Rank-65915 over GF(16)

January 15, 2021

The equation

The equation of the surface is :

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

(0, 0, 0, 1, 1, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0)
The point rank of the equation over GF(16) is 304226581

General information

Number of lines	15
Number of points	337
Number of singular points	1
Number of Eckardt points	0
Number of double points	36
Number of single points	177
Number of points off lines	123
Number of Hesse planes	0
Number of axes	0
Type of points on lines	17^{15}
Type of lines on points	6, 2^{36}, 1^{177}, 0^{123}

Singular Points

The surface has 1 singular points:

$0: \ P_2 = \mathbf{P}(0,0,1,0) = \mathbf{P}(0,0,1,0)$

The 15 Lines

The lines and their Pluecker coordinates are:

$$\ell_0 = \begin{bmatrix} 1 & \delta^5 & 0 & \delta^8 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{64411} = \begin{bmatrix} 1 & 11 & 0 & 14 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{64411} = \mathbf{Pl}(0,8,10,0,0,1)_{4958}$$

$$\ell_1 = \begin{bmatrix} 1 & \delta^{10} & 0 & \delta \\ 0 & 0 & 1 & 0 \end{bmatrix}_{11722} = \begin{bmatrix} 1 & 10 & 0 & 2 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{11722} = \mathbf{Pl}(0,15,11,0,0,1)_{4996}$$

$$\ell_2 = \begin{bmatrix} 1 & \delta^{5} & 0 & \delta^{2} \\ 0 & 0 & 1 & 0 \end{bmatrix}_{20731} = \begin{bmatrix} 1 & 11 & 0 & 4 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{20731} = \mathbf{Pl}(0,3,10,0,0,1)_{4953}$$

$$\ell_3 = \begin{bmatrix} 1 & \delta^{5} & 0 & \delta^{10} \\ 0 & 0 & 1 & 0 \end{bmatrix}_{46939} = \begin{bmatrix} 1 & 11 & 0 & 10 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{46939} = \mathbf{Pl}(0,11,10,0,0,1)_{4961}$$

$$\ell_4 = \begin{bmatrix} 1 & \delta^{10} & 0 & \delta^{5} \\ 0 & 0 & 1 & 0 \end{bmatrix}_{51034} = \begin{bmatrix} 1 & 10 & 0 & 11 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{51034} = \mathbf{Pl}(0,10,11,0,0,1)_{4991}$$

$$\ell_5 = \begin{bmatrix} 1 & \delta^{10} & 0 & \delta^{4} \\ 0 & 0 & 1 & 0 \end{bmatrix}_{42298} = \begin{bmatrix} 1 & 10 & 0 & 9 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{42298} = \mathbf{Pl}(0,5,11,0,0,1)_{4986}$$

$$\ell_6 = \begin{bmatrix} 1 & 0 & 0 & 1 \\ 0 & 1 & 1 & 1 \end{bmatrix}_{4385} = \begin{bmatrix} 1 & 0 & 0 & 1 \\ 0 & 1 & 1 & 1 \end{bmatrix}_{4385} = \mathbf{Pl}(1,1,1,1,1,0)_{1250}$$

$$\ell_7 = \begin{bmatrix} 1 & 0 & \delta^{9} & \delta^{11} \\ 0 & 1 & \delta^{6} & \delta^{7} \end{bmatrix}_{58276} = \begin{bmatrix} 1 & 0 & 5 & 13 \\ 0 & 1 & 15 & 7 \end{bmatrix}_{58276} = \mathbf{Pl}(13,9,6,4,6,1)_{31353}$$

$$\ell_8 = \begin{bmatrix} 1 & 0 & \delta^{6} & \delta^{14} \\ 0 & 1 & \delta^{9} & \delta^{13} \end{bmatrix}_{56612} = \begin{bmatrix} 1 & 0 & 15 & 12 \\ 0 & 1 & 5 & 6 \end{bmatrix}_{56612} = \mathbf{Pl}(12,2,7,14,7,1)_{35747}$$

$$\ell_9 = \begin{bmatrix} 1 & 0 & \delta^{10} & \delta^{4} \\ 0 & 1 & \delta^{3} & \delta^{6} \end{bmatrix}_{42290} = \begin{bmatrix} 1 & 0 & 10 & 9 \\ 0 & 1 & 8 & 15 \end{bmatrix}_{42290} = \mathbf{Pl}(2,12,15,5,13,1)_{61987}$$

$$\ell_{10} = \begin{bmatrix} 1 & 0 & \delta^{10} & \delta \\ 0 & 1 & \delta^{12} & \delta^{9} \end{bmatrix}_{11549} = \begin{bmatrix} 1 & 0 & 10 & 2 \\ 0 & 1 & 3 & 5 \end{bmatrix}_{11549} = \mathbf{Pl}(9,13,5,15,12,1)_{55664}$$

$$\ell_{11} = \begin{bmatrix} 1 & 0 & \delta^{5} & \delta^{8} \\ 0 & 1 & \delta^{6} & \delta^{12} \end{bmatrix}_{64218} = \begin{bmatrix} 1 & 0 & 11 & 14 \\ 0 & 1 & 15 & 3 \end{bmatrix}_{64218} = \mathbf{Pl}(4,6,3,8,7,1)_{34809}$$

$$\ell_{12} = \begin{bmatrix} 1 & 0 & \delta^{5} & \delta^{2} \\ 0 & 1 & \delta^{9} & \delta^{3} \end{bmatrix}_{20608} = \begin{bmatrix} 1 & 0 & 11 & 4 \\ 0 & 1 & 5 & 8 \end{bmatrix}_{20608} = \mathbf{Pl}(14,7,8,3,6,1)_{31864}$$

$$\ell_{13} = \begin{bmatrix} 1 & 0 & \delta^{12} & \delta^{13} \\ 0 & 1 & \delta^{3} & \delta^{11} \end{bmatrix}_{27243} = \begin{bmatrix} 1 & 0 & 3 & 6 \\ 0 & 1 & 8 & 13 \end{bmatrix}_{27243} = \mathbf{Pl}(6,4,12,2,12,1)_{57266}$$

$$\ell_{14} = \begin{bmatrix} 1 & 0 & \delta^{3} & \delta^{7} \\ 0 & 1 & \delta^{12} & \delta^{14} \end{bmatrix}_{32955} = \begin{bmatrix} 1 & 0 & 8 & 7 \\ 0 & 1 & 3 & 12 \end{bmatrix}_{32955} = \mathbf{Pl}(7,14,13,9,13,1)_{61407}$$

Rank of lines: (64411, 11722, 20731, 46939, 51034, 42298, 4385, 58276, 56612, 42290, 11549, 64218, 20608, 27243, 32955)
Rank of points on Klein quadric: (4958, 4996, 4953, 4961, 4991, 4986, 1250, 31353, 35747, 61987, 55664, 34809, 31864, 57266, 61407)

Eckardt Points

The surface has 0 Eckardt points:

Double Points

The surface has 36 Double points:
The double points on the surface are:

$P_{2888} = (7,3,10,1) = \ell_0 \cap \ell_7$
$P_{584} = (7,3,1,1) = \ell_0 \cap \ell_{10}$
$P_{4168} = (7,3,15,1) = \ell_0 \cap \ell_{14}$
$P_{1133} = (12,5,3,1) = \ell_1 \cap \ell_8$
$P_{621} = (12,5,1,1) = \ell_1 \cap \ell_{12}$
$P_{3181} = (12,5,11,1) = \ell_1 \cap \ell_{14}$
$P_{2967} = (6,8,10,1) = \ell_2 \cap \ell_8$
$P_{663} = (6,8,1,1) = \ell_2 \cap \ell_9$
$P_{1687} = (6,8,5,1) = \ell_2 \cap \ell_{13}$
$P_{3004} = (11,10,10,1) = \ell_3 \cap \ell_6$
$P_{2492} = (11,10,8,1) = \ell_3 \cap \ell_{11}$
$P_{1212} = (11,10,3,1) = \ell_3 \cap \ell_{12}$
$P_{3275} = (10,11,11,1) = \ell_4 \cap \ell_6$
$P_{1739} = (10,11,5,1) = \ell_4 \cap \ell_9$
$P_{4299} = (10,11,15,1) = \ell_4 \cap \ell_{10}$
$P_{2574} = (13,15,8,1) = \ell_5 \cap \ell_7$
$P_{782} = (13,15,1,1) = \ell_5 \cap \ell_{11}$
$P_{3342} = (13,15,11,1) = \ell_5 \cap \ell_{13}$
$P_{2729} = (8,9,9,1) = \ell_6 \cap \ell_7$
$P_{820} = (3,2,2,1) = \ell_6 \cap \ell_8$
$P_{1366} = (5,4,4,1) = \ell_6 \cap \ell_{13}$
$P_{4096} = (15,14,14,1) = \ell_6 \cap \ell_{14}$
$P_{716} = (11,11,1,1) = \ell_7 \cap \ell_8$
$P_{2173} = (12,6,7,1) = \ell_7 \cap \ell_9$
$P_{805} = (4,1,2,1) = \ell_7 \cap \ell_{12}$
$P_{1934} = (13,7,6,1) = \ell_8 \cap \ell_{10}$
$P_{2607} = (14,1,9,1) = \ell_8 \cap \ell_{11}$
$P_{2016} = (15,12,6,1) = \ell_9 \cap \ell_{11}$
$P_{3465} = (8,7,12,1) = \ell_9 \cap \ell_{12}$
$P_{1322} = (9,1,4,1) = \ell_9 \cap \ell_{14}$
$P_{3700} = (3,6,13,1) = \ell_{10} \cap \ell_{11}$
$P_{2278} = (5,13,7,1) = \ell_{10} \cap \ell_{12}$
$P_{3875} = (2,1,14,1) = \ell_{10} \cap \ell_{13}$
$P_{3559} = (6,13,12,1) = \ell_{11} \cap \ell_{14}$
$P_{3800} = (7,12,13,1) = \ell_{12} \cap \ell_{13}$
$P_{699} = (10,10,1,1) = \ell_{13} \cap \ell_{14}$

Single Points

The surface has 177 single points:
The single points on the surface are:

0 : $P_{36} = (1,1,1,0)$ lies on line ℓ_6
1 : $P_{120} = (5,6,1,0)$ lies on line ℓ_7
2 : $P_{146} = (15,7,1,0)$ lies on line ℓ_8
3 : $P_{182} = (3,10,1,0)$ lies on line ℓ_9
4 : $P_{187} = (8,10,1,0)$ lies on line ℓ_{10}
5 : $P_{200} = (5,11,1,0)$ lies on line ℓ_{11}
6 : $P_{210} = (15,11,1,0)$ lies on line ℓ_{12}
7 : $P_{214} = (3,12,1,0)$ lies on line ℓ_{13}
8 : $P_{235} = (8,13,1,0)$ lies on line ℓ_{14}
9 : $P_{275} = (1,0,0,1)$ lies on line ℓ_6
10 : $P_{311} = (5,2,0,1)$ lies on line ℓ_9
11 : $P_{329} = (7,3,0,1)$ lies on line ℓ_0
12 : $P_{346} = (8,4,0,1)$ lies on line ℓ_{11}
13 : $P_{366} = (12,5,0,1)$ lies on line ℓ_1
14 : $P_{379} = (9,6,0,1)$ lies on line ℓ_{13}
15 : $P_{388} = (2,7,0,1)$ lies on line ℓ_{14}
16 : $P_{408} = (6,8,0,1)$ lies on line ℓ_2
17 : $P_{433} = (15,9,0,1)$ lies on line ℓ_{10}
18 : $P_{445} = (11,10,0,1)$ lies on line ℓ_3
19 : $P_{460} = (10,11,0,1)$ lies on line ℓ_4
20 : $P_{470} = (4,12,0,1)$ lies on line ℓ_8
21 : $P_{496} = (14,13,0,1)$ lies on line ℓ_7
22 : $P_{501} = (3,14,0,1)$ lies on line ℓ_{12}
23 : $P_{527} = (13,15,0,1)$ lies on line ℓ_5
24 : $P_{546} = (0,1,1,1)$ lies on line ℓ_6
25 : $P_{700} = (11,10,1,1)$ lies on line ℓ_3
26 : $P_{715} = (10,11,1,1)$ lies on line ℓ_4
27 : $P_{840} = (7,3,2,1)$ lies on line ℓ_0
28 : $P_{855} = (6,4,2,1)$ lies on line ℓ_{10}
29 : $P_{860} = (11,4,2,1)$ lies on line ℓ_{14}
30 : $P_{877} = (12,5,2,1)$ lies on line ℓ_1
31 : $P_{912} = (15,7,2,1)$ lies on line ℓ_{13}
32 : $P_{919} = (6,8,2,1)$ lies on line ℓ_2
33 : $P_{956} = (11,10,2,1)$ lies on line ℓ_3
34 : $P_{963} = (2,11,2,1)$ lies on line ℓ_{11}
35 : $P_{971} = (10,11,2,1)$ lies on line ℓ_4
36 : $P_{1028} = (3,15,2,1)$ lies on line ℓ_9
37 : $P_{1038} = (13,15,2,1)$ lies on line ℓ_5
38 : $P_{1048} = (7,0,3,1)$ lies on line ℓ_{11}
39 : $P_{1091} = (2,3,3,1)$ lies on line ℓ_6
40 : $P_{1096} = (7,3,3,1)$ lies on line ℓ_0
41 : $P_{1121} = (0,5,3,1)$ lies on line ℓ_9
42 : $P_{1154} = (1,7,3,1)$ lies on line ℓ_7
43 : $P_{1175} = (6,8,3,1)$ lies on line ℓ_2
44 : $P_{1188} = (3,9,3,1)$ lies on line ℓ_{14}
45 : $P_{1227} = (10,11,3,1)$ lies on line ℓ_4
46 : $P_{1229} = (12,11,3,1)$ lies on line ℓ_{13}
47 : $P_{1279} = (14,14,3,1)$ lies on line ℓ_{10}
48 : $P_{1294} = (13,15,3,1)$ lies on line ℓ_5
49 : $P_{1350} = (5,3,4,1)$ lies on line ℓ_{11}
50 : $P_{1352} = (7,3,4,1)$ lies on line ℓ_0
51 : $P_{1389} = (12,5,4,1)$ lies on line ℓ_1
52 : $P_{1431} = (6,8,4,1)$ lies on line ℓ_2
53 : $P_{1451} = (10,9,4,1)$ lies on line ℓ_8
54 : $P_{1454} = (13,9,4,1)$ lies on line ℓ_{12}
55 : $P_{1461} = (4,10,4,1)$ lies on line ℓ_{10}

56 : $P_{1468} = (11, 10, 4, 1)$ lies on line ℓ_3
57 : $P_{1483} = (10, 11, 4, 1)$ lies on line ℓ_4
58 : $P_{1492} = (3, 12, 4, 1)$ lies on line ℓ_7
59 : $P_{1550} = (13, 15, 4, 1)$ lies on line ℓ_5
60 : $P_{1565} = (12, 0, 5, 1)$ lies on line ℓ_{10}
61 : $P_{1587} = (2, 2, 5, 1)$ lies on line ℓ_{12}
62 : $P_{1608} = (7, 3, 5, 1)$ lies on line ℓ_0
63 : $P_{1637} = (4, 5, 5, 1)$ lies on line ℓ_6
64 : $P_{1645} = (12, 5, 5, 1)$ lies on line ℓ_1
65 : $P_{1681} = (0, 8, 5, 1)$ lies on line ℓ_{11}
66 : $P_{1719} = (6, 10, 5, 1)$ lies on line ℓ_7
67 : $P_{1724} = (11, 10, 5, 1)$ lies on line ℓ_3
68 : $P_{1746} = (1, 12, 5, 1)$ lies on line ℓ_{14}
69 : $P_{1782} = (5, 14, 5, 1)$ lies on line ℓ_8
70 : $P_{1806} = (13, 15, 5, 1)$ lies on line ℓ_5
71 : $P_{1818} = (9, 0, 6, 1)$ lies on line ℓ_7
72 : $P_{1841} = (0, 2, 6, 1)$ lies on line ℓ_{14}
73 : $P_{1864} = (7, 3, 6, 1)$ lies on line ℓ_0
74 : $P_{1892} = (3, 5, 6, 1)$ lies on line ℓ_{13}
75 : $P_{1901} = (12, 5, 6, 1)$ lies on line ℓ_1
76 : $P_{1912} = (7, 6, 6, 1)$ lies on line ℓ_6
77 : $P_{1915} = (10, 6, 6, 1)$ lies on line ℓ_{12}
78 : $P_{1943} = (6, 8, 6, 1)$ lies on line ℓ_2
79 : $P_{1980} = (11, 10, 6, 1)$ lies on line ℓ_3
80 : $P_{1995} = (10, 11, 6, 1)$ lies on line ℓ_4
81 : $P_{2062} = (13, 15, 6, 1)$ lies on line ℓ_5
82 : $P_{2067} = (2, 0, 7, 1)$ lies on line ℓ_8
83 : $P_{2120} = (7, 3, 7, 1)$ lies on line ℓ_0
84 : $P_{2157} = (12, 5, 7, 1)$ lies on line ℓ_1
85 : $P_{2183} = (6, 7, 7, 1)$ lies on line ℓ_6
86 : $P_{2187} = (10, 7, 7, 1)$ lies on line ℓ_{11}
87 : $P_{2199} = (6, 8, 7, 1)$ lies on line ℓ_2
88 : $P_{2209} = (0, 9, 7, 1)$ lies on line ℓ_{13}
89 : $P_{2236} = (11, 10, 7, 1)$ lies on line ℓ_3
90 : $P_{2251} = (10, 11, 7, 1)$ lies on line ℓ_4
91 : $P_{2313} = (8, 15, 7, 1)$ lies on line ℓ_{14}
92 : $P_{2318} = (13, 15, 7, 1)$ lies on line ℓ_5
93 : $P_{2327} = (6, 0, 8, 1)$ lies on line ℓ_{12}
94 : $P_{2361} = (8, 2, 8, 1)$ lies on line ℓ_{13}
95 : $P_{2376} = (7, 3, 8, 1)$ lies on line ℓ_0
96 : $P_{2389} = (4, 4, 8, 1)$ lies on line ℓ_9
97 : $P_{2413} = (12, 5, 8, 1)$ lies on line ℓ_1
98 : $P_{2418} = (1, 6, 8, 1)$ lies on line ℓ_8
99 : $P_{2455} = (6, 8, 8, 1)$ lies on line ℓ_2
100 : $P_{2458} = (9, 8, 8, 1)$ lies on line ℓ_6
101 : $P_{2507} = (10, 11, 8, 1)$ lies on line ℓ_4
102 : $P_{2510} = (13, 11, 8, 1)$ lies on line ℓ_{14}
103 : $P_{2561} = (0, 15, 8, 1)$ lies on line ℓ_{10}
104 : $P_{2632} = (7, 3, 9, 1)$ lies on line ℓ_0
105 : $P_{2665} = (8, 5, 9, 1)$ lies on line ℓ_{10}
106 : $P_{2669} = (12, 5, 9, 1)$ lies on line ℓ_1
107 : $P_{2678} = (5, 6, 9, 1)$ lies on line ℓ_{14}
108 : $P_{2711} = (6, 8, 9, 1)$ lies on line ℓ_2
109 : $P_{2748} = (11, 10, 9, 1)$ lies on line ℓ_3
110 : $P_{2762} = (9, 11, 9, 1)$ lies on line ℓ_{12}
111 : $P_{2763} = (10, 11, 9, 1)$ lies on line ℓ_4
112 : $P_{2808} = (7, 14, 9, 1)$ lies on line ℓ_9
113 : $P_{2812} = (11, 14, 9, 1)$ lies on line ℓ_{13}
114 : $P_{2830} = (13, 15, 9, 1)$ lies on line ℓ_5
115 : $P_{2874} = (9, 2, 10, 1)$ lies on line ℓ_{10}
116 : $P_{2895} = (14, 3, 10, 1)$ lies on line ℓ_{13}
117 : $P_{2914} = (1, 5, 10, 1)$ lies on line ℓ_{11}
118 : $P_{2925} = (12, 5, 10, 1)$ lies on line ℓ_1
119 : $P_{2965} = (4, 8, 10, 1)$ lies on line ℓ_{14}
120 : $P_{2979} = (2, 9, 10, 1)$ lies on line ℓ_9
121 : $P_{3019} = (10, 11, 10, 1)$ lies on line ℓ_4
122 : $P_{3074} = (1, 15, 10, 1)$ lies on line ℓ_{12}
123 : $P_{3086} = (13, 15, 10, 1)$ lies on line ℓ_5
124 : $P_{3138} = (1, 3, 11, 1)$ lies on line ℓ_9
125 : $P_{3144} = (7, 3, 11, 1)$ lies on line ℓ_0
126 : $P_{3167} = (14, 4, 11, 1)$ lies on line ℓ_{12}
127 : $P_{3171} = (2, 5, 11, 1)$ lies on line ℓ_7
128 : $P_{3218} = (1, 8, 11, 1)$ lies on line ℓ_{10}
129 : $P_{3223} = (6, 8, 11, 1)$ lies on line ℓ_2
130 : $P_{3260} = (11, 10, 11, 1)$ lies on line ℓ_3
131 : $P_{3317} = (4, 14, 11, 1)$ lies on line ℓ_{11}
132 : $P_{3338} = (9, 15, 11, 1)$ lies on line ℓ_8
133 : $P_{3349} = (4, 0, 12, 1)$ lies on line ℓ_{13}
134 : $P_{3400} = (7, 3, 12, 1)$ lies on line ℓ_0
135 : $P_{3408} = (15, 3, 12, 1)$ lies on line ℓ_8
136 : $P_{3437} = (12, 5, 12, 1)$ lies on line ℓ_1
137 : $P_{3479} = (6, 8, 12, 1)$ lies on line ℓ_2
138 : $P_{3516} = (11, 10, 12, 1)$ lies on line ℓ_3
139 : $P_{3531} = (10, 11, 12, 1)$ lies on line ℓ_4
140 : $P_{3548} = (11, 12, 12, 1)$ lies on line ℓ_{10}
141 : $P_{3550} = (13, 12, 12, 1)$ lies on line ℓ_6
142 : $P_{3569} = (0, 14, 12, 1)$ lies on line ℓ_7
143 : $P_{3598} = (13, 15, 12, 1)$ lies on line ℓ_5
144 : $P_{3615} = (14, 0, 13, 1)$ lies on line ℓ_{14}
145 : $P_{3656} = (7, 3, 13, 1)$ lies on line ℓ_0
146 : $P_{3665} = (0, 4, 13, 1)$ lies on line ℓ_8
147 : $P_{3693} = (12, 5, 13, 1)$ lies on line ℓ_1
148 : $P_{3734} = (5, 8, 13, 1)$ lies on line ℓ_7
149 : $P_{3735} = (6, 8, 13, 1)$ lies on line ℓ_2
150 : $P_{3772} = (11, 10, 13, 1)$ lies on line ℓ_3
151 : $P_{3787} = (10, 11, 13, 1)$ lies on line ℓ_4
152 : $P_{3820} = (11, 13, 13, 1)$ lies on line ℓ_9
153 : $P_{3821} = (12, 13, 13, 1)$ lies on line ℓ_6
154 : $P_{3854} = (13, 15, 13, 1)$ lies on line ℓ_5
155 : $P_{3899} = (10, 2, 14, 1)$ lies on line ℓ_7
156 : $P_{3901} = (12, 2, 14, 1)$ lies on line ℓ_{11}
157 : $P_{3912} = (7, 3, 14, 1)$ lies on line ℓ_0
158 : $P_{3949} = (12, 5, 14, 1)$ lies on line ℓ_1
159 : $P_{3991} = (6, 8, 14, 1)$ lies on line ℓ_2
160 : $P_{4000} = (15, 8, 14, 1)$ lies on line ℓ_{12}
161 : $P_{4028} = (11, 10, 14, 1)$ lies on line ℓ_3
162 : $P_{4031} = (14, 10, 14, 1)$ lies on line ℓ_9
163 : $P_{4043} = (10, 11, 14, 1)$ lies on line ℓ_4

164 : $P_{4073} = (8, 13, 14, 1)$ lies on line ℓ_8
165 : $P_{4110} = (13, 15, 14, 1)$ lies on line ℓ_5
166 : $P_{4126} = (13, 0, 15, 1)$ lies on line ℓ_9
167 : $P_{4161} = (0, 3, 15, 1)$ lies on line ℓ_{12}
168 : $P_{4192} = (15, 4, 15, 1)$ lies on line ℓ_7
169 : $P_{4205} = (12, 5, 15, 1)$ lies on line ℓ_1
170 : $P_{4247} = (6, 8, 15, 1)$ lies on line ℓ_2
171 : $P_{4266} = (9, 9, 15, 1)$ lies on line ℓ_{11}
172 : $P_{4280} = (7, 10, 15, 1)$ lies on line ℓ_8
173 : $P_{4284} = (11, 10, 15, 1)$ lies on line ℓ_3
174 : $P_{4322} = (1, 13, 15, 1)$ lies on line ℓ_{13}
175 : $P_{4366} = (13, 15, 15, 1)$ lies on line ℓ_5
176 : $P_{4367} = (14, 15, 15, 1)$ lies on line ℓ_6

The single points on the surface are:

Points on surface but on no line

The surface has 123 points not on any line:
The points on the surface but not on lines are:

0 : $P_0 = (1, 0, 0, 0)$
1 : $P_1 = (0, 1, 0, 0)$
2 : $P_4 = (1, 1, 1, 1)$
3 : $P_{125} = (10, 6, 1, 0)$
4 : $P_{141} = (10, 7, 1, 0)$
5 : $P_{222} = (11, 12, 1, 0)$
6 : $P_{238} = (11, 13, 1, 0)$
7 : $P_{583} = (6, 3, 1, 1)$
8 : $P_{622} = (13, 5, 1, 1)$
9 : $P_{664} = (7, 8, 1, 1)$
10 : $P_{781} = (12, 15, 1, 1)$
11 : $P_{790} = (5, 0, 2, 1)$
12 : $P_{806} = (5, 1, 2, 1)$
13 : $P_{824} = (7, 2, 2, 1)$
14 : $P_{880} = (15, 5, 2, 1)$
15 : $P_{897} = (0, 7, 2, 1)$
16 : $P_{923} = (10, 8, 2, 1)$
17 : $P_{957} = (12, 10, 2, 1)$
18 : $P_{997} = (4, 13, 2, 1)$
19 : $P_{1006} = (13, 13, 2, 1)$
20 : $P_{1079} = (6, 2, 3, 1)$
21 : $P_{1164} = (11, 7, 3, 1)$
22 : $P_{1182} = (13, 8, 3, 1)$
23 : $P_{1199} = (14, 9, 3, 1)$
24 : $P_{1203} = (2, 10, 3, 1)$
25 : $P_{1266} = (1, 14, 3, 1)$
26 : $P_{1291} = (10, 15, 3, 1)$
27 : $P_{1305} = (8, 0, 4, 1)$
28 : $P_{1321} = (8, 1, 4, 1)$
29 : $P_{1373} = (12, 4, 4, 1)$
30 : $P_{1416} = (7, 7, 4, 1)$
31 : $P_{1418} = (9, 7, 4, 1)$
32 : $P_{1428} = (3, 8, 4, 1)$
33 : $P_{1479} = (6, 11, 4, 1)$
34 : $P_{1489} = (0, 12, 4, 1)$
35 : $P_{1548} = (11, 15, 4, 1)$
36 : $P_{1586} = (1, 2, 5, 1)$
37 : $P_{1612} = (11, 3, 5, 1)$
38 : $P_{1630} = (13, 4, 5, 1)$
39 : $P_{1733} = (4, 11, 5, 1)$
40 : $P_{1755} = (10, 12, 5, 1)$
41 : $P_{1779} = (2, 14, 5, 1)$
42 : $P_{1800} = (7, 15, 5, 1)$
43 : $P_{1852} = (11, 2, 6, 1)$
44 : $P_{1866} = (9, 3, 6, 1)$
45 : $P_{1949} = (12, 8, 6, 1)$
46 : $P_{1977} = (8, 10, 6, 1)$
47 : $P_{1988} = (3, 11, 6, 1)$
48 : $P_{2009} = (8, 12, 6, 1)$
49 : $P_{2064} = (15, 15, 6, 1)$
50 : $P_{2126} = (13, 3, 7, 1)$
51 : $P_{2150} = (5, 5, 7, 1)$
52 : $P_{2195} = (2, 8, 7, 1)$
53 : $P_{2220} = (11, 9, 7, 1)$
54 : $P_{2228} = (3, 10, 7, 1)$
55 : $P_{2249} = (8, 11, 7, 1)$
56 : $P_{2276} = (3, 13, 7, 1)$
57 : $P_{2357} = (4, 2, 8, 1)$
58 : $P_{2381} = (12, 3, 8, 1)$
59 : $P_{2386} = (1, 4, 8, 1)$
60 : $P_{2411} = (10, 5, 8, 1)$
61 : $P_{2428} = (11, 6, 8, 1)$
62 : $P_{2472} = (7, 9, 8, 1)$
63 : $P_{2490} = (9, 10, 8, 1)$
64 : $P_{2592} = (15, 0, 9, 1)$
65 : $P_{2608} = (15, 1, 9, 1)$
66 : $P_{2635} = (10, 3, 9, 1)$
67 : $P_{2673} = (0, 6, 9, 1)$
68 : $P_{2727} = (6, 9, 9, 1)$
69 : $P_{2750} = (13, 10, 9, 1)$
70 : $P_{2781} = (12, 12, 9, 1)$
71 : $P_{2783} = (14, 12, 9, 1)$
72 : $P_{2822} = (5, 15, 9, 1)$
73 : $P_{2844} = (11, 0, 10, 1)$

74 : $P_{2861} = (12, 1, 10, 1)$
75 : $P_{2862} = (13, 1, 10, 1)$
76 : $P_{2879} = (14, 2, 10, 1)$
77 : $P_{2981} = (4, 9, 10, 1)$
78 : $P_{2993} = (0, 10, 10, 1)$
79 : $P_{3027} = (2, 12, 10, 1)$
80 : $P_{3031} = (6, 12, 10, 1)$
81 : $P_{3048} = (7, 13, 10, 1)$
82 : $P_{3050} = (9, 13, 10, 1)$
83 : $P_{3099} = (10, 0, 11, 1)$
84 : $P_{3111} = (6, 1, 11, 1)$
85 : $P_{3112} = (7, 1, 11, 1)$
86 : $P_{3155} = (2, 4, 11, 1)$
87 : $P_{3189} = (4, 6, 11, 1)$
88 : $P_{3198} = (13, 6, 11, 1)$
89 : $P_{3213} = (12, 7, 11, 1)$
90 : $P_{3215} = (14, 7, 11, 1)$
91 : $P_{3265} = (0, 11, 11, 1)$
92 : $P_{3322} = (9, 14, 11, 1)$
93 : $P_{3432} = (7, 5, 12, 1)$
94 : $P_{3462} = (5, 7, 12, 1)$
95 : $P_{3481} = (8, 8, 12, 1)$
96 : $P_{3520} = (15, 10, 12, 1)$
97 : $P_{3526} = (5, 11, 12, 1)$
98 : $P_{3579} = (10, 14, 12, 1)$
99 : $P_{3589} = (4, 15, 12, 1)$
100 : $P_{3652} = (3, 3, 13, 1)$
101 : $P_{3675} = (10, 4, 13, 1)$
102 : $P_{3695} = (14, 5, 13, 1)$
103 : $P_{3712} = (15, 6, 13, 1)$
104 : $P_{3766} = (5, 10, 13, 1)$
105 : $P_{3792} = (15, 11, 13, 1)$
106 : $P_{3847} = (6, 15, 13, 1)$
107 : $P_{3860} = (3, 0, 14, 1)$
108 : $P_{3876} = (3, 1, 14, 1)$
109 : $P_{3913} = (8, 3, 14, 1)$
110 : $P_{3948} = (11, 5, 14, 1)$
111 : $P_{3955} = (2, 6, 14, 1)$
112 : $P_{3959} = (6, 6, 14, 1)$
113 : $P_{4040} = (7, 11, 14, 1)$
114 : $P_{4065} = (0, 13, 14, 1)$
115 : $P_{4094} = (13, 14, 14, 1)$
116 : $P_{4186} = (9, 4, 15, 1)$
117 : $P_{4199} = (6, 5, 15, 1)$
118 : $P_{4252} = (11, 8, 15, 1)$
119 : $P_{4258} = (1, 9, 15, 1)$
120 : $P_{4303} = (14, 11, 15, 1)$
121 : $P_{4331} = (10, 13, 15, 1)$
122 : $P_{4349} = (12, 14, 15, 1)$

Line Intersection Graph

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

Neighbor sets in the line intersection graph:

Line 0 intersects

Line	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_7	ℓ_{10}	ℓ_{14}
in point	P_2	P_2	P_2	P_2	P_2	P_{2888}	P_{584}	P_{4168}

Line 1 intersects

Line	ℓ_0	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_8	ℓ_{12}	ℓ_{14}
in point	P_2	P_2	P_2	P_2	P_2	P_{1133}	P_{621}	P_{3181}

Line 2 intersects

Line	ℓ_0	ℓ_1	ℓ_3	ℓ_4	ℓ_5	ℓ_8	ℓ_9	ℓ_{13}
in point	P_2	P_2	P_2	P_2	P_2	P_{2967}	P_{663}	P_{1687}

Line 3 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_4	ℓ_5	ℓ_6	ℓ_{11}	ℓ_{12}
in point	P_2	P_2	P_2	P_2	P_2	P_{3004}	P_{2492}	P_{1212}

Line 4 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_5	ℓ_6	ℓ_9	ℓ_{10}
in point	P_2	P_2	P_2	P_2	P_2	P_{3275}	P_{1739}	P_{4299}

Line 5 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_7	ℓ_{11}	ℓ_{13}
in point	P_2	P_2	P_2	P_2	P_2	P_{2574}	P_{782}	P_{3342}

Line 6 intersects

Line	ℓ_3	ℓ_4	ℓ_7	ℓ_8	ℓ_{13}	ℓ_{14}
in point	P_{3004}	P_{3275}	P_{2729}	P_{820}	P_{1366}	P_{4096}

Line 7 intersects

Line	ℓ_0	ℓ_5	ℓ_6	ℓ_8	ℓ_9	ℓ_{12}
in point	P_{2888}	P_{2574}	P_{2729}	P_{716}	P_{2173}	P_{805}

Line 8 intersects

Line	ℓ_1	ℓ_2	ℓ_6	ℓ_7	ℓ_{10}	ℓ_{11}
in point	P_{1133}	P_{2967}	P_{820}	P_{716}	P_{1934}	P_{2607}

Line 9 intersects

Line	ℓ_2	ℓ_4	ℓ_7	ℓ_{11}	ℓ_{12}	ℓ_{14}
in point	P_{663}	P_{1739}	P_{2173}	P_{2016}	P_{3465}	P_{1322}

Line 10 intersects

Line	ℓ_0	ℓ_4	ℓ_8	ℓ_{11}	ℓ_{12}	ℓ_{13}
in point	P_{584}	P_{4299}	P_{1934}	P_{3700}	P_{2278}	P_{3875}

Line 11 intersects

Line	ℓ_3	ℓ_5	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{14}
in point	P_{2492}	P_{782}	P_{2607}	P_{2016}	P_{3700}	P_{3559}

Line 12 intersects

Line	ℓ_1	ℓ_3	ℓ_7	ℓ_9	ℓ_{10}	ℓ_{13}
in point	P_{621}	P_{1212}	P_{805}	P_{3465}	P_{2278}	P_{3800}

Line 13 intersects

Line	ℓ_2	ℓ_5	ℓ_6	ℓ_{10}	ℓ_{12}	ℓ_{14}
in point	P_{1687}	P_{3342}	P_{1366}	P_{3875}	P_{3800}	P_{699}

Line 14 intersects

Line	ℓ_0	ℓ_1	ℓ_6	ℓ_9	ℓ_{11}	ℓ_{13}
in point	P_{4168}	P_{3181}	P_{4096}	P_{1322}	P_{3559}	P_{699}

The surface has 337 points:
The points on the surface are:

$0: P_0 = (1,0,0,0)$
$1: P_1 = (0,1,0,0)$
$2: P_2 = (0,0,1,0)$
$3: P_4 = (1,1,1,1)$
$4: P_{36} = (1,1,1,0)$
$5: P_{120} = (5,6,1,0)$
$6: P_{125} = (10,6,1,0)$
$7: P_{141} = (10,7,1,0)$
$8: P_{146} = (15,7,1,0)$
$9: P_{182} = (3,10,1,0)$
$10: P_{187} = (8,10,1,0)$
$11: P_{200} = (5,11,1,0)$
$12: P_{210} = (15,11,1,0)$
$13: P_{214} = (3,12,1,0)$
$14: P_{222} = (11,12,1,0)$
$15: P_{235} = (8,13,1,0)$
$16: P_{238} = (11,13,1,0)$
$17: P_{275} = (1,0,0,1)$
$18: P_{311} = (5,2,0,1)$
$19: P_{329} = (7,3,0,1)$
$20: P_{346} = (8,4,0,1)$
$21: P_{366} = (12,5,0,1)$
$22: P_{379} = (9,6,0,1)$
$23: P_{388} = (2,7,0,1)$
$24: P_{408} = (6,8,0,1)$
$25: P_{433} = (15,9,0,1)$
$26: P_{445} = (11,10,0,1)$
$27: P_{460} = (10,11,0,1)$
$28: P_{470} = (4,12,0,1)$
$29: P_{496} = (14,13,0,1)$

30 : $P_{501} = (3, 14, 0, 1)$
31 : $P_{527} = (13, 15, 0, 1)$
32 : $P_{546} = (0, 1, 1, 1)$
33 : $P_{583} = (6, 3, 1, 1)$
34 : $P_{584} = (7, 3, 1, 1)$
35 : $P_{621} = (12, 5, 1, 1)$
36 : $P_{622} = (13, 5, 1, 1)$
37 : $P_{663} = (6, 8, 1, 1)$
38 : $P_{664} = (7, 8, 1, 1)$
39 : $P_{699} = (10, 10, 1, 1)$
40 : $P_{700} = (11, 10, 1, 1)$
41 : $P_{715} = (10, 11, 1, 1)$
42 : $P_{716} = (11, 11, 1, 1)$
43 : $P_{781} = (12, 15, 1, 1)$
44 : $P_{782} = (13, 15, 1, 1)$
45 : $P_{790} = (5, 0, 2, 1)$
46 : $P_{805} = (4, 1, 2, 1)$
47 : $P_{806} = (5, 1, 2, 1)$
48 : $P_{820} = (3, 2, 2, 1)$
49 : $P_{824} = (7, 2, 2, 1)$
50 : $P_{840} = (7, 3, 2, 1)$
51 : $P_{855} = (6, 4, 2, 1)$
52 : $P_{860} = (11, 4, 2, 1)$
53 : $P_{877} = (12, 5, 2, 1)$
54 : $P_{880} = (15, 5, 2, 1)$
55 : $P_{897} = (0, 7, 2, 1)$
56 : $P_{912} = (15, 7, 2, 1)$
57 : $P_{919} = (6, 8, 2, 1)$
58 : $P_{923} = (10, 8, 2, 1)$
59 : $P_{956} = (11, 10, 2, 1)$
60 : $P_{957} = (12, 10, 2, 1)$
61 : $P_{963} = (2, 11, 2, 1)$
62 : $P_{971} = (10, 11, 2, 1)$
63 : $P_{997} = (4, 13, 2, 1)$
64 : $P_{1006} = (13, 13, 2, 1)$
65 : $P_{1028} = (3, 15, 2, 1)$
66 : $P_{1038} = (13, 15, 2, 1)$
67 : $P_{1048} = (7, 0, 3, 1)$
68 : $P_{1079} = (6, 2, 3, 1)$
69 : $P_{1091} = (2, 3, 3, 1)$
70 : $P_{1096} = (7, 3, 3, 1)$
71 : $P_{1121} = (0, 5, 3, 1)$
72 : $P_{1133} = (12, 5, 3, 1)$
73 : $P_{1154} = (1, 7, 3, 1)$
74 : $P_{1164} = (11, 7, 3, 1)$
75 : $P_{1175} = (6, 8, 3, 1)$
76 : $P_{1182} = (13, 8, 3, 1)$
77 : $P_{1188} = (3, 9, 3, 1)$
78 : $P_{1199} = (14, 9, 3, 1)$
79 : $P_{1203} = (2, 10, 3, 1)$
80 : $P_{1212} = (11, 10, 3, 1)$
81 : $P_{1227} = (10, 11, 3, 1)$
82 : $P_{1229} = (12, 11, 3, 1)$
83 : $P_{1266} = (1, 14, 3, 1)$
84 : $P_{1279} = (14, 14, 3, 1)$
85 : $P_{1291} = (10, 15, 3, 1)$
86 : $P_{1294} = (13, 15, 3, 1)$
87 : $P_{1305} = (8, 0, 4, 1)$
88 : $P_{1321} = (8, 1, 4, 1)$
89 : $P_{1322} = (9, 1, 4, 1)$
90 : $P_{1350} = (5, 3, 4, 1)$
91 : $P_{1352} = (7, 3, 4, 1)$
92 : $P_{1366} = (5, 4, 4, 1)$
93 : $P_{1373} = (12, 4, 4, 1)$
94 : $P_{1389} = (12, 5, 4, 1)$
95 : $P_{1416} = (7, 7, 4, 1)$
96 : $P_{1418} = (9, 7, 4, 1)$
97 : $P_{1428} = (3, 8, 4, 1)$
98 : $P_{1431} = (6, 8, 4, 1)$
99 : $P_{1451} = (10, 9, 4, 1)$
100 : $P_{1454} = (13, 9, 4, 1)$
101 : $P_{1461} = (4, 10, 4, 1)$
102 : $P_{1468} = (11, 10, 4, 1)$
103 : $P_{1479} = (6, 11, 4, 1)$
104 : $P_{1483} = (10, 11, 4, 1)$
105 : $P_{1489} = (0, 12, 4, 1)$
106 : $P_{1492} = (3, 12, 4, 1)$
107 : $P_{1548} = (11, 15, 4, 1)$
108 : $P_{1550} = (13, 15, 4, 1)$
109 : $P_{1565} = (12, 0, 5, 1)$
110 : $P_{1586} = (1, 2, 5, 1)$
111 : $P_{1587} = (2, 2, 5, 1)$
112 : $P_{1608} = (7, 3, 5, 1)$
113 : $P_{1612} = (11, 3, 5, 1)$
114 : $P_{1630} = (13, 4, 5, 1)$
115 : $P_{1637} = (4, 5, 5, 1)$
116 : $P_{1645} = (12, 5, 5, 1)$
117 : $P_{1681} = (0, 8, 5, 1)$
118 : $P_{1687} = (6, 8, 5, 1)$
119 : $P_{1719} = (6, 10, 5, 1)$
120 : $P_{1724} = (11, 10, 5, 1)$
121 : $P_{1733} = (4, 11, 5, 1)$
122 : $P_{1739} = (10, 11, 5, 1)$
123 : $P_{1746} = (1, 12, 5, 1)$
124 : $P_{1755} = (10, 12, 5, 1)$
125 : $P_{1779} = (2, 14, 5, 1)$
126 : $P_{1782} = (5, 14, 5, 1)$
127 : $P_{1800} = (7, 15, 5, 1)$
128 : $P_{1806} = (13, 15, 5, 1)$
129 : $P_{1818} = (9, 0, 6, 1)$
130 : $P_{1841} = (0, 2, 6, 1)$
131 : $P_{1852} = (11, 2, 6, 1)$
132 : $P_{1864} = (7, 3, 6, 1)$
133 : $P_{1866} = (9, 3, 6, 1)$
134 : $P_{1892} = (3, 5, 6, 1)$
135 : $P_{1901} = (12, 5, 6, 1)$
136 : $P_{1912} = (7, 6, 6, 1)$
137 : $P_{1915} = (10, 6, 6, 1)$
138 : $P_{1934} = (13, 7, 6, 1)$
139 : $P_{1943} = (6, 8, 6, 1)$
140 : $P_{1949} = (12, 8, 6, 1)$
141 : $P_{1977} = (8, 10, 6, 1)$
142 : $P_{1980} = (11, 10, 6, 1)$
143 : $P_{1988} = (3, 11, 6, 1)$
144 : $P_{1995} = (10, 11, 6, 1)$
145 : $P_{2009} = (8, 12, 6, 1)$
146 : $P_{2016} = (15, 12, 6, 1)$
147 : $P_{2062} = (13, 15, 6, 1)$
148 : $P_{2064} = (15, 15, 6, 1)$
149 : $P_{2067} = (2, 0, 7, 1)$
150 : $P_{2120} = (7, 3, 7, 1)$
151 : $P_{2126} = (13, 3, 7, 1)$
152 : $P_{2150} = (5, 5, 7, 1)$
153 : $P_{2157} = (12, 5, 7, 1)$
154 : $P_{2173} = (12, 6, 7, 1)$
155 : $P_{2183} = (6, 7, 7, 1)$
156 : $P_{2187} = (10, 7, 7, 1)$
157 : $P_{2195} = (2, 8, 7, 1)$
158 : $P_{2199} = (6, 8, 7, 1)$
159 : $P_{2209} = (0, 9, 7, 1)$
160 : $P_{2220} = (11, 9, 7, 1)$
161 : $P_{2228} = (3, 10, 7, 1)$
162 : $P_{2236} = (11, 10, 7, 1)$
163 : $P_{2249} = (8, 11, 7, 1)$
164 : $P_{2251} = (10, 11, 7, 1)$
165 : $P_{2276} = (3, 13, 7, 1)$
166 : $P_{2278} = (5, 13, 7, 1)$
167 : $P_{2313} = (8, 15, 7, 1)$
168 : $P_{2318} = (13, 15, 7, 1)$
169 : $P_{2327} = (6, 0, 8, 1)$
170 : $P_{2357} = (4, 2, 8, 1)$
171 : $P_{2361} = (8, 2, 8, 1)$
172 : $P_{2376} = (7, 3, 8, 1)$
173 : $P_{2381} = (12, 3, 8, 1)$
174 : $P_{2386} = (1, 4, 8, 1)$
175 : $P_{2389} = (4, 4, 8, 1)$
176 : $P_{2411} = (10, 5, 8, 1)$
177 : $P_{2413} = (12, 5, 8, 1)$
178 : $P_{2418} = (1, 6, 8, 1)$
179 : $P_{2428} = (11, 6, 8, 1)$
180 : $P_{2455} = (6, 8, 8, 1)$
181 : $P_{2458} = (9, 8, 8, 1)$
182 : $P_{2472} = (7, 9, 8, 1)$
183 : $P_{2490} = (9, 10, 8, 1)$
184 : $P_{2492} = (11, 10, 8, 1)$
185 : $P_{2507} = (10, 11, 8, 1)$
186 : $P_{2510} = (13, 11, 8, 1)$
187 : $P_{2561} = (0, 15, 8, 1)$
188 : $P_{2574} = (13, 15, 8, 1)$
189 : $P_{2592} = (15, 0, 9, 1)$
190 : $P_{2607} = (14, 1, 9, 1)$
191 : $P_{2608} = (15, 1, 9, 1)$

192 : $P_{2632} = (7, 3, 9, 1)$
193 : $P_{2635} = (10, 3, 9, 1)$
194 : $P_{2665} = (8, 5, 9, 1)$
195 : $P_{2669} = (12, 5, 9, 1)$
196 : $P_{2673} = (0, 6, 9, 1)$
197 : $P_{2678} = (5, 6, 9, 1)$
198 : $P_{2711} = (6, 8, 9, 1)$
199 : $P_{2727} = (6, 9, 9, 1)$
200 : $P_{2729} = (8, 9, 9, 1)$
201 : $P_{2748} = (11, 10, 9, 1)$
202 : $P_{2750} = (13, 10, 9, 1)$
203 : $P_{2762} = (9, 11, 9, 1)$
204 : $P_{2763} = (10, 11, 9, 1)$
205 : $P_{2781} = (12, 12, 9, 1)$
206 : $P_{2783} = (14, 12, 9, 1)$
207 : $P_{2808} = (7, 14, 9, 1)$
208 : $P_{2812} = (11, 14, 9, 1)$
209 : $P_{2822} = (5, 15, 9, 1)$
210 : $P_{2830} = (13, 15, 9, 1)$
211 : $P_{2844} = (11, 0, 10, 1)$
212 : $P_{2861} = (12, 1, 10, 1)$
213 : $P_{2862} = (13, 1, 10, 1)$
214 : $P_{2874} = (9, 2, 10, 1)$
215 : $P_{2879} = (14, 2, 10, 1)$
216 : $P_{2888} = (7, 3, 10, 1)$
217 : $P_{2895} = (14, 3, 10, 1)$
218 : $P_{2914} = (1, 5, 10, 1)$
219 : $P_{2925} = (12, 5, 10, 1)$
220 : $P_{2965} = (4, 8, 10, 1)$
221 : $P_{2967} = (6, 8, 10, 1)$
222 : $P_{2979} = (2, 9, 10, 1)$
223 : $P_{2981} = (4, 9, 10, 1)$
224 : $P_{2993} = (0, 10, 10, 1)$
225 : $P_{3004} = (11, 10, 10, 1)$
226 : $P_{3019} = (10, 11, 10, 1)$
227 : $P_{3027} = (2, 12, 10, 1)$
228 : $P_{3031} = (6, 12, 10, 1)$
229 : $P_{3048} = (7, 13, 10, 1)$
230 : $P_{3050} = (9, 13, 10, 1)$
231 : $P_{3074} = (1, 15, 10, 1)$
232 : $P_{3086} = (13, 15, 10, 1)$
233 : $P_{3099} = (10, 0, 11, 1)$
234 : $P_{3111} = (6, 1, 11, 1)$
235 : $P_{3112} = (7, 1, 11, 1)$
236 : $P_{3138} = (1, 3, 11, 1)$
237 : $P_{3144} = (7, 3, 11, 1)$
238 : $P_{3155} = (2, 4, 11, 1)$
239 : $P_{3167} = (14, 4, 11, 1)$
240 : $P_{3171} = (2, 5, 11, 1)$
241 : $P_{3181} = (12, 5, 11, 1)$
242 : $P_{3189} = (4, 6, 11, 1)$
243 : $P_{3198} = (13, 6, 11, 1)$
244 : $P_{3213} = (12, 7, 11, 1)$
245 : $P_{3215} = (14, 7, 11, 1)$
246 : $P_{3218} = (1, 8, 11, 1)$
247 : $P_{3223} = (6, 8, 11, 1)$
248 : $P_{3260} = (11, 10, 11, 1)$
249 : $P_{3265} = (0, 11, 11, 1)$
250 : $P_{3275} = (10, 11, 11, 1)$
251 : $P_{3317} = (4, 14, 11, 1)$
252 : $P_{3322} = (9, 14, 11, 1)$
253 : $P_{3338} = (9, 15, 11, 1)$
254 : $P_{3342} = (13, 15, 11, 1)$
255 : $P_{3349} = (4, 0, 12, 1)$
256 : $P_{3400} = (7, 3, 12, 1)$
257 : $P_{3408} = (15, 3, 12, 1)$
258 : $P_{3432} = (7, 5, 12, 1)$
259 : $P_{3437} = (12, 5, 12, 1)$
260 : $P_{3462} = (5, 7, 12, 1)$
261 : $P_{3465} = (8, 7, 12, 1)$
262 : $P_{3479} = (6, 8, 12, 1)$
263 : $P_{3481} = (8, 8, 12, 1)$
264 : $P_{3516} = (11, 10, 12, 1)$
265 : $P_{3520} = (15, 10, 12, 1)$
266 : $P_{3526} = (5, 11, 12, 1)$
267 : $P_{3531} = (10, 11, 12, 1)$
268 : $P_{3548} = (11, 12, 12, 1)$
269 : $P_{3550} = (13, 12, 12, 1)$
270 : $P_{3559} = (6, 13, 12, 1)$
271 : $P_{3569} = (0, 14, 12, 1)$
272 : $P_{3579} = (10, 14, 12, 1)$
273 : $P_{3589} = (4, 15, 12, 1)$
274 : $P_{3598} = (13, 15, 12, 1)$
275 : $P_{3615} = (14, 0, 13, 1)$
276 : $P_{3652} = (3, 3, 13, 1)$
277 : $P_{3656} = (7, 3, 13, 1)$
278 : $P_{3665} = (0, 4, 13, 1)$
279 : $P_{3675} = (10, 4, 13, 1)$
280 : $P_{3693} = (12, 5, 13, 1)$
281 : $P_{3695} = (14, 5, 13, 1)$
282 : $P_{3700} = (3, 6, 13, 1)$
283 : $P_{3712} = (15, 6, 13, 1)$
284 : $P_{3734} = (5, 8, 13, 1)$
285 : $P_{3735} = (6, 8, 13, 1)$
286 : $P_{3766} = (5, 10, 13, 1)$
287 : $P_{3772} = (11, 10, 13, 1)$
288 : $P_{3787} = (10, 11, 13, 1)$
289 : $P_{3792} = (15, 11, 13, 1)$
290 : $P_{3800} = (7, 12, 13, 1)$
291 : $P_{3820} = (11, 13, 13, 1)$
292 : $P_{3821} = (12, 13, 13, 1)$
293 : $P_{3847} = (6, 15, 13, 1)$
294 : $P_{3854} = (13, 15, 13, 1)$
295 : $P_{3860} = (3, 0, 14, 1)$
296 : $P_{3875} = (2, 1, 14, 1)$
297 : $P_{3876} = (3, 1, 14, 1)$
298 : $P_{3899} = (10, 2, 14, 1)$
299 : $P_{3901} = (12, 2, 14, 1)$
300 : $P_{3912} = (7, 3, 14, 1)$
301 : $P_{3913} = (8, 3, 14, 1)$
302 : $P_{3948} = (11, 5, 14, 1)$
303 : $P_{3949} = (12, 5, 14, 1)$
304 : $P_{3955} = (2, 6, 14, 1)$
305 : $P_{3959} = (6, 6, 14, 1)$
306 : $P_{3991} = (6, 8, 14, 1)$
307 : $P_{4000} = (15, 8, 14, 1)$
308 : $P_{4028} = (11, 10, 14, 1)$
309 : $P_{4031} = (14, 10, 14, 1)$
310 : $P_{4040} = (7, 11, 14, 1)$
311 : $P_{4043} = (10, 11, 14, 1)$
312 : $P_{4065} = (0, 13, 14, 1)$
313 : $P_{4073} = (8, 13, 14, 1)$
314 : $P_{4094} = (13, 14, 14, 1)$
315 : $P_{4096} = (15, 14, 14, 1)$
316 : $P_{4110} = (13, 15, 14, 1)$
317 : $P_{4126} = (13, 0, 15, 1)$
318 : $P_{4161} = (0, 3, 15, 1)$
319 : $P_{4168} = (7, 3, 15, 1)$
320 : $P_{4186} = (9, 4, 15, 1)$
321 : $P_{4192} = (15, 4, 15, 1)$
322 : $P_{4199} = (6, 5, 15, 1)$
323 : $P_{4205} = (12, 5, 15, 1)$
324 : $P_{4247} = (6, 8, 15, 1)$
325 : $P_{4252} = (11, 8, 15, 1)$
326 : $P_{4258} = (1, 9, 15, 1)$
327 : $P_{4266} = (9, 9, 15, 1)$
328 : $P_{4280} = (7, 10, 15, 1)$
329 : $P_{4284} = (11, 10, 15, 1)$
330 : $P_{4299} = (10, 11, 15, 1)$
331 : $P_{4303} = (14, 11, 15, 1)$
332 : $P_{4322} = (1, 13, 15, 1)$
333 : $P_{4331} = (10, 13, 15, 1)$
334 : $P_{4349} = (12, 14, 15, 1)$
335 : $P_{4366} = (13, 15, 15, 1)$
336 : $P_{4367} = (14, 15, 15, 1)$