Electronic Supplementary Material (ESI) for Catalysis Science & Technology.

Ultrathin ZnTi-LDH nanosheets for photocatalytic aerobic oxidation of aniline based on coordination activation

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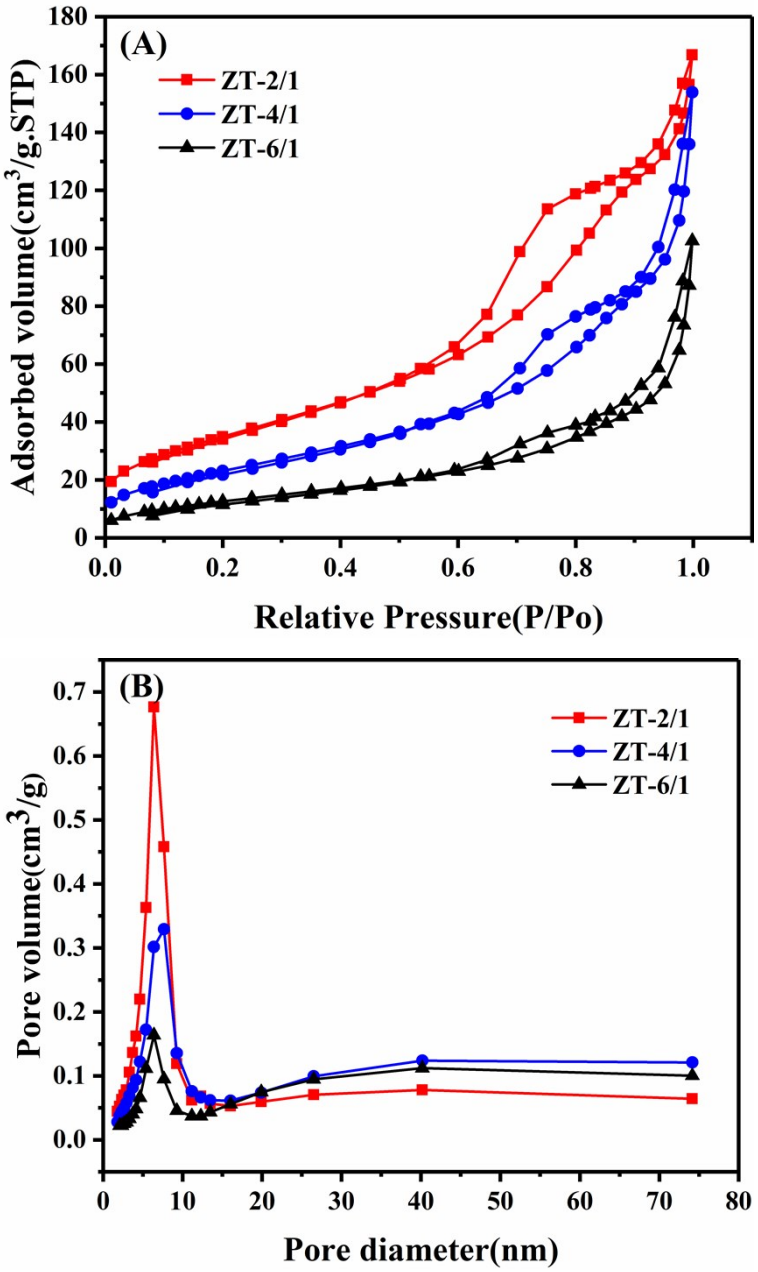

Fig. S1 N_2-sorption isotherms (A) and pore size distribution (B) of ZnTi-LDHs.

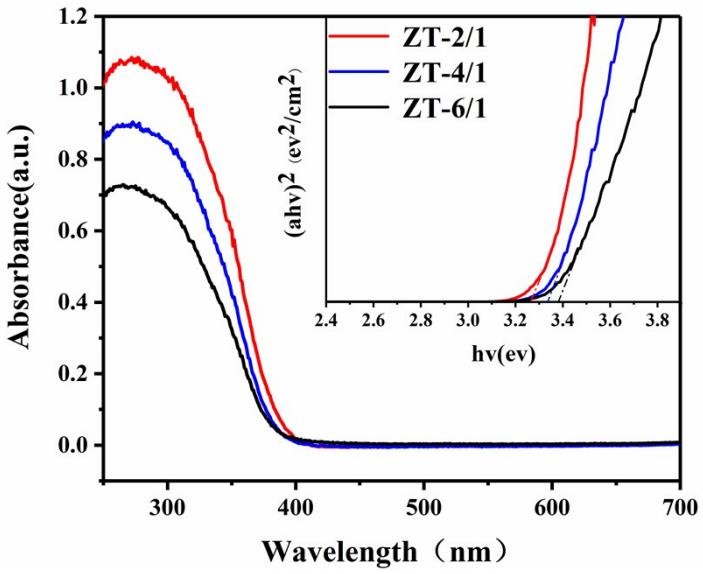

Fig. S2 UV-vis DRS spectra and corresponding Tauc plot of ZnTi-LDHs.

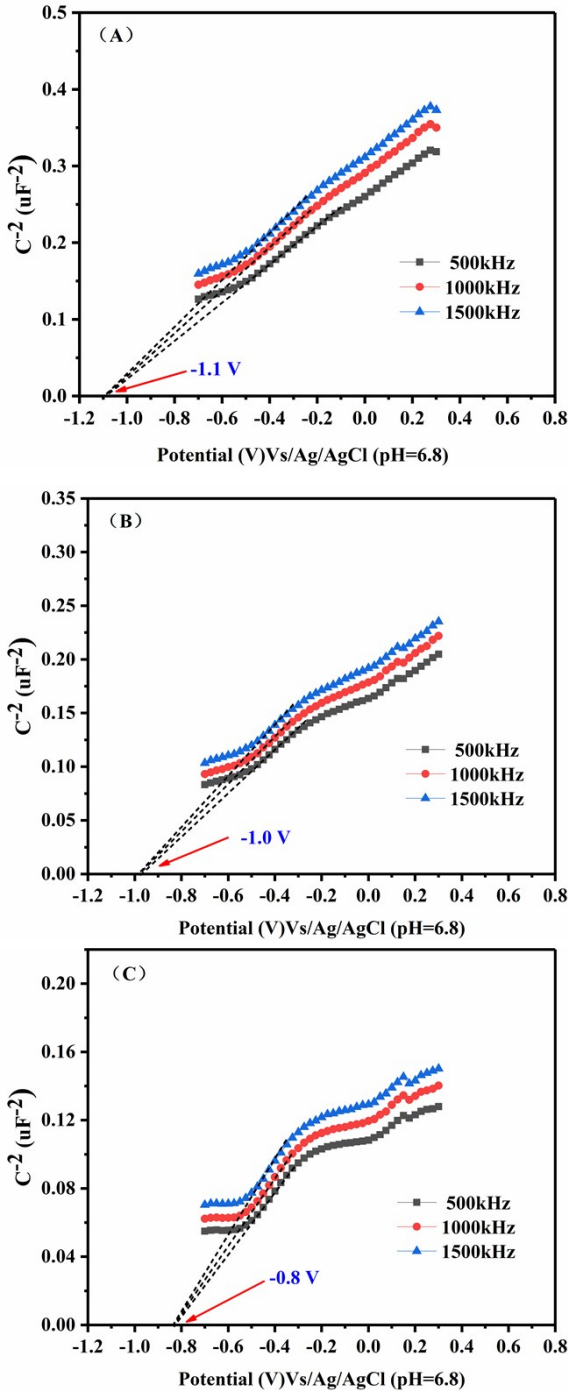

Fig. S3 Mott-Schottky plots of ZT-2/1(A), ZT-4/1(B) and ZT-6/1(C).

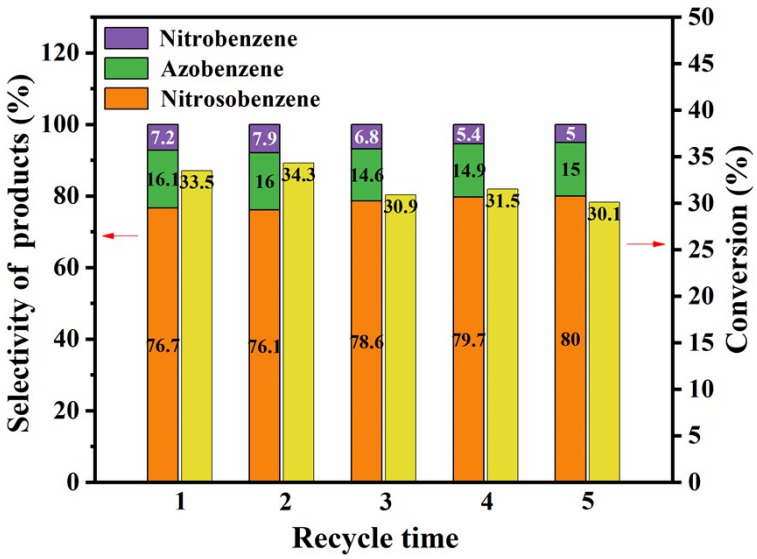

Fig. S4 The reused of ZT-2/1 for five cycles.

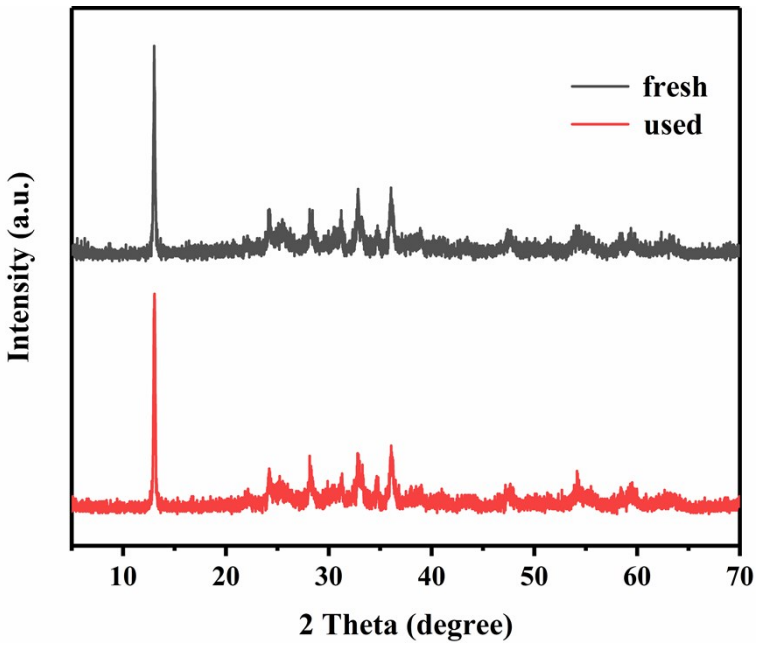

Fig. S5 The XRD patterns of ZT-2/1 before and after five photocatalytic reactions.

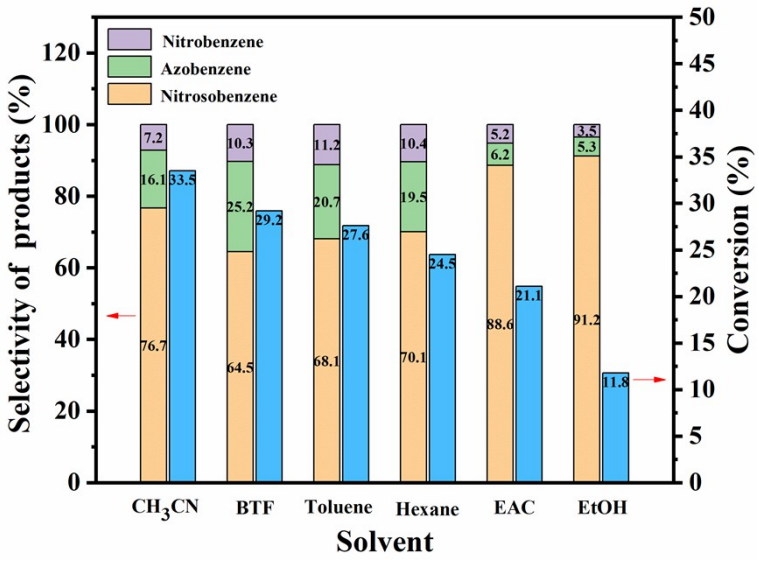

Fig. S6 The effect of solvents on photocatalytic activity for ZT-2/1.

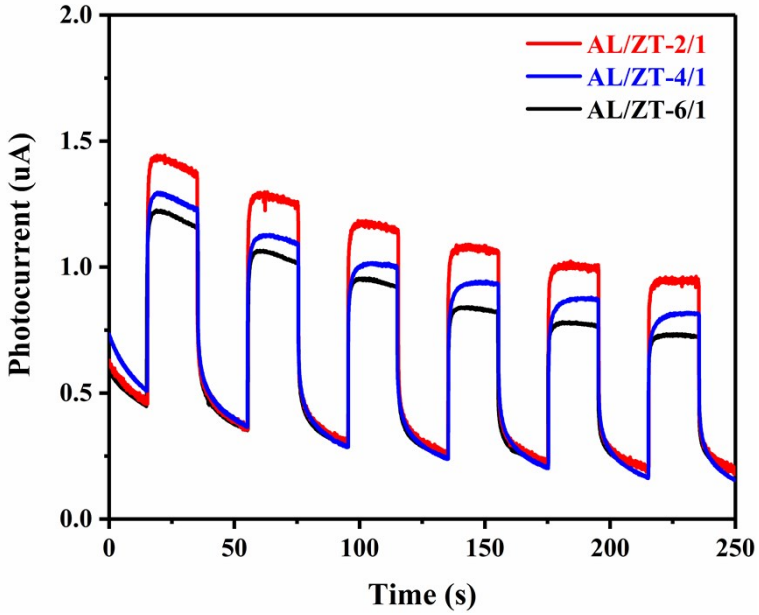

Fig. S7 Photocurrent measurements of aniline-adsorbed ZnTi-LDHs under visible light irradiation.

Table S1. Comparison of various photocatalysts for the conversion of aniline and selectivity of nitrosobenzene.

Entry	Catalysts	Reaction condition	Light source	Sele.	Conv.	Refer
1	Pt/P25	O_2, 12h, toluene as the solvent.	a Xe lamp, λ > 450 nm	79.5%	No calculation, but very low	[1]
2	MgO/TiO_2	O_2, 6h, toluene as the solvent,	a 300 W Xe lamp, λ > 400 nm	76%	No calculation, but very low	[2]
3	SrO/TiO_2	O_2, 4h, ethyl acetate as the solvent,	a 300 W Xe lamp, λ > 400 nm	80%	29.6%	[3]
4	ZT-2/1	O_2, 4h, acetonitrile as the solvent,	a 300 W Xe lamp, λ > 400 nm	76.7%	33.5%	This work

Reference

[1] Y. Shiraishi, H. Sakamoto, K. Fujiwara, S. Ichikawa and T. Hirai, ACS Catal., 2014, 4, 2418–2425.

[2] J. Chen, J. Xiong, Y. Song, Y. Yu and L. Wu, Appl. Surf. Sci, 2018, 440, 1269–1276.

[3] J. Chen, C. Shen, B. Guo, Y. Yu and L. Wu, Catal. Today, 2019, 335, 312–318.