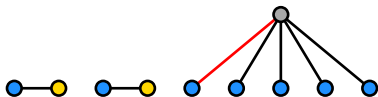


---- excess: 4 (g,n): (1, 13), (3, 10), (5, 7), (7, 4), (9, 1) graphs: 490 ----
 ----- edges: 10-n graphs: 10 -----
 --- A3 case graphs: 10 ---

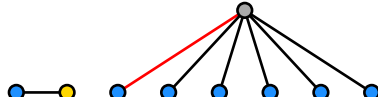
ID: 129 V_{1^n}
 n: 4 1 \mapsto ID 152



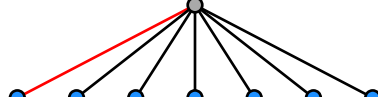
ID: 130 V_{1^n}
 n: 4 1 \mapsto ID 148



ID: 131 V_{1^n}
 n: 4 1 \mapsto ID 153



ID: 132 V_{1^n}
 n: 4 1 \mapsto ID 166



ID: 133 V_{1^n}
 n: 1 \mapsto ID 167



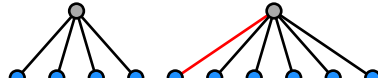
ID: 134 V_{1^n}
 n: 1 \mapsto ID 170



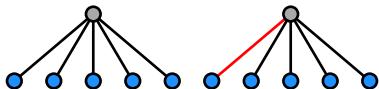
ID: 135 V_{1^n}
 n: 1 \mapsto ID 171



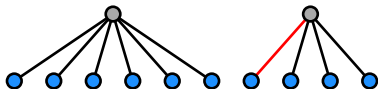
ID: 136 V_{1^n}
 n: 1 \mapsto ID 178



ID: 137 V_{1^n}
 n: 1 \mapsto ID 181

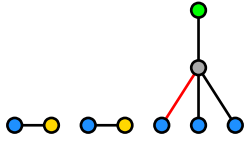


ID: 138 V_{1^n}
 n: 1 \mapsto ID 183

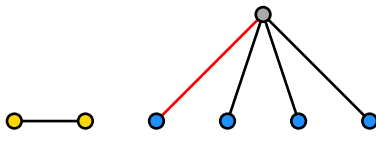


----- edges: 11-n graphs: 64 -----
 --- A3 case graphs: 45 ---

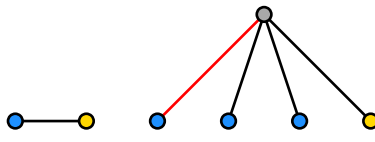
ID: 139 $V_1^{n-1} \boxtimes V_1$
 n: 7 4 1 \mapsto ID 291



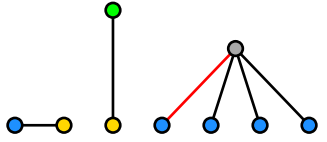
ID: 140 V_1^n
 n: 7 4 1 \mapsto ID 219



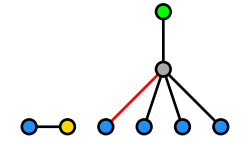
ID: 141 V_1^n
 n: 7 4 1 \mapsto ID 292



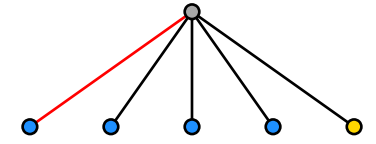
ID: 142 $V_1^{n-1} \boxtimes V_1$
 n: 7 4 1 \mapsto ID 215



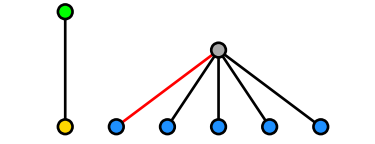
ID: 143 $V_1^{n-1} \boxtimes V_1$
 n: 7 4 1 \mapsto ID 224



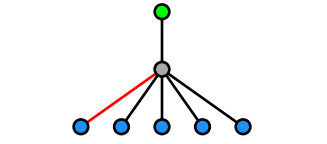
ID: 144 V_1^n
 n: 7 4 1 \mapsto ID 220



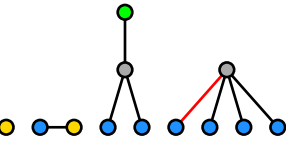
ID: 145 $V_1^{n-1} \boxtimes V_1$
 n: 7 4 1 \mapsto ID 221



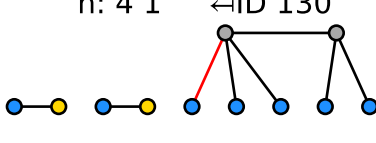
ID: 146 $V_1^{n-1} \boxtimes V_1$
 n: 7 4 1 \mapsto ID 225



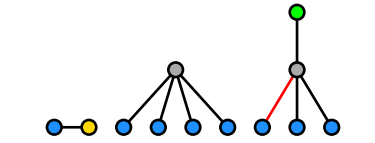
ID: 147 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 243



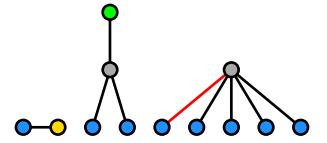
ID: 148 V_1^n
 n: 4 1 \mapsto ID 130



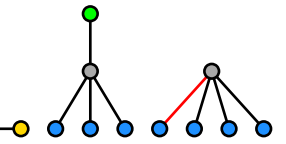
ID: 149 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 232



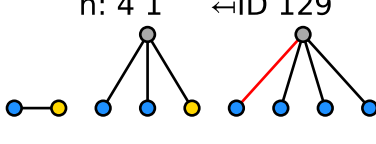
ID: 150 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 233



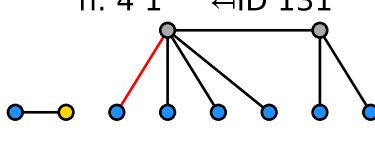
ID: 151 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 234



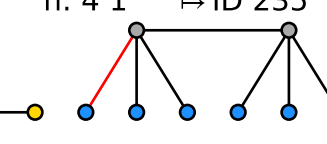
ID: 152 V_1^n
 n: 4 1 \mapsto ID 129



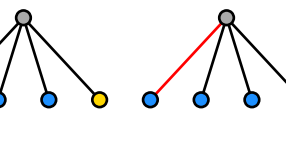
ID: 153 V_1^n
 n: 4 1 \mapsto ID 131



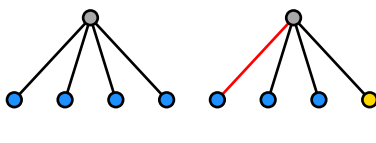
ID: 154 V_1^n
 n: 4 1 \mapsto ID 235



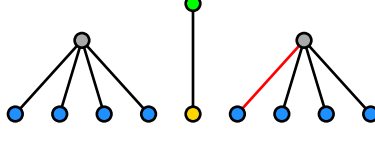
ID: 155 V_1^n
 n: 4 1 \mapsto ID 238



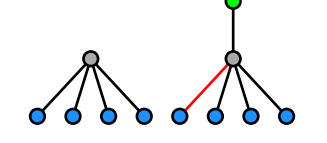
ID: 156 V_1^n
 n: 4 1 \mapsto ID 239



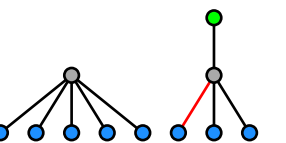
ID: 157 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 240



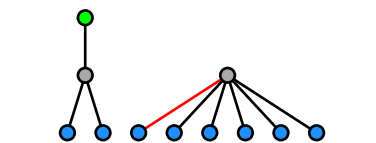
ID: 158 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 241



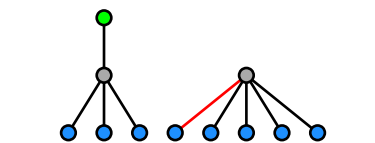
ID: 159 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 242



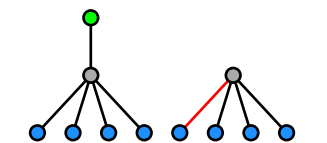
ID: 160 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 245



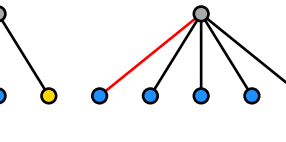
ID: 161 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 247



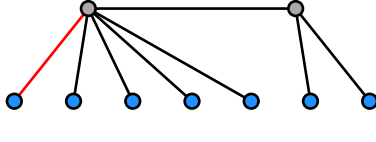
ID: 162 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 249



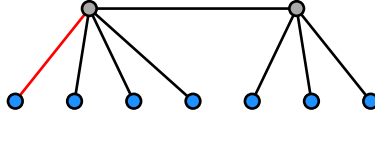
ID: 163 V_1^n
 n: 4 1 \mapsto ID 250



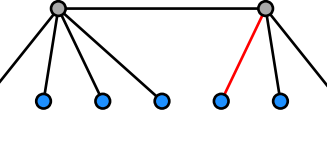
ID: 164 V_1^n
 n: 4 1 \mapsto ID 253



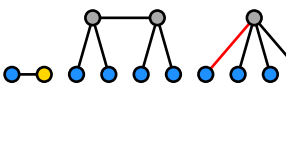
ID: 165 V_1^n
 n: 4 1 \mapsto ID 251



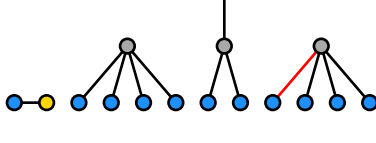
ID: 166 V_1^n
 n: 4 1 \mapsto ID 132



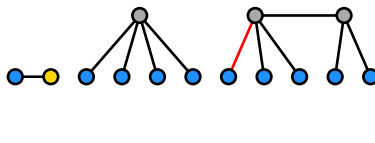
ID: 167 V_1^n
 n: 1 \mapsto ID 133



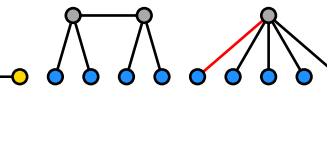
ID: 168 $V_1^{n-1} \boxtimes V_1$
 n: 1 \mapsto ID 255



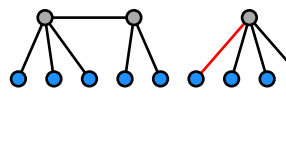
ID: 169 V_1^n
 n: 1 \mapsto ID 256



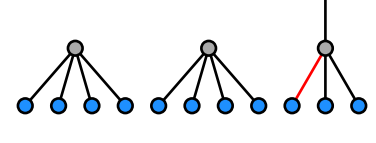
ID: 170 V_1^n
 n: 1 \mapsto ID 134



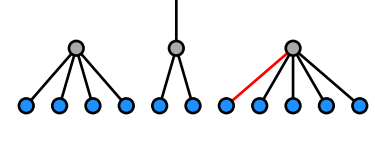
ID: 171 V_1^n
 n: 1 \mapsto ID 135



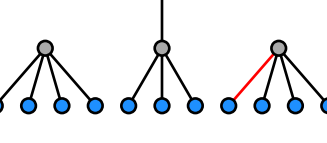
ID: 172 $V_1^{n-1} \boxtimes V_1$
 n: 1 \mapsto ID 257



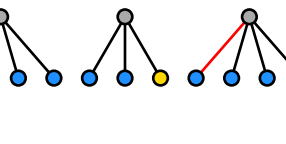
ID: 173 $V_1^{n-1} \boxtimes V_1$
 n: 1 \mapsto ID 261



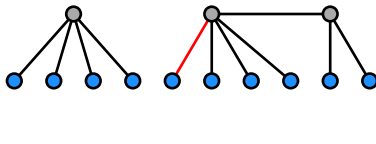
ID: 174 $V_1^{n-1} \boxtimes V_1$
 n: 1 \mapsto ID 262



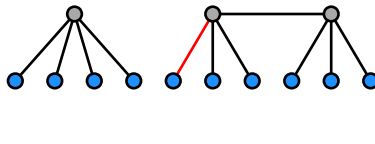
ID: 175 V_1^n
 n: 1 \mapsto ID 263



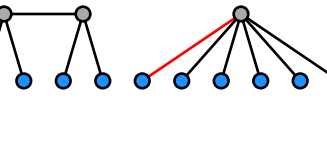
ID: 176 V_1^n
 n: 1 \mapsto ID 264



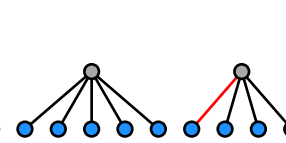
ID: 177 V_1^n
 n: 1 \mapsto ID 265



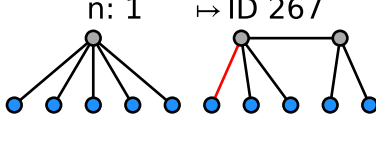
ID: 178 V_1^n
 n: 1 \mapsto ID 136



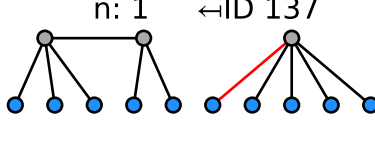
ID: 179 $V_1^{n-1} \boxtimes V_1$
 n: 1 \mapsto ID 266



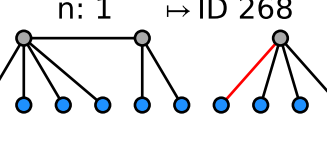
ID: 180 V_1^n
 n: 1 \mapsto ID 267



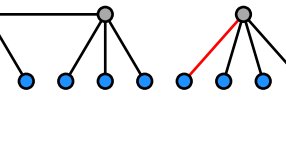
ID: 181 V_1^n
 n: 1 \mapsto ID 137



ID: 182 V_1^n
 n: 1 \mapsto ID 268

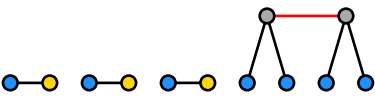


ID: 183 V_1^n
 n: 1 \mapsto ID 138

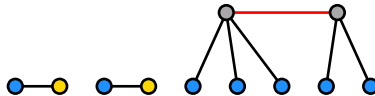


--- B,Birr cases without weight 11 relations graphs: 19 ---

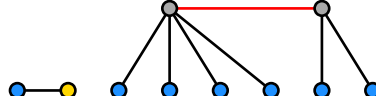
ID: 184 V_1^n
n: 4 1 \mapsto ID 303



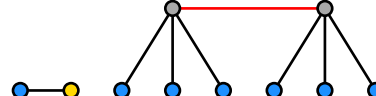
ID: 185 V_1^n
n: 4 1 \mapsto ID 310



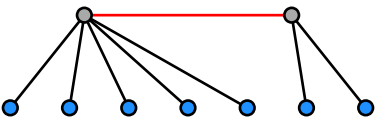
ID: 186 V_1^n
n: 4 1 \mapsto ID 316



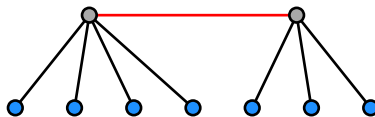
ID: 187 V_1^n
n: 4 1 \mapsto ID 317



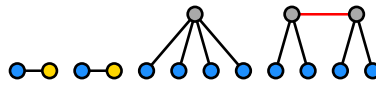
ID: 188 V_1^n
n: 4 1 \mapsto ID 323



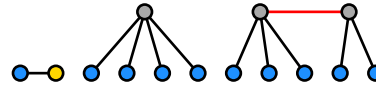
ID: 189 V_1^n
n: 4 1 \mapsto ID 322



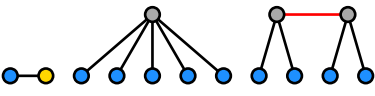
ID: 190 V_1^n
n: 1 \mapsto ID 327



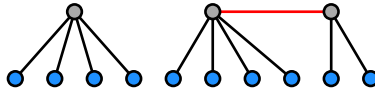
ID: 193 V_1^n
n: 1 \mapsto ID 335



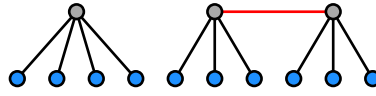
ID: 191 V_1^n
n: 1 \mapsto ID 329



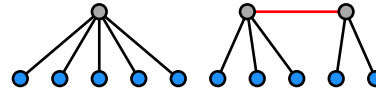
ID: 195 V_1^n
n: 1 \mapsto ID 341



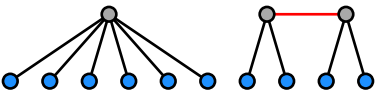
ID: 196 V_1^n
n: 1 \mapsto ID 342



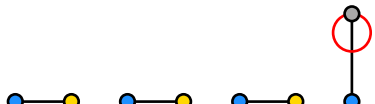
ID: 194 V_1^n
n: 1 \mapsto ID 337



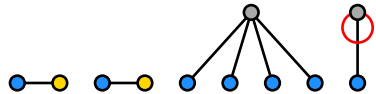
ID: 192 V_1^n
n: 1 \mapsto ID 333



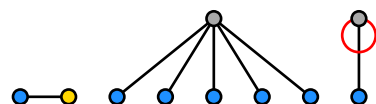
ID: 197 V_1^n
n: 7 4 1 \mapsto ID 351



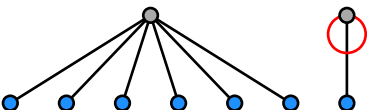
ID: 198 V_1^n
n: 4 1 \mapsto ID 356



ID: 199 V_1^n
n: 4 1 \mapsto ID 358



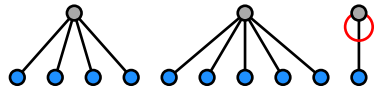
ID: 200 V_1^n
n: 4 1 \mapsto ID 363



ID: 201 V_1^n
n: 1 \mapsto ID 364

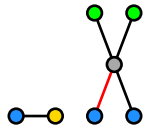


ID: 202 V_1^n
n: 1 \mapsto ID 366

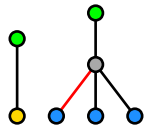


----- edges: 12-n graphs: 165
 --- A3 case graphs: 66

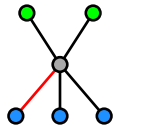
ID: 203 $V_1^{n-2} \boxtimes V_2$
 n: 10 7 4 \mapsto ID 448



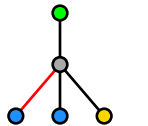
ID: 204 $V_1^{n-2} \boxtimes V_1 \boxtimes V_1$
 n: 10 7 4 \mapsto ID 372



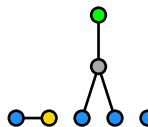
ID: 205 $V_1^{n-2} \boxtimes V_2$
 n: 10 7 4 \mapsto ID 373



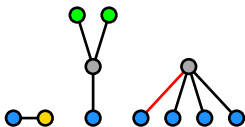
ID: 206 $V_1^{n-1} \boxtimes V_1$
 n: 10 7 4 1 \mapsto ID 410



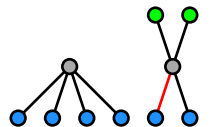
ID: 207 $V_1^{n-2} \boxtimes V_1 \boxtimes V_1$
 n: 7 4 \mapsto ID 456



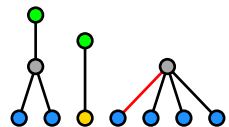
ID: 208 $V_1^{n-2} \boxtimes V_2$
 n: 7 4 \mapsto ID 452



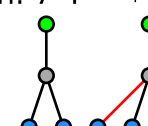
ID: 209 $V_1^{n-2} \boxtimes V_2$
 n: 7 4 \mapsto ID 374



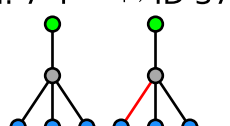
ID: 210 $V_1^{n-2} \boxtimes V_1 \boxtimes V_1$
 n: 7 4 \mapsto ID 453



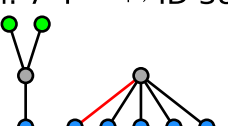
ID: 211 $V_1^{n-2} \boxtimes V_1 \boxtimes V_1$
 n: 7 4 \mapsto ID 378



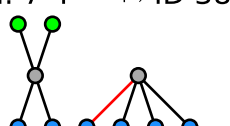
ID: 212 $V_1^{n-2} \boxtimes V_1 \boxtimes V_1$
 n: 7 4 \mapsto ID 379



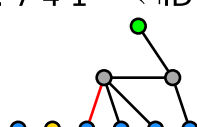
ID: 213 $V_1^{n-2} \boxtimes V_2$
 n: 7 4 \mapsto ID 380



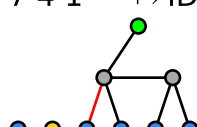
ID: 214 $V_1^{n-2} \boxtimes V_2$
 n: 7 4 \mapsto ID 381



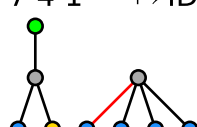
ID: 215 $V_1^{n-1} \boxtimes V_1$
 n: 7 4 1 \mapsto ID 142



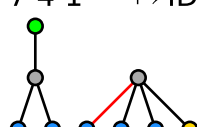
ID: 216 $V_1^{n-1} \boxtimes V_1$
 n: 7 4 1 \mapsto ID 465



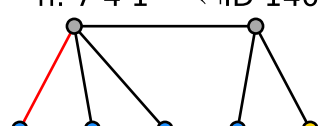
ID: 217 $V_1^{n-1} \boxtimes V_1$
 n: 7 4 1 \mapsto ID 384



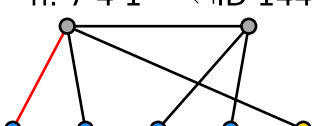
ID: 218 $V_1^{n-1} \boxtimes V_1$
 n: 7 4 1 \mapsto ID 422



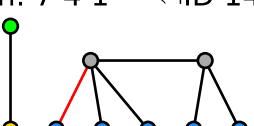
ID: 219 V_1^n
 n: 7 4 1 \mapsto ID 140



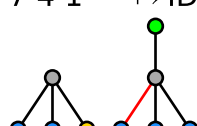
ID: 220 V_1^n
 n: 7 4 1 \mapsto ID 144



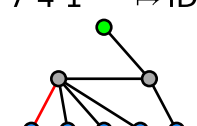
ID: 221 $V_1^{n-1} \boxtimes V_1$
 n: 7 4 1 \mapsto ID 145



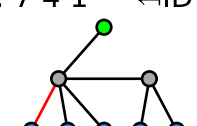
ID: 222 $V_1^{n-1} \boxtimes V_1$
 n: 7 4 1 \mapsto ID 429



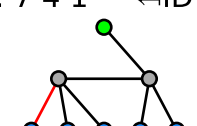
ID: 223 $V_1^{n-1} \boxtimes V_1$
 n: 7 4 1 \mapsto ID 386



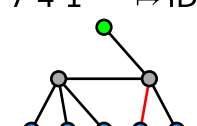
ID: 224 $V_1^{n-1} \boxtimes V_1$
 n: 7 4 1 \mapsto ID 143



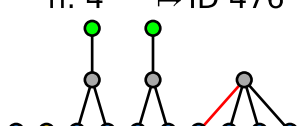
ID: 225 $V_1^{n-1} \boxtimes V_1$
 n: 7 4 1 \mapsto ID 146



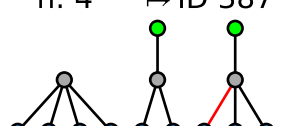
ID: 226 $V_1^{n-1} \boxtimes V_1$
 n: 7 4 1 \mapsto ID 385



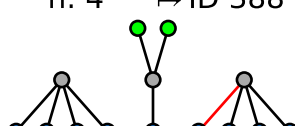
ID: 227 $V_1^{n-2} \boxtimes V_2$
 n: 4 \mapsto ID 476



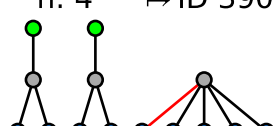
ID: 228 $V_1^{n-2} \boxtimes V_1 \boxtimes V_1$
 n: 4 \mapsto ID 387



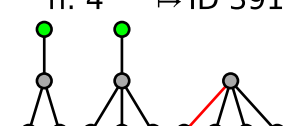
ID: 229 $V_1^{n-2} \boxtimes V_2$
 n: 4 \mapsto ID 388



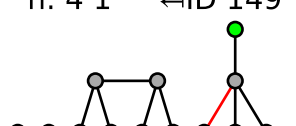
ID: 230 $V_1^{n-2} \boxtimes V_2$
 n: 4 \mapsto ID 390



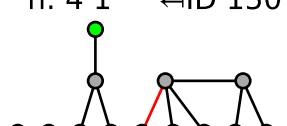
ID: 231 $V_1^{n-2} \boxtimes V_1 \boxtimes V_1$
 n: 4 \mapsto ID 391



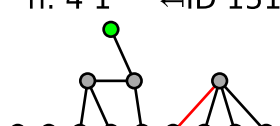
ID: 232 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 149



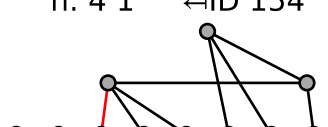
ID: 233 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 150



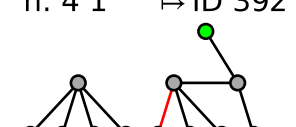
ID: 234 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 151



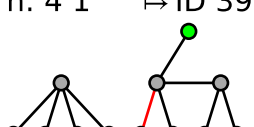
ID: 235 V_1^n
 n: 4 1 \mapsto ID 154



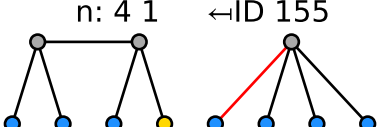
ID: 236 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 392



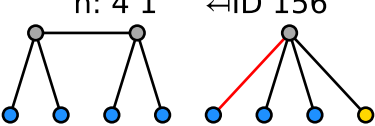
ID: 237 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 393



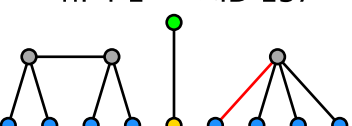
ID: 238 V_1^n
 n: 4 1 \mapsto ID 155



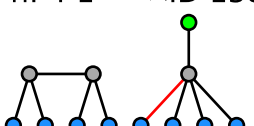
ID: 239 V_1^n
 n: 4 1 \mapsto ID 156



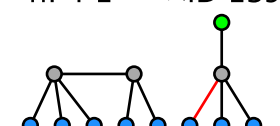
ID: 240 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 157



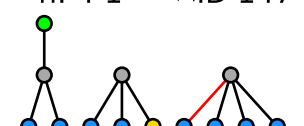
ID: 241 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 158



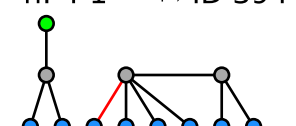
ID: 242 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 159



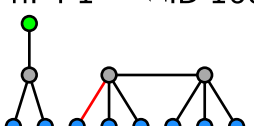
ID: 243 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 147



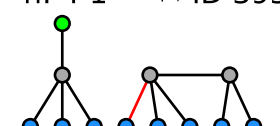
ID: 244 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 394



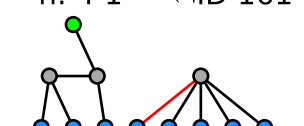
ID: 245 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 160



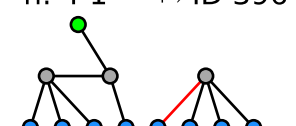
ID: 246 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 395



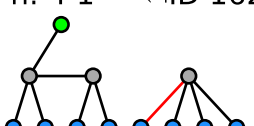
ID: 247 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 161



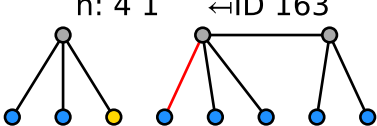
ID: 248 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 396



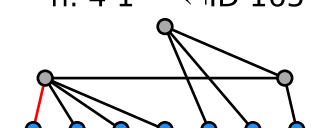
ID: 249 $V_1^{n-1} \boxtimes V_1$
 n: 4 1 \mapsto ID 162



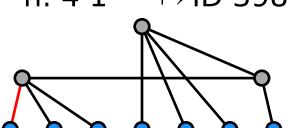
ID: 250 V_1^n
 n: 4 1 \mapsto ID 163



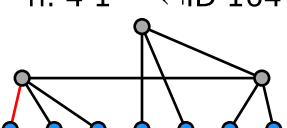
ID: 251 V_1^n
 n: 4 1 \mapsto ID 165



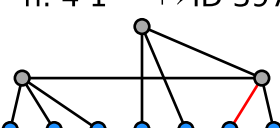
ID: 252 V_1^n
 n: 4 1 \mapsto ID 398



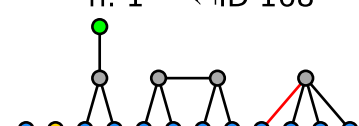
ID: 253 V_1^n
 n: 4 1 \mapsto ID 164



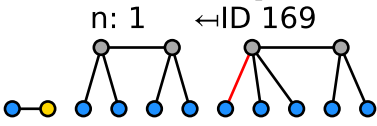
ID: 254 V_1^n
 n: 4 1 \mapsto ID 397



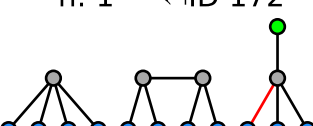
ID: 255 $V_1^{n-1} \boxtimes V_1$
 n: 1 \mapsto ID 168



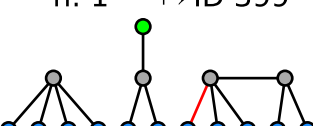
ID: 256 V_1^n
 n: 1 \mapsto ID 169



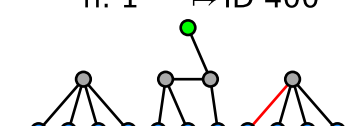
ID: 257 $V_1^{n-1} \boxtimes V_1$
 n: 1 \mapsto ID 172



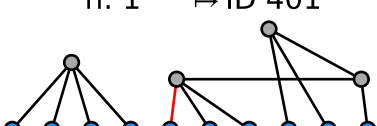
ID: 258 $V_1^{n-1} \boxtimes V_1$
 n: 1 \mapsto ID 399



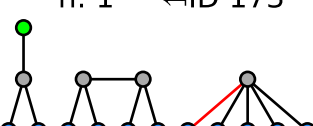
ID: 259 $V_1^{n-1} \boxtimes V_1$
 n: 1 \mapsto ID 400



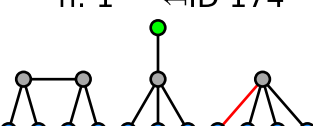
ID: 260 V_1^n
 n: 1 \mapsto ID 401



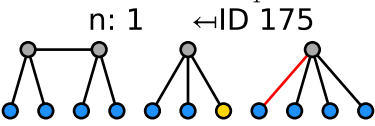
ID: 261 $V_1^{n-1} \boxtimes V_1$
 n: 1 \mapsto ID 173



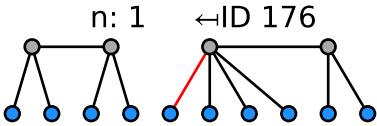
ID: 262 $V_1^{n-1} \boxtimes V_1$
 n: 1 \mapsto ID 174



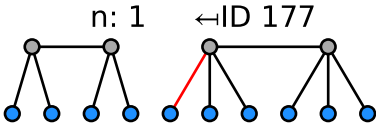
ID: 263 V_1^n
 n: 1 \mapsto ID 175



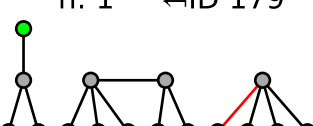
ID: 264 V_1^n
 n: 1 \mapsto ID 176



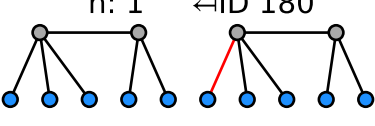
ID: 265 V_1^n
 n: 1 \mapsto ID 177



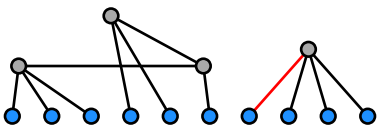
ID: 266 $V_1^{n-1} \boxtimes V_1$
 n: 1 \mapsto ID 179



ID: 267 V_1^n
 n: 1 \mapsto ID 180

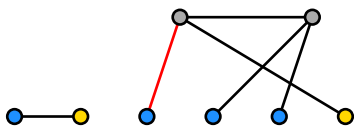


ID: 268 V_1^n
 n: 1 \mapsto ID 182

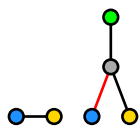


--- A2 case with weight 13 relations relation groups: 4 ---

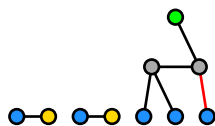
ID: 274 V_1^n
n: 7 4 1 \mapsto ID 425



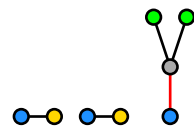
ID: 270 $V_1^{n-1} \boxtimes V_1$
n: 10 7 4 1 \mapsto ID 525



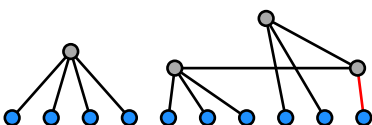
ID: 273 $V_1^{n-1} \boxtimes V_1$
n: 7 4 1 Redundant



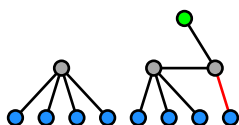
ID: 269 $V_1^{n-2} \boxtimes V_2$
n: 10 7 4 \mapsto ID 408 RED



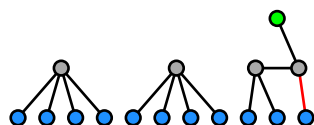
ID: 287 V_1^n
n: 1 \mapsto ID 446



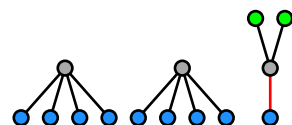
ID: 283 $V_1^{n-1} \boxtimes V_1$
n: 4 1 \mapsto ID 438



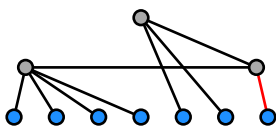
ID: 286 $V_1^{n-1} \boxtimes V_1$
n: 1 \mapsto ID 444 RED



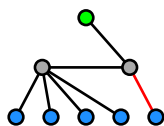
ID: 279 $V_1^{n-2} \boxtimes V_2$
n: 4 \mapsto ID 431 RED



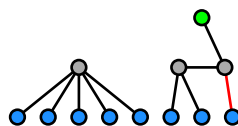
ID: 285 V_1^n
n: 4 1 \mapsto ID 441



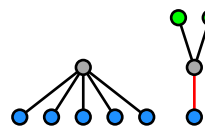
ID: 278 $V_1^{n-1} \boxtimes V_1$
n: 7 4 1 \mapsto ID 430



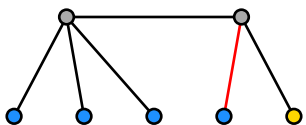
ID: 284 $V_1^{n-1} \boxtimes V_1$
n: 4 1 \mapsto ID 439 RED



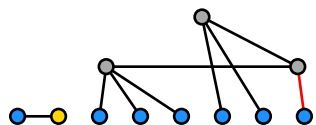
ID: 272 $V_1^{n-2} \boxtimes V_2$
n: 7 4 \mapsto ID 416 RED



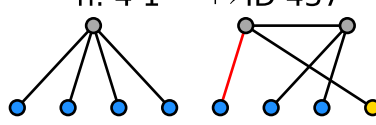
ID: 277 V_1^n
n: 7 4 1 \mapsto ID 424



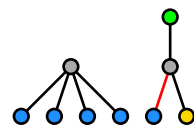
ID: 281 V_1^n
n: 4 1 \mapsto ID 434 RED



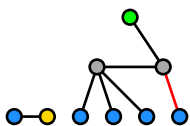
ID: 282 V_1^n
n: 4 1 \mapsto ID 437



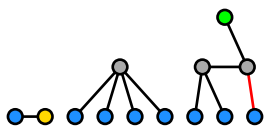
ID: 276 $V_1^{n-1} \boxtimes V_1$
n: 7 4 1 \mapsto ID 421



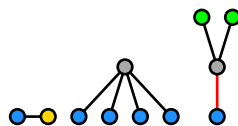
ID: 275 $V_1^{n-1} \boxtimes V_1$
n: 7 4 1 Redundant



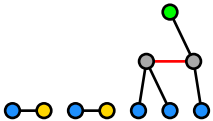
ID: 280 $V_1^{n-1} \boxtimes V_1$
n: 4 1 \mapsto ID 433 RED



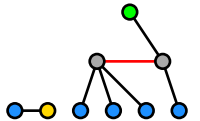
ID: 271 $V_1^{n-2} \boxtimes V_2$
n: 7 4 \mapsto ID 412 RED



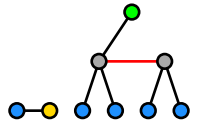
ID: 291 $V_1^{n-1} \boxtimes V_1$
n: 7 4 1 \leftarrow ID 139



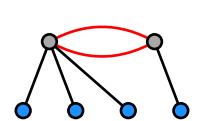
ID: 293 $V_1^{n-1} \boxtimes V_1$
n: 7 4 1 \mapsto ID 469



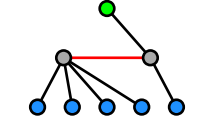
ID: 294 $V_1^{n-1} \boxtimes V_1$
n: 7 4 1 \mapsto ID 471



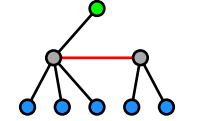
ID: 295 V_1^n
n: 7 4 1 \mapsto ID 423



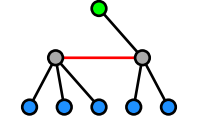
ID: 298 $V_1^{n-1} \boxtimes V_1$
n: 7 4 1 \mapsto ID 472



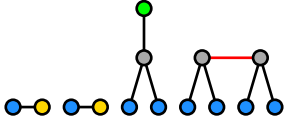
ID: 299 $V_1^{n-1} \boxtimes V_1$
n: 7 4 1 \mapsto ID 474



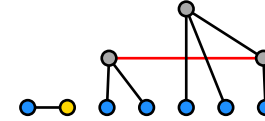
ID: 300 $V_1^{n-1} \boxtimes V_1$
n: 7 4 1 \mapsto ID 473



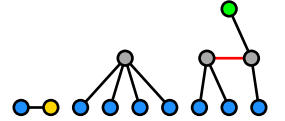
ID: 301 $V_1^{n-1} \boxtimes V_1$
n: 4 1 \mapsto ID 484



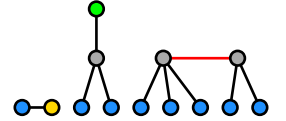
ID: 310 V_1^n
n: 4 1 \leftarrow ID 185



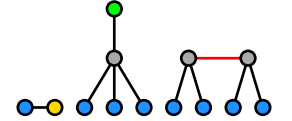
ID: 311 $V_1^{n-1} \boxtimes V_1$
n: 4 1 \mapsto ID 491



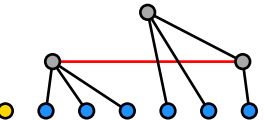
ID: 307 $V_1^{n-1} \boxtimes V_1$
n: 4 1 \mapsto ID 488



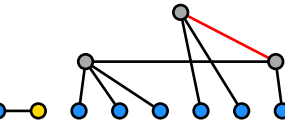
ID: 302 $V_1^{n-1} \boxtimes V_1$
n: 4 1 \mapsto ID 481



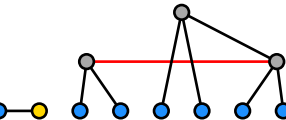
ID: 315 V_1^n
n: 4 1 \mapsto ID 496



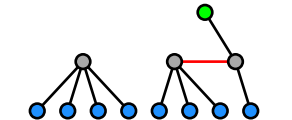
ID: 317 V_1^n
n: 4 1 \leftarrow ID 187



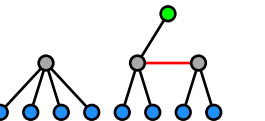
ID: 316 V_1^n
n: 4 1 \leftarrow ID 186



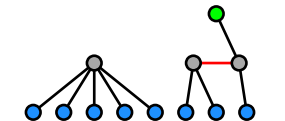
ID: 319 $V_1^{n-1} \boxtimes V_1$
n: 4 1 \mapsto ID 498



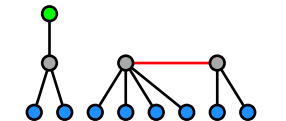
ID: 320 $V_1^{n-1} \boxtimes V_1$
n: 4 1 \mapsto ID 499



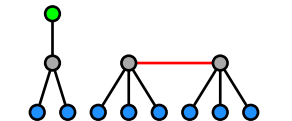
ID: 312 $V_1^{n-1} \boxtimes V_1$
n: 4 1 \mapsto ID 492



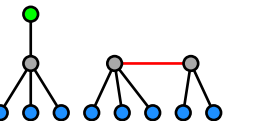
ID: 313 $V_1^{n-1} \boxtimes V_1$
n: 4 1 \mapsto ID 494



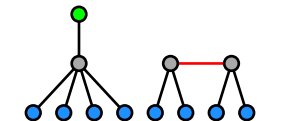
ID: 314 $V_1^{n-1} \boxtimes V_1$
n: 4 1 \mapsto ID 493



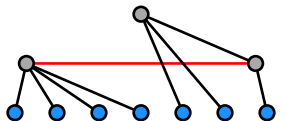
ID: 308 $V_1^{n-1} \boxtimes V_1$
n: 4 1 \mapsto ID 487



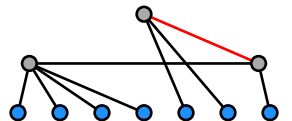
ID: 306 $V_1^{n-1} \boxtimes V_1$
n: 4 1 \mapsto ID 486



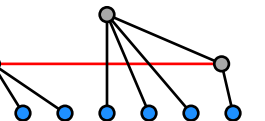
ID: 321 V_1^n
n: 4 1 \mapsto ID 504



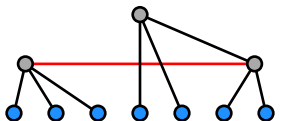
ID: 324 V_1^n
n: 4 1 \mapsto ID 505



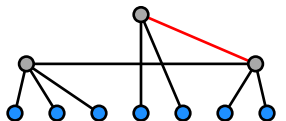
ID: 325 V_1^n
n: 4 1 \mapsto ID 506



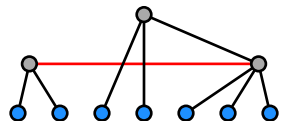
ID: 322 V_1^n
n: 4 1 \leftarrow ID 189



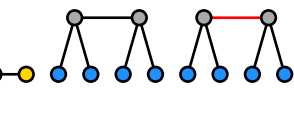
ID: 326 V_1^n
n: 4 1 \mapsto ID 503



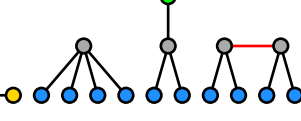
ID: 323 V_1^n
n: 4 1 \leftarrow ID 188



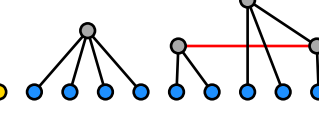
ID: 327 V_1^n
n: 1 \leftarrow ID 190



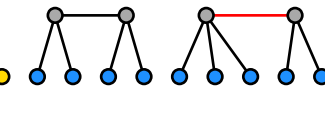
ID: 328 $V_1^{n-1} \boxtimes V_1$
n: 1 \mapsto ID 507



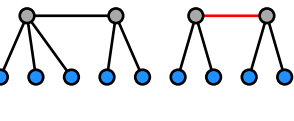
ID: 338 V_1^n
n: 1 \mapsto ID 514



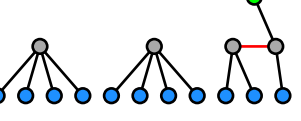
ID: 335 V_1^n
n: 1 \leftarrow ID 193



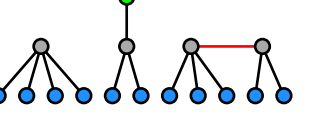
ID: 329 V_1^n
n: 1 \leftarrow ID 191



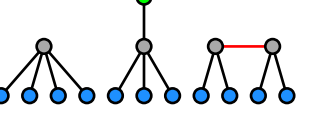
ID: 340 $V_1^{n-1} \boxtimes V_1$
n: 1 \mapsto ID 517



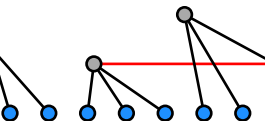
ID: 336 $V_1^{n-1} \boxtimes V_1$
n: 1 \mapsto ID 513



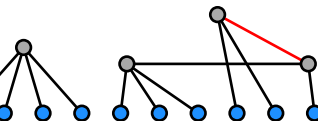
ID: 330 $V_1^{n-1} \boxtimes V_1$
n: 1 \mapsto ID 509



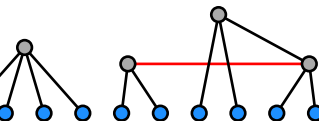
ID: 343 V_1^n
n: 1 \mapsto ID 518



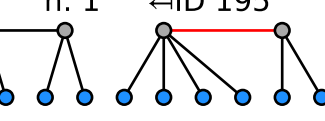
ID: 345 V_1^n
n: 1 \mapsto ID 521



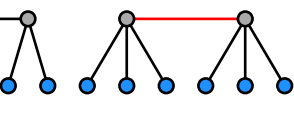
ID: 344 V_1^n
n: 1 \mapsto ID 519



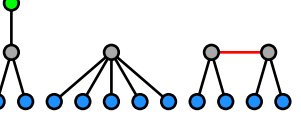
ID: 341 V_1^n
n: 1 \leftarrow ID 195



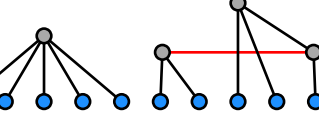
ID: 342 V_1^n
n: 1 \leftarrow ID 196



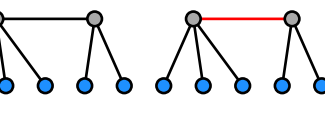
ID: 332 $V_1^{n-1} \boxtimes V_1$
n: 1 \mapsto ID 511



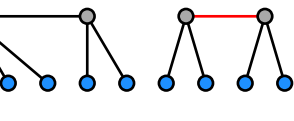
ID: 339 V_1^n
n: 1 \mapsto ID 516



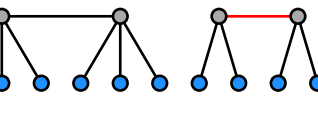
ID: 337 V_1^n
n: 1 \leftarrow ID 194



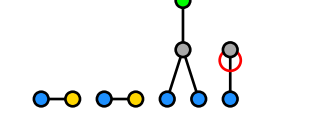
ID: 333 V_1^n
n: 1 \leftarrow ID 192



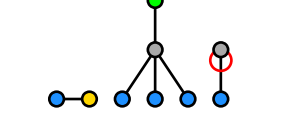
ID: 334 V_1^n
n: 1 \mapsto ID 512



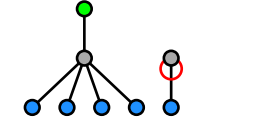
ID: 349 $V_1^{n-1} \boxtimes V_1$
n: 7 4 1 \mapsto ID 535



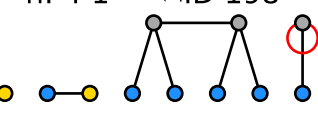
ID: 350 $V_1^{n-1} \boxtimes V_1$
n: 7 4 1 \mapsto ID 530



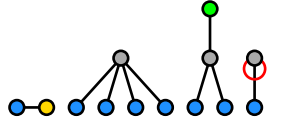
ID: 355 $V_1^{n-1} \boxtimes V_1$
n: 7 4 1 \mapsto ID 536



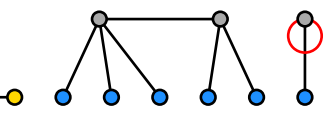
ID: 356 V_1^n
n: 4 1 \leftarrow ID 198



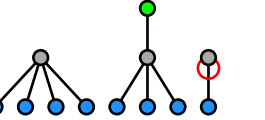
ID: 357 $V_1^{n-1} \boxtimes V_1$
n: 4 1 \mapsto ID 538



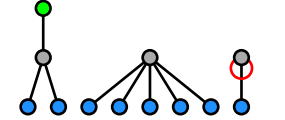
ID: 358 V_1^n
n: 4 1 \leftarrow ID 199



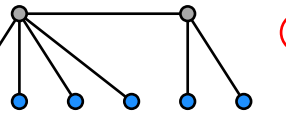
ID: 359 $V_1^{n-1} \boxtimes V_1$
n: 4 1 \mapsto ID 539



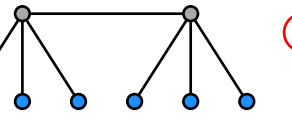
ID: 361 $V_1^{n-1} \boxtimes V_1$
n: 4 1 \mapsto ID 542



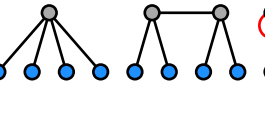
ID: 362 V_1^n
n: 4 1 \mapsto ID 543



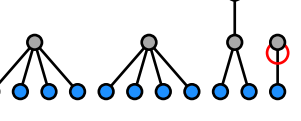
ID: 363 V_1^n
n: 4 1 \leftarrow ID 200



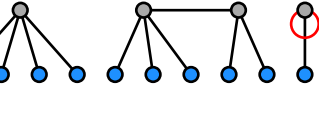
ID: 364 V_1^n
n: 1 \leftarrow ID 201



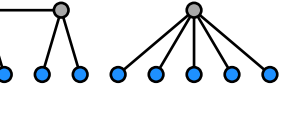
ID: 365 $V_1^{n-1} \boxtimes V_1$
n: 1 \mapsto ID 544



ID: 366 V_1^n
n: 1 \leftarrow ID 202

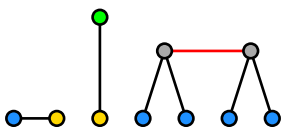


ID: 367 V_1^n
n: 1 \mapsto ID 545

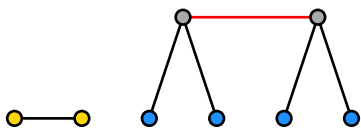


--- B,Birr cases with weight 11 relations relation groups: 5 ---

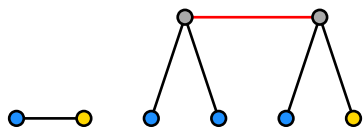
ID: 289 $V_{1^{n-1}} \boxtimes V_1$
n: 7 4 1 \mapsto ID 466



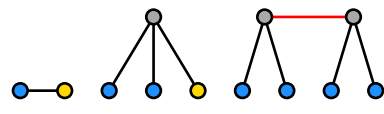
ID: 288 V_{1^n}
n: 7 4 1 Redundant



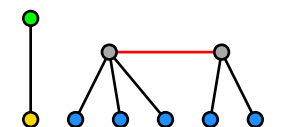
ID: 292 V_{1^n}
n: 7 4 1 \leftarrow ID 141



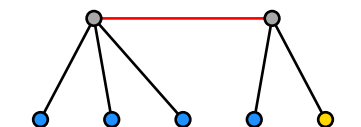
ID: 303 V_{1^n}
n: 4 1 \leftarrow ID 184



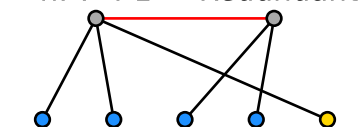
ID: 290 $V_{1^{n-1}} \boxtimes V_1$
n: 7 4 1 \mapsto ID 462



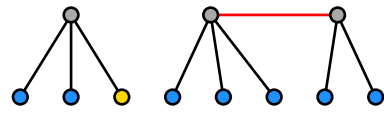
ID: 296 V_{1^n}
n: 7 4 1 \mapsto ID 467



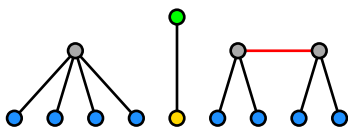
ID: 297 V_{1^n}
n: 7 4 1 Redundant



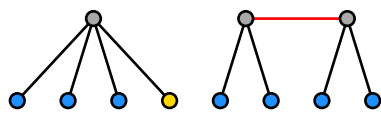
ID: 309 V_{1^n}
n: 4 1 \mapsto ID 490



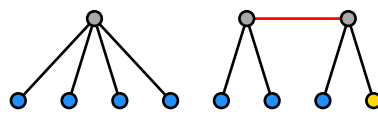
ID: 305 $V_{1^{n-1}} \boxtimes V_1$
n: 4 1 \mapsto ID 483



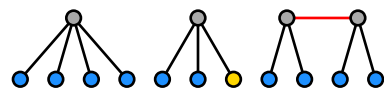
ID: 304 V_{1^n}
n: 4 1 \mapsto ID 482



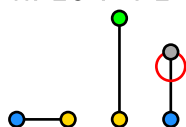
ID: 318 V_{1^n}
n: 4 1 \mapsto ID 497 RED



ID: 331 V_{1^n}
n: 1 \mapsto ID 510



ID: 348 $V_{1^{n-1}} \boxtimes V_1$
n: 10 7 4 1



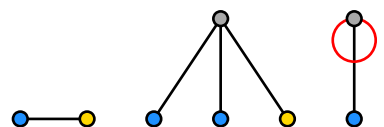
ID: 346 V_{1^n}
n: 10 7 4 1



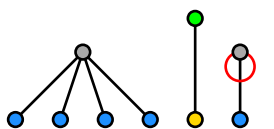
ID: 347 V_{1^n}
n: 10 7 4 1 Redundant



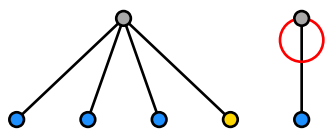
ID: 351 V_{1^n}
n: 7 4 1 \leftarrow ID 197



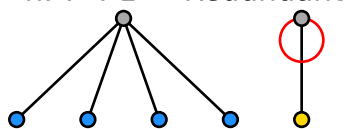
ID: 354 $V_{1^{n-1}} \boxtimes V_1$
n: 7 4 1 \mapsto ID 533



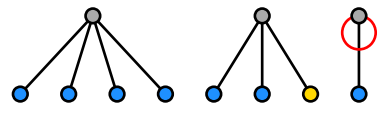
ID: 352 V_{1^n}
n: 7 4 1 \mapsto ID 531



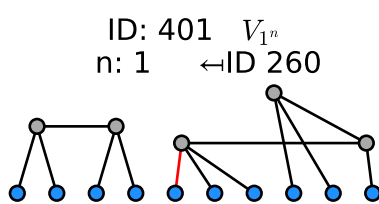
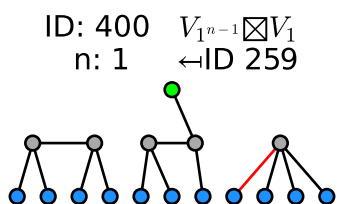
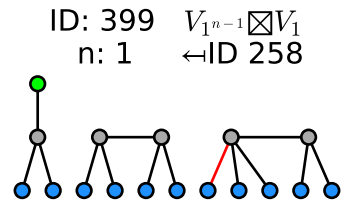
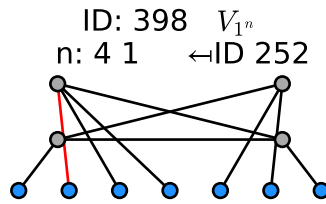
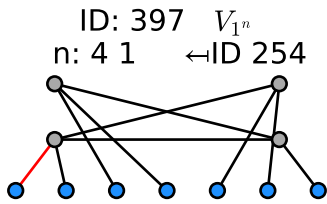
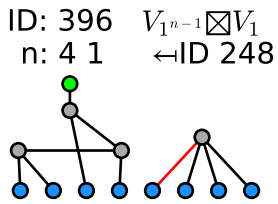
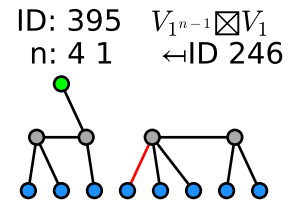
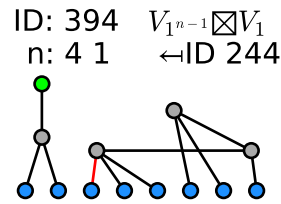
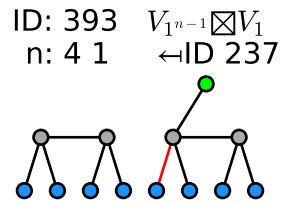
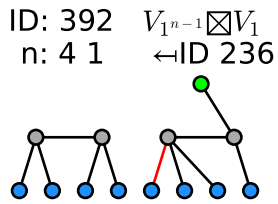
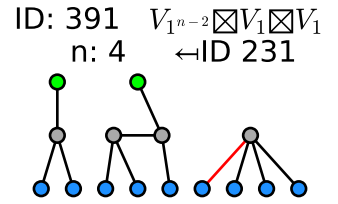
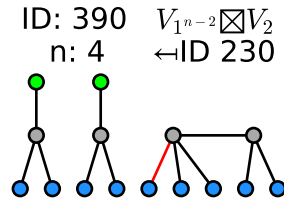
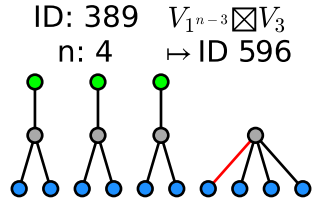
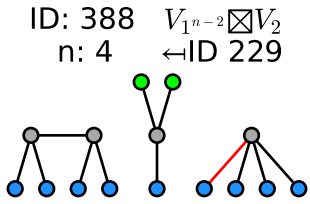
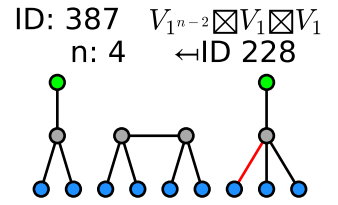
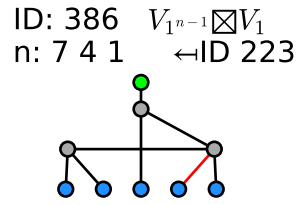
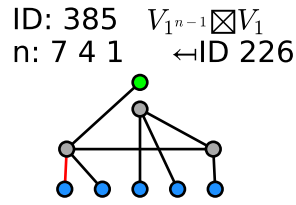
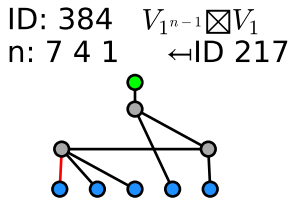
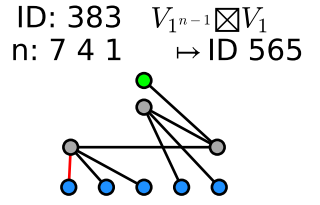
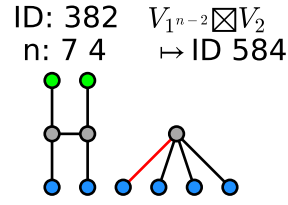
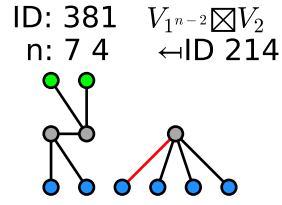
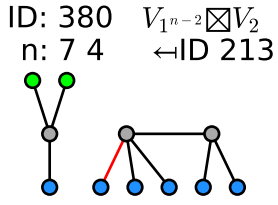
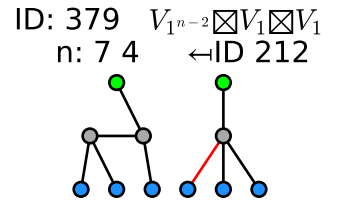
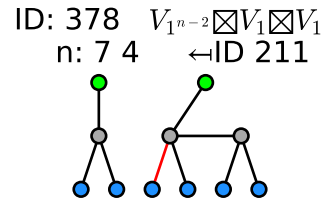
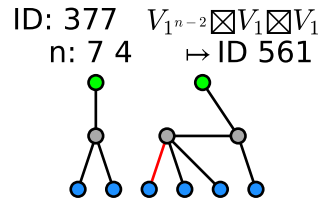
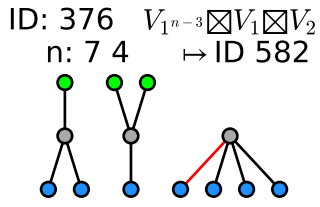
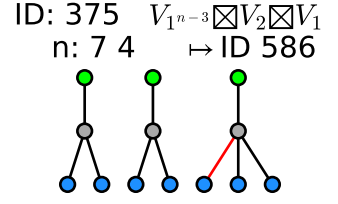
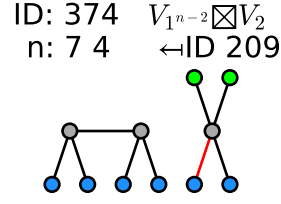
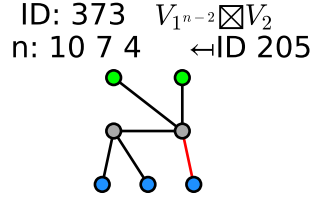
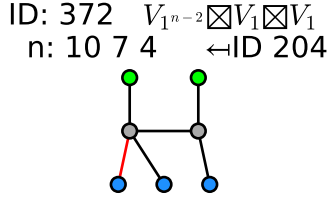
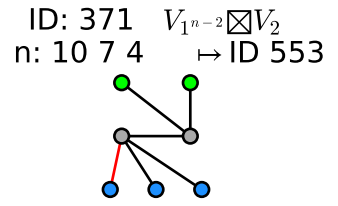
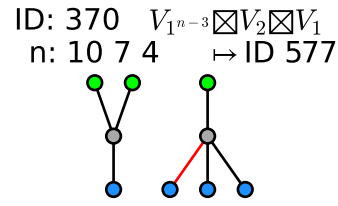
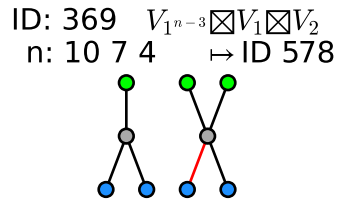
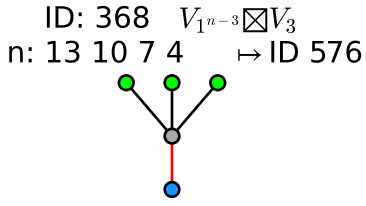
ID: 353 V_{1^n}
n: 7 4 1 Redundant



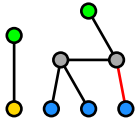
ID: 360 V_{1^n}
n: 4 1 \mapsto ID 541



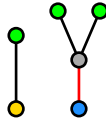
----- edges: 13-n graphs: 178 -----
 --- A3 case graphs: 34 ---



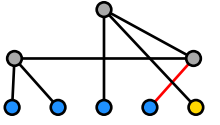
ID: 407 $V_{1^{n-2}} \boxtimes V_1 \boxtimes V_1$
n: 10 7 4



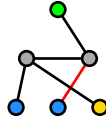
ID: 402 $V_{1^{n-3}} \boxtimes V_1 \boxtimes V_2$
n: 13 10 7 4 \mapsto ID 547



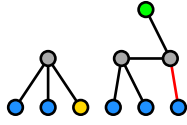
ID: 425 V_1^n
n: 7 4 1 \leftarrow ID 274



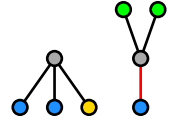
ID: 411 $V_{1^{n-1}} \boxtimes V_1$
n: 10 7 4 1 \mapsto ID 556



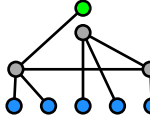
ID: 426 $V_{1^{n-1}} \boxtimes V_1$
n: 7 4 1 Redundant



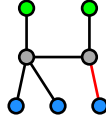
ID: 408 $V_{1^{n-2}} \boxtimes V_2$
n: 10 7 4 \leftarrow ID 269 RED



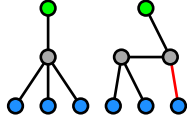
ID: 429 $V_{1^{n-1}} \boxtimes V_1$
n: 7 4 1 \leftarrow ID 222



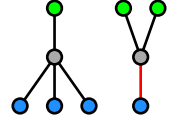
ID: 409 $V_{1^{n-2}} \boxtimes V_1 \boxtimes V_1$
n: 10 7 4 \mapsto ID 552



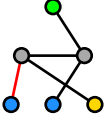
ID: 418 $V_{1^{n-2}} \boxtimes V_1 \boxtimes V_1$
n: 7 4 \mapsto ID 562 RED



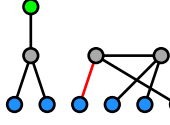
ID: 406 $V_{1^{n-3}} \boxtimes V_1 \boxtimes V_2$
n: 10 7 4 Redundant



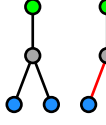
ID: 410 $V_{1^{n-1}} \boxtimes V_1$
n: 10 7 4 1 \leftarrow ID 206



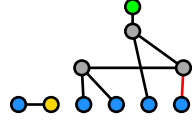
ID: 422 $V_{1^{n-1}} \boxtimes V_1$
n: 7 4 1 \leftarrow ID 218



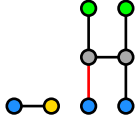
ID: 405 $V_{1^{n-2}} \boxtimes V_1 \boxtimes V_1$
n: 10 7 4



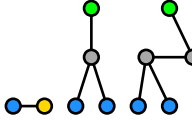
ID: 420 $V_{1^{n-1}} \boxtimes V_1$
n: 7 4 1 Redundant



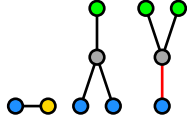
ID: 404 $V_{1^{n-2}} \boxtimes V_1 \boxtimes V_1$
n: 10 7 4 Redundant



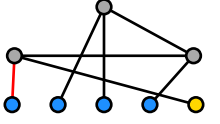
ID: 413 $V_{1^{n-2}} \boxtimes V_1 \boxtimes V_1$
n: 7 4 Redundant



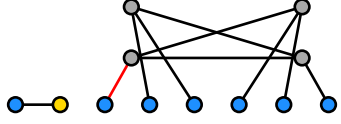
ID: 403 $V_{1^{n-3}} \boxtimes V_1 \boxtimes V_2$
n: 10 7 4 Redundant



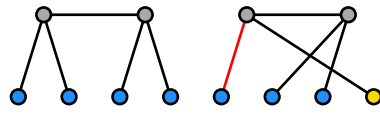
ID: 424 V_1^n
n: 7 4 1 \leftarrow ID 277



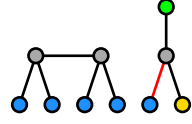
ID: 434 V_1^n
n: 4 1 \leftarrow ID 281 RED



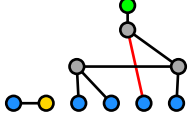
ID: 437 V_1^n
n: 4 1 \leftarrow ID 282



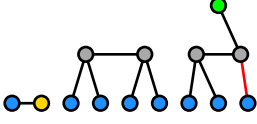
ID: 421 $V_{1^{n-1}} \boxtimes V_1$
n: 7 4 1 \leftarrow ID 276



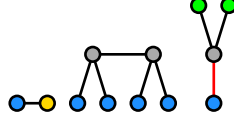
ID: 419 $V_{1^{n-1}} \boxtimes V_1$
n: 7 4 1 Redundant



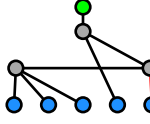
ID: 433 $V_{1^{n-1}} \boxtimes V_1$
n: 4 1 \leftarrow ID 280 RED



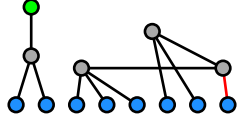
ID: 412 $V_{1^{n-2}} \boxtimes V_2$
n: 7 4 \leftarrow ID 271 RED



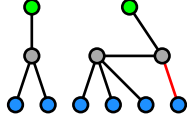
ID: 428 $V_{1^{n-1}} \boxtimes V_1$
n: 7 4 1 \mapsto ID 566



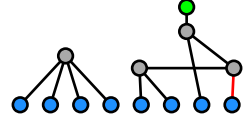
ID: 440 $V_{1^{n-1}} \boxtimes V_1$
n: 4 1 \mapsto ID 572



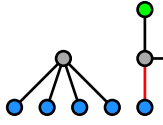
ID: 417 $V_{1^{n-2}} \boxtimes V_1 \boxtimes V_1$
n: 7 4 \mapsto ID 560



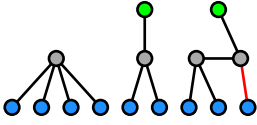
ID: 436 $V_{1^{n-1}} \boxtimes V_1$
n: 4 1 \mapsto ID 571 RED



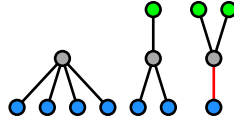
ID: 415 $V_{1^{n-2}} \boxtimes V_1 \boxtimes V_1$
n: 7 4 \mapsto ID 558 RED



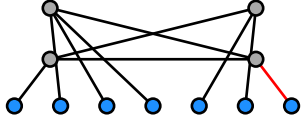
ID: 432 $V_{1^{n-2}} \boxtimes V_1 \boxtimes V_1$
n: 4 \mapsto ID 569 RED



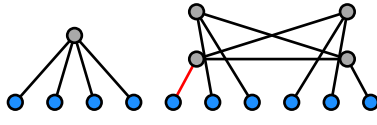
ID: 414 $V_{1^{n-3}} \boxtimes V_1 \boxtimes V_2$
n: 7 4 \mapsto ID 557 RED



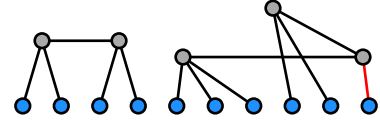
ID: 443 V_1^n
n: 4 1 \mapsto ID 574



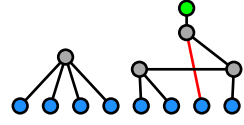
ID: 445 V_1^n
n: 1 \mapsto ID 575 RED



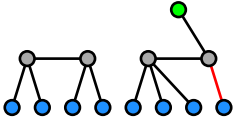
ID: 446 V_1^n
n: 1 \leftarrow ID 287



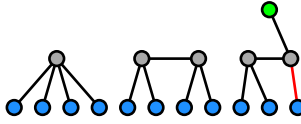
ID: 435 $V_{1^{n-1}} \boxtimes V_1$
n: 4 1 \mapsto ID 570 RED



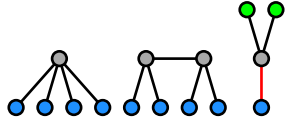
ID: 438 $V_{1^{n-1}} \boxtimes V_1$
n: 4 1 \leftarrow ID 283



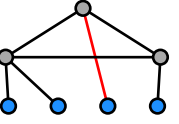
ID: 444 $V_{1^{n-1}} \boxtimes V_1$
n: 1 \leftarrow ID 286 RED



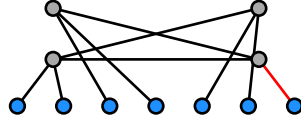
ID: 431 $V_{1^{n-2}} \boxtimes V_2$
n: 4 \leftarrow ID 279 RED



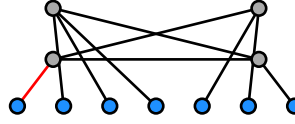
ID: 423 V_1^n
n: 7 4 1 \leftarrow ID 295



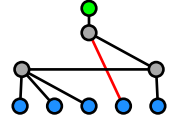
ID: 441 V_1^n
n: 4 1 \leftarrow ID 285



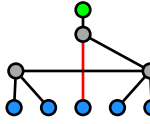
ID: 442 V_1^n
n: 4 1 \mapsto ID 573 RED



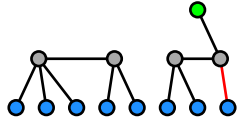
ID: 427 $V_{1^{n-1}} \boxtimes V_1$
n: 7 4 1 Redundant



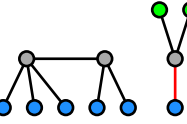
ID: 430 $V_{1^{n-1}} \boxtimes V_1$
n: 7 4 1 \leftarrow ID 278

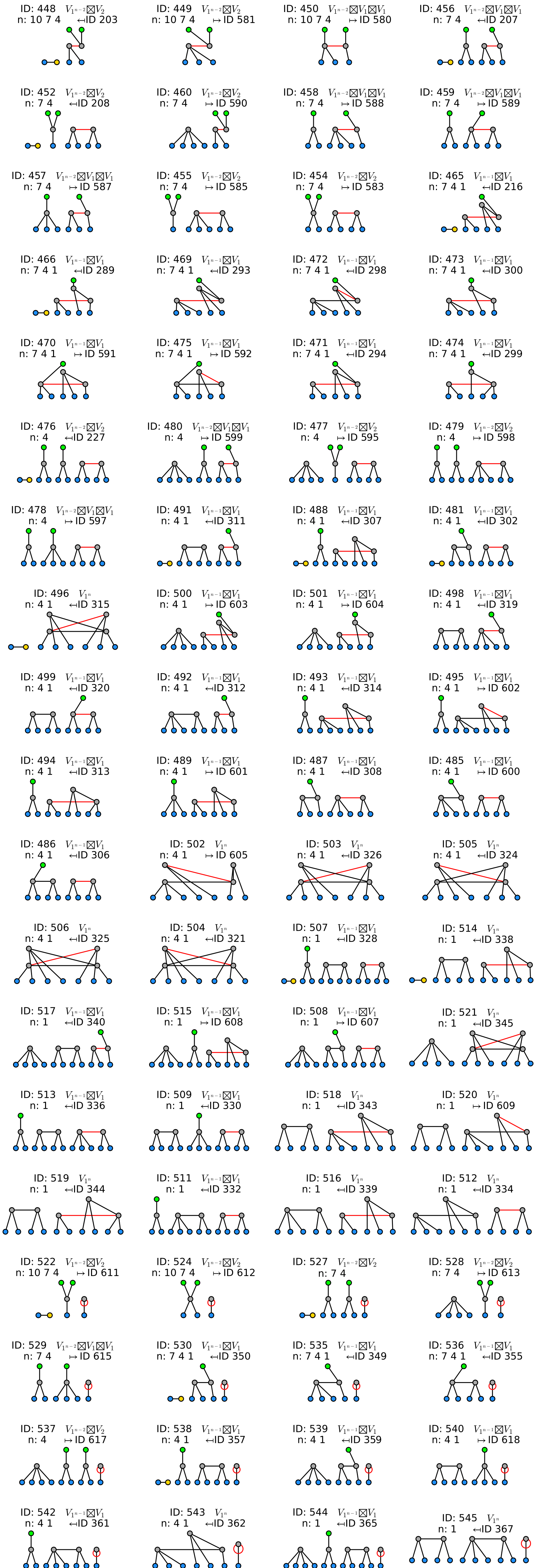


ID: 439 $V_{1^{n-1}} \boxtimes V_1$
n: 4 1 \leftarrow ID 284 RED

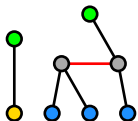


ID: 416 $V_{1^{n-2}} \boxtimes V_2$
n: 7 4 \leftarrow ID 272 RED

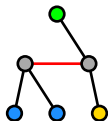




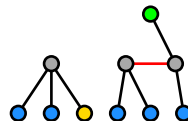
ID: 447 $V_1^{n-2} \boxtimes V_1 \boxtimes V_1$
n: 10 7 4 \mapsto ID 579



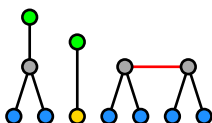
ID: 451 $V_1^{n-1} \boxtimes V_1$
n: 10 7 4 1 Redundant



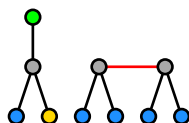
ID: 463 $V_1^{n-1} \boxtimes V_1$
n: 7 4 1 \mapsto ID 593



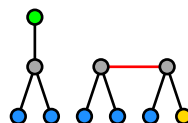
ID: 453 $V_1^{n-2} \boxtimes V_1 \boxtimes V_1$
n: 7 4 \leftarrow ID 210



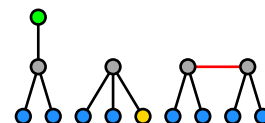
ID: 461 $V_1^{n-1} \boxtimes V_1$
n: 7 4 1 \mapsto ID 594



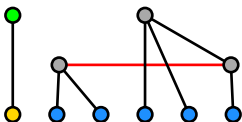
ID: 464 $V_1^{n-1} \boxtimes V_1$
n: 7 4 1 Redundant



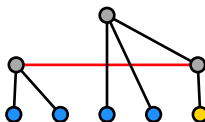
ID: 484 $V_1^{n-1} \boxtimes V_1$
n: 4 1 \leftarrow ID 301



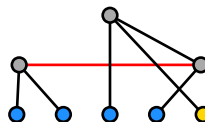
ID: 462 $V_1^{n-1} \boxtimes V_1$
n: 7 4 1 \leftarrow ID 290



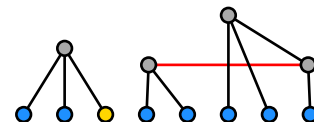
ID: 467 V_1^n
n: 7 4 1 \leftarrow ID 296



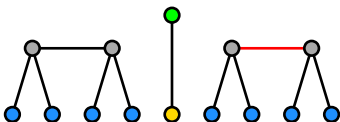
ID: 468 V_1^n
n: 7 4 1 Redundant



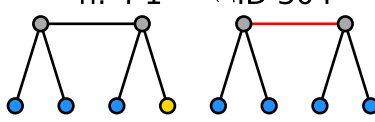
ID: 490 V_1^n
n: 4 1 \leftarrow ID 309



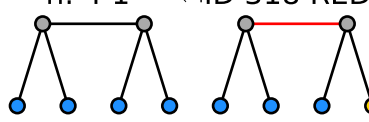
ID: 483 $V_1^{n-1} \boxtimes V_1$
n: 4 1 \leftarrow ID 305



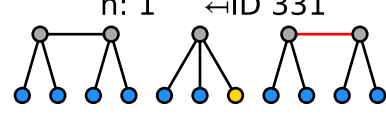
ID: 482 V_1^n
n: 4 1 \leftarrow ID 304



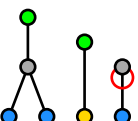
ID: 497 V_1^n
n: 4 1 \leftarrow ID 318 RED



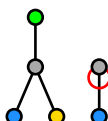
ID: 510 V_1^n
n: 1 \leftarrow ID 331



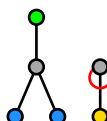
ID: 523 $V_1^{n-2} \boxtimes V_1 \boxtimes V_1$
n: 10 7 4



ID: 525 $V_1^{n-1} \boxtimes V_1$
n: 10 7 4 1 \leftarrow ID 270



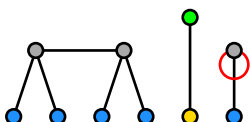
ID: 526 $V_1^{n-1} \boxtimes V_1$
n: 10 7 4 1 Redundant



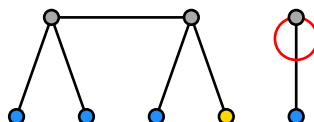
ID: 534 $V_1^{n-1} \boxtimes V_1$
n: 7 4 1 \mapsto ID 616



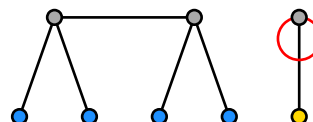
ID: 533 $V_1^{n-1} \boxtimes V_1$
n: 7 4 1 \leftarrow ID 354



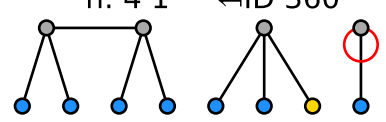
ID: 531 V_1^n
n: 7 4 1 \leftarrow ID 352



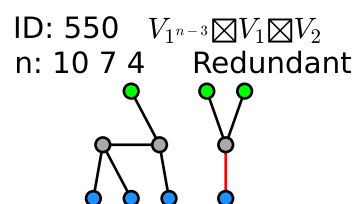
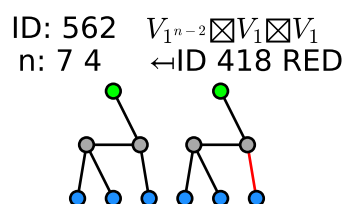
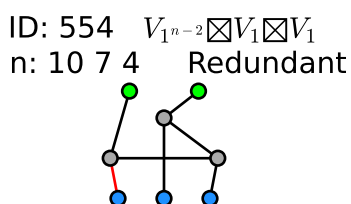
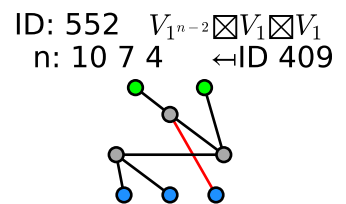
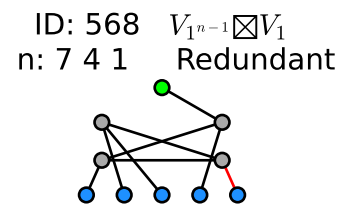
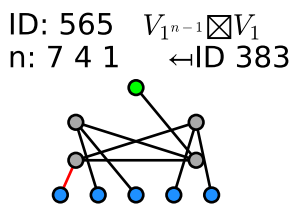
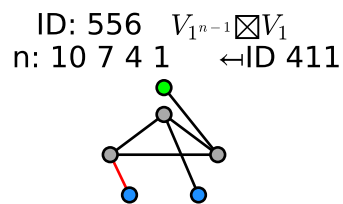
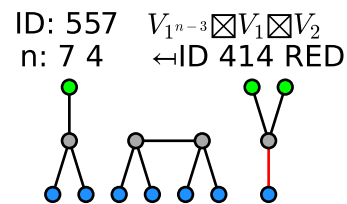
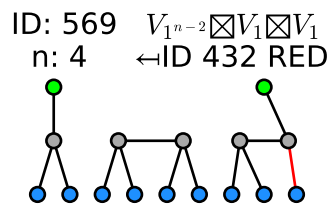
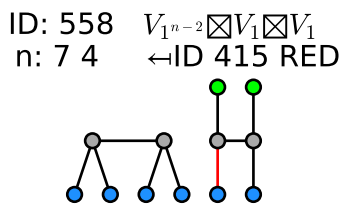
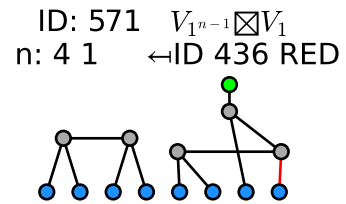
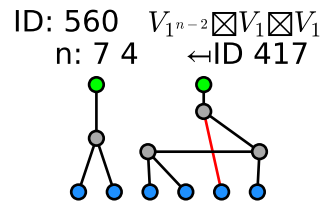
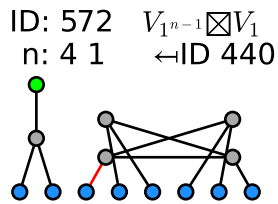
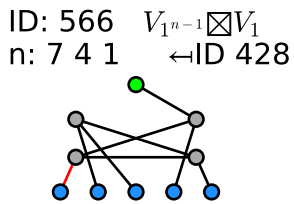
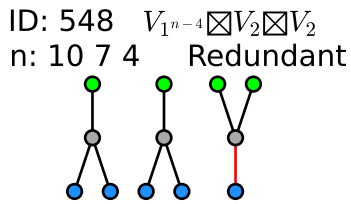
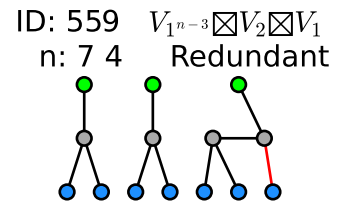
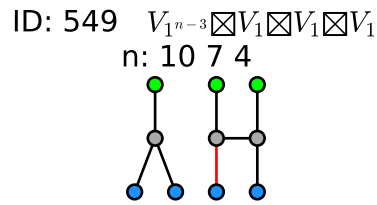
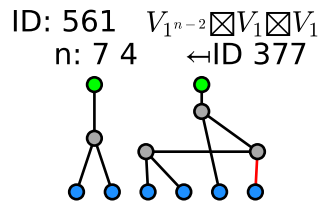
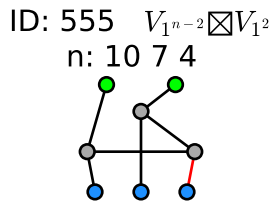
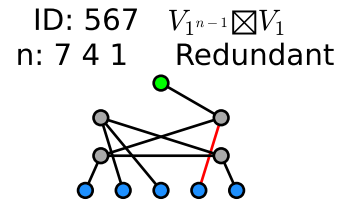
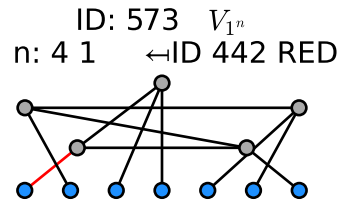
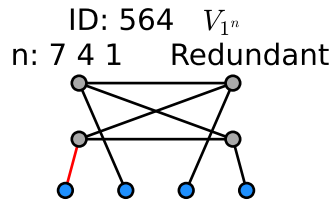
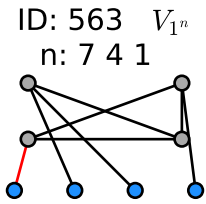
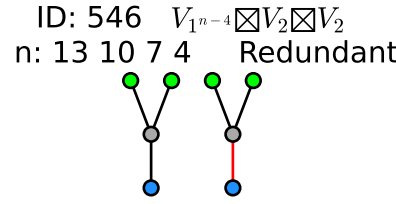
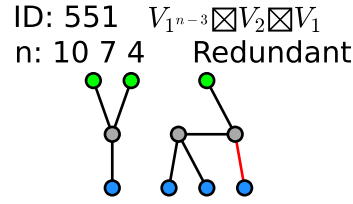
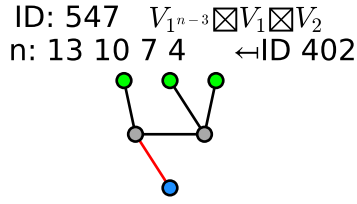
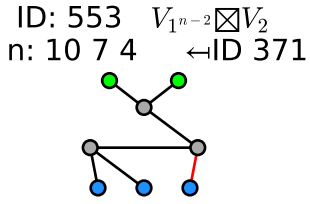
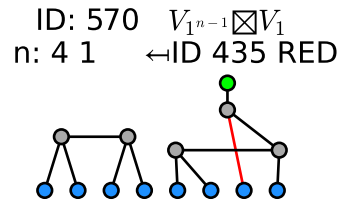
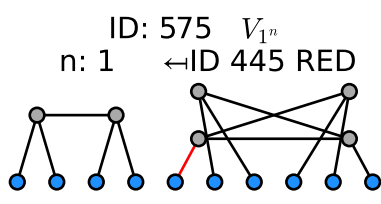
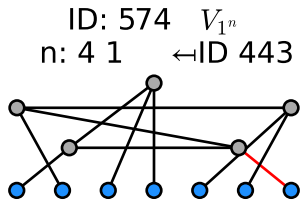
ID: 532 V_1^n
n: 7 4 1 Redundant



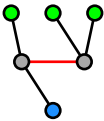
ID: 541 V_1^n
n: 4 1 \leftarrow ID 360



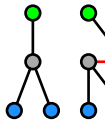
----- edges: 14-n graphs: 73 -----
 --- A2 case with weight 13 relations relation groups: 6 ---



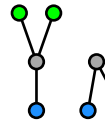
ID: 576 $V_{1^{n-3}} \boxtimes V_1 \boxtimes V_2$
n: 13 10 7 4 \leftrightarrow ID 368



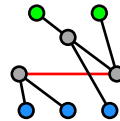
ID: 578 $V_{1^{n-3}} \boxtimes V_1 \boxtimes V_2$
n: 10 7 4 \leftrightarrow ID 369



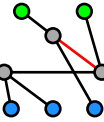
ID: 577 $V_{1^{n-3}} \boxtimes V_2 \boxtimes V_1$
n: 10 7 4 \leftrightarrow ID 370



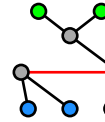
ID: 579 $V_{1^{n-2}} \boxtimes V_1 \boxtimes V_1$
n: 10 7 4 \leftrightarrow ID 447



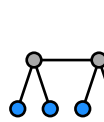
ID: 580 $V_{1^{n-2}} \boxtimes V_1 \boxtimes V_1$
n: 10 7 4 \leftrightarrow ID 450



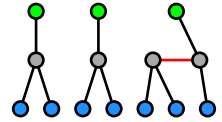
ID: 581 $V_{1^{n-2}} \boxtimes V_2$
n: 10 7 4 \leftrightarrow ID 449



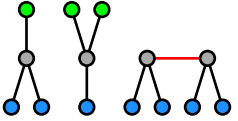
ID: 590 $V_{1^{n-2}} \boxtimes V_2$
n: 7 4 \leftrightarrow ID 460



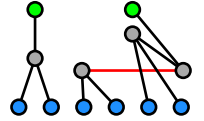
ID: 586 $V_{1^{n-3}} \boxtimes V_2 \boxtimes V_1$
n: 7 4 \leftrightarrow ID 375



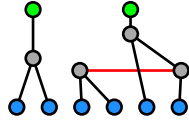
ID: 582 $V_{1^{n-3}} \boxtimes V_1 \boxtimes V_2$
n: 7 4 \leftrightarrow ID 376



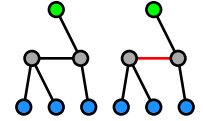
ID: 588 $V_{1^{n-2}} \boxtimes V_1 \boxtimes V_1$
n: 7 4 \leftrightarrow ID 458



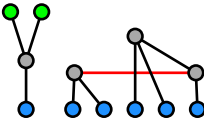
ID: 589 $V_{1^{n-2}} \boxtimes V_1 \boxtimes V_1$
n: 7 4 \leftrightarrow ID 459



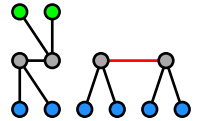
ID: 587 $V_{1^{n-2}} \boxtimes V_1 \boxtimes V_1$
n: 7 4 \leftrightarrow ID 457



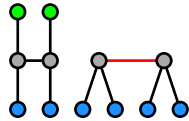
ID: 585 $V_{1^{n-2}} \boxtimes V_2$
n: 7 4 \leftrightarrow ID 455



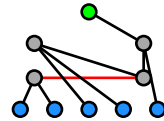
ID: 583 $V_{1^{n-2}} \boxtimes V_2$
n: 7 4 \leftrightarrow ID 454



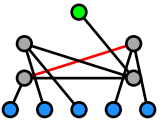
ID: 584 $V_{1^{n-2}} \boxtimes V_2$
n: 7 4 \leftrightarrow ID 382



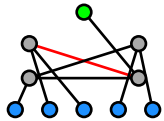
ID: 591 $V_{1^{n-1}} \boxtimes V_1$
n: 7 4 1 \leftrightarrow ID 470



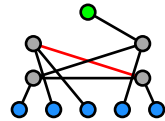
ID: 592 $V_{1^{n-1}} \boxtimes V_1$
n: 7 4 1 \leftrightarrow ID 475



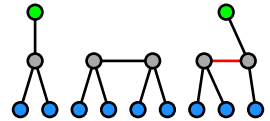
ID: 593 $V_{1^{n-1}} \boxtimes V_1$
n: 7 4 1 \leftrightarrow ID 463



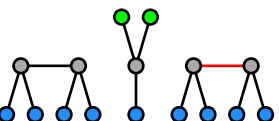
ID: 594 $V_{1^{n-1}} \boxtimes V_1$
n: 7 4 1 \leftrightarrow ID 461



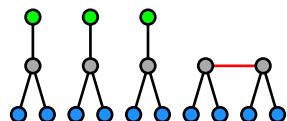
ID: 599 $V_{1^{n-2}} \boxtimes V_1 \boxtimes V_1$
n: 4 \leftrightarrow ID 480



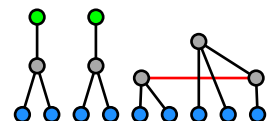
ID: 595 $V_{1^{n-2}} \boxtimes V_2$
n: 4 \leftrightarrow ID 477



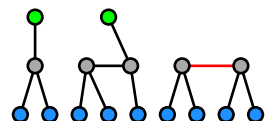
ID: 596 $V_{1^{n-3}} \boxtimes V_3$
n: 4 \leftrightarrow ID 389



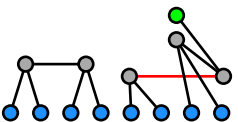
ID: 598 $V_{1^{n-2}} \boxtimes V_2$
n: 4 \leftrightarrow ID 479



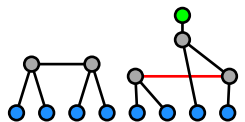
ID: 597 $V_{1^{n-2}} \boxtimes V_1 \boxtimes V_1$
n: 4 \leftrightarrow ID 478



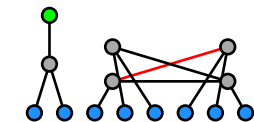
ID: 603 $V_{1^{n-1}} \boxtimes V_1$
n: 4 1 \leftrightarrow ID 500



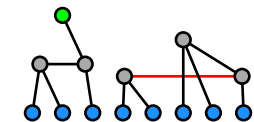
ID: 604 $V_{1^{n-1}} \boxtimes V_1$
n: 4 1 \leftrightarrow ID 501



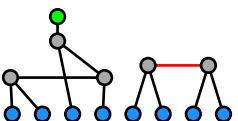
ID: 602 $V_{1^{n-1}} \boxtimes V_1$
n: 4 1 \leftrightarrow ID 495



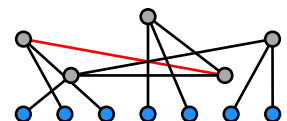
ID: 601 $V_{1^{n-1}} \boxtimes V_1$
n: 4 1 \leftrightarrow ID 489



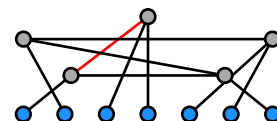
ID: 600 $V_{1^{n-1}} \boxtimes V_1$
n: 4 1 \leftrightarrow ID 485



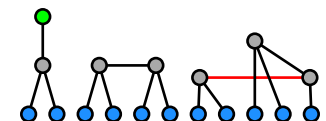
ID: 605 V_{1^n}
n: 4 1 \leftrightarrow ID 502



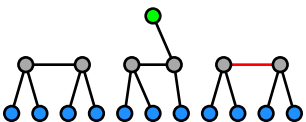
ID: 606 V_{1^n}
n: 4 1



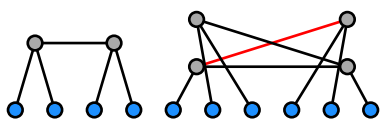
ID: 608 $V_{1^{n-1}} \boxtimes V_1$
n: 1 \leftrightarrow ID 515



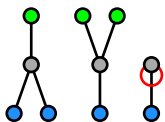
ID: 607 $V_{1^{n-1}} \boxtimes V_1$
n: 1 \leftrightarrow ID 508



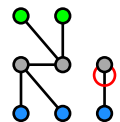
ID: 609 V_{1^n}
n: 1 \leftrightarrow ID 520



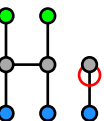
ID: 610 $V_{1^{n-3}} \boxtimes V_1 \boxtimes V_2$
n: 10 7 4



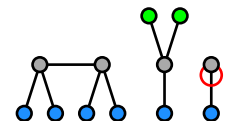
ID: 611 $V_{1^{n-2}} \boxtimes V_2$
n: 10 7 4 \leftrightarrow ID 522



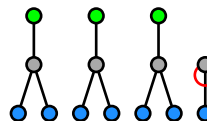
ID: 612 $V_{1^{n-2}} \boxtimes V_2$
n: 10 7 4 \leftrightarrow ID 524



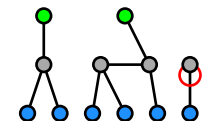
ID: 613 $V_{1^{n-2}} \boxtimes V_2$
n: 7 4 \leftrightarrow ID 528



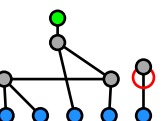
ID: 614 $V_{1^{n-3}} \boxtimes V_3$
n: 7 4



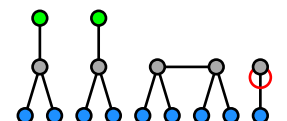
ID: 615 $V_{1^{n-2}} \boxtimes V_1 \boxtimes V_1$
n: 7 4 \leftrightarrow ID 529



ID: 616 $V_{1^{n-1}} \boxtimes V_1$
n: 7 4 1 \leftrightarrow ID 534



ID: 617 $V_{1^{n-2}} \boxtimes V_2$
n: 4 \leftrightarrow ID 537



ID: 618 $V_{1^{n-1}} \boxtimes V_1$
n: 4 1 \leftrightarrow ID 540

