## A Temperature-Induced Phase Transition in Barbituric Acid Dihydrate

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In recent years the subject of phase transitions has become more and more popular for scientific investigation. Indeed virtually the whole of the January 2005 issue of *Acta Crystallographica Section A: Foundations of Crystallography* was devoted to the topic. By a combination of careful experimentation and some serendipitous good fortune we have determined a phase transition at low temperature in barbituric acid dihydrate.

The structure of barbituric acid dihydrate appears twice in the literature: an X-ray study [1] and a neutron study [2]. Both sets of experiments were carried out at room temperature and both report the crystal system and space group as orthorhombic Pnma. We have found that this only holds true at temperatures above ~220K. Below ~200K the structure is non-merohedrally twinned monoclinic P2<sub>1</sub>/n, and at intermediate temperatures it appears to be a *mélange* of sorts of both crystal systems.

[1] Jeffrey G.A., Ghose S., Warwicker J.O., *Acta Cryst.*, 1961, **14**, 881. [2] Al-Karaghouli A.R., Abdul-Wahab B., Ajaj E., Al-Asaff S., *Acta Cryst.*, 1977, B**33**, 1655.

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