No. 4 C_s m (b-axis setting) [monoclinic] (polar)

表 1 rank 0

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
1	A'	A′	–	–	$\mathbb{Q}_0^{(h,A')}$	Qh(0, A′, ,)	C_0

表 2 rank 1

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
2	A'	A′	1	–	$\mathbb{Q}_1^{(h,A',1)}$	Qh(1, A′, 1,)	C_1
3	A'	A′	2	–	$\mathbb{Q}_1^{(h,A',2)}$	Qh(1, A′, 2,)	C_0
4	A''	A″	–	–	$\mathbb{Q}_1^{(h,A'')}$	Qh(1, A″, ,)	S_1

表 3 rank 2

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
5	A'	A′	1	–	$\mathbb{Q}_2^{(h,A',1)}$	Qh(2, A′, 1,)	C_0
6	A'	A′	2	–	$\mathbb{Q}_2^{(h,A',2)}$	Qh(2, A′, 2,)	C_2
7	A'	A′	3	–	$\mathbb{Q}_2^{(h,A',3)}$	Qh(2, A′, 3,)	C_1
8	A''	A″	1	–	$\mathbb{Q}_2^{(h,A'',1)}$	Qh(2, A″, 1,)	S_1
9	A''	A″	2	–	$\mathbb{Q}_2^{(h,A'',2)}$	Qh(2, A″, 2,)	S_2

表 4 rank 3

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
10	A'	A′	1	–	$\mathbb{Q}_3^{(h,A',1)}$	Qh(3, A′, 1,)	$-\frac{\sqrt{6}C_1}{4}+\frac{\sqrt{10}C_3}{4}$
11	A'	A′	2	–	$\mathbb{Q}_3^{(h,A',2)}$	Qh(3, A′, 2,)	C_0
12	A'	A′	3	–	$\mathbb{Q}_3^{(h,A',3)}$	Qh(3, A′, 3,)	$-\frac{\sqrt{10}C_1}{4}-\frac{\sqrt{6}C_3}{4}$
13	A'	A′	4	–	$\mathbb{Q}_3^{(h,A',4)}$	Qh(3, A′, 4,)	C_2
14	A''	A″	1	–	$\mathbb{Q}_3^{(h,A'',1)}$	Qh(3, A″, 1,)	S_2
15	A''	A″	2	–	$\mathbb{Q}_3^{(h,A'',2)}$	Qh(3, A″, 2,)	$-\frac{\sqrt{6}S_1}{4}-\frac{\sqrt{10}S_3}{4}$
16	A''	A″	3	–	$\mathbb{Q}_3^{(h,A'',3)}$	Qh(3, A″, 3,)	$\frac{\sqrt{10}S_1}{4}-\frac{\sqrt{6}S_3}{4}$

表 5 rank 4

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
17	A'	A′	1	–	$\mathbb{Q}_4^{(h,A',1)}$	Qh(4, A′, 1,)	$\frac{\sqrt{21}C_0}{6}+\frac{\sqrt{15}C_4}{6}$
18	A'	A′	2	–	$\mathbb{Q}_4^{(h,A',2)}$	Qh(4, A′, 2,)	$\frac{\sqrt{15}C_0}{6}-\frac{\sqrt{21}C_4}{6}$
19	A'	A′	3	–	$\mathbb{Q}_4^{(h,A',3)}$	Qh(4, A′, 3,)	$-C_2$
20	A'	A′	4	–	$\mathbb{Q}_4^{(h,A',4)}$	Qh(4, A′, 4,)	$\frac{\sqrt{14}C_1}{4}-\frac{\sqrt{2}C_3}{4}$
21	A'	A′	5	–	$\mathbb{Q}_4^{(h,A',5)}$	Qh(4, A′, 5,)	$-\frac{\sqrt{2}C_1}{4}-\frac{\sqrt{14}C_3}{4}$
22	A''	A″	1	–	$\mathbb{Q}_4^{(h,A'',1)}$	Qh(4, A″, 1,)	$-\frac{\sqrt{14}S_1}{4}-\frac{\sqrt{2}S_3}{4}$
23	A''	A″	2	–	$\mathbb{Q}_4^{(h,A'',2)}$	Qh(4, A″, 2,)	S_4
24	A''	A″	3	–	$\mathbb{Q}_4^{(h,A'',3)}$	Qh(4, A″, 3,)	$-\frac{\sqrt{2}S_1}{4}+\frac{\sqrt{14}S_3}{4}$
25	A''	A″	4	–	$\mathbb{Q}_4^{(h,A'',4)}$	Qh(4, A″, 4,)	S_2

表 6　rank 5

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
26	A'	$\mathtt{A'}$	1	–	$\mathbb{Q}_5^{(h,A',1)}$	$\mathtt{Qh}(5,\mathtt{A'},1,)$	$\frac{\sqrt{15}C_1}{8} - \frac{\sqrt{70}C_3}{16} + \frac{3\sqrt{14}C_5}{16}$
27	A'	$\mathtt{A'}$	2	–	$\mathbb{Q}_5^{(h,A',2)}$	$\mathtt{Qh}(5,\mathtt{A'},2,)$	C_0
28	A'	$\mathtt{A'}$	3	–	$\mathbb{Q}_5^{(h,A',3)}$	$\mathtt{Qh}(5,\mathtt{A'},3,)$	$\frac{\sqrt{21}C_1}{8} + \frac{9\sqrt{2}C_3}{16} + \frac{\sqrt{10}C_5}{16}$
29	A'	$\mathtt{A'}$	4	–	$\mathbb{Q}_5^{(h,A',4)}$	$\mathtt{Qh}(5,\mathtt{A'},4,)$	C_4
30	A'	$\mathtt{A'}$	5	–	$\mathbb{Q}_5^{(h,A',5)}$	$\mathtt{Qh}(5,\mathtt{A'},5,)$	$\frac{\sqrt{7}C_1}{4} - \frac{\sqrt{6}C_3}{8} - \frac{\sqrt{30}C_5}{8}$
31	A'	$\mathtt{A'}$	6	–	$\mathbb{Q}_5^{(h,A',6)}$	$\mathtt{Qh}(5,\mathtt{A'},6,)$	C_2
32	A''	$\mathtt{A''}$	1	–	$\mathbb{Q}_5^{(h,A'',1)}$	$\mathtt{Qh}(5,\mathtt{A''},1,)$	S_4
33	A''	$\mathtt{A''}$	2	–	$\mathbb{Q}_5^{(h,A'',2)}$	$\mathtt{Qh}(5,\mathtt{A''},2,)$	$-S_2$
34	A''	$\mathtt{A''}$	3	–	$\mathbb{Q}_5^{(h,A'',3)}$	$\mathtt{Qh}(5,\mathtt{A''},3,)$	$\frac{\sqrt{15}S_1}{8} + \frac{\sqrt{70}S_3}{16} + \frac{3\sqrt{14}S_5}{16}$
35	A''	$\mathtt{A''}$	4	–	$\mathbb{Q}_5^{(h,A'',4)}$	$\mathtt{Qh}(5,\mathtt{A''},4,)$	$\frac{\sqrt{21}S_1}{8} - \frac{9\sqrt{2}S_3}{16} + \frac{\sqrt{10}S_5}{16}$
36	A''	$\mathtt{A''}$	5	–	$\mathbb{Q}_5^{(h,A'',5)}$	$\mathtt{Qh}(5,\mathtt{A''},5,)$	$-\frac{\sqrt{7}S_1}{4} - \frac{\sqrt{6}S_3}{8} + \frac{\sqrt{30}S_5}{8}$

表 7　rank 6

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
37	A'	$\mathtt{A'}$	1	–	$\mathbb{Q}_6^{(h,A',1)}$	$\mathtt{Qh}(6,\mathtt{A'},1,)$	$\frac{\sqrt{2}C_0}{4} - \frac{\sqrt{14}C_4}{4}$
38	A'	$\mathtt{A'}$	2	–	$\mathbb{Q}_6^{(h,A',2)}$	$\mathtt{Qh}(6,\mathtt{A'},2,)$	$\frac{\sqrt{11}C_2}{4} - \frac{\sqrt{5}C_6}{4}$
39	A'	$\mathtt{A'}$	3	–	$\mathbb{Q}_6^{(h,A',3)}$	$\mathtt{Qh}(6,\mathtt{A'},3,)$	$\frac{\sqrt{14}C_0}{4} + \frac{\sqrt{2}C_4}{4}$
40	A'	$\mathtt{A'}$	4	–	$\mathbb{Q}_6^{(h,A',4)}$	$\mathtt{Qh}(6,\mathtt{A'},4,)$	$\frac{\sqrt{5}C_2}{4} + \frac{\sqrt{11}C_6}{4}$
41	A'	$\mathtt{A'}$	5	–	$\mathbb{Q}_6^{(h,A',5)}$	$\mathtt{Qh}(6,\mathtt{A'},5,)$	$-\frac{\sqrt{3}C_1}{4} - \frac{\sqrt{30}C_3}{8} + \frac{\sqrt{22}C_5}{8}$
42	A'	$\mathtt{A'}$	6	–	$\mathbb{Q}_6^{(h,A',6)}$	$\mathtt{Qh}(6,\mathtt{A'},6,)$	$\frac{3\sqrt{22}C_1}{16} - \frac{\sqrt{55}C_3}{16} + \frac{\sqrt{3}C_5}{16}$
43	A'	$\mathtt{A'}$	7	–	$\mathbb{Q}_6^{(h,A',7)}$	$\mathtt{Qh}(6,\mathtt{A'},7,)$	$\frac{\sqrt{10}C_1}{16} + \frac{9C_3}{16} + \frac{\sqrt{165}C_5}{16}$
44	A''	$\mathtt{A''}$	1	–	$\mathbb{Q}_6^{(h,A'',1)}$	$\mathtt{Qh}(6,\mathtt{A''},1,)$	$\frac{\sqrt{3}S_1}{4} - \frac{\sqrt{30}S_3}{8} - \frac{\sqrt{22}S_5}{8}$
45	A''	$\mathtt{A''}$	2	–	$\mathbb{Q}_6^{(h,A'',2)}$	$\mathtt{Qh}(6,\mathtt{A''},2,)$	S_4
46	A''	$\mathtt{A''}$	3	–	$\mathbb{Q}_6^{(h,A'',3)}$	$\mathtt{Qh}(6,\mathtt{A''},3,)$	$\frac{3\sqrt{22}S_1}{16} + \frac{\sqrt{55}S_3}{16} + \frac{\sqrt{3}S_5}{16}$
47	A''	$\mathtt{A''}$	4	–	$\mathbb{Q}_6^{(h,A'',4)}$	$\mathtt{Qh}(6,\mathtt{A''},4,)$	S_6
48	A''	$\mathtt{A''}$	5	–	$\mathbb{Q}_6^{(h,A'',5)}$	$\mathtt{Qh}(6,\mathtt{A''},5,)$	$\frac{\sqrt{10}S_1}{16} - \frac{9S_3}{16} + \frac{\sqrt{165}S_5}{16}$
49	A''	$\mathtt{A''}$	6	–	$\mathbb{Q}_6^{(h,A'',6)}$	$\mathtt{Qh}(6,\mathtt{A''},6,)$	S_2

表 8　rank 7

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
50	A'	A′	1	–	$\mathbb{Q}_7^{(h,A',1)}$	Qh(7, A′, 1,)	$-\frac{5\sqrt{7}C_1}{32}+\frac{3\sqrt{21}C_3}{32}-\frac{\sqrt{231}C_5}{32}+\frac{\sqrt{429}C_7}{32}$
51	A'	A′	2	–	$\mathbb{Q}_7^{(h,A',2)}$	Qh(7, A′, 2,)	C_0
52	A'	A′	3	–	$\mathbb{Q}_7^{(h,A',3)}$	Qh(7, A′, 3,)	$-\frac{3\sqrt{33}C_1}{32}-\frac{\sqrt{11}C_3}{32}+\frac{25C_5}{32}+\frac{\sqrt{91}C_7}{32}$
53	A'	A′	4	–	$\mathbb{Q}_7^{(h,A',4)}$	Qh(7, A′, 4,)	C_4
54	A'	A′	5	–	$\mathbb{Q}_7^{(h,A',5)}$	Qh(7, A′, 5,)	$-\frac{\sqrt{858}C_1}{64}-\frac{3\sqrt{286}C_3}{64}-\frac{5\sqrt{26}C_5}{64}-\frac{\sqrt{14}C_7}{64}$
55	A'	A′	6	–	$\mathbb{Q}_7^{(h,A',6)}$	Qh(7, A′, 6,)	C_6
56	A'	A′	7	–	$\mathbb{Q}_7^{(h,A',7)}$	Qh(7, A′, 7,)	$-\frac{15\sqrt{6}C_1}{64}+\frac{19\sqrt{2}C_3}{64}-\frac{\sqrt{22}C_5}{64}-\frac{\sqrt{2002}C_7}{64}$
57	A'	A′	8	–	$\mathbb{Q}_7^{(h,A',8)}$	Qh(7, A′, 8,)	C_2
58	A''	A″	1	–	$\mathbb{Q}_7^{(h,A'',1)}$	Qh(7, A″, 1,)	$\frac{\sqrt{78}S_2}{12}+\frac{\sqrt{66}S_6}{12}$
59	A''	A″	2	–	$\mathbb{Q}_7^{(h,A'',2)}$	Qh(7, A″, 2,)	S_4
60	A''	A″	3	–	$\mathbb{Q}_7^{(h,A'',3)}$	Qh(7, A″, 3,)	$\frac{\sqrt{66}S_2}{12}-\frac{\sqrt{78}S_6}{12}$
61	A''	A″	4	–	$\mathbb{Q}_7^{(h,A'',4)}$	Qh(7, A″, 4,)	$-\frac{5\sqrt{7}S_1}{32}-\frac{3\sqrt{21}S_3}{32}-\frac{\sqrt{231}S_5}{32}-\frac{\sqrt{429}S_7}{32}$
62	A''	A″	5	–	$\mathbb{Q}_7^{(h,A'',5)}$	Qh(7, A″, 5,)	$-\frac{3\sqrt{33}S_1}{32}+\frac{\sqrt{11}S_3}{32}+\frac{25S_5}{32}-\frac{\sqrt{91}S_7}{32}$
63	A''	A″	6	–	$\mathbb{Q}_7^{(h,A'',6)}$	Qh(7, A″, 6,)	$\frac{\sqrt{858}S_1}{64}-\frac{3\sqrt{286}S_3}{64}+\frac{5\sqrt{26}S_5}{64}-\frac{\sqrt{14}S_7}{64}$
64	A''	A″	7	–	$\mathbb{Q}_7^{(h,A'',7)}$	Qh(7, A″, 7,)	$\frac{15\sqrt{6}S_1}{64}+\frac{19\sqrt{2}S_3}{64}+\frac{\sqrt{22}S_5}{64}-\frac{\sqrt{2002}S_7}{64}$

表 9　rank 8

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
65	A'	A′	1	–	$\mathbb{Q}_8^{(h,A',1)}$	Qh(8, A′, 1,)	$\frac{\sqrt{33}C_0}{8}+\frac{\sqrt{21}C_4}{12}+\frac{\sqrt{195}C_8}{24}$
66	A'	A′	2	–	$\mathbb{Q}_8^{(h,A',2)}$	Qh(8, A′, 2,)	$-\frac{\sqrt{286}C_0}{32}+\frac{\sqrt{182}C_4}{16}+\frac{\sqrt{10}C_8}{32}$
67	A'	A′	3	–	$\mathbb{Q}_8^{(h,A',3)}$	Qh(8, A′, 3,)	C_6
68	A'	A′	4	–	$\mathbb{Q}_8^{(h,A',4)}$	Qh(8, A′, 4,)	$-\frac{\sqrt{210}C_0}{32}-\frac{\sqrt{330}C_4}{48}+\frac{\sqrt{6006}C_8}{96}$
69	A'	A′	5	–	$\mathbb{Q}_8^{(h,A',5)}$	Qh(8, A′, 5,)	C_2
70	A'	A′	6	–	$\mathbb{Q}_8^{(h,A',6)}$	Qh(8, A′, 6,)	$\frac{\sqrt{715}C_1}{32}-\frac{\sqrt{273}C_3}{32}+\frac{\sqrt{35}C_5}{32}-\frac{C_7}{32}$
71	A'	A′	7	–	$\mathbb{Q}_8^{(h,A',7)}$	Qh(8, A′, 7,)	$\frac{\sqrt{77}C_1}{32}+\frac{5\sqrt{15}C_3}{32}+\frac{3\sqrt{13}C_5}{32}-\frac{\sqrt{455}C_7}{32}$
72	A'	A′	8	–	$\mathbb{Q}_8^{(h,A',8)}$	Qh(8, A′, 8,)	$-\frac{\sqrt{858}C_1}{64}-\frac{\sqrt{910}C_3}{64}+\frac{7\sqrt{42}C_5}{64}-\frac{3\sqrt{30}C_7}{64}$
73	A'	A′	9	–	$\mathbb{Q}_8^{(h,A',9)}$	Qh(8, A′, 9,)	$-\frac{\sqrt{70}C_1}{64}-\frac{3\sqrt{66}C_3}{64}-\frac{\sqrt{1430}C_5}{64}-\frac{\sqrt{2002}C_7}{64}$
74	A''	A″	1	–	$\mathbb{Q}_8^{(h,A'',1)}$	Qh(8, A″, 1,)	$-\frac{\sqrt{715}S_1}{32}-\frac{\sqrt{273}S_3}{32}-\frac{\sqrt{35}S_5}{32}-\frac{S_7}{32}$
75	A''	A″	2	–	$\mathbb{Q}_8^{(h,A'',2)}$	Qh(8, A″, 2,)	S_8
76	A''	A″	3	–	$\mathbb{Q}_8^{(h,A'',3)}$	Qh(8, A″, 3,)	$-\frac{\sqrt{77}S_1}{32}+\frac{5\sqrt{15}S_3}{32}-\frac{3\sqrt{13}S_5}{32}-\frac{\sqrt{455}S_7}{32}$
77	A''	A″	4	–	$\mathbb{Q}_8^{(h,A'',4)}$	Qh(8, A″, 4,)	S_4
78	A''	A″	5	–	$\mathbb{Q}_8^{(h,A'',5)}$	Qh(8, A″, 5,)	$-\frac{\sqrt{858}S_1}{64}+\frac{\sqrt{910}S_3}{64}+\frac{7\sqrt{42}S_5}{64}+\frac{3\sqrt{30}S_7}{64}$
79	A''	A″	6	–	$\mathbb{Q}_8^{(h,A'',6)}$	Qh(8, A″, 6,)	S_6
80	A''	A″	7	–	$\mathbb{Q}_8^{(h,A'',7)}$	Qh(8, A″, 7,)	$-\frac{\sqrt{70}S_1}{64}+\frac{3\sqrt{66}S_3}{64}-\frac{\sqrt{1430}S_5}{64}+\frac{\sqrt{2002}S_7}{64}$
81	A''	A″	8	–	$\mathbb{Q}_8^{(h,A'',8)}$	Qh(8, A″, 8,)	S_2

表 10　rank 9

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
82	A'	A′	1	–	$\mathbb{Q}_9^{(h,A',1)}$	Qh(9, A′, 1,)	$\frac{21\sqrt{5}C_1}{128} - \frac{\sqrt{2310}C_3}{128} + \frac{3\sqrt{286}C_5}{128} - \frac{3\sqrt{1430}C_7}{256} + \frac{\sqrt{24310}C_9}{256}$
83	A'	A′	2	–	$\mathbb{Q}_9^{(h,A',2)}$	Qh(9, A′, 2,)	C_0
84	A'	A′	3	–	$\mathbb{Q}_9^{(h,A',3)}$	Qh(9, A′, 3,)	$\frac{\sqrt{2431}C_1}{128} + \frac{\sqrt{9282}C_3}{128} + \frac{5\sqrt{170}C_5}{128} + \frac{7\sqrt{34}C_7}{256} + \frac{3\sqrt{2}C_9}{256}$
85	A'	A′	4	–	$\mathbb{Q}_9^{(h,A',4)}$	Qh(9, A′, 4,)	C_8
86	A'	A′	5	–	$\mathbb{Q}_9^{(h,A',5)}$	Qh(9, A′, 5,)	$\frac{\sqrt{1001}C_1}{64} - \frac{\sqrt{78}C_3}{64} - \frac{3\sqrt{70}C_5}{64} + \frac{23\sqrt{14}C_7}{128} + \frac{3\sqrt{238}C_9}{128}$
87	A'	A′	6	–	$\mathbb{Q}_9^{(h,A',6)}$	Qh(9, A′, 6,)	C_4
88	A'	A′	7	–	$\mathbb{Q}_9^{(h,A',7)}$	Qh(9, A′, 7,)	$\frac{\sqrt{858}C_1}{64} + \frac{\sqrt{91}C_3}{32} - \frac{5\sqrt{15}C_5}{32} - \frac{21\sqrt{3}C_7}{64} - \frac{\sqrt{51}C_9}{64}$
89	A'	A′	8	–	$\mathbb{Q}_9^{(h,A',8)}$	Qh(9, A′, 8,)	C_6
90	A'	A′	9	–	$\mathbb{Q}_9^{(h,A',9)}$	Qh(9, A′, 9,)	$\frac{7\sqrt{22}C_1}{64} - \frac{3\sqrt{21}C_3}{32} + \frac{\sqrt{65}C_5}{32} + \frac{\sqrt{13}C_7}{64} - \frac{3\sqrt{221}C_9}{64}$
91	A'	A′	10	–	$\mathbb{Q}_9^{(h,A',10)}$	Qh(9, A′, 10,)	C_2
92	A''	A″	1	–	$\mathbb{Q}_9^{(h,A'',1)}$	Qh(9, A″, 1,)	$\frac{\sqrt{102}S_4}{12} - \frac{\sqrt{42}S_8}{12}$
93	A''	A″	2	–	$\mathbb{Q}_9^{(h,A'',2)}$	Qh(9, A″, 2,)	$\frac{\sqrt{3}S_2}{4} - \frac{\sqrt{13}S_6}{4}$
94	A''	A″	3	–	$\mathbb{Q}_9^{(h,A'',3)}$	Qh(9, A″, 3,)	$\frac{\sqrt{42}S_4}{12} + \frac{\sqrt{102}S_8}{12}$
95	A''	A″	4	–	$\mathbb{Q}_9^{(h,A'',4)}$	Qh(9, A″, 4,)	$-\frac{\sqrt{13}S_2}{4} - \frac{\sqrt{3}S_6}{4}$
96	A''	A″	5	–	$\mathbb{Q}_9^{(h,A'',5)}$	Qh(9, A″, 5,)	$\frac{21\sqrt{5}S_1}{128} + \frac{\sqrt{2310}S_3}{128} + \frac{3\sqrt{286}S_5}{128} + \frac{3\sqrt{1430}S_7}{256} + \frac{\sqrt{24310}S_9}{256}$
97	A''	A″	6	–	$\mathbb{Q}_9^{(h,A'',6)}$	Qh(9, A″, 6,)	$\frac{\sqrt{2431}S_1}{128} - \frac{\sqrt{9282}S_3}{128} + \frac{5\sqrt{170}S_5}{128} - \frac{7\sqrt{34}S_7}{256} + \frac{3\sqrt{2}S_9}{256}$
98	A''	A″	7	–	$\mathbb{Q}_9^{(h,A'',7)}$	Qh(9, A″, 7,)	$\frac{\sqrt{1001}S_1}{64} + \frac{\sqrt{78}S_3}{64} - \frac{3\sqrt{70}S_5}{64} - \frac{23\sqrt{14}S_7}{128} + \frac{3\sqrt{238}S_9}{128}$
99	A''	A″	8	–	$\mathbb{Q}_9^{(h,A'',8)}$	Qh(9, A″, 8,)	$-\frac{\sqrt{858}S_1}{64} + \frac{\sqrt{91}S_3}{32} + \frac{5\sqrt{15}S_5}{32} - \frac{21\sqrt{3}S_7}{64} + \frac{\sqrt{51}S_9}{64}$
100	A''	A″	9	–	$\mathbb{Q}_9^{(h,A'',9)}$	Qh(9, A″, 9,)	$-\frac{7\sqrt{22}S_1}{64} - \frac{3\sqrt{21}S_3}{32} - \frac{\sqrt{65}S_5}{32} + \frac{\sqrt{13}S_7}{64} + \frac{3\sqrt{221}S_9}{64}$

表 11　rank 10

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
101	A'	A′	1	–	$\mathbb{Q}_{10}^{(h,A',1)}$	Qh(10, A′, 1,)	$\frac{\sqrt{390}C_0}{48} - \frac{\sqrt{22}C_4}{8} - \frac{\sqrt{1122}C_8}{48}$
102	A'	A′	2	–	$\mathbb{Q}_{10}^{(h,A',2)}$	Qh(10, A′, 2,)	$-\frac{\sqrt{85}C_{10}}{16} + \frac{\sqrt{1482}C_2}{48} + \frac{\sqrt{57}C_6}{48}$
103	A'	A′	3	–	$\mathbb{Q}_{10}^{(h,A',3)}$	Qh(10, A′, 3,)	$\frac{11\sqrt{420189}C_0}{8988} + \frac{\sqrt{827645}C_4}{1498} - \frac{\sqrt{146055}C_8}{8988}$
104	A'	A′	4	–	$\mathbb{Q}_{10}^{(h,A',4)}$	Qh(10, A′, 4,)	$\frac{\sqrt{370006}C_{10}}{749} + \frac{\sqrt{190995}C_2}{749}$
105	A'	A′	5	–	$\mathbb{Q}_{10}^{(h,A',5)}$	Qh(10, A′, 5,)	$\frac{3\sqrt{3213210}C_0}{11984} - \frac{83\sqrt{1498}C_4}{5992} + \frac{31\sqrt{76398}C_8}{11984}$
106	A'	A′	6	–	$\mathbb{Q}_{10}^{(h,A',6)}$	Qh(10, A′, 6,)	$\frac{\sqrt{1209635}C_{10}}{11984} - \frac{19\sqrt{58422}C_2}{35952} + \frac{\sqrt{2247}C_6}{48}$
107	A'	A′	7	–	$\mathbb{Q}_{10}^{(h,A',7)}$	Qh(10, A′, 7,)	$-\frac{\sqrt{221}C_1}{32} - \frac{\sqrt{102}C_3}{32} + \frac{\sqrt{510}C_5}{32} - \frac{11\sqrt{6}C_7}{64} + \frac{\sqrt{38}C_9}{64}$
108	A'	A′	8	–	$\mathbb{Q}_{10}^{(h,A',8)}$	Qh(10, A′, 8,)	$-\frac{\sqrt{39}C_1}{32} - \frac{11\sqrt{2}C_3}{32} - \frac{5\sqrt{10}C_5}{32} - \frac{\sqrt{34}C_7}{64} + \frac{\sqrt{1938}C_9}{64}$
109	A'	A′	9	–	$\mathbb{Q}_{10}^{(h,A',9)}$	Qh(10, A′, 9,)	$\frac{\sqrt{41990}C_1}{256} - \frac{\sqrt{4845}C_3}{128} + \frac{\sqrt{969}C_5}{128} - \frac{\sqrt{285}C_7}{256} + \frac{\sqrt{5}C_9}{256}$
110	A'	A′	10	–	$\mathbb{Q}_{10}^{(h,A',10)}$	Qh(10, A′, 10,)	$\frac{9\sqrt{78}C_1}{256} + \frac{69C_3}{128} - \frac{\sqrt{5}C_5}{128} - \frac{43\sqrt{17}C_7}{256} + \frac{3\sqrt{969}C_9}{256}$
111	A'	A′	11	–	$\mathbb{Q}_{10}^{(h,A',11)}$	Qh(10, A′, 11,)	$\frac{7\sqrt{3}C_1}{128} + \frac{7\sqrt{26}C_3}{128} + \frac{5\sqrt{130}C_5}{128} + \frac{7\sqrt{442}C_7}{256} + \frac{\sqrt{25194}C_9}{256}$
112	A''	A″	1	–	$\mathbb{Q}_{10}^{(h,A'',1)}$	Qh(10, A″, 1,)	$\frac{\sqrt{221}S_1}{32} - \frac{\sqrt{102}S_3}{32} - \frac{\sqrt{510}S_5}{32} - \frac{11\sqrt{6}S_7}{64} - \frac{\sqrt{38}S_9}{64}$
113	A''	A″	2	–	$\mathbb{Q}_{10}^{(h,A'',2)}$	Qh(10, A″, 2,)	S_8
114	A''	A″	3	–	$\mathbb{Q}_{10}^{(h,A'',3)}$	Qh(10, A″, 3,)	$\frac{\sqrt{39}S_1}{32} - \frac{11\sqrt{2}S_3}{32} + \frac{5\sqrt{10}S_5}{32} - \frac{\sqrt{34}S_7}{64} - \frac{\sqrt{1938}S_9}{64}$
115	A''	A″	4	–	$\mathbb{Q}_{10}^{(h,A'',4)}$	Qh(10, A″, 4,)	S_4
116	A''	A″	5	–	$\mathbb{Q}_{10}^{(h,A'',5)}$	Qh(10, A″, 5,)	$\frac{\sqrt{41990}S_1}{256} + \frac{\sqrt{4845}S_3}{128} + \frac{\sqrt{969}S_5}{128} + \frac{\sqrt{285}S_7}{256} + \frac{\sqrt{5}S_9}{256}$
117	A''	A″	6	–	$\mathbb{Q}_{10}^{(h,A'',6)}$	Qh(10, A″, 6,)	S_{10}
118	A''	A″	7	–	$\mathbb{Q}_{10}^{(h,A'',7)}$	Qh(10, A″, 7,)	$\frac{9\sqrt{78}S_1}{256} - \frac{69S_3}{128} - \frac{\sqrt{5}S_5}{128} + \frac{43\sqrt{17}S_7}{256} + \frac{3\sqrt{969}S_9}{256}$
119	A''	A″	8	–	$\mathbb{Q}_{10}^{(h,A'',8)}$	Qh(10, A″, 8,)	S_6
120	A''	A″	9	–	$\mathbb{Q}_{10}^{(h,A'',9)}$	Qh(10, A″, 9,)	$\frac{7\sqrt{3}S_1}{128} - \frac{7\sqrt{26}S_3}{128} + \frac{5\sqrt{130}S_5}{128} - \frac{7\sqrt{442}S_7}{256} + \frac{\sqrt{25194}S_9}{256}$
121	A''	A″	10	–	$\mathbb{Q}_{10}^{(h,A'',10)}$	Qh(10, A″, 10,)	S_2

表 12　rank 11

No.	irrep.	(tag)	mul.	comp.	harmonics	(tag)	definition
122	A'	A′	1	–	$\mathbb{Q}_{11}^{(h,A',1)}$	Qh(11, A′, 1,)	$-\frac{21\sqrt{66}C_1}{512}+\frac{\sqrt{88179}C_{11}}{512}+\frac{\sqrt{30030}C_3}{512}-\frac{15\sqrt{143}C_5}{512}+\frac{\sqrt{36465}C_7}{512}-\frac{\sqrt{46189}C_9}{512}$
123	A'	A′	2	–	$\mathbb{Q}_{11}^{(h,A',2)}$	Qh(11, A′, 2,)	C_0
124	A'	A′	3	–	$\mathbb{Q}_{11}^{(h,A',3)}$	Qh(11, A′, 3,)	$-\frac{\sqrt{41990}C_1}{512}+\frac{\sqrt{385}C_{11}}{512}-\frac{3\sqrt{4522}C_3}{512}+\frac{3\sqrt{4845}C_5}{512}+\frac{77\sqrt{19}C_7}{512}+\frac{39\sqrt{15}C_9}{512}$
125	A'	A′	4	–	$\mathbb{Q}_{11}^{(h,A',4)}$	Qh(11, A′, 4,)	C_8
126	A'	A′	5	–	$\mathbb{Q}_{11}^{(h,A',5)}$	Qh(11, A′, 5,)	$-\frac{5\sqrt{546}C_1}{256}+\frac{\sqrt{10659}C_{11}}{256}+\frac{11\sqrt{30}C_3}{256}+\frac{13\sqrt{7}C_5}{256}-\frac{3\sqrt{1785}C_7}{256}+\frac{3\sqrt{2261}C_9}{256}$
127	A'	A′	6	–	$\mathbb{Q}_{11}^{(h,A',6)}$	Qh(11, A′, 6,)	C_4
128	A'	A′	7	–	$\mathbb{Q}_{11}^{(h,A',7)}$	Qh(11, A′, 7,)	$-\frac{\sqrt{29393}C_1}{512}-\frac{\sqrt{22}C_{11}}{1024}-\frac{9\sqrt{1615}C_3}{512}-\frac{5\sqrt{13566}C_5}{1024}-\frac{7\sqrt{1330}C_7}{1024}-\frac{9\sqrt{42}C_9}{1024}$
129	A'	A′	8	–	$\mathbb{Q}_{11}^{(h,A',8)}$	Qh(11, A′, 8,)	C_{10}
130	A'	A′	9	–	$\mathbb{Q}_{11}^{(h,A',9)}$	Qh(11, A′, 9,)	$-\frac{15\sqrt{221}C_1}{512}-\frac{3\sqrt{2926}C_{11}}{1024}-\frac{\sqrt{595}C_3}{512}+\frac{53\sqrt{102}C_5}{1024}-\frac{105\sqrt{10}C_7}{1024}-\frac{61\sqrt{114}C_9}{1024}$
131	A'	A′	10	–	$\mathbb{Q}_{11}^{(h,A',10)}$	Qh(11, A′, 10,)	C_6
132	A'	A′	11	–	$\mathbb{Q}_{11}^{(h,A',11)}$	Qh(11, A′, 11,)	$-\frac{21\sqrt{130}C_1}{512}-\frac{\sqrt{124355}C_{11}}{512}+\frac{57\sqrt{14}C_3}{512}-\frac{41\sqrt{15}C_5}{512}+\frac{17\sqrt{17}C_7}{512}+\frac{\sqrt{4845}C_9}{512}$
133	A'	A′	12	–	$\mathbb{Q}_{11}^{(h,A',12)}$	Qh(11, A′, 12,)	C_2
134	A''	A″	1	–	$\mathbb{Q}_{11}^{(h,A'',1)}$	Qh(11, A″, 1,)	$\frac{\sqrt{798}S_{10}}{48}+\frac{\sqrt{255}S_2}{24}+\frac{3\sqrt{6}S_6}{16}$
135	A''	A″	2	–	$\mathbb{Q}_{11}^{(h,A'',2)}$	Qh(11, A″, 2,)	S_8
136	A''	A″	3	–	$\mathbb{Q}_{11}^{(h,A'',3)}$	Qh(11, A″, 3,)	$-\frac{\sqrt{210}S_{10}}{96}+\frac{\sqrt{969}S_2}{48}-\frac{\sqrt{570}S_6}{32}$
137	A''	A″	4	–	$\mathbb{Q}_{11}^{(h,A'',4)}$	Qh(11, A″, 4,)	S_4
138	A''	A″	5	–	$\mathbb{Q}_{11}^{(h,A'',5)}$	Qh(11, A″, 5,)	$-\frac{\sqrt{646}S_{10}}{32}+\frac{\sqrt{35}S_2}{16}+\frac{\sqrt{238}S_6}{32}$
139	A''	A″	6	–	$\mathbb{Q}_{11}^{(h,A'',6)}$	Qh(11, A″, 6,)	$-\frac{21\sqrt{66}S_1}{512}-\frac{\sqrt{88179}S_{11}}{512}-\frac{\sqrt{30030}S_3}{512}-\frac{15\sqrt{143}S_5}{512}-\frac{\sqrt{36465}S_7}{512}-\frac{\sqrt{46189}S_9}{512}$
140	A''	A″	7	–	$\mathbb{Q}_{11}^{(h,A'',7)}$	Qh(11, A″, 7,)	$-\frac{\sqrt{41990}S_1}{512}-\frac{\sqrt{385}S_{11}}{512}+\frac{3\sqrt{4522}S_3}{512}+\frac{3\sqrt{4845}S_5}{512}-\frac{77\sqrt{19}S_7}{512}+\frac{39\sqrt{15}S_9}{512}$
141	A''	A″	8	–	$\mathbb{Q}_{11}^{(h,A'',8)}$	Qh(11, A″, 8,)	$-\frac{5\sqrt{546}S_1}{256}-\frac{\sqrt{10659}S_{11}}{256}-\frac{11\sqrt{30}S_3}{256}+\frac{13\sqrt{7}S_5}{256}+\frac{3\sqrt{1785}S_7}{256}+\frac{3\sqrt{2261}S_9}{256}$
142	A''	A″	9	–	$\mathbb{Q}_{11}^{(h,A'',9)}$	Qh(11, A″, 9,)	$\frac{\sqrt{29393}S_1}{512}-\frac{\sqrt{22}S_{11}}{1024}-\frac{9\sqrt{1615}S_3}{512}+\frac{5\sqrt{13566}S_5}{1024}-\frac{7\sqrt{1330}S_7}{1024}+\frac{9\sqrt{42}S_9}{1024}$
143	A''	A″	10	–	$\mathbb{Q}_{11}^{(h,A'',10)}$	Qh(11, A″, 10,)	$\frac{15\sqrt{221}S_1}{512}-\frac{3\sqrt{2926}S_{11}}{1024}-\frac{\sqrt{595}S_3}{512}-\frac{53\sqrt{102}S_5}{1024}-\frac{105\sqrt{10}S_7}{1024}+\frac{61\sqrt{114}S_9}{1024}$
144	A''	A″	11	–	$\mathbb{Q}_{11}^{(h,A'',11)}$	Qh(11, A″, 11,)	$\frac{21\sqrt{130}S_1}{512}-\frac{\sqrt{124355}S_{11}}{512}+\frac{57\sqrt{14}S_3}{512}+\frac{41\sqrt{15}S_5}{512}+\frac{17\sqrt{17}S_7}{512}-\frac{\sqrt{4845}S_9}{512}$