# Supporting Information

# One-Step Hydrothermal Synthesis of Yellow and Green Emitting Silicon Quantum Dots with Synergistic Effect

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Figure S1 shows the fluorescence and UV-Vis spectra of y-SiQDs. When the excitation wavelength is 420 nm, the emission wavelength of y-SiQDs is 538 nm. The main absorption peak of ultraviolet light is located at 438 nm. The absorption peak at 233 nm in the UV-Vis spectrum due to π-π* transition of C=C bond.

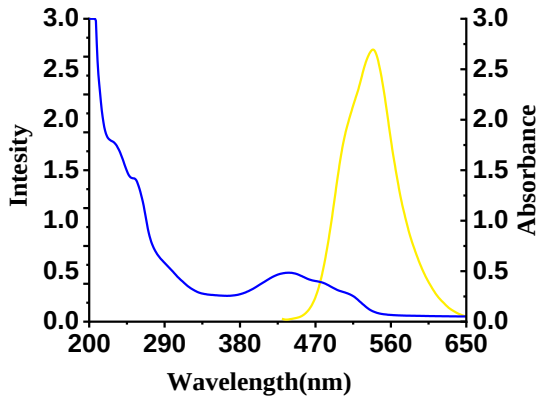


**Figure S1.** UV-Vis adsorption and photoluminescence emission spectra of y-SiQDs.

Figure S2 shows the fluorescence and UV-Vis spectra of g-SiQDs. When the excitation wavelength is 420 nm, the emission wavelength of y-SiQDs is 520 nm. The main absorption peak of ultraviolet light is located at 430 nm.

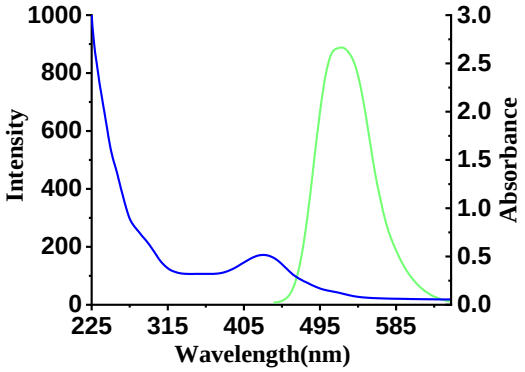


**Figure S2.** UV-Vis adsorption and photoluminescence emission spectra of g-SiQDs.

Figure S3 shows three-dimensional fluorescence spectra comparing the three-dimensional spectra of SiQDs (CC).

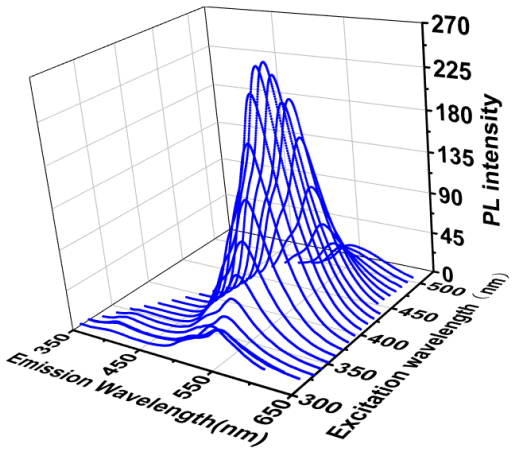


**Figure S3.** Three-dimensional fluorescence spectra of three kinds of SiQDs(CC).

Figures S4 and S5 Demonstrate the particle size distribution and lattice image of y-SiQDs and b-SiQDs.

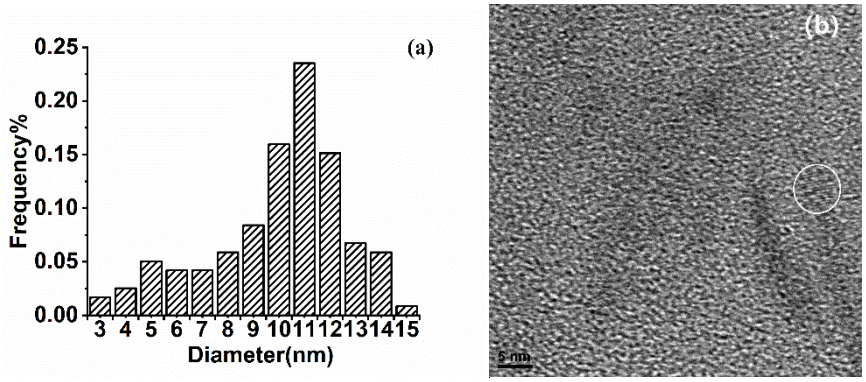


**Figure S4.** (**a**) particle size distribution histograms and (**b**) lattice image y-SiQDs.

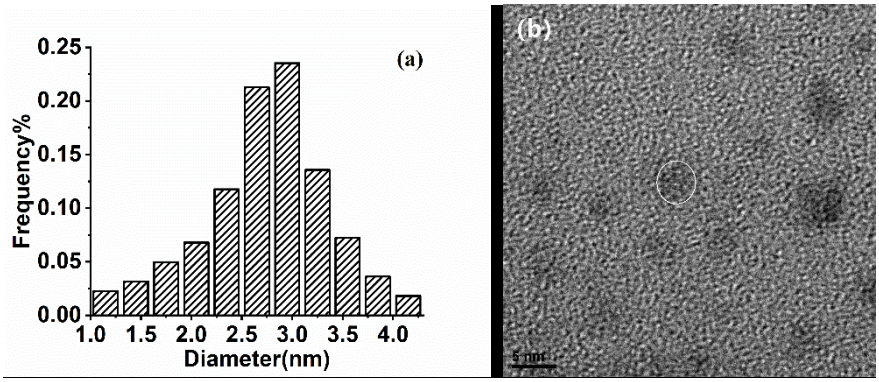


**Figure S5.** (**a**) particle size distribution histograms and (**b**) lattice image b-SiQDs.

Figure S6 and Figure S7 show the EDS spectra of y-SiQDs and b-SiQDs, respectively. The elemental content of the two SiQDs can be compared though the EDS spectrum.

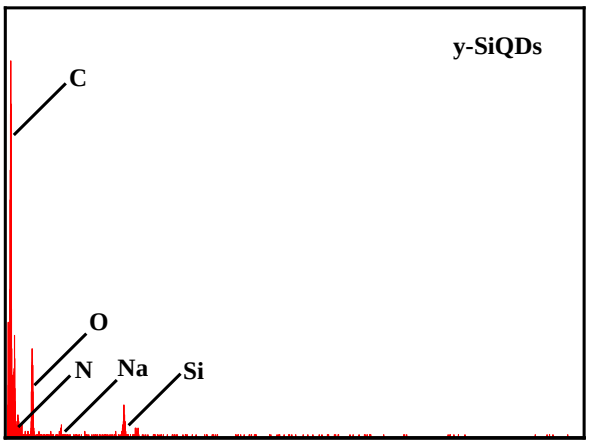


**Figure S6.** EDS spectra of y-SiQDs.

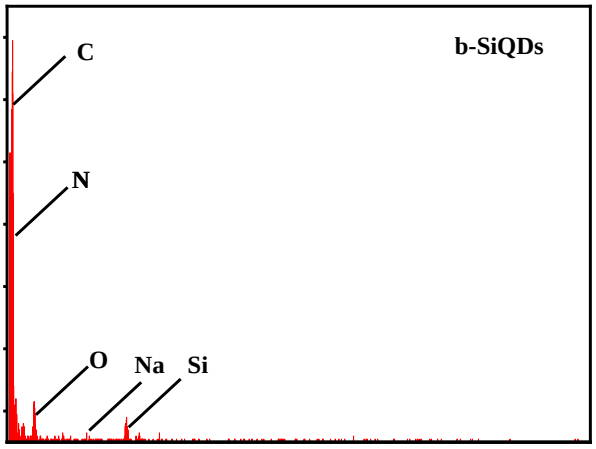


**Figure S7.** EDS spectra of b-SiQDs.

Figure S8 shows the fluorescence changes of y-SiQDs and g-SiQDs within 30 min of placement. Both two kinds of SiQDs exhibit good light stability.

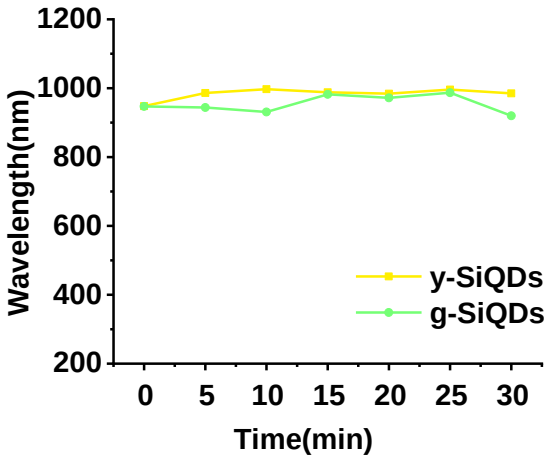


**Figure S8.** The relationship of replaced time with the fluorescence intensity of y-SiQDs and g-SiQDs.