## No. 27 $D_{6h}$ 6/mmm [ hexagonal ] (polar)

表 1 rank 0

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
1	$A_{1g}$	A1g	_	_	$\mathbb{Q}_0^{(h,A_{1g})}$	$\mathtt{Qh}(\mathtt{0},\mathtt{Alg},,)$	$C_0$

表 2 rank 1

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
2	$A_{2u}$	A2u	_	_	$\mathbb{Q}_1^{(h,A_{2u})}$	$\mathtt{Qh}(\mathtt{1},\mathtt{A2u},,)$	$C_0$
3	$E_{1u}$	E1u	_	0	$\mathbb{Q}_{1,0}^{(h,E_{1u})}$	$\mathtt{Qh}(\mathtt{1},\mathtt{E1u},,\mathtt{0})$	$C_1$
4	$E_{1u}$	E1u	_	1	$\mathbb{Q}_{1,1}^{(h,E_{1u})}$	$\mathtt{Qh}(\mathtt{1},\mathtt{E1u},\mathtt{,1})$	$S_1$

表 3 rank 2

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
5	$A_{1g}$	A1g	_	_	$\mathbb{Q}_2^{(h,A_{1g})}$	$\mathtt{Qh}(\mathtt{2},\mathtt{A1g},,)$	$C_0$
6	$E_{1g}$	E1g	_	0	$\mathbb{Q}_{2,0}^{(h,E_{1g})}$	$\mathtt{Qh}(\mathtt{2},\mathtt{E1g},,\mathtt{0})$	$C_1$
7	$E_{1g}$	E1g	_	1	$\mathbb{Q}_{2,1}^{(h,E_{1g})}$	$\mathtt{Qh}(\mathtt{2},\mathtt{E1g},,\mathtt{1})$	$S_1$
8	$E_{2g}$	E2g	_	0	$\mathbb{Q}_{2,0}^{(h,E_{2g})}$	$\mathtt{Qh}(\mathtt{2},\mathtt{E2g},,\mathtt{0})$	$C_2$
9	$E_{2g}$	E2g	-	1	$\mathbb{Q}_{2,1}^{(h,E_{2g})}$	$\mathtt{Qh}(\mathtt{2},\mathtt{E2g},,\mathtt{1})$	$-S_2$

表 4 rank 3

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
10	$A_{2u}$	A2u	_	_	$\mathbb{Q}_3^{(h,A_{2u})}$	$\mathtt{Qh}(\mathtt{3},\mathtt{A2u},,)$	$C_0$
11	$B_{1u}$	B1u	_	_	$\mathbb{Q}_3^{(h,B_{1u})}$	$\mathtt{Qh}(\mathtt{3},\mathtt{B1u},,)$	$S_3$
12	$B_{2u}$	B2u	_	_	$\mathbb{Q}_3^{(h,B_{2u})}$	$\mathtt{Qh}(\mathtt{3},\mathtt{B2u},,)$	$C_3$
13	$E_{1u}$	E1u	_	0	$\mathbb{Q}_{3,0}^{(h,E_{1u})}$	$\mathtt{Qh}(\mathtt{3},\mathtt{E1u},,\mathtt{0})$	$C_1$
14	$E_{1u}$	E1u	_	1	$\mathbb{Q}_{3,1}^{(h,E_{1u})}$	$\mathtt{Qh}(\mathtt{3},\mathtt{E1u},\mathtt{,1})$	$S_1$
15	$E_{2u}$	E2u	_	0	$\mathbb{Q}_{3,0}^{(h,E_{2u})}$	$\mathtt{Qh}(3,\mathtt{E2u},,\mathtt{0})$	$C_2$
16	$E_{2u}$	E2u	_	1	$\mathbb{Q}_{3,1}^{(h,E_{2u})}$	$\mathtt{Qh}(\mathtt{3},\mathtt{E2u},,\mathtt{1})$	$-S_2$

表 5 rank 4

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
17	$A_{1g}$	A1g	_	-	$\mathbb{Q}_4^{(h,A_{1g})}$	$\mathtt{Qh}(\mathtt{4},\mathtt{A1g},,)$	$C_0$
18	$B_{1g}$	B1g	_	_	$\mathbb{Q}_4^{(h,B_{1g})}$	$\mathtt{Qh}(\mathtt{4},\mathtt{B1g},,)$	$C_3$
19	$B_{2g}$	B2g	_	_	$\mathbb{Q}_4^{(h,B_{2g})}$	$\mathtt{Qh}(\mathtt{4},\mathtt{B2g},,)$	$S_3$
20	$E_{1g}$	E1g	_	0	$\mathbb{Q}_{4,0}^{(h,E_{1g})}$	$\mathtt{Qh}(\mathtt{4},\mathtt{E1g},,\mathtt{0})$	$C_1$
21	$E_{1g}$	E1g	_	1	$\mathbb{Q}_{4,1}^{(h,E_{1g})}$	$\mathtt{Qh}(\mathtt{4},\mathtt{E1g},,\mathtt{1})$	$S_1$
22	$E_{2g}$	E2g	1	0	$\mathbb{Q}_{4,0}^{(h,E_{2g},1)}$	$\mathtt{Qh}(\mathtt{4},\mathtt{E2g},\mathtt{1},\mathtt{0})$	$C_4$
23	$E_{2g}$	E2g	1	1	$\mathbb{Q}_{4,1}^{(h,E_{2g},1)}$	$\mathtt{Qh}(\mathtt{4},\mathtt{E2g},\mathtt{1},\mathtt{1})$	$S_4$
24	$E_{2g}$	E2g	2	0	$\mathbb{Q}_{4,0}^{(h,E_{2g},2)}$	$\mathtt{Qh}(\mathtt{4},\mathtt{E2g},\mathtt{2},\mathtt{0})$	$C_2$
25	$E_{2g}$	E2g	2	1	$\mathbb{Q}_{4,1}^{(h,E_{2g},2)}$	$\mathtt{Qh}(\mathtt{4},\mathtt{E2g},\mathtt{2},\mathtt{1})$	$-S_2$

表 6 rank 5

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
26	$A_{2u}$	A2u	-	-	$\mathbb{Q}_{5}^{(h,A_{2u})}$	$\mathtt{Qh}(\mathtt{5},\mathtt{A2u},,)$	$C_0$
27	$B_{1u}$	B1u	_	_	$\mathbb{Q}_{5}^{(h,B_{1u})}$	$\mathtt{Qh}(\mathtt{5},\mathtt{B1u},,)$	$S_3$
28	$B_{2u}$	B2u	_	_	$\mathbb{Q}_{5}^{(h,B_{2u})}$	$\mathtt{Qh}(\mathtt{5},\mathtt{B2u},,)$	$C_3$
29	$E_{1u}$	E1u	1	0	$\mathbb{Q}_{5,0}^{(h,E_{1u},1)}$	$\mathtt{Qh}(\mathtt{5},\mathtt{E1u},\mathtt{1},\mathtt{0})$	$C_5$
30	$E_{1u}$	E1u	1	1	$\mathbb{Q}_{5,1}^{(h,E_{1u},1)}$	$\mathtt{Qh}(\mathtt{5},\mathtt{E1u},\mathtt{1},\mathtt{1})$	$-S_5$
31	$E_{1u}$	E1u	2	0	$\mathbb{Q}_{5,0}^{(h,E_{1u},2)}$	$\mathtt{Qh}(\mathtt{5},\mathtt{E1u},\mathtt{2},\mathtt{0})$	$C_1$
32	$E_{1u}$	E1u	2	1	$\mathbb{Q}_{5,1}^{(h,E_{1u},2)}$	$\mathtt{Qh}(\mathtt{5},\mathtt{E1u},\mathtt{2},\mathtt{1})$	$S_1$
33	$E_{2u}$	E2u	1	0	$\mathbb{Q}_{5,0}^{(h,E_{2u},1)}$	$\mathtt{Qh}(\mathtt{5},\mathtt{E2u},\mathtt{1},\mathtt{0})$	$C_4$
34	$E_{2u}$	E2u	1	1	$\mathbb{Q}_{5,1}^{(h,E_{2u},1)}$	$\mathtt{Qh}(\mathtt{5},\mathtt{E2u},\mathtt{1},\mathtt{1})$	$S_4$
35	$E_{2u}$	E2u	2	0	$\mathbb{Q}_{5,0}^{(h,E_{2u},2)}$	$\mathtt{Qh}(\mathtt{5},\mathtt{E2u},\mathtt{2},\mathtt{0})$	$C_2$
36	$E_{2u}$	E2u	2	1	$\mathbb{Q}_{5,1}^{(h,E_{2u},2)}$	$\mathtt{Qh}(5,\mathtt{E2u},2,1)$	$-S_2$

表 7 rank 6

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
37	$A_{1g}$	A1g	1	_	$\mathbb{Q}_6^{(h,A_{1g},1)}$	$\mathtt{Qh}(6,\mathtt{A1g},1,)$	$C_0$
38	$A_{1g}$	A1g	2	-	$\mathbb{Q}_6^{(h,A_{1g},2)}$	$\mathtt{Qh}(6,\mathtt{A1g},2,)$	$C_6$
39	$A_{2g}$	A2g	_	_	$\mathbb{Q}_{6}^{(h,A_{2g})}$	$\mathtt{Qh}(6,\mathtt{A2g},,)$	$S_6$
40	$B_{1g}$	B1g	_	_	$\mathbb{Q}_6^{(h,B_{1g})}$	$\mathtt{Qh}(6,\mathtt{B1g},,)$	$C_3$
41	$B_{2g}$	B2g	_	_	$\mathbb{Q}_{6}^{(h,B_{2g})}$	$\mathtt{Qh}(6,\mathtt{B2g},,)$	$S_3$
42	$E_{1g}$	E1g	1	0	$\mathbb{Q}_{6,0}^{(h,E_{1g},1)}$	$\mathtt{Qh}(6,\mathtt{E1g},1,0)$	$C_5$
43	$E_{1g}$	E1g	1	1	$\mathbb{Q}_{6,1}^{(h,E_{1g},1)}$	$\mathtt{Qh}(6,\mathtt{E1g},1,1)$	$-S_5$
44	$E_{1g}$	E1g	2	0	$\mathbb{Q}_{6,0}^{(h,E_{1g},2)}$	$\mathtt{Qh}(6,\mathtt{E1g},2,0)$	$C_1$
45	$E_{1g}$	E1g	2	1	$\mathbb{Q}_{6,1}^{(h,E_{1g},2)}$	$\mathtt{Qh}(6,\mathtt{E1g},2,1)$	$S_1$
46	$E_{2g}$	E2g	1	0	$\mathbb{Q}_{6,0}^{(h,E_{2g},1)}$	$\mathtt{Qh}(6,\mathtt{E2g},1,0)$	$C_4$
47	$E_{2g}$	E2g	1	1	$\mathbb{Q}_{6,1}^{(h,E_{2g},1)}$	$\mathtt{Qh}(6,\mathtt{E2g},1,1)$	$S_4$
48	$E_{2g}$	E2g	2	0	$\mathbb{Q}_{6,0}^{(h,E_{2g},2)}$	$\mathtt{Qh}(6,\mathtt{E2g},2,0)$	$C_2$
49	$E_{2g}$	E2g	2	1	$\mathbb{Q}_{6,1}^{(h,E_{2g},2)}$	$\mathtt{Qh}(6,\mathtt{E2g},2,1)$	$-S_2$

表 8 rank 7

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
50	$A_{1u}$	A1u	_	_	$\mathbb{Q}_7^{(h,A_{1u})}$	Qh(7, A1u,,)	$S_6$
51	$A_{2u}$	A2u	1	_	$\mathbb{Q}_7^{(h,A_{2u},1)}$	$\mathtt{Qh}(7,\mathtt{A2u},\mathtt{1},)$	$C_0$
52	$A_{2u}$	A2u	2	_	$\mathbb{Q}_7^{(h,A_{2u},2)}$	$\mathtt{Qh}(7,\mathtt{A2u},2,)$	$C_6$
53	$B_{1u}$	B1u	_	_	$\mathbb{Q}_7^{(h,B_{1u})}$	$\mathtt{Qh}(\mathtt{7},\mathtt{B1u},,)$	$S_3$
54	$B_{2u}$	B2u	_	_	$\mathbb{Q}_7^{(h,B_{2u})}$	$\mathtt{Qh}(\mathtt{7},\mathtt{B2u},,)$	$C_3$
55	$E_{1u}$	E1u	1	0	$\mathbb{Q}_{7,0}^{(h,E_{1u},1)}$	$\mathtt{Qh}(7,\mathtt{E1u},1,\mathtt{0})$	$C_7$
56	$E_{1u}$	E1u	1	1	$\mathbb{Q}_{7,1}^{(h,E_{1u},1)}$	$\mathtt{Qh}(7,\mathtt{E1u},1,1)$	$S_7$
57	$E_{1u}$	E1u	2	0	$\mathbb{Q}_{7,0}^{(h,E_{1u},2)}$	$\mathtt{Qh}(7,\mathtt{E1u},2,0)$	$C_5$
58	$E_{1u}$	E1u	2	1	$\mathbb{Q}_{7,1}^{(h,E_{1u},2)}$	$\mathtt{Qh}(7,\mathtt{E1u},2,1)$	$-S_5$
59	$E_{1u}$	E1u	3	0	$\mathbb{Q}_{7,0}^{(h,E_{1u},3)}$	$\mathtt{Qh}(7,\mathtt{E1u},3,0)$	$C_1$
60	$E_{1u}$	E1u	3	1	$\mathbb{Q}_{7,1}^{(h,E_{1u},3)}$	$\mathtt{Qh}(7,\mathtt{E1u},3,1)$	$S_1$
61	$E_{2u}$	E2u	1	0	$\mathbb{Q}_{7,0}^{(h,E_{2u},1)}$	$\mathtt{Qh}(7,\mathtt{E2u},1,\mathtt{0})$	$C_4$
62	$E_{2u}$	E2u	1	1	$\mathbb{Q}_{7,1}^{(h,E_{2u},1)}$	$\mathtt{Qh}(7,\mathtt{E2u},1,1)$	$S_4$
63	$E_{2u}$	E2u	2	0	$\mathbb{Q}_{7,0}^{(h,E_{2u},2)}$	$\mathtt{Qh}(7,\mathtt{E2u},2,0)$	$C_2$
64	$E_{2u}$	E2u	2	1	$\mathbb{Q}_{7,1}^{(h,E_{2u},2)}$	$\mathtt{Qh}(7,\mathtt{E2u},2,1)$	$-S_2$

表 9 rank 8

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
65	$A_{1g}$	A1g	1	_	$\mathbb{Q}_8^{(h,A_{1g},1)}$	Qh(8, A1g, 1,)	$C_0$
66	$A_{1g}$	A1g	2	_	$\mathbb{Q}_8^{(h,A_{1g},2)}$	$\mathtt{Qh}(8,\mathtt{A1g},2,)$	$C_6$
67	$A_{2g}$	A2g	_	_	$\mathbb{Q}_8^{(h,A_{2g})}$	$\mathtt{Qh}(\mathtt{8},\mathtt{A2g},,)$	$S_6$
68	$B_{1g}$	B1g	_	_	$\mathbb{Q}_8^{(h,B_{1g})}$	$\mathtt{Qh}(\mathtt{8},\mathtt{B1g},,)$	$C_3$
69	$B_{2g}$	B2g	_	_	$\mathbb{Q}_8^{(h,B_{2g})}$	$\mathtt{Qh}(\mathtt{8},\mathtt{B2g},,)$	$S_3$
70	$E_{1g}$	E1g	1	0	$\mathbb{Q}_{8,0}^{(h,E_{1g},1)}$	$\mathtt{Qh}(8,\mathtt{E1g},1,0)$	$C_7$
71	$E_{1g}$	E1g	1	1	$\mathbb{Q}_{8,1}^{(h,E_{1g},1)}$	$\mathtt{Qh}(8,\mathtt{E1g},1,1)$	$S_7$
72	$E_{1g}$	E1g	2	0	$\mathbb{Q}_{8,0}^{(h,E_{1g},2)}$	$\mathtt{Qh}(8,\mathtt{E1g},2,0)$	$C_5$
73	$E_{1g}$	E1g	2	1	$\mathbb{Q}_{8,1}^{(h,E_{1g},2)}$	$\mathtt{Qh}(8,\mathtt{E1g},2,1)$	$-S_5$
74	$E_{1g}$	E1g	3	0	$\mathbb{Q}_{8,0}^{(h,E_{1g},3)}$	$\mathtt{Qh}(8,\mathtt{E1g},3,0)$	$C_1$
75	$E_{1g}$	E1g	3	1	$\mathbb{Q}_{8,1}^{(h,E_{1g},3)}$	$\mathtt{Qh}(8,\mathtt{E1g},3,1)$	$S_1$
76	$E_{2g}$	E2g	1	0	$\mathbb{Q}_{8,0}^{(h,E_{2g},1)}$	$\mathtt{Qh}(8,\mathtt{E2g},1,0)$	$C_8$
77	$E_{2g}$	E2g	1	1	$\mathbb{Q}_{8,1}^{(h,E_{2g},1)}$	$\mathtt{Qh}(8,\mathtt{E2g},1,1)$	$-S_8$
78	$E_{2g}$	E2g	2	0	$\mathbb{Q}_{8,0}^{(h,E_{2g},2)}$	$\mathtt{Qh}(8,\mathtt{E2g},2,0)$	$C_4$
79	$E_{2g}$	E2g	2	1	$\mathbb{Q}_{8,1}^{(h,E_{2g},2)}$	$\mathtt{Qh}(8,\mathtt{E2g},2,1)$	$S_4$
80	$E_{2g}$	E2g	3	0	$\mathbb{Q}_{8,0}^{(h,E_{2g},3)}$	$\mathtt{Qh}(8,\mathtt{E2g},3,0)$	$C_2$
81	$E_{2g}$	E2g	3	1	$\mathbb{Q}_{8,1}^{(h,E_{2g},3)}$	$\mathtt{Qh}(8,\mathtt{E2g},3,1)$	$-S_2$

表 10 rank 9

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
82	$A_{1u}$	A1u	_	_	$\mathbb{Q}_9^{(h,A_{1u})}$	Qh(9, A1u,,)	$S_6$
83	$A_{2u}$	A2u	1	_	$\mathbb{Q}_9^{(h,A_{2u},1)}$	$\mathtt{Qh}(9,\mathtt{A2u},1,)$	$C_0$
84	$A_{2u}$	A2u	2	_	$\mathbb{Q}_9^{(h,A_{2u},2)}$	$\mathtt{Qh}(9,\mathtt{A2u},2,)$	$C_6$
85	$B_{1u}$	B1u	1	_	$\mathbb{Q}_9^{(h,B_{1u},1)}$	$\mathtt{Qh}(9,\mathtt{B1u},1,)$	$S_9$
86	$B_{1u}$	B1u	2	_	$\mathbb{Q}_9^{(h,B_{1u},2)}$	$\mathtt{Qh}(9,\mathtt{B1u},2,)$	$S_3$
87	$B_{2u}$	B2u	1	_	$\mathbb{Q}_9^{(h,B_{2u},1)}$	$\mathtt{Qh}(9,\mathtt{B2u},1,)$	$C_9$
88	$B_{2u}$	B2u	2	_	$\mathbb{Q}_9^{(h,B_{2u},2)}$	$\mathtt{Qh}(9,\mathtt{B2u},2,)$	$C_3$
89	$E_{1u}$	E1u	1	0	$\mathbb{Q}_{9,0}^{(h,E_{1u},1)}$	$\mathtt{Qh}(9,\mathtt{E1u},1,0)$	$C_7$
90	$E_{1u}$	E1u	1	1	$\mathbb{Q}_{9,1}^{(h,E_{1u},1)}$	$\mathtt{Qh}(9,\mathtt{E1u},1,1)$	$S_7$
91	$E_{1u}$	E1u	2	0	$\mathbb{Q}_{9,0}^{(h,E_{1u},2)}$	$\mathtt{Qh}(9,\mathtt{E1u},2,0)$	$C_5$
92	$E_{1u}$	E1u	2	1	$\mathbb{Q}_{9,1}^{(h,E_{1u},2)}$	$\mathtt{Qh}(9,\mathtt{E1u},2,1)$	$-S_5$
93	$E_{1u}$	E1u	3	0	$\mathbb{Q}_{9,0}^{(h,E_{1u},3)}$	$\mathtt{Qh}(9,\mathtt{E1u},3,0)$	$C_1$
94	$E_{1u}$	E1u	3	1	$\mathbb{Q}_{9,1}^{(h,E_{1u},3)}$	$\mathtt{Qh}(9,\mathtt{E1u},3,1)$	$S_1$
95	$E_{2u}$	E2u	1	0	$\mathbb{Q}_{9,0}^{(h,E_{2u},1)}$	$\mathtt{Qh}(9,\mathtt{E2u},1,0)$	$C_8$
96	$E_{2u}$	E2u	1	1	$\mathbb{Q}_{9,1}^{(h,E_{2u},1)}$	$\mathtt{Qh}(9,\mathtt{E2u},1,1)$	$-S_8$
97	$E_{2u}$	E2u	2	0	$\mathbb{Q}_{9,0}^{(h,E_{2u},2)}$	$\mathtt{Qh}(9,\mathtt{E2u},2,0)$	$C_4$
98	$E_{2u}$	E2u	2	1	$\mathbb{Q}_{9,1}^{(h,E_{2u},2)}$	$\mathtt{Qh}(9,\mathtt{E2u},2,1)$	$S_4$
99	$E_{2u}$	E2u	3	0	$\mathbb{Q}_{9,0}^{(h,E_{2u},3)}$	$\mathtt{Qh}(9,\mathtt{E2u},3,0)$	$C_2$
100	$E_{2u}$	E2u	3	1	$\mathbb{Q}_{9,1}^{(h,E_{2u},3)}$	$\mathtt{Qh}(9,\mathtt{E2u},3,1)$	$-S_2$

表 11 rank 10

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
101	$A_{1g}$	A1g	1	-	$\mathbb{Q}_{10}^{(h,A_{1g},1)}$	$\mathtt{Qh}(\mathtt{10},\mathtt{A1g},\mathtt{1},)$	$C_0$
102	$A_{1g}$	A1g	2	_	$\mathbb{Q}_{10}^{(h,A_{1g},2)}$	$\mathtt{Qh}(\mathtt{10},\mathtt{A1g},\mathtt{2},)$	$C_6$
103	$A_{2g}$	A2g	_	_	$\mathbb{Q}_{10}^{(h,A_{2g})}$	$\mathtt{Qh}(\mathtt{10},\mathtt{A2g},,)$	$S_6$
104	$B_{1g}$	B1g	1	_	$\mathbb{Q}_{10}^{(h,B_{1g},1)}$	$\mathtt{Qh}(\mathtt{10},\mathtt{B1g},\mathtt{1},)$	$C_9$
105	$B_{1g}$	B1g	2	_	$\mathbb{Q}_{10}^{(h,B_{1g},2)}$	$\mathtt{Qh}(\mathtt{10},\mathtt{B1g},\mathtt{2},)$	$C_3$
106	$B_{2g}$	B2g	1	_	$\mathbb{Q}_{10}^{(h,B_{2g},1)}$	$\mathtt{Qh}(\mathtt{10},\mathtt{B2g},\mathtt{1},)$	$S_9$
107	$B_{2g}$	B2g	2	_	$\mathbb{Q}_{10}^{(h,B_{2g},2)}$	$\mathtt{Qh}(\mathtt{10},\mathtt{B2g},\mathtt{2},)$	$S_3$
108	$E_{1g}$	E1g	1	0	$\mathbb{Q}_{10,0}^{(h,E_{1g},1)}$	$\mathtt{Qh}(\mathtt{10},\mathtt{E1g},\mathtt{1},\mathtt{0})$	$C_7$
109	$E_{1g}$	E1g	1	1	$\mathbb{Q}_{10,1}^{(h,E_{1g},1)}$	$\mathtt{Qh}(\mathtt{10},\mathtt{E1g},\mathtt{1},\mathtt{1})$	$S_7$
110	$E_{1g}$	E1g	2	0	$\mathbb{Q}_{10,0}^{(h,E_{1g},2)}$	$\mathtt{Qh}(\mathtt{10},\mathtt{E1g},\mathtt{2},\mathtt{0})$	$C_5$
111	$E_{1g}$	E1g	2	1	$\mathbb{Q}_{10,1}^{(h,E_{1g},2)}$	$\mathtt{Qh}(\mathtt{10},\mathtt{E1g},\mathtt{2},\mathtt{1})$	$-S_5$
112	$E_{1g}$	E1g	3	0	$\mathbb{Q}_{10,0}^{(h,E_{1g},3)}$	$\mathtt{Qh}(\mathtt{10},\mathtt{E1g},\mathtt{3},\mathtt{0})$	$C_1$
113	$E_{1g}$	E1g	3	1	$\mathbb{Q}_{10,1}^{(h,E_{1g},3)}$	$\mathtt{Qh}(\mathtt{10},\mathtt{E1g},\mathtt{3},\mathtt{1})$	$S_1$
114	$E_{2g}$	E2g	1	0	$\mathbb{Q}_{10,0}^{(h,E_{2g},1)}$	$\mathtt{Qh}(\mathtt{10},\mathtt{E2g},\mathtt{1},\mathtt{0})$	$C_{10}$
115	$E_{2g}$	E2g	1	1	$\mathbb{Q}_{10,1}^{(h,E_{2g},1)}$	$\mathtt{Qh}(\mathtt{10},\mathtt{E2g},\mathtt{1},\mathtt{1})$	$S_{10}$
116	$E_{2g}$	E2g	2	0	$\mathbb{Q}_{10,0}^{(h,E_{2g},2)}$	$\mathtt{Qh}(\mathtt{10},\mathtt{E2g},\mathtt{2},\mathtt{0})$	$C_8$
117	$E_{2g}$	E2g	2	1	$\mathbb{Q}_{10,1}^{(h,E_{2g},2)}$	$\mathtt{Qh}(\mathtt{10},\mathtt{E2g},\mathtt{2},\mathtt{1})$	$-S_8$
118	$E_{2g}$	E2g	3	0	$\mathbb{Q}_{10,0}^{(h,E_{2g},3)}$	$\mathtt{Qh}(\mathtt{10},\mathtt{E2g},\mathtt{3},\mathtt{0})$	$C_4$
119	$E_{2g}$	E2g	3	1	$\mathbb{Q}_{10,1}^{(h,E_{2g},3)}$	$\mathtt{Qh}(\mathtt{10},\mathtt{E2g},\mathtt{3},\mathtt{1})$	$S_4$
120	$E_{2g}$	E2g	4	0	$\mathbb{Q}_{10,0}^{(h,E_{2g},4)}$	$\mathtt{Qh}(\mathtt{10},\mathtt{E2g},\mathtt{4},\mathtt{0})$	$C_2$
121	$E_{2g}$	E2g	4	1	$\mathbb{Q}_{10,1}^{(h,E_{2g},4)}$	Qh(10, E2g, 4, 1)	$-S_2$

表 12 rank 11

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
122	$A_{1u}$	A1u	_	_	$\mathbb{Q}_{11}^{(h,A_{1u})}$	Qh(11, A1u,,)	$S_6$
123	$A_{2u}$	A2u	1	_	$\mathbb{Q}_{11}^{(h,A_{2u},1)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{A2u},\mathtt{1},)$	$C_0$
124	$A_{2u}$	A2u	2	-	$\mathbb{Q}_{11}^{(h,A_{2u},2)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{A2u},\mathtt{2},)$	$C_6$
125	$B_{1u}$	B1u	1	_	$\mathbb{Q}_{11}^{(h,B_{1u},1)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{B1u},\mathtt{1},)$	$S_9$
126	$B_{1u}$	B1u	2	_	$\mathbb{Q}_{11}^{(h,B_{1u},2)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{B1u},\mathtt{2},)$	$S_3$
127	$B_{2u}$	B2u	1	_	$\mathbb{Q}_{11}^{(h,B_{2u},1)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{B2u},\mathtt{1},)$	$C_9$
128	$B_{2u}$	B2u	2	_	$\mathbb{Q}_{11}^{(h,B_{2u},2)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{B2u},\mathtt{2},)$	$C_3$
129	$E_{1u}$	E1u	1	0	$\mathbb{Q}_{11,0}^{(h,E_{1u},1)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{E1u},\mathtt{1},\mathtt{0})$	$C_{11}$
130	$E_{1u}$	E1u	1	1	$\mathbb{Q}_{11,1}^{(h,E_{1u},1)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{E1u},\mathtt{1},\mathtt{1})$	$-S_{11}$
131	$E_{1u}$	E1u	2	0	$\mathbb{Q}_{11,0}^{(h,E_{1u},2)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{E1u},\mathtt{2},\mathtt{0})$	$C_7$
132	$E_{1u}$	E1u	2	1	$\mathbb{Q}_{11,1}^{(h,E_{1u},2)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{E1u},\mathtt{2},\mathtt{1})$	$S_7$
133	$E_{1u}$	E1u	3	0	$\mathbb{Q}_{11,0}^{(h,E_{1u},3)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{E1u},\mathtt{3},\mathtt{0})$	$C_5$
134	$E_{1u}$	E1u	3	1	$\mathbb{Q}_{11,1}^{(h,E_{1u},3)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{E1u},\mathtt{3},\mathtt{1})$	$-S_5$
135	$E_{1u}$	E1u	4	0	$\mathbb{Q}_{11,0}^{(h,E_{1u},4)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{E1u},\mathtt{4},\mathtt{0})$	$C_1$
136	$E_{1u}$	E1u	4	1	$\mathbb{Q}_{11,1}^{(h,E_{1u},4)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{E1u},\mathtt{4},\mathtt{1})$	$S_1$
137	$E_{2u}$	E2u	1	0	$\mathbb{Q}_{11,0}^{(h,E_{2u},1)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{E2u},\mathtt{1},\mathtt{0})$	$C_{10}$
138	$E_{2u}$	E2u	1	1	$\mathbb{Q}_{11,1}^{(h,E_{2u},1)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{E2u},\mathtt{1},\mathtt{1})$	$S_{10}$
139	$E_{2u}$	E2u	2	0	$\mathbb{Q}_{11,0}^{(h,E_{2u},2)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{E2u},\mathtt{2},\mathtt{0})$	$C_8$
140	$E_{2u}$	E2u	2	1	$\mathbb{Q}_{11,1}^{(h,E_{2u},2)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{E2u},\mathtt{2},\mathtt{1})$	$-S_8$
141	$E_{2u}$	E2u	3	0	$\mathbb{Q}_{11,0}^{(h,E_{2u},3)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{E2u},\mathtt{3},\mathtt{0})$	$C_4$
142	$E_{2u}$	E2u	3	1	$\mathbb{Q}_{11,1}^{(h,E_{2u},3)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{E2u},\mathtt{3},\mathtt{1})$	$S_4$
143	$E_{2u}$	E2u	4	0	$\mathbb{Q}_{11,0}^{(h,E_{2u},4)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{E2u},\mathtt{4},\mathtt{0})$	$C_2$
144	$E_{2u}$	E2u	4	1	$\mathbb{Q}_{11,1}^{(h,E_{2u},4)}$	$\mathtt{Qh}(\mathtt{11},\mathtt{E2u},\mathtt{4},\mathtt{1})$	$-S_2$