Supporting Information

Effects of particle size on bifunctional Pt/SAPO-11 catalysts in the hydroisomerization of *n*-dodecane

Lixia Ge[a,b], Gan Yu[a,c], Xinqing Chen[*a,b], Wenqian Li[a], Wenjie Xue[a], Minghuang Qiu[a], Yuhan Sun[*a,b,c]

[a] CAS Key Laboratory of Low-Carbon Conversion Science and Engineering, Shanghai Advanced Research Institute, Chinese Academy of Sciences, Shanghai 201210, China.

[b] University of Chinese Academy of Science, Beijing, 100049, China.

[c] School of Physical Science and Technology, Shanghai Tech University, Shanghai 201210, China.

Corresponding authors: chenxq@sari.ac.cn (X. Chen); sunyh@sari.ac.cn (Y. Sun)

Content

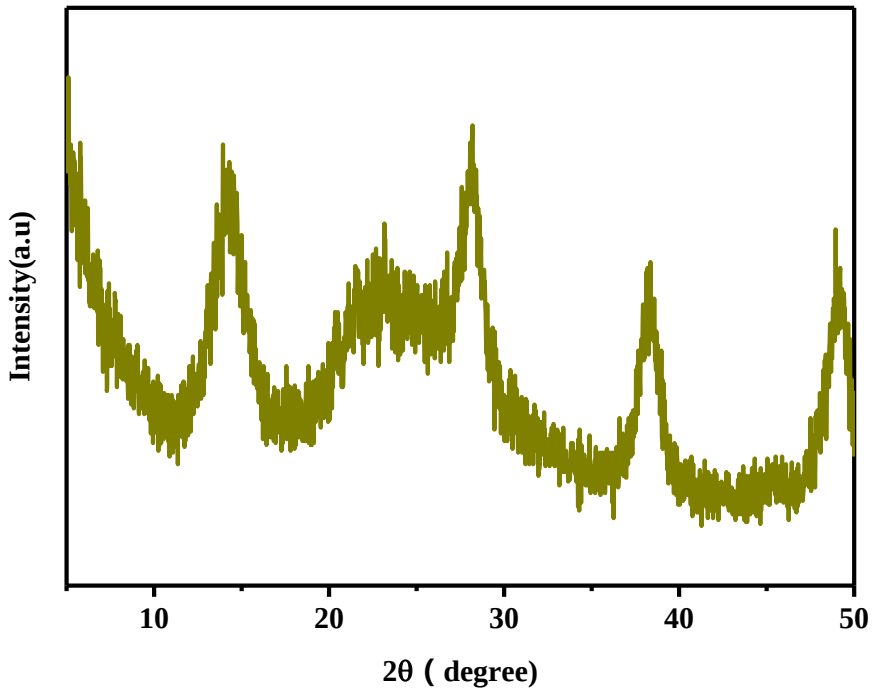

Fig. S1 The powder XRD patterns of SAPO-11-0%

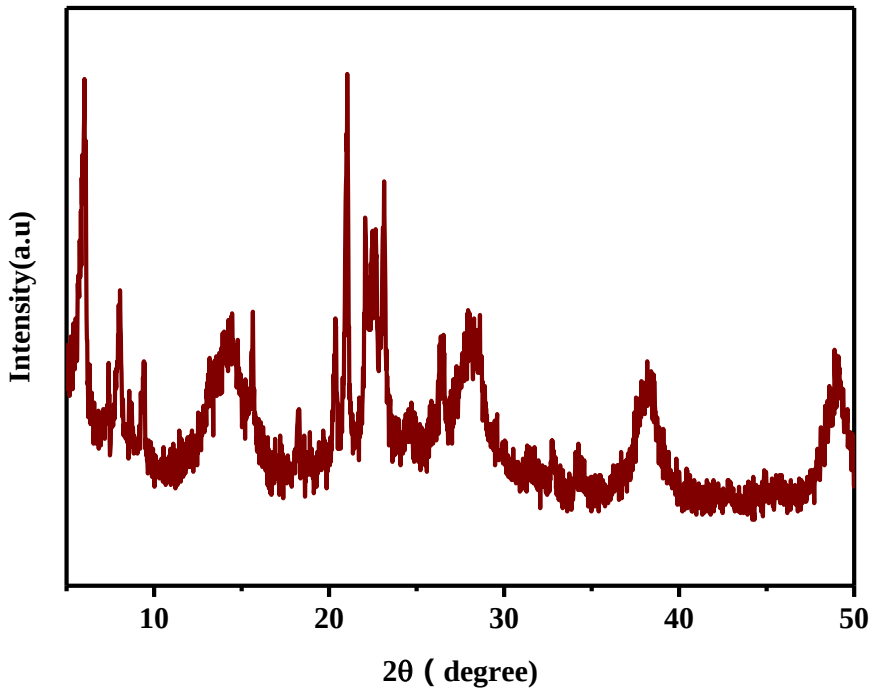

Fig. S2 The powder XRD patterns of SAPO-11-3%

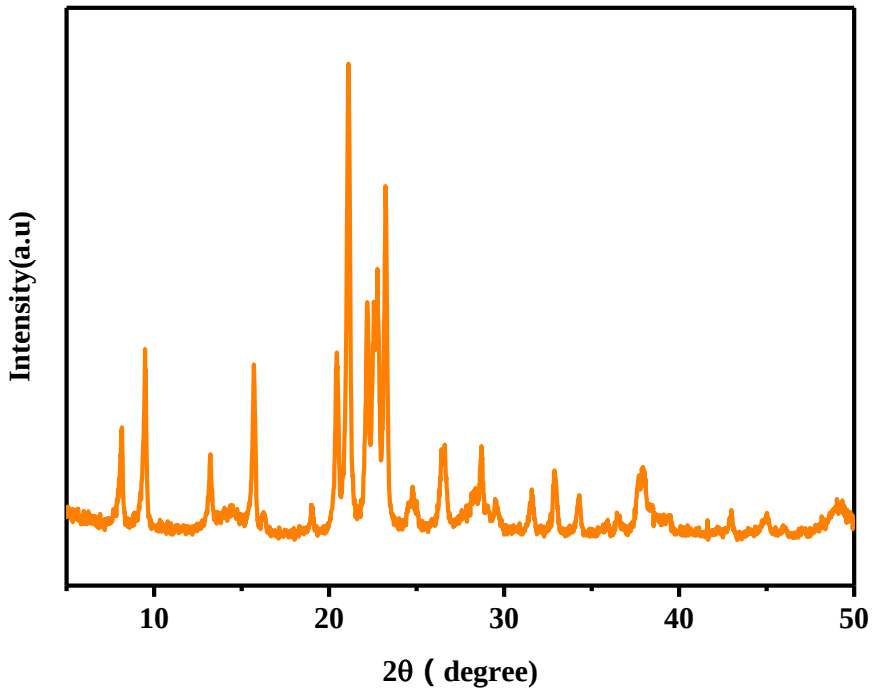

Fig. S3 The powder XRD patterns of SAPO-11-70%

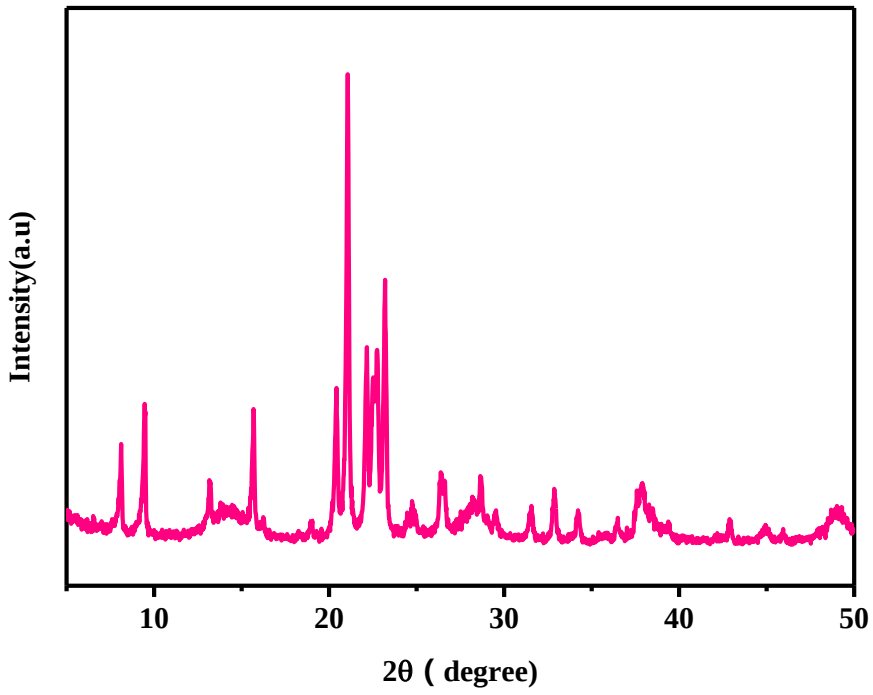

Fig. S4 The powder XRD patterns of SAPO-11-90%

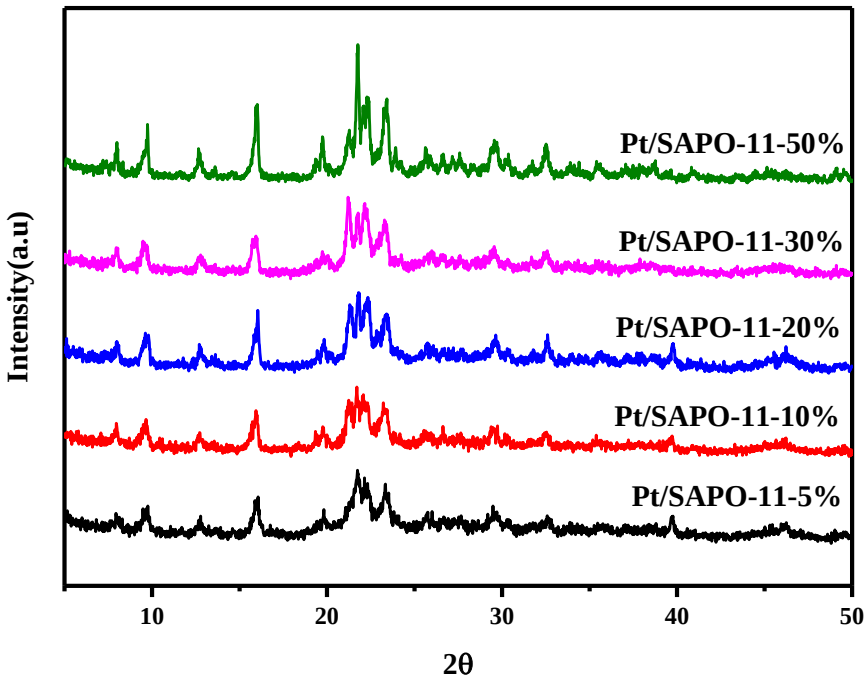

Fig. S5 The powder XRD patterns of Pt/SAPO-11-X (X=5%, 10%, 20%, 30%, 50%) samples

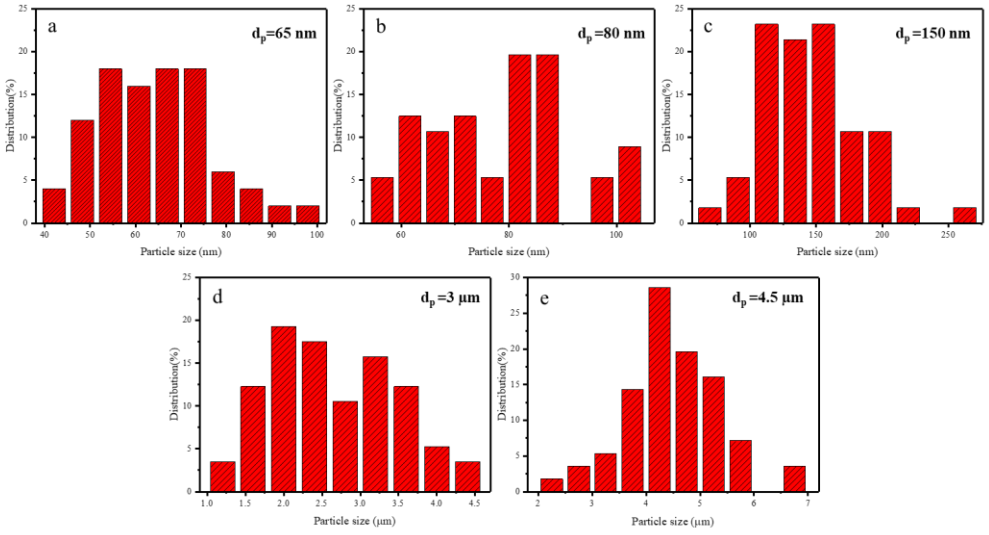

Fig. S6 SAPO-11 particle size distribution images of (a)SAPO-11-5%; (b)SAPO-11-10%; (c)SAPO-11-20%; (d)SAPO-11-30%; (e)SAPO-11-50%

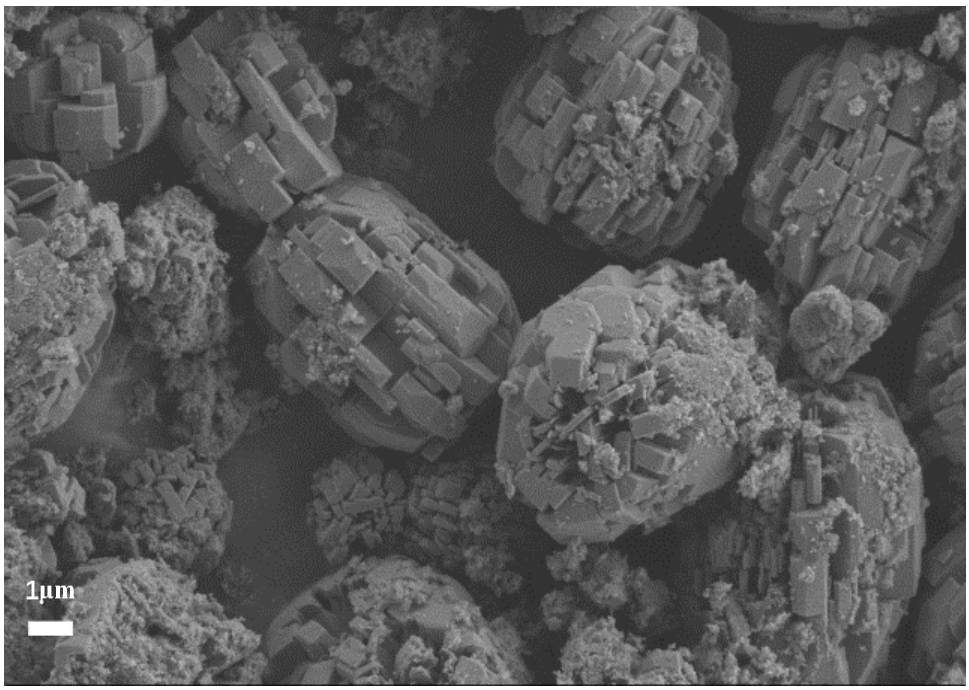

Fig. S7 SEM images of SAPO-11-70% sample

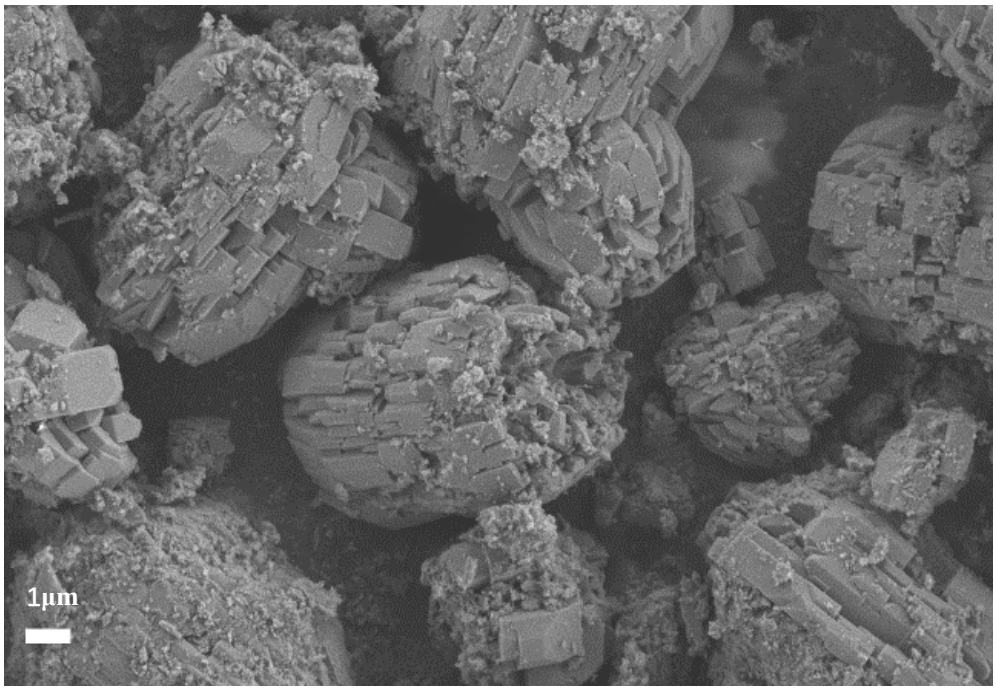

Fig. S8 SEM images of SAPO-11-90% sample

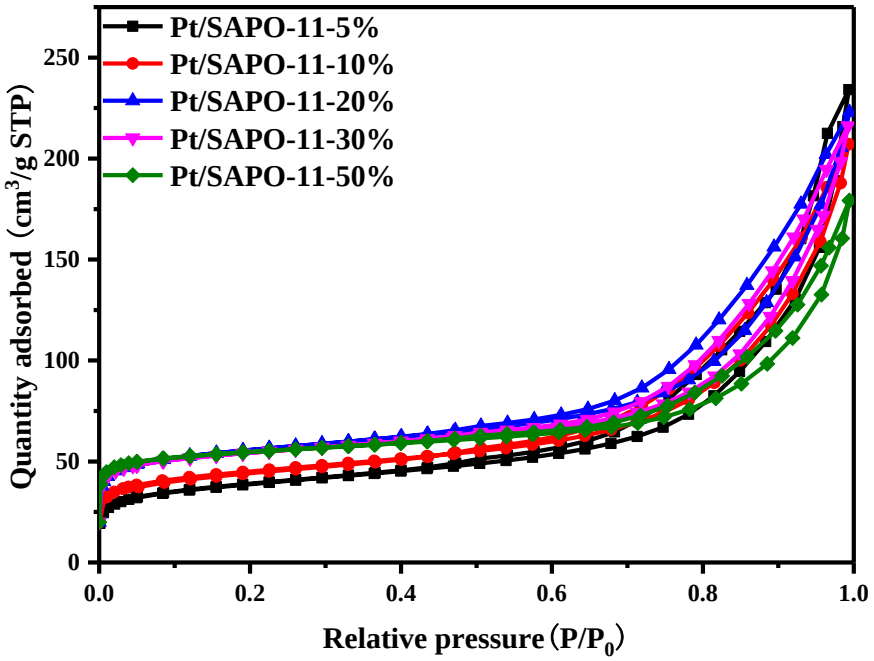

Fig.S9 N_2 adsorption and desorption isotherms of Pt/SAPO-11-X (X=5%, 10%, 20%, 30%, 50%) samples

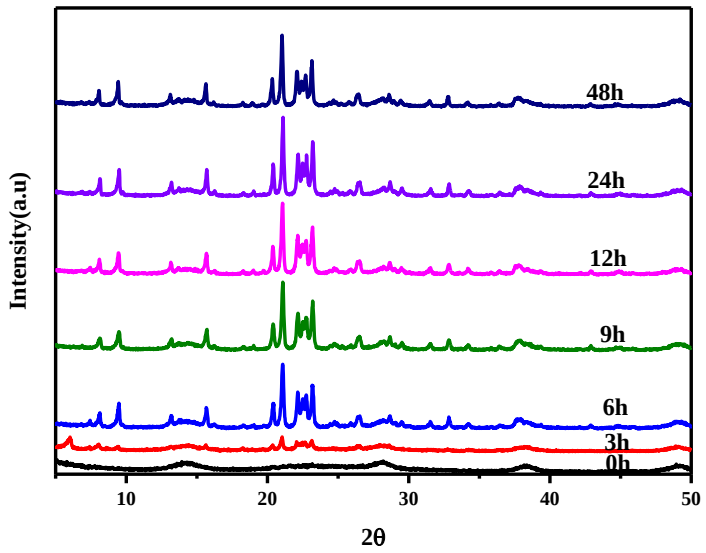

Fig. S10 XRD patterns of SAPO-11-10% samples prepared with different crystalline times

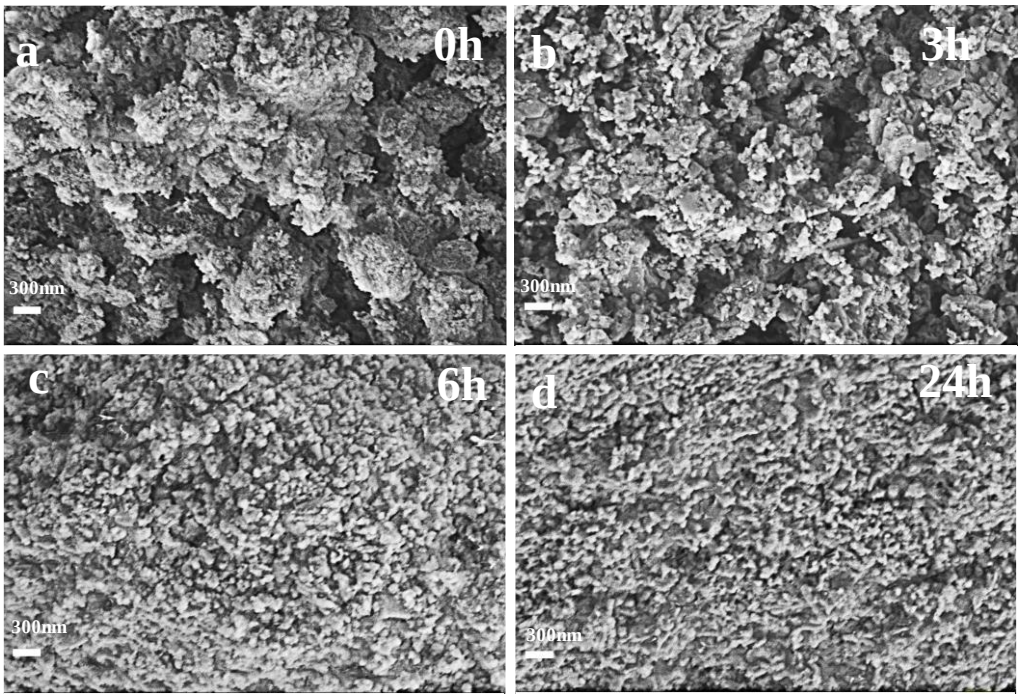

Fig. S11 SEM images of SAPO-11-10% samples prepared with different crystalline times(a) 0 h; (b)3 h; (c) 6 h; (d) 24 h.

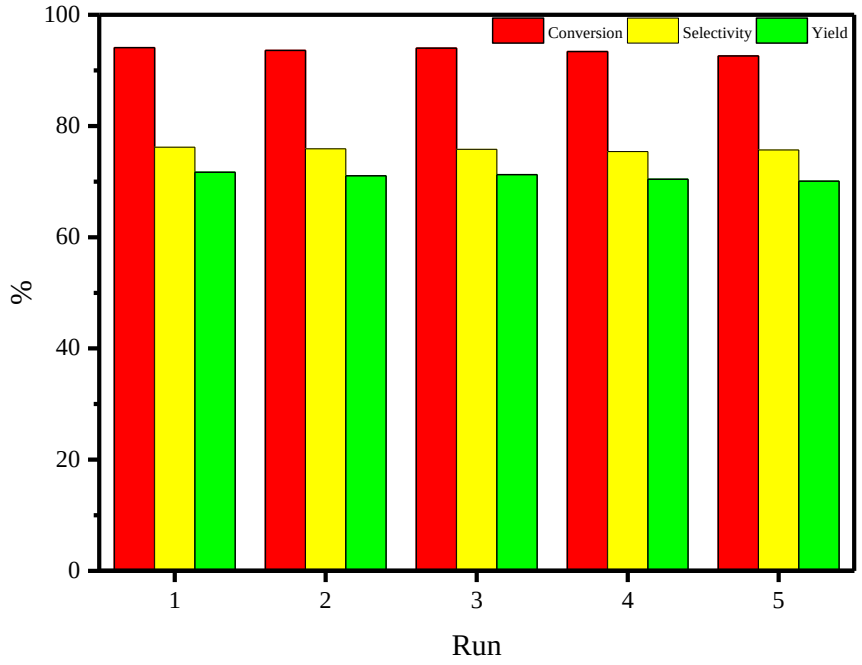

Fig.S12 Catalytic performance of *n*-dodecane hydroisomerization on Pt/SAPO-11-10% which was cycled for five times

Table S1 Texture properties of calcined Pt/SAPO-11-X samples

sample	**Pt/SAPO-11-5%**	**Pt/SAPO-11-10%**	**Pt/SAPO-11-20%**	**Pt/SAPO-11-30%**	**Pt/SAPO-11-50%**
S_{BET}	140.25	165.20	206.87	202.89	207.05
S_{micro}	54.69	81.75	126.02	129.74	149.59
S_{ext}	85.56	83.45	80.85	73.15	57.46
V_{total}	0.362	0.320	0.345	0.334	0.277
V_{micro}	0.0237	0.034	0.0494	0.0519	0.0595

Table S2 The Pt loading amount of SAPO-11-X samples

Sample	Pt/SAPO-11-5%	Pt/SAPO-11-10%	Pt/SAPO-11-20%	Pt/SAPO-11-30%	Pt/SAPO-11-50%
Pt/wt.%	0.44	0.47	0.42	0.49	0.47