The Cone 32SMET6

13th January 2002

1 The intrisic informations concerning the graph of extreme rays of 32SMET6.ext

The graph considered is made of 12679 elements.
The group acting on 32SMET6.ext is Group3hmet6
Under the group action we have in fact only 40 orbits to consider.
The diameter of the graph is 4.
The list of orbits is with adjacency and Size info:

E1:	0	0	0	0	0	1	0	0	1	1	0	0	1	1	1	1642	15
E2:	0	0	1	1	0	1	1	1	0	1	1	1	1	0	0	953	60
E3:	0	0	0	1	1	1	1	1	1	0	1	1	1	0	0	696	10
E4:	0	0	0	0	1	1	0	1	1	0	0	1	1	1	1	274	90
E5:	0	0	1	2	0	0	2	1	1	2	2	1	1	2	0	248	90
E6:	0	0	0	0	2	2	0	2	2	1	0	2	2	1	1	183	60
E7:	0	0	1	1	0	1	1	1	0	0	1	1	1	1	1	125	72
E8:	0	0	0	2	2	2	2	2	2	0	2	2	2	0	3	103	60
E9:	0	0	2	2	0	2	2	2	0	2	2	2	2	0	3	92	360
E10:	0	0	1	1	0	1	1	1	2	2	1	1	2	2	0	84	180
E11:	0	0	1	2	0	3	2	1	2	1	2	1	3	3	0	73	720
E12:	0	0	0	0	4	4	0	4	4	2	0	4	4	2	5	59	180
E13:	0	0	1	3	0	2	3	1	3	2	3	1	3	2	0	46	360
E14:	0	1	2	1	2	1	2	1	0	2	2	1	2	0	1	39	60
E15:	0	0	1	0	1	2	0	2	1	2	0	2	2	1	1	35	72
E16:	0	0	3	1	1	1	1	2	3	3	1	3	2	3	0	32	360
E17:	0	1	2	3	4	1	4	2	0	4	4	4	2	0	2	30	360
E18:	0	0	1	0	2	4	0	3	3	2	0	3	4	4	1	23	360
E19:	0	1	1	4	4	2	5	5	0	2	5	5	2	0	3	23	360
E20:	0	1	2	1	2	3	2	1	0	3	2	1	3	0	3	23	180
E21:	0	1	1	2	2	0	3	3	2	1	3	3	2	1	0	23	90
E22:	0	0	1	2	0	1	2	1	2	1	2	1	2	2	0	22	720
E23:	0	0	2	6	0	4	6	2	6	4	6	2	6	7	0	22	720
E24:	0	0	1	2	0	2	2	1	2	1	2	1	2	1	0	22	360
E25:	0	0	2	2	0	3	2	2	1	1	2	2	3	3	0	22	360
E26:	0	0	2	3	0	2	3	2	1	3	3	2	1	3	0	22	360
E27:	0	0	2	3	2	5	3	2	5	5	3	3	3	0	0	22	360
E28:	0	0	2	2	0	1	2	2	1	1	2	2	2	2	0	22	360
E29:	0	0	2	6	0	7	6	2	6	4	6	2	6	4	0	22	360
E30:	0	0	2	2	0	5	2	2	4	4	2	2	4	4	0	22	180
E31:	0	0	5	1	1	2	1	4	3	4	1	5	5	4	0	20	720
E32:	0	0	1	1	1	3	1	2	2	1	1	2	3	3	0	20	720
E33:	0	0	3	3	1	5	3	2	5	5	3	3	2	1	0	20	720
E34:	0	0	5	3	2	3	3	3	2	0	3	5	5	1	1	20	360
E35:	0	0	1	2	1	3	2	2	2	0	2	2	3	3	0	18	720
E36:	0	0	2	2	1	3	2	1	3	3	2	2	2	0	0	18	360
E37:	0	0	1	2	1	1	2	2	2	0	2	2	2	2	0	18	360
E38:	0	1	2	5	5	2	6	3	0	3	6	5	1	0	6	18	360
E39:	0	1	4	3	6	3	4	2	4	0	4	6	0	6	2	18	360
E40:	0	1	2	1	2	1	2	4	0	2	2	4	2	0	4	18	120

The representation matrix is:

	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12	E13	E14	E15	E16	E17	E18	E19	E20	E21	E22	E23	E24	E25	E26	E27	E28	E29	E30	E31	E32	E33	E34	E35	E36	E37	E38	E39	E40	Adj.	Size
E1	14	60	6	48	30	44	24	12	96	60	192	60	48	0	24	48	0	96	24	0	0	0	0	48	48	24	48	0	48	60	48	96	96	48	96	48	24	0	0	24	1642	15
E2	15	29	3	30	24	24	18	6	66	30	72	24	48	9	6	36	30	6	24	9	6	48	48	12	24	24	24	24	12	0	24	24	48	18	24	12	24	18	30	0	953	60
E3	9	18	0	18	18	6	36	6	36	0	72	36	36	0	0	0	0	0	36	0	9	0	0	36	0	36	36	0	36	0	0	72	0	36	72	0	36	0	0	0	696	10
E4	8	20	2	6	8	2	8	4	16	4	40	4	4	0	4	8	4	12	4	0	0	8	8	4	4	8	0	4	4	4	16	16	0	0	16	8	8	4	0	4	274	90
E5	5	16	2	8	1	2	4	0	12	6	24	2	16	4	0	8	16	0	4	8	0	16	8	8	12	4	4	8	8	2	8	0	8	0	0	4	4	8	8	0	248	90
E6	11	24	1	3	3	0	0	6	12	6	24	6	6	0	6	6	0	12	6	0	3	0	12	6	0	0	0	0	6	0	12	12	0	0	0	0	0	0	0	0	183	60
E7	5	15	5	10	5	0	5	0	10	0	10	0	0	0	0	5	0	0	0	0	0	0	0	0	5	10	0	5	0	0	0	0	10	5	10	10	0	0	0	0	125	72
E8	3	6	1	6	0	6	0	0	12	0	12	3	0	0	0	0	0	0	0	0	0	0	12	0	0	0	6	0	0	0	0	12	0	6	12	0	6	0	0	0	103	60
E9	4	11	1	4	3	2	2	2	3	4	8	2	2	1	0	2	2	0	2	1	1	2	2	2	2	2	2	2	2	1	0	2	6	2	2	2	2	0	2	0	92	360
E10	5	10	0	2	3	2	0	0	8	0	12	0	6	0	0	4	4	0	2	2	0	4	4	4	0	0	0	2	4	0	4	0	0	0	0	0	0	0	0	2	84	180
E11	4	6	1	5	3	2	1	1	4	3	6	2	2	0	0	1	1	2	1	0	0	2	3	0	1	2	1	1	1	2	3	4	2	1	1	1	0	1	1	1	73	720
E12	5	8	2	2	1	2	0	1	4	0	8	0	2	0	2	2	0	4	0	0	0	0	4	0	0	0	0	0	2	2	4	4	0	0	0	0	0	0	0	0	59	180
E13	2	8	1	1	4	1	0	0	2	3	4	1	0	0	0	2	2	0	2	2	1	2	2	1	0	0	0	0	1	0	2	0	0	0	0	0	0	2	0	0	46	360
E14	0	9	0	0	6	0	0	0	6	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	6	0	39	60
E15	5	5	0	5	0	5	0	0	0	0	0	5	0	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35	72
E16	2	6	0	2	2	1	1	0	2	2	2	1	2	0	1	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	32	360
E17	0	5	0	1	4	0	0	0	2	2	2	0	2	1	0	2	0	0	0	1	0	2	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	1	0	30	360
E18	4	1	0	3	0	2	0	0	0	0	4	2	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	23	360
E19	1	4	1	1	1	1	0	0	2	1	2	0	2	0	0	0	0	0	1	0	1	0	0	2	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	23	360
E20	0	3	0	0	4	0	0	0	2	2	0	0	4	0	0	0	2	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	23	180
E21	0	4	1	0	0	2	0	0	4	0	0	0	4	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	90
E22	0	4	0	1	2	0	0	0	1	1	2	0	1	0	0	1	1	0	0	1	0	1	1	1	0	0	0	1	0	0	1	0	0	0	0	0	1	1	0	0	22	720
E23	0	4	0	1	1	1	0	1	1	1	3	1	1	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	22	720
E24	2	2	1	1	2	1	0	0	2	2	0	0	1	0	0	0	0	0	2	0	1	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	22	360
E25	2	4	0	1	3	0	1	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	2	0	0	0	1	0	22	360
E26	1	4	1	2	1	0	2	0	2	0	4	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	22	360
E27	2	4	1	0	1	0	0	1	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	1	0	0	0	0	0	0	0	0	0	22	360
E28	0	4	0	1	2	0	1	0	2	1	2	0	0	1	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	22	360
E29	2	2	1	1	2	1	0	0	2	2	2	1	1	0	0	0	0	0	2	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	360
E30	5	0	0	2	1	0	0	0	2	0	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	22	180
E31	1	2	0	2	1	1	0	0	0	1	3	1	1	0	0	1	0	1	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	20	720
E32	2	2	1	2	0	1	0	1	1	0	4	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	1	0	0	0	0	0	20	720
E33	2	4	0	0	1	0	1	0	3	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	1	0	1	0	0	1	0	20	720
E34	2	3	1	0	0	0	1	1	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	0	2	0	0	0	0	0	20	360
E35	2	2	1	2	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0	1	1	0	1	0	0	0	18	720
E36	2	2	0	2	1	0	2	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	2	0	0	0	0	0	0	0	18	360
E37	1	4	1	2	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	18	360
E38	0	3	0	1	2	0	0	0	0	0	2	0	2	0	0	0	1	0	0	1	0	2	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	18	360
E39	0	5	0	0	2	0	0	0	2	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	18	360
E40	3	0	0	3	0	0	0	0	0	3	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	18	120
Size	15	60	10	90	90	60	72	60	360	180	720	180	360	60	72	360	360	360	360	180	90	720	720	360	360	360	360	360	360	180	720	720	720	360	720	360	360	360	360	120		12679

1.1 The local graphs

The complemented local graph are:
We consider graph with cardinal inferior or equal to 20

The complemented local graph for orbit 31 is:

1	3	:	4 6 11
2	10	:	3 5 6 7 13 14 15 16 17 18
3	7	:	2 7 8 9 10 11 20
4	4	:	1 5 7 13
5	10	:	2 4 6 7 8 9 10 12 13 20
6	11	:	1 2 5 7 8 9 10 11 13 17 20
7	7	:	2 3 4 5 6 11 17
8	9	:	3 5 6 9 13 14 15 16 17
9	7	:	3 5 6 8 15 17 18
10	9	:	3 5 6 14 15 16 17 18 19
11	5	:	1 3 6 7 13
12	2	:	5 17
13	9	:	2 4 5 6 8 11 14 17 19
14	6	:	2 8 10 13 18 20
15	6	:	2 8 9 10 19 20
16	3	:	2 8 10
17	9	:	2 6 7 8 9 10 12 13 20
18	4	:	2 9 10 14
19	3	:	10 13 15
20	6	:	3 5 6 14 15 17

The complemented local graph for orbit 32 is:

1	1	:	8
2	9	:	4 5 8 11 13 14 16 17 19
3	1	:	5
4	6	:	2 6 7 8 12 20
5	10	:	2 3 6 7 9 10 11 12 18 20
6	9	:	4 5 8 11 13 14 16 17 19
7	9	:	4 5 8 11 13 14 16 17 19
8	9	:	1 2 4 6 7 9 10 11 18
9	7	:	5 8 12 13 14 16 19
10	6	:	5 8 13 14 16 19
11	8	:	2 5 6 7 8 12 13 20
12	7	:	4 5 9 11 13 14 17
13	9	:	2 6 7 9 10 11 12 18 20
14	7	:	2 6 7 9 10 12 16
15	0	:	
16	7	:	2 6 7 9 10 14 20
17	6	:	2 6 7 12 19 20
18	3	:	5 8 13
19	6	:	2 6 7 9 10 17
20	6	:	4 5 11 13 16 17

The complemented local graph for orbit 33 is:

1	1	:	3
2	2	:	4 5
3	9	:	1 5 6 7 8 11 12 17 18
4	9	:	2 5 6 7 8 10 11 12 18
5	12	:	2 3 4 6 7 8 9 11 14 15 18 20
6	10	:	3 4 5 9 10 12 13 15 16 19
7	9	:	3 4 5 9 10 12 13 16 19
8	9	:	3 4 5 9 10 12 13 16 19
9	7	:	5 6 7 8 11 12 18
10	4	:	4 6 7 8
11	7	:	3 4 5 9 13 14 16
12	8	:	3 4 6 7 8 9 14 15
13	5	:	6 7 8 11 18
14	4	:	5 11 12 16
15	3	:	5 6 12
16	5	:	6 7 8 11 14
17	1	:	3
18	5	:	3 4 5 9 13
19	3	:	6 7 8
20	1	:	5

The complemented local graph for orbit 34 is:

1	12	:	2 3 4 5 7 8 9 10 11 12 15 20
2	12	:	1 3 4 6 7 8 9 10 11 14 18 20
3	9	:	1 2 4 5 10 11 12 13 15
4	9	:	1 2 3 6 8 9 13 14 18
5	7	:	1 3 6 8 9 14 18
6	7	:	2 4 5 10 11 12 15
7	5	:	1 2 12 13 14
8	9	:	1 2 4 5 10 11 12 13 15
9	9	:	1 2 4 5 10 11 12 13 15
10	9	:	1 2 3 6 8 9 13 14 18
11	9	:	1 2 3 6 8 9 13 14 18
12	7	:	1 3 6 7 8 9 14
13	7	:	3 4 7 8 9 10 11
14	7	:	2 4 5 7 10 11 12
15	5	:	1 3 6 8 9
16	0	:	
17	0	:	
18	5	:	2 4 5 10 11
19	0	:	
20	2	:	1 2

The complemented local graph for orbit 35 is:

1	1	:	5
2	7	:	3 4 5 7 10 14 17
3	8	:	2 4 5 8 9 13 15 17
4	10	:	2 3 6 7 8 9 10 11 12 15
5	10	:	1 2 3 7 8 9 10 11 12 16
6	1	:	4
7	9	:	2 4 5 8 9 13 14 17 18
8	7	:	3 4 5 7 10 14 17
9	7	:	3 4 5 7 10 14 17
10	7	:	2 4 5 8 9 12 13
11	4	:	4 5 13 17
12	4	:	4 5 10 17
13	4	:	3 7 10 11
14	4	:	2 7 8 9
15	2	:	3 4
16	1	:	5
17	7	:	2 3 7 8 9 11 12
18	1	:	7

The complemented local graph for orbit 36 is:

1	2	:	3 4
2	2	:	5 9
3	10	:	1 4 6 7 8 9 10 13 14 15
4	10	:	1 3 5 6 7 8 11 12 14 17
5	7	:	2 4 6 7 8 10 13
6	7	:	3 4 5 9 12 15 17
7	7	:	3 4 5 9 13 15 17
8	6	:	3 4 5 9 15 17
9	7	:	2 3 6 7 8 11 12
10	4	:	3 5 11 17
11	4	:	4 9 10 15
12	4	:	4 6 9 15
13	4	:	3 5 7 17
14	2	:	3 4
15	7	:	3 6 7 8 11 12 18
16	1	:	17
17	7	:	4 6 7 8 10 13 16
18	1	:	15

The complemented local graph for orbit 37 is:

1	3	:	3 5 8
2	3	:	4 6 7
3	10	:	1 5 6 7 8 9 10 11 15 16
4	10	:	2 5 6 7 8 9 10 11 16 17
5	9	:	1 3 4 6 7 9 12 13 15
6	9	:	2 3 4 5 8 10 12 14 17
7	10	:	2 3 4 5 8 10 12 14 16 18
8	10	:	1 3 4 6 7 9 12 13 16 18
9	7	:	3 4 5 8 10 12 14
10	7	:	3 4 6 7 9 12 13
11	5	:	3 4 12 13 14
12	8	:	5 6 7 8 9 10 11 16
13	4	:	5 8 10 11
14	4	:	6 7 9 11
15	2	:	3 5
16	5	:	3 4 7 8 12
17	2	:	4 6
18	2	:	7 8

The complemented local graph for orbit 38 is:

1	4	:	6 7 10 13
2	7	:	4 5 6 8 9 16 18
3	7	:	6 8 9 14 15 16 18
4	4	:	2 6 8 14
5	7	:	2 6 7 9 10 13 15
6	8	:	1 2 3 4 5 7 11 12
7	8	:	1 5 6 8 9 14 16 18
8	7	:	2 3 4 7 11 12 15
9	7	:	2 3 5 7 11 12 14
10	3	:	1 5 17
11	4	:	6 8 9 18
12	3	:	6 8 9
13	3	:	1 5 17
14	4	:	3 4 7 9
15	3	:	3 5 8
16	3	:	2 3 7
17	2	:	10 13
18	4	:	2 3 7 11

The complemented local graph for orbit 39 is:

```
 1   2  :  2 3
 2   9  :  1 3 4 8 9 11 14 15 17
 3   7  :  1 2 4 5 6 7 12
 4   9  :  2 3 5 8 9 10 13 16 18
 5   3  :  3 4 11
 6   5  :  3 8 9 15 16
 7   7  :  3 8 9 13 14 15 16
 8   5  :  2 4 6 7 12
 9   7  :  2 4 6 7 10 11 12
10   2  :  4 9
11   3  :  2 5 9
12   5  :  3 8 9 15 16
13   3  :  4 7 14
14   3  :  2 7 13
15   4  :  2 6 7 12
16   4  :  4 6 7 12
17   1  :  2
18   1  :  4
```

The complemented local graph for orbit 40 is:

```
 1   3  :  5 12 13
 2   8  :  4 5 9 10 11 12 13 16
 3   3  :  4 9 11
 4   8  :  2 3 5 10 11 13 14 15
 5   8  :  1 2 4 7 8 10 11 13
 6   0  :
 7   4  :  5 13 15 16
 8   3  :  5 13 14
 9   3  :  2 3 10
10   8  :  2 4 5 9 11 12 13 16
11   8  :  2 3 4 5 10 13 14 15
12   3  :  1 2 10
13   8  :  1 2 4 5 7 8 10 11
14   3  :  4 8 11
15   4  :  4 7 11 16
16   4  :  2 7 10 15
17   0  :
18   0  :
```

1.2 scalar product between elements of orbits

This subsection made sense only if the representation is orthogonal which is the usual case Considering Orbit 1

1. Orbit Size is 15.
2. Norm of elements is 6.
3. Possible scalar product : 1, 3

Considering Orbit 2

1. Orbit Size is 60.

2. Norm of elements is 9.
3. Possible scalar product : 3, 4, 5, 6, 7

Considering Orbit 3

1. Orbit Size is 10.
2. Norm of elements is 9.
3. Possible scalar product : 5

Considering Orbit 4

1. Orbit Size is 90.
2. Norm of elements is 8.
3. Possible scalar product : 2, 3, 4, 5, 6, 7

Considering Orbit 5

1. Orbit Size is 90.
2. Norm of elements is 25.
3. Possible scalar product : 8, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20

Considering Orbit 6

1. Orbit Size is 60.
2. Norm of elements is 27.
3. Possible scalar product : 12, 13, 14, 15, 16, 17, 21, 24

Considering Orbit 7

1. Orbit Size is 72.
2. Norm of elements is 10.
3. Possible scalar product : 5, 6, 7, 8

Considering Orbit 8

1. Orbit Size is 60.
2. Norm of elements is 45.
3. Possible scalar product : 20, 26, 29, 32, 36

Considering Orbit 9

1. Orbit Size is 360.
2. Norm of elements is 45.
3. Possible scalar product : 20, 22, 24, 25, 26, 28, 29, 30, 32, 33, 34, 36, 37, 40

Considering Orbit 10

1. Orbit Size is 180.

2. Norm of elements is 23.
3. Possible scalar product : 12, 13, 14, 15, 16, 17, 18, 19, 20, 21

Considering Orbit 11

1. Orbit Size is 720.
2. Norm of elements is 47.
3. Possible scalar product : 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45

Considering Orbit 12

1. Orbit Size is 180.
2. Norm of elements is 129.
3. Possible scalar product : 48, 56, 58, 60, 64, 68, 70, 72, 73, 74, 76, 80, 81, 89, 96, 102, 105, 108, 120

Considering Orbit 13

1. Orbit Size is 360.
2. Norm of elements is 60.
3. Possible scalar product : 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 50, 53, 54, 58

Considering Orbit 14

1. Orbit Size is 60.
2. Norm of elements is 30.
3. Possible scalar product : 18, 22, 26

Considering Orbit 15

1. Orbit Size is 72.
2. Norm of elements is 25.
3. Possible scalar product : 12, 13, 14, 15, 20, 22, 23

Considering Orbit 16

1. Orbit Size is 360.
2. Norm of elements is 58.
3. Possible scalar product : 29, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 50, 51, 52, 55, 56

Considering Orbit 17

1. Orbit Size is 360.
2. Norm of elements is 107.

3. Possible scalar product : 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 91, 92, 96, 97, 100, 101

Considering Orbit 18

1. Orbit Size is 360.
2. Norm of elements is 85.
3. Possible scalar product : 32, 33, 34, 35, 36, 37, 38, 39, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 54, 57, 58, 59, 61, 62, 67, 68, 70, 71, 73, 74, 76, 77, 79, 80, 83

Considering Orbit 19

1. Orbit Size is 360.
2. Norm of elements is 155.
3. Possible scalar product : 74, 77, 79, 81, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 104, 105, 106, 107, 108, 109, 110, 111, 112, 114, 116, 117, 118, 119, 120, 121, 122, 123, 124, 126, 127, 128, 129, 131, 137, 139, 140, 142, 147, 152

Considering Orbit 20

1. Orbit Size is 180.
2. Norm of elements is 56.
3. Possible scalar product : 31, 32, 33, 34, 35, 36, 38, 39, 40, 42, 43, 44, 45, 46, 48, 49, 52, 54

Considering Orbit 21

1. Orbit Size is 90.
2. Norm of elements is 56.
3. Possible scalar product : 31, 33, 35, 36, 39, 43, 44, 45, 49, 52

Considering Orbit 22

1. Orbit Size is 720.
2. Norm of elements is 29.
3. Possible scalar product : 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28

Considering Orbit 23

1. Orbit Size is 720.
2. Norm of elements is 273.
3. Possible scalar product : 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 153, 154, 156, 158, 160, 161, 162, 164, 165, 166, 168, 170, 172, 173, 174, 176, 177, 178, 180, 181, 182, 184, 185, 186, 188, 189, 190, 192, 193, 194, 196, 197, 198, 200, 201, 204, 206, 208, 209, 210, 212, 213, 216, 218, 220, 224, 225, 228, 230, 236, 245, 248, 249, 252, 256, 262, 264, 265, 268

Considering Orbit 24

1. Orbit Size is 360.
2. Norm of elements is 29.

3. Possible scalar product : 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 28

Considering Orbit 25

1. Orbit Size is 360.
2. Norm of elements is 53.
3. Possible scalar product : 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49

Considering Orbit 26

1. Orbit Size is 360.
2. Norm of elements is 63.
3. Possible scalar product : 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 46, 47, 48, 49, 50, 51, 52, 54, 55, 57, 59

Considering Orbit 27

1. Orbit Size is 360.
2. Norm of elements is 132.
3. Possible scalar product : 54, 60, 63, 69, 70, 72, 73, 75, 76, 78, 79, 81, 82, 84, 85, 87, 88, 90, 91, 93, 94, 96, 97, 99, 102, 105, 106, 111, 114, 117, 120, 126

Considering Orbit 28

1. Orbit Size is 360.
2. Norm of elements is 35.
3. Possible scalar product : 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33

Considering Orbit 29

1. Orbit Size is 360.
2. Norm of elements is 273.
3. Possible scalar product : 128, 132, 134, 136, 138, 140, 142, 146, 148, 150, 153, 154, 156, 158, 160, 161, 162, 164, 166, 168, 170, 172, 174, 176, 177, 178, 180, 182, 184, 185, 188, 190, 192, 193, 194, 196, 198, 200, 201, 202, 204, 209, 210, 212, 216, 217, 218, 225, 230, 248, 252, 256, 268

Considering Orbit 30

1. Orbit Size is 180.
2. Norm of elements is 113.
3. Possible scalar product : 54, 56, 58, 60, 64, 66, 68, 70, 72, 73, 74, 78, 80, 81, 82, 85, 88, 92, 100, 105

Considering Orbit 31

1. Orbit Size is 720.
2. Norm of elements is 140.

3. Possible scalar product : 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 109, 110, 111, 112, 113, 114, 115, 116, 117, 119, 120, 121, 122, 123, 124, 125, 126, 127, 129, 130, 132, 134, 135, 137, 138

Considering Orbit 32

1. Orbit Size is 720.
2. Norm of elements is 45.
3. Possible scalar product : 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43

Considering Orbit 33

1. Orbit Size is 720.
2. Norm of elements is 130.
3. Possible scalar product : 59, 60, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 106, 108, 109, 110, 111, 112, 114, 115, 116, 118, 122, 127, 128

Considering Orbit 34

1. Orbit Size is 360.
2. Norm of elements is 130.
3. Possible scalar product : 53, 55, 61, 62, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 102, 103, 104, 105, 106, 108, 110, 115, 116, 128

Considering Orbit 35

1. Orbit Size is 720.
2. Norm of elements is 53.
3. Possible scalar product : 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52

Considering Orbit 36

1. Orbit Size is 360.
2. Norm of elements is 53.
3. Possible scalar product : 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 47, 48

Considering Orbit 37

1. Orbit Size is 360.
2. Norm of elements is 35.
3. Possible scalar product : 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33

Considering Orbit 38

1. Orbit Size is 360.
2. Norm of elements is 211.
3. Possible scalar product : 101, 102, 104, 107, 109, 110, 112, 114, 115, 116, 117, 118, 119, 120, 121, 122, 124, 125, 127, 129, 130, 131, 132, 135, 136, 137, 138, 139, 140, 141, 142, 143, 145, 146, 147, 149, 150, 151, 152, 156, 157, 158, 159, 161, 163, 164, 166, 170, 172, 176, 178, 190, 197, 200

Considering Orbit 39

1. Orbit Size is 360.
2. Norm of elements is 199.
3. Possible scalar product : 101, 105, 106, 107, 108, 109, 110, 112, 113, 115, 116, 118, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 148, 149, 150, 152, 153, 154, 155, 157, 160, 161, 162, 164, 165, 167, 169, 171, 172, 173, 184, 185

Considering Orbit 40

1. Orbit Size is 120.
2. Norm of elements is 75.
3. Possible scalar product : 36, 40, 42, 44, 46, 48, 49, 51, 53, 55, 56, 57, 63, 65, 67

1.3 invariant group of Orbits

The invariant group of x is the set of g such that g(x)=x denoted b G_x.
If x and y are in the same orbit then the groups G_x and G_x are conjuguate.

Invariant group of Orbit 1

1. Group Size is 48.
2. Elements are : (4 3 2 1 6 5), (4 3 1 2 6 5), (4 2 3 1 6 5), (4 1 3 2 6 5), (4 2 1 3 6 5), (4 1 2 3 6 5), (3 4 2 1 6 5), (3 4 1 2 6 5), (2 4 3 1 6 5), (1 4 3 2 6 5), (2 4 1 3 6 5), (1 4 2 3 6 5), (3 2 4 1 6 5), (3 1 4 2 6 5), (2 3 4 1 6 5), (1 3 4 2 6 5), (2 1 4 3 6 5), (1 2 4 3 6 5), (3 2 1 4 6 5), (3 1 2 4 6 5), (2 3 1 4 6 5), (1 3 2 4 6 5), (2 1 3 4 6 5), (1 2 3 4 6 5), (4 3 2 1 5 6), (4 3 1 2 5 6), (4 2 3 1 5 6), (4 1 3 2 5 6), (4 2 1 3 5 6), (4 1 2 3 5 6), (3 4 2 1 5 6), (3 4 1 2 5 6), (2 4 3 1 5 6), (1 4 3 2 5 6), (2 4 1 3 5 6), (1 4 2 3 5 6), (3 2 4 1 5 6), (3 1 4 2 5 6), (2 3 4 1 5 6), (1 3 4 2 5 6), (2 1 4 3 5 6), (1 2 4 3 5 6), (3 2 1 4 5 6), (3 1 2 4 5 6), (2 3 1 4 5 6), (1 3 2 4 5 6), (2 1 3 4 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 2

1. Group Size is 12.
2. Elements are : (6 5 4 3 2 1), (6 4 5 2 3 1), (5 6 3 4 1 2), (4 6 2 5 1 3), (5 3 6 1 4 2), (4 2 6 1 5 3), (3 5 1 6 2 4), (2 4 1 6 3 5), (3 1 5 2 6 4), (2 1 4 3 6 5), (1 3 2 5 4 6), (1 2 3 4 5 6),

Invariant group of Orbit 3

1. Group Size is 72.
2. Elements are : (6 5 4 3 2 1), (6 5 4 3 1 2), (6 5 4 2 3 1), (6 5 4 1 3 2), (6 5 4 2 1 3), (6 5 4 1 2 3), (6 4 5 3 2 1), (6 4 5 3 1 2), (6 4 5 2 3 1), (6 4 5 1 3 2), (6 4 5 2 1 3), (6 4 5 1 2 3), (5 6 4 3 2 1), (5 6 4 3 1 2), (5 6 4 2 3 1), (5 6 4 1 3 2), (5 6 4 2 1 3), (5 6 4 1 2 3), (4 6 5 3 2 1), (4 6 5 3 1 2), (4 6 5 2 3 1), (4 6 5 1 3 2), (4 6 5 2 1 3), (4 6 5 1 2 3), (5 4 6 3 2 1), (5 4 6 3 1 2), (5 4 6 2 3 1), (5 4 6 1 3 2), (5 4 6 2 1 3), (5 4 6 1 2 3), (4 5 6 3 2 1), (4 5 6 3 1 2), (4 5 6 2 3 1), (4 5 6 1 3 2), (4 5 6 2 1 3), (4 5 6 1 2 3), (3 2 1 6 5 4), (3 1 2 6 5 4), (2 3 1 6 5 4), (1 3 2 6 5 4), (2 1 3 6 5 4

), (1 2 3 6 5 4), (3 2 1 6 4 5), (3 1 2 6 4 5), (2 3 1 6 4 5), (1 3 2 6 4 5), (2 1 3 6 4 5), (1 2 3 6 4 5), (3 2 1 5 6 4), (3 1 2 5 6 4), (2 3 1 5 6 4), (1 3 2 5 6 4), (2 1 3 5 6 4), (1 2 3 5 6 4), (3 2 1 4 6 5), (3 1 2 4 6 5), (2 3 1 4 6 5), (1 3 2 4 6 5), (2 1 3 4 6 5), (1 2 3 4 6 5), (3 2 1 5 4 6), (3 1 2 5 4 6), (2 3 1 5 4 6), (1 3 2 5 4 6), (2 1 3 5 4 6), (1 2 3 5 4 6), (3 2 1 4 5 6), (3 1 2 4 5 6), (2 3 1 4 5 6), (1 3 2 4 5 6), (2 1 3 4 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 4

1. Group Size is 8.
2. Elements are : (1 5 4 3 2 6), (1 5 4 2 3 6), (1 4 5 3 2 6), (1 4 5 2 3 6), (1 3 2 5 4 6), (1 2 3 5 4 6), (1 3 2 4 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 5

1. Group Size is 8.
2. Elements are : (2 1 6 5 4 3), (1 2 6 5 4 3), (2 1 6 4 5 3), (1 2 6 4 5 3), (2 1 3 5 4 6), (1 2 3 5 4 6), (2 1 3 4 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 6

1. Group Size is 12.
2. Elements are : (3 2 1 5 4 6), (3 1 2 5 4 6), (2 3 1 5 4 6), (1 3 2 5 4 6), (2 1 3 5 4 6), (1 2 3 5 4 6), (3 2 1 4 5 6), (3 1 2 4 5 6), (2 3 1 4 5 6), (1 3 2 4 5 6), (2 1 3 4 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 7

1. Group Size is 10.
2. Elements are : (1 6 5 4 3 2), (1 6 4 5 2 3), (1 5 6 3 4 2), (1 4 6 2 5 3), (1 5 3 6 2 4), (1 4 2 6 3 5), (1 3 5 2 6 4), (1 2 4 3 6 5), (1 3 2 5 4 6), (1 2 3 4 5 6),

Invariant group of Orbit 8

1. Group Size is 12.
2. Elements are : (2 1 3 6 5 4), (1 2 3 6 5 4), (2 1 3 6 4 5), (1 2 3 6 4 5), (2 1 3 5 6 4), (1 2 3 5 6 4), (2 1 3 4 6 5), (1 2 3 4 6 5), (2 1 3 5 4 6), (1 2 3 5 4 6), (2 1 3 4 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 9

1. Group Size is 2.
2. Elements are : (2 1 4 3 6 5), (1 2 3 4 5 6),

Invariant group of Orbit 10

1. Group Size is 4.
2. Elements are : (2 1 4 3 6 5), (1 2 4 3 6 5), (2 1 3 4 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 11

1. Group Size is 1.
2. Elements are : (1 2 3 4 5 6),

Invariant group of Orbit 12

1. Group Size is 4.

2. Elements are : (2 1 3 5 4 6), (1 2 3 5 4 6), (2 1 3 4 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 13

1. Group Size is 2.
2. Elements are : (2 1 3 4 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 14

1. Group Size is 12.
2. Elements are : (6 4 5 2 3 1), (6 3 5 1 4 2), (4 6 2 5 3 1), (3 6 1 5 4 2), (5 2 6 4 1 3), (5 1 6 3 2 4), (2 5 4 6 1 3), (1 5 3 6 2 4), (4 3 2 1 6 5), (3 4 1 2 6 5), (2 1 4 3 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 15

1. Group Size is 10.
2. Elements are : (5 4 3 2 1 6), (5 3 4 1 2 6), (4 5 2 3 1 6), (3 5 1 4 2 6), (4 2 5 1 3 6), (3 1 5 2 4 6), (2 4 1 5 3 6), (1 3 2 5 4 6), (2 1 4 3 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 16

1. Group Size is 2.
2. Elements are : (2 1 3 5 4 6), (1 2 3 4 5 6),

Invariant group of Orbit 17

1. Group Size is 2.
2. Elements are : (5 2 6 4 1 3), (1 2 3 4 5 6),

Invariant group of Orbit 18

1. Group Size is 2.
2. Elements are : (4 5 3 1 2 6), (1 2 3 4 5 6),

Invariant group of Orbit 19

1. Group Size is 2.
2. Elements are : (1 2 3 4 6 5), (1 2 3 4 5 6),

Invariant group of Orbit 20

1. Group Size is 4.
2. Elements are : (4 3 2 1 6 5), (3 4 1 2 6 5), (2 1 4 3 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 21

1. Group Size is 8.
2. Elements are : (6 5 4 3 2 1), (6 5 4 3 1 2), (5 6 4 3 2 1), (5 6 4 3 1 2), (2 1 3 4 6 5), (1 2 3 4 6 5), (2 1 3 4 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 22

1. Group Size is 1.

2. Elements are : (1 2 3 4 5 6),

Invariant group of Orbit 23

1. Group Size is 1.

2. Elements are : (1 2 3 4 5 6),

Invariant group of Orbit 24

1. Group Size is 2.

2. Elements are : (2 1 3 4 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 25

1. Group Size is 2.

2. Elements are : (1 2 4 3 6 5), (1 2 3 4 5 6),

Invariant group of Orbit 26

1. Group Size is 2.

2. Elements are : (2 1 3 4 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 27

1. Group Size is 2.

2. Elements are : (1 3 2 4 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 28

1. Group Size is 2.

2. Elements are : (1 2 4 3 6 5), (1 2 3 4 5 6),

Invariant group of Orbit 29

1. Group Size is 2.

2. Elements are : (2 1 3 4 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 30

1. Group Size is 4.

2. Elements are : (2 1 4 3 6 5), (1 2 4 3 6 5), (2 1 3 4 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 31

1. Group Size is 1.

2. Elements are : (1 2 3 4 5 6),

Invariant group of Orbit 32

1. Group Size is 1.

2. Elements are : (1 2 3 4 5 6),

Invariant group of Orbit 33

1. Group Size is 1.
2. Elements are : (1 2 3 4 5 6),

Invariant group of Orbit 34

1. Group Size is 2.
2. Elements are : (1 3 2 5 4 6), (1 2 3 4 5 6),

Invariant group of Orbit 35

1. Group Size is 1.
2. Elements are : (1 2 3 4 5 6),

Invariant group of Orbit 36

1. Group Size is 2.
2. Elements are : (1 3 2 4 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 37

1. Group Size is 2.
2. Elements are : (1 2 3 5 4 6), (1 2 3 4 5 6),

Invariant group of Orbit 38

1. Group Size is 2.
2. Elements are : (6 2 5 4 3 1), (1 2 3 4 5 6),

Invariant group of Orbit 39

1. Group Size is 2.
2. Elements are : (5 2 3 6 1 4), (1 2 3 4 5 6),

Invariant group of Orbit 40

1. Group Size is 6.
2. Elements are : (5 2 6 4 1 3), (5 1 6 3 2 4), (2 5 4 6 1 3), (1 5 3 6 2 4), (2 1 4 3 5 6), (1 2 3 4 5 6),

2 The intrisic informations concerning the graph of facet rays of 32SMET6.ine

The graph considered is made of 45 elements.
The group acting on 32SMET6.ine is Group3hmet6
Under the group action we have in fact only 2 orbits to consider.
The diameter of the graph is 2.
The list of orbits is with adjacency and Size info:

F1:	-2	0	1	0	1	0	0	1	0	0	0	1	0	0	0	43	30
F2:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	34	15

The representation matrix is:

	F1	F2	Adj.	Size
F1	29	14	43	30
F2	28	6	34	15
Size	30	15		45

No complemented local graph of size inferior to 20.

2.1 scalar product between elements of orbits

This subsection made sense only if the representation is orthogonal which is the usual case Considering Orbit 1

1. Orbit Size is 30.
2. Norm of elements is 8.
3. Possible scalar product : -2, -1, 1, 4

Considering Orbit 2

1. Orbit Size is 15.
2. Norm of elements is 1.
3. Possible scalar product : 0

2.2 invariant group of Orbits

The invariant group of x is the set of g such that g(x)=x denoted b G_x.
If x and y are in the same orbit then the groups G_x and G_x are conjuguate.
Invariant group of Orbit 1

1. Group Size is 24.
2. Elements are : (4 3 2 1 5 6), (4 3 1 2 5 6), (4 2 3 1 5 6), (4 1 3 2 5 6), (4 2 1 3 5 6), (4 1 2 3 5 6), (3 4 2 1 5 6), (3 4 1 2 5 6), (2 4 3 1 5 6), (1 4 3 2 5 6), (2 4 1 3 5 6), (1 4 2 3 5 6), (3 2 4 1 5 6), (3 1 4 2 5 6), (2 3 4 1 5 6), (1 3 4 2 5 6), (2 1 4 3 5 6), (1 2 4 3 5 6), (3 2 1 4 5 6), (3 1 2 4 5 6), (2 3 1 4 5 6), (1 3 2 4 5 6), (2 1 3 4 5 6), (1 2 3 4 5 6),

Invariant group of Orbit 2

1. Group Size is 48.
2. Elements are : (2 1 6 5 4 3), (1 2 6 5 4 3), (2 1 6 5 3 4), (1 2 6 5 3 4), (2 1 6 4 5 3), (1 2 6 4 5 3), (2 1 6 3 5 4), (1 2 6 3 5 4), (2 1 6 4 3 5), (1 2 6 4 3 5), (2 1 6 3 4 5), (1 2 6 3 4 5), (2 1 5 6 4 3), (1 2 5 6 4 3), (2 1 5 6 3 4), (1 2 5 6 3 4), (2 1 4 6 5 3), (1 2 4 6 5 3), (2 1 3 6 5 4), (1 2 3 6 5 4), (2 1 4 6 3 5), (1 2 4 6 3 5), (2 1 3 6 4 5), (1 2 3 6 4 5), (2 1 5 4 6 3), (1 2 5 4 6 3), (2 1 5 3 6 4), (1 2 5 3 6 4), (2 1 4 5 6 3), (1 2 4 5 6 3), (2 1 3 5 6 4), (1 2 3 5 6 4), (2 1 4 3 6 5), (1 2 4 3 6 5), (2 1 3 4 6 5), (1 2 3 4 6 5), (2 1 5 4 3 6), (1 2 5 4 3 6), (2 1 5 3 4 6), (1 2 5 3 4 6), (2 1 4 5 3 6), (1 2 4 5 3 6), (2 1 3 5 4 6), (1 2 3 5 4 6), (2 1 4 3 5 6), (1 2 4 3 5 6), (2 1 3 4 5 6), (1 2 3 4 5 6),

3 The two incidence matrix

Incidence between Orbit of Extreme rays and Orbits of Facets

	$F1$	$F2$	Inc
$E1$	22	9	31
$E2$	18	6	24
$E3$	18	6	24
$E4$	17	7	24
$E5$	16	5	21
$E6$	17	6	23
$E7$	15	5	20
$E8$	14	5	19
$E9$	14	5	19
$E10$	14	4	18
$E11$	14	4	18
$E12$	15	6	21
$E13$	13	4	17
$E14$	12	3	15
$E15$	15	5	20
$E16$	13	3	16
$E17$	12	3	15
$E18$	15	5	20
$E19$	12	3	15
$E20$	12	3	15
$E21$	12	3	15
$E22$	12	4	16
$E23$	12	4	16
$E24$	12	4	16
$E25$	12	4	16
$E26$	12	4	16
$E27$	13	4	17
$E28$	12	4	16
$E29$	12	4	16
$E30$	12	4	16
$E31$	13	3	16
$E32$	13	3	16
$E33$	13	3	16
$E34$	13	3	16
$E35$	12	4	16
$E36$	12	4	16
$E37$	12	4	16
$E38$	12	3	15
$E39$	12	3	15
$E40$	12	3	15

Incidence between Orbits of Facets and Orbits of Extreme Rays

	$E1$	$E2$	$E3$	$E4$	$E5$	$E6$	$E7$	$E8$	$E9$	$E10$	$E11$	$E12$	$E13$	$E14$	$E15$	$E16$	$E17$	$E18$	$E19$	$E20$	$E21$	$E22$	$E23$	$E24$	$E25$	$E26$	$E27$	$E28$	$E29$	$E30$	$E31$	$E32$	$E33$	$E34$	$E35$	$E36$	$E37$	E
$F1$	11	36	6	51	48	34	36	28	168	84	336	90	156	24	36	156	144	180	144	72	36	288	288	144	144	144	156	144	144	72	312	312	312	156	288	144	144	1
$F2$	9	24	4	42	30	24	24	20	120	48	192	72	96	12	24	72	72	120	72	36	18	192	192	96	96	96	96	96	96	48	144	144	144	72	192	96	96	7