Electronic Supplementary Material (ESI) for RSC Advances.

Supporting information

Highly selective hydrodeoxygenation of anisole, phenol and guaiacol to benzene over nickel phosphide

Yunhua Li*, Juan Fu, Binghui Chen

Department of Chemical and Biochemical Engineering, College of Chemistry and Chemical Engineering, National Engineering Laboratory for Green Chemical Productions of Alcohols-Ethers-Esters, Xiamen University, Xiamen, 361005, PR China

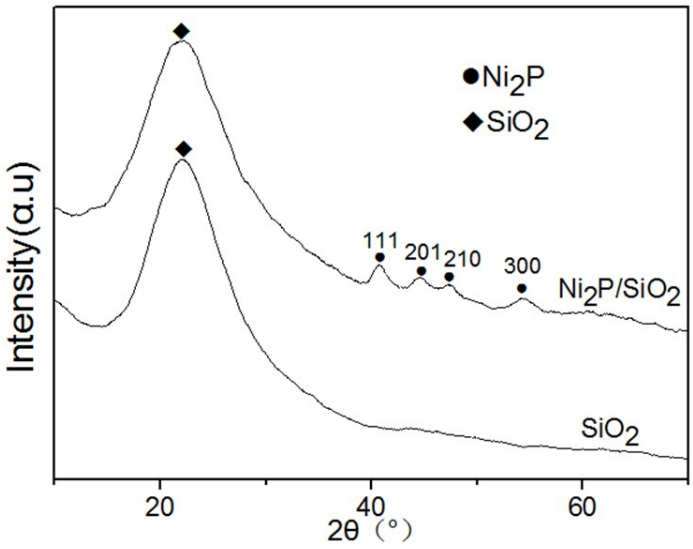

Fig. S1 X-ray diffraction patterns of the Ni_2P catalyst

Table S1 Composition and physical properties of the Ni_2P supported catalyst

Catalyst	Content[a]	$S_{BET}(m^2/g)$[b]	d(nm)[b]	$V_{total}(cm^3/g)$[b]
Ni_2P	7.5	316	8.7	0.7

[a]. The result is derived from XRF

[b] . Data are from BET N_2 adsorption

* Corresponding author. Tel./fax:+86 0592 2183751.E-mail addresses: yunhuali@xmu.edu.cn (Y. Li),

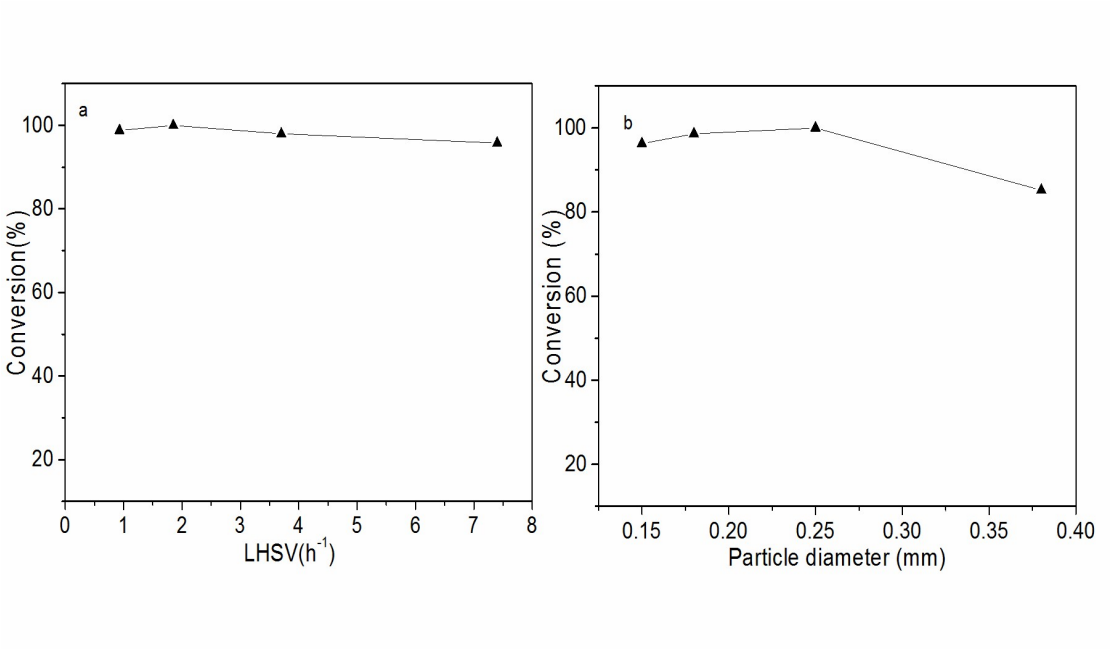

Fig. S2 Variation of the conversion with (a) LHSV and (b) particle size

(a) Reaction condition: 673 K , 0.5 MPa, particle diameter 0.18 mm, H_2/anisole mole ratio 45

(b) Reaction condition: 673 K , 0.5 MPa, LHSV 1.85 h^{-1}, H_2/anisole mole ratio 45

Table S2 Element analysis of before and after the reaction

Reactant	Reaction time(h)	Before reaction (Wt.%)			After reaction (Wt.%)		
		C	H	N	C	H	N
guaiacol	6	0.0	0.7	0.0	4.6	0.7	0.0
anisole	36	0.0	0.7	0.0	0.0	0.6	0.0