Supporting Information

Graphene quantum dots, graphene oxide, carbon quantum dots and graphite nanocrystals in coals

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Table S1. Elemental analysis of raw coal samples

Coals	C(%)	H(%)	N(%)	O(%)	Ash(%)	Provenance
ZBM093	90.20	3.01	0.58	5.41	3.95	Shandong, China
ZBM094	87.10	2.86	0.60	7.21	6.40	Shandong, China
SD	79.70	4.63	1.30	10.34	8.74	Nei Monggol, China
OD	72.00	4.67	1.24	19.88	5.48	Nei Monggol, China
KD	68.89	5.39	1.35	25.47	2.98	Kalimantan,Indonesia
Fu	66.36	4.67	1.26	25.98	9.46	FuShun, China

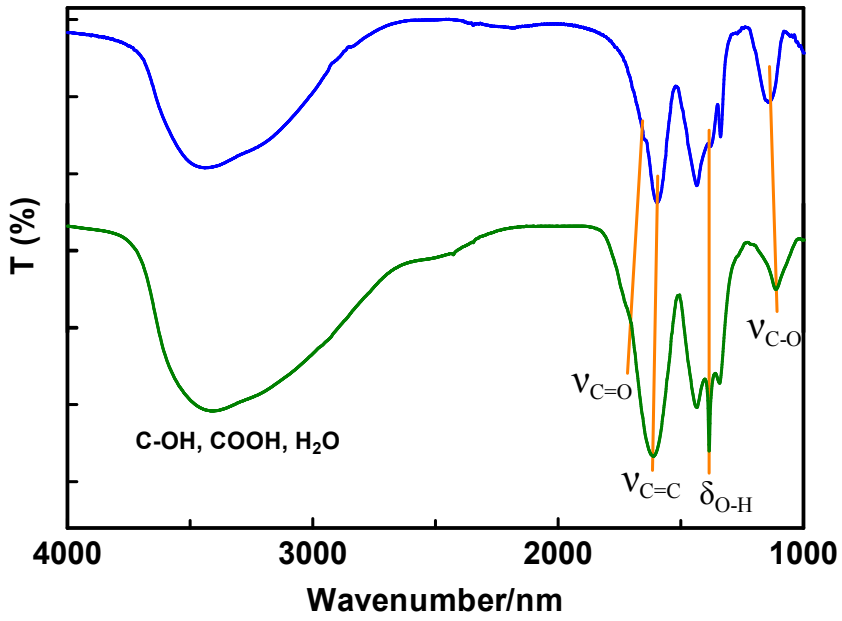

Fig. S1 FT-IR spectra obtained for the prepared $Coal_A$ (blue line) and $Coal_B$ (green line).

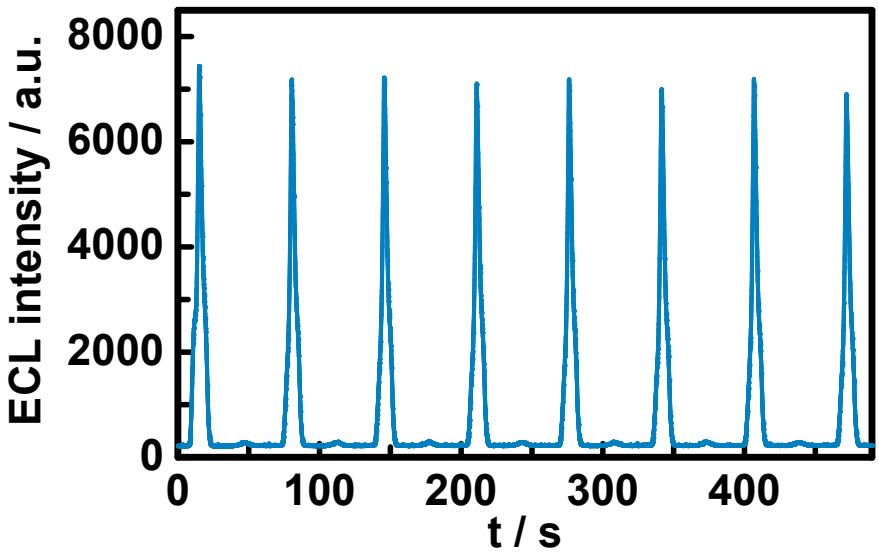

Fig. S2 ECL responses of $Coal_A/S_2O_8^{2-}$ obtained during a continuous potential scan at 0.1v/s between -1.5 and +1.8V in 0.1M PBS solution (pH=7.0).

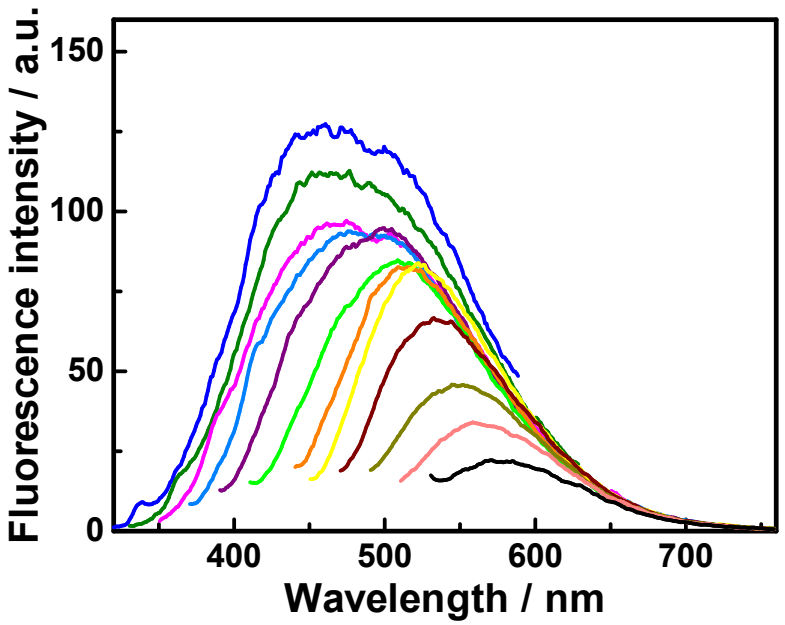

Fig. 3 FL spectra of the aqueous solution of 0.2 mg/mL $Coal_B$ under excitation of different wavelength lights.

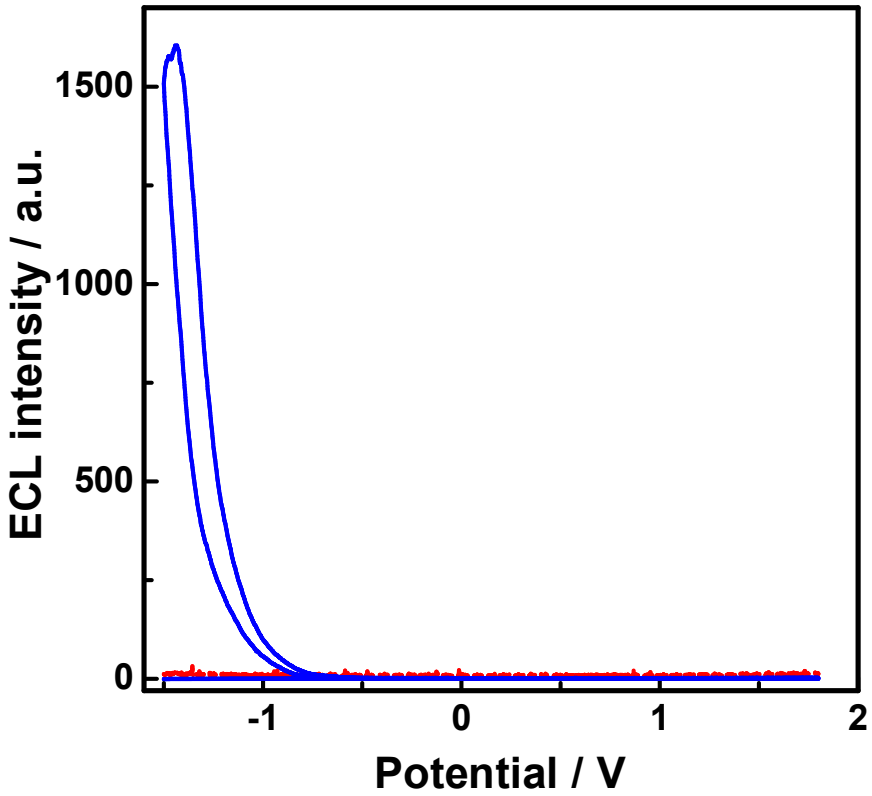

Fig. S4 ECL of the obtained 0.2 mg/mL $Coal_A$ in 0.1M PBS solution (pH=7.0) in the presence (blue) and absence (red) of 1mM $K_2S_2O_8$.