Superior thermal cycling stability of a carbon dots@NaBiF4 nanocomposite: facile synthesis and surface configurations†

(supporting information)

Yeqing Chen[a*], Jie Zhu[a], Haoyang Sheng[a], Ting Yu[a,b*], Qingguang Zeng[a]

[a]*School of Applied Physics and Materials, Wuyi University, Jiangmen, Guangdong 529020, P. R. China*

[b]*State Key Laboratory of Luminescent Material and Devices, and Guangdong Provincial Key Laboratory of Fiber Laser Materials and Applied Techniques, Guangdong Engineering Technology Research and Development Center of Special Optical Fiber Materials and Devices, South China University of Technology, Guangzhou, 510641, P. R. China*

*Author to whom correspondence should be addressed; electronic mail:

qychenwyu@126.com, yuting1009@163.com,

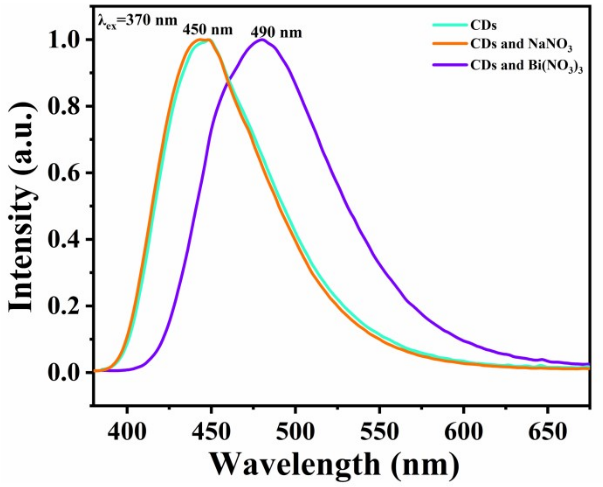

Figure S1. Normalized emission (λ_{ex} = 380 nm) spectra for CDs, CDs mixed $Bi(NO_3)_3$, and CDs mixed $NaNO_3$ solutions.

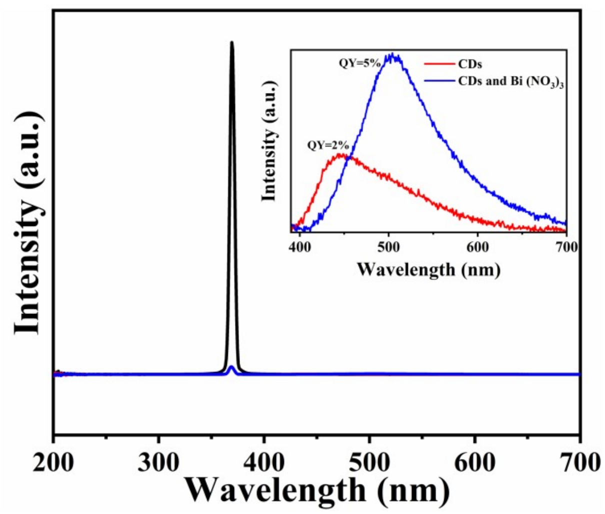

Figure S2. The measured spectra of CDs and CDs mixed $Bi(NO_3)_3$ solutions under excitation at 380 nm at room temperature in quantum yield measurements.

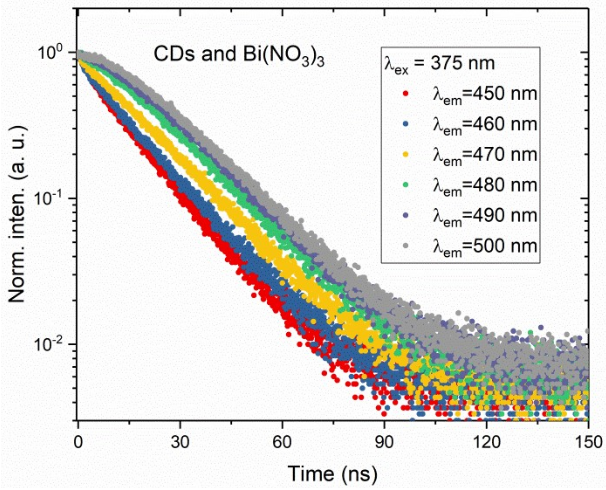

Figure S3. The decay curves as a function of monitored emission wavelength (λ_{em} = 450, 460, 470, 480, 490, and 500 nm) under excitation at λ_{ex} = 375 nm for the solution of CDs mixed $Bi(NO_3)_3$.

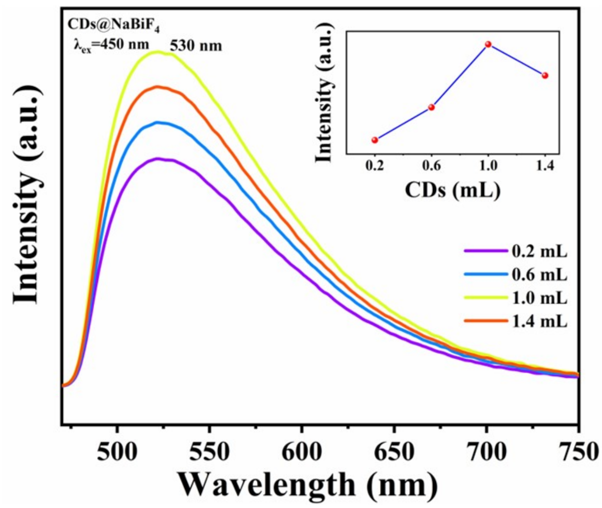

Figure S4. Emission spectra for CDs@$NaBiF_4$ nanocomposites with various amount of CDs solution, and the inset showing the whole emission intensity as a function of the volume of CDs solution.

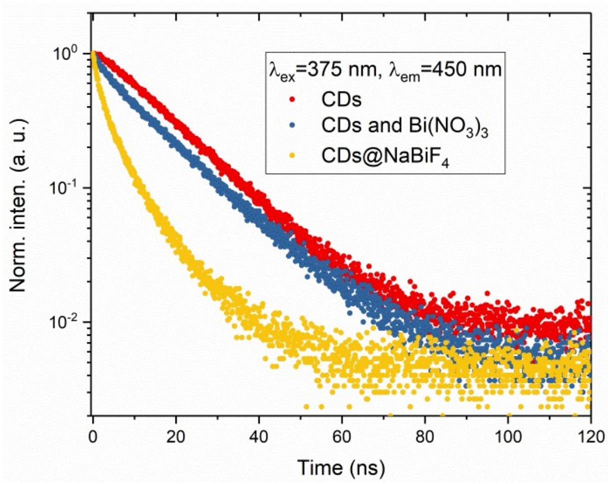

Figure S5. The photoluminescence decay curves of CDs solution, CDs and $Bi(NO_3)_3$ solution, and CDs@$NaBiF_4$ nanocomposite (λ_{ex} = 375 nm, λ_{em} = 450 nm).

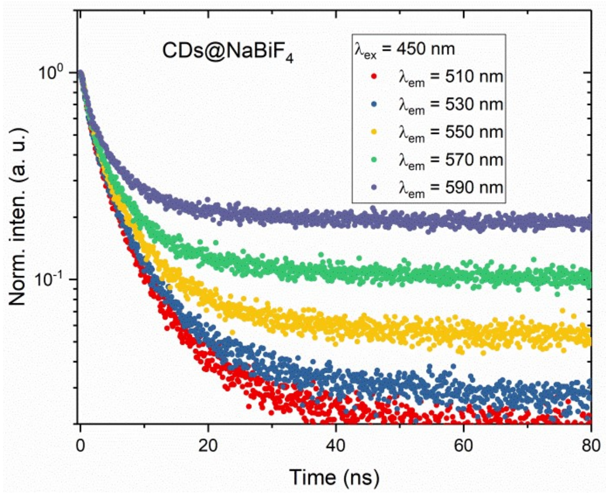

Figure S6. The decay curves as a function of monitored emission wavelength (λ_{em} = 510, 530, 550, 570, and 590 nm) under excitation at λ_{ex} = 450 nm for CDs@$NaBiF_4$.