Rank-69 over GF(8)

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The equation

The equation of the surface is :

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

(1, 1, 1, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)
The point rank of the equation over GF(8) is 8865

General information

Number of lines	13
Number of points	105
Number of singular points	1
Number of Eckardt points	0
Number of double points	0
Number of single points	104
Number of points off lines	0
Number of Hesse planes	0
Number of axes	0
Type of points on lines	9^{13}
Type of lines on points	13, 1^{104}

Singular Points

The surface has 1 singular points:

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

The 13 Lines

The lines and their Pluecker coordinates are:

$$\ell_0 = \begin{bmatrix} 1 & \gamma^6 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{510} = \begin{bmatrix} 1 & 6 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{510} = \mathbf{Pl}(0,0,0,6,1,0)_{276}$$

$$\ell_1 = \begin{bmatrix} 1 & \gamma^5 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{291} = \begin{bmatrix} 1 & 3 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{291} = \mathbf{Pl}(0,0,0,3,1,0)_{231}$$

$$\ell_2 = \begin{bmatrix} 1 & \gamma^3 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{437} = \begin{bmatrix} 1 & 5 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{437} = \mathbf{Pl}(0,0,0,5,1,0)_{261}$$

$$\ell_3 = \begin{bmatrix} 1 & 0 & \gamma^6 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{3576} = \begin{bmatrix} 1 & 0 & 6 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{3576} = \mathbf{Pl}(0,6,0,0,1,0)_{94}$$

$$\ell_4 = \begin{bmatrix} 1 & 0 & \gamma^5 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{1824} = \begin{bmatrix} 1 & 0 & 3 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{1824} = \mathbf{Pl}(0,3,0,0,1,0)_{91}$$

$$\ell_5 = \begin{bmatrix} 1 & 0 & \gamma^3 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{2992} = \begin{bmatrix} 1 & 0 & 5 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{2992} = \mathbf{Pl}(0,5,0,0,1,0)_{93}$$

$$\ell_6 = \begin{bmatrix} 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4689} = \begin{bmatrix} 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4689} = \mathbf{Pl}(0,1,0,1,0,0)_{25}$$

$$\ell_7 = \begin{bmatrix} 1 & 1 & \gamma^6 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{3649} = \begin{bmatrix} 1 & 1 & 6 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{3649} = \mathbf{Pl}(0,6,0,1,1,0)_{214}$$

$$\ell_8 = \begin{bmatrix} 1 & \gamma^5 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{875} = \begin{bmatrix} 1 & 3 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{875} = \mathbf{Pl}(0,1,0,3,1,0)_{239}$$

$$\ell_9 = \begin{bmatrix} 1 & 1 & \gamma^5 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{1897} = \begin{bmatrix} 1 & 1 & 3 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{1897} = \mathbf{Pl}(0,3,0,1,1,0)_{211}$$

$$\ell_{10} = \begin{bmatrix} 1 & \gamma^3 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{1021} = \begin{bmatrix} 1 & 5 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{1021} = \mathbf{Pl}(0,1,0,5,1,0)_{269}$$

$$\ell_{11} = \begin{bmatrix} 1 & \gamma^6 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{1094} = \begin{bmatrix} 1 & 6 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{1094} = \mathbf{Pl}(0,1,0,6,1,0)_{284}$$

$$\ell_{12} = \begin{bmatrix} 1 & 1 & \gamma^3 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{3065} = \begin{bmatrix} 1 & 1 & 5 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{3065} = \mathbf{Pl}(0,5,0,1,1,0)_{213}$$

Rank of lines: (510, 291, 437, 3576, 1824, 2992, 4689, 3649, 875, 1897, 1021, 1094, 3065)
Rank of points on Klein quadric: (276, 231, 261, 94, 91, 93, 25, 214, 239, 211, 269, 284, 213)

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 104 single points:
The single points on the surface are:

$0:\ P_{6} = (2,1,0,0)$ lies on line ℓ_{0}
$1:\ P_{8} = (4,1,0,0)$ lies on line ℓ_{1}
$2:\ P_{11} = (7,1,0,0)$ lies on line ℓ_{2}
$3:\ P_{13} = (2,0,1,0)$ lies on line ℓ_{3}
$4:\ P_{15} = (4,0,1,0)$ lies on line ℓ_{4}
$5:\ P_{18} = (7,0,1,0)$ lies on line ℓ_{5}
$6:\ P_{19} = (0,1,1,0)$ lies on line ℓ_{6}
$7:\ P_{29} = (2,2,1,0)$ lies on line ℓ_{7}
$8:\ P_{36} = (1,3,1,0)$ lies on line ℓ_{8}
$9:\ P_{47} = (4,4,1,0)$ lies on line ℓ_{9}
$10:\ P_{52} = (1,5,1,0)$ lies on line ℓ_{10}
$11:\ P_{60} = (1,6,1,0)$ lies on line ℓ_{11}
$12:\ P_{74} = (7,7,1,0)$ lies on line ℓ_{12}
$13:\ P_{84} = (2,1,0,1)$ lies on line ℓ_{0}
$14:\ P_{86} = (4,1,0,1)$ lies on line ℓ_{1}
$15:\ P_{89} = (7,1,0,1)$ lies on line ℓ_{2}
$16:\ P_{93} = (3,2,0,1)$ lies on line ℓ_{2}
$17:\ P_{94} = (4,2,0,1)$ lies on line ℓ_{0}
$18:\ P_{95} = (5,2,0,1)$ lies on line ℓ_{1}
$19:\ P_{99} = (1,3,0,1)$ lies on line ℓ_{1}
$20:\ P_{102} = (4,3,0,1)$ lies on line ℓ_{2}
$21:\ P_{104} = (6,3,0,1)$ lies on line ℓ_{0}
$22:\ P_{111} = (5,4,0,1)$ lies on line ℓ_{0}
$23:\ P_{112} = (6,4,0,1)$ lies on line ℓ_{2}
$24:\ P_{113} = (7,4,0,1)$ lies on line ℓ_{1}
$25:\ P_{115} = (1,5,0,1)$ lies on line ℓ_{2}
$26:\ P_{117} = (3,5,0,1)$ lies on line ℓ_{1}
$27:\ P_{121} = (7,5,0,1)$ lies on line ℓ_{0}
$28:\ P_{123} = (1,6,0,1)$ lies on line ℓ_{0}
$29:\ P_{124} = (2,6,0,1)$ lies on line ℓ_{1}
$30:\ P_{127} = (5,6,0,1)$ lies on line ℓ_{2}
$31:\ P_{132} = (2,7,0,1)$ lies on line ℓ_{2}
$32:\ P_{133} = (3,7,0,1)$ lies on line ℓ_{0}
$33:\ P_{136} = (6,7,0,1)$ lies on line ℓ_{1}
$34:\ P_{140} = (2,0,1,1)$ lies on line ℓ_{3}
$35:\ P_{142} = (4,0,1,1)$ lies on line ℓ_{4}
$36:\ P_{145} = (7,0,1,1)$ lies on line ℓ_{5}
$37:\ P_{146} = (0,1,1,1)$ lies on line ℓ_{6}
$38:\ P_{155} = (2,2,1,1)$ lies on line ℓ_{7}
$39:\ P_{162} = (1,3,1,1)$ lies on line ℓ_{8}
$40:\ P_{173} = (4,4,1,1)$ lies on line ℓ_{9}
$41:\ P_{178} = (1,5,1,1)$ lies on line ℓ_{10}
$42:\ P_{186} = (1,6,1,1)$ lies on line ℓ_{11}
$43:\ P_{200} = (7,7,1,1)$ lies on line ℓ_{12}
$44:\ P_{204} = (3,0,2,1)$ lies on line ℓ_{5}
$45:\ P_{205} = (4,0,2,1)$ lies on line ℓ_{3}
$46:\ P_{206} = (5,0,2,1)$ lies on line ℓ_{4}
$47:\ P_{211} = (2,1,2,1)$ lies on line ℓ_{11}
$48:\ P_{217} = (0,2,2,1)$ lies on line ℓ_{6}
$49:\ P_{228} = (3,3,2,1)$ lies on line ℓ_{12}
$50:\ P_{237} = (4,4,2,1)$ lies on line ℓ_{7}
$51:\ P_{246} = (5,5,2,1)$ lies on line ℓ_{9}
$52:\ P_{251} = (2,6,2,1)$ lies on line ℓ_{8}
$53:\ P_{259} = (2,7,2,1)$ lies on line ℓ_{10}
$54:\ P_{266} = (1,0,3,1)$ lies on line ℓ_{4}
$55:\ P_{269} = (4,0,3,1)$ lies on line ℓ_{5}
$56:\ P_{271} = (6,0,3,1)$ lies on line ℓ_{3}
$57:\ P_{274} = (1,1,3,1)$ lies on line ℓ_{9}
$58:\ P_{284} = (3,2,3,1)$ lies on line ℓ_{10}
$59:\ P_{289} = (0,3,3,1)$ lies on line ℓ_{6}
$60:\ P_{301} = (4,4,3,1)$ lies on line ℓ_{12}
$61:\ P_{308} = (3,5,3,1)$ lies on line ℓ_{8}
$62:\ P_{319} = (6,6,3,1)$ lies on line ℓ_{7}
$63:\ P_{324} = (3,7,3,1)$ lies on line ℓ_{11}
$64:\ P_{334} = (5,0,4,1)$ lies on line ℓ_{3}
$65:\ P_{335} = (6,0,4,1)$ lies on line ℓ_{5}
$66:\ P_{336} = (7,0,4,1)$ lies on line ℓ_{4}
$67:\ P_{341} = (4,1,4,1)$ lies on line ℓ_{8}
$68:\ P_{349} = (4,2,4,1)$ lies on line ℓ_{11}
$69:\ P_{357} = (4,3,4,1)$ lies on line ℓ_{10}
$70:\ P_{361} = (0,4,4,1)$ lies on line ℓ_{6}
$71:\ P_{374} = (5,5,4,1)$ lies on line ℓ_{7}
$72:\ P_{383} = (6,6,4,1)$ lies on line ℓ_{12}
$73:\ P_{392} = (7,7,4,1)$ lies on line ℓ_{9}
$74:\ P_{394} = (1,0,5,1)$ lies on line ℓ_{5}
$75:\ P_{396} = (3,0,5,1)$ lies on line ℓ_{4}
$76:\ P_{400} = (7,0,5,1)$ lies on line ℓ_{3}
$77:\ P_{402} = (1,1,5,1)$ lies on line ℓ_{12}
$78:\ P_{414} = (5,2,5,1)$ lies on line ℓ_{8}
$79:\ P_{420} = (3,3,5,1)$ lies on line ℓ_{9}
$80:\ P_{430} = (5,4,5,1)$ lies on line ℓ_{11}
$81:\ P_{433} = (0,5,5,1)$ lies on line ℓ_{6}
$82:\ P_{446} = (5,6,5,1)$ lies on line ℓ_{10}
$83:\ P_{456} = (7,7,5,1)$ lies on line ℓ_{7}
$84:\ P_{458} = (1,0,6,1)$ lies on line ℓ_{3}
$85:\ P_{459} = (2,0,6,1)$ lies on line ℓ_{4}
$86:\ P_{462} = (5,0,6,1)$ lies on line ℓ_{5}
$87:\ P_{466} = (1,1,6,1)$ lies on line ℓ_{7}
$88:\ P_{475} = (2,2,6,1)$ lies on line ℓ_{9}
$89:\ P_{487} = (6,3,6,1)$ lies on line ℓ_{11}
$90:\ P_{495} = (6,4,6,1)$ lies on line ℓ_{10}
$91:\ P_{502} = (5,5,6,1)$ lies on line ℓ_{12}
$92:\ P_{505} = (0,6,6,1)$ lies on line ℓ_{6}
$93:\ P_{519} = (6,7,6,1)$ lies on line ℓ_{8}
$94:\ P_{523} = (2,0,7,1)$ lies on line ℓ_{5}
$95:\ P_{524} = (3,0,7,1)$ lies on line ℓ_{3}
$96:\ P_{527} = (6,0,7,1)$ lies on line ℓ_{4}
$97:\ P_{536} = (7,1,7,1)$ lies on line ℓ_{10}
$98:\ P_{539} = (2,2,7,1)$ lies on line ℓ_{12}
$99:\ P_{548} = (3,3,7,1)$ lies on line ℓ_{7}
$100:\ P_{560} = (7,4,7,1)$ lies on line ℓ_{8}
$101:\ P_{568} = (7,5,7,1)$ lies on line ℓ_{11}
$102:\ P_{575} = (6,6,7,1)$ lies on line ℓ_{9}
$103:\ P_{577} = (0,7,7,1)$ 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
0	0	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
2	1	1	0	1	1	1	1	1	1	1	1	1	1
3	1	1	1	0	1	1	1	1	1	1	1	1	1
4	1	1	1	1	0	1	1	1	1	1	1	1	1
5	1	1	1	1	1	0	1	1	1	1	1	1	1
6	1	1	1	1	1	1	0	1	1	1	1	1	1
7	1	1	1	1	1	1	1	0	1	1	1	1	1
8	1	1	1	1	1	1	1	1	0	1	1	1	1
9	1	1	1	1	1	1	1	1	1	0	1	1	1
10	1	1	1	1	1	1	1	1	1	1	0	1	1
11	1	1	1	1	1	1	1	1	1	1	1	0	1
12	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}
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

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}
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

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}
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

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}
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

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}
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

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}
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

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}
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

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}
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

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}
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

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}
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

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}
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

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}
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

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}
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

The surface has 105 points:
The points on the surface are:

$0: P_3 = (0,0,0,1)$
$1: P_6 = (2,1,0,0)$
$2: P_8 = (4,1,0,0)$
$3: P_{11} = (7,1,0,0)$
$4: P_{13} = (2,0,1,0)$
$5: P_{15} = (4,0,1,0)$
$6: P_{18} = (7,0,1,0)$
$7: P_{19} = (0,1,1,0)$
$8: P_{29} = (2,2,1,0)$
$9: P_{36} = (1,3,1,0)$
$10: P_{47} = (4,4,1,0)$
$11: P_{52} = (1,5,1,0)$
$12: P_{60} = (1,6,1,0)$
$13: P_{74} = (7,7,1,0)$
$14: P_{84} = (2,1,0,1)$
$15: P_{86} = (4,1,0,1)$
$16: P_{89} = (7,1,0,1)$
$17: P_{93} = (3,2,0,1)$
$18: P_{94} = (4,2,0,1)$
$19: P_{95} = (5,2,0,1)$
$20: P_{99} = (1,3,0,1)$
$21: P_{102} = (4,3,0,1)$
$22: P_{104} = (6,3,0,1)$
$23: P_{111} = (5,4,0,1)$
$24: P_{112} = (6,4,0,1)$
$25: P_{113} = (7,4,0,1)$
$26: P_{115} = (1,5,0,1)$
$27: P_{117} = (3,5,0,1)$
$28: P_{121} = (7,5,0,1)$
$29: P_{123} = (1,6,0,1)$
$30: P_{124} = (2,6,0,1)$
$31: P_{127} = (5,6,0,1)$
$32: P_{132} = (2,7,0,1)$
$33: P_{133} = (3,7,0,1)$
$34: P_{136} = (6,7,0,1)$
$35: P_{140} = (2,0,1,1)$
$36: P_{142} = (4,0,1,1)$
$37: P_{145} = (7,0,1,1)$
$38: P_{146} = (0,1,1,1)$
$39: P_{155} = (2,2,1,1)$
$40: P_{162} = (1,3,1,1)$
$41: P_{173} = (4,4,1,1)$
$42: P_{178} = (1,5,1,1)$
$43: P_{186} = (1,6,1,1)$
$44: P_{200} = (7,7,1,1)$
$45: P_{204} = (3,0,2,1)$
$46: P_{205} = (4,0,2,1)$
$47: P_{206} = (5,0,2,1)$
$48: P_{211} = (2,1,2,1)$
$49: P_{217} = (0,2,2,1)$
$50: P_{228} = (3,3,2,1)$
$51: P_{237} = (4,4,2,1)$
$52: P_{246} = (5,5,2,1)$
$53: P_{251} = (2,6,2,1)$

$54: P_{259} = (2, 7, 2, 1)$
$55: P_{266} = (1, 0, 3, 1)$
$56: P_{269} = (4, 0, 3, 1)$
$57: P_{271} = (6, 0, 3, 1)$
$58: P_{274} = (1, 1, 3, 1)$
$59: P_{284} = (3, 2, 3, 1)$
$60: P_{289} = (0, 3, 3, 1)$
$61: P_{301} = (4, 4, 3, 1)$
$62: P_{308} = (3, 5, 3, 1)$
$63: P_{319} = (6, 6, 3, 1)$
$64: P_{324} = (3, 7, 3, 1)$
$65: P_{334} = (5, 0, 4, 1)$
$66: P_{335} = (6, 0, 4, 1)$
$67: P_{336} = (7, 0, 4, 1)$
$68: P_{341} = (4, 1, 4, 1)$
$69: P_{349} = (4, 2, 4, 1)$
$70: P_{357} = (4, 3, 4, 1)$
$71: P_{361} = (0, 4, 4, 1)$
$72: P_{374} = (5, 5, 4, 1)$
$73: P_{383} = (6, 6, 4, 1)$
$74: P_{392} = (7, 7, 4, 1)$
$75: P_{394} = (1, 0, 5, 1)$
$76: P_{396} = (3, 0, 5, 1)$
$77: P_{400} = (7, 0, 5, 1)$
$78: P_{402} = (1, 1, 5, 1)$
$79: P_{414} = (5, 2, 5, 1)$
$80: P_{420} = (3, 3, 5, 1)$
$81: P_{430} = (5, 4, 5, 1)$
$82: P_{433} = (0, 5, 5, 1)$
$83: P_{446} = (5, 6, 5, 1)$
$84: P_{456} = (7, 7, 5, 1)$
$85: P_{458} = (1, 0, 6, 1)$
$86: P_{459} = (2, 0, 6, 1)$
$87: P_{462} = (5, 0, 6, 1)$
$88: P_{466} = (1, 1, 6, 1)$
$89: P_{475} = (2, 2, 6, 1)$
$90: P_{487} = (6, 3, 6, 1)$
$91: P_{495} = (6, 4, 6, 1)$
$92: P_{502} = (5, 5, 6, 1)$
$93: P_{505} = (0, 6, 6, 1)$
$94: P_{519} = (6, 7, 6, 1)$
$95: P_{523} = (2, 0, 7, 1)$
$96: P_{524} = (3, 0, 7, 1)$
$97: P_{527} = (6, 0, 7, 1)$
$98: P_{536} = (7, 1, 7, 1)$
$99: P_{539} = (2, 2, 7, 1)$
$100: P_{548} = (3, 3, 7, 1)$
$101: P_{560} = (7, 4, 7, 1)$
$102: P_{568} = (7, 5, 7, 1)$
$103: P_{575} = (6, 6, 7, 1)$
$104: P_{577} = (0, 7, 7, 1)$