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-І**.** Propane conversion, aromatics selectivity and yield on the ion exchanged and impregnated Zn/HZSM-5 catalysts for propane aromatization. (reaction conditions: *T*=560 °C, space velocity=500 cm3 gcat-1 h-1, TOS=0.5 h, *P*=1 atm, feed composition=50 mol% propane)

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| --- | --- | --- | --- |
| 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 |







Fig. S-1**.**  Effect of contact time on propane conversion at different temperatures and (a) TOS=0.5 h, (b) TOS=11 h, (c) TOS=21 h.

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