

SUPPLEMENTARY MATERIAL

Kinetic study of propane aromatization over Zn/HZSM-5 zeolite under conditions of catalyst deactivation using genetic algorithm

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Table S-I. Propane conversion, aromatics selectivity and yield on the ion exchanged and impregnated Zn/HZSM-5 catalysts for propane aromatization. (reaction conditions: $T=560^{\circ}\text{C}$, space velocity=500 $\text{cc g}_{\text{cat}}^{-1}\text{h}^{-1}$, TOS=0.5h, $P=1\text{atm}$, feed composition=50 mol% propane)

catalyst	Propane conversion, %	Aromatics selectivity, %	Aromatics yield, %
Ion Ion exchanged Zn/HZSM-5 with 0.01 M solution of zinc nitrate	55.1	59.7	32.9
Ion exchanged Zn/HZSM-5 with 0.02 M solution of zinc nitrate	63.2	63.6	40.2
Impregnated Zn/HZSM-5	64.8	67.0	43.4

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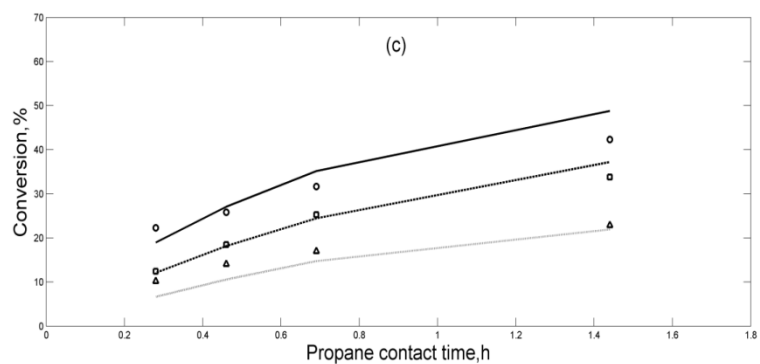
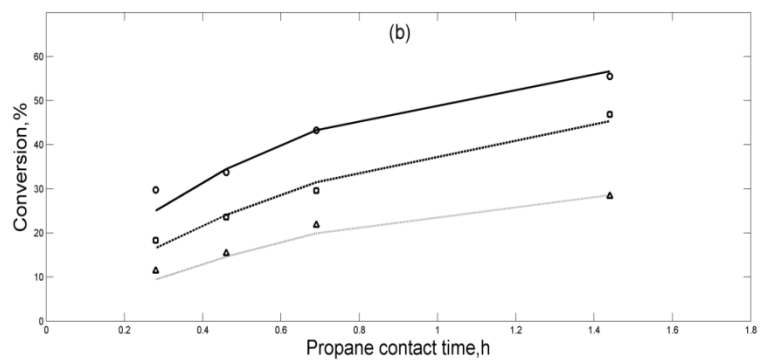
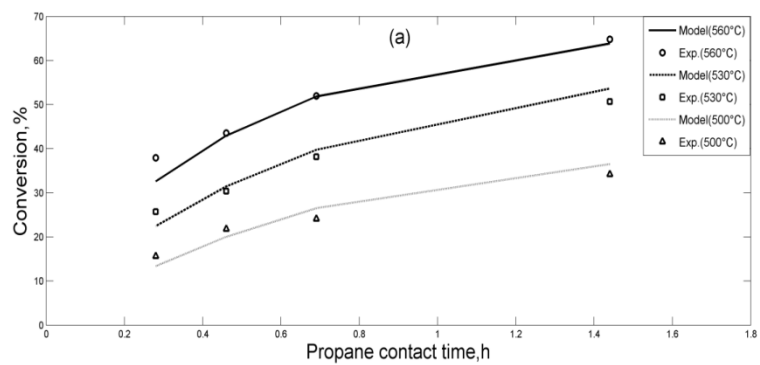


Fig. S-1. Effect of contact time on propane conversion at different temperatures and (a) TOS=0.5h, (b) TOS=1h, (c) TOS=2h.