

Supporting Information

Easy Synthesis of Dendrimer-like Polymers through A Divergent Iterative “End-grafting” Method

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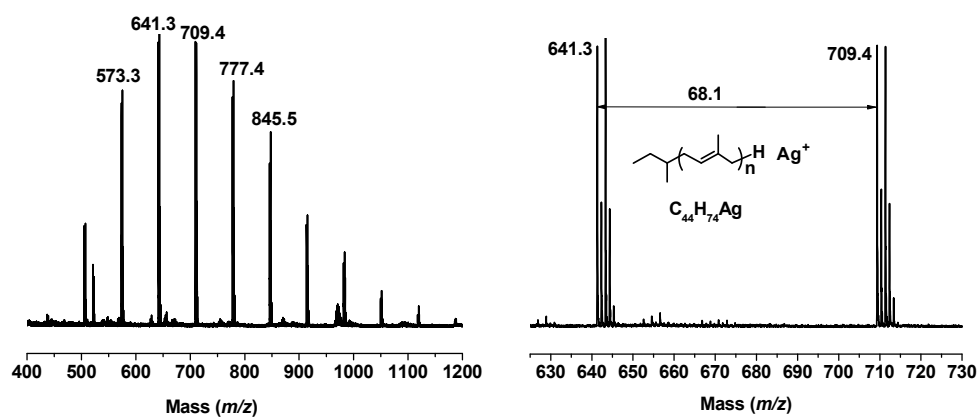


Fig. S1 MALDI-TOF MS spectrum of the PI oligomer used as the branching unit.

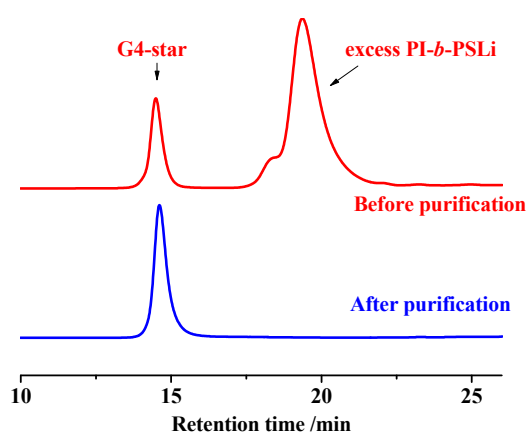


Fig. S2 SEC curves of dendrimer-like PS $G4_{-star}$ before and after purification.

Table S1 Viscosities and contraction factor of the dendrimer-like PS

Entry	M_w ($\times 10^3$ g/mol)	$[\eta]_{\text{linear, theo.}}$ (ml/g) ^a	$[\eta]_{\text{dendrimer-like}}$ (ml/g) ^b	g'^c
G1-_{ISI}	29.4	20.4	19.4	0.95
G2-_{ISI}	169	71.04	33.6	0.47
G3-_{ISI}	1242	295.0	43.6	0.15
G4-_{ISI}	7512	1066.3	45.0	0.04
G5-_{ISI}	36270	3281.8	37.2	0.01
G1-_{star}	50.1	29.8	16.1	0.54
G2-_{star}	343	117.7	25.6	0.22
G3-_{star}	2230	448.0	32.0	0.07
G4-_{star}	10340	1339.6	32.5	0.02
G5-_{star}	40770	3567.6	30.8	0.01

^a. $[\eta]_{\text{linear, theo.}}$ was calculated according to $[\eta]_{\text{linear, theo.}} = 1.314 \times 10^{-2} M_w^{0.714}$ (G. Meyerhoff and B. Appelt, *Macromolecules*, 1979, **12**, 968); ^b Measured at 30°C in THF; ^c. $g' = [\eta]_{\text{dendrimer-like}} / [\eta]_{\text{linear, theo.}}$

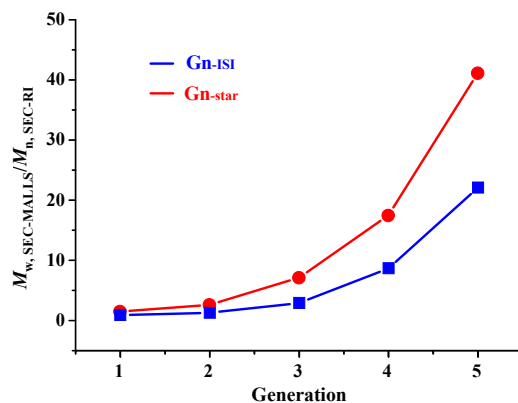


Fig. S3 Ratios of $M_{w, \text{SEC-MALLS}}$ to $M_{n, \text{SEC-RI}}$ of **Gn-_{ISI}** and **Gn-_{star}** as a function of generation number.

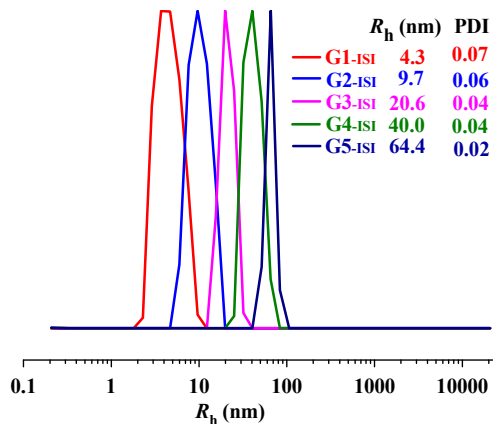


Fig. S4 R_h s of the dendrimer-like PS **Gn-_{ISI}** increase with generations.

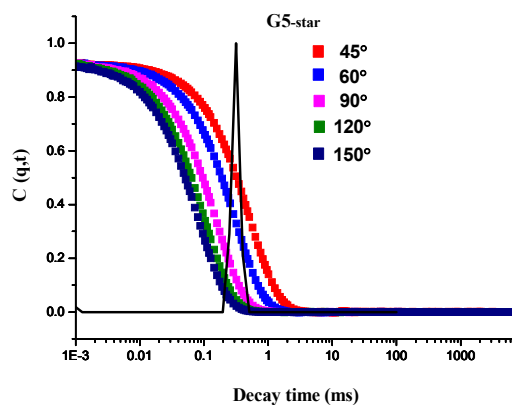


Fig. S5 DLS results of dendrimer-like star polystyrenes of $G5_{\text{star}}$ at different angles (in THF), showing no angle dependence in molecular size measurement.

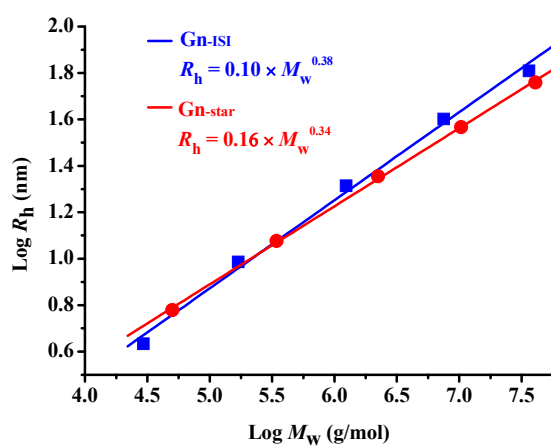


Fig. S6 Relationships between $\langle R_h \rangle$ and M_w in a log-log scale.

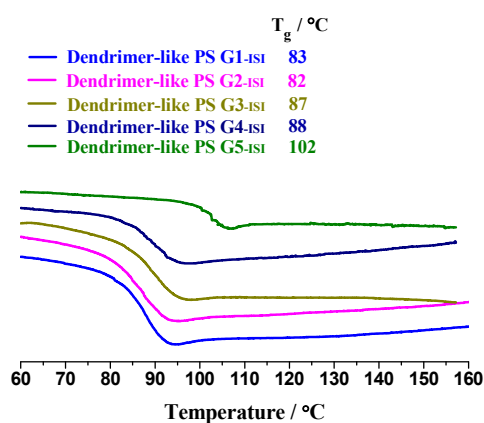


Fig. S7 DSC results for dendrimer-like products of $Gn\text{-1SI}$ where $n = 1-5$.

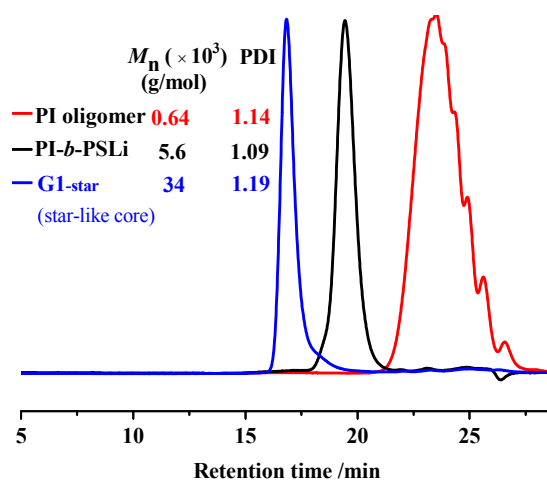


Fig. S8 SEC monitoring the synthetic process of the star-like core.