

Review of: "Infrared Spectroscopy (FT-NIR) and t-Distributed Stochastic Neighbor Embedding (t-SNE) as an Analytical Methodology for Rapid Identification of Tea Adulteration"

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Potential competing interests: No potential competing interests to declare.

This manuscript describes the use of FT-NIR for detecting three plants commonly used in infusions and commercially available. Every tool that adds against fraud, especially in the food market, is welcome, and therefore, this work has its merit for that.

Overall, the research is well conducted and structured. The methodology is adequate, and its analysis approach is well. The following items should be revised:

1. Comparing Figures 1 and 2 is difficult as the abscissas are reversed in Figure 1, while in Figure 2, they are in increasing order. I would suggest having Figure 1 similar to Figure 2. In addition, why are the profiles used for deconvolution in Figure 2 so different from those in Figure 1 (And I am already accounting for the difference in the abscissas)?
2. The deconvolution analysis was done using Gaussian functions. Did the authors test Lorentzian functions as well? The latter are known to yield good results as well.
3. The results from the PCA and t-SNE classifications are really excellent for discriminating the three plants. However, I think the results fall short of what it promises, judging by the title. I missed an analysis of a real sample or at least a lab-made mixture where one of the components could be present and see if the method could identify it.