

m13.p04

## Hydrogen bonding in an organic-inorganic hybrid compound

Lamia Benguedouar<sup>a</sup>, Noureddine Benalicherif<sup>b</sup>

<sup>a</sup>Department of Biology, Faculty of Sciences, University of Jijel, Jijel 18000, Algeria. <sup>b</sup>Institut des Sciences Exactes, Centre Universitaire de Khenchela 40000, Algeria.

**Keywords:** hydrogen bonding, organic cations, inorganic anions

The present work is part of a systematic investigation of interactions between amino acids and various mineral acids [1]. The crystal structure of the organic-inorganic hybrid material engineered shows a stability that can be described as alternating layers of organic cations and mineral anions, one of which is disordered. Both layers are parallel to the *ac* plane. The main feature of this stacking is the presence of strong hydrogen bonds similar to those observed in other ionic compounds [2,3]. Anion entities are hydrogen bonded to the organic cations in two ways; first *via* the carboxylic acid group and second *via* the ammonium group, we do not observe any hydrogen bonds either between organic cations or between inorganic anions.

[1] Benali-Cherif, N., Benguedouar, L., Cherrouana, A., Bendjeddou, L. & Merazig, H. (2002) *Acta Cryst.* E58, o822-o824.

[2] Pecaut, J. & Bagieu-Beucher, M. (1993) *Acta Cryst.* C49, 834-837.

[3] Averbuch-pouchot, M. T. (1993) *Acta Cryst.* C49, 815-818.

m13.p05

## First electro synthesis and structural characterization of an aryl ether trimer

Salma Besbes-Hentati<sup>a</sup>, Hechmi Said<sup>a</sup>, Marcel Bouvet<sup>b</sup>

<sup>a</sup>Laboratoire de Thermodynamique et d'Electrochimie, Faculté des Sciences de Bizerte, Tunisia. <sup>b</sup>Laboratoire de Chimie Inorganique et Matériaux Moléculaires, CNRS-UMR 707, Université ParisVI. E-mail: salma.hentati@fsb.rnu.tn

**Keywords:** crystal structures of new compounds, electrochemistry, oligomers

The crystal structure of a novel trimer formed by three *p-tert-butyl anisole* moieties was determined by X-ray diffraction method. Controlled potential electrolysis of *p-tert-butyl anisole* in acetonitrile leads to its two first oligomers, the 2,2'-dimethoxy-5,5'-di-*tert-butyl*biphenyl and the 1-methoxy-bis-2,3-(2'-methoxy-5'-*tert-butyl*phenyl)-4-*tert-butyl*benzene. The aryl ether trimer crystallizes in a P-1 triclinic unit cell with  $a = 10.571(3)$ ,  $b = 11.739(1)$ ,  $c = 12.733(2)$  Å,  $\alpha = 74.64(1)$ ,  $\beta = 88.71(2)$ ,  $\gamma = 76.58(2)$ ,  $V = 1480.8(5)$  Å<sup>3</sup> and  $Z = 2$ . The structural analysis reveals that two *p-tert-butyl anisole* moieties are linked in ortho position on a third *p-tert-butyl anisole* fragment (figure.1).

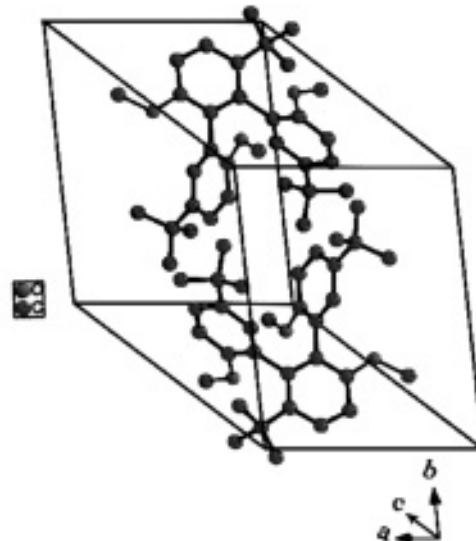


Figure 1: Projection of the structure of 1-methoxy-bis-2,3-(2'-methoxy-5'-*tert-butyl*phenyl)-4-*tert-butyl*benzene.