

No. 16 $C_3 \times 3$ [trigonal] (polar)

表 1 rank 0

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
1	A	A	—	—	$Q_0^{(h,A)}$	$Qh(0, A, ,)$	C_0

表 2 rank 1

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
2	A	A	—	—	$Q_1^{(h,A)}$	$Qh(1, A, ,)$	C_0
3	E	E	—	0	$Q_{1,0}^{(h,E)}$	$Qh(1, E, , 0)$	C_1
4	E	E	—	1	$Q_{1,1}^{(h,E)}$	$Qh(1, E, , 1)$	S_1

表 3 rank 2

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
5	A	A	—	—	$Q_2^{(h,A)}$	$Qh(2, A, ,)$	C_0
6	E	E	1	0	$Q_{2,0}^{(h,E,1)}$	$Qh(2, E, 1, 0)$	C_1
7	E	E	1	1	$Q_{2,1}^{(h,E,1)}$	$Qh(2, E, 1, 1)$	S_1
8	E	E	2	0	$Q_{2,0}^{(h,E,2)}$	$Qh(2, E, 2, 0)$	C_2
9	E	E	2	1	$Q_{2,1}^{(h,E,2)}$	$Qh(2, E, 2, 1)$	$-S_2$

表 4 rank 3

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
10	A	A	1	—	$Q_3^{(h,A,1)}$	$Qh(3, A, 1,)$	C_0
11	A	A	2	—	$Q_3^{(h,A,2)}$	$Qh(3, A, 2,)$	S_3
12	A	A	3	—	$Q_3^{(h,A,3)}$	$Qh(3, A, 3,)$	C_3
13	E	E	1	0	$Q_{3,0}^{(h,E,1)}$	$Qh(3, E, 1, 0)$	C_1
14	E	E	1	1	$Q_{3,1}^{(h,E,1)}$	$Qh(3, E, 1, 1)$	S_1
15	E	E	2	0	$Q_{3,0}^{(h,E,2)}$	$Qh(3, E, 2, 0)$	C_2
16	E	E	2	1	$Q_{3,1}^{(h,E,2)}$	$Qh(3, E, 2, 1)$	$-S_2$

表 5 rank 4

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
17	A	A	1	—	$Q_4^{(h,A,1)}$	$Qh(4, A, 1,)$	C_0
18	A	A	2	—	$Q_4^{(h,A,2)}$	$Qh(4, A, 2,)$	C_3
19	A	A	3	—	$Q_4^{(h,A,3)}$	$Qh(4, A, 3,)$	S_3
20	E	E	1	0	$Q_{4,0}^{(h,E,1)}$	$Qh(4, E, 1, 0)$	C_1
21	E	E	1	1	$Q_{4,1}^{(h,E,1)}$	$Qh(4, E, 1, 1)$	S_1
22	E	E	2	0	$Q_{4,0}^{(h,E,2)}$	$Qh(4, E, 2, 0)$	C_4
23	E	E	2	1	$Q_{4,1}^{(h,E,2)}$	$Qh(4, E, 2, 1)$	S_4
24	E	E	3	0	$Q_{4,0}^{(h,E,3)}$	$Qh(4, E, 3, 0)$	C_2
25	E	E	3	1	$Q_{4,1}^{(h,E,3)}$	$Qh(4, E, 3, 1)$	$-S_2$

表 6 rank 5

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
26	A	A	1	—	$Q_5^{(h,A,1)}$	$Qh(5, A, 1,)$	C_0
27	A	A	2	—	$Q_5^{(h,A,2)}$	$Qh(5, A, 2,)$	S_3
28	A	A	3	—	$Q_5^{(h,A,3)}$	$Qh(5, A, 3,)$	C_3
29	E	E	1	0	$Q_{5,0}^{(h,E,1)}$	$Qh(5, E, 1, 0)$	C_5
30	E	E	1	1	$Q_{5,1}^{(h,E,1)}$	$Qh(5, E, 1, 1)$	$-S_5$
31	E	E	2	0	$Q_{5,0}^{(h,E,2)}$	$Qh(5, E, 2, 0)$	C_1
32	E	E	2	1	$Q_{5,1}^{(h,E,2)}$	$Qh(5, E, 2, 1)$	S_1
33	E	E	3	0	$Q_{5,0}^{(h,E,3)}$	$Qh(5, E, 3, 0)$	C_4
34	E	E	3	1	$Q_{5,1}^{(h,E,3)}$	$Qh(5, E, 3, 1)$	S_4
35	E	E	4	0	$Q_{5,0}^{(h,E,4)}$	$Qh(5, E, 4, 0)$	C_2
36	E	E	4	1	$Q_{5,1}^{(h,E,4)}$	$Qh(5, E, 4, 1)$	$-S_2$

表 7 rank 6

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
37	A	A	1	—	$Q_6^{(h,A,1)}$	$Qh(6, A, 1,)$	C_0
38	A	A	2	—	$Q_6^{(h,A,2)}$	$Qh(6, A, 2,)$	C_6
39	A	A	3	—	$Q_6^{(h,A,3)}$	$Qh(6, A, 3,)$	S_6
40	A	A	4	—	$Q_6^{(h,A,4)}$	$Qh(6, A, 4,)$	C_3
41	A	A	5	—	$Q_6^{(h,A,5)}$	$Qh(6, A, 5,)$	S_3
42	E	E	1	0	$Q_{6,0}^{(h,E,1)}$	$Qh(6, E, 1, 0)$	C_5
43	E	E	1	1	$Q_{6,1}^{(h,E,1)}$	$Qh(6, E, 1, 1)$	$-S_5$
44	E	E	2	0	$Q_{6,0}^{(h,E,2)}$	$Qh(6, E, 2, 0)$	C_1
45	E	E	2	1	$Q_{6,1}^{(h,E,2)}$	$Qh(6, E, 2, 1)$	S_1
46	E	E	3	0	$Q_{6,0}^{(h,E,3)}$	$Qh(6, E, 3, 0)$	C_4
47	E	E	3	1	$Q_{6,1}^{(h,E,3)}$	$Qh(6, E, 3, 1)$	S_4
48	E	E	4	0	$Q_{6,0}^{(h,E,4)}$	$Qh(6, E, 4, 0)$	C_2
49	E	E	4	1	$Q_{6,1}^{(h,E,4)}$	$Qh(6, E, 4, 1)$	$-S_2$

表 8 rank 7

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
50	A	A	1	—	$Q_7^{(h,A,1)}$	$Qh(7, A, 1,)$	S_6
51	A	A	2	—	$Q_7^{(h,A,2)}$	$Qh(7, A, 2,)$	C_0
52	A	A	3	—	$Q_7^{(h,A,3)}$	$Qh(7, A, 3,)$	C_6
53	A	A	4	—	$Q_7^{(h,A,4)}$	$Qh(7, A, 4,)$	S_3
54	A	A	5	—	$Q_7^{(h,A,5)}$	$Qh(7, A, 5,)$	C_3
55	E	E	1	0	$Q_{7,0}^{(h,E,1)}$	$Qh(7, E, 1, 0)$	C_7
56	E	E	1	1	$Q_{7,1}^{(h,E,1)}$	$Qh(7, E, 1, 1)$	S_7
57	E	E	2	0	$Q_{7,0}^{(h,E,2)}$	$Qh(7, E, 2, 0)$	C_5
58	E	E	2	1	$Q_{7,1}^{(h,E,2)}$	$Qh(7, E, 2, 1)$	$-S_5$
59	E	E	3	0	$Q_{7,0}^{(h,E,3)}$	$Qh(7, E, 3, 0)$	C_1
60	E	E	3	1	$Q_{7,1}^{(h,E,3)}$	$Qh(7, E, 3, 1)$	S_1
61	E	E	4	0	$Q_{7,0}^{(h,E,4)}$	$Qh(7, E, 4, 0)$	C_4
62	E	E	4	1	$Q_{7,1}^{(h,E,4)}$	$Qh(7, E, 4, 1)$	S_4
63	E	E	5	0	$Q_{7,0}^{(h,E,5)}$	$Qh(7, E, 5, 0)$	C_2
64	E	E	5	1	$Q_{7,1}^{(h,E,5)}$	$Qh(7, E, 5, 1)$	$-S_2$

表 9 rank 8

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
65	A	A	1	—	$Q_8^{(h,A,1)}$	$Qh(8, A, 1,)$	C_0
66	A	A	2	—	$Q_8^{(h,A,2)}$	$Qh(8, A, 2,)$	C_6
67	A	A	3	—	$Q_8^{(h,A,3)}$	$Qh(8, A, 3,)$	S_6
68	A	A	4	—	$Q_8^{(h,A,4)}$	$Qh(8, A, 4,)$	C_3
69	A	A	5	—	$Q_8^{(h,A,5)}$	$Qh(8, A, 5,)$	S_3
70	E	E	1	0	$Q_{8,0}^{(h,E,1)}$	$Qh(8, E, 1, 0)$	C_7
71	E	E	1	1	$Q_{8,1}^{(h,E,1)}$	$Qh(8, E, 1, 1)$	S_7
72	E	E	2	0	$Q_{8,0}^{(h,E,2)}$	$Qh(8, E, 2, 0)$	C_5
73	E	E	2	1	$Q_{8,1}^{(h,E,2)}$	$Qh(8, E, 2, 1)$	$-S_5$
74	E	E	3	0	$Q_{8,0}^{(h,E,3)}$	$Qh(8, E, 3, 0)$	C_1
75	E	E	3	1	$Q_{8,1}^{(h,E,3)}$	$Qh(8, E, 3, 1)$	S_1
76	E	E	4	0	$Q_{8,0}^{(h,E,4)}$	$Qh(8, E, 4, 0)$	C_8
77	E	E	4	1	$Q_{8,1}^{(h,E,4)}$	$Qh(8, E, 4, 1)$	$-S_8$
78	E	E	5	0	$Q_{8,0}^{(h,E,5)}$	$Qh(8, E, 5, 0)$	C_4
79	E	E	5	1	$Q_{8,1}^{(h,E,5)}$	$Qh(8, E, 5, 1)$	S_4
80	E	E	6	0	$Q_{8,0}^{(h,E,6)}$	$Qh(8, E, 6, 0)$	C_2
81	E	E	6	1	$Q_{8,1}^{(h,E,6)}$	$Qh(8, E, 6, 1)$	$-S_2$

表 10 rank 9

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
82	A	A	1	—	$\mathbb{Q}_9^{(h,A,1)}$	$\text{Qh}(9, A, 1,)$	S_6
83	A	A	2	—	$\mathbb{Q}_9^{(h,A,2)}$	$\text{Qh}(9, A, 2,)$	C_0
84	A	A	3	—	$\mathbb{Q}_9^{(h,A,3)}$	$\text{Qh}(9, A, 3,)$	C_6
85	A	A	4	—	$\mathbb{Q}_9^{(h,A,4)}$	$\text{Qh}(9, A, 4,)$	S_9
86	A	A	5	—	$\mathbb{Q}_9^{(h,A,5)}$	$\text{Qh}(9, A, 5,)$	S_3
87	A	A	6	—	$\mathbb{Q}_9^{(h,A,6)}$	$\text{Qh}(9, A, 6,)$	C_9
88	A	A	7	—	$\mathbb{Q}_9^{(h,A,7)}$	$\text{Qh}(9, A, 7,)$	C_3
89	E	E	1	0	$\mathbb{Q}_{9,0}^{(h,E,1)}$	$\text{Qh}(9, E, 1, 0)$	C_7
90	E	E	1	1	$\mathbb{Q}_{9,1}^{(h,E,1)}$	$\text{Qh}(9, E, 1, 1)$	S_7
91	E	E	2	0	$\mathbb{Q}_{9,0}^{(h,E,2)}$	$\text{Qh}(9, E, 2, 0)$	C_5
92	E	E	2	1	$\mathbb{Q}_{9,1}^{(h,E,2)}$	$\text{Qh}(9, E, 2, 1)$	$-S_5$
93	E	E	3	0	$\mathbb{Q}_{9,0}^{(h,E,3)}$	$\text{Qh}(9, E, 3, 0)$	C_1
94	E	E	3	1	$\mathbb{Q}_{9,1}^{(h,E,3)}$	$\text{Qh}(9, E, 3, 1)$	S_1
95	E	E	4	0	$\mathbb{Q}_{9,0}^{(h,E,4)}$	$\text{Qh}(9, E, 4, 0)$	C_8
96	E	E	4	1	$\mathbb{Q}_{9,1}^{(h,E,4)}$	$\text{Qh}(9, E, 4, 1)$	$-S_8$
97	E	E	5	0	$\mathbb{Q}_{9,0}^{(h,E,5)}$	$\text{Qh}(9, E, 5, 0)$	C_4
98	E	E	5	1	$\mathbb{Q}_{9,1}^{(h,E,5)}$	$\text{Qh}(9, E, 5, 1)$	S_4
99	E	E	6	0	$\mathbb{Q}_{9,0}^{(h,E,6)}$	$\text{Qh}(9, E, 6, 0)$	C_2
100	E	E	6	1	$\mathbb{Q}_{9,1}^{(h,E,6)}$	$\text{Qh}(9, E, 6, 1)$	$-S_2$

表 11 rank 10

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
101	A	A	1	—	$\mathbb{Q}_{10}^{(h,A,1)}$	$\text{Qh}(10, A, 1,)$	C_0
102	A	A	2	—	$\mathbb{Q}_{10}^{(h,A,2)}$	$\text{Qh}(10, A, 2,)$	C_6
103	A	A	3	—	$\mathbb{Q}_{10}^{(h,A,3)}$	$\text{Qh}(10, A, 3,)$	S_6
104	A	A	4	—	$\mathbb{Q}_{10}^{(h,A,4)}$	$\text{Qh}(10, A, 4,)$	C_9
105	A	A	5	—	$\mathbb{Q}_{10}^{(h,A,5)}$	$\text{Qh}(10, A, 5,)$	C_3
106	A	A	6	—	$\mathbb{Q}_{10}^{(h,A,6)}$	$\text{Qh}(10, A, 6,)$	S_9
107	A	A	7	—	$\mathbb{Q}_{10}^{(h,A,7)}$	$\text{Qh}(10, A, 7,)$	S_3
108	E	E	1	0	$\mathbb{Q}_{10,0}^{(h,E,1)}$	$\text{Qh}(10, E, 1, 0)$	C_7
109	E	E	1	1	$\mathbb{Q}_{10,1}^{(h,E,1)}$	$\text{Qh}(10, E, 1, 1)$	S_7
110	E	E	2	0	$\mathbb{Q}_{10,0}^{(h,E,2)}$	$\text{Qh}(10, E, 2, 0)$	C_5
111	E	E	2	1	$\mathbb{Q}_{10,1}^{(h,E,2)}$	$\text{Qh}(10, E, 2, 1)$	$-S_5$
112	E	E	3	0	$\mathbb{Q}_{10,0}^{(h,E,3)}$	$\text{Qh}(10, E, 3, 0)$	C_1
113	E	E	3	1	$\mathbb{Q}_{10,1}^{(h,E,3)}$	$\text{Qh}(10, E, 3, 1)$	S_1
114	E	E	4	0	$\mathbb{Q}_{10,0}^{(h,E,4)}$	$\text{Qh}(10, E, 4, 0)$	C_{10}
115	E	E	4	1	$\mathbb{Q}_{10,1}^{(h,E,4)}$	$\text{Qh}(10, E, 4, 1)$	S_{10}
116	E	E	5	0	$\mathbb{Q}_{10,0}^{(h,E,5)}$	$\text{Qh}(10, E, 5, 0)$	C_8
117	E	E	5	1	$\mathbb{Q}_{10,1}^{(h,E,5)}$	$\text{Qh}(10, E, 5, 1)$	$-S_8$
118	E	E	6	0	$\mathbb{Q}_{10,0}^{(h,E,6)}$	$\text{Qh}(10, E, 6, 0)$	C_4
119	E	E	6	1	$\mathbb{Q}_{10,1}^{(h,E,6)}$	$\text{Qh}(10, E, 6, 1)$	S_4
120	E	E	7	0	$\mathbb{Q}_{10,0}^{(h,E,7)}$	$\text{Qh}(10, E, 7, 0)$	C_2
121	E	E	7	1	$\mathbb{Q}_{10,1}^{(h,E,7)}$	$\text{Qh}(10, E, 7, 1)$	$-S_2$

表 12 rank 11

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
122	A	A	1	—	$\mathbb{Q}_{11}^{(h,A,1)}$	$\text{Qh}(11, A, 1,)$	S_6
123	A	A	2	—	$\mathbb{Q}_{11}^{(h,A,2)}$	$\text{Qh}(11, A, 2,)$	C_0
124	A	A	3	—	$\mathbb{Q}_{11}^{(h,A,3)}$	$\text{Qh}(11, A, 3,)$	C_6
125	A	A	4	—	$\mathbb{Q}_{11}^{(h,A,4)}$	$\text{Qh}(11, A, 4,)$	S_9
126	A	A	5	—	$\mathbb{Q}_{11}^{(h,A,5)}$	$\text{Qh}(11, A, 5,)$	S_3
127	A	A	6	—	$\mathbb{Q}_{11}^{(h,A,6)}$	$\text{Qh}(11, A, 6,)$	C_9
128	A	A	7	—	$\mathbb{Q}_{11}^{(h,A,7)}$	$\text{Qh}(11, A, 7,)$	C_3
129	E	E	1	0	$\mathbb{Q}_{11,0}^{(h,E,1)}$	$\text{Qh}(11, E, 1, 0)$	C_{11}
130	E	E	1	1	$\mathbb{Q}_{11,1}^{(h,E,1)}$	$\text{Qh}(11, E, 1, 1)$	$-S_{11}$
131	E	E	2	0	$\mathbb{Q}_{11,0}^{(h,E,2)}$	$\text{Qh}(11, E, 2, 0)$	C_7
132	E	E	2	1	$\mathbb{Q}_{11,1}^{(h,E,2)}$	$\text{Qh}(11, E, 2, 1)$	S_7
133	E	E	3	0	$\mathbb{Q}_{11,0}^{(h,E,3)}$	$\text{Qh}(11, E, 3, 0)$	C_5
134	E	E	3	1	$\mathbb{Q}_{11,1}^{(h,E,3)}$	$\text{Qh}(11, E, 3, 1)$	$-S_5$
135	E	E	4	0	$\mathbb{Q}_{11,0}^{(h,E,4)}$	$\text{Qh}(11, E, 4, 0)$	C_1
136	E	E	4	1	$\mathbb{Q}_{11,1}^{(h,E,4)}$	$\text{Qh}(11, E, 4, 1)$	S_1
137	E	E	5	0	$\mathbb{Q}_{11,0}^{(h,E,5)}$	$\text{Qh}(11, E, 5, 0)$	C_{10}
138	E	E	5	1	$\mathbb{Q}_{11,1}^{(h,E,5)}$	$\text{Qh}(11, E, 5, 1)$	S_{10}
139	E	E	6	0	$\mathbb{Q}_{11,0}^{(h,E,6)}$	$\text{Qh}(11, E, 6, 0)$	C_8
140	E	E	6	1	$\mathbb{Q}_{11,1}^{(h,E,6)}$	$\text{Qh}(11, E, 6, 1)$	$-S_8$
141	E	E	7	0	$\mathbb{Q}_{11,0}^{(h,E,7)}$	$\text{Qh}(11, E, 7, 0)$	C_4
142	E	E	7	1	$\mathbb{Q}_{11,1}^{(h,E,7)}$	$\text{Qh}(11, E, 7, 1)$	S_4
143	E	E	8	0	$\mathbb{Q}_{11,0}^{(h,E,8)}$	$\text{Qh}(11, E, 8, 0)$	C_2
144	E	E	8	1	$\mathbb{Q}_{11,1}^{(h,E,8)}$	$\text{Qh}(11, E, 8, 1)$	$-S_2$