Electronic Supplementary Material (ESI) for New Journal of Chemistry.

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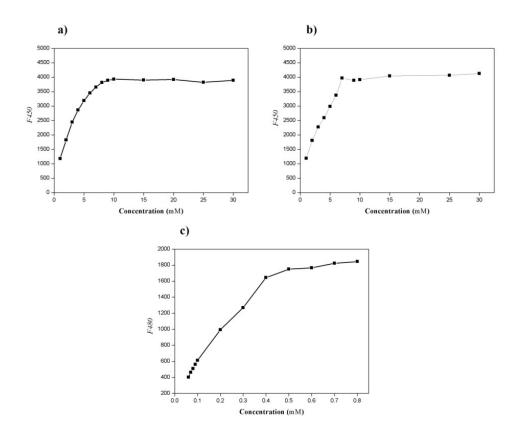
## Supporting Information

## Cation—anion interaction directed formation of functional vesicles and their biological application for nucleus-specific imaging

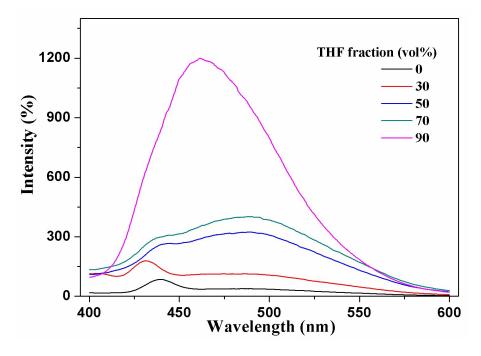
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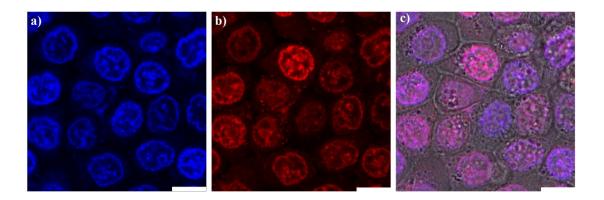
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**Fig. S1** Critical vesicle concentrations (CVC) of functional imidazolium salts: a) **TPAI-C6**; b) **TPAI-C8**; and c) **TPEI-C8**.



**Fig. S2** PL spectra of **TPEI-C8** (50  $\mu$ M) in MeOH and MeOH/THF mixtures. Excitation wavelength: 330 nm.



**Fig. S3** Co-staining of Hela cells with **TPEI-C8** and Reddot1: (a) **TPEI-C8** (50  $\mu$ M) for 4 h ( $\lambda_{ex}$  = 405 nm,  $\lambda_{em}$  = 420–470 nm); (b) **Reddot1** for 5 min ( $\lambda_{ex}$  = 633 nm,  $\lambda_{em}$  = 650–670 nm); (c) panels (a) and (b) merged; and (d) bright-field image. Scale bar: 25  $\mu$ m.

<sup>1</sup>H and <sup>13</sup>C NMR spectra of **TPAI-C6**, **TPAI-C8** and **TPEI-C8**.

