

Electronic Supplementary Information

Facile synthesis of SAPO-34 with excellent methanol-to-olefin activity in a short time via conventional hydrothermal method

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Table S1 Weight loss of the deactivated samples from the TG curves.

Sample	Weight loss (%)		
	I ^a	II ^b	I+II
SAPO-34-3h	4.0	10.8	14.8
SAPO-34-4h	13.5	16.8	30.3
SAPO-34-8h	3.7	10.5	14.2
SAPO-34-12h	4.5	9.7	14.2
SAPO-34-24h	4.2	9.8	14.0
SAPO-34-48h	4.3	11.6	15.9

[a] The first weight loss (< 400 °C)

[b] The second weight loss (400-650 °C)

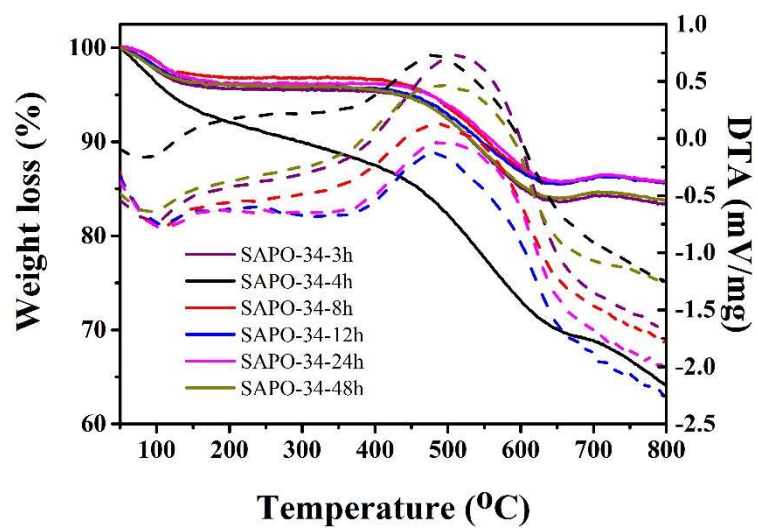


Fig. S1 TG-DTA curves of as-synthesized samples after methanol conversions at 400 °C.

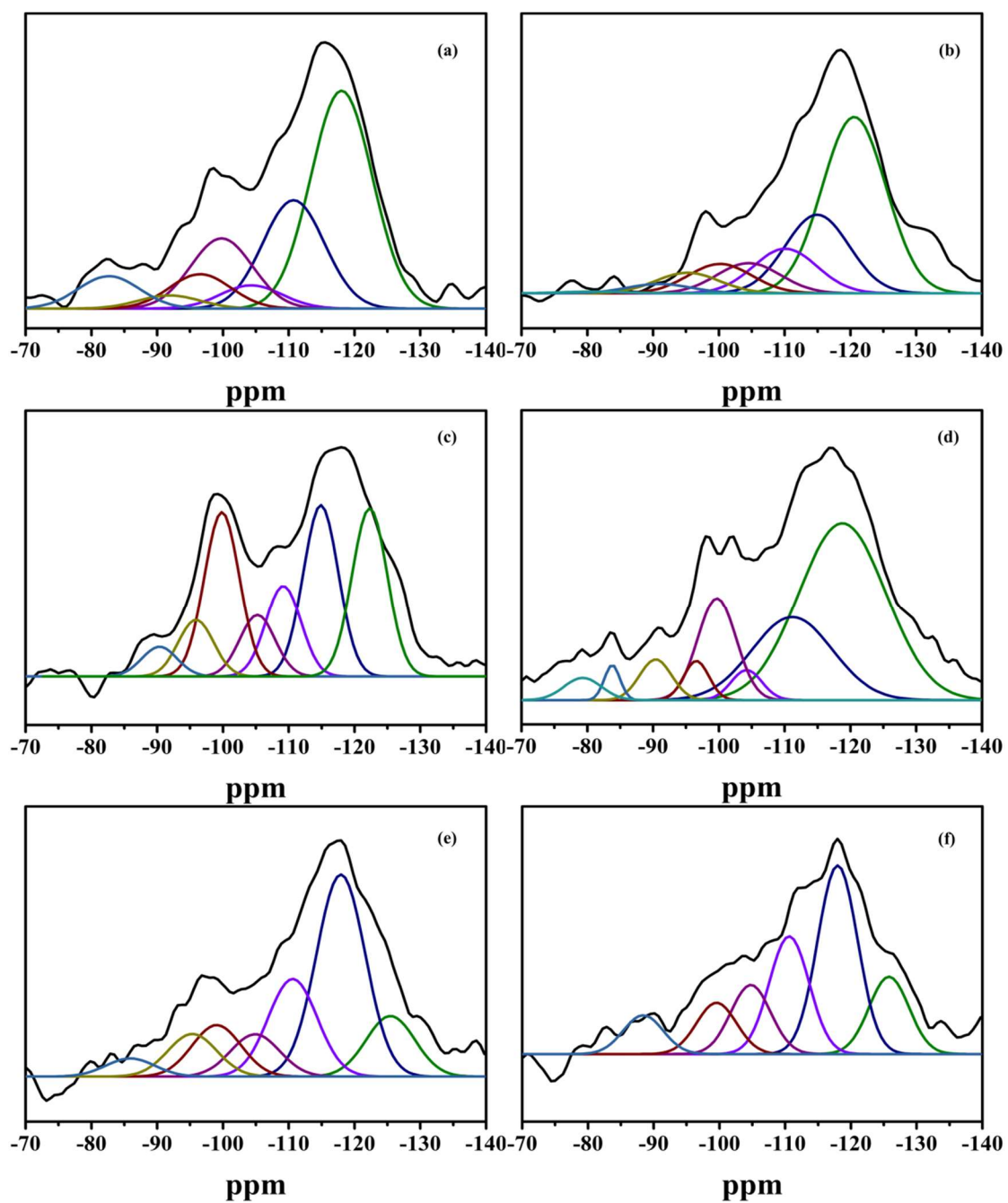


Fig. S2 ^{29}Si MAS NMR peak-differentiation-imitating analysis results of SAPO-34-3h (a), SAPO-34-4h (b), SAPO-34-8h (c), SAPO-34-12h (d), SAPO-34-24h (e) and SAPO-34-48h (f).

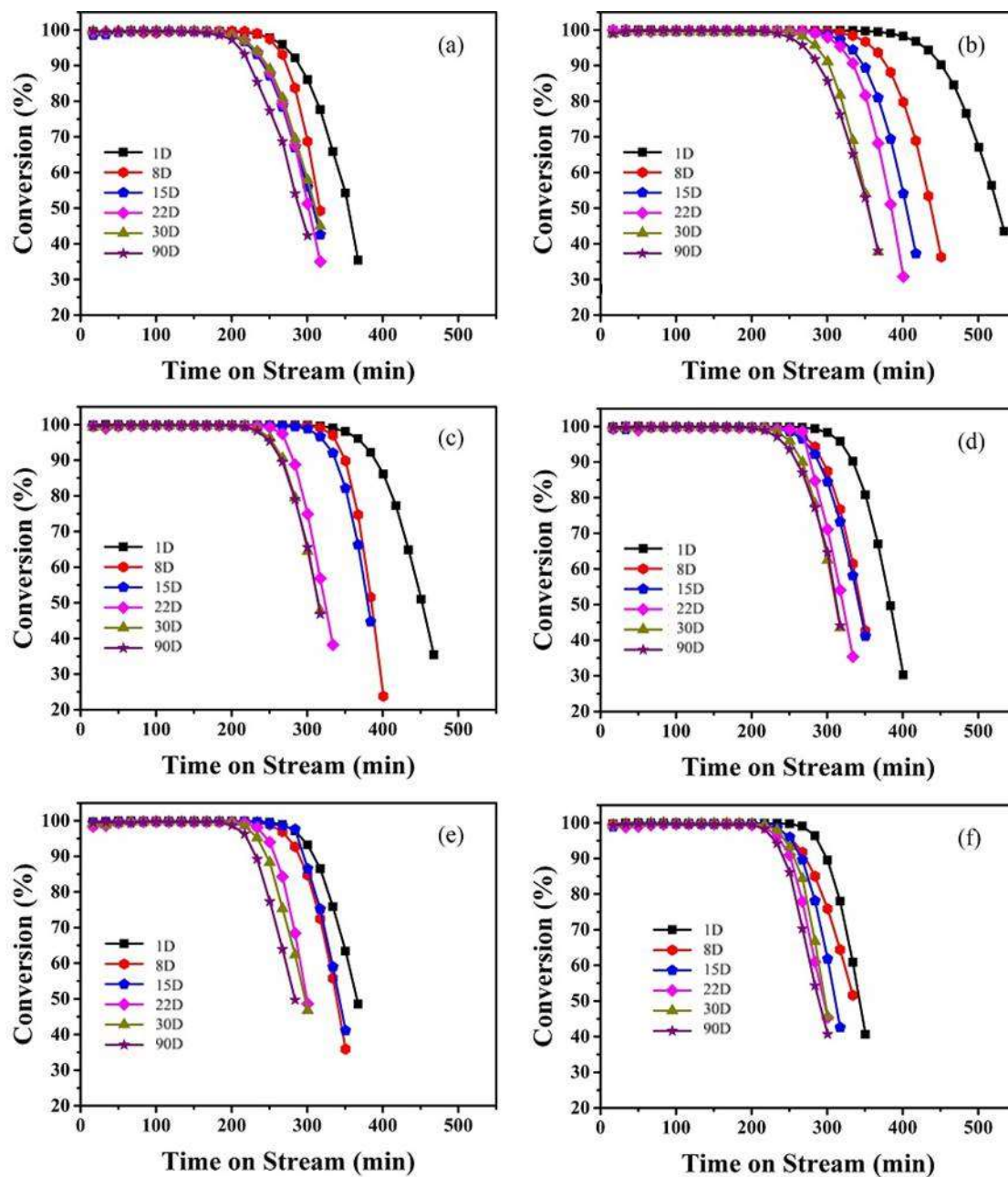


Fig. S3 Methanol conversion variation with time on stream over SAPO-34-3h (a), SAPO-34-4h (b), SAPO-34-8h (c), SAPO-34-12h (d), SAPO-34-24h (e) and SAPO-34-48h (f) in the MTO reaction from freshness to place for 90 days.

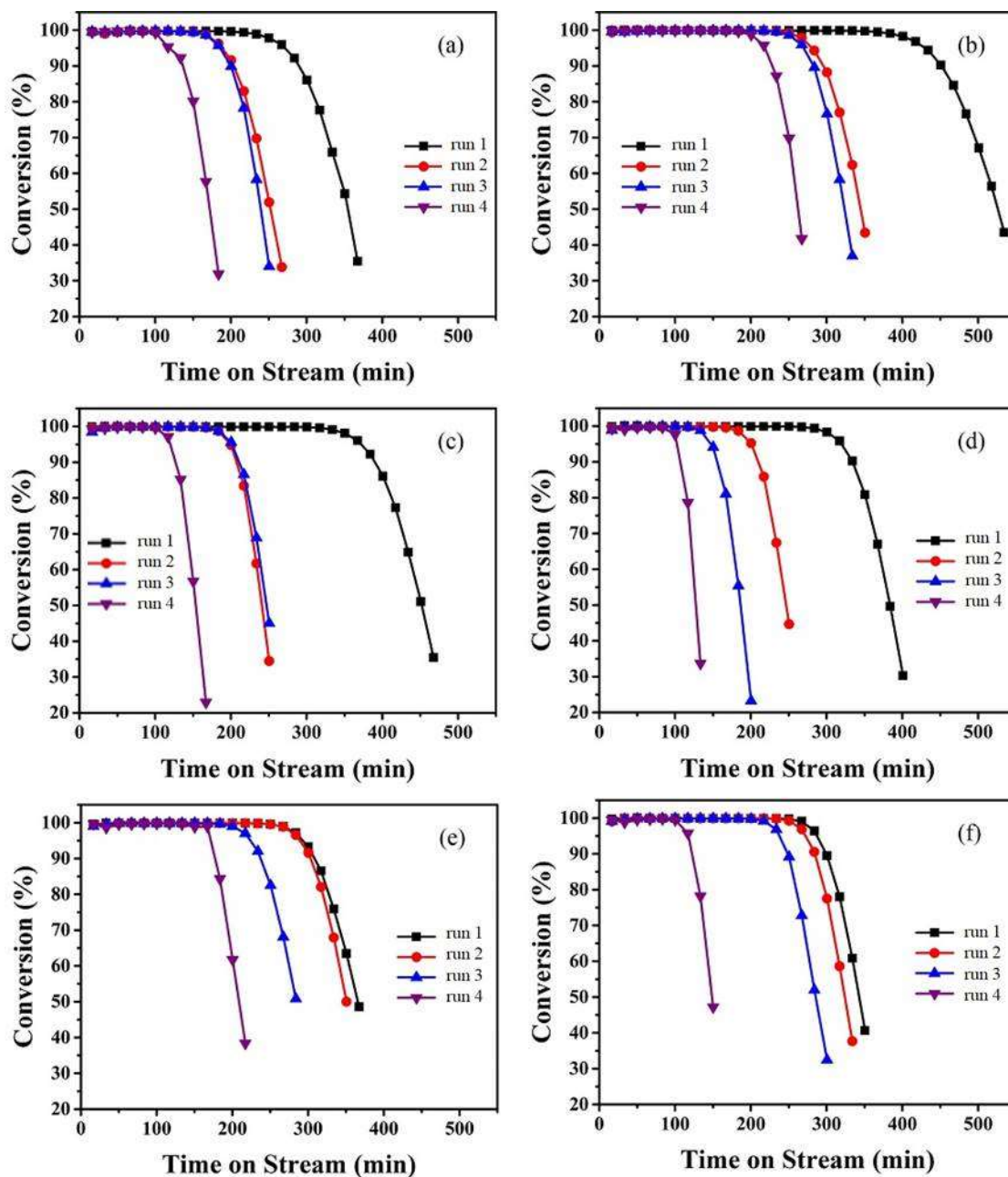


Fig. S4 Methanol conversion variation with time on stream over SAPO-34-3h (a), SAPO-34-4h (b), SAPO-34-8h (c), SAPO-34-12h (d), SAPO-34-24h (e) and SAPO-34-48h (f) in the MTO reaction from freshness to reuse four times.