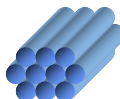


Mo (II) COMPLEXES FOR HOMOGENEOUS AND HETEROGENEOUS CATALYSIS

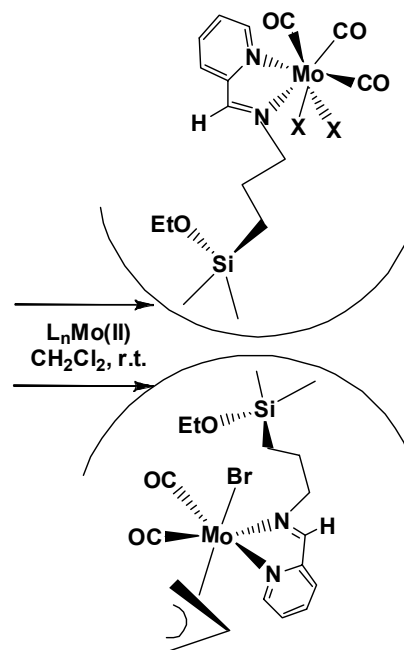
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Several complexes were obtained by reaction of pyridine-2-propylimine and other bidentate nitrogen ligands with the Mo(II) complexes $[\text{MoX}_2(\text{CO})_3(\text{L})_2]$ ($\text{X}=\text{I}, \text{Br}$) and $[\text{MoBr}(\text{CO})_2(\eta^3\text{-C}_3\text{H}_5)(\text{MeCN})_2]$ by replacement of two nitrile ligands. Mesoporous MCM-41 type hybrid materials were synthesized and functionalized with the analogous silylated bidentate nitrogen ligands. They reacted with the three



organometallic precursor complexes, to afford new immobilized complexes suitable as heterogeneous catalysts. Both the complexes and the new materials were characterized by standard techniques. The activity of these complexes and the new materials was tested in the catalytic epoxidation of cyclooctene, styrene and allylic alcohols, in the presence of *t*-BuOOH as oxidant. The conversions and TOFs are high in general, and in some cases the heterogeneous catalysts perform better than the homogeneous ones. These results were compared with those obtained for the analogous complexes and materials containing the more symmetric 1,4-diazobutadiene ligand¹, $\text{R-N}=\text{C}(\text{Ph})-(\text{Ph})\text{C}=\text{N-R}$, $\text{R}=(\text{CH}_2)_2(\text{CH})_3$ or $(\text{CH}_2)_3\text{Si}(\text{OEt})_3$ and will be discussed in detail.



1. Gimenez J.; Nunes C. D.; Vaz P. D.; Valente, A. A.; Ferreira, P.; Calhorda, M. J., *J. Mol. Cat. A*, **2006**, 256, 90.

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