

Efficient utilization of hydrocarbon mixture to produce aromatics over Zn/ZSM-5 and physically mixed with ZSM-5

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Table S1. Result of nonthermal plasma-assisted methane conversion.

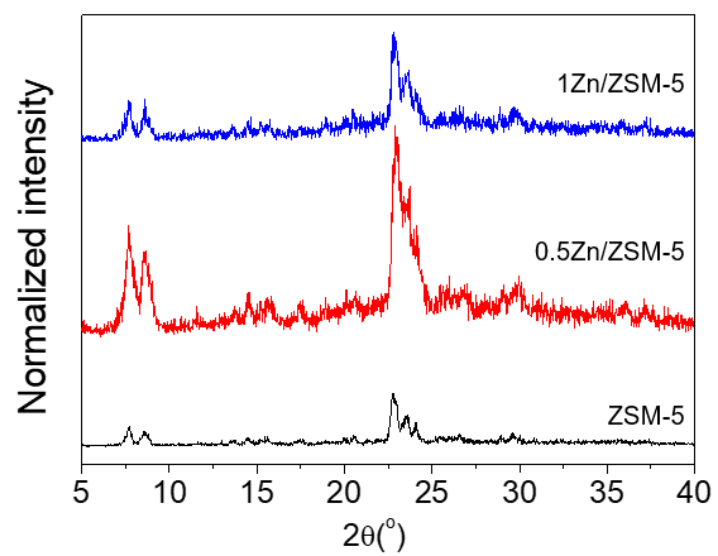


Figure S1. XRD results of ZSM-5, 0.5Zn/ZSM-5, and 1Zn/ZSM-5.

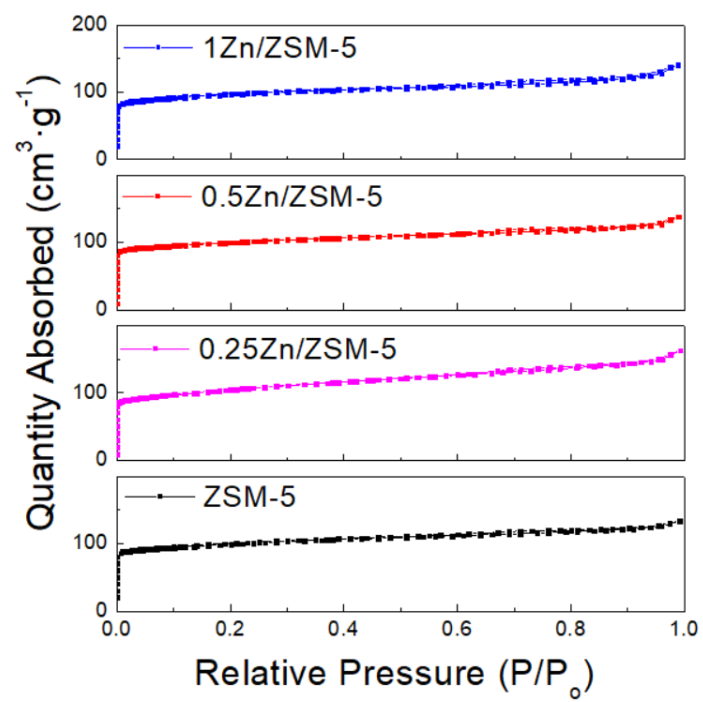


Figure S2. N_2 physisorption isotherm results of ZSM-5, 0.25Zn/ZSM-5, 0.5Zn/ZSM-5 and 1Zn/ZSM-5.

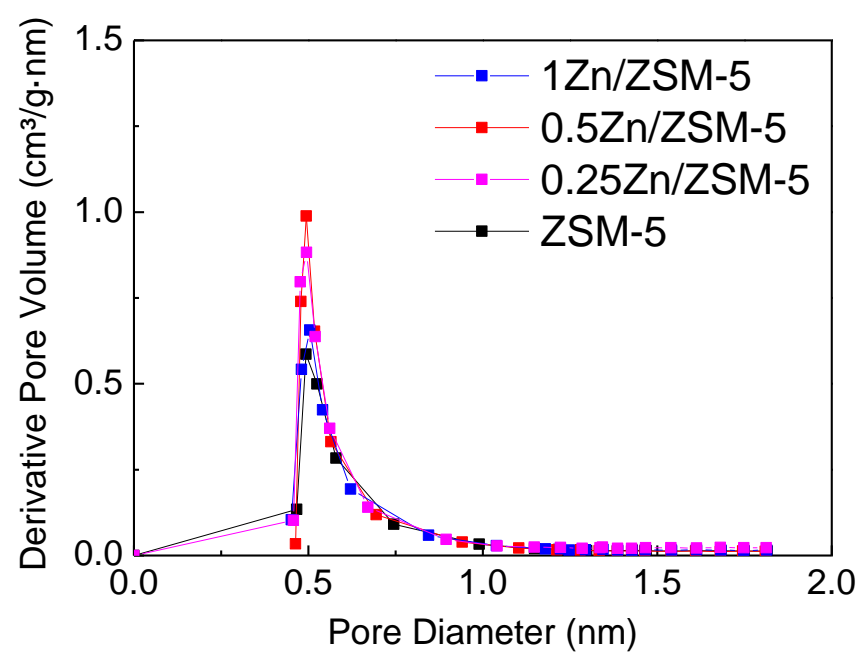


Figure S3. Pore size distribution of ZSM-5, 0.25Zn/ZSM-5, 0.5Zn/ZSM-5 and 1Zn/ZSM-5.

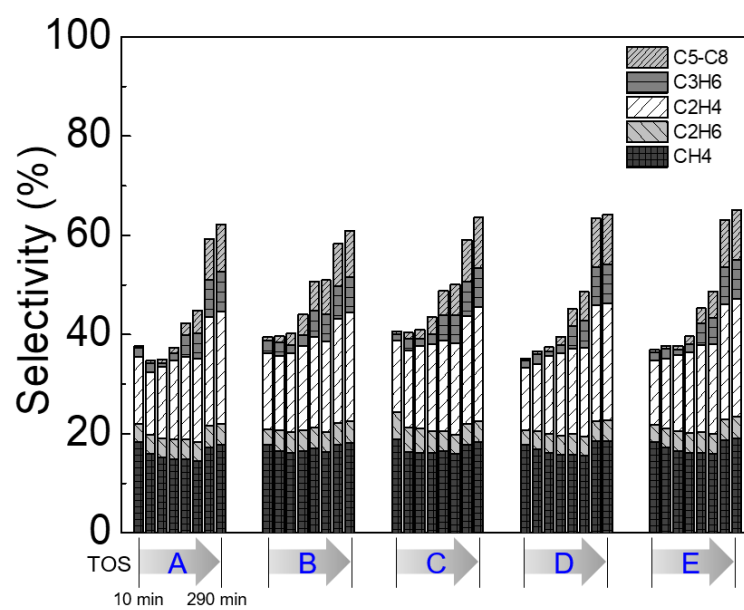


Figure S4. Aliphatic hydrocarbons selectivity of A: ZSM-5, B: 0.5Zn/ZSM-5, C: 1Zn/ZSM-5, D: ZSM-5 + 0.5Zn/ZSM-5, and E: 0.25Zn/ZSM-5.

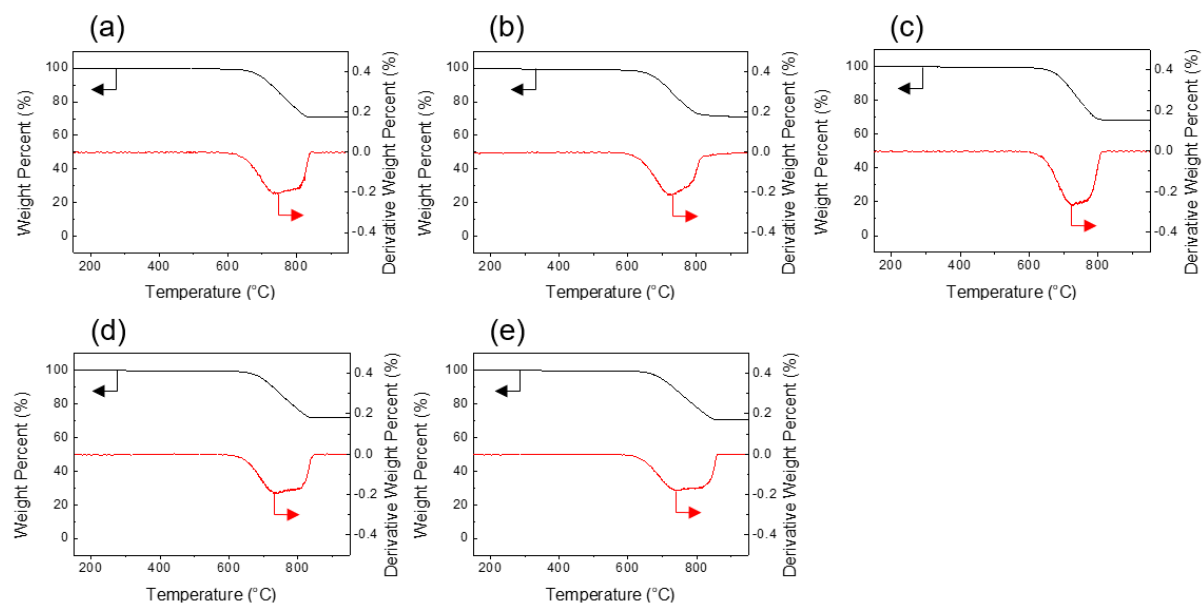


Figure S5. TG/DTA results of spent (a) ZSM-5, (b) 0.5Zn/ZSM-5, (c) 1Zn/ZSM-5, (d) ZSM-5 + 0.5Zn/ZSM-5, and (e) 0.25Zn/ZSM-5.

Table S1. Result of nonthermal plasma-assisted methane conversion.

Catalysts	Me- thane Conver- sion (%)	Selectivity (%)						C ₂ - C ₄ Yiel d (%)
		H ₂	C ₂ H ₂	C ₂ H ₄	C ₂ H ₆	C ₃	C ₄	
α -Al ₂ O ₃ (S)	54.8	57.0	46.5	7.00	10.4	7.48	25.2	53.0