ULTRAVIOLET - CHIRPED PULSE FOURIER TRANSFORM MICROWAVE (UV-CPFTMW) DOUBLE-RESONANCE SPECTROSCOPY

BRIAN C. DIAN, KEVIN O. DOUGLASS, GORDON G. BROWN, JASON J. PAJSKI and BROOKS H. PATE, *Department of Chemistry, University of Virginia, McCormick Rd., P.O. Box 400319, Charlottesville, VA 22904*.

The application of our broadband chirped-pulse Fourier transform microwave (CP-FTMW) spectrometer for ultraviolet spectroscopy is presented.[a] The CP-FTMW spectrometer has been coupled to a pulsed dye laser (0.025 cm^{-1} bandwidth) to measure the ultraviolet spectra of various molecules. By using the CP-FTMW spectrometer as a detection device, rotationally-resolved ultraviolet spectra are recorded. Furthermore, since modulations of the pure rotational signals are monitored, the assignments of ultraviolet transitions to specific geometrical conformations are trivial once the pure rotational spectrum is assigned. A variety of UV-CPFTMW double-resonance techniques will be presented on representative molecules.

[a] M. Nakajima, Y. Sumiyoshi, and Y. Endo, *Rev. Sci. Inst.* **73** (2002), 165.