Euler Characteristic (without resolving relations):

$$-2V_{1^{10}}+1V_{1^9}\boxtimes V_1-1V_{1^8}\boxtimes V_{1^2}+3V_{1^8}\boxtimes V_1\boxtimes V_1+1V_{1^7}\boxtimes V_3-2V_{1^7}\boxtimes V_1\boxtimes V_2-1V_{1^7}\boxtimes V_1\boxtimes V_1\boxtimes V_1$$

edges: 2   graphs: 9

A3 case   graphs: 4

1.0

0.5

−0.5

−1.0

−1.0   −0.5   0.5   1.0

------- A2 case with weight 13 relations   relation groups: 1 -------
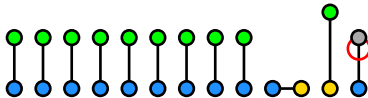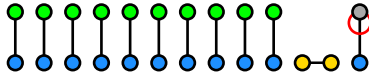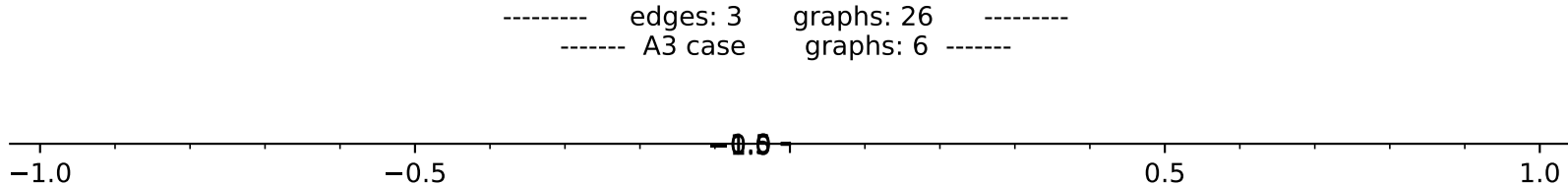
------- B,Birr cases with weight 11 relations   relation groups: 1 -------

ID: 348 $V_1{}^9 \boxtimes V_1$

ID: 346 $V_1{}^{10}$

--------- edges: 3   graphs: 26   ---------
------- A3 case   graphs: 6 -------
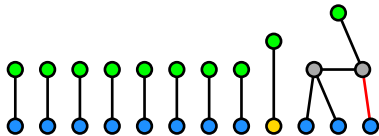
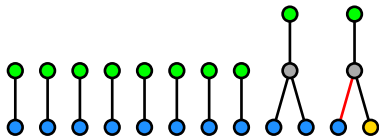−1.0   −0.5   0.0   0.5   1.0

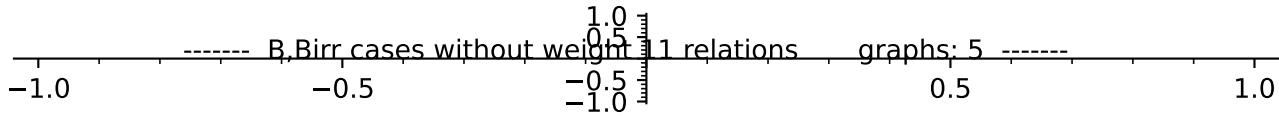------- A2 case with weight 13 relations   relation groups: 4 -------

ID: 407 $V_{1^8} \boxtimes V_1 \boxtimes V_1$
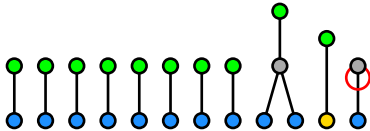

ID: 405 $V_{1^8} \boxtimes V_1 \boxtimes V_1$

------- B,Birr cases without weight 11 relations   graphs: 5 -------
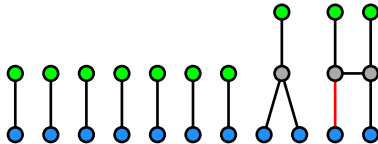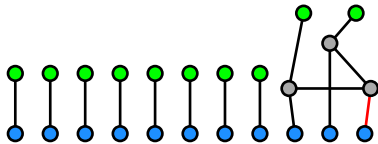
ID: 523 $V_{1^8} \boxtimes V_1 \boxtimes V_1$

--------- edges: 4   graphs: 20   ---------
------- A2 case with weight 13 relations   relation groups: 3 -------

ID: 555 $V_{1^8} \boxtimes V_{1^2}$

ID: 549 $V_{1^7} \boxtimes V_1 \boxtimes V_1 \boxtimes V_1$

ID: 610 $V_{1^7} \boxtimes V_1 \boxtimes V_2$