

Supporting information

Selective hydrogenolysis of 5-hydroxymethylfurfural to 2,5-dimethylfuran with ethanol as hydrogen donor over β -Mo₂C embedded in carbon microspheres

Ningning Cao, Yong Chen, Kaiyun Lu, Chengming Wu, Buzaynafu Abudila, Jifan Li*,
Chun-Ling Liu, Wen-Sheng Dong*

Key Laboratory of Applied Surface and Colloid Chemistry (SNNU), MOE, School of Chemistry and Chemical Engineering, Shaanxi Normal University, Xi'an 710062, Shaanxi, China

*Corresponding authors. E-mail addresses: lijifan@snnu.edu.cn (Jifan Li), wsdong@snnu.edu.cn (Wen-Sheng Dong).

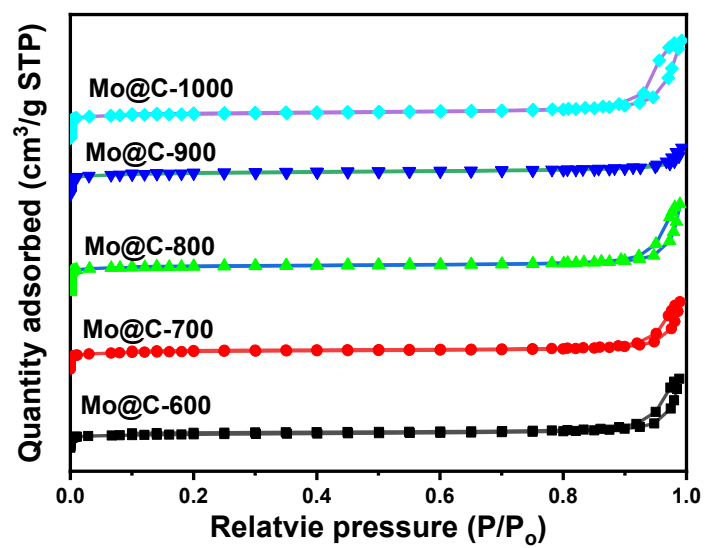


Figure S1 N₂ adsorption-desorption isotherms of catalysts

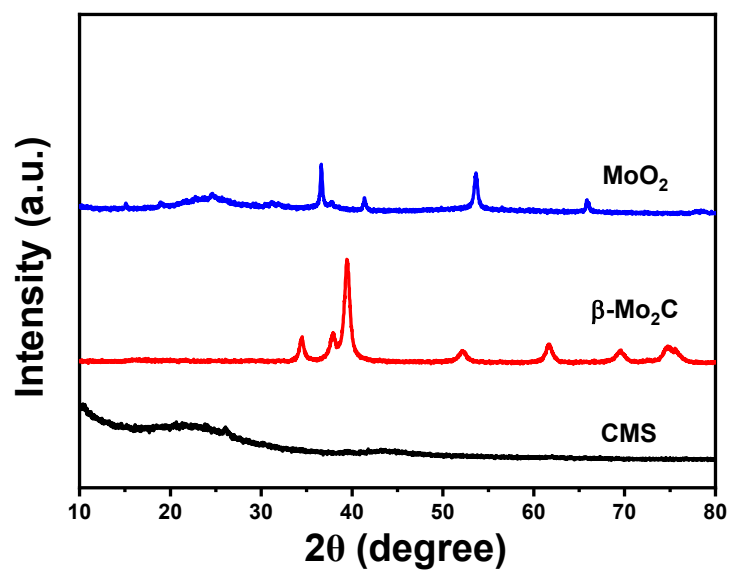


Figure S2 XRD patterns of these pure phase catalysts

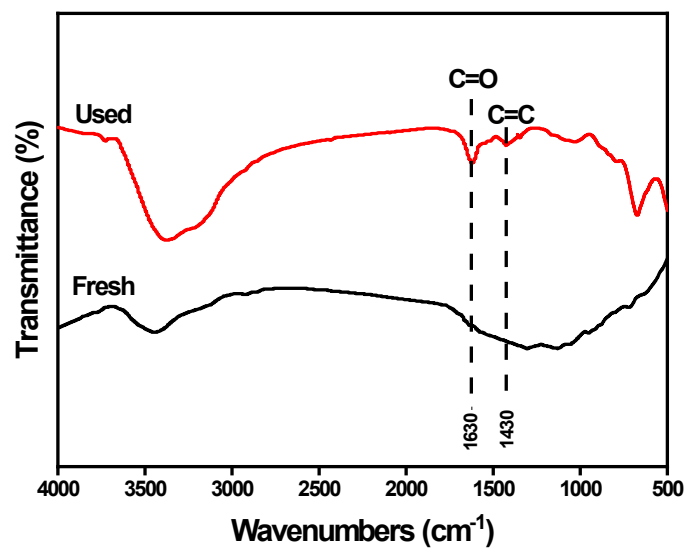


Figure S3 FTIR spectra of the fresh and used catalysts

Table S1 Catalytic performance of catalysts^a

Catalysts	Conversion (mol%)		Yield (mol%)		
	5-HMF	DMF	5-MF	5-MFA	DHMF
CMS	26.3	–	4.1	–	– ^b
MoO ₂	4.7	–	1.2	–	–
β-Mo ₂ C	41.5	4.6	64.4	–	–
Mo@C-900	>99.9	15.7	48.1	–	–

^aReaction conditions: 0.2 g 5-HMF, 0.01 g catalyst, 20 mL tetrahydrofuran, 180 °C, 5 h, H₂ 2 MPa

^bNot detected