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Supplementary information for:

Enhanced n-dodecane hydroisomerization performance by tailoring acid sites on bifunctional Pt/ZSM-22 via alkaline treatment

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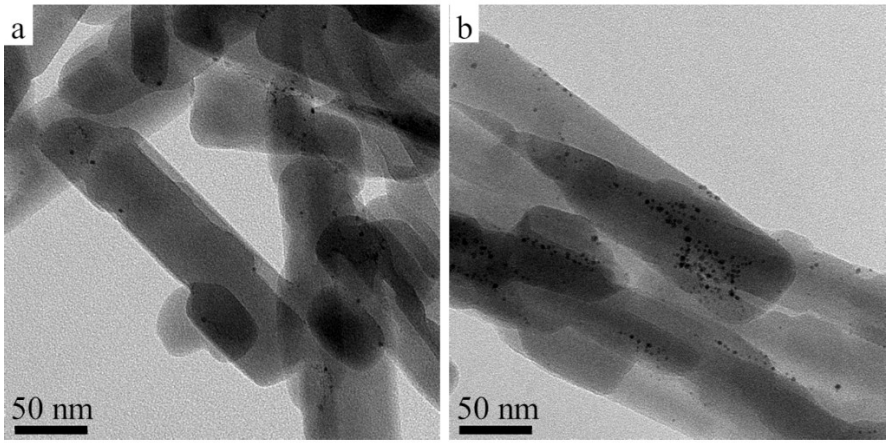

Figure S1. TEM images of Pt/ZAT-0.7; fresh catalyst (a) and the catalyst after the reaction (b).

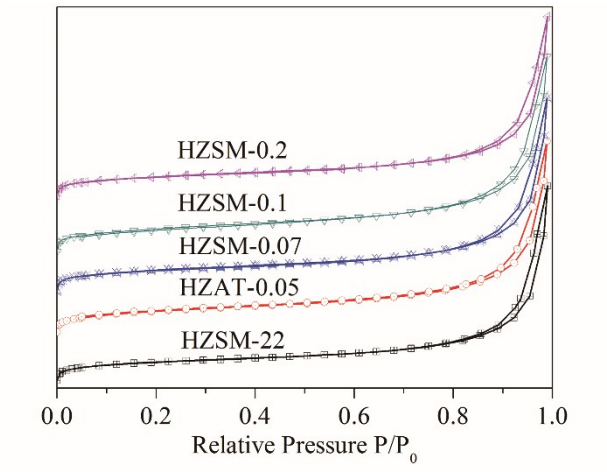

Figure S2 N_2 adsorption-desorption isotherms of parent and alkaline-treated samples

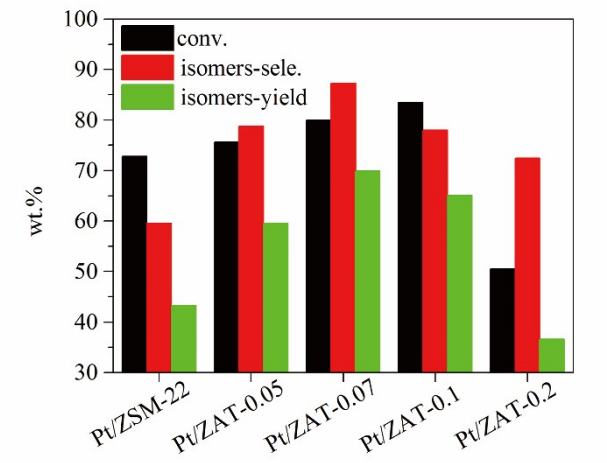

Figure S3 The hydroisomerization of n-dodecane on parent and alkaline-treated samples. (T=280^{o}C, P=2.0 MPa, V_{H2}/ $V_{n\text{-}C12}$=600:1, and WHSV=2.0 h^{-1}.)

Table S1 Result of CO-chemisorption over Pt-ZSM-22 and Pt-ZAT-0.7

Catalysts	Pt dispersion(%)	Pt crystal sizes[a] (nm)
Pt/ZSM-22	41.3%	2.7
Pt/ZAT-0.7	40.7%	2.7

[a] Active particle diameter(hemisphere)

Table S2 The selectivity of *n*-dodecane hydroisomerization on Pt/ZAT-0.07.

Temperature(°C)	260	270	280	290	300
Conversion (%)	23.6	42.6	80.0	91.3	94.6
S_T (%)	89.9	89.3	87.3	61.8	37.3
S_{Mo}(%)	84.3	82.8	76.6	47.3	22.4
S_{Di}(%)	5.6	6.5	10.7	14.5	14.9
S_{Mo}/S_{Di}	15.1	12.7	7.2	3.3	1.5

The method of calculating the number of Al species in the sample

Equation S1:

$$The\ number\ of\ Al = \frac{1\ g \times the\ bulky\ percentage\ of\ Al\ in\ zeolites}{molar\ mass\ of\ Al}$$