Electronic Supplementary Information:

Using low generation dendrimers as monomers to construct dendronized hyperbranched polymers with high nonlinear optical performance

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Chart S1. Graphical illustration of poling procedure for NLO polymers.

Chart S2. The structure of dendronized hyperbranched polymers DHPG0 and DHPG1.
Scheme S1. The synthetic route to the 9,9-dihexyl-2,7-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborate).

Fig. S1 $^1$H NMR spectrum of S3 in chloroform-$d$.

Fig. S2 $^{13}$C NMR spectrum of S3 in chloroform-$d$.

Fig. S3 $^1$H NMR spectrum of G0≡ in chloroform-$d$. 
Fig. S4 $^{13}$C NMR spectrum of G0$-$ in chloroform-\textit{d}.

Fig. S5 $^1$H NMR spectrum of S7 in chloroform-\textit{d}.

Fig. S6 $^{13}$H NMR spectrum of S7 in chloroform-\textit{d}.
Fig. S7 $^1$H NMR spectrum of S8 in chloroform-$d$.

Fig. S8 $^{13}$C NMR spectrum of S8 in chloroform-$d$.

Fig. S9 $^1$H NMR spectrum of G1-≡ in chloroform-$d$. 

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**Fig. S10** $^{13}$C NMR spectrum of G1 in chloroform-$d$.

**Fig. S11** $^1$H NMR spectrum of MG1 in chloroform-$d$.

**Fig. S12** $^{13}$C NMR spectrum of MG1 in chloroform-$d$. 
Fig. S13 $^1$H NMR spectrum of MG2 in chloroform-$d$.

Fig. S14 $^{13}$C NMR spectrum of MG2 in chloroform-$d$.

Fig. S15 $^1$H NMR spectrum of PG1 in chloroform-$d$. 

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Fig. S16 $^{13}$C NMR spectrum of PG1 in chloroform-$d$.

Fig. S17 $^1$H NMR spectrum of PG2 in chloroform-$d$.

Fig. S18 $^{13}$C NMR spectrum of PG2 in chloroform-$d$. 

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**Fig. S19** The FT-IR spectra of **PG1** and its corresponding monomer.

**Fig. S20** The FT-IR spectra of **PG2** and its corresponding monomer.
**Fig. S21** The MALDI-TOF mass spectrum of S8.

**Fig. S22** The MALDI-TOF mass spectrum of G1-≡.

**Fig. S23** The MALDI-TOF mass spectrum of MG1.
Fig. S24 The MALDI-TOF mass spectrum of MG2.

Fig. S25 TGA thermograms of hyperbranched polymers, measured in nitrogen at a heating rate of 10 °C/min.
Fig. S26 UV-Vis spectra of PG1 in different solutions. (0.02 mg/mL).

Fig. S27 UV-Vis spectra of PG2 in different solutions. (0.02 mg/mL).
Fig. S28 Absorption spectra of the film of PG1 before and after poling.

Fig. S29 Absorption spectra of the film of PG2 before and after poling.