Supplementary Information

Selective chemiluminescence method for the determination of trinitrotoluene based on molecularly imprinted polymer-capped ZnO quantum dots

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Figure S1. FT-IR spectra for MIP@ZnO QDs in the (a) absence and (b) presence of TNT.
Figure S2. Effect of the (a) presence of ethanol [0.04 mmol L\(^{-1}\) RB, 0.06 mmol L\(^{-1}\) SDS, 0.025 mol L\(^{-1}\) NaOH, 60 mg L\(^{-1}\) MIP@ZnO QDs and 10 min incubation time], (b) concentration of MIP@ZnO QDs [2:1 Water/Ethanol ratio and other condition are like a], (c) incubation time [80 mg L\(^{-1}\) MIP@ZnO QDs and other condition are like b], (d) concentration of NaOH [8 min incubation time and other condition are like c], (e) concentration of RB [0.015 mol L\(^{-1}\) NaOH and other condition are like d], (f) concentration of SDS [0.06 mmol L\(^{-1}\) RB and other condition are like e] and (g) concentration of KMnO\(_4\) [0.06 mmol L\(^{-1}\) SDS and other condition are like f] on the CL intensity in the absence (red line) or presence (brown line) of 0.1 mg L\(^{-1}\) TNT; the insets show the difference between two obtained intensity.
Figure S3. The response of developed KMnO₄-RB-NIP@ZnO QDs CL system in the presence of 200 ng mL⁻¹ nitroaromatic compounds (2,4,6-trinitrotoluene (TNT), 2,4-dinitrotoluene (DNT), 2-nitrotoluene (2-NT) and 2,4,6-trinitrophenol (TNP)).

Figure S4. Fluorescence spectra for NIP@ZnO QDs in the (a) absence or (b-e) presence of 1 mg L⁻¹ 2-NT (b), DNT (c), TNP (d) and TNT (e), (2,4,6-trinitrotoluene (TNT), 2,4-dinitrotoluene (DNT), 2-nitrotoluene (2-NT) and 2,4,6-trinitrophenol (TNP)).