

## Supporting Information

### **Solid-state thiolate-stabilized copper nanoclusters with ultrahigh photoluminescence quantum yield for white light-emitting devices**

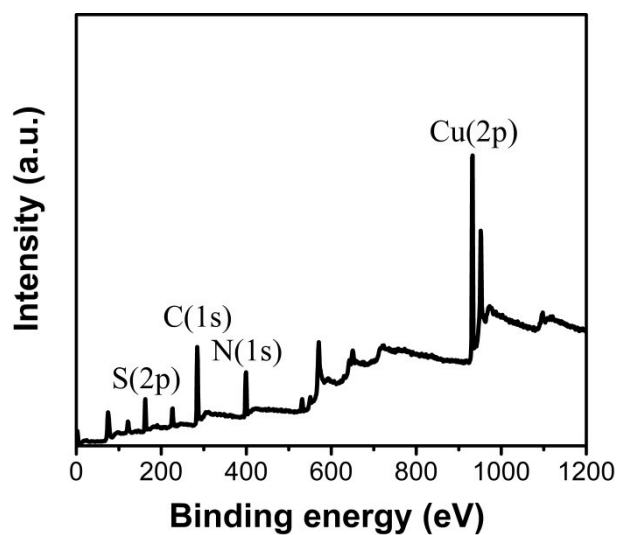
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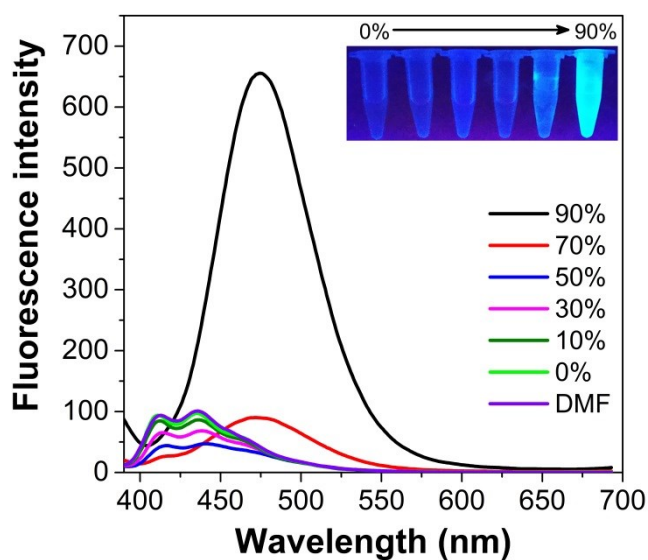
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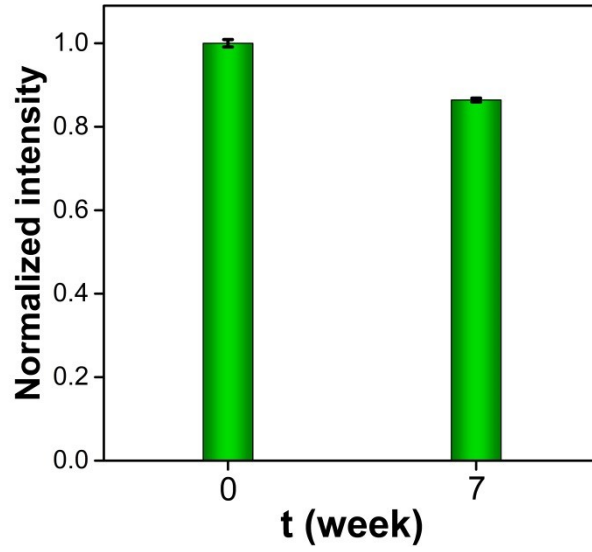
E-mail address: chenandhu@163.com (W. Chen), phpfjmu@126.com (H-P Peng).



**Fig. S1** Full XPS spectrum of MMI-CuNCs.



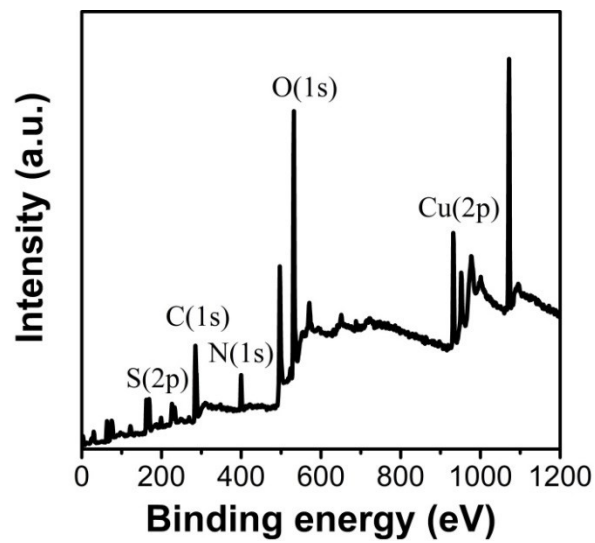
**Fig. S2** Photoemission spectra of the MMI-CuNCs in the water/DMF mixtures with different volumetric fractions of water (vol%). Inset shows the corresponding photographs. Two weak emission peaks at 410 nm and 435 nm were originated from DMF.



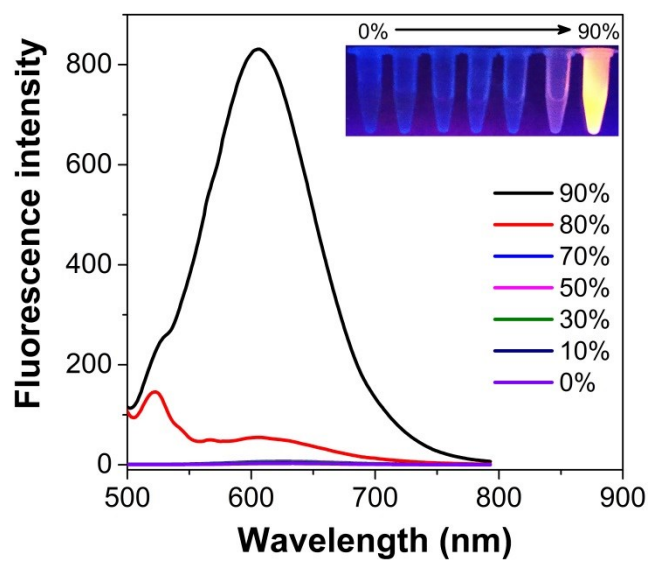
**Fig. S3** Time-stability of the powder of MMI-CuNCs.



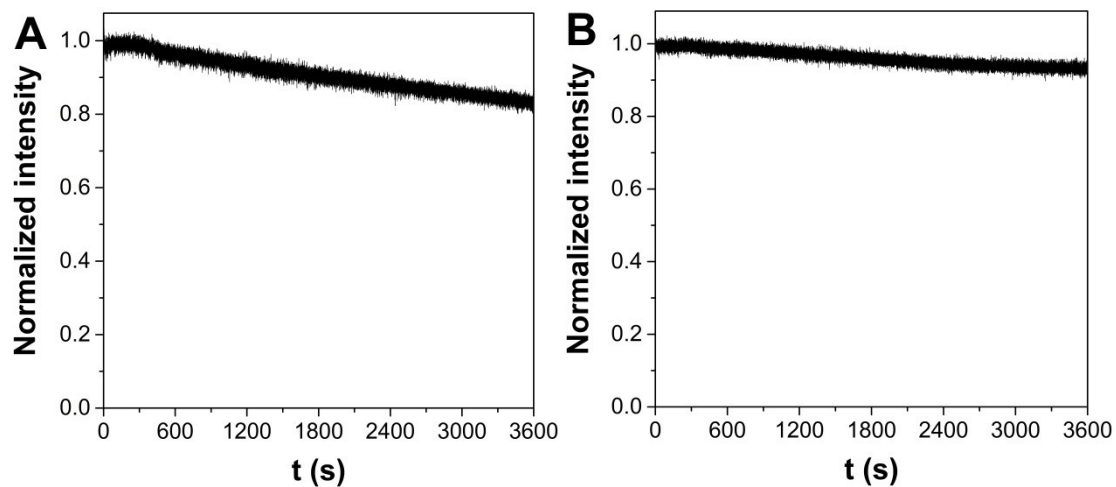
**Fig. S4** Photographs of the dispersion of MMI-CuNCs in DMF (left: freshly prepared, right: placed for 6 h at room temperature).



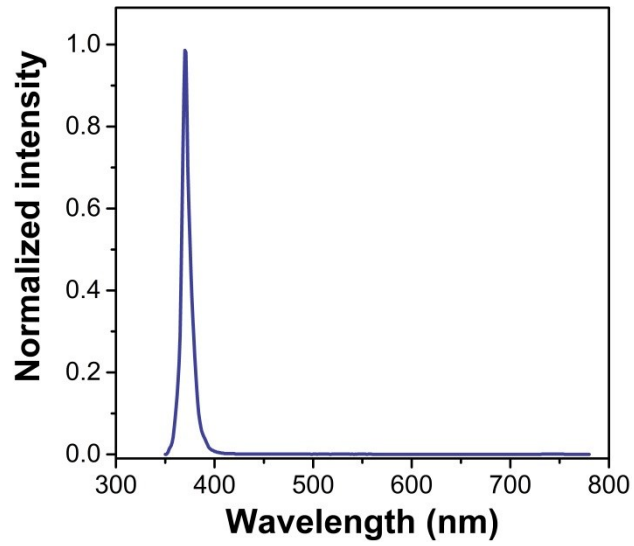
**Fig. S5** Full XPS spectrum of NAC-CuNCs.



**Fig. S6** Photoemission spectra of the NAC-CuNCs in the ethanol/water mixtures with different volumetric fractions of ethanol (vol%). Inset shows the corresponding photographs.



**Fig. S7** Photostability of (A) MMI-CuNCs and (B) NAC-CuNCs.



**Fig. S8** Emission spectrum of the commercial GaN LED chips.

**Table S1** The characteristics of the as-fabricated LEDs

LED	CIE	CRI	Correlated color temperature (CCT) (K)
Cyan	(0.15, 0.27)	68	100000
Orange	(0.48, 0.40)	69	2354
White	(0.26, 0.30)	83	11038