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Observation of a phase transition in deoxycytidine at high pressures via infrared spectroscopy SCOTT LEE, IAN LAWSON, University of Toledo, L. LETTRESS, A. ANDERSON, University of Waterloo — Crystalline deoxycytdine has been studied via infrared spectroscopy at room temperature up to 10 GPa of pressure. Samples, typically 250 microns in diameter and roughly 25 microns in thickness, were loaded into a piston-cylinder type diamond anvil cell supplied by Diacell Ltd. and fitted with type IIa diamonds. To avoid saturation of strongly absorbing modes, the deoxycytidine sample was diluted with KBr powder, which also served as an isotropic pressure-transmitting medium. A number of changes in the infrared spectra are noted near 4 GPa, suggesting a phase transition. A change in the geometry of the sugar ring, such as a different sugar pucker, is believed to be the origin of the phase transition.

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