

----- g,n: 8,2 graphs: 105 eliminated: 99 ----- Euler Characteristic (without resolving relations):
 ----- $-2V_1^2 - 4V_1 \boxtimes V_1 + 1V_0 \boxtimes V_2 + 2V_0 \boxtimes V_1 \boxtimes V_1$ -----
 ----- edges: 8 graphs: 6 -----
 ----- A3 case graphs: 6 -----

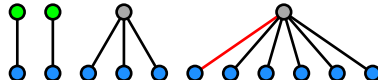
ID: 23 V_1^2
 \mapsto ID 46



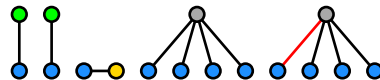
ID: 24 V_1^2
 \mapsto ID 34



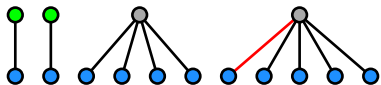
ID: 25 V_1^2
 \mapsto ID 39



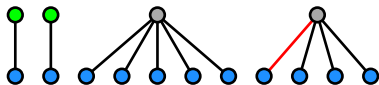
ID: 26 V_1^2
 \mapsto ID 41



ID: 27 V_1^2
 \mapsto ID 44

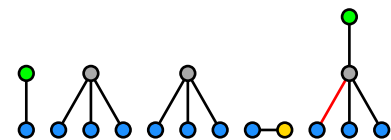


ID: 28 V_1^2
 \mapsto ID 45

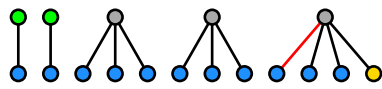


----- edges: 9 graphs: 28 -----
 ----- A3 case graphs: 17 -----

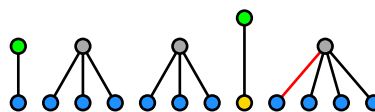
ID: 29 $V_1 \boxtimes V_1$
 \mapsto ID 78



ID: 30 V_1^2
 \mapsto ID 73



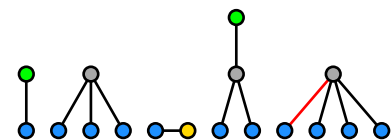
ID: 31 $V_1 \boxtimes V_1$
 \mapsto ID 77



ID: 32 $V_1 \boxtimes V_1$
 \mapsto ID 61



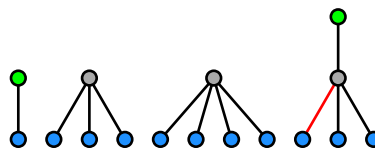
ID: 33 $V_1 \boxtimes V_1$
 \mapsto ID 82



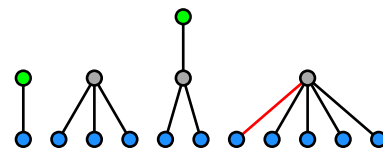
ID: 34 V_1^2
 \mapsto ID 24



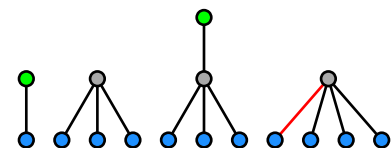
ID: 35 $V_1 \boxtimes V_1$
 \mapsto ID 62



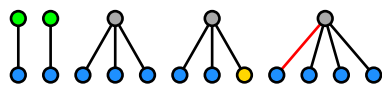
ID: 36 $V_1 \boxtimes V_1$
 \mapsto ID 64



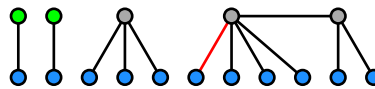
ID: 37 $V_1 \boxtimes V_1$
 \mapsto ID 65



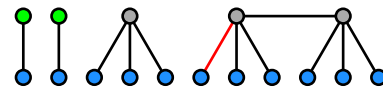
ID: 38 V_1^2
 \mapsto ID 84



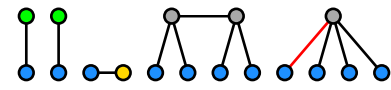
ID: 39 V_1^2
 \mapsto ID 25



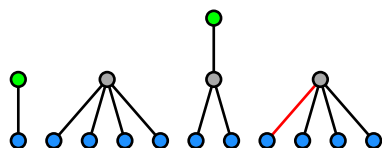
ID: 40 V_1^2
 \mapsto ID 66



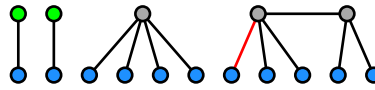
ID: 41 V_1^2
 \mapsto ID 26



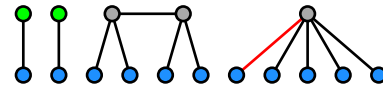
ID: 42 $V_1 \boxtimes V_1$
 \mapsto ID 67



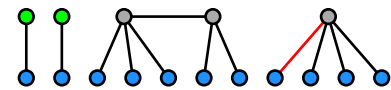
ID: 43 V_1^2
 \mapsto ID 68



ID: 44 V_1^2
 \mapsto ID 27



ID: 45 V_1^2
 \mapsto ID 28



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

ID: 46 V_{1^2}
 \leftrightarrow ID 23



ID: 47 V_{1^2}
 \mapsto ID 86



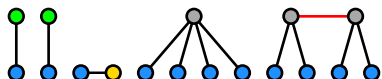
ID: 48 V_{1^2}
 \mapsto ID 89



ID: 49 V_{1^2}
 \mapsto ID 88



ID: 50 V_{1^2}
 \mapsto ID 91



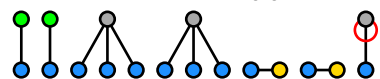
ID: 52 V_{1^2}
 \mapsto ID 94



ID: 51 V_{1^2}
 \mapsto ID 93



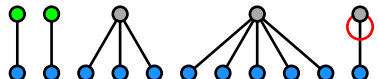
ID: 53 V_{1^2}
 \mapsto ID 100



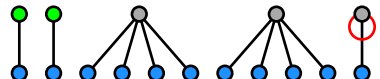
ID: 54 V_{1^2}
 \mapsto ID 101



ID: 55 V_{1^2}
 \mapsto ID 103

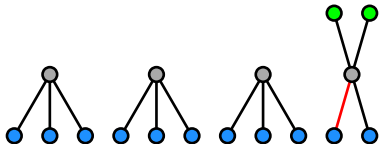


ID: 56 V_{1^2}
 \mapsto ID 104

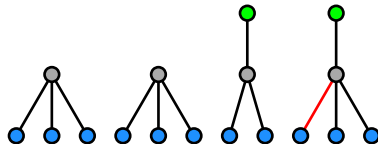


----- edges: 10 graphs: 48 -----
 ----- A3 case graphs: 12 -----

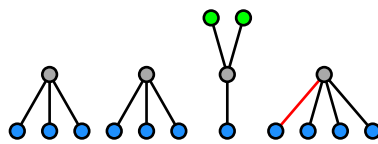
ID: 57 V_2
 \mapsto ID 113



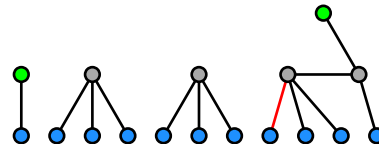
ID: 58 $V_1 \boxtimes V_1$
 \mapsto ID 115



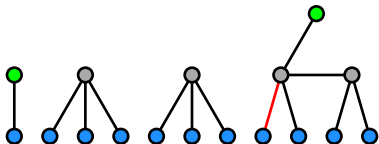
ID: 59 V_2
 \mapsto ID 114



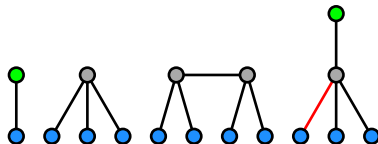
ID: 60 $V_1 \boxtimes V_1$
 \mapsto ID 110



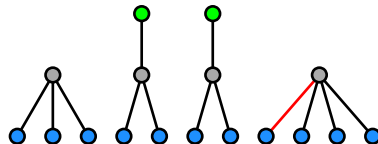
ID: 61 $V_1 \boxtimes V_1$
 \leftarrow ID 32



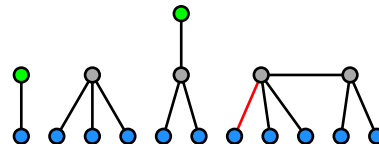
ID: 62 $V_1 \boxtimes V_1$
 \leftarrow ID 35



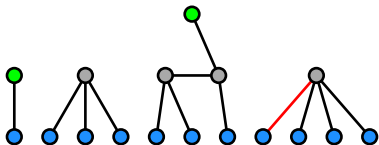
ID: 63 V_2
 \mapsto ID 118



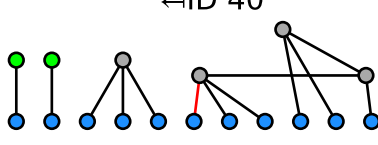
ID: 64 $V_1 \boxtimes V_1$
 \leftarrow ID 36



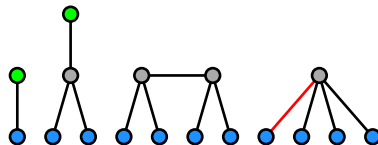
ID: 65 $V_1 \boxtimes V_1$
 \leftarrow ID 37



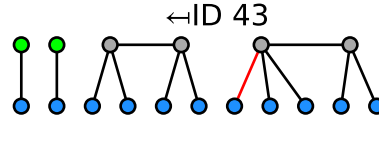
ID: 66 V_1^2
 \leftarrow ID 40



ID: 67 $V_1 \boxtimes V_1$
 \leftarrow ID 42



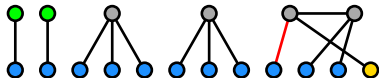
ID: 68 V_1^2
 \leftarrow ID 43



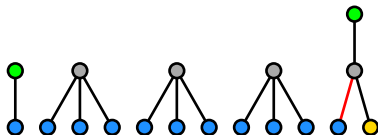
----- A2 case with weight 13 relations

relation groups: 2 -----

ID: 73 V_1^2
← ID 30



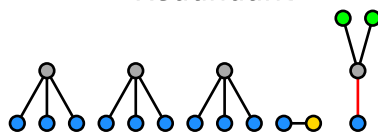
ID: 70 $V_1 \boxtimes V_1$



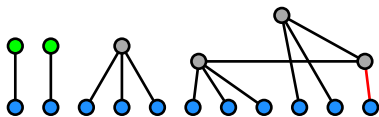
ID: 71 $V_1 \boxtimes V_1$
Redundant



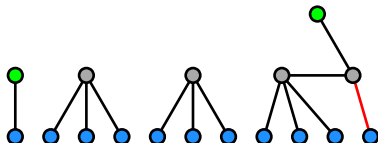
ID: 69 V_2
Redundant



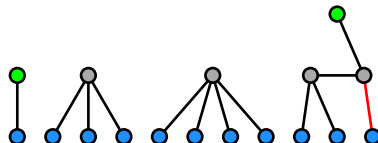
ID: 76 V_1^2
→ ID 112



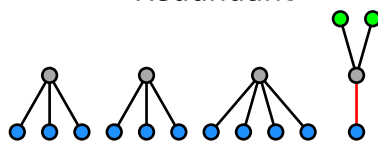
ID: 74 $V_1 \boxtimes V_1$
→ ID 109



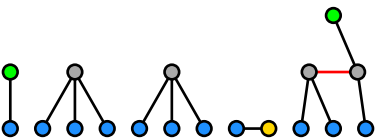
ID: 75 $V_1 \boxtimes V_1$
Redundant



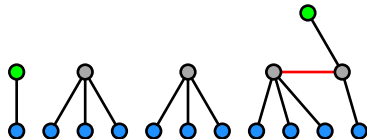
ID: 72 V_2
Redundant



ID: 78 $V_1 \boxtimes V_1$
 \leftrightarrow ID 29



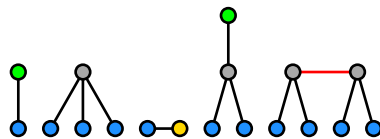
ID: 80 $V_1 \boxtimes V_1$
 \mapsto ID 116



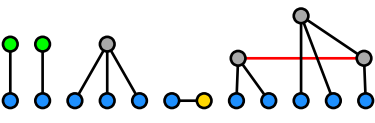
ID: 81 $V_1 \boxtimes V_1$
 \mapsto ID 117



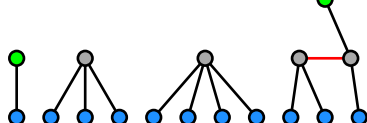
ID: 82 $V_1 \boxtimes V_1$
 \leftrightarrow ID 33



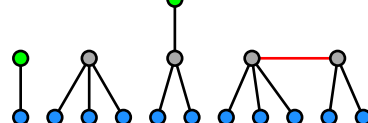
ID: 86 V_1^2
 \leftrightarrow ID 47



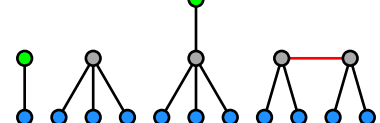
ID: 87 $V_1 \boxtimes V_1$
 \mapsto ID 121



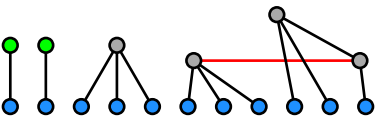
ID: 85 $V_1 \boxtimes V_1$
 \mapsto ID 120



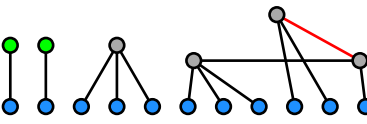
ID: 83 $V_1 \boxtimes V_1$
 \mapsto ID 119



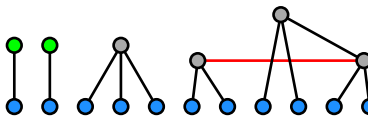
ID: 88 V_1^2
 \leftrightarrow ID 49



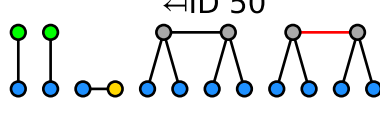
ID: 90 V_1^2
 \mapsto ID 122



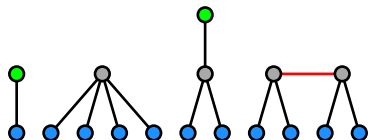
ID: 89 V_1^2
 \leftrightarrow ID 48



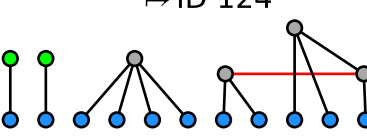
ID: 91 V_1^2
 \leftrightarrow ID 50



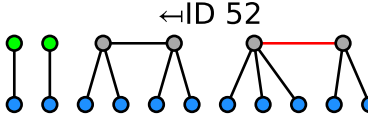
ID: 92 $V_1 \boxtimes V_1$
 \mapsto ID 123



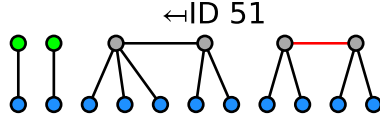
ID: 95 V_1^2
 \mapsto ID 124



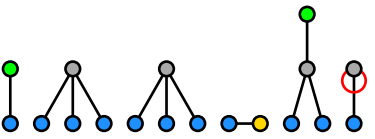
ID: 94 V_1^2
 \leftrightarrow ID 52



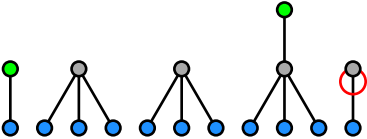
ID: 93 V_1^2
 \leftrightarrow ID 51



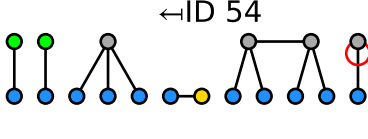
ID: 98 $V_1 \boxtimes V_1$



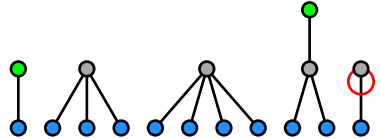
ID: 99 $V_1 \boxtimes V_1$
 \mapsto ID 127



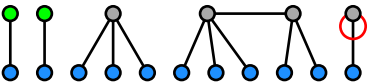
ID: 101 V_1^2
 \leftrightarrow ID 54



ID: 102 $V_1 \boxtimes V_1$
 \mapsto ID 128



ID: 103 V_1^2
 \leftrightarrow ID 55

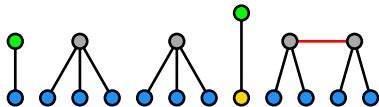


ID: 104 V_1^2
 \leftrightarrow ID 56

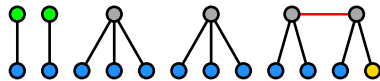


----- B,Birr cases with weight 11 relations relation groups: 2 -----

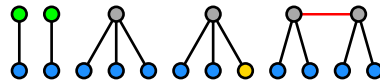
ID: 77 $V_1 \boxtimes V_1$
 \leftarrow ID 31



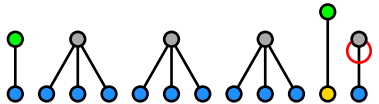
ID: 79 V_1^2
 Redundant



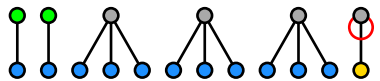
ID: 84 V_1^2
 \leftarrow ID 38



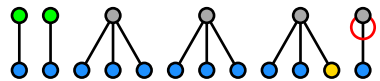
ID: 97 $V_1 \boxtimes V_1$



ID: 96 V_1^2
 Redundant

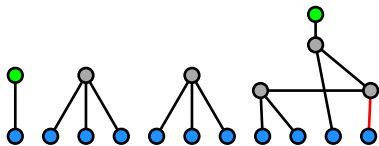


ID: 100 V_1^2
 \leftarrow ID 53

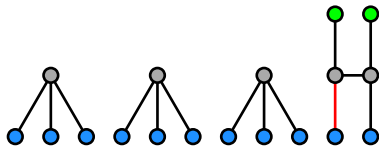


----- edges: 11 graphs: 23 -----
 ----- A2 case with weight 13 relations relation groups: 2 -----

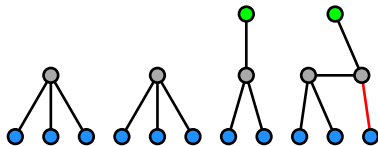
ID: 110 $V_1 \boxtimes V_1$
 \leftarrow ID 60



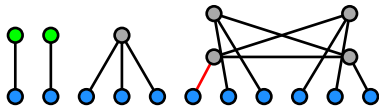
ID: 106 $V_1 \boxtimes V_1$



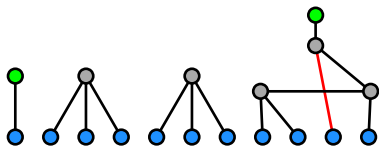
ID: 108 $V_1 \boxtimes V_1$
 Redundant



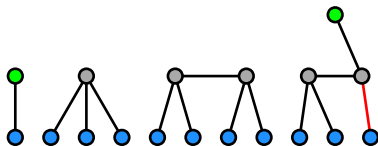
ID: 112 V_1^2
 \leftarrow ID 76



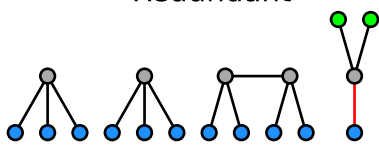
ID: 109 $V_1 \boxtimes V_1$
 \leftarrow ID 74



ID: 111 $V_1 \boxtimes V_1$
 Redundant

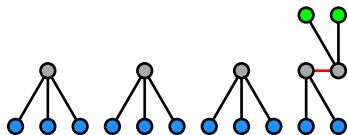


ID: 107 V_2
 Redundant

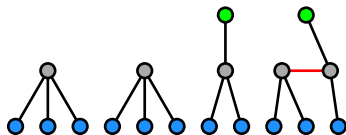


----- B,Birr cases without weight 11 relations graphs: 16 -----

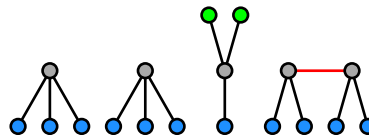
ID: 113 V_2
↔ID 57



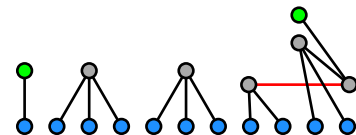
ID: 115 $V_1 \boxtimes V_1$
↔ID 58



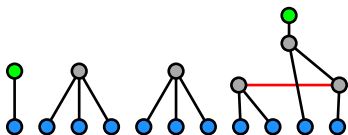
ID: 114 V_2
↔ID 59



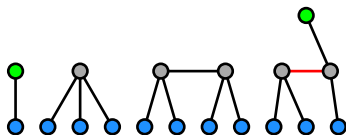
ID: 116 $V_1 \boxtimes V_1$
↔ID 80



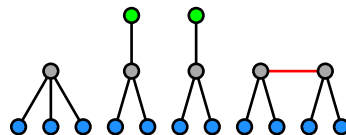
ID: 117 $V_1 \boxtimes V_1$
↔ID 81



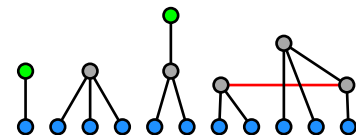
ID: 121 $V_1 \boxtimes V_1$
↔ID 87



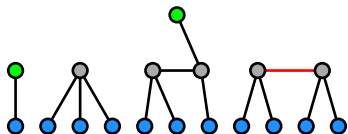
ID: 118 V_2
↔ID 63



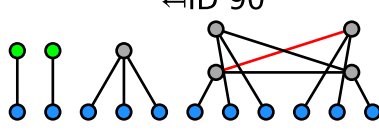
ID: 120 $V_1 \boxtimes V_1$
↔ID 85



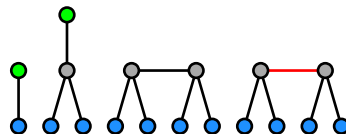
ID: 119 $V_1 \boxtimes V_1$
↔ID 83



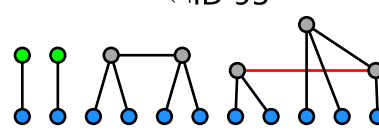
ID: 122 V_1^2
↔ID 90



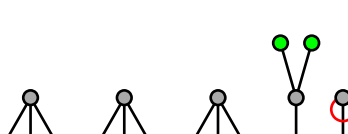
ID: 123 $V_1 \boxtimes V_1$
↔ID 92



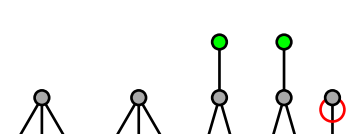
ID: 124 V_1^2
↔ID 95



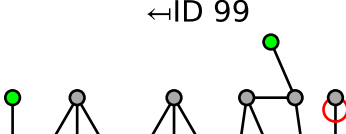
ID: 125 V_2



ID: 126 V_2



ID: 127 $V_1 \boxtimes V_1$
↔ID 99



ID: 128 $V_1 \boxtimes V_1$
↔ID 102

