

# Supporting Information

Structure-dependent Luminescent Copper Nanoclusters:

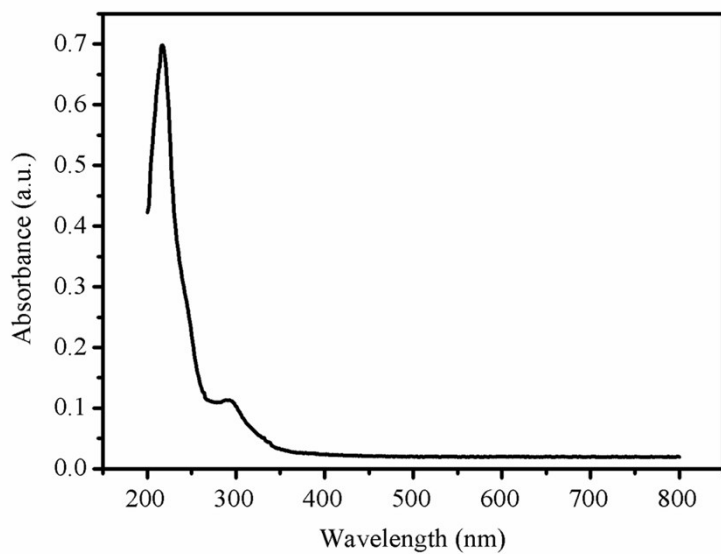
Self-assembly and Morphological Evolution

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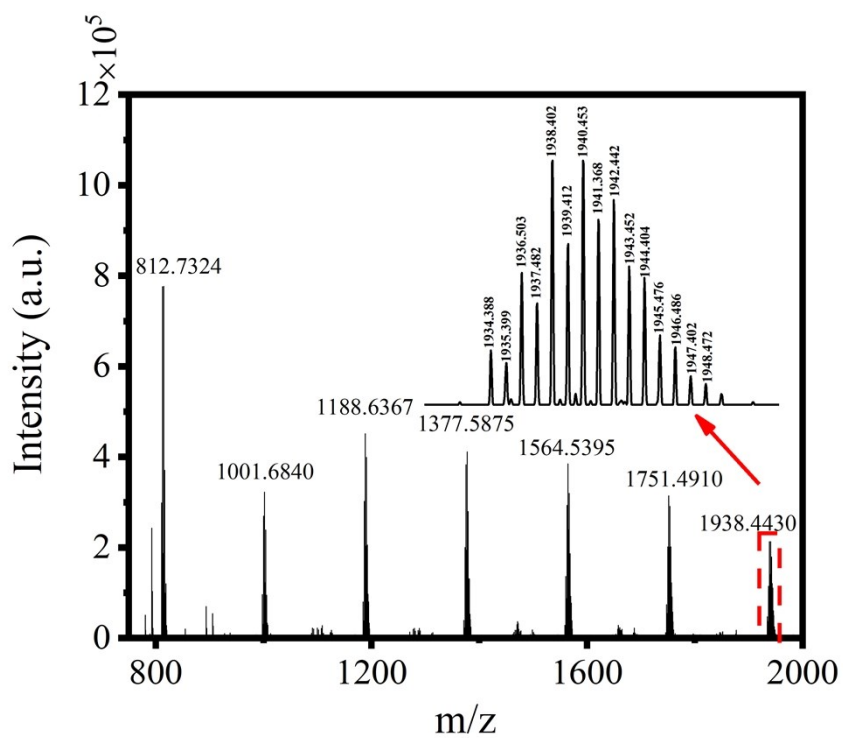
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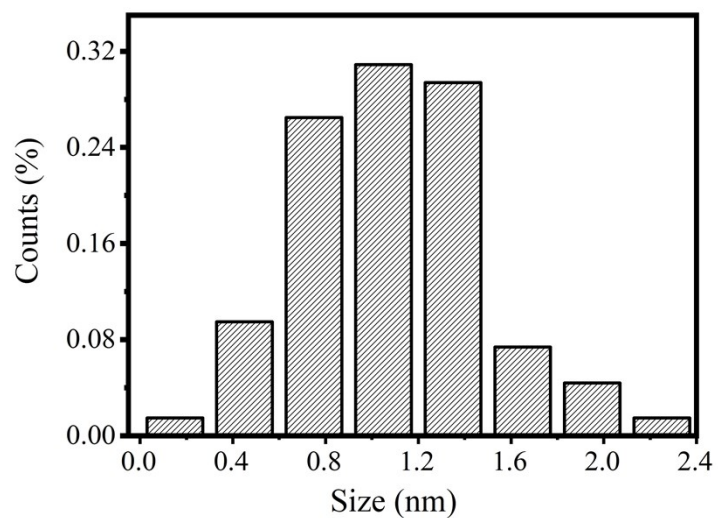
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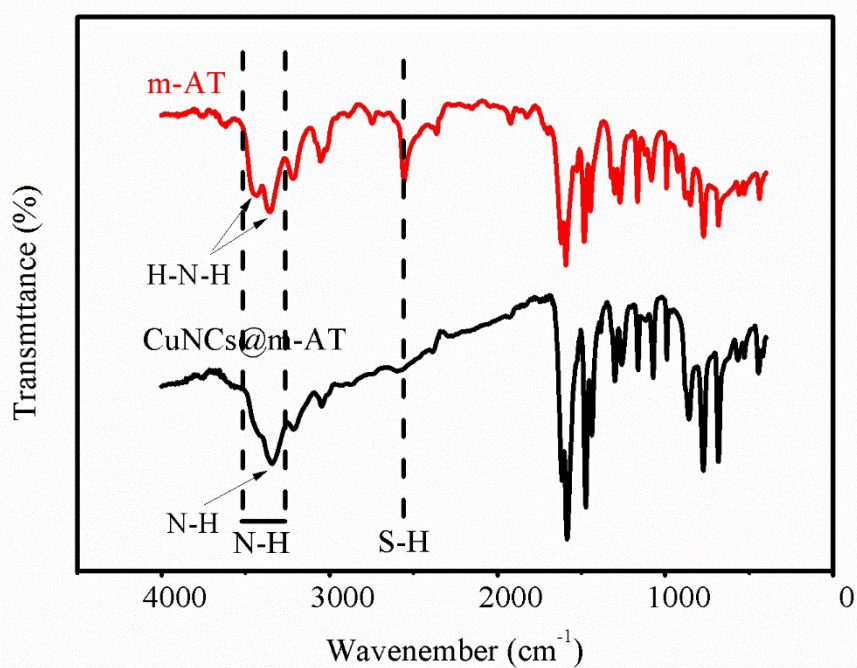
**Figure S1.** UV-Vis absorption spectrum of CuNCs@m-AT.



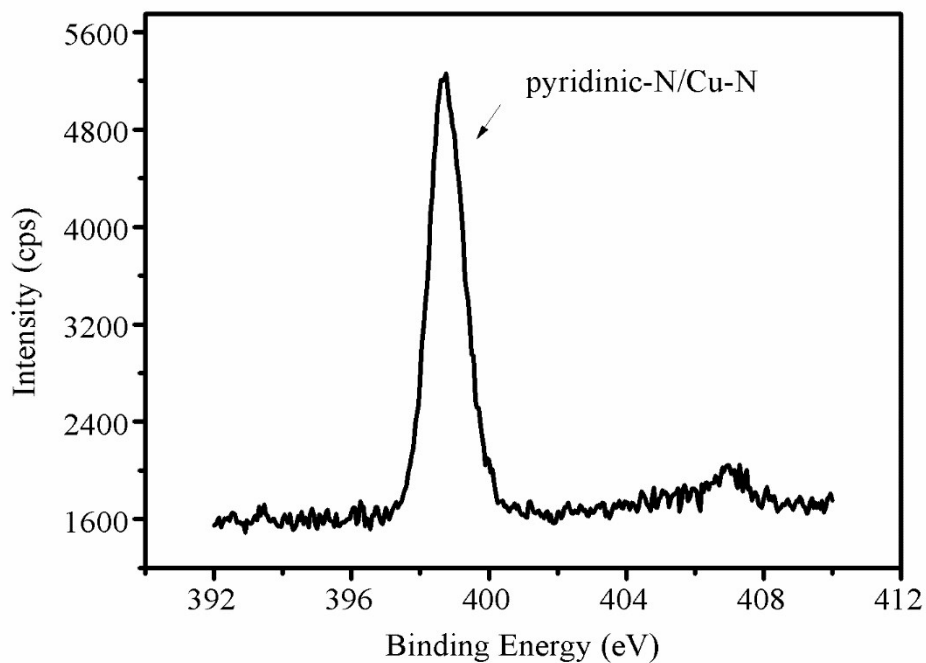
**Figure S2.** ESI-MS spectrum of CuNCs@m-AT. Inset shows isotopic patterns of peak at 1938.443.



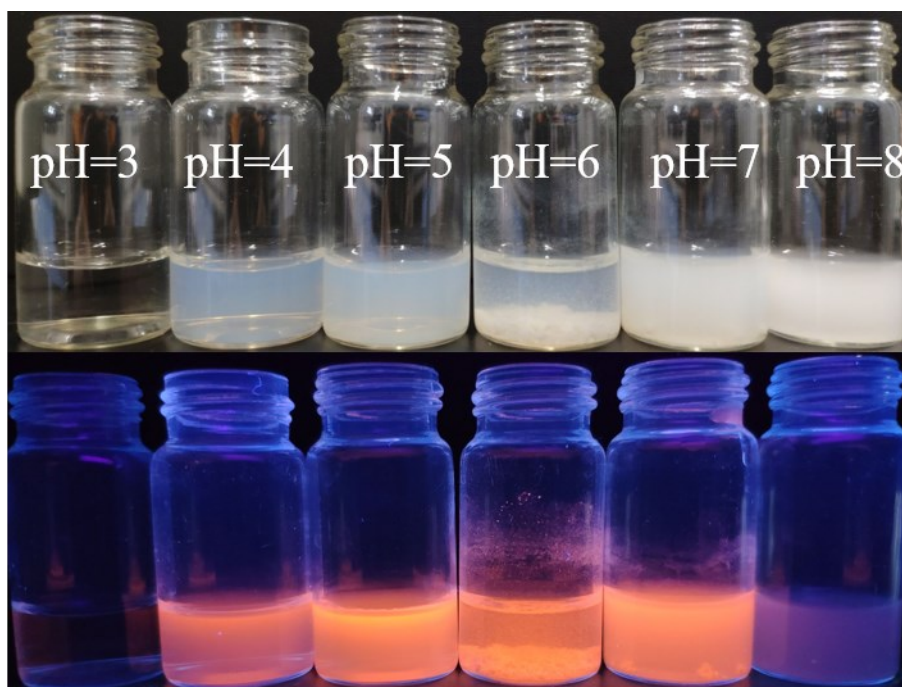
**Figure S3.** TEM size distribution of CuNCs@m-AT.



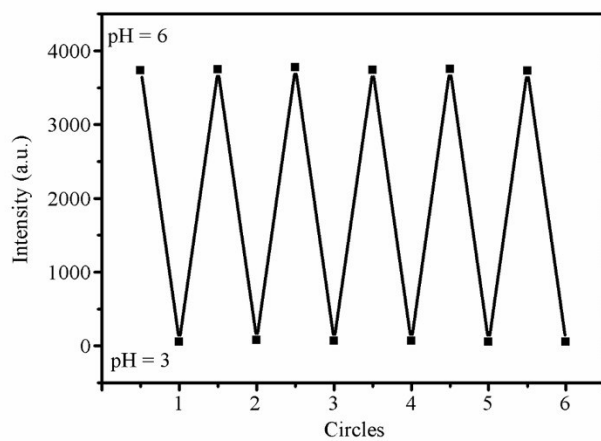
**Figure S4.** FTIR spectra of m-AT and CuNCs@m-AT.



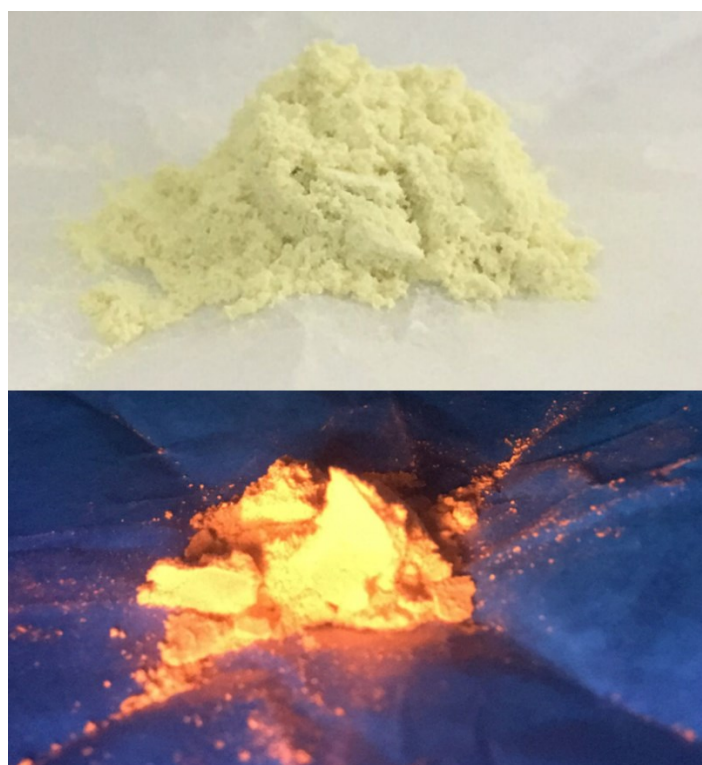
**Figure S5.** XPS N1s spectrum of CuNCs@m-AT.



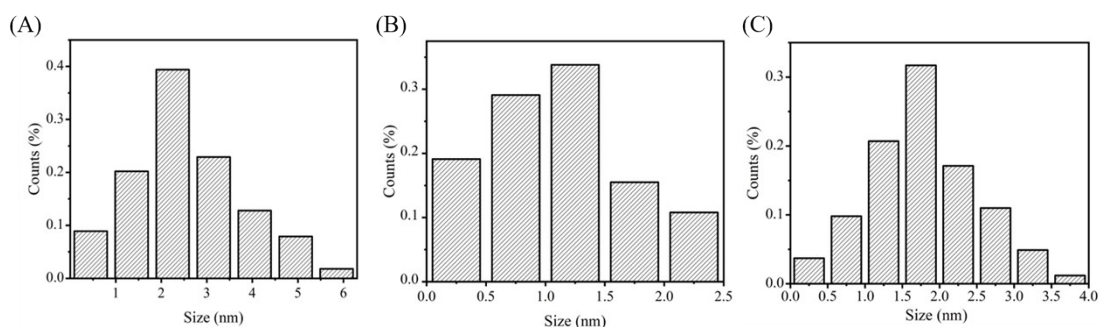
**Figure S6.** Photographs of CuNCs@m-AT in various pH (3,4,5,6,7,8) under ambient light (above) and 365 nm light (below) respectively.



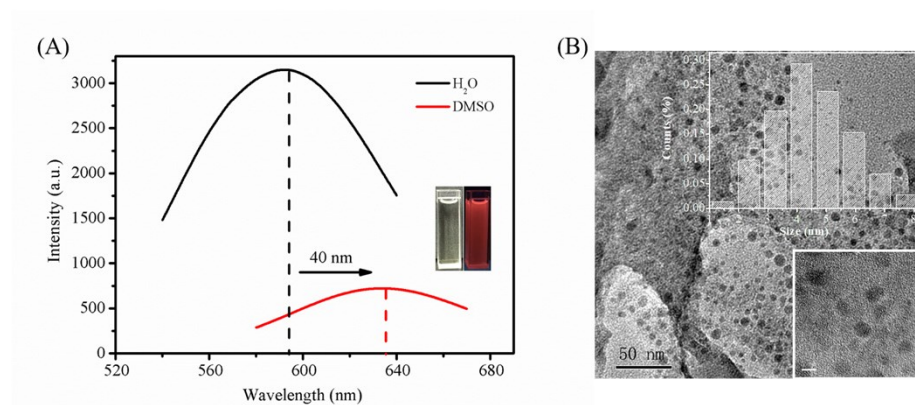
**Figure S7.** Reversibility of the pH-dependent emission of the CuNCs@m-AT between pH 3 and 6.



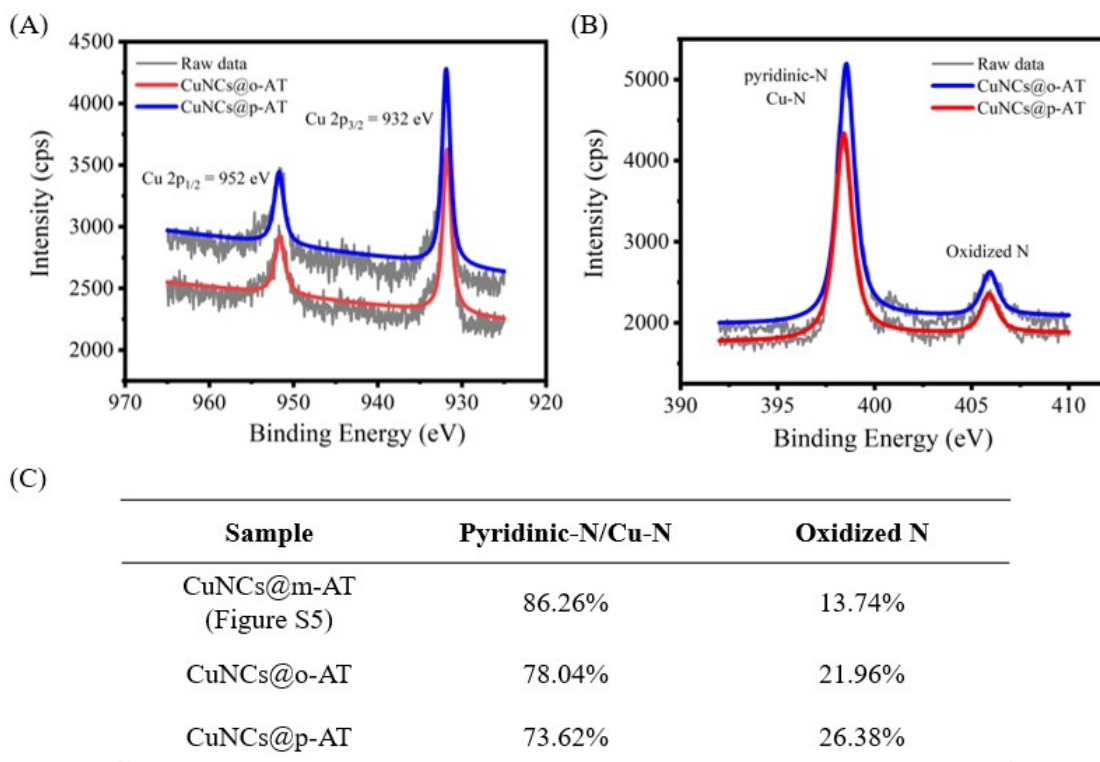
**Figure S8.** Photographs of solids of CuNCs@m-AT (pH=6) under ambient light (above) and 365 nm light (below) respectively.



**Figure S9.** Inter-CuNCs@m-AT distances of distribution at (A) pH=4/5;(B) pH=6;(C) pH=7.



**Figure S10.** (A) Luminescence emission spectra of CuNCs@m-AT in DMSO and water. Inset: Photographs of CuNCs@m-AT solution in DMSO (under ambient light and 365 nm light respectively); (B) TEM image of CuNCs@m-AT in DMSO. Inset: TEM size distribution of the CuNCs@m-AT and high magnification TEM images (5 nm).



**Figure S11.** CuNCs@o-AT and CuNCs@p-AT of (A) XPS Cu 2p spectra and (B) XPS N 1s spectra. (C) XPS data analyses of the N 1s spectra of CuNCs@o-AT, CuNCs@m-AT and CuNCs@p-AT.