------- g,n: 7,4   graphs: 392   eliminated: 380 ------- Euler Characteristic (without resolving relations):

$$--------- \quad -6V_{1^4}+2V_{1^3}\boxtimes V_1+1V_{1^2}\boxtimes V_2-1V_{1^2}\boxtimes V_{1^2}+4V_{1^2}\boxtimes V_1\boxtimes V_1-3V_1\boxtimes V_1\boxtimes V_2-1V_1\boxtimes V_1\boxtimes V_1\boxtimes V_1 \quad --------$$

--------- edges: 6   graphs: 4 ---------

------- A3 case   graphs: 4 -------

ID: 129 V_{1^4}
$\mapsto$ ID 152
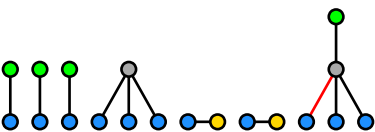
ID: 130 V_{1^4}
$\mapsto$ ID 148

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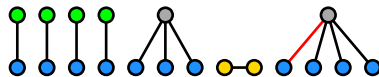$\mapsto$ ID 153

ID: 132 V_{1^4}
$\mapsto$ ID 166
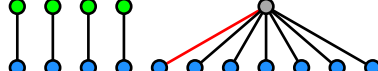
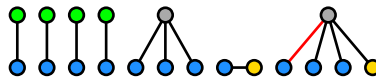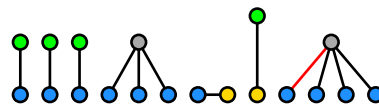ID: 139 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 291
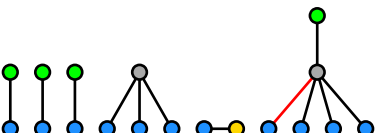
ID: 140 V_{1^4}
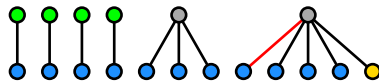$\mapsto$ ID 219

ID: 141 V_{1^4}
$\mapsto$ ID 292

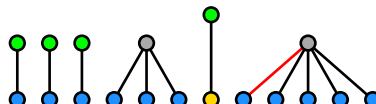ID: 142 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 215

ID: 143 $V_{1^3} \boxtimes V_1$
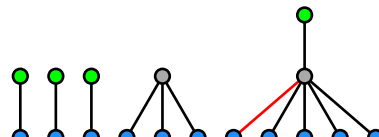$\mapsto$ ID 224

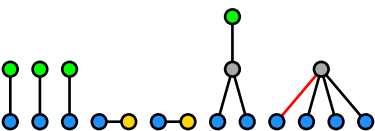ID: 144 V_{1^4}
$\mapsto$ ID 220

ID: 145 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 221

ID: 146 $V_{1^3} \boxtimes V_1$
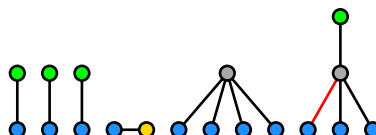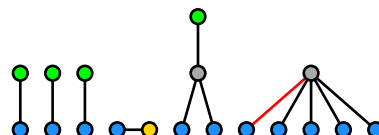$\mapsto$ ID 225

ID: 147 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 243
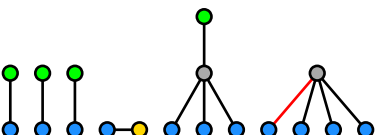
ID: 148 V_{1^4}
$\leftarrow$ ID 130

ID: 149 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 232

ID: 150 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 233

ID: 151 $V_{1^3} \boxtimes V_1$
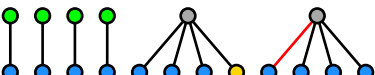$\mapsto$ ID 234

ID: 152 V_{1^4}
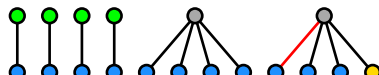$\leftarrow$ ID 129

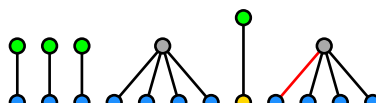ID: 153 V_{1^4}
$\leftarrow$ ID 131

ID: 154 V_{1^4}
$\mapsto$ ID 235
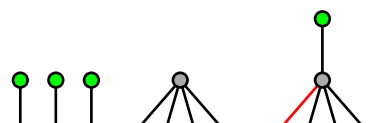
ID: 155 V_{1^4}
$\mapsto$ ID 238

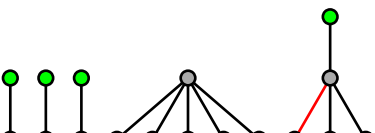ID: 156 V_{1^4}
$\mapsto$ ID 239

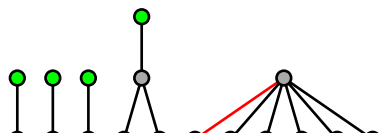ID: 157 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 240

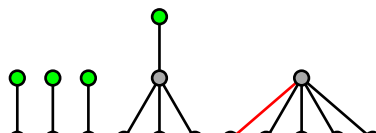ID: 158 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 241

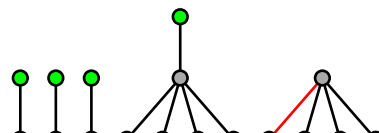ID: 159 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 242

ID: 160 $V_{1^3} \boxtimes V_1$
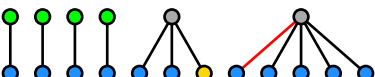$\mapsto$ ID 245

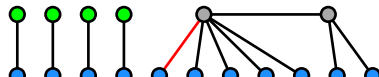ID: 161 $V_{1^3} \boxtimes V_1$
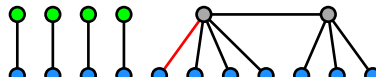$\mapsto$ ID 247

ID: 162 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 249

ID: 163 V_{1^4}
$\mapsto$ ID 250

ID: 164 V_{1^4}
$\mapsto$ ID 253

ID: 165 V_{1^4}
$\mapsto$ ID 251

ID: 166 V_{1^4}
$\leftarrow$ ID 132

------- B,Birr cases without weight 11 relations   graphs: 10 -------

ID: 184 V_{1^4} $\mapsto$ ID 303

ID: 185 V_{1^4} $\mapsto$ ID 310

ID: 186 V_{1^4} $\mapsto$ ID 316

ID: 187 V_{1^4} $\mapsto$ ID 317

ID: 188 V_{1^4} $\mapsto$ ID 323

ID: 189 V_{1^4} $\mapsto$ ID 322

ID: 197 V_{1^4} $\mapsto$ ID 351

ID: 198 V_{1^4} $\mapsto$ ID 356

ID: 199 V_{1^4} $\mapsto$ ID 358

ID: 200 V_{1^4} $\mapsto$ ID 363

ID: 203 $V_{1^2} \boxtimes V_2$
$\mapsto$ ID 448

ID: 204 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\mapsto$ ID 372

ID: 205 $V_{1^2} \boxtimes V_2$
$\mapsto$ ID 373

ID: 206 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 410

ID: 207 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\mapsto$ ID 456

ID: 208 $V_{1^2} \boxtimes V_2$
$\mapsto$ ID 452

ID: 209 $V_{1^2} \boxtimes V_2$
$\mapsto$ ID 374

ID: 210 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\mapsto$ ID 453

ID: 211 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\mapsto$ ID 378

ID: 212 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\mapsto$ ID 379

ID: 213 $V_{1^2} \boxtimes V_2$
$\mapsto$ ID 380

ID: 214 $V_{1^2} \boxtimes V_2$
$\mapsto$ ID 381

ID: 215 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 142

ID: 216 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 465

ID: 217 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 384

ID: 218 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 422

ID: 219 V_{1^4}
$\leftarrow$ID 140

ID: 220 V_{1^4}
$\leftarrow$ID 144

ID: 221 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 145

ID: 222 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 429

ID: 223 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 386

ID: 224 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 143

ID: 225 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 146

ID: 226 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 385

ID: 227 $V_{1^2} \boxtimes V_2$
$\mapsto$ ID 476

ID: 228 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\mapsto$ ID 387

ID: 229 $V_{1^2} \boxtimes V_2$
$\mapsto$ ID 388

ID: 230 $V_{1^2} \boxtimes V_2$
$\mapsto$ ID 390

ID: 231 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\mapsto$ ID 391

ID: 232 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 149

ID: 233 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 150

ID: 234 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 151

ID: 235 V_{1^4}
$\leftarrow$ID 154

ID: 236 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 392

ID: 237 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 393

ID: 238 V_{1^4}
$\leftarrow$ID 155

ID: 239 V_{1^4}
$\leftarrow$ID 156

ID: 240 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 157

ID: 241 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 158

ID: 242 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 159

ID: 243 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 147

ID: 244 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 394

ID: 245 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 160

ID: 246 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 395

ID: 247 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 161

ID: 248 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 396

ID: 249 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 162

ID: 250 V_{1^4}
$\leftarrow$ID 163

ID: 251 V_{1^4}
$\leftarrow$ID 165

ID: 252 V_{1^4}
$\mapsto$ ID 398

ID: 253 V_{1^4}
$\leftarrow$ID 164

ID: 254 V_{1^4}
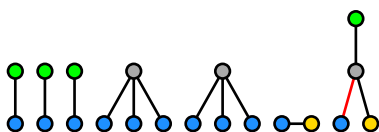$\mapsto$ ID 397

------- A2 case with weight 13 relations   relation groups: 4 -------
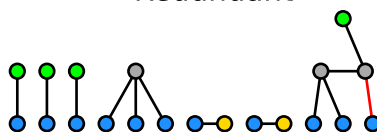
ID: 274 V_{1^4}
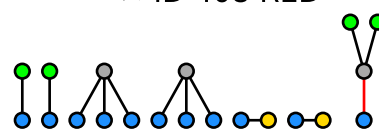$\mapsto$ ID 425
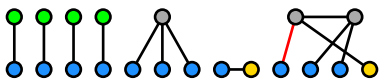
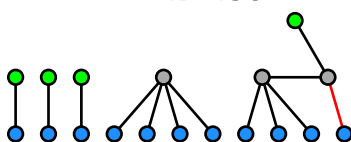ID: 270 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 525

ID: 273 $V_{1^3} \boxtimes V_1$
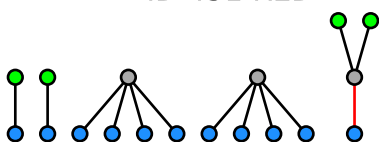Redundant
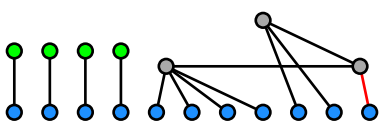
ID: 269 $V_{1^2} \boxtimes V_2$
$\mapsto$ ID 408 RED
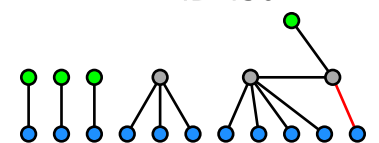
ID: 283 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 438

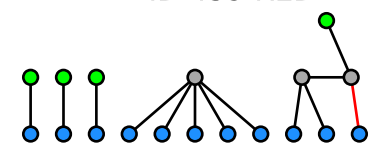ID: 279 $V_{1^2} \boxtimes V_2$
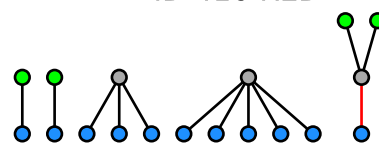$\mapsto$ ID 431 RED

ID: 285 V_{1^4}
$\mapsto$ ID 441
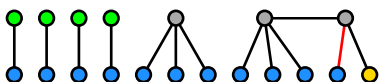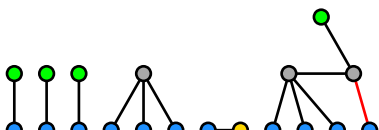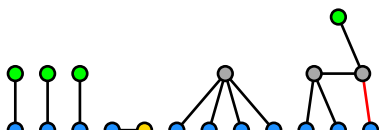
ID: 278 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 430

ID: 284 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 439 RED

ID: 272 $V_{1^2} \boxtimes V_2$
$\mapsto$ ID 416 RED

ID: 277 V_{1^4}
$\mapsto$ ID 424

ID: 281 V_{1^4}
$\mapsto$ ID 434 RED

ID: 282 V_{1^4}
$\mapsto$ ID 437
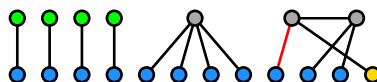
ID: 276 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 421
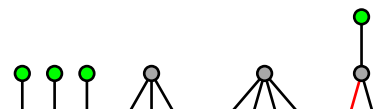
ID: 275 $V_{1^3} \boxtimes V_1$
Redundant

ID: 280 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 433 RED

ID: 271 $V_{1^2} \boxtimes V_2$
$\mapsto$ ID 412 RED
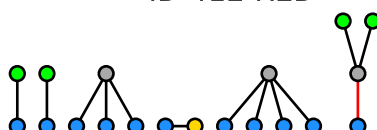
ID: 291 $V_{1^3} \boxtimes V_1$
↤ID 139
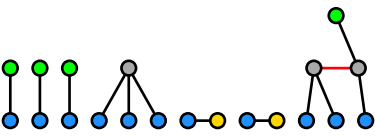
ID: 293 $V_{1^3} \boxtimes V_1$
↦ID 469
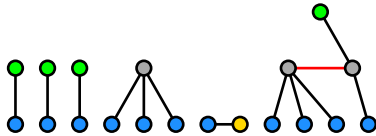
ID: 294 $V_{1^3} \boxtimes V_1$
↦ID 471
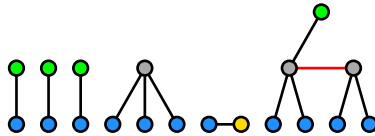
ID: 295 V_{1^4}
↦ID 423
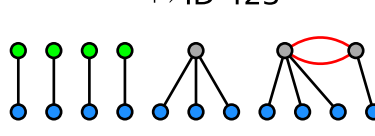
ID: 298 $V_{1^3} \boxtimes V_1$
↦ID 472
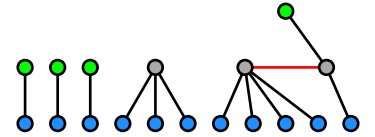
ID: 299 $V_{1^3} \boxtimes V_1$
↦ID 474
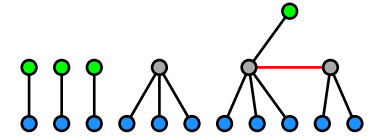
ID: 300 $V_{1^3} \boxtimes V_1$
↦ID 473
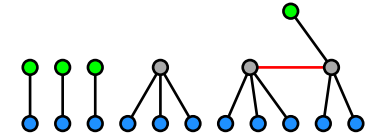
ID: 301 $V_{1^3} \boxtimes V_1$
↦ID 484
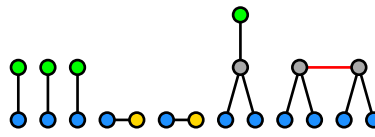
ID: 310 V_{1^4}
↤ID 185
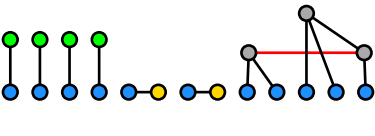
ID: 311 $V_{1^3} \boxtimes V_1$
↦ID 491
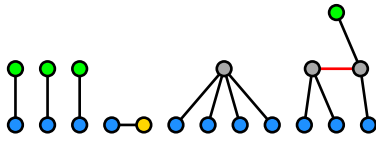
ID: 307 $V_{1^3} \boxtimes V_1$
↦ID 488
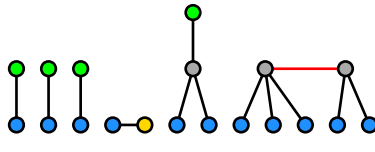
ID: 302 $V_{1^3} \boxtimes V_1$
↦ID 481
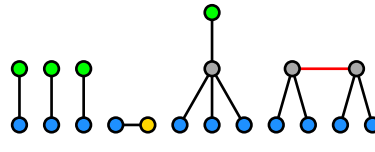
ID: 315 V_{1^4}
↦ID 496
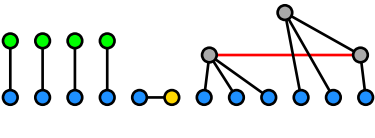
ID: 317 V_{1^4}
↤ID 187
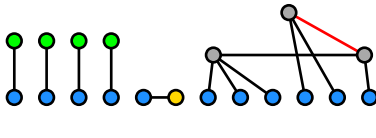
ID: 316 V_{1^4}
↤ID 186
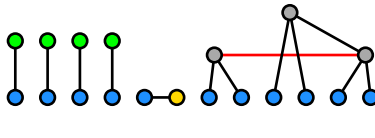
ID: 319 $V_{1^3} \boxtimes V_1$
↦ID 498
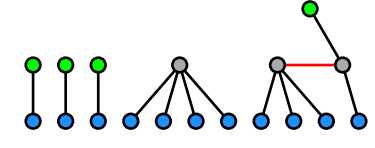
ID: 320 $V_{1^3} \boxtimes V_1$
↦ID 499
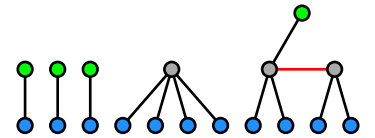
ID: 312 $V_{1^3} \boxtimes V_1$
↦ID 492
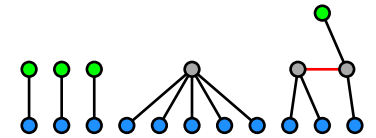
ID: 313 $V_{1^3} \boxtimes V_1$
↦ID 494
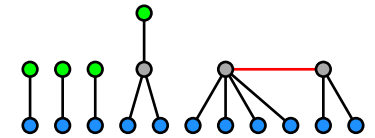
ID: 314 $V_{1^3} \boxtimes V_1$
↦ID 493
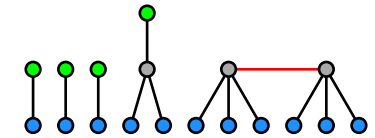
ID: 308 $V_{1^3} \boxtimes V_1$
↦ID 487
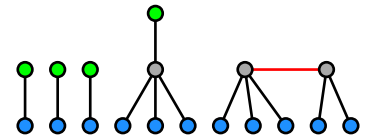
ID: 306 $V_{1^3} \boxtimes V_1$
↦ID 486
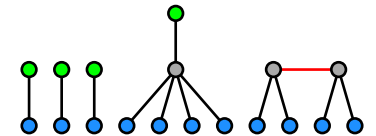
ID: 321 V_{1^4}
↦ID 504
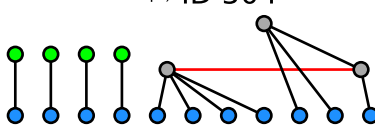
ID: 324 V_{1^4}
↦ID 505
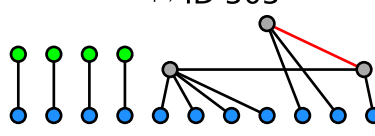
ID: 325 V_{1^4}
↦ID 506
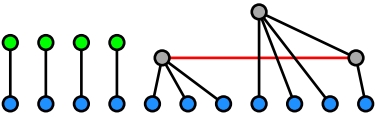
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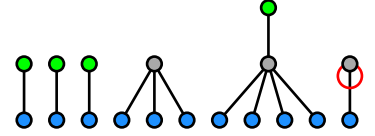↤ID 189
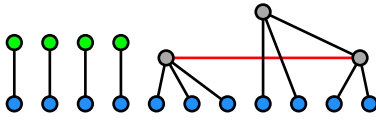
ID: 326 V_{1^4}
↦ID 503
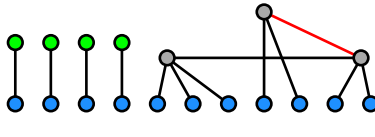
ID: 323 V_{1^4}
↤ID 188
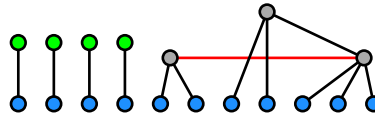
ID: 349 $V_{1^3} \boxtimes V_1$
↦ID 535
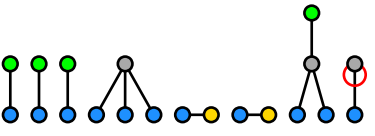
ID: 350 $V_{1^3} \boxtimes V_1$
↦ID 530
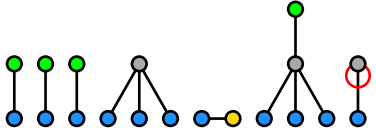
ID: 355 $V_{1^3} \boxtimes V_1$
↦ID 536

ID: 356 V_{1^4}
↤ID 198
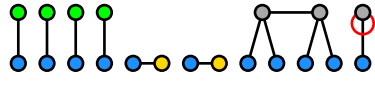
ID: 357 $V_{1^3} \boxtimes V_1$
↦ID 538
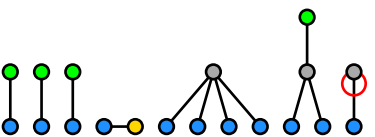
ID: 358 V_{1^4}
↤ID 199
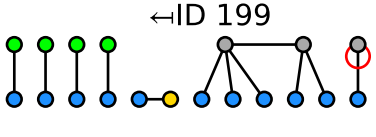
ID: 359 $V_{1^3} \boxtimes V_1$
↦ID 539
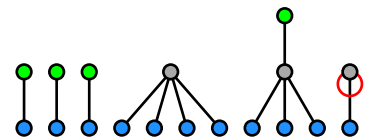
ID: 361 $V_{1^3} \boxtimes V_1$
↦ID 542
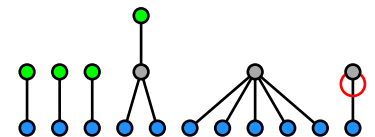
ID: 362 V_{1^4}
↦ID 543
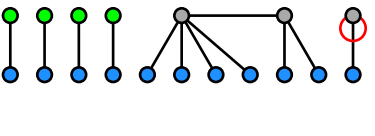
ID: 363 V_{1^4}
↤ID 200
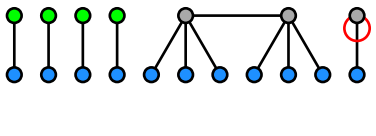
ID: 289 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 466

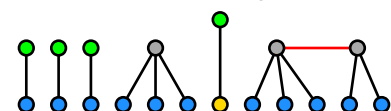ID: 288 V_{1^4}
Redundant

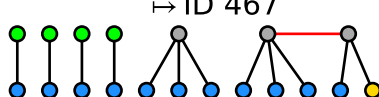ID: 292 V_{1^4}
$\leftarrow$ID 141
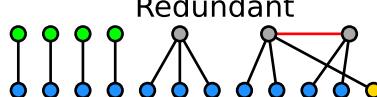
ID: 303 V_{1^4}
$\leftarrow$ID 184

ID: 290 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 462
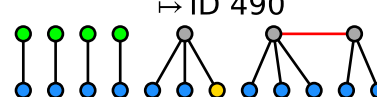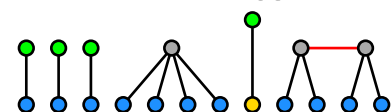
ID: 296 V_{1^4}
$\mapsto$ ID 467

ID: 297 V_{1^4}
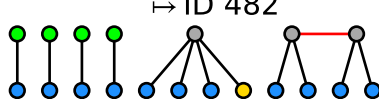Redundant

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

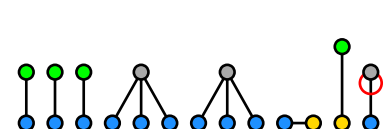ID: 305 $V_{1^3} \boxtimes V_1$
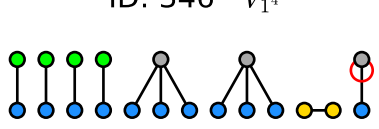$\mapsto$ ID 483

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

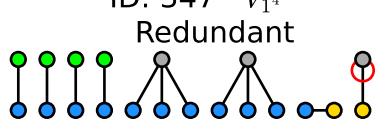ID: 318 V_{1^4}
$\mapsto$ ID 497 RED
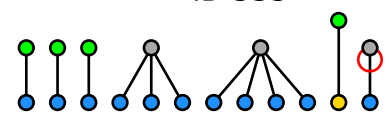
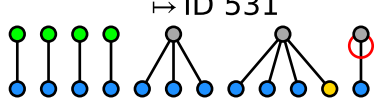ID: 348 $V_{1^3} \boxtimes V_1$

ID: 346 V_{1^4}

ID: 347 V_{1^4}
Redundant

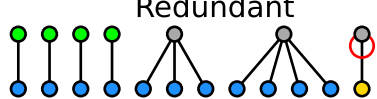ID: 351 V_{1^4}
$\leftarrow$ID 197
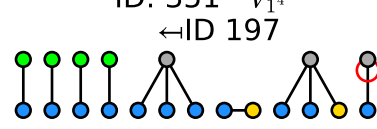
ID: 354 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 533

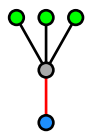ID: 352 V_{1^4}
$\mapsto$ ID 531

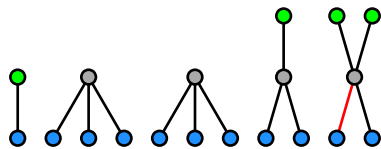ID: 353 V_{1^4}
Redundant
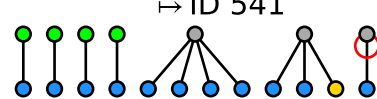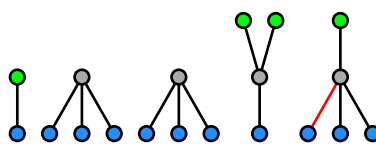
ID: 360 V_{1^4}
$\mapsto$ ID 541

ID: 368 $V_1 \boxtimes V_3$
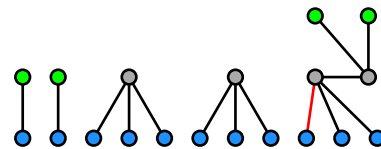$\mapsto$ ID 576

ID: 369 $V_1 \boxtimes V_1 \boxtimes V_2$
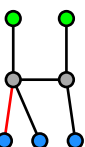$\mapsto$ ID 578

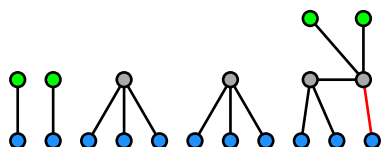ID: 370 $V_1 \boxtimes V_2 \boxtimes V_1$
$\mapsto$ ID 577
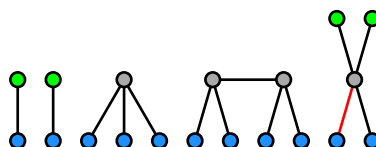
ID: 371 $V_{1^2} \boxtimes V_2$
$\mapsto$ ID 553
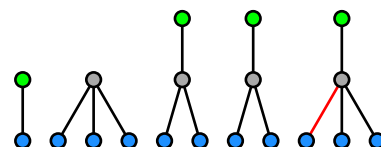
ID: 372 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\leftarrow$ID 204

ID: 373 $V_{1^2} \boxtimes V_2$
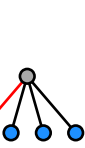$\leftarrow$ID 205

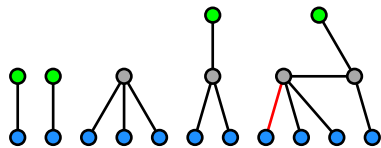ID: 374 $V_{1^2} \boxtimes V_2$
$\leftarrow$ID 209

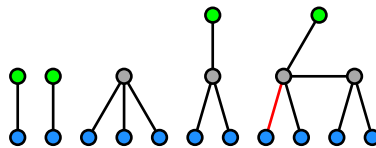ID: 375 $V_1 \boxtimes V_2 \boxtimes V_1$
$\mapsto$ ID 586

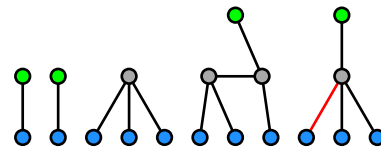ID: 376 $V_1 \boxtimes V_1 \boxtimes V_2$
$\mapsto$ ID 582

ID: 377 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\mapsto$ ID 561
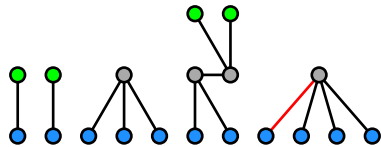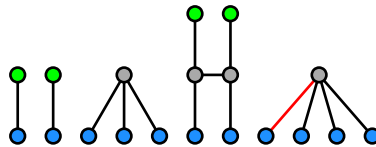
ID: 378 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\leftarrow$ID 211

ID: 379 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\leftarrow$ID 212

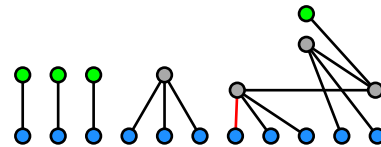ID: 380 $V_{1^2} \boxtimes V_2$
$\leftarrow$ID 213

ID: 381 $V_{1^2} \boxtimes V_2$
$\leftarrow$ID 214

ID: 382 $V_{1^2} \boxtimes V_2$
$\mapsto$ ID 584

ID: 383 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 565

ID: 384 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 217
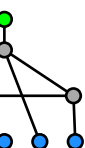
ID: 385 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 226
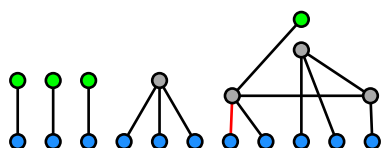
ID: 386 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 223
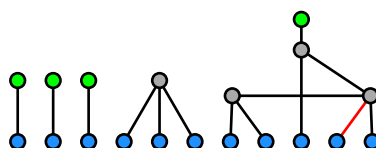
ID: 387 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\leftarrow$ID 228
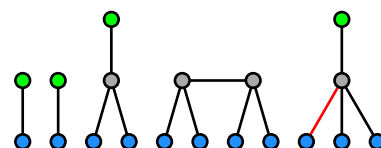
ID: 388 $V_{1^2} \boxtimes V_2$
$\leftarrow$ID 229
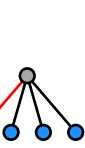
ID: 389 $V_1 \boxtimes V_3$
$\mapsto$ ID 596
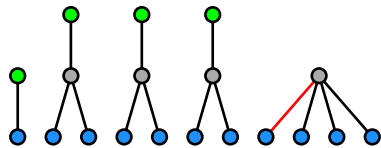
ID: 390 $V_{1^2} \boxtimes V_2$
$\leftarrow$ID 230

ID: 391 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\leftarrow$ID 231
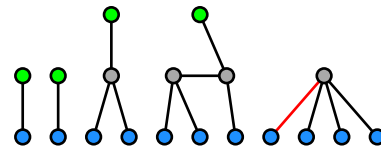
ID: 392 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 236

ID: 393 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 237
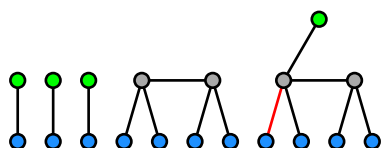
ID: 394 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 244
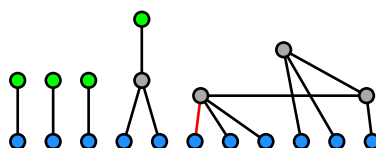
ID: 395 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 246
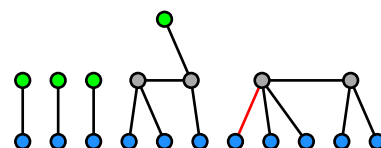
ID: 396 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 248
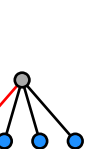
ID: 397 V_{1^4}
$\leftarrow$ID 254

ID: 398 V_{1^4}
$\leftarrow$ID 252

------- A2 case with weight 13 relations   relation groups: 8 -------
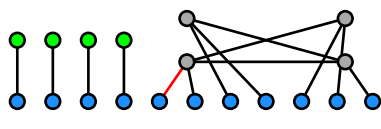
ID: 407 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
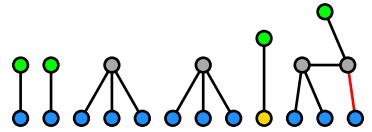
ID: 402 $V_1 \boxtimes V_1 \boxtimes V_2$
$\mapsto$ ID 547
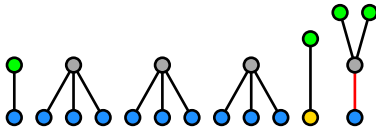
ID: 425 V_{1^4}
$\leftarrow$ID 274

ID: 411 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 556
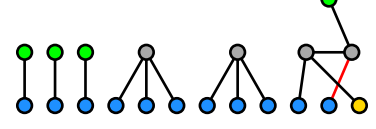
ID: 426 $V_{1^3} \boxtimes V_1$
Redundant
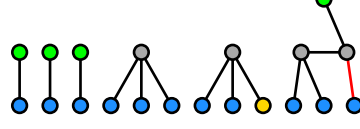
ID: 408 $V_{1^2} \boxtimes V_2$
$\leftarrow$ID 269 RED
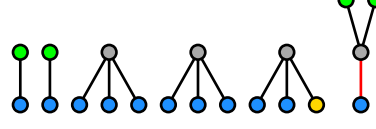
ID: 429 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 222
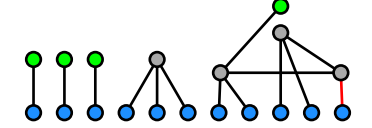
ID: 409 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\mapsto$ ID 552
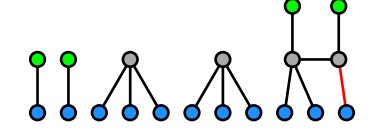
ID: 418 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\mapsto$ ID 562 RED
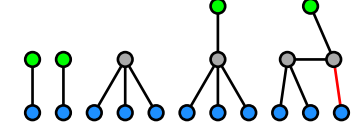
ID: 406 $V_1 \boxtimes V_1 \boxtimes V_2$
Redundant
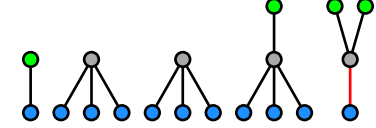
ID: 410 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 206
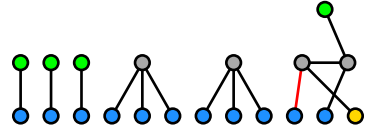
ID: 422 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 218
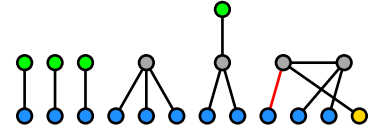
ID: 405 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
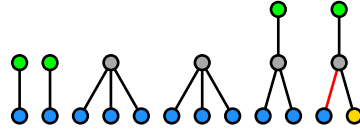
ID: 420 $V_{1^3} \boxtimes V_1$
Redundant
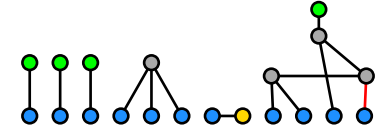
ID: 404 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
Redundant
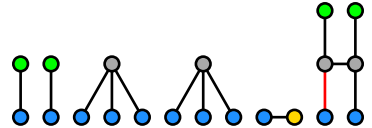
ID: 413 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
Redundant
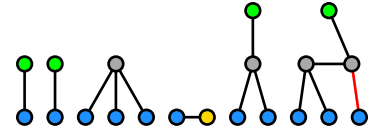
ID: 403 $V_1 \boxtimes V_1 \boxtimes V_2$
Redundant
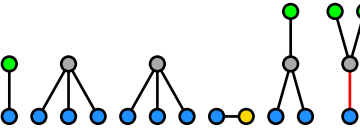
ID: 424 V_{1^4}
$\leftarrow$ID 277
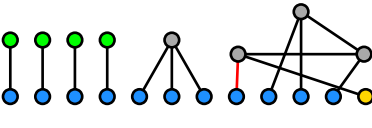
ID: 434 V_{1^4}
$\leftarrow$ID 281 RED
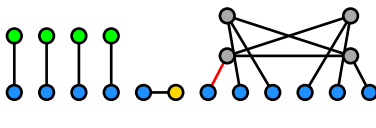
ID: 437 V_{1^4}
$\leftarrow$ID 282
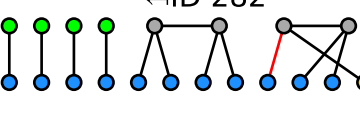
ID: 421 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 276
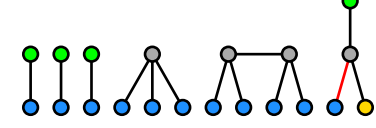
ID: 419 $V_{1^3} \boxtimes V_1$
Redundant
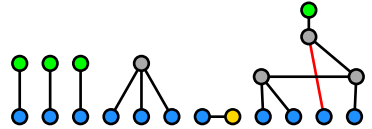
ID: 433 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 280 RED
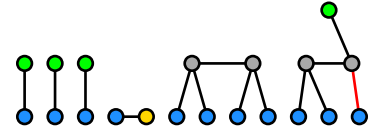
ID: 412 $V_{1^2} \boxtimes V_2$
$\leftarrow$ID 271 RED
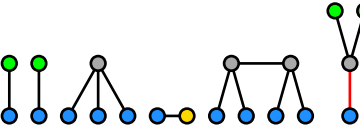
ID: 428 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 566
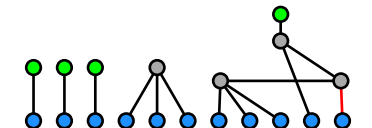
ID: 440 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 572
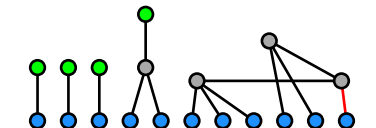
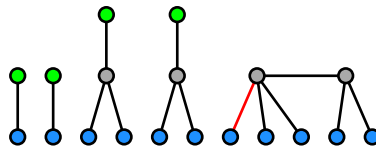ID: 417 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\mapsto$ ID 560
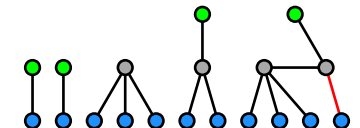
ID: 436 $V_{1^3} \boxtimes V_1$
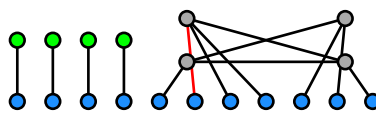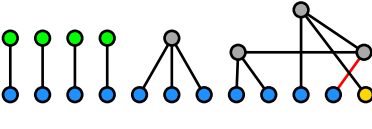$\mapsto$ ID 571 RED
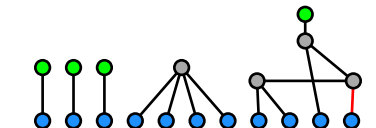
ID: 415 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\mapsto$ ID 558 RED
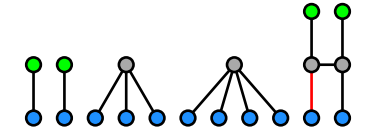
ID: 432 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\mapsto$ ID 569 RED
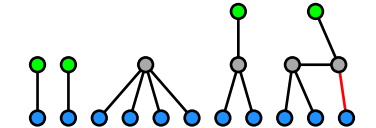
ID: 414 $V_1 \boxtimes V_1 \boxtimes V_2$
$\mapsto$ ID 557 RED
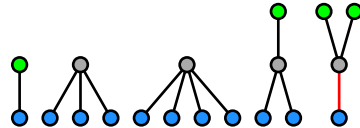
ID: 443 V_{1^4}
$\mapsto$ ID 574
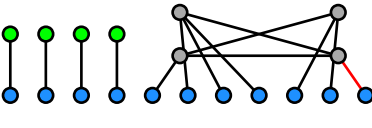
ID: 435 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 570 RED
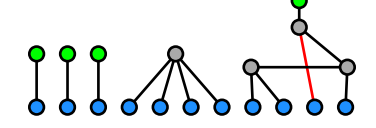
ID: 438 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 283
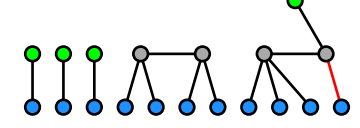
ID: 431 $V_{1^2} \boxtimes V_2$
$\leftarrow$ID 279 RED
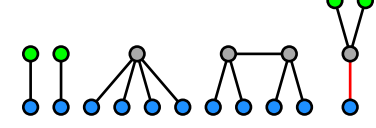
ID: 423 V_{1^4}
$\leftarrow$ID 295
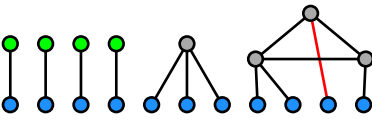
ID: 441 V_{1^4}
$\leftarrow$ID 285
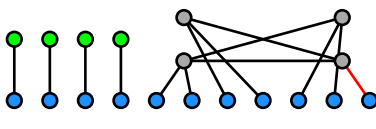
ID: 442 V_{1^4}
$\mapsto$ ID 573 RED
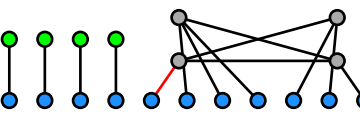
ID: 427 $V_{1^3} \boxtimes V_1$
Redundant
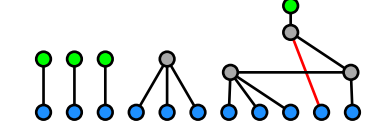
ID: 430 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 278
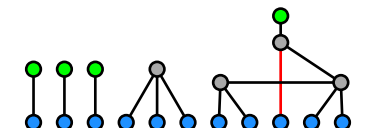
ID: 439 $V_{1^3} \boxtimes V_1$
$\leftarrow$ID 284 RED

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

ID: 448 $V_{1^2} \boxtimes V_2$
←ID 203

ID: 449 $V_{1^2} \boxtimes V_2$
↦ ID 581

ID: 450 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
↦ ID 580

ID: 456 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
←ID 207

ID: 452 $V_{1^2} \boxtimes V_2$
←ID 208

ID: 460 $V_{1^2} \boxtimes V_2$
↦ ID 590

ID: 458 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
↦ ID 588

ID: 459 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
↦ ID 589

ID: 457 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
↦ ID 587

ID: 455 $V_{1^2} \boxtimes V_2$
↦ ID 585

ID: 454 $V_{1^2} \boxtimes V_2$
↦ ID 583

ID: 465 $V_{1^3} \boxtimes V_1$
←ID 216

ID: 466 $V_{1^3} \boxtimes V_1$
←ID 289

ID: 469 $V_{1^3} \boxtimes V_1$
←ID 293

ID: 472 $V_{1^3} \boxtimes V_1$
←ID 298

ID: 473 $V_{1^3} \boxtimes V_1$
←ID 300

ID: 470 $V_{1^3} \boxtimes V_1$
↦ ID 591

ID: 475 $V_{1^3} \boxtimes V_1$
↦ ID 592

ID: 471 $V_{1^3} \boxtimes V_1$
←ID 294

ID: 474 $V_{1^3} \boxtimes V_1$
←ID 299

ID: 476 $V_{1^2} \boxtimes V_2$
←ID 227

ID: 480 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
↦ ID 599

ID: 477 $V_{1^2} \boxtimes V_2$
↦ ID 595

ID: 479 $V_{1^2} \boxtimes V_2$
↦ ID 598

ID: 478 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
↦ ID 597

ID: 491 $V_{1^3} \boxtimes V_1$
←ID 311

ID: 488 $V_{1^3} \boxtimes V_1$
←ID 307

ID: 481 $V_{1^3} \boxtimes V_1$
←ID 302

ID: 496 V_{1^4}
←ID 315

ID: 500 $V_{1^3} \boxtimes V_1$
↦ ID 603

ID: 501 $V_{1^3} \boxtimes V_1$
↦ ID 604

ID: 498 $V_{1^3} \boxtimes V_1$
←ID 319

ID: 499 $V_{1^3} \boxtimes V_1$
←ID 320

ID: 492 $V_{1^3} \boxtimes V_1$
←ID 312

ID: 493 $V_{1^3} \boxtimes V_1$
←ID 314

ID: 495 $V_{1^3} \boxtimes V_1$
↦ ID 602

ID: 494 $V_{1^3} \boxtimes V_1$
←ID 313

ID: 489 $V_{1^3} \boxtimes V_1$
↦ ID 601

ID: 487 $V_{1^3} \boxtimes V_1$
←ID 308

ID: 485 $V_{1^3} \boxtimes V_1$
↦ ID 600

ID: 486 $V_{1^3} \boxtimes V_1$
←ID 306

ID: 502 V_{1^4}
↦ ID 605

ID: 503 V_{1^4}
←ID 326

ID: 505 V_{1^4}
←ID 324

ID: 506 V_{1^4}
←ID 325

ID: 504 V_{1^4}
←ID 321

ID: 522 $V_{1^2} \boxtimes V_2$
↦ ID 611

ID: 524 $V_{1^2} \boxtimes V_1 \boxtimes V_2$
↦ ID 612

ID: 527 $V_{1^2} \boxtimes V_2$

ID: 528 $V_{1^2} \boxtimes V_2$
↦ ID 613

ID: 529 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
↦ ID 615

ID: 530 $V_{1^3} \boxtimes V_1$
←ID 350

ID: 535 $V_{1^3} \boxtimes V_1$
←ID 349

ID: 536 $V_{1^3} \boxtimes V_1$
←ID 355

ID: 537 $V_{1^2} \boxtimes V_2$
↦ ID 617

ID: 538 $V_{1^3} \boxtimes V_1$
←ID 357

ID: 539 $V_{1^3} \boxtimes V_1$
←ID 359

ID: 540 $V_{1^3} \boxtimes V_1$
↦ ID 618

ID: 542 $V_{1^3} \boxtimes V_1$
←ID 361

ID: 543 V_{1^4}
←ID 362

ID: 447 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\mapsto$ ID 579

ID: 451 $V_{1^3} \boxtimes V_1$
Redundant

ID: 463 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 593

ID: 453 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
$\leftarrow$ ID 210

ID: 461 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 594

ID: 464 $V_{1^3} \boxtimes V_1$
Redundant

ID: 484 $V_{1^3} \boxtimes V_1$
$\leftarrow$ ID 301

ID: 462 $V_{1^3} \boxtimes V_1$
$\leftarrow$ ID 290

ID: 467 V_{1^4}
$\leftarrow$ ID 296

ID: 468 V_{1^4}
Redundant

ID: 490 V_{1^4}
$\leftarrow$ ID 309

ID: 483 $V_{1^3} \boxtimes V_1$
$\leftarrow$ ID 305

ID: 482 V_{1^4}
$\leftarrow$ ID 304

ID: 497 V_{1^4}
$\leftarrow$ ID 318 RED

ID: 523 $V_{1^2} \boxtimes V_1 \boxtimes V_1$

ID: 525 $V_{1^3} \boxtimes V_1$
$\leftarrow$ ID 270
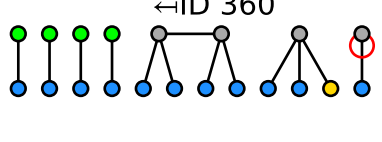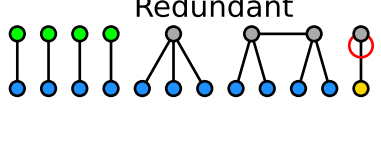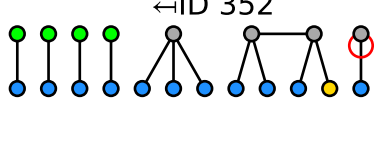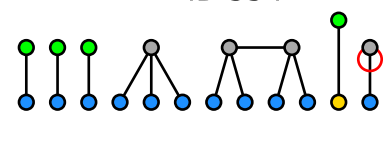
ID: 526 $V_{1^3} \boxtimes V_1$
Redundant

ID: 534 $V_{1^3} \boxtimes V_1$
$\mapsto$ ID 616

ID: 533 $V_{1^3} \boxtimes V_1$
$\leftarrow$ ID 354

ID: 531 V_{1^4}
$\leftarrow$ ID 352

ID: 532 V_{1^4}
Redundant

ID: 541 V_{1^4}
$\leftarrow$ ID 360
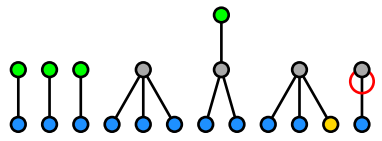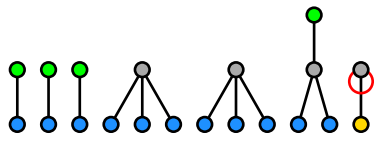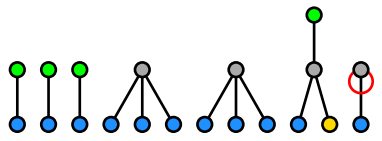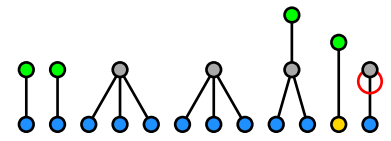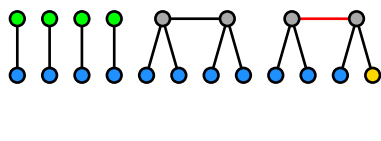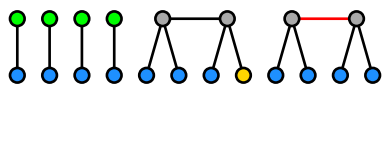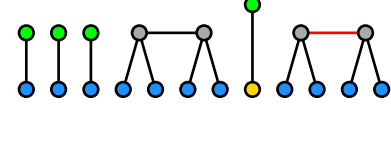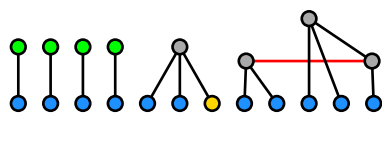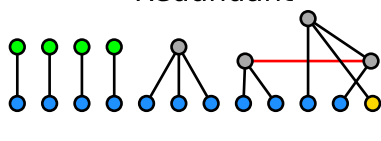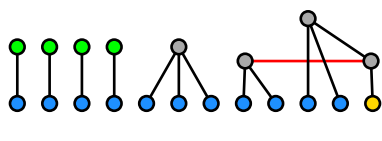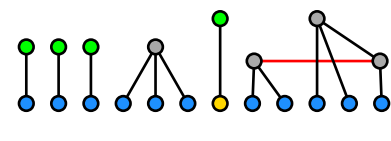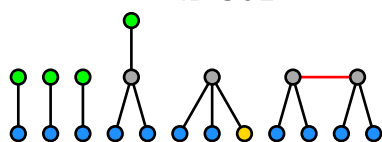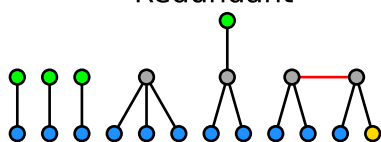
--------- edges: 10 graphs: 69 ---------
------- A2 case with weight 13 relations   relation groups: 6 -------

ID: 574 V_{1^4}
←ID 443

ID: 570 $V_{1^3} \boxtimes V_1$
←ID 435 RED

ID: 553 $V_{1^2} \boxtimes V_2$
←ID 371

ID: 547 $V_1 \boxtimes V_1 \boxtimes V_2$
←ID 402

ID: 551 $V_1 \boxtimes V_2 \boxtimes V_1$
Redundant

ID: 546 $V_2 \boxtimes V_2$
Redundant

ID: 563 V_{1^4}

ID: 564 V_{1^4}
Redundant

ID: 573 V_{1^4}
←ID 442 RED

ID: 567 $V_{1^3} \boxtimes V_1$
Redundant
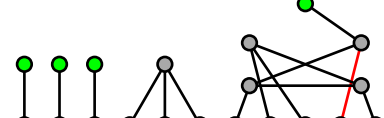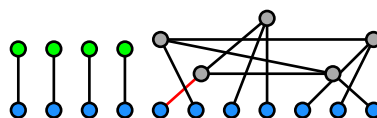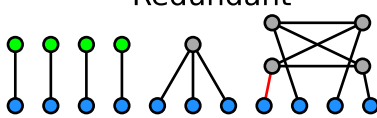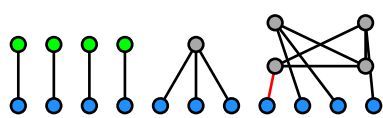
ID: 555 $V_{1^2} \boxtimes V_{1^2}$

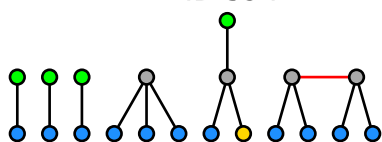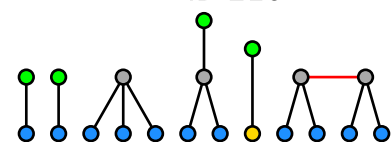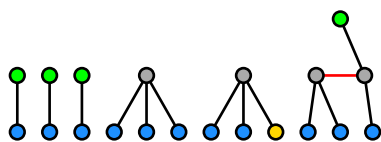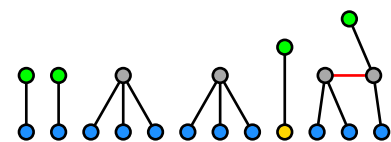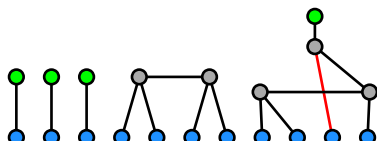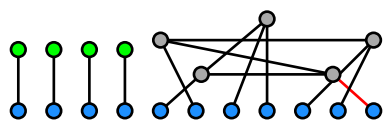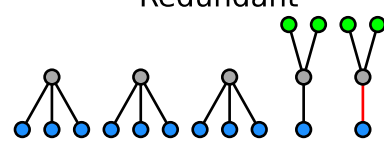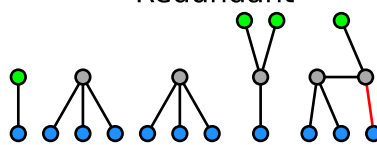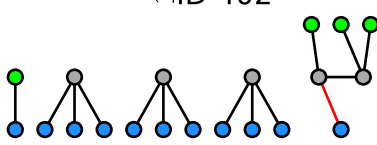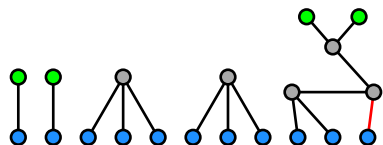ID: 561 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
←ID 377

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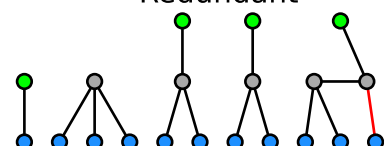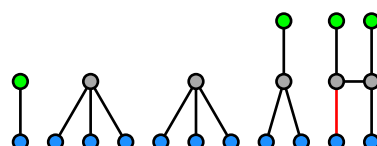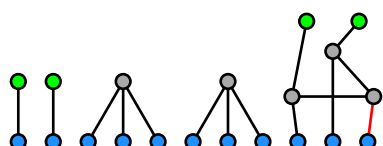
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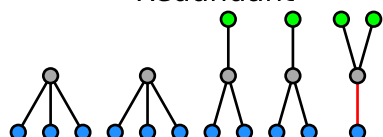
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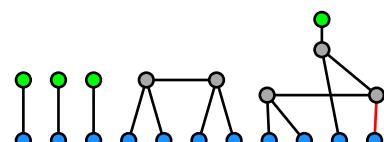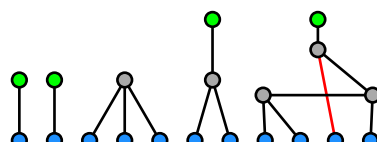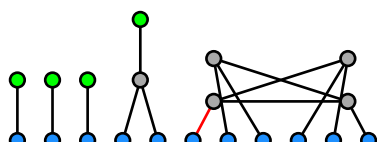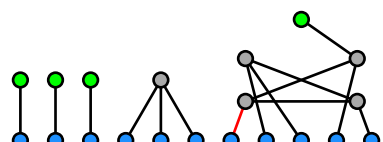
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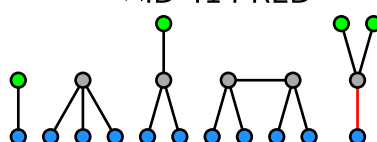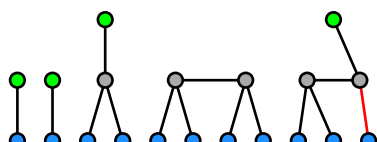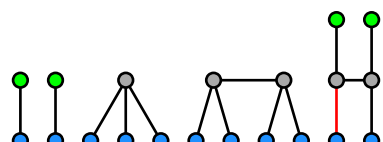
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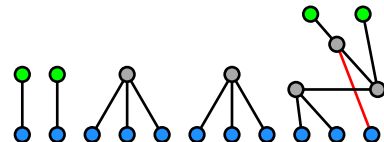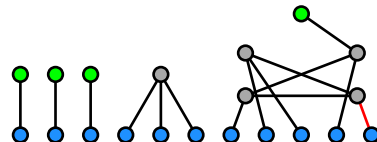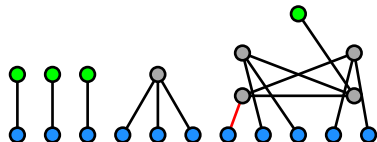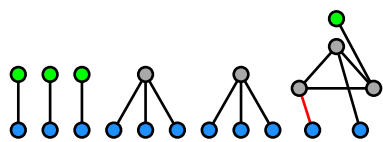
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←ID 418 RED

ID: 550 $V_1 \boxtimes V_1 \boxtimes V_2$
Redundant

------ B,Birr cases without weight 11 relations   graphs: 40 ------

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←ID 369

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←ID 370

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←ID 447

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←ID 376

ID: 588 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
←ID 458

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←ID 457

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←ID 477

ID: 596 $V_1 \boxtimes V_3$
←ID 389

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←ID 479

ID: 597 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
←ID 478

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←ID 485

ID: 605 V_{1^4}
←ID 502

ID: 606 V_{1^4}

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←ID 524

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←ID 528

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ID: 615 $V_{1^2} \boxtimes V_1 \boxtimes V_1$
←ID 529

ID: 616 $V_{1^3} \boxtimes V_1$
←ID 534

ID: 617 $V_{1^2} \boxtimes V_2$
←ID 537

ID: 618 $V_{1^3} \boxtimes V_1$
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