Electronic Supplementary Material (ESI) for Nanoscale Horizons.

Supporting information

Perovskite Quantum Dots Encapsulated Electrospun Fiber Membrane as Multifunctional Supersensitive Sensors for Biomolecule, Metal Ion and pH

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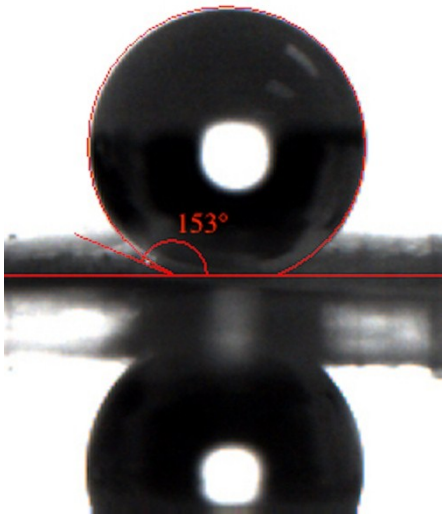

Figure S1. WCA measurement of CPBQDs/PMMA FM.

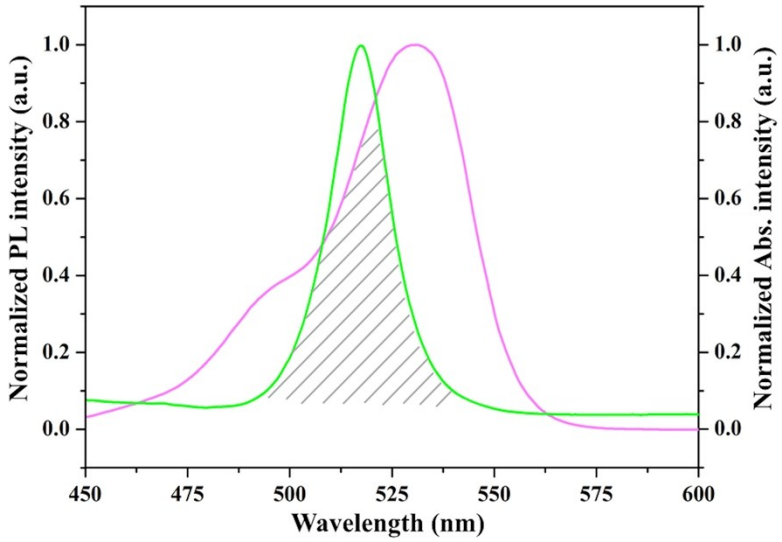

Figure S2. Integral overlap of the emission spectrum of CPBQDs/PMMA FM (green) and the absorption spectrum of CF6 aqueous solution (pink).

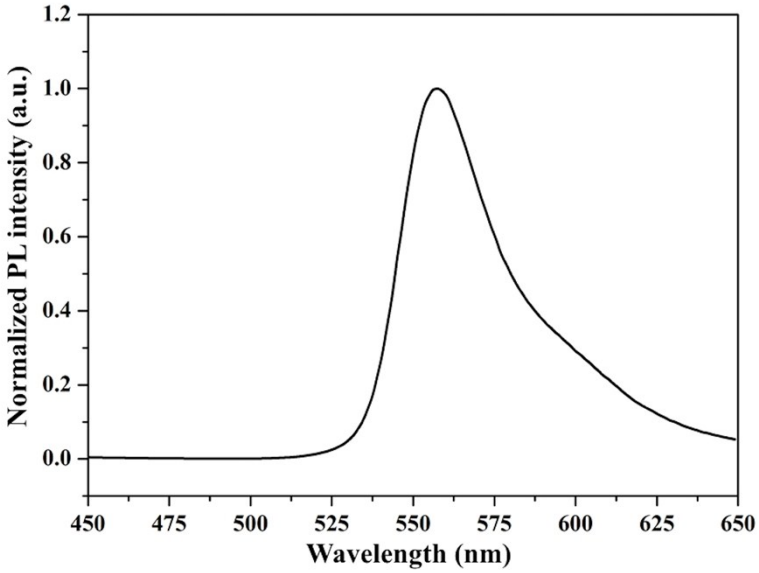

Figure S3. The PL spectrum of supernatant after cleavage.

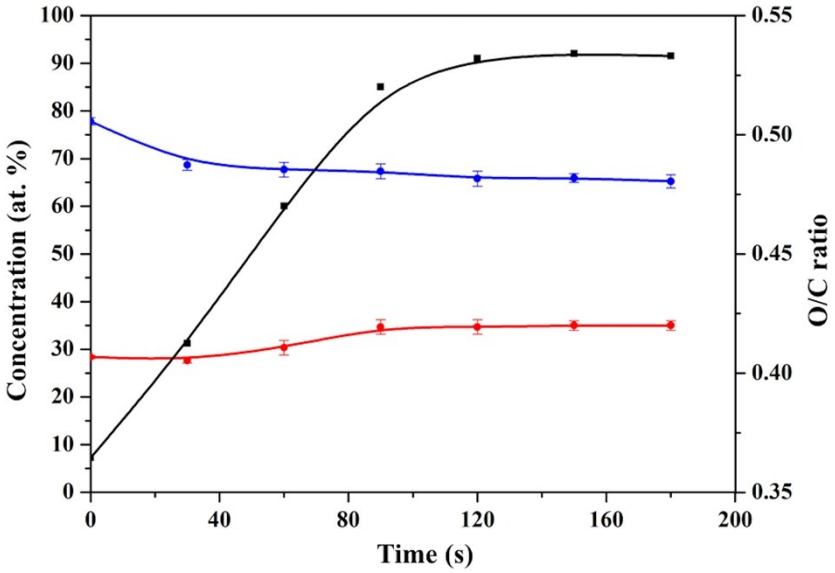

Figure S4. The concentration of O (red) and C (blue) and the O/C ratio at different O_2 plasma treating time.

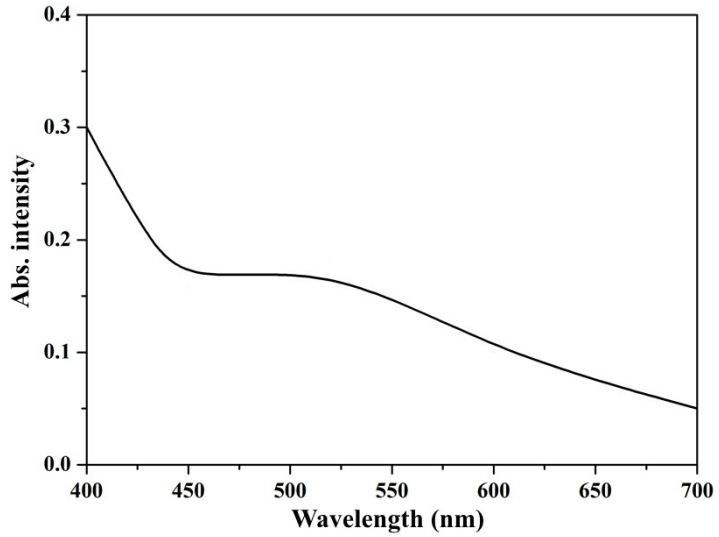

Figure S5. The absorption spectrum of cyclam-Cu^{2+} (1 μM).

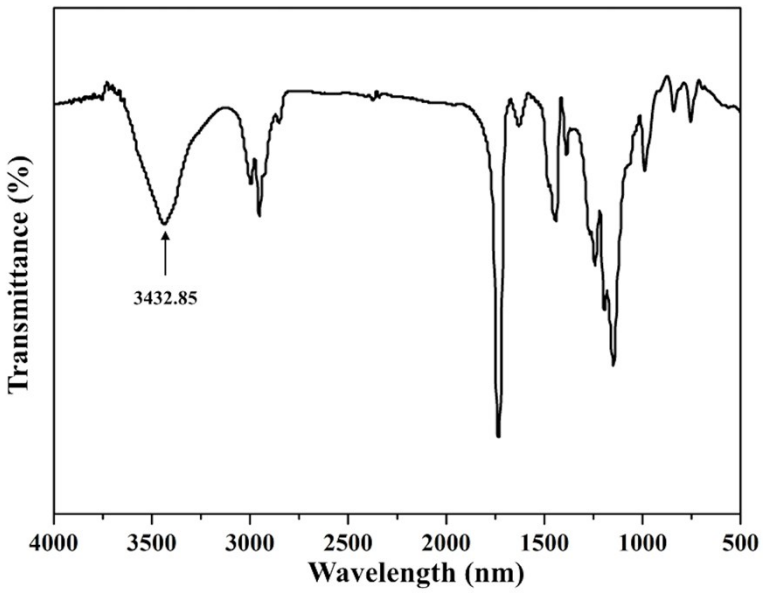

Figure S6. FTIR spectrum of -NH_2 functionalized CPBQDs/PMMA.

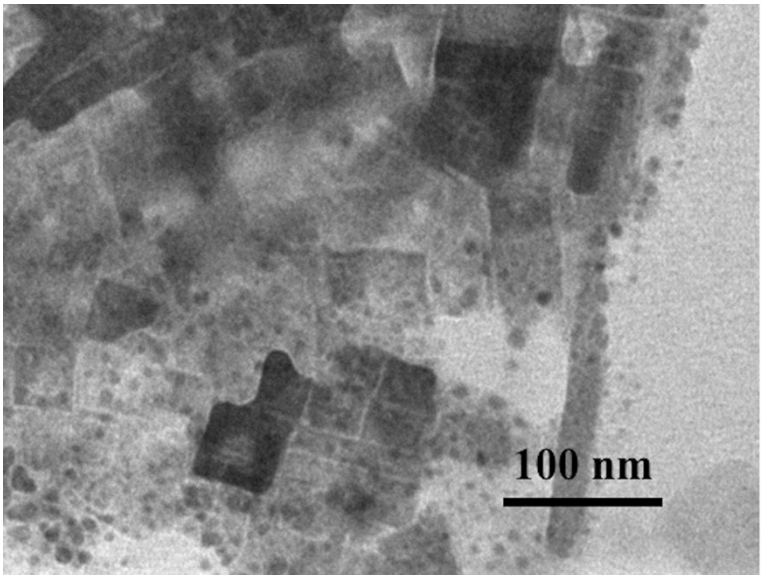

Figure S7. The SEM image of CPBQD in toluene solution after 90 hours' UV-light illumination.

Table S1. Literature data of fluorescence biodetection.

FRET pair	Analyte	Labeling	Senvitity	Response Time	Sensor type	Reference
CPBQDs-dye	trypsin	no	0.1 μg/mL	10 min	solid-state	this work
dye-dye	trypsin	yes	2.45 μg/mL	14 min	homogeneous	1
CdSe/ZnS QDs-dye	trypsin	no	5 nM	N/A	homogeneous	2
CdTe QDs-dye	thrombin	no	1.4 nM	N/A	homogeneous	3
graphene-dye	thrombin	no	31.3 pM	N/A	homogeneous	4

Table S2. Literature data of fluorescence detection for Cu^{2+}.

FRET pair	Platform	Analyte	Senvitity	Sensor type	Reference
CPBQDs-cyclam	PMMA	Cu^{2+}	1 fM	solid-state	this work
MANI-VBC	PMMA	Cu^{2+}	500 nM	homogeneous	5
Nile red-ion	PMMA/PEI	Cu^{2+}	1 μM	homogeneous	6
DPA-cyclam	PS	Cu^{2+}	25μM	homogeneous	7

References

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