

CUBIC MULTIGRAPHS A000421

RICHARD J. MATHAR

ABSTRACT. These are illustrations of the undirected connected loopless cubic (3-regular) multigraphs up to 12 vertices as counted in [1, A000421].

1. TWO VERTICES



2. 4 VERTICES

2.1. **0 multiedges.** (1 graphs)



2.2. **2 multiedges.** (1 graphs)



Total: 2 graphs

3. 6 VERTICES

3.1. **0 multiedges.** (2 graphs)



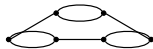
3.2. **1 multiedges.** (1 graphs)



3.3. **2 multiedges.** (2 graphs)



3.4. **3 multiedges.** (1 graphs)



Total: 6 graphs

Date: November 12, 2018.

2010 Mathematics Subject Classification. Primary 05C30; Secondary 05C20, 05C75.

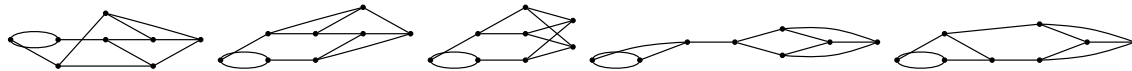
Key words and phrases. Graph Enumeration, Combinatorics.

4. 8 VERTICES

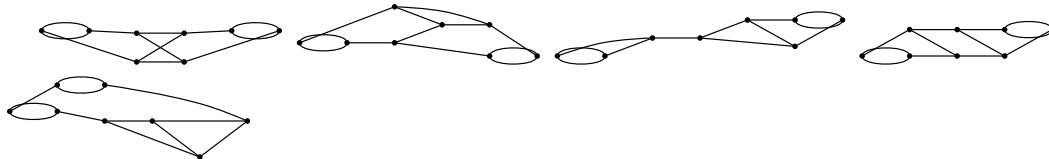
4.1. 0 multiedges. (5 graphs)



4.2. 1 multiedges. (5 graphs)



4.3. 2 multiedges. (5 graphs)



4.4. 3 multiedges. (4 graphs)



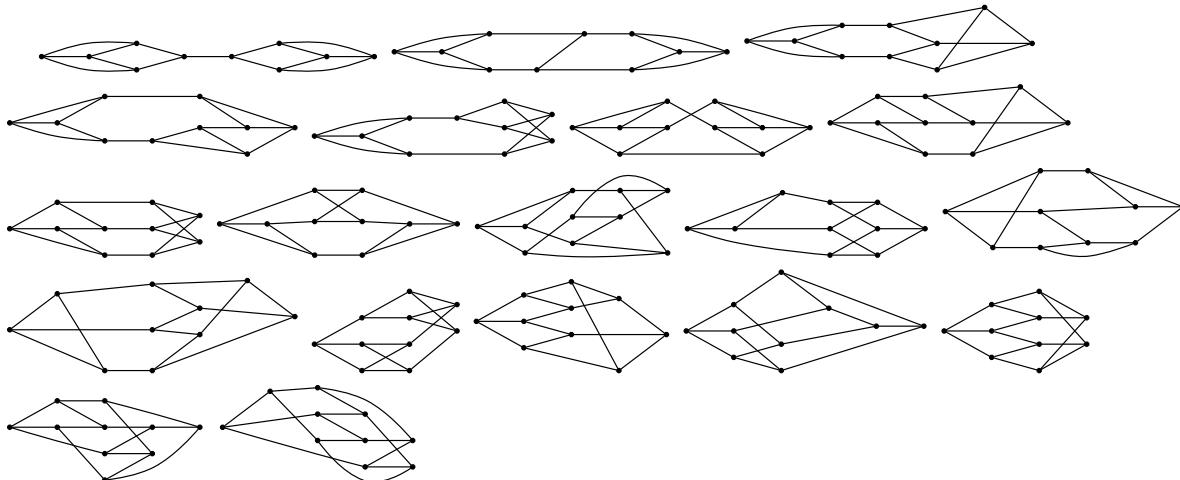
4.5. 4 multiedges. (1 graphs)



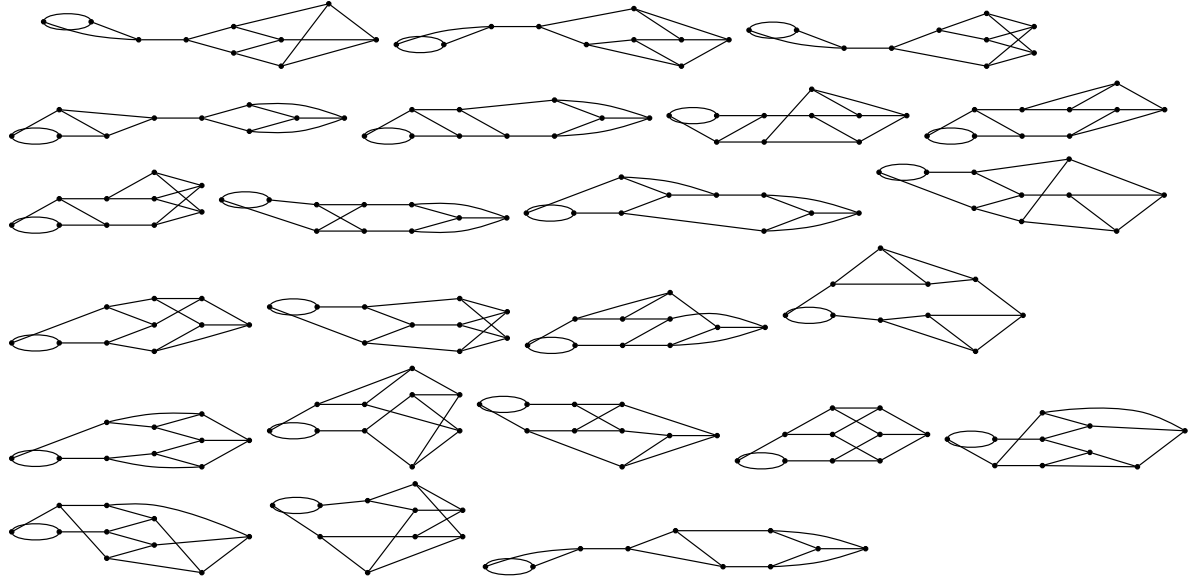
Total: 20 graphs

5. 10 VERTICES

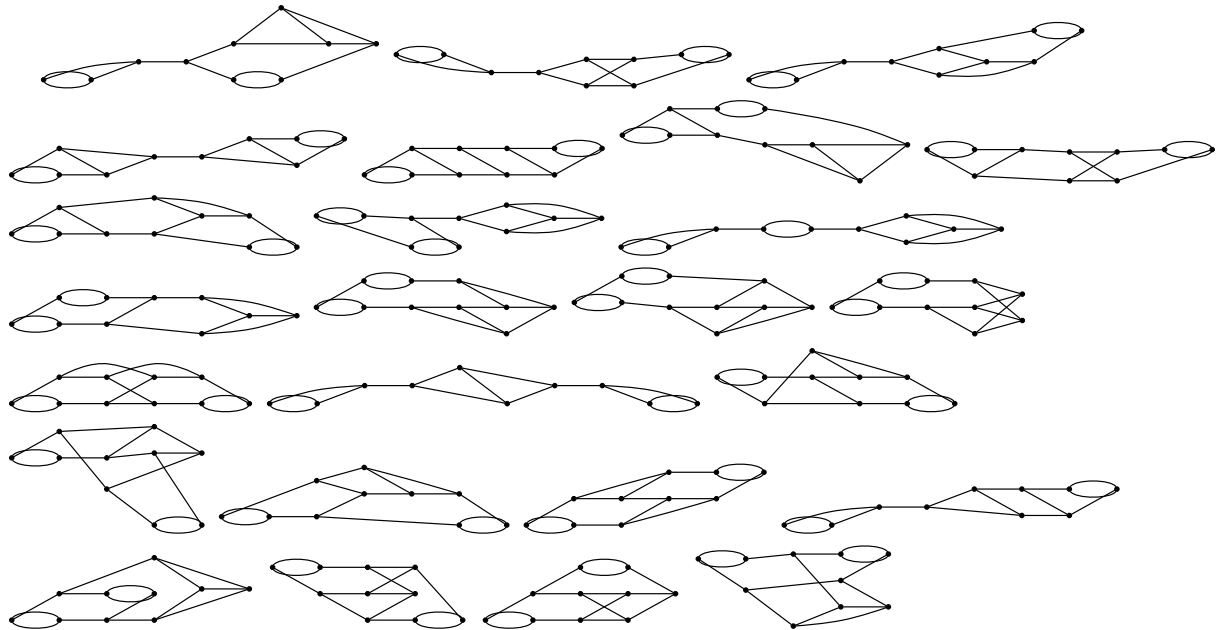
5.1. 0 multiedges. (19 graphs)



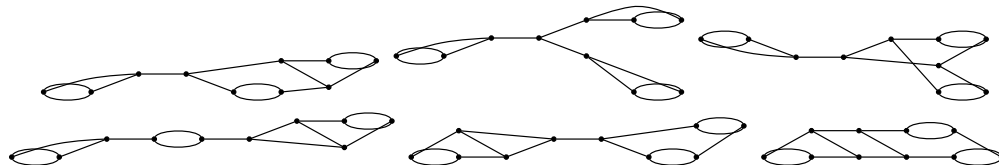
5.2. 1 multiedges. (23 graphs)

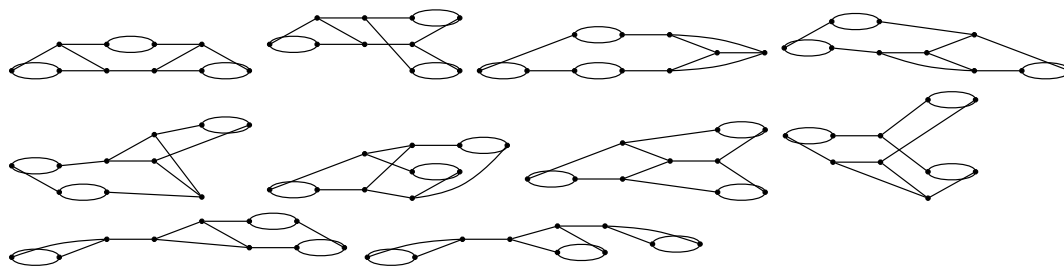


5.3. 2 multiedges. (25 graphs)

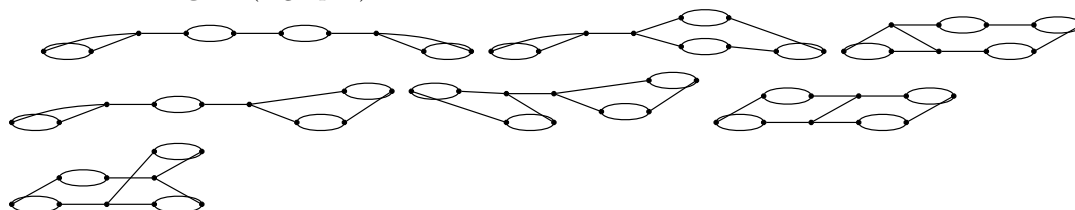


5.4. 3 multiedges. (16 graphs)

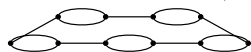




5.5. **4 multiedges.** (7 graphs)



5.6. **5 multiedges.** (1 graphs)



Total: 91 graphs

REFERENCES

1. Neil J. A. Sloane, *The On-Line Encyclopedia Of Integer Sequences*, Notices Am. Math. Soc. **50** (2003), no. 8, 912–915, <http://oeis.org/>. MR 1992789
 URL: <http://www.mpia.de/~mathar>

MAX-PLANCK INSTITUTE OF ASTRONOMY, KÖNIGSTUHL 17, 69117 HEIDELBERG, GERMANY