

Supplementary Information

# Construction of Ultrasensitive Electrochemiluminescent Aptasensor for Ractopamine Detection

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Supporting Information includes Figure S1-S3, Table S1.

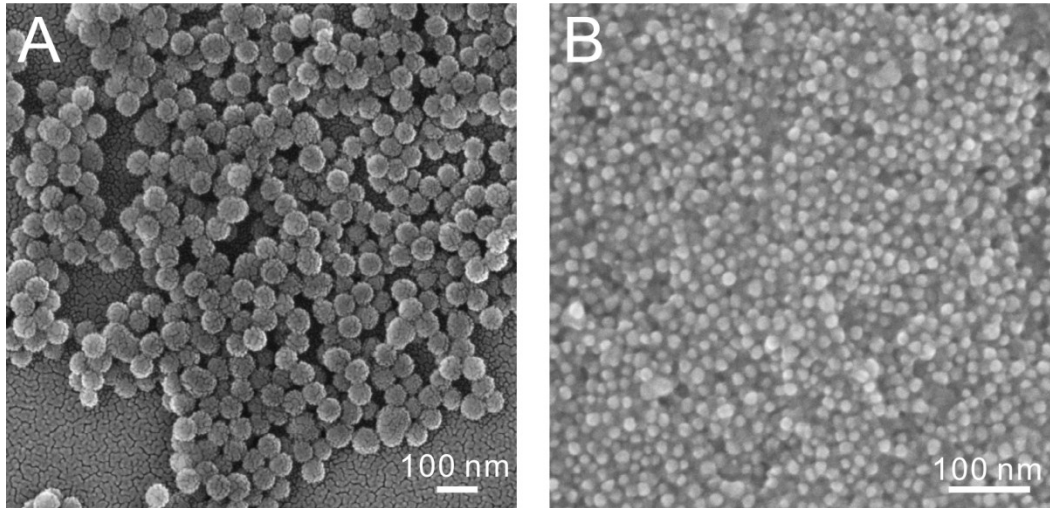


Fig. S1. SEM images of (A) Ru@SiO<sub>2</sub> NPs and (B) Au NPs.

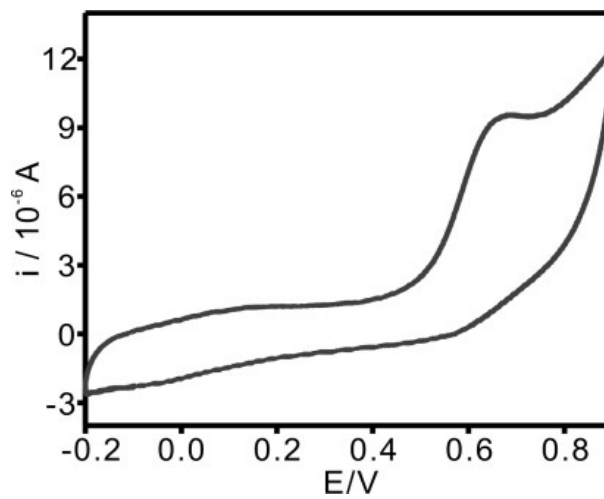


Fig. S2. Cyclic voltammograms obtained by bare GCE in 0.1 M PBS (pH 7.0) solution containing  $1.5 \times 10^{-6}$  M Rac.

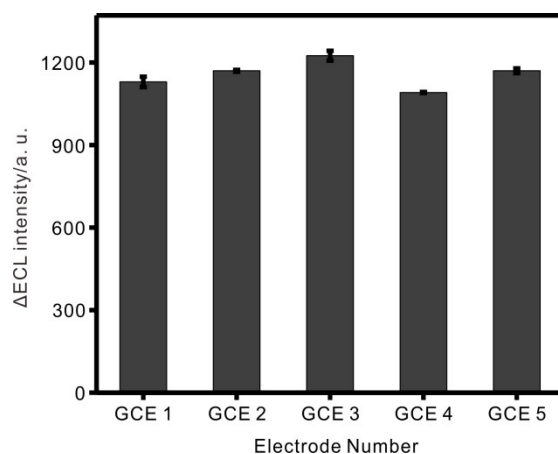


Fig. S3. Reproducibility of the ECL aptasensor with five different electrodes in 0.1 M PBS (pH 7.0) solution containing  $1.5 \times 10^{-8}$  M Rac.

**Table S1.** Comparison of the proposed sensor with other methods in Rac detection.

Detection method	Linear range (M)	Detection limit (M)	References
Visual detection	$3.0 \times 10^{-8} - 1.2 \times 10^{-6}$	$3.0 \times 10^{-8}$	[1]
EC sensor	$1.0 \times 10^{-6} - 2.8 \times 10^{-5}$	$1.5 \times 10^{-7}$	[2]
CNPs EC sensor	$2.0 \times 10^{-9} - 3.0 \times 10^{-8}$	$2.0 \times 10^{-10}$	[3]
HPLC-MS/MS	$1.5 \times 10^{-9} - 1.5 \times 10^{-7}$	$3.0 \times 10^{-11}$	[4]
ECL aptasensor	$1.5 \times 10^{-12} - 1.5 \times 10^{-8}$	$4.1 \times 10^{-14}$	This work

## References

- [1] P. Wang, X. Su, L. Shi and Y. Yuan, *Microchim. Acta*, 2016, 183, 2899–2905.
- [2] M. Rajkumar, Y. S. Li, S. M. Chen, *Colloid Surface B*, 2013, 110, 242–247.
- [3] S. Yao, Y. Hu, G. Li, Y. Zhang, *Electrochim. Acta*, 2012, 77, 83–88.
- [4] Y. Dong, X. Xia, X. Wang, S. Ding, X. Li, S. Zhang, et al., *Food Chem.*, 2011, 127, 327–332.