

## Supplementary Information

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

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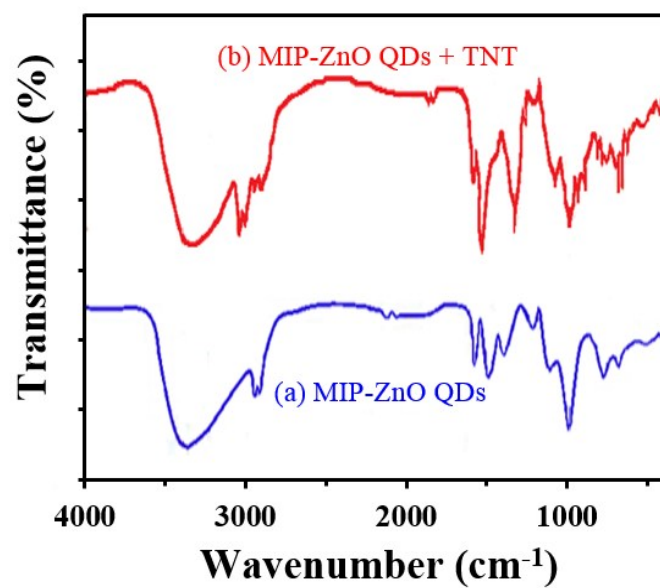
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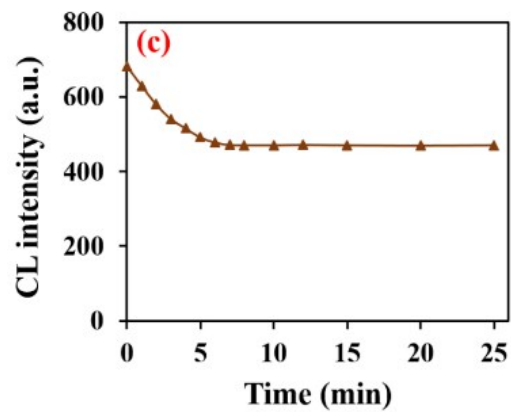
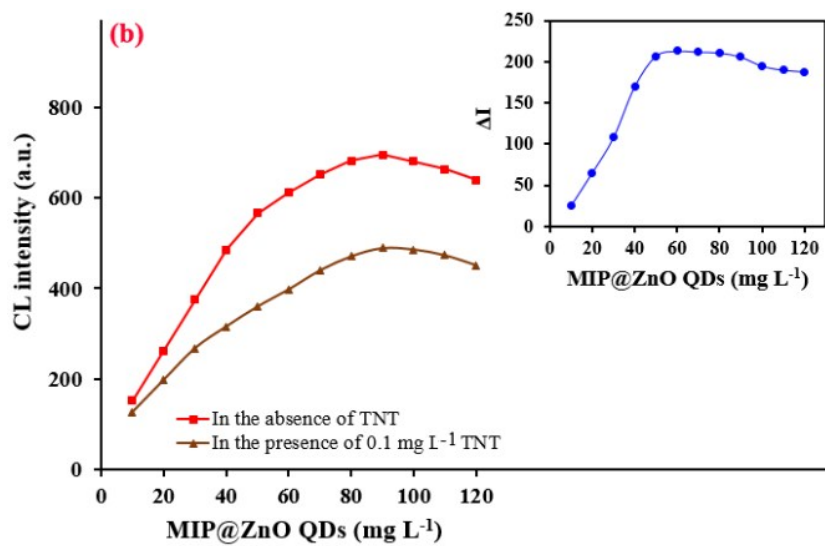
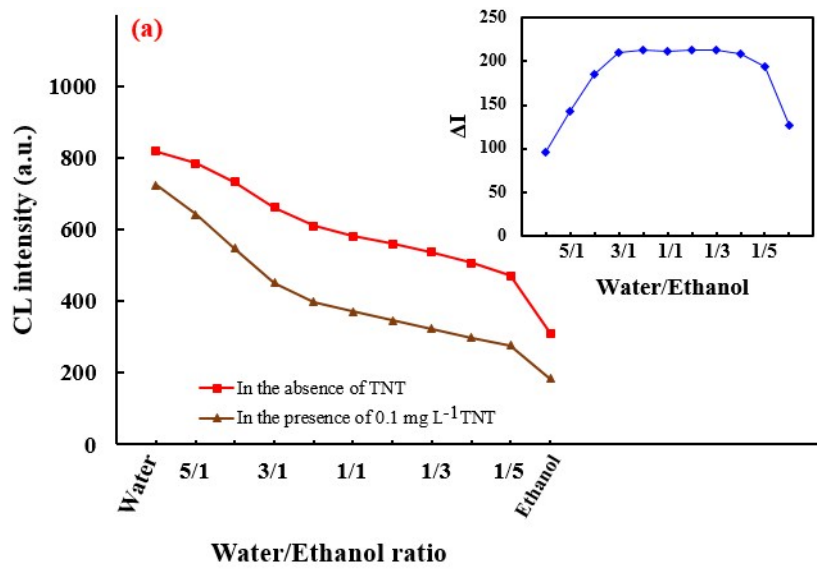
\* Corresponding author:

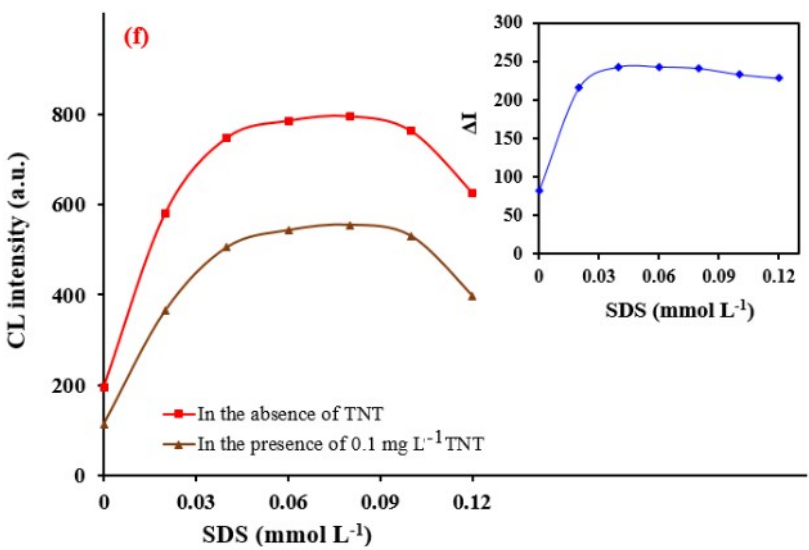
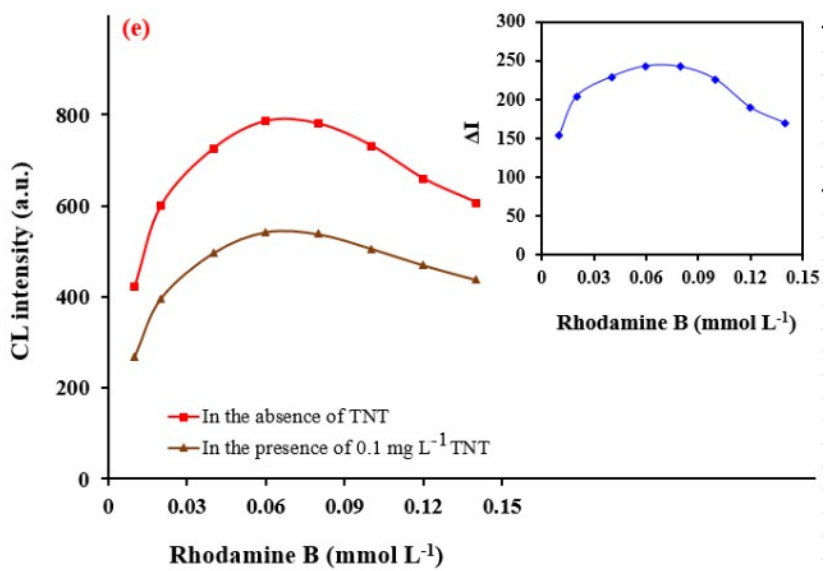
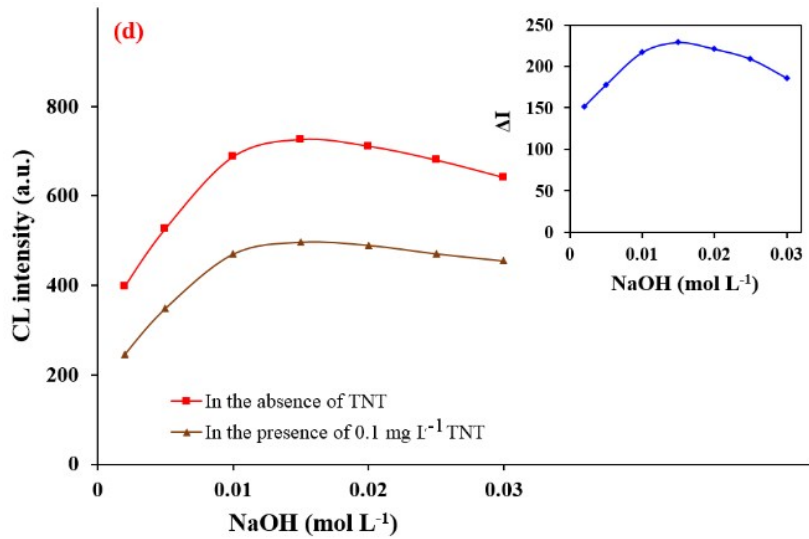
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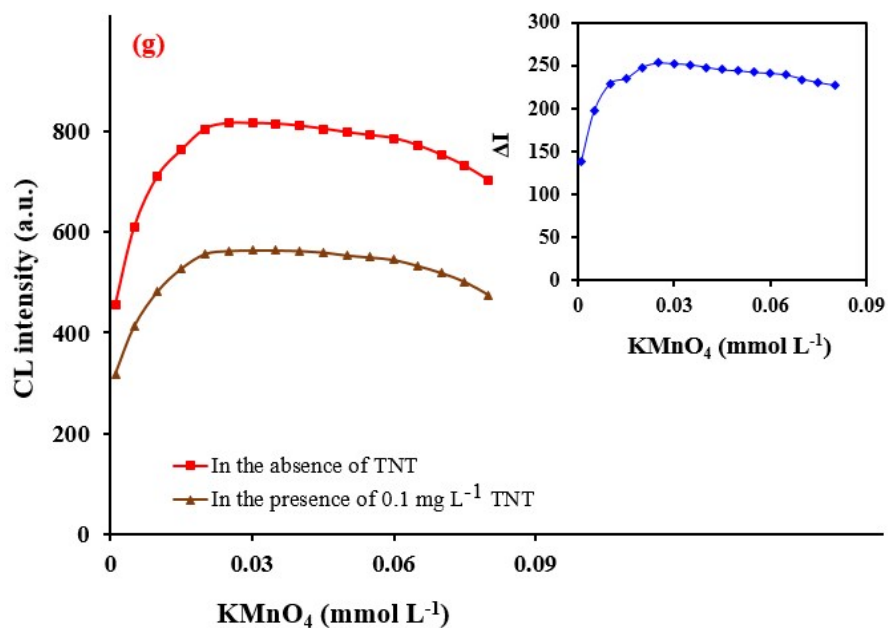
Tel.: +98 41 33393165; Fax: +98 41 33340191



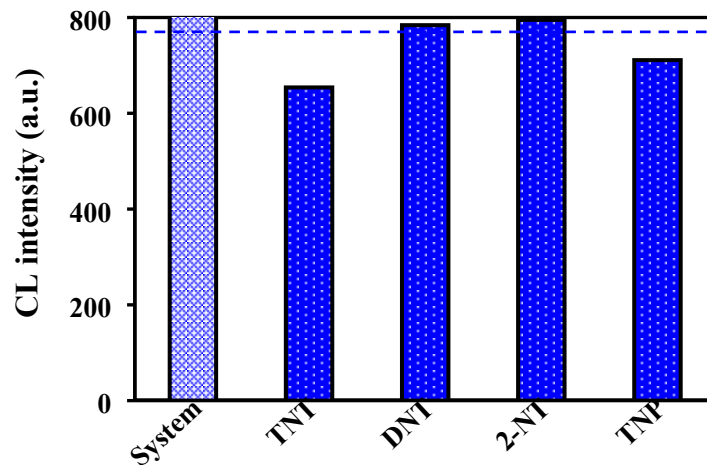
**Figure S1.** FT-IR spectra for MIP@ZnO QDs in the (a) absence and (b) presence of TNT.



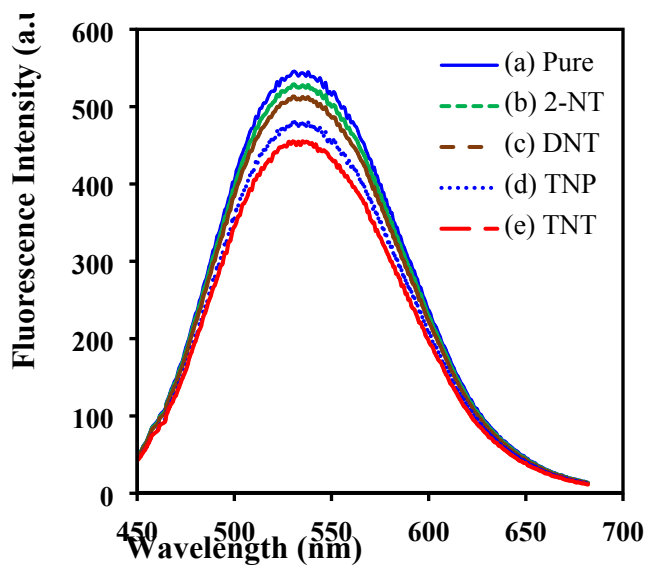




**Figure S2.** Effect of the (a) presence of ethanol [ $0.04 \text{ mmol L}^{-1}$  RB,  $0.06 \text{ mmol L}^{-1}$  SDS,  $0.025 \text{ mol L}^{-1}$  NaOH,  $60 \text{ mg L}^{-1}$  MIP@ZnO QDs and 10 min incubation time], (b) concentration of MIP@ZnO QDs [2:1 Water/Ethanol ratio and other conditions are like a], (c) incubation time [ $80 \text{ mg L}^{-1}$  MIP@ZnO QDs and other conditions are like b], (d) concentration of NaOH [8 min incubation time and other conditions are like c], (e) concentration of RB [ $0.015 \text{ mol L}^{-1}$  NaOH and other conditions are like d], (f) concentration of SDS [ $0.06 \text{ mmol L}^{-1}$  RB and other conditions are like e] and (g) concentration of  $\text{KMnO}_4$  [ $0.06 \text{ mmol L}^{-1}$  SDS and other conditions are like f] on the CL intensity in the absence (red line) or presence (brown line) of  $0.1 \text{ mg L}^{-1}$  TNT; the insets show the difference between two obtained intensities.



**Figure S3.** The response of developed  $\text{KMnO}_4\text{-RB-NIP@ZnO}$  QDs CL system in the presence of  $200 \text{ ng mL}^{-1}$  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  $1 \text{ mg L}^{-1}$  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)).