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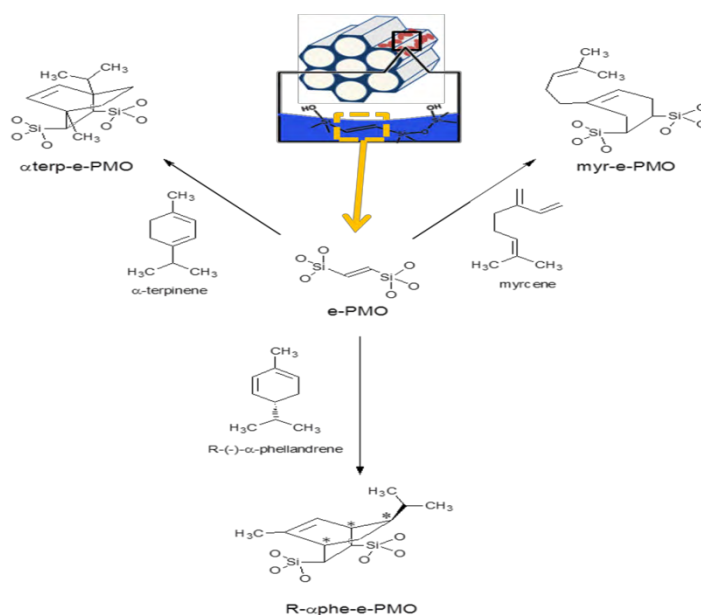
CONSTRUCTION OF CHIRAL STRUCTURES ON THE SURFACE OF MESOPOROUS ORGANOSILICAS

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In the late 90's a new class of siliceous mesostructured materials was synthesized incorporating organic species of different nature within siliceous walls. These materials, called PMOs (Periodic Mesoporous Organosilicas) are organic-inorganic hybrid structures which combine ordered mesoporous silica structural features with chemical functionalization of organic polymers. They are synthesized using a disilane with a general formula $(R'O)_3\text{-Si-R-Si-(OR')}_3$, where -R- is the organic component, in the presence of the appropriate surfactant. Such materials have high specific surface areas and narrow pore size distributions. Moreover, one of its main advantages is the possibility to modify the organic bridges in their framework to create functionalities [1-3]. In this study, a Diels-Alder reaction is used to generate new surface adducts on an (E)-ethenylene-bridged PMO. The resulting materials have been characterized by different techniques such as XRD, ^{13}C NMR and adsorption measurements.



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[1] Inagaki, S.; Guan, S.; Fukushima, Y.; Ohsuna, T.; Terasaki, O. *J. Am. Chem. Soc.*, **1999**, *121*, 9611.

[2] Melde, B. J.; Holland, B. T.; Blandford, C. F.; Stein, A. *Chem. Mater.*, **1999**, *11*, 302.

[3] Asefa, T.; MacLachlan, M. J.; Coombs, N.; Ozin, G. A. *Nature*, **1999**, *402*, 867.