

# Efficient and One-pot Production of 2,5-dimethylfuran (DMF) from Fructose Using Bi-Functionalized Mesoporous Silica Nanocatalysts

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Due to the recent demand for green and economical alternatives to traditional fossil fuels, this research dedicates itself to the synthesis of DMF from fructose. The usage of a solid acid catalyst is crucial for this reaction owing to the benefits these heterogeneous catalysts provide. For this experiment, bi-functionalized mesoporous silica nanoparticles (MSN) in a THF system have shown desirable results in one-pot of 2,5-dimethylfuran (DMF) from fructose under mild conditions (75 °C, 15 hr). And, the maximum DMF yield (65.50%) was obtained.

Keywords: biofuel, biomass, mesoporous silica nanoparticles (MSN), bi-functional.

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