New Biomaterials from Renewable Resources - Amphiphilic Block Copolymers from \( \delta \)-Decalactone

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Table S1. Data obtained from the kinetics analysis of mPEG-b-PDL synthesis. As shown in figure S8, peaks 1 and 2 correspond to copolymer and homopolymer respectively. (PD-Polydispersity Index)

<table>
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<tr>
<th>Time</th>
<th>Conversion by NMR (%)</th>
<th>$M_n$,SEC Peak 1 (kDa)</th>
<th>PD Peak 1</th>
<th>$M_n$,SEC Peak 2 (kDa)</th>
<th>PD Peak 2</th>
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<td>15 min</td>
<td>15</td>
<td>12.6</td>
<td>1.02</td>
<td>1.2</td>
<td>1.36</td>
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<tr>
<td>1 h</td>
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<td>1.5 h</td>
<td>45</td>
<td>15.8</td>
<td>1.02</td>
<td>3.3</td>
<td>1.21</td>
</tr>
<tr>
<td>2 h</td>
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<td>16.4</td>
<td>1.02</td>
<td>3.9</td>
<td>1.16</td>
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<tr>
<td>3 h</td>
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<tr>
<td>4 h</td>
<td>69</td>
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<td>70</td>
<td>17.6</td>
<td>1.02</td>
<td>4.7</td>
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</tbody>
</table>

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Figure S19. Size and Zeta potentials of propargyl-PDL nano emulsion. Size was determined in HPLC grade water whereas zeta potential was measured in 10 mM HEPES buffer.

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Figure S22. Size distribution curve by intensity of (A) mPEG-b-PDL, (B) PDL-b-PEG-b-PDL and (C) mPEG-b-PDL-b-PPDL acquired by DLS in water. (D) Appearance of micellar solutions and control (formulation without polymer) after Nile red loading.
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Figure S24. Size distribution curves by intensity of (A) Blank mPEG-b-PCL, (B) AmpB loaded mPEG-b-PCL, and TEM image of (C) Blank mPEG-b-PCL and (D) AmpB loaded mPEG-b-PCL micelles. The images were recorded without staining. Scale bar – 500 nm.
Figure S25. SEC trace of mPEG-b-PDL after 120 days of storage at pH 7.4 (temperature – 37°C). The SEC instrument was calibrated using polystyrene standards and chloroform was used as the mobile phase.