Rank-65562 over GF(16)

January 15, 2021

The equation

The equation of the surface is :

$$X_0^3 + X_1^3 + X_2^3 + X_0^2 X_1 + X_0 X_1 X_2 = 0$$

(1, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0)
The point rank of the equation over GF(16) is 286396966

General information

Number of lines	16
Number of points	257
Number of singular points	1
Number of Eckardt points	0
Number of double points	0
Number of single points	256
Number of points off lines	0
Number of Hesse planes	0
Number of axes	0
Type of points on lines	17^{16}
Type of lines on points	16, 1^{256}

Singular Points

The surface has 1 singular points:

$0 : \ P_3 = \mathbf{P}(0,0,0,1) = \mathbf{P}(0,0,0,1)$

The 16 Lines

The lines and their Pluecker coordinates are:

$$\ell_0 = \begin{bmatrix} 1 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4640} = \begin{bmatrix} 1 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4640} = \mathbf{Pl}(0,1,0,0,1,0)_{305}$$

$$\ell_1 = \left[\begin{array}{cccc} 1 & 0 & \delta^{5} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{48320} = \left[\begin{array}{cccc} 1 & 0 & 11 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{48320} = \mathbf{Pl}(0,11,0,0,1,0)_{315}$$

$$\ell_2 = \left[\begin{array}{cccc} 1 & 0 & \delta^{10} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{43952} = \left[\begin{array}{cccc} 1 & 0 & 10 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{43952} = \mathbf{Pl}(0,10,0,0,1,0)_{314}$$

$$\ell_3 = \left[\begin{array}{cccc} 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{69921} = \left[\begin{array}{cccc} 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{69921} = \mathbf{Pl}(0,1,0,1,0,0)_{49}$$

$$\ell_4 = \left[\begin{array}{cccc} 1 & \delta^{5} & \delta^{5} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{51323} = \left[\begin{array}{cccc} 1 & 11 & 11 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{51323} = \mathbf{Pl}(0,11,0,11,1,0)_{1121}$$

$$\ell_5 = \left[\begin{array}{cccc} 1 & \delta^{10} & \delta^{10} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{46682} = \left[\begin{array}{cccc} 1 & 10 & 10 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{46682} = \mathbf{Pl}(0,10,0,10,1,0)_{1089}$$

$$\ell_6 = \left[\begin{array}{cccc} 1 & \delta^{10} & \delta^{9} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{24842} = \left[\begin{array}{cccc} 1 & 10 & 5 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{24842} = \mathbf{Pl}(0,5,0,10,1,0)_{1084}$$

$$\ell_7 = \left[\begin{array}{cccc} 1 & \delta^{5} & \delta^{3} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{38219} = \left[\begin{array}{cccc} 1 & 11 & 8 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{38219} = \mathbf{Pl}(0,8,0,11,1,0)_{1118}$$

$$\ell_8 = \left[\begin{array}{cccc} 1 & \delta^{10} & \delta^{6} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{68522} = \left[\begin{array}{cccc} 1 & 10 & 15 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{68522} = \mathbf{Pl}(0,15,0,10,1,0)_{1094}$$

$$\ell_9 = \left[\begin{array}{cccc} 0 & 1 & \delta^{5} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{70091} = \left[\begin{array}{cccc} 0 & 1 & 11 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{70091} = \mathbf{Pl}(0,11,0,1,0,0)_{59}$$

$$\ell_{10} = \left[\begin{array}{cccc} 1 & \delta^{8} & \delta^{13} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{30302} = \left[\begin{array}{cccc} 1 & 14 & 6 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{30302} = \mathbf{Pl}(0,6,0,14,1,0)_{1209}$$

$$\ell_{11} = \left[\begin{array}{cccc} 1 & \delta^{2} & \delta^{7} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{31940} = \left[\begin{array}{cccc} 1 & 4 & 7 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{31940} = \mathbf{Pl}(0,7,0,4,1,0)_{900}$$

$$\ell_{12} = \left[\begin{array}{cccc} 0 & 1 & \delta^{10} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{70074} = \left[\begin{array}{cccc} 0 & 1 & 10 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{70074} = \mathbf{Pl}(0,10,0,1,0,0)_{58}$$

$$\ell_{13} = \left[\begin{array}{cccc} 1 & \delta^{4} & \delta^{14} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{55145} = \left[\begin{array}{cccc} 1 & 9 & 12 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{55145} = \mathbf{Pl}(0,12,0,9,1,0)_{1060}$$

$$\ell_{14} = \left[\begin{array}{cccc} 1 & \delta & \delta^{11} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{57602} = \left[\begin{array}{cccc} 1 & 2 & 13 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{57602} = \mathbf{Pl}(0,13,0,2,1,0)_{844}$$

$$\ell_{15} = \left[\begin{array}{cccc} 1 & \delta^{5} & \delta^{12} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{16379} = \left[\begin{array}{cccc} 1 & 11 & 3 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{16379} = \mathbf{Pl}(0,3,0,11,1,0)_{1113}$$

Rank of lines: (4640, 48320, 43952, 69921, 51323, 46682, 24842, 38219, 68522, 70091, 30302, 31940, 70074, 55145, 57602, 16379)
Rank of points on Klein quadric: (305, 315, 314, 49, 1121, 1089, 1084, 1118, 1094, 59, 1209, 900, 58, 1060, 844, 1113)

Eckardt Points

The surface has 0 Eckardt points:

Double Points

The surface has 0 Double points:
The double points on the surface are:

Single Points

The surface has 256 single points:
The single points on the surface are:

0 : $P_{20} = (1, 0, 1, 0)$ lies on line ℓ_0
1 : $P_{29} = (10, 0, 1, 0)$ lies on line ℓ_1
2 : $P_{30} = (11, 0, 1, 0)$ lies on line ℓ_2
3 : $P_{35} = (0, 1, 1, 0)$ lies on line ℓ_3
4 : $P_{45} = (10, 1, 1, 0)$ lies on line ℓ_4
5 : $P_{46} = (11, 1, 1, 0)$ lies on line ℓ_5
6 : $P_{66} = (15, 2, 1, 0)$ lies on line ℓ_6
7 : $P_{86} = (3, 4, 1, 0)$ lies on line ℓ_7
8 : $P_{168} = (5, 9, 1, 0)$ lies on line ℓ_8
9 : $P_{179} = (0, 10, 1, 0)$ lies on line ℓ_9
10 : $P_{183} = (4, 10, 1, 0)$ lies on line ℓ_{10}
11 : $P_{193} = (14, 10, 1, 0)$ lies on line ℓ_{11}
12 : $P_{195} = (0, 11, 1, 0)$ lies on line ℓ_{12}
13 : $P_{197} = (2, 11, 1, 0)$ lies on line ℓ_{13}
14 : $P_{204} = (9, 11, 1, 0)$ lies on line ℓ_{14}
15 : $P_{251} = (8, 14, 1, 0)$ lies on line ℓ_{15}
16 : $P_{531} = (1, 0, 1, 1)$ lies on line ℓ_0
17 : $P_{540} = (10, 0, 1, 1)$ lies on line ℓ_1
18 : $P_{541} = (11, 0, 1, 1)$ lies on line ℓ_2
19 : $P_{546} = (0, 1, 1, 1)$ lies on line ℓ_3
20 : $P_{555} = (10, 1, 1, 1)$ lies on line ℓ_4
21 : $P_{556} = (11, 1, 1, 1)$ lies on line ℓ_5
22 : $P_{576} = (15, 2, 1, 1)$ lies on line ℓ_6
23 : $P_{596} = (3, 4, 1, 1)$ lies on line ℓ_7
24 : $P_{678} = (5, 9, 1, 1)$ lies on line ℓ_8
25 : $P_{689} = (0, 10, 1, 1)$ lies on line ℓ_9
26 : $P_{693} = (4, 10, 1, 1)$ lies on line ℓ_{10}
27 : $P_{703} = (14, 10, 1, 1)$ lies on line ℓ_{11}
28 : $P_{705} = (0, 11, 1, 1)$ lies on line ℓ_{12}
29 : $P_{707} = (2, 11, 1, 1)$ lies on line ℓ_{13}
30 : $P_{714} = (9, 11, 1, 1)$ lies on line ℓ_{14}
31 : $P_{761} = (8, 14, 1, 1)$ lies on line ℓ_{15}
32 : $P_{787} = (2, 0, 2, 1)$ lies on line ℓ_0
33 : $P_{798} = (13, 0, 2, 1)$ lies on line ℓ_1
34 : $P_{800} = (15, 0, 2, 1)$ lies on line ℓ_2
35 : $P_{817} = (0, 2, 2, 1)$ lies on line ℓ_3
36 : $P_{830} = (13, 2, 2, 1)$ lies on line ℓ_4
37 : $P_{832} = (15, 2, 2, 1)$ lies on line ℓ_5
38 : $P_{856} = (7, 4, 2, 1)$ lies on line ℓ_6
39 : $P_{874} = (9, 5, 2, 1)$ lies on line ℓ_{15}
40 : $P_{919} = (6, 8, 2, 1)$ lies on line ℓ_7
41 : $P_{971} = (10, 11, 2, 1)$ lies on line ℓ_8
42 : $P_{993} = (0, 13, 2, 1)$ lies on line ℓ_9
43 : $P_{998} = (5, 13, 2, 1)$ lies on line ℓ_{11}
44 : $P_{1001} = (8, 13, 2, 1)$ lies on line ℓ_{10}
45 : $P_{1025} = (0, 15, 2, 1)$ lies on line ℓ_{12}
46 : $P_{1029} = (4, 15, 2, 1)$ lies on line ℓ_{13}
47 : $P_{1036} = (11, 15, 2, 1)$ lies on line ℓ_{14}
48 : $P_{1044} = (3, 0, 3, 1)$ lies on line ℓ_0
49 : $P_{1045} = (4, 0, 3, 1)$ lies on line ℓ_2
50 : $P_{1048} = (7, 0, 3, 1)$ lies on line ℓ_1
51 : $P_{1088} = (15, 2, 3, 1)$ lies on line ℓ_8
52 : $P_{1089} = (0, 3, 3, 1)$ lies on line ℓ_3
53 : $P_{1093} = (4, 3, 3, 1)$ lies on line ℓ_5
54 : $P_{1096} = (7, 3, 3, 1)$ lies on line ℓ_4
55 : $P_{1105} = (0, 4, 3, 1)$ lies on line ℓ_{12}
56 : $P_{1107} = (2, 4, 3, 1)$ lies on line ℓ_{14}
57 : $P_{1111} = (6, 4, 3, 1)$ lies on line ℓ_{13}
58 : $P_{1145} = (8, 6, 3, 1)$ lies on line ℓ_6
59 : $P_{1153} = (0, 7, 3, 1)$ lies on line ℓ_9
60 : $P_{1164} = (11, 7, 3, 1)$ lies on line ℓ_{11}
61 : $P_{1165} = (12, 7, 3, 1)$ lies on line ℓ_{10}
62 : $P_{1218} = (1, 11, 3, 1)$ lies on line ℓ_{15}
63 : $P_{1238} = (5, 12, 3, 1)$ lies on line ℓ_7
64 : $P_{1300} = (3, 0, 4, 1)$ lies on line ℓ_1
65 : $P_{1301} = (4, 0, 4, 1)$ lies on line ℓ_0
66 : $P_{1304} = (7, 0, 4, 1)$ lies on line ℓ_2
67 : $P_{1345} = (0, 3, 4, 1)$ lies on line ℓ_9
68 : $P_{1354} = (9, 3, 4, 1)$ lies on line ℓ_{10}
69 : $P_{1355} = (10, 3, 4, 1)$ lies on line ℓ_{11}
70 : $P_{1361} = (0, 4, 4, 1)$ lies on line ℓ_3
71 : $P_{1364} = (3, 4, 4, 1)$ lies on line ℓ_4
72 : $P_{1368} = (7, 4, 4, 1)$ lies on line ℓ_5
73 : $P_{1409} = (0, 7, 4, 1)$ lies on line ℓ_{12}
74 : $P_{1417} = (8, 7, 4, 1)$ lies on line ℓ_{13}
75 : $P_{1424} = (15, 7, 4, 1)$ lies on line ℓ_{14}
76 : $P_{1439} = (14, 8, 4, 1)$ lies on line ℓ_6
77 : $P_{1453} = (12, 9, 4, 1)$ lies on line ℓ_7
78 : $P_{1468} = (11, 10, 4, 1)$ lies on line ℓ_{15}
79 : $P_{1550} = (13, 15, 4, 1)$ lies on line ℓ_8
80 : $P_{1558} = (5, 0, 5, 1)$ lies on line ℓ_0
81 : $P_{1562} = (9, 0, 5, 1)$ lies on line ℓ_1
82 : $P_{1565} = (12, 0, 5, 1)$ lies on line ℓ_2
83 : $P_{1620} = (3, 4, 5, 1)$ lies on line ℓ_{15}
84 : $P_{1633} = (0, 5, 5, 1)$ lies on line ℓ_3
85 : $P_{1642} = (9, 5, 5, 1)$ lies on line ℓ_4
86 : $P_{1645} = (12, 5, 5, 1)$ lies on line ℓ_5
87 : $P_{1657} = (8, 6, 5, 1)$ lies on line ℓ_8
88 : $P_{1697} = (0, 9, 5, 1)$ lies on line ℓ_9
89 : $P_{1701} = (4, 9, 5, 1)$ lies on line ℓ_{11}
90 : $P_{1710} = (13, 9, 5, 1)$ lies on line ℓ_{10}
91 : $P_{1714} = (1, 10, 5, 1)$ lies on line ℓ_6
92 : $P_{1745} = (0, 12, 5, 1)$ lies on line ℓ_{12}
93 : $P_{1751} = (6, 12, 5, 1)$ lies on line ℓ_{14}
94 : $P_{1755} = (10, 12, 5, 1)$ lies on line ℓ_{13}
95 : $P_{1776} = (15, 13, 5, 1)$ lies on line ℓ_7

96 : $P_{1815} = (6, 0, 6, 1)$ lies on line ℓ_0
97 : $P_{1817} = (8, 0, 6, 1)$ lies on line ℓ_2
98 : $P_{1823} = (14, 0, 6, 1)$ lies on line ℓ_1
99 : $P_{1835} = (10, 1, 6, 1)$ lies on line ℓ_7
100 : $P_{1880} = (7, 4, 6, 1)$ lies on line ℓ_8
101 : $P_{1905} = (0, 6, 6, 1)$ lies on line ℓ_3
102 : $P_{1913} = (8, 6, 6, 1)$ lies on line ℓ_5
103 : $P_{1919} = (14, 6, 6, 1)$ lies on line ℓ_4
104 : $P_{1937} = (0, 8, 6, 1)$ lies on line ℓ_{12}
105 : $P_{1941} = (4, 8, 6, 1)$ lies on line ℓ_{14}
106 : $P_{1949} = (12, 8, 6, 1)$ lies on line ℓ_{13}
107 : $P_{2010} = (9, 12, 6, 1)$ lies on line ℓ_6
108 : $P_{2033} = (0, 14, 6, 1)$ lies on line ℓ_9
109 : $P_{2034} = (1, 14, 6, 1)$ lies on line ℓ_{10}
110 : $P_{2048} = (15, 14, 6, 1)$ lies on line ℓ_{11}
111 : $P_{2051} = (2, 15, 6, 1)$ lies on line ℓ_{15}
112 : $P_{2068} = (3, 0, 7, 1)$ lies on line ℓ_2
113 : $P_{2069} = (4, 0, 7, 1)$ lies on line ℓ_1
114 : $P_{2072} = (7, 0, 7, 1)$ lies on line ℓ_0
115 : $P_{2091} = (10, 1, 7, 1)$ lies on line ℓ_{15}
116 : $P_{2113} = (0, 3, 7, 1)$ lies on line ℓ_{12}
117 : $P_{2126} = (13, 3, 7, 1)$ lies on line ℓ_{14}
118 : $P_{2127} = (14, 3, 7, 1)$ lies on line ℓ_{13}
119 : $P_{2129} = (0, 4, 7, 1)$ lies on line ℓ_9
120 : $P_{2130} = (1, 4, 7, 1)$ lies on line ℓ_{11}
121 : $P_{2134} = (5, 4, 7, 1)$ lies on line ℓ_{10}
122 : $P_{2154} = (9, 5, 7, 1)$ lies on line ℓ_7
123 : $P_{2177} = (0, 7, 7, 1)$ lies on line ℓ_3
124 : $P_{2180} = (3, 7, 7, 1)$ lies on line ℓ_5
125 : $P_{2181} = (4, 7, 7, 1)$ lies on line ℓ_4
126 : $P_{2275} = (2, 13, 7, 1)$ lies on line ℓ_8
127 : $P_{2295} = (6, 14, 7, 1)$ lies on line ℓ_6
128 : $P_{2327} = (6, 0, 8, 1)$ lies on line ℓ_1
129 : $P_{2329} = (8, 0, 8, 1)$ lies on line ℓ_0
130 : $P_{2335} = (14, 0, 8, 1)$ lies on line ℓ_2
131 : $P_{2417} = (0, 6, 8, 1)$ lies on line ℓ_9
132 : $P_{2428} = (11, 6, 8, 1)$ lies on line ℓ_{10}
133 : $P_{2430} = (13, 6, 8, 1)$ lies on line ℓ_{11}
134 : $P_{2436} = (3, 7, 8, 1)$ lies on line ℓ_8
135 : $P_{2449} = (0, 8, 8, 1)$ lies on line ℓ_3
136 : $P_{2455} = (6, 8, 8, 1)$ lies on line ℓ_4
137 : $P_{2463} = (14, 8, 8, 1)$ lies on line ℓ_5
138 : $P_{2470} = (5, 9, 8, 1)$ lies on line ℓ_6
139 : $P_{2498} = (1, 11, 8, 1)$ lies on line ℓ_7
140 : $P_{2544} = (15, 13, 8, 1)$ lies on line ℓ_{15}
141 : $P_{2545} = (0, 14, 8, 1)$ lies on line ℓ_{12}
142 : $P_{2552} = (7, 14, 8, 1)$ lies on line ℓ_{14}
143 : $P_{2554} = (9, 14, 8, 1)$ lies on line ℓ_{13}
144 : $P_{2582} = (5, 0, 9, 1)$ lies on line ℓ_2
145 : $P_{2586} = (9, 0, 9, 1)$ lies on line ℓ_0
146 : $P_{2589} = (12, 0, 9, 1)$ lies on line ℓ_1
147 : $P_{2632} = (7, 3, 9, 1)$ lies on line ℓ_{15}
148 : $P_{2657} = (0, 5, 9, 1)$ lies on line ℓ_{12}
149 : $P_{2668} = (11, 5, 9, 1)$ lies on line ℓ_{13}
150 : $P_{2671} = (14, 5, 9, 1)$ lies on line ℓ_{14}
151 : $P_{2721} = (0, 9, 9, 1)$ lies on line ℓ_3
152 : $P_{2726} = (5, 9, 9, 1)$ lies on line ℓ_5
153 : $P_{2733} = (12, 9, 9, 1)$ lies on line ℓ_4
154 : $P_{2763} = (10, 11, 9, 1)$ lies on line ℓ_6
155 : $P_{2769} = (0, 12, 9, 1)$ lies on line ℓ_9
156 : $P_{2772} = (3, 12, 9, 1)$ lies on line ℓ_{11}
157 : $P_{2784} = (15, 12, 9, 1)$ lies on line ℓ_{10}
158 : $P_{2807} = (6, 14, 9, 1)$ lies on line ℓ_8
159 : $P_{2819} = (2, 15, 9, 1)$ lies on line ℓ_7
160 : $P_{2834} = (1, 0, 10, 1)$ lies on line ℓ_2
161 : $P_{2843} = (10, 0, 10, 1)$ lies on line ℓ_0
162 : $P_{2844} = (11, 0, 10, 1)$ lies on line ℓ_1
163 : $P_{2849} = (0, 1, 10, 1)$ lies on line ℓ_{12}
164 : $P_{2861} = (12, 1, 10, 1)$ lies on line ℓ_{14}
165 : $P_{2862} = (13, 1, 10, 1)$ lies on line ℓ_{13}
166 : $P_{2888} = (7, 3, 10, 1)$ lies on line ℓ_7
167 : $P_{2967} = (6, 8, 10, 1)$ lies on line ℓ_{15}
168 : $P_{2993} = (0, 10, 10, 1)$ lies on line ℓ_3
169 : $P_{2994} = (1, 10, 10, 1)$ lies on line ℓ_5
170 : $P_{3004} = (11, 10, 10, 1)$ lies on line ℓ_4
171 : $P_{3009} = (0, 11, 10, 1)$ lies on line ℓ_9
172 : $P_{3012} = (3, 11, 10, 1)$ lies on line ℓ_{10}
173 : $P_{3017} = (8, 11, 10, 1)$ lies on line ℓ_{11}
174 : $P_{3034} = (9, 12, 10, 1)$ lies on line ℓ_8
175 : $P_{3043} = (2, 13, 10, 1)$ lies on line ℓ_6
176 : $P_{3090} = (1, 0, 11, 1)$ lies on line ℓ_1
177 : $P_{3099} = (10, 0, 11, 1)$ lies on line ℓ_2
178 : $P_{3100} = (11, 0, 11, 1)$ lies on line ℓ_0
179 : $P_{3105} = (0, 1, 11, 1)$ lies on line ℓ_9
180 : $P_{3111} = (6, 1, 11, 1)$ lies on line ℓ_{11}
181 : $P_{3112} = (7, 1, 11, 1)$ lies on line ℓ_{10}
182 : $P_{3181} = (12, 5, 11, 1)$ lies on line ℓ_8
183 : $P_{3199} = (14, 6, 11, 1)$ lies on line ℓ_{15}
184 : $P_{3205} = (4, 7, 11, 1)$ lies on line ℓ_7
185 : $P_{3249} = (0, 10, 11, 1)$ lies on line ℓ_{12}
186 : $P_{3254} = (5, 10, 11, 1)$ lies on line ℓ_{14}
187 : $P_{3264} = (15, 10, 11, 1)$ lies on line ℓ_{13}
188 : $P_{3265} = (0, 11, 11, 1)$ lies on line ℓ_3
189 : $P_{3266} = (1, 11, 11, 1)$ lies on line ℓ_4
190 : $P_{3275} = (10, 11, 11, 1)$ lies on line ℓ_5
191 : $P_{3342} = (13, 15, 11, 1)$ lies on line ℓ_6
192 : $P_{3350} = (5, 0, 12, 1)$ lies on line ℓ_1
193 : $P_{3354} = (9, 0, 12, 1)$ lies on line ℓ_2
194 : $P_{3357} = (12, 0, 12, 1)$ lies on line ℓ_0
195 : $P_{3372} = (11, 1, 12, 1)$ lies on line ℓ_6
196 : $P_{3390} = (13, 2, 12, 1)$ lies on line ℓ_7
197 : $P_{3425} = (0, 5, 12, 1)$ lies on line ℓ_9
198 : $P_{3427} = (2, 5, 12, 1)$ lies on line ℓ_{10}
199 : $P_{3432} = (7, 5, 12, 1)$ lies on line ℓ_{11}
200 : $P_{3461} = (4, 7, 12, 1)$ lies on line ℓ_{15}
201 : $P_{3487} = (14, 8, 12, 1)$ lies on line ℓ_8
202 : $P_{3489} = (0, 9, 12, 1)$ lies on line ℓ_{12}
203 : $P_{3490} = (1, 9, 12, 1)$ lies on line ℓ_{13}

204 : $P_{3497} = (8, 9, 12, 1)$ lies on line ℓ_{14}
205 : $P_{3537} = (0, 12, 12, 1)$ lies on line ℓ_3
206 : $P_{3542} = (5, 12, 12, 1)$ lies on line ℓ_4
207 : $P_{3546} = (9, 12, 12, 1)$ lies on line ℓ_5
208 : $P_{3603} = (2, 0, 13, 1)$ lies on line ℓ_2
209 : $P_{3614} = (13, 0, 13, 1)$ lies on line ℓ_0
210 : $P_{3616} = (15, 0, 13, 1)$ lies on line ℓ_1
211 : $P_{3628} = (11, 1, 13, 1)$ lies on line ℓ_8
212 : $P_{3633} = (0, 2, 13, 1)$ lies on line ℓ_{12}
213 : $P_{3634} = (1, 2, 13, 1)$ lies on line ℓ_{14}
214 : $P_{3636} = (3, 2, 13, 1)$ lies on line ℓ_{13}
215 : $P_{3653} = (4, 3, 13, 1)$ lies on line ℓ_6
216 : $P_{3711} = (14, 6, 13, 1)$ lies on line ℓ_7
217 : $P_{3757} = (12, 9, 13, 1)$ lies on line ℓ_{15}
218 : $P_{3809} = (0, 13, 13, 1)$ lies on line ℓ_3
219 : $P_{3811} = (2, 13, 13, 1)$ lies on line ℓ_5
220 : $P_{3824} = (15, 13, 13, 1)$ lies on line ℓ_4
221 : $P_{3841} = (0, 15, 13, 1)$ lies on line ℓ_9
222 : $P_{3847} = (6, 15, 13, 1)$ lies on line ℓ_{10}
223 : $P_{3850} = (9, 15, 13, 1)$ lies on line ℓ_{11}
224 : $P_{3863} = (6, 0, 14, 1)$ lies on line ℓ_2
225 : $P_{3865} = (8, 0, 14, 1)$ lies on line ℓ_1
226 : $P_{3871} = (14, 0, 14, 1)$ lies on line ℓ_0
227 : $P_{3902} = (13, 2, 14, 1)$ lies on line ℓ_{15}
228 : $P_{3909} = (4, 3, 14, 1)$ lies on line ℓ_8
229 : $P_{3949} = (12, 5, 14, 1)$ lies on line ℓ_6
230 : $P_{3953} = (0, 6, 14, 1)$ lies on line ℓ_{12}
231 : $P_{3956} = (3, 6, 14, 1)$ lies on line ℓ_{14}
232 : $P_{3958} = (5, 6, 14, 1)$ lies on line ℓ_{13}
233 : $P_{3985} = (0, 8, 14, 1)$ lies on line ℓ_9
234 : $P_{3987} = (2, 8, 14, 1)$ lies on line ℓ_{11}
235 : $P_{3995} = (10, 8, 14, 1)$ lies on line ℓ_{10}
236 : $P_{4028} = (11, 10, 14, 1)$ lies on line ℓ_7
237 : $P_{4081} = (0, 14, 14, 1)$ lies on line ℓ_3
238 : $P_{4087} = (6, 14, 14, 1)$ lies on line ℓ_5
239 : $P_{4089} = (8, 14, 14, 1)$ lies on line ℓ_4
240 : $P_{4115} = (2, 0, 15, 1)$ lies on line ℓ_1
241 : $P_{4126} = (13, 0, 15, 1)$ lies on line ℓ_2
242 : $P_{4128} = (15, 0, 15, 1)$ lies on line ℓ_0
243 : $P_{4145} = (0, 2, 15, 1)$ lies on line ℓ_9
244 : $P_{4157} = (12, 2, 15, 1)$ lies on line ℓ_{11}
245 : $P_{4159} = (14, 2, 15, 1)$ lies on line ℓ_{10}
246 : $P_{4228} = (3, 7, 15, 1)$ lies on line ℓ_6
247 : $P_{4274} = (1, 10, 15, 1)$ lies on line ℓ_8
248 : $P_{4310} = (5, 12, 15, 1)$ lies on line ℓ_{15}
249 : $P_{4321} = (0, 13, 15, 1)$ lies on line ℓ_{12}
250 : $P_{4328} = (7, 13, 15, 1)$ lies on line ℓ_{13}
251 : $P_{4331} = (10, 13, 15, 1)$ lies on line ℓ_{14}
252 : $P_{4345} = (8, 14, 15, 1)$ lies on line ℓ_7
253 : $P_{4353} = (0, 15, 15, 1)$ lies on line ℓ_3
254 : $P_{4355} = (2, 15, 15, 1)$ lies on line ℓ_4
255 : $P_{4366} = (13, 15, 15, 1)$ lies on line ℓ_5

The single points on the surface are:

Points on surface but on no line

The surface has 0 points not on any line:
The points on the surface but not on lines are:

Line Intersection Graph

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
3	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1
4	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1
5	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1
6	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1
10	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1
11	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1
12	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1
13	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1
14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0

Neighbor sets in the line intersection graph:
Line 0 intersects

Line	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 1 intersects

Line	ℓ_0	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 2 intersects

Line	ℓ_0	ℓ_1	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 3 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 4 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 5 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 6 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 7 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 8 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 9 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 10 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 11 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 12 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 13 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{14}	ℓ_{15}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 14 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{15}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 15 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

The surface has 257 points:
The points on the surface are:

0 : $P_3 = (0, 0, 0, 1)$
1 : $P_{20} = (1, 0, 1, 0)$
2 : $P_{29} = (10, 0, 1, 0)$
3 : $P_{30} = (11, 0, 1, 0)$
4 : $P_{35} = (0, 1, 1, 0)$
5 : $P_{45} = (10, 1, 1, 0)$
6 : $P_{46} = (11, 1, 1, 0)$
7 : $P_{66} = (15, 2, 1, 0)$
8 : $P_{86} = (3, 4, 1, 0)$
9 : $P_{168} = (5, 9, 1, 0)$
10 : $P_{179} = (0, 10, 1, 0)$
11 : $P_{183} = (4, 10, 1, 0)$
12 : $P_{193} = (14, 10, 1, 0)$
13 : $P_{195} = (0, 11, 1, 0)$
14 : $P_{197} = (2, 11, 1, 0)$
15 : $P_{204} = (9, 11, 1, 0)$
16 : $P_{251} = (8, 14, 1, 0)$
17 : $P_{531} = (1, 0, 1, 1)$
18 : $P_{540} = (10, 0, 1, 1)$
19 : $P_{541} = (11, 0, 1, 1)$
20 : $P_{546} = (0, 1, 1, 1)$
21 : $P_{555} = (10, 1, 1, 1)$
22 : $P_{556} = (11, 1, 1, 1)$
23 : $P_{576} = (15, 2, 1, 1)$
24 : $P_{596} = (3, 4, 1, 1)$
25 : $P_{678} = (5, 9, 1, 1)$
26 : $P_{689} = (0, 10, 1, 1)$
27 : $P_{693} = (4, 10, 1, 1)$
28 : $P_{703} = (14, 10, 1, 1)$
29 : $P_{705} = (0, 11, 1, 1)$
30 : $P_{707} = (2, 11, 1, 1)$
31 : $P_{714} = (9, 11, 1, 1)$
32 : $P_{761} = (8, 14, 1, 1)$
33 : $P_{787} = (2, 0, 2, 1)$
34 : $P_{798} = (13, 0, 2, 1)$
35 : $P_{800} = (15, 0, 2, 1)$
36 : $P_{817} = (0, 2, 2, 1)$
37 : $P_{830} = (13, 2, 2, 1)$
38 : $P_{832} = (15, 2, 2, 1)$
39 : $P_{856} = (7, 4, 2, 1)$
40 : $P_{874} = (9, 5, 2, 1)$
41 : $P_{919} = (6, 8, 2, 1)$

42 : $P_{971} = (10, 11, 2, 1)$
43 : $P_{993} = (0, 13, 2, 1)$
44 : $P_{998} = (5, 13, 2, 1)$
45 : $P_{1001} = (8, 13, 2, 1)$
46 : $P_{1025} = (0, 15, 2, 1)$
47 : $P_{1029} = (4, 15, 2, 1)$
48 : $P_{1036} = (11, 15, 2, 1)$
49 : $P_{1044} = (3, 0, 3, 1)$
50 : $P_{1045} = (4, 0, 3, 1)$
51 : $P_{1048} = (7, 0, 3, 1)$
52 : $P_{1088} = (15, 2, 3, 1)$
53 : $P_{1089} = (0, 3, 3, 1)$
54 : $P_{1093} = (4, 3, 3, 1)$
55 : $P_{1096} = (7, 3, 3, 1)$
56 : $P_{1105} = (0, 4, 3, 1)$
57 : $P_{1107} = (2, 4, 3, 1)$
58 : $P_{1111} = (6, 4, 3, 1)$
59 : $P_{1145} = (8, 6, 3, 1)$
60 : $P_{1153} = (0, 7, 3, 1)$
61 : $P_{1164} = (11, 7, 3, 1)$
62 : $P_{1165} = (12, 7, 3, 1)$
63 : $P_{1218} = (1, 11, 3, 1)$
64 : $P_{1238} = (5, 12, 3, 1)$
65 : $P_{1300} = (3, 0, 4, 1)$
66 : $P_{1301} = (4, 0, 4, 1)$
67 : $P_{1304} = (7, 0, 4, 1)$
68 : $P_{1345} = (0, 3, 4, 1)$
69 : $P_{1354} = (9, 3, 4, 1)$
70 : $P_{1355} = (10, 3, 4, 1)$
71 : $P_{1361} = (0, 4, 4, 1)$
72 : $P_{1364} = (3, 4, 4, 1)$
73 : $P_{1368} = (7, 4, 4, 1)$
74 : $P_{1409} = (0, 7, 4, 1)$
75 : $P_{1417} = (8, 7, 4, 1)$
76 : $P_{1424} = (15, 7, 4, 1)$
77 : $P_{1439} = (14, 8, 4, 1)$
78 : $P_{1453} = (12, 9, 4, 1)$
79 : $P_{1468} = (11, 10, 4, 1)$
80 : $P_{1550} = (13, 15, 4, 1)$
81 : $P_{1558} = (5, 0, 5, 1)$
82 : $P_{1562} = (9, 0, 5, 1)$
83 : $P_{1565} = (12, 0, 5, 1)$
84 : $P_{1620} = (3, 4, 5, 1)$
85 : $P_{1633} = (0, 5, 5, 1)$
86 : $P_{1642} = (9, 5, 5, 1)$
87 : $P_{1645} = (12, 5, 5, 1)$
88 : $P_{1657} = (8, 6, 5, 1)$
89 : $P_{1697} = (0, 9, 5, 1)$
90 : $P_{1701} = (4, 9, 5, 1)$
91 : $P_{1710} = (13, 9, 5, 1)$
92 : $P_{1714} = (1, 10, 5, 1)$
93 : $P_{1745} = (0, 12, 5, 1)$
94 : $P_{1751} = (6, 12, 5, 1)$
95 : $P_{1755} = (10, 12, 5, 1)$
96 : $P_{1776} = (15, 13, 5, 1)$
97 : $P_{1815} = (6, 0, 6, 1)$
98 : $P_{1817} = (8, 0, 6, 1)$
99 : $P_{1823} = (14, 0, 6, 1)$
100 : $P_{1835} = (10, 1, 6, 1)$
101 : $P_{1880} = (7, 4, 6, 1)$
102 : $P_{1905} = (0, 6, 6, 1)$
103 : $P_{1913} = (8, 6, 6, 1)$
104 : $P_{1919} = (14, 6, 6, 1)$
105 : $P_{1937} = (0, 8, 6, 1)$
106 : $P_{1941} = (4, 8, 6, 1)$
107 : $P_{1949} = (12, 8, 6, 1)$
108 : $P_{2010} = (9, 12, 6, 1)$
109 : $P_{2033} = (0, 14, 6, 1)$
110 : $P_{2034} = (1, 14, 6, 1)$
111 : $P_{2048} = (15, 14, 6, 1)$
112 : $P_{2051} = (2, 15, 6, 1)$
113 : $P_{2068} = (3, 0, 7, 1)$
114 : $P_{2069} = (4, 0, 7, 1)$
115 : $P_{2072} = (7, 0, 7, 1)$
116 : $P_{2091} = (10, 1, 7, 1)$
117 : $P_{2113} = (0, 3, 7, 1)$
118 : $P_{2126} = (13, 3, 7, 1)$
119 : $P_{2127} = (14, 3, 7, 1)$
120 : $P_{2129} = (0, 4, 7, 1)$
121 : $P_{2130} = (1, 4, 7, 1)$
122 : $P_{2134} = (5, 4, 7, 1)$
123 : $P_{2154} = (9, 5, 7, 1)$
124 : $P_{2177} = (0, 7, 7, 1)$
125 : $P_{2180} = (3, 7, 7, 1)$
126 : $P_{2181} = (4, 7, 7, 1)$
127 : $P_{2275} = (2, 13, 7, 1)$
128 : $P_{2295} = (6, 14, 7, 1)$
129 : $P_{2327} = (6, 0, 8, 1)$
130 : $P_{2329} = (8, 0, 8, 1)$
131 : $P_{2335} = (14, 0, 8, 1)$
132 : $P_{2417} = (0, 6, 8, 1)$
133 : $P_{2428} = (11, 6, 8, 1)$
134 : $P_{2430} = (13, 6, 8, 1)$
135 : $P_{2436} = (3, 7, 8, 1)$
136 : $P_{2449} = (0, 8, 8, 1)$
137 : $P_{2455} = (6, 8, 8, 1)$
138 : $P_{2463} = (14, 8, 8, 1)$
139 : $P_{2470} = (5, 9, 8, 1)$
140 : $P_{2498} = (1, 11, 8, 1)$
141 : $P_{2544} = (15, 13, 8, 1)$
142 : $P_{2545} = (0, 14, 8, 1)$
143 : $P_{2552} = (7, 14, 8, 1)$
144 : $P_{2554} = (9, 14, 8, 1)$
145 : $P_{2582} = (5, 0, 9, 1)$
146 : $P_{2586} = (9, 0, 9, 1)$
147 : $P_{2589} = (12, 0, 9, 1)$
148 : $P_{2632} = (7, 3, 9, 1)$
149 : $P_{2657} = (0, 5, 9, 1)$
150 : $P_{2668} = (11, 5, 9, 1)$
151 : $P_{2671} = (14, 5, 9, 1)$
152 : $P_{2721} = (0, 9, 9, 1)$
153 : $P_{2726} = (5, 9, 9, 1)$
154 : $P_{2733} = (12, 9, 9, 1)$
155 : $P_{2763} = (10, 11, 9, 1)$
156 : $P_{2769} = (0, 12, 9, 1)$
157 : $P_{2772} = (3, 12, 9, 1)$
158 : $P_{2784} = (15, 12, 9, 1)$
159 : $P_{2807} = (6, 14, 9, 1)$
160 : $P_{2819} = (2, 15, 9, 1)$
161 : $P_{2834} = (1, 0, 10, 1)$
162 : $P_{2843} = (10, 0, 10, 1)$
163 : $P_{2844} = (11, 0, 10, 1)$
164 : $P_{2849} = (0, 1, 10, 1)$
165 : $P_{2861} = (12, 1, 10, 1)$
166 : $P_{2862} = (13, 1, 10, 1)$
167 : $P_{2888} = (7, 3, 10, 1)$
168 : $P_{2967} = (6, 8, 10, 1)$
169 : $P_{2993} = (0, 10, 10, 1)$
170 : $P_{2994} = (1, 10, 10, 1)$
171 : $P_{3004} = (11, 10, 10, 1)$
172 : $P_{3009} = (0, 11, 10, 1)$
173 : $P_{3012} = (3, 11, 10, 1)$
174 : $P_{3017} = (8, 11, 10, 1)$
175 : $P_{3034} = (9, 12, 10, 1)$
176 : $P_{3043} = (2, 13, 10, 1)$
177 : $P_{3090} = (1, 0, 11, 1)$
178 : $P_{3099} = (10, 0, 11, 1)$
179 : $P_{3100} = (11, 0, 11, 1)$
180 : $P_{3105} = (0, 1, 11, 1)$
181 : $P_{3111} = (6, 1, 11, 1)$
182 : $P_{3112} = (7, 1, 11, 1)$
183 : $P_{3181} = (12, 5, 11, 1)$
184 : $P_{3199} = (14, 6, 11, 1)$
185 : $P_{3205} = (4, 7, 11, 1)$
186 : $P_{3249} = (0, 10, 11, 1)$
187 : $P_{3254} = (5, 10, 11, 1)$
188 : $P_{3264} = (15, 10, 11, 1)$
189 : $P_{3265} = (0, 11, 11, 1)$
190 : $P_{3266} = (1, 11, 11, 1)$
191 : $P_{3275} = (10, 11, 11, 1)$
192 : $P_{3342} = (13, 15, 11, 1)$
193 : $P_{3350} = (5, 0, 12, 1)$
194 : $P_{3354} = (9, 0, 12, 1)$
195 : $P_{3357} = (12, 0, 12, 1)$
196 : $P_{3372} = (11, 1, 12, 1)$
197 : $P_{3390} = (13, 2, 12, 1)$
198 : $P_{3425} = (0, 5, 12, 1)$
199 : $P_{3427} = (2, 5, 12, 1)$
200 : $P_{3432} = (7, 5, 12, 1)$
201 : $P_{3461} = (4, 7, 12, 1)$
202 : $P_{3487} = (14, 8, 12, 1)$
203 : $P_{3489} = (0, 9, 12, 1)$

$204: P_{3490} = (1, 9, 12, 1)$
$205: P_{3497} = (8, 9, 12, 1)$
$206: P_{3537} = (0, 12, 12, 1)$
$207: P_{3542} = (5, 12, 12, 1)$
$208: P_{3546} = (9, 12, 12, 1)$
$209: P_{3603} = (2, 0, 13, 1)$
$210: P_{3614} = (13, 0, 13, 1)$
$211: P_{3616} = (15, 0, 13, 1)$
$212: P_{3628} = (11, 1, 13, 1)$
$213: P_{3633} = (0, 2, 13, 1)$
$214: P_{3634} = (1, 2, 13, 1)$
$215: P_{3636} = (3, 2, 13, 1)$
$216: P_{3653} = (4, 3, 13, 1)$
$217: P_{3711} = (14, 6, 13, 1)$
$218: P_{3757} = (12, 9, 13, 1)$
$219: P_{3809} = (0, 13, 13, 1)$
$220: P_{3811} = (2, 13, 13, 1)$
$221: P_{3824} = (15, 13, 13, 1)$
$222: P_{3841} = (0, 15, 13, 1)$
$223: P_{3847} = (6, 15, 13, 1)$
$224: P_{3850} = (9, 15, 13, 1)$
$225: P_{3863} = (6, 0, 14, 1)$
$226: P_{3865} = (8, 0, 14, 1)$
$227: P_{3871} = (14, 0, 14, 1)$
$228: P_{3902} = (13, 2, 14, 1)$
$229: P_{3909} = (4, 3, 14, 1)$
$230: P_{3949} = (12, 5, 14, 1)$
$231: P_{3953} = (0, 6, 14, 1)$
$232: P_{3956} = (3, 6, 14, 1)$
$233: P_{3958} = (5, 6, 14, 1)$
$234: P_{3985} = (0, 8, 14, 1)$
$235: P_{3987} = (2, 8, 14, 1)$
$236: P_{3995} = (10, 8, 14, 1)$
$237: P_{4028} = (11, 10, 14, 1)$
$238: P_{4081} = (0, 14, 14, 1)$
$239: P_{4087} = (6, 14, 14, 1)$
$240: P_{4089} = (8, 14, 14, 1)$
$241: P_{4115} = (2, 0, 15, 1)$
$242: P_{4126} = (13, 0, 15, 1)$
$243: P_{4128} = (15, 0, 15, 1)$
$244: P_{4145} = (0, 2, 15, 1)$
$245: P_{4157} = (12, 2, 15, 1)$
$246: P_{4159} = (14, 2, 15, 1)$
$247: P_{4228} = (3, 7, 15, 1)$
$248: P_{4274} = (1, 10, 15, 1)$
$249: P_{4310} = (5, 12, 15, 1)$
$250: P_{4321} = (0, 13, 15, 1)$
$251: P_{4328} = (7, 13, 15, 1)$
$252: P_{4331} = (10, 13, 15, 1)$
$253: P_{4345} = (8, 14, 15, 1)$
$254: P_{4353} = (0, 15, 15, 1)$
$255: P_{4355} = (2, 15, 15, 1)$
$256: P_{4366} = (13, 15, 15, 1)$