

Supporting Information

Self-assembly of mesoporous TiO₂ nanospheres via aspartic acid templating pathway and its catalytic application for 5-hydroxymethylfurfural synthesis

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5-Hydroxymethylfurfural (HMF) ¹H NMR (CDCl₃): ¹H NMR (400 Hz, CDCl₃): δ 9.58 (s, 1H), 7.20 (d, *J* = 2.8 Hz, 1H), 6.51 (d, *J* = 2.8 Hz, 1H), 4.70 (s, 2H). ¹³C NMR (100 Hz, CDCl₃): δ 177.76, 160.97, 152.04, 123.47, 109.94, 57.25.

Fig. S1. ^1H NMR spectra (CDCl_3) of the isolated product HMF extracted with diethyl ether from the reaction mixture in DMA-LiCl.

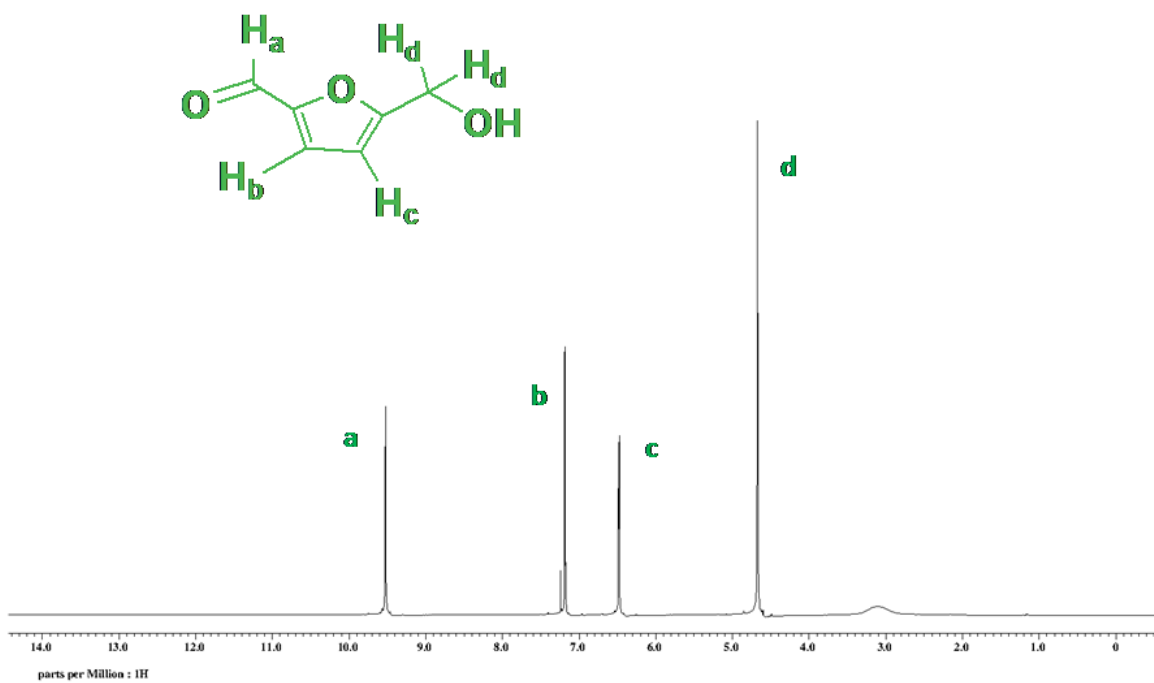


Fig. S2. ^{13}C NMR spectra (CDCl_3) of the isolated product HMF extracted with diethyl ether from reaction mixture.

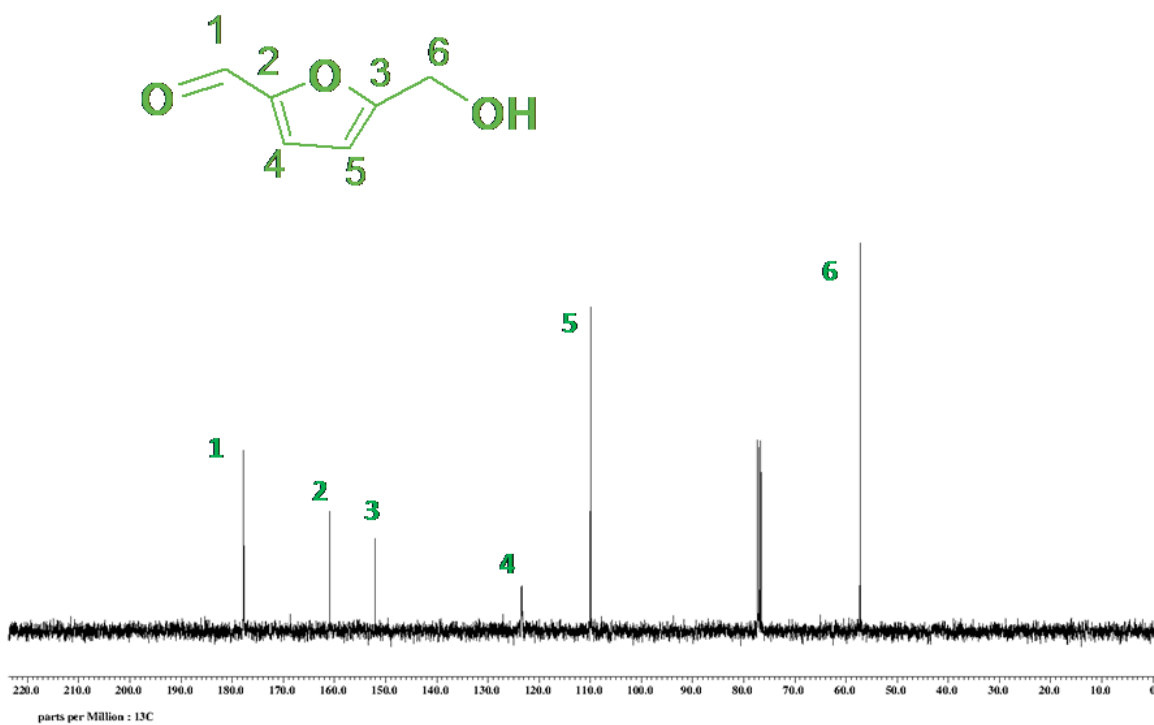
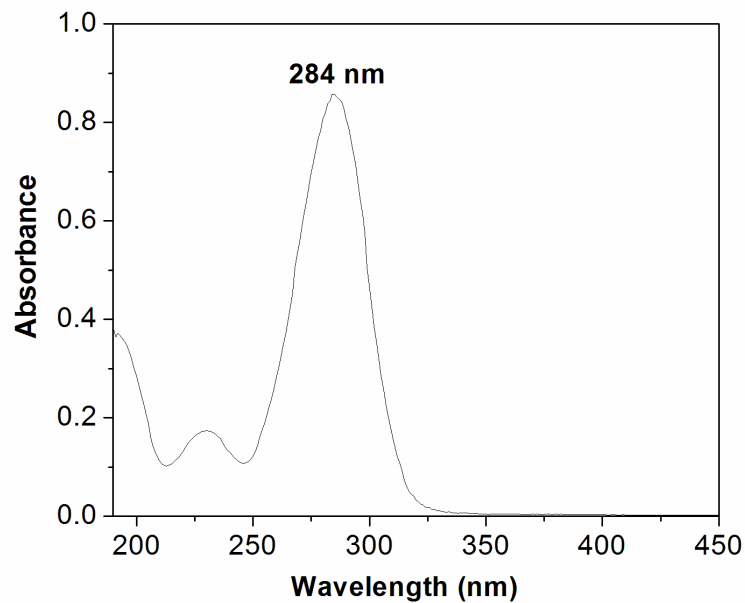


Fig. S3. Representative UV-Vis spectrum of HMF extracted from the reaction mixture of the catalytic dehydration of glucose with TiO₂ catalyst in DMA-LiCl under microwave



irradiation.

Fig. S4. HPLC chromatogram of HMF extracted from the reaction mixture of the catalytic dehydration of fructose with TiO_2 catalyst in DMA-LiCl under microwave irradiation.

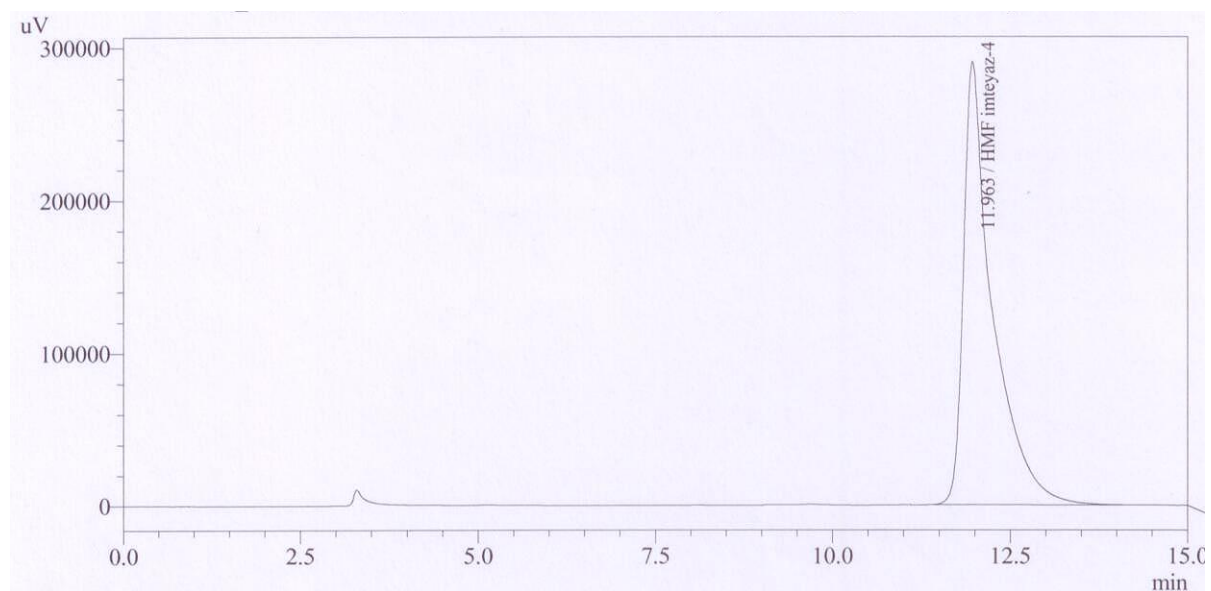


Fig. S5. HPLC chromatogram of authentic HMF sample.

