

## Supporting information

Recyclable fluorescence sensing based on copper clusters for simultaneous determination of copper ions and ammonia

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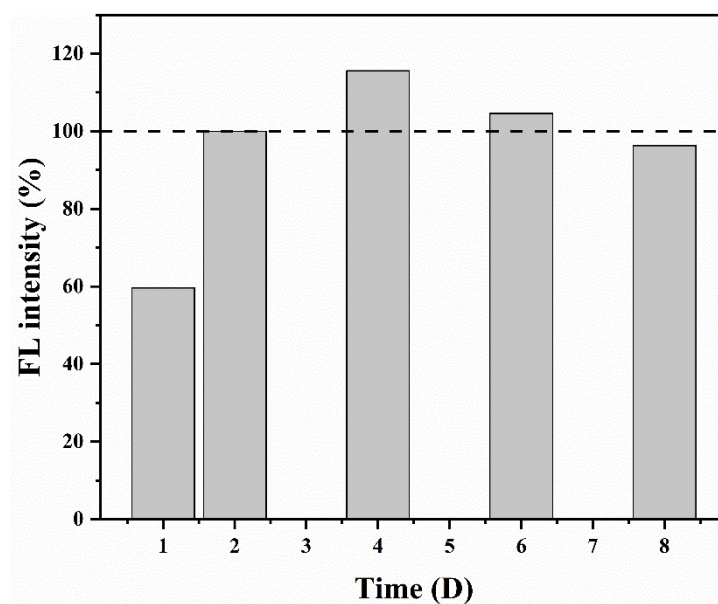
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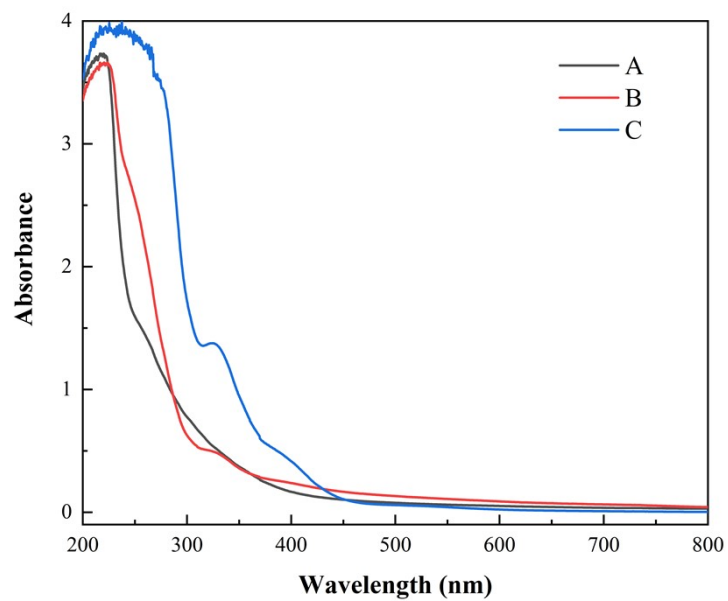
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**Table S1** The comparison of the proposed method and other conventional methods.

Analyte	Method	Conditions	LOD	Ref.
Cu <sup>2+</sup>	UV-vis spectrophotometry	Pyrene based sensor; Acetonitrile medium	$2.5 \times 10^{-6}$ M	33
	Fluorescence spectrophotometry	Coumarin-based probes; 1% DMSO	$1.0 \times 10^{-4}$ M	34
	Fluorescence spectrophotometry	L- cysteine; aqueous solution	$6.0 \times 10^{-5}$ M	This method
NH <sub>3</sub>	Colorimetric assays	Polyaniline films; 30 °C	$5.9 \times 10^{-4}$ M	35
	Optical sensor	Co <sup>2+</sup> ion solution; buffer system of pH 13	$1.6 \times 10^{-2}$ M	36
	Fluorescence spectrophotometry	Cu clusters; aqueous solution	$4.1 \times 10^{-4}$ M	This method

**Fig. S1** Stability of the Cu clusters.



**Fig. S2** UV-vis spectra of Cu clusters (A), Cu clusters reacted with ammonia (B) and Cu clusters reacted with NaOH (C).