

## Vladislav Bína, Jiří Přibil

### *Note on enumeration of labeled split graphs*

Comment.Math.Univ.Carolin. 56,2 (2015) 133–137.

**Abstract:** The paper brings explicit formula for enumeration of vertex-labeled split graphs with given number of vertices. The authors derive this formula combinatorially using an auxiliary assertion concerning number of split graphs with given clique number. In conclusion authors discuss enumeration of vertex-labeled bipartite graphs, i.e., a graphical class defined in a similar manner to the class of split graphs.

**Keywords:** graph enumeration; labeled graph; split graph

**AMS Subject Classification:** Primary 05C30; Secondary 05A15

#### REFERENCES

- [1] Bender E.A., Richmond L.B., Wormald N.C., *Almost all chordal graphs split*, J. Austral. Math. Soc. Ser. A **38** (2) (1985), no. 2, 214–221.
- [2] Bína V., *Enumeration of labeled split graphs and counts of important superclasses*, in Proceedings of 10th Cologne-Twente Workshop on Graphs and Combinatorial Optimization (CTW'11), Frascati (2011), pp.72–75.
- [3] Bína V., *Sequence A179534 in The On-Line Encyclopedia of Integer Sequences*, <http://oeis.org/A179534> (2010).
- [4] Bína V., *Multidimensional probability distributions: Structure and learning*, Ph.D. Thesis, Faculty of Management in Jindřichův Hradec, Univ. of Economics in Prague, 2011.
- [5] Edwards D., Havránek T., *A fast procedure for model search in multidimensional contingency tables*, Biometrika **72** (1985), 339–351.
- [6] Gebhardt V., *Computing growth functions of braid monoids and counting vertex-labelled bipartite graphs*, J. Combin. Theory Ser. A **120** (2013), no. 1, 232–244.
- [7] Hammer P.L., Simeone B., *The splittance of a graph*, Combinatorica **1** (1981), no. 3, 275–284.
- [8] Royle G.F., *Counting set covers and split graphs*, J. Integer Seq. **3** (2000), <https://cs.uwaterloo.ca/journals/JIS/VOL3/ROYLE/royle.html>.
- [9] Sloane N.J.A., *Sequence A047864 in The On-Line Encyclopedia of Integer Sequences*, <http://oeis.org/A047864> (1999).
- [10] Wilf H.S., *Generatingfunctionology*, Academic Press, San Diego, 1990, p. 80, Equation 3.11.5.