

We thank the reviewer for making many important comments and suggestions that makes the manuscript better. Below is our point by point response to the comments and the corresponding proposed changes in the revised manuscript.

1. Even though the data shown is only from pure isolated samples, one of the advantage of the Raman spectroscopy is that signal primarily comes from a very small localized spot of a few micrometer square area. Thus it is feasible to take Raman spectra of a heterogeneous sample by simply focusing the Raman excitation beam on different points of interest on the sample. In addition, it is also possible to place the sample on an  $xy(z)$  scanning stage and obtain a complete map of the materials present in an heterogeneous sample. Some work in this regard was done when we first reported cellphone camera based Raman spectrometer. Please see figure 11 in (Dhankhar et. al. Rev. sci. inst, 92(5), 2021). The discussion regarding the advantages and ways of obtaining Raman spectra of a heterogeneous sample will be added to the revised manuscript.
2. Fluorescence data of minerals will be added to the revised manuscript. Because fluorescence signals are typically orders of magnitude stronger than the Raman signals, it is possible to obtain very good quality fluorescence data.
3. Cost of ~\$50 was estimated for a right angle geometry Raman spectrometer that does not require a dichroic mirror. A list of components for ~ \$50 Raman spectrometer is provided in Table I of ( Rev. sci. inst, 92(5), 2021). The right angle geometry is quite suitable for the liquid samples, however for solid samples, a backscattered geometry gives stronger signal and more suitable for heterogeneous samples. An update component list and their corresponding costs and sources will be added to the revised manuscript.
4. The citation will be added to the revised manuscript.
5. There are several different ways of separating the fluorescence of different components when they are present together, such as by use of different excitation wavelengths (attaching different color lasers in this case). Discussion in the manuscript has been updated with examples and citations added.

With regard to Reviewer's comments that the manuscript's presentation is more like a product note than a research article, we would love to know specific reasons/places in the article that made reviewer reach this conclusion.