## Norepinephrine derived carbon dots for live-cell imaging and effective hemoglobin determination

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## **Electronic Supplementary Information**

## Quantum yield measurement

Quantum yield (QY) of the CDs was determined by a relative slope method. Rhodamine 6G (QY=95% in ethanol) was selected as a standard for the prepared CDs. The solution of CDs and rhodamine 6G were diluted to keep the absorbance intensity below 0.1 at the excitation wavelength of 420 nm. The QY of the synthesised CDs was calculated according to the following equation

 $\phi_{CDs} = \phi_{st} (K_{CDs}/K_{st}) (\eta_{CDs}/\eta_{st})^2$ 

where  $\varphi$  is the quantum yield. K is the slope of the fitted line and  $\eta$  is the refractive index of the solvent. The subscript "CDs" refers to the synthesised CDs and "st" refers to the standard (rhodamine 6G). The refractive index is 1.33 and 1.36 for water and ethanol respectively.

The slope of the fitted line for rhodamine 6G and CDs solution is 635360 and 119497. The QY is CDs is 17.1%.



Figure S1. Quantum yield measurement of CDs



Figure S2. Absorbance of Hb and fluorescence spectra of CDs