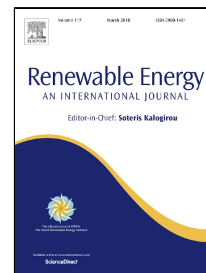


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Esterification of guaiacol with octanoic acid over functionalized mesoporous silica

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Highlight

- (1) SiO₂-Phenyl-SO₃H yields 66% ester from guaiacol with octanoic acid at 130°C.
- (2) Phenyl group promotes the incorporation of -SO₃H with catalyst precursor.
- (3) S/phenyl ratio is key role for activity and stability of SiO₂-Phenyl-SO₃H.
- (4) Polarity of phenyl accelerated water mobility, shifted equilibrium, protected acid sites.

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