

# Polymers Recognizing Biomolecules Based on A Combination of Molecular Imprinting and Proximity Scintillation - A New Sensor Concept

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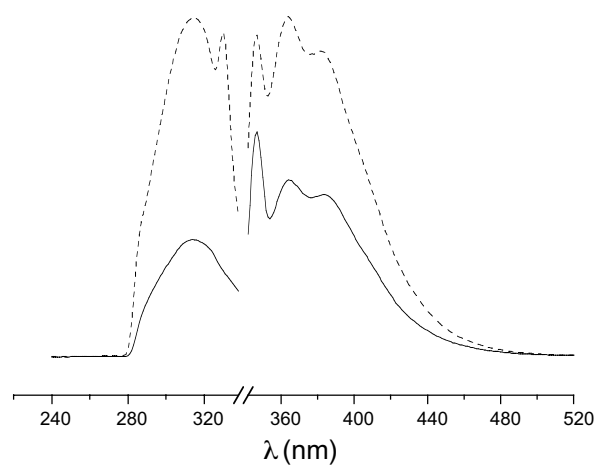
## Supporting Information

### Synthesis of 4-Hydroxymethyl-2,5-diphenyloxazole acrylate (1b)

4-Hydroxymethyl-2,5-diphenyloxazole (**1a**) (1.9 g, 7.57 mmol) and triethylamine (0.917 g, 9.084 mmol) are dissolved in dichloromethane (30 mL). The solution is cooled on ice water while acryloyl chloride (0.821 g, 9.084 mmol) is slowly added under stirring. The solution is stirred at 0°C for 2 h, after which it is washed with 1 M HCl (30 mL). The organic layer is separated, dried over anhydrous Na<sub>2</sub>SO<sub>4</sub> and evaporated to dryness. The crude product is purified on a silica column using ethyl acetate to yield colorless crystals (0.784 g, 34%). <sup>1</sup>H NMR (CDCl<sub>3</sub>): δ (ppm) 8.10-8.20 (m, 2H, aromatic), 7.70-7.77 (m, 2H, aromatic), 7.36-7.56 (m, 6H, aromatic), 6.50 (dd, 1H, *J*<sub>trans</sub> = 17.3 Hz, *J*<sub>gem</sub> = 1.4 Hz, *trans*-CH=CH<sub>2</sub>), 6.21 (dd, 1H, *J*<sub>trans</sub> = 17.3 Hz, *J*<sub>cis</sub> = 10.4 Hz, -CH=CH<sub>2</sub>), 5.88 (dd, 1H, *J*<sub>cis</sub> = 10.4 Hz, *J*<sub>gem</sub> = 1.4 Hz, *cis*-CH=CH<sub>2</sub>), 5.39 (s, 2H, -CH<sub>2</sub>O-).

### Fluorescent spectra for 1b and polymer IP 1

4-Hydroxymethyl-2,5-diphenyloxazole acrylate (21 ng mL<sup>-1</sup>) is dissolved in toluene; polymer microparticles (IP 1) (87 ng mL<sup>-1</sup>) is suspended in toluene. Samples are transferred to a 4 mL quartz cuvette, stirred, and scanned immediately with a QuantaMaster C-60/2000 spectrofluorometer and a software Felix from Photon Technology International, Inc. (Lawrenceville, NJ, USA). For excitation spectra an emission wavelength at 365 nm, and emission spectra an excitation wavelength at 315 nm, are used.



**Figure 1.** Fluorescent excitation (240-340 nm) and emission (340-520 nm) spectra of scintillation monomer **1b** (21 ng mL<sup>-1</sup>, dash line) and of polymer IP 1 (87 ng mL<sup>-1</sup>, solid line).