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.

In this study, FT-NIR combined with t-SNE multivariate data statistical analysis was used to establish a rapid identification method for tea adulteration. The manuscript as a whole meets the requirements of the journal, but there are still some problems in terms of the depth of the paper and the overall idea, and I hope to give the author a certain reference.

1. FT-NIR should be widely used in food adulteration, and the selection of FT-NIR in combination with t-SNE has certain innovations.
2. The title of the manuscript is tea adulteration, but it does not reflect the relevant research on tea in the follow-up research.
3. As far as FT-NIR is concerned, especially in terms of food quality, especially the adulteration pointed out in this paper, a large number of samples are often required, and only three materials are selected in this paper, which is significantly less.
4. As far as the analysis method of t-SNE is concerned, the more parameters are selected, the more comprehensive the evaluation is, and the dimensionality reduction with the help of principal component data is too rough as the basis for evaluation.
5. Lack of corresponding validation; the discriminant established by multivariate statistical analysis needs the mutual corroboration of the sample set and the validation set, which is obviously lacking.
6. There are too many adulterated raw materials in tea, and the author should indicate the importance of using chamomile, ginseng, and quebra pedra.