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Author: Wei-Wei Zhao, Jing-Juan Xu, Hong-Yuan Chen

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Photoelectrochemical aptasensing

Wei-Wei Zhao^{*}, Jing-Juan Xu, and Hong-Yuan Chen

State Key Laboratory of Analytical Chemistry for Life Science and Collaborative Innovation Center of Chemistry for Life Science, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210023, Jiangsu, P.R. China.

*Corresponding author. Tel./Fax.: +86-25-89684862.

E-mail: zww@nju.edu.cn (W. Zhao)

Highlights

- The field of photoelectrochemical (PEC) aptasensing is reviewed.
- The fundamentals, signaling strategies, and the state of the art are discussed.
- The future prospects of PEC aptasensing are presented.

ABSTRACT

Photoelectrochemical (PEC) bioanalysis represents a unique and dynamically developing methodology that offers an elegant route for sensitive biomolecular detection. Aptamers are synthetic nucleic acid molecules whose binding characteristics can rival those of protein antibodies. Originated from the fusion of PEC bioanalysis and aptamers, PEC aptasensing has rapidly becoming a subject of new research interests in recent years. Using illustrative examples, this review provides the introductory concept, bioanalysis development, signaling strategies, and the state of the art in this field. The future prospects are also discussed.

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