BLT-sets of Q(4, 43)

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There are 6 BLT-sets.

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The BLT-Sets

3.1 Isomorphism Type 0

Stabilizer has order 6992832
Plane intersection type is 44
Plane invariant is

$$\left[\ 44\ \right]$$

$\rightarrow$	1_1
44_0	1

$\downarrow$	1_1
44_0	44

$C_0 = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42,$
$C_1 = \{0\}_1$

$\rightarrow$	1_1
44_0	1

$\downarrow$	1_1
44_0	44

$C_0 = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42,$
$C_1 = \{0\}_1$
Column cell 1:
Order of the group that is induced on the object is 79464
Number of ancestors on 5-sets is 22.
Number of orbits on 5-sets is 19.
With 1 orbits on the object
Orbit lengths: 44
The points by ranks:

i	Rank	i	Rank	i	Rank	i	Rank
0	0	11	228	22	217	33	240
1	1	12	218	23	222	34	241
2	214	13	234	24	225	35	242
3	215	14	220	25	227	36	244
4	216	15	224	26	229	37	246
5	219	16	232	27	230	38	247
6	249	17	238	28	231	39	248
7	239	18	245	29	233	40	250
8	243	19	253	30	235	41	251
9	221	20	254	31	236	42	252
10	223	21	226	32	237	43	255

The points:

$$P_0 = (0, 1, 0, 0, 0)P_1 = (0, 0, 1, 0, 0)P_2 = (0, 1, 21, 42, 21)P_3 = (0, 1, 16, 21, 32)$$
$$P_4 = (0, 1, 31, 14, 7)P_5 = (0, 1, 40, 7, 25)P_6 = (0, 1, 25, 37, 40)P_7 = (0, 1, 9, 38, 19)$$
$$P_8 = (0, 1, 36, 10, 5)P_9 = (0, 1, 1, 16, 8)P_{10} = (0, 1, 23, 30, 15)P_{11} = (0, 1, 15, 20, 10)$$
$$P_{12} = (0, 1, 6, 17, 30)P_{13} = (0, 1, 41, 2, 1)P_{14} = (0, 1, 25, 6, 3)P_{15} = (0, 1, 35, 39, 41)$$
$$P_{16} = (0, 1, 24, 9, 26)P_{17} = (0, 1, 14, 12, 6)P_{18} = (0, 1, 35, 4, 2)P_{19} = (0, 1, 31, 29, 36)$$
$$P_{20} = (0, 1, 16, 22, 11)P_{21} = (0, 1, 36, 33, 38)P_{22} = (0, 1, 4, 32, 16)P_{23} = (0, 1, 13, 19, 31)$$
$$P_{24} = (0, 1, 10, 25, 34)P_{25} = (0, 1, 17, 3, 23)P_{26} = (0, 1, 11, 8, 4)P_{27} = (0, 1, 9, 5, 24)$$
$$P_{28} = (0, 1, 14, 31, 37)P_{29} = (0, 1, 38, 15, 29)P_{30} = (0, 1, 41, 41, 42)P_{31} = (0, 1, 38, 28, 14)$$
$$P_{32} = (0, 1, 24, 34, 17)P_{33} = (0, 1, 11, 35, 39)P_{34} = (0, 1, 15, 23, 33)P_{35} = (0, 1, 17, 40, 20)$$
$$P_{36} = (0, 1, 10, 18, 9)P_{37} = (0, 1, 23, 13, 28)P_{38} = (0, 1, 13, 24, 12)P_{39} = (0, 1, 1, 27, 35)$$
$$P_{40} = (0, 1, 40, 36, 18)P_{41} = (0, 1, 6, 26, 13)P_{42} = (0, 1, 4, 11, 27)P_{43} = (0, 1, 21, 1, 22)$$

Stabilizer of order 6992832 is generated by:

$$g_1 = \begin{bmatrix} 40 & 0 & 0 & 0 & 0 \\ 0 & 3 & 0 & 0 & 0 \\ 0 & 0 & 3 & 0 & 0 \\ 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 3 \end{bmatrix}$$

with 1936 fixed points

$$g_2 = \begin{bmatrix} 5 & 0 & 0 & 0 & 0 \\ 0 & 23 & 0 & 0 & 0 \\ 0 & 0 & 31 & 0 & 0 \\ 0 & 0 & 0 & 5 & 0 \\ 0 & 0 & 0 & 0 & 5 \end{bmatrix}$$

with 46 fixed points

$$g_3 = \begin{bmatrix} 17 & 0 & 0 & 0 & 0 \\ 0 & 21 & 0 & 0 & 0 \\ 0 & 0 & 24 & 0 & 0 \\ 0 & 0 & 0 & 17 & 0 \\ 0 & 0 & 0 & 0 & 17 \end{bmatrix}$$

with 46 fixed points

$$g_4 = \begin{bmatrix} 30 & 0 & 0 & 12 & 37 \\ 0 & 22 & 0 & 0 & 0 \\ 0 & 0 & 22 & 0 & 0 \\ 40 & 0 & 0 & 39 & 13 \\ 6 & 0 & 0 & 9 & 39 \end{bmatrix}$$

with 1936 fixed points

$$g_5 = \begin{bmatrix} 14 & 0 & 0 & 16 & 35 \\ 0 & 38 & 0 & 0 & 0 \\ 0 & 0 & 38 & 0 & 0 \\ 39 & 0 & 0 & 12 & 13 \\ 8 & 0 & 0 & 9 & 12 \end{bmatrix}$$

with 1850 fixed points

$$g_6 = \begin{bmatrix} 25 & 0 & 0 & 20 & 33 \\ 0 & 9 & 0 & 0 & 0 \\ 0 & 10 & 9 & 11 & 27 \\ 5 & 27 & 0 & 8 & 13 \\ 33 & 11 & 0 & 9 & 8 \end{bmatrix}$$

with 2 fixed points

$$g_7 = \begin{bmatrix} 25 & 0 & 0 & 23 & 10 \\ 0 & 17 & 0 & 0 & 0 \\ 0 & 9 & 25 & 18 & 9 \\ 38 & 17 & 0 & 8 & 13 \\ 10 & 34 & 0 & 9 & 8 \end{bmatrix}$$

with 2 fixed points

$$g_8 = \begin{bmatrix} 6 & 0 & 0 & 35 & 4 \\ 0 & 0 & 21 & 0 & 0 \\ 0 & 35 & 4 & 8 & 4 \\ 2 & 0 & 42 & 39 & 1 \\ 39 & 0 & 41 & 4 & 39 \end{bmatrix}$$

with 2 fixed points

3.2 Isomorphism Type 1

Stabilizer has order 3872
Plane intersection type is $22^2\ 4^{121}\ 3^{9680}$

Plane invariant is

$$\begin{bmatrix} 22 & 0 \\ 0 & 22 \end{bmatrix}$$

$\rightarrow$	2_1
44_0	1

$\downarrow$	2_1
44_0	22

$C_0 = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42,$
$C_1 = \{0, 1\}_2$

$\rightarrow$	2_1	121_2
44_0	1	11

$\downarrow$	2_1	121_2
44_0	22	4

$C_0 = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42,$
$C_1 = \{0, 122\}_2$
$C_2 = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43$
Column cell 1:
Column cell 2:
Order of the group that is induced on the object is 3872
Number of ancestors on 5-sets is 1256.
Number of orbits on 5-sets is 1256.
With 1 orbits on the object
Orbit lengths: 44
The points by ranks:

i	Rank	i	Rank	i	Rank	i	Rank
0	0	11	228	22	62403	33	244
1	1	12	56569	23	57028	34	28562
2	214	13	31027	24	233	35	18960
3	215	14	63949	25	62606	36	52724
4	216	15	217	26	52582	37	60504
5	219	16	45925	27	236	38	21714
6	249	17	73339	28	21555	39	251
7	239	18	18305	29	19553	40	16662
8	243	19	44021	30	51843	41	253
9	221	20	229	31	40000	42	70320
10	223	21	230	32	242	43	255

The points:

$$P_0 = (0, 1, 0, 0, 0)P_1 = (0, 0, 1, 0, 0)P_2 = (0, 1, 21, 42, 21)P_3 = (0, 1, 16, 21, 32)$$

$$P_4 = (0, 1, 31, 14, 7)P_5 = (0, 1, 40, 7, 25)P_6 = (0, 1, 25, 37, 40)P_7 = (0, 1, 9, 38, 19)$$

$$P_8 = (0, 1, 36, 10, 5)P_9 = (0, 1, 1, 16, 8)P_{10} = (0, 1, 23, 30, 15)P_{11} = (0, 1, 15, 20, 10)$$

$$P_{12} = (1, 42, 19, 31, 20)P_{13} = (1, 8, 20, 14, 10)P_{14} = (1, 18, 2, 20, 39)P_{15} = (0, 1, 4, 32, 16)$$

$$P_{16} = (1, 14, 35, 34, 2)P_{17} = (1, 13, 11, 32, 17)P_{18} = (1, 7, 39, 33, 36)P_{19} = (1, 26, 22, 7, 41)$$

$$P_{20} = (0, 1, 11, 8, 4)P_{21} = (0, 1, 9, 5, 24)P_{22} = (1, 39, 33, 19, 25)P_{23} = (1, 10, 25, 24, 20)$$

$$P_{24} = (0, 1, 38, 15, 29)P_{25} = (1, 6, 15, 12, 39)P_{26} = (1, 20, 7, 32, 5)P_{27} = (0, 1, 38, 28, 14)$$

$$P_{28} = (1, 23, 36, 33, 27)P_{29} = (1, 37, 28, 8, 37)P_{30} = (1, 33, 18, 3, 31)P_{31} = (1, 4, 10, 36, 12)$$

$$P_{32} = (0, 1, 17, 40, 20)P_{33} = (0, 1, 10, 18, 9)P_{34} = (1, 17, 21, 4, 18)P_{35} = (1, 35, 23, 23, 36)$$

$$P_{36} = (1, 36, 4, 14, 5)P_{37} = (1, 25, 41, 8, 33)P_{38} = (1, 30, 32, 9, 27)P_{39} = (0, 1, 6, 26, 13)$$

$$P_{40} = (1, 29, 8, 39, 26)P_{41} = (0, 1, 31, 29, 36)P_{42} = (1, 1, 24, 3, 6)P_{43} = (0, 1, 21, 1, 22)$$

Stabilizer of order 3872 is generated by:

$$g_1 = \begin{bmatrix} 14 & 0 & 0 & 27 & 8 \\ 0 & 38 & 0 & 0 & 0 \\ 0 & 0 & 38 & 0 & 0 \\ 4 & 0 & 0 & 12 & 13 \\ 35 & 0 & 0 & 9 & 12 \end{bmatrix}$$

with 1850 fixed points

$$g_2 = \begin{bmatrix} 3 & 0 & 0 & 22 & 32 \\ 0 & 38 & 0 & 0 & 0 \\ 0 & 0 & 38 & 0 & 0 \\ 16 & 0 & 0 & 39 & 21 \\ 11 & 0 & 0 & 41 & 39 \end{bmatrix}$$

with 1850 fixed points

$$g_3 = \begin{bmatrix} 14 & 0 & 0 & 16 & 35 \\ 0 & 38 & 0 & 0 & 0 \\ 0 & 0 & 38 & 0 & 0 \\ 39 & 0 & 0 & 12 & 13 \\ 8 & 0 & 0 & 9 & 12 \end{bmatrix}$$

with 1850 fixed points

$$g_4 = \begin{bmatrix} 25 & 0 & 0 & 20 & 33 \\ 0 & 9 & 0 & 0 & 0 \\ 0 & 10 & 9 & 11 & 27 \\ 5 & 27 & 0 & 8 & 13 \\ 33 & 11 & 0 & 9 & 8 \end{bmatrix}$$

with 2 fixed points

$$g_5 = \begin{bmatrix} 22 & 0 & 0 & 24 & 31 \\ 0 & 0 & 35 & 0 & 0 \\ 0 & 40 & 0 & 0 & 0 \\ 37 & 0 & 0 & 39 & 9 \\ 12 & 0 & 0 & 36 & 39 \end{bmatrix}$$

with 44 fixed points

$$g_6 = \begin{bmatrix} 0 & 18 & 6 & 19 & 31 \\ 3 & 42 & 19 & 16 & 6 \\ 9 & 34 & 42 & 21 & 8 \\ 37 & 8 & 6 & 21 & 39 \\ 31 & 21 & 16 & 14 & 21 \end{bmatrix}$$

with 44 fixed points

3.3 Isomorphism Type 2

Stabilizer has order 2
Plane intersection type is $5^9\ 4^{297}\ 3^{11966}$
Plane invariant is

$$\begin{bmatrix} 5 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 5 & 0 & 2 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 5 & 0 & 1 & 0 & 1 & 1 & 2 \\ 0 & 2 & 0 & 5 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 5 & 0 & 1 & 1 & 2 \\ 0 & 0 & 0 & 0 & 0 & 5 & 0 & 1 & 0 \\ 1 & 1 & 1 & 0 & 1 & 0 & 5 & 0 & 2 \\ 0 & 0 & 1 & 1 & 1 & 1 & 0 & 5 & 2 \\ 0 & 0 & 2 & 0 & 2 & 0 & 2 & 2 & 5 \end{bmatrix}$$

$\rightarrow$	1_1	2_6	2_5	2_7	2_8
1_0	1	2	0	0	0
2_9	1	1	1	0	0
2_3	1	0	1	0	0
2_{12}	0	1	1	0	0
2_{13}	0	0	1	1	0
2_{15}	0	0	1	0	1
2_{14}	0	0	0	2	0
4_2	0	1	0	0	0
4_{10}	0	0	0	1	0
8_{11}	0	0	0	0	1
15_4	0	0	0	0	0

$\downarrow$	1_1	2_6	2_5	2_7	2_8
1_0	1	1	0	0	0
2_9	2	1	1	0	0
2_3	2	0	1	0	0
2_{12}	0	1	1	0	0
2_{13}	0	0	1	1	0
2_{15}	0	0	1	0	1
2_{14}	0	0	0	2	0
4_2	0	2	0	0	0
4_{10}	0	0	0	2	0
8_{11}	0	0	0	0	4
15_4	0	0	0	0	0

$C_0 = \{12\}_1$
$C_1 = \{8\}_1$
$C_2 = \{8, 9, 14, 41\}_4$
$C_3 = \{20, 40\}_2$
$C_4 = \{5, 6, 10, 16, 18, 24, 25, 26, 27, 29, 30, 31, 34, 36, 38\}_{15}$
$C_5 = \{6, 7\}_2$
$C_6 = \{2, 4\}_2$
$C_7 = \{1, 3\}_2$
$C_8 = \{0, 5\}_2$
$C_9 = \{21, 23\}_2$
$C_{10} = \{0, 3, 17, 22\}_4$
$C_{11} = \{7, 11, 15, 19, 32, 33, 39, 43\}_8$
$C_{12} = \{28, 42\}_2$
$C_{13} = \{2, 37\}_2$
$C_{14} = \{1, 4\}_2$
$C_{15} = \{13, 35\}_2$

$\rightarrow$	1_1	2_{22}	2_{24}	2_{23}	2_{25}	2_2	2_{28}	2_{27}	2_{30}	2_{31}	2_{32}	2_{33}	2_{34}	2_{35}	4_{29}	2_{36}	2_{38}	2_{37}	2_{40}	2_{39}	2_{43}	2_{42}	2_{44}	2_{41}	2_{46}
2_0	1	1	1	0	0	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1
1_5	1	2	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2_4	0	0	1	1	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
2_6	1	0	1	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
2_8	0	1	1	0	0	0	0	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
2_9	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2_7	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
2_3	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0
2_{13}	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
2_{12}	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	1
2_{15}	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0
2_{14}	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2_{176}	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
2_{177}	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
2_{11}	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2_{10}	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2	0	0	1	0	1	0	0	0	1	0
1_{16}	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
2_{178}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
2_{19}	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	1
2_{18}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0
2_{21}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
2_{20}	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_{17}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0

$\downarrow$	1_1	2_{22}	2_{24}	2_{23}	2_{25}	2_2	2_{28}	2_{27}	2_{30}	2_{31}	2_{32}	2_{33}	2_{34}	2_{35}	4_{29}	2_{36}	2_{38}	2_{37}	2_{40}	2_{39}	2_{43}	2_{42}	2_{44}	2_{41}	2_{46}
2_0	2	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1_5	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2_4	0	0	1	1	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
2_6	2	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
2_8	0	1	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
2_9	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2_7	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
2_3	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0
2_{13}	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
2_{12}	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	1
2_{15}	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0
2_{14}	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2_{176}	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
2_{177}	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
2_{11}	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2_{10}	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	1	0	1	0	0	0	1	0
1_{16}	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
2_{178}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
2_{19}	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	1
2_{18}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0
2_{21}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
2_{20}	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_{17}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0

$C_0 = \{21, 23\}_2$
$C_1 = \{210\}_1$
$C_2 = \{5, 272\}_2$
$C_3 = \{0, 22\}_2$
$C_4 = \{13, 35\}_2$
$C_5 = \{12\}_1$
$C_6 = \{20, 40\}_2$
$C_7 = \{2, 37\}_2$
$C_8 = \{28, 42\}_2$
$C_9 = \{1, 4\}_2$
$C_{10} = \{24, 30\}_2$
$C_{11} = \{8, 41\}_2$
$C_{12} = \{19, 33\}_2$
$C_{13} = \{3, 17\}_2$
$C_{14} = \{9, 14\}_2$
$C_{15} = \{7, 11\}_2$
$C_{16} = \{5\}_1$
$C_{17} = \{6, 10\}_2$
$C_{18} = \{27, 38\}_2$
$C_{19} = \{16, 34\}_2$
$C_{20} = \{18, 36\}_2$
$C_{21} = \{26, 29\}_2$
$C_{22} = \{163, 302\}_2$
$C_{23} = \{17, 172\}_2$
$C_{24} = \{118, 223\}_2$
$C_{25} = \{37, 305\}_2$
$C_{26} = \{111, 160\}_2$
$C_{27} = \{100, 232\}_2$
$C_{28} = \{147, 246\}_2$
$C_{29} = \{90, 127, 141, 262\}_4$
$C_{30} = \{130, 258\}_2$
$C_{31} = \{4, 84\}_2$
$C_{32} = \{41, 274\}_2$
$C_{33} = \{24, 247\}_2$
$C_{34} = \{136, 270\}_2$

$C_{35} = \{259, 260\}_2$
$C_{36} = \{49, 85\}_2$
$C_{37} = \{96, 300\}_2$
$C_{38} = \{28, 202\}_2$
$C_{39} = \{228, 286\}_2$
$C_{40} = \{62, 67\}_2$
$C_{41} = \{175, 206\}_2$
$C_{42} = \{198, 245\}_2$
$C_{43} = \{236, 279\}_2$
$C_{44} = \{107, 109\}_2$
$C_{45} = \{68, 282\}_2$
$C_{46} = \{23, 66\}_2$
$C_{47} = \{22, 120\}_2$
$C_{48} = \{40, 231\}_2$
$C_{49} = \{156, 164\}_2$
$C_{50} = \{114, 244\}_2$
$C_{51} = \{61, 256\}_2$
$C_{52} = \{189, 219\}_2$
$C_{53} = \{240, 278\}_2$
$C_{54} = \{126, 224\}_2$
$C_{55} = \{70, 255\}_2$
$C_{56} = \{261, 277\}_2$
$C_{57} = \{3, 269\}_2$
$C_{58} = \{73, 303\}_2$
$C_{59} = \{21, 124\}_2$
$C_{60} = \{208\}_1$
$C_{61} = \{158, 297\}_2$
$C_{62} = \{89, 205\}_2$
$C_{63} = \{287, 291\}_2$
$C_{64} = \{129\}_1$
$C_{65} = \{93\}_1$
$C_{66} = \{212, 213\}_2$
$C_{67} = \{139, 209\}_2$
$C_{68} = \{174, 222\}_2$
$C_{69} = \{199, 257\}_2$
$C_{70} = \{95, 248\}_2$
$C_{71} = \{104, 128\}_2$
$C_{72} = \{53, 200\}_2$
$C_{73} = \{229, 290\}_2$
$C_{74} = \{72, 254\}_2$
$C_{75} = \{43, 65\}_2$
$C_{76} = \{55, 285\}_2$
$C_{77} = \{162, 253\}_2$
$C_{78} = \{122, 238\}_2$
$C_{79} = \{123, 289\}_2$
$C_{80} = \{30, 86\}_2$
$C_{81} = \{79, 192\}_2$
$C_{82} = \{137, 195\}_2$
$C_{83} = \{116, 143\}_2$
$C_{84} = \{211, 214\}_2$
$C_{85} = \{19, 144\}_2$
$C_{86} = \{33, 215\}_2$
$C_{87} = \{148, 296\}_2$
$C_{88} = \{103, 288\}_2$
$C_{89} = \{91, 99\}_2$
$C_{90} = \{42, 115\}_2$
$C_{91} = \{2, 283\}_2$
$C_{92} = \{77, 159\}_2$
$C_{93} = \{35, 57\}_2$

$C_{94} = \{81, 166\}_2$
$C_{95} = \{50, 216\}_2$
$C_{96} = \{16, 47\}_2$
$C_{97} = \{193, 251\}_2$
$C_{98} = \{34, 45\}_2$
$C_{99} = \{20, 173\}_2$
$C_{100} = \{44, 98\}_2$
$C_{101} = \{171, 281\}_2$
$C_{102} = \{64, 242\}_2$
$C_{103} = \{239\}_1$
$C_{104} = \{207\}_1$
$C_{105} = \{25, 27\}_2$
$C_{106} = \{225, 264\}_2$
$C_{107} = \{167, 273\}_2$
$C_{108} = \{39, 87\}_2$
$C_{109} = \{188, 249\}_2$
$C_{110} = \{12, 105\}_2$
$C_{111} = \{265, 292\}_2$
$C_{112} = \{10, 266\}_2$
$C_{113} = \{15, 203\}_2$
$C_{114} = \{134, 298\}_2$
$C_{115} = \{170, 252\}_2$
$C_{116} = \{6, 54\}_2$
$C_{117} = \{149, 220\}_2$
$C_{118} = \{155, 294\}_2$
$C_{119} = \{135, 201\}_2$
$C_{120} = \{38, 119\}_2$
$C_{121} = \{31, 217\}_2$
$C_{122} = \{101, 280\}_2$
$C_{123} = \{26, 94\}_2$
$C_{124} = \{131, 145\}_2$
$C_{125} = \{179, 186\}_2$
$C_{126} = \{36, 142\}_2$
$C_{127} = \{151, 185\}_2$
$C_{128} = \{184, 226\}_2$
$C_{129} = \{9, 243\}_2$
$C_{130} = \{154, 268\}_2$
$C_{131} = \{194, 301\}_2$
$C_{132} = \{29, 63\}_2$
$C_{133} = \{132, 180\}_2$
$C_{134} = \{108, 110\}_2$
$C_{135} = \{138, 191\}_2$
$C_{136} = \{7, 60\}_2$
$C_{137} = \{106\}_1$
$C_{138} = \{237, 241\}_2$
$C_{139} = \{46, 150\}_2$
$C_{140} = \{88, 250\}_2$
$C_{141} = \{153, 169\}_2$
$C_{142} = \{11, 125\}_2$
$C_{143} = \{75, 221\}_2$
$C_{144} = \{14, 51\}_2$
$C_{145} = \{165, 233\}_2$
$C_{146} = \{97, 177\}_2$
$C_{147} = \{83, 293\}_2$
$C_{148} = \{218, 235\}_2$
$C_{149} = \{146, 197\}_2$
$C_{150} = \{234, 276\}_2$
$C_{151} = \{76, 157\}_2$
$C_{152} = \{187, 304\}_2$

$C_{153} = \{71, 78\}_2$
$C_{154} = \{152, 181\}_2$
$C_{155} = \{48, 112\}_2$
$C_{156} = \{113, 182\}_2$
$C_{157} = \{117, 161\}_2$
$C_{158} = \{299\}_1$
$C_{159} = \{121, 178\}_2$
$C_{160} = \{133, 183\}_2$
$C_{161} = \{52, 295\}_2$
$C_{162} = \{263, 275\}_2$
$C_{163} = \{1, 190\}_2$
$C_{164} = \{18, 176\}_2$
$C_{165} = \{140, 227\}_2$
$C_{166} = \{168, 196\}_2$
$C_{167} = \{69, 80\}_2$
$C_{168} = \{0, 204\}_2$
$C_{169} = \{32, 82\}_2$
$C_{170} = \{56, 59\}_2$
$C_{171} = \{58, 74\}_2$
$C_{172} = \{13, 230\}_2$
$C_{173} = \{102, 284\}_2$
$C_{174} = \{92, 267\}_2$
$C_{175} = \{8, 271\}_2$
$C_{176} = \{15, 39\}_2$
$C_{177} = \{32, 43\}_2$
$C_{178} = \{25, 31\}_2$
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Column cell 175:
Order of the group that is induced on the object is 2
Number of ancestors on 5-sets is 543214.
Number of orbits on 5-sets is 543214.
With 23 orbits on the object
Orbit lengths: $1^2,\ 2^{21}$
The points by ranks:

i	Rank	i	Rank	i	Rank	i	Rank
0	0	11	60002	22	54856	33	62994
1	1	12	35285	23	30164	34	23840
2	214	13	18280	24	14642	35	52043
3	215	14	52835	25	40303	36	47352
4	216	15	26968	26	47485	37	80093
5	1381	16	11394	27	76615	38	71034
6	18355	17	61358	28	54717	39	25842
7	67392	18	54803	29	45870	40	72753
8	61118	19	51697	30	29475	41	69275
9	47911	20	39003	31	39793	42	13821
10	39836	21	23538	32	50755	43	65140

The points:

$$P_0 = (0,1,0,0,0)P_1 = (0,0,1,0,0)P_2 = (0,1,21,42,21)P_3 = (0,1,16,21,32)$$

$$P_4 = (0,1,31,14,7)P_5 = (0,1,35,24,29)P_6 = (1,38,14,27,36)P_7 = (1,25,41,32,19)$$

$$P_8 = (1,7,26,3,25)P_9 = (1,42,20,7,15)P_{10} = (1,10,38,22,12)P_{11} = (1,36,15,24,33)$$

$$P_{12} = (1,20,22,39,35)P_{13} = (1,19,37,33,36)P_{14} = (1,1,17,5,5)P_{15} = (1,17,1,17,4)$$

$$P_{16} = (1,6,24,11,22)P_{17} = (1,9,16,20,25)P_{18} = (1,5,39,40,8)P_{19} = (1,22,19,17,31)$$

$$P_{20} = (1,40,9,38,12)P_{21} = (1,40,23,10,24)P_{22} = (1,25,1,29,8)P_{23} = (1,12,26,16,10)$$

$$P_{24} = (1,15,15,42,11)P_{25} = (1,3,2,39,34)P_{26} = (1,28,2,22,15)P_{27} = (1,40,11,33,14)$$

$$P_{28} = (1,28,33,8,8)P_{29} = (1,5,29,13,2)P_{30} = (1,18,33,41,18)P_{31} = (1,1,35,40,12)$$

$$P_{32} = (1,15,35,8,31)P_{33} = (1,42,30,25,39)P_{34} = (1,36,15,33,24)P_{35} = (1,37,22,7,31)$$

$$P_{36} = (1,21,23,5,15)P_{37} = (1,36,17,11,42)P_{38} = (1,25,24,36,6)P_{39} = (1,21,24,24,13)$$

$$P_{40} = (1,31,36,37,7)P_{41} = (1,1,40,27,16)P_{42} = (1,12,42,33,29)P_{43} = (1,34,7,25,30)$$

Stabilizer of order 2 is generated by:

$$g_1 = \begin{bmatrix} 20 & 0 & 42 & 22 & 29 \\ 21 & 9 & 21 & 7 & 39 \\ 0 & 10 & 9 & 11 & 27 \\ 36 & 27 & 39 & 42 & 27 \\ 11 & 11 & 7 & 26 & 42 \end{bmatrix}$$

with 44 fixed points

3.4 Isomorphism Type 3

Stabilizer has order 4
Plane intersection type is $4^{275}\ 3^{12144}$
Plane invariant is too big (275 planes)

$\rightarrow$	2_1	2_{72}	2_{10}	2_{11}	2_{73}	2_{74}	2_{12}	2_{13}	2_{14}	2_{75}	1_{15}	4_9	4_{19}	4_{18}	4_{20}	4_{17}	4_{22}	4_{21}	4_{23}	4_{24}	4_{76}	4_{25}	2_{16}	4_{26}	2_{28}
2_0	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	0	0	0
4_2	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2	0
4_{68}	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1
4_4	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	1
4_5	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	0	0	0	0	0
4_{69}	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0
4_{70}	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0
4_3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0
4_7	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0
4_8	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	0
4_{71}	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
2_6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	2	0	0	0	0	0	0

$C_0 = \{0, 2\}_2$
$C_1 = \{85, 187\}_2$
$C_2 = \{1, 3, 23, 28\}_4$
$C_3 = \{13, 16, 35, 39\}_4$
$C_4 = \{4, 21, 29, 32\}_4$
$C_5 = \{5, 8, 22, 37\}_4$
$C_6 = \{25, 26\}_2$
$C_7 = \{6, 9, 31, 41\}_4$
$C_8 = \{17, 24, 27, 34\}_4$
$C_9 = \{16, 17, 81, 82\}_4$
$C_{10} = \{83, 253\}_2$
$C_{11} = \{84, 239\}_2$
$C_{12} = \{9, 101\}_2$
$C_{13} = \{237, 240\}_2$
$C_{14} = \{166, 247\}_2$
$C_{15} = \{58\}_1$
$C_{16} = \{41, 182\}_2$
$C_{17} = \{66, 67, 222, 226\}_4$
$C_{18} = \{37, 232, 255, 256\}_4$
$C_{19} = \{12, 133, 134, 263\}_4$
$C_{20} = \{121, 126, 225, 227\}_4$
$C_{21} = \{174, 175, 181, 268\}_4$
$C_{22} = \{53, 144, 145, 271\}_4$
$C_{23} = \{10, 118, 119, 220\}_4$
$C_{24} = \{2, 164, 212, 213\}_4$
$C_{25} = \{99, 138, 217, 218\}_4$
$C_{26} = \{5, 163, 184, 229\}_4$
$C_{27} = \{57, 86, 95, 112\}_4$
$C_{28} = \{116, 261\}_2$
$C_{29} = \{36, 198, 219, 260\}_4$
$C_{30} = \{180, 188, 215, 251\}_4$
$C_{31} = \{0, 27, 130, 252\}_4$
$C_{32} = \{56, 113, 142, 248\}_4$
$C_{33} = \{6, 13, 34, 94\}_4$
$C_{34} = \{28, 52, 69, 80\}_4$
$C_{35} = \{249, 264\}_2$
$C_{36} = \{93, 108, 124, 196\}_4$
$C_{37} = \{105, 265\}_2$
$C_{38} = \{97, 132\}_2$

$C_{39} = \{7, 49, 61, 210\}_4$
$C_{40} = \{45, 76, 192, 242\}_4$
$C_{41} = \{63, 231, 235, 254\}_4$
$C_{42} = \{3, 156, 224, 230\}_4$
$C_{43} = \{38, 72, 73, 207\}_4$
$C_{44} = \{70, 201, 204, 270\}_4$
$C_{45} = \{11, 33, 125, 172\}_4$
$C_{46} = \{104, 170, 173, 211\}_4$
$C_{47} = \{35, 47, 129, 161, 238, 241, 243, 273\}_8$
$C_{48} = \{123, 165, 171, 186\}_4$
$C_{49} = \{139, 149, 157, 158\}_4$
$C_{50} = \{153, 162, 176, 189\}_4$
$C_{51} = \{32, 42, 64, 228\}_4$
$C_{52} = \{78, 89\}_2$
$C_{53} = \{20, 50, 122, 197\}_4$
$C_{54} = \{51, 111, 221, 262\}_4$
$C_{55} = \{65, 77, 143, 194\}_4$
$C_{56} = \{19, 87, 127, 203\}_4$
$C_{57} = \{146, 177, 208, 272\}_4$
$C_{58} = \{40, 96, 183, 209\}_4$
$C_{59} = \{30, 269\}_2$
$C_{60} = \{21, 206\}_2$
$C_{61} = \{137, 159, 160, 246\}_4$
$C_{62} = \{31, 136, 169, 266\}_4$
$C_{63} = \{79, 88, 135, 234\}_4$
$C_{64} = \{106, 155, 195, 250\}_4$
$C_{65} = \{25, 59, 100, 115\}_4$
$C_{66} = \{48, 154\}_2$
$C_{67} = \{54, 258\}_2$
$C_{68} = \{10, 11, 42, 43\}_4$
$C_{69} = \{14, 19, 30, 38\}_4$
$C_{70} = \{7, 12, 20, 40\}_4$
$C_{71} = \{15, 18, 33, 36\}_4$
$C_{72} = \{167, 223\}_2$
$C_{73} = \{15, 68\}_2$
$C_{74} = \{185, 274\}_2$
$C_{75} = \{24, 71\}_2$
$C_{76} = \{14, 140, 141, 152\}_4$
$C_{77} = \{18, 114, 214, 244\}_4$
$C_{78} = \{29, 92, 109, 128\}_4$
$C_{79} = \{102, 257\}_2$
$C_{80} = \{39, 267\}_2$
$C_{81} = \{26, 110, 131, 193\}_4$
$C_{82} = \{44, 46, 75, 90\}_4$
$C_{83} = \{62, 107, 151, 190\}_4$
$C_{84} = \{8, 147, 179, 202\}_4$
$C_{85} = \{150, 168, 200, 245\}_4$
$C_{86} = \{23, 43, 60, 148\}_4$
$C_{87} = \{1, 4, 22, 55, 74, 98, 199, 259\}_8$
$C_{88} = \{91, 117, 191, 205\}_4$
$C_{89} = \{178, 233\}_2$
$C_{90} = \{103, 120, 216, 236\}_4$

$\rightarrow$	2_1	2_{72}	2_{10}	2_{11}	2_{73}	2_{74}	2_{12}	2_{13}	2_{14}	2_{75}	1_{15}	4_9	4_{19}	4_{18}	4_{20}	4_{17}	4_{22}	4_{21}	4_{23}	4_{24}	4_{76}	4_{25}	2_{16}	4_{26}	2_{28}
2_0	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	0	0	0
4_2	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2	0
4_{68}	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1
4_4	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	1
4_5	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	0	0	0	0	0
4_{69}	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0
4_{70}	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0
4_3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0
4_7	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0
4_8	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	0
4_{71}	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
2_6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	2	0	0	0	0	0	0

$\downarrow$	2_1	2_{72}	2_{10}	2_{11}	2_{73}	2_{74}	2_{12}	2_{13}	2_{14}	2_{75}	1_{15}	4_9	4_{19}	4_{18}	4_{20}	4_{17}	4_{22}	4_{21}	4_{23}	4_{24}	4_{76}	4_{25}	2_{16}	4_{26}	2_{28}
2_0	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	0	0	0
4_2	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	2	0
4_{68}	0	2	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	2	1	2
4_4	0	0	2	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	2
4_5	0	0	0	2	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	0	0	0	0	0
4_{69}	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0
4_{70}	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0
4_3	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0
4_7	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0
4_8	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	0
4_{71}	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
2_6	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0

$C_0 = \{0, 2\}_2$
$C_1 = \{105, 270\}_2$
$C_2 = \{1, 3, 23, 28\}_4$
$C_3 = \{13, 16, 35, 39\}_4$
$C_4 = \{4, 21, 29, 32\}_4$
$C_5 = \{5, 8, 22, 37\}_4$
$C_6 = \{25, 26\}_2$
$C_7 = \{6, 9, 31, 41\}_4$
$C_8 = \{17, 24, 27, 34\}_4$
$C_9 = \{168, 169, 273, 274\}_4$
$C_{10} = \{190, 272\}_2$
$C_{11} = \{99, 271\}_2$
$C_{12} = \{88, 260\}_2$
$C_{13} = \{29, 196\}_2$
$C_{14} = \{16, 230\}_2$
$C_{15} = \{35\}_1$
$C_{16} = \{109, 155\}_2$
$C_{17} = \{3, 142, 143, 200\}_4$
$C_{18} = \{44, 80, 188, 189\}_4$
$C_{19} = \{60, 61, 93, 171\}_4$
$C_{20} = \{2, 48, 49, 250\}_4$
$C_{21} = \{9, 182, 225, 226\}_4$
$C_{22} = \{7, 149, 240, 241\}_4$
$C_{23} = \{173, 204, 251, 252\}_4$
$C_{24} = \{18, 19, 114, 177\}_4$
$C_{25} = \{50, 51, 245, 261\}_4$
$C_{26} = \{90, 101, 108, 115\}_4$
$C_{27} = \{65, 132, 134, 146\}_4$
$C_{28} = \{63, 185\}_2$
$C_{29} = \{104, 157, 186, 205\}_4$
$C_{30} = \{97, 110, 207, 222\}_4$

$C_{31} = \{42, 62, 84, 92\}_4$
$C_{32} = \{43, 64, 76, 121\}_4$
$C_{33} = \{159, 170, 175, 264\}_4$
$C_{34} = \{13, 70, 135, 162\}_4$
$C_{35} = \{27, 41\}_2$
$C_{36} = \{127, 216, 248, 265\}_4$
$C_{37} = \{184, 259\}_2$
$C_{38} = \{11, 263\}_2$
$C_{39} = \{74, 151, 174, 210\}_4$
$C_{40} = \{1, 28, 138, 219\}_4$
$C_{41} = \{17, 45, 73, 96\}_4$
$C_{42} = \{46, 176, 201, 235\}_4$
$C_{43} = \{79, 140, 141, 212\}_4$
$C_{44} = \{12, 25, 214, 215\}_4$
$C_{45} = \{33, 160, 172, 228\}_4$
$C_{46} = \{129, 209, 227, 229\}_4$
$C_{47} = \{78, 100, 125, 158, 180, 194, 195, 231\}_8$
$C_{48} = \{34, 56, 106, 113\}_4$
$C_{49} = \{59, 116, 122, 234\}_4$
$C_{50} = \{58, 221, 224, 237\}_4$
$C_{51} = \{47, 81, 144, 154\}_4$
$C_{52} = \{68, 136\}_2$
$C_{53} = \{31, 36, 38, 249\}_4$
$C_{54} = \{26, 150, 203, 256\}_4$
$C_{55} = \{72, 137, 217, 242\}_4$
$C_{56} = \{6, 103, 247, 269\}_4$
$C_{57} = \{39, 102, 223, 239\}_4$
$C_{58} = \{8, 131, 156, 211\}_4$
$C_{59} = \{83, 181\}_2$
$C_{60} = \{30, 166\}_2$
$C_{61} = \{123, 192, 232, 233\}_4$
$C_{62} = \{4, 10, 40, 82\}_4$
$C_{63} = \{23, 198, 246, 268\}_4$
$C_{64} = \{20, 117, 191, 258\}_4$
$C_{65} = \{5, 67, 163, 254\}_4$
$C_{66} = \{77, 236\}_2$
$C_{67} = \{94, 148\}_2$
$C_{68} = \{10, 11, 42, 43\}_4$
$C_{69} = \{14, 19, 30, 38\}_4$
$C_{70} = \{7, 12, 20, 40\}_4$
$C_{71} = \{15, 18, 33, 36\}_4$
$C_{72} = \{112, 202\}_2$
$C_{73} = \{71, 86\}_2$
$C_{74} = \{107, 179\}_2$
$C_{75} = \{15, 69\}_2$
$C_{76} = \{87, 118, 243, 244\}_4$
$C_{77} = \{167, 193, 208, 255\}_4$
$C_{78} = \{126, 161, 257, 266\}_4$
$C_{79} = \{95, 130\}_2$
$C_{80} = \{14, 183\}_2$
$C_{81} = \{22, 85, 124, 218\}_4$
$C_{82} = \{37, 139, 152, 267\}_4$
$C_{83} = \{0, 32, 128, 145\}_4$
$C_{84} = \{52, 89, 111, 120\}_4$
$C_{85} = \{53, 57, 98, 119\}_4$
$C_{86} = \{75, 153, 164, 238\}_4$
$C_{87} = \{24, 54, 91, 147, 165, 178, 187, 262\}_8$
$C_{88} = \{133, 213, 220, 253\}_4$
$C_{89} = \{55, 199\}_2$

$C_{90} = \{21, 66, 197, 206\}_4$
Column cell 1:
Column cell 9:
Column cell 10:
Column cell 11:
Column cell 12:
Column cell 13:
Column cell 14:
Column cell 15:
Column cell 16:
Column cell 17:
Column cell 18:
Column cell 19:
Column cell 20:
Column cell 21:
Column cell 22:
Column cell 23:
Column cell 24:
Column cell 25:
Column cell 26:
Column cell 27:
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Column cell 29:
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Column cell 41:
Column cell 42:
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Column cell 62:
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Column cell 64:
Column cell 65:

Column cell 66:
Column cell 67:
Column cell 72:
Column cell 73:
Column cell 74:
Column cell 75:
Column cell 76:
Column cell 77:
Column cell 78:
Column cell 79:
Column cell 80:
Column cell 81:
Column cell 82:
Column cell 83:
Column cell 84:
Column cell 85:
Column cell 86:
Column cell 87:
Column cell 88:
Column cell 89:
Column cell 90:
Order of the group that is induced on the object is 4
Number of ancestors on 5-sets is 271712.
Number of orbits on 5-sets is 271712.
With 12 orbits on the object
Orbit lengths: $2^2,\ 4^{10}$
The points by ranks:

i	Rank	i	Rank	i	Rank	i	Rank
0	0	11	52494	22	1905	33	42167
1	1	12	80274	23	23727	34	16926
2	214	13	46088	24	76014	35	74901
3	215	14	19548	25	26164	36	18709
4	262	15	50346	26	80103	37	34176
5	456	16	63118	27	47305	38	40771
6	28428	17	53557	28	39994	39	19775
7	76908	18	20420	29	75373	40	20869
8	71461	19	35418	30	64591	41	35896
9	69321	20	80641	31	10555	42	52051
10	32128	21	43368	32	671	43	17397

The points:

$$P_0 = (0,1,0,0,0)P_1 = (0,0,1,0,0)P_2 = (0,1,21,42,21)P_3 = (0,1,16,21,32)$$

$$P_4 = (0,1,31,6,2)P_5 = (0,1,25,13,8)P_6 = (1,29,30,40,18)P_7 = (1,8,29,11,14)$$

$$P_8 = (1,31,35,23,7)P_9 = (1,7,12,35,16)P_{10} = (1,33,7,20,40)P_{11} = (1,39,30,41,5)$$

$$P_{12} = (1,6,24,16,42)P_{13} = (1,16,4,32,2)P_{14} = (1,17,23,8,37)P_{15} = (1,5,8,5,9)$$

$$P_{16} = (1,23,25,15,39)P_{17} = (1,11,11,10,5)P_{18} = (1,39,26,33,37)P_{19} = (1,31,24,34,35)$$

$$P_{20} = (1,17,14,24,42)P_{21} = (1,24,41,37,28)P_{22} = (0,1,23,25,18)P_{23} = (1,25,6,17,24)$$

$$P_{24} = (1,27,30,19,32)P_{25} = (1,30,7,40,13)P_{26} = (1,23,36,12,42)P_{27} = (1,4,13,28,15)$$

$$P_{28} = (1,22,37,36,12)P_{29} = (1,32,2,2,32)P_{30} = (1,39,19,24,30)P_{31} = (1,16,13,6,1)$$

$$P_{32} = (0,1,1,26,38)P_{33} = (1,41,17,15,28)P_{34} = (1,37,32,9,26)P_{35} = (1,34,18,1,32)$$

$$P_{36} = (1,13,35,16,36)P_{37} = (1,3,8,12,23)P_{38} = (1,3,20,2,34)P_{39} = (1,30,39,16,37)$$

$$P_{40} = (1, 29, 19, 6, 37) P_{41} = (1, 41, 31, 30, 35) P_{42} = (1, 13, 13, 7, 31) P_{43} = (1, 38, 36, 35, 26)$$

Stabilizer of order 4 is generated by:

$$g_1 = \begin{bmatrix} 3 & 0 & 0 & 0 & 0 \\ 0 & 40 & 0 & 0 & 0 \\ 0 & 24 & 40 & 31 & 37 \\ 0 & 37 & 0 & 3 & 0 \\ 0 & 31 & 0 & 0 & 3 \end{bmatrix}$$

with 46 fixed points

$$g_2 = \begin{bmatrix} 32 & 25 & 0 & 11 & 25 \\ 0 & 32 & 27 & 11 & 27 \\ 34 & 33 & 32 & 19 & 42 \\ 34 & 42 & 27 & 18 & 40 \\ 27 & 19 & 11 & 10 & 18 \end{bmatrix}$$

with 46 fixed points

3.5 Isomorphism Type 4

Stabilizer has order 4
Plane intersection type is $4^{306}\ 3^{12020}$
Plane invariant is too big (306 planes)

$\rightarrow$	4_1	4_9	4_{68}	4_{10}	4_{69}	4_8	4_{12}	4_{14}	4_{16}	4_{70}	4_{15}	4_{17}	4_{13}	4_{19}	4_{18}	4_{71}	4_{72}	4_{22}	4_{23}	4_{21}	4_{24}	4_{25}	4_{73}	4_{26}	4_{20}
4_0	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4_2	1	0	0	0	0	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4_6	0	1	0	0	0	1	0	0	0	0	0	0	1	1	1	0	0	0	1	1	0	1	0	1	0
4_{65}	0	0	1	0	0	0	1	0	0	0	0	0	1	1	0	1	1	1	0	0	1	0	1	0	0
4_5	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	1	1	1	1	0	0	0	0	0	1
4_4	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0
4_{64}	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0	0	0	1
4_7	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0
4_{66}	0	1	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	1	0
4_{67}	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0
4_3	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	1	1

$C_0 = \{17, 19, 27, 39\}_4$
$C_1 = \{138, 191, 248, 290\}_4$
$C_2 = \{1, 7, 13, 42\}_4$
$C_3 = \{11, 12, 16, 43\}_4$
$C_4 = \{3, 18, 26, 41\}_4$
$C_5 = \{0, 2, 21, 22\}_4$
$C_6 = \{5, 8, 32, 35\}_4$
$C_7 = \{6, 14, 23, 33\}_4$
$C_8 = \{50, 169, 230, 271\}_4$
$C_9 = \{81, 166, 194, 266\}_4$
$C_{10} = \{43, 95, 162, 181\}_4$
$C_{11} = \{64, 134, 170, 203\}_4$
$C_{12} = \{46, 216, 239, 260\}_4$
$C_{13} = \{55, 252, 286, 293\}_4$
$C_{14} = \{103, 180, 281, 282\}_4$
$C_{15} = \{18, 119, 201, 274\}_4$
$C_{16} = \{38, 215, 219, 304\}_4$
$C_{17} = \{13, 117, 171, 287\}_4$
$C_{18} = \{8, 31, 110, 245\}_4$
$C_{19} = \{6, 26, 82, 152\}_4$
$C_{20} = \{45, 89, 98, 229\}_4$
$C_{21} = \{29, 66, 91, 96\}_4$

$C_{22} = \{76, 231, 259, 284\}_4$
$C_{23} = \{25, 116, 167, 186\}_4$
$C_{24} = \{12, 20, 104, 114\}_4$
$C_{25} = \{135, 202, 220, 262\}_4$
$C_{26} = \{54, 74, 83, 207\}_4$
$C_{27} = \{115, 179, 263, 268\}_4$
$C_{28} = \{125, 137, 164, 249\}_4$
$C_{29} = \{68, 77, 78, 183\}_4$
$C_{30} = \{24, 72, 175, 177\}_4$
$C_{31} = \{22, 88\}_2$
$C_{32} = \{145, 193, 195, 253\}_4$
$C_{33} = \{34, 48, 93, 214\}_4$
$C_{34} = \{28, 35, 118, 298\}_4$
$C_{35} = \{49, 101, 143, 238\}_4$
$C_{36} = \{58, 108, 242, 291\}_4$
$C_{37} = \{37, 60, 70, 107, 129, 146, 265, 289\}_8$
$C_{38} = \{9, 90, 92, 217\}_4$
$C_{39} = \{80, 120, 140, 178\}_4$
$C_{40} = \{47, 121, 155, 234\}_4$
$C_{41} = \{51, 149, 153, 197\}_4$
$C_{42} = \{106, 157, 224, 246\}_4$
$C_{43} = \{23, 85, 273, 302\}_4$
$C_{44} = \{130, 150, 198, 280\}_4$
$C_{45} = \{151, 192, 269, 270\}_4$
$C_{46} = \{127, 172, 296, 299\}_4$
$C_{47} = \{3, 187, 212, 285\}_4$
$C_{48} = \{75, 122, 160, 163\}_4$
$C_{49} = \{17, 111\}_2$
$C_{50} = \{142, 223, 256, 272\}_4$
$C_{51} = \{1, 199, 204, 297\}_4$
$C_{52} = \{59, 211, 232, 247\}_4$
$C_{53} = \{62, 112, 275, 288\}_4$
$C_{54} = \{94, 147, 165, 261\}_4$
$C_{55} = \{19, 39, 97, 102\}_4$
$C_{56} = \{182, 251, 292, 305\}_4$
$C_{57} = \{128, 277\}_2$
$C_{58} = \{205, 250\}_2$
$C_{59} = \{87, 161, 189, 254\}_4$
$C_{60} = \{15, 30, 208, 236\}_4$
$C_{61} = \{258, 295\}_2$
$C_{62} = \{4, 176, 279, 303\}_4$
$C_{63} = \{14, 40, 42, 105\}_4$
$C_{64} = \{9, 28, 34, 36\}_4$
$C_{65} = \{4, 24, 37, 40\}_4$
$C_{66} = \{10, 15, 25, 38\}_4$
$C_{67} = \{20, 29, 30, 31\}_4$
$C_{68} = \{33, 41, 185, 301\}_4$
$C_{69} = \{32, 86, 126, 206\}_4$
$C_{70} = \{84, 148, 221, 255\}_4$
$C_{71} = \{79, 227, 264, 300\}_4$
$C_{72} = \{2, 7, 21, 73\}_4$
$C_{73} = \{100, 113, 222, 228\}_4$
$C_{74} = \{63, 99, 133, 294\}_4$
$C_{75} = \{57, 61, 123, 243\}_4$
$C_{76} = \{71, 141, 188, 283\}_4$
$C_{77} = \{213, 235, 244, 257\}_4$
$C_{78} = \{0, 131, 132, 173\}_4$
$C_{79} = \{10, 174, 240, 241\}_4$
$C_{80} = \{124, 184, 209, 225\}_4$

$C_{81} = \{44, 53, 139, 218\}_4$
$C_{82} = \{52, 56, 190, 237\}_4$
$C_{83} = \{69, 144, 158, 159\}_4$
$C_{84} = \{156, 168, 196, 226\}_4$
$C_{85} = \{5, 27, 36, 278\}_4$
$C_{86} = \{65, 109, 154, 276\}_4$
$C_{87} = \{11, 67, 136, 200\}_4$
$C_{88} = \{16, 210, 233, 267\}_4$

$\rightarrow$	4_1	4_9	4_{68}	4_{10}	4_{69}	4_8	4_{12}	4_{14}	4_{16}	4_{70}	4_{15}	4_{17}	4_{13}	4_{19}	4_{18}	4_{71}	4_{72}	4_{22}	4_{23}	4_{21}	4_{24}	4_{25}	4_{73}	4_{26}	4_{20}
4_0	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4_2	1	0	0	0	0	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4_6	0	1	0	0	0	1	0	0	0	0	0	0	1	1	1	0	0	0	1	1	0	1	0	1	0
4_{65}	0	0	1	0	0	0	1	0	0	0	0	0	1	1	0	1	1	1	0	0	1	0	1	0	0
4_5	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	1	1	1	1	0	0	0	0	0	1
4_4	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0
4_{64}	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0	0	0	1
4_7	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0
4_{66}	0	1	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	1	0
4_{67}	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
4_3	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	1	1

$\downarrow$	4_1	4_9	4_{68}	4_{10}	4_{69}	4_8	4_{12}	4_{14}	4_{16}	4_{70}	4_{15}	4_{17}	4_{13}	4_{19}	4_{18}	4_{71}	4_{72}	4_{22}	4_{23}	4_{21}	4_{24}	4_{25}	4_{73}	4_{26}	4_{20}
4_0	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4_2	1	0	0	0	0	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4_6	0	1	0	0	0	1	0	0	0	0	0	0	1	1	1	0	0	0	1	1	0	1	0	1	0
4_{65}	0	0	1	0	0	0	1	0	0	0	0	0	1	1	0	1	1	1	0	0	1	0	1	0	0
4_5	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	1	1	1	1	0	0	0	0	0	1
4_4	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0
4_{64}	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0	0	0	1
4_7	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0
4_{66}	0	1	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	1	0
4_{67}	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
4_3	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	1	1

$C_0 = \{17, 19, 27, 39\}_4$
$C_1 = \{16, 142, 229, 254\}_4$
$C_2 = \{1, 7, 13, 42\}_4$
$C_3 = \{11, 12, 16, 43\}_4$
$C_4 = \{3, 18, 26, 41\}_4$
$C_5 = \{0, 2, 21, 22\}_4$
$C_6 = \{5, 8, 32, 35\}_4$
$C_7 = \{6, 14, 23, 33\}_4$
$C_8 = \{3, 20, 53, 136\}_4$
$C_9 = \{11, 77, 111, 266\}_4$
$C_{10} = \{2, 66, 152, 270\}_4$
$C_{11} = \{34, 42, 64, 283\}_4$
$C_{12} = \{126, 176, 224, 232\}_4$
$C_{13} = \{84, 105, 107, 227\}_4$
$C_{14} = \{9, 108, 148, 260\}_4$
$C_{15} = \{95, 127, 214, 294\}_4$
$C_{16} = \{50, 89, 124, 243\}_4$
$C_{17} = \{33, 48, 208, 296\}_4$
$C_{18} = \{30, 183, 196, 299\}_4$
$C_{19} = \{12, 76, 186, 198\}_4$
$C_{20} = \{25, 31, 75, 87\}_4$
$C_{21} = \{7, 92, 151, 169\}_4$
$C_{22} = \{112, 122, 161, 209\}_4$
$C_{23} = \{69, 187, 258, 297\}_4$
$C_{24} = \{97, 190, 298, 304\}_4$

$C_{25} = \{29, 242, 249, 282\}_4$
$C_{26} = \{45, 63, 158, 163\}_4$
$C_{27} = \{67, 144, 218, 222\}_4$
$C_{28} = \{6, 228, 268, 290\}_4$
$C_{29} = \{41, 78, 133, 167\}_4$
$C_{30} = \{13, 135, 188, 262\}_4$
$C_{31} = \{47, 154\}_2$
$C_{32} = \{19, 35, 130, 253\}_4$
$C_{33} = \{60, 153, 175, 180\}_4$
$C_{34} = \{51, 91, 93, 295\}_4$
$C_{35} = \{57, 85, 279, 305\}_4$
$C_{36} = \{119, 172, 206, 301\}_4$
$C_{37} = \{23, 27, 141, 165, 171, 207, 220, 302\}_8$
$C_{38} = \{40, 59, 74, 98\}_4$
$C_{39} = \{5, 159, 261, 293\}_4$
$C_{40} = \{86, 234, 273, 292\}_4$
$C_{41} = \{8, 252, 274, 275\}_4$
$C_{42} = \{1, 116, 239, 303\}_4$
$C_{43} = \{26, 94, 101, 215\}_4$
$C_{44} = \{128, 140, 211, 287\}_4$
$C_{45} = \{131, 139, 216, 217\}_4$
$C_{46} = \{68, 104, 202, 289\}_4$
$C_{47} = \{52, 200, 244, 257\}_4$
$C_{48} = \{137, 143, 162, 269\}_4$
$C_{49} = \{73, 192\}_2$
$C_{50} = \{18, 36, 225, 240\}_4$
$C_{51} = \{100, 103, 248, 251\}_4$
$C_{52} = \{21, 44, 230, 236\}_4$
$C_{53} = \{80, 106, 146, 213\}_4$
$C_{54} = \{39, 223, 267, 277\}_4$
$C_{55} = \{24, 38, 179, 191\}_4$
$C_{56} = \{0, 4, 115, 205\}_4$
$C_{57} = \{212, 288\}_2$
$C_{58} = \{55, 247\}_2$
$C_{59} = \{22, 155, 226, 255\}_4$
$C_{60} = \{96, 120, 184, 245\}_4$
$C_{61} = \{113, 203\}_2$
$C_{62} = \{99, 109, 134, 201\}_4$
$C_{63} = \{147, 177, 178, 194\}_4$
$C_{64} = \{9, 28, 34, 36\}_4$
$C_{65} = \{4, 24, 37, 40\}_4$
$C_{66} = \{10, 15, 25, 38\}_4$
$C_{67} = \{20, 29, 30, 31\}_4$
$C_{68} = \{46, 102, 181, 259\}_4$
$C_{69} = \{71, 156, 182, 246\}_4$
$C_{70} = \{58, 114, 157, 276\}_4$
$C_{71} = \{15, 160, 221, 238\}_4$
$C_{72} = \{28, 164, 189, 197\}_4$
$C_{73} = \{145, 149, 237, 241\}_4$
$C_{74} = \{43, 150, 204, 284\}_4$
$C_{75} = \{81, 82, 118, 291\}_4$
$C_{76} = \{37, 79, 210, 256\}_4$
$C_{77} = \{54, 61, 117, 121\}_4$
$C_{78} = \{49, 264, 285, 286\}_4$
$C_{79} = \{56, 195, 231, 263\}_4$
$C_{80} = \{32, 62, 65, 72\}_4$
$C_{81} = \{88, 125, 173, 280\}_4$
$C_{82} = \{83, 132, 174, 233\}_4$
$C_{83} = \{138, 166, 271, 278\}_4$

$C_{84} = \{123, 129, 265, 272\}_4$
$C_{85} = \{90, 110, 185, 199\}_4$
$C_{86} = \{17, 70, 170, 300\}_4$
$C_{87} = \{14, 168, 250, 281\}_4$
$C_{88} = \{10, 193, 219, 235\}_4$
Column cell 1:
Column cell 8:
Column cell 9:
Column cell 10:
Column cell 11:
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Column cell 13:
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Column cell 78:
Column cell 79:
Column cell 80:
Column cell 81:
Column cell 82:
Column cell 83:
Column cell 84:
Column cell 85:
Column cell 86:
Column cell 87:
Column cell 88:
Order of the group that is induced on the object is 4
Number of ancestors on 5-sets is 271502.
Number of orbits on 5-sets is 271502.
With 11 orbits on the object
Orbit lengths: 4^{11}
The points by ranks:

i	Rank	i	Rank	i	Rank	i	Rank
0	0	11	17910	22	33417	33	73661
1	1	12	26696	23	21717	34	57524
2	214	13	68222	24	75104	35	14816
3	215	14	47930	25	55410	36	42468
4	262	15	49300	26	10567	37	33571
5	26837	16	71666	27	10553	38	12676
6	78650	17	21552	28	48912	39	23561
7	79816	18	50766	29	11416	40	64106
8	78605	19	15670	30	27231	41	32099
9	57874	20	48470	31	37670	42	62425
10	61183	21	58140	32	13065	43	52160

The points:

$$P_0 = (0,1,0,0,0)P_1 = (0,0,1,0,0)P_2 = (0,1,21,42,21)P_3 = (0,1,16,21,32)$$

$$P_4 = (0,1,31,6,2)P_5 = (1,21,17,18,4)P_6 = (1,4,15,36,21)P_7 = (1,9,10,5,42)$$

$$P_8 = (1,19,28,34,21)P_9 = (1,2,7,38,3)P_{10} = (1,7,20,15,25)P_{11} = (1,4,23,1,36)$$

$$P_{12} = (1,15,15,8,4)P_{13} = (1,36,4,42,16)P_{14} = (1,34,26,27,15)P_{15} = (1,35,25,3,9)$$

$$P_{16} = (1,36,4,10,7)P_{17} = (1,33,29,33,27)P_{18} = (1,28,8,8,31)P_{19} = (1,35,1,28,11)$$

$$P_{20} = (1,14,21,9,15)P_{21} = (1,17,24,7,3)P_{22} = (1,15,9,24,23)P_{23} = (1,29,42,9,27)$$

$$P_{24} = (1,32,26,21,32)P_{25} = (1,41,24,22,8)P_{26} = (1,18,2,6,1)P_{27} = (1,30,27,6,1)$$

$$P_{28} = (1,40,41,4,9)P_{29} = (1,35,25,11,22)P_{30} = (1,18,18,37,4)P_{31} = (1,15,16,31,38)$$

$$P_{32} = (1,30,42,1,29)P_{33} = (1,27,39,24,17)P_{34} = (1,9,15,12,3)P_{35} = (1,19,3,26,11)$$

$$P_{36} = (1, 8, 29, 27, 28) P_{37} = (1, 14, 13, 7, 23) P_{38} = (1, 38, 25, 28, 29) P_{39} = (1, 1, 17, 10, 24)$$

$$P_{40} = (1, 10, 4, 21, 39) P_{41} = (1, 42, 27, 20, 40) P_{42} = (1, 23, 13, 31, 25) P_{43} = (1, 35, 16, 34, 5)$$

Stabilizer of order 4 is generated by:

$$g_1 = \begin{bmatrix} 28 & 42 & 37 & 42 & 35 \\ 40 & 41 & 16 & 14 & 17 \\ 21 & 25 & 41 & 22 & 35 \\ 39 & 35 & 17 & 38 & 19 \\ 21 & 22 & 14 & 38 & 38 \end{bmatrix}$$

with 44 fixed points

$$g_2 = \begin{bmatrix} 6 & 38 & 13 & 14 & 30 \\ 0 & 32 & 27 & 11 & 27 \\ 39 & 7 & 3 & 23 & 4 \\ 31 & 2 & 41 & 14 & 33 \\ 15 & 30 & 24 & 3 & 29 \end{bmatrix}$$

with 0 fixed points

3.6 Isomorphism Type 5

Stabilizer has order 84
Plane intersection type is $4^{210}\ 3^{12404}$
Plane invariant is too big (210 planes)

$\rightarrow$	21_1	189_3
2_0	21	0
42_2	1	18

$\downarrow$	21_1	189_3
2_0	2	0
42_2	2	4

$C_0 = \{0, 2\}_2$
$C_1 = \{5, 37, 59, 60, 61, 63, 74, 76, 81, 91, 92, 105, 111, 122, 127, 148, 156, 161, 176, 201, 208\}_{21}$
$C_2 = \{1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43\}_4$
$C_3 = \{0, 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 38, 39, 40, 41, 42, 43, 44$

$\rightarrow$	21_1	189_3
2_0	21	0
42_2	1	18

$\downarrow$	21_1	189_3
2_0	2	0
42_2	2	4

$C_0 = \{0, 2\}_2$
$C_1 = \{3, 9, 24, 27, 36, 63, 64, 70, 77, 79, 86, 107, 162, 165, 170, 179, 183, 193, 206, 208, 209\}_{21}$
$C_2 = \{1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43\}_4$
$C_3 = \{0, 1, 2, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 28, 29, 30, 31, 32, 33, 34, 35, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 4$
Column cell 1:
Column cell 3:
Order of the group that is induced on the object is 84
Number of ancestors on 5-sets is 13039.
Number of orbits on 5-sets is 13039.
With 2 orbits on the object
Orbit lengths: 2, 42
The points by ranks:

i	Rank	i	Rank	i	Rank	i	Rank
0	0	11	65862	22	44968	33	75960
1	1	12	1288	23	42640	34	80256
2	214	13	69850	24	48261	35	56123
3	215	14	34848	25	73420	36	15898
4	275	15	13047	26	33177	37	42778
5	43870	16	49556	27	11151	38	68907
6	18967	17	65939	28	30187	39	23249
7	15944	18	32166	29	73347	40	42354
8	57903	19	72627	30	77992	41	71587
9	60745	20	23386	31	34873	42	26715
10	62317	21	25134	32	42722	43	48637

The points:

$$P_0 = (0,1,0,0,0)P_1 = (0,0,1,0,0)P_2 = (0,1,21,42,21)P_3 = (0,1,16,21,32)$$
$$P_4 = (0,1,11,15,5)P_5 = (1,42,34,5,41)P_6 = (1,37,2,23,36)P_7 = (1,40,15,4,11)$$
$$P_8 = (1,16,9,9,3)P_9 = (1,10,13,24,25)P_{10} = (1,32,20,38,25)P_{11} = (1,37,29,33,30)$$
$$P_{12} = (0,1,9,12,10)P_{13} = (1,13,1,12,6)P_{14} = (1,5,8,30,23)P_{15} = (1,11,9,1,29)$$
$$P_{16} = (1,4,16,31,9)P_{17} = (1,38,17,18,19)P_{18} = (1,2,30,6,40)P_{19} = (1,13,36,19,7)$$
$$P_{20} = (1,16,25,3,24)P_{21} = (1,38,23,22,13)P_{22} = (1,15,31,18,41)P_{23} = (1,18,37,33,28)$$
$$P_{24} = (1,12,42,38,15)P_{25} = (1,16,1,42,17)P_{26} = (1,14,6,14,40)P_{27} = (1,33,12,23,22)$$
$$P_{28} = (1,7,20,16,10)P_{29} = (1,39,18,32,17)P_{30} = (1,37,7,4,21)P_{31} = (1,23,13,15,23)$$
$$P_{32} = (1,29,26,36,28)P_{33} = (1,4,41,15,32)P_{34} = (1,32,30,15,42)P_{35} = (1,26,27,10,20)$$
$$P_{36} = (1,29,34,8,11)P_{37} = (1,26,34,16,28)P_{38} = (1,13,9,41,16)P_{39} = (1,28,28,30,24)$$
$$P_{40} = (1,38,23,1,28)P_{41} = (1,36,35,41,7)P_{42} = (1,33,42,8,4)P_{43} = (1,9,14,3,15)$$

Stabilizer of order 84 is generated by:

$$g_1 = \begin{bmatrix} 2 & 0 & 0 & 0 & 0 \\ 0 & 41 & 0 & 0 & 0 \\ 0 & 16 & 41 & 35 & 39 \\ 0 & 39 & 0 & 2 & 0 \\ 0 & 35 & 0 & 0 & 2 \end{bmatrix}$$

with 46 fixed points

$$g_2 = \begin{bmatrix} 17 & 0 & 0 & 37 & 3 \\ 0 & 6 & 0 & 0 & 0 \\ 9 & 15 & 38 & 38 & 27 \\ 15 & 21 & 0 & 15 & 28 \\ 4 & 8 & 0 & 8 & 41 \end{bmatrix}$$

with 4 fixed points

$$g_3 = \begin{bmatrix} 21 & 20 & 0 & 31 & 39 \\ 0 & 4 & 0 & 0 & 0 \\ 17 & 1 & 4 & 30 & 6 \\ 30 & 31 & 0 & 20 & 41 \\ 9 & 23 & 0 & 24 & 2 \end{bmatrix}$$

with 4 fixed points

$$g_4 = \begin{bmatrix} 32 & 0 & 0 & 14 & 36 \\ 0 & 25 & 9 & 18 & 9 \\ 0 & 15 & 25 & 14 & 7 \\ 18 & 7 & 9 & 11 & 0 \\ 7 & 14 & 18 & 0 & 11 \end{bmatrix}$$

with 46 fixed points

Chapter 4

The BLT-Sets in Numeric Form

0, 1, 214, 215, 216, 219, 249, 239, 243, 221, 223, 228, 218, 234, 220, 224, 232, 238, 245, 253, 254, 226, 217, 222, 225, 227, 229, 230, 231, 233, 235, 236, 237, 240, 241, 242, 244, 246, 247, 248, 250, 251, 252, 255
0, 1, 214, 215, 216, 219, 249, 239, 243, 221, 223, 228, 56569, 31027, 63949, 217, 45925, 73339, 18305, 44021, 229, 230, 62403, 57028, 233, 62606, 52582, 236, 21555, 19553, 51843, 40000, 242, 244, 28562, 18960, 52724, 60504, 21714, 251, 16662, 253, 70320, 255
0, 1, 214, 215, 216, 1381, 18355, 67392, 61118, 47911, 39836, 60002, 35285, 18280, 52835, 26968, 11394, 61358, 54803, 51697, 39003, 23538, 54856, 30164, 14642, 40303, 47485, 76615, 54717, 45870, 29475, 39793, 50755, 62994, 23840, 52043, 47352, 80093, 71034, 25842, 72753, 69275, 13821, 65140
0, 1, 214, 215, 262, 456, 28428, 76908, 71461, 69321, 32128, 52494, 80274, 46088, 19548, 50346, 63118, 53557, 20420, 35418, 80641, 43368, 1905, 23727, 76014, 26164, 80103, 47305, 39994, 75373, 64591, 10555, 671, 42167, 16926, 74901, 18709, 34176, 40771, 19775, 20869, 35896, 52051, 17397
0, 1, 214, 215, 262, 26837, 78650, 79816, 78605, 57874, 61183, 17910, 26696, 68222, 47930, 49300, 71666, 21552, 50766, 15670, 48470, 58140, 33417, 21717, 75104, 55410, 10567, 10553, 48912, 11416, 27231, 37670, 13065, 73661, 57524, 14816, 42468, 33571, 12676, 23561, 64106, 32099, 62425, 52160
0, 1, 214, 215, 275, 43870, 18967, 15944, 57903, 60745, 62317, 65862, 1288, 69850, 34848, 13047, 49556, 65939, 32166, 72627, 23386, 25134, 44968, 42640, 48261, 73420, 33177, 11151, 30187, 73347, 77992, 34873, 42722, 75960, 80256, 56123, 15898, 42778, 68907, 23249, 42354, 71587, 26715, 48637

```
INT BLT_43_size = 44;
INT BLT_43_nb_reps = 6;
INT BLT_43_reps[] = {
0, 1, 214, 215, 216, 219, 249, 239, 243, 221, 223, 228, 218, 234, 220, 224, 232, 238, 245, 253, 254, 226, 217, 222
0, 1, 214, 215, 216, 219, 249, 239, 243, 221, 223, 228, 56569, 31027, 63949, 217, 45925, 73339, 18305, 44021, 229,
0, 1, 214, 215, 216, 1381, 18355, 67392, 61118, 47911, 39836, 60002, 35285, 18280, 52835, 26968, 11394, 61358, 548
0, 1, 214, 215, 262, 456, 28428, 76908, 71461, 69321, 32128, 52494, 80274, 46088, 19548, 50346, 63118, 53557, 2042
0, 1, 214, 215, 262, 26837, 78650, 79816, 78605, 57874, 61183, 17910, 26696, 68222, 47930, 49300, 71666, 21552, 50
0, 1, 214, 215, 275, 43870, 18967, 15944, 57903, 60745, 62317, 65862, 1288, 69850, 34848, 13047, 49556, 65939, 321
};
const BYTE *BLT_43_stab_order[] = {
"6992832",
"3872",
"2",
"4",
"4",
"84",
};
INT BLT_43_stab_gens[] = {
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 5,  0,  0,  0,  0,  0, 23,  0,  0,  0,  0,  0, 31,  0,  0,  0,  0,  0,  5,  0,  0,  0,  0,  0,  5,
17,  0,  0,  0,  0,  0, 21,  0,  0,  0,  0,  0, 24,  0,  0,  0,  0,  0, 17,  0,  0,  0,  0,  0, 17,
30,  0,  0, 12, 37,  0, 22,  0,  0,  0,  0,  0, 22,  0,  0, 40,  0,  0, 39, 13,  6,  0,  0,  9, 39,
14,  0,  0, 16, 35,  0, 38,  0,  0,  0,  0,  0, 38,  0,  0, 39,  0,  0, 12, 13,  8,  0,  0,  9, 12,
25,  0,  0, 20, 33,  0,  9,  0,  0,  0,  0, 10,  9, 11, 27,  5, 27,  0,  8, 13, 33, 11,  0,  9,  8,
25,  0,  0, 23, 10,  0, 17,  0,  0,  0,  0,  9, 25, 18,  9, 38, 17,  0,  8, 13, 10, 34,  0,  9,  8,
```

```
 6,  0,  0, 35,  4,  0,  0, 21,  0,  0,  0, 35,  4,  8,  4,  2,  0, 42, 39,  1, 39,  0, 41,  4, 39,
14,  0,  0, 27,  8,  0, 38,  0,  0,  0,  0,  0, 38,  0,  0,  4,  0,  0, 12, 13, 35,  0,  0,  9, 12,
 3,  0,  0, 22, 32,  0, 38,  0,  0,  0,  0,  0, 38,  0,  0, 16,  0,  0, 39, 21, 11,  0,  0, 41, 39,
14,  0,  0, 16, 35,  0, 38,  0,  0,  0,  0,  0, 38,  0,  0, 39,  0,  0, 12, 13,  8,  0,  0,  9, 12,
25,  0,  0, 20, 33,  0,  9,  0,  0,  0,  0, 10,  9, 11, 27,  5, 27,  0,  8, 13, 33, 11,  0,  9,  8,
22,  0,  0, 24, 31,  0,  0, 35,  0,  0,  0, 40,  0,  0,  0, 37,  0,  0, 39,  9, 12,  0,  0, 36, 39,
 0, 18,  6, 19, 31,  3, 42, 19, 16,  6,  9, 34, 42, 21,  8, 37,  8,  6, 21, 39, 31, 21, 16, 14, 21,
20,  0, 42, 22, 29, 21,  9, 21,  7, 39,  0, 10,  9, 11, 27, 36, 27, 39, 42, 27, 11, 11,  7, 26, 42,
 3,  0,  0,  0,  0,  0, 40,  0,  0,  0,  0, 24, 40, 31, 37,  0, 37,  0,  3,  0,  0, 31,  0,  0,  3,
32, 25,  0, 11, 25,  0, 32, 27, 11, 27, 34, 33, 32, 19, 42, 34, 42, 27, 18, 40, 27, 19, 11, 10, 18,
28, 42, 37, 42, 35, 40, 41, 16, 14, 17, 21, 25, 41, 22, 35, 39, 35, 17, 38, 19, 21, 22, 14, 38, 38,
 6, 38, 13, 14, 30,  0, 32, 27, 11, 27, 39,  7,  3, 23,  4, 31,  2, 41, 14, 33, 15, 30, 24,  3, 29,
 2,  0,  0,  0,  0,  0, 41,  0,  0,  0,  0, 16, 41, 35, 39,  0, 39,  0,  2,  0,  0, 35,  0,  0,  2,
17,  0,  0, 37,  3,  0,  6,  0,  0,  0,  9, 15, 38, 38, 27, 15, 21,  0, 15, 28,  4,  8,  0,  8, 41,
21, 20,  0, 31, 39,  0,  4,  0,  0,  0, 17,  1,  4, 30,  6, 30, 31,  0, 20, 41,  9, 23,  0, 24,  2,
32,  0,  0, 14, 36,  0, 25,  9, 18,  9,  0, 15, 25, 14,  7, 18,  7,  9, 11,  0,  7, 14, 18,  0, 11,
};
INT BLT_43_stab_gens_fst[] = { 0, 8, 14, 15, 17, 19};
INT BLT_43_stab_gens_len[] = { 8, 6, 1, 2, 2, 4};
INT BLT_43_make_element_size = 0;
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