Electronic Supplementary Material (ESI) for Environmental Science: Nano.

Supplementary materials

Inorganic hydrogen-bonded $SnO(OH)_2$ as molecular springs boosted the piezocatalytic degradation of contaminates

Xiao Huang [a,c], Wen Yan [a,c], Jingxiang Sun [a,c], Tao Hu[a,c], Jinxi Feng*[,a,b], Zhen Huang [d], Shuanghong Tian*[,a,c] , Ya Xiong [a,c]

a School of Environmental Science and Engineering, Sun Yat-Sen University, No. 135, Xingang Xi Road, Guangzhou 510275, P. R. China

b Guangdong Provincial Engineering Laboratory of Biomass High Value Utilization, Institute of Biological and Medical Engineering, Guangdong Academy of Sciences, Guangzhou 510316, P. R. China

c Guangdong Provincial Key Laboratory of Environmental Pollution Control and Remediation Technology, Sun Yat-Sen University, No. 135, Xingang Xi Road, Guangzhou 510275, P. R. China

d Chinese Academy of Science, Guangzhou Institute of Energy Conversion, Guangzhou 510640, P. R. China

E-mail address: fengjx18@163.com (Jinxi Feng); tshuangh@mail.sysu.edu.cn (Shuanghong Tian)

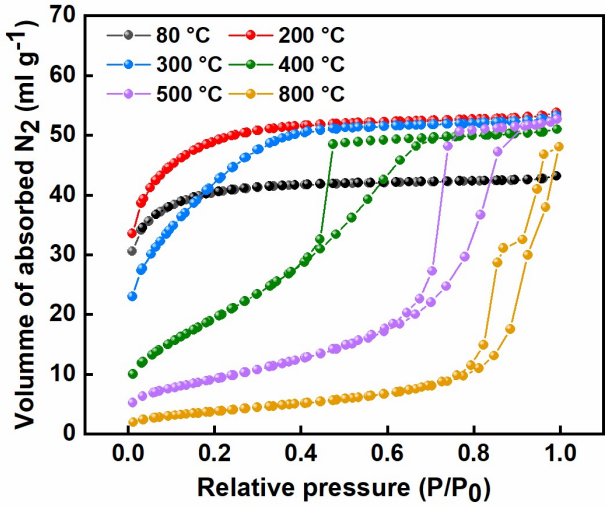

Fig. S1. N_2 adsorption-desorption isotherms of SnO_xH_y.

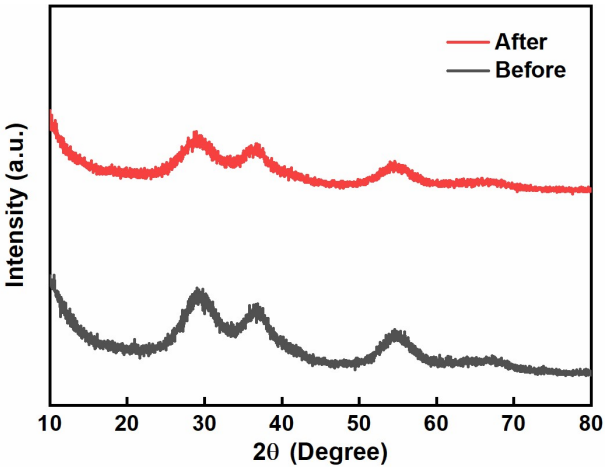

Fig. S2. XRD pattern of $SnO(OH)_2$ before and after cycles.

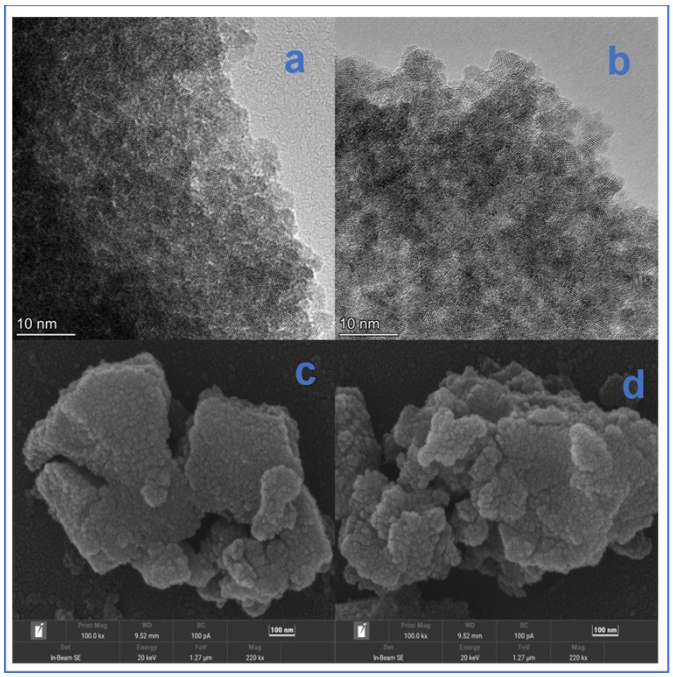

Fig. S3. The morphology and structure of the $SnO(OH)_2$ before and after cycles. (a: TEM before cycle; b: TEM after cycles; c: SEM before cycle; d: SEM after cycles)

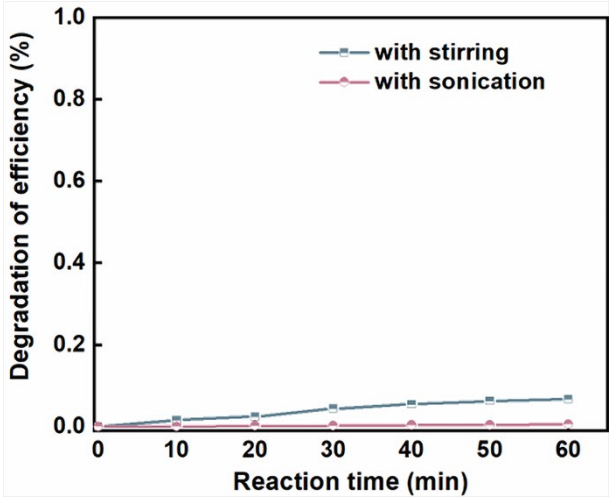

Fig. S4. The degradation of TCZ after addition H_2O_2 with stirring and with sonication.

Table S1. Surface characteristics of SnO_xH_y.

Samples	$S_{BET}(m^2g^{-1})$	$S_{ext}(m^2g^{-1})$	$V_{total}(cm^3g^{-1})$	$V_{meso}(cm^3g^{-1})$
80 ˚C	149.12	108.14	0.0668	0.0206
200 ˚C	173.86	76.23	0.0832	0.0373
300 ˚C	153.16	160.81	0.0824	0.1032
400 ˚C	75.25	94.07	0.0789	0.0777
500 ˚C	58.63	60.13	0.0815	0.0820
800 ˚C	33.73	35.65	0.0743	0.0725