

High-Pressure (+)-Sucrose Polymorph

Dedicated to Professor Joel Bernstein on the occasion of his 70th birthday



Yes, Walter, there is a polymorph of sucrose! At 4.80 GPa, (+)-sucrose, common table sugar, transforms into a new polymorph. In its structure the network of intermolecular hydrogen bonds is reformulated, with new types of H bonds being formed, and the molecular conformation changes. This structural variability is characteristic of all carbohydrates, hinders their crystallization, and is vital for organisms for which sugars are important building blocks.

Angewandte
Communications

Angew. Chem. Int. Ed. 2012, 51, 2146–2150

