

ROTATIONAL ANALYSIS OF CYCLOHEXYL METHYLPHOSPHONOFLUORIDATE (CYCLOHEXYL SARIN (GF))

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In an effort to use Fourier transform microwave spectroscopy as a detection technique for chemical compounds related to chemical weapons (CW) technology, we have investigated the rotational spectra of the title compound. This work was carried out using a Fourier transform microwave (FTMW) spectrometer in a surety laboratory at the ECBC in Aberdeen, MD. A survey spectrum was recorded from 11 GHz to 18 GHz. A rather rich spectrum was observed which was assigned to two conformational isomers. Each isomer has all three selection rules active indicating C_s symmetry for both isomers. Details of the rotational spectra and analysis will be given and the conformational structures presented.