Supporting Information

Selective hydrogenation of furfural to tetrahydrofurufuryl alcohol over Rh-loaded carbon catalyst in aqueous media under mild conditions

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**Fig. S1** XRD of Rh/C catalyst

**Fig. S2** TEM-EDS elemental mapping for Rh/C catalyst.
Fig. S3 (a) XPS of Rh 3d for Rh/C catalyst, (b) XPS of C 1s for Rh/C catalyst.
Scheme 1: Synthesis of Ni/CB. For the synthesis of Ni/AC AC was used instead of CB.

Scheme 2: Synthesis of Ni/C derived from Ni-MOF.
**Fig. S4** XRD of Ni/CB catalyst after reduction at 450 °C.

**Fig. S5** XRD of Ni/C catalyst derived from Ni-MOF after reduction at 450 °C.
**Fig. S6** SEM of Ni/CB catalyst.

**Fig. S7** SEM of Ni/C catalyst derived from Ni-MOF.
**Fig. S8** XRD of Active carbon and Rh/C catalyst.

**Fig. S9** XRD of Rh/Al₂O₃ catalyst.
**Fig. S10** Effect of reaction time on the FOL hydrogenation under ambient H₂ pressure. Reaction condition: FOL 12 mg, Rh/C 5 mg, DMA 5 mL, H₂ gas flow rate 30 mL min⁻¹, 30 ºC.

**Fig. S11** Effect of reaction time on the FAL hydrogenation under ambient H₂ pressure. Reaction condition: FAL 23 mg, Rh/C 10 mg, DMA 10 mL, H₂ gas flow rate 30 mL min⁻¹, 30 ºC.
Fig. S12 Effect of substrate concentration on the FOL hydrogenation under ambient H₂ pressure. Reaction condition: Rh/C 5 mg, DMA 5 mL, H₂ gas flow rate 30 mL min⁻¹, 16 h.

Fig. S13 Effect of substrate concentration on the FAL hydrogenation. Reaction condition: Rh/C 25 mg, H₂O 25 mL, H₂ pressure 1 MPa, 30 ℃, 8 h.
Fig. S14 (a) The rate constant for FAL hydrogenation into FOL, (b) Arrhenius plot for FAL hydrogenation into FOL. Reaction condition: FAL 60 mg, Rh/C 25 mg, water 25 mL, H₂ gas flow rate 30 mL min⁻¹.
Fig. S15 Proposed mechanism for the hydrogenation of FAL into THFA over Rh/C catalyst.