ANALYSIS OF ROTATIONAL STRUCTURE IN THE HIGH-RESOLUTION INFRARED SPECTRUM OF *CIS,CIS*-1,4-DIFLUOROBUTADIENE

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We seek an equilibrium structure *cis,cis*-1,4-difluorobutadiene. Rotational structure of a C-type band centered at 762.8 cm^{-1} in the high-resolution infrared spectrum (0.0015 cm^{-1}) has been analyzed as a first step. A sequence of strong hot bands of the torsional mode (78 cm^{-1}) complicate the analysis of this band. Provisional ground state rotational constants are reported. The spectrum of a second C-type band at 328 cm^{-1} may also be analyzable. Ground state rotational constants for a full set of isotopomers are needed. A procedure for synthesizing these species is being explored.