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PS10.15.01 STRUCTURAL IMPLICATIONS ON THE MAGNETIC PROPERTIES OF MOLECULAR CONDUCTORS. STUDY ON THE $(X)_2M(dtq)_2$ FAMILY. M.T. Duarte², J.Ayllon^{1*}, I.C. Santos¹, R.T. Henriques^{1,2}, M. Almeida¹
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The relationship between the crystal structure and the magnetic properties of the molecular conductors of the $(x)_2M(dtq)_2$ family, has not yet been completely established, even though the metallic complexes have been studied for long¹. Some of these complexes have been synthesised in order to be used as counterions in molecular conductors where the conduction was done by the perylene (per) or bis-ethylenedithiotetratiofulvalene (BEDT-TTF). We are interested in having compounds where the $M(dtq)_2^{2-}$ moiety forms segregated piles relative to the cationic paramagnetic ones. In this work we present the studies done in the compounds: $nBu_4N[Fe(dtq)_2]$ $(per)_3[Cu(dtq)_2]$ (BEDT-TTF)[$Cu(dtq)_2$], $[Mn^{II}(dmf)_4(H_2O)_2][Cu(dtq)_2]_2$, where the magnetic properties (in a T range of 4-300K) have been related to their crystalline structure.

In the figure is presented the crystal structure of $(per)_3[Cu(dtq)_2]$.

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¹L.J. Theriot, K.K. Ganguli, S. Kavarnos, I. Bernal, J. Inorg. Nucl. Chem., 31, 3133 (1969)

