Supporting Information

Generation of Fluorescent and Stable Conjugated Polymer Nanoparticles with Hydrophobically Modified Poly(acrylate)s

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**Figure S1.** Chemical structures of PAAC\(n\).

**Figure S2.** \(^1\)H NMR spectra of PAAC18 and PAAC12 at 1\% substitution.
Figure S3. $^1$H NMR spectra of PAAC18, PAAC16, PAAC14, PAAC12, PAAC10 and PAAC6 at 1% substitution.
Figure S4. $^1$H NMR spectra of PAAC12, PAAC10 and PAAC6 at 10% substitution.
Figure S5. TEM images of (a) bare F8BT nanoparticles, and F8BT nanoparticles stabilized with (b) PAAC16 at 3% substitution and (c) PAAC18 at 1% substitution.
Figure S6. The size variation of bare F8BT nanoparticles in deionized water and F8BT nanoparticles stabilized with PAAC10 at 10% substitution, PAAC16 at 3% substitution, and PAAC18 at 1% substitution in PBS over a period of 4 weeks.

Figure S7. A photograph of F8BT nanoparticle (~1000 ppm) solutions stabilized with the surfactant CO-520 in deionized water with a F8BT:CO-520 mass ratio of 1:5. The nanoparticles in this highly concentrated solutions exhibit excellent colloidal stability as indicated by their optical clarity. The F8BT-PAAC18 nanoparticles (at 1% C18 substitution) with a concentration of ~1000 ppm exhibit very similar behavior.
**Figure S8.** Normalized absorption and fluorescence spectra of bare F8BT nanoparticles in deionized water (solid) and F8BT nanoparticles stabilized with PAAC18 at 1% substitution in PBS (dashed).

**Figure S9.** Normalized absorption and fluorescence spectra of bare F8BT nanoparticles in deionized water (solid) and F8BT nanoparticles stabilized with PAAC10 at 10% substitution in PBS (dashed).
Figure S10. Bright-field images and confocal fluorescence images of HEK 293 cells treated with F8BT nanoparticles stabilized with PAAC18 at 1% substitution, PAAC16 at 3% substitution, PAAC10 at 10% substitution, respectively. In the merged bright field and fluorescence images, the red emission is derived from the membrane stain, Alexa Fluor 594, and the green emission is derived from F8BT-PAACn nanoparticles. Scale bar: 7.5 µm.
Calculation of Concentration of Na$^+$ or the Acrylate ion in the F8BT-PAAC$n$ Nanoparticle

**Solution**

Using the chemical structures and levels of substitution shown in Figure 1a of the main text (by taking into account the counter ion Na$^+$), one can obtain the following molecular weights for PAAC18, PAAC16 and PAAC10.

- PAAC18 – 96.35 g mol$^{-1}$ (93.11 g mol$^{-1}$ unsubstituted and 3.24 g mol$^{-1}$ substituted)
- PAAC16 – 100.09 g mol$^{-1}$ (91.22 g mol$^{-1}$ unsubstituted and 8.87 g mol$^{-1}$ substituted)
- PAAC10 – 105.77 g mol$^{-1}$ (84.64 g mol$^{-1}$ unsubstituted and 21.13 g mol$^{-1}$ substituted)

Using the concentration of 50 ppm of PAAC$n$, which is equivalent to 0.05 g L$^{-1}$ in water, used in the study and taking into account that only the unsubstituted portion contributes to the concentration of Na$^+$ or the acrylate ion, one can calculate and obtain the following concentrations of Na$^+$ or the acrylate ion.

- PAAC18 – 5.31 × 10$^{-4}$ mol L$^{-1}$
- PAAC16 – 4.55 × 10$^{-4}$ mol L$^{-1}$
- PAAC10 – 3.78 × 10$^{-4}$ mol L$^{-1}$