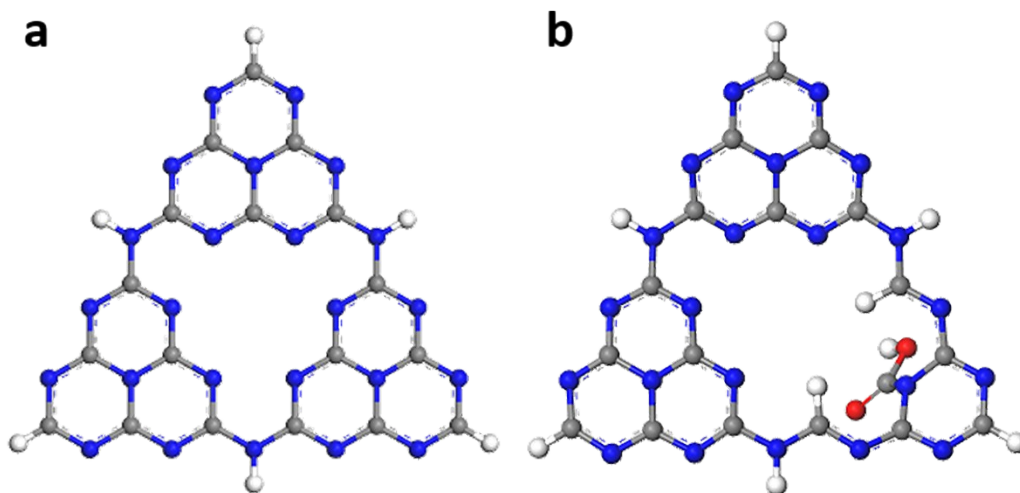
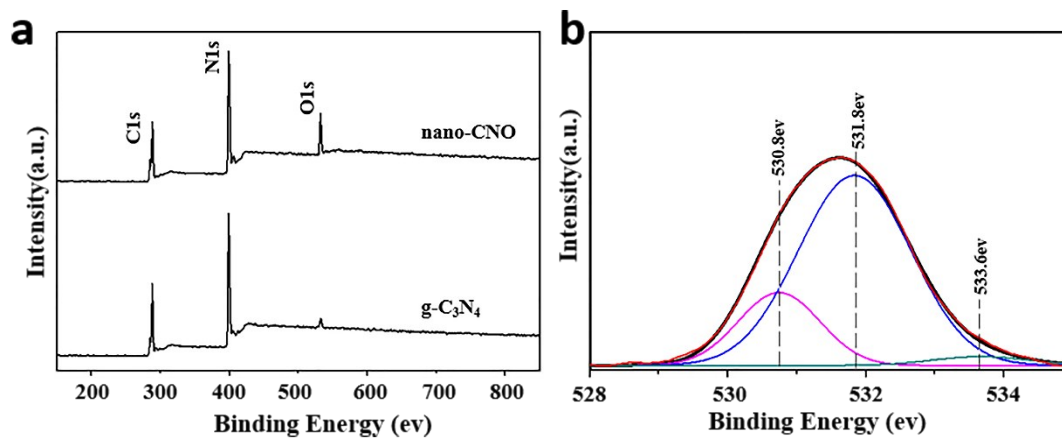


## Supporting Information



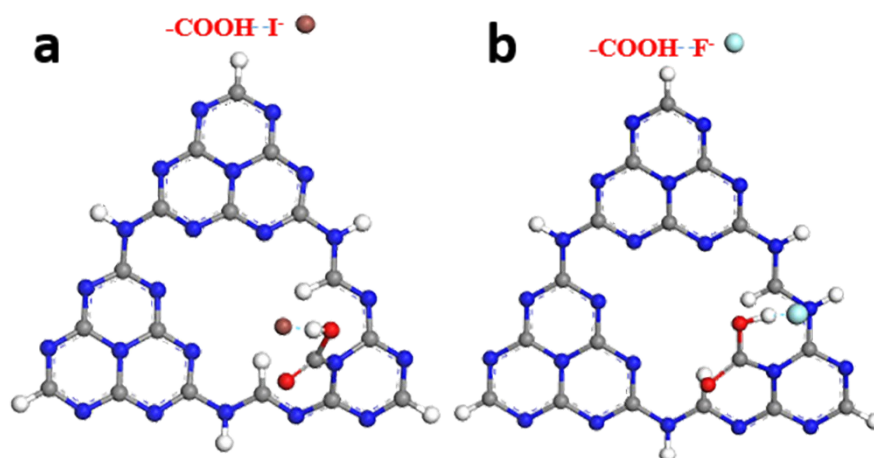
**Figure S1.** Structural models of (a) pristine g-C<sub>3</sub>N<sub>4</sub> and (b) nano-CNO used in the theoretical calculations.



**Figure S2.** XPS spectra of (a) pristine g-C<sub>3</sub>N<sub>4</sub> and nano-CNO, and (b) the O1s spectrum of nano-CNO, 530.8 eV (C=O), 531.8 eV (C-O), 533.6 eV (N-O).

**Table S1.** Values of fluorescence lifetime for nano-CNO with various concentrations of Cr(VI).

Concentration of Cr(VI) ( $\mu\text{M}$ )	$\tau_1(\text{ns})$	$B_1$	$\tau_2(\text{ns})$	$B_2$	$\tau_3(\text{ns})$	$B_3$	$\tau(\text{ns})$
0	8.6118	0.246	37.2836	0.3252	0.3742	0.4288	14.40359
10	2.9138	0.2567	13.323	0.2318	0.3098	0.5114	3.994676
20	2.2422	0.1953	11.032	0.2129	0.3011	0.5917	2.964775
35	1.3305	0.1514	9.3681	0.1301	0.2923	0.7185	1.630245
50	1.2646	0.0909	8.7087	0.0851	0.3569	0.8239	1.150112



**Figure S3.** Structural models of nano-CNO bonded with (a) I<sup>-</sup> and (b) F<sup>-</sup>.