

Supplementary information of the manuscript entitled “*MWCNT/Perylene bisimide Water Dispersions for Miniaturized Temperature Sensors*” by Tarita Biver,^{a,b} Francesco Criscitiello,^a Fabio Di Francesco,^a Matteo Minichino,^a Timothy Swager,^c Andrea Pucci,^{a,b}

^a Dipartimento di Chimica e Chimica Industriale, Università di Pisa, Via Moruzzi 13, 56124 Pisa, Italy

^b INSTM, Unità di Ricerca di Pisa, Via Moruzzi 13, 56126 Pisa, Italy

^c Department of Chemistry and Institute for Soldier Nanotechnologies, Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, MA 02139, USA

Corresponding author: Dr. Andrea Pucci, Dipartimento di Chimica e Chimica Industriale, Università di Pisa, Via Moruzzi 13, 56124 Pisa, Italy. Tel.: +39 050 2219 270. E-mail address: andrea.pucci@unipi.it

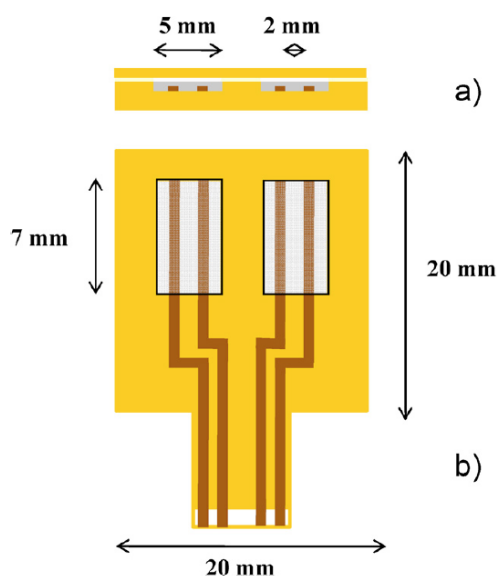


Figure S1. Schematic diagram of the sensor: (a) section and (b) top view

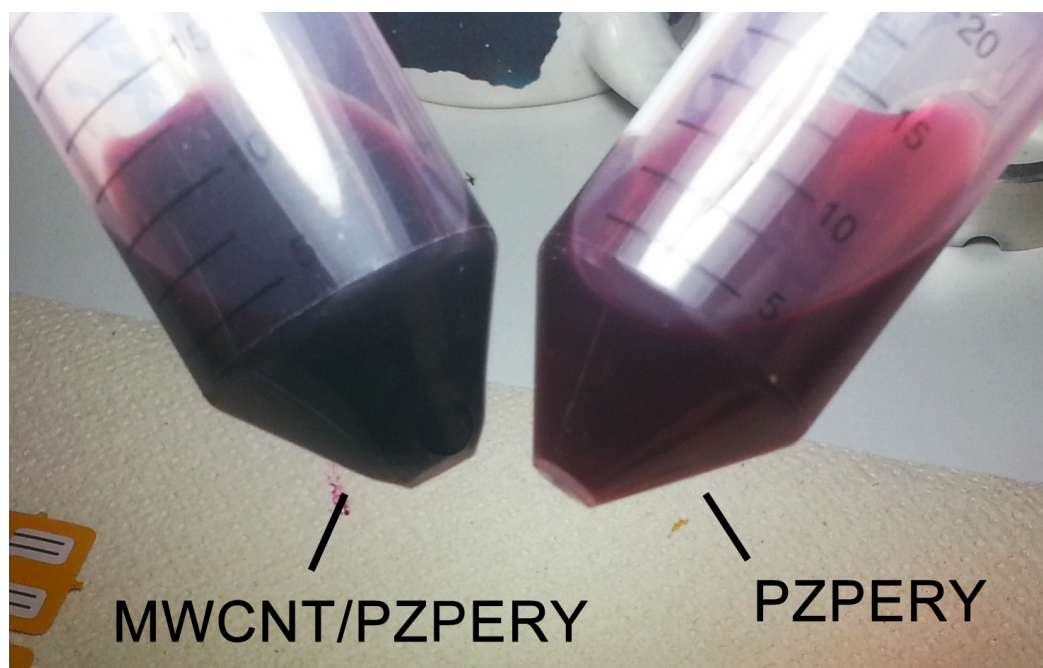


Figure S2. Picture of and MWCNT/PZPERY water dispersion (left, PZPERY concentration = 1 mg/mL; MWCNT concentration = 0.0165 mg/mL) and PZPERY water solution (right, PZPERY concentration = 1 mg/mL)

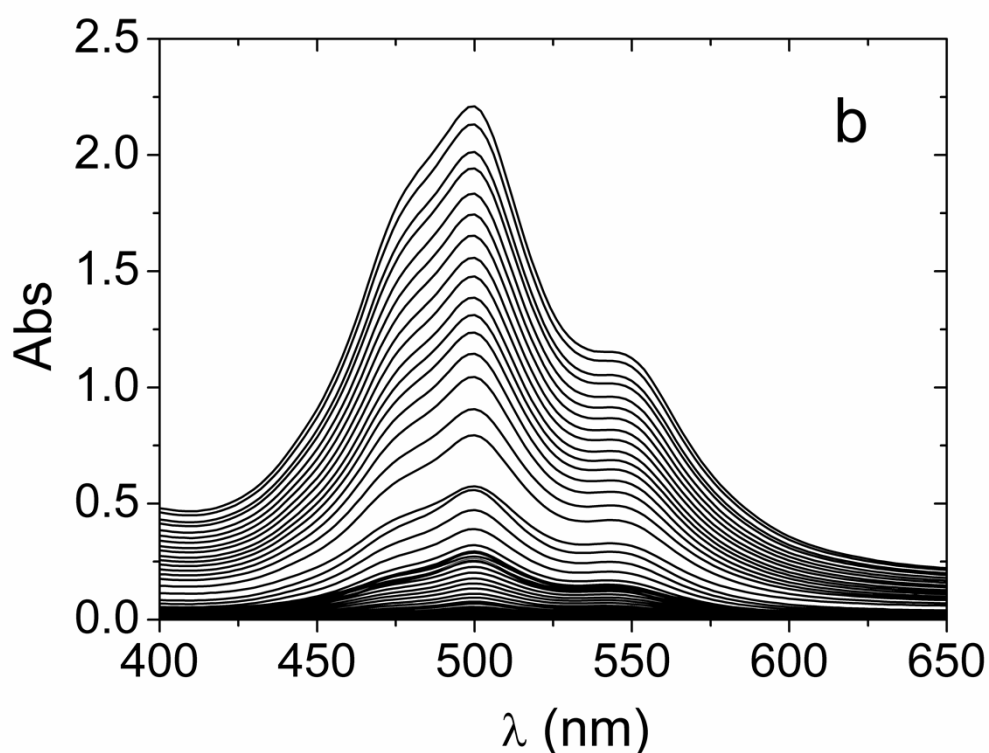
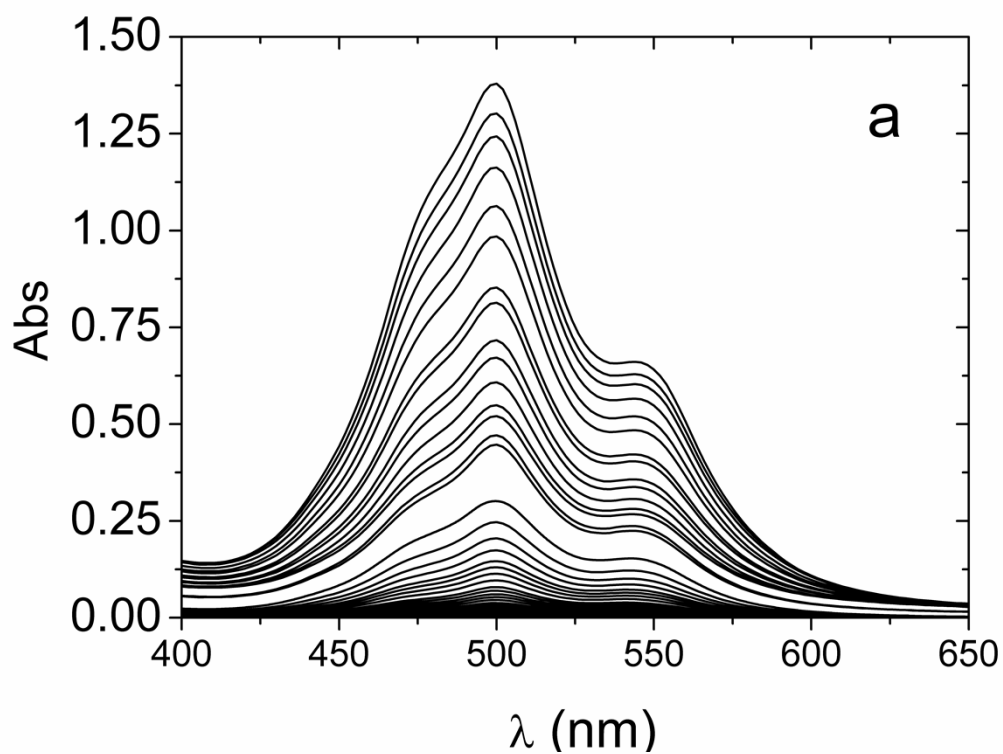


Figure S3. (a) UV-vis spectra in water of increasing concentrations of PZPERY (C_{pery} from 0 to 0.6 mg/mL) and (b) of increasing concentrations of the PZPERY/MWCNT dispersion (C_{pery} from 0 to 0.6 mg/mL, $C_{\text{MWCNT}} \approx C_{\text{pery}}/61$).

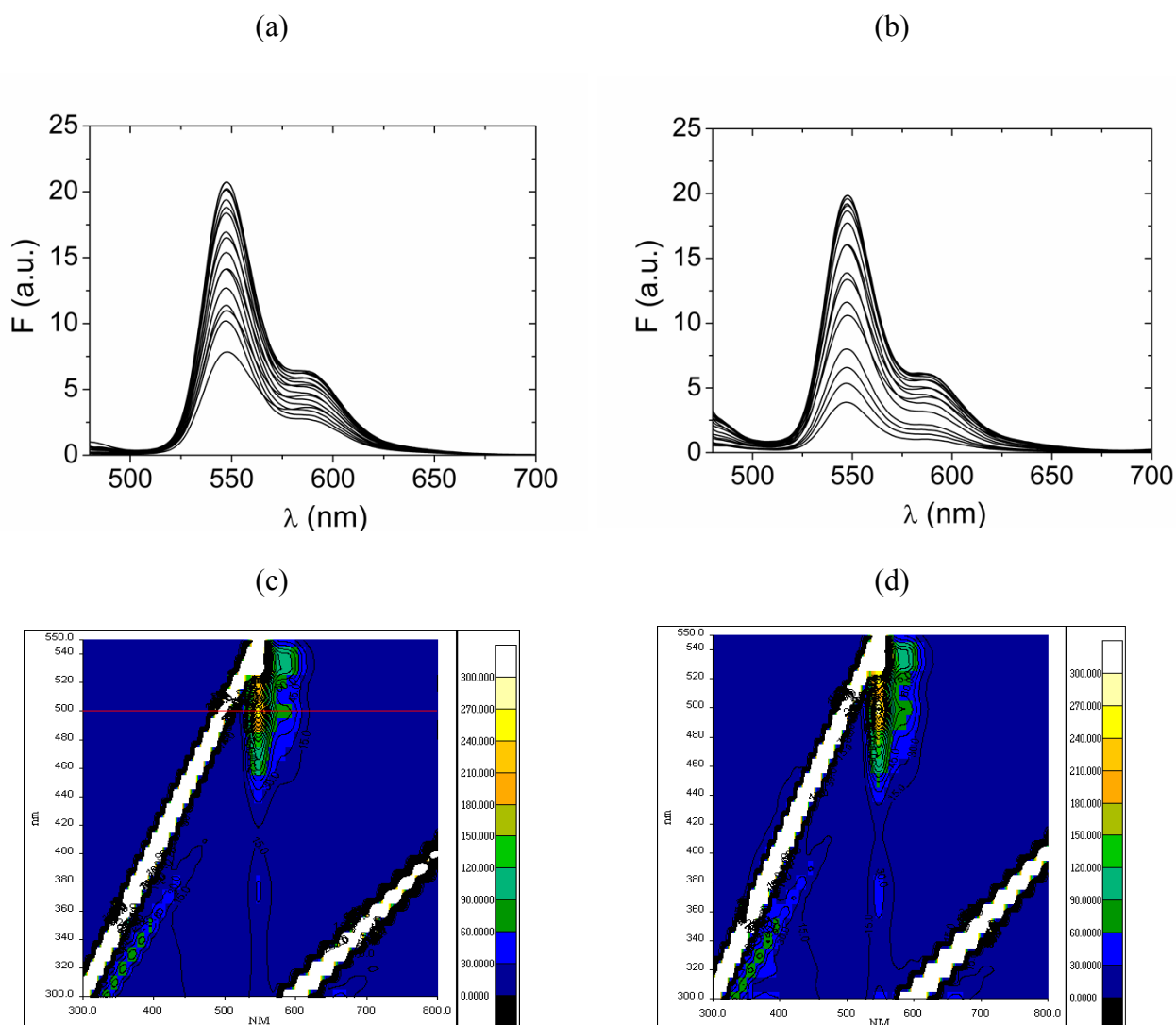


Figure S4. (a) Fluorescence spectra in water of increasing concentrations of PZPERY alone (C_{perY} from 1.6×10^{-4} to 0.09 mg/mL, $\lambda_{\text{ex}} = 460$ nm) and (b) of increasing concentrations of the PZPERY/MWCNT dispersion (C_{perY} from 1.6×10^{-4} to 0.09 mg/mL, $C_{\text{MWCNT}} \approx C_{\text{perY}}/61$, $\lambda_{\text{ex}} = 460$ nm). (c) 3D spectra of the fluorescent features of perylene dye alone ($C_{\text{perY}} = 1.0$ mg/mL) and (d) of increasing concentrations of the PZPERY/MWCNT dispersion ($C_{\text{perY}} = 1.0$ mg/mL); x-axis is the emission wavelength, y-axis is the excitation wavelength, intense diagonal signal are due to non-chemical scattering effects.