UNVEILING THE SWEET CONFORMATIONS OF KETOHEXOSES

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The conformational behavior of ketohexoses D-Fructose, L-Sorbose, D-Tagatose and D-Psicose has been revealed from their rotational spectra. A broadband microwave spectrometer (CP-FTMW)[a] combined with a laser ablation (LA) source[b] has been used to rapidly acquire the rotational spectra in the 6 to 12 GHz frequency range. All observed species are stabilized by complicated intramolecular hydrogen-bonding networks. Structural motifs related to the sweetness of ketohexoses are revealed.

[a] G. G. Brown, B. C. Dian, K. O. Douglass, S. M. Geyer, S. T. Shipman, B. H. Pate, *Rev. Sci. Instrum.* **2008**, *79*, 053103.
[b] S. Mata, I. Peña, C. Cabezas, J. C. López, J. L. Alonso, *J. Mol. Spectrosc.* **2012**, *280*, 91.