Rank-65542 over GF(16)

January 15, 2021

The equation

The equation of the surface is :

$$X_0^3 + X_1^3 + X_0X_1X_2 = 0$$

(1, 1, 0, 0, 0, 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 286331174

General information

Number of lines	16
Number of points	257
Number of singular points	17
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 17 singular points:

0 : $P_2 = \mathbf{P}(0,0,1,0) = \mathbf{P}(0,0,1,0)$
1 : $P_3 = \mathbf{P}(0,0,0,1) = \mathbf{P}(0,0,0,1)$
2 : $P_{530} = \mathbf{P}(0,0,1,1) = \mathbf{P}(0,0,1,1)$
3 : $P_{785} = \mathbf{P}(0,0,\delta,1) = \mathbf{P}(0,0,2,1)$
4 : $P_{1041} = \mathbf{P}(0,0,\delta^{12},1) = \mathbf{P}(0,0,3,1)$
5 : $P_{1297} = \mathbf{P}(0,0,\delta^{2},1) = \mathbf{P}(0,0,4,1)$
6 : $P_{1553} = \mathbf{P}(0,0,\delta^{9},1) = \mathbf{P}(0,0,5,1)$
7 : $P_{1809} = \mathbf{P}(0,0,\delta^{13},1) = \mathbf{P}(0,0,6,1)$
8 : $P_{2065} = \mathbf{P}(0,0,\delta^{7},1) = \mathbf{P}(0,0,7,1)$
9 : $P_{2321} = \mathbf{P}(0,0,\delta^{3},1) = \mathbf{P}(0,0,8,1)$
10 : $P_{2577} = \mathbf{P}(0,0,\delta^{4},1) = \mathbf{P}(0,0,9,1)$
11 : $P_{2833} = \mathbf{P}(0,0,\delta^{10},1) = \mathbf{P}(0,0,10,1)$
12 : $P_{3089} = \mathbf{P}(0,0,\delta^{5},1) = \mathbf{P}(0,0,11,1)$
13 : $P_{3345} = \mathbf{P}(0,0,\delta^{14},1) = \mathbf{P}(0,0,12,1)$
14 : $P_{3601} = \mathbf{P}(0,0,\delta^{11},1) = \mathbf{P}(0,0,13,1)$
15 : $P_{3857} = \mathbf{P}(0,0,\delta^{8},1) = \mathbf{P}(0,0,14,1)$
16 : $P_{4113} = \mathbf{P}(0,0,\delta^{6},1) = \mathbf{P}(0,0,15,1)$

The 16 Lines

The lines and their Pluecker coordinates are:

$$\ell_0 = \left[\begin{array}{cccc} 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{70160} = \left[\begin{array}{cccc} 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{70160} = \mathbf{Pl}(0,1,0,0,0,0)_1$$

$$\ell_1 = \left[\begin{array}{cccc} 1 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{545} = \left[\begin{array}{cccc} 1 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{545} = \mathbf{Pl}(0,0,0,1,1,0)_{785}$$

$$\ell_2 = \left[\begin{array}{cccc} 1 & \delta^{5} & 0 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{3275} = \left[\begin{array}{cccc} 1 & 11 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{3275} = \mathbf{Pl}(0,0,0,11,1,0)_{1095}$$

$$\ell_3 = \left[\begin{array}{cccc} 1 & \delta^{10} & 0 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{3002} = \left[\begin{array}{cccc} 1 & 10 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{3002} = \mathbf{Pl}(0,0,0,10,1,0)_{1064}$$

$$\ell_4 = \left[\begin{array}{cccc} 1 & \delta^{12} & \delta^{11} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{57875} = \left[\begin{array}{cccc} 1 & 3 & 13 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{57875} = \mathbf{Pl}(0,13,0,3,1,0)_{875}$$

$$\ell_5 = \left[\begin{array}{cccc} 1 & \delta^{14} & \delta^{2} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{21020} = \left[\begin{array}{cccc} 1 & 12 & 4 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{21020} = \mathbf{Pl}(0,4,0,12,1,0)_{1145}$$

$$\ell_6 = \left[\begin{array}{cccc} 1 & \delta^{9} & \delta^{7} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{32213} = \left[\begin{array}{cccc} 1 & 5 & 7 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{32213} = \mathbf{Pl}(0,7,0,5,1,0)_{931}$$

$$\ell_7 = \left[\begin{array}{cccc} 1 & \delta^{13} & \delta^{4} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{41222} = \left[\begin{array}{cccc} 1 & 6 & 9 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{41222} = \mathbf{Pl}(0,9,0,6,1,0)_{964}$$

$$\ell_8 = \left[\begin{array}{cccc} 1 & \delta & \delta^{3} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{35762} = \left[\begin{array}{cccc} 1 & 2 & 8 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{35762} = \mathbf{Pl}(0,8,0,2,1,0)_{839}$$

$$\ell_9 = \left[\begin{array}{cccc} 1 & \delta^{4} & \delta^{12} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{15833} = \left[\begin{array}{cccc} 1 & 9 & 3 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{15833} = \mathbf{Pl}(0,3,0,9,1,0)_{1051}$$

$$\ell_{10} = \left[\begin{array}{cccc} 1 & \delta^{11} & \delta^{8} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{64973} = \left[\begin{array}{cccc} 1 & 13 & 14 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{64973} = \mathbf{Pl}(0,14,0,13,1,0)_{1186}$$

$$\ell_{11} = \left[\begin{array}{cccc} 1 & \delta^{3} & \delta^{14} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{54872} = \left[\begin{array}{cccc} 1 & 8 & 12 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{54872} = \mathbf{Pl}(0,12,0,8,1,0)_{1029}$$

$$\ell_{12} = \left[\begin{array}{cccc} 1 & \delta^{8} & \delta^{9} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{25934} = \left[\begin{array}{cccc} 1 & 14 & 5 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{25934} = \mathbf{Pl}(0,5,0,14,1,0)_{1208}$$

$$\ell_{13} = \left[\begin{array}{cccc} 1 & \delta^{2} & \delta^{6} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{66884} = \left[\begin{array}{cccc} 1 & 4 & 15 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{66884} = \mathbf{Pl}(0,15,0,4,1,0)_{908}$$

$$\ell_{14} = \left[\begin{array}{cccc} 1 & \delta^{6} & \delta^{13} & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{30575} = \left[\begin{array}{cccc} 1 & 15 & 6 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{30575} = \mathbf{Pl}(0,6,0,15,1,0)_{1240}$$

$$\ell_{15} = \left[\begin{array}{cccc} 1 & \delta^{7} & \delta & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{10919} = \left[\begin{array}{cccc} 1 & 7 & 2 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]_{10919} = \mathbf{Pl}(0,2,0,7,1,0)_{988}$$

Rank of lines: (70160, 545, 3275, 3002, 57875, 21020, 32213, 41222, 35762, 15833, 64973, 54872, 25934, 66884, 30575, 10919)
Rank of points on Klein quadric: (1, 785, 1095, 1064, 875, 1145, 931, 964, 839, 1051, 1186, 1029, 1208, 908, 1240, 988)

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 : $P_2 = (0,0,1,0)$ lies on line ℓ_0
1 : $P_5 = (1,1,0,0)$ lies on line ℓ_1
2 : $P_{14} = (10,1,0,0)$ lies on line ℓ_2
3 : $P_{15} = (11,1,0,0)$ lies on line ℓ_3
4 : $P_{60} = (9,2,1,0)$ lies on line ℓ_4
5 : $P_{73} = (6,3,1,0)$ lies on line ℓ_5
6 : $P_{97} = (14,4,1,0)$ lies on line ℓ_6
7 : $P_{112} = (13,5,1,0)$ lies on line ℓ_7
8 : $P_{118} = (3,6,1,0)$ lies on line ℓ_8
9 : $P_{139} = (8,7,1,0)$ lies on line ℓ_9
10 : $P_{154} = (7,8,1,0)$ lies on line ℓ_{10}
11 : $P_{165} = (2,9,1,0)$ lies on line ℓ_{11}
12 : $P_{226} = (15,12,1,0)$ lies on line ℓ_{12}
13 : $P_{232} = (5,13,1,0)$ lies on line ℓ_{13}
14 : $P_{247} = (4,14,1,0)$ lies on line ℓ_{14}
15 : $P_{271} = (12,15,1,0)$ lies on line ℓ_{15}
16 : $P_{291} = (1,1,0,1)$ lies on line ℓ_1
17 : $P_{300} = (10,1,0,1)$ lies on line ℓ_2
18 : $P_{301} = (11,1,0,1)$ lies on line ℓ_3
19 : $P_{308} = (2,2,0,1)$ lies on line ℓ_1
20 : $P_{319} = (13,2,0,1)$ lies on line ℓ_2
21 : $P_{321} = (15,2,0,1)$ lies on line ℓ_3
22 : $P_{325} = (3,3,0,1)$ lies on line ℓ_1
23 : $P_{326} = (4,3,0,1)$ lies on line ℓ_3
24 : $P_{329} = (7,3,0,1)$ lies on line ℓ_2
25 : $P_{341} = (3,4,0,1)$ lies on line ℓ_2
26 : $P_{342} = (4,4,0,1)$ lies on line ℓ_1
27 : $P_{345} = (7,4,0,1)$ lies on line ℓ_3
28 : $P_{359} = (5,5,0,1)$ lies on line ℓ_1
29 : $P_{363} = (9,5,0,1)$ lies on line ℓ_2
30 : $P_{366} = (12,5,0,1)$ lies on line ℓ_3
31 : $P_{376} = (6,6,0,1)$ lies on line ℓ_1
32 : $P_{378} = (8,6,0,1)$ lies on line ℓ_3
33 : $P_{384} = (14,6,0,1)$ lies on line ℓ_2
34 : $P_{389} = (3,7,0,1)$ lies on line ℓ_3
35 : $P_{390} = (4,7,0,1)$ lies on line ℓ_2
36 : $P_{393} = (7,7,0,1)$ lies on line ℓ_1
37 : $P_{408} = (6,8,0,1)$ lies on line ℓ_2
38 : $P_{410} = (8,8,0,1)$ lies on line ℓ_1
39 : $P_{416} = (14,8,0,1)$ lies on line ℓ_3
40 : $P_{423} = (5,9,0,1)$ lies on line ℓ_3
41 : $P_{427} = (9,9,0,1)$ lies on line ℓ_1
42 : $P_{430} = (12,9,0,1)$ lies on line ℓ_2
43 : $P_{435} = (1,10,0,1)$ lies on line ℓ_3
44 : $P_{444} = (10,10,0,1)$ lies on line ℓ_1
45 : $P_{445} = (11,10,0,1)$ lies on line ℓ_2
46 : $P_{451} = (1,11,0,1)$ lies on line ℓ_2
47 : $P_{460} = (10,11,0,1)$ lies on line ℓ_3
48 : $P_{461} = (11,11,0,1)$ lies on line ℓ_1
49 : $P_{471} = (5,12,0,1)$ lies on line ℓ_2
50 : $P_{475} = (9,12,0,1)$ lies on line ℓ_3
51 : $P_{478} = (12,12,0,1)$ lies on line ℓ_1
52 : $P_{484} = (2,13,0,1)$ lies on line ℓ_3
53 : $P_{495} = (13,13,0,1)$ lies on line ℓ_1
54 : $P_{497} = (15,13,0,1)$ lies on line ℓ_2
55 : $P_{504} = (6,14,0,1)$ lies on line ℓ_3
56 : $P_{506} = (8,14,0,1)$ lies on line ℓ_2
57 : $P_{512} = (14,14,0,1)$ lies on line ℓ_1
58 : $P_{516} = (2,15,0,1)$ lies on line ℓ_2
59 : $P_{527} = (13,15,0,1)$ lies on line ℓ_3
60 : $P_{529} = (15,15,0,1)$ lies on line ℓ_1
61 : $P_{530} = (0,0,1,1)$ lies on line ℓ_0
62 : $P_{570} = (9,2,1,1)$ lies on line ℓ_4
63 : $P_{583} = (6,3,1,1)$ lies on line ℓ_5
64 : $P_{607} = (14,4,1,1)$ lies on line ℓ_6
65 : $P_{622} = (13,5,1,1)$ lies on line ℓ_7
66 : $P_{628} = (3,6,1,1)$ lies on line ℓ_8
67 : $P_{649} = (8,7,1,1)$ lies on line ℓ_9
68 : $P_{664} = (7,8,1,1)$ lies on line ℓ_{10}
69 : $P_{675} = (2,9,1,1)$ lies on line ℓ_{11}
70 : $P_{736} = (15,12,1,1)$ lies on line ℓ_{12}
71 : $P_{742} = (5,13,1,1)$ lies on line ℓ_{13}
72 : $P_{757} = (4,14,1,1)$ lies on line ℓ_{14}
73 : $P_{781} = (12,15,1,1)$ lies on line ℓ_{15}
74 : $P_{785} = (0,0,2,1)$ lies on line ℓ_0
75 : $P_{808} = (7,1,2,1)$ lies on line ℓ_{12}
76 : $P_{843} = (10,3,2,1)$ lies on line ℓ_{13}
77 : $P_{860} = (11,4,2,1)$ lies on line ℓ_4
78 : $P_{873} = (8,5,2,1)$ lies on line ℓ_{14}
79 : $P_{893} = (12,6,2,1)$ lies on line ℓ_5
80 : $P_{898} = (1,7,2,1)$ lies on line ℓ_{15}
81 : $P_{918} = (5,8,2,1)$ lies on line ℓ_6

82 : $P_{943} = (14, 9, 2, 1)$ lies on line ℓ_{10}
83 : $P_{948} = (3, 10, 2, 1)$ lies on line ℓ_{7}
84 : $P_{965} = (4, 11, 2, 1)$ lies on line ℓ_{11}
85 : $P_{983} = (6, 12, 2, 1)$ lies on line ℓ_{8}
86 : $P_{1018} = (9, 14, 2, 1)$ lies on line ℓ_{9}
87 : $P_{1041} = (0, 0, 3, 1)$ lies on line ℓ_{0}
88 : $P_{1066} = (9, 1, 3, 1)$ lies on line ℓ_{10}
89 : $P_{1079} = (6, 2, 3, 1)$ lies on line ℓ_{11}
90 : $P_{1131} = (10, 5, 3, 1)$ lies on line ℓ_{5}
91 : $P_{1139} = (2, 6, 3, 1)$ lies on line ℓ_{4}
92 : $P_{1182} = (13, 8, 3, 1)$ lies on line ℓ_{15}
93 : $P_{1186} = (1, 9, 3, 1)$ lies on line ℓ_{9}
94 : $P_{1206} = (5, 10, 3, 1)$ lies on line ℓ_{8}
95 : $P_{1229} = (12, 11, 3, 1)$ lies on line ℓ_{14}
96 : $P_{1244} = (11, 12, 3, 1)$ lies on line ℓ_{6}
97 : $P_{1257} = (8, 13, 3, 1)$ lies on line ℓ_{12}
98 : $P_{1280} = (15, 14, 3, 1)$ lies on line ℓ_{13}
99 : $P_{1295} = (14, 15, 3, 1)$ lies on line ℓ_{7}
100 : $P_{1297} = (0, 0, 4, 1)$ lies on line ℓ_{0}
101 : $P_{1325} = (12, 1, 4, 1)$ lies on line ℓ_{8}
102 : $P_{1343} = (14, 2, 4, 1)$ lies on line ℓ_{12}
103 : $P_{1388} = (11, 5, 4, 1)$ lies on line ℓ_{9}
104 : $P_{1406} = (13, 6, 4, 1)$ lies on line ℓ_{13}
105 : $P_{1440} = (15, 8, 4, 1)$ lies on line ℓ_{4}
106 : $P_{1451} = (10, 9, 4, 1)$ lies on line ℓ_{6}
107 : $P_{1466} = (9, 10, 4, 1)$ lies on line ℓ_{14}
108 : $P_{1478} = (5, 11, 4, 1)$ lies on line ℓ_{10}
109 : $P_{1490} = (1, 12, 4, 1)$ lies on line ℓ_{5}
110 : $P_{1511} = (6, 13, 4, 1)$ lies on line ℓ_{7}
111 : $P_{1523} = (2, 14, 4, 1)$ lies on line ℓ_{15}
112 : $P_{1545} = (8, 15, 4, 1)$ lies on line ℓ_{11}
113 : $P_{1553} = (0, 0, 5, 1)$ lies on line ℓ_{0}
114 : $P_{1583} = (14, 1, 5, 1)$ lies on line ℓ_{15}
115 : $P_{1588} = (3, 2, 5, 1)$ lies on line ℓ_{9}
116 : $P_{1603} = (2, 3, 5, 1)$ lies on line ℓ_{10}
117 : $P_{1630} = (13, 4, 5, 1)$ lies on line ℓ_{14}
118 : $P_{1659} = (10, 6, 5, 1)$ lies on line ℓ_{11}
119 : $P_{1680} = (15, 7, 5, 1)$ lies on line ℓ_{8}
120 : $P_{1692} = (11, 8, 5, 1)$ lies on line ℓ_{7}
121 : $P_{1719} = (6, 10, 5, 1)$ lies on line ℓ_{4}
122 : $P_{1737} = (8, 11, 5, 1)$ lies on line ℓ_{13}
123 : $P_{1765} = (4, 13, 5, 1)$ lies on line ℓ_{6}
124 : $P_{1778} = (1, 14, 5, 1)$ lies on line ℓ_{12}
125 : $P_{1800} = (7, 15, 5, 1)$ lies on line ℓ_{5}
126 : $P_{1809} = (0, 0, 6, 1)$ lies on line ℓ_{0}
127 : $P_{1840} = (15, 1, 6, 1)$ lies on line ℓ_{6}
128 : $P_{1852} = (11, 2, 6, 1)$ lies on line ℓ_{10}
129 : $P_{1866} = (9, 3, 6, 1)$ lies on line ℓ_{12}
130 : $P_{1885} = (12, 4, 6, 1)$ lies on line ℓ_{11}
131 : $P_{1896} = (7, 5, 6, 1)$ lies on line ℓ_{13}
132 : $P_{1926} = (5, 7, 6, 1)$ lies on line ℓ_{7}
133 : $P_{1956} = (3, 9, 6, 1)$ lies on line ℓ_{15}
134 : $P_{1982} = (13, 10, 6, 1)$ lies on line ℓ_{5}
135 : $P_{1987} = (2, 11, 6, 1)$ lies on line ℓ_{9}
136 : $P_{2005} = (4, 12, 6, 1)$ lies on line ℓ_{4}
137 : $P_{2027} = (10, 13, 6, 1)$ lies on line ℓ_{8}
138 : $P_{2050} = (1, 15, 6, 1)$ lies on line ℓ_{14}
139 : $P_{2065} = (0, 0, 7, 1)$ lies on line ℓ_{0}
140 : $P_{2086} = (5, 1, 7, 1)$ lies on line ℓ_{14}
141 : $P_{2105} = (8, 2, 7, 1)$ lies on line ℓ_{7}
142 : $P_{2146} = (1, 5, 7, 1)$ lies on line ℓ_{6}
143 : $P_{2176} = (15, 6, 7, 1)$ lies on line ℓ_{15}
144 : $P_{2195} = (2, 8, 7, 1)$ lies on line ℓ_{13}
145 : $P_{2220} = (11, 9, 7, 1)$ lies on line ℓ_{5}
146 : $P_{2237} = (12, 10, 7, 1)$ lies on line ℓ_{10}
147 : $P_{2250} = (9, 11, 7, 1)$ lies on line ℓ_{8}
148 : $P_{2267} = (10, 12, 7, 1)$ lies on line ℓ_{9}
149 : $P_{2287} = (14, 13, 7, 1)$ lies on line ℓ_{11}
150 : $P_{2302} = (13, 14, 7, 1)$ lies on line ℓ_{4}
151 : $P_{2311} = (6, 15, 7, 1)$ lies on line ℓ_{12}
152 : $P_{2321} = (0, 0, 8, 1)$ lies on line ℓ_{0}
153 : $P_{2339} = (2, 1, 8, 1)$ lies on line ℓ_{5}
154 : $P_{2354} = (1, 2, 8, 1)$ lies on line ℓ_{8}
155 : $P_{2381} = (12, 3, 8, 1)$ lies on line ℓ_{7}
156 : $P_{2390} = (5, 4, 8, 1)$ lies on line ℓ_{12}
157 : $P_{2405} = (4, 5, 8, 1)$ lies on line ℓ_{15}
158 : $P_{2442} = (9, 7, 8, 1)$ lies on line ℓ_{11}
159 : $P_{2472} = (7, 9, 8, 1)$ lies on line ℓ_{4}
160 : $P_{2496} = (15, 10, 8, 1)$ lies on line ℓ_{9}
161 : $P_{2510} = (13, 11, 8, 1)$ lies on line ℓ_{6}
162 : $P_{2516} = (3, 12, 8, 1)$ lies on line ℓ_{13}
163 : $P_{2540} = (11, 13, 8, 1)$ lies on line ℓ_{14}
164 : $P_{2571} = (10, 15, 8, 1)$ lies on line ℓ_{10}
165 : $P_{2577} = (0, 0, 9, 1)$ lies on line ℓ_{0}
166 : $P_{2599} = (6, 1, 9, 1)$ lies on line ℓ_{13}
167 : $P_{2613} = (4, 2, 9, 1)$ lies on line ℓ_{5}
168 : $P_{2640} = (15, 3, 9, 1)$ lies on line ℓ_{14}
169 : $P_{2643} = (2, 4, 9, 1)$ lies on line ℓ_{8}
170 : $P_{2674} = (1, 6, 9, 1)$ lies on line ℓ_{7}
171 : $P_{2702} = (13, 7, 9, 1)$ lies on line ℓ_{10}
172 : $P_{2715} = (10, 8, 9, 1)$ lies on line ℓ_{12}
173 : $P_{2745} = (8, 10, 9, 1)$ lies on line ℓ_{15}
174 : $P_{2767} = (14, 11, 9, 1)$ lies on line ℓ_{4}
175 : $P_{2792} = (7, 13, 9, 1)$ lies on line ℓ_{9}
176 : $P_{2812} = (11, 14, 9, 1)$ lies on line ℓ_{11}
177 : $P_{2820} = (3, 15, 9, 1)$ lies on line ℓ_{6}
178 : $P_{2833} = (0, 0, 10, 1)$ lies on line ℓ_{0}
179 : $P_{2870} = (5, 2, 10, 1)$ lies on line ℓ_{15}
180 : $P_{2889} = (8, 3, 10, 1)$ lies on line ℓ_{6}
181 : $P_{2903} = (6, 4, 10, 1)$ lies on line ℓ_{9}
182 : $P_{2915} = (2, 5, 10, 1)$ lies on line ℓ_{12}
183 : $P_{2933} = (4, 6, 10, 1)$ lies on line ℓ_{10}
184 : $P_{2959} = (14, 7, 10, 1)$ lies on line ℓ_{5}
185 : $P_{2964} = (3, 8, 10, 1)$ lies on line ℓ_{14}
186 : $P_{2992} = (15, 9, 10, 1)$ lies on line ℓ_{7}
187 : $P_{3038} = (13, 12, 10, 1)$ lies on line ℓ_{11}
188 : $P_{3053} = (12, 13, 10, 1)$ lies on line ℓ_{4}
189 : $P_{3064} = (7, 14, 10, 1)$ lies on line ℓ_{8}

190 : $P_{3082} = (9, 15, 10, 1)$ lies on line ℓ_{13}
191 : $P_{3089} = (0, 0, 11, 1)$ lies on line ℓ_{0}
192 : $P_{3133} = (12, 2, 11, 1)$ lies on line ℓ_{13}
193 : $P_{3151} = (14, 3, 11, 1)$ lies on line ℓ_{9}
194 : $P_{3161} = (8, 4, 11, 1)$ lies on line ℓ_{5}
195 : $P_{3184} = (15, 5, 11, 1)$ lies on line ℓ_{11}
196 : $P_{3192} = (7, 6, 11, 1)$ lies on line ℓ_{14}
197 : $P_{3207} = (6, 7, 11, 1)$ lies on line ℓ_{6}
198 : $P_{3221} = (4, 8, 11, 1)$ lies on line ℓ_{8}
199 : $P_{3246} = (13, 9, 11, 1)$ lies on line ℓ_{12}
200 : $P_{3283} = (2, 12, 11, 1)$ lies on line ℓ_{7}
201 : $P_{3306} = (9, 13, 11, 1)$ lies on line ℓ_{15}
202 : $P_{3316} = (3, 14, 11, 1)$ lies on line ℓ_{10}
203 : $P_{3334} = (5, 15, 11, 1)$ lies on line ℓ_{4}
204 : $P_{3345} = (0, 0, 12, 1)$ lies on line ℓ_{0}
205 : $P_{3369} = (8, 1, 12, 1)$ lies on line ℓ_{4}
206 : $P_{3384} = (7, 2, 12, 1)$ lies on line ℓ_{6}
207 : $P_{3406} = (13, 3, 12, 1)$ lies on line ℓ_{8}
208 : $P_{3424} = (15, 4, 12, 1)$ lies on line ℓ_{10}
209 : $P_{3452} = (11, 6, 12, 1)$ lies on line ℓ_{12}
210 : $P_{3459} = (2, 7, 12, 1)$ lies on line ℓ_{14}
211 : $P_{3474} = (1, 8, 12, 1)$ lies on line ℓ_{11}
212 : $P_{3519} = (14, 10, 12, 1)$ lies on line ℓ_{13}
213 : $P_{3527} = (6, 11, 12, 1)$ lies on line ℓ_{15}
214 : $P_{3556} = (3, 13, 12, 1)$ lies on line ℓ_{5}
215 : $P_{3579} = (10, 14, 12, 1)$ lies on line ℓ_{7}
216 : $P_{3589} = (4, 15, 12, 1)$ lies on line ℓ_{9}
217 : $P_{3601} = (0, 0, 13, 1)$ lies on line ℓ_{0}
218 : $P_{3620} = (3, 1, 13, 1)$ lies on line ℓ_{11}
219 : $P_{3650} = (1, 3, 13, 1)$ lies on line ℓ_{4}
220 : $P_{3675} = (10, 4, 13, 1)$ lies on line ℓ_{15}
221 : $P_{3695} = (14, 5, 13, 1)$ lies on line ℓ_{8}
222 : $P_{3706} = (9, 6, 13, 1)$ lies on line ℓ_{6}
223 : $P_{3724} = (11, 7, 13, 1)$ lies on line ℓ_{13}
224 : $P_{3741} = (12, 8, 13, 1)$ lies on line ℓ_{9}
225 : $P_{3751} = (6, 9, 13, 1)$ lies on line ℓ_{14}
226 : $P_{3765} = (4, 10, 13, 1)$ lies on line ℓ_{12}
227 : $P_{3784} = (7, 11, 13, 1)$ lies on line ℓ_{7}
228 : $P_{3801} = (8, 12, 13, 1)$ lies on line ℓ_{10}
229 : $P_{3830} = (5, 14, 13, 1)$ lies on line ℓ_{5}
230 : $P_{3857} = (0, 0, 14, 1)$ lies on line ℓ_{0}
231 : $P_{3886} = (13, 1, 14, 1)$ lies on line ℓ_{9}
232 : $P_{3899} = (10, 2, 14, 1)$ lies on line ℓ_{14}
233 : $P_{3910} = (5, 3, 14, 1)$ lies on line ℓ_{11}
234 : $P_{3930} = (9, 4, 14, 1)$ lies on line ℓ_{7}
235 : $P_{3940} = (3, 5, 14, 1)$ lies on line ℓ_{4}
236 : $P_{3981} = (12, 7, 14, 1)$ lies on line ℓ_{12}
237 : $P_{4005} = (4, 9, 14, 1)$ lies on line ℓ_{13}
238 : $P_{4019} = (2, 10, 14, 1)$ lies on line ℓ_{6}
239 : $P_{4048} = (15, 11, 14, 1)$ lies on line ℓ_{5}
240 : $P_{4056} = (7, 12, 14, 1)$ lies on line ℓ_{15}
241 : $P_{4066} = (1, 13, 14, 1)$ lies on line ℓ_{10}
242 : $P_{4108} = (11, 15, 14, 1)$ lies on line ℓ_{8}
243 : $P_{4113} = (0, 0, 15, 1)$ lies on line ℓ_{0}
244 : $P_{4133} = (4, 1, 15, 1)$ lies on line ℓ_{7}
245 : $P_{4172} = (11, 3, 15, 1)$ lies on line ℓ_{15}
246 : $P_{4178} = (1, 4, 15, 1)$ lies on line ℓ_{13}
247 : $P_{4199} = (6, 5, 15, 1)$ lies on line ℓ_{10}
248 : $P_{4214} = (5, 6, 15, 1)$ lies on line ℓ_{9}
249 : $P_{4235} = (10, 7, 15, 1)$ lies on line ℓ_{4}
250 : $P_{4250} = (9, 8, 15, 1)$ lies on line ℓ_{5}
251 : $P_{4265} = (8, 9, 15, 1)$ lies on line ℓ_{8}
252 : $P_{4280} = (7, 10, 15, 1)$ lies on line ℓ_{11}
253 : $P_{4292} = (3, 11, 15, 1)$ lies on line ℓ_{12}
254 : $P_{4319} = (14, 12, 15, 1)$ lies on line ℓ_{14}
255 : $P_{4349} = (12, 14, 15, 1)$ lies on line ℓ_{6}

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 : $P_2 = (0, 0, 1, 0)$
1 : $P_3 = (0, 0, 0, 1)$
2 : $P_5 = (1, 1, 0, 0)$
3 : $P_{14} = (10, 1, 0, 0)$
4 : $P_{15} = (11, 1, 0, 0)$
5 : $P_{60} = (9, 2, 1, 0)$
6 : $P_{73} = (6, 3, 1, 0)$
7 : $P_{97} = (14, 4, 1, 0)$
8 : $P_{112} = (13, 5, 1, 0)$
9 : $P_{118} = (3, 6, 1, 0)$
10 : $P_{139} = (8, 7, 1, 0)$
11 : $P_{154} = (7, 8, 1, 0)$
12 : $P_{165} = (2, 9, 1, 0)$
13 : $P_{226} = (15, 12, 1, 0)$
14 : $P_{232} = (5, 13, 1, 0)$
15 : $P_{247} = (4, 14, 1, 0)$
16 : $P_{271} = (12, 15, 1, 0)$
17 : $P_{291} = (1, 1, 0, 1)$
18 : $P_{300} = (10, 1, 0, 1)$
19 : $P_{301} = (11, 1, 0, 1)$
20 : $P_{308} = (2, 2, 0, 1)$
21 : $P_{319} = (13, 2, 0, 1)$
22 : $P_{321} = (15, 2, 0, 1)$
23 : $P_{325} = (3, 3, 0, 1)$
24 : $P_{326} = (4, 3, 0, 1)$
25 : $P_{329} = (7, 3, 0, 1)$
26 : $P_{341} = (3, 4, 0, 1)$
27 : $P_{342} = (4, 4, 0, 1)$
28 : $P_{345} = (7, 4, 0, 1)$
29 : $P_{359} = (5, 5, 0, 1)$
30 : $P_{363} = (9, 5, 0, 1)$
31 : $P_{366} = (12, 5, 0, 1)$
32 : $P_{376} = (6, 6, 0, 1)$
33 : $P_{378} = (8, 6, 0, 1)$
34 : $P_{384} = (14, 6, 0, 1)$
35 : $P_{389} = (3, 7, 0, 1)$
36 : $P_{390} = (4, 7, 0, 1)$
37 : $P_{393} = (7, 7, 0, 1)$
38 : $P_{408} = (6, 8, 0, 1)$
39 : $P_{410} = (8, 8, 0, 1)$
40 : $P_{416} = (14, 8, 0, 1)$
41 : $P_{423} = (5, 9, 0, 1)$

42 : $P_{427} = (9, 9, 0, 1)$
43 : $P_{430} = (12, 9, 0, 1)$
44 : $P_{435} = (1, 10, 0, 1)$
45 : $P_{444} = (10, 10, 0, 1)$
46 : $P_{445} = (11, 10, 0, 1)$
47 : $P_{451} = (1, 11, 0, 1)$
48 : $P_{460} = (10, 11, 0, 1)$
49 : $P_{461} = (11, 11, 0, 1)$
50 : $P_{471} = (5, 12, 0, 1)$
51 : $P_{475} = (9, 12, 0, 1)$
52 : $P_{478} = (12, 12, 0, 1)$
53 : $P_{484} = (2, 13, 0, 1)$
54 : $P_{495} = (13, 13, 0, 1)$
55 : $P_{497} = (15, 13, 0, 1)$
56 : $P_{504} = (6, 14, 0, 1)$
57 : $P_{506} = (8, 14, 0, 1)$
58 : $P_{512} = (14, 14, 0, 1)$
59 : $P_{516} = (2, 15, 0, 1)$
60 : $P_{527} = (13, 15, 0, 1)$
61 : $P_{529} = (15, 15, 0, 1)$
62 : $P_{530} = (0, 0, 1, 1)$
63 : $P_{570} = (9, 2, 1, 1)$
64 : $P_{583} = (6, 3, 1, 1)$
65 : $P_{607} = (14, 4, 1, 1)$
66 : $P_{622} = (13, 5, 1, 1)$
67 : $P_{628} = (3, 6, 1, 1)$
68 : $P_{649} = (8, 7, 1, 1)$
69 : $P_{664} = (7, 8, 1, 1)$
70 : $P_{675} = (2, 9, 1, 1)$
71 : $P_{736} = (15, 12, 1, 1)$
72 : $P_{742} = (5, 13, 1, 1)$
73 : $P_{757} = (4, 14, 1, 1)$
74 : $P_{781} = (12, 15, 1, 1)$
75 : $P_{785} = (0, 0, 2, 1)$
76 : $P_{808} = (7, 1, 2, 1)$
77 : $P_{843} = (10, 3, 2, 1)$
78 : $P_{860} = (11, 4, 2, 1)$
79 : $P_{873} = (8, 5, 2, 1)$
80 : $P_{893} = (12, 6, 2, 1)$
81 : $P_{898} = (1, 7, 2, 1)$
82 : $P_{918} = (5, 8, 2, 1)$
83 : $P_{943} = (14, 9, 2, 1)$
84 : $P_{948} = (3, 10, 2, 1)$
85 : $P_{965} = (4, 11, 2, 1)$
86 : $P_{983} = (6, 12, 2, 1)$
87 : $P_{1018} = (9, 14, 2, 1)$
88 : $P_{1041} = (0, 0, 3, 1)$
89 : $P_{1066} = (9, 1, 3, 1)$
90 : $P_{1079} = (6, 2, 3, 1)$
91 : $P_{1131} = (10, 5, 3, 1)$
92 : $P_{1139} = (2, 6, 3, 1)$
93 : $P_{1182} = (13, 8, 3, 1)$
94 : $P_{1186} = (1, 9, 3, 1)$
95 : $P_{1206} = (5, 10, 3, 1)$
96 : $P_{1229} = (12, 11, 3, 1)$
97 : $P_{1244} = (11, 12, 3, 1)$
98 : $P_{1257} = (8, 13, 3, 1)$
99 : $P_{1280} = (15, 14, 3, 1)$
100 : $P_{1295} = (14, 15, 3, 1)$
101 : $P_{1297} = (0, 0, 4, 1)$
102 : $P_{1325} = (12, 1, 4, 1)$
103 : $P_{1343} = (14, 2, 4, 1)$
104 : $P_{1388} = (11, 5, 4, 1)$
105 : $P_{1406} = (13, 6, 4, 1)$
106 : $P_{1440} = (15, 8, 4, 1)$
107 : $P_{1451} = (10, 9, 4, 1)$
108 : $P_{1466} = (9, 10, 4, 1)$
109 : $P_{1478} = (5, 11, 4, 1)$
110 : $P_{1490} = (1, 12, 4, 1)$
111 : $P_{1511} = (6, 13, 4, 1)$
112 : $P_{1523} = (2, 14, 4, 1)$
113 : $P_{1545} = (8, 15, 4, 1)$
114 : $P_{1553} = (0, 0, 5, 1)$
115 : $P_{1583} = (14, 1, 5, 1)$
116 : $P_{1588} = (3, 2, 5, 1)$
117 : $P_{1603} = (2, 3, 5, 1)$
118 : $P_{1630} = (13, 4, 5, 1)$
119 : $P_{1659} = (10, 6, 5, 1)$
120 : $P_{1680} = (15, 7, 5, 1)$
121 : $P_{1692} = (11, 8, 5, 1)$
122 : $P_{1719} = (6, 10, 5, 1)$
123 : $P_{1737} = (8, 11, 5, 1)$
124 : $P_{1765} = (4, 13, 5, 1)$
125 : $P_{1778} = (1, 14, 5, 1)$
126 : $P_{1800} = (7, 15, 5, 1)$
127 : $P_{1809} = (0, 0, 6, 1)$
128 : $P_{1840} = (15, 1, 6, 1)$
129 : $P_{1852} = (11, 2, 6, 1)$
130 : $P_{1866} = (9, 3, 6, 1)$
131 : $P_{1885} = (12, 4, 6, 1)$
132 : $P_{1896} = (7, 5, 6, 1)$
133 : $P_{1926} = (5, 7, 6, 1)$
134 : $P_{1956} = (3, 9, 6, 1)$
135 : $P_{1982} = (13, 10, 6, 1)$
136 : $P_{1987} = (2, 11, 6, 1)$
137 : $P_{2005} = (4, 12, 6, 1)$
138 : $P_{2027} = (10, 13, 6, 1)$
139 : $P_{2050} = (1, 15, 6, 1)$
140 : $P_{2065} = (0, 0, 7, 1)$
141 : $P_{2086} = (5, 1, 7, 1)$
142 : $P_{2105} = (8, 2, 7, 1)$
143 : $P_{2146} = (1, 5, 7, 1)$
144 : $P_{2176} = (15, 6, 7, 1)$
145 : $P_{2195} = (2, 8, 7, 1)$
146 : $P_{2220} = (11, 9, 7, 1)$
147 : $P_{2237} = (12, 10, 7, 1)$
148 : $P_{2250} = (9, 11, 7, 1)$
149 : $P_{2267} = (10, 12, 7, 1)$
150 : $P_{2287} = (14, 13, 7, 1)$
151 : $P_{2302} = (13, 14, 7, 1)$
152 : $P_{2311} = (6, 15, 7, 1)$
153 : $P_{2321} = (0, 0, 8, 1)$
154 : $P_{2339} = (2, 1, 8, 1)$
155 : $P_{2354} = (1, 2, 8, 1)$
156 : $P_{2381} = (12, 3, 8, 1)$
157 : $P_{2390} = (5, 4, 8, 1)$
158 : $P_{2405} = (4, 5, 8, 1)$
159 : $P_{2442} = (9, 7, 8, 1)$
160 : $P_{2472} = (7, 9, 8, 1)$
161 : $P_{2496} = (15, 10, 8, 1)$
162 : $P_{2510} = (13, 11, 8, 1)$
163 : $P_{2516} = (3, 12, 8, 1)$
164 : $P_{2540} = (11, 13, 8, 1)$
165 : $P_{2571} = (10, 15, 8, 1)$
166 : $P_{2577} = (0, 0, 9, 1)$
167 : $P_{2599} = (6, 1, 9, 1)$
168 : $P_{2613} = (4, 2, 9, 1)$
169 : $P_{2640} = (15, 3, 9, 1)$
170 : $P_{2643} = (2, 4, 9, 1)$
171 : $P_{2674} = (1, 6, 9, 1)$
172 : $P_{2702} = (13, 7, 9, 1)$
173 : $P_{2715} = (10, 8, 9, 1)$
174 : $P_{2745} = (8, 10, 9, 1)$
175 : $P_{2767} = (14, 11, 9, 1)$
176 : $P_{2792} = (7, 13, 9, 1)$
177 : $P_{2812} = (11, 14, 9, 1)$
178 : $P_{2820} = (3, 15, 9, 1)$
179 : $P_{2833} = (0, 0, 10, 1)$
180 : $P_{2870} = (5, 2, 10, 1)$
181 : $P_{2889} = (8, 3, 10, 1)$
182 : $P_{2903} = (6, 4, 10, 1)$
183 : $P_{2915} = (2, 5, 10, 1)$
184 : $P_{2933} = (4, 6, 10, 1)$
185 : $P_{2959} = (14, 7, 10, 1)$
186 : $P_{2964} = (3, 8, 10, 1)$
187 : $P_{2992} = (15, 9, 10, 1)$
188 : $P_{3038} = (13, 12, 10, 1)$
189 : $P_{3053} = (12, 13, 10, 1)$
190 : $P_{3064} = (7, 14, 10, 1)$
191 : $P_{3082} = (9, 15, 10, 1)$
192 : $P_{3089} = (0, 0, 11, 1)$
193 : $P_{3133} = (12, 2, 11, 1)$
194 : $P_{3151} = (14, 3, 11, 1)$
195 : $P_{3161} = (8, 4, 11, 1)$
196 : $P_{3184} = (15, 5, 11, 1)$
197 : $P_{3192} = (7, 6, 11, 1)$
198 : $P_{3207} = (6, 7, 11, 1)$
199 : $P_{3221} = (4, 8, 11, 1)$
200 : $P_{3246} = (13, 9, 11, 1)$
201 : $P_{3283} = (2, 12, 11, 1)$
202 : $P_{3306} = (9, 13, 11, 1)$
203 : $P_{3316} = (3, 14, 11, 1)$

$204: P_{3334} = (5, 15, 11, 1)$
$205: P_{3345} = (0, 0, 12, 1)$
$206: P_{3369} = (8, 1, 12, 1)$
$207: P_{3384} = (7, 2, 12, 1)$
$208: P_{3406} = (13, 3, 12, 1)$
$209: P_{3424} = (15, 4, 12, 1)$
$210: P_{3452} = (11, 6, 12, 1)$
$211: P_{3459} = (2, 7, 12, 1)$
$212: P_{3474} = (1, 8, 12, 1)$
$213: P_{3519} = (14, 10, 12, 1)$
$214: P_{3527} = (6, 11, 12, 1)$
$215: P_{3556} = (3, 13, 12, 1)$
$216: P_{3579} = (10, 14, 12, 1)$
$217: P_{3589} = (4, 15, 12, 1)$
$218: P_{3601} = (0, 0, 13, 1)$
$219: P_{3620} = (3, 1, 13, 1)$
$220: P_{3650} = (1, 3, 13, 1)$
$221: P_{3675} = (10, 4, 13, 1)$
$222: P_{3695} = (14, 5, 13, 1)$
$223: P_{3706} = (9, 6, 13, 1)$
$224: P_{3724} = (11, 7, 13, 1)$
$225: P_{3741} = (12, 8, 13, 1)$
$226: P_{3751} = (6, 9, 13, 1)$
$227: P_{3765} = (4, 10, 13, 1)$
$228: P_{3784} = (7, 11, 13, 1)$
$229: P_{3801} = (8, 12, 13, 1)$
$230: P_{3830} = (5, 14, 13, 1)$
$231: P_{3857} = (0, 0, 14, 1)$
$232: P_{3886} = (13, 1, 14, 1)$
$233: P_{3899} = (10, 2, 14, 1)$
$234: P_{3910} = (5, 3, 14, 1)$
$235: P_{3930} = (9, 4, 14, 1)$
$236: P_{3940} = (3, 5, 14, 1)$
$237: P_{3981} = (12, 7, 14, 1)$
$238: P_{4005} = (4, 9, 14, 1)$
$239: P_{4019} = (2, 10, 14, 1)$
$240: P_{4048} = (15, 11, 14, 1)$
$241: P_{4056} = (7, 12, 14, 1)$
$242: P_{4066} = (1, 13, 14, 1)$
$243: P_{4108} = (11, 15, 14, 1)$
$244: P_{4113} = (0, 0, 15, 1)$
$245: P_{4133} = (4, 1, 15, 1)$
$246: P_{4172} = (11, 3, 15, 1)$
$247: P_{4178} = (1, 4, 15, 1)$
$248: P_{4199} = (6, 5, 15, 1)$
$249: P_{4214} = (5, 6, 15, 1)$
$250: P_{4235} = (10, 7, 15, 1)$
$251: P_{4250} = (9, 8, 15, 1)$
$252: P_{4265} = (8, 9, 15, 1)$
$253: P_{4280} = (7, 10, 15, 1)$
$254: P_{4292} = (3, 11, 15, 1)$
$255: P_{4319} = (14, 12, 15, 1)$
$256: P_{4349} = (12, 14, 15, 1)$