

Rank-337 over GF(64)

January 15, 2021

The equation

The equation of the surface is :

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

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

The point rank of the equation over GF(64) is 1090789517

General information

Number of lines	6
Number of points	4289
Number of singular points	1
Number of Eckardt points	2
Number of double points	3
Number of single points	378
Number of points off lines	3906
Number of Hesse planes	0
Number of axes	0
Type of points on lines	65^6
Type of lines on points	$3^2, 2^3, 1^{378}, 0^{3906}$

Singular Points

The surface has 1 singular points:

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

The 6 Lines

The lines and their Pluecker coordinates are:

$$\begin{aligned} \ell_0 &= \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & \epsilon^{18} & 0 \end{bmatrix}_{11} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 11 & 0 \end{bmatrix}_{11} = \mathbf{Pl}(37, 0, 1, 0, 0, 0)_{39} \\ \ell_1 &= \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & \epsilon^{36} & 0 \end{bmatrix}_{36} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 36 & 0 \end{bmatrix}_{36} = \mathbf{Pl}(46, 0, 1, 0, 0, 0)_{48} \end{aligned}$$

$$\begin{aligned}
\ell_2 &= \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & \epsilon^9 & 0 \end{bmatrix}_{47} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 47 & 0 \end{bmatrix}_{47} = \mathbf{Pl}(10, 0, 1, 0, 0, 0)_{12} \\
\ell_3 &= \begin{bmatrix} 0 & 1 & \epsilon^9 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{17046575} = \begin{bmatrix} 0 & 1 & 47 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{17046575} = \mathbf{Pl}(0, 47, 0, 1, 0, 0)_{239} \\
\ell_4 &= \begin{bmatrix} 0 & 1 & \epsilon^{18} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{17044235} = \begin{bmatrix} 0 & 1 & 11 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{17044235} = \mathbf{Pl}(0, 11, 0, 1, 0, 0)_{203} \\
\ell_5 &= \begin{bmatrix} 0 & 1 & \epsilon^{36} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{17045860} = \begin{bmatrix} 0 & 1 & 36 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{17045860} = \mathbf{Pl}(0, 36, 0, 1, 0, 0)_{228}
\end{aligned}$$

Rank of lines: (11, 36, 47, 17046575, 17044235, 17045860)

Rank of points on Klein quadric: (39, 48, 12, 239, 203, 228)

Eckardt Points

The surface has 2 Eckardt points:

$$0 : P_0 = \mathbf{P}(1, 0, 0, 0) = \mathbf{P}(1, 0, 0, 0),$$

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

Double Points

The surface has 3 Double points:

The double points on the surface are:

$$P_{2435} = (0, 37, 1, 0) = \ell_0 \cap \ell_4$$

$$P_{3011} = (0, 46, 1, 0) = \ell_1 \cap \ell_5$$

$$P_{707} = (0, 10, 1, 0) = \ell_2 \cap \ell_3$$

Single Points

The surface has 378 single points:

The single points on the surface are:

$$0 : P_{708} = (1, 10, 1, 0) \text{ lies on line } \ell_2$$

$$1 : P_{709} = (2, 10, 1, 0) \text{ lies on line } \ell_2$$

$$2 : P_{710} = (3, 10, 1, 0) \text{ lies on line } \ell_2$$

$$3 : P_{711} = (4, 10, 1, 0) \text{ lies on line } \ell_2$$

$$4 : P_{712} = (5, 10, 1, 0) \text{ lies on line } \ell_2$$

$$5 : P_{713} = (6, 10, 1, 0) \text{ lies on line } \ell_2$$

$$6 : P_{714} = (7, 10, 1, 0) \text{ lies on line } \ell_2$$

$$7 : P_{715} = (8, 10, 1, 0) \text{ lies on line } \ell_2$$

$$8 : P_{716} = (9, 10, 1, 0) \text{ lies on line } \ell_2$$

$$9 : P_{717} = (10, 10, 1, 0) \text{ lies on line } \ell_2$$

$$10 : P_{718} = (11, 10, 1, 0) \text{ lies on line } \ell_2$$

$$11 : P_{719} = (12, 10, 1, 0) \text{ lies on line } \ell_2$$

$$12 : P_{720} = (13, 10, 1, 0) \text{ lies on line } \ell_2$$

$$13 : P_{721} = (14, 10, 1, 0) \text{ lies on line } \ell_2$$

$$14 : P_{722} = (15, 10, 1, 0) \text{ lies on line } \ell_2$$

$$15 : P_{723} = (16, 10, 1, 0) \text{ lies on line } \ell_2$$

$$16 : P_{724} = (17, 10, 1, 0) \text{ lies on line } \ell_2$$

$$17 : P_{725} = (18, 10, 1, 0) \text{ lies on line } \ell_2$$

$$18 : P_{726} = (19, 10, 1, 0) \text{ lies on line } \ell_2$$

$$19 : P_{727} = (20, 10, 1, 0) \text{ lies on line } \ell_2$$

$$20 : P_{728} = (21, 10, 1, 0) \text{ lies on line } \ell_2$$

$$21 : P_{729} = (22, 10, 1, 0) \text{ lies on line } \ell_2$$

$$22 : P_{730} = (23, 10, 1, 0) \text{ lies on line } \ell_2$$

$$23 : P_{731} = (24, 10, 1, 0) \text{ lies on line } \ell_2$$

$$24 : P_{732} = (25, 10, 1, 0) \text{ lies on line } \ell_2$$

$$25 : P_{733} = (26, 10, 1, 0) \text{ lies on line } \ell_2$$

$$26 : P_{734} = (27, 10, 1, 0) \text{ lies on line } \ell_2$$

$$27 : P_{735} = (28, 10, 1, 0) \text{ lies on line } \ell_2$$

$$28 : P_{736} = (29, 10, 1, 0) \text{ lies on line } \ell_2$$

$$29 : P_{737} = (30, 10, 1, 0) \text{ lies on line } \ell_2$$

$$30 : P_{738} = (31, 10, 1, 0) \text{ lies on line } \ell_2$$

$$31 : P_{739} = (32, 10, 1, 0) \text{ lies on line } \ell_2$$

$$32 : P_{740} = (33, 10, 1, 0) \text{ lies on line } \ell_2$$

$$33 : P_{741} = (34, 10, 1, 0) \text{ lies on line } \ell_2$$

$$34 : P_{742} = (35, 10, 1, 0) \text{ lies on line } \ell_2$$

$$35 : P_{743} = (36, 10, 1, 0) \text{ lies on line } \ell_2$$

144 : $P_{3030} = (19, 46, 1, 0)$ lies on line ℓ_1
 145 : $P_{3031} = (20, 46, 1, 0)$ lies on line ℓ_1
 146 : $P_{3032} = (21, 46, 1, 0)$ lies on line ℓ_1
 147 : $P_{3033} = (22, 46, 1, 0)$ lies on line ℓ_1
 148 : $P_{3034} = (23, 46, 1, 0)$ lies on line ℓ_1
 149 : $P_{3035} = (24, 46, 1, 0)$ lies on line ℓ_1
 150 : $P_{3036} = (25, 46, 1, 0)$ lies on line ℓ_1
 151 : $P_{3037} = (26, 46, 1, 0)$ lies on line ℓ_1
 152 : $P_{3038} = (27, 46, 1, 0)$ lies on line ℓ_1
 153 : $P_{3039} = (28, 46, 1, 0)$ lies on line ℓ_1
 154 : $P_{3040} = (29, 46, 1, 0)$ lies on line ℓ_1
 155 : $P_{3041} = (30, 46, 1, 0)$ lies on line ℓ_1
 156 : $P_{3042} = (31, 46, 1, 0)$ lies on line ℓ_1
 157 : $P_{3043} = (32, 46, 1, 0)$ lies on line ℓ_1
 158 : $P_{3044} = (33, 46, 1, 0)$ lies on line ℓ_1
 159 : $P_{3045} = (34, 46, 1, 0)$ lies on line ℓ_1
 160 : $P_{3046} = (35, 46, 1, 0)$ lies on line ℓ_1
 161 : $P_{3047} = (36, 46, 1, 0)$ lies on line ℓ_1
 162 : $P_{3048} = (37, 46, 1, 0)$ lies on line ℓ_1
 163 : $P_{3049} = (38, 46, 1, 0)$ lies on line ℓ_1
 164 : $P_{3050} = (39, 46, 1, 0)$ lies on line ℓ_1
 165 : $P_{3051} = (40, 46, 1, 0)$ lies on line ℓ_1
 166 : $P_{3052} = (41, 46, 1, 0)$ lies on line ℓ_1
 167 : $P_{3053} = (42, 46, 1, 0)$ lies on line ℓ_1
 168 : $P_{3054} = (43, 46, 1, 0)$ lies on line ℓ_1
 169 : $P_{3055} = (44, 46, 1, 0)$ lies on line ℓ_1
 170 : $P_{3056} = (45, 46, 1, 0)$ lies on line ℓ_1
 171 : $P_{3057} = (46, 46, 1, 0)$ lies on line ℓ_1
 172 : $P_{3058} = (47, 46, 1, 0)$ lies on line ℓ_1
 173 : $P_{3059} = (48, 46, 1, 0)$ lies on line ℓ_1
 174 : $P_{3060} = (49, 46, 1, 0)$ lies on line ℓ_1
 175 : $P_{3061} = (50, 46, 1, 0)$ lies on line ℓ_1
 176 : $P_{3062} = (51, 46, 1, 0)$ lies on line ℓ_1
 177 : $P_{3063} = (52, 46, 1, 0)$ lies on line ℓ_1
 178 : $P_{3064} = (53, 46, 1, 0)$ lies on line ℓ_1
 179 : $P_{3065} = (54, 46, 1, 0)$ lies on line ℓ_1
 180 : $P_{3066} = (55, 46, 1, 0)$ lies on line ℓ_1
 181 : $P_{3067} = (56, 46, 1, 0)$ lies on line ℓ_1
 182 : $P_{3068} = (57, 46, 1, 0)$ lies on line ℓ_1
 183 : $P_{3069} = (58, 46, 1, 0)$ lies on line ℓ_1
 184 : $P_{3070} = (59, 46, 1, 0)$ lies on line ℓ_1
 185 : $P_{3071} = (60, 46, 1, 0)$ lies on line ℓ_1
 186 : $P_{3072} = (61, 46, 1, 0)$ lies on line ℓ_1
 187 : $P_{3073} = (62, 46, 1, 0)$ lies on line ℓ_1
 188 : $P_{3074} = (63, 46, 1, 0)$ lies on line ℓ_1
 189 : $P_{8897} = (0, 10, 1, 1)$ lies on line ℓ_3
 190 : $P_{10625} = (0, 37, 1, 1)$ lies on line ℓ_4
 191 : $P_{11201} = (0, 46, 1, 1)$ lies on line ℓ_5
 192 : $P_{13633} = (0, 20, 2, 1)$ lies on line ℓ_3
 193 : $P_{15105} = (0, 43, 2, 1)$ lies on line ℓ_4
 194 : $P_{16257} = (0, 61, 2, 1)$ lies on line ℓ_5
 195 : $P_{17345} = (0, 14, 3, 1)$ lies on line ℓ_4
 196 : $P_{17665} = (0, 19, 3, 1)$ lies on line ℓ_5
 197 : $P_{18369} = (0, 30, 3, 1)$ lies on line ℓ_3
 198 : $P_{22273} = (0, 27, 4, 1)$ lies on line ℓ_5
 199 : $P_{23105} = (0, 40, 4, 1)$ lies on line ℓ_3
 200 : $P_{24065} = (0, 55, 4, 1)$ lies on line ℓ_4
 201 : $P_{25793} = (0, 18, 5, 1)$ lies on line ℓ_4
 202 : $P_{26817} = (0, 34, 5, 1)$ lies on line ℓ_3
 203 : $P_{28033} = (0, 53, 5, 1)$ lies on line ℓ_5
 204 : $P_{30529} = (0, 28, 6, 1)$ lies on line ℓ_4
 205 : $P_{31169} = (0, 38, 6, 1)$ lies on line ℓ_5
 206 : $P_{32577} = (0, 60, 6, 1)$ lies on line ℓ_3
 207 : $P_{33345} = (0, 8, 7, 1)$ lies on line ℓ_5
 208 : $P_{36289} = (0, 54, 7, 1)$ lies on line ℓ_3
 209 : $P_{36481} = (0, 57, 7, 1)$ lies on line ℓ_4
 210 : $P_{37889} = (0, 15, 8, 1)$ lies on line ℓ_4
 211 : $P_{40065} = (0, 49, 8, 1)$ lies on line ℓ_3
 212 : $P_{40385} = (0, 54, 8, 1)$ lies on line ℓ_5
 213 : $P_{42561} = (0, 24, 9, 1)$ lies on line ℓ_5
 214 : $P_{43713} = (0, 42, 9, 1)$ lies on line ℓ_4
 215 : $P_{44801} = (0, 59, 9, 1)$ lies on line ℓ_3
 216 : $P_{45825} = (0, 11, 10, 1)$ lies on line ℓ_5
 217 : $P_{47425} = (0, 36, 10, 1)$ lies on line ℓ_4
 218 : $P_{47489} = (0, 37, 10, 1)$ lies on line ℓ_3
 219 : $P_{49281} = (0, 1, 11, 1)$ lies on line ℓ_4
 220 : $P_{51585} = (0, 37, 11, 1)$ lies on line ℓ_5
 221 : $P_{52225} = (0, 47, 11, 1)$ lies on line ℓ_3
 222 : $P_{54913} = (0, 25, 12, 1)$ lies on line ℓ_3
 223 : $P_{56193} = (0, 45, 12, 1)$ lies on line ℓ_5
 224 : $P_{56897} = (0, 56, 12, 1)$ lies on line ℓ_4
 225 : $P_{57601} = (0, 3, 13, 1)$ lies on line ℓ_5
 226 : $P_{58625} = (0, 19, 13, 1)$ lies on line ℓ_3
 227 : $P_{59265} = (0, 29, 13, 1)$ lies on line ℓ_4
 228 : $P_{62337} = (0, 13, 14, 1)$ lies on line ℓ_3
 229 : $P_{62529} = (0, 16, 14, 1)$ lies on line ℓ_5
 230 : $P_{62721} = (0, 19, 14, 1)$ lies on line ℓ_4
 231 : $P_{66049} = (0, 7, 15, 1)$ lies on line ℓ_3
 232 : $P_{69057} = (0, 54, 15, 1)$ lies on line ℓ_4
 233 : $P_{69569} = (0, 62, 15, 1)$ lies on line ℓ_5
 234 : $P_{69889} = (0, 3, 16, 1)$ lies on line ℓ_3
 235 : $P_{70529} = (0, 13, 16, 1)$ lies on line ℓ_5
 236 : $P_{71617} = (0, 30, 16, 1)$ lies on line ℓ_4
 237 : $P_{74369} = (0, 9, 17, 1)$ lies on line ℓ_3
 238 : $P_{76033} = (0, 35, 17, 1)$ lies on line ℓ_5
 239 : $P_{77569} = (0, 59, 17, 1)$ lies on line ℓ_4
 240 : $P_{79361} = (0, 23, 18, 1)$ lies on line ℓ_3
 241 : $P_{80961} = (0, 48, 18, 1)$ lies on line ℓ_5
 242 : $P_{81281} = (0, 53, 18, 1)$ lies on line ℓ_4
 243 : $P_{83009} = (0, 16, 19, 1)$ lies on line ℓ_4
 244 : $P_{83841} = (0, 29, 19, 1)$ lies on line ℓ_3
 245 : $P_{83905} = (0, 30, 19, 1)$ lies on line ℓ_5
 246 : $P_{87489} = (0, 22, 20, 1)$ lies on line ℓ_5
 247 : $P_{88705} = (0, 41, 20, 1)$ lies on line ℓ_4
 248 : $P_{88833} = (0, 43, 20, 1)$ lies on line ℓ_3
 249 : $P_{90945} = (0, 12, 21, 1)$ lies on line ℓ_4
 250 : $P_{92289} = (0, 33, 21, 1)$ lies on line ℓ_3
 251 : $P_{93761} = (0, 56, 21, 1)$ lies on line ℓ_5

252 : $P_{94401} = (0, 2, 22, 1)$ lies on line ℓ_4
 253 : $P_{97025} = (0, 43, 22, 1)$ lies on line ℓ_5
 254 : $P_{98305} = (0, 63, 22, 1)$ lies on line ℓ_3
 255 : $P_{98689} = (0, 5, 23, 1)$ lies on line ℓ_5
 256 : $P_{100865} = (0, 39, 23, 1)$ lies on line ℓ_4
 257 : $P_{101761} = (0, 53, 23, 1)$ lies on line ℓ_3
 258 : $P_{103553} = (0, 17, 24, 1)$ lies on line ℓ_4
 259 : $P_{105665} = (0, 50, 24, 1)$ lies on line ℓ_3
 260 : $P_{106241} = (0, 59, 24, 1)$ lies on line ℓ_5
 261 : $P_{107905} = (0, 21, 25, 1)$ lies on line ℓ_5
 262 : $P_{109889} = (0, 52, 25, 1)$ lies on line ℓ_4
 263 : $P_{110145} = (0, 56, 25, 1)$ lies on line ℓ_3
 264 : $P_{111041} = (0, 6, 26, 1)$ lies on line ℓ_5
 265 : $P_{113089} = (0, 38, 26, 1)$ lies on line ℓ_3
 266 : $P_{114369} = (0, 58, 26, 1)$ lies on line ℓ_4
 267 : $P_{116737} = (0, 31, 27, 1)$ lies on line ℓ_4
 268 : $P_{117313} = (0, 40, 27, 1)$ lies on line ℓ_5
 269 : $P_{117569} = (0, 44, 27, 1)$ lies on line ℓ_3
 270 : $P_{120513} = (0, 26, 28, 1)$ lies on line ℓ_3
 271 : $P_{120897} = (0, 32, 28, 1)$ lies on line ℓ_5
 272 : $P_{121281} = (0, 38, 28, 1)$ lies on line ℓ_4
 273 : $P_{123137} = (0, 3, 29, 1)$ lies on line ℓ_4
 274 : $P_{123841} = (0, 14, 29, 1)$ lies on line ℓ_5
 275 : $P_{123969} = (0, 16, 29, 1)$ lies on line ℓ_3
 276 : $P_{127873} = (0, 13, 30, 1)$ lies on line ℓ_4
 277 : $P_{127937} = (0, 14, 30, 1)$ lies on line ℓ_3
 278 : $P_{128897} = (0, 29, 30, 1)$ lies on line ℓ_5
 279 : $P_{131393} = (0, 4, 31, 1)$ lies on line ℓ_3
 280 : $P_{133697} = (0, 40, 31, 1)$ lies on line ℓ_4
 281 : $P_{134401} = (0, 51, 31, 1)$ lies on line ℓ_5
 282 : $P_{135617} = (0, 6, 32, 1)$ lies on line ℓ_3
 283 : $P_{136897} = (0, 26, 32, 1)$ lies on line ℓ_5
 284 : $P_{139073} = (0, 60, 32, 1)$ lies on line ℓ_4
 285 : $P_{140097} = (0, 12, 33, 1)$ lies on line ℓ_3
 286 : $P_{140929} = (0, 25, 33, 1)$ lies on line ℓ_4
 287 : $P_{142657} = (0, 52, 33, 1)$ lies on line ℓ_5
 288 : $P_{144577} = (0, 18, 34, 1)$ lies on line ℓ_3
 289 : $P_{144897} = (0, 23, 34, 1)$ lies on line ℓ_4
 290 : $P_{145921} = (0, 39, 34, 1)$ lies on line ℓ_5
 291 : $P_{148097} = (0, 9, 35, 1)$ lies on line ℓ_5
 292 : $P_{149057} = (0, 24, 35, 1)$ lies on line ℓ_3
 293 : $P_{150721} = (0, 50, 35, 1)$ lies on line ℓ_4
 294 : $P_{151681} = (0, 1, 36, 1)$ lies on line ℓ_5
 295 : $P_{152321} = (0, 11, 36, 1)$ lies on line ℓ_4
 296 : $P_{154561} = (0, 46, 36, 1)$ lies on line ℓ_3
 297 : $P_{158017} = (0, 36, 37, 1)$ lies on line ℓ_3
 298 : $P_{158657} = (0, 46, 37, 1)$ lies on line ℓ_4
 299 : $P_{158721} = (0, 47, 37, 1)$ lies on line ℓ_5
 300 : $P_{161857} = (0, 32, 38, 1)$ lies on line ℓ_4
 301 : $P_{163521} = (0, 58, 38, 1)$ lies on line ℓ_3
 302 : $P_{163649} = (0, 60, 38, 1)$ lies on line ℓ_5
 303 : $P_{164225} = (0, 5, 39, 1)$ lies on line ℓ_4
 304 : $P_{165057} = (0, 18, 39, 1)$ lies on line ℓ_5
 305 : $P_{166977} = (0, 48, 39, 1)$ lies on line ℓ_3

306 : $P_{170817} = (0, 44, 40, 1)$ lies on line ℓ_5
 307 : $P_{171265} = (0, 51, 40, 1)$ lies on line ℓ_4
 308 : $P_{171521} = (0, 55, 40, 1)$ lies on line ℓ_3
 309 : $P_{172225} = (0, 2, 41, 1)$ lies on line ℓ_5
 310 : $P_{173505} = (0, 22, 41, 1)$ lies on line ℓ_4
 311 : $P_{176001} = (0, 61, 41, 1)$ lies on line ℓ_3
 312 : $P_{177281} = (0, 17, 42, 1)$ lies on line ℓ_5
 313 : $P_{177729} = (0, 24, 42, 1)$ lies on line ℓ_4
 314 : $P_{178433} = (0, 35, 42, 1)$ lies on line ℓ_3
 315 : $P_{182913} = (0, 41, 43, 1)$ lies on line ℓ_3
 316 : $P_{184193} = (0, 61, 43, 1)$ lies on line ℓ_4
 317 : $P_{184321} = (0, 63, 43, 1)$ lies on line ℓ_5
 318 : $P_{184641} = (0, 4, 44, 1)$ lies on line ℓ_4
 319 : $P_{186369} = (0, 31, 44, 1)$ lies on line ℓ_3
 320 : $P_{187905} = (0, 55, 44, 1)$ lies on line ℓ_5
 321 : $P_{189825} = (0, 21, 45, 1)$ lies on line ℓ_3
 322 : $P_{190081} = (0, 25, 45, 1)$ lies on line ℓ_5
 323 : $P_{190593} = (0, 33, 45, 1)$ lies on line ℓ_4
 324 : $P_{193217} = (0, 10, 46, 1)$ lies on line ℓ_5
 325 : $P_{193281} = (0, 11, 46, 1)$ lies on line ℓ_3
 326 : $P_{195585} = (0, 47, 46, 1)$ lies on line ℓ_4
 327 : $P_{196737} = (0, 1, 47, 1)$ lies on line ℓ_3
 328 : $P_{197313} = (0, 10, 47, 1)$ lies on line ℓ_4
 329 : $P_{198977} = (0, 36, 47, 1)$ lies on line ℓ_5
 330 : $P_{201089} = (0, 5, 48, 1)$ lies on line ℓ_3
 331 : $P_{202241} = (0, 23, 48, 1)$ lies on line ℓ_5
 332 : $P_{202945} = (0, 34, 48, 1)$ lies on line ℓ_4
 333 : $P_{205313} = (0, 7, 49, 1)$ lies on line ℓ_4
 334 : $P_{205825} = (0, 15, 49, 1)$ lies on line ℓ_3
 335 : $P_{208513} = (0, 57, 49, 1)$ lies on line ℓ_5
 336 : $P_{209537} = (0, 9, 50, 1)$ lies on line ℓ_4
 337 : $P_{210049} = (0, 17, 50, 1)$ lies on line ℓ_3
 338 : $P_{211649} = (0, 42, 50, 1)$ lies on line ℓ_5
 339 : $P_{213313} = (0, 4, 51, 1)$ lies on line ℓ_5
 340 : $P_{214785} = (0, 27, 51, 1)$ lies on line ℓ_3
 341 : $P_{215873} = (0, 44, 51, 1)$ lies on line ℓ_4
 342 : $P_{217921} = (0, 12, 52, 1)$ lies on line ℓ_5
 343 : $P_{218497} = (0, 21, 52, 1)$ lies on line ℓ_4
 344 : $P_{220033} = (0, 45, 52, 1)$ lies on line ℓ_3
 345 : $P_{223425} = (0, 34, 53, 1)$ lies on line ℓ_5
 346 : $P_{223745} = (0, 39, 53, 1)$ lies on line ℓ_3
 347 : $P_{224321} = (0, 48, 53, 1)$ lies on line ℓ_4
 348 : $P_{228481} = (0, 49, 54, 1)$ lies on line ℓ_5
 349 : $P_{228993} = (0, 57, 54, 1)$ lies on line ℓ_3
 350 : $P_{229313} = (0, 62, 54, 1)$ lies on line ℓ_4
 351 : $P_{231169} = (0, 27, 55, 1)$ lies on line ℓ_4
 352 : $P_{231425} = (0, 31, 55, 1)$ lies on line ℓ_5
 353 : $P_{232705} = (0, 51, 55, 1)$ lies on line ℓ_3
 354 : $P_{235649} = (0, 33, 56, 1)$ lies on line ℓ_5
 355 : $P_{236417} = (0, 45, 56, 1)$ lies on line ℓ_4
 356 : $P_{236865} = (0, 52, 56, 1)$ lies on line ℓ_3
 357 : $P_{238145} = (0, 8, 57, 1)$ lies on line ℓ_4
 358 : $P_{238593} = (0, 15, 57, 1)$ lies on line ℓ_5
 359 : $P_{241601} = (0, 62, 57, 1)$ lies on line ℓ_3

360 : $P_{242113} = (0, 6, 58, 1)$ lies on line ℓ_4
 361 : $P_{243521} = (0, 28, 58, 1)$ lies on line ℓ_5
 362 : $P_{243777} = (0, 32, 58, 1)$ lies on line ℓ_3
 363 : $P_{248065} = (0, 35, 59, 1)$ lies on line ℓ_4
 364 : $P_{248513} = (0, 42, 59, 1)$ lies on line ℓ_3
 365 : $P_{249025} = (0, 50, 59, 1)$ lies on line ℓ_5
 366 : $P_{251585} = (0, 26, 60, 1)$ lies on line ℓ_4
 367 : $P_{251713} = (0, 28, 60, 1)$ lies on line ℓ_3
 368 : $P_{253633} = (0, 58, 60, 1)$ lies on line ℓ_5
 369 : $P_{255297} = (0, 20, 61, 1)$ lies on line ℓ_5

370 : $P_{255425} = (0, 22, 61, 1)$ lies on line ℓ_3
 371 : $P_{258049} = (0, 63, 61, 1)$ lies on line ℓ_4
 372 : $P_{258561} = (0, 7, 62, 1)$ lies on line ℓ_5
 373 : $P_{258625} = (0, 8, 62, 1)$ lies on line ℓ_3
 374 : $P_{261249} = (0, 49, 62, 1)$ lies on line ℓ_4
 375 : $P_{262337} = (0, 2, 63, 1)$ lies on line ℓ_3
 376 : $P_{263489} = (0, 20, 63, 1)$ lies on line ℓ_4
 377 : $P_{264833} = (0, 41, 63, 1)$ lies on line ℓ_5

The single points on the surface are:

Points on surface but on no line

The surface has 3906 points not on any line:
Too many to print.

Line Intersection Graph

	0	1	2	3	4	5
0	0	1	1	0	1	0
1	1	0	1	0	0	1
2	1	1	0	1	0	0
3	0	0	1	0	1	1
4	1	0	0	1	0	1
5	0	1	0	1	1	0

Neighbor sets in the line intersection graph:

Line 0 intersects

Line	ℓ_1	ℓ_2	ℓ_4
in point	P_0	P_0	P_{2435}

Line 1 intersects

Line	ℓ_0	ℓ_2	ℓ_5
in point	P_0	P_0	P_{3011}

Line 2 intersects

Line	ℓ_0	ℓ_1	ℓ_3
in point	P_0	P_0	P_{707}

Line 3 intersects

Line	ℓ_2	ℓ_4	ℓ_5
in point	P_{707}	P_3	P_3

Line 4 intersects

Line	ℓ_0	ℓ_3	ℓ_5
in point	P_{2435}	P_3	P_3

Line 5 intersects

Line	ℓ_1	ℓ_3	ℓ_4
in point	P_{3011}	P_3	P_3

The surface has 4289 points:
Too many to print.