

1 **A novel aptamer-mediated CuInS₂ quantum dots@graphene**
2 **oxide nanocomposites-based fluorescence “turn off-on”**
3 **nanosensor for highly sensitive and selective detection of**
4 **kanamycin**

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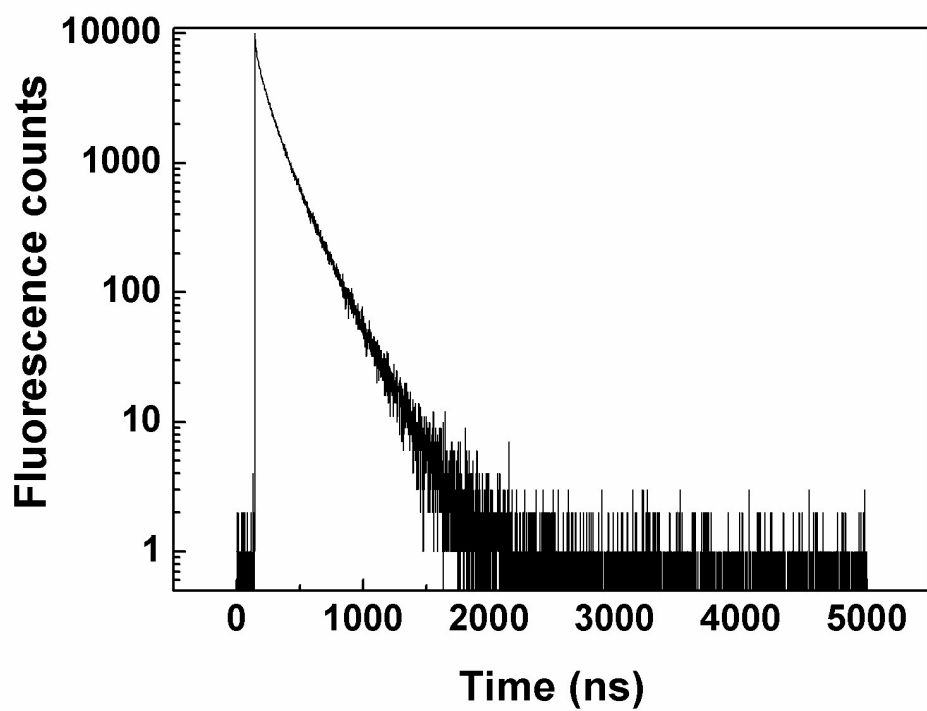
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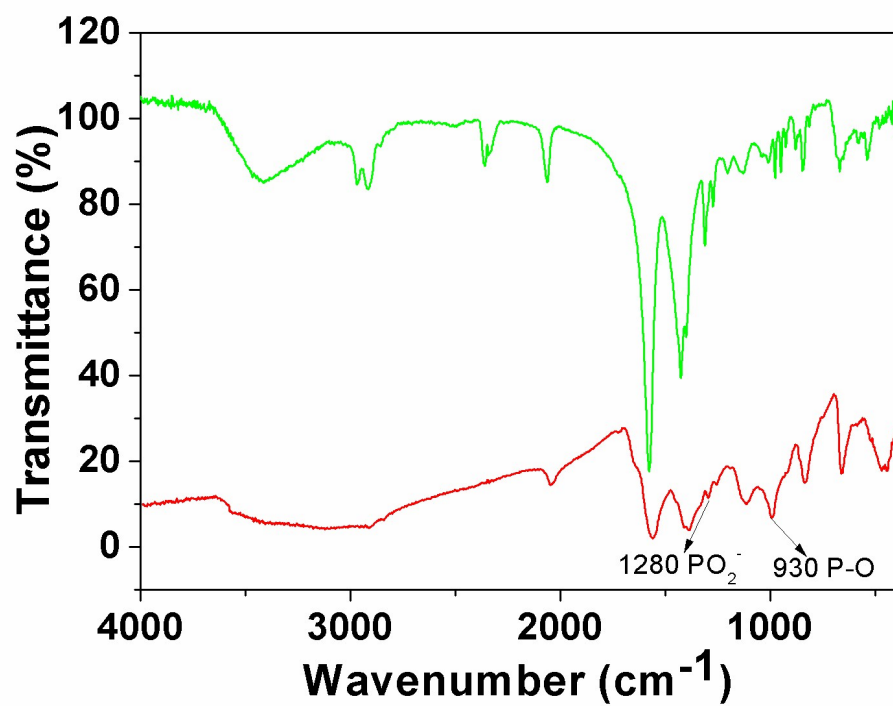
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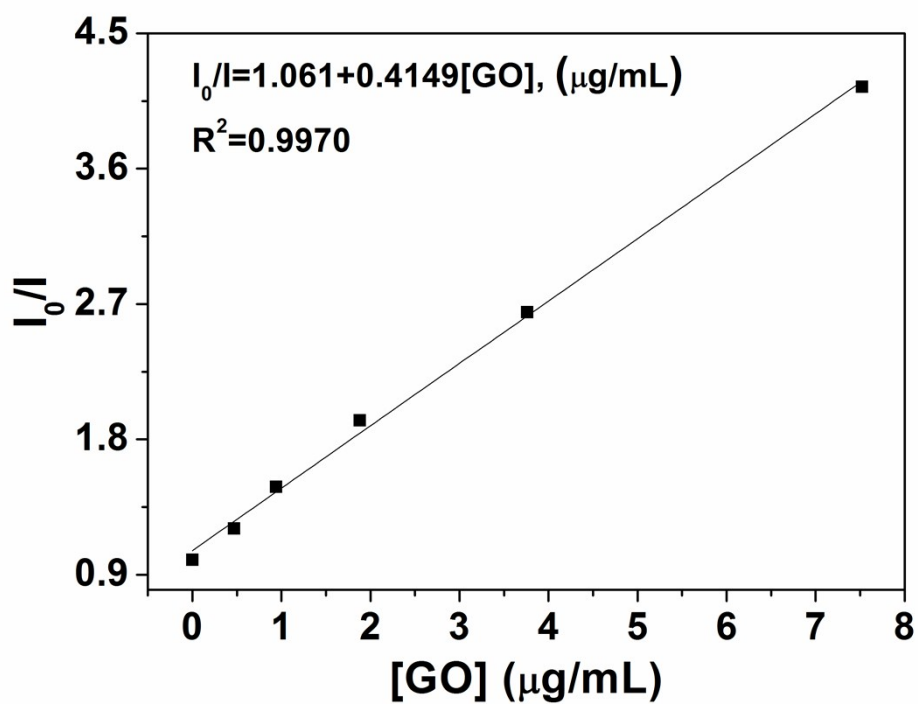
2 Fig. S1 Fluorescence decay curves of the CuInS₂ QDs in aqueous solution.



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2 Fig. S2 The FT-IR spectra of the MPA capped CuInS₂ QDs (green curve) and Ky₂-CuInS₂ QDs

3 (red curve).

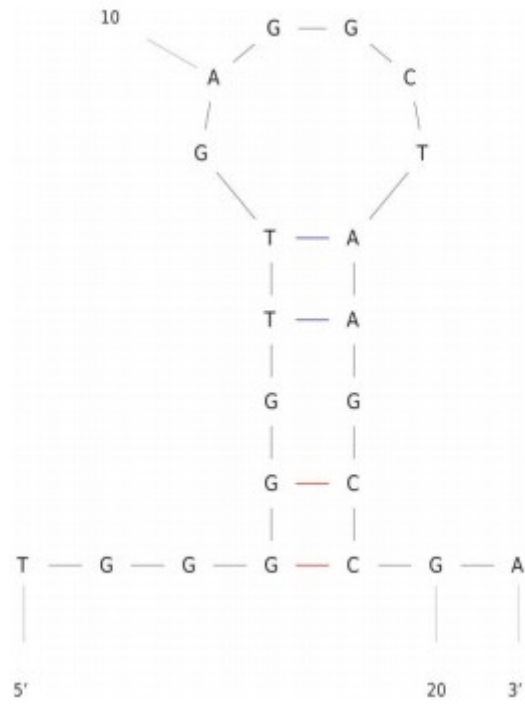


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2 Fig. S3 The relationship between I_0/I and the concentration of GO (from 0 to $7.52 \mu\text{g}\cdot\text{mL}^{-1}$). I and

3 I_0 were the fluorescence intensity of $\text{Ky}2\text{-CuInS}_2$ QDs in the presence and absence of GO,

4 respectively.



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2 Fig. S4 The secondary structure of the Ky2 aptamer as predicted by M-Fold tool based on Zuker

3 algorithm.

1 **Table S1** Comparison of different methods for the determination of kanamycin

Methods	Linear range (nM)	LOD (nM)	Response time	Reference
Colorimetry	1-100	1.49	3-8 min	[1]
Colorimetry	—	25	> 1 h	[2]
Colorimetry	—	2000	—	[3]
Luminescence	2.0×10^{-2} - 1.5×10^{-5}	1.43×10^2	20 min	[4]
HF-LPME-ECL	1-500	1	—	[5]
Electrochemistry	3.43-171.65	1.15	45 min	[6]
FRET	10-200	8.6	—	[7]
Fluorometry	0.3-45	0.12	12 min	This work

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