Supporting Information

PCN-222@g-C_3N_4 Cathodic Materials for "Signal-Off" Photoelectrochemical Sensing of kanamycin sulfate

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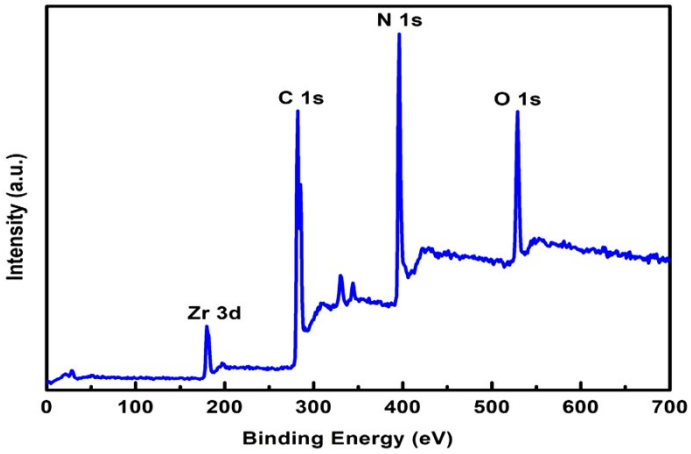

Fig. S1 C 1s, N 1s and Zr 3d high resolution XPS of PCN-222@g-C_3N_4.

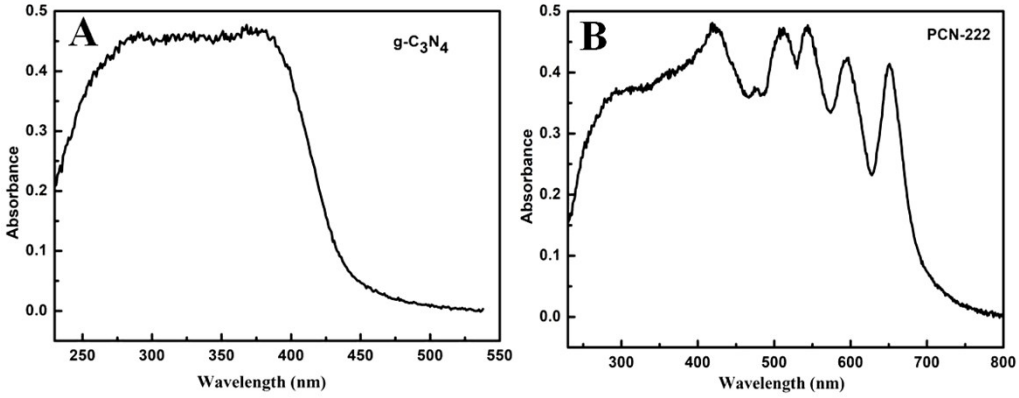

Fig. S2 Solid UV of g-C_3N_4 and PCN-222.

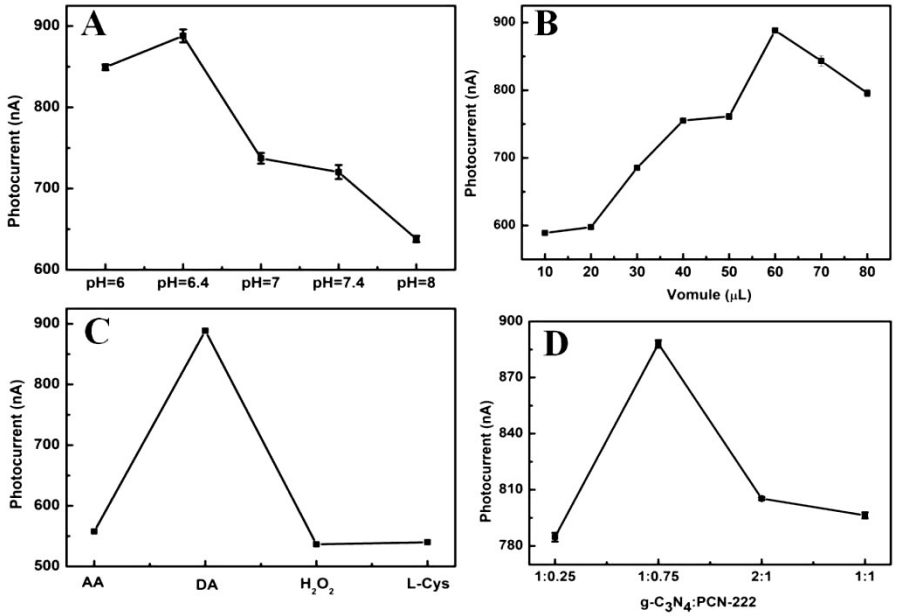

Fig. S3 Optimization of conditions for kanamycin sulfate detection: (A) pH (B) complex modification amount (C) reducing agent and (D) ratio of g-C_3N_4 to PCN-222. Error bars represent the standard deviation of three parallel experiments.

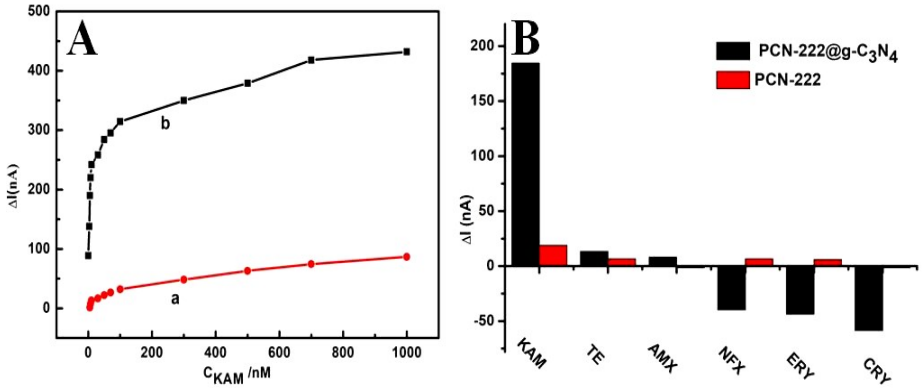

Fig. S4 (A) reaction of different materials to KAM (a) PCN-222, (b) PCN-222@g-C_3N_4; (B) different materials react to different antibiotics.

Table S1 Different methods to analyze KAM.

Materials	Methods	Linear range	Detection limit	Refs

GO/w-g-C_3N4	photoelectrochemical	1-230 nM	0.2 nM	1
MoS_2	electrochemical	0.1-100 nM	0.029 nM	2
GNP-KBA3-1	colorimetric	3.35-13.4 nM	3.35nM	3
PCN-222@g-C_3N_4	photoelectrochemical	1-1000 nM	0.127 nM	This work

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2 Y. L. Zhou, F. Li, H. E. Wu, Y. Chen, H. S. Yin, S. Y. Ai, and J. Wang, *Sens. Actuators B Chem.* 2019,296, 126664.

3 N. R. Ha I. P. Jung, S. H. Kim, A. R. Kim, M. Y. Yoon, *Process Biochem.* 2017, 62, 161–168.