

Results on an initial series appear promising without any tuning

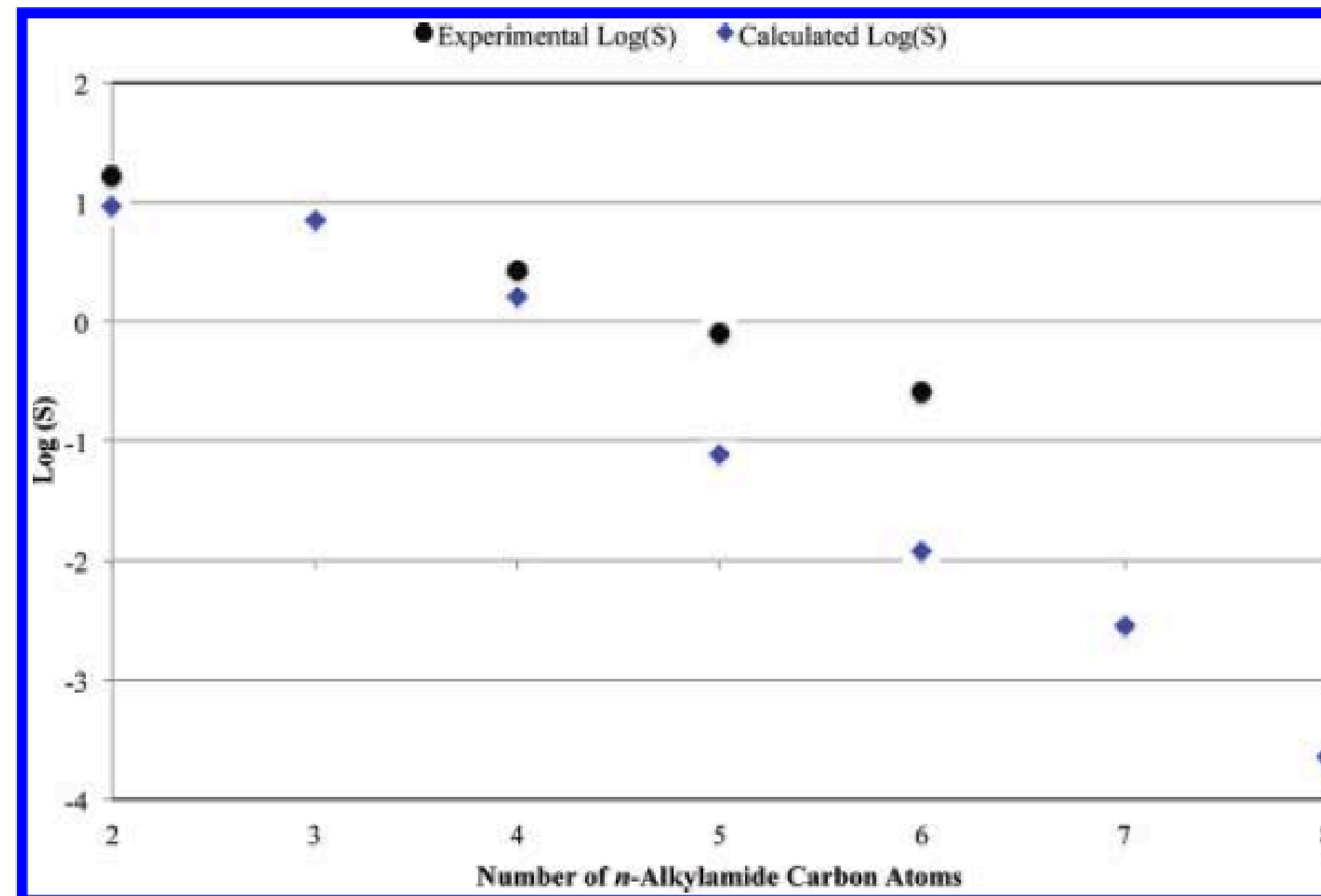


Figure 5. Shown are experimental and calculated $\log(S)$ values for the n -alkylamides (S has units of mol/L) from acetamide to octanamide. There is a monotonic trend in both the experimental and calculated values toward lower solubility with each additional CH_2 group due to increasingly favorable deposition and to a lesser extent from unfavorable solvation.

From Ref [8]

References

- [1] Many parts of today's lecture were adapted from a lecture by David Mobley (https://github.com/MobleyLab/drug-computing/tree/master/uci-pharmsci/lectures/free_energy_basics) under the CC BY 4.0 license. The lecture is part of the Drug Discovery Computing Techniques course (PharmSci 175/275) at UC Irvine.
- [2] Llinàs, A.; Glen, R. C.; Goodman, J. M. Solubility Challenge: Can You Predict Solubilities of 32 Molecules Using a Database of 100 Reliable Measurements? J. Chem. Inf. Model. 2008, 48 (7), 1289–1303. <https://doi.org/10.1021/ci800058v>.
- [3] Hopfinger, A. J.; Esposito, E. X.; Llinàs, A.; Glen, R. C.; Goodman, J. M. Findings of the Challenge To Predict Aqueous Solubility. J. Chem. Inf. Model. 2009, 49 (1), 1–5. <https://doi.org/10.1021/ci800436c>.
- [4] Prashad, M.; Sutton, P.; Wu, R.; Hu, B.; Vivelo, J.; Carosi, J.; Kapa, P.; Liang, J. Process Research and Development of a MTP Inhibitor: Another Case of Disappearing Polymorphs upon Scale-Up. Org. Process Res. Dev. 2010, 14 (4), 878–882. <https://doi.org/10.1021/op100115u>.