Electronic Supplementary Material (ESI) for Dalton Transactions. This journal is © The Royal Society of Chemistry 2021

## **Supporting Information**

## Immobilizing CsPbBr<sub>3</sub> perovskite nanocrystals on nanoporous carbon powder for visible-light-driven CO<sub>2</sub> photoreduction

Ying Jiang, Cunxin Mei, Zhijie Zhang,\* Zhongliang Dong

School of Materials Science and Engineering, Shanghai Institute of Technology, 100 Haiquan Road,

Shanghai, 201418, P. R. China

\*Corresponding author. *Email address*: zjzhang@sit.edu.cn (Z. J. Zhang)

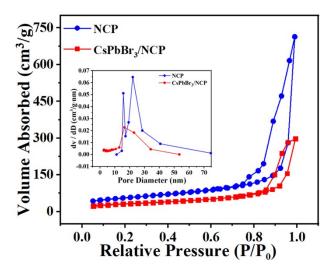
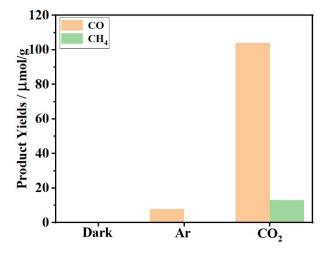


Fig. S1  $N_2$  adsorption-desorption isotherms of NCP and the CsPbBr<sub>3</sub>/NCP hybrid. Inset: pore size distribution of the samples.



**Fig. S2** Control photocatalytic experiments using CsPbBr<sub>3</sub>/NCP as catalysts under different conditions: with CO<sub>2</sub> under dark condition; with Ar under light irradiation; and with CO<sub>2</sub> under light irradiation.

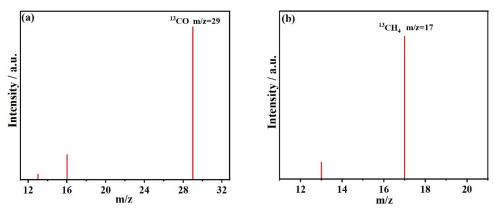


Fig. S3 Mass spectra showing  $^{13}CO$  (m/z=29) and  $^{13}CH_4$  (m/z=17) produced over CsPbBr<sub>3</sub>/NCP in the photocatalytic reduction of  $^{13}CO_2$ .

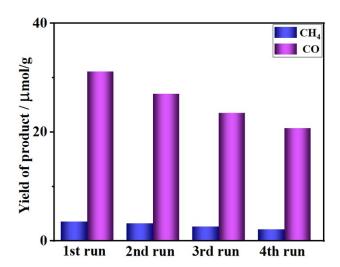


Fig. S4 Photocatalytic durability test on pristine CsPbBr<sub>3</sub> NCs with four 4 h cycle.

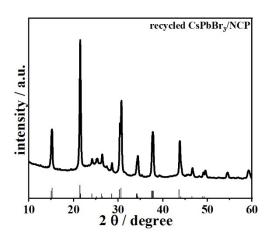


Fig. \$5 XRD pattern of the post-reaction CsPbBr<sub>3</sub>/NCP hybrid.

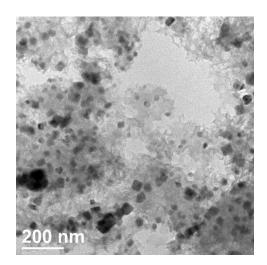


Fig. S6 TEM image of the post-reaction CsPbBr<sub>3</sub>/NCP hybrid.