

No. 10     $S_4$      $-4$     [ tetragonal ] (polar)

表 1   rank 0	
No.	expression
1	1

表 2   rank 1	
No.	expression
2	$z$
3	$x$
4	$y$

表 3   rank 2	
No.	expression
5	$-\frac{x^2}{2} - \frac{y^2}{2} + z^2$
6	$\frac{\sqrt{3}(x-y)(x+y)}{2}$
7	$\sqrt{3}xy$
8	$\sqrt{3}yz$
9	$\sqrt{3}xz$

表 4   rank 3	
No.	expression
10	$\sqrt{15}xyz$
11	$\frac{\sqrt{15}z(x-y)(x+y)}{2}$
12	$-\frac{z(3x^2+3y^2-2z^2)}{2}$
13	$\frac{x(2x^2-3y^2-3z^2)}{2}$
14	$\frac{y(-3x^2+2y^2-3z^2)}{2}$
15	$\frac{\sqrt{15}x(y^2-z^2)}{2}$
16	$\frac{\sqrt{15}y(x^2-z^2)}{2}$

表 5 rank 4

No.	expression
17	$\frac{\sqrt{21}(x^4-3x^2y^2-3x^2z^2+y^4-3y^2z^2+z^4)}{6}$
18	$-\frac{\sqrt{15}(x^4-12x^2y^2+6x^2z^2+y^4+6y^2z^2-2z^4)}{12}$
19	$\frac{\sqrt{35}xy(x-y)(x+y)}{2}$
20	$\frac{\sqrt{5}(x-y)(x+y)(x^2+y^2-6z^2)}{4}$
21	$-\frac{\sqrt{5}xy(x^2+y^2-6z^2)}{2}$
22	$\frac{\sqrt{35}yz(y^2-z^2)}{2}$
23	$\frac{\sqrt{35}xz(x^2-z^2)}{2}$
24	$\frac{\sqrt{5}yz(6x^2-y^2-z^2)}{2}$
25	$\frac{\sqrt{5}xz(-x^2+6y^2-z^2)}{2}$

表 6 rank 5

No.	expression
26	$\frac{\sqrt{105}xyz(x^2+y^2-2z^2)}{2}$
27	$-\frac{\sqrt{105}z(x-y)(x+y)(x^2+y^2-2z^2)}{4}$
28	$\frac{3\sqrt{35}xyz(x-y)(x+y)}{2}$
29	$\frac{z(15x^4+30x^2y^2-40x^2z^2+15y^4-40y^2z^2+8z^4)}{8}$
30	$\frac{3\sqrt{35}z(x^2-2xy-y^2)(x^2+2xy-y^2)}{8}$
31	$\frac{x(8x^4-40x^2y^2-40x^2z^2+15y^4+30y^2z^2+15z^4)}{8}$
32	$\frac{y(15x^4-40x^2y^2+30x^2z^2+8y^4-40y^2z^2+15z^4)}{8}$
33	$\frac{3\sqrt{35}x(y^4-6y^2z^2+z^4)}{8}$
34	$\frac{3\sqrt{35}y(x^4-6x^2z^2+z^4)}{8}$
35	$\frac{\sqrt{105}x(2x^2y^2-2x^2z^2-y^4+z^4)}{4}$
36	$\frac{\sqrt{105}y(-x^4+2x^2y^2-2y^2z^2+z^4)}{4}$

表 7 rank 6

No.	expression
37	$\frac{\sqrt{2}(2x^6-15x^4y^2-15x^4z^2-15x^2y^4+180x^2y^2z^2-15x^2z^4+2y^6-15y^4z^2-15y^2z^4+2z^6)}{8}$
38	$-\frac{\sqrt{14}(x^6-15x^4z^2+15x^2z^4+y^6-15y^4z^2+15y^2z^4-2z^6)}{8}$
39	$-\frac{3\sqrt{7}xy(x-y)(x+y)(x^2+y^2-10z^2)}{4}$
40	$\frac{\sqrt{2310}(x-y)(x+y)(x-z)(x+z)(y-z)(y+z)}{8}$
41	$\frac{\sqrt{42}(x-y)(x+y)(x^4-9x^2y^2-5x^2z^2+y^4-5y^2z^2+5z^4)}{8}$
42	$\frac{\sqrt{462}xy(x^2-3y^2)(3x^2-y^2)}{16}$
43	$\frac{\sqrt{210}xy(x^4+2x^2y^2-16x^2z^2+y^4-16y^2z^2+16z^4)}{16}$
44	$\frac{3\sqrt{7}yz(10x^2y^2-10x^2z^2-y^4+z^4)}{4}$
45	$\frac{3\sqrt{7}xz(-x^4+10x^2y^2-10y^2z^2+z^4)}{4}$
46	$\frac{\sqrt{462}yz(3y^4-10y^2z^2+3z^4)}{16}$
47	$\frac{\sqrt{462}xz(3x^4-10x^2z^2+3z^4)}{16}$
48	$\frac{\sqrt{210}yz(16x^4-16x^2y^2-16x^2z^2+y^4+2y^2z^2+z^4)}{16}$
49	$\frac{\sqrt{210}xz(x^4-16x^2y^2+2x^2z^2+16y^4-16y^2z^2+z^4)}{16}$

表 8 rank 7

No.	expression
50	$\frac{\sqrt{91}xyz(3x^4-5x^2y^2-5x^2z^2+3y^4-5y^2z^2+3z^4)}{2}$
51	$-\frac{\sqrt{77}xyz(3x^4-20x^2y^2+10x^2z^2+3y^4+10y^2z^2-6z^4)}{4}$
52	$\frac{\sqrt{6006}z(x-y)(x+y)(x^2-4xy+y^2)(x^2+4xy+y^2)}{32}$
53	$\frac{\sqrt{42}z(x-y)(x+y)(15x^4+30x^2y^2-80x^2z^2+15y^4-80y^2z^2+48z^4)}{32}$
54	$-\frac{\sqrt{231}xyz(x-y)(x+y)(3x^2+3y^2-10z^2)}{4}$
55	$-\frac{z(35x^6+105x^4y^2-210x^4z^2+105x^2y^4-420x^2y^2z^2+168x^2z^4+35y^6-210y^4z^2+168y^2z^4-16z^6)}{16}$
56	$-\frac{\sqrt{231}z(x^2-2xy-y^2)(x^2+2xy-y^2)(3x^2+3y^2-10z^2)}{16}$
57	$\frac{x(16x^6-168x^4y^2-168x^4z^2+210x^2y^4+420x^2y^2z^2+210x^2z^4-35y^6-105y^4z^2-105y^2z^4-35z^6)}{16}$
58	$\frac{y(-35x^6+210x^4y^2-105x^4z^2-168x^2y^4+420x^2y^2z^2-105x^2z^4+16y^6-168y^4z^2+210y^2z^4-35z^6)}{16}$
59	$\frac{\sqrt{231}x(10x^2y^4-60x^2y^2z^2+10x^2z^4-3y^6+15y^4z^2+15y^2z^4-3z^6)}{16}$
60	$\frac{\sqrt{231}y(-3x^6+10x^4y^2+15x^4z^2-60x^2y^2z^2+15x^2z^4+10y^2z^4-3z^6)}{16}$
61	$\frac{\sqrt{6006}x(y^6-15y^4z^2+15y^2z^4-z^6)}{32}$
62	$\frac{\sqrt{6006}y(x^6-15x^4z^2+15x^2z^4-z^6)}{32}$
63	$\frac{\sqrt{42}x(48x^4y^2-48x^4z^2-80x^2y^4+80x^2z^4+15y^6+15y^4z^2-15y^2z^4-15z^6)}{32}$
64	$\frac{\sqrt{42}y(15x^6-80x^4y^2+15x^4z^2+48x^2y^4-15x^2z^4-48y^4z^2+80y^2z^4-15z^6)}{32}$

表 9 rank 8

No.	expression
65	$\frac{\sqrt{33}(x^8-14x^6y^2-14x^6z^2+35x^4y^4+35x^4z^4-14x^2y^6-14x^2z^6+y^8-14y^6z^2+35y^4z^4-14y^2z^6+z^8)}{8}$
66	$\frac{\sqrt{286}(x^8-14x^6y^2-14x^6z^2+210x^4y^2z^2-14x^2y^6+210x^2y^4z^2-420x^2y^2z^4+28x^2z^6+y^8-14y^6z^2+28y^2z^6-2z^8)}{64}$
67	$\frac{\sqrt{210}(x^8-62x^6y^2+34x^6z^2+160x^4y^4-30x^4y^2z^2-80x^4z^4-62x^2y^6-30x^2y^4z^2+60x^2y^2z^4+28x^2z^6+y^8+34y^6z^2-80y^4z^4+28y^2z^6-2z^8)}{64}$
68	$\frac{3\sqrt{715}xy(x-y)(x+y)(x^2-2xy-y^2)(x^2+2xy-y^2)}{16}$
69	$\frac{3\sqrt{77}xy(x-y)(x+y)(x^4+2x^2y^2-24x^2z^2+y^4-24y^2z^2+40z^4)}{16}$
70	$-\frac{\sqrt{858}(x-y)(x+y)(x^2+y^2-14z^2)(x^2-4xy+y^2)(x^2+4xy+y^2)}{64}$
71	$-\frac{3\sqrt{70}(x-y)(x+y)(x^6+3x^4y^2-30x^4z^2+3x^2y^4-60x^2y^2z^2+80x^2z^4+y^6-30y^4z^2+80y^2z^4-32z^6)}{64}$
72	$-\frac{\sqrt{858}xy(x^2-3y^2)(3x^2-y^2)(x^2+y^2-14z^2)}{32}$
73	$-\frac{3\sqrt{70}xy(x^6+3x^4y^2-30x^4z^2+3x^2y^4-60x^2y^2z^2+80x^2z^4+y^6-30y^4z^2+80y^2z^4-32z^6)}{32}$
74	$\frac{3\sqrt{715}yz(y^6-7y^4z^2+7y^2z^4-z^6)}{16}$
75	$\frac{3\sqrt{715}xz(x^6-7x^4z^2+7x^2z^4-z^6)}{16}$
76	$\frac{3\sqrt{77}yz(40x^4y^2-40x^4z^2-24x^2y^4+24x^2z^4+y^6+y^4z^2-y^2z^4-z^6)}{16}$
77	$\frac{3\sqrt{77}xz(x^6-24x^4y^2+x^4z^2+40x^2y^4-x^2z^4-40y^4z^2+24y^2z^4-z^6)}{16}$
78	$\frac{\sqrt{858}yz(42x^2y^4-140x^2y^2z^2+42x^2z^4-3y^6+7y^4z^2+7y^2z^4-3z^6)}{32}$
79	$\frac{\sqrt{858}xz(-3x^6+42x^4y^2+7x^4z^2-140x^2y^2z^2+7x^2z^4+42y^2z^4-3z^6)}{32}$
80	$\frac{3\sqrt{70}yz(32x^6-80x^4y^2-80x^4z^2+30x^2y^4+60x^2y^2z^2+30x^2z^4-y^6-3y^4z^2-3y^2z^4-z^6)}{32}$
81	$\frac{3\sqrt{70}xz(-x^6+30x^4y^2-3x^4z^2-80x^2y^4+60x^2y^2z^2-3x^2z^4+32y^6-80y^4z^2+30y^2z^4-z^6)}{32}$

表 10 rank 9

No.	expression
82	$\frac{\sqrt{330xyz(6x^6-21x^4y^2-21x^4z^2-21x^2y^4+140x^2y^2z^2-21x^2z^4+6y^6-21y^4z^2-21y^2z^4+6z^6)}}{8}$
83	$\frac{3\sqrt{1430xyz(x^6-7x^4z^2+7x^2z^4+y^6-7y^4z^2+7y^2z^4-2z^6)}}{8}$
84	$-\frac{\sqrt{4290}z(x-y)(x+y)(x^2-4xy+y^2)(x^2+4xy+y^2)(3x^2+3y^2-14z^2)}{64}$
85	$-\frac{3\sqrt{110}z(x-y)(x+y)(7x^6+21x^4y^2-70x^4z^2+21x^2y^4-140x^2y^2z^2+112x^2z^4+7y^6-70y^4z^2+112y^2z^4-32z^6)}{64}$
86	$\frac{\sqrt{510510xyz(x-y)(x+y)(x-z)(x+z)(y-z)(y+z)}}{8}$
87	$\frac{\sqrt{4290}xyz(x-y)(x+y)(3x^4-11x^2y^2-7x^2z^2+3y^4-7y^2z^2+7z^4)}{8}$
88	$\frac{z(315x^8+1260x^6y^2-3360x^6z^2+1890x^4y^4-10080x^4y^2z^2+6048x^4z^4+1260x^2y^6-10080x^2y^4z^2+12096x^2y^2z^4-2304x^2z^6+315y^8-3360y^6z^2+6048y^4z^4-2304y^2z^6+128z^8)}{128}$
89	$\frac{3\sqrt{12155}z(x^4-4x^3y-6x^2y^2+4xy^3+y^4)(x^4+4x^3y-6x^2y^2-4xy^3+y^4)}{128}$
90	$\frac{3\sqrt{5005}z(x^2-2xy-y^2)(x^2+2xy-y^2)(x^4+2x^2y^2-8x^2z^2+y^4-8y^2z^2+8z^4)}{64}$
91	$\frac{x(128x^8-2304x^6y^2-2304x^6z^2+6048x^4y^4+12096x^4y^2z^2+6048x^4z^4-3360x^2y^6-10080x^2y^4z^2-10080x^2y^2z^4-3360x^2z^6+315y^8+1260y^6z^2+1890y^4z^4+1260y^2z^6+315z^8)}{128}$
92	$\frac{y(315x^8-3360x^6y^2+1260x^6z^2+6048x^4y^4-10080x^4y^2z^2+1890x^4z^4-2304x^2y^6+12096x^2y^4z^2-10080x^2y^2z^4+1260x^2z^6+128y^8-2304y^6z^2+6048y^4z^4-3360y^2z^6+315z^8)}{128}$
93	$\frac{3\sqrt{12155}x(y^8-28y^6z^2+70y^4z^4-28y^2z^6+z^8)}{128}$
94	$\frac{3\sqrt{12155}y(x^8-28x^6z^2+70x^4z^4-28x^2z^6+z^8)}{128}$
95	$\frac{3\sqrt{5005}x(8x^4y^4-48x^4y^2z^2+8x^4z^4-8x^2y^6+40x^2y^4z^2+40x^2y^2z^4-8x^2z^6+y^8-4y^6z^2-10y^4z^4-4y^2z^6+z^8)}{64}$
96	$\frac{3\sqrt{5005}y(x^8-8x^6y^2-4x^6z^2+8x^4y^4+40x^4y^2z^2-10x^4z^4-48x^2y^4z^2+40x^2y^2z^4-4x^2z^6+8y^4z^4-8y^2z^6+z^8)}{64}$
97	$\frac{\sqrt{4290}x(14x^2y^6-210x^2y^4z^2+210x^2y^2z^4-14x^2z^6-3y^8+42y^6z^2-42y^2z^6+3z^8)}{64}$
98	$\frac{\sqrt{4290}y(-3x^8+14x^6y^2+42x^6z^2-210x^4y^2z^2+210x^2y^2z^4-42x^2z^6-14y^2z^6+3z^8)}{64}$
99	$\frac{3\sqrt{110}x(32x^6y^2-32x^6z^2-112x^4y^4+112x^4z^4+70x^2y^6+70x^2y^4z^2-70x^2y^2z^4-70x^2z^6-7y^8-14y^6z^2+14y^2z^6+7z^8)}{64}$
100	$\frac{3\sqrt{110}y(-7x^8+70x^6y^2-14x^6z^2-112x^4y^4+70x^4y^2z^2+32x^2y^6-70x^2y^2z^4+14x^2z^6-32y^6z^2+112y^4z^4-70y^2z^6+7z^8)}{64}$

表 11 rank 10

No.	expression
101	$\sqrt{390 \cdot (2x^{10} - 45x^8y^2 - 45x^8z^2 + 42x^6y^4 + 1008x^6y^2z^2 + 42x^6z^4 + 42x^4y^6 - 1260x^4y^4z^2 - 1260x^4y^2z^4 + 42x^4z^6 - 45x^2y^8 + 1008x^2y^6z^2 - 1260x^2y^4z^4 + 1008x^2y^2z^6 - 45x^2z^8 + 2y^{10} - 45y^8z^2 + 42y^6z^4 + 42y^4z^6 - 45y^2z^8 + 2z^{10})}$
102	$-\frac{96}{\sqrt{420189} \cdot (22x^{10} + 45x^8y^2 - 1035x^8z^2 - 105x^6y^4 - 630x^6y^2z^2 + 4935x^6z^4 - 105x^4y^6 + 3150x^4y^4z^2 - 1575x^4y^2z^4 - 4830x^4z^6 + 45x^2y^8 - 630x^2y^6z^2 - 1575x^2y^4z^4 + 1260x^2y^2z^6 + 990x^2z^8 + 22y^{10} - 1035y^8z^2 + 4935y^6z^4 - 4830y^4z^6 + 990y^2z^8 - 44z^{10})}$
103	$-\frac{35952}{\sqrt{3213210} \cdot (3x^{10} - 96x^8y^2 - 39x^8z^2 + 224x^6y^4 + 1344x^6y^2z^2 - 42x^6z^4 + 224x^4y^6 - 6720x^4y^4z^2 + 3360x^4y^2z^4 - 182x^4z^6 - 96x^2y^8 + 1344x^2y^6z^2 + 3360x^2y^4z^4 - 2688x^2y^2z^6 + 135x^2z^8 + 3y^{10} - 39y^8z^2 - 42y^6z^4 - 182y^4z^6 + 135y^2z^8 - 6z^{10})}$
104	$-\frac{23968}{\sqrt{12155}xy(x-y)(x+y)(x^2+y^2-18z^2)(x^2-2xy-y^2)(x^2+2xy-y^2)}$
105	$-\frac{32}{\sqrt{2145}xy(x-y)(x+y)(x^6+3x^4y^2-42x^4z^2+3x^2y^4-84x^2y^2z^2+168x^2z^4+y^6-42y^4z^2+168y^2z^4-112z^6)}$
106	$-\frac{32}{\sqrt{27170}(x-y)(x+y)(x-z)(x+z)(y-z)(y+z)(3x^4-11x^2y^2-11x^2z^2+3y^4-11y^2z^2+3z^4)}$
107	$\frac{11984}{\sqrt{140063}(x-y)(x+y)(22x^8-653x^6y^2-315x^6z^2+2602x^4y^4-945x^4y^2z^2+1575x^4z^4-653x^2y^6-945x^2y^4z^2+3150x^2y^2z^4-1680x^2z^6+22y^8-315y^6z^2+1575y^4z^4-1680y^2z^6+360z^8)}$
108	$\frac{11984}{\sqrt{1071070}(x-y)(x+y)(9x^8-165x^6y^2-231x^6z^2-25x^4y^4+3801x^4y^2z^2+406x^4z^4-165x^2y^6+3801x^2y^4z^2-9674x^2y^2z^4+266x^2z^6+9y^8-231y^6z^2+406y^4z^4+266y^2z^6-57z^8)}$
109	$\frac{256}{\sqrt{92378}xy(x^4-10x^2y^2+5y^4)(5x^4-10x^2y^2+y^4)}$
110	$\frac{256}{\sqrt{4290}xy(x^2-3y^2)(3x^2-y^2)(3x^4+6x^2y^2-96x^2z^2+3y^4-96y^2z^2+224z^4)}$
111	$\frac{256}{\sqrt{165}xy(7x^8+28x^6y^2-336x^6z^2+42x^4y^4-1008x^4y^2z^2+1680x^4z^4+28x^2y^6-1008x^2y^4z^2+3360x^2y^2z^4-1792x^2z^6+7y^8-336y^6z^2+1680y^4z^4-1792y^2z^6+384z^8)}$
112	$\frac{128}{\sqrt{12155}yz(18x^2y^6-126x^2y^4z^2+126x^2y^2z^4-18x^2z^6-y^8+6y^6z^2-6y^2z^6+z^8)}$
113	$\frac{32}{\sqrt{12155}xz(-x^8+18x^6y^2+6x^6z^2-126x^4y^2z^2+126x^2y^2z^4-6x^2z^6-18y^2z^6+z^8)}$
114	$\frac{32}{\sqrt{2145}yz(112x^6y^2-112x^6z^2-168x^4y^4+168x^4z^4+42x^2y^6+42x^2y^4z^2-42x^2y^2z^4-42x^2z^6-y^8-2y^6z^2+2y^2z^6+z^8)}$
115	$\frac{32}{\sqrt{2145}xz(-x^8+42x^6y^2-2x^6z^2-168x^4y^4+42x^4y^2z^2+112x^2y^6-42x^2y^2z^4+2x^2z^6-112y^6z^2+168y^4z^4-42y^2z^6+z^8)}$
116	$\frac{32}{\sqrt{92378}yz(5y^8-60y^6z^2+126y^4z^4-60y^2z^6+5z^8)}$
117	$\frac{256}{\sqrt{92378}xz(5x^8-60x^6z^2+126x^4z^4-60x^2z^6+5z^8)}$
118	$\frac{256}{\sqrt{4290}yz(672x^4y^4-2240x^4y^2z^2+672x^4z^4-288x^2y^6+672x^2y^4z^2+672x^2y^2z^4-288x^2z^6+9y^8-12y^6z^2-42y^4z^4-12y^2z^6+9z^8)}$
119	$\frac{256}{\sqrt{4290}xz(9x^8-288x^6y^2-12x^6z^2+672x^4y^4+672x^4y^2z^2-42x^4z^4-2240x^2y^4z^2+672x^2y^2z^4-12x^2z^6+672y^4z^4-288y^2z^6+9z^8)}$
120	$\frac{256}{\sqrt{165}yz(384x^8-1792x^6y^2-1792x^6z^2+1680x^4y^4+3360x^4y^2z^2+1680x^4z^4-336x^2y^6-1008x^2y^4z^2-1008x^2y^2z^4-336x^2z^6+7y^8+28y^6z^2+42y^4z^4+28y^2z^6+7z^8)}$
121	$\frac{128}{\sqrt{165}xz(7x^8-336x^6y^2+28x^6z^2+1680x^4y^4-1008x^4y^2z^2+42x^4z^4-1792x^2y^6+3360x^2y^4z^2-1008x^2y^2z^4+28x^2z^6+384y^8-1792y^6z^2+1680y^4z^4-336y^2z^6+7z^8)}$

表 12 rank 11

No.	expression
122	$\frac{\sqrt{2431xyz(5x^8-30x^6y^2-30x^6z^2+63x^4y^4+63x^4z^4-30x^2y^6-30x^2z^6+5y^8-30y^6z^2+63y^4z^4-30y^2z^6+5z^8)}}{8}$
123	$-\frac{\sqrt{230945xyz(x^8-6x^6y^2-6x^6z^2+42x^4y^2z^2-6x^2y^6+42x^2y^4z^2-84x^2y^2z^4+12x^2z^6+y^8-6y^6z^2+12y^2z^6-2z^8)}}{32}$
124	$-\frac{\sqrt{3003xyz(5x^8-150x^6y^2+90x^6z^2+336x^4y^4-70x^4y^2z^2-168x^4z^4-150x^2y^6-70x^2y^4z^2+140x^2y^2z^4+60x^2z^6+5y^8+90y^6z^2-168y^4z^4+60y^2z^6-10z^8)}}{32}$
125	$\frac{\sqrt{1939938z(x-y)(x+y)(x^4-4x^3y-14x^2y^2-4xy^3+y^4)(x^4+4x^3y-14x^2y^2+4xy^3+y^4)}}{512}$
126	$\frac{\sqrt{14586z(x-y)(x+y)(x^2-4xy+y^2)(x^2+4xy+y^2)(15x^4+30x^2y^2-160x^2z^2+15y^4-160y^2z^2+224z^4)}}{512}$
127	$\frac{\sqrt{2145z(x-y)(x+y)(21x^8+84x^6y^2-336x^6z^2+126x^4y^4-1008x^4y^2z^2+1008x^4z^4+84x^2y^6-1008x^2y^4z^2+2016x^2y^2z^4-768x^2z^6+21y^8-336y^6z^2+1008y^4z^4-768y^2z^6+128z^8)}}{256}$
128	$-\frac{\sqrt{692835xyz(x-y)(x+y)(x^2+y^2-6z^2)(x^2-2xy-y^2)(x^2+2xy-y^2)}}{32}$
129	$-\frac{3\sqrt{1001xyz(x-y)(x+y)(5x^6+15x^4y^2-70x^4z^2+15x^2y^4-140x^2y^2z^2+168x^2z^4+5y^6-70y^4z^2+168y^2z^4-80z^6)}}{32}$
130	$-\frac{z(693x^{10}+3465x^8y^2-11550x^8z^2+6930x^6y^4-46200x^6y^2z^2+36960x^6z^4+6930x^4y^6-69300x^4y^4z^2+110880x^4y^2z^4-31680x^4z^6+3465x^2y^8-46200x^2y^6z^2+110880x^2y^4z^4-63360x^2y^2z^6+7040x^2z^8+693y^{10}-11550y^8z^2+36960y^6z^4-31680y^4z^6+7040y^2z^8-256z^{10})}{256}$
131	$-\frac{\sqrt{692835z(x^2+y^2-6z^2)(x^4-4x^3y-6x^2y^2+4xy^3+y^4)(x^4+4x^3y-6x^2y^2-4xy^3+y^4)}}{256}$
132	$-\frac{3\sqrt{1001z(x^2-2xy-y^2)(x^2+2xy-y^2)(5x^6+15x^4y^2-70x^4z^2+15x^2y^4-140x^2y^2z^2+168x^2z^4+5y^6-70y^4z^2+168y^2z^4-80z^6)}}{128}$
133	$\frac{x(256x^{10}-7040x^8y^2-7040x^8z^2+31680x^6y^4+63360x^6y^2z^2+31680x^6z^4-36960x^4y^6-110880x^4y^4z^2-110880x^4y^2z^4-36960x^4z^6+11550x^2y^8+46200x^2y^6z^2+69300x^2y^4z^4+46200x^2y^2z^6+11550x^2z^8-693y^{10}-3465y^8z^2-6930y^6z^4-6930y^4z^6-3465y^2z^8-693z^{10})}{256}$
134	$\frac{y(-693x^{10}+11550x^8y^2-3465x^8z^2-36960x^6y^4+46200x^6y^2z^2-6930x^6z^4+31680x^4y^6-110880x^4y^4z^2+69300x^4y^2z^4-6930x^4z^6-7040x^2y^8+63360x^2y^6z^2-110880x^2y^4z^4+46200x^2y^2z^6-3465x^2z^8+256y^{10}-7040y^8z^2+31680y^6z^4-36960y^4z^6+11550y^2z^8-693z^{10})}{256}$
135	$\frac{\sqrt{692835x(6x^2y^8-168x^2y^6z^2+420x^2y^4z^4-168x^2y^2z^6+6x^2z^8-y^{10}+27y^8z^2-42y^6z^4-42y^4z^6+27y^2z^8-z^{10})}}{256}$
136	$\frac{\sqrt{692835y(-x^{10}+6x^8y^2+27x^8z^2-168x^6y^2z^2-42x^6z^4+420x^4y^2z^4-42x^4z^6-168x^2y^2z^6+27x^2z^8+6y^2z^8-z^{10})}}{256}$
137	$\frac{3\sqrt{1001x(80x^6y^4-480x^6y^2z^2+80x^6z^4-168x^4y^6+840x^4y^4z^2+840x^4y^2z^4-168x^4z^6+70x^2y^8-280x^2y^6z^2-700x^2y^4z^4-280x^2y^2z^6+70x^2z^8-5y^{10}+15y^8z^2+70y^6z^4+70y^4z^6+15y^2z^8-5z^{10})}}{128}$
138	$\frac{3\sqrt{1001y(-5x^{10}+70x^8y^2+15x^8z^2-168x^6y^4-280x^6y^2z^2+70x^6z^4+80x^4y^6+840x^4y^4z^2-700x^4y^2z^4+70x^4z^6-480x^2y^6z^2+840x^2y^4z^4-280x^2y^2z^6+15x^2z^8+80y^6z^4-168y^4z^6+70y^2z^8-5z^{10})}}{128}$
139	$\frac{\sqrt{1939938x(y^{10}-45y^8z^2+210y^6z^4-210y^4z^6+45y^2z^8-z^{10})}}{512}$
140	$\frac{\sqrt{1939938y(x^{10}-45x^8z^2+210x^6z^4-210x^4z^6+45x^2z^8-z^{10})}}{512}$
141	$\frac{\sqrt{14586x(224x^4y^6-3360x^4y^4z^2+3360x^4y^2z^4-224x^4z^6-160x^2y^8+2240x^2y^6z^2-2240x^2y^2z^6+160x^2z^8+15y^{10}-195y^8z^2-210y^6z^4+210y^4z^6+195y^2z^8-15z^{10})}}{512}$
142	$\frac{\sqrt{14586y(15x^{10}-160x^8y^2-195x^8z^2+224x^6y^4+2240x^6y^2z^2-210x^6z^4-3360x^4y^4z^2+210x^4z^6+3360x^2y^4z^4-2240x^2y^2z^6+195x^2z^8-224y^4z^6+160y^2z^8-15z^{10})}}{512}$
143	$\frac{\sqrt{2145x(128x^8y^2-128x^8z^2-768x^6y^4+768x^6z^4+1008x^4y^6+1008x^4y^4z^2-1008x^4y^2z^4-1008x^4z^6-336x^2y^8-672x^2y^6z^2+672x^2y^2z^6+336x^2z^8+21y^{10}+63y^8z^2+42y^6z^4-42y^4z^6-63y^2z^8-21z^{10})}}{256}$
144	$\frac{\sqrt{2145y(21x^{10}-336x^8y^2+63x^8z^2+1008x^6y^4-672x^6y^2z^2+42x^6z^4-768x^4y^6+1008x^4y^4z^2-42x^4z^6+128x^2y^8-1008x^2y^4z^4+672x^2y^2z^6-63x^2z^8-128y^8z^2+768y^6z^4-1008y^4z^6+336y^2z^8-21z^{10})}}{256}$