Supplementary Information for

Water-Assisted Production of Honeycomb-Like g-C_3N_4 with Ultralong Carrier Lifetime and Outstanding Photocatalytic Activity

Zhenyu Wang,[a] Wei Guan,[b] Yanjuan Sun,[a] Fan Dong,[a,*] Ying Zhou,[c] Wing-Kei Ho[d]

[a] Chongqing Key Laboratory of Catalysis and Functional Organic Molecules, College of Environmental and Biological Engineering, Chongqing Technology and Business University, Chongqing, China.

[b] Chongqing Key Laboratory of Environmental Materials and Remediation Technology, Chongqing University of Arts and Sciences, Chongqing, China.

[c] State Key Laboratory of Oil and Gas Reservoir and Exploitation, School of Materials Science and Engineering, Southwest Petroleum University, Chengdu, China.

[d] Department of Science and Environmental Studies, The Centre for Education in Environmental Sustainability, The Hong Kong Institute of Education, Hong Kong.

* To whom correspondence should be addressed. E-mail: dfctbu@126.com. Tel.: +86-23-62769785-605; Fax: +86-23-62769785-605.

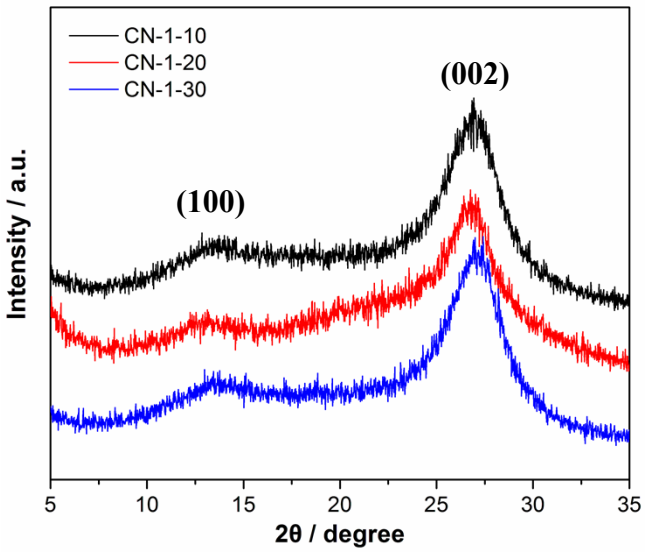

Fig. S1 XRD patterns of CN-1-10, CN-1-20 and CN-1-30 samples.

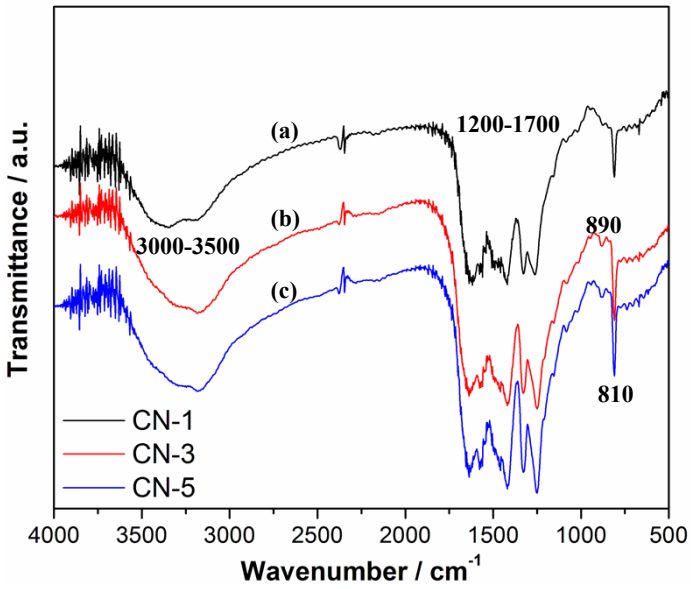

Fig. S2 FT-IR spectra of the obtained g-C_3N_4 products treated under different preparation times, CN-1 (a), CN-3 (b) and CN-5 (c).

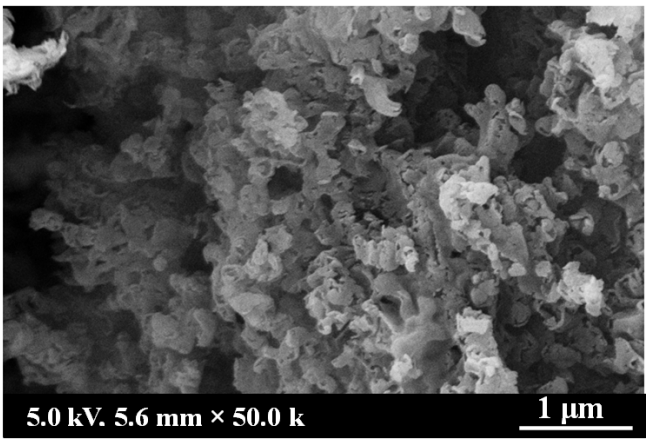

Fig. S3 SEM image of CN-1 sample.

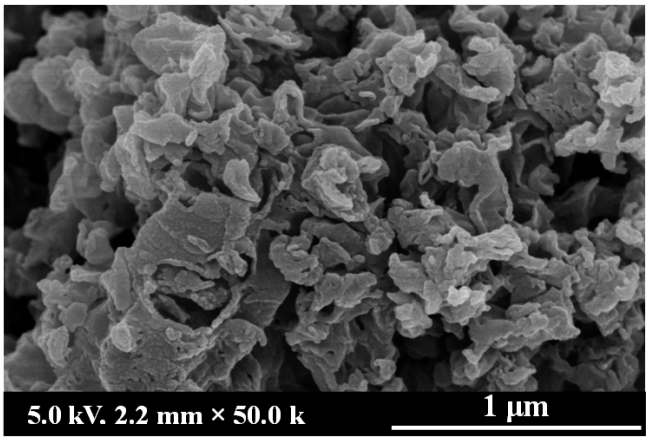

Fig. S4 SEM image of CN-3 sample.

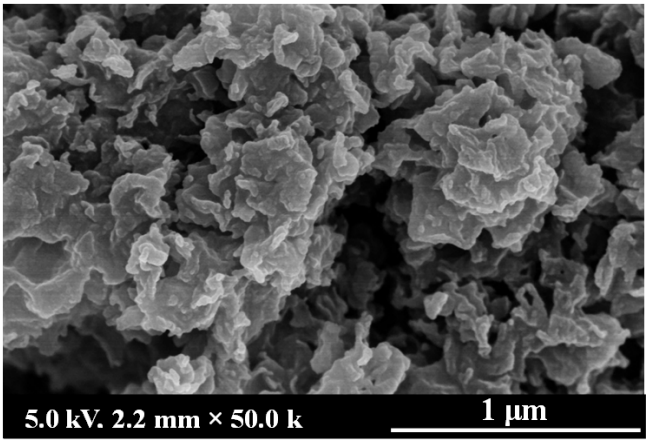

Fig. S5 SEM image of CN-5 sample.

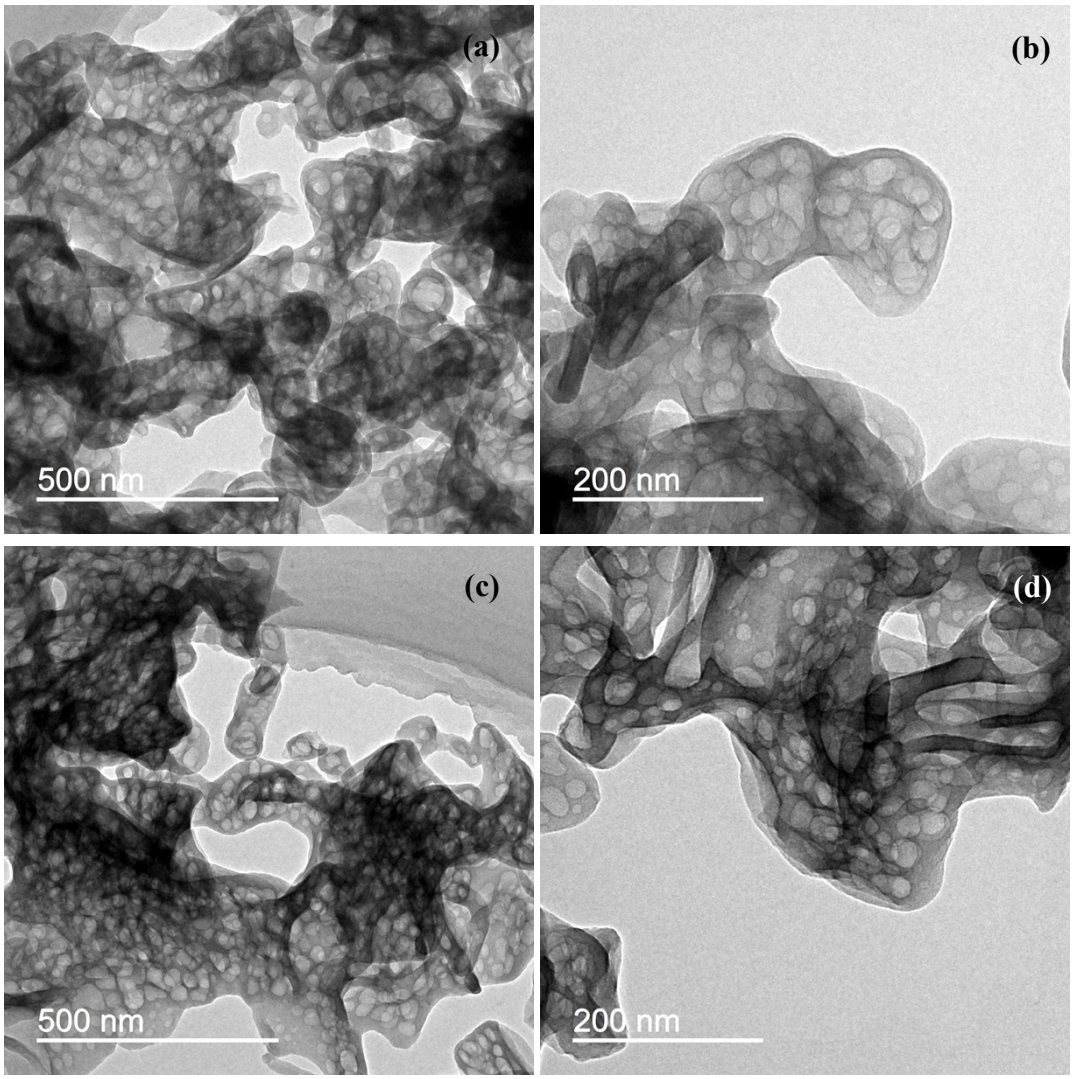

Fig. S6 TEM images of CN-1-10 (a, b), CN-1-30 (c, d)

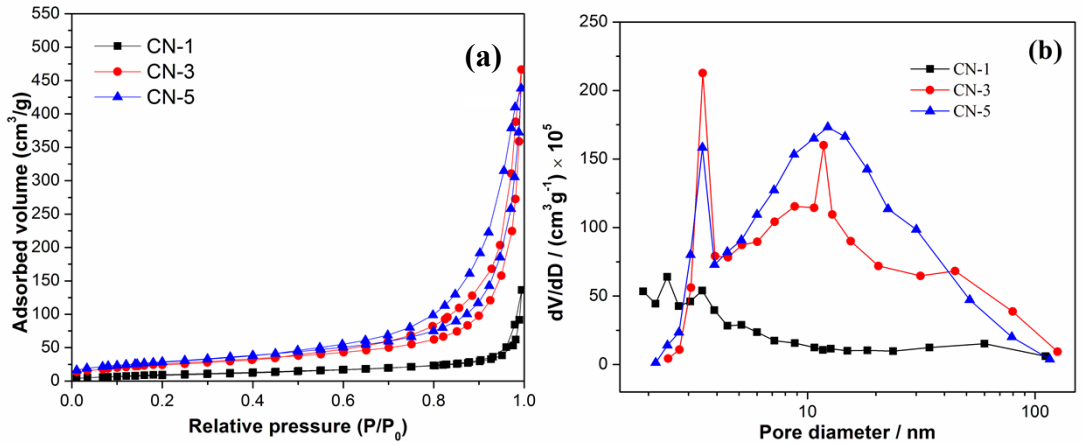

Fig. S7 N_2 adsorption-desorption isotherms of the obtained g-C_3N_4 samples (a) and corresponding pore-size distribution curves (b).

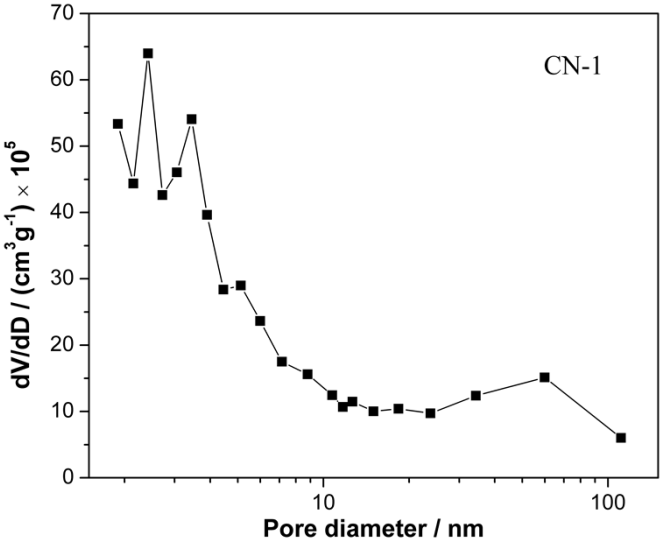

Fig. S8 Enlarged view of the pore-size distribution curve of the CN-1 samples.

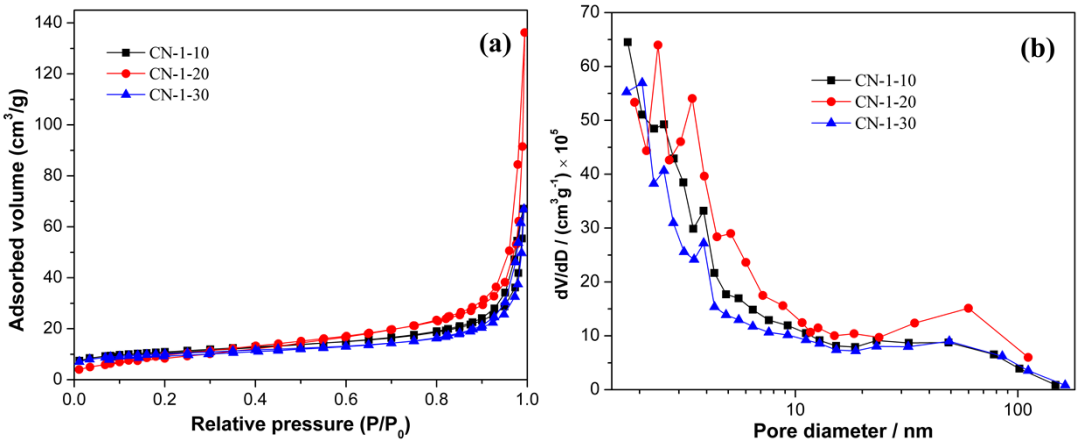

Fig. S9 N_2 adsorption-desorption isotherms of CN-1-10, CN-1-20, CN-1-30 (a) and corresponding pore-size distribution curves (b).

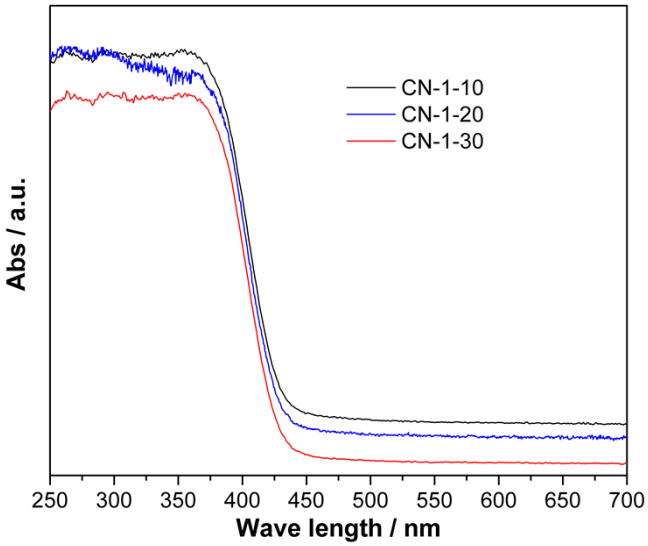

Fig. S10 UV-vis DRS of CN-1-10, CN-1-20 and CN-1-30 samples.

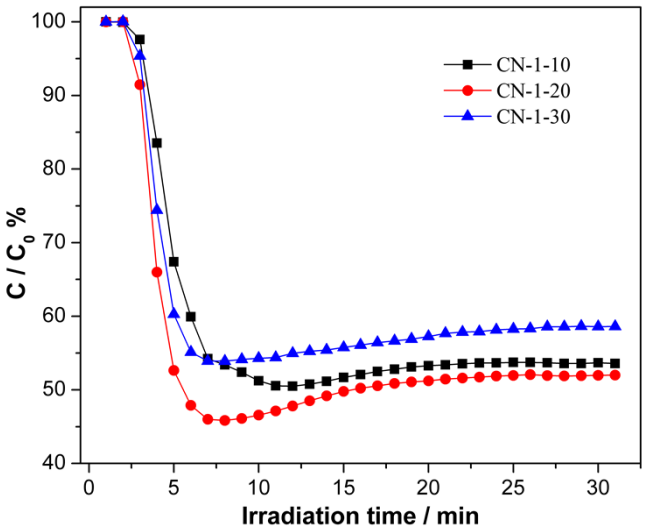

Fig. S11 Visible light photocatalytic activities of the CN-1-10, CN-1-20, CN-1-30 for removal of NO in air.

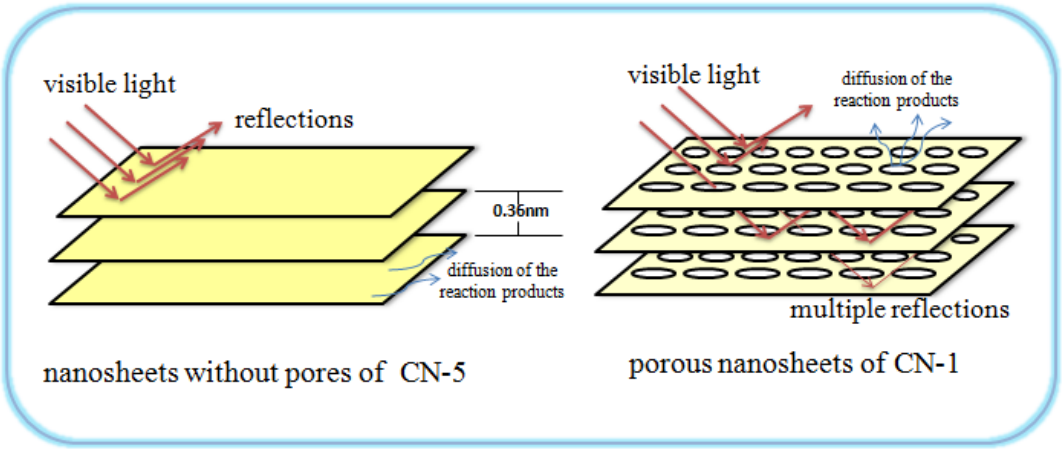

Fig. S12 The diagram illustrating the differences between the obtained g-C_3N_4 samples on light reflection.