

CHIRPED PULSE AND CAVITY FT MICROWAVE SPECTROSCOPY OF THE HCCH-2,6-DIFLUOROPYRIDINE WEAKLY BOUND COMPLEX

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The microwave spectrum of the HCCH-2,6-difluoropyridine complex has been observed using a chirped pulse and conventional cavity-type Fourier transform microwave spectroscopy. The acetylene moiety forms a hydrogen bond to the nitrogen of the 2,6-difluoropyridine, and this structure is contrasted with several systems involving HCCH or CO₂ bound to pyridine or 2,6-difluoropyridine. The results of DFT calculations support the experimental observations and are reported as well. The chirped pulse spectrometer is new in our laboratory and is built in tandem with our cavity-type spectrometer with a design that allows for switching between the two modes of operation without having to break vacuum. Pertinent details of the spectrometer will also be given.