Rank-74248 over GF(16)

January 15, 2021

The equation

The equation of the surface is:

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

(1, 0, 1, 0, 0, 0, 0, 0, 0, 1, 0, 0, 1, 0, 0, 1, 0, 0, 0) The point rank of the equation over GF(16) is 286331414

General information

| Number of lines | 0 |
|----------------------------|-----------|
| Number of points | 257 |
| Number of singular points | 1 |
| Number of Eckardt points | 0 |
| Number of double points | 0 |
| Number of single points | 0 |
| Number of points off lines | 257 |
| Number of Hesse planes | 0 |
| Number of axes | 0 |
| Type of points on lines | |
| Type of lines on points | 0^{257} |

Singular Points

The surface has 1 singular points:

$$0: P_{275} = \mathbf{P}(1,0,0,1) = \mathbf{P}(1,0,0,1)$$

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

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0: P_1 = (0, 1, 0, 0)
                                                                  27: P_{459} = (9, 11, 0, 1)
1: P_3 = (0,0,0,1)
                                                                  28: P_{461} = (11, 11, 0, 1)
2: P_{20} = (1,0,1,0)
                                                                  29: P_{471} = (5, 12, 0, 1)
3: P_{29} = (10, 0, 1, 0)
                                                                  30: P_{497} = (15, 13, 0, 1)
4: P_{30} = (11, 0, 1, 0)
                                                                  31: P_{520} = (6, 15, 0, 1)
5: P_{58} = (7, 2, 1, 0)
                                                                  32: P_{546} = (0, 1, 1, 1)
6: P_{76} = (9, 3, 1, 0)
                                                                  33: P_{572} = (11, 2, 1, 1)
7: P_{95} = (12, 4, 1, 0)
                                                                  34: P_{603} = (10, 4, 1, 1)
8: P_{113} = (14, 5, 1, 0)
                                                                  35: P_{637} = (12, 6, 1, 1)
9: P_{130} = (15, 6, 1, 0)
                                                                  36: P_{654} = (13, 7, 1, 1)
10: P_{136} = (5, 7, 1, 0)
                                                                  37: P_{684} = (11, 9, 1, 1)
11: P_{149} = (2, 8, 1, 0)
                                                                  38: P_{690} = (1, 10, 1, 1)
12: P_{169} = (6, 9, 1, 0)
                                                                  39: P_{701} = (12, 10, 1, 1)
13: P_{219} = (8, 12, 1, 0)
                                                                  40: P_{702} = (13, 10, 1, 1)
14: P_{230} = (3, 13, 1, 0)
                                                                  41: P_{706} = (1, 11, 1, 1)
15: P_{256} = (13, 14, 1, 0)
                                                                  42: P_{711} = (6, 11, 1, 1)
16: P_{263} = (4, 15, 1, 0)
                                                                  43: P_{712} = (7, 11, 1, 1)
17: P_{275} = (1, 0, 0, 1)
                                                                  44: P_{728} = (7, 12, 1, 1)
18: P_{335} = (13, 3, 0, 1)
                                                                  45: P_{743} = (6, 13, 1, 1)
19: P_{361} = (7, 5, 0, 1)
                                                                  46: P_{763} = (10, 14, 1, 1)
20: P_{378} = (8, 6, 0, 1)
                                                                  47: P_{792} = (7,0,2,1)
21: P_{389} = (3,7,0,1)
                                                                  48: P_{855} = (6, 4, 2, 1)
22: P_{414} = (12, 8, 0, 1)
                                                                  49: P_{865} = (0, 5, 2, 1)
23: P_{438} = (4, 10, 0, 1)
                                                                  50: P_{875} = (10, 5, 2, 1)
24: P_{444} = (10, 10, 0, 1)
                                                                  51: P_{919} = (6, 8, 2, 1)
25: P_{448} = (14, 10, 0, 1)
                                                                  52: P_{923} = (10, 8, 2, 1)
26: P_{452} = (2, 11, 0, 1)
                                                                  53: P_{925} = (12, 8, 2, 1)
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54: P_{941} = (12, 9, 2, 1)
                                                                 108: P_{1970} = (1, 10, 6, 1)
55: P_{960} = (15, 10, 2, 1)
                                                                 109: P_{2002} = (1, 12, 6, 1)
                                                                 110: P_{2027} = (10, 13, 6, 1)
56: P_{1008} = (15, 13, 2, 1)
57: P_{1016} = (7, 14, 2, 1)
                                                                 111: P_{2038} = (5, 14, 6, 1)
58: P_{1053} = (12, 0, 3, 1)
                                                                 112: P_{2044} = (11, 14, 6, 1)
59: P_{1068} = (11, 1, 3, 1)
                                                                 113: P_{2047} = (14, 14, 6, 1)
60: P_{1096} = (7, 3, 3, 1)
                                                                 114: P_{2077} = (12, 0, 7, 1)
61: P_{1126} = (5, 5, 3, 1)
                                                                 115: P_{2085} = (4, 1, 7, 1)
62: P_{1132} = (11, 5, 3, 1)
                                                                 116: P_{2112} = (15, 2, 7, 1)
63: P_{1135} = (14, 5, 3, 1)
                                                                 117: P_{2121} = (8, 3, 7, 1)
64: P_{1169} = (0, 8, 3, 1)
                                                                 118: P_{2133} = (4, 4, 7, 1)
65: P_{1194} = (9, 9, 3, 1)
                                                                 119: P_{2140} = (11, 4, 7, 1)
66: P_{1203} = (2, 10, 3, 1)
                                                                 120: P_{2144} = (15, 4, 7, 1)
67: P_{1206} = (5, 10, 3, 1)
                                                                 121: P_{2188} = (11, 7, 7, 1)
                                                                 122: P_{2193} = (0, 8, 7, 1)
68: P_{1208} = (7, 10, 3, 1)
69: P_{1226} = (9, 11, 3, 1)
                                                                 123: P_{2203} = (10, 8, 7, 1)
                                                                 124: P_{2217} = (8, 9, 7, 1)
70: P_{1235} = (2, 12, 3, 1)
                                                                 125: P_{2226} = (1, 10, 7, 1)
71: P_{1261} = (12, 13, 3, 1)
                                                                 126: P_{2267} = (10, 12, 7, 1)
72: P_{1279} = (14, 14, 3, 1)
73: P_{1309} = (12, 0, 4, 1)
                                                                 127: P_{2274} = (1, 13, 7, 1)
74: P_{1341} = (12, 2, 4, 1)
                                                                 128: P_{2317} = (12, 15, 7, 1)
75: P_{1412} = (3,7,4,1)
                                                                 129: P_{2334} = (13, 0, 8, 1)
                                                                 130: P_{2348} = (11, 1, 8, 1)
76: P_{1425} = (0, 8, 4, 1)
77: P_{1436} = (11, 8, 4, 1)
                                                                 131: P_{2355} = (2, 2, 8, 1)
78: P_{1454} = (13, 9, 4, 1)
                                                                 132: P_{2369} = (0, 3, 8, 1)
79: P_{1476} = (3, 11, 4, 1)
                                                                 133: P_{2389} = (4, 4, 8, 1)
                                                                 134: P_{2455} = (6, 8, 8, 1)
80: P_{1527} = (6, 14, 4, 1)
81: P_{1543} = (6, 15, 4, 1)
                                                                 135: P_{2487} = (6, 10, 8, 1)
82: P_{1548} = (11, 15, 4, 1)
                                                                 136: P_{2490} = (9, 10, 8, 1)
83: P_{1550} = (13, 15, 4, 1)
                                                                 137: P_{2496} = (15, 10, 8, 1)
84: P_{1559} = (6,0,5,1)
                                                                 138: P_{2499} = (2, 11, 8, 1)
85: P_{1579} = (10, 1, 5, 1)
                                                                 139: P_{2526} = (13, 12, 8, 1)
86: P_{1587} = (2, 2, 5, 1)
                                                                 140: P_{2538} = (9, 13, 8, 1)
87: P_{1645} = (12, 5, 5, 1)
                                                                 141: P_{2565} = (4, 15, 8, 1)
88: P_{1653} = (4, 6, 5, 1)
                                                                 142: P_{2572} = (11, 15, 8, 1)
89: P_{1671} = (6,7,5,1)
                                                                 143: P_{2576} = (15, 15, 8, 1)
90: P_{1683} = (2, 8, 5, 1)
                                                                 144: P_{2583} = (6, 0, 9, 1)
                                                                 145: P_{2622} = (13, 2, 9, 1)
91: P_{1689} = (8, 8, 5, 1)
92: P_{1691} = (10, 8, 5, 1)
                                                                 146: P_{2632} = (7, 3, 9, 1)
93: P_{1727} = (14, 10, 5, 1)
                                                                 147: P_{2635} = (10, 3, 9, 1)
94: P_{1733} = (4, 11, 5, 1)
                                                                 148: P_{2638} = (13, 3, 9, 1)
                                                                 149: P_{2647} = (6, 4, 9, 1)
95: P_{1737} = (8, 11, 5, 1)
96: P_{1741} = (12, 11, 5, 1)
                                                                 150: P_{2742} = (5, 10, 9, 1)
                                                                 151: P_{2774} = (5, 12, 9, 1)
97: P_{1791} = (14, 14, 5, 1)
98: P_{1793} = (0, 15, 5, 1)
                                                                 152: P_{2808} = (7, 14, 9, 1)
99: P_{1822} = (13, 0, 6, 1)
                                                                 153: P_{2817} = (0, 15, 9, 1)
100: P_{1839} = (14, 1, 6, 1)
                                                                 154: P_{2827} = (10, 15, 9, 1)
101: P_{1844} = (3, 2, 6, 1)
                                                                 155: P_{2849} = (0, 1, 10, 1)
102: P_{1857} = (0, 3, 6, 1)
                                                                 156: P_{2859} = (10, 1, 10, 1)
103: P_{1867} = (10, 3, 6, 1)
                                                                 157: P_{2877} = (12, 2, 10, 1)
104: P_{1902} = (13, 5, 6, 1)
                                                                 158: P_{2883} = (2, 3, 10, 1)
105: P_{1916} = (11, 6, 6, 1)
                                                                 159: P_{2886} = (5, 3, 10, 1)
106: P_{1940} = (3, 8, 6, 1)
                                                                 160: P_{2888} = (7, 3, 10, 1)
107: P_{1958} = (5, 9, 6, 1)
                                                                 161: P_{2906} = (9, 4, 10, 1)
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210: P_{3499} = (10, 9, 12, 1)
162: P_{2914} = (1, 5, 10, 1)
163: P_{2935} = (6, 6, 10, 1)
                                                                211: P_{3522} = (1, 11, 12, 1)
164: P_{2940} = (11, 6, 10, 1)
                                                                212: P_{3547} = (10, 12, 12, 1)
165: P_{2942} = (13, 6, 10, 1)
                                                                213: P_{3584} = (15, 14, 12, 1)
166: P_{2952} = (7, 7, 10, 1)
                                                                214: P_{3585} = (0, 15, 12, 1)
167: P_{2956} = (11, 7, 10, 1)
                                                                215: P_{3596} = (11, 15, 12, 1)
168: P_{2957} = (12, 7, 10, 1)
                                                                216: P_{3608} = (7, 0, 13, 1)
169: P_{2967} = (6, 8, 10, 1)
                                                                217: P_{3619} = (2, 1, 13, 1)
170: P_{2970} = (9, 8, 10, 1)
                                                                218: P_{3635} = (2, 2, 13, 1)
171: P_{2976} = (15, 8, 10, 1)
                                                                219: P_{3641} = (8, 2, 13, 1)
172: P_{2990} = (13, 9, 10, 1)
                                                                220: P_{3643} = (10, 2, 13, 1)
173: P_{2998} = (5, 10, 10, 1)
                                                                221: P_{3670} = (5, 4, 13, 1)
                                                                222: P_{3681} = (0, 5, 13, 1)
174: P_{3003} = (10, 10, 10, 1)
175: P_{3008} = (15, 10, 10, 1)
                                                                223: P_{3692} = (11, 5, 13, 1)
176: P_{3059} = (2, 14, 10, 1)
                                                                224: P_{3698} = (1, 6, 13, 1)
177: P_{3074} = (1, 15, 10, 1)
                                                                225: P_{3724} = (11, 7, 13, 1)
                                                                226: P_{3736} = (7, 8, 13, 1)
178: P_{3105} = (0, 1, 11, 1)
                                                                227: P_{3778} = (1, 11, 13, 1)
179: P_{3116} = (11, 1, 11, 1)
180: P_{3125} = (4, 2, 11, 1)
                                                                228: P_{3819} = (10, 13, 13, 1)
181: P_{3138} = (1, 3, 11, 1)
                                                                229: P_{3833} = (8, 14, 13, 1)
182: P_{3159} = (6, 4, 11, 1)
                                                                230: P_{3846} = (5, 15, 13, 1)
183: P_{3173} = (4, 5, 11, 1)
                                                                231: P_{3870} = (13, 0, 14, 1)
184: P_{3177} = (8, 5, 11, 1)
                                                                232: P_{3901} = (12, 2, 14, 1)
185: P_{3181} = (12, 5, 11, 1)
                                                                233: P_{3905} = (0, 3, 14, 1)
186: P_{3218} = (1, 8, 11, 1)
                                                                234: P_{3916} = (11, 3, 14, 1)
187: P_{3247} = (14, 9, 11, 1)
                                                                235: P_{3928} = (7, 4, 14, 1)
                                                                236: P_{3944} = (7, 5, 14, 1)
188: P_{3268} = (3, 11, 11, 1)
189 : P_{3273} = (8, 11, 11, 1)
                                                                237: P_{3948} = (11, 5, 14, 1)
190: P_{3276} = (11, 11, 11, 1)
                                                                238: P_{3949} = (12, 5, 14, 1)
191: P_{3287} = (6, 12, 11, 1)
                                                                239: P_{3961} = (8, 6, 14, 1)
192: P_{3291} = (10, 12, 11, 1)
                                                                240: P_{4014} = (13, 9, 14, 1)
193: P_{3293} = (12, 12, 11, 1)
                                                                241: P_{4041} = (8, 11, 14, 1)
194: P_{3304} = (7, 13, 11, 1)
                                                                242: P_{4120} = (7, 0, 15, 1)
195: P_{3307} = (10, 13, 11, 1)
                                                                243: P_{4139} = (10, 1, 15, 1)
                                                                244: P_{4164} = (3, 3, 15, 1)
196: P_{3310} = (13, 13, 11, 1)
197: P_{3320} = (7, 14, 11, 1)
                                                                245: P_{4170} = (9, 3, 15, 1)
198: P_{3332} = (3, 15, 11, 1)
                                                                246: P_{4171} = (10, 3, 15, 1)
                                                                247: P_{4181} = (4, 4, 15, 1)
199: P_{3342} = (13, 15, 11, 1)
200: P_{3343} = (14, 15, 11, 1)
                                                                248: P_{4193} = (0, 5, 15, 1)
201: P_{3351} = (6, 0, 12, 1)
                                                                249: P_{4216} = (7, 6, 15, 1)
202: P_{3370} = (9, 1, 12, 1)
                                                                250: P_{4239} = (14, 7, 15, 1)
203: P_{3399} = (6, 3, 12, 1)
                                                                251: P_{4266} = (9, 9, 15, 1)
204: P_{3412} = (3, 4, 12, 1)
                                                                252: P_{4277} = (4, 10, 15, 1)
205: P_{3440} = (15, 5, 12, 1)
                                                                253: P_{4292} = (3, 11, 15, 1)
206: P_{3452} = (11, 6, 12, 1)
                                                                254: P_{4302} = (13, 11, 15, 1)
                                                                255: P_{4303} = (14, 11, 15, 1)
207: P_{3458} = (1,7,12,1)
208: P_{3492} = (3, 9, 12, 1)
                                                                256: P_{4366} = (13, 15, 15, 1)
209: P_{3498} = (9, 9, 12, 1)
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Line Intersection Graph

Neighbor sets in the line intersection graph: The surface has 257 points:

4

The points on the surface are:

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0: P_1 = (0, 1, 0, 0)
                                            51: P_{919} = (6, 8, 2, 1)
                                                                                        102: P_{1857} = (0, 3, 6, 1)
1: P_3 = (0,0,0,1)
                                            52: P_{923} = (10, 8, 2, 1)
                                                                                        103: P_{1867} = (10, 3, 6, 1)
                                            53: P_{925} = (12, 8, 2, 1)
                                                                                        104: P_{1902} = (13, 5, 6, 1)
2: P_{20} = (1,0,1,0)
3: P_{29} = (10, 0, 1, 0)
                                            54: P_{941} = (12, 9, 2, 1)
                                                                                        105: P_{1916} = (11, 6, 6, 1)
4: P_{30} = (11, 0, 1, 0)
                                            55: P_{960} = (15, 10, 2, 1)
                                                                                        106: P_{1940} = (3, 8, 6, 1)
5: P_{58} = (7, 2, 1, 0)
                                            56: P_{1008} = (15, 13, 2, 1)
                                                                                        107: P_{1958} = (5, 9, 6, 1)
6: P_{76} = (9, 3, 1, 0)
                                            57: P_{1016} = (7, 14, 2, 1)
                                                                                        108: P_{1970} = (1, 10, 6, 1)
7: P_{95} = (12, 4, 1, 0)
                                            58: P_{1053} = (12, 0, 3, 1)
                                                                                        109: P_{2002} = (1, 12, 6, 1)
8: P_{113} = (14, 5, 1, 0)
                                            59: P_{1068} = (11, 1, 3, 1)
                                                                                        110: P_{2027} = (10, 13, 6, 1)
9: P_{130} = (15, 6, 1, 0)
                                            60: P_{1096} = (7, 3, 3, 1)
                                                                                        111: P_{2038} = (5, 14, 6, 1)
                                                                                        112: P_{2044} = (11, 14, 6, 1)
10: P_{136} = (5,7,1,0)
                                            61: P_{1126} = (5, 5, 3, 1)
11: P_{149} = (2, 8, 1, 0)
                                            62: P_{1132} = (11, 5, 3, 1)
                                                                                        113: P_{2047} = (14, 14, 6, 1)
12: P_{169} = (6, 9, 1, 0)
                                            63: P_{1135} = (14, 5, 3, 1)
                                                                                        114: P_{2077} = (12, 0, 7, 1)
13: P_{219} = (8, 12, 1, 0)
                                            64: P_{1169} = (0, 8, 3, 1)
                                                                                        115: P_{2085} = (4, 1, 7, 1)
14: P_{230} = (3, 13, 1, 0)
                                            65: P_{1194} = (9, 9, 3, 1)
                                                                                        116: P_{2112} = (15, 2, 7, 1)
                                                                                        117: P_{2121} = (8, 3, 7, 1)
15: P_{256} = (13, 14, 1, 0)
                                            66: P_{1203} = (2, 10, 3, 1)
16: P_{263} = (4, 15, 1, 0)
                                            67: P_{1206} = (5, 10, 3, 1)
                                                                                        118: P_{2133} = (4, 4, 7, 1)
17: P_{275} = (1, 0, 0, 1)
                                            68: P_{1208} = (7, 10, 3, 1)
                                                                                        119: P_{2140} = (11, 4, 7, 1)
18: P_{335} = (13, 3, 0, 1)
                                            69: P_{1226} = (9, 11, 3, 1)
                                                                                        120: P_{2144} = (15, 4, 7, 1)
19: P_{361} = (7, 5, 0, 1)
                                                                                        121: P_{2188} = (11, 7, 7, 1)
                                            70: P_{1235} = (2, 12, 3, 1)
20: P_{378} = (8, 6, 0, 1)
                                            71: P_{1261} = (12, 13, 3, 1)
                                                                                        122: P_{2193} = (0, 8, 7, 1)
21: P_{389} = (3,7,0,1)
                                            72: P_{1279} = (14, 14, 3, 1)
                                                                                        123: P_{2203} = (10, 8, 7, 1)
22: P_{414} = (12, 8, 0, 1)
                                            73: P_{1309} = (12, 0, 4, 1)
                                                                                        124: P_{2217} = (8, 9, 7, 1)
23: P_{438} = (4, 10, 0, 1)
                                            74: P_{1341} = (12, 2, 4, 1)
                                                                                        125: P_{2226} = (1, 10, 7, 1)
24: P_{444} = (10, 10, 0, 1)
                                            75: P_{1412} = (3, 7, 4, 1)
                                                                                        126: P_{2267} = (10, 12, 7, 1)
                                            76: P_{1425} = (0, 8, 4, 1)
                                                                                        127: P_{2274} = (1, 13, 7, 1)
25: P_{448} = (14, 10, 0, 1)
26: P_{452} = (2, 11, 0, 1)
                                            77: P_{1436} = (11, 8, 4, 1)
                                                                                        128: P_{2317} = (12, 15, 7, 1)
27: P_{459} = (9, 11, 0, 1)
                                            78: P_{1454} = (13, 9, 4, 1)
                                                                                        129: P_{2334} = (13, 0, 8, 1)
28: P_{461} = (11, 11, 0, 1)
                                            79: P_{1476} = (3, 11, 4, 1)
                                                                                        130: P_{2348} = (11, 1, 8, 1)
29: P_{471} = (5, 12, 0, 1)
                                            80: P_{1527} = (6, 14, 4, 1)
                                                                                        131: P_{2355} = (2, 2, 8, 1)
                                                                                        132: P_{2369} = (0,3,8,1)
30: P_{497} = (15, 13, 0, 1)
                                            81: P_{1543} = (6, 15, 4, 1)
31: P_{520} = (6, 15, 0, 1)
                                            82: P_{1548} = (11, 15, 4, 1)
                                                                                        133: P_{2389} = (4, 4, 8, 1)
32: P_{546} = (0, 1, 1, 1)
                                            83: P_{1550} = (13, 15, 4, 1)
                                                                                        134: P_{2455} = (6, 8, 8, 1)
33: P_{572} = (11, 2, 1, 1)
                                            84: P_{1559} = (6,0,5,1)
                                                                                        135: P_{2487} = (6, 10, 8, 1)
34: P_{603} = (10, 4, 1, 1)
                                            85: P_{1579} = (10, 1, 5, 1)
                                                                                        136: P_{2490} = (9, 10, 8, 1)
35: P_{637} = (12, 6, 1, 1)
                                            86: P_{1587} = (2, 2, 5, 1)
                                                                                        137: P_{2496} = (15, 10, 8, 1)
36: P_{654} = (13, 7, 1, 1)
                                            87: P_{1645} = (12, 5, 5, 1)
                                                                                        138: P_{2499} = (2, 11, 8, 1)
37: P_{684} = (11, 9, 1, 1)
                                            88: P_{1653} = (4, 6, 5, 1)
                                                                                        139: P_{2526} = (13, 12, 8, 1)
38: P_{690} = (1, 10, 1, 1)
                                            89: P_{1671} = (6,7,5,1)
                                                                                        140: P_{2538} = (9, 13, 8, 1)
39: P_{701} = (12, 10, 1, 1)
                                            90: P_{1683} = (2, 8, 5, 1)
                                                                                        141: P_{2565} = (4, 15, 8, 1)
40: P_{702} = (13, 10, 1, 1)
                                            91: P_{1689} = (8, 8, 5, 1)
                                                                                        142: P_{2572} = (11, 15, 8, 1)
41: P_{706} = (1, 11, 1, 1)
                                            92: P_{1691} = (10, 8, 5, 1)
                                                                                        143: P_{2576} = (15, 15, 8, 1)
                                            93: P_{1727} = (14, 10, 5, 1)
                                                                                        144: P_{2583} = (6, 0, 9, 1)
42: P_{711} = (6, 11, 1, 1)
43: P_{712} = (7, 11, 1, 1)
                                            94: P_{1733} = (4, 11, 5, 1)
                                                                                        145: P_{2622} = (13, 2, 9, 1)
44: P_{728} = (7, 12, 1, 1)
                                            95: P_{1737} = (8, 11, 5, 1)
                                                                                        146: P_{2632} = (7, 3, 9, 1)
                                                                                        147: P_{2635} = (10, 3, 9, 1)
45: P_{743} = (6, 13, 1, 1)
                                            96: P_{1741} = (12, 11, 5, 1)
46: P_{763} = (10, 14, 1, 1)
                                            97: P_{1791} = (14, 14, 5, 1)
                                                                                        148: P_{2638} = (13, 3, 9, 1)
                                            98: P_{1793} = (0, 15, 5, 1)
47: P_{792} = (7,0,2,1)
                                                                                        149: P_{2647} = (6, 4, 9, 1)
48: P_{855} = (6, 4, 2, 1)
                                            99: P_{1822} = (13, 0, 6, 1)
                                                                                        150: P_{2742} = (5, 10, 9, 1)
49: P_{865} = (0, 5, 2, 1)
                                            100: P_{1839} = (14, 1, 6, 1)
                                                                                        151: P_{2774} = (5, 12, 9, 1)
                                                                                        152: P_{2808} = (7, 14, 9, 1)
50: P_{875} = (10, 5, 2, 1)
                                            101: P_{1844} = (3, 2, 6, 1)
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153: P_{2817} = (0, 15, 9, 1)
                                           188: P_{3268} = (3, 11, 11, 1)
                                                                                      223: P_{3692} = (11, 5, 13, 1)
154: P_{2827} = (10, 15, 9, 1)
                                           189: P_{3273} = (8, 11, 11, 1)
                                                                                      224: P_{3698} = (1, 6, 13, 1)
                                                                                      225: P_{3724} = (11, 7, 13, 1)
155: P_{2849} = (0, 1, 10, 1)
                                           190: P_{3276} = (11, 11, 11, 1)
156: P_{2859} = (10, 1, 10, 1)
                                           191: P_{3287} = (6, 12, 11, 1)
                                                                                      226: P_{3736} = (7, 8, 13, 1)
157: P_{2877} = (12, 2, 10, 1)
                                           192: P_{3291} = (10, 12, 11, 1)
                                                                                      227: P_{3778} = (1, 11, 13, 1)
158: P_{2883} = (2, 3, 10, 1)
                                           193: P_{3293} = (12, 12, 11, 1)
                                                                                      228: P_{3819} = (10, 13, 13, 1)
159: P_{2886} = (5, 3, 10, 1)
                                           194: P_{3304} = (7, 13, 11, 1)
                                                                                      229: P_{3833} = (8, 14, 13, 1)
160: P_{2888} = (7, 3, 10, 1)
                                           195: P_{3307} = (10, 13, 11, 1)
                                                                                      230: P_{3846} = (5, 15, 13, 1)
161: P_{2906} = (9, 4, 10, 1)
                                           196: P_{3310} = (13, 13, 11, 1)
                                                                                      231: P_{3870} = (13, 0, 14, 1)
162: P_{2914} = (1, 5, 10, 1)
                                           197: P_{3320} = (7, 14, 11, 1)
                                                                                      232: P_{3901} = (12, 2, 14, 1)
163: P_{2935} = (6, 6, 10, 1)
                                           198: P_{3332} = (3, 15, 11, 1)
                                                                                      233: P_{3905} = (0, 3, 14, 1)
164: P_{2940} = (11, 6, 10, 1)
                                           199: P_{3342} = (13, 15, 11, 1)
                                                                                      234: P_{3916} = (11, 3, 14, 1)
165: P_{2942} = (13, 6, 10, 1)
                                                                                      235: P_{3928} = (7, 4, 14, 1)
                                           200: P_{3343} = (14, 15, 11, 1)
166: P_{2952} = (7, 7, 10, 1)
                                           201: P_{3351} = (6, 0, 12, 1)
                                                                                      236: P_{3944} = (7, 5, 14, 1)
                                           202: P_{3370} = (9, 1, 12, 1)
167: P_{2956} = (11, 7, 10, 1)
                                                                                      237: P_{3948} = (11, 5, 14, 1)
168: P_{2957} = (12, 7, 10, 1)
                                           203: P_{3399} = (6, 3, 12, 1)
                                                                                      238: P_{3949} = (12, 5, 14, 1)
                                           204: P_{3412} = (3, 4, 12, 1)
                                                                                      239: P_{3961} = (8, 6, 14, 1)
169: P_{2967} = (6, 8, 10, 1)
                                                                                      240: P_{4014} = (13, 9, 14, 1)
170: P_{2970} = (9, 8, 10, 1)
                                           205: P_{3440} = (15, 5, 12, 1)
171: P_{2976} = (15, 8, 10, 1)
                                           206: P_{3452} = (11, 6, 12, 1)
                                                                                      241: P_{4041} = (8, 11, 14, 1)
172: P_{2990} = (13, 9, 10, 1)
                                           207: P_{3458} = (1,7,12,1)
                                                                                      242: P_{4120} = (7, 0, 15, 1)
173: P_{2998} = (5, 10, 10, 1)
                                           208: P_{3492} = (3, 9, 12, 1)
                                                                                      243: P_{4139} = (10, 1, 15, 1)
                                                                                      244: P_{4164} = (3, 3, 15, 1)
174: P_{3003} = (10, 10, 10, 1)
                                           209: P_{3498} = (9, 9, 12, 1)
                                           210: P_{3499} = (10, 9, 12, 1)
                                                                                      245: P_{4170} = (9, 3, 15, 1)
175: P_{3008} = (15, 10, 10, 1)
176: P_{3059} = (2, 14, 10, 1)
                                           211: P_{3522} = (1, 11, 12, 1)
                                                                                      246: P_{4171} = (10, 3, 15, 1)
177: P_{3074} = (1, 15, 10, 1)
                                           212: P_{3547} = (10, 12, 12, 1)
                                                                                      247: P_{4181} = (4, 4, 15, 1)
178: P_{3105} = (0, 1, 11, 1)
                                           213: P_{3584} = (15, 14, 12, 1)
                                                                                      248: P_{4193} = (0, 5, 15, 1)
179: P_{3116} = (11, 1, 11, 1)
                                                                                      249: P_{4216} = (7, 6, 15, 1)
                                           214: P_{3585} = (0, 15, 12, 1)
180: P_{3125} = (4, 2, 11, 1)
                                           215: P_{3596} = (11, 15, 12, 1)
                                                                                      250: P_{4239} = (14, 7, 15, 1)
                                                                                      251: P_{4266} = (9, 9, 15, 1)
181: P_{3138} = (1, 3, 11, 1)
                                           216: P_{3608} = (7, 0, 13, 1)
182: P_{3159} = (6, 4, 11, 1)
                                           217: P_{3619} = (2, 1, 13, 1)
                                                                                      252: P_{4277} = (4, 10, 15, 1)
183: P_{3173} = (4, 5, 11, 1)
                                           218: P_{3635} = (2, 2, 13, 1)
                                                                                      253: P_{4292} = (3, 11, 15, 1)
184: P_{3177} = (8, 5, 11, 1)
                                           219: P_{3641} = (8, 2, 13, 1)
                                                                                      254: P_{4302} = (13, 11, 15, 1)
185: P_{3181} = (12, 5, 11, 1)
                                           220: P_{3643} = (10, 2, 13, 1)
                                                                                      255: P_{4303} = (14, 11, 15, 1)
                                           221: P_{3670} = (5, 4, 13, 1)
                                                                                      256: P_{4366} = (13, 15, 15, 1)
186: P_{3218} = (1, 8, 11, 1)
187: P_{3247} = (14, 9, 11, 1)
                                           222: P_{3681} = (0, 5, 13, 1)
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