

Enzyme immobilized mesoporous SBA-15 for CO₂ capture

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Mesoporous SBA-15 was synthesized using P123 and TEOS (Tetraethyl orthosilicate) as a structure-directing agent and silica source respectively. The defective Si-OH groups were functionalized with amine and subsequently treated with gultraldehyde the enzyme carbonic anhydrase (CA) immobilized over it. The prepared solid biocatalyst was used for CO₂ capture studies using batch reactor at ambient temperature. The kinetic study was conduct to estimate the rate of catalysis of enzyme (CA) immobilized mesoporous SBA-15 towards CO₂ capture.