

Heterogeneous catalytic activity on Mn, Fe and Co-based metalloporphyrinic Solid Coordination Frameworks (SCFs)

Arkaitz Fidalgo-Marijuan¹, Gotzone Barandika², Begoña Bazán^{1,3}, Miren Karmele Urtiaga¹, Edurne S. Larrea¹, Marta Iglesias⁴, María Isabel Arriortua^{1,3}

¹ Dept. of Inorganic Chemistry and ² Dept. of Mineralogy and Petrology, University of the Basque Country (UPV/EHU), Leioa, Spain.

³ Basque Center for Materials, Applications and Nanostructures, Derio, Spain.

⁴ Institute of Materials Science of Madrid-CSIC, Madrid, Spain.

Solid Coordination Frameworks (SCFs) have been widely explored on different catalytic reactions,¹ and during the past years metalloporphyrins have been investigating in order to mimick it in the solid state their natural activity.²

Herein we present the catalytic activity results towards the oxidation reactions of different alcohols for MnTPPS, FeTCPP and CoTPPS based metalloporphyrinic SCFs (TPPS= *meso*-tetrasulfonatophenylporphyrin, TCPP= *meso*-tetracarboxyphenylporphyrin).³ Additionally, Knoevenagel condensations and a one-pot reaction involving the FeTCPP based SCF catalysts have been carried out.

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References

- [1] Liu, J.; Chen, L.; Cui, H.; Zhang, J.; Zhang, L.; Su, C-Y., *Chem. Soc. Rev.*, **2014**, *43*, 6011-6061.
- [2] Zhang, Z.; Zhang, L.; Wojtas, L.; Eddaoudi, M.; Zaworotko, M.J.; *J. Am. Chem. Soc.*, **2012**, *134*, 928-933.
- [3] (a) Fidalgo-Marijuan, A.; Barandika, G.; Bazán, B.; Urtiaga, M.K.; Larrea, E.S.; Iglesias, M.; Lezama, L.; Arriortua, M.I., *Dalton Trans.*, **2015**, *44*, 213-222. (b) Fidalgo-Marijuan, A.; Barandika, G.; Bazán, B.; Urtiaga, M.K.; Arriortua, M.I., *CrystEngComm*, **2013**, *15*: 4181-4188.