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Authors: Huijie Shi, Yingling Wang, Jinzhi Zhao, Xuerong Huang, Guohua Zhao

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Cathodic photoelectrochemical detection of PCB101 in environmental samples with high sensitivity and selectivity

Huijie Shi, Yingling Wang, Jinzhi Zhao, Xuerong Huang, Guohua Zhao*

School of Chemical Science and Engineering, and Shanghai Key Lab of Chemical Assessment and Sustainability, Tongji University, 1239 Siping Road, Shanghai, 200092, China

*Corresponding author phone: (86)-21-65981180; Fax: (86)-21-65982287

E-mail: g.zhao@tongji.edu.cn

The highlights of the paper are showed as follows.

- A cathodic PEC sensing method was established for PCB101 for the first time.
- Efficient PEC reduction of PCB101 on the sensor surface led to high sensitivity.
- Both MIT and cathodic sensing mechanism contributed to the high selectivity.
- PCB101 in environmental samples was detected by the cathodic PEC sensor.

Abstract

A novel cathodic photoelectrochemical (PEC) sensing method was developed for fast and convenient detection of PCB101 taking advantages of the excellent PEC reducibility of Pd quantum dots (QDs) modified molecularly imprinted TiO_2 nanorods