

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.

The article "Infrared Spectroscopy (FT-NIR) and t-Distributed Stochastic Neighbor Embedding (t-SNE) as an Analytical Methodology for Rapid Identification of Tea Adulteration," authored by Clara Mariana Gonçalves Lima et al., employs FT-NIR combined with t-SNE algorithms for the rapid identification of tea adulteration. The overall logic of the article is clear, but before acceptance, the following issues need to be addressed:

Comment 1: In the Introduction, a more detailed introduction of the main methods for tea adulteration identification should be provided, as the current introduction is rather general.

Comment 2: In Fig. 1(a), the normalization results are mentioned, but from the intensity distribution of the spectra, it does not appear to be the result after normalization. Please make the necessary corrections.

Comment 3: In Fig. 1(b-c), it is recommended to modify the plotting color or line thickness of the pieces' curves to more clearly show the differences.

Comment 4: In section 3.3, "Cluster Analysis of Teas," is the analysis performed using derivatives? What is the wavelength range used? These should be clearly stated in the article.

Comment 5: In Fig. 5(b), the GP point does not show a significant distance from the G1-G3 points. It is suggested to utilize the results of the deconvolution analysis to clearly distinguish the characteristic spectral bands of leaves and pieces, and to use these characteristics to create the t-SNE.

Comment 6: It is recommended to set the threshold line in Fig. 6 between 30-40, which would allow for a clear distinction between the leaves and pieces categories.