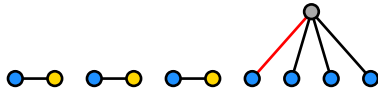
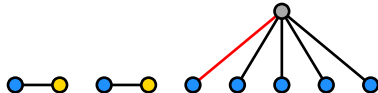


---- excess: 4 (g,n): (1, 13), (3, 10), (5, 7), (7, 4), (9, 1) graphs: 490 ----
 ----- edges: 10-n graphs: 10 -----
 --- A3 case graphs: 10 ---

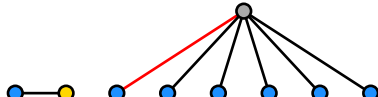
ID: 129 V_1^n
 n: 4 1



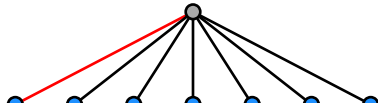
ID: 130 V_1^n
 n: 4 1



ID: 131 V_1^n
 n: 4 1

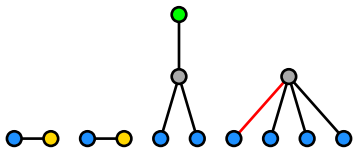


ID: 132 V_1^n
 n: 4 1

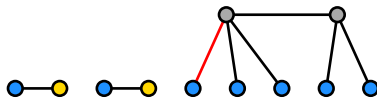


----- edges: 11-n graphs: 64 -----
 --- A3 case graphs: 45 ---

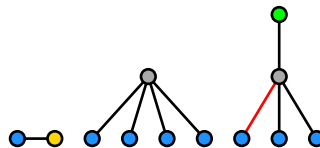
ID: 147 $V_{1^{n-1}} \boxtimes V_1$
 n: 4 1



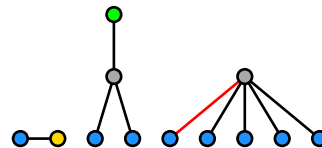
ID: 148 V_{1^n}
 n: 4 1



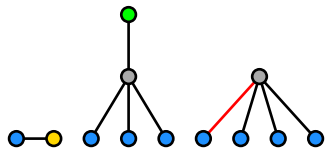
ID: 149 $V_{1^{n-1}} \boxtimes V_1$
 n: 4 1



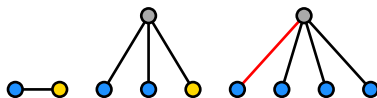
ID: 150 $V_{1^{n-1}} \boxtimes V_1$
 n: 4 1



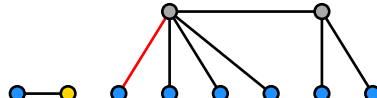
ID: 151 $V_{1^{n-1}} \boxtimes V_1$
 n: 4 1



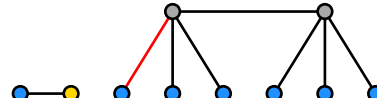
ID: 152 V_{1^n}
 n: 4 1



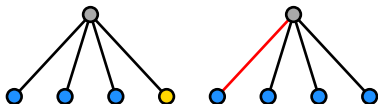
ID: 153 V_{1^n}
 n: 4 1



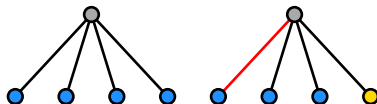
ID: 154 V_{1^n}
 n: 4 1



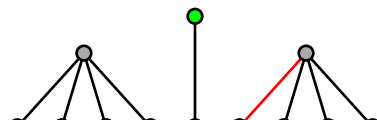
ID: 155 V_{1^n}
 n: 4 1



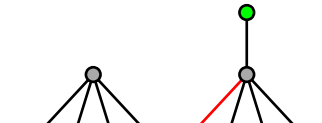
ID: 156 V_{1^n}
 n: 4 1



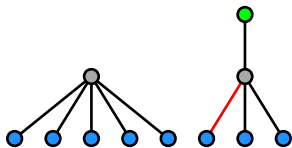
ID: 157 $V_{1^{n-1}} \boxtimes V_1$
 n: 4 1



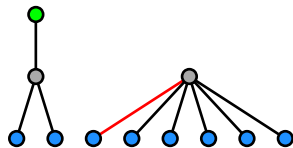
ID: 158 $V_{1^{n-1}} \boxtimes V_1$
 n: 4 1



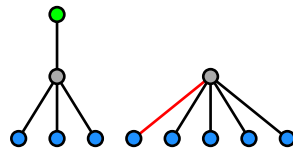
ID: 159 $V_{1^{n-1}} \boxtimes V_1$
 n: 4 1



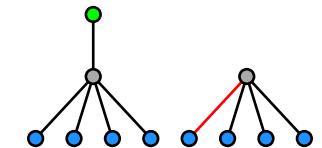
ID: 160 $V_{1^{n-1}} \boxtimes V_1$
 n: 4 1



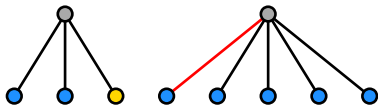
ID: 161 $V_{1^{n-1}} \boxtimes V_1$
 n: 4 1



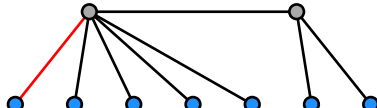
ID: 162 $V_{1^{n-1}} \boxtimes V_1$
 n: 4 1



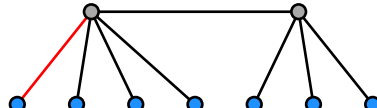
ID: 163 V_{1^n}
 n: 4 1



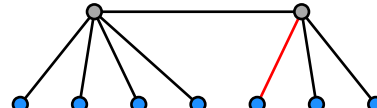
ID: 164 V_{1^n}
 n: 4 1



ID: 165 V_{1^n}
 n: 4 1

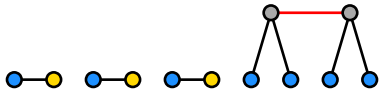


ID: 166 V_{1^n}
 n: 4 1



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

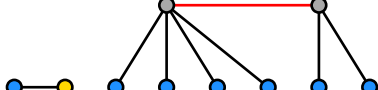
ID: 184 V_1^n
n: 4 1



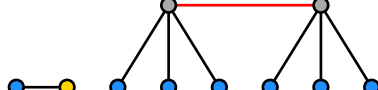
ID: 185 V_1^n
n: 4 1



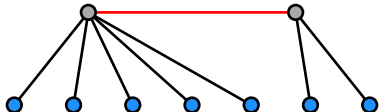
ID: 186 V_1^n
n: 4 1



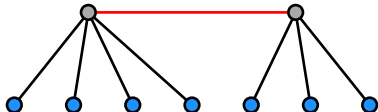
ID: 187 V_1^n
n: 4 1



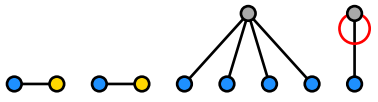
ID: 188 V_1^n
n: 4 1



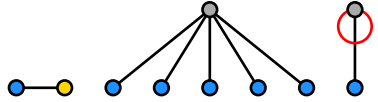
ID: 189 V_1^n
n: 4 1



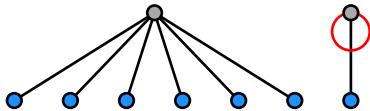
ID: 198 V_1^n
n: 4 1



ID: 199 V_1^n
n: 4 1

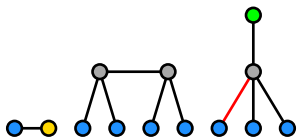


ID: 200 V_1^n
n: 4 1

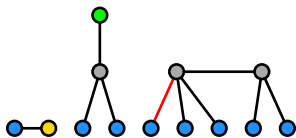


----- edges: 12-n graphs: 165
 --- A3 case graphs: 66 -----

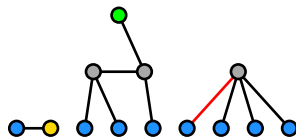
ID: 232 $V_1^{n-1} \boxtimes V_1$
 n: 4 1



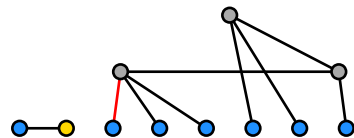
ID: 233 $V_1^{n-1} \boxtimes V_1$
 n: 4 1



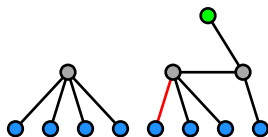
ID: 234 $V_1^{n-1} \boxtimes V_1$
 n: 4 1



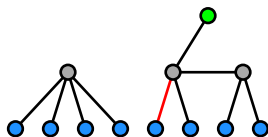
ID: 235 V_1^n
 n: 4 1



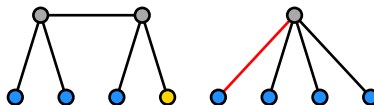
ID: 236 $V_1^{n-1} \boxtimes V_1$
 n: 4 1



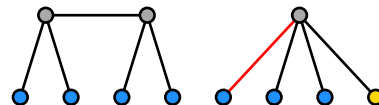
ID: 237 $V_1^{n-1} \boxtimes V_1$
 n: 4 1



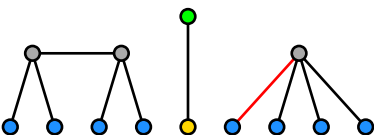
ID: 238 V_1^n
 n: 4 1



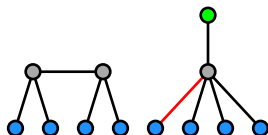
ID: 239 V_1^n
 n: 4 1



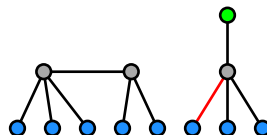
ID: 240 $V_1^{n-1} \boxtimes V_1$
 n: 4 1



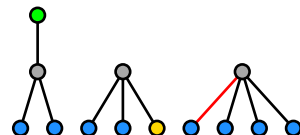
ID: 241 $V_1^{n-1} \boxtimes V_1$
 n: 4 1



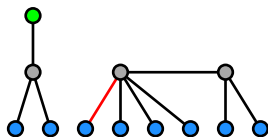
ID: 242 $V_1^{n-1} \boxtimes V_1$
 n: 4 1



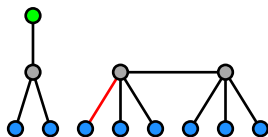
ID: 243 $V_1^{n-1} \boxtimes V_1$
 n: 4 1



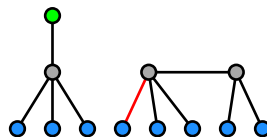
ID: 244 $V_1^{n-1} \boxtimes V_1$
 n: 4 1



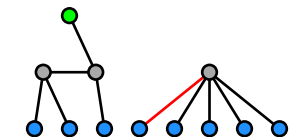
ID: 245 $V_1^{n-1} \boxtimes V_1$
 n: 4 1



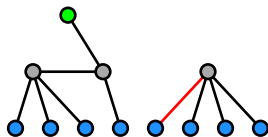
ID: 246 $V_1^{n-1} \boxtimes V_1$
 n: 4 1



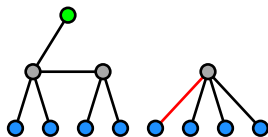
ID: 247 $V_1^{n-1} \boxtimes V_1$
 n: 4 1



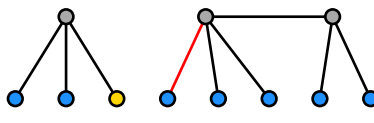
ID: 248 $V_1^{n-1} \boxtimes V_1$
 n: 4 1



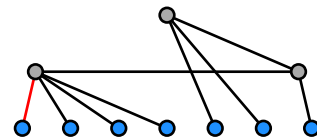
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 n: 4 1



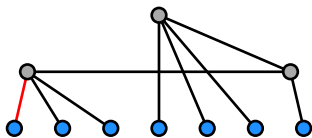
ID: 250 V_1^n
 n: 4 1



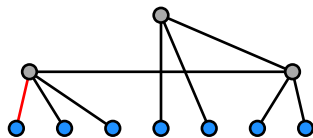
ID: 251 V_1^n
 n: 4 1



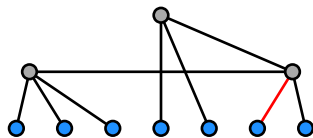
ID: 252 V_1^n
 n: 4 1



ID: 253 V_1^n
 n: 4 1

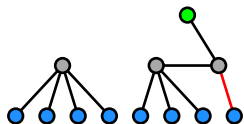


ID: 254 V_1^n
 n: 4 1

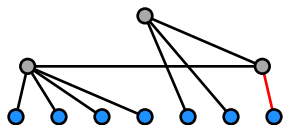


--- A2 case with weight 13 relations relation groups: 4 ---

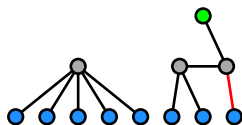
ID: 283 $V_1^{n-1} \boxtimes V_1$
n: 4 1



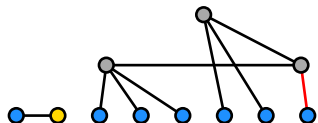
ID: 285 V_1^n
n: 4 1



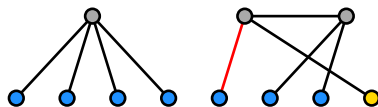
ID: 284 $V_1^{n-1} \boxtimes V_1$
n: 4 1



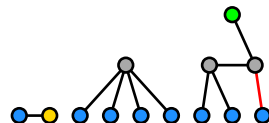
ID: 281 V_1^n
n: 4 1



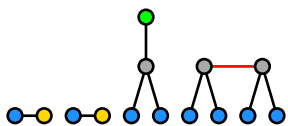
ID: 282 V_1^n
n: 4 1



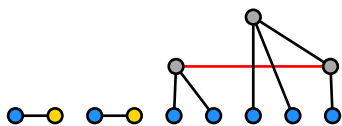
ID: 280 $V_1^{n-1} \boxtimes V_1$
n: 4 1



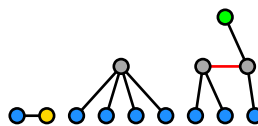
ID: 301 $V_1^{n-1} \boxtimes V_1$
n: 4 1



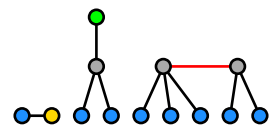
ID: 310 V_1^n
n: 4 1



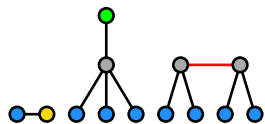
ID: 311 $V_1^{n-1} \boxtimes V_1$
n: 4 1



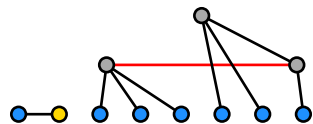
ID: 307 $V_1^{n-1} \boxtimes V_1$
n: 4 1



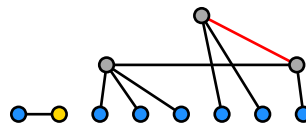
ID: 302 $V_1^{n-1} \boxtimes V_1$
n: 4 1



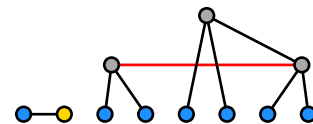
ID: 315 V_1^n
n: 4 1



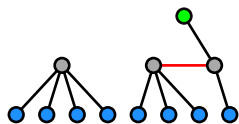
ID: 317 V_1^n
n: 4 1



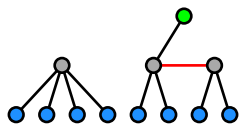
ID: 316 V_1^n
n: 4 1



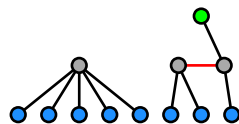
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n: 4 1



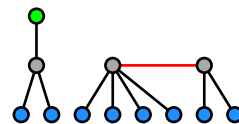
ID: 320 $V_1^{n-1} \boxtimes V_1$
n: 4 1



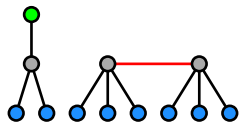
ID: 312 $V_1^{n-1} \boxtimes V_1$
n: 4 1



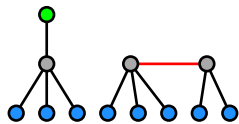
ID: 313 $V_1^{n-1} \boxtimes V_1$
n: 4 1



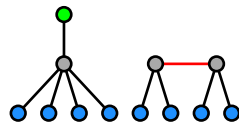
ID: 314 $V_1^{n-1} \boxtimes V_1$
n: 4 1



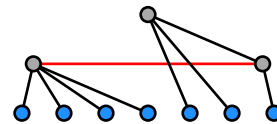
ID: 308 $V_1^{n-1} \boxtimes V_1$
n: 4 1



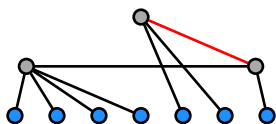
ID: 306 $V_1^{n-1} \boxtimes V_1$
n: 4 1



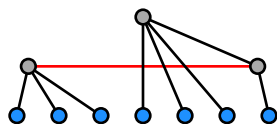
ID: 321 V_1^n
n: 4 1



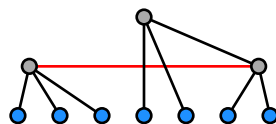
ID: 324 V_1^n
n: 4 1



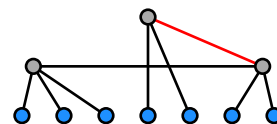
ID: 325 V_1^n
n: 4 1



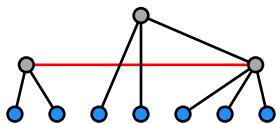
ID: 322 V_1^n
n: 4 1



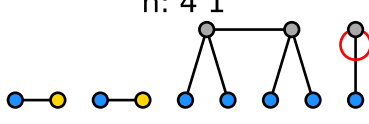
ID: 326 V_1^n
n: 4 1



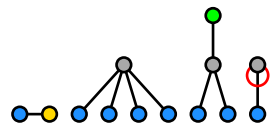
ID: 323 V_1^n
n: 4 1



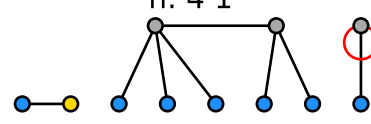
ID: 356 V_1^n
n: 4 1



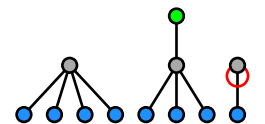
ID: 357 $V_1^{n-1} \boxtimes V_1$
n: 4 1



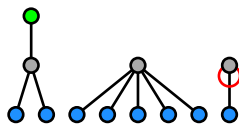
ID: 358 V_1^n
n: 4 1



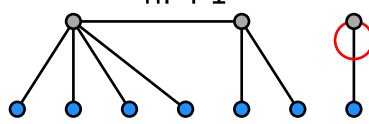
ID: 359 $V_1^{n-1} \boxtimes V_1$
n: 4 1



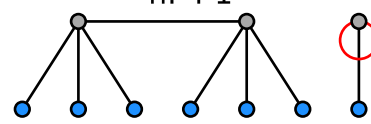
ID: 361 $V_1^{n-1} \boxtimes V_1$
n: 4 1



ID: 362 V_1^n
n: 4 1



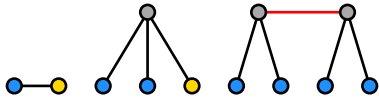
ID: 363 V_1^n
n: 4 1



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

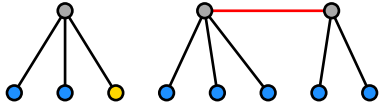
ID: 303 V_1^n

n: 4 1



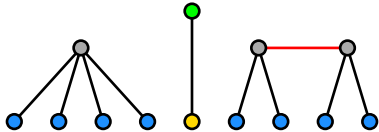
ID: 309 V_1^n

n: 4 1



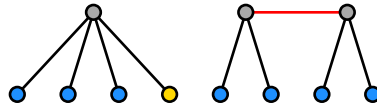
ID: 305 $V_1^{n-1} \boxtimes V_1$

n: 4 1



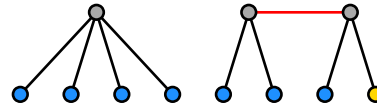
ID: 304 V_1^n

n: 4 1



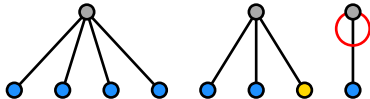
ID: 318 V_1^n

n: 4 1



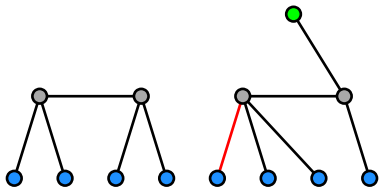
ID: 360 V_1^n

n: 4 1

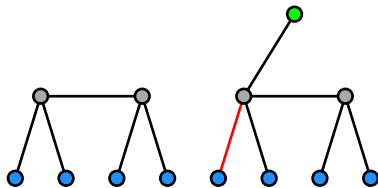


----- edges: 13-n graphs: 178 -----
 --- A3 case graphs: 34 ---

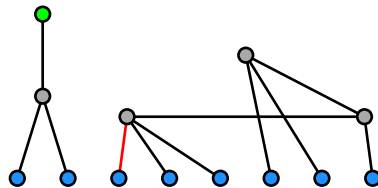
ID: 392 $V_{1^{n-1}} \boxtimes V_1$
 n: 4 1



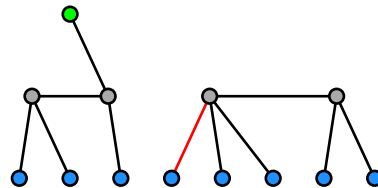
ID: 393 $V_{1^{n-1}} \boxtimes V_1$
 n: 4 1



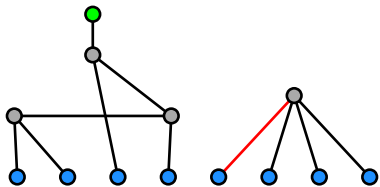
ID: 394 $V_{1^{n-1}} \boxtimes V_1$
 n: 4 1



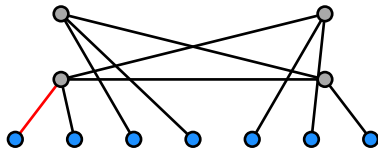
ID: 395 $V_{1^{n-1}} \boxtimes V_1$
 n: 4 1



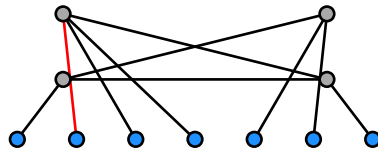
ID: 396 $V_{1^{n-1}} \boxtimes V_1$
 n: 4 1



ID: 397 V_{1^n}
 n: 4 1

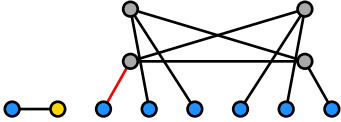


ID: 398 V_{1^n}
 n: 4 1

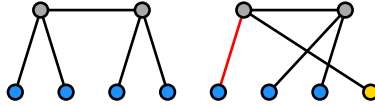


--- A2 case with weight 13 relations relation groups: 8 ---

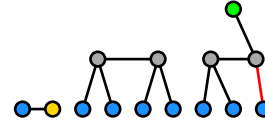
ID: 434 V_1^n
n: 4 1



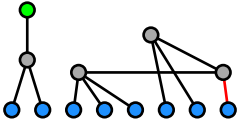
ID: 437 V_1^n
n: 4 1



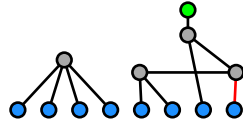
ID: 433 $V_1^{n-1} \boxtimes V_1$
n: 4 1



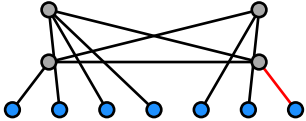
ID: 440 $V_1^{n-1} \boxtimes V_1$
n: 4 1



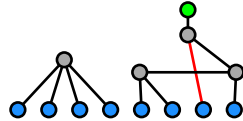
ID: 436 $V_1^{n-1} \boxtimes V_1$
n: 4 1



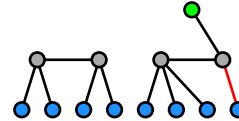
ID: 443 V_1^n
n: 4 1



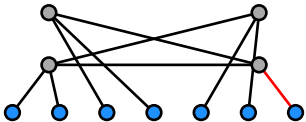
ID: 435 $V_1^{n-1} \boxtimes V_1$
n: 4 1



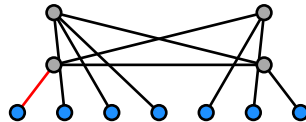
ID: 438 $V_1^{n-1} \boxtimes V_1$
n: 4 1



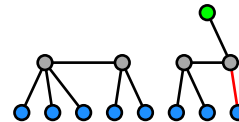
ID: 441 V_1^n
n: 4 1



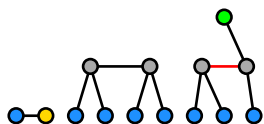
ID: 442 V_1^n
n: 4 1



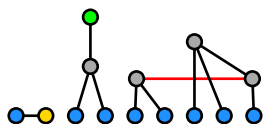
ID: 439 $V_1^{n-1} \boxtimes V_1$
n: 4 1



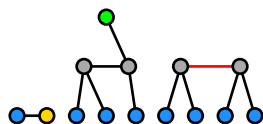
ID: 491 $V_1^{n-1} \boxtimes V_1$
n: 4 1



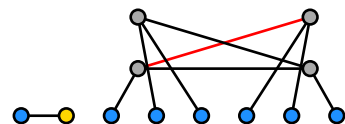
ID: 488 $V_1^{n-1} \boxtimes V_1$
n: 4 1



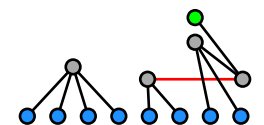
ID: 481 $V_1^{n-1} \boxtimes V_1$
n: 4 1



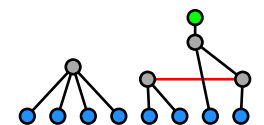
ID: 496 V_1^n
n: 4 1



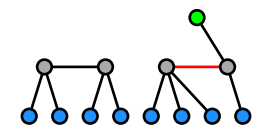
ID: 500 $V_1^{n-1} \boxtimes V_1$
n: 4 1



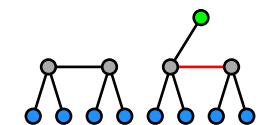
ID: 501 $V_1^{n-1} \boxtimes V_1$
n: 4 1



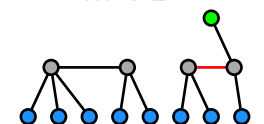
ID: 498 $V_1^{n-1} \boxtimes V_1$
n: 4 1



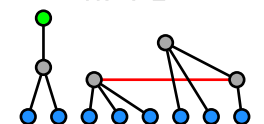
ID: 499 $V_1^{n-1} \boxtimes V_1$
n: 4 1



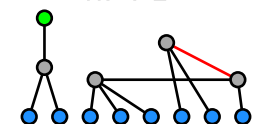
ID: 492 $V_1^{n-1} \boxtimes V_1$
n: 4 1



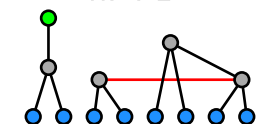
ID: 493 $V_1^{n-1} \boxtimes V_1$
n: 4 1



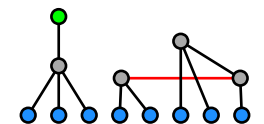
ID: 495 $V_1^{n-1} \boxtimes V_1$
n: 4 1



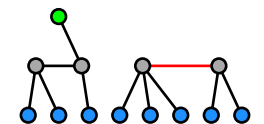
ID: 494 $V_1^{n-1} \boxtimes V_1$
n: 4 1



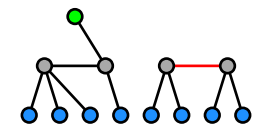
ID: 489 $V_1^{n-1} \boxtimes V_1$
n: 4 1



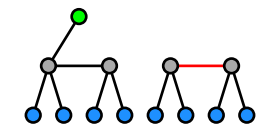
ID: 487 $V_1^{n-1} \boxtimes V_1$
n: 4 1



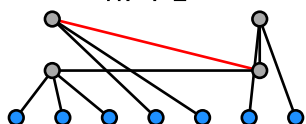
ID: 485 $V_1^{n-1} \boxtimes V_1$
n: 4 1



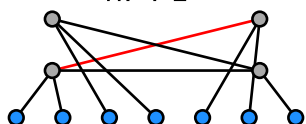
ID: 486 $V_1^{n-1} \boxtimes V_1$
n: 4 1



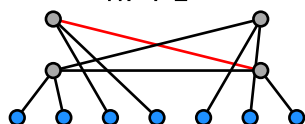
ID: 502 V_1^n
n: 4 1



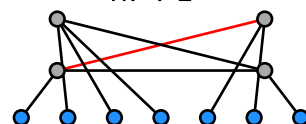
ID: 503 V_1^n
n: 4 1



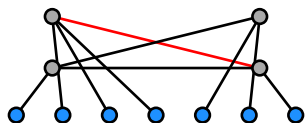
ID: 505 V_1^n
n: 4 1



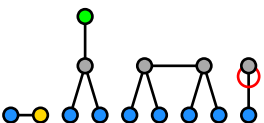
ID: 506 V_1^n
n: 4 1



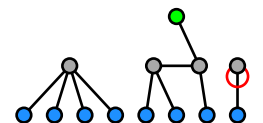
ID: 504 V_1^n
n: 4 1



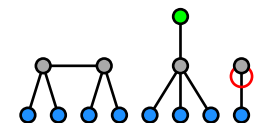
ID: 538 $V_1^{n-1} \boxtimes V_1$
n: 4 1



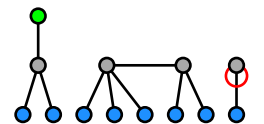
ID: 539 $V_1^{n-1} \boxtimes V_1$
n: 4 1



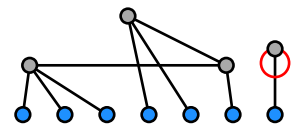
ID: 540 $V_1^{n-1} \boxtimes V_1$
n: 4 1



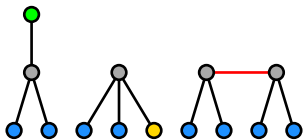
ID: 542 $V_1^{n-1} \boxtimes V_1$
n: 4 1



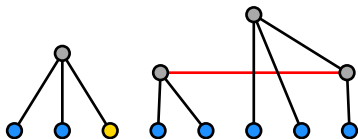
ID: 543 V_1^n
n: 4 1



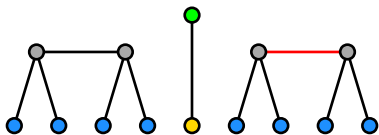
ID: 484 $V_{1^{n-1}} \boxtimes V_1$
n: 4 1



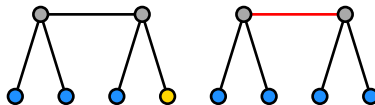
ID: 490 V_{1^n}
n: 4 1



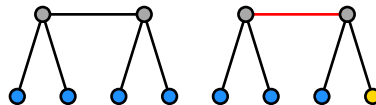
ID: 483 $V_{1^{n-1}} \boxtimes V_1$
n: 4 1



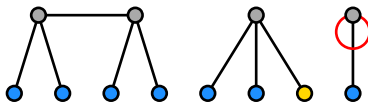
ID: 482 V_{1^n}
n: 4 1



ID: 497 V_{1^n}
n: 4 1

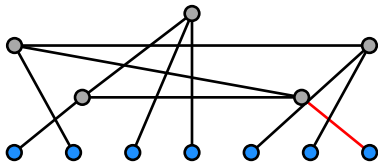


ID: 541 V_{1^n}
n: 4 1

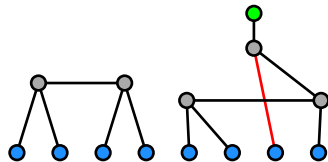


----- edges: 14-n graphs: 73 -----
 --- A2 case with weight 13 relations relation groups: 6 ---

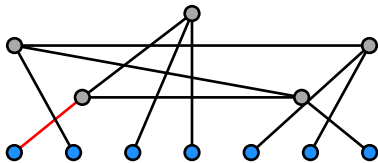
ID: 574 V_{1^n}
 n: 4 1



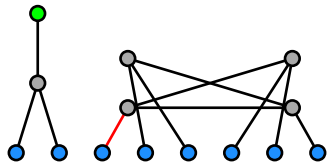
ID: 570 $V_{1^{n-1}} \boxtimes V_1$
 n: 4 1



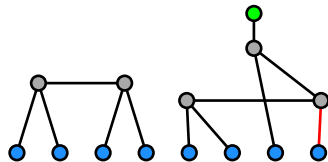
ID: 573 V_{1^n}
 n: 4 1



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

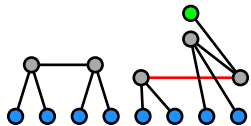


ID: 571 $V_{1^{n-1}} \boxtimes V_1$
 n: 4 1

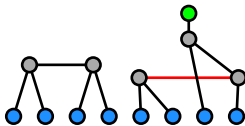


--- B,Birr cases without weight 11 relations graphs: 43 ---

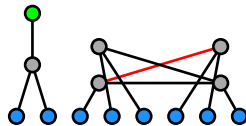
ID: 603 $V_1^{n-1} \boxtimes V_1$
n: 4 1



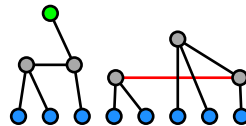
ID: 604 $V_1^{n-1} \boxtimes V_1$
n: 4 1



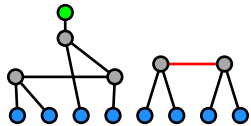
ID: 602 $V_1^{n-1} \boxtimes V_1$
n: 4 1



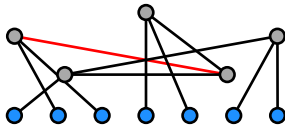
ID: 601 $V_1^{n-1} \boxtimes V_1$
n: 4 1



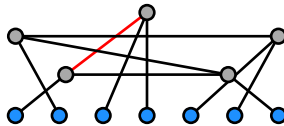
ID: 600 $V_1^{n-1} \boxtimes V_1$
n: 4 1



ID: 605 V_1^n
n: 4 1



ID: 606 V_1^n
n: 4 1



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

