

Crystal structure and characterization of a new μ -oxo bridged iron porphyrin

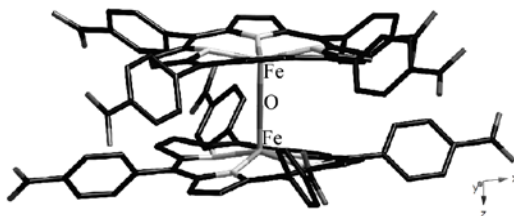
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Metalloporphyrin systems are one of the cornerstones on which the existence of life is based, as major biochemical, enzymatic and photochemical functions depend on the special properties of the tetrapyrrolic macrocycle [1]. Supramolecular entities based on self-assembly of those macrocycles are paradigmatic examples of the great efficiency of the nanodevices used by natural systems in photosynthesis, oxygen transport, electron transfer and catalysis [2], and our group is working with different combinations of metalloporphyrins in order to obtain new compounds that are able to mimicking the functions of those complexes [3,4].

The work herein presented aims to the characterization of $[(\text{FeTCPP})_2\text{O}]$ (TCPP=*meso*-tetracarboxyphenylporphyrin) compound in order to analyse the crystal structure and thermal, spectroscopic and catalytic properties of this new porphyrin-based coordination polymer. Even if there are some other examples of μ -oxo bridged iron porphyrins, this is the first one with TCPP.



Referencias

- [1] Beletskaya, I.; Tyurin, V.S.; Tsivadze, A.Y.; Guillard, R.; Stern, C.; *Chem. Rev.*, **2009**, *109*, 1659.
- [2] Mohnani, S.; Bonifazi, D.; *Coord. Chem. Rev.* **2010**, *254*, 2342.
- [3] Fidalgo-Marijuan, A.; Barandika, G.; Bazán, B.; Urtiaga, M.K.; Arriortua, M.I.; *Crystengcomm*, **2013**, DOI: 10.1039/c3ce40161h.
- [4] Fidalgo-Marijuan, A.; Barandika, G.; Bazán, B.; Urtiaga, M.K.; Arriortua, M.I.; *Polyhedron*, **2011**, *30*, 2711.

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