

Supplementary Information

Determination of Moxifloxacin in milk using a ratiometric fluorescent sensor based on Ag-MOF@curcumin

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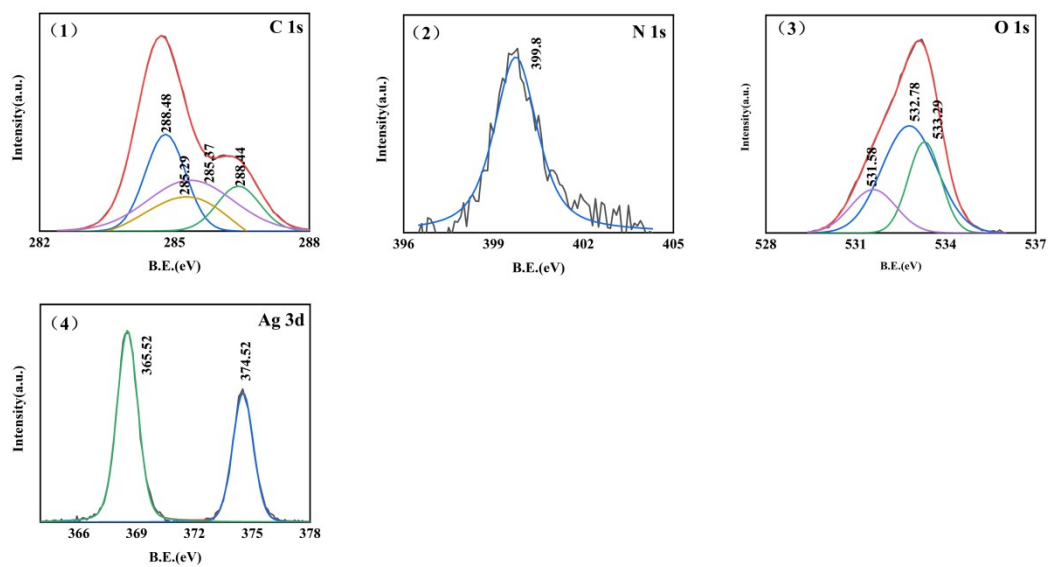


Fig. S1 C1s, Ag3d, O1s and N1s spectra of AgMOF@Curcumin.

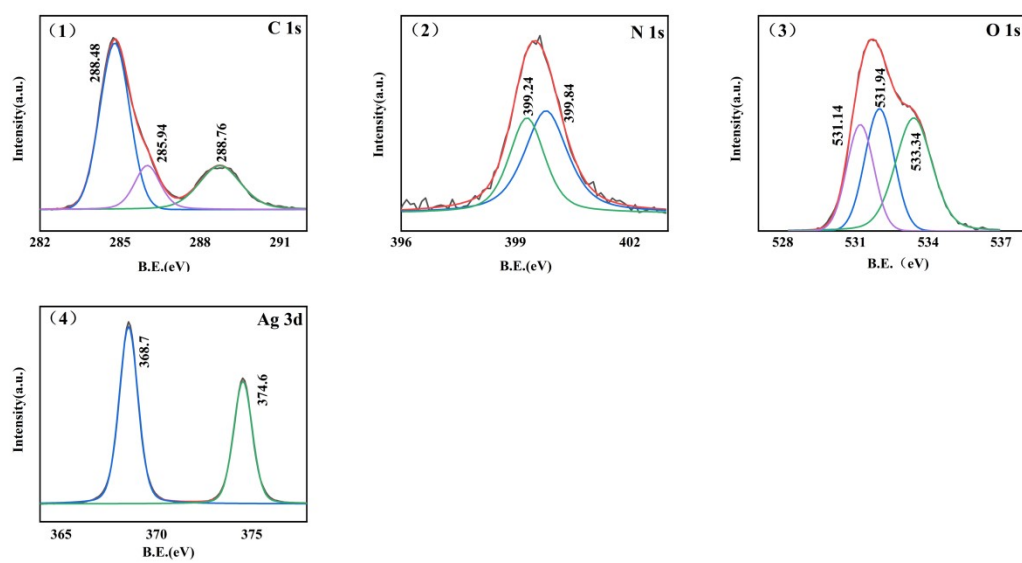


Fig. S2 C1s, Ag3d, O1s and N1s spectra of AgMOF.

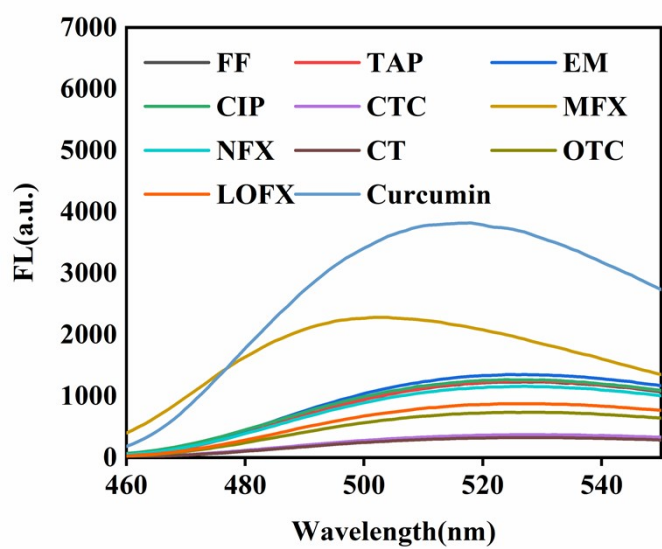


Fig. S3 The selectivity of curcumin towards several antibiotics

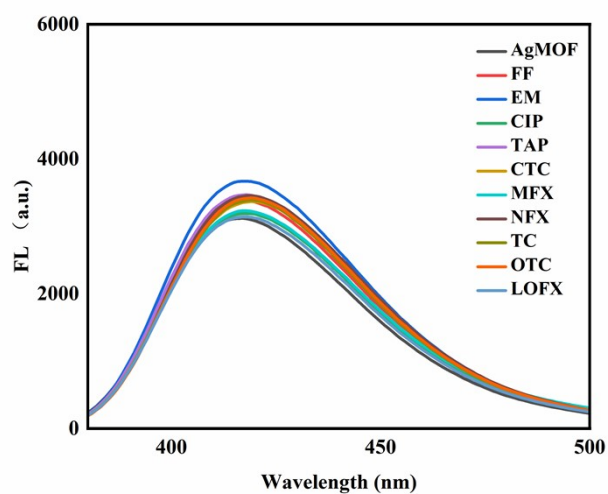


Fig. S4 The selectivity of Ag-MOF towards several antibiotics.

Table S1 Compared to other literature reports.

Method	Concentration range	LOD	Reference
Solid-Contact ISEs	1×10^{-6} M and 1×10^{-2} M		[1]
UPLC-MS/MS		0.1875 mg/L	[2]
RP-HPLC	2.5-100 μ g/ mL	0.51 μ g/mL	[3]
Electrochemical sensor	0.02 μ M-2.5 μ M	0.001 μ M	[4]
Fluorescence	0.025 μ M-15.0 μ M		[5]
Fluorescence	3.3×10^{-7} - 2×10^{-6} M		[6]
Fluorescence	0-35 μ mol \cdot L ⁻¹	0.179 μ mol \cdot L ⁻¹	This work

References

1. Li, Z.; Zhang, J.; Sun, Q.; Shi, W.; Tao, T.; Fu, Y., Moxifloxacin detection based on fluorescence resonance energy transfer from carbon quantum dots to moxifloxacin using a ratiometric fluorescence probe. *New J. Chem.* **2022**, *46* (9), 4226-4232.
2. Hösl, J.; Gessner, A.; El-Najjar, N., Liquid chromatography-tandem mass spectrometry for the quantification of moxifloxacin, ciprofloxacin, daptomycin, caspofungin, and isavuconazole in human plasma. *Journal of Pharmaceutical and Biomedical Analysis* **2018**, *157*, 92-99.
3. Abdel-Gawad, S. A.; Arab, H. H.; Albassam, A. A., Potentiometric Determination of Moxifloxacin by Solid-Contact ISEs in Wastewater Effluents. *Chemosensors* **2022**, *10* (4), 146.
4. Momin, M. A. M.; Thien, S. J.; Krittaphol, W.; Das, S. C., Simultaneous HPLC assay for pretomanid (PA-824), moxifloxacin and pyrazinamide in an inhaler formulation for drug-resistant tuberculosis. *Journal of Pharmaceutical and Biomedical Analysis* **2017**, *135*, 133-139.

5. Rabie, E. M.; Shamroukh, A. A.; Assaf, H. F.; Khodari, M., A novel sensor based on calcium oxide fabricated from eggshell waste conjugated with L- serine polymer film modified carbon paste electrode for sensitive detection of moxifloxacin in human serum and pharmaceutical constituents. *Sensors and Actuators A: Physical* **2023**, *356*, 114351.
6. Sajwan, R. K.; Kumar Himanshu, J.; Solanki, P. R., Polyvinyl alcohol-derived-carbon quantum dots based fluorometric “On-Off” probe for moxifloxacin detection in milk and egg samples. *Food Chemistry* **2024**, *439*, 138038.