

Synthesis of Tetra (4-carboxyphenyl)porphyrin bridged Periodic Mesoporous Organosilica by Microwave Method

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PMO is a special type of hybrid organic-inorganic material, in which organic moieties are integrated into the silica framework. In this work, Tetrakis(4-carboxyphenyl)porphyrin-bridged silsesquioxane as the building molecule was successfully prepared by reacting Tetrakis(4-carboxyphenyl)porphyrin with 3-aminopropyltriethoxysilane in tetrahydrofuran. TCPP bridged periodic mesoporous silica was easily prepared to have porphyrin moiety on the inside wall of SBA-15 and supposed to play role as a single site catalyst. The microwave played essential role to successful synthesis of TCPP-PMOs with high stability. TCPP bridged periodic mesoporous silicas gave the good to excellent catalytic activities as an organocatalysis like hydrogen transfer reaction.