Supporting Information to

Modular Design of Profluorescent Polymer Sensors

Emily Simpson, Zoran Ristovski, Steven E. Bottle, Kathryn E. Fairfull-Smith and James P. Blinco*

School of Chemistry, Physics and Mechanical Engineering
Queensland University of Technology (QUT)
2 George St, Brisbane, Queensland 4001 (Australia).

j.blinco@qut.edu.au
ESI Figure S1. $^1$H NMR Spectrum of Polymer 1

ESI Figure S2. FTIR Spectrum of Polymer 1
ESI Figure S3. $^1$H NMR Spectrum of Polymer 2

ESI Figure S4. IR Spectrum of Polymer 2
**ESI Figure S5.** $^1$H NMR Spectrum of Polymer 3a

**ESI Figure S5.** UV-Vis Absorbance Spectrum of Polymer 3a
**ESI Figure S6.** Fluorescence Emission Spectrum of Polymer 3a (excitation 294 nm, Detector Voltage 500V)

**ESI Figure S7.** Absorbance vs Total Fluorescence Emission (Excitation 294 nm) for Polymer 3a

\[ y = 400613x \]
\[ R^2 = 0.9936 \]
**ESI Figure S8.** $^1$H NMR Spectrum of Polymer 3b

**ESI Figure S9.** UV-Vis Absorbance Spectrum of Polymer 3b
**ESI Figure S10.** Fluorescence Emission Spectrum of Polymer 3b (Excitation 365nm, Detector Voltage 500V)

**ESI Figure S11.** Absorbance vs Total Fluorescence Emission (Excitation 365 nm) for Polymer 3b

- **Equation:** \( y = 386721x \)
- **Correlation Coefficient:** \( R^2 = 0.9936 \)
**ESI Figure S12.** $^1$H NMR Spectrum of Polymer 3c

**ESI Figure S13.** FTIR Spectrum of Polymer 3c
**ESI Figure S14.** EPR Spectrum of Polymer 3c

**ESI Figure S15.** UV-Vis Absorbance Spectrum of Polymer 3C
**ESI Figure S16.** $^1$H NMR Spectrum of Polymer 4a

**ESI Figure S17.** EPR Spectrum of Polymer 4a
ESI Figure S18. UV-Vis Absorbance Spectrum of Polymer 4a

ESI Figure S19. Fluorescence Emission Spectrum of Polymer 4a (excitation 294nm, Detector Voltage 500V)
**ESI Figure S20.** Absorbance vs Total Fluorescence Emission (Excitation 294 nm) for Polymer 4a
**ESI Figure S21.** $^1$H NMR Spectrum of Polymer 4b

**ESI Figure S22.** EPR Spectrum of polymer 4b
ESI Figure S23. UV-Vis Absorbance Spectrum of Polymer 4b

ESI Figure S24. Fluorescence of Polymer 4b (Excitation 365nm, Detector Voltage 500V)
**ESI Figure S25.** Absorbance vs Total Fluorescence Emission (Excitation 365 nm) for Polymer 4b

**ESI Figure S26.** $^1$H NMR Spectrum of Polymer 4c
ESI Figure S27. FTIR Spectrum of Polymer 4c

ESI Figure S28. UV-Vis Absorbance Spectrum of Polymer 4c
**ESI Figure S29.** Fluorescence of Polymer 4c (Excitation 365nm, Detector Voltage 500V)

**ESI Figure S30.** Absorbance vs Total Fluorescence Emission (Excitation 365 nm) for Polymer 4c

\[
y = 101568x \\
R^2 = 0.9783
\]
**ESI Figure S31** Evolution of total fluorescence over time when polymer 4b is heated at 100 °C in a degassed solution of toluene containing 2.5 equivalents of AIBN.