

Supporting Information

Electrochemiluminescence Aptasensor Based on Gd(OH)₃ Nanocrystalline for Ochratoxin A Detection in Food Samples

Chunyuan Tian, Minggang Wei, Xiaobin Wang, Qing Hua, Feiyan Tang, Lijun Zhao, Xuming Zhuang * and Feng Luan *

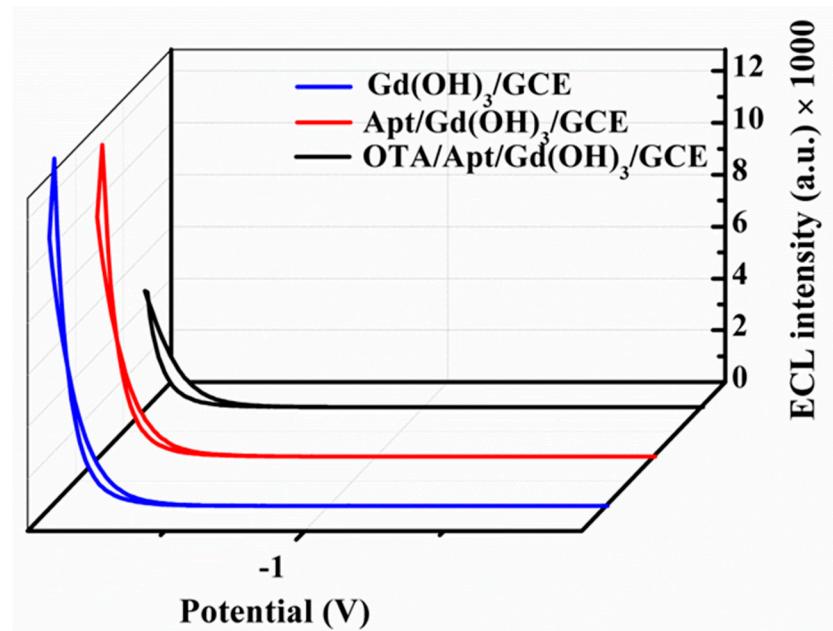


Figure S1. ECL intensity versus potential for Gd(OH)₃/GCE, Apt/Gd(OH)₃/GCE and OTA/Apt/Gd(OH)₃/GCE.

Table S1. Comparison of different methods for the detection of OTA.

Methods	Linear range (ng mL ⁻¹)	LOD (pg mL ⁻¹)	Ref.
Fluorescence	0.001~0.05	0.2	[1]
EC ^a	0.01 ~ 10 ⁴	110	[2]
PEC ^b	10 ⁴ ~200	0.0035	[3]
EC	0.03~10	13.3	[4]
ECL	10 ⁻⁵ ~10	0.0027	This work

^aElectrochemistry ^bPhotoelectrochemistry.

Table S2. Determination of IM in fish by the proposed method and the HPLC Method (n=3).

Sample	Added (ng/mL)	Amount found by ECL method (ng/mL)	Amount Found by HPLC Method (ng/mL)	Relative error (%)
Corn	1.0	0.98	0.96	2%

References

- Zhang, J.; Xia, Y. K.; Chen, M.; Wu, D. Z.; Cai, S. X.; Liu, M. M.; He, W. H.; Chen, J. H. A fluorescent aptasensor based on DNA-scaffolded silver nanoclusters coupling with Zn(II)-ion signal-enhancement for simultaneous detection of OTA and AFB1. *Sensor. Actuat. B-Chem.* **2016**, 235(1), 79-85.
- Barthelmebs, L.; Hayat A.; Limiadi, A. W.; Marty, J. L. Noguer, T. Electrochemical DNA aptamer-based biosensor for OTA detection, using superparamagnetic nanoparticles. *Sensor. Actuat. B-Chem.* **2021**, 156(2), 932-937.

- [3] Feng, J. H.; Qian, Y. R.; Cheng, Q.; Ma, Y. M.; Wu, D.; Ma, H. M.; Ren, X.; Wang, X. Y.; Wei, Q. A signal amplification of p DNA@Ag₂S based photoelectrochemical competitive sensor for the sensitive detection of OTA in microfluidic devices. *Biosens. Bioelectron.* **2020**, *168*(15), 112503.
- [4] Zhu, C. X.; Liu, D.; Li, Y. Y.; Ma, S.; Wang, M.; You, T.Y. Hairpin DNA assisted dual-ratiometric electrochemical aptasensor with high reliability and anti-interference ability for simultaneous detection of aflatoxin B1 and ochratoxin A. *Biosens. Bioelectron.* **2021**, *175*(15), 112654.