

Abstract Submitted
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Observation of Isomerization Hindering of DCVJ on Nanostructured Surfaces¹ TREVOR OLSSON, PATRICK FOWLER, LASZLO UJJ, University of West Florida — We report molecular vibrational characterization of 9-Dicyanovinyl julolidine (DCVJ) with surface enhanced Raman spectroscopy (SERS), and we report a construction of a tabletop laser micro Raman optical system. We used two different SERS substrates, one with nanoparticles and the second was a silver-coated nanopillar structure. One-microliter volume of DCVJ/MEOH solution was deposited on the surface of our substrates, with no significant spectral differences observed on the recorded vibration spectra. Compared with spectra recorded from methanol solution showed band shifts and altered intensity pattern. Based on the normal modes analysis, we associate the spectral changes to the blocking of the isomerization of the rotor part of the molecule absorbed on the silver nanostructures. The results contribute to the understanding of the underlining physical processes of Raman scattering enhancements by plasma resonances.

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