Supporting Information for Manuscript Entitled

Phosphazene Superbase Catalyzed Ring-Opening Polymerization of Cyclotetrasiloxane toward Copolysiloxanes with High Diphenyl Siloxane Content

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Table S1. ROP of D₄ catalyzed by t-BuP₂ and BnOH.ᵃ

<table>
<thead>
<tr>
<th>run</th>
<th>initiator</th>
<th>M/B/I</th>
<th>T (°C)</th>
<th>time (min)</th>
<th>con %ᵇ</th>
<th>( M_{n,\text{GPC}} ) (kg mol⁻¹)</th>
<th>Dᶜ</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BnOH</td>
<td>100/1/1</td>
<td>30</td>
<td>1</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>BnOH</td>
<td>100/1/1</td>
<td>30</td>
<td>60</td>
<td>37</td>
<td>26.9</td>
<td>2.02</td>
</tr>
</tbody>
</table>

ᵃ Conditions: t-BuP₂ 0.05 mmol; M/B/I = D₄/t-BuP₂/initiator; the base and initiator were mixed firstly in 1 mL toluene, followed by addition of D₄.ᵇ Determined by \(^1\)H NMR.ᶜ Determined by GPC at 40 °C in THF relative to polystyrene standards.
Figure S1. $^{29}$Si NMR spectra of the $D_4$ monomer (a), $P_4$ monomer (b) and PDMS homopolymer (c).
Figure S2. $^{29}$Si NMR spectrum of copolymer in Table 2 run 5.
Figure S3. DSC thermograms of the second heating run of the PDMS-\textit{ran}-PDPS copolymers with different diphenyl group contents (Table 2, runs 9 and 10).
Figure S4. DSC thermograms of the second heating run of the PDMS-\textit{ran}-PDPS copolymers with different diphenyl group contents (Table 2, runs 4-6).