

Electronic Supporting Information

Chemiluminescent properties of fluorescent SiC•SiO_x composite

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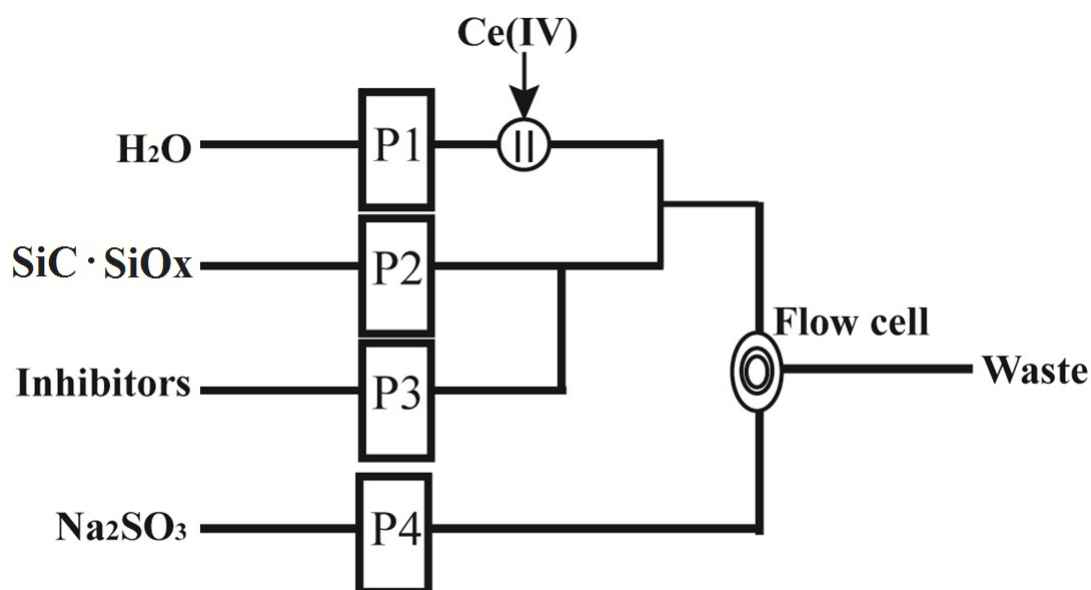


Fig. S1 Schematic diagram for CL detection by flow-injection system.

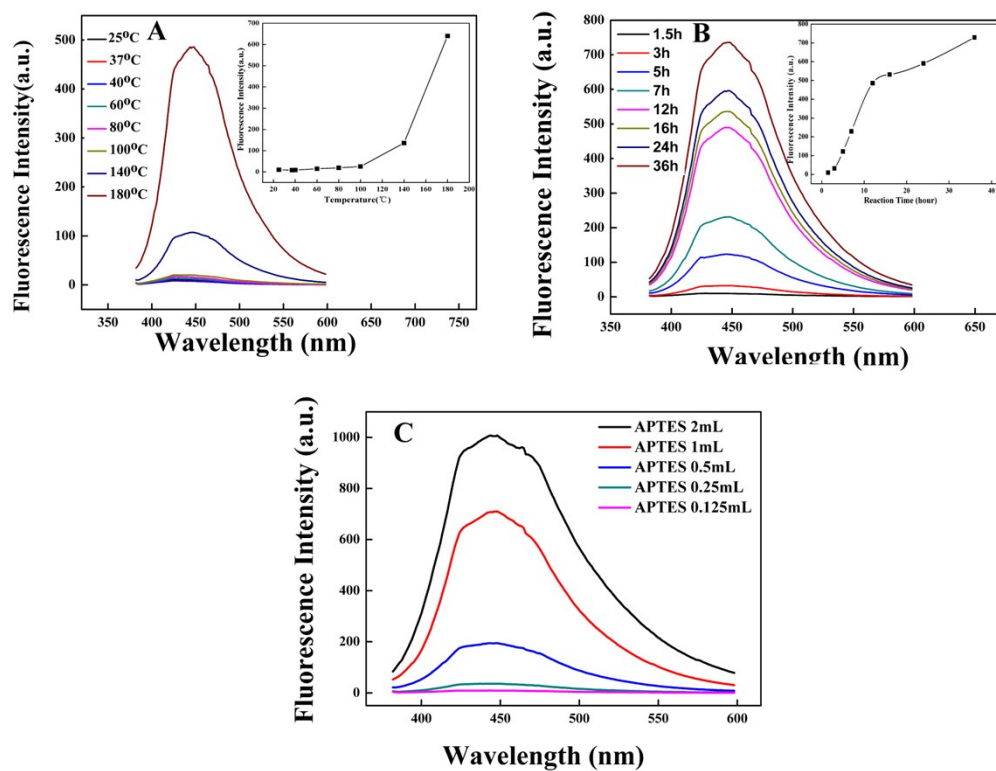


Fig. S2 The effect of synthesized temperature (A), time (B) and the amount of APTES (C) on the fluorescence intensity of SiC•SiO_x. The CL intensity were determined by automatic microplate reader (ThermoFisher).

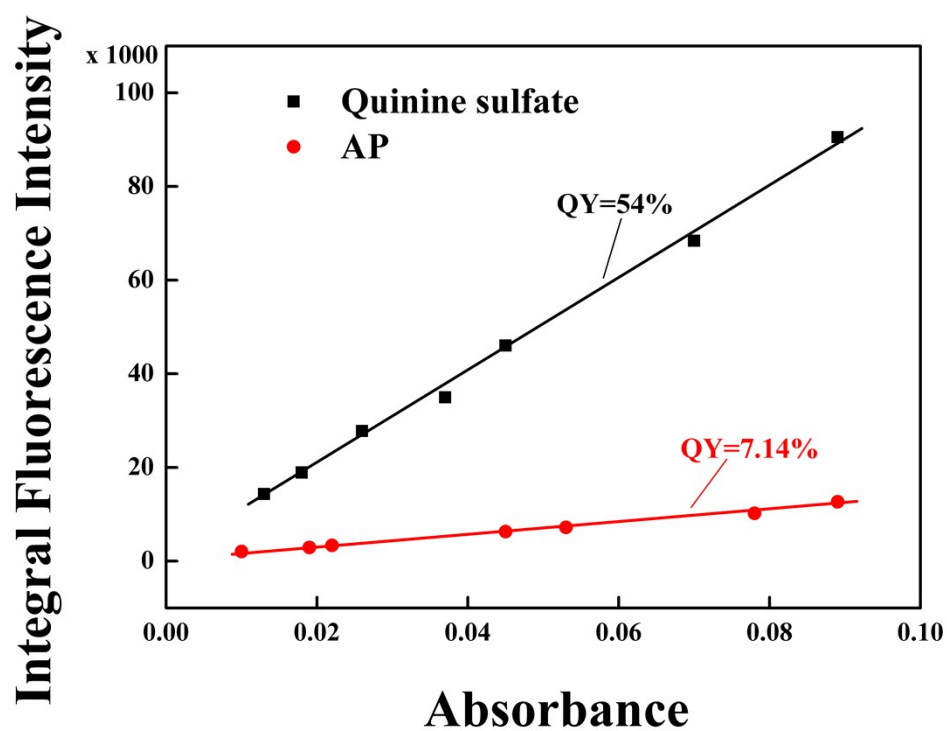


Fig. S3 Fluorescence quantum yield of SiC•SiOx (quinine sulfate was used as reference). The spectra were collected by Hitachi fluorescence spectrophotometer

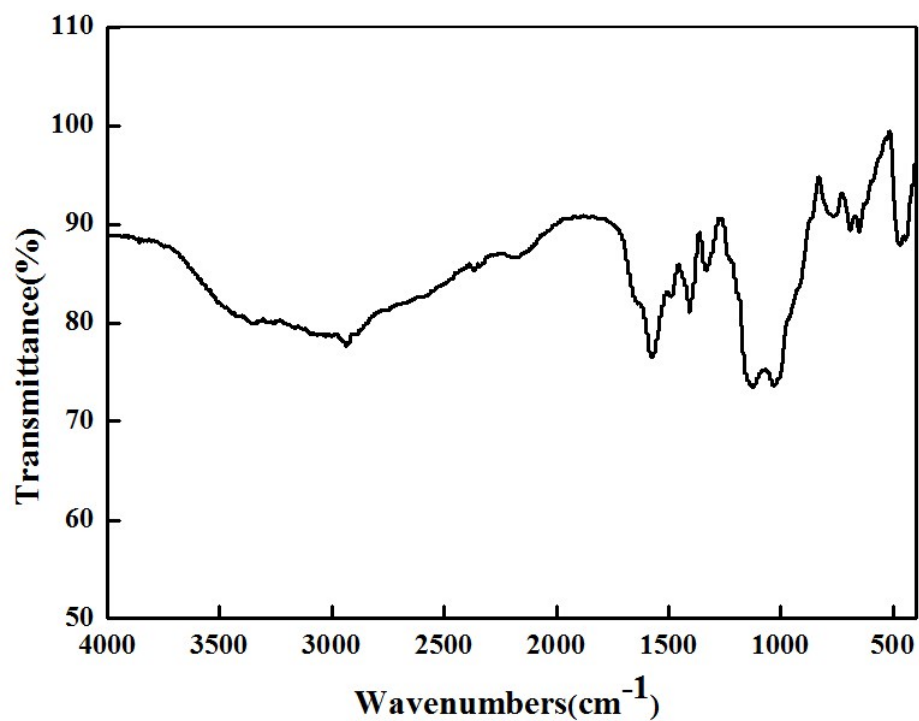
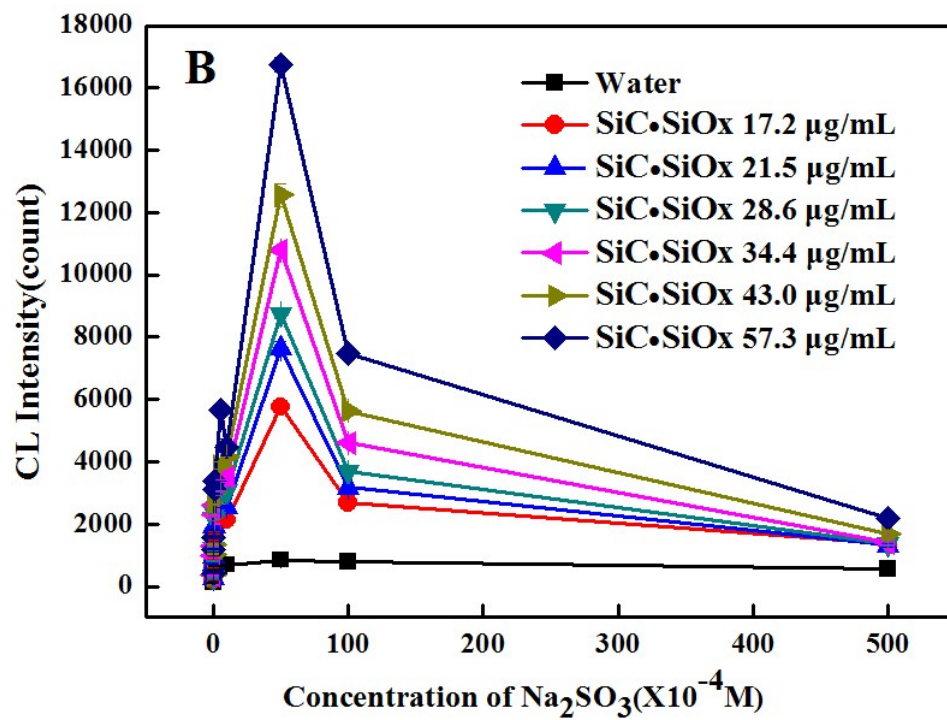
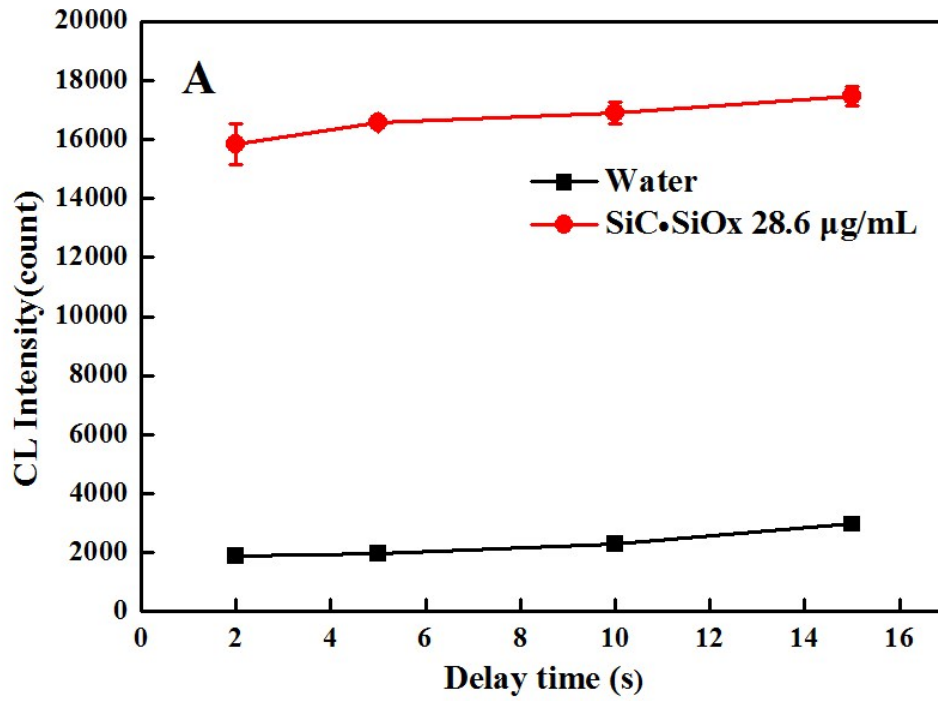


Fig. S4 FTIR spectrum of SiC•SiOx



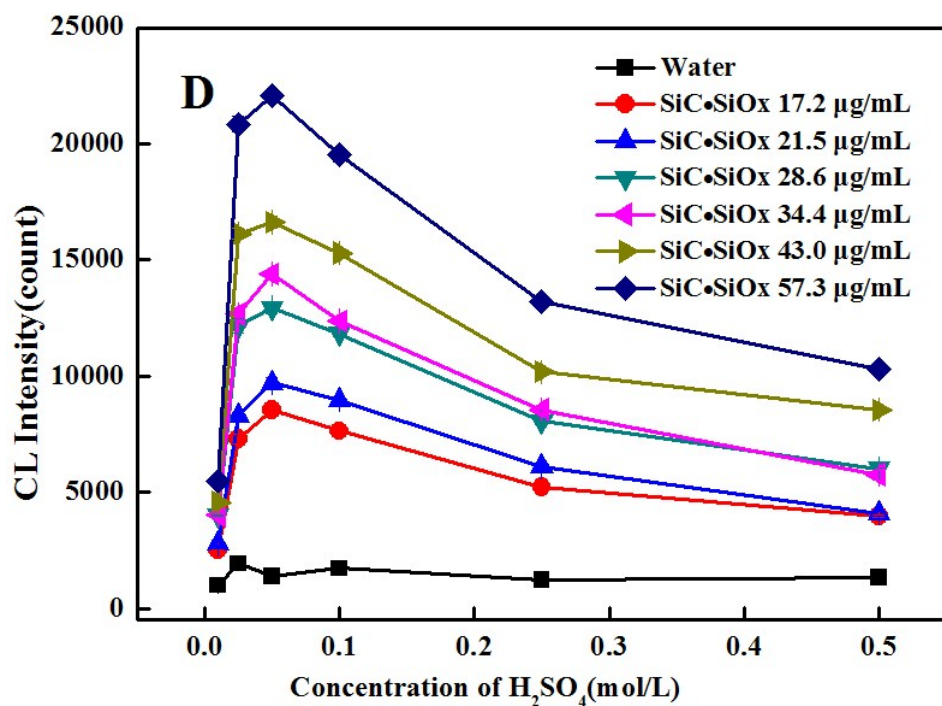
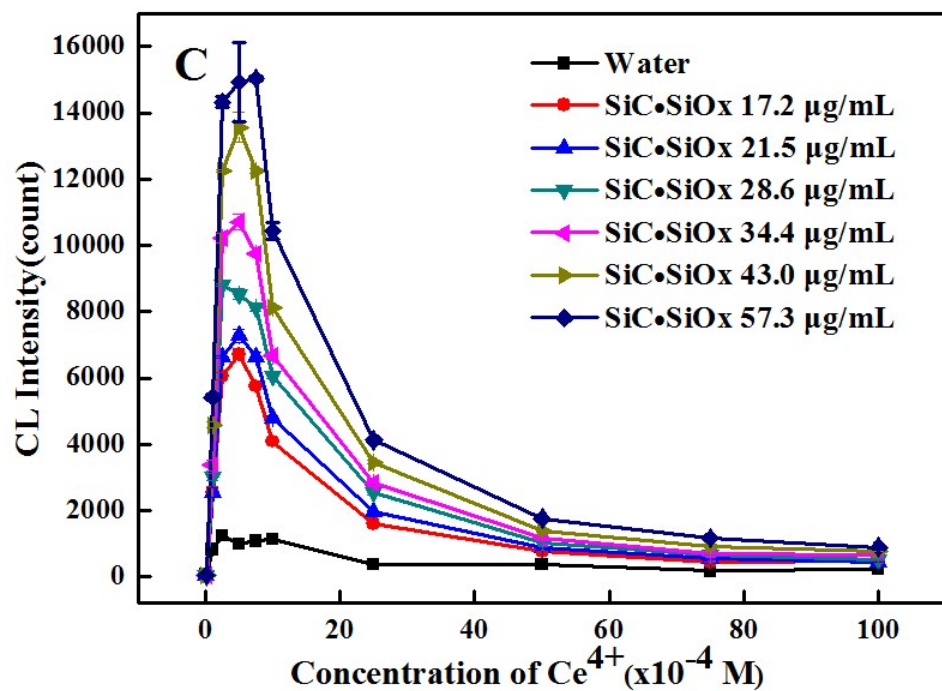


Fig. S5 Reaction time of Ce (IV) with SiC•SiOx (A) and effect of Na₂SO₃ (B), Ce (IV)(C) and H₂SO₄(D) concentration on CL intensity.

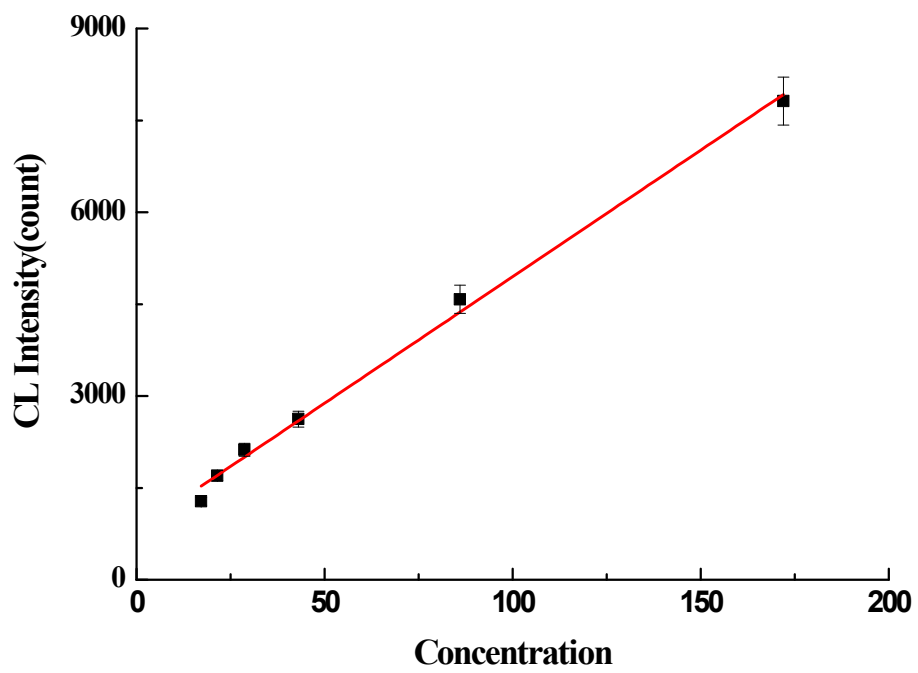


Fig. S6 The linear relationship between the concentration of SiC•SiOx and the CL intensity

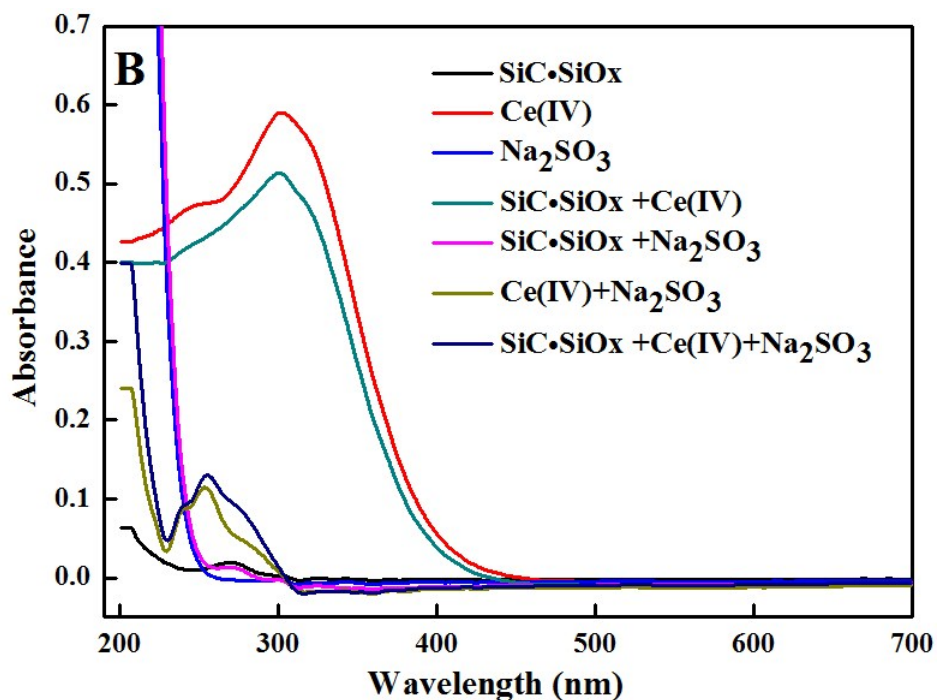
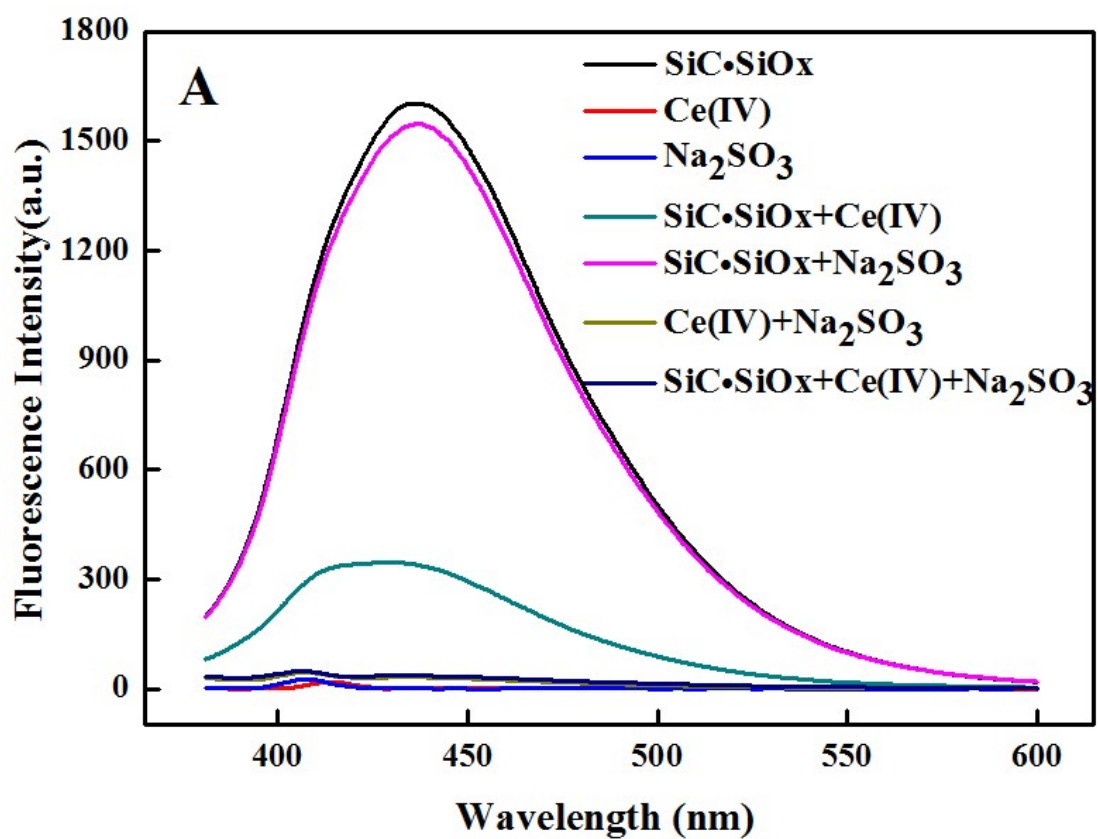


Fig. S7 Fluorescence(A)and UV (B) spectra of Ce (IV) -Na₂SO₃-SiC•SiOx system before and after CL reaction. Experimental conditions: 5.0×10^{-4} mol/L Na₂SO₃, 5.0×10^{-3} mol/L Ce (IV) ,

0.05 mol/L H_2SO_4 and 858 $\mu\text{g}/\text{mL}$ $\text{SiC}\cdot\text{SiO}_x$. each reagent used in a combination group was 1mL, and water was added up to a final volume of 3mL.

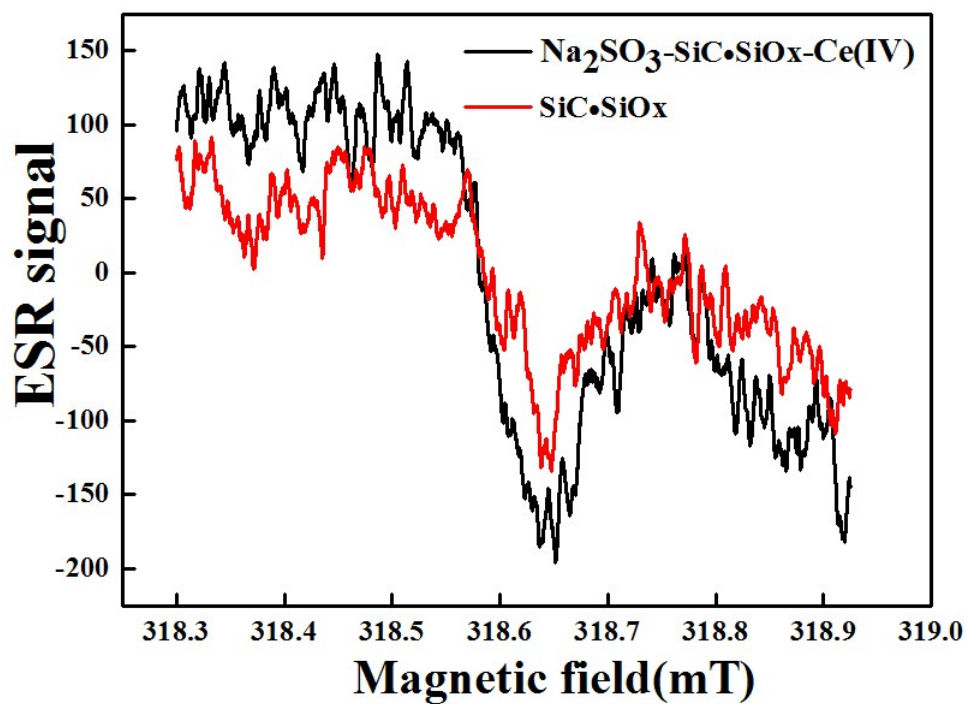


Fig. S8 ESR spectra of $\text{SiC}\cdot\text{SiO}_x$ before and after react with $\text{Na}_2\text{SO}_3\text{-Ce(IV)}$.

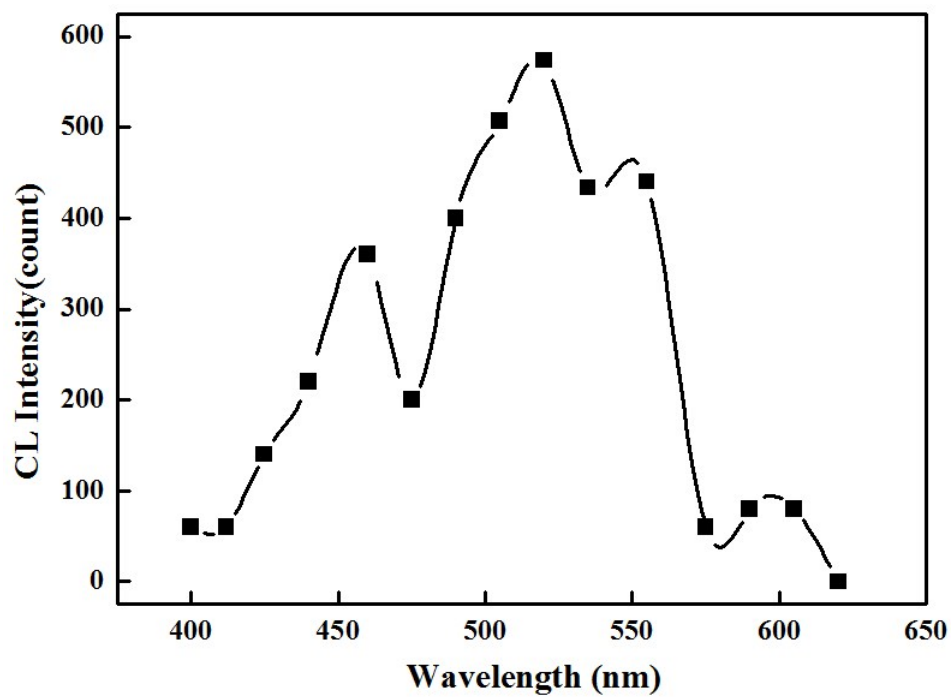
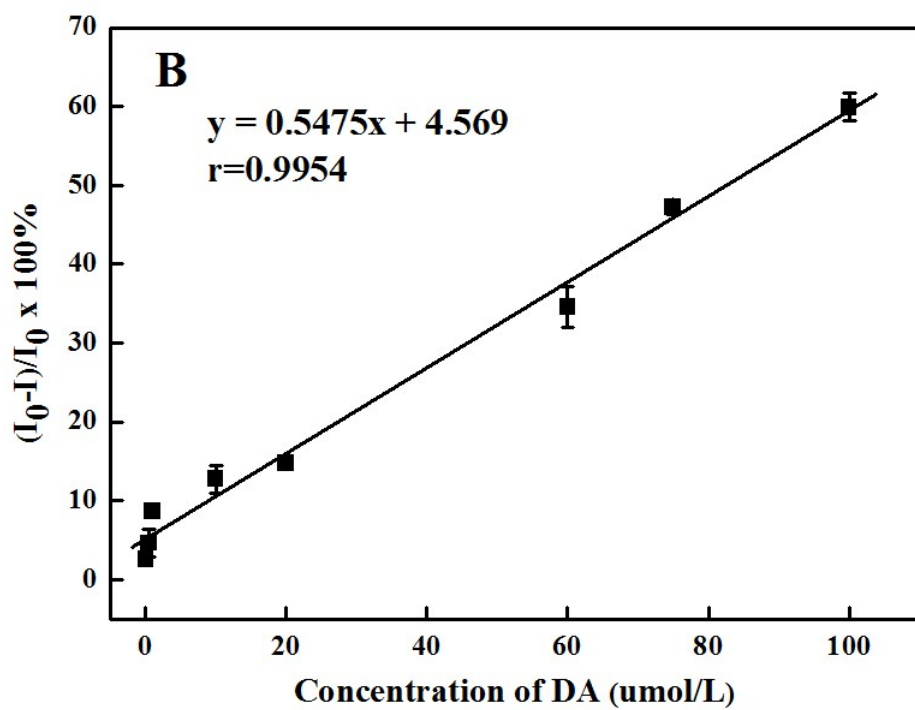
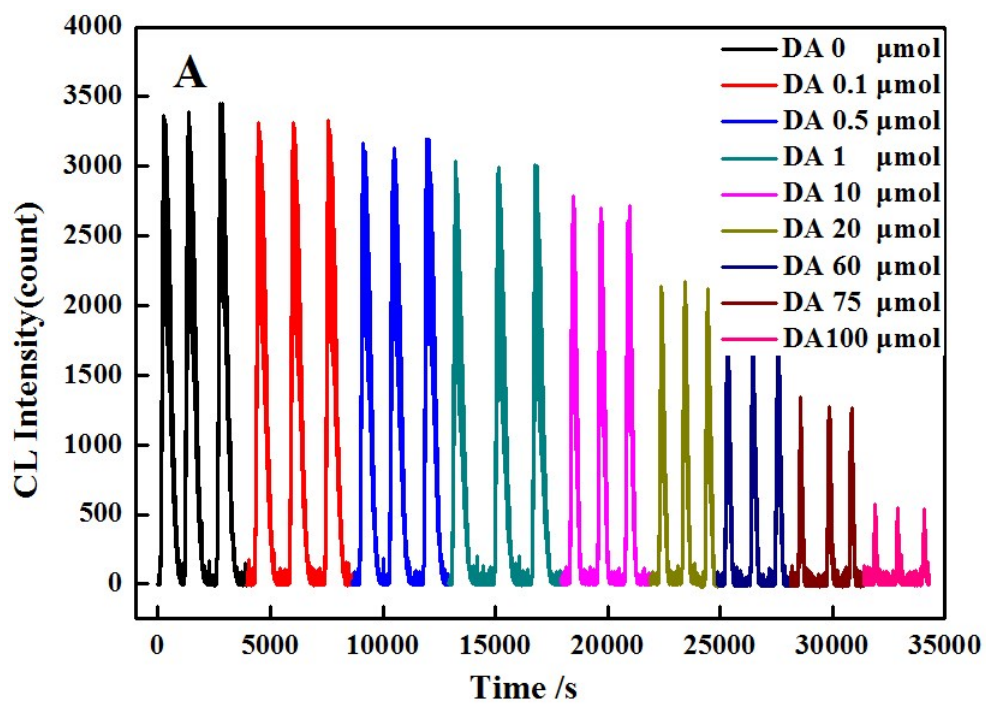
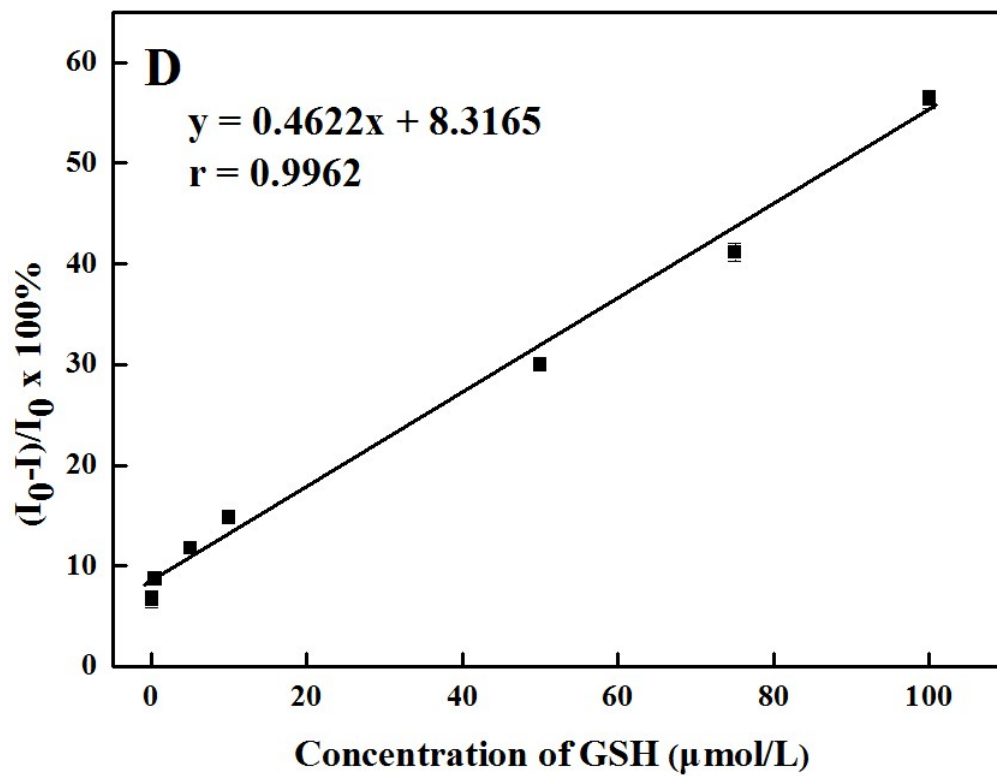
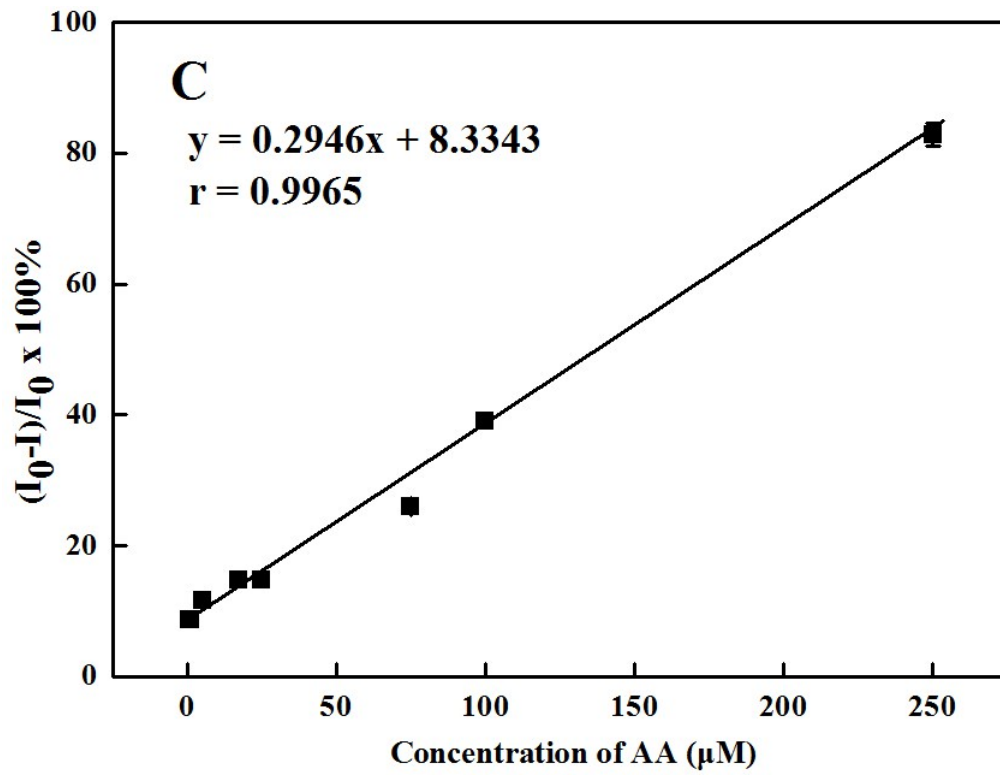


Fig. S9 CL spectrum of Ce (IV)-Na₂SO₃-SiC•SiO_x system. Flow injection experimental conditions: 5.0×10^{-3} mol/L Na₂SO₃, 1.0×10^{-3} mol/L Ce (IV) -0.1 mol /L H₂SO₄, 171.6 μg/mL SiC•SiO_x.





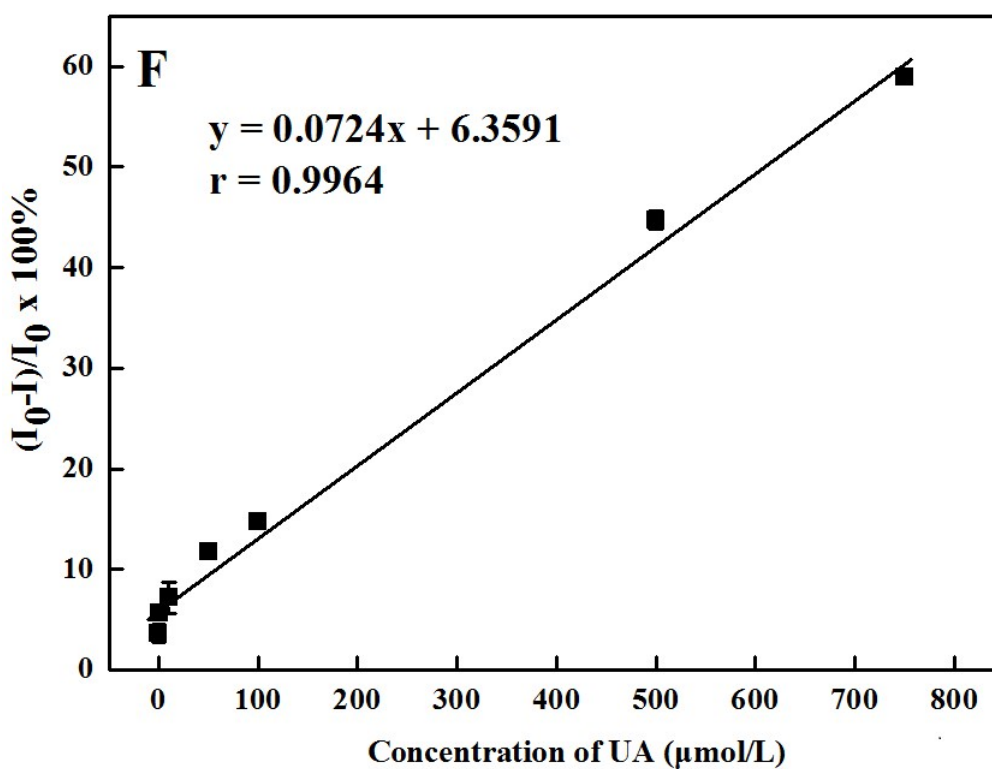
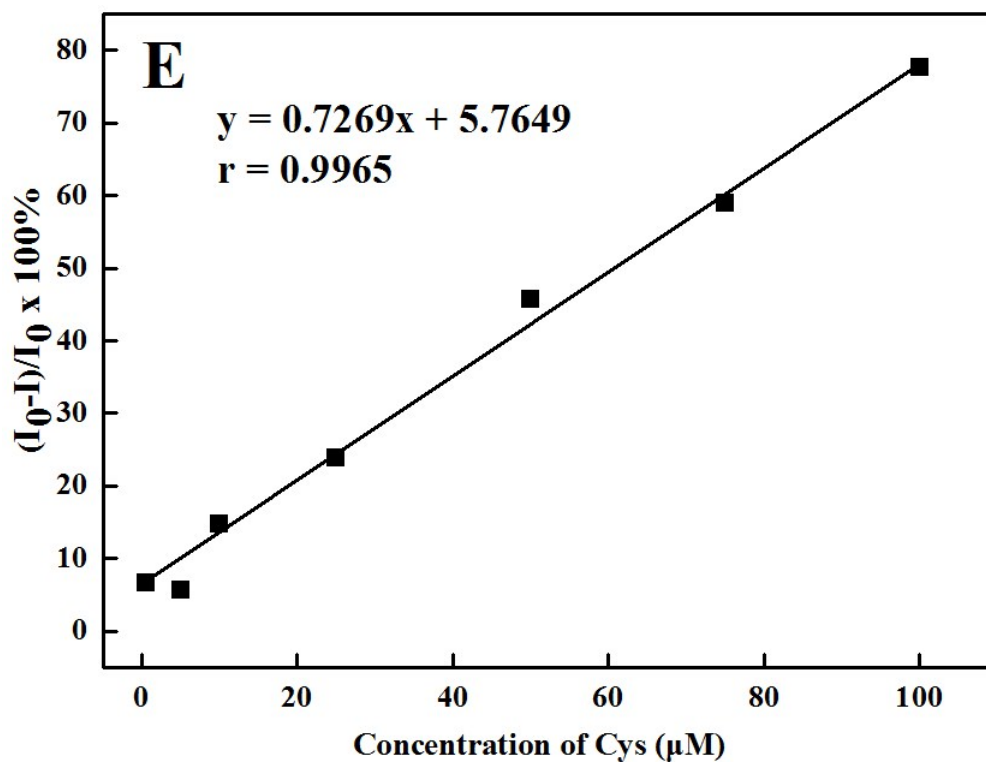


Fig. S10 The flow injection CL signal diagrams for quantitative analysis of dopamine (A and B) , ascorbic acid (AA) (C), glutathione (GSH) (D), cysteine (Cys)(E) and uric acid (UA)(F) and their standard curves of luminescence inhibition rate vs concentration value.