Supplementary Information

A promising strategy for promoting the efficiency of Nb_2O_5 as a solid acid catalyst for the catalytic conversion of triose sugars to lactic acid

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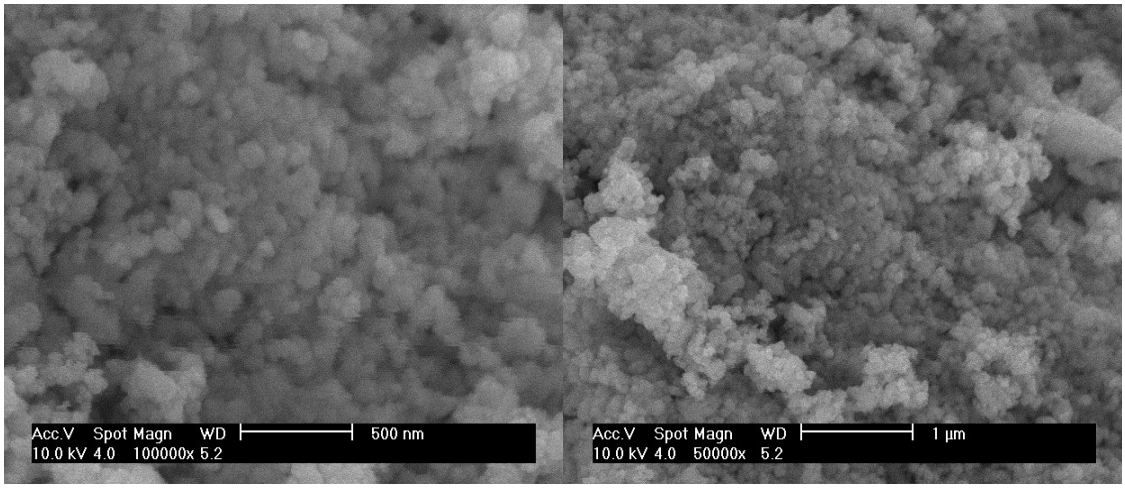

Fig. S1. SEM images of fresh (a) and recycled (b) $Sn_{3.07}/Nb_2O_5$ catalysts.

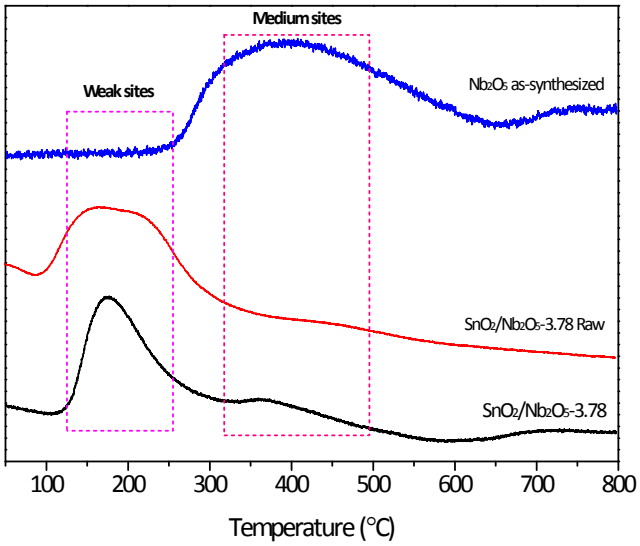

Fig. S2. NH_3-TPD analysis of SnO_2/Nb_2O_5 catalysts

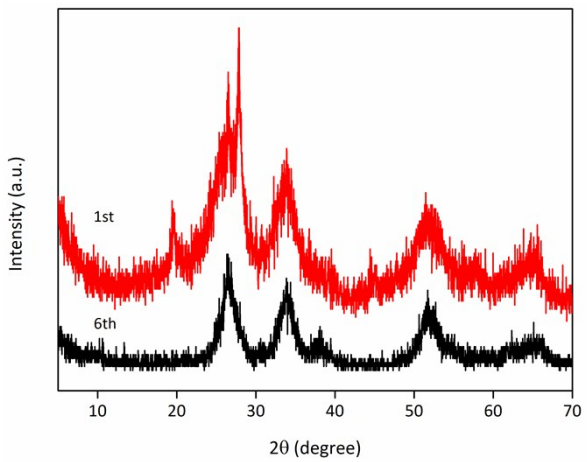

Fig. S3. X-ray diffraction patterns of SnO_2/Nb_2O_5-3.07 after the 1st (a) and the 6th (b) run.

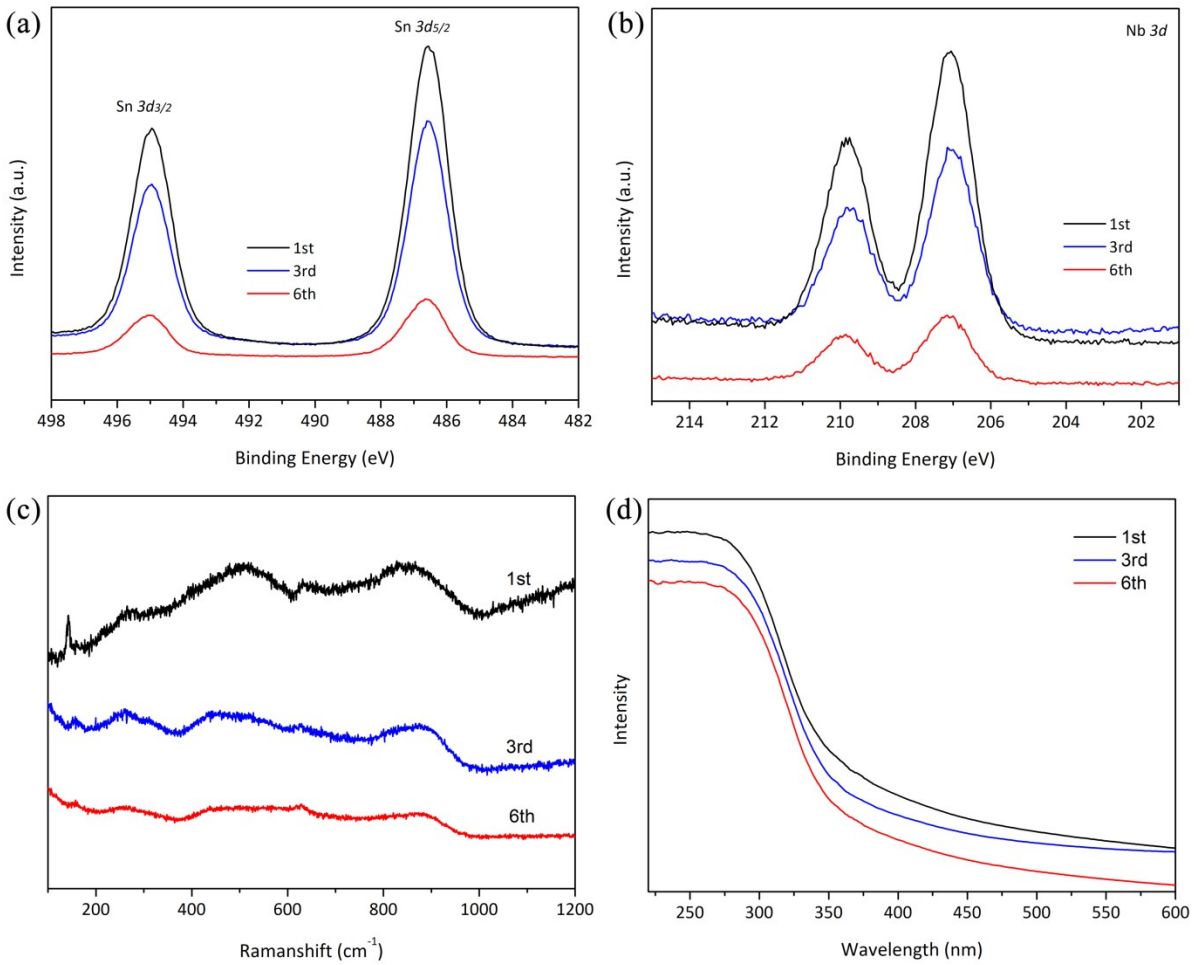

Fig. S4. XPS, Raman, and UV-vis DRS spectra of recycled SnO_2/Nb_2O_5-3.07 catalyst.

Table S1 Characterization of recycled SnO_2/Nb_2O_5-3.07 catalysts

Runs	Surface Sn/Nb ratio	Specific surface area (m^2 g^{-1})	Total acid sites (mmol g^{-1})	BAS/LAS ratio
1	3.07	220	0.56	0.36
2	3.01	227	0.52	0.38
3	2.87	218	0.48	0.41
4	2.79	213	0.45	0.43
5	2.68	208	0.42	0.47
6	2.61	202	0.40	0.51