Rank-74279 over GF(16)

January 15, 2021

The equation

The equation of the surface is :

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

(0, 0, 1, 0, 0, 1, 0, 0, 0, 1, 0, 0, 0, 1, 0, 0, 1, 0, 0, 0)
The point rank of the equation over GF(16) is 287379989

General information

Number of lines	3
Number of points	241
Number of singular points	0
Number of Eckardt points	0
Number of double points	3
Number of single points	45
Number of points off lines	193
Number of Hesse planes	0
Number of axes	0
Type of points on lines	17^3
Type of lines on points	$2^3, 1^{45}, 0^{193}$

Singular Points

The surface has 0 singular points:

The 3 Lines

The lines and their Pluecker coordinates are:

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

$$\ell_1 = \begin{bmatrix} 1 & 0 & \delta^5 & \delta^5 \\ 0 & 1 & 1 & 1 \end{bmatrix}_{51068} = \begin{bmatrix} 1 & 0 & 11 & 11 \\ 0 & 1 & 1 & 1 \end{bmatrix}_{51068} = \mathbf{Pl}(1,0,1,1,10,1)_{46147}$$

$$\ell_2 = \begin{bmatrix} 1 & 0 & \delta^{10} & \delta^{10} \\ 0 & 1 & 1 & 1 \end{bmatrix}_{46427} = \begin{bmatrix} 1 & 0 & 10 & 10 \\ 0 & 1 & 1 & 1 \end{bmatrix}_{46427} = \mathbf{Pl}(1,0,1,1,11,1)_{50227}$$

Rank of lines: (0, 51068, 46427)
Rank of points on Klein quadric: (0, 46147, 50227)

Eckardt Points

The surface has 0 Eckardt points:

Double Points

The surface has 3 Double points:
The double points on the surface are:

$P_{14} = (10,1,0,0) = \ell_0 \cap \ell_1$ $P_{546} = (0,1,1,1) = \ell_1 \cap \ell_2$
$P_{15} = (11,1,0,0) = \ell_0 \cap \ell_2$

Single Points

The surface has 45 single points:
The single points on the surface are:

$0:\ P_0 = (1,0,0,0)$ lies on line ℓ_0 $23:\ P_{612} = (3,5,1,1)$ lies on line ℓ_1
$1:\ P_1 = (0,1,0,0)$ lies on line ℓ_0 $24:\ P_{616} = (7,5,1,1)$ lies on line ℓ_2
$2:\ P_5 = (1,1,0,0)$ lies on line ℓ_0 $25:\ P_{628} = (3,6,1,1)$ lies on line ℓ_2
$3:\ P_6 = (2,1,0,0)$ lies on line ℓ_0 $26:\ P_{629} = (4,6,1,1)$ lies on line ℓ_1
$4:\ P_7 = (3,1,0,0)$ lies on line ℓ_0 $27:\ P_{649} = (8,7,1,1)$ lies on line ℓ_2
$5:\ P_8 = (4,1,0,0)$ lies on line ℓ_0 $28:\ P_{655} = (14,7,1,1)$ lies on line ℓ_1
$6:\ P_9 = (5,1,0,0)$ lies on line ℓ_0 $29:\ P_{662} = (5,8,1,1)$ lies on line ℓ_2
$7:\ P_{10} = (6,1,0,0)$ lies on line ℓ_0 $30:\ P_{669} = (12,8,1,1)$ lies on line ℓ_1
$8:\ P_{11} = (7,1,0,0)$ lies on line ℓ_0 $31:\ P_{679} = (6,9,1,1)$ lies on line ℓ_1
$9:\ P_{12} = (8,1,0,0)$ lies on line ℓ_0 $32:\ P_{687} = (14,9,1,1)$ lies on line ℓ_2
$10:\ P_{13} = (9,1,0,0)$ lies on line ℓ_0 $33:\ P_{690} = (1,10,1,1)$ lies on line ℓ_1
$11:\ P_{16} = (12,1,0,0)$ lies on line ℓ_0 $34:\ P_{699} = (10,10,1,1)$ lies on line ℓ_2
$12:\ P_{17} = (13,1,0,0)$ lies on line ℓ_0 $35:\ P_{706} = (1,11,1,1)$ lies on line ℓ_2
$13:\ P_{18} = (14,1,0,0)$ lies on line ℓ_0 $36:\ P_{716} = (11,11,1,1)$ lies on line ℓ_1
$14:\ P_{19} = (15,1,0,0)$ lies on line ℓ_0 $37:\ P_{723} = (2,12,1,1)$ lies on line ℓ_2
$15:\ P_{540} = (10,0,1,1)$ lies on line ℓ_1 $38:\ P_{736} = (15,12,1,1)$ lies on line ℓ_1
$16:\ P_{541} = (11,0,1,1)$ lies on line ℓ_2 $39:\ P_{742} = (5,13,1,1)$ lies on line ℓ_1
$17:\ P_{565} = (4,2,1,1)$ lies on line ℓ_2 $40:\ P_{746} = (9,13,1,1)$ lies on line ℓ_2
$18:\ P_{568} = (7,2,1,1)$ lies on line ℓ_1 $41:\ P_{755} = (2,14,1,1)$ lies on line ℓ_1
$19:\ P_{590} = (13,3,1,1)$ lies on line ℓ_1 $42:\ P_{766} = (13,14,1,1)$ lies on line ℓ_2
$20:\ P_{592} = (15,3,1,1)$ lies on line ℓ_2 $43:\ P_{775} = (6,15,1,1)$ lies on line ℓ_2
$21:\ P_{602} = (9,4,1,1)$ lies on line ℓ_1 $44:\ P_{777} = (8,15,1,1)$ lies on line ℓ_1
$22:\ P_{605} = (12,4,1,1)$ lies on line ℓ_2

The single points on the surface are:

Points on surface but on no line

The surface has 193 points not on any line:
The points on the surface but not on lines are:

0 : $P_3 = (0, 0, 0, 1)$
1 : $P_{20} = (1, 0, 1, 0)$
2 : $P_{45} = (10, 1, 1, 0)$
3 : $P_{46} = (11, 1, 1, 0)$
4 : $P_{55} = (4, 2, 1, 0)$
5 : $P_{57} = (6, 2, 1, 0)$
6 : $P_{92} = (9, 4, 1, 0)$
7 : $P_{96} = (13, 4, 1, 0)$
8 : $P_{170} = (7, 9, 1, 0)$
9 : $P_{177} = (14, 9, 1, 0)$
10 : $P_{184} = (5, 10, 1, 0)$
11 : $P_{194} = (15, 10, 1, 0)$
12 : $P_{198} = (3, 11, 1, 0)$
13 : $P_{203} = (8, 11, 1, 0)$
14 : $P_{245} = (2, 14, 1, 0)$
15 : $P_{255} = (12, 14, 1, 0)$
16 : $P_{291} = (1, 1, 0, 1)$
17 : $P_{310} = (4, 2, 0, 1)$
18 : $P_{327} = (5, 3, 0, 1)$
19 : $P_{347} = (9, 4, 0, 1)$
20 : $P_{362} = (8, 5, 0, 1)$
21 : $P_{383} = (13, 6, 0, 1)$
22 : $P_{398} = (12, 7, 0, 1)$
23 : $P_{417} = (15, 8, 0, 1)$
24 : $P_{432} = (14, 9, 0, 1)$
25 : $P_{445} = (11, 10, 0, 1)$
26 : $P_{460} = (10, 11, 0, 1)$
27 : $P_{472} = (6, 12, 0, 1)$
28 : $P_{489} = (7, 13, 0, 1)$
29 : $P_{500} = (2, 14, 0, 1)$
30 : $P_{517} = (3, 15, 0, 1)$
31 : $P_{807} = (6, 1, 2, 1)$
32 : $P_{812} = (11, 1, 2, 1)$
33 : $P_{840} = (7, 3, 2, 1)$
34 : $P_{841} = (8, 3, 2, 1)$
35 : $P_{865} = (0, 5, 2, 1)$
36 : $P_{874} = (9, 5, 2, 1)$
37 : $P_{953} = (8, 10, 2, 1)$
38 : $P_{959} = (14, 10, 2, 1)$
39 : $P_{990} = (13, 12, 2, 1)$
40 : $P_{999} = (6, 13, 2, 1)$
41 : $P_{1000} = (7, 13, 2, 1)$
42 : $P_{1018} = (9, 14, 2, 1)$
43 : $P_{1020} = (11, 14, 2, 1)$
44 : $P_{1038} = (13, 15, 2, 1)$
45 : $P_{1039} = (14, 15, 2, 1)$
46 : $P_{1169} = (0, 8, 3, 1)$
47 : $P_{1323} = (10, 1, 4, 1)$

48 : $P_{1326} = (13, 1, 4, 1)$
49 : $P_{1339} = (10, 2, 4, 1)$
50 : $P_{1343} = (14, 2, 4, 1)$
51 : $P_{1347} = (2, 3, 4, 1)$
52 : $P_{1352} = (7, 3, 4, 1)$
53 : $P_{1389} = (12, 5, 4, 1)$
54 : $P_{1392} = (15, 5, 4, 1)$
55 : $P_{1400} = (7, 6, 4, 1)$
56 : $P_{1421} = (12, 7, 4, 1)$
57 : $P_{1422} = (13, 7, 4, 1)$
58 : $P_{1425} = (0, 8, 4, 1)$
59 : $P_{1439} = (14, 8, 4, 1)$
60 : $P_{1475} = (2, 11, 4, 1)$
61 : $P_{1488} = (15, 11, 4, 1)$
62 : $P_{1793} = (0, 15, 5, 1)$
63 : $P_{1820} = (11, 0, 6, 1)$
64 : $P_{1824} = (15, 0, 6, 1)$
65 : $P_{1857} = (0, 3, 6, 1)$
66 : $P_{1864} = (7, 3, 6, 1)$
67 : $P_{1887} = (14, 4, 6, 1)$
68 : $P_{1891} = (2, 5, 6, 1)$
69 : $P_{1892} = (3, 5, 6, 1)$
70 : $P_{1944} = (7, 8, 6, 1)$
71 : $P_{1948} = (11, 8, 6, 1)$
72 : $P_{1955} = (2, 9, 6, 1)$
73 : $P_{1968} = (15, 9, 6, 1)$
74 : $P_{1986} = (1, 11, 6, 1)$
75 : $P_{1999} = (14, 11, 6, 1)$
76 : $P_{2018} = (1, 13, 6, 1)$
77 : $P_{2025} = (8, 13, 6, 1)$
78 : $P_{2052} = (3, 15, 6, 1)$
79 : $P_{2057} = (8, 15, 6, 1)$
80 : $P_{2070} = (5, 0, 7, 1)$
81 : $P_{2076} = (11, 0, 7, 1)$
82 : $P_{2102} = (5, 2, 7, 1)$
83 : $P_{2106} = (9, 2, 7, 1)$
84 : $P_{2119} = (6, 3, 7, 1)$
85 : $P_{2124} = (11, 3, 7, 1)$
86 : $P_{2148} = (3, 5, 7, 1)$
87 : $P_{2153} = (8, 5, 7, 1)$
88 : $P_{2193} = (0, 8, 7, 1)$
89 : $P_{2199} = (6, 8, 7, 1)$
90 : $P_{2242} = (1, 11, 7, 1)$
91 : $P_{2245} = (4, 11, 7, 1)$
92 : $P_{2258} = (1, 12, 7, 1)$
93 : $P_{2260} = (3, 12, 7, 1)$
94 : $P_{2293} = (4, 14, 7, 1)$
95 : $P_{2313} = (8, 15, 7, 1)$

$96: P_{2314} = (9, 15, 7, 1)$

$97: P_{2369} = (0, 3, 8, 1)$

$98: P_{2600} = (7, 1, 9, 1)$

$99: P_{2604} = (11, 1, 9, 1)$

$100: P_{2643} = (2, 4, 9, 1)$

$101: P_{2652} = (11, 4, 9, 1)$

$102: P_{2661} = (4, 5, 9, 1)$

$103: P_{2669} = (12, 5, 9, 1)$

$104: P_{2708} = (3, 8, 9, 1)$

$105: P_{2711} = (6, 8, 9, 1)$

$106: P_{2740} = (3, 10, 9, 1)$

$107: P_{2741} = (4, 10, 9, 1)$

$108: P_{2775} = (6, 12, 9, 1)$

$109: P_{2776} = (7, 12, 9, 1)$

$110: P_{2797} = (12, 13, 9, 1)$

$111: P_{2817} = (0, 15, 9, 1)$

$112: P_{2819} = (2, 15, 9, 1)$

$113: P_{2835} = (2, 0, 10, 1)$

$114: P_{2842} = (9, 0, 10, 1)$

$115: P_{2849} = (0, 1, 10, 1)$

$116: P_{2859} = (10, 1, 10, 1)$

$117: P_{2898} = (1, 4, 10, 1)$

$118: P_{2911} = (14, 4, 10, 1)$

$119: P_{3003} = (10, 10, 10, 1)$

$120: P_{3004} = (11, 10, 10, 1)$

$121: P_{3020} = (11, 11, 10, 1)$

$122: P_{3034} = (9, 12, 10, 1)$

$123: P_{3039} = (14, 12, 10, 1)$

$124: P_{3043} = (2, 13, 10, 1)$

$125: P_{3045} = (4, 13, 10, 1)$

$126: P_{3058} = (1, 14, 10, 1)$

$127: P_{3061} = (4, 14, 10, 1)$

$128: P_{3093} = (4, 0, 11, 1)$

$129: P_{3103} = (14, 0, 11, 1)$

$130: P_{3105} = (0, 1, 11, 1)$

$131: P_{3116} = (11, 1, 11, 1)$

$132: P_{3122} = (1, 2, 11, 1)$

$133: P_{3130} = (9, 2, 11, 1)$

$134: P_{3187} = (2, 6, 11, 1)$

$135: P_{3199} = (14, 6, 11, 1)$

$136: P_{3205} = (4, 7, 11, 1)$

$137: P_{3210} = (9, 7, 11, 1)$

$138: P_{3234} = (1, 9, 11, 1)$

$139: P_{3235} = (2, 9, 11, 1)$

$140: P_{3259} = (10, 10, 11, 1)$

$141: P_{3275} = (10, 11, 11, 1)$

$142: P_{3276} = (11, 11, 11, 1)$

$143: P_{3353} = (8, 0, 12, 1)$

$144: P_{3355} = (10, 0, 12, 1)$

$145: P_{3386} = (9, 2, 12, 1)$

$146: P_{3407} = (14, 3, 12, 1)$

$147: P_{3408} = (15, 3, 12, 1)$

$148: P_{3417} = (8, 4, 12, 1)$

$149: P_{3423} = (14, 4, 12, 1)$

$150: P_{3435} = (10, 5, 12, 1)$

$151: P_{3438} = (13, 5, 12, 1)$

$152: P_{3442} = (1, 6, 12, 1)$

$153: P_{3446} = (5, 6, 12, 1)$

$154: P_{3478} = (5, 8, 12, 1)$

$155: P_{3488} = (15, 8, 12, 1)$

$156: P_{3506} = (1, 10, 12, 1)$

$157: P_{3514} = (9, 10, 12, 1)$

$158: P_{3585} = (0, 15, 12, 1)$

$159: P_{3598} = (13, 15, 12, 1)$

$160: P_{3604} = (3, 0, 13, 1)$

$161: P_{3611} = (10, 0, 13, 1)$

$162: P_{3654} = (5, 3, 13, 1)$

$163: P_{3664} = (15, 3, 13, 1)$

$164: P_{3681} = (0, 5, 13, 1)$

$165: P_{3693} = (12, 5, 13, 1)$

$166: P_{3714} = (1, 7, 13, 1)$

$167: P_{3728} = (15, 7, 13, 1)$

$168: P_{3733} = (4, 8, 13, 1)$

$169: P_{3734} = (5, 8, 13, 1)$

$170: P_{3747} = (2, 9, 13, 1)$

$171: P_{3762} = (1, 10, 13, 1)$

$172: P_{3763} = (2, 10, 13, 1)$

$173: P_{3828} = (3, 14, 13, 1)$

$174: P_{3829} = (4, 14, 13, 1)$

$175: P_{3851} = (10, 15, 13, 1)$

$176: P_{3853} = (12, 15, 13, 1)$

$177: P_{3883} = (10, 1, 14, 1)$

$178: P_{3885} = (12, 1, 14, 1)$

$179: P_{3905} = (0, 3, 14, 1)$

$180: P_{3909} = (4, 3, 14, 1)$

$181: P_{3965} = (12, 6, 14, 1)$

$182: P_{3966} = (13, 6, 14, 1)$

$183: P_{3975} = (6, 7, 14, 1)$

$184: P_{3991} = (6, 8, 14, 1)$

$185: P_{3994} = (9, 8, 14, 1)$

$186: P_{4005} = (4, 9, 14, 1)$

$187: P_{4011} = (10, 9, 14, 1)$

$188: P_{4038} = (5, 11, 14, 1)$

$189: P_{4042} = (9, 11, 14, 1)$

$190: P_{4102} = (5, 15, 14, 1)$

$191: P_{4110} = (13, 15, 14, 1)$

$192: P_{4193} = (0, 5, 15, 1)$

Line Intersection Graph

$$\begin{array}{c|ccc} & 0 & 1 & 2 \\ \hline 0 & 0 & 1 & 1 \\ 1 & 1 & 0 & 1 \\ 2 & 1 & 1 & 0 \end{array}$$

Neighbor sets in the line intersection graph:
Line 0 intersects

Line	ℓ_1	ℓ_2
in point	P_{14}	P_{15}

Line 1 intersects

Line	ℓ_0	ℓ_2
in point	P_{14}	P_{546}

Line 2 intersects

Line	ℓ_0	ℓ_1
in point	P_{15}	P_{546}

The surface has 241 points:
The points on the surface are:

0 : $P_0 = (1,0,0,0)$
1 : $P_1 = (0,1,0,0)$
2 : $P_3 = (0,0,0,1)$
3 : $P_5 = (1,1,0,0)$
4 : $P_6 = (2,1,0,0)$
5 : $P_7 = (3,1,0,0)$
6 : $P_8 = (4,1,0,0)$
7 : $P_9 = (5,1,0,0)$
8 : $P_{10} = (6,1,0,0)$
9 : $P_{11} = (7,1,0,0)$
10 : $P_{12} = (8,1,0,0)$
11 : $P_{13} = (9,1,0,0)$
12 : $P_{14} = (10,1,0,0)$
13 : $P_{15} = (11,1,0,0)$
14 : $P_{16} = (12,1,0,0)$
15 : $P_{17} = (13,1,0,0)$
16 : $P_{18} = (14,1,0,0)$
17 : $P_{19} = (15,1,0,0)$
18 : $P_{20} = (1,0,1,0)$
19 : $P_{45} = (10,1,1,0)$
20 : $P_{46} = (11,1,1,0)$
21 : $P_{55} = (4,2,1,0)$
22 : $P_{57} = (6,2,1,0)$
23 : $P_{92} = (9,4,1,0)$
24 : $P_{96} = (13,4,1,0)$
25 : $P_{170} = (7,9,1,0)$
26 : $P_{177} = (14,9,1,0)$
27 : $P_{184} = (5,10,1,0)$
28 : $P_{194} = (15,10,1,0)$
29 : $P_{198} = (3,11,1,0)$
30 : $P_{203} = (8,11,1,0)$
31 : $P_{245} = (2,14,1,0)$
32 : $P_{255} = (12,14,1,0)$

33 : $P_{291} = (1,1,0,1)$
34 : $P_{310} = (4,2,0,1)$
35 : $P_{327} = (5,3,0,1)$
36 : $P_{347} = (9,4,0,1)$
37 : $P_{362} = (8,5,0,1)$
38 : $P_{383} = (13,6,0,1)$
39 : $P_{398} = (12,7,0,1)$
40 : $P_{417} = (15,8,0,1)$
41 : $P_{432} = (14,9,0,1)$
42 : $P_{445} = (11,10,0,1)$
43 : $P_{460} = (10,11,0,1)$
44 : $P_{472} = (6,12,0,1)$
45 : $P_{489} = (7,13,0,1)$
46 : $P_{500} = (2,14,0,1)$
47 : $P_{517} = (3,15,0,1)$
48 : $P_{540} = (10,0,1,1)$
49 : $P_{541} = (11,0,1,1)$
50 : $P_{546} = (0,1,1,1)$
51 : $P_{565} = (4,2,1,1)$
52 : $P_{568} = (7,2,1,1)$
53 : $P_{590} = (13,3,1,1)$
54 : $P_{592} = (15,3,1,1)$
55 : $P_{602} = (9,4,1,1)$
56 : $P_{605} = (12,4,1,1)$
57 : $P_{612} = (3,5,1,1)$
58 : $P_{616} = (7,5,1,1)$
59 : $P_{628} = (3,6,1,1)$
60 : $P_{629} = (4,6,1,1)$
61 : $P_{649} = (8,7,1,1)$
62 : $P_{655} = (14,7,1,1)$
63 : $P_{662} = (5,8,1,1)$
64 : $P_{669} = (12,8,1,1)$
65 : $P_{679} = (6,9,1,1)$

66 : $P_{687} = (14,9,1,1)$
67 : $P_{690} = (1,10,1,1)$
68 : $P_{699} = (10,10,1,1)$
69 : $P_{706} = (1,11,1,1)$
70 : $P_{716} = (11,11,1,1)$
71 : $P_{723} = (2,12,1,1)$
72 : $P_{736} = (15,12,1,1)$
73 : $P_{742} = (5,13,1,1)$
74 : $P_{746} = (9,13,1,1)$
75 : $P_{755} = (2,14,1,1)$
76 : $P_{766} = (13,14,1,1)$
77 : $P_{775} = (6,15,1,1)$
78 : $P_{777} = (8,15,1,1)$
79 : $P_{807} = (6,1,2,1)$
80 : $P_{812} = (11,1,2,1)$
81 : $P_{840} = (7,3,2,1)$
82 : $P_{841} = (8,3,2,1)$
83 : $P_{865} = (0,5,2,1)$
84 : $P_{874} = (9,5,2,1)$
85 : $P_{953} = (8,10,2,1)$
86 : $P_{959} = (14,10,2,1)$
87 : $P_{990} = (13,12,2,1)$
88 : $P_{999} = (6,13,2,1)$
89 : $P_{1000} = (7,13,2,1)$
90 : $P_{1018} = (9,14,2,1)$
91 : $P_{1020} = (11,14,2,1)$
92 : $P_{1038} = (13,15,2,1)$
93 : $P_{1039} = (14,15,2,1)$
94 : $P_{1169} = (0,8,3,1)$
95 : $P_{1323} = (10,1,4,1)$
96 : $P_{1326} = (13,1,4,1)$
97 : $P_{1339} = (10,2,4,1)$
98 : $P_{1343} = (14,2,4,1)$

$99: P_{1347} = (2, 3, 4, 1)$
$100: P_{1352} = (7, 3, 4, 1)$
$101: P_{1389} = (12, 5, 4, 1)$
$102: P_{1392} = (15, 5, 4, 1)$
$103: P_{1400} = (7, 6, 4, 1)$
$104: P_{1421} = (12, 7, 4, 1)$
$105: P_{1422} = (13, 7, 4, 1)$
$106: P_{1425} = (0, 8, 4, 1)$
$107: P_{1439} = (14, 8, 4, 1)$
$108: P_{1475} = (2, 11, 4, 1)$
$109: P_{1488} = (15, 11, 4, 1)$
$110: P_{1793} = (0, 15, 5, 1)$
$111: P_{1820} = (11, 0, 6, 1)$
$112: P_{1824} = (15, 0, 6, 1)$
$113: P_{1857} = (0, 3, 6, 1)$
$114: P_{1864} = (7, 3, 6, 1)$
$115: P_{1887} = (14, 4, 6, 1)$
$116: P_{1891} = (2, 5, 6, 1)$
$117: P_{1892} = (3, 5, 6, 1)$
$118: P_{1944} = (7, 8, 6, 1)$
$119: P_{1948} = (11, 8, 6, 1)$
$120: P_{1955} = (2, 9, 6, 1)$
$121: P_{1968} = (15, 9, 6, 1)$
$122: P_{1986} = (1, 11, 6, 1)$
$123: P_{1999} = (14, 11, 6, 1)$
$124: P_{2018} = (1, 13, 6, 1)$
$125: P_{2025} = (8, 13, 6, 1)$
$126: P_{2052} = (3, 15, 6, 1)$
$127: P_{2057} = (8, 15, 6, 1)$
$128: P_{2070} = (5, 0, 7, 1)$
$129: P_{2076} = (11, 0, 7, 1)$
$130: P_{2102} = (5, 2, 7, 1)$
$131: P_{2106} = (9, 2, 7, 1)$
$132: P_{2119} = (6, 3, 7, 1)$
$133: P_{2124} = (11, 3, 7, 1)$
$134: P_{2148} = (3, 5, 7, 1)$
$135: P_{2153} = (8, 5, 7, 1)$
$136: P_{2193} = (0, 8, 7, 1)$
$137: P_{2199} = (6, 8, 7, 1)$
$138: P_{2242} = (1, 11, 7, 1)$
$139: P_{2245} = (4, 11, 7, 1)$
$140: P_{2258} = (1, 12, 7, 1)$
$141: P_{2260} = (3, 12, 7, 1)$
$142: P_{2293} = (4, 14, 7, 1)$
$143: P_{2313} = (8, 15, 7, 1)$
$144: P_{2314} = (9, 15, 7, 1)$
$145: P_{2369} = (0, 3, 8, 1)$
$146: P_{2600} = (7, 1, 9, 1)$

$147: P_{2604} = (11, 1, 9, 1)$
$148: P_{2643} = (2, 4, 9, 1)$
$149: P_{2652} = (11, 4, 9, 1)$
$150: P_{2661} = (4, 5, 9, 1)$
$151: P_{2669} = (12, 5, 9, 1)$
$152: P_{2708} = (3, 8, 9, 1)$
$153: P_{2711} = (6, 8, 9, 1)$
$154: P_{2740} = (3, 10, 9, 1)$
$155: P_{2741} = (4, 10, 9, 1)$
$156: P_{2775} = (6, 12, 9, 1)$
$157: P_{2776} = (7, 12, 9, 1)$
$158: P_{2797} = (12, 13, 9, 1)$
$159: P_{2817} = (0, 15, 9, 1)$
$160: P_{2819} = (2, 15, 9, 1)$
$161: P_{2835} = (2, 0, 10, 1)$
$162: P_{2842} = (9, 0, 10, 1)$
$163: P_{2849} = (0, 1, 10, 1)$
$164: P_{2859} = (10, 1, 10, 1)$
$165: P_{2898} = (1, 4, 10, 1)$
$166: P_{2911} = (14, 4, 10, 1)$
$167: P_{3003} = (10, 10, 10, 1)$
$168: P_{3004} = (11, 10, 10, 1)$
$169: P_{3020} = (11, 11, 10, 1)$
$170: P_{3034} = (9, 12, 10, 1)$
$171: P_{3039} = (14, 12, 10, 1)$
$172: P_{3043} = (2, 13, 10, 1)$
$173: P_{3045} = (4, 13, 10, 1)$
$174: P_{3058} = (1, 14, 10, 1)$
$175: P_{3061} = (4, 14, 10, 1)$
$176: P_{3093} = (4, 0, 11, 1)$
$177: P_{3103} = (14, 0, 11, 1)$
$178: P_{3105} = (0, 1, 11, 1)$
$179: P_{3116} = (11, 1, 11, 1)$
$180: P_{3122} = (1, 2, 11, 1)$
$181: P_{3130} = (9, 2, 11, 1)$
$182: P_{3187} = (2, 6, 11, 1)$
$183: P_{3199} = (14, 6, 11, 1)$
$184: P_{3205} = (4, 7, 11, 1)$
$185: P_{3210} = (9, 7, 11, 1)$
$186: P_{3234} = (1, 9, 11, 1)$
$187: P_{3235} = (2, 9, 11, 1)$
$188: P_{3259} = (10, 10, 11, 1)$
$189: P_{3275} = (10, 11, 11, 1)$
$190: P_{3276} = (11, 11, 11, 1)$
$191: P_{3353} = (8, 0, 12, 1)$
$192: P_{3355} = (10, 0, 12, 1)$
$193: P_{3386} = (9, 2, 12, 1)$
$194: P_{3407} = (14, 3, 12, 1)$

$195: P_{3408} = (15, 3, 12, 1)$
$196: P_{3417} = (8, 4, 12, 1)$
$197: P_{3423} = (14, 4, 12, 1)$
$198: P_{3435} = (10, 5, 12, 1)$
$199: P_{3438} = (13, 5, 12, 1)$
$200: P_{3442} = (1, 6, 12, 1)$
$201: P_{3446} = (5, 6, 12, 1)$
$202: P_{3478} = (5, 8, 12, 1)$
$203: P_{3488} = (15, 8, 12, 1)$
$204: P_{3506} = (1, 10, 12, 1)$
$205: P_{3514} = (9, 10, 12, 1)$
$206: P_{3585} = (0, 15, 12, 1)$
$207: P_{3598} = (13, 15, 12, 1)$
$208: P_{3604} = (3, 0, 13, 1)$
$209: P_{3611} = (10, 0, 13, 1)$
$210: P_{3654} = (5, 3, 13, 1)$
$211: P_{3664} = (15, 3, 13, 1)$
$212: P_{3681} = (0, 5, 13, 1)$
$213: P_{3693} = (12, 5, 13, 1)$
$214: P_{3714} = (1, 7, 13, 1)$
$215: P_{3728} = (15, 7, 13, 1)$
$216: P_{3733} = (4, 8, 13, 1)$
$217: P_{3734} = (5, 8, 13, 1)$
$218: P_{3747} = (2, 9, 13, 1)$
$219: P_{3762} = (1, 10, 13, 1)$
$220: P_{3763} = (2, 10, 13, 1)$
$221: P_{3828} = (3, 14, 13, 1)$
$222: P_{3829} = (4, 14, 13, 1)$
$223: P_{3851} = (10, 15, 13, 1)$
$224: P_{3853} = (12, 15, 13, 1)$
$225: P_{3883} = (10, 1, 14, 1)$
$226: P_{3885} = (12, 1, 14, 1)$
$227: P_{3905} = (0, 3, 14, 1)$
$228: P_{3909} = (4, 3, 14, 1)$
$229: P_{3965} = (12, 6, 14, 1)$
$230: P_{3966} = (13, 6, 14, 1)$
$231: P_{3975} = (6, 7, 14, 1)$
$232: P_{3991} = (6, 8, 14, 1)$
$233: P_{3994} = (9, 8, 14, 1)$
$234: P_{4005} = (4, 9, 14, 1)$
$235: P_{4011} = (10, 9, 14, 1)$
$236: P_{4038} = (5, 11, 14, 1)$
$237: P_{4042} = (9, 11, 14, 1)$
$238: P_{4102} = (5, 15, 14, 1)$
$239: P_{4110} = (13, 15, 14, 1)$
$240: P_{4193} = (0, 5, 15, 1)$