Electronic Supplementary Material (ESI) for Analyst.

Supplementary Information

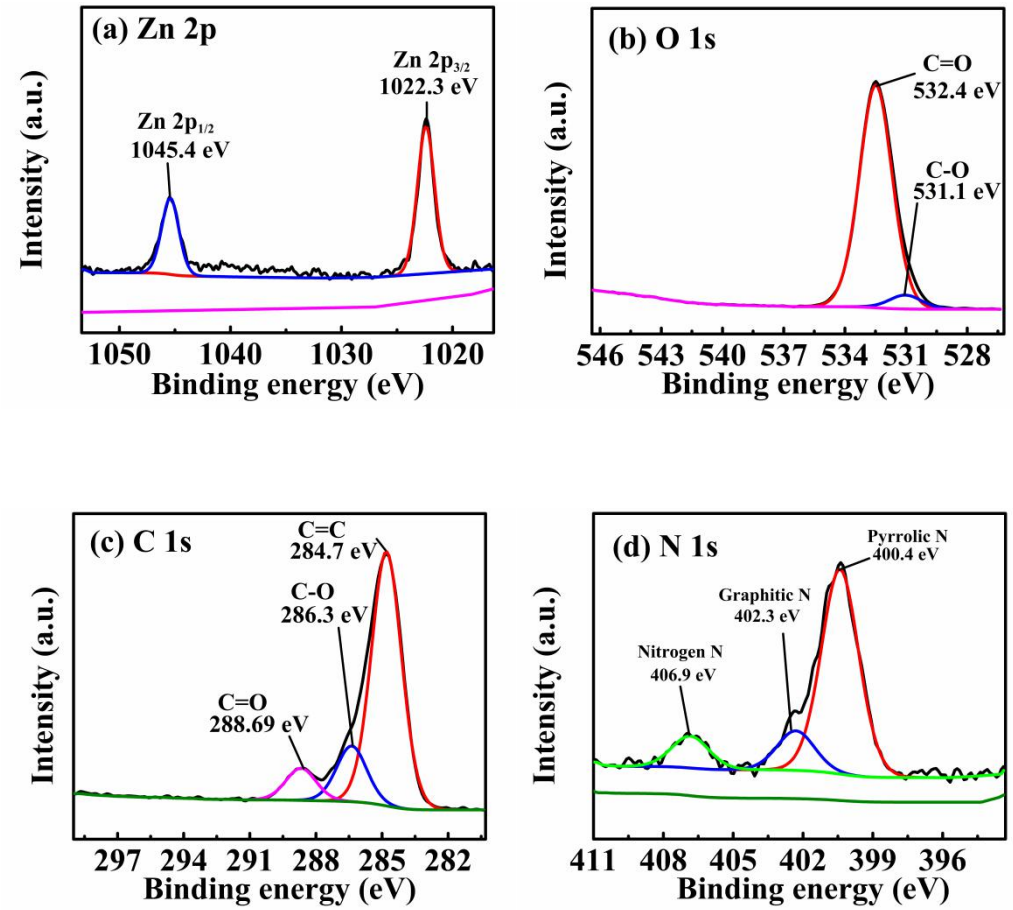

Fig. S1 Gas adsorption mechanism of $[Zn_2(bdc)_2(dpNDI)]_n$ thin film. (a) Zn 2p spectra; (b) O 1s spectra; (c) C 1s spectra; (d) N 1s spectra of $[Zn_2(bdc)_2(dpNDI)]_n$ thin film.

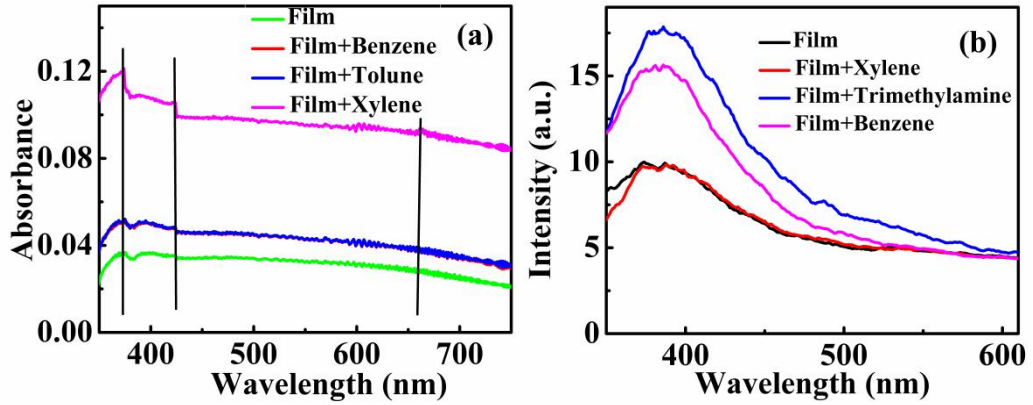

Figure S2. Optical properties of $[Zn_2(bdc)_2(dpNDI)]_n$ thin film after exposure to 10000 ppm of several VOCs. (a) UV-vis absorption spectra; (b) Fluorescence emission spectra under 316 nm of excitation.

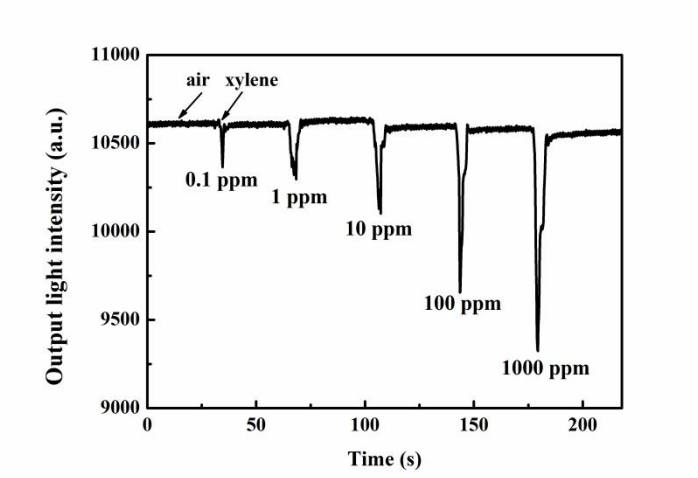

Fig. S3 The Dynamic adsorption curve of $[Zn_2(bdc)_2(dpNDI)]_n$ thin film POWG to different concentration of xylene.

Table S1 Absorbance change of sensitive film after exposure to 10000 ppm of VOCs.

Abs.	Abs. (650 nm)	ΔAbs. = Abs. (exposure) - Abs (film)
Film	0.03	0.00
Film +Benzene	0.04	0.01
Film+ Toluene	0.04	0.01
Film+ Xylene	0.03	0.06