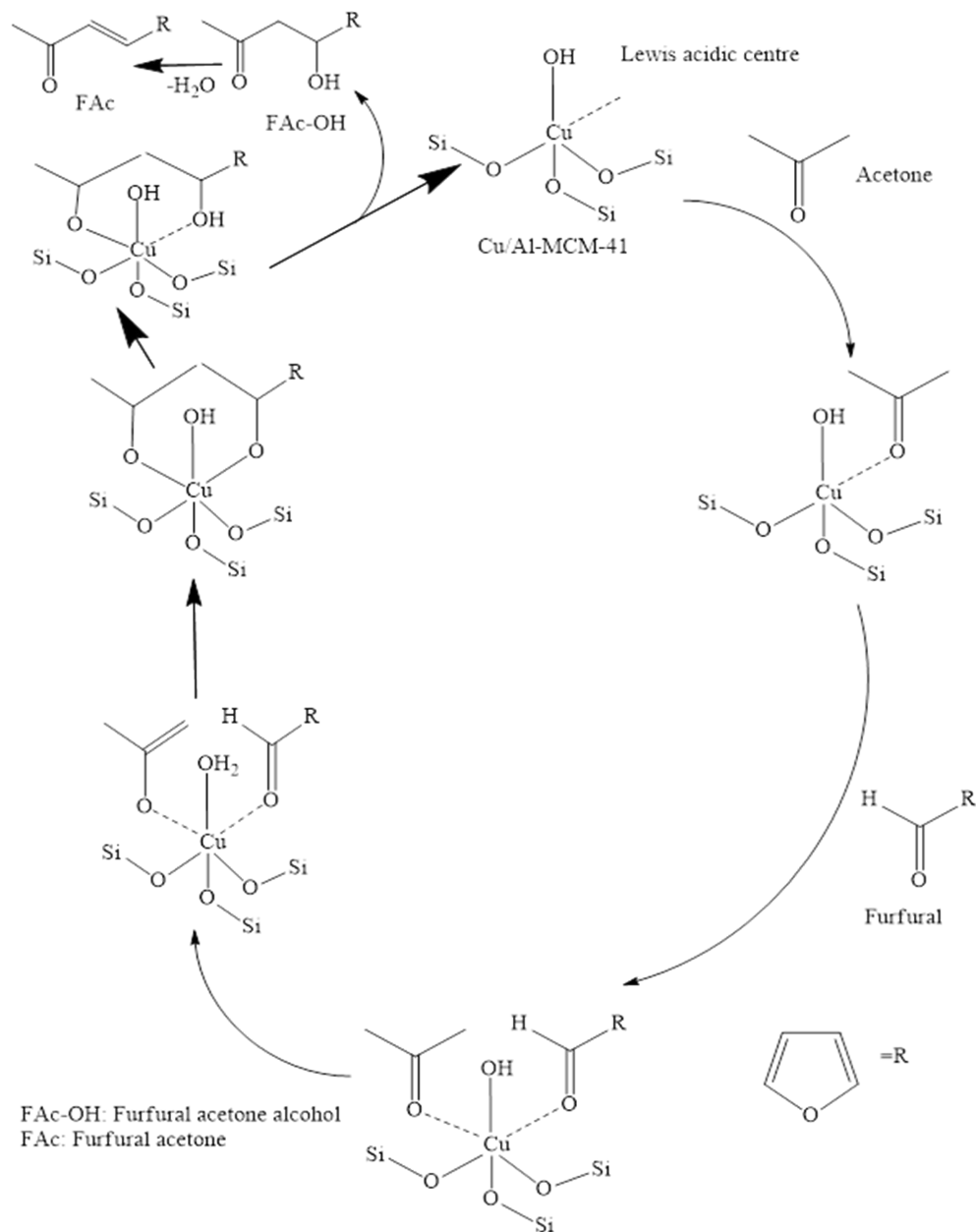


## Supplementary Data

### Renewable fuel intermediate from furfural over copper-loaded mesoporous aldol condensation catalysts

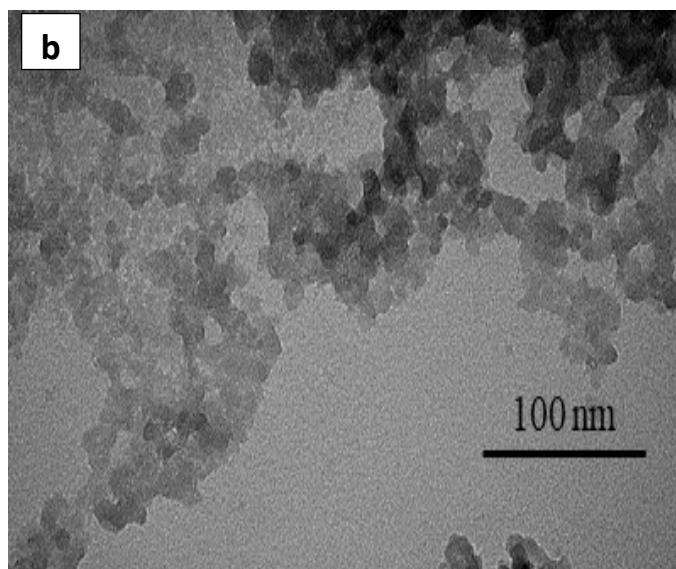
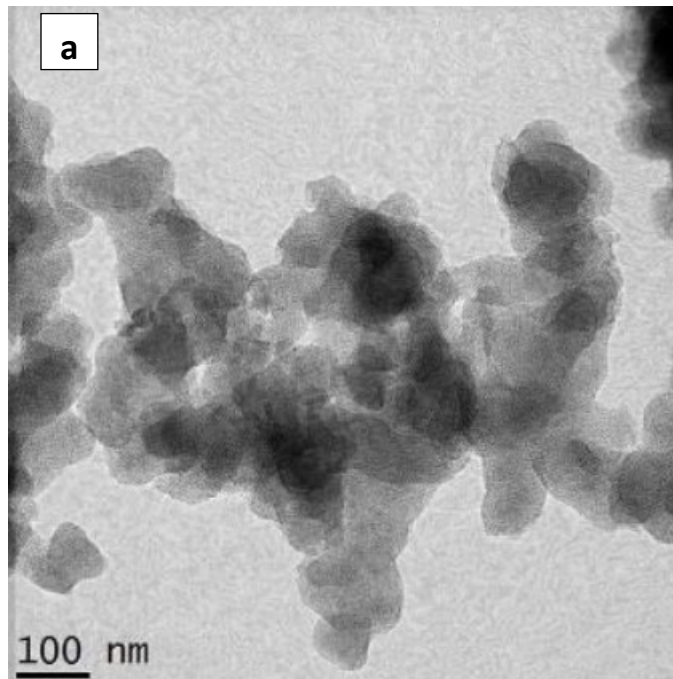
Priyanga Gandhi, Biswajit Saha, Sundaramurthy Vedachalam and Ajay K. Dalai

Catalysis & Chemical Reaction Engineering Laboratories, Department of Chemical & Biological Engineering, University of Saskatchewan, Saskatoon, SK, Canada

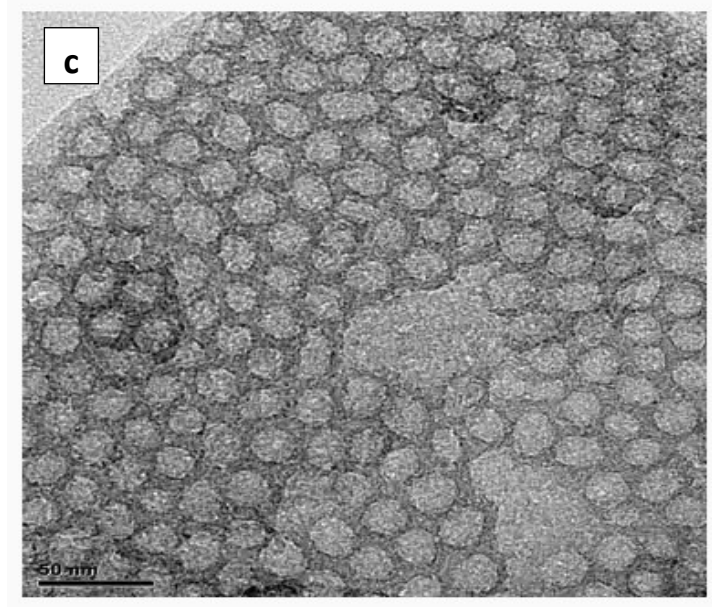


**Figure S1.** Possible mechanism of aldol condensation of furfural and acetone over Cu-impregnated Al-MCM-41 catalyst.

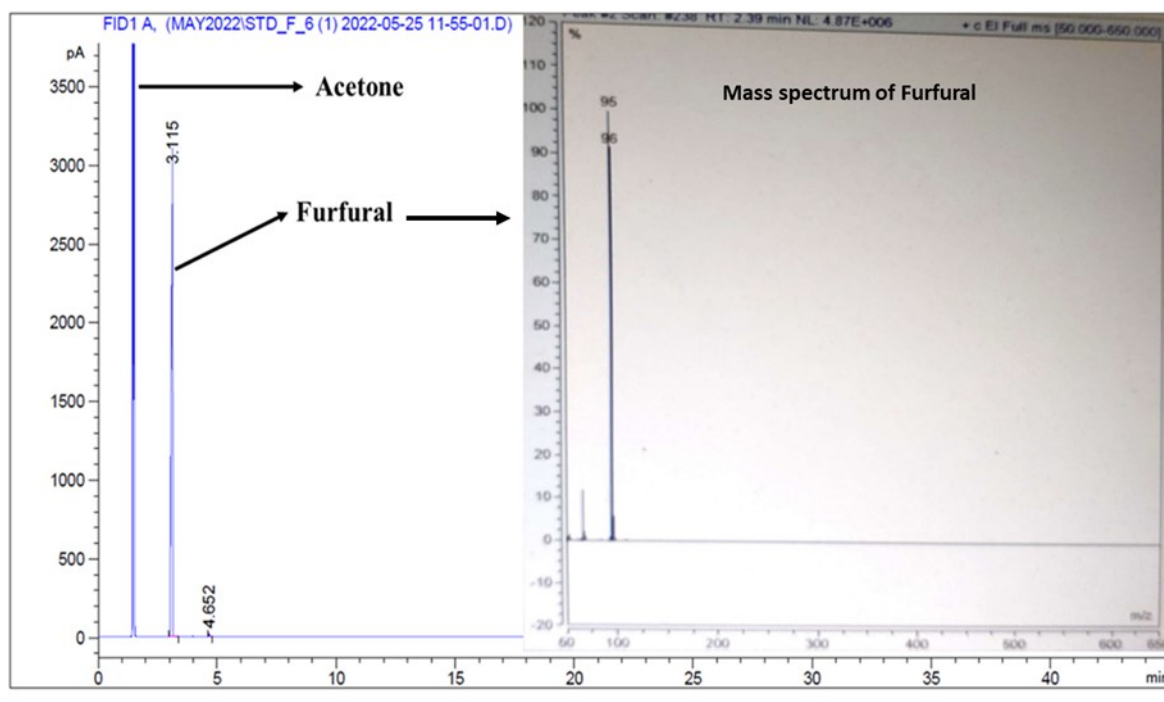
## Supplementary Data



## Supplementary Data

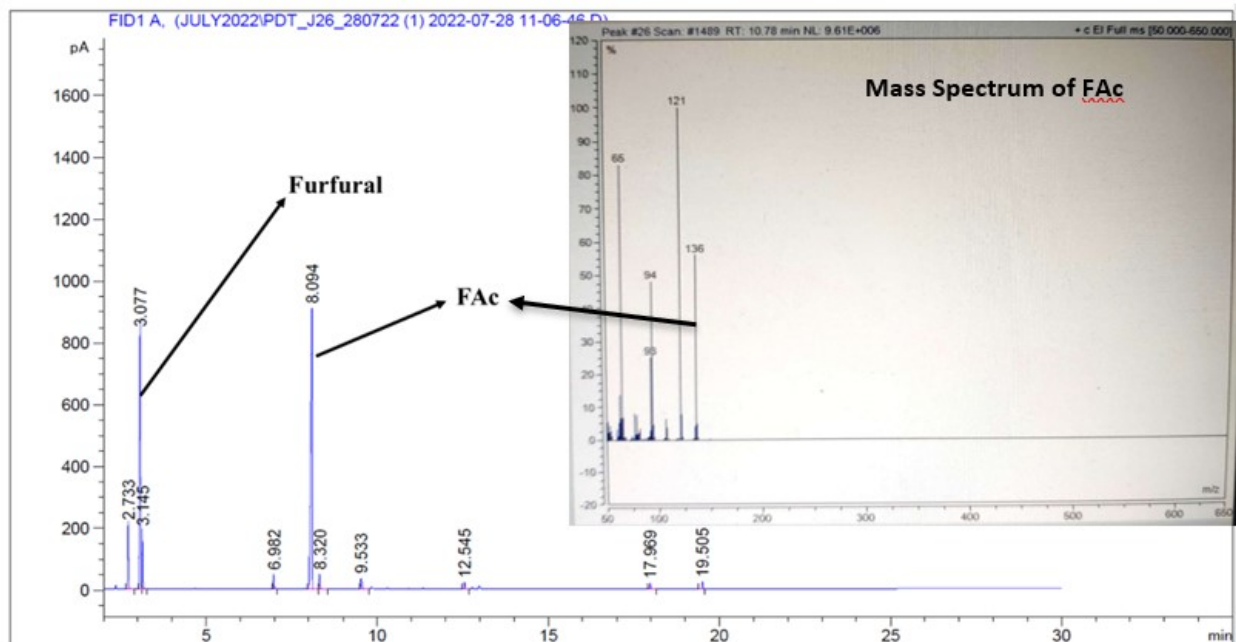


**Figure S2.** TEM of (a) commercial Al-MCM-41, (b) Al-TUD-1 and (c) commercial FDU-12. Note: TEM images of Al-MCM-41 and FDU-12 are provided by ACS Material, LLC.



**Figure S3.** GC chromatogram and mass spectrum of reaction mixture before reaction.

## Supplementary Data



**Figure S4.** GC chromatogram and mass spectrum of product mixture over 20 wt% Cu/Al-MCM-41

**Table S1-** Cu dispersion and turnover frequency of Cu-loaded catalysts

Catalyst	Metal dispersion (wt%)	TOF (h <sup>-1</sup> )
20 wt% Cu/Al-MCM-41	11	8.17
20 wt% Cu/Al-TUD-1	8	7.67
20 wt% Cu/FDU-12	6	6.64