Electronic Supplementary Material (ESI) for RSC Advances.

Enhanced gas selectivity induced by surface active oxygen in SnO/SnO_2 Hierarchical Structure at Different Temperature

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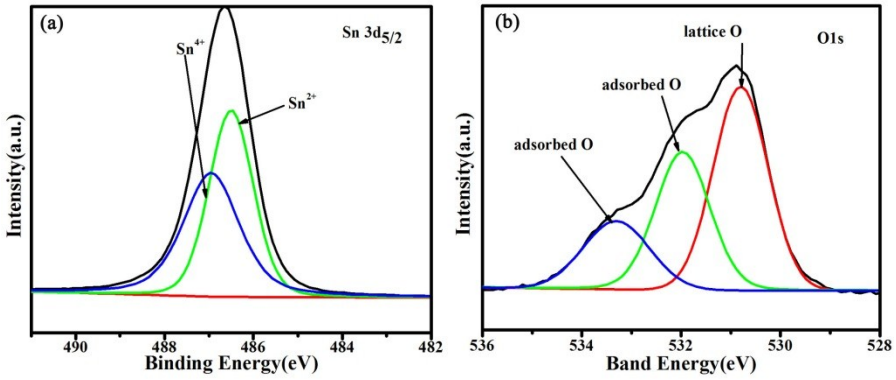

Fig. S1 High-resolution XPS spectrum of Sn 3d (a) and O1s (b) of the SnO/SnO_2 composite

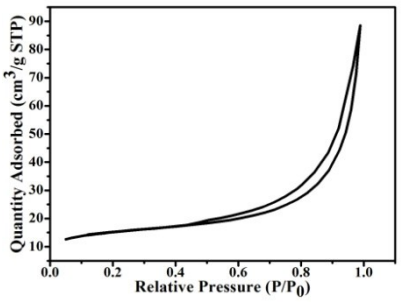

Fig. S2. The N_2 adsorption-desorption isotherms of the SnO/SnO_2 composite.

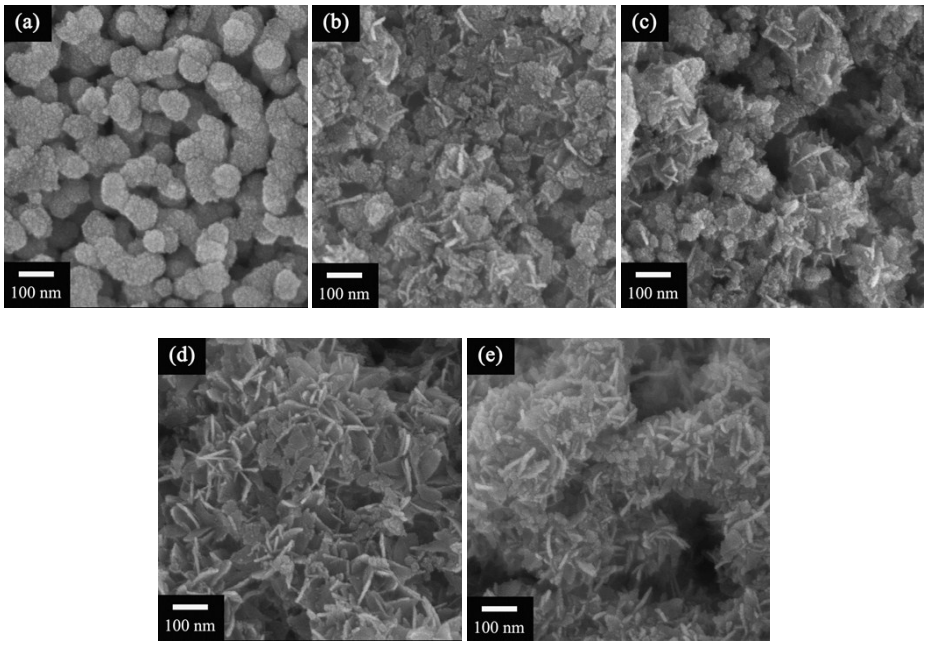

Fig. S3 SEM images with the mole ratio of HMTA : SnC_2O_4 (a) 0:1, (b) 1:4, (c) 1:2, (d) 2:1, (e) 4:1.

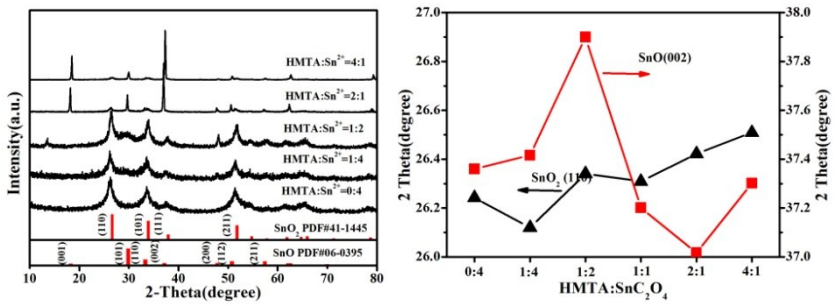

Fig. S4 XRD patterns and (b) peak position of SnO_2 (110) and SnO (002) of samples with different mole ratio of HMTA/SnC_2O_4.

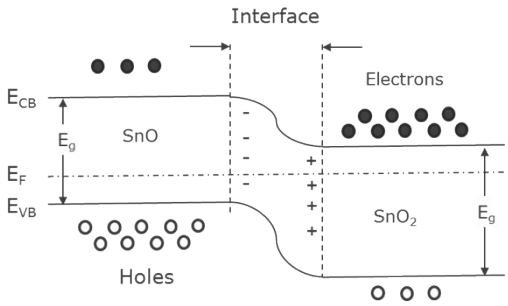

Fig. S5 Energy band diagrams of the SnO/SnO_2 heterocontact.

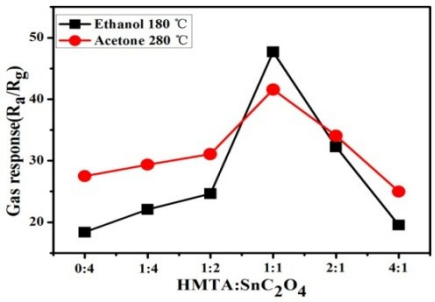

Fig. S6. Gas response of SnO/SnO_2 composite with different HMTA and SnC_2O_4 ration for 100 ppm ethanol and acetone.

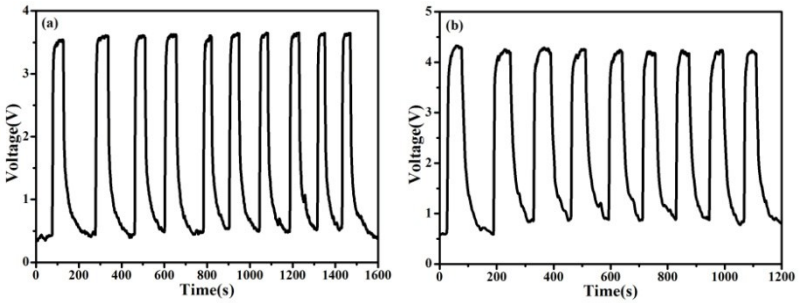

Fig. S7 Repeatability for (a) ethanol and (b) acetone at the optimum temperatures.