Supplementary Information

NiO-PTA supported on ZIF-8 as a highly effective catalyst for hydrocracking of Jatropha oil

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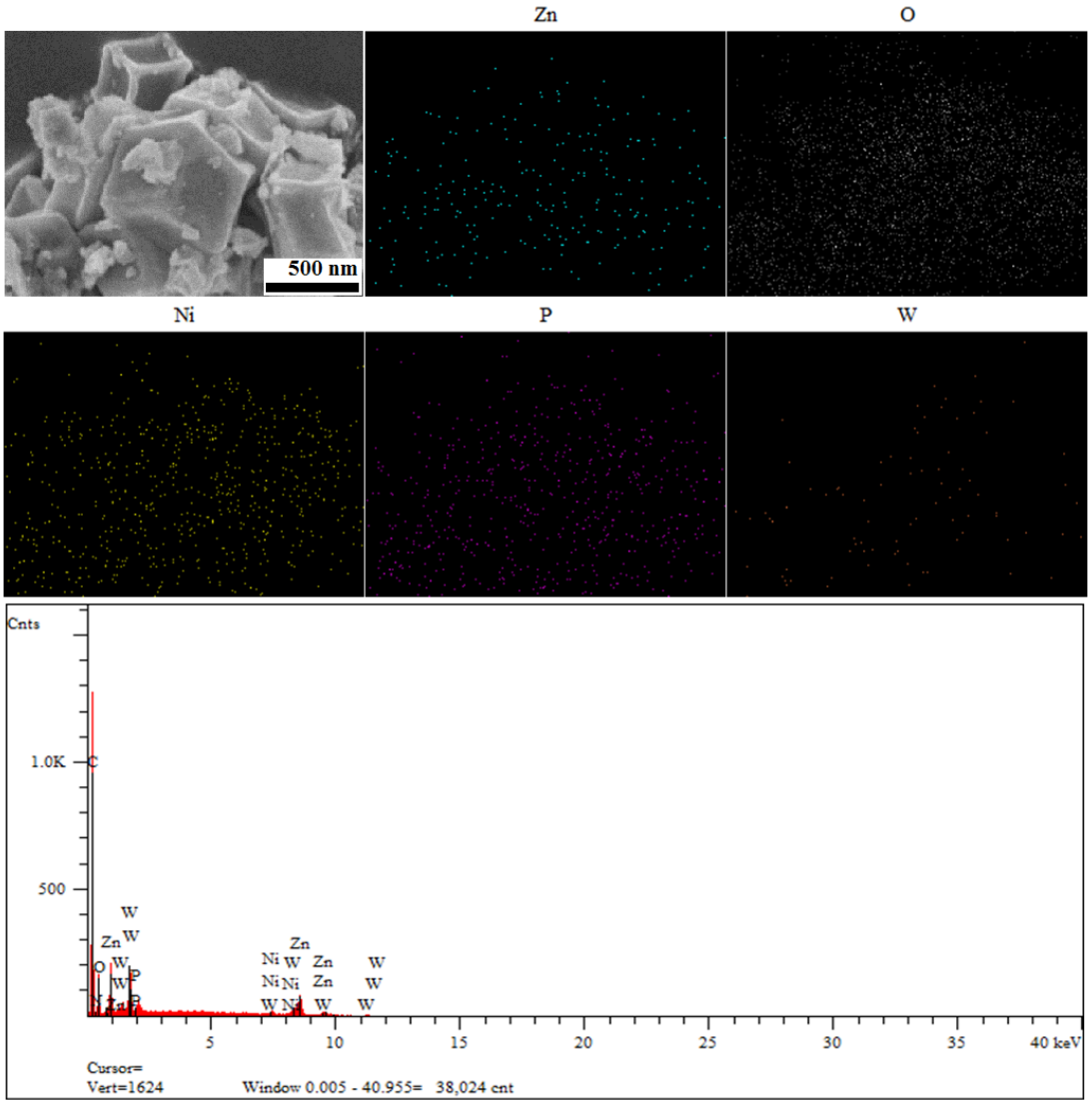

Figure S1 SEM-EDS surface mapping of Zn, O, Ni, P and W element at NiO-PTA/ZIF-8 catalyst.

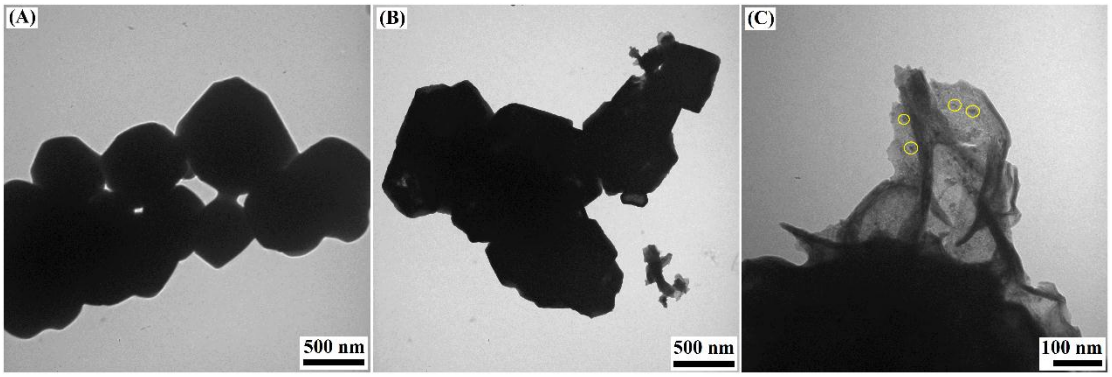

Figure S2 TEM image of ZIF-8 (A) and NiO-PTA/ZIF-8 catalyst (B and C).

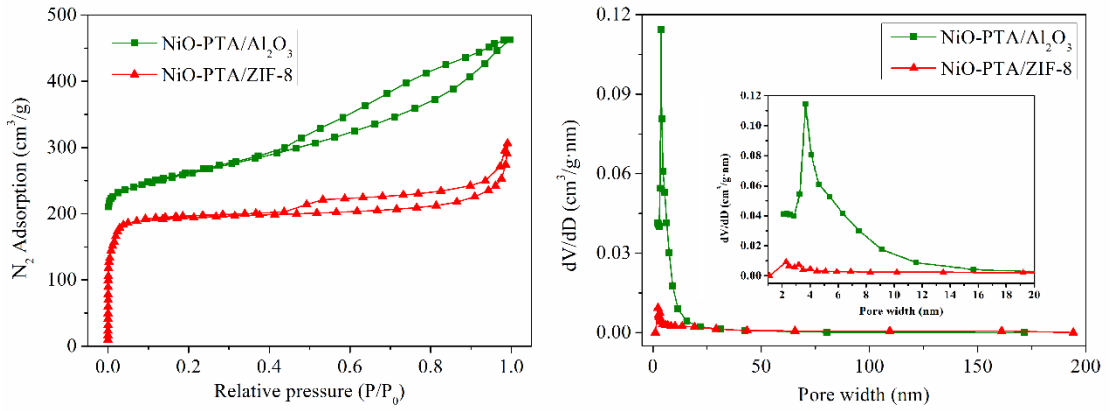

Figure S3 N_2 adsorption-desorption isotherms (A) and pore size distributions based on BJH method (B, inset: enlarge Figure) of NiO-PTA/Al_2O_3 and NiO-PTA/ZIF-8 with similar atomic content.

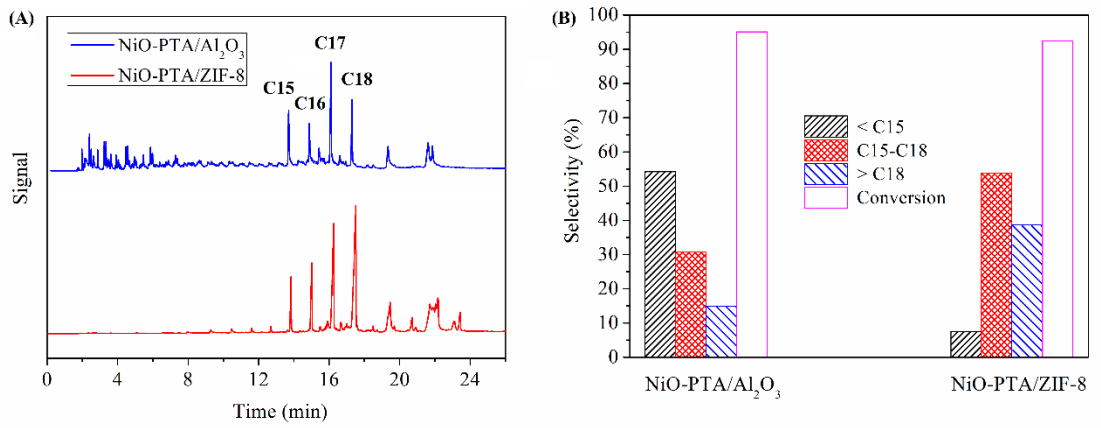

Figure S4 GC of the products obtained from hydrocracking of Jatropha oil (A) and comparison to the selectivity of products and conversion of Jatropha oil (B) over $NiO\text{-}PTA/Al_2O_3$ and NiO-PTA/ZIF-8 catalyst with similar atomic content (360 ℃).

Table S1 Effect of LHSV on the conversions of Jatropha oil and selectivity of products oil over NiO-PTA/ZIF-8 catalyst at reaction temperature 280-400 ℃, H_2 pressure 3.0 MPa

Temperature (℃)	LHSV (h^{-1})	Conversion (%)	Selectivity (%)		
			< C15	C15-C18	> C18
280	4.5	85.28	1.16	61.99	36.85
	9	80.31	1.45	60.68	37.87
	18	67.25	1.39	54.07	44.54
	36	48.4	1.25	39.12	59.63
320	4.5	90.62	5.83	67.45	26.72
	9	85.74	6.67	65.3	28.03
	18	74.83	7.12	53.34	39.54
	36	56.02	5.96	37.15	56.89
360	4.5	96.55	7.59	70.18	22.23
	9	93.63	11.64	67.31	21.05
	18	80.3	14.22	55.67	30.11
	36	65.21	12.6	39.86	47.54
400	4.5	99.79	37.54	51.77	10.69
	9	98.01	32.68	55.07	12.25
	18	87.53	24.9	58.48	16.62
	36	74.68	16.82	63.72	19.46