CHIRPED-PULSE FOURIER TRANSFORM MICROWAVE SPECTROSCOPY OF 3-VINYLBENZALDEHYDE

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The pure rotational spectrum of 3-vinylbenzaldehyde (3VBA) has been measured and assigned. Coker College's chirped-pulse Fourier transform microwave (CP-FTMW) spectrometer was used to measure the rotational spectrum of 3VBA in the 7.5 - 18.5 GHz region of the microwave spectrum. The results have been analyzed to discover the rotational constants and centrifugal distortion constants of four distinct conformations of 3VBA: *cis,cis*-, *cis,trans*-, *trans,cis*-, and *trans,trans*-3VBA. The experimental rotational constants have been compared to the results of *ab initio* calculations. The performance of Coker's CP-FTMW spectrometer will also be discussed.