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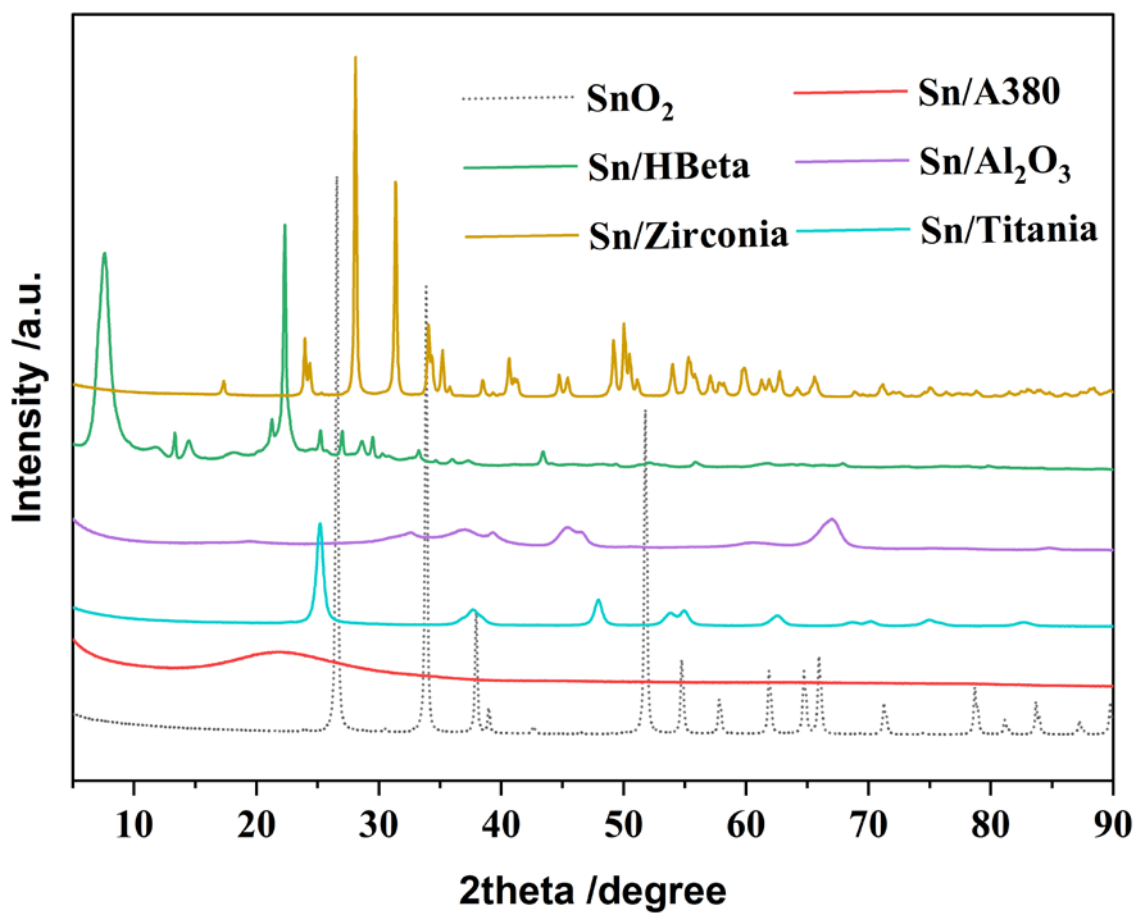
# Silica supported Sn catalysts with tetrahedral Sn sites for selective isomerization of glucose to fructose

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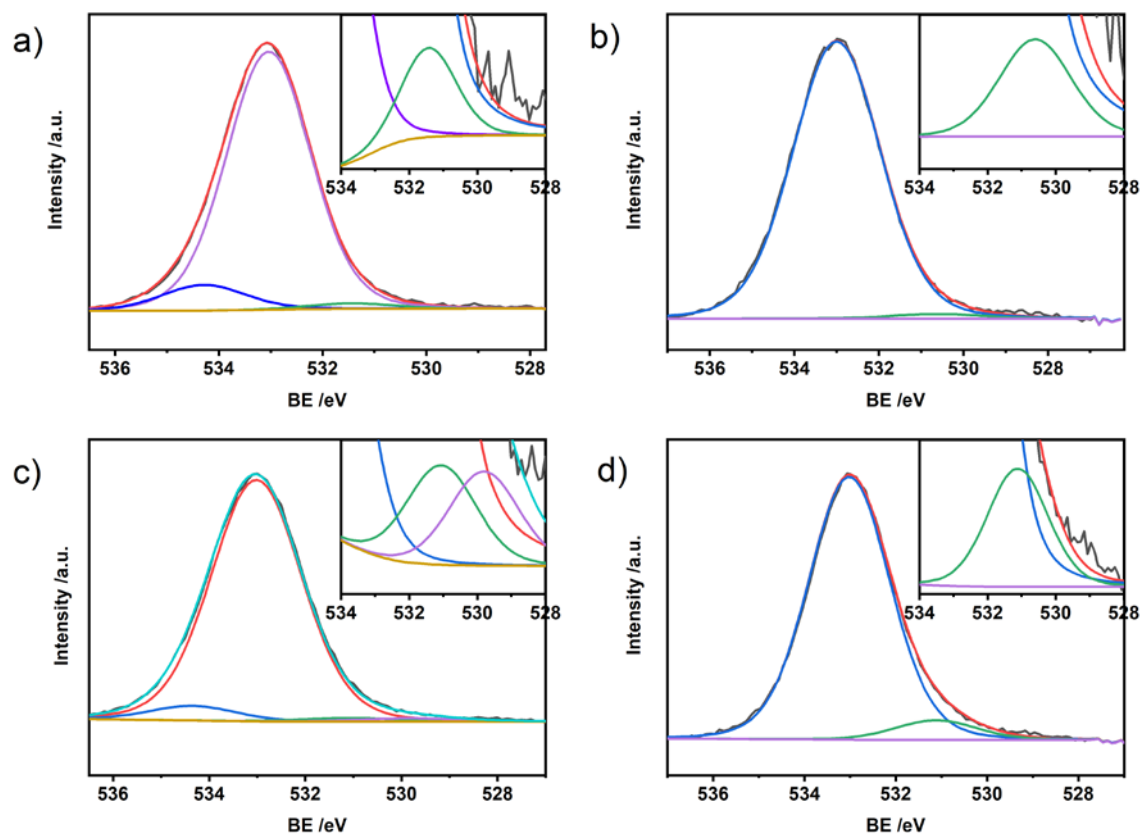
Electronic Supporting information



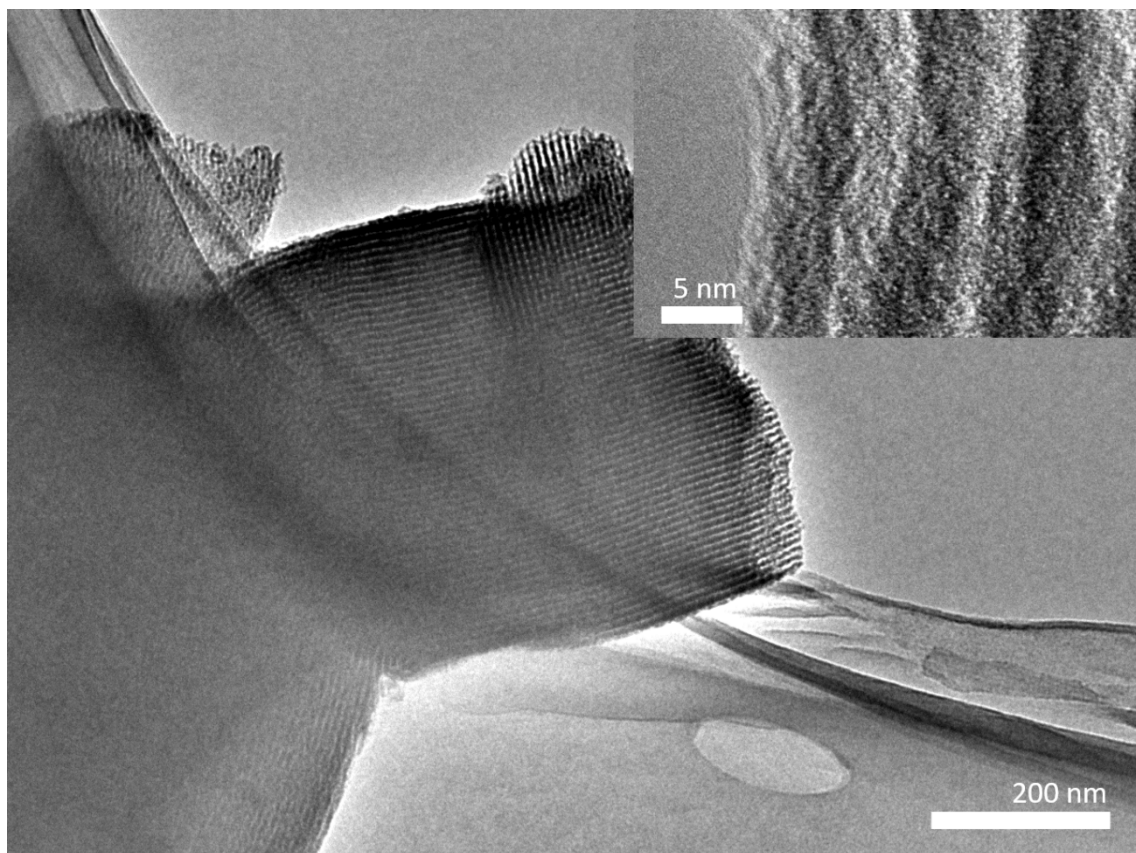
**Fig S1.** XRD of 1 wt % Sn on different supports. The intensity of SnO<sub>2</sub> is enhanced 1.5 times for comparison.

Table S1: Surface area of catalysts

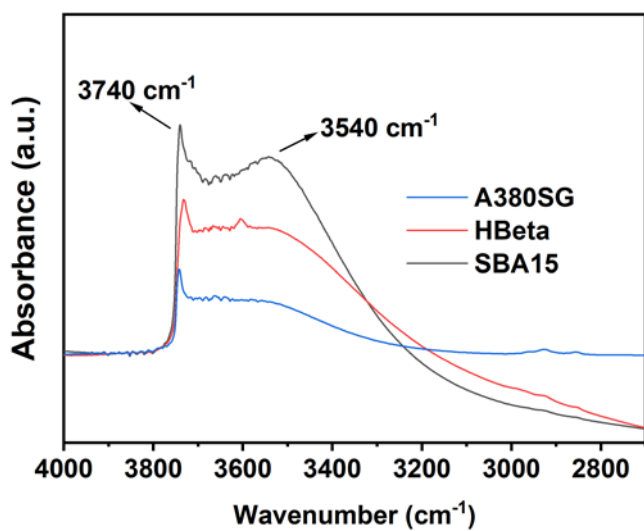
Sample	Surface Area (m <sup>2</sup> g <sup>-1</sup> )
Sn/Alumina	166
Sn/HBETA150	459
Sn/SBA15	851
Sn/Titania	119
Sn/Zirconia	5.2
Sn/A380	300



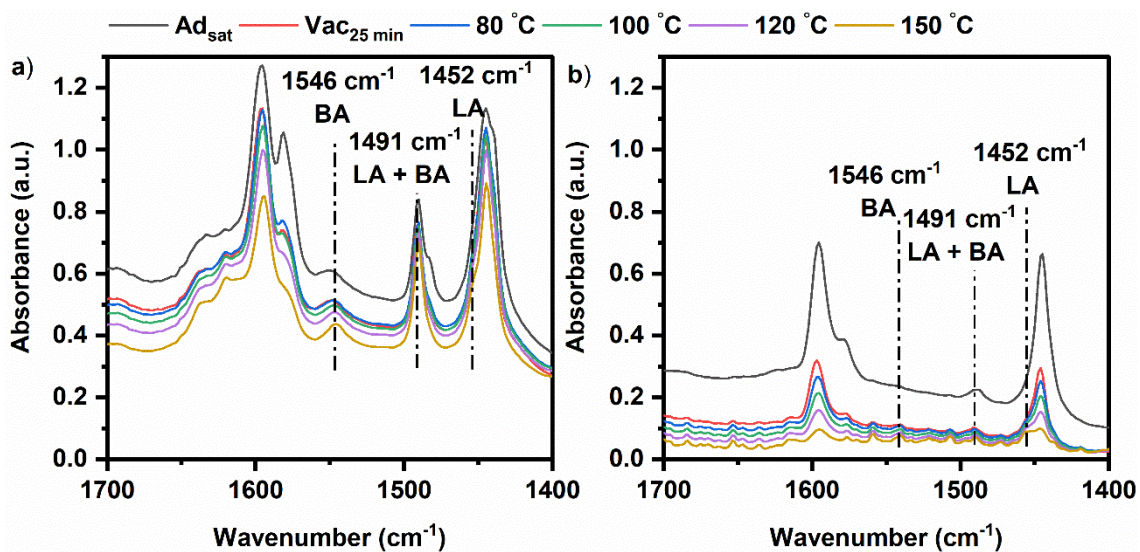
**Fig S2.** O 1s XPS spectrum of a) Sn/SBA15, b) Sn/A380, c) 3Sn/SBA15, d) Sn/HBeta150



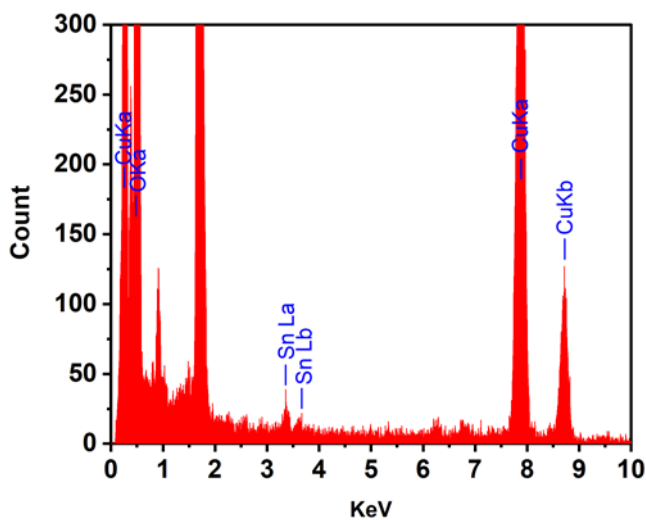
**Fig S3.** HR-TEM image of Sn/SBA15 catalyst with 1 wt% Sn loading.



**Fig S4.** FTIR spectra of SBA15, HBeta and A380 supports. The peak at 3740 cm<sup>-1</sup> corresponds to the surface silanol (Si-OH) groups and the broad band around 3540 cm<sup>-1</sup> corresponds to hydrogen bonded silanol groups along with some contribution from adsorbed water molecules. SBA15 shows highest peak intensity for silanol groups and hence it contains the greatest surface OH density.



**Fig S5.** Pyridine adsorption FTIR spectra of a) Sn/HBeta150, b) Sn/A380. Intensity of all the spectra are subtracted from that of corresponding samples before adsorption. The spectra were recorded at saturation adsorption condition ( $Ad_{sat}$ ), after 25 min of evacuation at 0.03 torr ( $Vac_{25 min}$ ) and after desorption at various temperatures.



**Fig S6.** Corresponding EDX spectra of region shown in Fig 6 of the manuscript.