Rank-67115 over GF(16)

January 15, 2021

The equation

The equation of the surface is :

$$X_3^3 + X_0^2X_2 + X_1^2X_3 + X_0X_2^2 + X_0X_1X_2 = 0$$

(0, 0, 0, 1, 0, 1, 0, 0, 0, 1, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0)
The point rank of the equation over GF(16) is 287383829

General information

Number of lines	12
Number of points	321
Number of singular points	3
Number of Eckardt points	0
Number of double points	18
Number of single points	156
Number of points off lines	144
Number of Hesse planes	0
Number of axes	0
Type of points on lines	17^{12}
Type of lines on points	4^3, 2^{18}, 1^{156}, 0^{144}

Singular Points

The surface has 3 singular points:

$0:\ P_{290} = \mathbf{P}(0,1,0,1) = \mathbf{P}(0,1,0,1)$
$1:\ P_{291} = \mathbf{P}(1,1,0,1) = \mathbf{P}(1,1,0,1)$
$2:\ P_{546} = \mathbf{P}(0,1,1,1) = \mathbf{P}(0,1,1,1)$

The 12 Lines

The lines and their Pluecker coordinates are:

$$\ell_0 = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \end{bmatrix}_0 = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \end{bmatrix}_0 = \mathbf{Pl}(1,0,0,0,0,0)_0$$

$$\ell_1 = \left[\begin{array}{cccc} 1 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 \end{array}\right]_{274} = \left[\begin{array}{cccc} 1 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 \end{array}\right]_{274} = \mathbf{Pl}(1,0,1,0,0,1)_{4657}$$

$$\ell_2 = \left[\begin{array}{cccc} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \end{array}\right]_{69888} = \left[\begin{array}{cccc} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \end{array}\right]_{69888} = \mathbf{Pl}(0,0,0,0,0,1)_{4625}$$

$$\ell_3 = \left[\begin{array}{cccc} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 \end{array}\right]_{16} = \left[\begin{array}{cccc} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 \end{array}\right]_{16} = \mathbf{Pl}(1,0,0,0,1,0)_{290}$$

$$\ell_4 = \left[\begin{array}{cccc} 0 & 1 & 0 & 1 \\ 0 & 0 & 1 & 0 \end{array}\right]_{69905} = \left[\begin{array}{cccc} 0 & 1 & 0 & 1 \\ 0 & 0 & 1 & 0 \end{array}\right]_{69905} = \mathbf{Pl}(0,1,0,0,0,1)_{4641}$$

$$\ell_5 = \left[\begin{array}{cccc} 1 & 0 & \delta^5 & \delta^5 \\ 0 & 1 & 1 & 1 \end{array}\right]_{51068} = \left[\begin{array}{cccc} 1 & 0 & 11 & 11 \\ 0 & 1 & 1 & 1 \end{array}\right]_{51068} = \mathbf{Pl}(1,0,1,1,10,1)_{46147}$$

$$\ell_6 = \left[\begin{array}{cccc} 1 & 0 & \delta^{10} & \delta^{10} \\ 0 & 1 & 1 & 1 \end{array}\right]_{46427} = \left[\begin{array}{cccc} 1 & 0 & 10 & 10 \\ 0 & 1 & 1 & 1 \end{array}\right]_{46427} = \mathbf{Pl}(1,0,1,1,11,1)_{50227}$$

$$\ell_7 = \left[\begin{array}{cccc} 1 & 0 & 1 & 0 \\ 0 & 1 & 1 & 1 \end{array}\right]_{290} = \left[\begin{array}{cccc} 1 & 0 & 1 & 0 \\ 0 & 1 & 1 & 1 \end{array}\right]_{290} = \mathbf{Pl}(1,1,1,0,1,1)_{8976}$$

$$\ell_8 = \left[\begin{array}{cccc} 1 & 0 & \delta^5 & 1 \\ 0 & 1 & \delta^5 & 0 \end{array}\right]_{7382} = \left[\begin{array}{cccc} 1 & 0 & 11 & 1 \\ 0 & 1 & 11 & 0 \end{array}\right]_{7382} = \mathbf{Pl}(1,1,1,10,0,1)_{7611}$$

$$\ell_9 = \left[\begin{array}{cccc} 1 & 0 & \delta^{10} & \delta^5 \\ 0 & 1 & 0 & 1 \end{array}\right]_{50794} = \left[\begin{array}{cccc} 1 & 0 & 10 & 11 \\ 0 & 1 & 0 & 1 \end{array}\right]_{50794} = \mathbf{Pl}(1,1,0,10,11,1)_{50136}$$

$$\ell_{10} = \left[\begin{array}{cccc} 1 & 0 & \delta^{10} & 1 \\ 0 & 1 & \delta^{10} & 0 \end{array}\right]_{7108} = \left[\begin{array}{cccc} 1 & 0 & 10 & 1 \\ 0 & 1 & 10 & 0 \end{array}\right]_{7108} = \mathbf{Pl}(1,1,1,11,0,1)_{7836}$$

$$\ell_{11} = \left[\begin{array}{cccc} 1 & 0 & \delta^5 & \delta^{10} \\ 0 & 1 & 0 & 1 \end{array}\right]_{46699} = \left[\begin{array}{cccc} 1 & 0 & 11 & 10 \\ 0 & 1 & 0 & 1 \end{array}\right]_{46699} = \mathbf{Pl}(1,1,0,11,10,1)_{46071}$$

Rank of lines: (0, 274, 69888, 16, 69905, 51068, 46427, 290, 7382, 50794, 7108, 46699)
Rank of points on Klein quadric: (0, 4657, 4625, 290, 4641, 46147, 50227, 8976, 7611, 50136, 7836, 46071)

Eckardt Points

The surface has 0 Eckardt points:

Double Points

The surface has 18 Double points:
The double points on the surface are:

$P_5 = (1,1,0,0) = \ell_0 \cap \ell_1$
$P_1 = (0,1,0,0) = \ell_0 \cap \ell_2$
$P_0 = (1,0,0,0) = \ell_0 \cap \ell_3$
$P_{14} = (10,1,0,0) = \ell_0 \cap \ell_5$
$P_{15} = (11,1,0,0) = \ell_0 \cap \ell_6$
$P_{35} = (0,1,1,0) = \ell_1 \cap \ell_2$
$P_{20} = (1,0,1,0) = \ell_1 \cap \ell_7$
$P_{190} = (11,10,1,0) = \ell_1 \cap \ell_9$
$P_{205} = (10,11,1,0) = \ell_1 \cap \ell_{11}$
$P_2 = (0,0,1,0) = \ell_2 \cap \ell_4$
$P_{179} = (0,10,1,0) = \ell_2 \cap \ell_8$
$P_{195} = (0,11,1,0) = \ell_2 \cap \ell_{10}$
$P_{716} = (11,11,1,1) = \ell_5 \cap \ell_9$
$P_{690} = (1,10,1,1) = \ell_5 \cap \ell_{10}$
$P_{706} = (1,11,1,1) = \ell_6 \cap \ell_8$
$P_{699} = (10,10,1,1) = \ell_6 \cap \ell_{11}$
$P_{2994} = (1,10,10,1) = \ell_8 \cap \ell_9$
$P_{3266} = (1,11,11,1) = \ell_{10} \cap \ell_{11}$

Single Points

The surface has 156 single points:
The single points on the surface are:

0 : $P_6 = (2,1,0,0)$ lies on line ℓ_0
1 : $P_7 = (3,1,0,0)$ lies on line ℓ_0
2 : $P_8 = (4,1,0,0)$ lies on line ℓ_0
3 : $P_9 = (5,1,0,0)$ lies on line ℓ_0
4 : $P_{10} = (6,1,0,0)$ lies on line ℓ_0
5 : $P_{11} = (7,1,0,0)$ lies on line ℓ_0
6 : $P_{12} = (8,1,0,0)$ lies on line ℓ_0
7 : $P_{13} = (9,1,0,0)$ lies on line ℓ_0
8 : $P_{16} = (12,1,0,0)$ lies on line ℓ_0
9 : $P_{17} = (13,1,0,0)$ lies on line ℓ_0
10 : $P_{18} = (14,1,0,0)$ lies on line ℓ_0
11 : $P_{19} = (15,1,0,0)$ lies on line ℓ_0
12 : $P_{51} = (0,2,1,0)$ lies on line ℓ_2
13 : $P_{54} = (3,2,1,0)$ lies on line ℓ_1
14 : $P_{67} = (0,3,1,0)$ lies on line ℓ_2
15 : $P_{69} = (2,3,1,0)$ lies on line ℓ_1
16 : $P_{83} = (0,4,1,0)$ lies on line ℓ_2
17 : $P_{88} = (5,4,1,0)$ lies on line ℓ_1
18 : $P_{99} = (0,5,1,0)$ lies on line ℓ_2
19 : $P_{103} = (4,5,1,0)$ lies on line ℓ_1
20 : $P_{115} = (0,6,1,0)$ lies on line ℓ_2
21 : $P_{122} = (7,6,1,0)$ lies on line ℓ_1
22 : $P_{131} = (0,7,1,0)$ lies on line ℓ_2
23 : $P_{137} = (6,7,1,0)$ lies on line ℓ_1
24 : $P_{147} = (0,8,1,0)$ lies on line ℓ_2
25 : $P_{156} = (9,8,1,0)$ lies on line ℓ_1
26 : $P_{163} = (0,9,1,0)$ lies on line ℓ_2
27 : $P_{171} = (8,9,1,0)$ lies on line ℓ_1
28 : $P_{211} = (0,12,1,0)$ lies on line ℓ_2
29 : $P_{224} = (13,12,1,0)$ lies on line ℓ_1
30 : $P_{227} = (0,13,1,0)$ lies on line ℓ_2
31 : $P_{239} = (12,13,1,0)$ lies on line ℓ_1
32 : $P_{243} = (0,14,1,0)$ lies on line ℓ_2
33 : $P_{258} = (15,14,1,0)$ lies on line ℓ_1
34 : $P_{259} = (0,15,1,0)$ lies on line ℓ_2
35 : $P_{273} = (14,15,1,0)$ lies on line ℓ_1
36 : $P_{292} = (2,1,0,1)$ lies on line ℓ_3
37 : $P_{293} = (3,1,0,1)$ lies on line ℓ_3
38 : $P_{294} = (4,1,0,1)$ lies on line ℓ_3
39 : $P_{295} = (5,1,0,1)$ lies on line ℓ_3
40 : $P_{296} = (6,1,0,1)$ lies on line ℓ_3
41 : $P_{297} = (7,1,0,1)$ lies on line ℓ_3
42 : $P_{298} = (8,1,0,1)$ lies on line ℓ_3
43 : $P_{299} = (9,1,0,1)$ lies on line ℓ_3
44 : $P_{300} = (10,1,0,1)$ lies on line ℓ_3
45 : $P_{301} = (11,1,0,1)$ lies on line ℓ_3
46 : $P_{302} = (12,1,0,1)$ lies on line ℓ_3
47 : $P_{303} = (13,1,0,1)$ lies on line ℓ_3
48 : $P_{304} = (14,1,0,1)$ lies on line ℓ_3
49 : $P_{305} = (15,1,0,1)$ lies on line ℓ_3
50 : $P_{540} = (10,0,1,1)$ lies on line ℓ_5
51 : $P_{541} = (11,0,1,1)$ lies on line ℓ_6
52 : $P_{565} = (4,2,1,1)$ lies on line ℓ_6
53 : $P_{568} = (7,2,1,1)$ lies on line ℓ_5
54 : $P_{590} = (13,3,1,1)$ lies on line ℓ_5
55 : $P_{592} = (15,3,1,1)$ lies on line ℓ_6
56 : $P_{602} = (9,4,1,1)$ lies on line ℓ_5
57 : $P_{605} = (12,4,1,1)$ lies on line ℓ_6
58 : $P_{612} = (3,5,1,1)$ lies on line ℓ_5
59 : $P_{616} = (7,5,1,1)$ lies on line ℓ_6
60 : $P_{628} = (3,6,1,1)$ lies on line ℓ_6
61 : $P_{629} = (4,6,1,1)$ lies on line ℓ_5
62 : $P_{649} = (8,7,1,1)$ lies on line ℓ_6
63 : $P_{655} = (14,7,1,1)$ lies on line ℓ_5
64 : $P_{662} = (5,8,1,1)$ lies on line ℓ_6
65 : $P_{669} = (12,8,1,1)$ lies on line ℓ_5
66 : $P_{679} = (6,9,1,1)$ lies on line ℓ_5
67 : $P_{687} = (14,9,1,1)$ lies on line ℓ_6
68 : $P_{723} = (2,12,1,1)$ lies on line ℓ_6
69 : $P_{736} = (15,12,1,1)$ lies on line ℓ_5
70 : $P_{742} = (5,13,1,1)$ lies on line ℓ_5
71 : $P_{746} = (9,13,1,1)$ lies on line ℓ_6
72 : $P_{755} = (2,14,1,1)$ lies on line ℓ_5
73 : $P_{766} = (13,14,1,1)$ lies on line ℓ_6
74 : $P_{775} = (6,15,1,1)$ lies on line ℓ_6
75 : $P_{777} = (8,15,1,1)$ lies on line ℓ_5
76 : $P_{801} = (0,1,2,1)$ lies on line ℓ_4
77 : $P_{804} = (3,1,2,1)$ lies on line ℓ_7
78 : $P_{978} = (1,12,2,1)$ lies on line ℓ_8
79 : $P_{992} = (15,12,2,1)$ lies on line ℓ_9
80 : $P_{1010} = (1,14,2,1)$ lies on line ℓ_{10}
81 : $P_{1022} = (13,14,2,1)$ lies on line ℓ_{11}
82 : $P_{1057} = (0,1,3,1)$ lies on line ℓ_4
83 : $P_{1059} = (2,1,3,1)$ lies on line ℓ_7
84 : $P_{1122} = (1,5,3,1)$ lies on line ℓ_{10}
85 : $P_{1128} = (7,5,3,1)$ lies on line ℓ_{11}
86 : $P_{1138} = (1,6,3,1)$ lies on line ℓ_8
87 : $P_{1141} = (4,6,3,1)$ lies on line ℓ_9
88 : $P_{1313} = (0,1,4,1)$ lies on line ℓ_4
89 : $P_{1318} = (5,1,4,1)$ lies on line ℓ_7
90 : $P_{1330} = (1,2,4,1)$ lies on line ℓ_8
91 : $P_{1336} = (7,2,4,1)$ lies on line ℓ_9
92 : $P_{1394} = (1,6,4,1)$ lies on line ℓ_{10}
93 : $P_{1396} = (3,6,4,1)$ lies on line ℓ_{11}
94 : $P_{1569} = (0,1,5,1)$ lies on line ℓ_4
95 : $P_{1573} = (4,1,5,1)$ lies on line ℓ_7

96 : $P_{1682} = (1, 8, 5, 1)$ lies on line ℓ_8
97 : $P_{1693} = (12, 8, 5, 1)$ lies on line ℓ_9
98 : $P_{1762} = (1, 13, 5, 1)$ lies on line ℓ_{10}
99 : $P_{1770} = (9, 13, 5, 1)$ lies on line ℓ_{11}
100 : $P_{1825} = (0, 1, 6, 1)$ lies on line ℓ_4
101 : $P_{1832} = (7, 1, 6, 1)$ lies on line ℓ_7
102 : $P_{1954} = (1, 9, 6, 1)$ lies on line ℓ_{10}
103 : $P_{1967} = (14, 9, 6, 1)$ lies on line ℓ_{11}
104 : $P_{2050} = (1, 15, 6, 1)$ lies on line ℓ_8
105 : $P_{2057} = (8, 15, 6, 1)$ lies on line ℓ_9
106 : $P_{2081} = (0, 1, 7, 1)$ lies on line ℓ_4
107 : $P_{2087} = (6, 1, 7, 1)$ lies on line ℓ_7
108 : $P_{2098} = (1, 2, 7, 1)$ lies on line ℓ_{10}
109 : $P_{2101} = (4, 2, 7, 1)$ lies on line ℓ_{11}
110 : $P_{2146} = (1, 5, 7, 1)$ lies on line ℓ_8
111 : $P_{2148} = (3, 5, 7, 1)$ lies on line ℓ_9
112 : $P_{2337} = (0, 1, 8, 1)$ lies on line ℓ_4
113 : $P_{2346} = (9, 1, 8, 1)$ lies on line ℓ_7
114 : $P_{2434} = (1, 7, 8, 1)$ lies on line ℓ_8
115 : $P_{2447} = (14, 7, 8, 1)$ lies on line ℓ_9
116 : $P_{2562} = (1, 15, 8, 1)$ lies on line ℓ_{10}
117 : $P_{2567} = (6, 15, 8, 1)$ lies on line ℓ_{11}
118 : $P_{2593} = (0, 1, 9, 1)$ lies on line ℓ_4
119 : $P_{2601} = (8, 1, 9, 1)$ lies on line ℓ_7
120 : $P_{2642} = (1, 4, 9, 1)$ lies on line ℓ_{10}
121 : $P_{2653} = (12, 4, 9, 1)$ lies on line ℓ_{11}
122 : $P_{2786} = (1, 13, 9, 1)$ lies on line ℓ_8
123 : $P_{2790} = (5, 13, 9, 1)$ lies on line ℓ_9
124 : $P_{2834} = (1, 0, 10, 1)$ lies on line ℓ_{10}
125 : $P_{2844} = (11, 0, 10, 1)$ lies on line ℓ_{11}
126 : $P_{2849} = (0, 1, 10, 1)$ lies on line ℓ_4
127 : $P_{2860} = (11, 1, 10, 1)$ lies on line ℓ_7
128 : $P_{3090} = (1, 0, 11, 1)$ lies on line ℓ_8
129 : $P_{3099} = (10, 0, 11, 1)$ lies on line ℓ_9
130 : $P_{3105} = (0, 1, 11, 1)$ lies on line ℓ_4
131 : $P_{3115} = (10, 1, 11, 1)$ lies on line ℓ_7
132 : $P_{3361} = (0, 1, 12, 1)$ lies on line ℓ_4
133 : $P_{3374} = (13, 1, 12, 1)$ lies on line ℓ_7
134 : $P_{3410} = (1, 4, 12, 1)$ lies on line ℓ_8
135 : $P_{3418} = (9, 4, 12, 1)$ lies on line ℓ_9
136 : $P_{3474} = (1, 8, 12, 1)$ lies on line ℓ_{10}
137 : $P_{3478} = (5, 8, 12, 1)$ lies on line ℓ_{11}
138 : $P_{3617} = (0, 1, 13, 1)$ lies on line ℓ_4
139 : $P_{3629} = (12, 1, 13, 1)$ lies on line ℓ_7
140 : $P_{3650} = (1, 3, 13, 1)$ lies on line ℓ_{10}
141 : $P_{3664} = (15, 3, 13, 1)$ lies on line ℓ_{11}
142 : $P_{3826} = (1, 14, 13, 1)$ lies on line ℓ_8
143 : $P_{3827} = (2, 14, 13, 1)$ lies on line ℓ_9
144 : $P_{3873} = (0, 1, 14, 1)$ lies on line ℓ_4
145 : $P_{3888} = (15, 1, 14, 1)$ lies on line ℓ_7
146 : $P_{3970} = (1, 7, 14, 1)$ lies on line ℓ_{10}
147 : $P_{3977} = (8, 7, 14, 1)$ lies on line ℓ_{11}
148 : $P_{4002} = (1, 9, 14, 1)$ lies on line ℓ_8
149 : $P_{4007} = (6, 9, 14, 1)$ lies on line ℓ_9
150 : $P_{4129} = (0, 1, 15, 1)$ lies on line ℓ_4
151 : $P_{4143} = (14, 1, 15, 1)$ lies on line ℓ_7
152 : $P_{4162} = (1, 3, 15, 1)$ lies on line ℓ_8
153 : $P_{4174} = (13, 3, 15, 1)$ lies on line ℓ_9
154 : $P_{4306} = (1, 12, 15, 1)$ lies on line ℓ_{10}
155 : $P_{4307} = (2, 12, 15, 1)$ lies on line ℓ_{11}

The single points on the surface are:

Points on surface but on no line

The surface has 144 points not on any line:
The points on the surface but not on lines are:

0 : $P_{826} = (9, 2, 2, 1)$
1 : $P_{900} = (3, 7, 2, 1)$
2 : $P_{903} = (6, 7, 2, 1)$
3 : $P_{931} = (2, 9, 2, 1)$
4 : $P_{938} = (9, 9, 2, 1)$
5 : $P_{967} = (6, 11, 2, 1)$
6 : $P_{976} = (15, 11, 2, 1)$
7 : $P_{995} = (2, 13, 2, 1)$
8 : $P_{1006} = (13, 13, 2, 1)$
9 : $P_{1099} = (10, 3, 3, 1)$
10 : $P_{1115} = (10, 4, 3, 1)$
11 : $P_{1118} = (13, 4, 3, 1)$
12 : $P_{1155} = (2, 7, 3, 1)$
13 : $P_{1159} = (6, 7, 3, 1)$
14 : $P_{1205} = (4, 10, 3, 1)$
15 : $P_{1214} = (13, 10, 3, 1)$
16 : $P_{1240} = (7, 12, 3, 1)$
17 : $P_{1241} = (8, 12, 3, 1)$
18 : $P_{1255} = (6, 13, 3, 1)$
19 : $P_{1257} = (8, 13, 3, 1)$
20 : $P_{1375} = (14, 4, 4, 1)$
21 : $P_{1413} = (4, 7, 4, 1)$
22 : $P_{1416} = (7, 7, 4, 1)$
23 : $P_{1460} = (3, 10, 4, 1)$
24 : $P_{1470} = (13, 10, 4, 1)$
25 : $P_{1494} = (5, 12, 4, 1)$

$26: P_{1502} = (13, 12, 4, 1)$
$27: P_{1525} = (4, 14, 4, 1)$
$28: P_{1535} = (14, 14, 4, 1)$
$29: P_{1644} = (11, 5, 5, 1)$
$30: P_{1661} = (12, 6, 5, 1)$
$31: P_{1664} = (15, 6, 5, 1)$
$32: P_{1678} = (13, 7, 5, 1)$
$33: P_{1680} = (15, 7, 5, 1)$
$34: P_{1704} = (7, 9, 5, 1)$
$35: P_{1708} = (11, 9, 5, 1)$
$36: P_{1736} = (7, 11, 5, 1)$
$37: P_{1738} = (9, 11, 5, 1)$
$38: P_{1749} = (4, 12, 5, 1)$
$39: P_{1758} = (13, 12, 5, 1)$
$40: P_{1852} = (11, 2, 6, 1)$
$41: P_{1856} = (15, 2, 6, 1)$
$42: P_{1919} = (14, 6, 6, 1)$
$43: P_{1923} = (2, 7, 6, 1)$
$44: P_{1924} = (3, 7, 6, 1)$
$45: P_{1976} = (7, 10, 6, 1)$
$46: P_{1980} = (11, 10, 6, 1)$
$47: P_{1987} = (2, 11, 6, 1)$
$48: P_{2000} = (15, 11, 6, 1)$
$49: P_{2020} = (3, 13, 6, 1)$
$50: P_{2025} = (8, 13, 6, 1)$
$51: P_{2169} = (8, 6, 7, 1)$
$52: P_{2170} = (9, 6, 7, 1)$
$53: P_{2181} = (4, 7, 7, 1)$
$54: P_{2214} = (5, 9, 7, 1)$
$55: P_{2220} = (11, 9, 7, 1)$
$56: P_{2231} = (6, 10, 7, 1)$
$57: P_{2236} = (11, 10, 7, 1)$
$58: P_{2246} = (5, 11, 7, 1)$
$59: P_{2250} = (9, 11, 7, 1)$
$60: P_{2260} = (3, 12, 7, 1)$
$61: P_{2265} = (8, 12, 7, 1)$
$62: P_{2424} = (7, 6, 8, 1)$
$63: P_{2426} = (9, 6, 8, 1)$
$64: P_{2459} = (10, 8, 8, 1)$
$65: P_{2493} = (12, 10, 8, 1)$
$66: P_{2495} = (14, 10, 8, 1)$
$67: P_{2516} = (3, 12, 8, 1)$
$68: P_{2520} = (7, 12, 8, 1)$
$69: P_{2532} = (3, 13, 8, 1)$
$70: P_{2535} = (6, 13, 8, 1)$
$71: P_{2555} = (10, 14, 8, 1)$
$72: P_{2557} = (12, 14, 8, 1)$
$73: P_{2611} = (2, 2, 9, 1)$
$74: P_{2618} = (9, 2, 9, 1)$
$75: P_{2680} = (7, 6, 9, 1)$
$76: P_{2681} = (8, 6, 9, 1)$
$77: P_{2723} = (2, 9, 9, 1)$
$78: P_{2758} = (5, 11, 9, 1)$
$79: P_{2760} = (7, 11, 9, 1)$
$80: P_{2778} = (9, 12, 9, 1)$
$81: P_{2781} = (12, 12, 9, 1)$
$82: P_{2884} = (3, 3, 10, 1)$
$83: P_{2891} = (10, 3, 10, 1)$
$84: P_{2900} = (3, 4, 10, 1)$
$85: P_{2910} = (13, 4, 10, 1)$
$86: P_{2969} = (8, 8, 10, 1)$
$87: P_{2971} = (10, 8, 10, 1)$
$88: P_{3021} = (12, 11, 10, 1)$
$89: P_{3022} = (13, 11, 10, 1)$
$90: P_{3065} = (8, 14, 10, 1)$
$91: P_{3069} = (12, 14, 10, 1)$
$92: P_{3127} = (6, 2, 11, 1)$
$93: P_{3136} = (15, 2, 11, 1)$
$94: P_{3174} = (5, 5, 11, 1)$
$95: P_{3180} = (11, 5, 11, 1)$
$96: P_{3238} = (5, 9, 11, 1)$
$97: P_{3240} = (7, 9, 11, 1)$
$98: P_{3255} = (6, 10, 11, 1)$
$99: P_{3256} = (7, 10, 11, 1)$
$100: P_{3340} = (11, 15, 11, 1)$
$101: P_{3344} = (15, 15, 11, 1)$
$102: P_{3446} = (5, 6, 12, 1)$
$103: P_{3456} = (15, 6, 12, 1)$
$104: P_{3513} = (8, 10, 12, 1)$
$105: P_{3519} = (14, 10, 12, 1)$
$106: P_{3531} = (10, 11, 12, 1)$
$107: P_{3534} = (13, 11, 12, 1)$
$108: P_{3546} = (9, 12, 12, 1)$
$109: P_{3567} = (14, 13, 12, 1)$
$110: P_{3568} = (15, 13, 12, 1)$
$111: P_{3577} = (8, 14, 12, 1)$
$112: P_{3579} = (10, 14, 12, 1)$
$113: P_{3668} = (3, 4, 13, 1)$
$114: P_{3675} = (10, 4, 13, 1)$
$115: P_{3718} = (5, 7, 13, 1)$
$116: P_{3728} = (15, 7, 13, 1)$
$117: P_{3764} = (3, 10, 13, 1)$
$118: P_{3765} = (4, 10, 13, 1)$
$119: P_{3787} = (10, 11, 13, 1)$
$120: P_{3789} = (12, 11, 13, 1)$
$121: P_{3797} = (4, 12, 13, 1)$
$122: P_{3798} = (5, 12, 13, 1)$
$123: P_{3811} = (2, 13, 13, 1)$
$124: P_{3925} = (4, 4, 14, 1)$
$125: P_{3935} = (14, 4, 14, 1)$
$126: P_{3959} = (6, 6, 14, 1)$
$127: P_{3967} = (14, 6, 14, 1)$
$128: P_{4025} = (8, 10, 14, 1)$
$129: P_{4029} = (12, 10, 14, 1)$
$130: P_{4077} = (12, 13, 14, 1)$
$131: P_{4080} = (15, 13, 14, 1)$
$132: P_{4085} = (4, 14, 14, 1)$
$133: P_{4151} = (6, 2, 15, 1)$

134 : $P_{4156} = (11, 2, 15, 1)$
135 : $P_{4214} = (5, 6, 15, 1)$
136 : $P_{4221} = (12, 6, 15, 1)$
137 : $P_{4230} = (5, 7, 15, 1)$
138 : $P_{4238} = (13, 7, 15, 1)$
139 : $P_{4291} = (2, 11, 15, 1)$
140 : $P_{4295} = (6, 11, 15, 1)$
141 : $P_{4333} = (12, 13, 15, 1)$
142 : $P_{4335} = (14, 13, 15, 1)$
143 : $P_{4364} = (11, 15, 15, 1)$

Line Intersection Graph

	0	1	2	3	4	5	6	7	8	9	10	11
0	0	1	1	1	0	1	1	0	0	0	0	0
1	1	0	1	0	0	0	0	1	0	1	0	1
2	1	1	0	0	1	0	0	0	1	0	1	0
3	1	0	0	0	1	0	0	1	1	1	1	1
4	0	0	1	1	0	1	1	1	0	1	0	1
5	1	0	0	0	1	0	1	1	0	1	1	0
6	1	0	0	0	1	1	0	1	1	0	0	1
7	0	1	0	1	1	1	1	0	1	0	1	0
8	0	0	1	1	0	0	1	1	0	1	1	0
9	0	1	0	1	1	1	0	0	1	0	0	1
10	0	0	1	1	0	1	0	1	1	0	0	1
11	0	1	0	1	1	0	1	0	0	1	1	0

Neighbor sets in the line intersection graph:

Line 0 intersects

Line	ℓ_1	ℓ_2	ℓ_3	ℓ_5	ℓ_6
in point	P_5	P_1	P_0	P_{14}	P_{15}

Line 1 intersects

Line	ℓ_0	ℓ_2	ℓ_7	ℓ_9	ℓ_{11}
in point	P_5	P_{35}	P_{20}	P_{190}	P_{205}

Line 2 intersects

Line	ℓ_0	ℓ_1	ℓ_4	ℓ_8	ℓ_{10}
in point	P_1	P_{35}	P_2	P_{179}	P_{195}

Line 3 intersects

Line	ℓ_0	ℓ_4	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}
in point	P_0	P_{290}	P_{291}	P_{291}	P_{290}	P_{291}	P_{290}

Line 4 intersects

Line	ℓ_2	ℓ_3	ℓ_5	ℓ_6	ℓ_7	ℓ_9	ℓ_{11}
in point	P_2	P_{290}	P_{546}	P_{546}	P_{546}	P_{290}	P_{290}

Line 5 intersects

Line	ℓ_0	ℓ_4	ℓ_6	ℓ_7	ℓ_9	ℓ_{10}
in point	P_{14}	P_{546}	P_{546}	P_{546}	P_{716}	P_{690}

Line 6 intersects

Line	ℓ_0	ℓ_4	ℓ_5	ℓ_7	ℓ_8	ℓ_{11}
in point	P_{15}	P_{546}	P_{546}	P_{546}	P_{706}	P_{699}

Line 7 intersects

Line	ℓ_1	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_8	ℓ_{10}
in point	P_{20}	P_{291}	P_{546}	P_{546}	P_{546}	P_{291}	P_{291}

Line 8 intersects

Line	ℓ_2	ℓ_3	ℓ_6	ℓ_7	ℓ_9	ℓ_{10}
in point	P_{179}	P_{291}	P_{706}	P_{291}	P_{2994}	P_{291}

Line 9 intersects

Line	ℓ_1	ℓ_3	ℓ_4	ℓ_5	ℓ_8	ℓ_{11}
in point	P_{190}	P_{290}	P_{290}	P_{716}	P_{2994}	P_{290}

Line 10 intersects

Line	ℓ_2	ℓ_3	ℓ_5	ℓ_7	ℓ_8	ℓ_{11}
in point	P_{195}	P_{291}	P_{690}	P_{291}	P_{291}	P_{3266}

Line 11 intersects

Line	ℓ_1	ℓ_3	ℓ_4	ℓ_6	ℓ_9	ℓ_{10}
in point	P_{205}	P_{290}	P_{290}	P_{699}	P_{290}	P_{3266}

The surface has 321 points:
The points on the surface are:

0 : $P_0 = (1,0,0,0)$
1 : $P_1 = (0,1,0,0)$
2 : $P_2 = (0,0,1,0)$
3 : $P_5 = (1,1,0,0)$
4 : $P_6 = (2,1,0,0)$
5 : $P_7 = (3,1,0,0)$
6 : $P_8 = (4,1,0,0)$
7 : $P_9 = (5,1,0,0)$
8 : $P_{10} = (6,1,0,0)$
9 : $P_{11} = (7,1,0,0)$
10 : $P_{12} = (8,1,0,0)$
11 : $P_{13} = (9,1,0,0)$
12 : $P_{14} = (10,1,0,0)$
13 : $P_{15} = (11,1,0,0)$
14 : $P_{16} = (12,1,0,0)$
15 : $P_{17} = (13,1,0,0)$
16 : $P_{18} = (14,1,0,0)$
17 : $P_{19} = (15,1,0,0)$
18 : $P_{20} = (1,0,1,0)$
19 : $P_{35} = (0,1,1,0)$
20 : $P_{51} = (0,2,1,0)$
21 : $P_{54} = (3,2,1,0)$
22 : $P_{67} = (0,3,1,0)$
23 : $P_{69} = (2,3,1,0)$
24 : $P_{83} = (0,4,1,0)$
25 : $P_{88} = (5,4,1,0)$
26 : $P_{99} = (0,5,1,0)$
27 : $P_{103} = (4,5,1,0)$
28 : $P_{115} = (0,6,1,0)$
29 : $P_{122} = (7,6,1,0)$
30 : $P_{131} = (0,7,1,0)$
31 : $P_{137} = (6,7,1,0)$
32 : $P_{147} = (0,8,1,0)$
33 : $P_{156} = (9,8,1,0)$
34 : $P_{163} = (0,9,1,0)$
35 : $P_{171} = (8,9,1,0)$
36 : $P_{179} = (0,10,1,0)$
37 : $P_{190} = (11,10,1,0)$
38 : $P_{195} = (0,11,1,0)$
39 : $P_{205} = (10,11,1,0)$
40 : $P_{211} = (0,12,1,0)$
41 : $P_{224} = (13,12,1,0)$
42 : $P_{227} = (0,13,1,0)$
43 : $P_{239} = (12,13,1,0)$
44 : $P_{243} = (0,14,1,0)$
45 : $P_{258} = (15,14,1,0)$
46 : $P_{259} = (0,15,1,0)$
47 : $P_{273} = (14,15,1,0)$
48 : $P_{290} = (0,1,0,1)$
49 : $P_{291} = (1,1,0,1)$
50 : $P_{292} = (2,1,0,1)$
51 : $P_{293} = (3,1,0,1)$
52 : $P_{294} = (4,1,0,1)$
53 : $P_{295} = (5,1,0,1)$
54 : $P_{296} = (6,1,0,1)$
55 : $P_{297} = (7,1,0,1)$
56 : $P_{298} = (8,1,0,1)$
57 : $P_{299} = (9,1,0,1)$
58 : $P_{300} = (10,1,0,1)$
59 : $P_{301} = (11,1,0,1)$
60 : $P_{302} = (12,1,0,1)$
61 : $P_{303} = (13,1,0,1)$
62 : $P_{304} = (14,1,0,1)$
63 : $P_{305} = (15,1,0,1)$
64 : $P_{540} = (10,0,1,1)$
65 : $P_{541} = (11,0,1,1)$
66 : $P_{546} = (0,1,1,1)$
67 : $P_{565} = (4,2,1,1)$
68 : $P_{568} = (7,2,1,1)$
69 : $P_{590} = (13,3,1,1)$
70 : $P_{592} = (15,3,1,1)$
71 : $P_{602} = (9,4,1,1)$
72 : $P_{605} = (12,4,1,1)$
73 : $P_{612} = (3,5,1,1)$
74 : $P_{616} = (7,5,1,1)$
75 : $P_{628} = (3,6,1,1)$
76 : $P_{629} = (4,6,1,1)$
77 : $P_{649} = (8,7,1,1)$
78 : $P_{655} = (14,7,1,1)$
79 : $P_{662} = (5,8,1,1)$
80 : $P_{669} = (12,8,1,1)$
81 : $P_{679} = (6,9,1,1)$
82 : $P_{687} = (14,9,1,1)$
83 : $P_{690} = (1,10,1,1)$
84 : $P_{699} = (10,10,1,1)$
85 : $P_{706} = (1,11,1,1)$
86 : $P_{716} = (11,11,1,1)$
87 : $P_{723} = (2,12,1,1)$
88 : $P_{736} = (15,12,1,1)$
89 : $P_{742} = (5,13,1,1)$
90 : $P_{746} = (9,13,1,1)$
91 : $P_{755} = (2,14,1,1)$
92 : $P_{766} = (13,14,1,1)$
93 : $P_{775} = (6,15,1,1)$
94 : $P_{777} = (8,15,1,1)$
95 : $P_{801} = (0,1,2,1)$
96 : $P_{804} = (3,1,2,1)$
97 : $P_{826} = (9,2,2,1)$
98 : $P_{900} = (3,7,2,1)$
99 : $P_{903} = (6,7,2,1)$
100 : $P_{931} = (2,9,2,1)$
101 : $P_{938} = (9,9,2,1)$
102 : $P_{967} = (6,11,2,1)$
103 : $P_{976} = (15,11,2,1)$
104 : $P_{978} = (1,12,2,1)$
105 : $P_{992} = (15,12,2,1)$
106 : $P_{995} = (2,13,2,1)$
107 : $P_{1006} = (13,13,2,1)$
108 : $P_{1010} = (1,14,2,1)$
109 : $P_{1022} = (13,14,2,1)$
110 : $P_{1057} = (0,1,3,1)$
111 : $P_{1059} = (2,1,3,1)$
112 : $P_{1099} = (10,3,3,1)$
113 : $P_{1115} = (10,4,3,1)$
114 : $P_{1118} = (13,4,3,1)$
115 : $P_{1122} = (1,5,3,1)$
116 : $P_{1128} = (7,5,3,1)$
117 : $P_{1138} = (1,6,3,1)$
118 : $P_{1141} = (4,6,3,1)$
119 : $P_{1155} = (2,7,3,1)$

120 : $P_{1159} = (6, 7, 3, 1)$
121 : $P_{1205} = (4, 10, 3, 1)$
122 : $P_{1214} = (13, 10, 3, 1)$
123 : $P_{1240} = (7, 12, 3, 1)$
124 : $P_{1241} = (8, 12, 3, 1)$
125 : $P_{1255} = (6, 13, 3, 1)$
126 : $P_{1257} = (8, 13, 3, 1)$
127 : $P_{1313} = (0, 1, 4, 1)$
128 : $P_{1318} = (5, 1, 4, 1)$
129 : $P_{1330} = (1, 2, 4, 1)$
130 : $P_{1336} = (7, 2, 4, 1)$
131 : $P_{1375} = (14, 4, 4, 1)$
132 : $P_{1394} = (1, 6, 4, 1)$
133 : $P_{1396} = (3, 6, 4, 1)$
134 : $P_{1413} = (4, 7, 4, 1)$
135 : $P_{1416} = (7, 7, 4, 1)$
136 : $P_{1460} = (3, 10, 4, 1)$
137 : $P_{1470} = (13, 10, 4, 1)$
138 : $P_{1494} = (5, 12, 4, 1)$
139 : $P_{1502} = (13, 12, 4, 1)$
140 : $P_{1525} = (4, 14, 4, 1)$
141 : $P_{1535} = (14, 14, 4, 1)$
142 : $P_{1569} = (0, 1, 5, 1)$
143 : $P_{1573} = (4, 1, 5, 1)$
144 : $P_{1644} = (11, 5, 5, 1)$
145 : $P_{1661} = (12, 6, 5, 1)$
146 : $P_{1664} = (15, 6, 5, 1)$
147 : $P_{1678} = (13, 7, 5, 1)$
148 : $P_{1680} = (15, 7, 5, 1)$
149 : $P_{1682} = (1, 8, 5, 1)$
150 : $P_{1693} = (12, 8, 5, 1)$
151 : $P_{1704} = (7, 9, 5, 1)$
152 : $P_{1708} = (11, 9, 5, 1)$
153 : $P_{1736} = (7, 11, 5, 1)$
154 : $P_{1738} = (9, 11, 5, 1)$
155 : $P_{1749} = (4, 12, 5, 1)$
156 : $P_{1758} = (13, 12, 5, 1)$
157 : $P_{1762} = (1, 13, 5, 1)$
158 : $P_{1770} = (9, 13, 5, 1)$
159 : $P_{1825} = (0, 1, 6, 1)$
160 : $P_{1832} = (7, 1, 6, 1)$
161 : $P_{1852} = (11, 2, 6, 1)$
162 : $P_{1856} = (15, 2, 6, 1)$
163 : $P_{1919} = (14, 6, 6, 1)$
164 : $P_{1923} = (2, 7, 6, 1)$
165 : $P_{1924} = (3, 7, 6, 1)$
166 : $P_{1954} = (1, 9, 6, 1)$
167 : $P_{1967} = (14, 9, 6, 1)$
168 : $P_{1976} = (7, 10, 6, 1)$
169 : $P_{1980} = (11, 10, 6, 1)$
170 : $P_{1987} = (2, 11, 6, 1)$
171 : $P_{2000} = (15, 11, 6, 1)$
172 : $P_{2020} = (3, 13, 6, 1)$
173 : $P_{2025} = (8, 13, 6, 1)$
174 : $P_{2050} = (1, 15, 6, 1)$
175 : $P_{2057} = (8, 15, 6, 1)$
176 : $P_{2081} = (0, 1, 7, 1)$
177 : $P_{2087} = (6, 1, 7, 1)$
178 : $P_{2098} = (1, 2, 7, 1)$
179 : $P_{2101} = (4, 2, 7, 1)$
180 : $P_{2146} = (1, 5, 7, 1)$
181 : $P_{2148} = (3, 5, 7, 1)$
182 : $P_{2169} = (8, 6, 7, 1)$
183 : $P_{2170} = (9, 6, 7, 1)$
184 : $P_{2181} = (4, 7, 7, 1)$
185 : $P_{2214} = (5, 9, 7, 1)$
186 : $P_{2220} = (11, 9, 7, 1)$
187 : $P_{2231} = (6, 10, 7, 1)$
188 : $P_{2236} = (11, 10, 7, 1)$
189 : $P_{2246} = (5, 11, 7, 1)$
190 : $P_{2250} = (9, 11, 7, 1)$
191 : $P_{2260} = (3, 12, 7, 1)$
192 : $P_{2265} = (8, 12, 7, 1)$
193 : $P_{2337} = (0, 1, 8, 1)$
194 : $P_{2346} = (9, 1, 8, 1)$
195 : $P_{2424} = (7, 6, 8, 1)$
196 : $P_{2426} = (9, 6, 8, 1)$
197 : $P_{2434} = (1, 7, 8, 1)$
198 : $P_{2447} = (14, 7, 8, 1)$
199 : $P_{2459} = (10, 8, 8, 1)$
200 : $P_{2493} = (12, 10, 8, 1)$
201 : $P_{2495} = (14, 10, 8, 1)$
202 : $P_{2516} = (3, 12, 8, 1)$
203 : $P_{2520} = (7, 12, 8, 1)$
204 : $P_{2532} = (3, 13, 8, 1)$
205 : $P_{2535} = (6, 13, 8, 1)$
206 : $P_{2555} = (10, 14, 8, 1)$
207 : $P_{2557} = (12, 14, 8, 1)$
208 : $P_{2562} = (1, 15, 8, 1)$
209 : $P_{2567} = (6, 15, 8, 1)$
210 : $P_{2593} = (0, 1, 9, 1)$
211 : $P_{2601} = (8, 1, 9, 1)$
212 : $P_{2611} = (2, 2, 9, 1)$
213 : $P_{2618} = (9, 2, 9, 1)$
214 : $P_{2642} = (1, 4, 9, 1)$
215 : $P_{2653} = (12, 4, 9, 1)$
216 : $P_{2680} = (7, 6, 9, 1)$
217 : $P_{2681} = (8, 6, 9, 1)$
218 : $P_{2723} = (2, 9, 9, 1)$
219 : $P_{2758} = (5, 11, 9, 1)$
220 : $P_{2760} = (7, 11, 9, 1)$
221 : $P_{2778} = (9, 12, 9, 1)$
222 : $P_{2781} = (12, 12, 9, 1)$
223 : $P_{2786} = (1, 13, 9, 1)$
224 : $P_{2790} = (5, 13, 9, 1)$
225 : $P_{2834} = (1, 0, 10, 1)$
226 : $P_{2844} = (11, 0, 10, 1)$
227 : $P_{2849} = (0, 1, 10, 1)$
228 : $P_{2860} = (11, 1, 10, 1)$
229 : $P_{2884} = (3, 3, 10, 1)$
230 : $P_{2891} = (10, 3, 10, 1)$
231 : $P_{2900} = (3, 4, 10, 1)$
232 : $P_{2910} = (13, 4, 10, 1)$
233 : $P_{2969} = (8, 8, 10, 1)$
234 : $P_{2971} = (10, 8, 10, 1)$
235 : $P_{2994} = (1, 10, 10, 1)$
236 : $P_{3021} = (12, 11, 10, 1)$
237 : $P_{3022} = (13, 11, 10, 1)$
238 : $P_{3065} = (8, 14, 10, 1)$
239 : $P_{3069} = (12, 14, 10, 1)$
240 : $P_{3090} = (1, 0, 11, 1)$
241 : $P_{3099} = (10, 0, 11, 1)$
242 : $P_{3105} = (0, 1, 11, 1)$
243 : $P_{3115} = (10, 1, 11, 1)$
244 : $P_{3127} = (6, 2, 11, 1)$
245 : $P_{3136} = (15, 2, 11, 1)$
246 : $P_{3174} = (5, 5, 11, 1)$
247 : $P_{3180} = (11, 5, 11, 1)$
248 : $P_{3238} = (5, 9, 11, 1)$
249 : $P_{3240} = (7, 9, 11, 1)$
250 : $P_{3255} = (6, 10, 11, 1)$
251 : $P_{3256} = (7, 10, 11, 1)$
252 : $P_{3266} = (1, 11, 11, 1)$
253 : $P_{3340} = (11, 15, 11, 1)$
254 : $P_{3344} = (15, 15, 11, 1)$
255 : $P_{3361} = (0, 1, 12, 1)$
256 : $P_{3374} = (13, 1, 12, 1)$
257 : $P_{3410} = (1, 4, 12, 1)$
258 : $P_{3418} = (9, 4, 12, 1)$
259 : $P_{3446} = (5, 6, 12, 1)$
260 : $P_{3456} = (15, 6, 12, 1)$
261 : $P_{3474} = (1, 8, 12, 1)$
262 : $P_{3478} = (5, 8, 12, 1)$
263 : $P_{3513} = (8, 10, 12, 1)$
264 : $P_{3519} = (14, 10, 12, 1)$
265 : $P_{3531} = (10, 11, 12, 1)$
266 : $P_{3534} = (13, 11, 12, 1)$
267 : $P_{3546} = (9, 12, 12, 1)$
268 : $P_{3567} = (14, 13, 12, 1)$
269 : $P_{3568} = (15, 13, 12, 1)$
270 : $P_{3577} = (8, 14, 12, 1)$
271 : $P_{3579} = (10, 14, 12, 1)$
272 : $P_{3617} = (0, 1, 13, 1)$
273 : $P_{3629} = (12, 1, 13, 1)$
274 : $P_{3650} = (1, 3, 13, 1)$
275 : $P_{3664} = (15, 3, 13, 1)$
276 : $P_{3668} = (3, 4, 13, 1)$
277 : $P_{3675} = (10, 4, 13, 1)$
278 : $P_{3718} = (5, 7, 13, 1)$
279 : $P_{3728} = (15, 7, 13, 1)$
280 : $P_{3764} = (3, 10, 13, 1)$
281 : $P_{3765} = (4, 10, 13, 1)$

$282: P_{3787} = (10, 11, 13, 1)$
$283: P_{3789} = (12, 11, 13, 1)$
$284: P_{3797} = (4, 12, 13, 1)$
$285: P_{3798} = (5, 12, 13, 1)$
$286: P_{3811} = (2, 13, 13, 1)$
$287: P_{3826} = (1, 14, 13, 1)$
$288: P_{3827} = (2, 14, 13, 1)$
$289: P_{3873} = (0, 1, 14, 1)$
$290: P_{3888} = (15, 1, 14, 1)$
$291: P_{3925} = (4, 4, 14, 1)$
$292: P_{3935} = (14, 4, 14, 1)$
$293: P_{3959} = (6, 6, 14, 1)$
$294: P_{3967} = (14, 6, 14, 1)$
$295: P_{3970} = (1, 7, 14, 1)$
$296: P_{3977} = (8, 7, 14, 1)$
$297: P_{4002} = (1, 9, 14, 1)$
$298: P_{4007} = (6, 9, 14, 1)$
$299: P_{4025} = (8, 10, 14, 1)$
$300: P_{4029} = (12, 10, 14, 1)$
$301: P_{4077} = (12, 13, 14, 1)$
$302: P_{4080} = (15, 13, 14, 1)$
$303: P_{4085} = (4, 14, 14, 1)$
$304: P_{4129} = (0, 1, 15, 1)$
$305: P_{4143} = (14, 1, 15, 1)$
$306: P_{4151} = (6, 2, 15, 1)$
$307: P_{4156} = (11, 2, 15, 1)$
$308: P_{4162} = (1, 3, 15, 1)$
$309: P_{4174} = (13, 3, 15, 1)$
$310: P_{4214} = (5, 6, 15, 1)$
$311: P_{4221} = (12, 6, 15, 1)$
$312: P_{4230} = (5, 7, 15, 1)$
$313: P_{4238} = (13, 7, 15, 1)$
$314: P_{4291} = (2, 11, 15, 1)$
$315: P_{4295} = (6, 11, 15, 1)$
$316: P_{4306} = (1, 12, 15, 1)$
$317: P_{4307} = (2, 12, 15, 1)$
$318: P_{4333} = (12, 13, 15, 1)$
$319: P_{4335} = (14, 13, 15, 1)$
$320: P_{4364} = (11, 15, 15, 1)$