Supplementary Materials

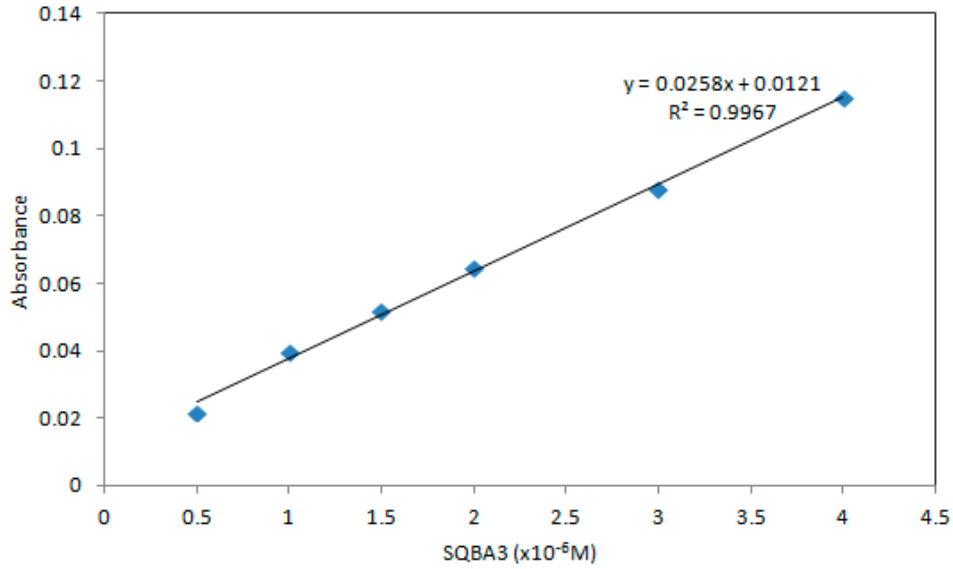

Figure S1. Calibration curve showing the effect of the SQ-BA3 dye concentration on absorbance in aqueous ammonium phosphate buffer (25 mM, pH 7.50). λ_{ex} = 619 nm. [SQ-BA3] = $5.00 \times 10^{-7} - 4.00 \times 10^{-6}$ M.

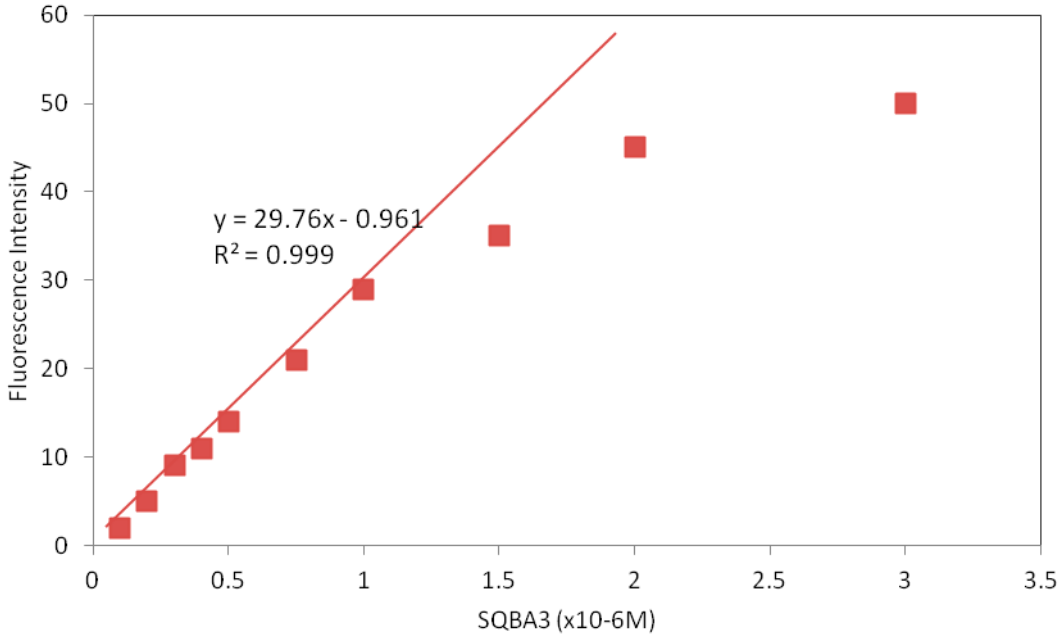

Figure S2. Calibration curve showing the effect of the SQ-BA3 dye concentration on fluorescence emission intensity (RFU) in aqueous ammonium phosphate buffer (25 mM, pH 7.50). λ_{ex} = 619 nm, λ_{em} = 660 nm. [SQ-BA3] = $1.00 \times 10^{-7} - 3.00 \times 10^{-6}$ M (with linear region up to 1.00×10^{-6} M).

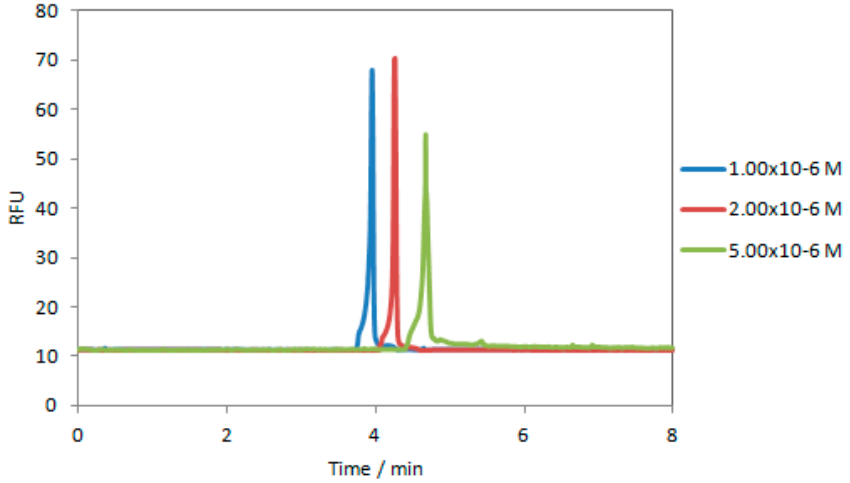

Figure S3. Electropherograms of 5.00 × 10^{-4} M morphine labeled on-column with different concentrations of SQ-BA3 in 25 mM ammonium phosphate buffer with 10 mM phytic acid (pH 10.50). Dye concentrations as follow: 1.00 × 10^{-6} M (blue line), 2.00 × 10^{-6} M (red line) and 5.00 × 10^{-6} M (green line). Electropherograms are offset vertically for clarity. Capillary: 50 µm ID, 70 cm total length and 60 cm effective length; a separation voltage of 30 kV; capillary and sample temperatures were held at 25 °C and injection was by pressure (5 psi for 10 s).

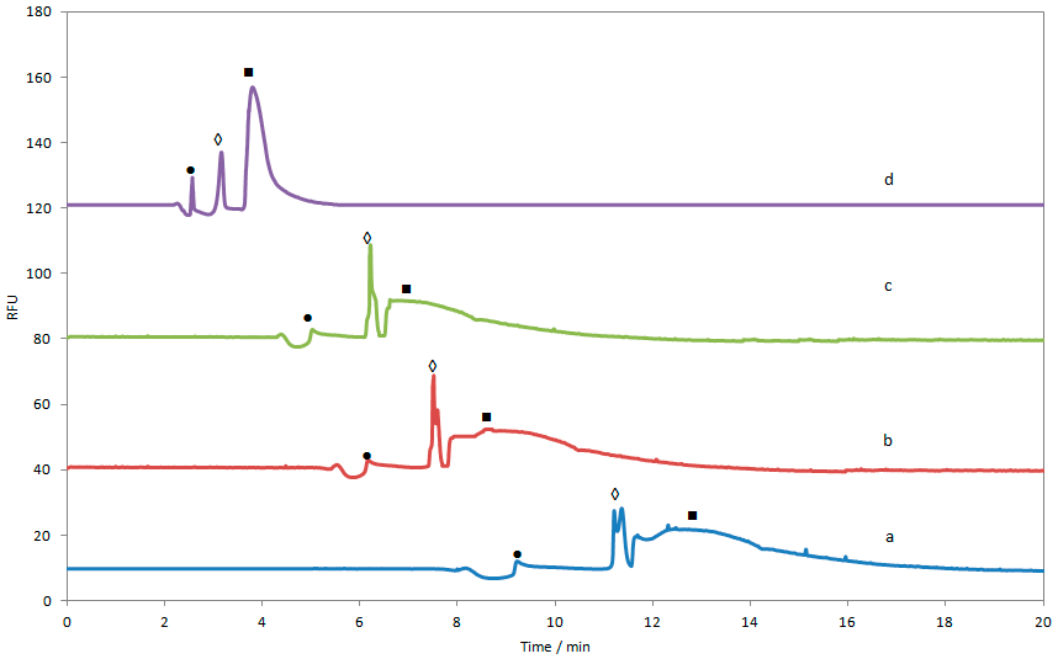

Figure S4. Electropherograms resulting from on-column labeling of an aqueous morphine mixture (morphine ◊, M3G ■ and M6G ● each of 5.00 × 10^{-4} M) with 1.00 × 10^{-6} M SQ-BA3 in 25 mM ammonium phosphate buffer with 10 mM phytic acid (pH 10.50) for different applied voltages: (**a**) 10 kV, (**b**) 15 kV, (**c**) 20 kV, (**d**) 30 kV. Electropherograms offset for clarity. Capillary: 50 µm ID, 70 cm total length and 60 cm effective length; capillary and sample temperatures were held at 25°C and injection was by pressure (5 psi for 10 s).

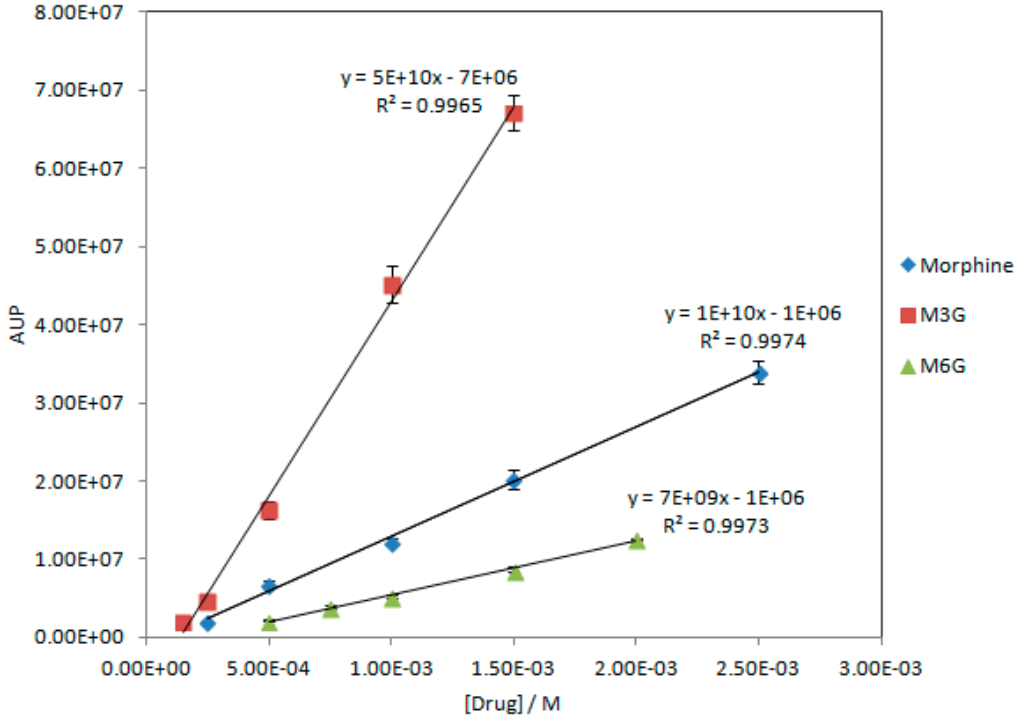

Figure S5. CE-LIF calibration curves for sample mixtures of morphine, M3G and M6G prepared in water. Experimental conditions are listed in Figure 4a.

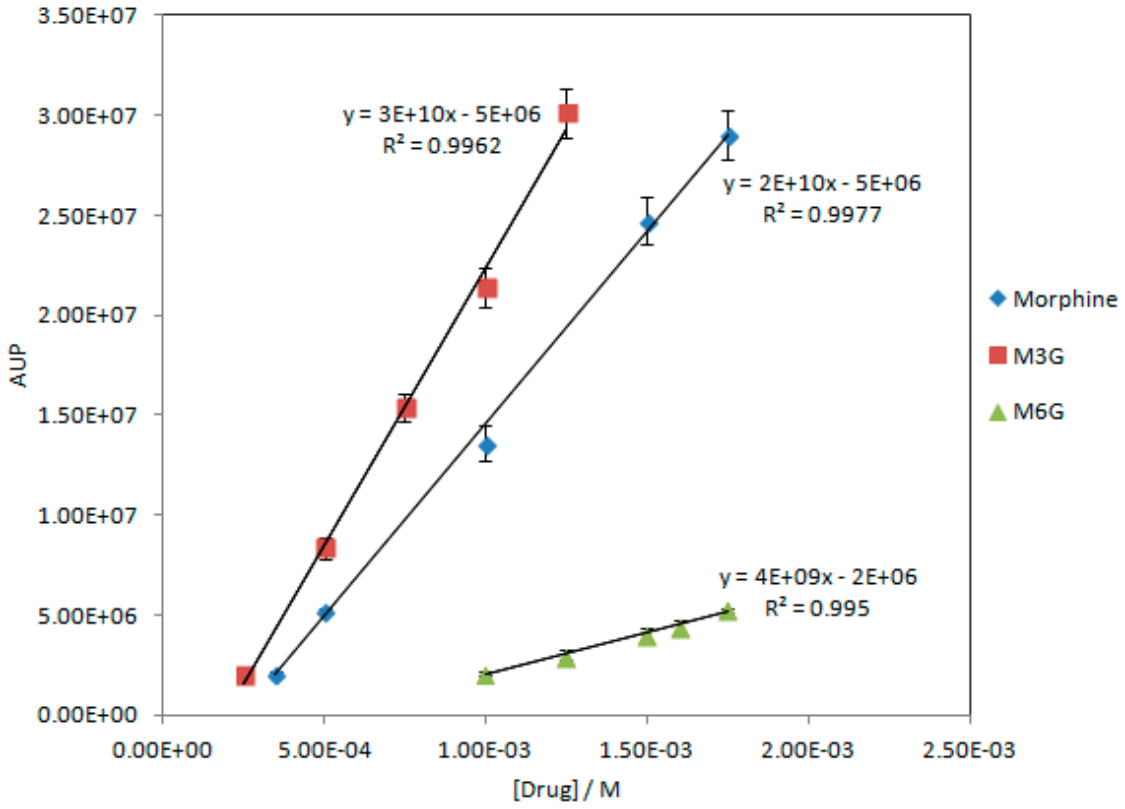

Figure S6. CE-LIF calibration curves for morphine, M3G and M6G mixtures prepared in normal human urine (diluted 1:10 in water). Experimental conditions are listed in Figure 4c.