

Supplementary Information

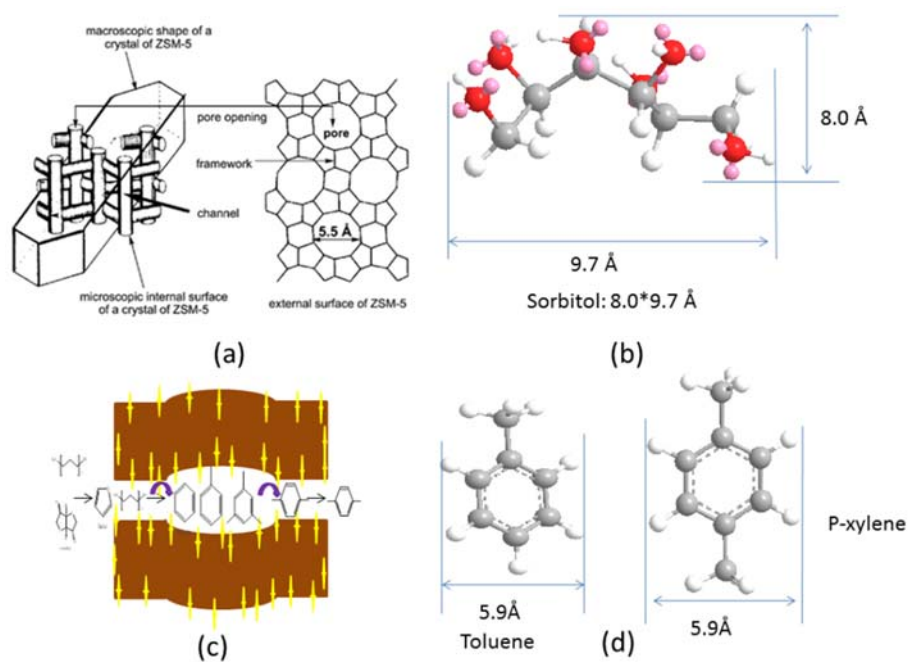


Figure S1. Pore size of zeolite and molecule size of reactant and products.

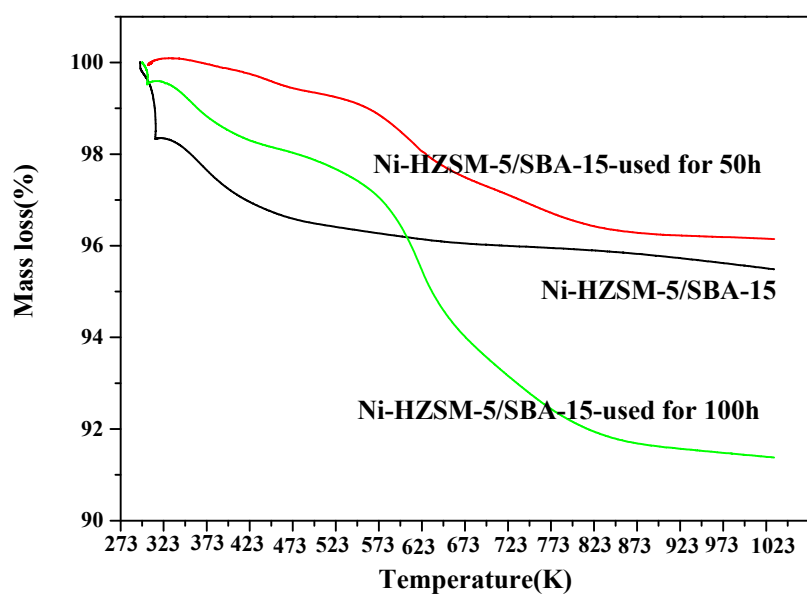
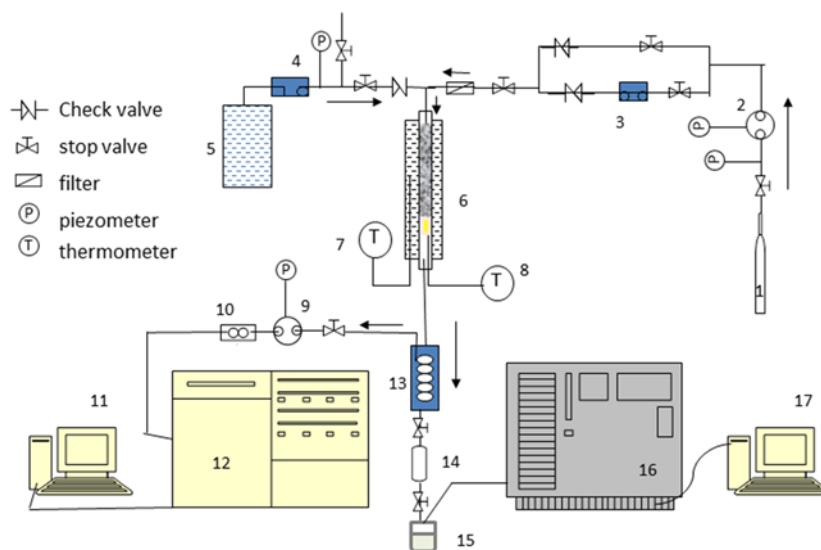


Figure S2. TG analysis of tested catalysts.

Table S1. Dimension of biomass feedstock and products from aqueous catalytic process.

Molecule	Critical Diameter (Width) (Å)	Maximum Diameter (Length) (Å)	Kinetic Diameter, σ (Å)
Glucose	8.503	8.61	8.6
Sorbitol	8.001	9.71	9.714
Xylitol			6.6
H ₂ O	1.89		3.0, cluster > 6.0
Furfural	4.56	5.99	5.5
Furan	4.27		5.9
Glycerol			6.3
Benzene	6.7	7.4	5.85
Toluene	6.7	8.7	5.85
<i>p</i> -Xylene	6.7	9.9	5.85
<i>m</i> -Xylene	7.4	9.2	6.80
<i>o</i> -Xylene	7.4	8.7	6.80
1,3,5-TMB	8.18	8.62	8.60
Ethyl benzene	6.7	9.2	6.0
Naphthalene	6.8	9.1	6.2
Indene			5.96
Cyclohexane	0.69		6.0
Hexane			4.3

**Figure S3.** The experimental setup of internally interconnected fixed bed reactor system.

1: H₂; 2: Pre-pressure controller; 3: Mass flow meter; 4: Syringe pump; 5: Feed reservoir; 6: Fixed bed reactor; 7, 8: Temperature controller and thermometer; 9: The rear pressure controller; 10: Exhaust gas flow meter; 11, 17: Computer; 12: GC/FID/TCD; 13: Ice-water condenser; 14: Condensing tank; 15: Collector; 16: HPLC.

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