Rank-65605 over GF(16)

January 15, 2021

The equation

The equation of the surface is :

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

(0, 1, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0)
The point rank of the equation over GF(16) is 303108389

General information

Number of lines	17
Number of points	273
Number of singular points	17
Number of Eckardt points	0
Number of double points	16
Number of single points	257
Number of points off lines	0
Number of Hesse planes	0
Number of axes	0
Type of points on lines	17^{17}
Type of lines on points	2^{16}, 1^{257}

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 17 Lines

The lines and their Pluecker coordinates are:

$$\ell_0 = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{256} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{256} = \mathbf{Pl}(0,0,1,0,0,0)_2$$

$$\ell_1 = \begin{bmatrix} 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{70160} = \begin{bmatrix} 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{70160} = \mathbf{Pl}(0,1,0,0,0,0)_1$$

$$\ell_2 = \begin{bmatrix} 1 & 1 & 0 & 1 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{4898} = \begin{bmatrix} 1 & 1 & 0 & 1 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{4898} = \mathbf{Pl}(0,1,1,1,1,1)_{9442}$$

$$\ell_3 = \begin{bmatrix} 1 & \delta^{14} & 0 & \delta^{12} \\ 0 & 0 & 1 & \delta^{14} \end{bmatrix}_{16648} = \begin{bmatrix} 1 & 12 & 0 & 3 \\ 0 & 0 & 1 & 12 \end{bmatrix}_{16648} = \mathbf{Pl}(0,6,2,12,1,1)_{9478}$$

$$\ell_4 = \begin{bmatrix} 1 & \delta^{3} & 0 & \delta^{9} \\ 0 & 0 & 1 & \delta^{3} \end{bmatrix}_{24288} = \begin{bmatrix} 1 & 8 & 0 & 5 \\ 0 & 0 & 1 & 8 \end{bmatrix}_{24288} = \mathbf{Pl}(0,15,3,8,1,1)_{9518}$$

$$\ell_5 = \begin{bmatrix} 1 & \delta^{13} & 0 & \delta^{9} \\ 0 & 0 & 1 & \delta^{13} \end{bmatrix}_{23740} = \begin{bmatrix} 1 & 6 & 0 & 5 \\ 0 & 0 & 1 & 6 \end{bmatrix}_{23740} = \mathbf{Pl}(0,13,4,6,1,1)_{9547}$$

$$\ell_6 = \begin{bmatrix} 1 & \delta^{6} & 0 & \delta^{3} \\ 0 & 0 & 1 & \delta^{6} \end{bmatrix}_{39310} = \begin{bmatrix} 1 & 15 & 0 & 8 \\ 0 & 0 & 1 & 15 \end{bmatrix}_{39310} = \mathbf{Pl}(0,3,5,15,1,1)_{9568}$$

$$\ell_7 = \begin{bmatrix} 1 & \delta^{2} & 0 & \delta^{6} \\ 0 & 0 & 1 & \delta^{2} \end{bmatrix}_{66872} = \begin{bmatrix} 1 & 4 & 0 & 15 \\ 0 & 0 & 1 & 4 \end{bmatrix}_{66872} = \mathbf{Pl}(0,9,6,4,1,1)_{9605}$$

$$\ell_8 = \begin{bmatrix} 1 & \delta^{8} & 0 & \delta^{9} \\ 0 & 0 & 1 & \delta^{8} \end{bmatrix}_{25932} = \begin{bmatrix} 1 & 14 & 0 & 5 \\ 0 & 0 & 1 & 14 \end{bmatrix}_{25932} = \mathbf{Pl}(0,2,7,14,1,1)_{9629}$$

$$\ell_9 = \begin{bmatrix} 1 & \delta^{12} & 0 & \delta^{6} \\ 0 & 0 & 1 & \delta^{12} \end{bmatrix}_{66598} = \begin{bmatrix} 1 & 3 & 0 & 15 \\ 0 & 0 & 1 & 3 \end{bmatrix}_{66598} = \mathbf{Pl}(0,5,8,3,1,1)_{9663}$$

$$\ell_{10} = \begin{bmatrix} 1 & \delta^{11} & 0 & \delta^{3} \\ 0 & 0 & 1 & \delta^{11} \end{bmatrix}_{38762} = \begin{bmatrix} 1 & 13 & 0 & 8 \\ 0 & 0 & 1 & 13 \end{bmatrix}_{38762} = \mathbf{Pl}(0,7,9,13,1,1)_{9696}$$

$$\ell_{11} = \begin{bmatrix} 1 & \delta^{5} & 0 & 1 \\ 0 & 0 & 1 & \delta^{5} \end{bmatrix}_{7638} = \begin{bmatrix} 1 & 11 & 0 & 1 \\ 0 & 0 & 1 & 11 \end{bmatrix}_{7638} = \mathbf{Pl}(0,10,10,11,1,1)_{9730}$$

$$\ell_{12} = \begin{bmatrix} 1 & \delta^{10} & 0 & 1 \\ 0 & 0 & 1 & \delta^{10} \end{bmatrix}_{7364} = \begin{bmatrix} 1 & 10 & 0 & 1 \\ 0 & 0 & 1 & 10 \end{bmatrix}_{7364} = \mathbf{Pl}(0,11,11,10,1,1)_{9762}$$

$$\ell_{13} = \begin{bmatrix} 1 & \delta & 0 & \delta^{3} \\ 0 & 0 & 1 & \delta \end{bmatrix}_{35748} = \begin{bmatrix} 1 & 2 & 0 & 8 \\ 0 & 0 & 1 & 2 \end{bmatrix}_{35748} = \mathbf{Pl}(0,4,12,2,1,1)_{9786}$$

$$\ell_{14} = \begin{bmatrix} 1 & \delta^{4} & 0 & \delta^{12} \\ 0 & 0 & 1 & \delta^{4} \end{bmatrix}_{15826} = \begin{bmatrix} 1 & 9 & 0 & 3 \\ 0 & 0 & 1 & 9 \end{bmatrix}_{15826} = \mathbf{Pl}(0,14,13,9,1,1)_{9827}$$

$$\ell_{15} = \begin{bmatrix} 1 & \delta^{7} & 0 & \delta^{6} \\ 0 & 0 & 1 & \delta^{7} \end{bmatrix}_{67694} = \begin{bmatrix} 1 & 7 & 0 & 15 \\ 0 & 0 & 1 & 7 \end{bmatrix}_{67694} = \mathbf{Pl}(0,12,14,7,1,1)_{9856}$$

$$\ell_{16} = \begin{bmatrix} 1 & \delta^{9} & 0 & \delta^{12} \\ 0 & 0 & 1 & \delta^{9} \end{bmatrix}_{14730} = \begin{bmatrix} 1 & 5 & 0 & 3 \\ 0 & 0 & 1 & 5 \end{bmatrix}_{14730} = \mathbf{Pl}(0,8,15,5,1,1)_{9883}$$

Rank of lines: (256, 70160, 4898, 16648, 24288, 23740, 39310, 66872, 25932, 66598, 38762, 7638, 7364, 35748, 15826, 67694, 14730)
Rank of points on Klein quadric: (2, 1, 9442, 9478, 9518, 9547, 9568, 9605, 9629, 9663, 9696, 9730, 9762, 9786, 9827, 9856, 9883)

Eckardt Points

The surface has 0 Eckardt points:

Double Points

The surface has 16 Double points:
The double points on the surface are:

$P_{2} = (0,0,1,0) = \ell_0 \cap \ell_1$
$P_{530} = (0,0,1,1) = \ell_1 \cap \ell_2$
$P_{785} = (0,0,2,1) = \ell_1 \cap \ell_3$
$P_{1041} = (0,0,3,1) = \ell_1 \cap \ell_4$
$P_{1297} = (0,0,4,1) = \ell_1 \cap \ell_5$
$P_{1553} = (0,0,5,1) = \ell_1 \cap \ell_6$
$P_{1809} = (0,0,6,1) = \ell_1 \cap \ell_7$
$P_{2065} = (0,0,7,1) = \ell_1 \cap \ell_8$
$P_{2321} = (0,0,8,1) = \ell_1 \cap \ell_9$
$P_{2577} = (0,0,9,1) = \ell_1 \cap \ell_{10}$
$P_{2833} = (0,0,10,1) = \ell_1 \cap \ell_{11}$
$P_{3089} = (0,0,11,1) = \ell_1 \cap \ell_{12}$
$P_{3345} = (0,0,12,1) = \ell_1 \cap \ell_{13}$
$P_{3601} = (0,0,13,1) = \ell_1 \cap \ell_{14}$
$P_{3857} = (0,0,14,1) = \ell_1 \cap \ell_{15}$
$P_{4113} = (0,0,15,1) = \ell_1 \cap \ell_{16}$

Single Points

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

$0:\ P_{0} = (1,0,0,0)$ lies on line ℓ_0
$1:\ P_{3} = (0,0,0,1)$ lies on line ℓ_1
$2:\ P_{20} = (1,0,1,0)$ lies on line ℓ_0
$3:\ P_{21} = (2,0,1,0)$ lies on line ℓ_0
$4:\ P_{22} = (3,0,1,0)$ lies on line ℓ_0
$5:\ P_{23} = (4,0,1,0)$ lies on line ℓ_0
$6:\ P_{24} = (5,0,1,0)$ lies on line ℓ_0
$7:\ P_{25} = (6,0,1,0)$ lies on line ℓ_0
$8:\ P_{26} = (7,0,1,0)$ lies on line ℓ_0
$9:\ P_{27} = (8,0,1,0)$ lies on line ℓ_0
$10:\ P_{28} = (9,0,1,0)$ lies on line ℓ_0
$11:\ P_{29} = (10,0,1,0)$ lies on line ℓ_0
$12:\ P_{30} = (11,0,1,0)$ lies on line ℓ_0
$13:\ P_{31} = (12,0,1,0)$ lies on line ℓ_0
$14:\ P_{32} = (13,0,1,0)$ lies on line ℓ_0
$15:\ P_{33} = (14,0,1,0)$ lies on line ℓ_0
$16:\ P_{34} = (15,0,1,0)$ lies on line ℓ_0
$17:\ P_{36} = (1,1,1,0)$ lies on line ℓ_2
$18:\ P_{55} = (4,2,1,0)$ lies on line ℓ_3
$19:\ P_{72} = (5,3,1,0)$ lies on line ℓ_4
$20:\ P_{92} = (9,4,1,0)$ lies on line ℓ_5
$21:\ P_{107} = (8,5,1,0)$ lies on line ℓ_6
$22:\ P_{128} = (13,6,1,0)$ lies on line ℓ_7
$23:\ P_{143} = (12,7,1,0)$ lies on line ℓ_8
$24:\ P_{162} = (15,8,1,0)$ lies on line ℓ_9
$25:\ P_{177} = (14,9,1,0)$ lies on line ℓ_{10}
$26:\ P_{190} = (11,10,1,0)$ lies on line ℓ_{11}
$27:\ P_{205} = (10,11,1,0)$ lies on line ℓ_{12}
$28:\ P_{217} = (6,12,1,0)$ lies on line ℓ_{13}
$29:\ P_{234} = (7,13,1,0)$ lies on line ℓ_{14}
$30:\ P_{245} = (2,14,1,0)$ lies on line ℓ_{15}
$31:\ P_{262} = (3,15,1,0)$ lies on line ℓ_{16}
$32:\ P_{291} = (1,1,0,1)$ lies on line ℓ_2
$33:\ P_{311} = (5,2,0,1)$ lies on line ℓ_{15}
$34:\ P_{330} = (8,3,0,1)$ lies on line ℓ_{16}
$35:\ P_{346} = (8,4,0,1)$ lies on line ℓ_3
$36:\ P_{369} = (15,5,0,1)$ lies on line ℓ_4
$37:\ P_{373} = (3,6,0,1)$ lies on line ℓ_{13}
$38:\ P_{394} = (8,7,0,1)$ lies on line ℓ_{14}
$39:\ P_{405} = (3,8,0,1)$ lies on line ℓ_6
$40:\ P_{433} = (15,9,0,1)$ lies on line ℓ_5
$41:\ P_{435} = (1,10,0,1)$ lies on line ℓ_{12}
$42:\ P_{451} = (1,11,0,1)$ lies on line ℓ_{11}
$43:\ P_{481} = (15,12,0,1)$ lies on line ℓ_8
$44:\ P_{487} = (5,13,0,1)$ lies on line ℓ_7
$45:\ P_{501} = (3,14,0,1)$ lies on line ℓ_{10}
$46:\ P_{519} = (5,15,0,1)$ lies on line ℓ_9
$47:\ P_{555} = (10,1,1,1)$ lies on line ℓ_{11}
$48:\ P_{556} = (11,1,1,1)$ lies on line ℓ_{12}
$49:\ P_{635} = (10,6,1,1)$ lies on line ℓ_4
$50:\ P_{637} = (12,6,1,1)$ lies on line ℓ_3
$51:\ P_{651} = (10,7,1,1)$ lies on line ℓ_9
$52:\ P_{654} = (13,7,1,1)$ lies on line ℓ_{10}
$53:\ P_{694} = (5,10,1,1)$ lies on line ℓ_{13}
$54:\ P_{704} = (15,10,1,1)$ lies on line ℓ_{14}
$55:\ P_{708} = (3,11,1,1)$ lies on line ℓ_8

56 : $P_{713} = (8, 11, 1, 1)$ lies on line ℓ_7
57 : $P_{728} = (7, 12, 1, 1)$ lies on line ℓ_{15}
58 : $P_{732} = (11, 12, 1, 1)$ lies on line ℓ_{16}
59 : $P_{743} = (6, 13, 1, 1)$ lies on line ℓ_5
60 : $P_{748} = (11, 13, 1, 1)$ lies on line ℓ_6
61 : $P_{805} = (4, 1, 2, 1)$ lies on line ℓ_5
62 : $P_{807} = (6, 1, 2, 1)$ lies on line ℓ_7
63 : $P_{827} = (10, 2, 2, 1)$ lies on line ℓ_6
64 : $P_{831} = (14, 2, 2, 1)$ lies on line ℓ_8
65 : $P_{836} = (3, 3, 2, 1)$ lies on line ℓ_2
66 : $P_{838} = (5, 3, 2, 1)$ lies on line ℓ_4
67 : $P_{855} = (6, 4, 2, 1)$ lies on line ℓ_{14}
68 : $P_{863} = (14, 4, 2, 1)$ lies on line ℓ_{16}
69 : $P_{871} = (6, 5, 2, 1)$ lies on line ℓ_{10}
70 : $P_{877} = (12, 5, 2, 1)$ lies on line ℓ_{12}
71 : $P_{883} = (2, 6, 2, 1)$ lies on line ℓ_9
72 : $P_{895} = (14, 6, 2, 1)$ lies on line ℓ_{11}
73 : $P_{898} = (1, 7, 2, 1)$ lies on line ℓ_{15}
74 : $P_{912} = (15, 7, 2, 1)$ lies on line ℓ_{13}
75 : $P_{1075} = (2, 2, 3, 1)$ lies on line ℓ_2
76 : $P_{1077} = (4, 2, 3, 1)$ lies on line ℓ_3
77 : $P_{1123} = (2, 5, 3, 1)$ lies on line ℓ_8
78 : $P_{1134} = (13, 5, 3, 1)$ lies on line ℓ_5
79 : $P_{1155} = (2, 7, 3, 1)$ lies on line ℓ_6
80 : $P_{1164} = (11, 7, 3, 1)$ lies on line ℓ_7
81 : $P_{1186} = (1, 9, 3, 1)$ lies on line ℓ_{14}
82 : $P_{1188} = (3, 9, 3, 1)$ lies on line ℓ_{15}
83 : $P_{1226} = (9, 11, 3, 1)$ lies on line ℓ_{13}
84 : $P_{1230} = (13, 11, 3, 1)$ lies on line ℓ_{16}
85 : $P_{1238} = (5, 12, 3, 1)$ lies on line ℓ_{11}
86 : $P_{1241} = (8, 12, 3, 1)$ lies on line ℓ_{10}
87 : $P_{1271} = (6, 14, 3, 1)$ lies on line ℓ_{12}
88 : $P_{1278} = (13, 14, 3, 1)$ lies on line ℓ_9
89 : $P_{1322} = (9, 1, 4, 1)$ lies on line ℓ_{10}
90 : $P_{1326} = (13, 1, 4, 1)$ lies on line ℓ_{14}
91 : $P_{1363} = (2, 4, 4, 1)$ lies on line ℓ_{13}
92 : $P_{1372} = (11, 4, 4, 1)$ lies on line ℓ_9
93 : $P_{1382} = (5, 5, 4, 1)$ lies on line ℓ_2
94 : $P_{1385} = (8, 5, 4, 1)$ lies on line ℓ_6
95 : $P_{1431} = (6, 8, 4, 1)$ lies on line ℓ_{11}
96 : $P_{1438} = (13, 8, 4, 1)$ lies on line ℓ_{15}
97 : $P_{1443} = (2, 9, 4, 1)$ lies on line ℓ_4
98 : $P_{1454} = (13, 9, 4, 1)$ lies on line ℓ_8
99 : $P_{1490} = (1, 12, 4, 1)$ lies on line ℓ_3
100 : $P_{1492} = (3, 12, 4, 1)$ lies on line ℓ_7
101 : $P_{1507} = (2, 13, 4, 1)$ lies on line ℓ_{12}
102 : $P_{1509} = (4, 13, 4, 1)$ lies on line ℓ_{16}
103 : $P_{1592} = (7, 2, 5, 1)$ lies on line ℓ_{16}
104 : $P_{1598} = (13, 2, 5, 1)$ lies on line ℓ_{11}
105 : $P_{1621} = (4, 4, 5, 1)$ lies on line ℓ_2
106 : $P_{1626} = (9, 4, 5, 1)$ lies on line ℓ_5
107 : $P_{1657} = (8, 6, 5, 1)$ lies on line ℓ_{12}
108 : $P_{1664} = (15, 6, 5, 1)$ lies on line ℓ_{15}
109 : $P_{1685} = (4, 8, 5, 1)$ lies on line ℓ_{13}
110 : $P_{1688} = (7, 8, 5, 1)$ lies on line ℓ_{10}
111 : $P_{1720} = (7, 10, 5, 1)$ lies on line ℓ_4
112 : $P_{1727} = (14, 10, 5, 1)$ lies on line ℓ_7
113 : $P_{1749} = (4, 12, 5, 1)$ lies on line ℓ_9
114 : $P_{1755} = (10, 12, 5, 1)$ lies on line ℓ_{14}
115 : $P_{1778} = (1, 14, 5, 1)$ lies on line ℓ_8
116 : $P_{1782} = (5, 14, 5, 1)$ lies on line ℓ_3
117 : $P_{1844} = (3, 2, 6, 1)$ lies on line ℓ_{14}
118 : $P_{1856} = (15, 2, 6, 1)$ lies on line ℓ_{12}
119 : $P_{1898} = (9, 5, 6, 1)$ lies on line ℓ_{11}
120 : $P_{1903} = (14, 5, 6, 1)$ lies on line ℓ_{13}
121 : $P_{1928} = (7, 7, 6, 1)$ lies on line ℓ_2
122 : $P_{1933} = (12, 7, 6, 1)$ lies on line ℓ_8
123 : $P_{1946} = (9, 8, 6, 1)$ lies on line ℓ_3
124 : $P_{1948} = (11, 8, 6, 1)$ lies on line ℓ_5
125 : $P_{1971} = (2, 10, 6, 1)$ lies on line ℓ_{16}
126 : $P_{1981} = (12, 10, 6, 1)$ lies on line ℓ_{10}
127 : $P_{2026} = (9, 13, 6, 1)$ lies on line ℓ_{15}
128 : $P_{2029} = (12, 13, 6, 1)$ lies on line ℓ_9
129 : $P_{2050} = (1, 15, 6, 1)$ lies on line ℓ_6
130 : $P_{2057} = (8, 15, 6, 1)$ lies on line ℓ_4
131 : $P_{2115} = (2, 3, 7, 1)$ lies on line ℓ_{10}
132 : $P_{2124} = (11, 3, 7, 1)$ lies on line ℓ_{15}
133 : $P_{2146} = (1, 5, 7, 1)$ lies on line ℓ_{16}
134 : $P_{2148} = (3, 5, 7, 1)$ lies on line ℓ_9
135 : $P_{2167} = (6, 6, 7, 1)$ lies on line ℓ_2
136 : $P_{2174} = (13, 6, 7, 1)$ lies on line ℓ_7
137 : $P_{2214} = (5, 9, 7, 1)$ lies on line ℓ_{12}
138 : $P_{2217} = (8, 9, 7, 1)$ lies on line ℓ_{13}
139 : $P_{2234} = (9, 10, 7, 1)$ lies on line ℓ_6
140 : $P_{2238} = (13, 10, 7, 1)$ lies on line ℓ_3
141 : $P_{2259} = (2, 12, 7, 1)$ lies on line ℓ_5
142 : $P_{2270} = (13, 12, 7, 1)$ lies on line ℓ_4
143 : $P_{2307} = (2, 15, 7, 1)$ lies on line ℓ_{11}
144 : $P_{2309} = (4, 15, 7, 1)$ lies on line ℓ_{14}
145 : $P_{2354} = (1, 2, 8, 1)$ lies on line ℓ_{13}
146 : $P_{2361} = (8, 2, 8, 1)$ lies on line ℓ_5
147 : $P_{2392} = (7, 4, 8, 1)$ lies on line ℓ_{12}
148 : $P_{2397} = (12, 4, 8, 1)$ lies on line ℓ_4
149 : $P_{2426} = (9, 6, 8, 1)$ lies on line ℓ_{16}
150 : $P_{2428} = (11, 6, 8, 1)$ lies on line ℓ_8
151 : $P_{2474} = (9, 9, 8, 1)$ lies on line ℓ_2
152 : $P_{2479} = (14, 9, 8, 1)$ lies on line ℓ_{10}
153 : $P_{2499} = (2, 11, 8, 1)$ lies on line ℓ_{14}
154 : $P_{2509} = (12, 11, 8, 1)$ lies on line ℓ_6
155 : $P_{2532} = (3, 13, 8, 1)$ lies on line ℓ_3
156 : $P_{2544} = (15, 13, 8, 1)$ lies on line ℓ_{11}
157 : $P_{2570} = (9, 15, 8, 1)$ lies on line ℓ_7
158 : $P_{2573} = (12, 15, 8, 1)$ lies on line ℓ_{15}
159 : $P_{2600} = (7, 1, 9, 1)$ lies on line ℓ_8
160 : $P_{2607} = (14, 1, 9, 1)$ lies on line ℓ_{15}
161 : $P_{2674} = (1, 6, 9, 1)$ lies on line ℓ_5
162 : $P_{2678} = (5, 6, 9, 1)$ lies on line ℓ_{14}
163 : $P_{2693} = (4, 7, 9, 1)$ lies on line ℓ_{11}

164 : $P_{2698} = (9, 7, 9, 1)$ lies on line ℓ_4
165 : $P_{2713} = (8, 8, 9, 1)$ lies on line ℓ_2
166 : $P_{2720} = (15, 8, 9, 1)$ lies on line ℓ_9
167 : $P_{2725} = (4, 9, 9, 1)$ lies on line ℓ_7
168 : $P_{2731} = (10, 9, 9, 1)$ lies on line ℓ_{16}
169 : $P_{2805} = (4, 14, 9, 1)$ lies on line ℓ_6
170 : $P_{2808} = (7, 14, 9, 1)$ lies on line ℓ_{13}
171 : $P_{2824} = (7, 15, 9, 1)$ lies on line ℓ_3
172 : $P_{2830} = (13, 15, 9, 1)$ lies on line ℓ_{12}
173 : $P_{2854} = (5, 1, 10, 1)$ lies on line ℓ_6
174 : $P_{2864} = (15, 1, 10, 1)$ lies on line ℓ_{16}
175 : $P_{2871} = (6, 2, 10, 1)$ lies on line ℓ_4
176 : $P_{2876} = (11, 2, 10, 1)$ lies on line ℓ_{10}
177 : $P_{2891} = (10, 3, 10, 1)$ lies on line ℓ_7
178 : $P_{2894} = (13, 3, 10, 1)$ lies on line ℓ_{13}
179 : $P_{2971} = (10, 8, 10, 1)$ lies on line ℓ_8
180 : $P_{2973} = (12, 8, 10, 1)$ lies on line ℓ_{14}
181 : $P_{2984} = (7, 9, 10, 1)$ lies on line ℓ_9
182 : $P_{2988} = (11, 9, 10, 1)$ lies on line ℓ_3
183 : $P_{2996} = (3, 10, 10, 1)$ lies on line ℓ_5
184 : $P_{3001} = (8, 10, 10, 1)$ lies on line ℓ_{15}
185 : $P_{3019} = (10, 11, 10, 1)$ lies on line ℓ_{12}
186 : $P_{3020} = (11, 11, 10, 1)$ lies on line ℓ_2
187 : $P_{3108} = (3, 1, 11, 1)$ lies on line ℓ_4
188 : $P_{3113} = (8, 1, 11, 1)$ lies on line ℓ_9
189 : $P_{3163} = (10, 4, 11, 1)$ lies on line ℓ_{15}
190 : $P_{3166} = (13, 4, 11, 1)$ lies on line ℓ_6
191 : $P_{3176} = (7, 5, 11, 1)$ lies on line ℓ_7
192 : $P_{3180} = (11, 5, 11, 1)$ lies on line ℓ_{14}
193 : $P_{3259} = (10, 10, 11, 1)$ lies on line ℓ_2
194 : $P_{3260} = (11, 10, 11, 1)$ lies on line ℓ_{11}
195 : $P_{3270} = (5, 11, 11, 1)$ lies on line ℓ_{10}
196 : $P_{3280} = (15, 11, 11, 1)$ lies on line ℓ_3
197 : $P_{3323} = (10, 14, 11, 1)$ lies on line ℓ_5
198 : $P_{3325} = (12, 14, 11, 1)$ lies on line ℓ_{16}
199 : $P_{3335} = (6, 15, 11, 1)$ lies on line ℓ_8
200 : $P_{3340} = (11, 15, 11, 1)$ lies on line ℓ_{13}
201 : $P_{3397} = (4, 3, 12, 1)$ lies on line ℓ_{12}
202 : $P_{3402} = (9, 3, 12, 1)$ lies on line ℓ_8
203 : $P_{3429} = (4, 5, 12, 1)$ lies on line ℓ_{15}
204 : $P_{3435} = (10, 5, 12, 1)$ lies on line ℓ_3
205 : $P_{3445} = (4, 6, 12, 1)$ lies on line ℓ_{10}
206 : $P_{3448} = (7, 6, 12, 1)$ lies on line ℓ_6
207 : $P_{3474} = (1, 8, 12, 1)$ lies on line ℓ_4
208 : $P_{3478} = (5, 8, 12, 1)$ lies on line ℓ_{16}
209 : $P_{3528} = (7, 11, 12, 1)$ lies on line ℓ_5
210 : $P_{3535} = (14, 11, 12, 1)$ lies on line ℓ_9
211 : $P_{3560} = (7, 13, 12, 1)$ lies on line ℓ_{14}
212 : $P_{3566} = (13, 13, 12, 1)$ lies on line ℓ_2
213 : $P_{3577} = (8, 14, 12, 1)$ lies on line ℓ_{11}
214 : $P_{3584} = (15, 14, 12, 1)$ lies on line ℓ_7
215 : $P_{3650} = (1, 3, 13, 1)$ lies on line ℓ_9
216 : $P_{3664} = (15, 3, 13, 1)$ lies on line ℓ_6
217 : $P_{3668} = (3, 4, 13, 1)$ lies on line ℓ_{11}
218 : $P_{3670} = (5, 4, 13, 1)$ lies on line ℓ_8
219 : $P_{3719} = (6, 7, 13, 1)$ lies on line ℓ_{16}
220 : $P_{3727} = (14, 7, 13, 1)$ lies on line ℓ_3
221 : $P_{3731} = (2, 8, 13, 1)$ lies on line ℓ_7
222 : $P_{3743} = (14, 8, 13, 1)$ lies on line ℓ_{12}
223 : $P_{3781} = (4, 11, 13, 1)$ lies on line ℓ_4
224 : $P_{3783} = (6, 11, 13, 1)$ lies on line ℓ_{15}
225 : $P_{3799} = (6, 12, 13, 1)$ lies on line ℓ_{13}
226 : $P_{3805} = (12, 12, 13, 1)$ lies on line ℓ_2
227 : $P_{3851} = (10, 15, 13, 1)$ lies on line ℓ_{10}
228 : $P_{3855} = (14, 15, 13, 1)$ lies on line ℓ_5
229 : $P_{3875} = (2, 1, 14, 1)$ lies on line ℓ_3
230 : $P_{3885} = (12, 1, 14, 1)$ lies on line ℓ_{13}
231 : $P_{3898} = (9, 2, 14, 1)$ lies on line ℓ_9
232 : $P_{3901} = (12, 2, 14, 1)$ lies on line ℓ_7
233 : $P_{3912} = (7, 3, 14, 1)$ lies on line ℓ_{11}
234 : $P_{3917} = (12, 3, 14, 1)$ lies on line ℓ_5
235 : $P_{4058} = (9, 12, 14, 1)$ lies on line ℓ_{12}
236 : $P_{4063} = (14, 12, 14, 1)$ lies on line ℓ_6
237 : $P_{4066} = (1, 13, 14, 1)$ lies on line ℓ_{10}
238 : $P_{4073} = (8, 13, 14, 1)$ lies on line ℓ_8
239 : $P_{4090} = (9, 14, 14, 1)$ lies on line ℓ_{14}
240 : $P_{4092} = (11, 14, 14, 1)$ lies on line ℓ_4
241 : $P_{4100} = (3, 15, 14, 1)$ lies on line ℓ_{16}
242 : $P_{4112} = (15, 15, 14, 1)$ lies on line ℓ_2
243 : $P_{4167} = (6, 3, 15, 1)$ lies on line ℓ_3
244 : $P_{4175} = (14, 3, 15, 1)$ lies on line ℓ_{14}
245 : $P_{4178} = (1, 4, 15, 1)$ lies on line ℓ_7
246 : $P_{4192} = (15, 4, 15, 1)$ lies on line ℓ_{10}
247 : $P_{4228} = (3, 7, 15, 1)$ lies on line ℓ_{12}
248 : $P_{4230} = (5, 7, 15, 1)$ lies on line ℓ_5
249 : $P_{4263} = (6, 9, 15, 1)$ lies on line ℓ_6
250 : $P_{4269} = (12, 9, 15, 1)$ lies on line ℓ_{11}
251 : $P_{4277} = (4, 10, 15, 1)$ lies on line ℓ_8
252 : $P_{4279} = (6, 10, 15, 1)$ lies on line ℓ_9
253 : $P_{4331} = (10, 13, 15, 1)$ lies on line ℓ_{13}
254 : $P_{4335} = (14, 13, 15, 1)$ lies on line ℓ_4
255 : $P_{4339} = (2, 14, 15, 1)$ lies on line ℓ_{15}
256 : $P_{4351} = (14, 14, 15, 1)$ lies on line ℓ_2

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	16
0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Neighbor sets in the line intersection graph:
Line 0 intersects

Line	ℓ_1
in point	P_2

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}	ℓ_1
in point	P_2	P_{530}	P_{785}	P_{1041}	P_{1297}	P_{1553}	P_{1809}	P_{2065}	P_{2321}	P_{2577}	P_{2833}	P_{3089}	P_{3345}	P_{3601}	P_{3857}	P_{41}

Line 2 intersects

Line	ℓ_1
in point	P_{530}

Line 3 intersects

Line	ℓ_1
in point	P_{785}

Line 4 intersects

Line	ℓ_1
in point	P_{1041}

Line 5 intersects

Line	ℓ_1
in point	P_{1297}

Line 6 intersects

Line	ℓ_1
in point	P_{1553}

Line 7 intersects

Line	ℓ_1
in point	P_{1809}

Line 8 intersects

Line	ℓ_1
in point	P_{2065}

Line 9 intersects

Line	ℓ_1
in point	P_{2321}

Line 10 intersects

Line	ℓ_1
in point	P_{2577}

Line 11 intersects

Line	ℓ_1
in point	P_{2833}

Line 12 intersects

Line	ℓ_1
in point	P_{3089}

Line 13 intersects

Line	ℓ_1
in point	P_{3345}

Line 14 intersects

Line	ℓ_1
in point	P_{3601}

Line 15 intersects

Line	ℓ_1
in point	P_{3857}

Line 16 intersects

Line	ℓ_1
in point	P_{4113}

The surface has 273 points:
The points on the surface are:

0 : $P_0 = (1,0,0,0)$
1 : $P_2 = (0,0,1,0)$
2 : $P_3 = (0,0,0,1)$
3 : $P_{20} = (1,0,1,0)$
4 : $P_{21} = (2,0,1,0)$
5 : $P_{22} = (3,0,1,0)$
6 : $P_{23} = (4,0,1,0)$
7 : $P_{24} = (5,0,1,0)$
8 : $P_{25} = (6,0,1,0)$
9 : $P_{26} = (7,0,1,0)$
10 : $P_{27} = (8,0,1,0)$
11 : $P_{28} = (9,0,1,0)$
12 : $P_{29} = (10,0,1,0)$
13 : $P_{30} = (11,0,1,0)$
14 : $P_{31} = (12,0,1,0)$
15 : $P_{32} = (13,0,1,0)$
16 : $P_{33} = (14,0,1,0)$
17 : $P_{34} = (15,0,1,0)$
18 : $P_{36} = (1,1,1,0)$
19 : $P_{55} = (4,2,1,0)$
20 : $P_{72} = (5,3,1,0)$
21 : $P_{92} = (9,4,1,0)$
22 : $P_{107} = (8,5,1,0)$
23 : $P_{128} = (13,6,1,0)$
24 : $P_{143} = (12,7,1,0)$
25 : $P_{162} = (15,8,1,0)$
26 : $P_{177} = (14,9,1,0)$
27 : $P_{190} = (11,10,1,0)$
28 : $P_{205} = (10,11,1,0)$
29 : $P_{217} = (6,12,1,0)$
30 : $P_{234} = (7,13,1,0)$
31 : $P_{245} = (2,14,1,0)$
32 : $P_{262} = (3,15,1,0)$
33 : $P_{291} = (1,1,0,1)$
34 : $P_{311} = (5,2,0,1)$
35 : $P_{330} = (8,3,0,1)$
36 : $P_{346} = (8,4,0,1)$
37 : $P_{369} = (15,5,0,1)$
38 : $P_{373} = (3,6,0,1)$
39 : $P_{394} = (8,7,0,1)$
40 : $P_{405} = (3,8,0,1)$
41 : $P_{433} = (15,9,0,1)$
42 : $P_{435} = (1,10,0,1)$
43 : $P_{451} = (1,11,0,1)$
44 : $P_{481} = (15,12,0,1)$
45 : $P_{487} = (5,13,0,1)$
46 : $P_{501} = (3,14,0,1)$
47 : $P_{519} = (5,15,0,1)$
48 : $P_{530} = (0,0,1,1)$
49 : $P_{555} = (10,1,1,1)$
50 : $P_{556} = (11,1,1,1)$
51 : $P_{635} = (10,6,1,1)$
52 : $P_{637} = (12,6,1,1)$
53 : $P_{651} = (10,7,1,1)$
54 : $P_{654} = (13,7,1,1)$
55 : $P_{694} = (5,10,1,1)$
56 : $P_{704} = (15,10,1,1)$
57 : $P_{708} = (3,11,1,1)$
58 : $P_{713} = (8,11,1,1)$
59 : $P_{728} = (7,12,1,1)$

60 : $P_{732} = (11, 12, 1, 1)$
61 : $P_{743} = (6, 13, 1, 1)$
62 : $P_{748} = (11, 13, 1, 1)$
63 : $P_{785} = (0, 0, 2, 1)$
64 : $P_{805} = (4, 1, 2, 1)$
65 : $P_{807} = (6, 1, 2, 1)$
66 : $P_{827} = (10, 2, 2, 1)$
67 : $P_{831} = (14, 2, 2, 1)$
68 : $P_{836} = (3, 3, 2, 1)$
69 : $P_{838} = (5, 3, 2, 1)$
70 : $P_{855} = (6, 4, 2, 1)$
71 : $P_{863} = (14, 4, 2, 1)$
72 : $P_{871} = (6, 5, 2, 1)$
73 : $P_{877} = (12, 5, 2, 1)$
74 : $P_{883} = (2, 6, 2, 1)$
75 : $P_{895} = (14, 6, 2, 1)$
76 : $P_{898} = (1, 7, 2, 1)$
77 : $P_{912} = (15, 7, 2, 1)$
78 : $P_{1041} = (0, 0, 3, 1)$
79 : $P_{1075} = (2, 2, 3, 1)$
80 : $P_{1077} = (4, 2, 3, 1)$
81 : $P_{1123} = (2, 5, 3, 1)$
82 : $P_{1134} = (13, 5, 3, 1)$
83 : $P_{1155} = (2, 7, 3, 1)$
84 : $P_{1164} = (11, 7, 3, 1)$
85 : $P_{1186} = (1, 9, 3, 1)$
86 : $P_{1188} = (3, 9, 3, 1)$
87 : $P_{1226} = (9, 11, 3, 1)$
88 : $P_{1230} = (13, 11, 3, 1)$
89 : $P_{1238} = (5, 12, 3, 1)$
90 : $P_{1241} = (8, 12, 3, 1)$
91 : $P_{1271} = (6, 14, 3, 1)$
92 : $P_{1278} = (13, 14, 3, 1)$
93 : $P_{1297} = (0, 0, 4, 1)$
94 : $P_{1322} = (9, 1, 4, 1)$
95 : $P_{1326} = (13, 1, 4, 1)$
96 : $P_{1363} = (2, 4, 4, 1)$
97 : $P_{1372} = (11, 4, 4, 1)$
98 : $P_{1382} = (5, 5, 4, 1)$
99 : $P_{1385} = (8, 5, 4, 1)$
100 : $P_{1431} = (6, 8, 4, 1)$
101 : $P_{1438} = (13, 8, 4, 1)$
102 : $P_{1443} = (2, 9, 4, 1)$
103 : $P_{1454} = (13, 9, 4, 1)$
104 : $P_{1490} = (1, 12, 4, 1)$
105 : $P_{1492} = (3, 12, 4, 1)$
106 : $P_{1507} = (2, 13, 4, 1)$
107 : $P_{1509} = (4, 13, 4, 1)$
108 : $P_{1553} = (0, 0, 5, 1)$
109 : $P_{1592} = (7, 2, 5, 1)$
110 : $P_{1598} = (13, 2, 5, 1)$
111 : $P_{1621} = (4, 4, 5, 1)$
112 : $P_{1626} = (9, 4, 5, 1)$
113 : $P_{1657} = (8, 6, 5, 1)$
114 : $P_{1664} = (15, 6, 5, 1)$
115 : $P_{1685} = (4, 8, 5, 1)$
116 : $P_{1688} = (7, 8, 5, 1)$
117 : $P_{1720} = (7, 10, 5, 1)$
118 : $P_{1727} = (14, 10, 5, 1)$
119 : $P_{1749} = (4, 12, 5, 1)$
120 : $P_{1755} = (10, 12, 5, 1)$
121 : $P_{1778} = (1, 14, 5, 1)$
122 : $P_{1782} = (5, 14, 5, 1)$
123 : $P_{1809} = (0, 0, 6, 1)$
124 : $P_{1844} = (3, 2, 6, 1)$
125 : $P_{1856} = (15, 2, 6, 1)$
126 : $P_{1898} = (9, 5, 6, 1)$
127 : $P_{1903} = (14, 5, 6, 1)$
128 : $P_{1928} = (7, 7, 6, 1)$
129 : $P_{1933} = (12, 7, 6, 1)$
130 : $P_{1946} = (9, 8, 6, 1)$
131 : $P_{1948} = (11, 8, 6, 1)$
132 : $P_{1971} = (2, 10, 6, 1)$
133 : $P_{1981} = (12, 10, 6, 1)$
134 : $P_{2026} = (9, 13, 6, 1)$
135 : $P_{2029} = (12, 13, 6, 1)$
136 : $P_{2050} = (1, 15, 6, 1)$
137 : $P_{2057} = (8, 15, 6, 1)$
138 : $P_{2065} = (0, 0, 7, 1)$
139 : $P_{2115} = (2, 3, 7, 1)$
140 : $P_{2124} = (11, 3, 7, 1)$
141 : $P_{2146} = (1, 5, 7, 1)$
142 : $P_{2148} = (3, 5, 7, 1)$
143 : $P_{2167} = (6, 6, 7, 1)$
144 : $P_{2174} = (13, 6, 7, 1)$
145 : $P_{2214} = (5, 9, 7, 1)$
146 : $P_{2217} = (8, 9, 7, 1)$
147 : $P_{2234} = (9, 10, 7, 1)$
148 : $P_{2238} = (13, 10, 7, 1)$
149 : $P_{2259} = (2, 12, 7, 1)$
150 : $P_{2270} = (13, 12, 7, 1)$
151 : $P_{2307} = (2, 15, 7, 1)$
152 : $P_{2309} = (4, 15, 7, 1)$
153 : $P_{2321} = (0, 0, 8, 1)$
154 : $P_{2354} = (1, 2, 8, 1)$
155 : $P_{2361} = (8, 2, 8, 1)$
156 : $P_{2392} = (7, 4, 8, 1)$
157 : $P_{2397} = (12, 4, 8, 1)$
158 : $P_{2426} = (9, 6, 8, 1)$
159 : $P_{2428} = (11, 6, 8, 1)$
160 : $P_{2474} = (9, 9, 8, 1)$
161 : $P_{2479} = (14, 9, 8, 1)$
162 : $P_{2499} = (2, 11, 8, 1)$
163 : $P_{2509} = (12, 11, 8, 1)$
164 : $P_{2532} = (3, 13, 8, 1)$
165 : $P_{2544} = (15, 13, 8, 1)$
166 : $P_{2570} = (9, 15, 8, 1)$
167 : $P_{2573} = (12, 15, 8, 1)$
168 : $P_{2577} = (0, 0, 9, 1)$
169 : $P_{2600} = (7, 1, 9, 1)$
170 : $P_{2607} = (14, 1, 9, 1)$
171 : $P_{2674} = (1, 6, 9, 1)$
172 : $P_{2678} = (5, 6, 9, 1)$
173 : $P_{2693} = (4, 7, 9, 1)$
174 : $P_{2698} = (9, 7, 9, 1)$
175 : $P_{2713} = (8, 8, 9, 1)$
176 : $P_{2720} = (15, 8, 9, 1)$
177 : $P_{2725} = (4, 9, 9, 1)$
178 : $P_{2731} = (10, 9, 9, 1)$
179 : $P_{2805} = (4, 14, 9, 1)$
180 : $P_{2808} = (7, 14, 9, 1)$
181 : $P_{2824} = (7, 15, 9, 1)$
182 : $P_{2830} = (13, 15, 9, 1)$
183 : $P_{2833} = (0, 0, 10, 1)$
184 : $P_{2854} = (5, 1, 10, 1)$
185 : $P_{2864} = (15, 1, 10, 1)$
186 : $P_{2871} = (6, 2, 10, 1)$
187 : $P_{2876} = (11, 2, 10, 1)$
188 : $P_{2891} = (10, 3, 10, 1)$
189 : $P_{2894} = (13, 3, 10, 1)$
190 : $P_{2971} = (10, 8, 10, 1)$
191 : $P_{2973} = (12, 8, 10, 1)$
192 : $P_{2984} = (7, 9, 10, 1)$
193 : $P_{2988} = (11, 9, 10, 1)$
194 : $P_{2996} = (3, 10, 10, 1)$
195 : $P_{3001} = (8, 10, 10, 1)$
196 : $P_{3019} = (10, 11, 10, 1)$
197 : $P_{3020} = (11, 11, 10, 1)$
198 : $P_{3089} = (0, 0, 11, 1)$
199 : $P_{3108} = (3, 1, 11, 1)$
200 : $P_{3113} = (8, 1, 11, 1)$
201 : $P_{3163} = (10, 4, 11, 1)$
202 : $P_{3166} = (13, 4, 11, 1)$
203 : $P_{3176} = (7, 5, 11, 1)$
204 : $P_{3180} = (11, 5, 11, 1)$
205 : $P_{3259} = (10, 10, 11, 1)$
206 : $P_{3260} = (11, 10, 11, 1)$
207 : $P_{3270} = (5, 11, 11, 1)$
208 : $P_{3280} = (15, 11, 11, 1)$
209 : $P_{3323} = (10, 14, 11, 1)$
210 : $P_{3325} = (12, 14, 11, 1)$
211 : $P_{3335} = (6, 15, 11, 1)$
212 : $P_{3340} = (11, 15, 11, 1)$
213 : $P_{3345} = (0, 0, 12, 1)$
214 : $P_{3397} = (4, 3, 12, 1)$
215 : $P_{3402} = (9, 3, 12, 1)$
216 : $P_{3429} = (4, 5, 12, 1)$
217 : $P_{3435} = (10, 5, 12, 1)$
218 : $P_{3445} = (4, 6, 12, 1)$
219 : $P_{3448} = (7, 6, 12, 1)$
220 : $P_{3474} = (1, 8, 12, 1)$
221 : $P_{3478} = (5, 8, 12, 1)$

$222: P_{3528} = (7, 11, 12, 1)$
$223: P_{3535} = (14, 11, 12, 1)$
$224: P_{3560} = (7, 13, 12, 1)$
$225: P_{3566} = (13, 13, 12, 1)$
$226: P_{3577} = (8, 14, 12, 1)$
$227: P_{3584} = (15, 14, 12, 1)$
$228: P_{3601} = (0, 0, 13, 1)$
$229: P_{3650} = (1, 3, 13, 1)$
$230: P_{3664} = (15, 3, 13, 1)$
$231: P_{3668} = (3, 4, 13, 1)$
$232: P_{3670} = (5, 4, 13, 1)$
$233: P_{3719} = (6, 7, 13, 1)$
$234: P_{3727} = (14, 7, 13, 1)$
$235: P_{3731} = (2, 8, 13, 1)$
$236: P_{3743} = (14, 8, 13, 1)$
$237: P_{3781} = (4, 11, 13, 1)$
$238: P_{3783} = (6, 11, 13, 1)$
$239: P_{3799} = (6, 12, 13, 1)$
$240: P_{3805} = (12, 12, 13, 1)$
$241: P_{3851} = (10, 15, 13, 1)$
$242: P_{3855} = (14, 15, 13, 1)$
$243: P_{3857} = (0, 0, 14, 1)$
$244: P_{3875} = (2, 1, 14, 1)$
$245: P_{3885} = (12, 1, 14, 1)$
$246: P_{3898} = (9, 2, 14, 1)$
$247: P_{3901} = (12, 2, 14, 1)$
$248: P_{3912} = (7, 3, 14, 1)$
$249: P_{3917} = (12, 3, 14, 1)$
$250: P_{4058} = (9, 12, 14, 1)$
$251: P_{4063} = (14, 12, 14, 1)$
$252: P_{4066} = (1, 13, 14, 1)$
$253: P_{4073} = (8, 13, 14, 1)$
$254: P_{4090} = (9, 14, 14, 1)$
$255: P_{4092} = (11, 14, 14, 1)$
$256: P_{4100} = (3, 15, 14, 1)$
$257: P_{4112} = (15, 15, 14, 1)$
$258: P_{4113} = (0, 0, 15, 1)$
$259: P_{4167} = (6, 3, 15, 1)$
$260: P_{4175} = (14, 3, 15, 1)$
$261: P_{4178} = (1, 4, 15, 1)$
$262: P_{4192} = (15, 4, 15, 1)$
$263: P_{4228} = (3, 7, 15, 1)$
$264: P_{4230} = (5, 7, 15, 1)$
$265: P_{4263} = (6, 9, 15, 1)$
$266: P_{4269} = (12, 9, 15, 1)$
$267: P_{4277} = (4, 10, 15, 1)$
$268: P_{4279} = (6, 10, 15, 1)$
$269: P_{4331} = (10, 13, 15, 1)$
$270: P_{4335} = (14, 13, 15, 1)$
$271: P_{4339} = (2, 14, 15, 1)$
$272: P_{4351} = (14, 14, 15, 1)$