Supplementary Information

Effect of DMSO on the catalytical production of 2,5-bis(hydoxymethyl)furan from 5-hydroxymethylfurfural over Ni/SiO_2 catalysts

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1. Equations for yield, conversion, selectivity and carbon recovery calculations.

$$\text{Product yield (mol. \%)} = \frac{\text{(product moles)}}{\text{(initial moles of HMF)}} \text{ x } 100$$

$$\text{Conversion (\%)} = (1 - \frac{\text{moles of unreacted HMF}}{\text{initial moles of HMF}}) \text{ x } 100$$

$$\text{Product selectivity (mol. \%)} = \frac{\text{(yield)}}{(conversion)} \text{ x } 100$$

$$\text{Product carbon (mol. \%)} = \frac{\text{(product moles x } n_p)}{\text{(initial moles of HMF x } n_{HMF})} \text{ x } 100$$

where n_{HMF} and n_p were the numbers of carbon in the corresponding HMF and product.

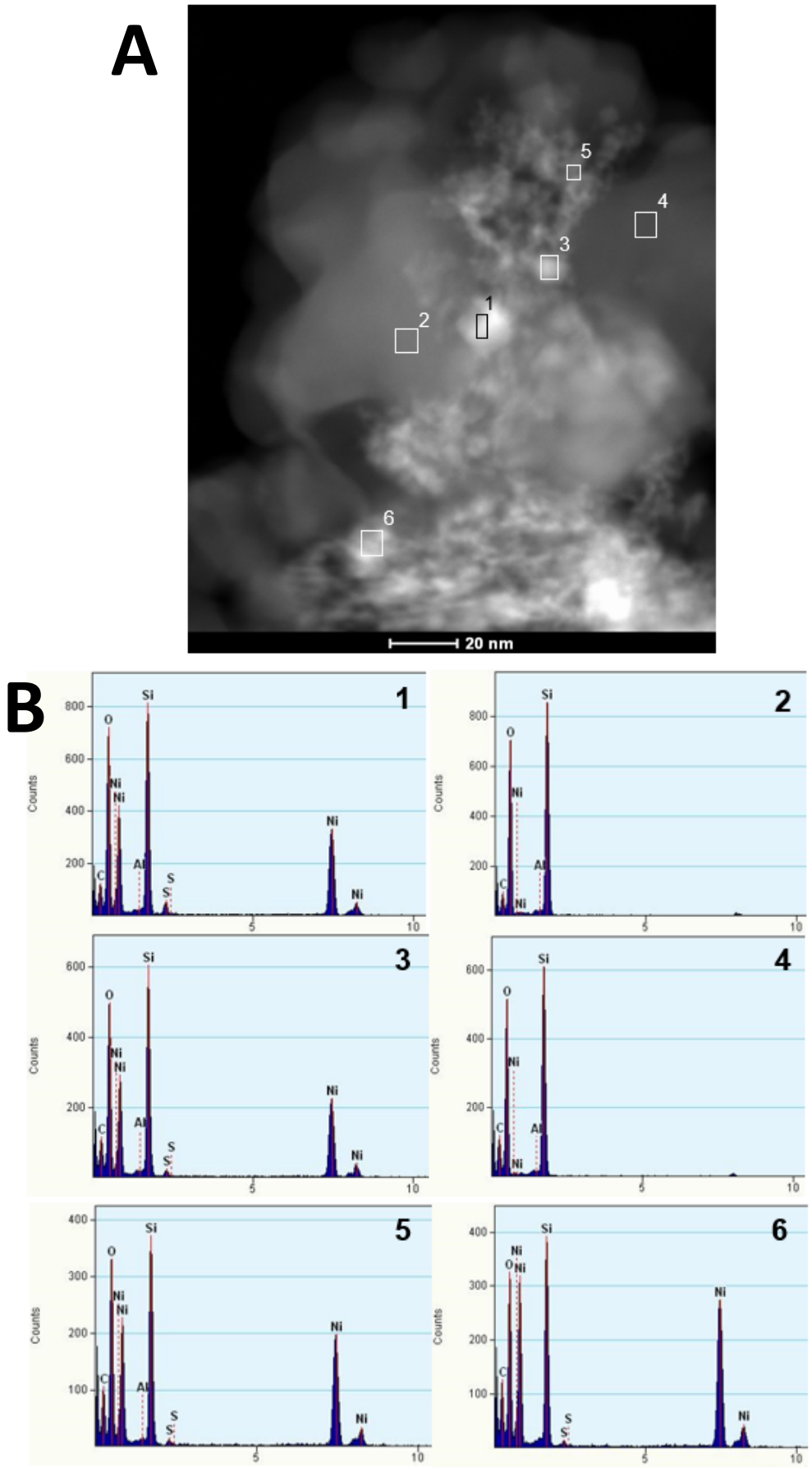

Figure S1. HAADF-STEM micrograph analyses of spent 15Ni/SiO2 catalyst (a) and the corresponding positions of EDX spectra (b).