Polymerization-induced self-assembly of liquid crystalline ABC triblock copolymers with long solvophilic chain

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**Fig. S1.** a) Ultraviolet–visible spectrum of PDMA$_{72}$ solution (solvent: THF; concentration: 1.0 mg mL$^{-1}$). b) Absorbance of gradient solutions of CPADB in THF at 301 nm.

**Fig. S2.** SEC trace of PDMA$_{72}$ and D$_{72}$-B$_x$ ($x = 42, 80, 241$) copolymers.

**Table S1.** Molecular and size characteristics of diblock copolymers D$_{72}$-B$_x$.

<table>
<thead>
<tr>
<th>Entry</th>
<th>Molar feed ratio (BzMA/PDMA)</th>
<th>DP$_{BzMA}$</th>
<th>Monomer conversion$^b$</th>
<th>$M_n$SEC/kDa$^c$</th>
<th>$D$$^d$</th>
<th>Diameter/nm$^e$</th>
<th>PDF$^f$</th>
</tr>
</thead>
<tbody>
<tr>
<td>D$<em>{72}$-B$</em>{42}$</td>
<td>50</td>
<td>42</td>
<td>83%</td>
<td>10.8</td>
<td>1.22</td>
<td>23.35</td>
<td>0.130</td>
</tr>
<tr>
<td>D$<em>{72}$-B$</em>{80}$</td>
<td>100</td>
<td>80</td>
<td>83%</td>
<td>16.2</td>
<td>1.19</td>
<td>29.94</td>
<td>0.037</td>
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<tr>
<td>D$<em>{72}$-B$</em>{241}$</td>
<td>250</td>
<td>241</td>
<td>96%</td>
<td>33.6</td>
<td>1.23</td>
<td>56.98</td>
<td>0.056</td>
</tr>
</tbody>
</table>

$^a$ Determined by $^1$H NMR spectra;

$^b$ Calculated by $^1$H NMR spectra;

$^c$ Characterized by SEC;

$^d$ $D = M_n/M_\Theta$;

$^e$ Hydrodynamic diameter measured by DLS.
Fig. S3. TEM images of a) $D_{72}$-$B_{80}$-$F_{21}$, b) $D_{72}$-$B_{80}$-$F_{40}$, c) $D_{72}$-$B_{80}$-$F_{61}$, and d) $D_{72}$-$B_{80}$-$F_{92}$ assemblies unstained.

Fig. S4. DLS characterization of $D_{72}$-$B_{42}$ and $D_{72}$-$B_{42}$-$F_{y}$ ($y = 11, 20, 39, 71, 118$) assemblies in ethanol.
Fig. S5. TEM images of a) $D_{72}$-$B_{241}$-$F_{23}$, b) $D_{72}$-$B_{241}$-$F_{57}$ and c) $D_{72}$-$B_{241}$-$F_{78}$ assemblies unstained.