

SPECTROSCOPIC CHARACTERIZATION AND DETECTION OF ETHYL MERCAPTAN IN ORION

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The rotational spectrum of ethyl mercaptan, $\text{CH}_3\text{CH}_2\text{SH}$, has been measured in the microwave, millimeter- and submillimeter-wave regions from 8 to 880 GHz and more than 2800 distinct transition frequencies have been assigned for the *gauche*- and *trans*-conformers. Very precise values of the spectroscopic constants allowed the detection of the *gauche*- $\text{CH}_3\text{CH}_2\text{SH}$ towards Orion KL.^a 77 unblended or slightly blended lines plus no missing transitions in the range 80 – 280 GHz support this identification. *Trans*- $\text{CH}_3\text{CH}_2\text{SH}$ has been detected tentatively.

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