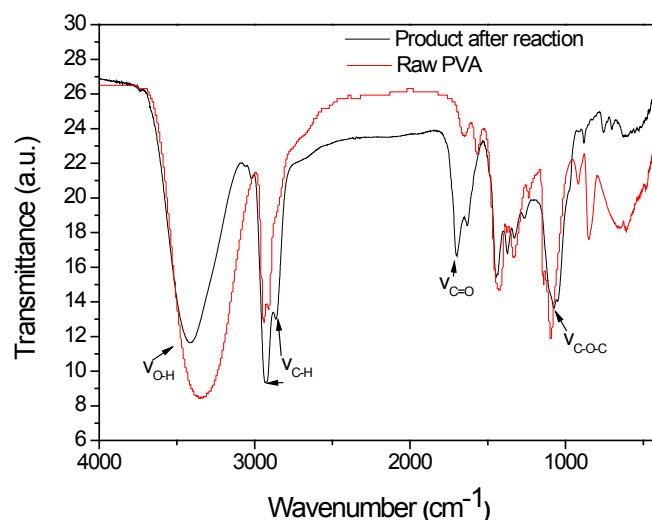


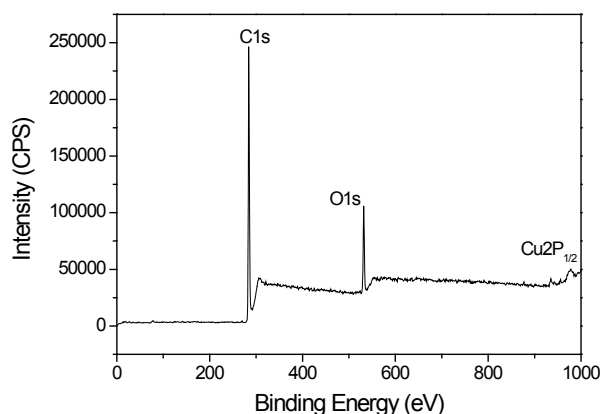
Supplementary Information

## Fluorescent bracelet-like Cu@cross-linked poly (vinyl alcohol) (PVA) microrings by hydrothermal process

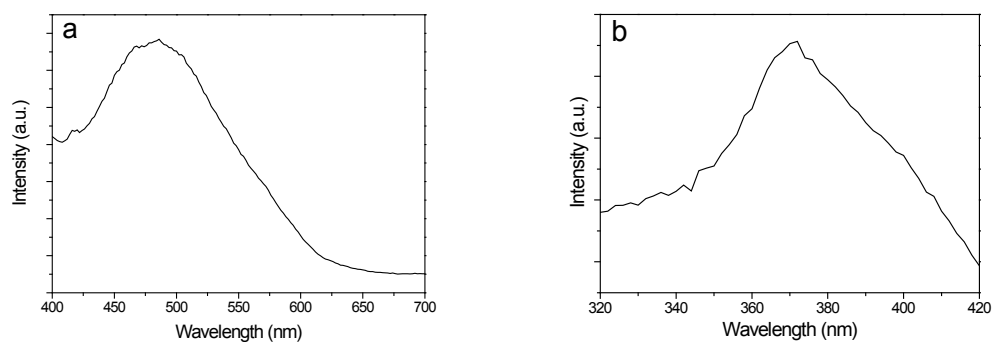
Feng-Jia Fan, Yong-Jie Zhan, Jian-Hua Zhu, Ji-Ming Song, Shu-Hong Yu\*



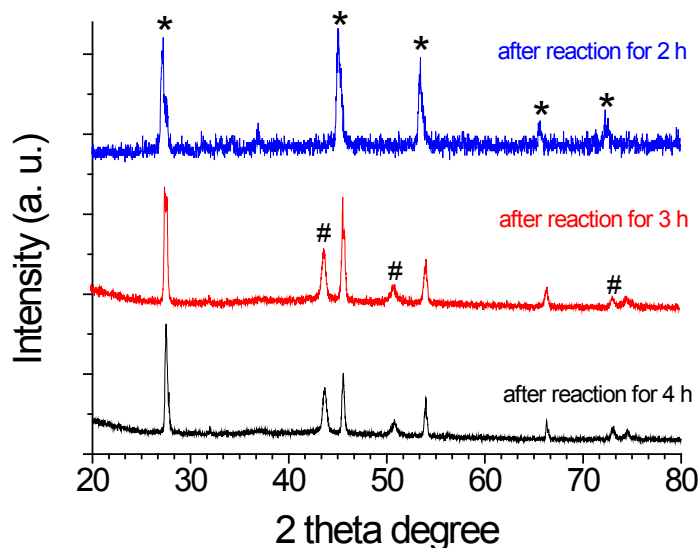
**Fig. S1** FTIR spectrum of the sample bracelet-like Cu@cross-linked microrings. A mixture of CuCl<sub>2</sub> and CuBr was reduced by PVA solution in the presence of a proper amount of NaBr at a temperature of 210 °C for 48 h.



**Fig. S2** XPS spectrum of the bracelet-like Cu@cross-linked PVA microrings. A mixture of CuCl<sub>2</sub> and CuBr was reduced by PVA solution in the presence of a proper amount of NaBr at a temperature of 210 °C for 48 h.



**Fig. S3** The room temperature PL spectra of the sample. A mixture of  $\text{CuCl}_2$  and  $\text{CuBr}$  was reduced by PVA solution in the presence of a proper amount of  $\text{NaBr}$  at a temperature of  $210\text{ }^\circ\text{C}$  for 48 h. (a) emission spectrum, the excitation wavelength is 360 nm. (b) excitation spectrum. The emission wavelength is 450 nm.



**Fig. S4** XRD pattern of the product prepared after different reaction time. # Cu phase, \* CuBr phase.