Review of: "A Law for Irreversible Thermodynamics? Synergy Increases Free Energy by Decreasing Entropy"

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Potential competing interests: No potential competing interests to declare.

The author in the article, titled as “A Law for Irreversible Thermodynamics? Synergy Increases Free Energy by Decreasing Entropy” study the thermodynamic properties of phenomena that are intuitively recognized, where a decrease in entropy was coupled to an increase in free energy. He claims that no law of thermodynamics was deduced by theory but originated by pure empirical data, and he propose a law for open synergistic systems that states that increases in G are coupled to decreases in S, allowing to thermodynamically recognize synergy along with a an open synergistic system that states that increases in G are coupled to decreases in S, allowing to thermodynamically recognize synergy.

The manuscript sounds well, however, there are certain aspects which the authors should improve. For example, the introduction of the article is not well-explored. It does not cover the full literature and motivation for the terms used in this article. I propose the author to work on this.

Besides, in the results and discussion section, the author has place some previous literature, which I believe should be in the intro part or somewhere else, as the results and discussion section is specific to what you have achieved, not to what others have achieved.

The authors should be clear with the “Materials and Methods” and elaborate more on what specific methods are used to obtain the results.

After the authors satisfactorily answers the question and make changes to the manuscript, I would recommend its publication.