

## Supporting information for:

### **Dual-encryption based on facile synthesized supra-(carbon nanodots) with water-induced enhanced luminescence**

Xutao Zhang,<sup>a,b</sup> Songnan Qu,<sup>\*a</sup> Di Li,<sup>a</sup> Ding Zhou,<sup>a</sup> Pengtao Jing,<sup>a</sup> Wenyu Ji<sup>a</sup> and  
Dezhen Shen<sup>a</sup>

<sup>a</sup> State Key Laboratory of Luminescence and Applications, Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, 3888 Eastern South Lake Road, Changchun Jilin 130033, China

<sup>b</sup> University of Chinese Academy of Sciences, Beijing 100049, China

Corresponding author:

\*Songnan Qu

State Key Laboratory of Luminescence and Applications,  
Changchun Institute of Optics, Fine Mechanics and Physics,  
Chinese Academy of Sciences,  
3888 Eastern South Lake Road, Changchun Jilin 130033, China

Email: [qusn@ciomp.ac.cn](mailto:qusn@ciomp.ac.cn)

Phone: +86-431-86176030

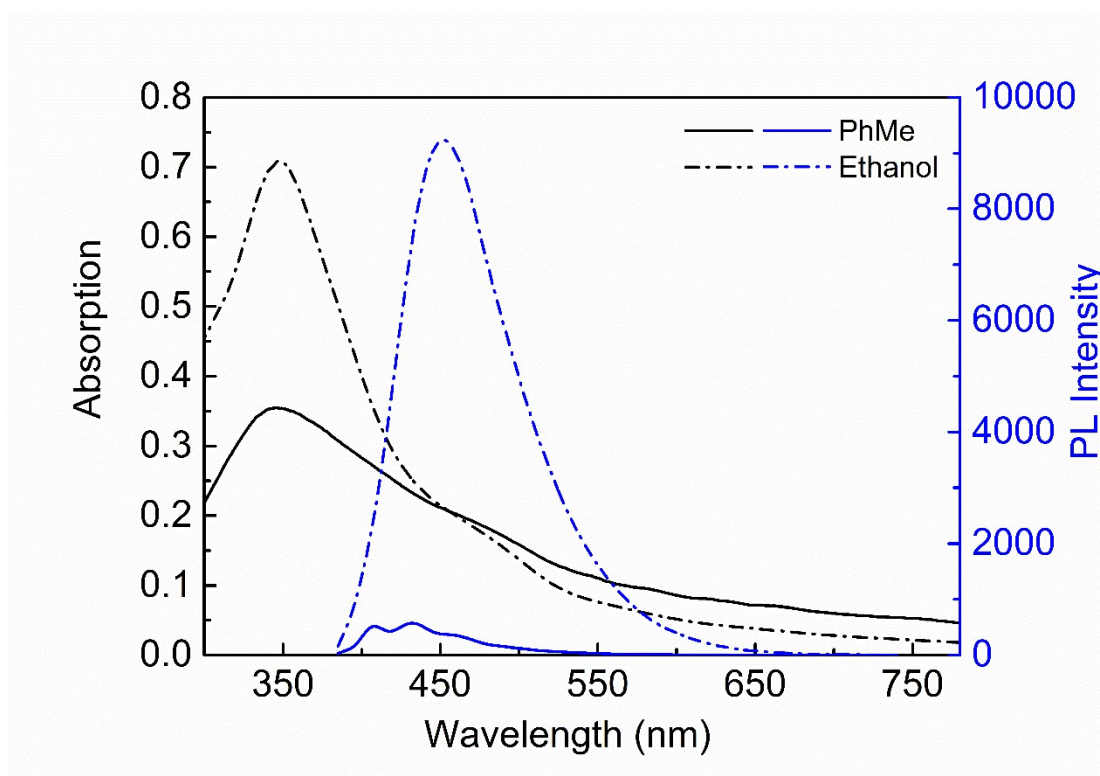
Fax: +86-431-8617-6030

## **Materials**

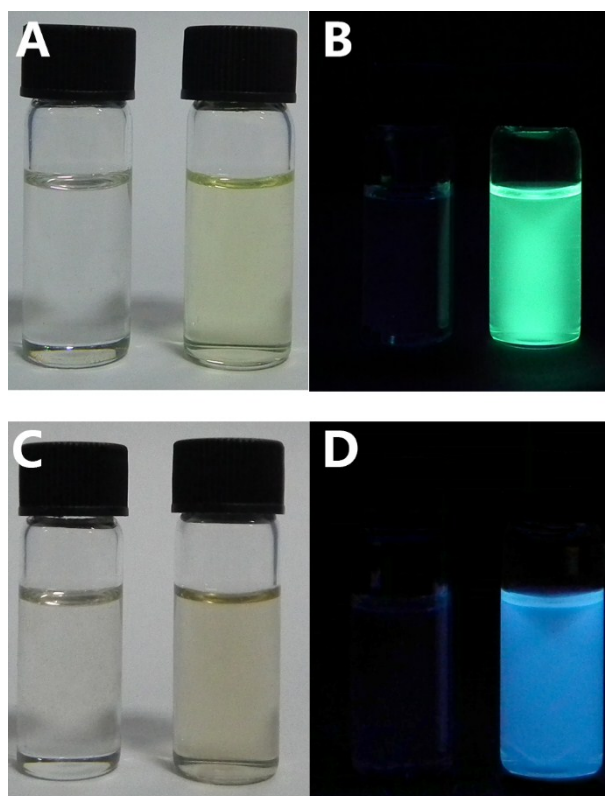
All the chemicals and solvents were used without further purification.

## **General information**

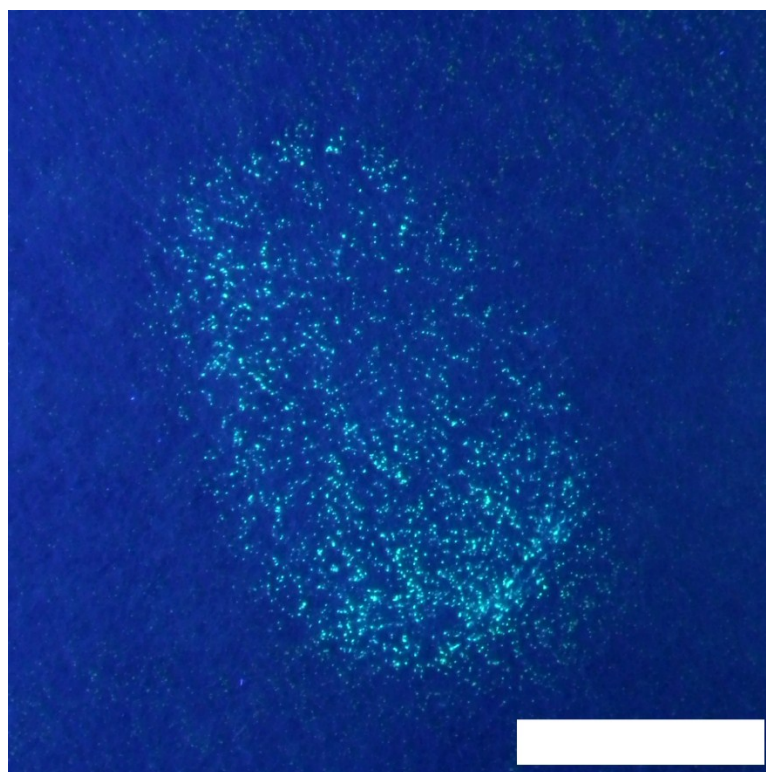
The UV-Vis absorption spectra of CND-g ethanol solution and supra-CND-g toluene solution were recorded on a UV-3101PC UV-Vis-NIR scanning spectrophotometer (Shimadzu). The PL spectra were recorded by a Hitachi F-7000 spectrophotometer. The atomic force microscopy (AFM) images were recorded in the tapping mode by Bruker Multimode-8. Scanning electron spectroscopy (SEM) was carried out with Hitachi S-4800 field emission scanning electron microscope. The optical and fluorescence images were obtained using a Nikon D600 digital camera. The thermal image were obtained using FLIR-E50.



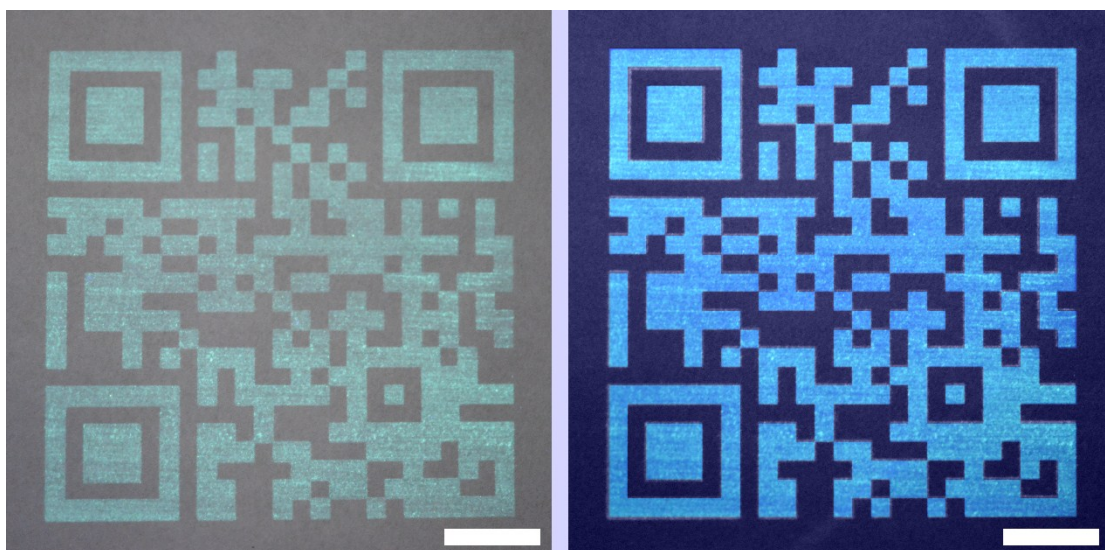
**Fig. S1** UV-vis absorption (black line) and photoluminescence spectra (blue line) of supra-CND-b toluene (PhMe) solution and CND-b ethanol solution.



**Fig. S2** Photographs of supra-CND-g toluene solution (left) and CND-g ethanol solution (right) under (A) room light and (B) 365 nm UV excitation. Photographs of supra-CND-b toluene solution (left) and CND-b ethanol solution (B) under (C) room light and (D) 365 nm UV excitation.



**Fig. S3** Photograph of sweat-pores mapping on supra-CND-g-coated paper under 365 nm UV excitation (scale bar = 1 cm).



**Fig. S4** Photograph of Quick Response (QR) Code printed on supra-CND-g-coated paper under both room light and 365 nm UV excitation (left) and 365 nm UV excitation (right) (scale bar = 2 cm).

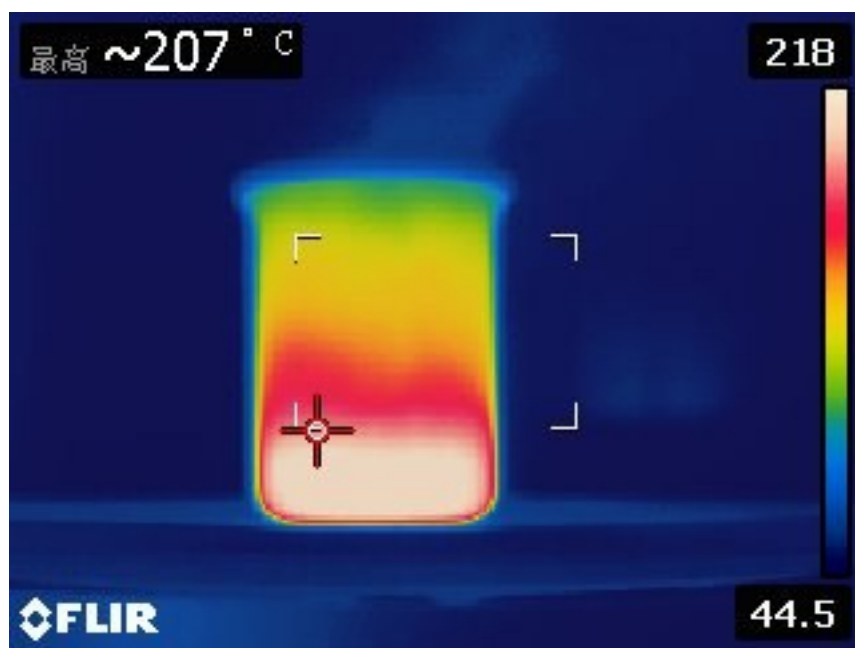


Fig. S5 Thermal image of the resulted sample as soon as the reaction is over.