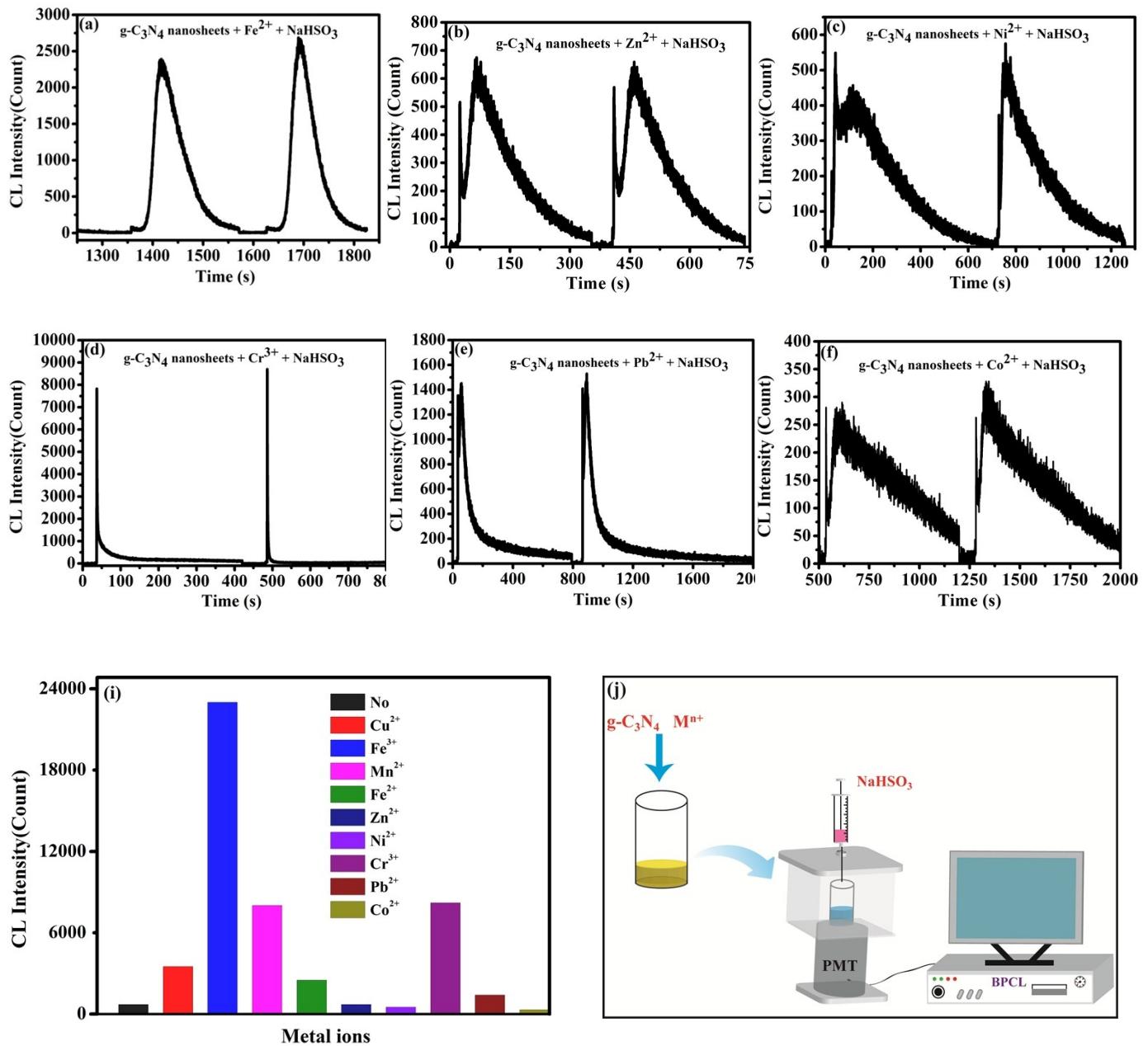


## Supporting Information

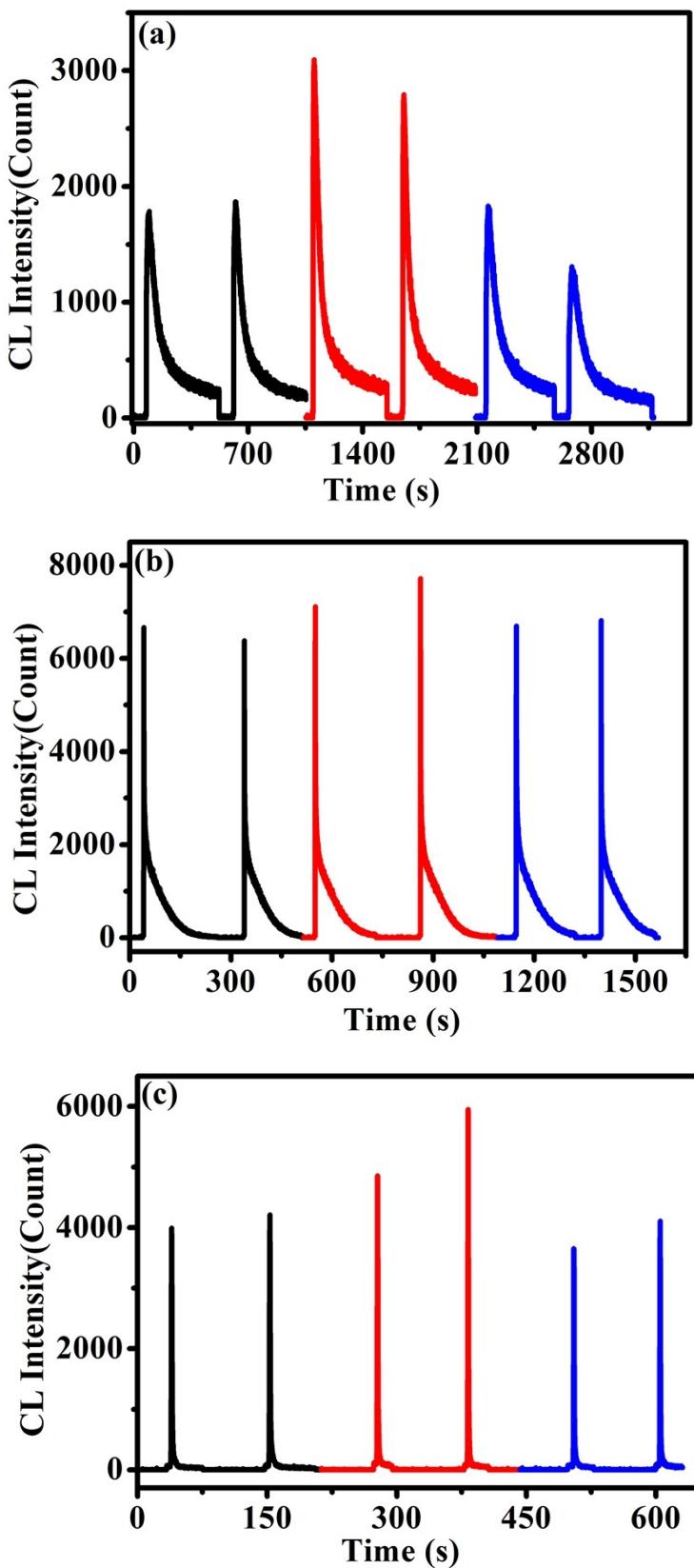
# **Bisulfate Induced Chemiluminescence of g-C<sub>3</sub>N<sub>4</sub> Nanosheets and Enhanced by Metal Ions**

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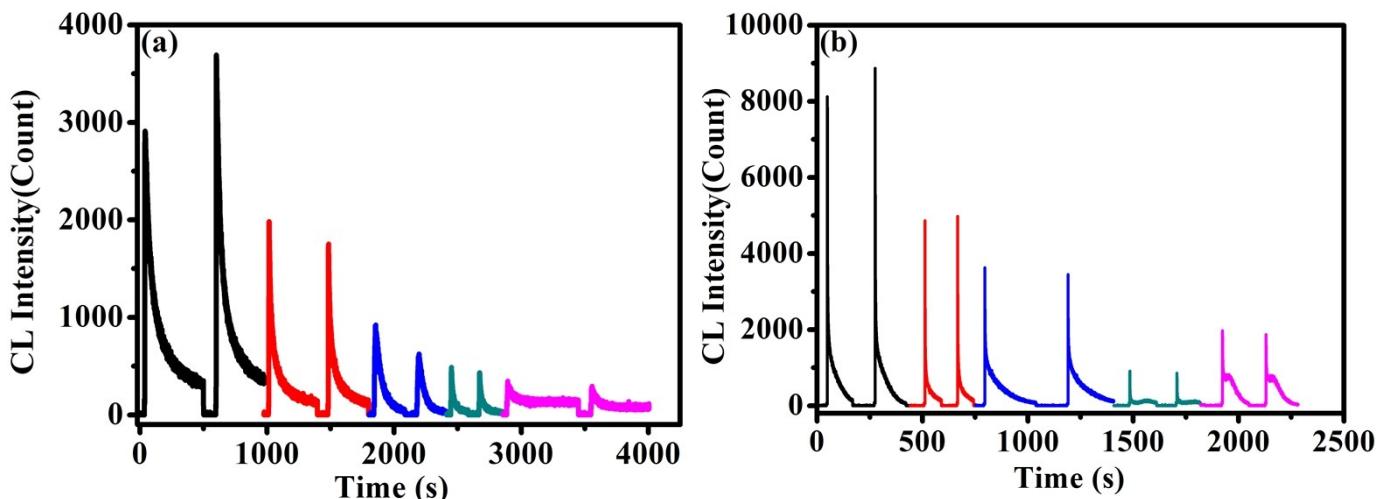
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**Fig. S1** Kinetic curves of CL of (a)  $\text{g-C}_3\text{N}_4$  nanosheets- $\text{Fe}^{2+}$ -NaHSO<sub>3</sub> system, (b)  $\text{g-C}_3\text{N}_4$  nanosheets- $\text{Zn}^{2+}$ -NaHSO<sub>3</sub> system, (c)  $\text{g-C}_3\text{N}_4$  nanosheets- $\text{Ni}^{2+}$ -NaHSO<sub>3</sub> system, (d)  $\text{g-C}_3\text{N}_4$  nanosheets- $\text{Cr}^{3+}$ -NaHSO<sub>3</sub> system, (e)  $\text{g-C}_3\text{N}_4$  nanosheets- $\text{Pb}^{2+}$ -NaHSO<sub>3</sub> system, (f)  $\text{g-C}_3\text{N}_4$  nanosheets- $\text{Co}^{2+}$ -NaHSO<sub>3</sub> system, when 50  $\mu\text{L}$  of 10<sup>-3</sup> M NaHSO<sub>3</sub> was injected into the mixture of 50  $\mu\text{L}$  of 10<sup>-3</sup> M  $\text{M}^{\text{n}+}$  (metal ions) and 50  $\mu\text{L}$  2.5  $\mu\text{g}/\mu\text{L}$   $\text{g-C}_3\text{N}_4$  nanosheets. (i) Compare the CL intensity of  $\text{g-C}_3\text{N}_4$  nanosheets- NaHSO<sub>3</sub> system with different metal ions. (j) Schematic diagram of the bath method CL detection system.



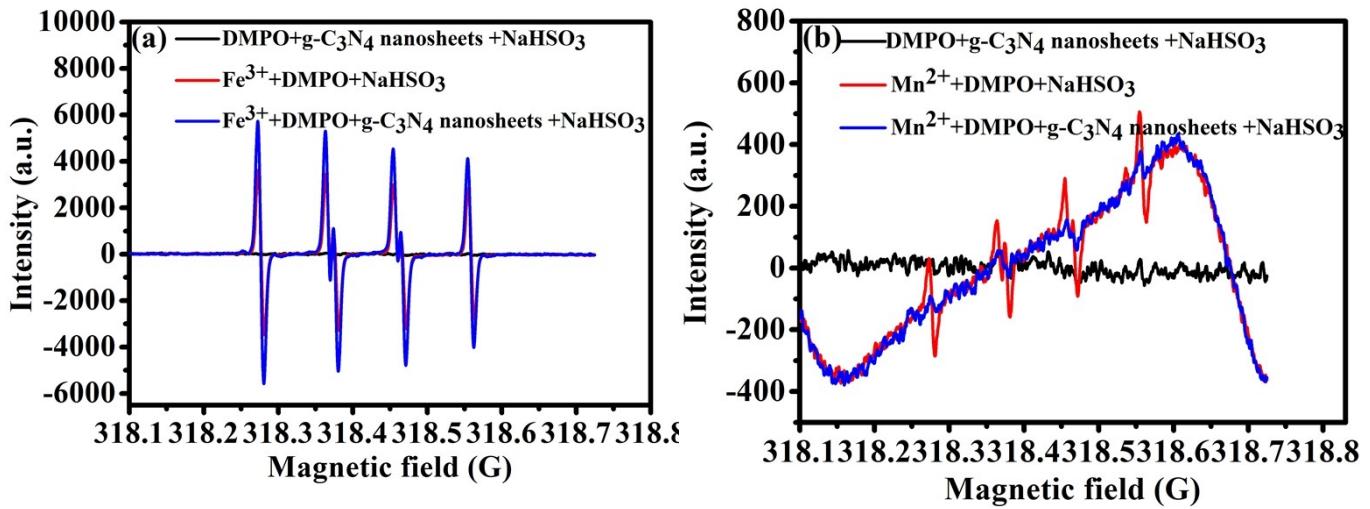
**Fig. S2** The kinetic curves of  $\text{g-C}_3\text{N}_4$ nanosheets- $\text{M}^{n+}$ - $\text{NaHSO}_3$  CL systems: (a)  $\text{Cu}^{2+}$ , (b)  $\text{Fe}^{3+}$ , (c)  $\text{Mn}^{2+}$ , the CL solution was bubbled with  $\text{O}_2$  (red) or  $\text{N}_2$  (blue) for 20 min before injecting. The concentration of  $\text{g-C}_3\text{N}_4$  nanosheets,  $\text{M}^{n+}$  and  $\text{NaHSO}_3$  were  $2.5 \mu\text{g}/\mu\text{l}$ ,  $10^{-3}$  M and  $10^{-3}$  M, respectively.



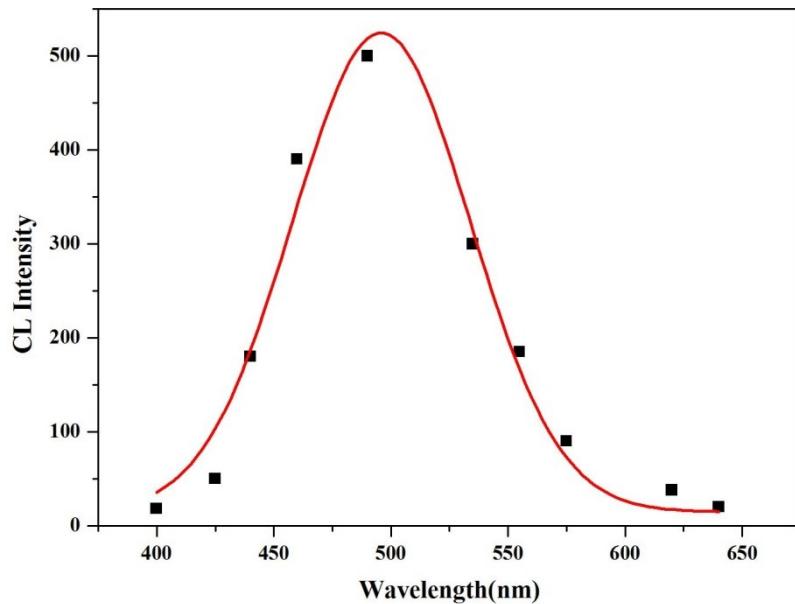
**Fig. S3** The Kinetic curves of (a)  $\text{g-C}_3\text{N}_4$  nanosheets- $\text{Cu}^{2+}$ - $\text{NaHSO}_3$  and (b)  $\text{g-C}_3\text{N}_4$  nanosheets- $\text{Fe}^{3+}$ - $\text{NaHSO}_3$  CL systems with different radical scavengers: NBT (red),  $\text{NaN}_3$  (blue), thiourea (green) and ascorbic acid (pink).

**Table S2 Effects of radical scavengers on  $\text{g-C}_3\text{N}_4$  nanosheets- $\text{Cu}^{2+}$ - $\text{NaHSO}_3$  and  $\text{g-C}_3\text{N}_4$  nanosheets- $\text{Fe}^{3+}$ - $\text{NaHSO}_3$  CL systems**

Radical scavengers	Concentration (M)	CL intensity of $\text{g-C}_3\text{N}_4$ nanosheets- $\text{Cu}^{2+}$ - $\text{NaHSO}_3$ (Count)	CL intensity of $\text{g-C}_3\text{N}_4$ nanosheets- $\text{Fe}^{3+}$ - $\text{NaHSO}_3$ (Count)
$\text{H}_2\text{O}$		3200	8200
NBT	$1.0 \times 10^{-3}$	1800	5000
$\text{NaN}_3$	$1.0 \times 10^{-2}$	900	3800
Thiourea	$1.0 \times 10^{-3}$	500	1000
Ascorbic acid	$1.0 \times 10^{-3}$	400	1800



**Fig. S4** ESR spectra of  $\cdot\text{SO}_3^-$  radicals. (a)  $\cdot\text{SO}_3^-$  radicals increased when g-C<sub>3</sub>N<sub>4</sub> nanosheets are added into the solution of and NaHSO<sub>3</sub> and Fe<sup>3+</sup>. (b)  $\cdot\text{SO}_3^-$  radicals increased when g-C<sub>3</sub>N<sub>4</sub> nanosheets are added into the solution of and NaHSO<sub>3</sub> and Mn<sup>2+</sup>.



**Fig. S5** CL spectra of g-C<sub>3</sub>N<sub>4</sub> nanosheets-Cu<sup>2+</sup>-NaHSO<sub>3</sub> system.