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Polyarylether-based COFs coordinated by Tb^{3+} for fluorescent detection of anthrax-biomarker dipicolinic acid

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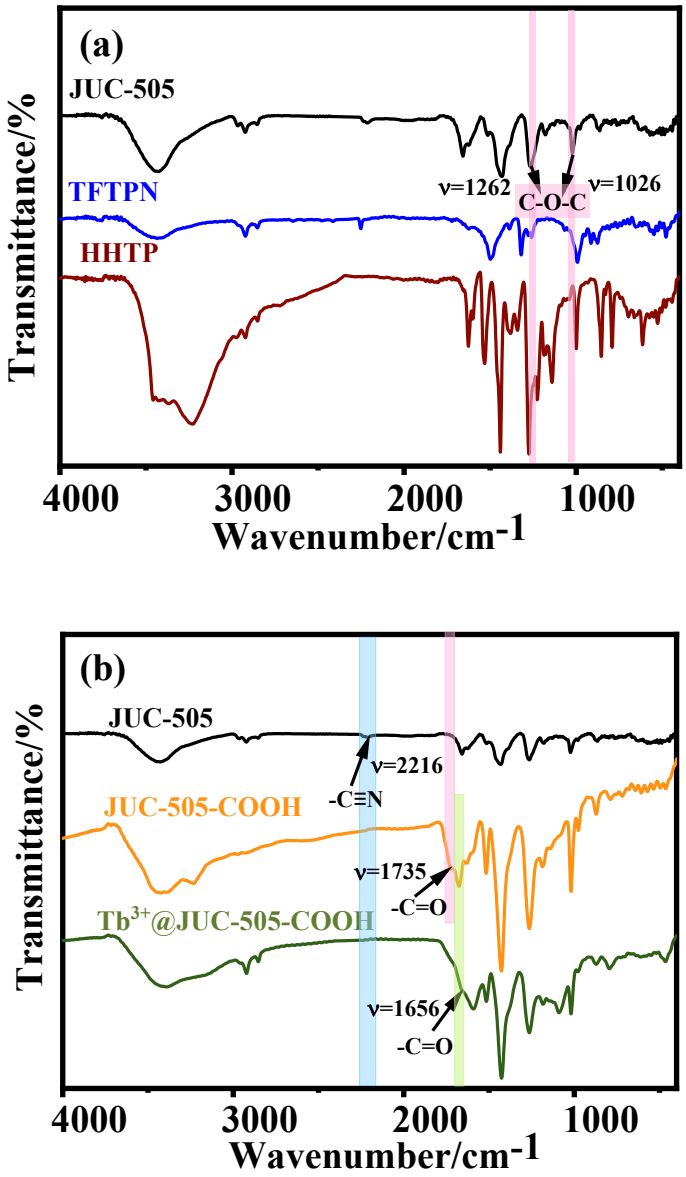

Figure S1. (a)FT-IR spectra of JUC-505, (b) FT-IR spectra of JUC-505, JUC-505-COOH, and Tb^{3+}@JUC-505-COOH.

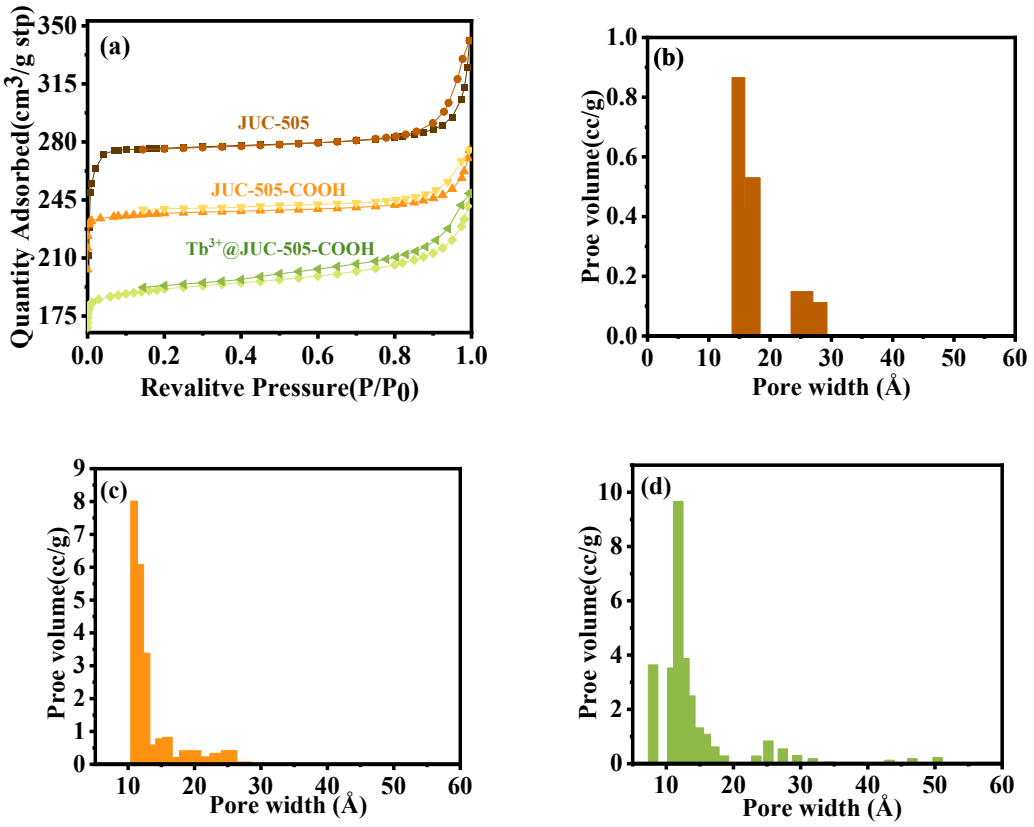

Figure S2. **(a)** N_2 adsorption and desorption isotherms for JUC-505 (brown curve), JUC-505-COOH (orange curve) and Tb^{3+}@JUC-505-COOH (green curve) measured at 77 K. Pore size distributions of JUC-505 **(b)**, JUC-505-COOH **(c)** and Tb^{3+}@JUC-505-COOH **(d)**

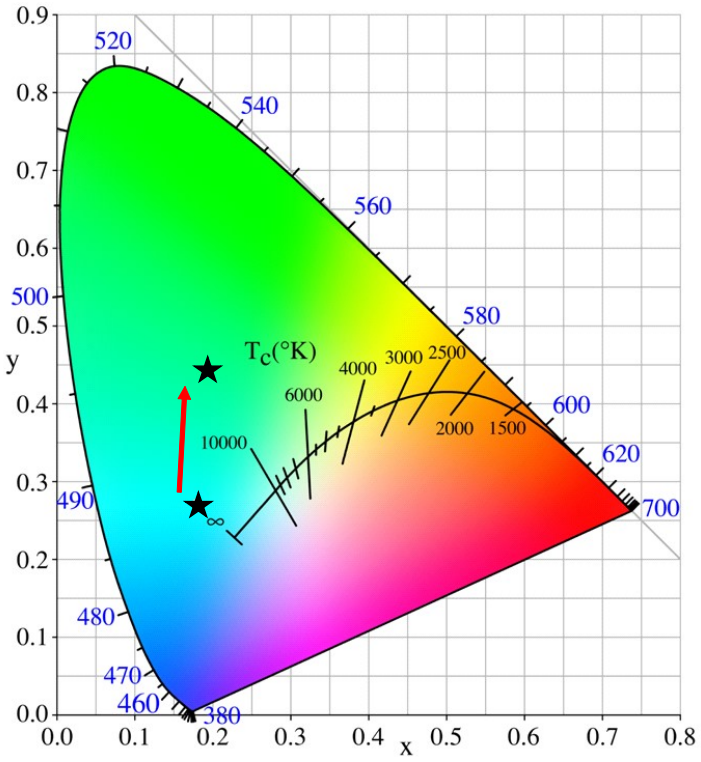

Figure S3. CIE chromaticity diagram of Tb^{3+}@JUC-505-COOH.

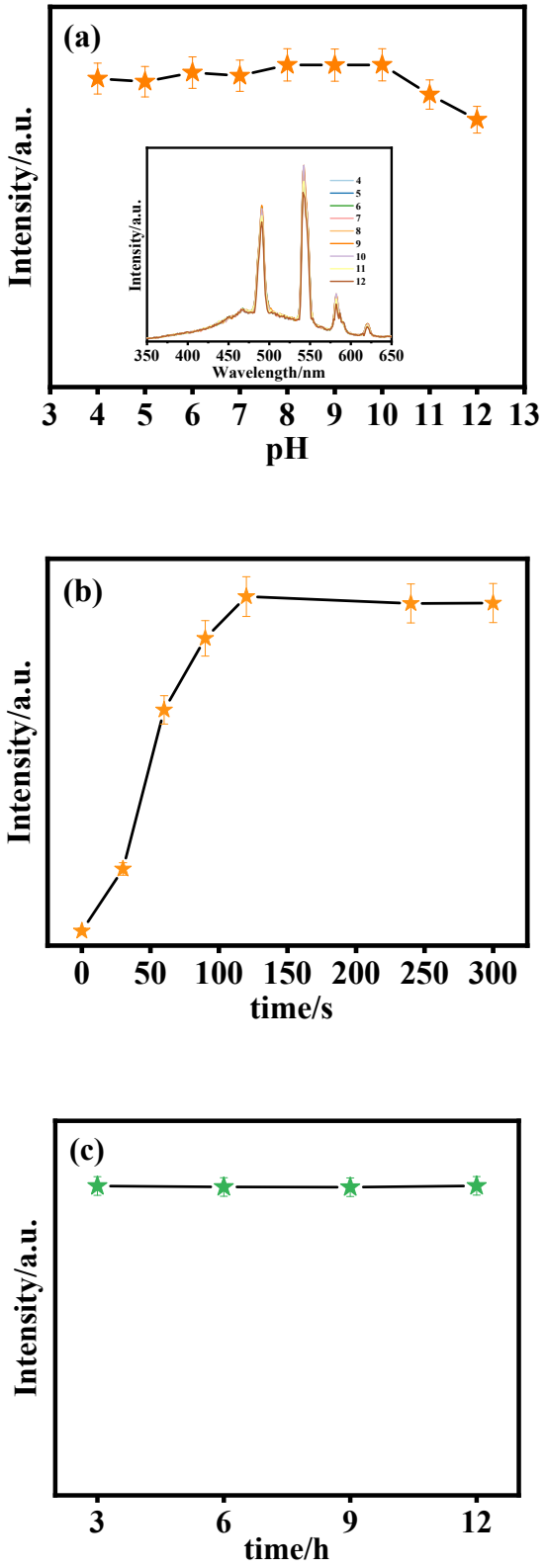

Figure S4. (a) Influence of pH on Tb^{3+}@JUC-505-COOH/DPA system. **(b)** Time-dependent fluorescence intensity of Tb^{3+}@JUC-505-COOH suspensions in DPA, **(b)**

time-light stability of the Tb^{3+}@JUC-505-COOH in the presence of DPA.

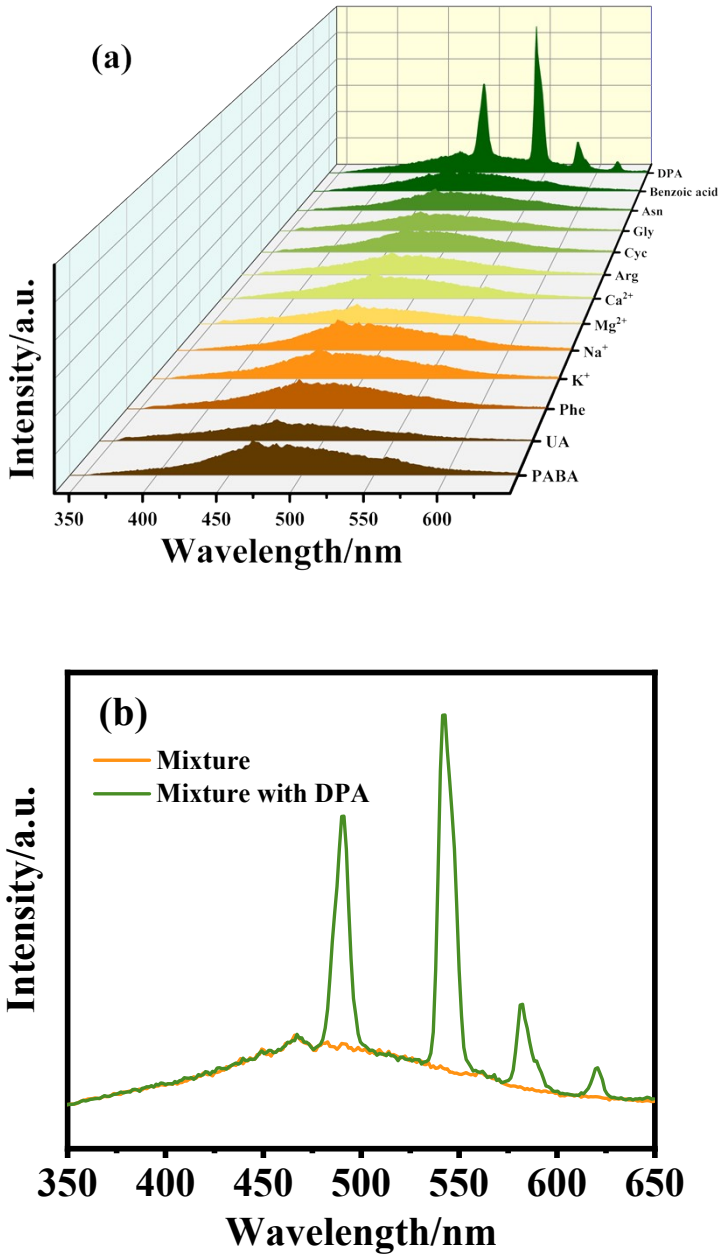

Figure S5. Emission spectra of Tb^{3+}@JUC-505-COOH introduced into different body fluids components **(a)** and their mixture **(b).**

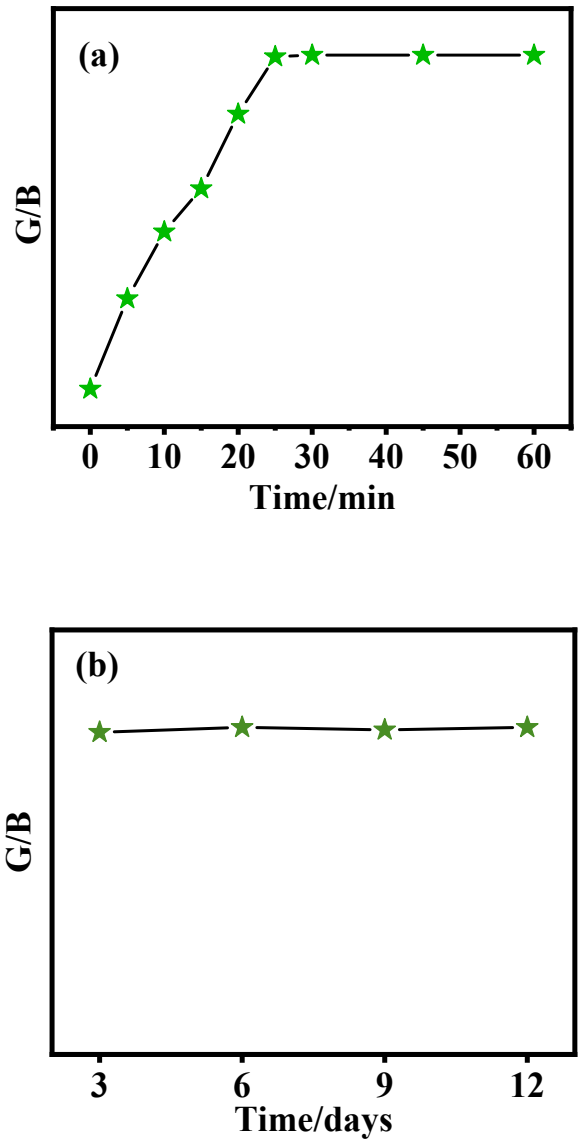

Figure S6. (a) Time-dependent G/B intensity of paper-based probe in DPA, **(b)** time-light stability of the paper-based probe in the presence of DPA.

Table S1 Comparison of the DPA detection properties of Tb^{3+}@JUC-505-COOH with other sensor reported in previous literatures.

Materials	Linear range (μM)	LOD (μM)	References
R6H@Eu(BTC)	0-120	4.5	[S1]
His@ZIF-8/Tb^{3+}	0.08-10	0.02	[S2]
Eu/CdTe	20–100	1.72	[S3]
Eu-PB MOG 1	0–50	0.298	[S4]
EBT-Eu	2-10	2	[S5]
Tb^{3+}@JUC-505-COOH	0-120	0.615	This work

References

[S1] K. Y. Shi, Z. H. Yang, L. H. Dong, B. Yu, Sensors and Actuators B 266 (2018) 263–269.

[S2] L. Guo, M. S. Liang, X. L. Wang, R. M. Kong, G. Chen, L. Xia, F. L. Qu, Chem. Sci. 11(9) (2020) 2407-2413.

[S3] J. Othonga, J. Boonmaka, F. Kielarb, S. Hadsadeec, S. Jungsuttiwongc, S. Youngmea, Sensors and Actuators B 316 (2020) 128156.

[S4] X. Wang, Y. Wang, X. Y. Wang, C. Y. Hu, X. J. Wu, W. Guo, S. J. Zhen, C. Z. Huang, Y. F. Li, Chemical Engineering Journal 435 (2022) 134912.

[S5] X. Zhang, M. A. Young, O. Lyandres, R. P. Van Duyne, Journal of American Chemical Society 127 (2005) 4484–4489.