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.

1- The statement must be carefully analyzed:

“This figure shows that the FT-NIR spectra of the samples do not overlap throughout the analyzed frequency range, indicating that near-infrared spectroscopy is a potential technique to characterize and detect differences between the plants studied based on the vibrational characteristics of the chemical groups present in their composition”

The intensity of the spectra can be related to several experimental issues and not necessarily related to differences between the plants, even because we can see differences inside the same species – which is not expected. If we observe the spectra at 4000 cm-1, it seems that the normalization process used this point as a reference, but the spectra still show deviation in the group; they should be at zero where there is no information. I think there is some problem with the background correction – I suggest using the SNV method and normalizing. Or even removing this statement.

2- The conclusion presented from the derivative curves is also unclear. Maybe the authors should highlight these differences in the figure and also cut the spectral range – removing information above 8000 cm-1. The derivative curves and the NIR spectra should be presented in the same form: from 12000 to 4000 cm-1.

3- Finally, the authors should analyze more samples to better understand the compositional deviations observed during the deconvolutional analysis. With more samples, it would be possible to perform a validation test for the classification by using a “blind test”.