PROSPECTIVE WORK FOR ALMA: THE MILLIMETERWAVE AND SUBMILLIMETERWAVE SPECTRUM OF DEUTERATED GLYCOLALDEHYDE

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Glycoaldehyde, a sugar-related interstellar prebiotic molecule has been detected in two star-forming regions, Sgr B2(N)[b,c] and G31.41+0.31[b,d]. The detection of this new species increases the list of Complex Organic Molecules detected in the ISM and adds a further level to the chemical complexity present in space. For many years, astronomers have been struggling to understand the origin of such high chemical complexity in the ISM. The study of deuteration may provide crucial hints[e].

In this context, we have measured in the laboratory the spectra of the deuterated isotopologues of glycoaldehyde: CH_2OD-CHO, CHDOH-CHO, CH_2OH-CDO and CHDOH-CDO. Previous laboratory work on the D-isotopologues was restricted to less than 26 GHz[f]. New spectra between 150 and 630 GHz were measured in Lille with a solid-state submillimetre-wave spectrometer. *This work is supported by the contract ANR-08-BLAN-0225 and by the Programme National de Physico-Chimie du Milieu Interstellaire (PCMI-CNRS).*

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