C2/c space group, two pairs of oxygen atoms in the vicinity of a single hydrogen bond are related by a center of symmetry. The result is a rather diffusely located proton, distributed over four oxygen atoms in the high symmetry space group, whereas it is localized to the vicinity of two oxygen atoms in the low symmetry space group. The consequences of such a "distributed" proton are evident in the rather long O-O distances. The influence of this local hydrogen-bonding geometry on phase transitions is discussed.

**PS11.05.06 PHASE TRANSITION BETWEEN MICROEMULSION AND LAMELLAR PHASE IN AMPHIPHILIC SYSTEMS.** S. K. Ghosh, J. Matsuba, S. Komura, H. Sato, T. Takeda, M. Hikosaka, Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, Japan.

Amphiphiles are intriguing materials that exist in various forms in water-in-oil binary systems or in water-oil-amphiphile ternary systems. Phase diagrams of ternary systems have been extensively studied. We observed a respective single peak from each of the lamellar and the microemulsion phases, respectively) and the peak positions are isostructural in Pnam space group. The first shows two phase transition at lower temperature and crystal structure of Tl2BeF4 is not reported, but it is known to phase transition. Otherwise, Thallium oxysalts, some of them show structural instabilities, has been lately studied and may be inferred two types of cation with 11 and 9 surrounding shortest bonds. The structural determination is important to access the role of the atoms placed in large cavities like a particular result of the general rule pointed out I.D.Brown (1992). Tl2BeF4 was obtained via reaction BeF2+ +H2F2+Tl2C03= Tl2BeF4+CO2+H2O. Mixed crystals were obtained via reaction BeF2+ +H2F2+Tl2C03= Tl2BeF4+CO2+H2O. Mixed crystal were obtaining point out I.D.Brown (1992).


We present here an application of low temperature crystallography to the study of structure/property relationships. Two systems previously reported to show magnetic phase transitions at approximately 36K and 23K have been investigated using the Fdd2 high intensity cryogenic diffractometer at Durham, UK.

(i) [P-CN3SSN-C6F4(CN)]. The β-phase of this compound is the first purely organic material to exhibit spontaneous magnetisation above liquid helium temperatures. The compound crystallises in the orthorhombic space group Fdd2 and keeps the same symmetry from room temperature down to 10K. The observed magnetic behaviour has been explained in terms of a phase transition, at the unprecedentedly high temperature of 36K, from a one-dimensional antiferromagnetic state to a weak ferromagnetic state. The fact that the structure remains in a non-centrosymmetric space group is a very positive finding since it is in accordance with the weak ferromagnetic signal postulated to result from the Dzyaloshinsky-Moriya interaction.

(ii) [(T3-Cp*)Cr(T3-Ps)Cr(T3-Cp*)](SbF 6). A previous SQUID investigation on this triple-decker compound showed it to undergo a spin crossover at approximately 23K. The diffraction study carried out clearly shows a sharp and non-destructive structural phase change at 21K and initial analysis of the full and extensive data suggests that the Cr-Cr separation has shortened from 3.1Å at room temperature to 2.7Å at 12K. This is a first and is seen as clear and exciting experimental evidence for the spin pairing of the chromium atoms.