

# Poster Presentations

## [MS10-P08] Proton transfer within two new organic entities

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In this work we have addressed an aspect of crystallography which is the principle of refinement and the resolution of structures that leads to the coordinates of the positions  $x_j$ ,  $y_j$ ,  $z_j$  of an atom  $j$  as well as its factors of thermal agitation and the quantity of occupation. The result itself requires the description of the structure and angles of chemical Bonds. We also present a detailed study of different hydrogen bonds by protons transfer into two new organic entities where we have defined the preferential site, adding pyridine onto the double link of the fumaric acid. And for the second molecule, the protonation of the cytosine with maleic acid. We have synthesized and resolved by x-ray diffraction the two compounds : **(2S)-3-carboxy-2-(pyridinium-1-yl)propanoate** and **cytosinium cytosine maleate**. The first one crystallizes in the space group  $P2_12_12_1$  and the structure revealed a reaction of addition of the pyridine on the double bond of the fumaric acid. The cohesion within the crystal structure is assured by the strong OH...O and the weak CH...O hydrogen bonds. The second compound crystallizes in the space group  $C2/c$ . The cohesion between the anions and cations is assured by O-H...O and N-H...O hydrogen bonds.

Bagieu-Beucher, M. (1990). Acta Cryst. C46, 238–240. Balasubramanian, T., Muthiah, P. T. & Robinson, W. T. (1996). Bull. Chem. Soc. Jpn, 69, 2919–2922. Barker, D. L. & Marsh, R. E. (1964). Acta Cryst. 17, 1581–1587. Cherouana, A., Bouchouit, K., Bendjeddou, L. & Benali-Cherif,

N. (2003). Acta Cryst. E59, o983–o985. Jasko 'lski, M. (1989). Acta Cryst. C45, 85–89. Mandel, N. S. (1977). Acta Cryst. B33, 1079–1082. Smith, G., Wermuth, U. D. & Healy, P. C. (2005). Acta Cryst. E61, o746–o748.

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