

Abstract Submitted  
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**Polarization Sensitive 3-color Broadband Coherent Raman Spectroscopy (PS-3CBCRS)**<sup>1</sup> LASZLO UJJ, TREVOR OLSSON, PATRICK FOWLER, Department of Physics, University of West Florida — We report the recent progress of construction and characterization of a coherent Raman tabletop system utilizing a novel broadband nanosecond optical parametric oscillator and volumetric Bragg filters assisting a PS-3CBCRS measuring system. To illustrate the versatility of the system and precision of the measurements to reveal the molecular information, we selected two chemicals. Polarization sensitive epi-detected 3CBCRS spectra of liquid CCl<sub>4</sub> and DCVJ were recorded and analyzed. By changing the polarization angles of the actinic laser waves, the vibrational bands resembled the Lorentzian line-shapes extracted from dispersive spectra by non-model dependent spectral processing methods. Electronic resonance enhanced PS-3CBCRS spectra of DCVJ was recorded for the first time. The new outcomes are additions to our recently reported 3CBCRS results on liquid and crystal samples.

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