

Rank-46 over GF(16)

January 15, 2021

The equation

The equation of the surface is :

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

(1, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)
The point rank of the equation over GF(16) is 8754

General information

Number of lines	0
Number of points	273
Number of singular points	0
Number of Eckardt points	0
Number of double points	0
Number of single points	0
Number of points off lines	273
Number of Hesse planes	0
Number of axes	0
Type of points on lines	
Type of lines on points	0^{273}

Singular Points

The surface has 0 singular points:

The 0 Lines

The lines and their Pluecker coordinates are:

Rank of lines: ()

Rank of points on Klein quadric: ()

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 0 single points:

The single points on the surface are:

The single points on the surface are:

Points on surface but on no line

The surface has 273 points not on any line:

The points on the surface but not on lines are:

0 : $P_{20} = (1, 0, 1, 0)$	27 : $P_{898} = (1, 7, 2, 1)$
1 : $P_{29} = (10, 0, 1, 0)$	28 : $P_{916} = (3, 8, 2, 1)$
2 : $P_{30} = (11, 0, 1, 0)$	29 : $P_{918} = (5, 8, 2, 1)$
3 : $P_{35} = (0, 1, 1, 0)$	30 : $P_{927} = (14, 8, 2, 1)$
4 : $P_{36} = (1, 1, 1, 0)$	31 : $P_{944} = (15, 9, 2, 1)$
5 : $P_{179} = (0, 10, 1, 0)$	32 : $P_{959} = (14, 10, 2, 1)$
6 : $P_{189} = (10, 10, 1, 0)$	33 : $P_{969} = (8, 11, 2, 1)$
7 : $P_{195} = (0, 11, 1, 0)$	34 : $P_{979} = (2, 12, 2, 1)$
8 : $P_{206} = (11, 11, 1, 0)$	35 : $P_{1001} = (8, 13, 2, 1)$
9 : $P_{275} = (1, 0, 0, 1)$	36 : $P_{1013} = (4, 14, 2, 1)$
10 : $P_{284} = (10, 0, 0, 1)$	37 : $P_{1015} = (6, 14, 2, 1)$
11 : $P_{285} = (11, 0, 0, 1)$	38 : $P_{1021} = (12, 14, 2, 1)$
12 : $P_{290} = (0, 1, 0, 1)$	39 : $P_{1031} = (6, 15, 2, 1)$
13 : $P_{291} = (1, 1, 0, 1)$	40 : $P_{1070} = (13, 1, 3, 1)$
14 : $P_{434} = (0, 10, 0, 1)$	41 : $P_{1079} = (6, 2, 3, 1)$
15 : $P_{444} = (10, 10, 0, 1)$	42 : $P_{1082} = (9, 2, 3, 1)$
16 : $P_{450} = (0, 11, 0, 1)$	43 : $P_{1086} = (13, 2, 3, 1)$
17 : $P_{461} = (11, 11, 0, 1)$	44 : $P_{1102} = (13, 3, 3, 1)$
18 : $P_{530} = (0, 0, 1, 1)$	45 : $P_{1107} = (2, 4, 3, 1)$
19 : $P_{807} = (6, 1, 2, 1)$	46 : $P_{1131} = (10, 5, 3, 1)$
20 : $P_{831} = (14, 2, 2, 1)$	47 : $P_{1141} = (4, 6, 3, 1)$
21 : $P_{844} = (11, 3, 2, 1)$	48 : $P_{1168} = (15, 7, 3, 1)$
22 : $P_{859} = (10, 4, 2, 1)$	49 : $P_{1176} = (7, 8, 3, 1)$
23 : $P_{878} = (13, 5, 2, 1)$	50 : $P_{1196} = (11, 9, 3, 1)$
24 : $P_{888} = (7, 6, 2, 1)$	51 : $P_{1216} = (15, 10, 3, 1)$
25 : $P_{889} = (8, 6, 2, 1)$	52 : $P_{1219} = (2, 11, 3, 1)$
26 : $P_{890} = (9, 6, 2, 1)$	53 : $P_{1234} = (1, 12, 3, 1)$

54 : $P_{1261} = (12, 13, 3, 1)$	108 : $P_{1898} = (9, 5, 6, 1)$
55 : $P_{1263} = (14, 13, 3, 1)$	109 : $P_{1904} = (15, 5, 6, 1)$
56 : $P_{1264} = (15, 13, 3, 1)$	110 : $P_{1910} = (5, 6, 6, 1)$
57 : $P_{1268} = (3, 14, 3, 1)$	111 : $P_{1935} = (14, 7, 6, 1)$
58 : $P_{1283} = (2, 15, 3, 1)$	112 : $P_{1949} = (12, 8, 6, 1)$
59 : $P_{1286} = (5, 15, 3, 1)$	113 : $P_{1955} = (2, 9, 6, 1)$
60 : $P_{1289} = (8, 15, 3, 1)$	114 : $P_{1960} = (7, 9, 6, 1)$
61 : $P_{1326} = (13, 1, 4, 1)$	115 : $P_{1965} = (12, 9, 6, 1)$
62 : $P_{1335} = (6, 2, 4, 1)$	116 : $P_{1974} = (5, 10, 6, 1)$
63 : $P_{1338} = (9, 2, 4, 1)$	117 : $P_{1994} = (9, 11, 6, 1)$
64 : $P_{1342} = (13, 2, 4, 1)$	118 : $P_{2005} = (4, 12, 6, 1)$
65 : $P_{1358} = (13, 3, 4, 1)$	119 : $P_{2006} = (5, 12, 6, 1)$
66 : $P_{1363} = (2, 4, 4, 1)$	120 : $P_{2014} = (13, 12, 6, 1)$
67 : $P_{1387} = (10, 5, 4, 1)$	121 : $P_{2018} = (1, 13, 6, 1)$
68 : $P_{1397} = (4, 6, 4, 1)$	122 : $P_{2042} = (9, 14, 6, 1)$
69 : $P_{1424} = (15, 7, 4, 1)$	123 : $P_{2059} = (10, 15, 6, 1)$
70 : $P_{1432} = (7, 8, 4, 1)$	124 : $P_{2094} = (13, 1, 7, 1)$
71 : $P_{1452} = (11, 9, 4, 1)$	125 : $P_{2103} = (6, 2, 7, 1)$
72 : $P_{1472} = (15, 10, 4, 1)$	126 : $P_{2106} = (9, 2, 7, 1)$
73 : $P_{1475} = (2, 11, 4, 1)$	127 : $P_{2110} = (13, 2, 7, 1)$
74 : $P_{1490} = (1, 12, 4, 1)$	128 : $P_{2126} = (13, 3, 7, 1)$
75 : $P_{1517} = (12, 13, 4, 1)$	129 : $P_{2131} = (2, 4, 7, 1)$
76 : $P_{1519} = (14, 13, 4, 1)$	130 : $P_{2155} = (10, 5, 7, 1)$
77 : $P_{1520} = (15, 13, 4, 1)$	131 : $P_{2165} = (4, 6, 7, 1)$
78 : $P_{1524} = (3, 14, 4, 1)$	132 : $P_{2192} = (15, 7, 7, 1)$
79 : $P_{1539} = (2, 15, 4, 1)$	133 : $P_{2200} = (7, 8, 7, 1)$
80 : $P_{1542} = (5, 15, 4, 1)$	134 : $P_{2220} = (11, 9, 7, 1)$
81 : $P_{1545} = (8, 15, 4, 1)$	135 : $P_{2240} = (15, 10, 7, 1)$
82 : $P_{1576} = (7, 1, 5, 1)$	136 : $P_{2243} = (2, 11, 7, 1)$
83 : $P_{1590} = (5, 2, 5, 1)$	137 : $P_{2258} = (1, 12, 7, 1)$
84 : $P_{1605} = (4, 3, 5, 1)$	138 : $P_{2285} = (12, 13, 7, 1)$
85 : $P_{1609} = (8, 3, 5, 1)$	139 : $P_{2287} = (14, 13, 7, 1)$
86 : $P_{1616} = (15, 3, 5, 1)$	140 : $P_{2288} = (15, 13, 7, 1)$
87 : $P_{1624} = (7, 4, 5, 1)$	141 : $P_{2292} = (3, 14, 7, 1)$
88 : $P_{1630} = (13, 4, 5, 1)$	142 : $P_{2307} = (2, 15, 7, 1)$
89 : $P_{1631} = (14, 4, 5, 1)$	143 : $P_{2310} = (5, 15, 7, 1)$
90 : $P_{1640} = (7, 5, 5, 1)$	144 : $P_{2313} = (8, 15, 7, 1)$
91 : $P_{1650} = (1, 6, 5, 1)$	145 : $P_{2349} = (12, 1, 8, 1)$
92 : $P_{1667} = (2, 7, 5, 1)$	146 : $P_{2364} = (11, 2, 8, 1)$
93 : $P_{1668} = (3, 7, 5, 1)$	147 : $P_{2375} = (6, 3, 8, 1)$
94 : $P_{1671} = (6, 7, 5, 1)$	148 : $P_{2393} = (8, 4, 8, 1)$
95 : $P_{1692} = (11, 8, 5, 1)$	149 : $P_{2404} = (3, 5, 8, 1)$
96 : $P_{1701} = (4, 9, 5, 1)$	150 : $P_{2410} = (9, 5, 8, 1)$
97 : $P_{1717} = (4, 10, 5, 1)$	151 : $P_{2416} = (15, 5, 8, 1)$
98 : $P_{1732} = (3, 11, 5, 1)$	152 : $P_{2422} = (5, 6, 8, 1)$
99 : $P_{1748} = (3, 12, 5, 1)$	153 : $P_{2447} = (14, 7, 8, 1)$
100 : $P_{1770} = (9, 13, 5, 1)$	154 : $P_{2461} = (12, 8, 8, 1)$
101 : $P_{1787} = (10, 14, 5, 1)$	155 : $P_{2467} = (2, 9, 8, 1)$
102 : $P_{1805} = (12, 15, 5, 1)$	156 : $P_{2472} = (7, 9, 8, 1)$
103 : $P_{1837} = (12, 1, 6, 1)$	157 : $P_{2477} = (12, 9, 8, 1)$
104 : $P_{1852} = (11, 2, 6, 1)$	158 : $P_{2486} = (5, 10, 8, 1)$
105 : $P_{1863} = (6, 3, 6, 1)$	159 : $P_{2506} = (9, 11, 8, 1)$
106 : $P_{1881} = (8, 4, 6, 1)$	160 : $P_{2517} = (4, 12, 8, 1)$
107 : $P_{1892} = (3, 5, 6, 1)$	161 : $P_{2518} = (5, 12, 8, 1)$

162 : $P_{2526} = (13, 12, 8, 1)$	216 : $P_{3705} = (8, 6, 13, 1)$
163 : $P_{2530} = (1, 13, 8, 1)$	217 : $P_{3706} = (9, 6, 13, 1)$
164 : $P_{2554} = (9, 14, 8, 1)$	218 : $P_{3714} = (1, 7, 13, 1)$
165 : $P_{2571} = (10, 15, 8, 1)$	219 : $P_{3732} = (3, 8, 13, 1)$
166 : $P_{2600} = (7, 1, 9, 1)$	220 : $P_{3734} = (5, 8, 13, 1)$
167 : $P_{2614} = (5, 2, 9, 1)$	221 : $P_{3743} = (14, 8, 13, 1)$
168 : $P_{2629} = (4, 3, 9, 1)$	222 : $P_{3760} = (15, 9, 13, 1)$
169 : $P_{2633} = (8, 3, 9, 1)$	223 : $P_{3775} = (14, 10, 13, 1)$
170 : $P_{2640} = (15, 3, 9, 1)$	224 : $P_{3785} = (8, 11, 13, 1)$
171 : $P_{2648} = (7, 4, 9, 1)$	225 : $P_{3795} = (2, 12, 13, 1)$
172 : $P_{2654} = (13, 4, 9, 1)$	226 : $P_{3817} = (8, 13, 13, 1)$
173 : $P_{2655} = (14, 4, 9, 1)$	227 : $P_{3829} = (4, 14, 13, 1)$
174 : $P_{2664} = (7, 5, 9, 1)$	228 : $P_{3831} = (6, 14, 13, 1)$
175 : $P_{2674} = (1, 6, 9, 1)$	229 : $P_{3837} = (12, 14, 13, 1)$
176 : $P_{2691} = (2, 7, 9, 1)$	230 : $P_{3847} = (6, 15, 13, 1)$
177 : $P_{2692} = (3, 7, 9, 1)$	231 : $P_{3885} = (12, 1, 14, 1)$
178 : $P_{2695} = (6, 7, 9, 1)$	232 : $P_{3900} = (11, 2, 14, 1)$
179 : $P_{2716} = (11, 8, 9, 1)$	233 : $P_{3911} = (6, 3, 14, 1)$
180 : $P_{2725} = (4, 9, 9, 1)$	234 : $P_{3929} = (8, 4, 14, 1)$
181 : $P_{2741} = (4, 10, 9, 1)$	235 : $P_{3940} = (3, 5, 14, 1)$
182 : $P_{2756} = (3, 11, 9, 1)$	236 : $P_{3946} = (9, 5, 14, 1)$
183 : $P_{2772} = (3, 12, 9, 1)$	237 : $P_{3952} = (15, 5, 14, 1)$
184 : $P_{2794} = (9, 13, 9, 1)$	238 : $P_{3958} = (5, 6, 14, 1)$
185 : $P_{2811} = (10, 14, 9, 1)$	239 : $P_{3983} = (14, 7, 14, 1)$
186 : $P_{2829} = (12, 15, 9, 1)$	240 : $P_{3997} = (12, 8, 14, 1)$
187 : $P_{2833} = (0, 0, 10, 1)$	241 : $P_{4003} = (2, 9, 14, 1)$
188 : $P_{3089} = (0, 0, 11, 1)$	242 : $P_{4008} = (7, 9, 14, 1)$
189 : $P_{3368} = (7, 1, 12, 1)$	243 : $P_{4013} = (12, 9, 14, 1)$
190 : $P_{3382} = (5, 2, 12, 1)$	244 : $P_{4022} = (5, 10, 14, 1)$
191 : $P_{3397} = (4, 3, 12, 1)$	245 : $P_{4042} = (9, 11, 14, 1)$
192 : $P_{3401} = (8, 3, 12, 1)$	246 : $P_{4053} = (4, 12, 14, 1)$
193 : $P_{3408} = (15, 3, 12, 1)$	247 : $P_{4054} = (5, 12, 14, 1)$
194 : $P_{3416} = (7, 4, 12, 1)$	248 : $P_{4062} = (13, 12, 14, 1)$
195 : $P_{3422} = (13, 4, 12, 1)$	249 : $P_{4066} = (1, 13, 14, 1)$
196 : $P_{3423} = (14, 4, 12, 1)$	250 : $P_{4090} = (9, 14, 14, 1)$
197 : $P_{3432} = (7, 5, 12, 1)$	251 : $P_{4107} = (10, 15, 14, 1)$
198 : $P_{3442} = (1, 6, 12, 1)$	252 : $P_{4135} = (6, 1, 15, 1)$
199 : $P_{3459} = (2, 7, 12, 1)$	253 : $P_{4159} = (14, 2, 15, 1)$
200 : $P_{3460} = (3, 7, 12, 1)$	254 : $P_{4172} = (11, 3, 15, 1)$
201 : $P_{3463} = (6, 7, 12, 1)$	255 : $P_{4187} = (10, 4, 15, 1)$
202 : $P_{3484} = (11, 8, 12, 1)$	256 : $P_{4206} = (13, 5, 15, 1)$
203 : $P_{3493} = (4, 9, 12, 1)$	257 : $P_{4216} = (7, 6, 15, 1)$
204 : $P_{3509} = (4, 10, 12, 1)$	258 : $P_{4217} = (8, 6, 15, 1)$
205 : $P_{3524} = (3, 11, 12, 1)$	259 : $P_{4218} = (9, 6, 15, 1)$
206 : $P_{3540} = (3, 12, 12, 1)$	260 : $P_{4226} = (1, 7, 15, 1)$
207 : $P_{3562} = (9, 13, 12, 1)$	261 : $P_{4244} = (3, 8, 15, 1)$
208 : $P_{3579} = (10, 14, 12, 1)$	262 : $P_{4246} = (5, 8, 15, 1)$
209 : $P_{3597} = (12, 15, 12, 1)$	263 : $P_{4255} = (14, 8, 15, 1)$
210 : $P_{3623} = (6, 1, 13, 1)$	264 : $P_{4272} = (15, 9, 15, 1)$
211 : $P_{3647} = (14, 2, 13, 1)$	265 : $P_{4287} = (14, 10, 15, 1)$
212 : $P_{3660} = (11, 3, 13, 1)$	266 : $P_{4297} = (8, 11, 15, 1)$
213 : $P_{3675} = (10, 4, 13, 1)$	267 : $P_{4307} = (2, 12, 15, 1)$
214 : $P_{3694} = (13, 5, 13, 1)$	268 : $P_{4329} = (8, 13, 15, 1)$
215 : $P_{3704} = (7, 6, 13, 1)$	269 : $P_{4341} = (4, 14, 15, 1)$

270 : $P_{4343} = (6, 14, 15, 1)$
 271 : $P_{4349} = (12, 14, 15, 1)$

272 : $P_{4359} = (6, 15, 15, 1)$

Line Intersection Graph

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Neighbor sets in the line intersection graph:

The surface has 273 points:

The points on the surface are:

0 : $P_{20} = (1, 0, 1, 0)$	42 : $P_{1082} = (9, 2, 3, 1)$	84 : $P_{1605} = (4, 3, 5, 1)$
1 : $P_{29} = (10, 0, 1, 0)$	43 : $P_{1086} = (13, 2, 3, 1)$	85 : $P_{1609} = (8, 3, 5, 1)$
2 : $P_{30} = (11, 0, 1, 0)$	44 : $P_{1102} = (13, 3, 3, 1)$	86 : $P_{1616} = (15, 3, 5, 1)$
3 : $P_{35} = (0, 1, 1, 0)$	45 : $P_{1107} = (2, 4, 3, 1)$	87 : $P_{1624} = (7, 4, 5, 1)$
4 : $P_{36} = (1, 1, 1, 0)$	46 : $P_{1131} = (10, 5, 3, 1)$	88 : $P_{1630} = (13, 4, 5, 1)$
5 : $P_{179} = (0, 10, 1, 0)$	47 : $P_{1141} = (4, 6, 3, 1)$	89 : $P_{1631} = (14, 4, 5, 1)$
6 : $P_{189} = (10, 10, 1, 0)$	48 : $P_{1168} = (15, 7, 3, 1)$	90 : $P_{1640} = (7, 5, 5, 1)$
7 : $P_{195} = (0, 11, 1, 0)$	49 : $P_{1176} = (7, 8, 3, 1)$	91 : $P_{1650} = (1, 6, 5, 1)$
8 : $P_{206} = (11, 11, 1, 0)$	50 : $P_{1196} = (11, 9, 3, 1)$	92 : $P_{1667} = (2, 7, 5, 1)$
9 : $P_{275} = (1, 0, 0, 1)$	51 : $P_{1216} = (15, 10, 3, 1)$	93 : $P_{1668} = (3, 7, 5, 1)$
10 : $P_{284} = (10, 0, 0, 1)$	52 : $P_{1219} = (2, 11, 3, 1)$	94 : $P_{1671} = (6, 7, 5, 1)$
11 : $P_{285} = (11, 0, 0, 1)$	53 : $P_{1234} = (1, 12, 3, 1)$	95 : $P_{1692} = (11, 8, 5, 1)$
12 : $P_{290} = (0, 1, 0, 1)$	54 : $P_{1261} = (12, 13, 3, 1)$	96 : $P_{1701} = (4, 9, 5, 1)$
13 : $P_{291} = (1, 1, 0, 1)$	55 : $P_{1263} = (14, 13, 3, 1)$	97 : $P_{1717} = (4, 10, 5, 1)$
14 : $P_{434} = (0, 10, 0, 1)$	56 : $P_{1264} = (15, 13, 3, 1)$	98 : $P_{1732} = (3, 11, 5, 1)$
15 : $P_{444} = (10, 10, 0, 1)$	57 : $P_{1268} = (3, 14, 3, 1)$	99 : $P_{1748} = (3, 12, 5, 1)$
16 : $P_{450} = (0, 11, 0, 1)$	58 : $P_{1283} = (2, 15, 3, 1)$	100 : $P_{1770} = (9, 13, 5, 1)$
17 : $P_{461} = (11, 11, 0, 1)$	59 : $P_{1286} = (5, 15, 3, 1)$	101 : $P_{1787} = (10, 14, 5, 1)$
18 : $P_{530} = (0, 0, 1, 1)$	60 : $P_{1289} = (8, 15, 3, 1)$	102 : $P_{1805} = (12, 15, 5, 1)$
19 : $P_{807} = (6, 1, 2, 1)$	61 : $P_{1326} = (13, 1, 4, 1)$	103 : $P_{1837} = (12, 1, 6, 1)$
20 : $P_{831} = (14, 2, 2, 1)$	62 : $P_{1335} = (6, 2, 4, 1)$	104 : $P_{1852} = (11, 2, 6, 1)$
21 : $P_{844} = (11, 3, 2, 1)$	63 : $P_{1338} = (9, 2, 4, 1)$	105 : $P_{1863} = (6, 3, 6, 1)$
22 : $P_{859} = (10, 4, 2, 1)$	64 : $P_{1342} = (13, 2, 4, 1)$	106 : $P_{1881} = (8, 4, 6, 1)$
23 : $P_{878} = (13, 5, 2, 1)$	65 : $P_{1358} = (13, 3, 4, 1)$	107 : $P_{1892} = (3, 5, 6, 1)$
24 : $P_{888} = (7, 6, 2, 1)$	66 : $P_{1363} = (2, 4, 4, 1)$	108 : $P_{1898} = (9, 5, 6, 1)$
25 : $P_{889} = (8, 6, 2, 1)$	67 : $P_{1387} = (10, 5, 4, 1)$	109 : $P_{1904} = (15, 5, 6, 1)$
26 : $P_{890} = (9, 6, 2, 1)$	68 : $P_{1397} = (4, 6, 4, 1)$	110 : $P_{1910} = (5, 6, 6, 1)$
27 : $P_{898} = (1, 7, 2, 1)$	69 : $P_{1424} = (15, 7, 4, 1)$	111 : $P_{1935} = (14, 7, 6, 1)$
28 : $P_{916} = (3, 8, 2, 1)$	70 : $P_{1432} = (7, 8, 4, 1)$	112 : $P_{1949} = (12, 8, 6, 1)$
29 : $P_{918} = (5, 8, 2, 1)$	71 : $P_{1452} = (11, 9, 4, 1)$	113 : $P_{1955} = (2, 9, 6, 1)$
30 : $P_{927} = (14, 8, 2, 1)$	72 : $P_{1472} = (15, 10, 4, 1)$	114 : $P_{1960} = (7, 9, 6, 1)$
31 : $P_{944} = (15, 9, 2, 1)$	73 : $P_{1475} = (2, 11, 4, 1)$	115 : $P_{1965} = (12, 9, 6, 1)$
32 : $P_{959} = (14, 10, 2, 1)$	74 : $P_{1490} = (1, 12, 4, 1)$	116 : $P_{1974} = (5, 10, 6, 1)$
33 : $P_{969} = (8, 11, 2, 1)$	75 : $P_{1517} = (12, 13, 4, 1)$	117 : $P_{1994} = (9, 11, 6, 1)$
34 : $P_{979} = (2, 12, 2, 1)$	76 : $P_{1519} = (14, 13, 4, 1)$	118 : $P_{2005} = (4, 12, 6, 1)$
35 : $P_{1001} = (8, 13, 2, 1)$	77 : $P_{1520} = (15, 13, 4, 1)$	119 : $P_{2006} = (5, 12, 6, 1)$
36 : $P_{1013} = (4, 14, 2, 1)$	78 : $P_{1524} = (3, 14, 4, 1)$	120 : $P_{2014} = (13, 12, 6, 1)$
37 : $P_{1015} = (6, 14, 2, 1)$	79 : $P_{1539} = (2, 15, 4, 1)$	121 : $P_{2018} = (1, 13, 6, 1)$
38 : $P_{1021} = (12, 14, 2, 1)$	80 : $P_{1542} = (5, 15, 4, 1)$	122 : $P_{2042} = (9, 14, 6, 1)$
39 : $P_{1031} = (6, 15, 2, 1)$	81 : $P_{1545} = (8, 15, 4, 1)$	123 : $P_{2059} = (10, 15, 6, 1)$
40 : $P_{1070} = (13, 1, 3, 1)$	82 : $P_{1576} = (7, 1, 5, 1)$	124 : $P_{2094} = (13, 1, 7, 1)$
41 : $P_{1079} = (6, 2, 3, 1)$	83 : $P_{1590} = (5, 2, 5, 1)$	125 : $P_{2103} = (6, 2, 7, 1)$

126 : $P_{2106} = (9, 2, 7, 1)$	176 : $P_{2691} = (2, 7, 9, 1)$	226 : $P_{3817} = (8, 13, 13, 1)$
127 : $P_{2110} = (13, 2, 7, 1)$	177 : $P_{2692} = (3, 7, 9, 1)$	227 : $P_{3829} = (4, 14, 13, 1)$
128 : $P_{2126} = (13, 3, 7, 1)$	178 : $P_{2695} = (6, 7, 9, 1)$	228 : $P_{3831} = (6, 14, 13, 1)$
129 : $P_{2131} = (2, 4, 7, 1)$	179 : $P_{2716} = (11, 8, 9, 1)$	229 : $P_{3837} = (12, 14, 13, 1)$
130 : $P_{2155} = (10, 5, 7, 1)$	180 : $P_{2725} = (4, 9, 9, 1)$	230 : $P_{3847} = (6, 15, 13, 1)$
131 : $P_{2165} = (4, 6, 7, 1)$	181 : $P_{2741} = (4, 10, 9, 1)$	231 : $P_{3885} = (12, 1, 14, 1)$
132 : $P_{2192} = (15, 7, 7, 1)$	182 : $P_{2756} = (3, 11, 9, 1)$	232 : $P_{3900} = (11, 2, 14, 1)$
133 : $P_{2200} = (7, 8, 7, 1)$	183 : $P_{2772} = (3, 12, 9, 1)$	233 : $P_{3911} = (6, 3, 14, 1)$
134 : $P_{2220} = (11, 9, 7, 1)$	184 : $P_{2794} = (9, 13, 9, 1)$	234 : $P_{3929} = (8, 4, 14, 1)$
135 : $P_{2240} = (15, 10, 7, 1)$	185 : $P_{2811} = (10, 14, 9, 1)$	235 : $P_{3940} = (3, 5, 14, 1)$
136 : $P_{2243} = (2, 11, 7, 1)$	186 : $P_{2829} = (12, 15, 9, 1)$	236 : $P_{3946} = (9, 5, 14, 1)$
137 : $P_{2258} = (1, 12, 7, 1)$	187 : $P_{2833} = (0, 0, 10, 1)$	237 : $P_{3952} = (15, 5, 14, 1)$
138 : $P_{2285} = (12, 13, 7, 1)$	188 : $P_{3089} = (0, 0, 11, 1)$	238 : $P_{3958} = (5, 6, 14, 1)$
139 : $P_{2287} = (14, 13, 7, 1)$	189 : $P_{3368} = (7, 1, 12, 1)$	239 : $P_{3983} = (14, 7, 14, 1)$
140 : $P_{2288} = (15, 13, 7, 1)$	190 : $P_{3382} = (5, 2, 12, 1)$	240 : $P_{3997} = (12, 8, 14, 1)$
141 : $P_{2292} = (3, 14, 7, 1)$	191 : $P_{3397} = (4, 3, 12, 1)$	241 : $P_{4003} = (2, 9, 14, 1)$
142 : $P_{2307} = (2, 15, 7, 1)$	192 : $P_{3401} = (8, 3, 12, 1)$	242 : $P_{4008} = (7, 9, 14, 1)$
143 : $P_{2310} = (5, 15, 7, 1)$	193 : $P_{3408} = (15, 3, 12, 1)$	243 : $P_{4013} = (12, 9, 14, 1)$
144 : $P_{2313} = (8, 15, 7, 1)$	194 : $P_{3416} = (7, 4, 12, 1)$	244 : $P_{4022} = (5, 10, 14, 1)$
145 : $P_{2349} = (12, 1, 8, 1)$	195 : $P_{3422} = (13, 4, 12, 1)$	245 : $P_{4042} = (9, 11, 14, 1)$
146 : $P_{2364} = (11, 2, 8, 1)$	196 : $P_{3423} = (14, 4, 12, 1)$	246 : $P_{4053} = (4, 12, 14, 1)$
147 : $P_{2375} = (6, 3, 8, 1)$	197 : $P_{3432} = (7, 5, 12, 1)$	247 : $P_{4054} = (5, 12, 14, 1)$
148 : $P_{2393} = (8, 4, 8, 1)$	198 : $P_{3442} = (1, 6, 12, 1)$	248 : $P_{4062} = (13, 12, 14, 1)$
149 : $P_{2404} = (3, 5, 8, 1)$	199 : $P_{3459} = (2, 7, 12, 1)$	249 : $P_{4066} = (1, 13, 14, 1)$
150 : $P_{2410} = (9, 5, 8, 1)$	200 : $P_{3460} = (3, 7, 12, 1)$	250 : $P_{4090} = (9, 14, 14, 1)$
151 : $P_{2416} = (15, 5, 8, 1)$	201 : $P_{3463} = (6, 7, 12, 1)$	251 : $P_{4107} = (10, 15, 14, 1)$
152 : $P_{2422} = (5, 6, 8, 1)$	202 : $P_{3484} = (11, 8, 12, 1)$	252 : $P_{4135} = (6, 1, 15, 1)$
153 : $P_{2447} = (14, 7, 8, 1)$	203 : $P_{3493} = (4, 9, 12, 1)$	253 : $P_{4159} = (14, 2, 15, 1)$
154 : $P_{2461} = (12, 8, 8, 1)$	204 : $P_{3509} = (4, 10, 12, 1)$	254 : $P_{4172} = (11, 3, 15, 1)$
155 : $P_{2467} = (2, 9, 8, 1)$	205 : $P_{3524} = (3, 11, 12, 1)$	255 : $P_{4187} = (10, 4, 15, 1)$
156 : $P_{2472} = (7, 9, 8, 1)$	206 : $P_{3540} = (3, 12, 12, 1)$	256 : $P_{4206} = (13, 5, 15, 1)$
157 : $P_{2477} = (12, 9, 8, 1)$	207 : $P_{3562} = (9, 13, 12, 1)$	257 : $P_{4216} = (7, 6, 15, 1)$
158 : $P_{2486} = (5, 10, 8, 1)$	208 : $P_{3579} = (10, 14, 12, 1)$	258 : $P_{4217} = (8, 6, 15, 1)$
159 : $P_{2506} = (9, 11, 8, 1)$	209 : $P_{3597} = (12, 15, 12, 1)$	259 : $P_{4218} = (9, 6, 15, 1)$
160 : $P_{2517} = (4, 12, 8, 1)$	210 : $P_{3623} = (6, 1, 13, 1)$	260 : $P_{4226} = (1, 7, 15, 1)$
161 : $P_{2518} = (5, 12, 8, 1)$	211 : $P_{3647} = (14, 2, 13, 1)$	261 : $P_{4244} = (3, 8, 15, 1)$
162 : $P_{2526} = (13, 12, 8, 1)$	212 : $P_{3660} = (11, 3, 13, 1)$	262 : $P_{4246} = (5, 8, 15, 1)$
163 : $P_{2530} = (1, 13, 8, 1)$	213 : $P_{3675} = (10, 4, 13, 1)$	263 : $P_{4255} = (14, 8, 15, 1)$
164 : $P_{2554} = (9, 14, 8, 1)$	214 : $P_{3694} = (13, 5, 13, 1)$	264 : $P_{4272} = (15, 9, 15, 1)$
165 : $P_{2571} = (10, 15, 8, 1)$	215 : $P_{3704} = (7, 6, 13, 1)$	265 : $P_{4287} = (14, 10, 15, 1)$
166 : $P_{2600} = (7, 1, 9, 1)$	216 : $P_{3705} = (8, 6, 13, 1)$	266 : $P_{4297} = (8, 11, 15, 1)$
167 : $P_{2614} = (5, 2, 9, 1)$	217 : $P_{3706} = (9, 6, 13, 1)$	267 : $P_{4307} = (2, 12, 15, 1)$
168 : $P_{2629} = (4, 3, 9, 1)$	218 : $P_{3714} = (1, 7, 13, 1)$	268 : $P_{4329} = (8, 13, 15, 1)$
169 : $P_{2633} = (8, 3, 9, 1)$	219 : $P_{3732} = (3, 8, 13, 1)$	269 : $P_{4341} = (4, 14, 15, 1)$
170 : $P_{2640} = (15, 3, 9, 1)$	220 : $P_{3734} = (5, 8, 13, 1)$	270 : $P_{4343} = (6, 14, 15, 1)$
171 : $P_{2648} = (7, 4, 9, 1)$	221 : $P_{3743} = (14, 8, 13, 1)$	271 : $P_{4349} = (12, 14, 15, 1)$
172 : $P_{2654} = (13, 4, 9, 1)$	222 : $P_{3760} = (15, 9, 13, 1)$	272 : $P_{4359} = (6, 15, 15, 1)$
173 : $P_{2655} = (14, 4, 9, 1)$	223 : $P_{3775} = (14, 10, 13, 1)$	
174 : $P_{2664} = (7, 5, 9, 1)$	224 : $P_{3785} = (8, 11, 13, 1)$	
175 : $P_{2674} = (1, 6, 9, 1)$	225 : $P_{3795} = (2, 12, 13, 1)$	