

Synthesis and catalytic application of Rhodamine B imprinted ZSM-5

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Molecular Imprinting aims to create solid materials containing chemical functionalities that are ordered by covalent or non-covalent interactions with imprinted molecules during the synthesis. In here we report the facile synthesis of Rhodamine B (RhB) imprinted ZSM-5 and its application in catalysis. Rhodamine B dye acts as an imprinting molecule with non-covalent interactions with the residual unbalanced charges of alumina and silica via supramolecular interactions leading to formation of porous zeolitic framework of ZSM-5. Subsequent removal of the imprint molecules (RhB) leaves behind designed sites for the recognition of small molecules, which is suited for catalysis. The catalytic application towards synthesis of rhodamine B and flavanone have been studied.