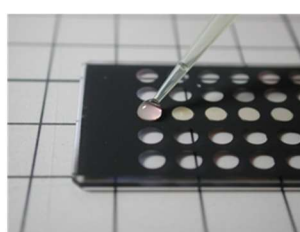


Here is news on our latest project. Now and then, we get a request for trying our SERS technology on certain materials or products. One such request was to see if we can rapidly measure the concentration of vitamin C in beverages. Apparently, there is a great demand for it. We have worked diligently on it, but we have not quite reached the target. We can detect vitamin C when it is simply dissolved in water, but somehow, we fail to detect it directly from beverages. We are now looking for culprits in the beverages. Identifying them may allow us to achieve our ultimate goal.

In the above investigation, we found something quite interesting, and we like to share this with you. We have two beverages both containing a lot of vitamin C. One contains additionally niacin, and the other doesn't. Their SERS spectra differ from each other in the presence and absence of a strong peak at 1017 cm^{-1} . The measurement procedure is quite simple, by the way. We place a sample



A: Place a sample droplet



B: Blow dry after 5 min



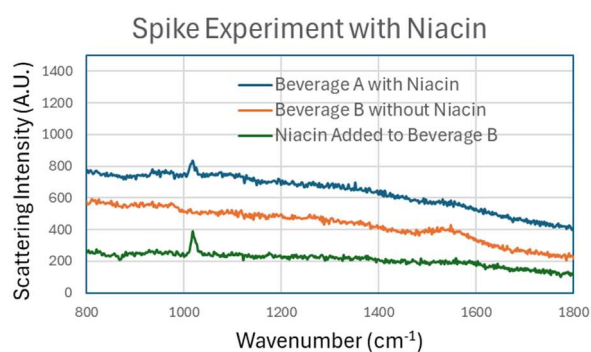
C: Take a spectrum



D: Spectrometer

droplet on a SERS spot. After 5 minutes, we blow dry the sample and take a SERS spectrum with Hamamatsu Photonics C15471 Spectrometer under 10 sec. It is that simple.

To make sure that the 1017 cm^{-1} peak is due to niacin, we added niacin to the beverage not containing niacin to start with. Et voilà, the 1017 cm^{-1} peak appeared. We are quite convinced that it is possible to detect niacin directly from beverages.



Now our question is, is it meaningful to be able to measure niacin rapidly? Let us know if you are interested. Meanwhile we continue working on direct detection of vitamin C. We will keep on posted.