Electronic Supporting Information

Tailoring the Design of Dendritic Thermogels Through Carbosilane and Polyglycerol Crosslinkers

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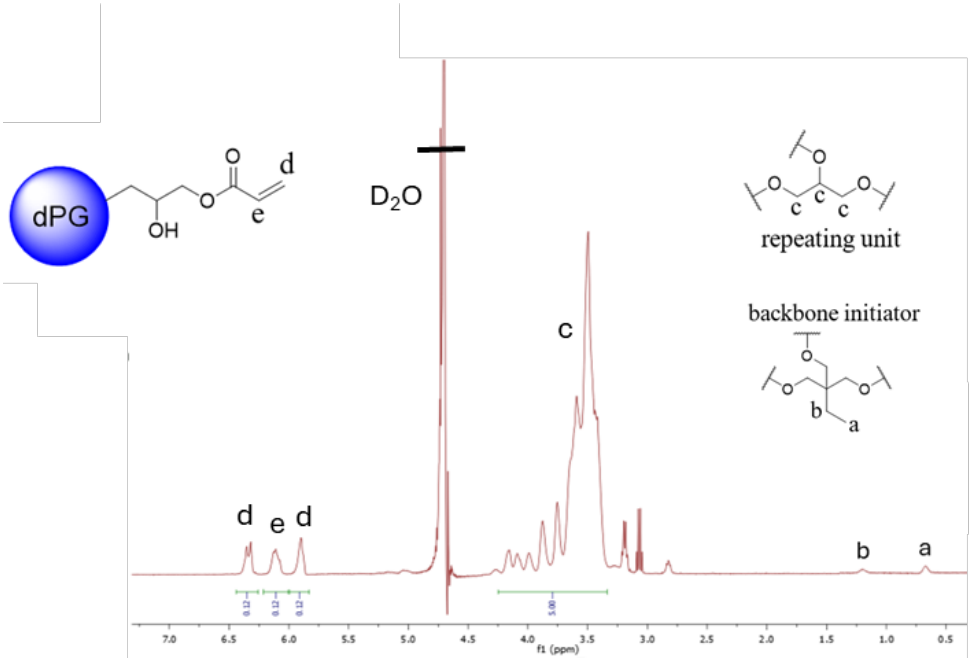


Figure S1. ^{1}H-NMR (500 MHz, D_2O, δ (ppm)) of dPG-acrylate **4** (5%)**.**

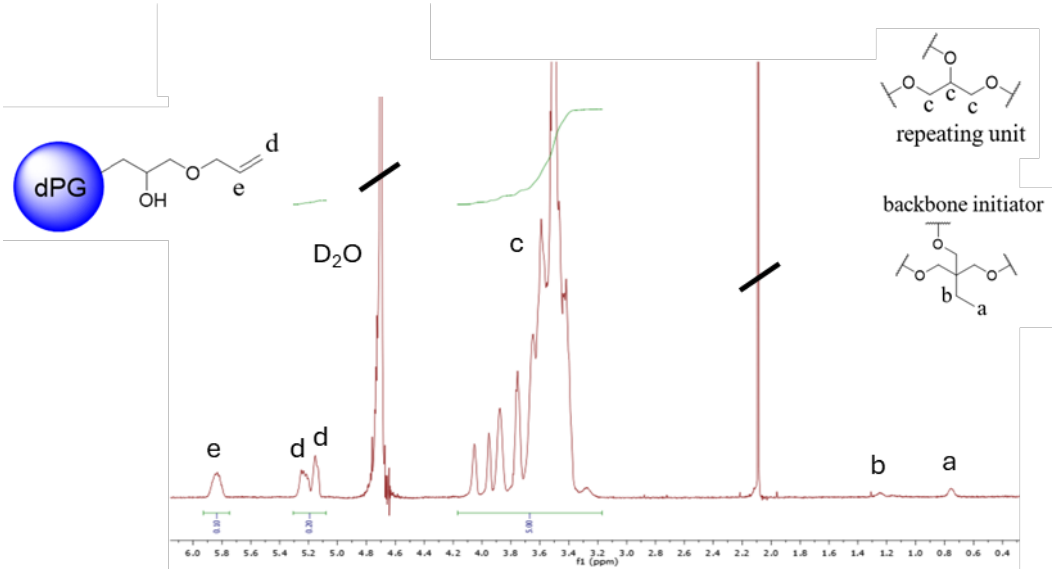


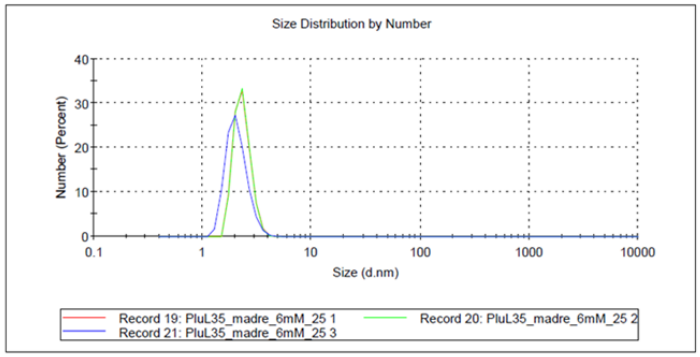
Figure S2. ^{1}H-NMR (500 MHz, D_2O, δ (ppm)) of dPG-allyl **5** (5%).

PluL35 6 mM

Results

		Size (d.n...	% Number:	St Dev (d.n...
Z-Average (d.nm): 109,8	Peak 1:	2,097	100,0	0,4727
PdI: 0,730	Peak 2:	0,000	0,0	0,000
Intercept: 0,884	Peak 3:	0,000	0,0	0,000

Result quality Refer to quality report



PluL35(SH)$_2$ 6 mM

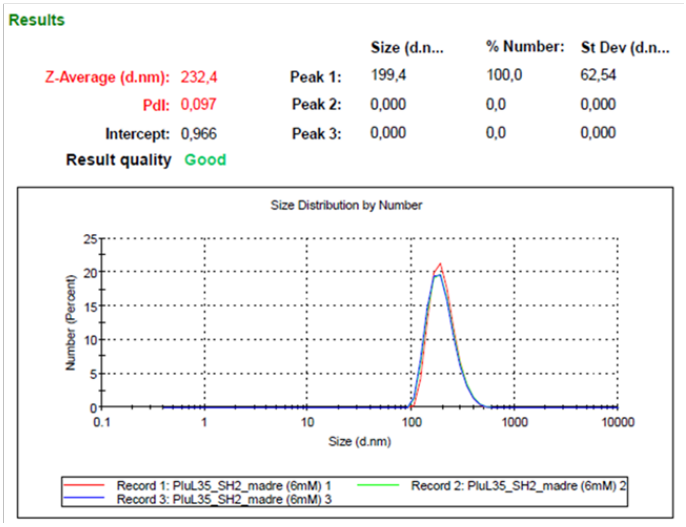


Figure S3. Comparative DLS study of PLUL35 and PLUL35(SH)$_2$ at 25 °C.

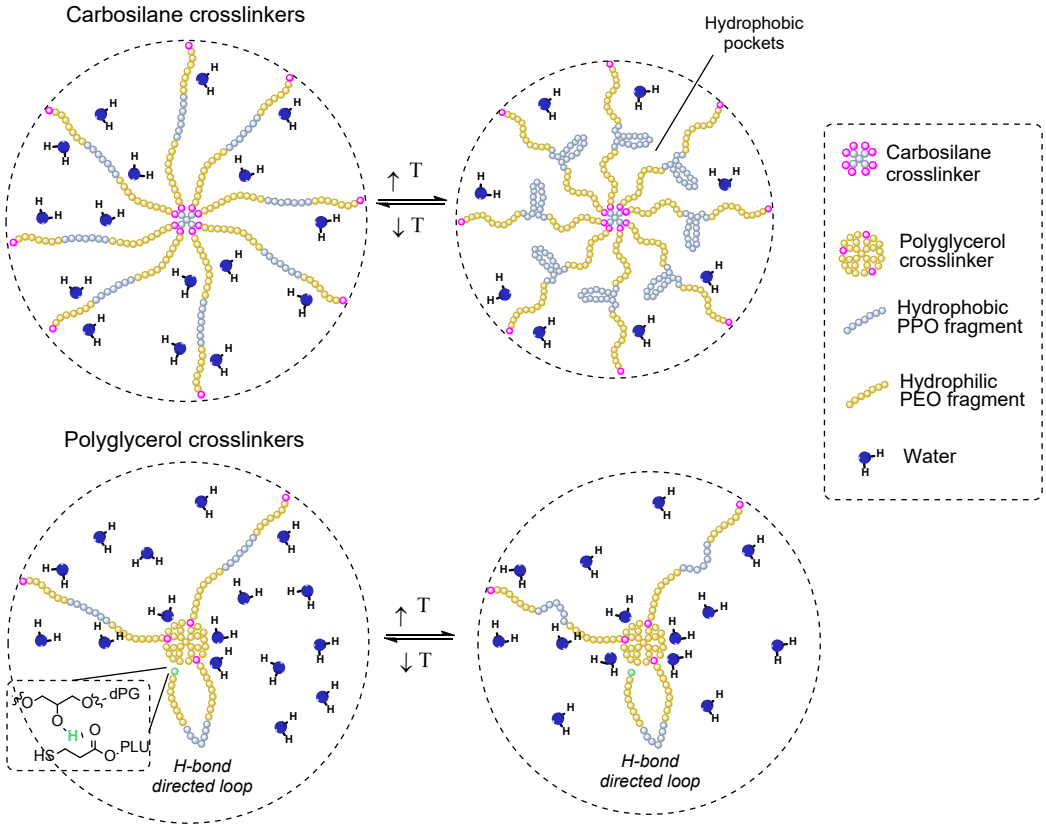


Figure S4. Proposed mechanisms for the thermoresponsive behavior of dendritic thermogels. Top: In CBS thermogels, the increase in temperature produces the dehydration of PPO fragments, which tend to form hydrophobic pockets together with the hydrophobic carbosilane crosslinkers. Bottom: In dPG thermogels, the presence of multiple hydroxyl groups in the dPG crosslinker promotes hydration through H-bond formation. Additionally, it can generate H-bond directed loops of Pluronic chains.

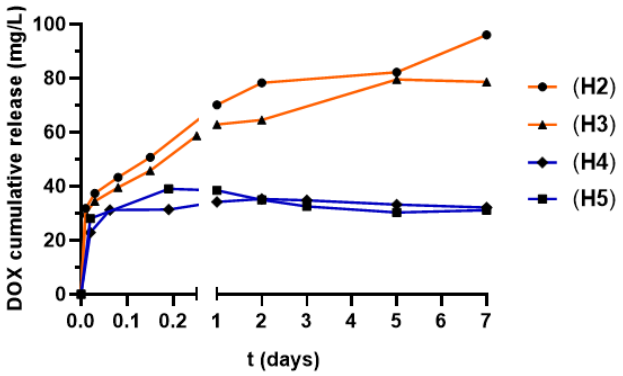
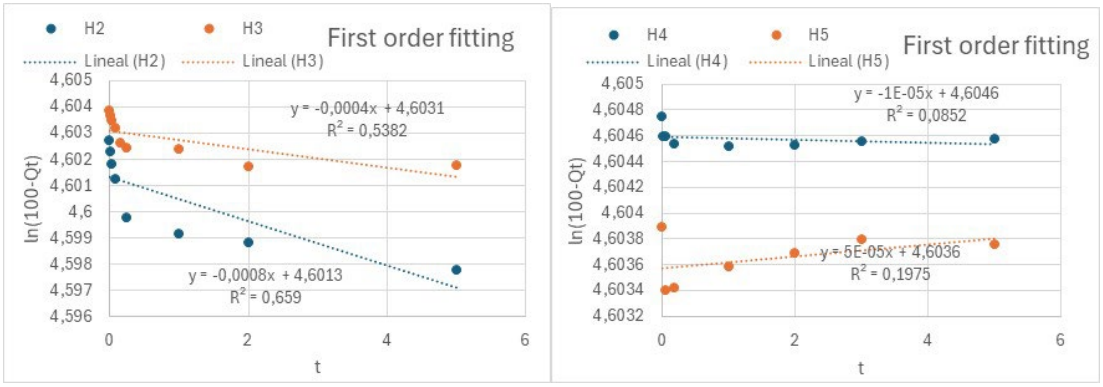


Figure S5. DOX release over time for CBS hydrogels **H2** and **H3**, and dPG hydrogels **H4** and **H5** at 37°C. Hydrogels weight and loaded DOX: **H2** (32.0/0.13 mg), **H3** (47.6/0.23 mg), **H4** (50.8/0.54 mg) and **H5** (68.1/0.22 mg). Average results from two independent experiments.

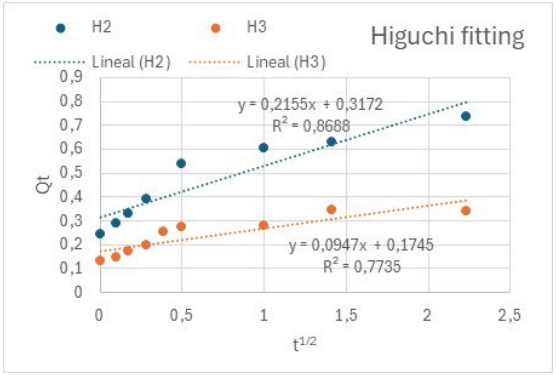
A) First-order fitting

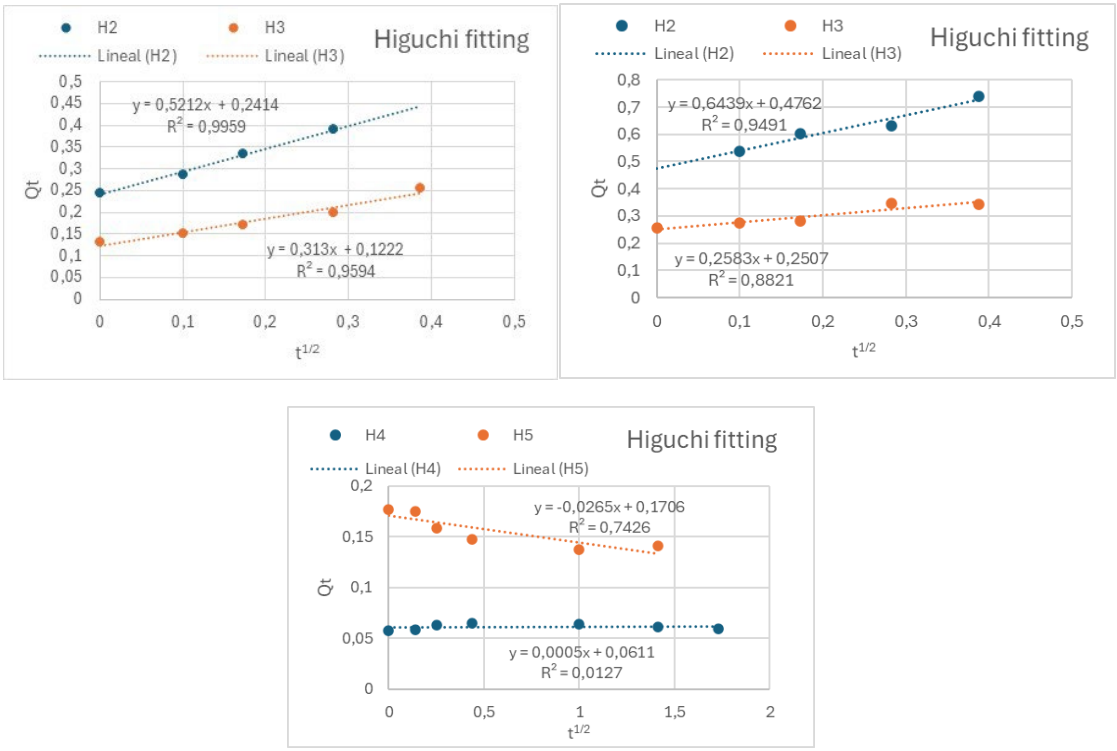
$$\ln(100 - Q_t) = \ln 100 - k_1 t$$



B) Higuchi fitting

$$Q_t = k_H \sqrt{t}$$





C) Korsmeyer-Peppas fitting

$$\log(M_t/M_\infty) = \log k + n \log t$$

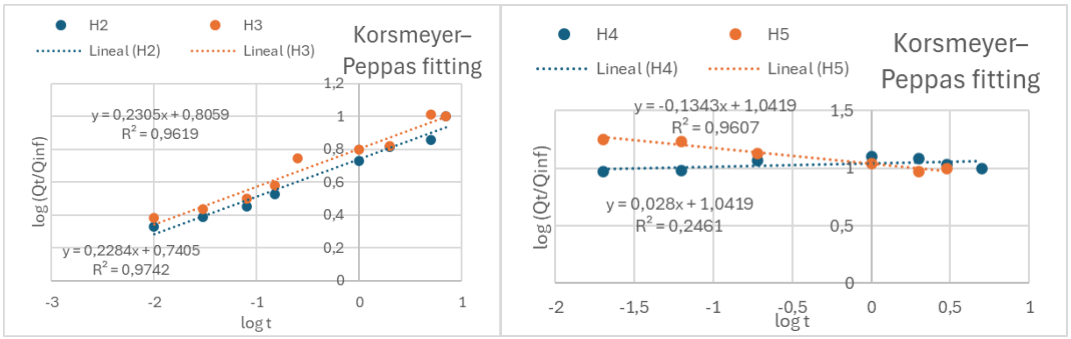


Figure S6. Fitting of DOX release over time for CBS hydrogels **H2** and **H3**, and dPG hydrogels **H4** and **H5**. In all models, t=0 was removed from fitting. a) First-order model. b) Higuchi model. For H2-H3, model was fitted to two different lines (burst release R^2 0.996, and controlled release R^2 0.959). For H4-H5, initial burst release points were removed from fitting. c) Korsmeyer-Peppas model. For H2-H3, model was fitted to a single line (R^2 0.961 and 0.974). For H4-H5, initial burst release points were removed from fitting.