

OEIS A002494

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ABSTRACT. Sequence A002494 counts unlabeled simple graphs on n nodes without isolated nodes, which means the degree of each node is at least 1. Simple means: no loops (edges that connect a node with itself), no multiedges.

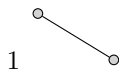
1. INTRODUCTION

Sequence [1, A002494] counts 1, 2, 7, 23, ... simple graphs on $n = 2, 3, \dots$ nodes where the degree of each node is ≥ 1 . The subset of connected graphs is [1, A001349], which implies the subset of graphs with more than one component is [1, A327075].

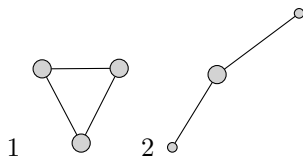
If the nodes are labeled (graphs counted with the multiplicity of $n!/|Aut(G)|$), sequence A006129 ensues.

Graphs with more than one component are placed in frames. The nodes are symbolized by grey circles with a diameter growing with the degree (just as an aid to visualize the symmetries).

2. 1 GRAPH ON 2 NODES



3. 2 GRAPHS ON 3 NODES

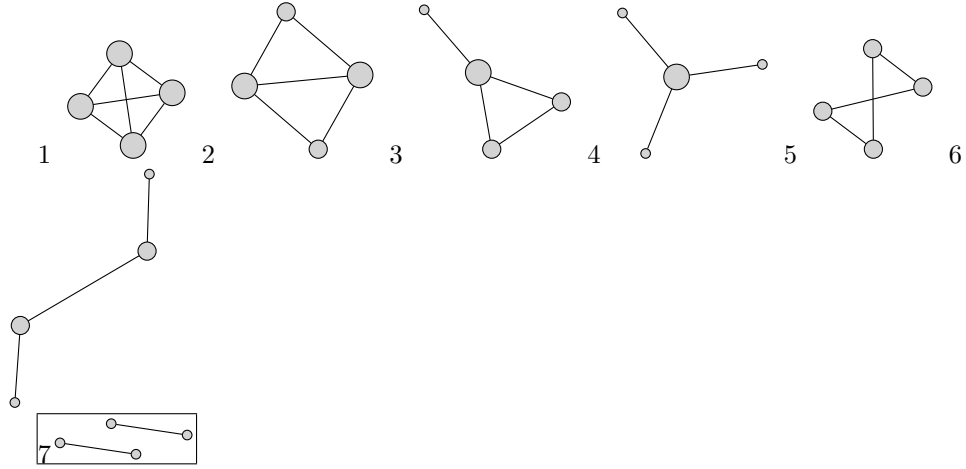


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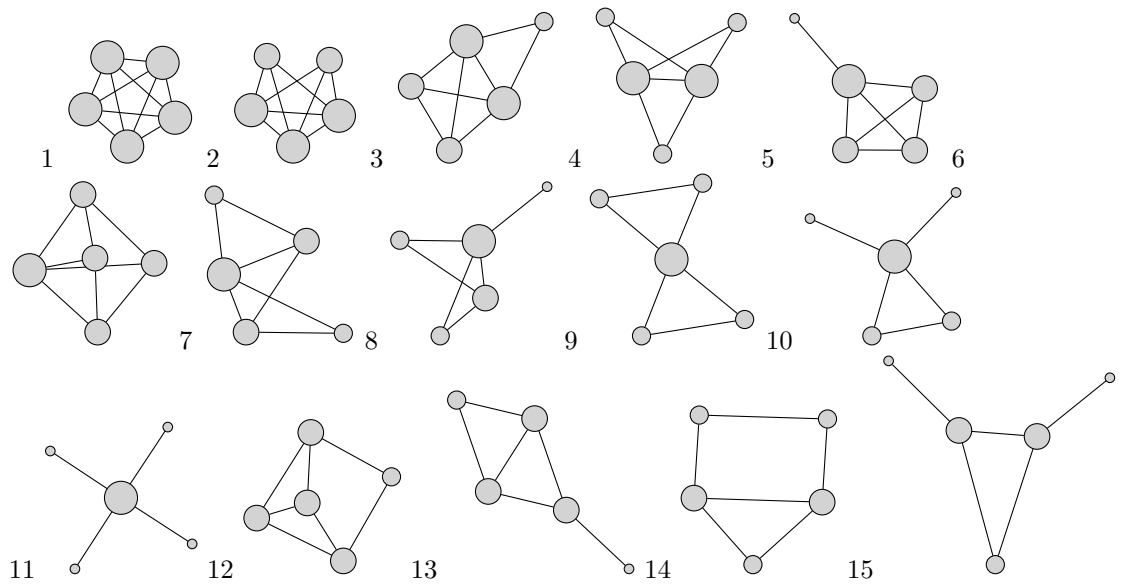
2020 Mathematics Subject Classification. Primary 05C30; Secondary 05C75, 81Q15.

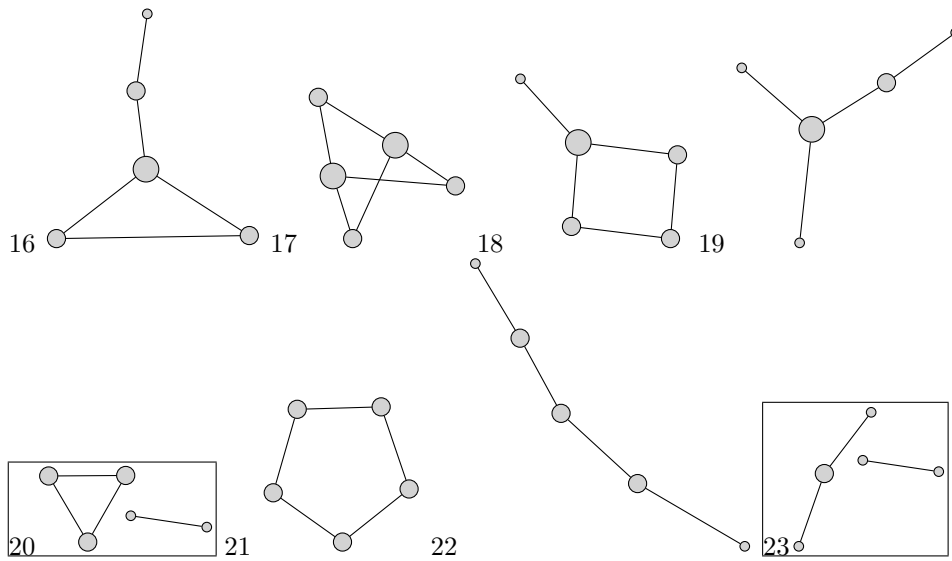
Key words and phrases. Simple Unlabeled Graphs.

4. 7 GRAPHS (6 CONNECTED) ON 4 NODES

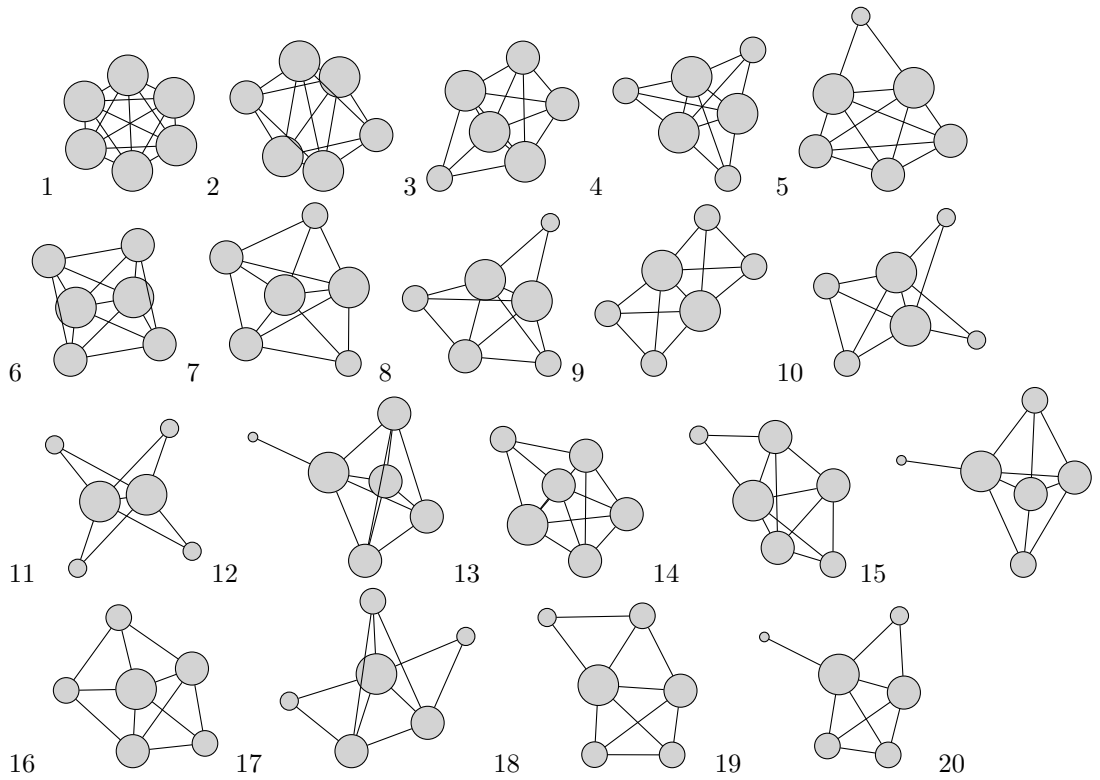


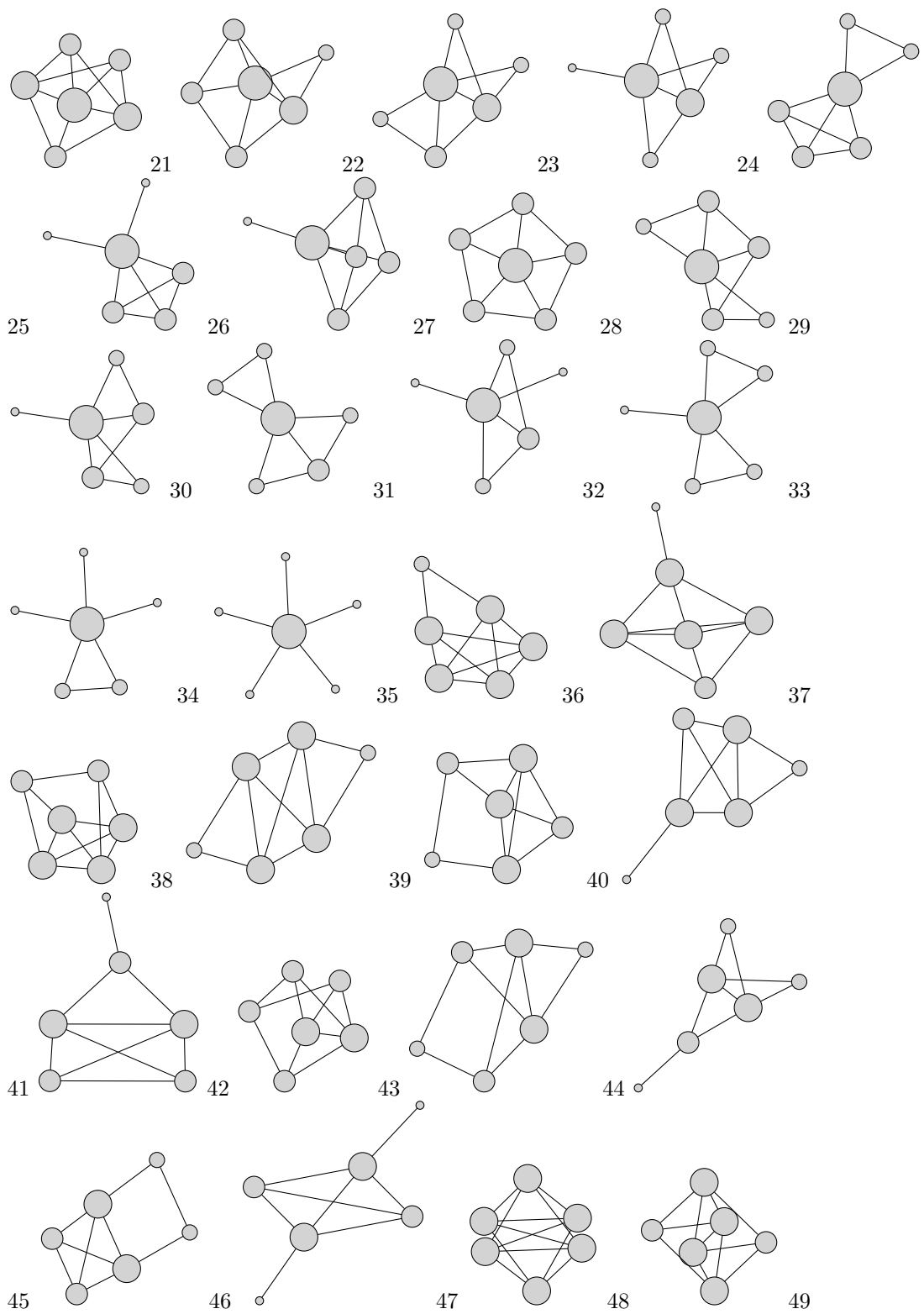
5. 23 GRAPHS (21 CONNECTED) ON 5 NODES

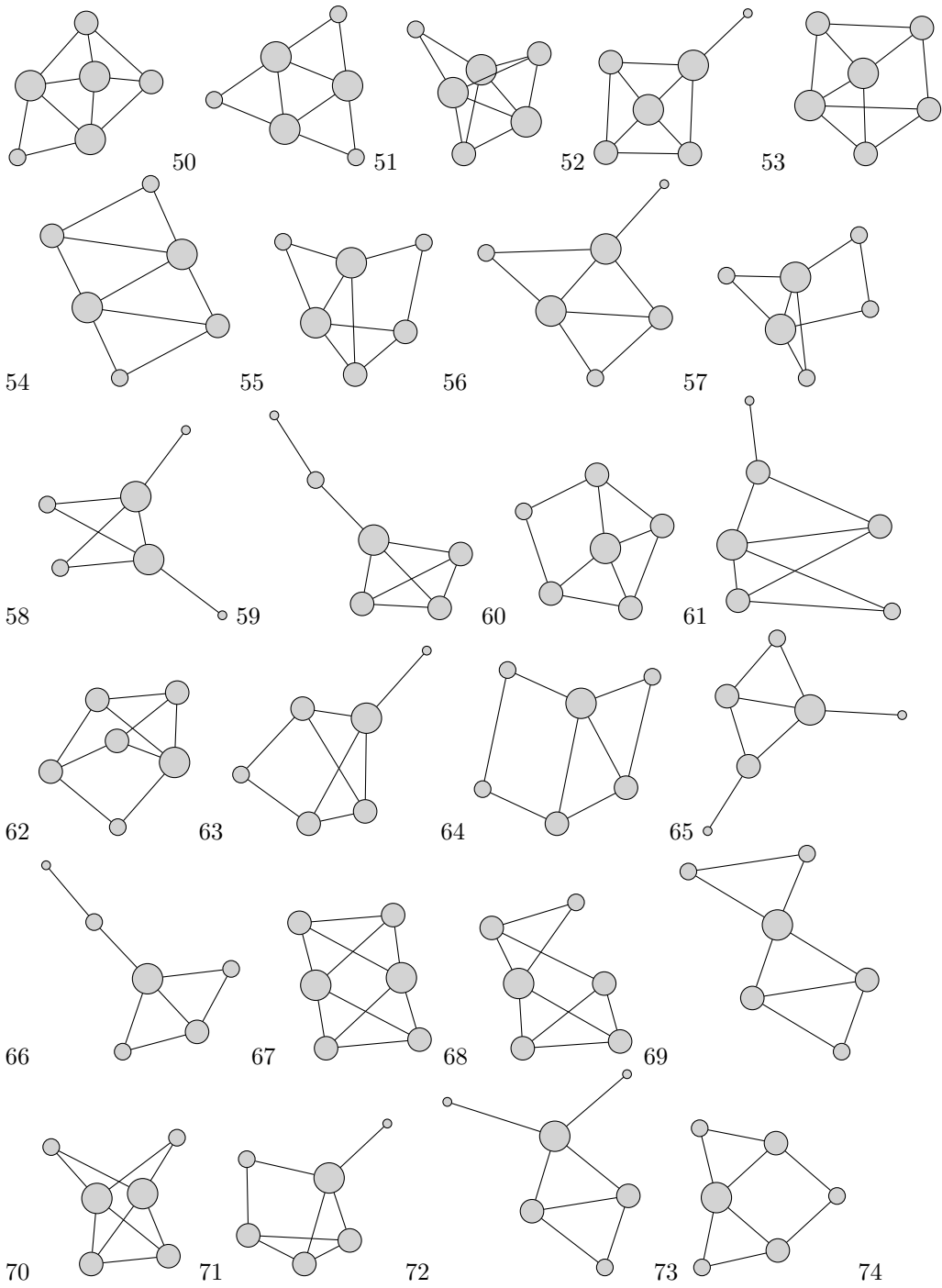


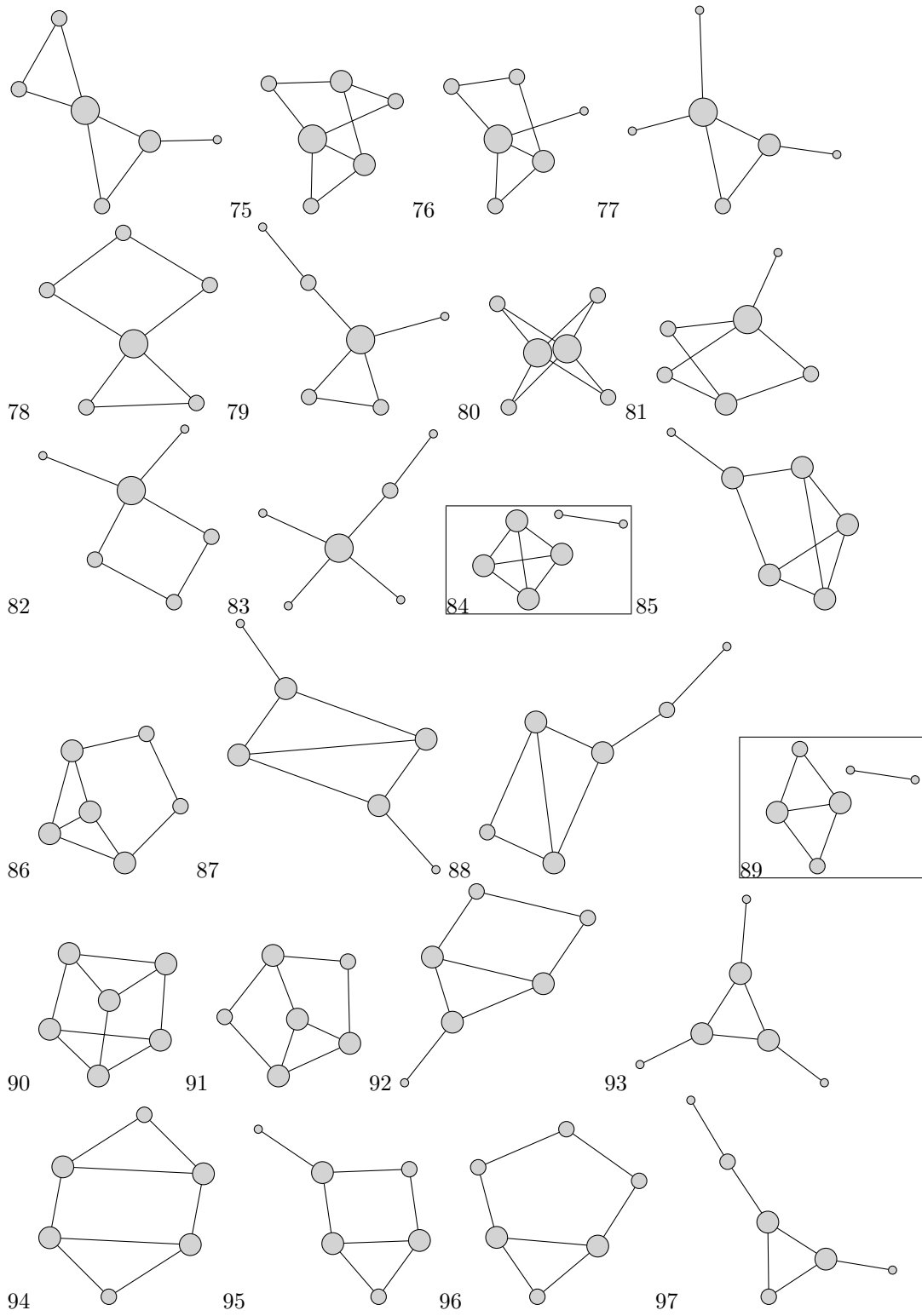


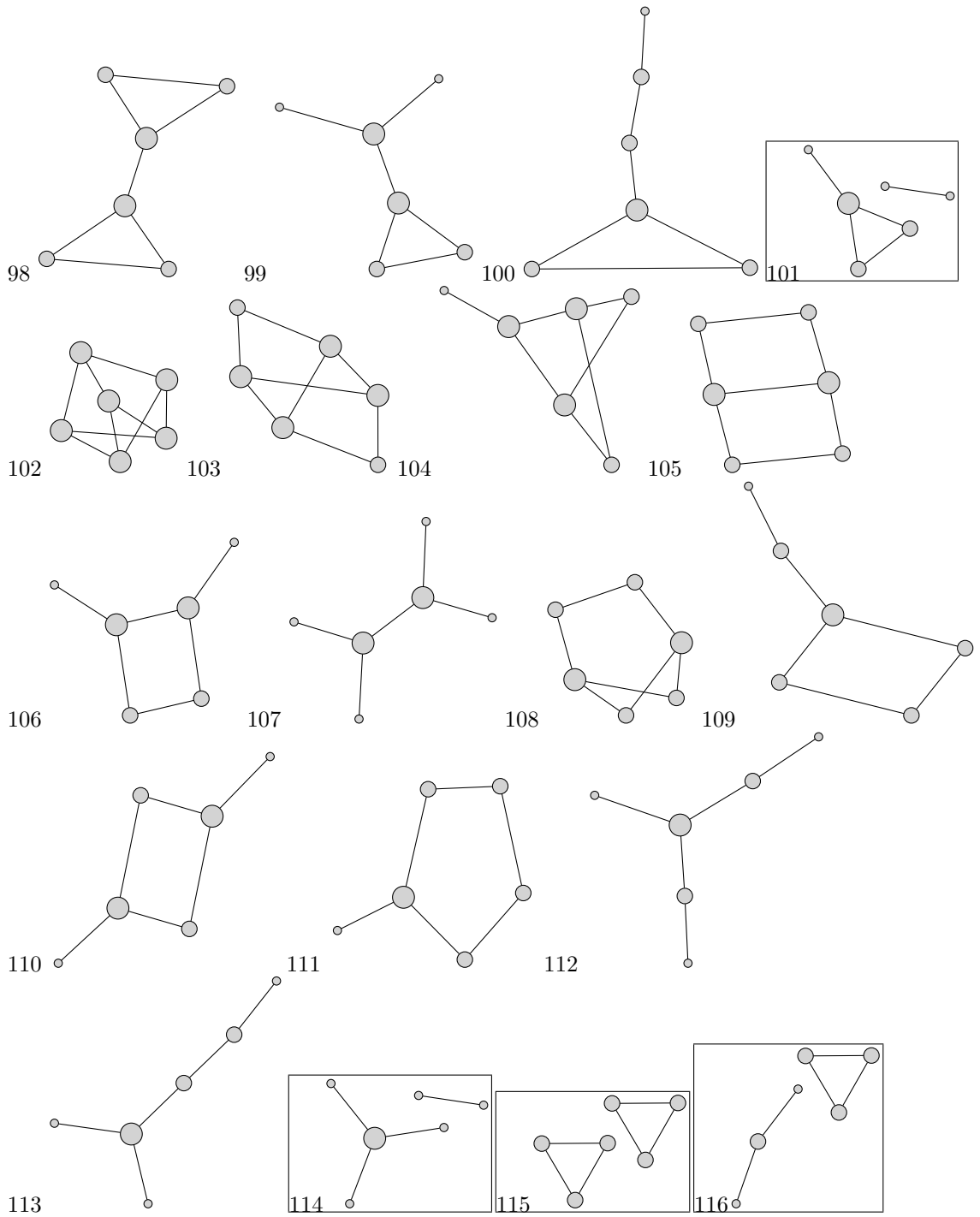
6. 122 GRAPHS (112 CONNECTED) ON 6 NODES

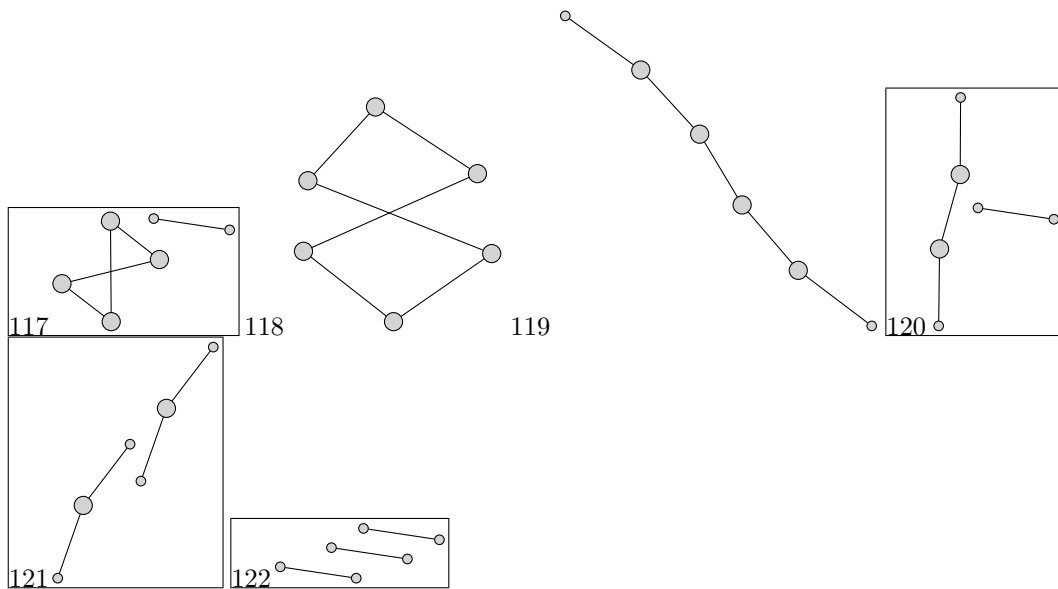












REFERENCES

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URL: <https://www.mpia-hd.mpg.de/homes/mathar>

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