

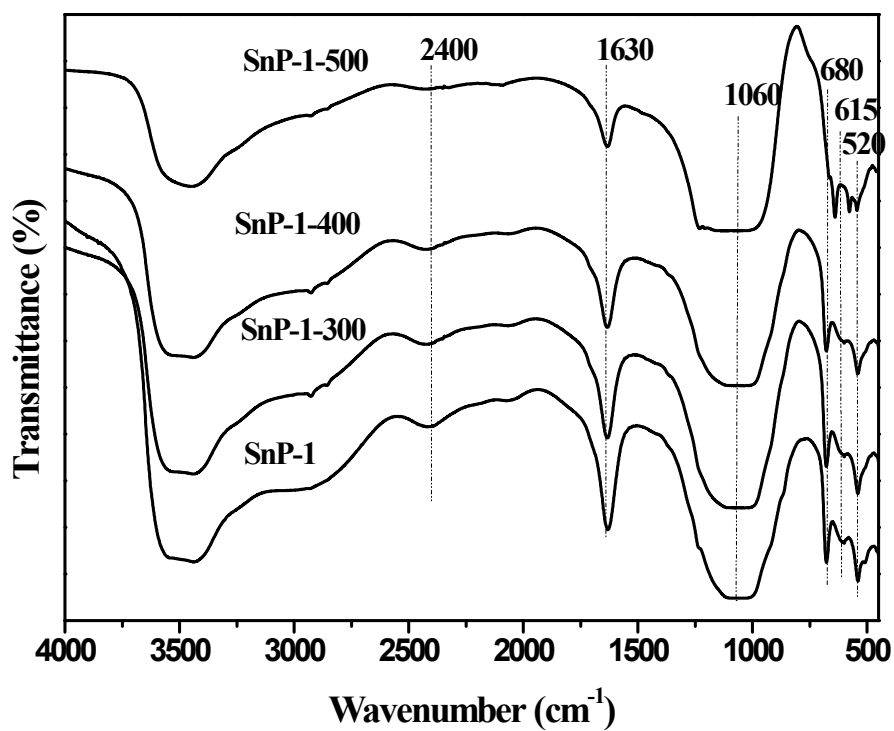
## Supporting Information

### **Simple and green route for preparation of tin phosphate catalysts by solid-state grinding for dehydration of glucose to 5-hydroxymethylfurfural (HMF)**

Kasanneni Tirumala Venkateswara Rao, Sadra Souzanchi, Zhongshun Yuan,  
Madhumita B. Ray, Chunbao (Charles) Xu\*

*Department of Chemical and Biochemical Engineering, Western University, London,  
Ontario, Canada N6A 5B9*

*\*Corresponding Author: [cxu6@uwo.ca](mailto:cxu6@uwo.ca)*



**Figure S1.** FT-IR spectra of as-synthesized SnP-1 and calcined SnP-1 catalysts

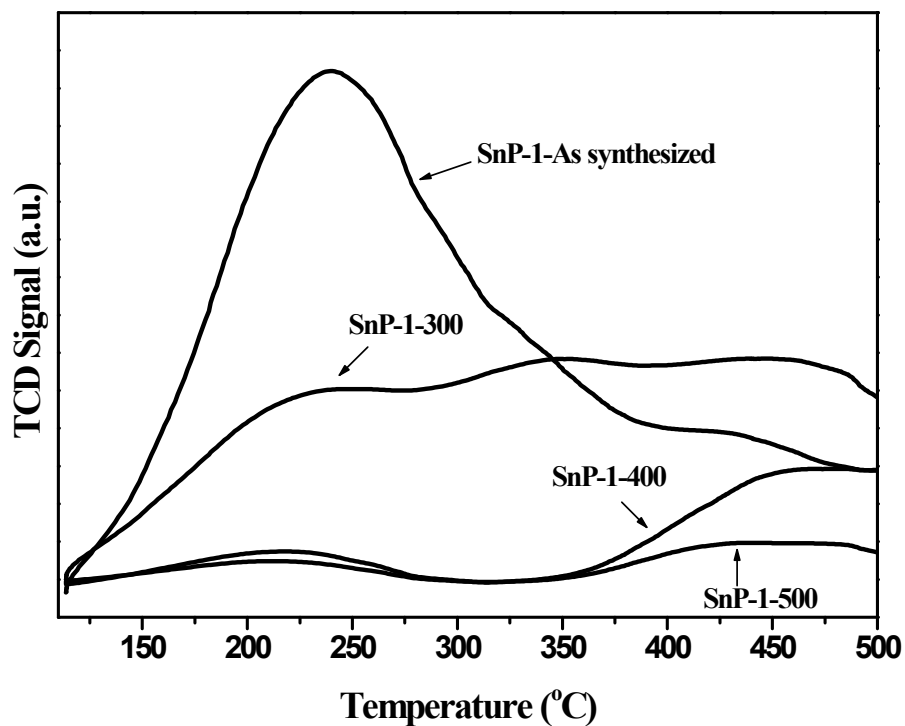


Figure S2. NH<sub>3</sub>-TPD pattern of as-synthesized SnP-1 and calcined SnP-1 catalysts

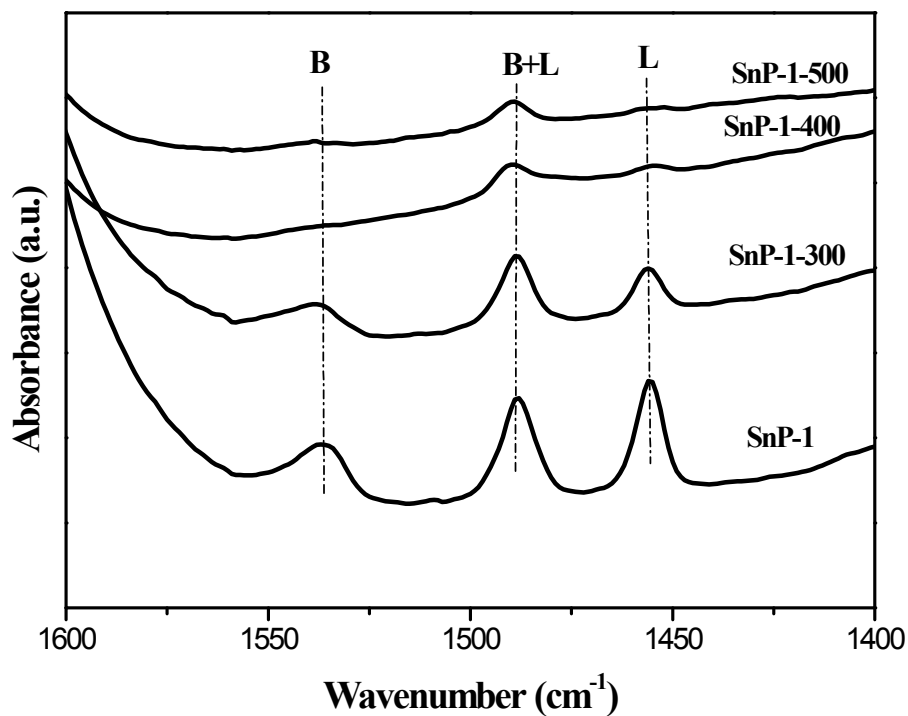
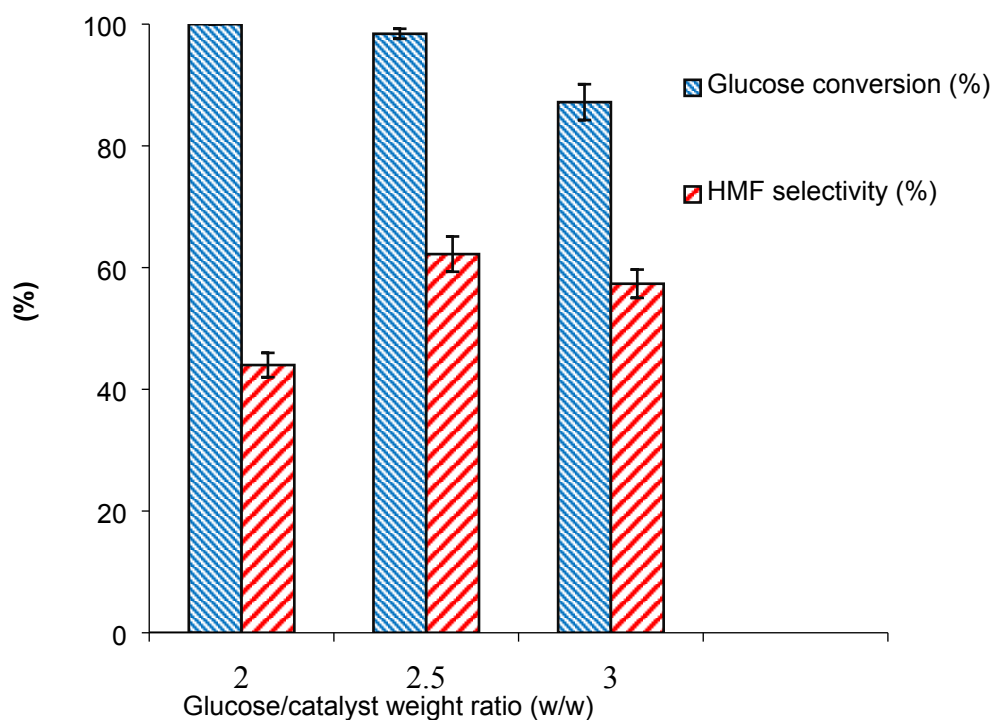
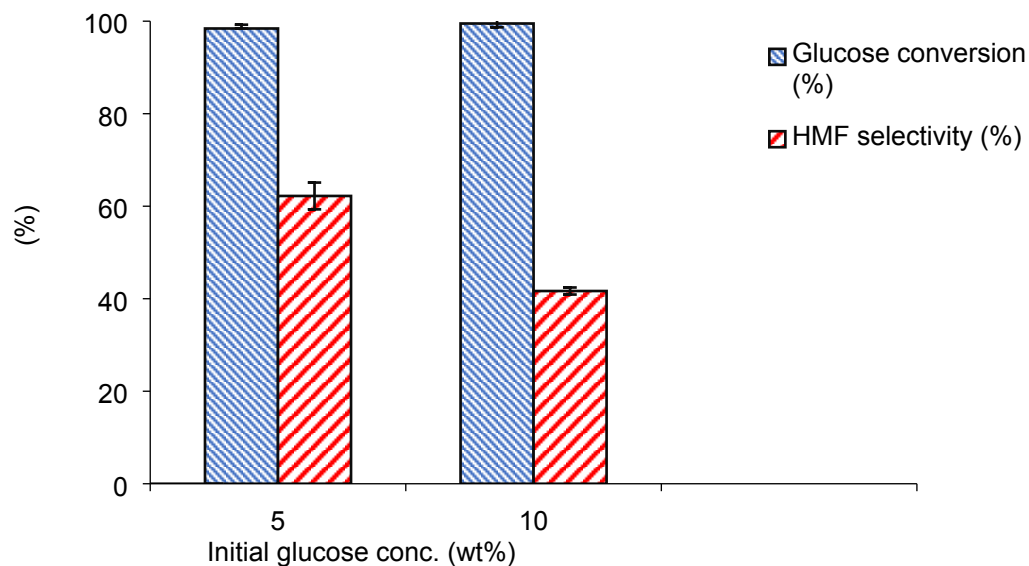


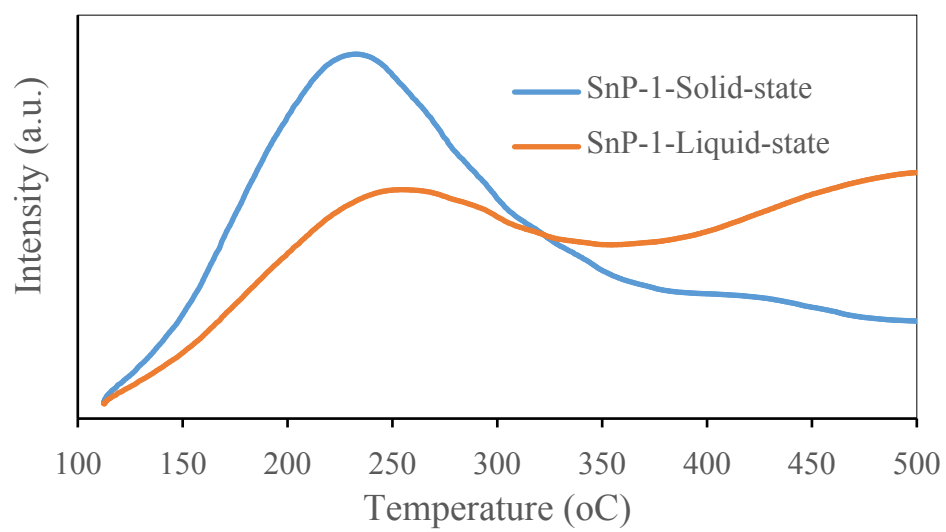
Figure S3. Pyridine FT-IR spectra of as-synthesized SnP-1 and calcined SnP-1 catalysts



**Figure S4.** Glucose dehydration to HMF over the as-synthesized SnP-1catalyst at various catalyst loadings. Other reaction conditions: glucose (0.150 g), NaCl (0.525 g), H<sub>2</sub>O (3 mL), THF (9 mL), 175 °C, 1 h.



**Figure S5.** Influence of initial glucose concentration on HMF yield with the as-synthesized SnP-1 catalyst. Other reaction conditions: glucose/cat. 2.5:1 w/w, NaCl (0.525 g), H<sub>2</sub>O (3 mL), THF (9 mL), 175 °C, 1 h.



**Figure S6.** NH<sub>3</sub>-TPD pattern of SnP-1-S and SnP-1-L catalysts