Supporting Information

**Figure S1.** A) The Adsorption spectra of film with different layers of chitosan / CB[8]–naphthalene; (B) The relationship between the absorbance intensity (225 nm) with the number of layers.

**Figure S2.** XPS spectra of chitosan film (black line) and chitosan-CB[8]-naphthalene film (red line).
**Figure S3.** Fluorescence emissions of naphthalene in bulk solution (A) and in CB[8] cavity attached on substrate.

**Figure S4.** Time-dependent fluorescence quenching of chitosan-CB[8]-naphthalene based film upon exposure to TNT vapor (10ppb) (A) and DNT (180 ppb) (B).
**Figure S5.** Comparison of fluorescence response of the fabricated sensors to TNT and DNT at different concentration for 2 min.

**Figure S6.** UV-Vis spectra of (A) the formed CB[8]• NA• TNT complex and (B) CB[8]• NA
Figure S7. Time-dependent fluorescence intensity of the naphthalene-CB[8] film on solid substrate upon exposure to the vapor of toluene, acetone, CH₂Cl₂, ethanol and methanol at 0 min (black line), and 3 min (red line).