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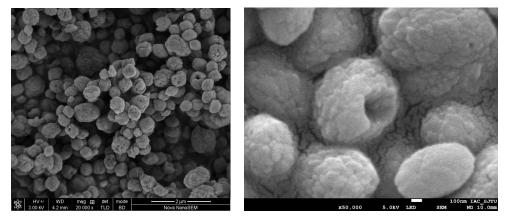


Fig. S1 SEM images of sample 13 (left) and sample 1(right)

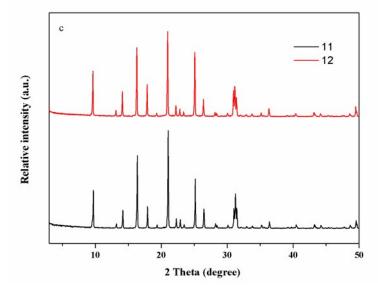


Fig. S2 XRD patterns of sample 11 and 12 heated for 12h.

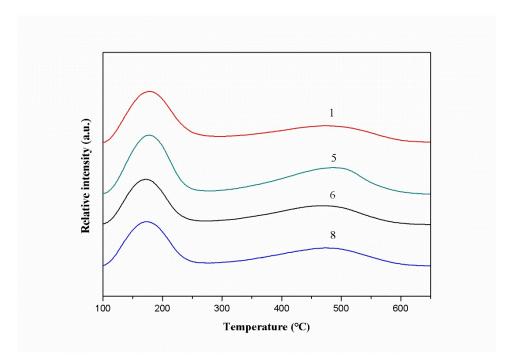
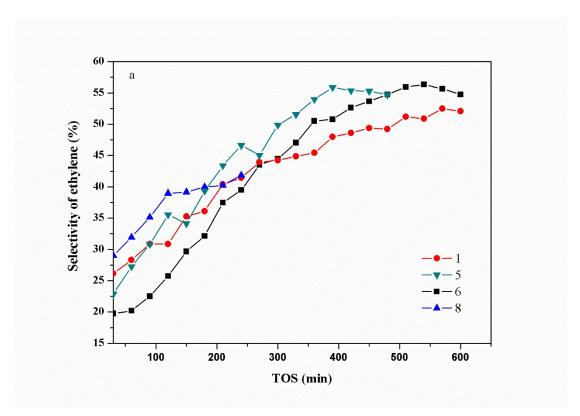


Fig. S3 NH₃-TPD of sample 1; 6; 8.



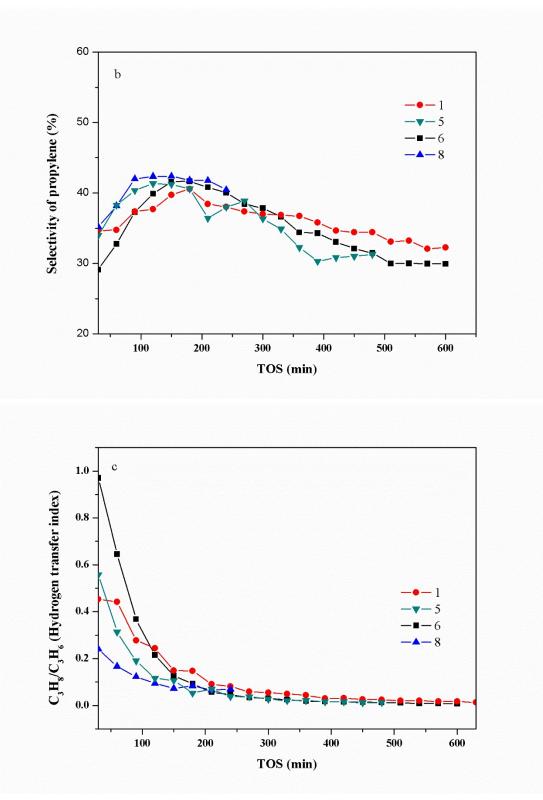


Fig. S4 Eythelene selectivity (a) , propylene selectivity (b) and C_3H_8 to C_3H_6 ratio (c) of sample 6, 1 and 8 with time on stream

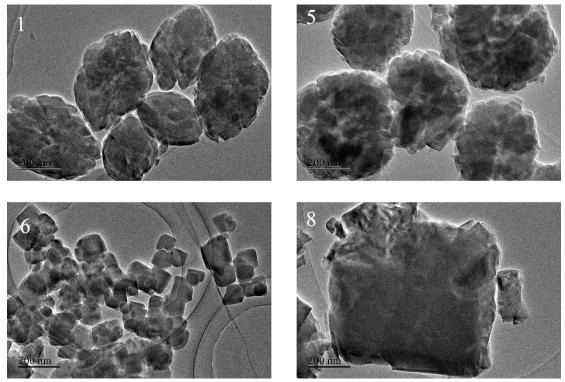


Fig. S5 TEM images of samples 1, 5, 6 and 8 after MTO reaction.

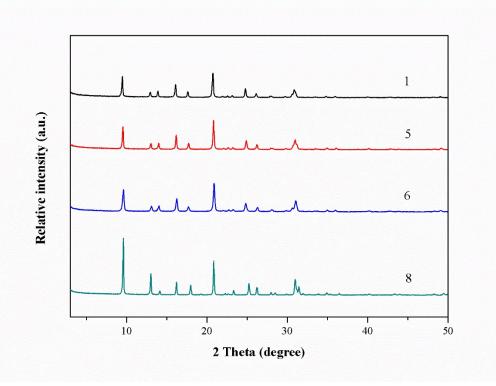


Fig. S6 XRD patterns of samples 1, 5, 6 and 8 after MTO reaction.