

NANOTECHNOLOGY ... FROM THE LAB TO THE INDUSTRY

JORNADAS CICECO 2015

BOOK OF ABSTRACTS

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Selective Preparation of Campholenic Aldehyde Using Indenyl Molybdenum Dicarbonyl Complexes

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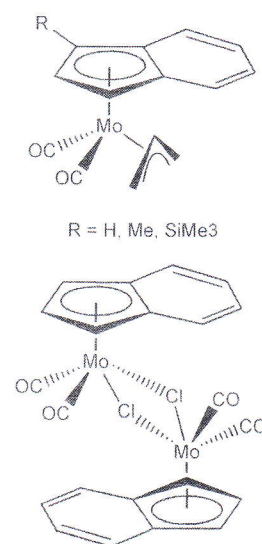
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Our group has performed pioneering work in the application of molybdenum carbonyl complexes as catalysts in the isomerisation of α -pinene oxide to campholenic aldehyde (CPA), which is a synthetic constituent of the East Indian sandalwood essential oil. The monomeric complexes of the type $[(\eta^5\text{-Ind}')\text{Mo}(\eta^3\text{-C}_3\text{H}_5)(\text{CO})_2]$ (with Ind' = Ind ($\eta^5\text{-C}_9\text{H}_7$), IndMe or IndSi(Me)₃) [1] and the dimeric complex $\{[(\eta^5\text{-Ind})\text{Mo}(\text{CO})_2(\mu\text{-Cl})]_2\}$ [2], were tested in this catalytic reaction, in liquid phase, under moderate conditions. The obtained CPA yields were comparable to patented literature data for CPA production technology using ZnCl₂ and ZnBr₂ as catalysts (which present drawbacks in terms of equipment corrosion and waste pollution).



[1] S. M. Bruno, C. A. Gamelas, A. C. Gomes, A. A. Valente, M. Pillinger, C. C. Romão, I.S. Gonçalves, *Catal. Commun.* 23 (2012) 58-61

[2] S. M. Bruno, A. C. Gomes, C. A. Gamelas, M. Abrantes, M. C. Oliveira, A. A. Valente, F. A. Almeida Paz, M. Pillinger, C. C. Romão, I. S. Gonçalves, *New J. Chem.* 38 (2014) 3172-3180

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