Supporting information for:

Controlled fabrication of hierarchically porous Sb doped SnO_2 anode from honeycomb to network structure with high electrocatalytic activity

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This Supporting Information contains the information that hierarchically porous Sb doped SnO_2 honeycomb and network anodes are also useful for 2,4 dichlorophenol degradation. The degradation of 2,4 dichlorophenol was performed in a two-electrode system cell under galvanostatic conditions at room temperature with a potentiostat/galvanostat (DH 1720A-6, China). The prepared hierarchical porous Ti/Sb-SnO_2 electrodes were used as anodes with a working geometric area of 4.5 cm^2 and Ti sheet of the same size was used as cathode. An exact volume of 45 mL of 2,4 DCP solution (50 mg/L) was used in each experiment, constant plate distance (5 mm) was adopted for all the experiments with supporting electrolyte (0.1 M Na_2SO_4 + 0.01 M NaCl). Samples were collected from the cell at various time intervals and the concentration of 2,4 DCP was determined by high performance liquid chromatography (HPLC, Ultimate 3000, USA). The separation was carried out by a reversed phase column (C18 column) at the flow rate of 1 mL/min at column temperature of 30 ^oC.

From Figure S1, it can be seen that the degradation efficiency of 2,4 DCP is significantly improved by the hierarchically porous structures. The complete degradation is achieved with in 50, 60 min by Ti/Sb-SnO_2-honeycomb, and Ti/Sb-SnO_2-network, respectively, which is much faster than conventional one.

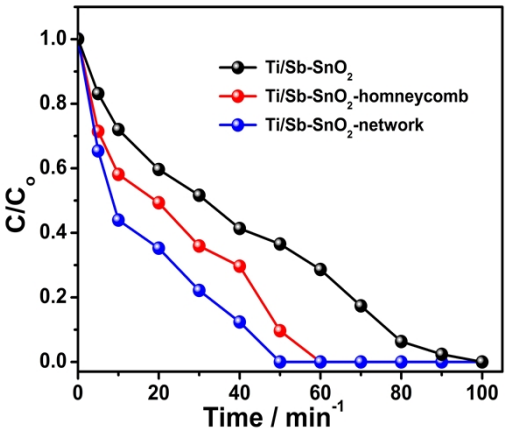

Figure S1: Degradation of 2,4 DCP with Ti/Sb-SnO_2 , Ti/Sb-SnO_2-honeycomb, and Ti/Sb-SnO_2-network (initial concentration of 2,4 DCP: 50 mg/L; initial pH: 3.0; supporting electrolyte: 0.1 M Na_2SO_4 + 0.01 M NaCl).