We are interested in studying sugars (C₅H₁₀O₅) because of their biological role. Also, the spectroscopic characterization of their hydrated complexes could help to better understand in the gas phase the micro-solvation process of biomolecules. We will present the most recent results on C₅H₁₀O₅ and C₅H₁₀O₂·H₂O.


Consequently we have performed additional calculations to obtain rotational constants and electric dipole moments. Our spectrum, recorded in the region 6-20 GHz, revealed new signals that could be assigned to at least one new conformation.

Concerning the glycolaldehyde-water complex, we have performed ab initio calculations at the B3LYP/6-311++G(2df,p) and aug-cc-pVTZ levels of the theory. Six stable conformers have been found. Relative energies have been calculated at the G3MP2B3 level, the most stable structure is stabilized by two inter-molecular hydrogen bonds. The geometry optimization as well as the analysis of the experimental spectrum (6-20GHz) are in progress.

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