**Supplementary Material**

**One-step chemiluminescent determination of glucose by a functionalized graphene nanocomposite**

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**Table S1.** Tolerable concentrations of interference substances in the glucose determination.

|  |  |  |
| --- | --- | --- |
| Interferent | Tolerable concentration | Percentage of CL intensity |
| Blank | 0 | 100% |
| Na+ | 10 mM | 90.26% |
| K+ | 10 mM | 95.17% |
| Ca2+ | 10 mM | 111.01% |
| Mg2+ | 2 mM | 90.09% |
| Zn2+ | 0.5 mM | 109.82% |
| Fe3+ | 0.1 mM | 101.00% |
| Cu2+ | 0.05 mM | 91.97% |
| Phenylalanine | 25 mM | 103.20% |
| Lysine | 10 mM | 103.33% |
| Glutamic acid | 5 mM | 95.70% |
| Human serum albumin | 0.1 mg mL-1 | 107.21% |
| Immunoglobulin G | 0.5 mg mL-1 | 102.94% |

**Table S2.** Recovery of spiked glucose in human serum.

|  |  |  |  |
| --- | --- | --- | --- |
| Glucose added (μM) | Glucose found (μM) | Recovery (%) | Relative standard deviation (%) |
| 50 | 51.17 | 102.3 | 1.9 |
| 100 | 100.07 | 100.0 | 9.7 |
| 150 | 128.30 | 85.6 | 2.0 |
| 200 | 225.80 | 112.9 | 3.5 |
| 300 | 261.9 | 87.3 | 6.8 |
| 500 | 478.5 | 96.3 | 9.5 |



**Figure S1.** FT-IR spectra of GO, ABEI, and hemin.



**Figure S2.** Calibration curve for GOx using the ABTS colorimetric reaction.



**Figure S3.** Reproducibility of the CL nanosensing platform for glucose determination. The concentration of glucose was 1 mM.



**Figure S4.** Stability of the rG-H-A-G nanocomposite.