

## Supplementary Material

### Dehydration of fructose, sucrose and inulin to 5-hydroxymethylfurfural over yeast-derived carbonaceous microspheres at low temperatures

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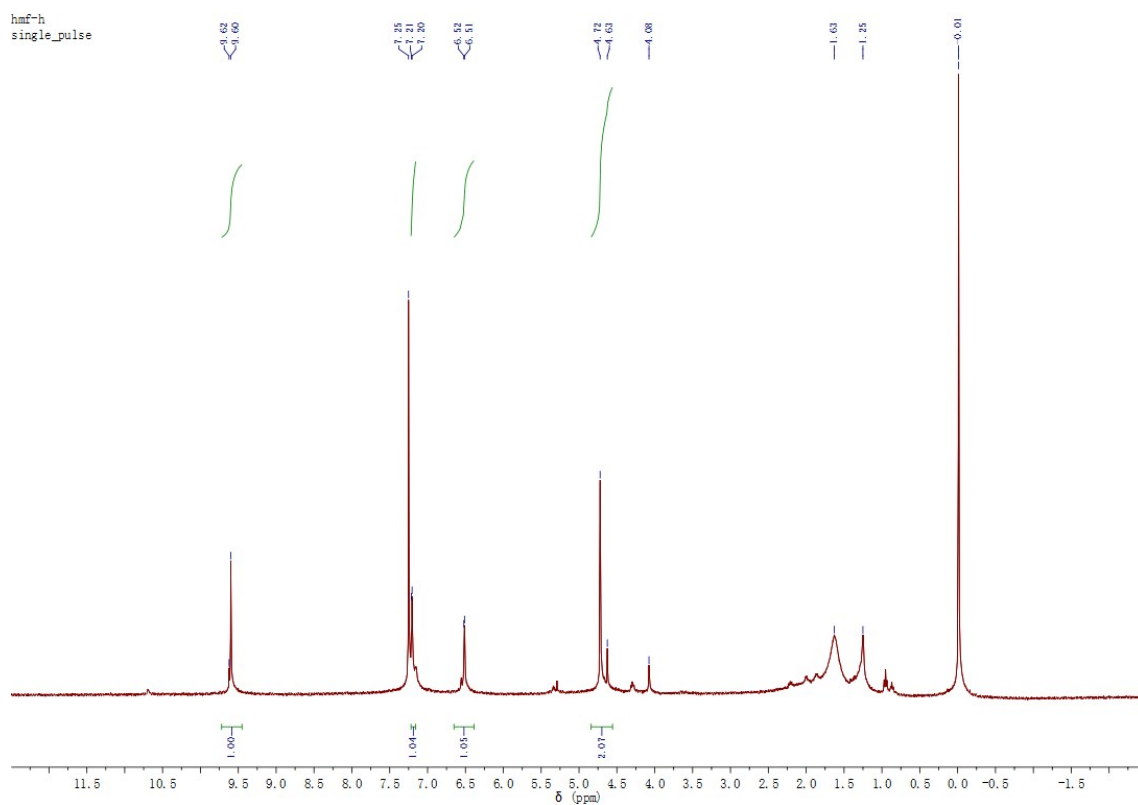


Fig. S1 <sup>1</sup>H NMR spectroscopy of 5-HMF (400 MHz, *d*<sub>4</sub>-methanol, 298 K, ppm) δ 9.00 (m, 6H), 8.60 (s, 6H), 7.91 (m, 6H).

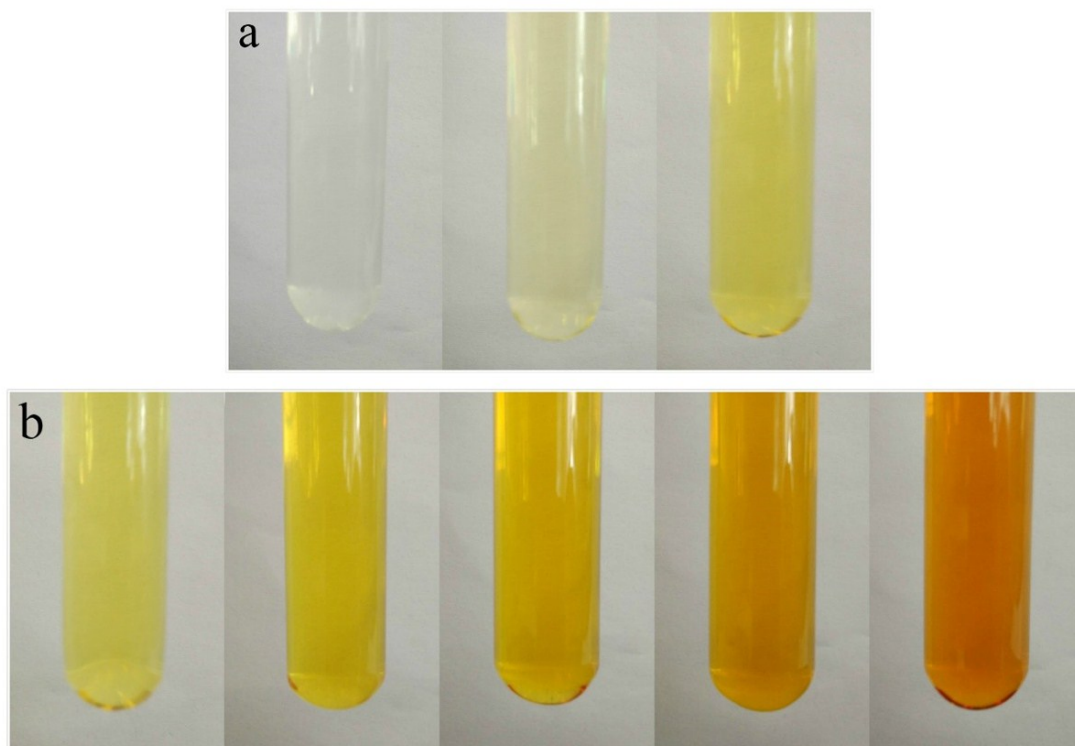


Fig. S2 5-HMF extracted by ethyl acetate for reaction temperature (70, 80 and 90 °C from left to right) of 5 min and different time (5, 10, 20, 30 and 60 min from left to right) at 90 °C

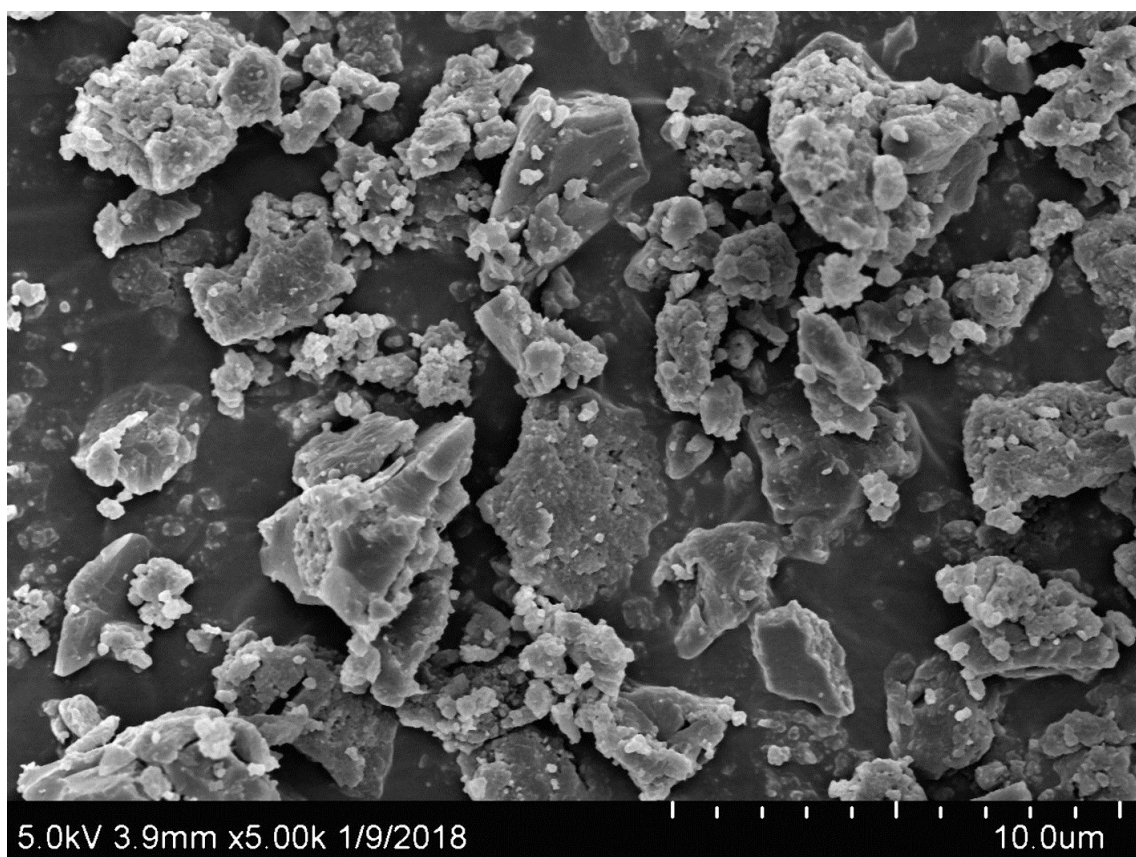


Fig. S3. SEM image of CM-SO<sub>3</sub>H after five runs of sucrose dehydration reaction. (Reaction conditions: sucrose 0.25 g, CM-SO<sub>3</sub>H 50 mg, [BMIM][Cl] 2.50 g, 80 °C for 30 min).