Electronic Supplementary Material (ESI) for Analytical Methods.

Supporting Information

An efficient electrochemical sensor based on Ce-MOF/g-C_3N_5 composite for detection of nitrofurazone

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Figures

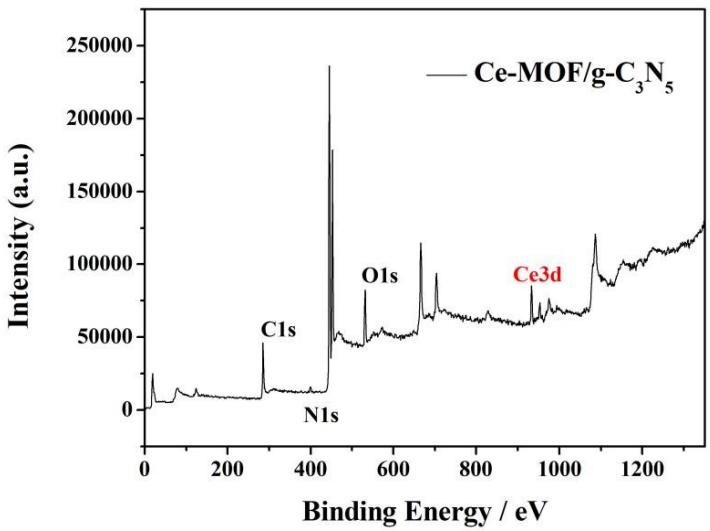

Fig. S1. XPS spectrum of Ce-MOF/g-C_3N_5.

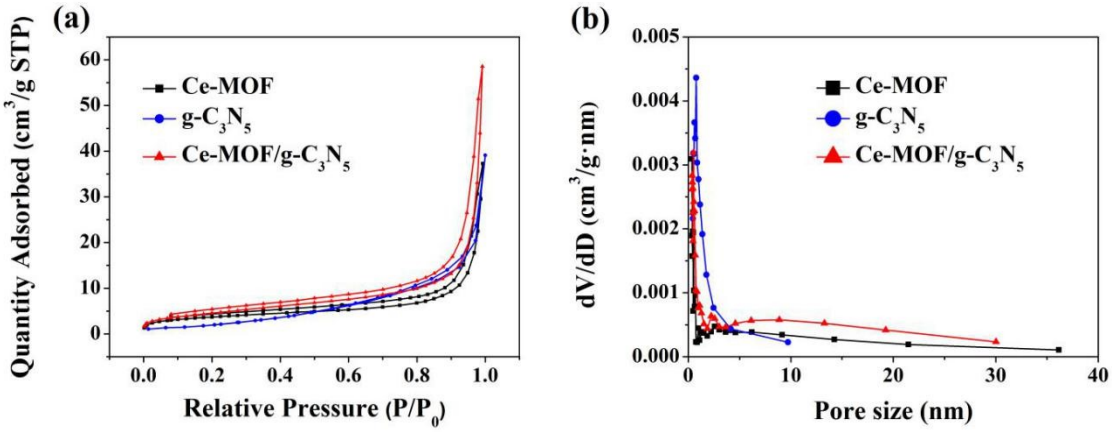

Fig. S2. N_2 adsorption-desorption isotherms (a) and corresponding pore size distribution curves (b) of Ce-MOF, g-C_3N_5 and Ce-MOF/g-C_3N_5.

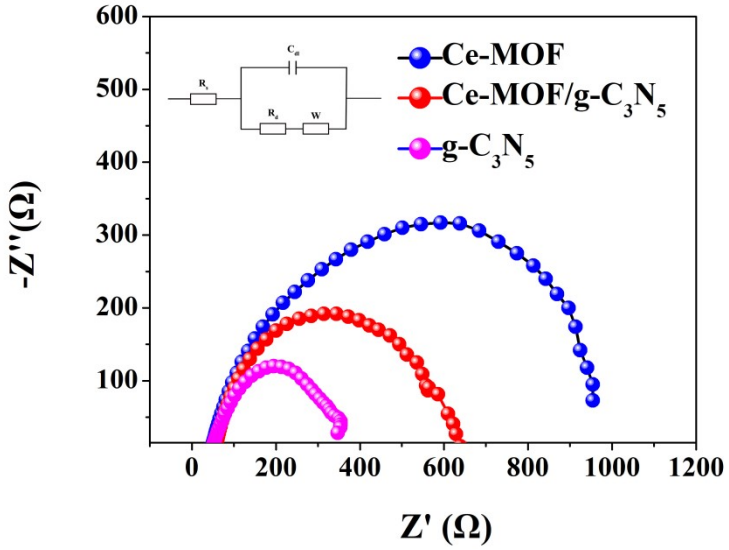

Fig. S3. EIS of Ce-MOF, g-C_3N_5 and Ce-MOF/g-C_3N_5 recorded in 5.0 mM $Fe(CN)_6^{3-/4-}$ with 0.1 M KCl, thefrequency range from 0.1 Hz to 10.0 kHz (Inset: the Randles circuit).

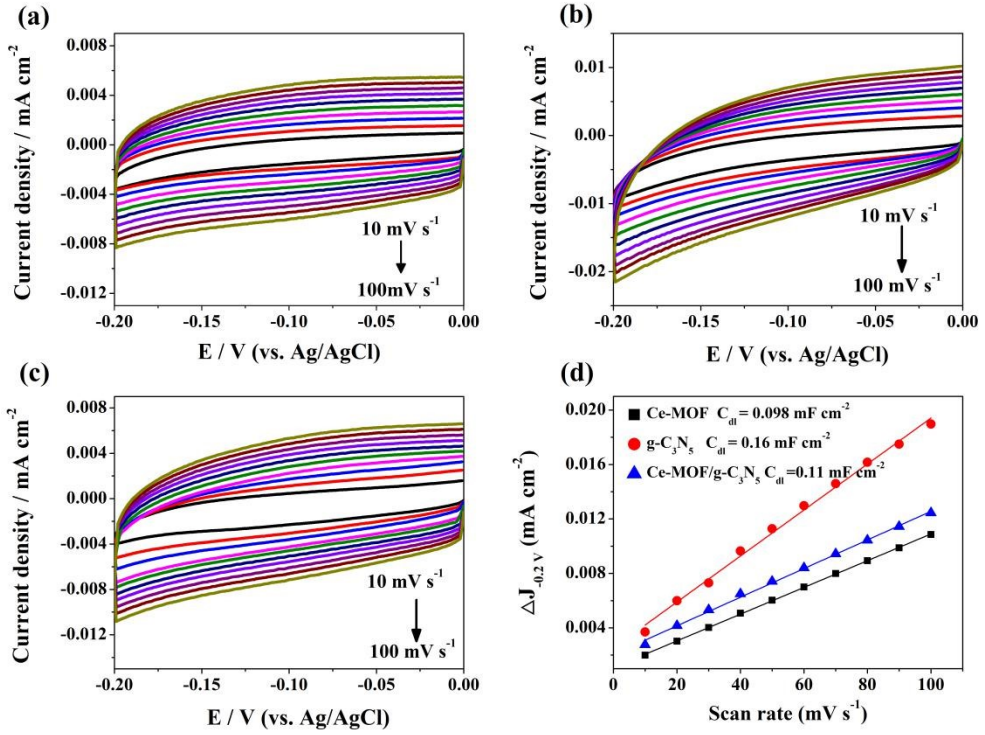

Fig. S4. The CV curves under different scan rates (10 mV/s to 100 mV/s) for Ce-MOF (a), g-C_3N_5 (b), Ce-MOF/g-C_3N_5 (c) in 0.1 M PBS containing 40 μM nitrofurazone. (d) double-layer capacitance (C_{dl}) of Ce-MOF, g-C_3N_5, Ce-MOF/g-C_3N_5 at a given potential of -0.10 V vs.Ag/AgCl in in 0.1 M PBS containing 40 μM nitrofurazone.

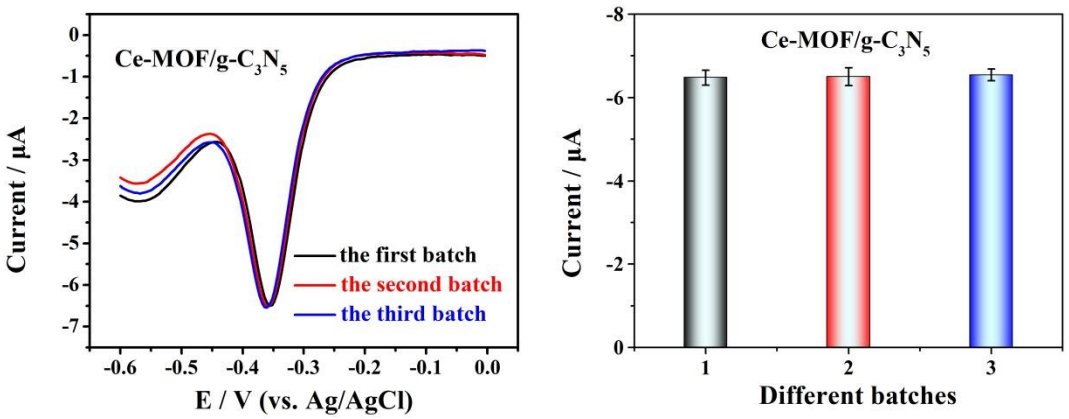

Fig. S5. The DPV responses for detection of nitrofurazone in 0.1 M PBS (pH=6.0) containing 50 μM nitrofurazone on different batches of Ce-MOF/g-C_3N_5 composite.

Table S1. The specific surface area and average pore diameter of Ce-MOF, g-C_3N_5 and Ce-MOF/g-C_3N_5

Samples	**Specific surface area (m^2/g)**	**Average pore diameter (nm)**
Ce-MOF	13.43	17.2
g-C_3N_5	8.70	23.2
Ce-MOF/g-C_3N_5	17.14	22.1

Table S2. Interferences of some inorganic and organic species on the peak currents of nitrofurazone (40 μM)

Interferential species	Concentration (μM)	Peak current change (%)
Ascorbic acid (AA)	40	2.0
Dopamine (DA)	40	2.3
Glucose	40	4.8
Urea (UA)	40	3.4
Metronidazole	40	1.8
Ca^{2+}	1 mM	-0.6
Mg^{2+}	1 mM	-0.4
Fe^{3+}	1 mM	0.2
Na^{+}	40 mM	1.9
K^{+}	40 mM	1.4