

1 Electronic Supplementary Material (ESI) for New Journal of Chemistry.
2 This journal is © The Royal Society of Chemistry and the Centre National de la
3 Recherche Scientifique 2022

4

5 **A spatial-resolved ratiometric electrochemiluminescence**
6 **immunosensor for myoglobin detection using Au@Ag₂S as signal**
7 **amplification tags**

8 Chen Chen,^a Jin-Xin Ma,^a Hui Wang,^a Hui-Qiao Liu,^a Shu-Wei Ren,^b Jun-Tao Cao,^{a,*}
9 and Yan-Ming Liu^{a,*}

10 ^aCollege of Chemistry and Chemical Engineering, Xinyang Key Laboratory of Functional
11 Nanomaterials for Bioanalysis, Xinyang Normal University, Xinyang 464000, P. R. China

12 ^bXinyang Central Hospital, Xinyang 464000, P. R. China

13 *Corresponding author: E-mail: jtcao11@163.com (J.-T. Cao) and liuym9518@sina.com (Y.-M.
14 Liu), Tel & fax: +86-376-6392825.

15

16

17

18 **Analytical performance**

19

20 **Table S1.** Comparison the analytical performance of different methods for myoglobin
21 detection

Methods	Linear ranges (g/mL)	Detection limit (g/mL)	References
cyclic voltammetry	5.0×10^{-12} - 2.0×10^{-8}	1.2×10^{-12}	1
surface plasmon resonance	1.0×10^{-11} - 1.0×10^{-6}	1.0×10^{-11}	2
differential pulse voltammetry	1.0×10^{-12} - 1.0×10^{-6}	2.1×10^{-12}	3
photoelectrochemical	4.0×10^{-13} - 1.0×10^{-7}	1.0×10^{-13}	4
electrochemical	1.0×10^{-11} - 1.0×10^{-4}	2.1×10^{-12}	5
fluorescence	3.0×10^{-13} - 1.0×10^{-7}	4.5×10^{-14}	6
electrochemiluminescence	1.0×10^{-13} - 1.0×10^{-7}	5.0×10^{-14}	This work

1

2 **References**

- 3 [1] B. Zhang, Y. Zhang, W. B. Liang, X. J. Yu, H. Tan, G. Q. Wang, A. M. Li, J. Jin,
4 L. Huang, *RSC Adv.* 2017, **7**, 2486–2493.
- 5 [2] N. Singh, M. A. Ali, P. Rai, I. Ghori, A. Sharma, B. D. Malhotra, R. John, *Lab*
6 *Chip* 2020, **20**, 760–777.
- 7 [3] A. Sharma, J. Bhardwaj, J. Jang, *ACS Omega* 2020, **5**, 3924–3931
- 8 [4] J. T. Cao, B. Wang, Y. X. Dong, Q. Wang, S. W. Ren, Y. M. Liu, W. W. Zhao,
9 *ACS Sens.* 2018, **3**, 1087-1092.
- 10 [5] J. A. Ribeiro, C. M. Pereira, A. F. Silva, M. G. F. Sales, *Anal. Chim. Acta* 2017,
11 **981**, 41-52.
- 12 [6] A. M. Piloto, D. S. M. Ribeiro, S. S. M. Rodrigues, C. Santos, J. L. M. Santos, M.
13 G. F. Sales, *Sci. Rep.* 2018, **8**, 4944.

14