Electronic Supporting Information

Chemiluminescent properties of fluorescent SiC•SiOx 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•SiOx. 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 Na$_2$SO$_3$ (B), Ce (IV)(C) and H$_2$SO$_4$(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) - Na$_2$SO$_3$-SiC•SiOx system before and after CL reaction. Experimental conditions: 5.0 × 10$^{-4}$mol/L Na$_2$SO$_3$, 5.0 × 10$^{-3}$mol/L Ce (IV).
0.05 mol/L H$_2$SO$_4$ and 858 µg/mL SiC•SiOx. 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 SiC•SiOx before and after react with Na$_2$SO$_3$-Ce (IV).
Fig. S9 CL spectrum of Ce (IV)-Na$_2$SO$_3$-SiC•SiOx system. Flow injection experimental conditions: $5.0 \times 10^{-3}$mol/L Na$_2$SO$_3$, $1.0 \times 10^{-3}$mol/L Ce (IV) -0.1 mol/L H$_2$SO$_4$, 171.6μg/mL SiC•SiOx.
C
\[ y = 0.2946x + 8.3343 \]
\[ r = 0.9965 \]

D
\[ y = 0.4622x + 8.3165 \]
\[ r = 0.9962 \]
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.