Supporting information

## Photodegradation of Naproxen using CuZnAl-layered double hydroxides as photocatalysts

Bing Peng<sup>a,c,d</sup>, Lanyan Wu<sup>a,b</sup>, Qingzhu Li<sup>a,c,d\*</sup>, Qingwei Wang<sup>a,c,d</sup>, Kaizhong Li<sup>a</sup>, Zeyan Zhou<sup>a</sup>

<sup>a</sup> School of Metallurgy and Environment, Central South University, Changsha 410083, China

<sup>b</sup> Institute of Material and Chemical Engineering, Tongren University, Tongren 554300, China.

<sup>c</sup> Chinese National Engineering Research Center for Control & Treatment of Heavy Metal Pollution, Changsha 410083, China

<sup>d</sup> Water Pollution Control Technology Key Lab of Hunan Province, Changsha, 410004, China

## Contents

**Figures:** 

**Figure S1.** Nitrogen adsorption-desorption isotherm of CuZnAl-LDH (Inset, pore size distribution plots).

**Figure S2.** XRD patterns of CuZnAl-LDH before and after the recycle degradation experiments.

Figure S3. SEM graphs of CuZnAl-LDH before photocatalytic degradation experiments.

Figure S4. UV–vis diffuse absorption spectra of ZnAl-LDH.

Figure S5. MS spectra of naproxen degradation products.

<sup>\*</sup>Corresponding author.Tel. & Fax: +86 731 88836804 & +86 731 88710171;E-mail: qingzhuli@csu.edu.cn (Q. Li)



Figure S1 Nitrogen adsorption-desorption isotherm of CuZnAl-LDH (Inset, pore size distribution plots).

The specific surface areas were calculated by the Brunauer–Emmett–Teller (BET) method, and the pore size distribution and the total pore volume were determined by the Brunauer–Joyner–allenda (BJH) method.

The isotherms could be classified as type IV in accordance with IUPAC classification <sup>1</sup>. The specific surface area obtained from BET test was  $15.5 \text{ m}^2 \text{ g}^{-1}$ .



Figure S2 XRD patterns of CuZnAl-LDH before and after the recycle degradation experiments.



Figure S3 SEM graphs of CuZnAl-LDH before photocatalytic degradation experiments.



Figure S4 UV-vis diffuse absorption spectra of ZnAl-LDH.



m/z



m/z



m/z



m/z



m/z



m/z



Figure S5 MS spectra of naproxen degradation products.

## References

1 X. Tao, C. Yang, L. Huang and S. Shang, Appl. Surf. Sci., 2020, 507, 145053.