Reva
Educational Raman

# Raman Spectroscopy Use with Liquids

Raman spectroscopy can be used to analyze liquids with a high concentration of molecules to deliver accurate results regarding mixture formation.

Immersion in liquids is one of the most common form factors for analysis by Raman spectroscopy, and a wide variety of studies have been conducted using this method. Corrosive liquids are particularly suited to Raman spectroscopy, as their destructive nature means that they often react with or dissolve any infrared cell windows being used.[1] Immersion Raman is more suited to studying these destructive solutions, as the probes can be made from sapphire and Hastelloy. These materials are resistant to a majority of corrosive samples.

Immersion analyses using Raman is popular, and the number of adopters continues to grow as the technique becomes more affordable and more and more scientists become aware of the advantages. A distillation process can utilize Raman to identify what species should be reduced, detecting potential interferences that are to be removed from the solution.[2] Additionally, wastewater treatment, which involves the monitoring of nitrate and nitrate ions, uses Raman to evaluate the performance of the process reactors.[3] Even inorganic, dissolvable solids can be studied in the form of a liquid, as water makes for an ideal solvent for compounds being analyzed with Raman spectroscopy since it has no significant signal to contend with.[4]

By utilizing on Raman spectroscopy to gather spectra for these liquids, the integrity of samples can be preserved, all the while providing clear yet multifaceted results.

Ethanol Spectra

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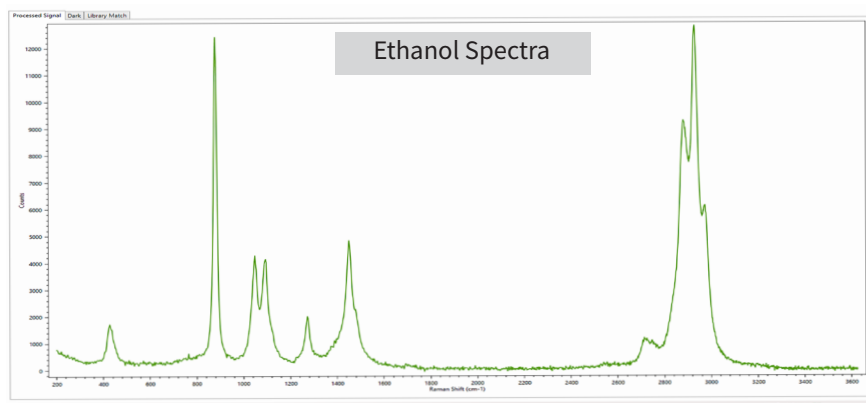
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