

Rank-140 over GF(16)

January 15, 2021

The equation

The equation of the surface is :

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

(1, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)

The point rank of the equation over GF(16) is 2236976

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 : $P_{35} = (0, 1, 1, 0)$	27 : $P_{329} = (7, 3, 0, 1)$
1 : $P_{63} = (12, 2, 1, 0)$	28 : $P_{332} = (10, 3, 0, 1)$
2 : $P_{74} = (7, 3, 1, 0)$	29 : $P_{337} = (15, 3, 0, 1)$
3 : $P_{77} = (10, 3, 1, 0)$	30 : $P_{344} = (6, 4, 0, 1)$
4 : $P_{82} = (15, 3, 1, 0)$	31 : $P_{357} = (3, 5, 0, 1)$
5 : $P_{89} = (6, 4, 1, 0)$	32 : $P_{365} = (11, 5, 0, 1)$
6 : $P_{102} = (3, 5, 1, 0)$	33 : $P_{366} = (12, 5, 0, 1)$
7 : $P_{110} = (11, 5, 1, 0)$	34 : $P_{383} = (13, 6, 0, 1)$
8 : $P_{111} = (12, 5, 1, 0)$	35 : $P_{398} = (12, 7, 0, 1)$
9 : $P_{128} = (13, 6, 1, 0)$	36 : $P_{407} = (5, 8, 0, 1)$
10 : $P_{143} = (12, 7, 1, 0)$	37 : $P_{408} = (6, 8, 0, 1)$
11 : $P_{152} = (5, 8, 1, 0)$	38 : $P_{412} = (10, 8, 0, 1)$
12 : $P_{153} = (6, 8, 1, 0)$	39 : $P_{431} = (13, 9, 0, 1)$
13 : $P_{157} = (10, 8, 1, 0)$	40 : $P_{434} = (0, 10, 0, 1)$
14 : $P_{176} = (13, 9, 1, 0)$	41 : $P_{445} = (11, 10, 0, 1)$
15 : $P_{179} = (0, 10, 1, 0)$	42 : $P_{450} = (0, 11, 0, 1)$
16 : $P_{190} = (11, 10, 1, 0)$	43 : $P_{460} = (10, 11, 0, 1)$
17 : $P_{195} = (0, 11, 1, 0)$	44 : $P_{472} = (6, 12, 0, 1)$
18 : $P_{205} = (10, 11, 1, 0)$	45 : $P_{489} = (7, 13, 0, 1)$
19 : $P_{217} = (6, 12, 1, 0)$	46 : $P_{505} = (7, 14, 0, 1)$
20 : $P_{234} = (7, 13, 1, 0)$	47 : $P_{522} = (8, 15, 0, 1)$
21 : $P_{250} = (7, 14, 1, 0)$	48 : $P_{525} = (11, 15, 0, 1)$
22 : $P_{267} = (8, 15, 1, 0)$	49 : $P_{527} = (13, 15, 0, 1)$
23 : $P_{270} = (11, 15, 1, 0)$	50 : $P_{530} = (0, 0, 1, 1)$
24 : $P_{272} = (13, 15, 1, 0)$	51 : $P_{797} = (12, 0, 2, 1)$
25 : $P_{290} = (0, 1, 0, 1)$	52 : $P_{850} = (1, 4, 2, 1)$
26 : $P_{318} = (12, 2, 0, 1)$	53 : $P_{907} = (10, 7, 2, 1)$

54 : $P_{928} = (15, 8, 2, 1)$	108 : $P_{1686} = (5, 8, 5, 1)$
55 : $P_{935} = (6, 9, 2, 1)$	109 : $P_{1694} = (13, 8, 5, 1)$
56 : $P_{936} = (7, 9, 2, 1)$	110 : $P_{1705} = (8, 9, 5, 1)$
57 : $P_{940} = (11, 9, 2, 1)$	111 : $P_{1728} = (15, 10, 5, 1)$
58 : $P_{946} = (1, 10, 2, 1)$	112 : $P_{1740} = (11, 11, 5, 1)$
59 : $P_{965} = (4, 11, 2, 1)$	113 : $P_{1757} = (12, 12, 5, 1)$
60 : $P_{989} = (12, 12, 2, 1)$	114 : $P_{1776} = (15, 13, 5, 1)$
61 : $P_{1002} = (9, 13, 2, 1)$	115 : $P_{1785} = (8, 14, 5, 1)$
62 : $P_{1010} = (1, 14, 2, 1)$	116 : $P_{1794} = (1, 15, 5, 1)$
63 : $P_{1028} = (3, 15, 2, 1)$	117 : $P_{1797} = (4, 15, 5, 1)$
64 : $P_{1048} = (7, 0, 3, 1)$	118 : $P_{1807} = (14, 15, 5, 1)$
65 : $P_{1051} = (10, 0, 3, 1)$	119 : $P_{1822} = (13, 0, 6, 1)$
66 : $P_{1056} = (15, 0, 3, 1)$	120 : $P_{1865} = (8, 3, 6, 1)$
67 : $P_{1110} = (5, 4, 3, 1)$	121 : $P_{1879} = (6, 4, 6, 1)$
68 : $P_{1123} = (2, 5, 3, 1)$	122 : $P_{1943} = (6, 8, 6, 1)$
69 : $P_{1124} = (3, 5, 3, 1)$	123 : $P_{1963} = (10, 9, 6, 1)$
70 : $P_{1127} = (6, 5, 3, 1)$	124 : $P_{1976} = (7, 10, 6, 1)$
71 : $P_{1145} = (8, 6, 3, 1)$	125 : $P_{2000} = (15, 11, 6, 1)$
72 : $P_{1160} = (7, 7, 3, 1)$	126 : $P_{2007} = (6, 12, 6, 1)$
73 : $P_{1170} = (1, 8, 3, 1)$	127 : $P_{2030} = (13, 13, 6, 1)$
74 : $P_{1171} = (2, 8, 3, 1)$	128 : $P_{2037} = (4, 14, 6, 1)$
75 : $P_{1178} = (9, 8, 3, 1)$	129 : $P_{2052} = (3, 15, 6, 1)$
76 : $P_{1190} = (5, 9, 3, 1)$	130 : $P_{2054} = (5, 15, 6, 1)$
77 : $P_{1211} = (10, 10, 3, 1)$	131 : $P_{2063} = (14, 15, 6, 1)$
78 : $P_{1225} = (8, 11, 3, 1)$	132 : $P_{2077} = (12, 0, 7, 1)$
79 : $P_{1251} = (2, 13, 3, 1)$	133 : $P_{2107} = (10, 2, 7, 1)$
80 : $P_{1254} = (5, 13, 3, 1)$	134 : $P_{2120} = (7, 3, 7, 1)$
81 : $P_{1257} = (8, 13, 3, 1)$	135 : $P_{2143} = (14, 4, 7, 1)$
82 : $P_{1293} = (12, 15, 3, 1)$	136 : $P_{2149} = (4, 5, 7, 1)$
83 : $P_{1295} = (14, 15, 3, 1)$	137 : $P_{2153} = (8, 5, 7, 1)$
84 : $P_{1296} = (15, 15, 3, 1)$	138 : $P_{2160} = (15, 5, 7, 1)$
85 : $P_{1303} = (6, 0, 4, 1)$	139 : $P_{2196} = (3, 8, 7, 1)$
86 : $P_{1330} = (1, 2, 4, 1)$	140 : $P_{2231} = (6, 10, 7, 1)$
87 : $P_{1350} = (5, 3, 4, 1)$	141 : $P_{2246} = (5, 11, 7, 1)$
88 : $P_{1399} = (6, 6, 4, 1)$	142 : $P_{2269} = (12, 12, 7, 1)$
89 : $P_{1423} = (14, 7, 4, 1)$	143 : $P_{2280} = (7, 13, 7, 1)$
90 : $P_{1442} = (1, 9, 4, 1)$	144 : $P_{2296} = (7, 14, 7, 1)$
91 : $P_{1466} = (9, 10, 4, 1)$	145 : $P_{2326} = (5, 0, 8, 1)$
92 : $P_{1474} = (1, 11, 4, 1)$	146 : $P_{2327} = (6, 0, 8, 1)$
93 : $P_{1500} = (11, 12, 4, 1)$	147 : $P_{2331} = (10, 0, 8, 1)$
94 : $P_{1531} = (10, 14, 4, 1)$	148 : $P_{2368} = (15, 2, 8, 1)$
95 : $P_{1533} = (12, 14, 4, 1)$	149 : $P_{2370} = (1, 3, 8, 1)$
96 : $P_{1534} = (13, 14, 4, 1)$	150 : $P_{2371} = (2, 3, 8, 1)$
97 : $P_{1540} = (3, 15, 4, 1)$	151 : $P_{2378} = (9, 3, 8, 1)$
98 : $P_{1556} = (3, 0, 5, 1)$	152 : $P_{2405} = (4, 5, 8, 1)$
99 : $P_{1564} = (11, 0, 5, 1)$	153 : $P_{2406} = (5, 5, 8, 1)$
100 : $P_{1565} = (12, 0, 5, 1)$	154 : $P_{2414} = (13, 5, 8, 1)$
101 : $P_{1603} = (2, 3, 5, 1)$	155 : $P_{2423} = (6, 6, 8, 1)$
102 : $P_{1604} = (3, 3, 5, 1)$	156 : $P_{2436} = (3, 7, 8, 1)$
103 : $P_{1607} = (6, 3, 5, 1)$	157 : $P_{2491} = (10, 10, 8, 1)$
104 : $P_{1669} = (4, 7, 5, 1)$	158 : $P_{2500} = (3, 11, 8, 1)$
105 : $P_{1673} = (8, 7, 5, 1)$	159 : $P_{2516} = (3, 12, 8, 1)$
106 : $P_{1680} = (15, 7, 5, 1)$	160 : $P_{2522} = (9, 12, 8, 1)$
107 : $P_{1685} = (4, 8, 5, 1)$	161 : $P_{2528} = (15, 12, 8, 1)$

162 : $P_{2560} = (15, 14, 8, 1)$	216 : $P_{3437} = (12, 5, 12, 1)$
163 : $P_{2568} = (7, 15, 8, 1)$	217 : $P_{3447} = (6, 6, 12, 1)$
164 : $P_{2569} = (8, 15, 8, 1)$	218 : $P_{3469} = (12, 7, 12, 1)$
165 : $P_{2570} = (9, 15, 8, 1)$	219 : $P_{3476} = (3, 8, 12, 1)$
166 : $P_{2590} = (13, 0, 9, 1)$	220 : $P_{3482} = (9, 8, 12, 1)$
167 : $P_{2615} = (6, 2, 9, 1)$	221 : $P_{3488} = (15, 8, 12, 1)$
168 : $P_{2616} = (7, 2, 9, 1)$	222 : $P_{3491} = (2, 9, 12, 1)$
169 : $P_{2620} = (11, 2, 9, 1)$	223 : $P_{3513} = (8, 10, 12, 1)$
170 : $P_{2630} = (5, 3, 9, 1)$	224 : $P_{3534} = (13, 11, 12, 1)$
171 : $P_{2642} = (1, 4, 9, 1)$	225 : $P_{3590} = (5, 15, 12, 1)$
172 : $P_{2665} = (8, 5, 9, 1)$	226 : $P_{3608} = (7, 0, 13, 1)$
173 : $P_{2683} = (10, 6, 9, 1)$	227 : $P_{3642} = (9, 2, 13, 1)$
174 : $P_{2738} = (1, 10, 9, 1)$	228 : $P_{3651} = (2, 3, 13, 1)$
175 : $P_{2767} = (14, 11, 9, 1)$	229 : $P_{3654} = (5, 3, 13, 1)$
176 : $P_{2771} = (2, 12, 9, 1)$	230 : $P_{3657} = (8, 3, 13, 1)$
177 : $P_{2798} = (13, 13, 9, 1)$	231 : $P_{3696} = (15, 5, 13, 1)$
178 : $P_{2802} = (1, 14, 9, 1)$	232 : $P_{3710} = (13, 6, 13, 1)$
179 : $P_{2833} = (0, 0, 10, 1)$	233 : $P_{3720} = (7, 7, 13, 1)$
180 : $P_{2844} = (11, 0, 10, 1)$	234 : $P_{3758} = (13, 9, 13, 1)$
181 : $P_{2866} = (1, 2, 10, 1)$	235 : $P_{3764} = (3, 10, 13, 1)$
182 : $P_{2891} = (10, 3, 10, 1)$	236 : $P_{3789} = (12, 11, 13, 1)$
183 : $P_{2906} = (9, 4, 10, 1)$	237 : $P_{3836} = (11, 14, 13, 1)$
184 : $P_{2928} = (15, 5, 10, 1)$	238 : $P_{3854} = (13, 15, 13, 1)$
185 : $P_{2936} = (7, 6, 10, 1)$	239 : $P_{3864} = (7, 0, 14, 1)$
186 : $P_{2951} = (6, 7, 10, 1)$	240 : $P_{3890} = (1, 2, 14, 1)$
187 : $P_{2971} = (10, 8, 10, 1)$	241 : $P_{3931} = (10, 4, 14, 1)$
188 : $P_{2978} = (1, 9, 10, 1)$	242 : $P_{3933} = (12, 4, 14, 1)$
189 : $P_{3010} = (1, 11, 10, 1)$	243 : $P_{3934} = (13, 4, 14, 1)$
190 : $P_{3019} = (10, 11, 10, 1)$	244 : $P_{3945} = (8, 5, 14, 1)$
191 : $P_{3020} = (11, 11, 10, 1)$	245 : $P_{3957} = (4, 6, 14, 1)$
192 : $P_{3033} = (8, 12, 10, 1)$	246 : $P_{3976} = (7, 7, 14, 1)$
193 : $P_{3044} = (3, 13, 10, 1)$	247 : $P_{4000} = (15, 8, 14, 1)$
194 : $P_{3059} = (2, 14, 10, 1)$	248 : $P_{4002} = (1, 9, 14, 1)$
195 : $P_{3078} = (5, 15, 10, 1)$	249 : $P_{4019} = (2, 10, 14, 1)$
196 : $P_{3089} = (0, 0, 11, 1)$	250 : $P_{4034} = (1, 11, 14, 1)$
197 : $P_{3099} = (10, 0, 11, 1)$	251 : $P_{4076} = (11, 13, 14, 1)$
198 : $P_{3125} = (4, 2, 11, 1)$	252 : $P_{4121} = (8, 0, 15, 1)$
199 : $P_{3145} = (8, 3, 11, 1)$	253 : $P_{4124} = (11, 0, 15, 1)$
200 : $P_{3154} = (1, 4, 11, 1)$	254 : $P_{4126} = (13, 0, 15, 1)$
201 : $P_{3180} = (11, 5, 11, 1)$	255 : $P_{4148} = (3, 2, 15, 1)$
202 : $P_{3200} = (15, 6, 11, 1)$	256 : $P_{4173} = (12, 3, 15, 1)$
203 : $P_{3206} = (5, 7, 11, 1)$	257 : $P_{4175} = (14, 3, 15, 1)$
204 : $P_{3220} = (3, 8, 11, 1)$	258 : $P_{4176} = (15, 3, 15, 1)$
205 : $P_{3247} = (14, 9, 11, 1)$	259 : $P_{4180} = (3, 4, 15, 1)$
206 : $P_{3250} = (1, 10, 11, 1)$	260 : $P_{4194} = (1, 5, 15, 1)$
207 : $P_{3259} = (10, 10, 11, 1)$	261 : $P_{4197} = (4, 5, 15, 1)$
208 : $P_{3260} = (11, 10, 11, 1)$	262 : $P_{4207} = (14, 5, 15, 1)$
209 : $P_{3294} = (13, 12, 11, 1)$	263 : $P_{4212} = (3, 6, 15, 1)$
210 : $P_{3309} = (12, 13, 11, 1)$	264 : $P_{4214} = (5, 6, 15, 1)$
211 : $P_{3314} = (1, 14, 11, 1)$	265 : $P_{4223} = (14, 6, 15, 1)$
212 : $P_{3340} = (11, 15, 11, 1)$	266 : $P_{4248} = (7, 8, 15, 1)$
213 : $P_{3351} = (6, 0, 12, 1)$	267 : $P_{4249} = (8, 8, 15, 1)$
214 : $P_{3389} = (12, 2, 12, 1)$	268 : $P_{4250} = (9, 8, 15, 1)$
215 : $P_{3420} = (11, 4, 12, 1)$	269 : $P_{4278} = (5, 10, 15, 1)$

270 : $P_{4300} = (11, 11, 15, 1)$
 271 : $P_{4310} = (5, 12, 15, 1)$

272 : $P_{4334} = (13, 13, 15, 1)$

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 : $P_{35} = (0, 1, 1, 0)$	42 : $P_{450} = (0, 11, 0, 1)$	84 : $P_{1296} = (15, 15, 3, 1)$
1 : $P_{63} = (12, 2, 1, 0)$	43 : $P_{460} = (10, 11, 0, 1)$	85 : $P_{1303} = (6, 0, 4, 1)$
2 : $P_{74} = (7, 3, 1, 0)$	44 : $P_{472} = (6, 12, 0, 1)$	86 : $P_{1330} = (1, 2, 4, 1)$
3 : $P_{77} = (10, 3, 1, 0)$	45 : $P_{489} = (7, 13, 0, 1)$	87 : $P_{1350} = (5, 3, 4, 1)$
4 : $P_{82} = (15, 3, 1, 0)$	46 : $P_{505} = (7, 14, 0, 1)$	88 : $P_{1399} = (6, 6, 4, 1)$
5 : $P_{89} = (6, 4, 1, 0)$	47 : $P_{522} = (8, 15, 0, 1)$	89 : $P_{1423} = (14, 7, 4, 1)$
6 : $P_{102} = (3, 5, 1, 0)$	48 : $P_{525} = (11, 15, 0, 1)$	90 : $P_{1442} = (1, 9, 4, 1)$
7 : $P_{110} = (11, 5, 1, 0)$	49 : $P_{527} = (13, 15, 0, 1)$	91 : $P_{1466} = (9, 10, 4, 1)$
8 : $P_{111} = (12, 5, 1, 0)$	50 : $P_{530} = (0, 0, 1, 1)$	92 : $P_{1474} = (1, 11, 4, 1)$
9 : $P_{128} = (13, 6, 1, 0)$	51 : $P_{797} = (12, 0, 2, 1)$	93 : $P_{1500} = (11, 12, 4, 1)$
10 : $P_{143} = (12, 7, 1, 0)$	52 : $P_{850} = (1, 4, 2, 1)$	94 : $P_{1531} = (10, 14, 4, 1)$
11 : $P_{152} = (5, 8, 1, 0)$	53 : $P_{907} = (10, 7, 2, 1)$	95 : $P_{1533} = (12, 14, 4, 1)$
12 : $P_{153} = (6, 8, 1, 0)$	54 : $P_{928} = (15, 8, 2, 1)$	96 : $P_{1534} = (13, 14, 4, 1)$
13 : $P_{157} = (10, 8, 1, 0)$	55 : $P_{935} = (6, 9, 2, 1)$	97 : $P_{1540} = (3, 15, 4, 1)$
14 : $P_{176} = (13, 9, 1, 0)$	56 : $P_{936} = (7, 9, 2, 1)$	98 : $P_{1556} = (3, 0, 5, 1)$
15 : $P_{179} = (0, 10, 1, 0)$	57 : $P_{940} = (11, 9, 2, 1)$	99 : $P_{1564} = (11, 0, 5, 1)$
16 : $P_{190} = (11, 10, 1, 0)$	58 : $P_{946} = (1, 10, 2, 1)$	100 : $P_{1565} = (12, 0, 5, 1)$
17 : $P_{195} = (0, 11, 1, 0)$	59 : $P_{965} = (4, 11, 2, 1)$	101 : $P_{1603} = (2, 3, 5, 1)$
18 : $P_{205} = (10, 11, 1, 0)$	60 : $P_{989} = (12, 12, 2, 1)$	102 : $P_{1604} = (3, 3, 5, 1)$
19 : $P_{217} = (6, 12, 1, 0)$	61 : $P_{1002} = (9, 13, 2, 1)$	103 : $P_{1607} = (6, 3, 5, 1)$
20 : $P_{234} = (7, 13, 1, 0)$	62 : $P_{1010} = (1, 14, 2, 1)$	104 : $P_{1669} = (4, 7, 5, 1)$
21 : $P_{250} = (7, 14, 1, 0)$	63 : $P_{1028} = (3, 15, 2, 1)$	105 : $P_{1673} = (8, 7, 5, 1)$
22 : $P_{267} = (8, 15, 1, 0)$	64 : $P_{1048} = (7, 0, 3, 1)$	106 : $P_{1680} = (15, 7, 5, 1)$
23 : $P_{270} = (11, 15, 1, 0)$	65 : $P_{1051} = (10, 0, 3, 1)$	107 : $P_{1685} = (4, 8, 5, 1)$
24 : $P_{272} = (13, 15, 1, 0)$	66 : $P_{1056} = (15, 0, 3, 1)$	108 : $P_{1686} = (5, 8, 5, 1)$
25 : $P_{290} = (0, 1, 0, 1)$	67 : $P_{1110} = (5, 4, 3, 1)$	109 : $P_{1694} = (13, 8, 5, 1)$
26 : $P_{318} = (12, 2, 0, 1)$	68 : $P_{1123} = (2, 5, 3, 1)$	110 : $P_{1705} = (8, 9, 5, 1)$
27 : $P_{329} = (7, 3, 0, 1)$	69 : $P_{1124} = (3, 5, 3, 1)$	111 : $P_{1728} = (15, 10, 5, 1)$
28 : $P_{332} = (10, 3, 0, 1)$	70 : $P_{1127} = (6, 5, 3, 1)$	112 : $P_{1740} = (11, 11, 5, 1)$
29 : $P_{337} = (15, 3, 0, 1)$	71 : $P_{1145} = (8, 6, 3, 1)$	113 : $P_{1757} = (12, 12, 5, 1)$
30 : $P_{344} = (6, 4, 0, 1)$	72 : $P_{1160} = (7, 7, 3, 1)$	114 : $P_{1776} = (15, 13, 5, 1)$
31 : $P_{357} = (3, 5, 0, 1)$	73 : $P_{1170} = (1, 8, 3, 1)$	115 : $P_{1785} = (8, 14, 5, 1)$
32 : $P_{365} = (11, 5, 0, 1)$	74 : $P_{1171} = (2, 8, 3, 1)$	116 : $P_{1794} = (1, 15, 5, 1)$
33 : $P_{366} = (12, 5, 0, 1)$	75 : $P_{1178} = (9, 8, 3, 1)$	117 : $P_{1797} = (4, 15, 5, 1)$
34 : $P_{383} = (13, 6, 0, 1)$	76 : $P_{1190} = (5, 9, 3, 1)$	118 : $P_{1807} = (14, 15, 5, 1)$
35 : $P_{398} = (12, 7, 0, 1)$	77 : $P_{1211} = (10, 10, 3, 1)$	119 : $P_{1822} = (13, 0, 6, 1)$
36 : $P_{407} = (5, 8, 0, 1)$	78 : $P_{1225} = (8, 11, 3, 1)$	120 : $P_{1865} = (8, 3, 6, 1)$
37 : $P_{408} = (6, 8, 0, 1)$	79 : $P_{1251} = (2, 13, 3, 1)$	121 : $P_{1879} = (6, 4, 6, 1)$
38 : $P_{412} = (10, 8, 0, 1)$	80 : $P_{1254} = (5, 13, 3, 1)$	122 : $P_{1943} = (6, 8, 6, 1)$
39 : $P_{431} = (13, 9, 0, 1)$	81 : $P_{1257} = (8, 13, 3, 1)$	123 : $P_{1963} = (10, 9, 6, 1)$
40 : $P_{434} = (0, 10, 0, 1)$	82 : $P_{1293} = (12, 15, 3, 1)$	124 : $P_{1976} = (7, 10, 6, 1)$
41 : $P_{445} = (11, 10, 0, 1)$	83 : $P_{1295} = (14, 15, 3, 1)$	125 : $P_{2000} = (15, 11, 6, 1)$

126 : $P_{2007} = (6, 12, 6, 1)$	176 : $P_{2771} = (2, 12, 9, 1)$	226 : $P_{3608} = (7, 0, 13, 1)$
127 : $P_{2030} = (13, 13, 6, 1)$	177 : $P_{2798} = (13, 13, 9, 1)$	227 : $P_{3642} = (9, 2, 13, 1)$
128 : $P_{2037} = (4, 14, 6, 1)$	178 : $P_{2802} = (1, 14, 9, 1)$	228 : $P_{3651} = (2, 3, 13, 1)$
129 : $P_{2052} = (3, 15, 6, 1)$	179 : $P_{2833} = (0, 0, 10, 1)$	229 : $P_{3654} = (5, 3, 13, 1)$
130 : $P_{2054} = (5, 15, 6, 1)$	180 : $P_{2844} = (11, 0, 10, 1)$	230 : $P_{3657} = (8, 3, 13, 1)$
131 : $P_{2063} = (14, 15, 6, 1)$	181 : $P_{2866} = (1, 2, 10, 1)$	231 : $P_{3696} = (15, 5, 13, 1)$
132 : $P_{2077} = (12, 0, 7, 1)$	182 : $P_{2891} = (10, 3, 10, 1)$	232 : $P_{3710} = (13, 6, 13, 1)$
133 : $P_{2107} = (10, 2, 7, 1)$	183 : $P_{2906} = (9, 4, 10, 1)$	233 : $P_{3720} = (7, 7, 13, 1)$
134 : $P_{2120} = (7, 3, 7, 1)$	184 : $P_{2928} = (15, 5, 10, 1)$	234 : $P_{3758} = (13, 9, 13, 1)$
135 : $P_{2143} = (14, 4, 7, 1)$	185 : $P_{2936} = (7, 6, 10, 1)$	235 : $P_{3764} = (3, 10, 13, 1)$
136 : $P_{2149} = (4, 5, 7, 1)$	186 : $P_{2951} = (6, 7, 10, 1)$	236 : $P_{3789} = (12, 11, 13, 1)$
137 : $P_{2153} = (8, 5, 7, 1)$	187 : $P_{2971} = (10, 8, 10, 1)$	237 : $P_{3836} = (11, 14, 13, 1)$
138 : $P_{2160} = (15, 5, 7, 1)$	188 : $P_{2978} = (1, 9, 10, 1)$	238 : $P_{3854} = (13, 15, 13, 1)$
139 : $P_{2196} = (3, 8, 7, 1)$	189 : $P_{3010} = (1, 11, 10, 1)$	239 : $P_{3864} = (7, 0, 14, 1)$
140 : $P_{2231} = (6, 10, 7, 1)$	190 : $P_{3019} = (10, 11, 10, 1)$	240 : $P_{3890} = (1, 2, 14, 1)$
141 : $P_{2246} = (5, 11, 7, 1)$	191 : $P_{3020} = (11, 11, 10, 1)$	241 : $P_{3931} = (10, 4, 14, 1)$
142 : $P_{2269} = (12, 12, 7, 1)$	192 : $P_{3033} = (8, 12, 10, 1)$	242 : $P_{3933} = (12, 4, 14, 1)$
143 : $P_{2280} = (7, 13, 7, 1)$	193 : $P_{3044} = (3, 13, 10, 1)$	243 : $P_{3934} = (13, 4, 14, 1)$
144 : $P_{2296} = (7, 14, 7, 1)$	194 : $P_{3059} = (2, 14, 10, 1)$	244 : $P_{3945} = (8, 5, 14, 1)$
145 : $P_{2326} = (5, 0, 8, 1)$	195 : $P_{3078} = (5, 15, 10, 1)$	245 : $P_{3957} = (4, 6, 14, 1)$
146 : $P_{2327} = (6, 0, 8, 1)$	196 : $P_{3089} = (0, 0, 11, 1)$	246 : $P_{3976} = (7, 7, 14, 1)$
147 : $P_{2331} = (10, 0, 8, 1)$	197 : $P_{3099} = (10, 0, 11, 1)$	247 : $P_{4000} = (15, 8, 14, 1)$
148 : $P_{2368} = (15, 2, 8, 1)$	198 : $P_{3125} = (4, 2, 11, 1)$	248 : $P_{4002} = (1, 9, 14, 1)$
149 : $P_{2370} = (1, 3, 8, 1)$	199 : $P_{3145} = (8, 3, 11, 1)$	249 : $P_{4019} = (2, 10, 14, 1)$
150 : $P_{2371} = (2, 3, 8, 1)$	200 : $P_{3154} = (1, 4, 11, 1)$	250 : $P_{4034} = (1, 11, 14, 1)$
151 : $P_{2378} = (9, 3, 8, 1)$	201 : $P_{3180} = (11, 5, 11, 1)$	251 : $P_{4076} = (11, 13, 14, 1)$
152 : $P_{2405} = (4, 5, 8, 1)$	202 : $P_{3200} = (15, 6, 11, 1)$	252 : $P_{4121} = (8, 0, 15, 1)$
153 : $P_{2406} = (5, 5, 8, 1)$	203 : $P_{3206} = (5, 7, 11, 1)$	253 : $P_{4124} = (11, 0, 15, 1)$
154 : $P_{2414} = (13, 5, 8, 1)$	204 : $P_{3220} = (3, 8, 11, 1)$	254 : $P_{4126} = (13, 0, 15, 1)$
155 : $P_{2423} = (6, 6, 8, 1)$	205 : $P_{3247} = (14, 9, 11, 1)$	255 : $P_{4148} = (3, 2, 15, 1)$
156 : $P_{2436} = (3, 7, 8, 1)$	206 : $P_{3250} = (1, 10, 11, 1)$	256 : $P_{4173} = (12, 3, 15, 1)$
157 : $P_{2491} = (10, 10, 8, 1)$	207 : $P_{3259} = (10, 10, 11, 1)$	257 : $P_{4175} = (14, 3, 15, 1)$
158 : $P_{2500} = (3, 11, 8, 1)$	208 : $P_{3260} = (11, 10, 11, 1)$	258 : $P_{4176} = (15, 3, 15, 1)$
159 : $P_{2516} = (3, 12, 8, 1)$	209 : $P_{3294} = (13, 12, 11, 1)$	259 : $P_{4180} = (3, 4, 15, 1)$
160 : $P_{2522} = (9, 12, 8, 1)$	210 : $P_{3309} = (12, 13, 11, 1)$	260 : $P_{4194} = (1, 5, 15, 1)$
161 : $P_{2528} = (15, 12, 8, 1)$	211 : $P_{3314} = (1, 14, 11, 1)$	261 : $P_{4197} = (4, 5, 15, 1)$
162 : $P_{2560} = (15, 14, 8, 1)$	212 : $P_{3340} = (11, 15, 11, 1)$	262 : $P_{4207} = (14, 5, 15, 1)$
163 : $P_{2568} = (7, 15, 8, 1)$	213 : $P_{3351} = (6, 0, 12, 1)$	263 : $P_{4212} = (3, 6, 15, 1)$
164 : $P_{2569} = (8, 15, 8, 1)$	214 : $P_{3389} = (12, 2, 12, 1)$	264 : $P_{4214} = (5, 6, 15, 1)$
165 : $P_{2570} = (9, 15, 8, 1)$	215 : $P_{3420} = (11, 4, 12, 1)$	265 : $P_{4223} = (14, 6, 15, 1)$
166 : $P_{2590} = (13, 0, 9, 1)$	216 : $P_{3437} = (12, 5, 12, 1)$	266 : $P_{4248} = (7, 8, 15, 1)$
167 : $P_{2615} = (6, 2, 9, 1)$	217 : $P_{3447} = (6, 6, 12, 1)$	267 : $P_{4249} = (8, 8, 15, 1)$
168 : $P_{2616} = (7, 2, 9, 1)$	218 : $P_{3469} = (12, 7, 12, 1)$	268 : $P_{4250} = (9, 8, 15, 1)$
169 : $P_{2620} = (11, 2, 9, 1)$	219 : $P_{3476} = (3, 8, 12, 1)$	269 : $P_{4278} = (5, 10, 15, 1)$
170 : $P_{2630} = (5, 3, 9, 1)$	220 : $P_{3482} = (9, 8, 12, 1)$	270 : $P_{4300} = (11, 11, 15, 1)$
171 : $P_{2642} = (1, 4, 9, 1)$	221 : $P_{3488} = (15, 8, 12, 1)$	271 : $P_{4310} = (5, 12, 15, 1)$
172 : $P_{2665} = (8, 5, 9, 1)$	222 : $P_{3491} = (2, 9, 12, 1)$	272 : $P_{4334} = (13, 13, 15, 1)$
173 : $P_{2683} = (10, 6, 9, 1)$	223 : $P_{3513} = (8, 10, 12, 1)$	
174 : $P_{2738} = (1, 10, 9, 1)$	224 : $P_{3534} = (13, 11, 12, 1)$	
175 : $P_{2767} = (14, 11, 9, 1)$	225 : $P_{3590} = (5, 15, 12, 1)$	