

Supplementary Materials: Novel High Efficiency Layered Oxide Photocatalyst Li_2SnO_3 for Rhodamine B and Tetracycline Degradation

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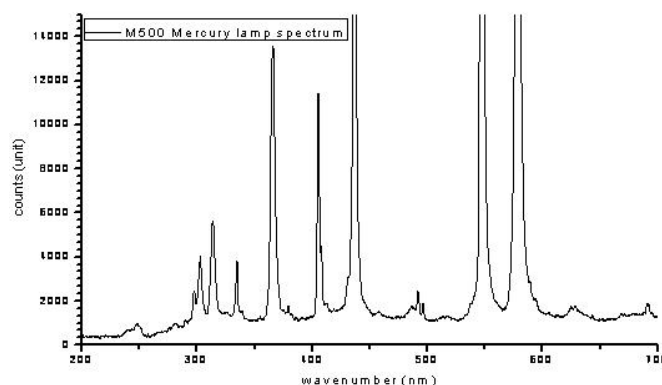


Figure S1. The spectrum of high pressure mercury lamp used in our experiment (CEL-M500, Beijing Aulight). (http://www.aulight.com/html/2019/gdgy_0422/411.html).

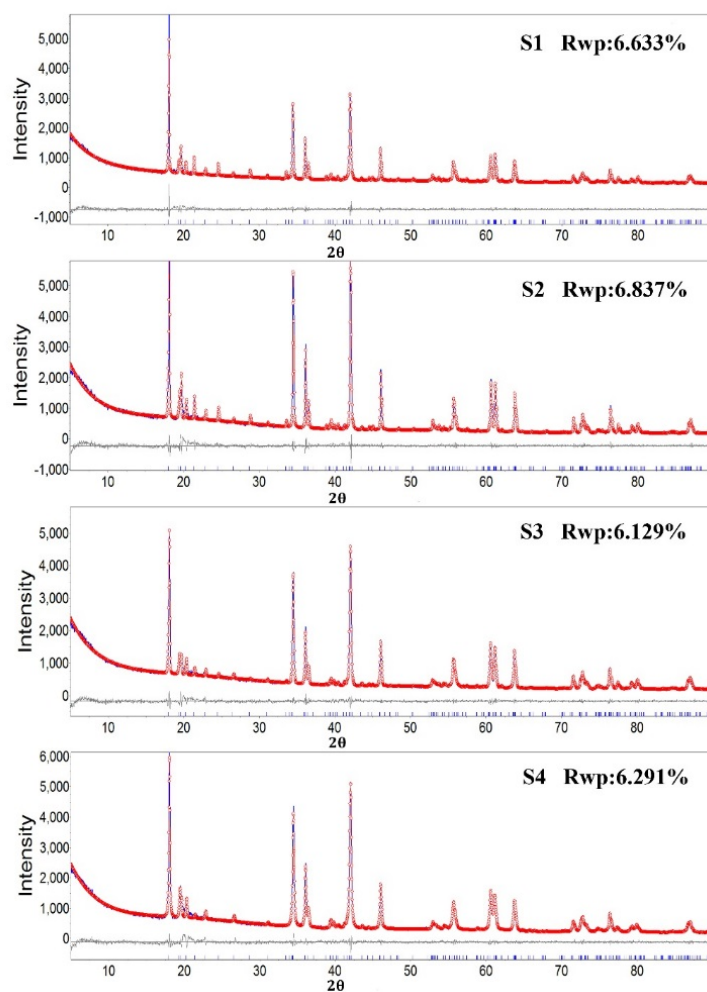


Figure S2. Rietveld refinement plots of samples S1, S2, S3 and S4, respectively.

Table S1. The crystallographic parameters of the as-synthesized samples Li_2SnO_3 via Rietveld refinement.

samples	a (Å)	b (Å)	c (Å)	β (°)	V (Å ³)
S1	5.2968	9.1910	10.0254	100.2675	480.2482
S2	5.2970	9.1852	10.0287	100.2509	480.1544
S3	5.2969	9.1831	10.0281	100.2616	479.9884
S4	5.3031	9.1671	10.0296	100.0258	480.1365

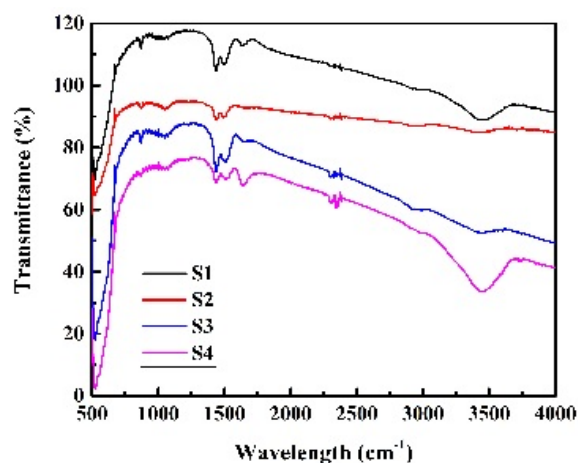


Figure S3. FT-IR spectrum of Li_2SnO_3 samples: S1, S2, S3 and S4.

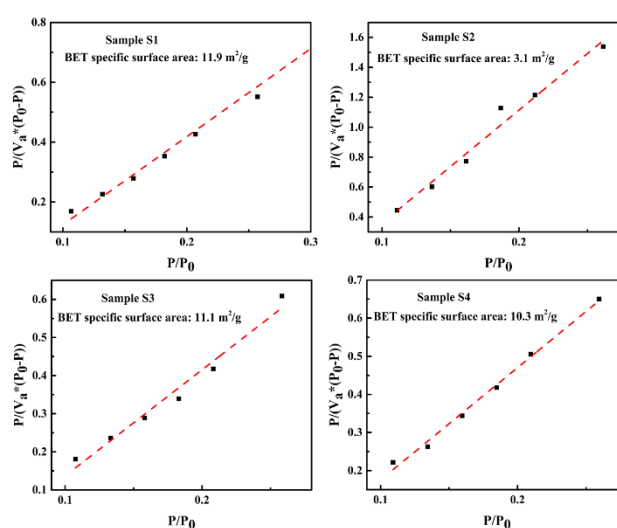


Figure S4. The specific surface area performed by BET measurement with N_2 adsorption-desorption.

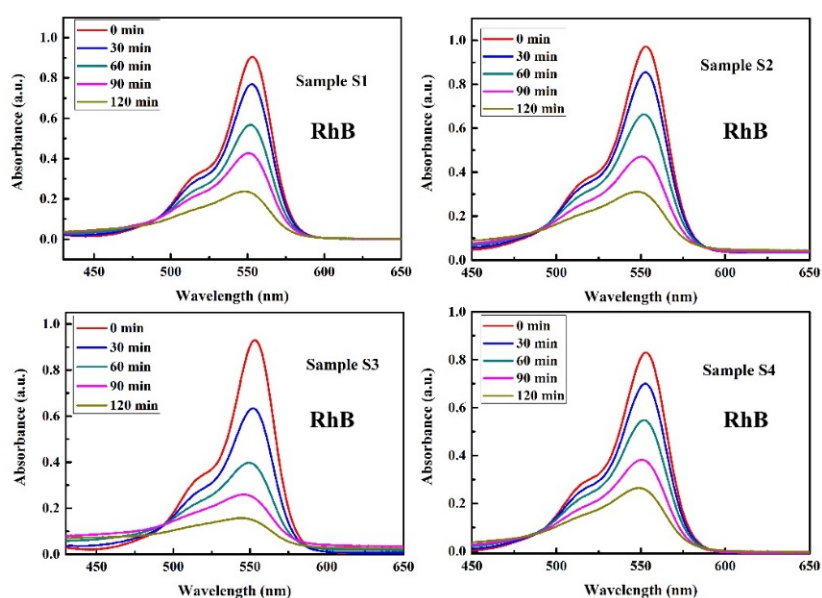


Figure S5. UV-visible absorption of RhB as a function of irradiation time for samples: S1, S2, S3 and S4, respectively.

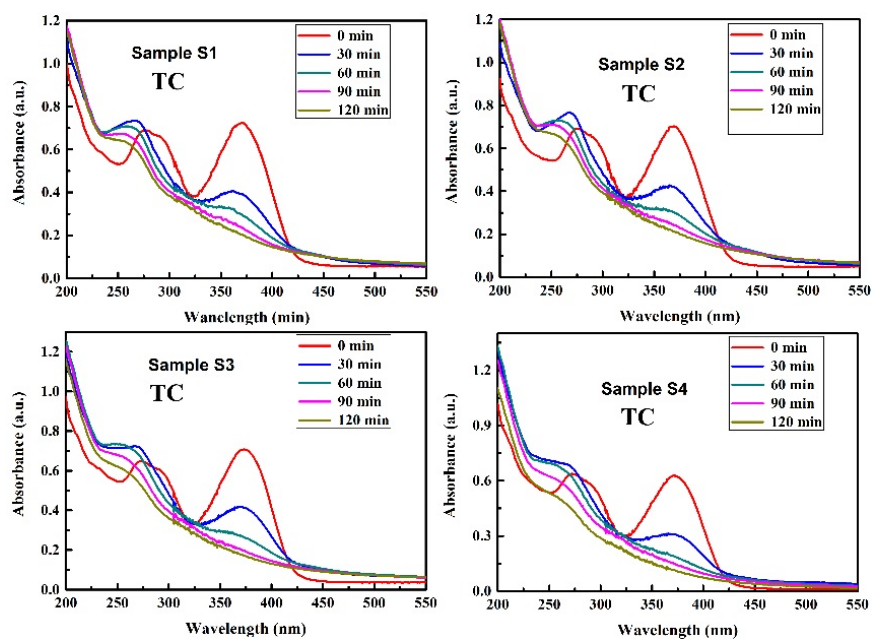


Figure S6. UV-visible absorption of TC solution as a function of irradiation time for samples: S1, S2, S3 and S4, respectively.

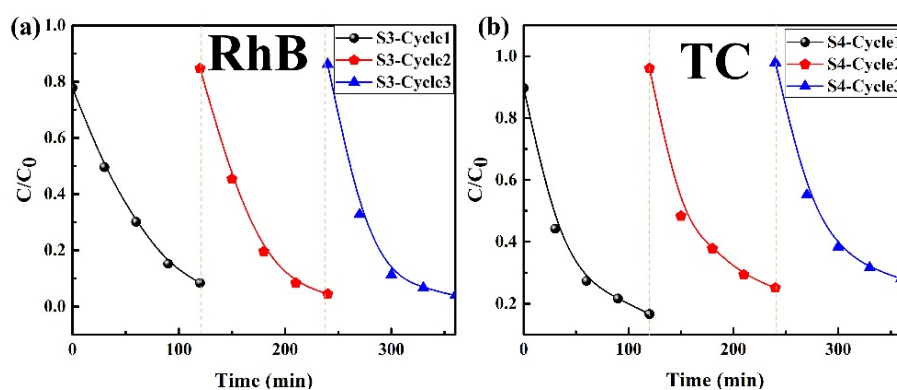


Figure S7. (a) and (b) Cycling experiments of sample S3 for RhB and S4 for TC solution photo-degradation, respectively.

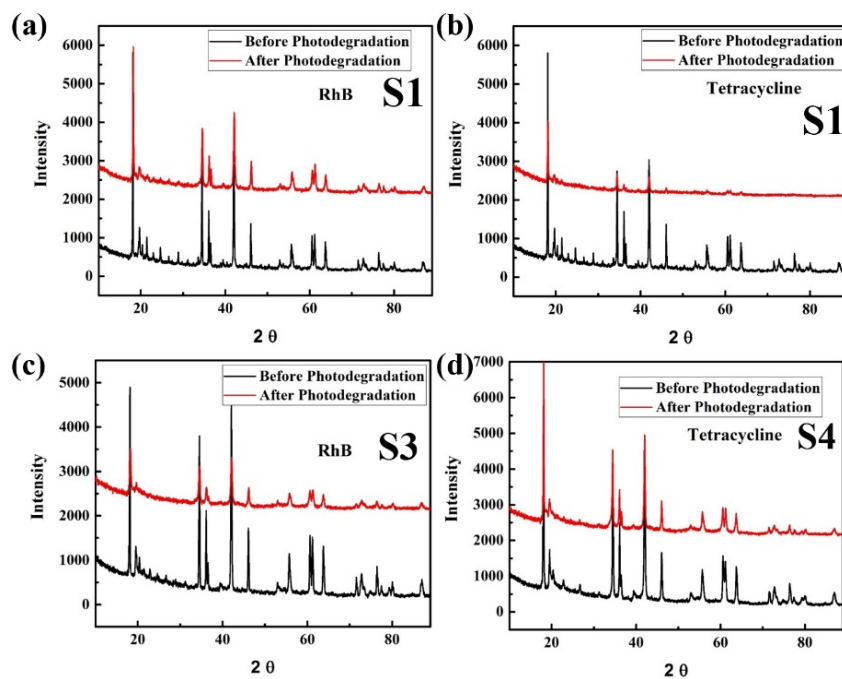


Figure S8. (a) XRD patterns of sample S1 before and after the photocatalytic reaction of degrading RhB. (b) XRD patterns of sample S1 before and after the photocatalytic reaction of degrading TC. (c) XRD patterns of sample S3 before and after the photocatalytic reaction of degrading RhB. (d) XRD patterns of sample S4 before and after the photocatalytic reaction of degrading TC.

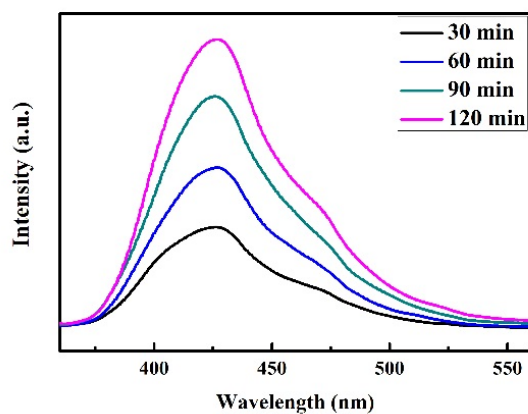


Figure S9. Hydroxyl radical $\cdot\text{OH}$ detecting photoluminescence (PL) spectra of Li_2SnO_3 in TA solution under UV light irradiation.

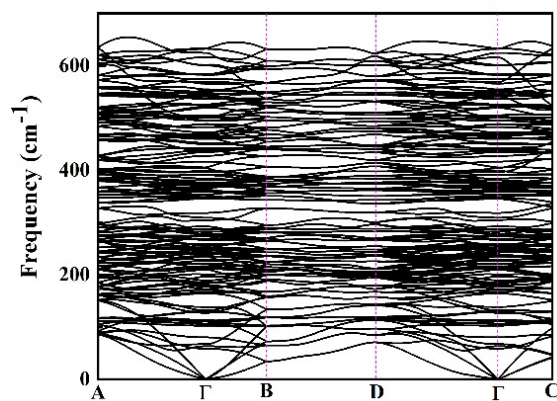


Figure S10. Phonon band structure of Li_2SnO_3 along high symmetric points in the Brillouin zone.