Electronic Supplementary Information

Appendix A. List of included articles from the author's own database and not from the ERIC or Scopus database search

Ben-Naim, A. (2011). Entropy : Order or Information. *Journal of Chemical Education*, *88*(5), 594-596. https://doi.org/10.1021/ed100922x

Bindel, T. H. (2007). Discovering the Thermodynamics of Simultaneous Equilibria. An Entropy Analysis Activity Involving Consecutive Equilibria. *Journal of Chemical Education*, *84*(3), 449-452. https://doi.org/10.1021/ed084p449

Bindel, T. H. (2010). Understanding Chemical Equilibrium Using Entropy Analysis : The Relationship Between ΔS_{tot} (sys°) and the Equilibrium Constant. *Journal of Chemical Education*, *87*(7), 694-699. https://doi.org/10.1021/ed100192q

Craig, N. C. (1988). Entropy analyses of four familiar processes. *Journal of Chemical Education*, *65*(9), 760-764. https://doi.org/10.1021/ed065p760

Gary, R. K. (2004). The Concentration Dependence of the ΔS Term in the Gibbs Free Energy Function : Application to Reversible Reactions in Biochemistry. *Journal of Chemical Education*, *81*(11), 1599-1604. https://doi.org/10.1021/ed081p1599

Hazelhurst, T., A. (1931). Exorcising a Spectre : Entropy. *Journal of Chemical Education*, *8*(3), 498-503.

Jungermann, A. H. (2006). Entropy and the Shelf Model : A Quantum Physical Approach to a Physical Property. *Journal of Chemical Education*, *83*(11), 1686-1694. https://doi.org/10.1021/ed083p1686

Kozliak, E. I. (2014). Entropy of Mixing of Distinguishable Particles. *Journal of Chemical Education*, *91*(6), 834-838. https://doi.org/10.1021/ed4007666

Laird, B. B. (1999). Entropy, Disorder, and Freezing. *Journal of Chemical Education*, *76*(10), 1388-1390. https://doi.org/10.1021/ed076p1388

Lechner, J. H. (1999). Visualizing Entropy. *Journal of Chemical Education*, *76*(10), 1382-1385. https://doi.org/10.1021/ed076p1382

Leff, H. S. (1996). Thermodynamic Entropy : The Spreading and Sharing of Energy. American Journal of Physics, 64(10), 1261-1271. https://doi.org/10.1119/1.18389

Novak, I. (2003). The Microscopic Statement of the Second Law of Thermodynamics. *Journal of Chemical Education*, *80*(12), 1428-1431. https://doi.org/10.1021/ed080p1428

Plumb, R. C. (1964). Teaching the entropy concept. *Journal of Chemical Education*, *41*(5), 254-256. https://doi.org/10.1021/ed041p254

Salagaram, T., & Chetty, N. (2011). Enhancing the understanding of entropy through computation. *American Journal of Physics*, *79*(11), 1127-1132. https://doi.org/10.1119/1.3623416

Schoepf, D. C. (2002). A statistical development of entropy for the introductory physics course. *American Journal of Physics*, *70*(2), 128-136. https://doi.org/10.1119/1.1419097

Appendix B. Articles that were rejected for a reason that needs to be explicitly mentioned, because it could appear as unclear to the reader

Reference	**Reason for exclusion**
Abell, T. N., & Bretz, S. L. (2019). Macroscopic Observations of Dissolving, Insolubility, and Precipitation : General Chemistry and Physical Chemistry Students' Ideas about Entropy Changes and Spontaneity. *Journal of Chemical Education*, *96*(3), 469-478. https://doi.org/10.1021/acs.jchemed.8b01007	Entropy is not the core of the teaching solution, the authors focus more on general thermodynamics teaching, with no specific teaching for entropy
Banerjee, A. C. (1995). Teaching Chemical Equilibrium and Thermodynamics in Undergraduate General Chemistry Classes. *Journal of Chemical Education*, *72*(10), 879-881. https://doi.org/10.1021/ed072p879	Entropy teaching is only marginally addressed, it is not the main goal of the article
DeVoe, H. (2013). A Comparison of Local and Global Formulations of Thermodynamics. *Journal of Chemical Education*, *90*(5), 591-597. https://doi.org/10.1021/ed300797j	The article focusses on four examples, one of which is electrochemical, the others highlighting more enthalpy than entropy
Liff, M. I. (2010). Another Demo of the Unusual Thermal Properties of Rubber. *The Physics Teacher*, *48*(7), 444-446. https://doi.org/10.1119/1.3488185	The authors aim at investigating misconceptions, not proposing a new way of teaching
Samiullah, M. (2007). What is a reversible process? *American Journal of Physics*, *75*(7), 608-609. https://doi.org/10.1119/1.2721588	The focus of the article is to establish the link between reversibility and entropy, not to teach entropy better
