ 0 & -1 & 0 & \frac{1}{4} \end{bmatrix}$	-1	-1
190	$\{m_{01-1}' \frac{1}{2}\frac{1}{2}0\}$	$\begin{bmatrix} 1 & 0 & 0 & \frac{1}{2} \\ 0 & 0 & 1 & \frac{1}{2} \\ 0 & 1 & 0 & 0 \end{bmatrix}$	-1	-1
191	$\{m_{101}' \frac{3}{4}\frac{1}{2}\frac{1}{4}\}$	$\begin{bmatrix} 0 & 0 & -1 & \frac{3}{4} \\ 0 & 1 & 0 & \frac{1}{2} \\ -1 & 0 & 0 & \frac{1}{4} \end{bmatrix}$	-1	-1
192	$\{m_{-101}' \frac{1}{2}\frac{1}{2}0\}$	$\begin{bmatrix} 0 & 0 & 1 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{1}{2} \\ 1 & 0 & 0 & 0 \end{bmatrix}$	-1	-1