Supporting Information

Highly Selective and Sensitive Fluorescent Zeolitic Imidazole Frameworks Sensor for Nitroaromatic Explosive Detection

*Osama Abuzalat[1, 2, *], Danny Wong[1], Simon S. Park[1], Seonghwan Kim[1,*]*

[1]*Department of Mechanical and Manufacturing Engineering*

University of Calgary, Calgary, Alberta T2N 1N4, Canada

[2]*Department of Chemical Engineering, Military Technical College, Cairo, Egypt*

*Corresponding author e-mail: sskim@ucalgary.ca, osama.abuzalat@mtc.edu.eg

Section S1. Adsorption-desorption isotherms of ZIF-8 and ZnQ@ZIF-8

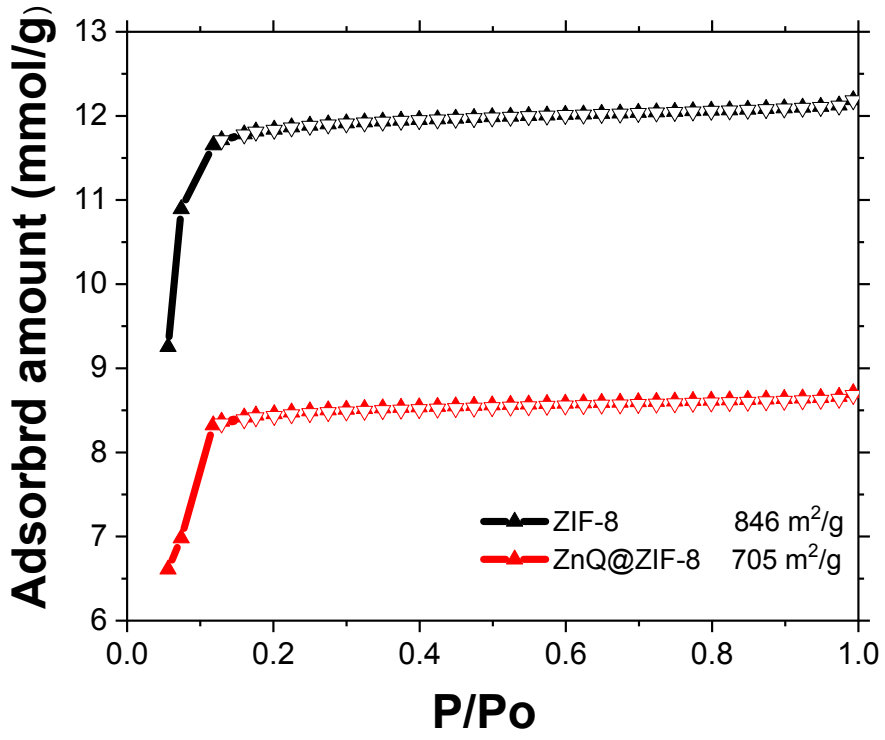

Figure S1: N_2 adsorption (closed symbols)–desorption (open symbols) isotherms for ZIF-8 (black) and ZnQ@ZIF-8 (red) at 77 K

Section S2. GC/MS analysis of the extracted from acid dissolved ZnQ@ZIF-8

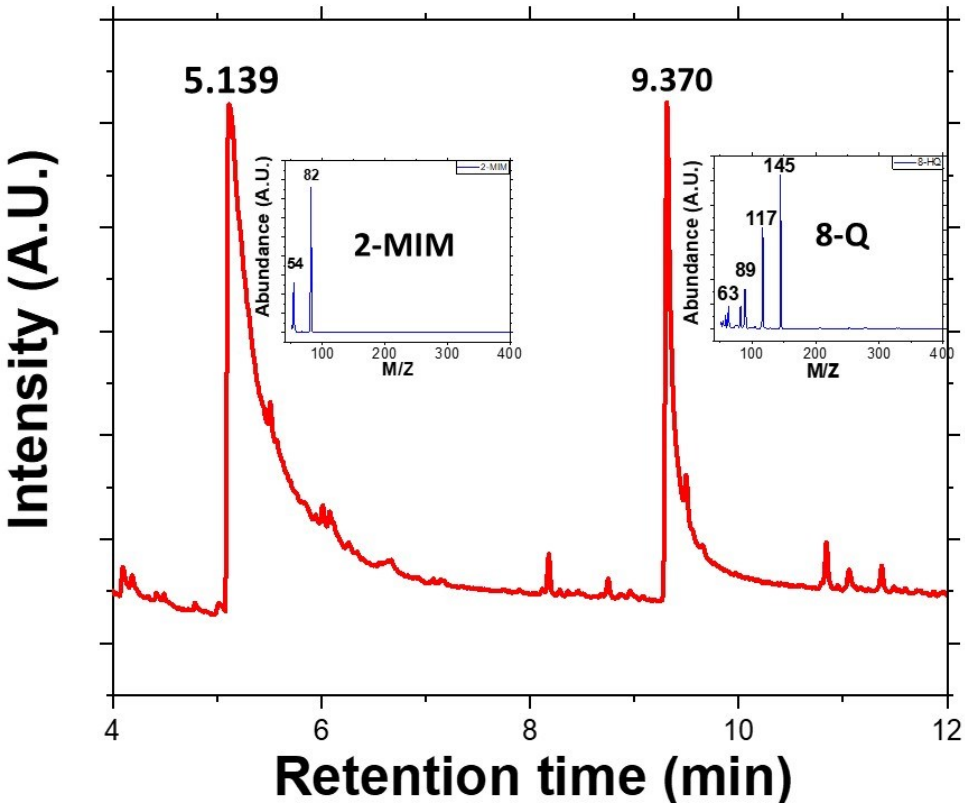

Figure S2: Chromatogram of the extracted from acid dissolved ZnQ@ZIF-8. The inset figures are the mass spectra of 2-MIM and 8-Q, respectively.

Section S3. Fluorescence optical images for ZnQ@ZIF-8 coated filter papers

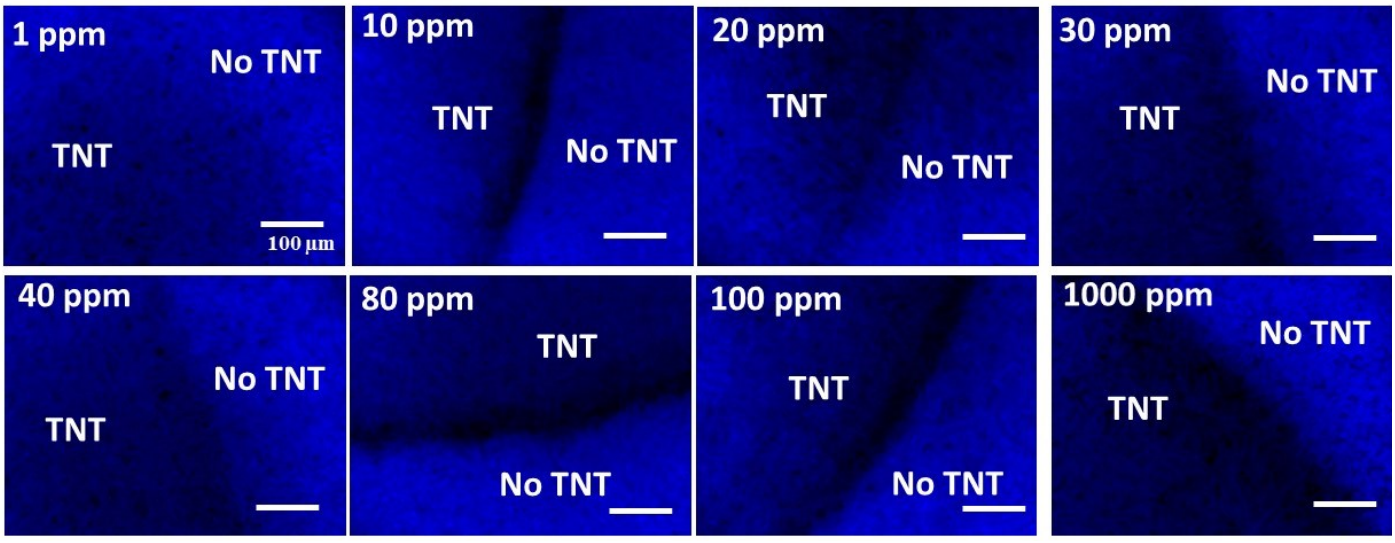

Figure S3. Flouresence optical images of ZnQ@ZIF-8 coated filter papers at different TNT concentations, images are collected at emission wavelenght of 455 nm.

Section S4. Fluorescence optical images for ZnQ@ZIF-8 coated filter papers upon addition of 99% ACN, 1000 ppm 3NT, 1000 ppm RDX, 1000 ppm 2,4-DNT and 1000 ppm 2,6-DNT

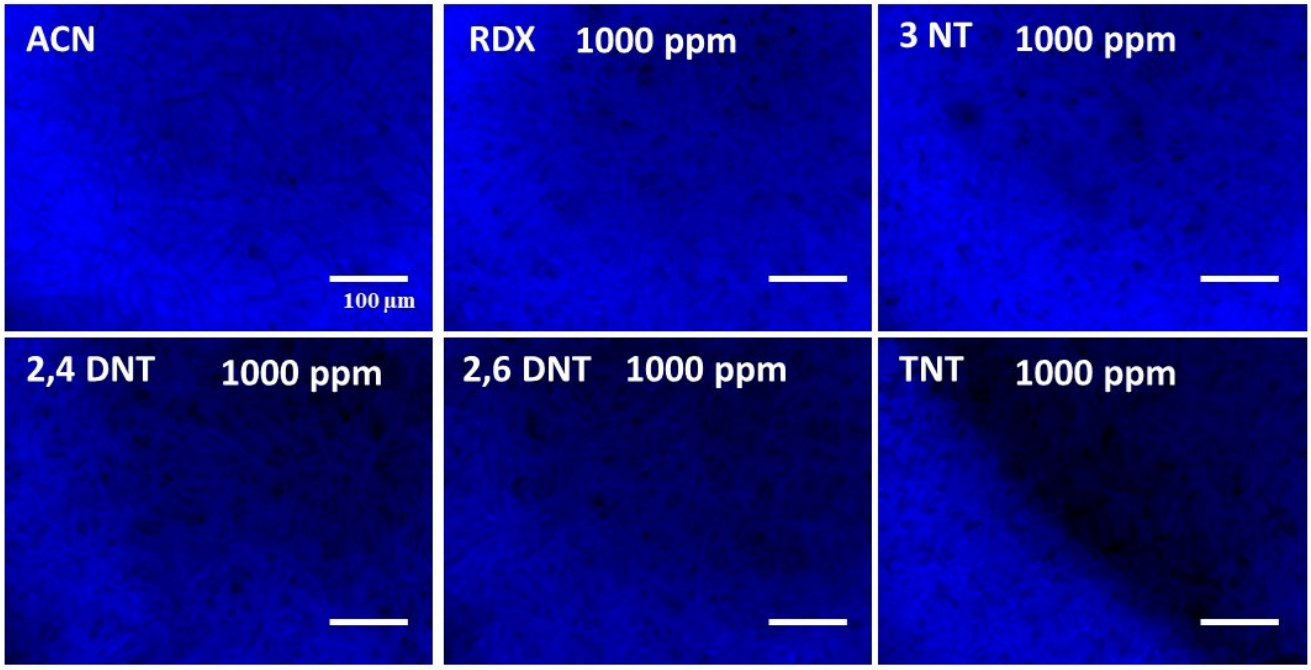

Figure S4. Flouresence optical images of ZnQ@ZIF-8 coated filter papers with different nitroaromatic compounds (99% ACN, 1000 ppm 3NT, 1000 ppm RDX , 1000 ppm 2,4-DNT and 1000 ppm 2,6-DNT), images are collected at emission wavelenght of 455 nm.