Electronic Supplementary Information (ESI)

Thermoresponsive double network cryogels from dendronized copolymers showing tunable encapsulation and release of proteins

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Content

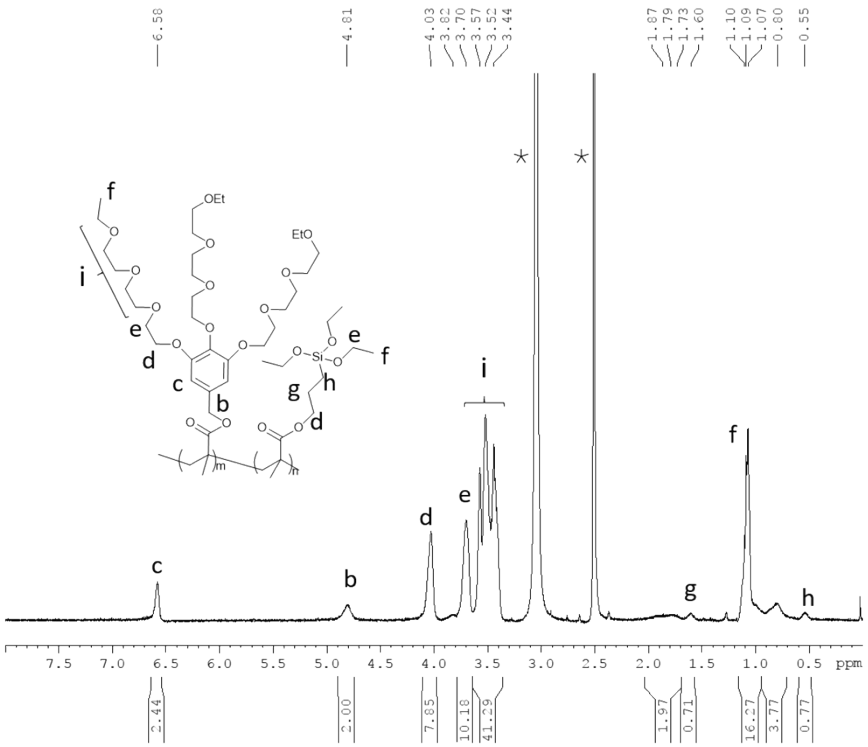

Fig. S1 ^{1}H NMR spectrum of PG_5S_1 in DMSO-d_6 at 80 ^{o}C. Solvent signal is marked with asterisk.

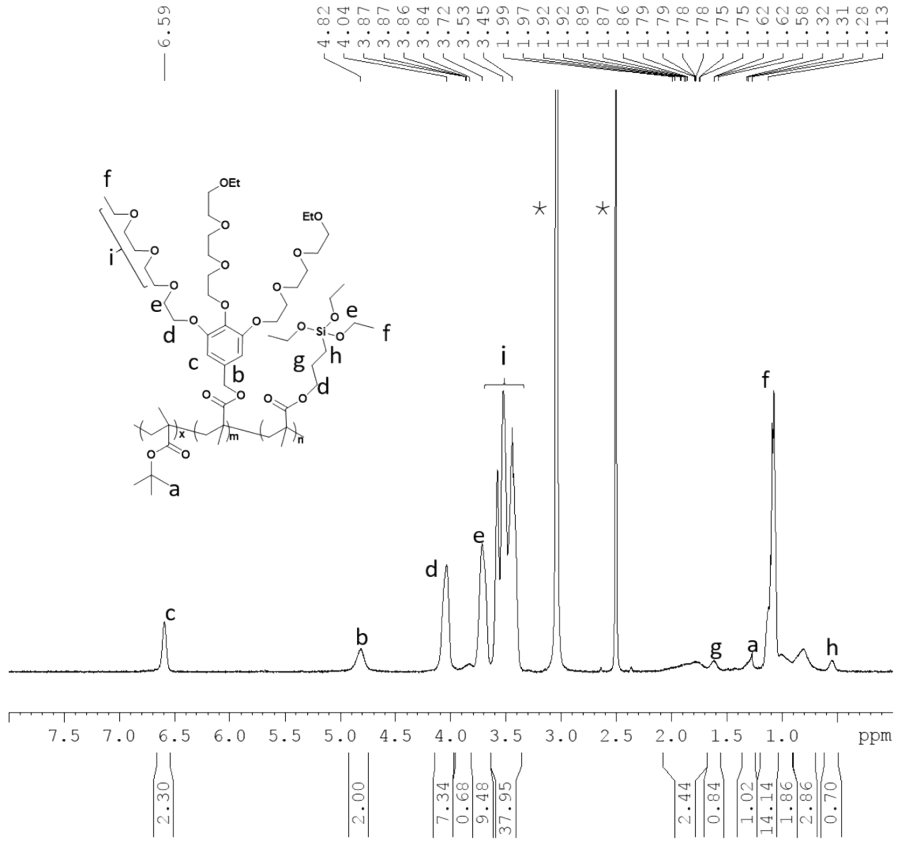

Fig. S2 ^{1}H NMR spectrum of $PG_{20}S_4T_1$ in DMSO-d_6 at 80 ^{o}C. Solvent signal is marked with asterisk.

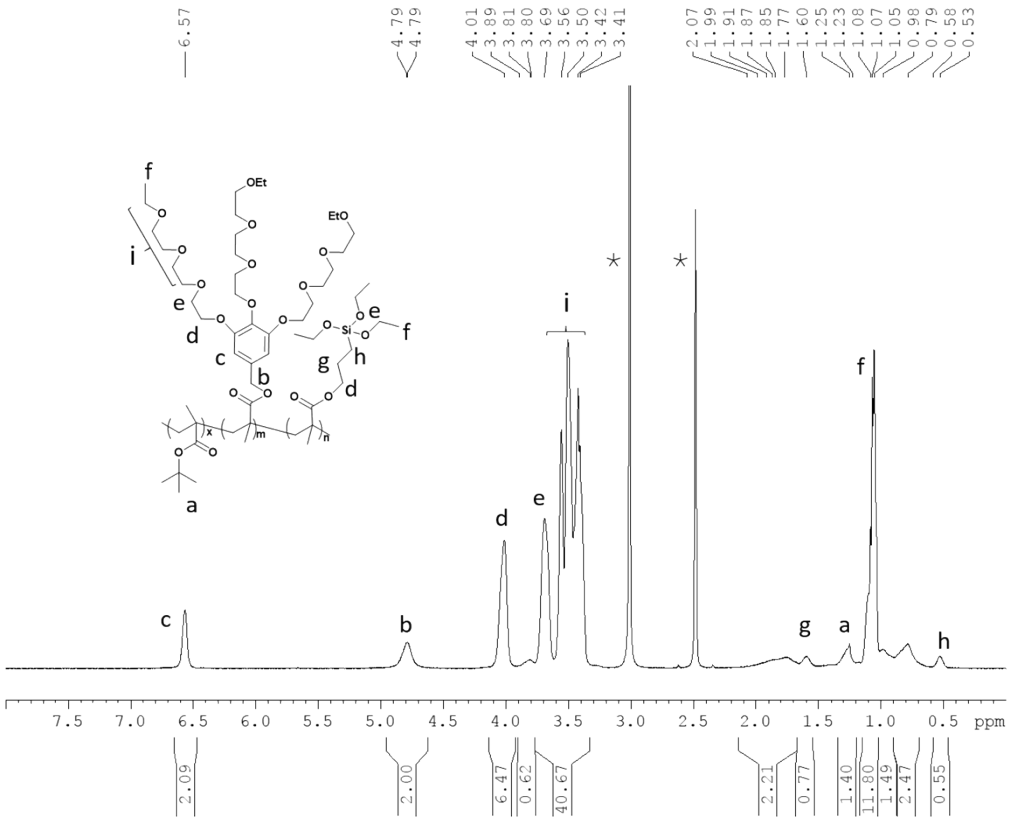

Fig. S3 ^{1}H NMR spectrum of $PG_{10}S_2T_1$ in DMSO-d_6 at 80 °C. Solvent signal is marked with asterisk.

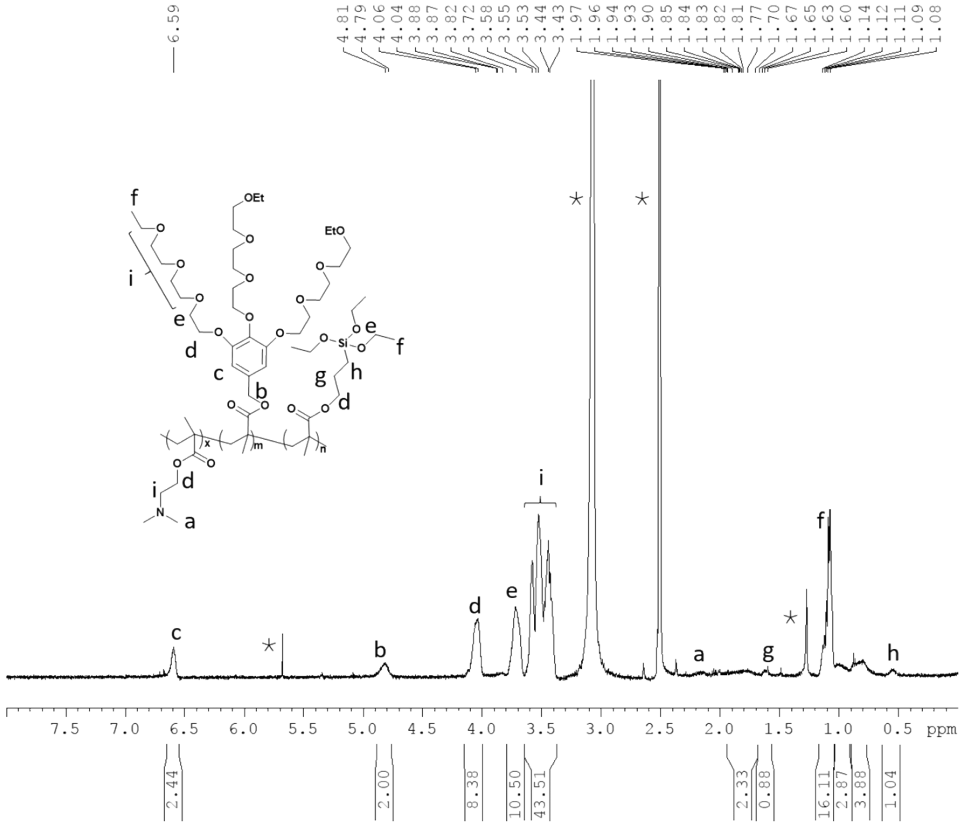

Fig. S4 ^{1}H NMR spectrum of $PG_{20}S_4D_1$ in DMSO-d_6 at 80 °C. Solvent signal is marked with asterisk.

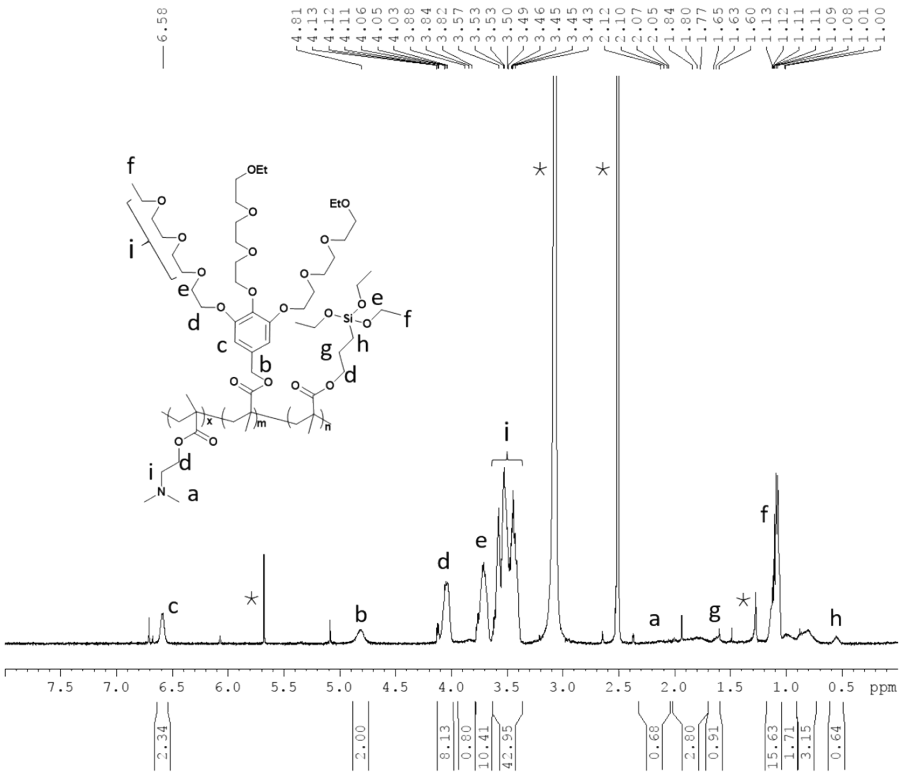

Fig. S5 ^{1}H NMR spectrum of $PG_{10}S_2D_1$ in DMSO-d_6 at 80 °C. Solvent signal is marked with asterisk.

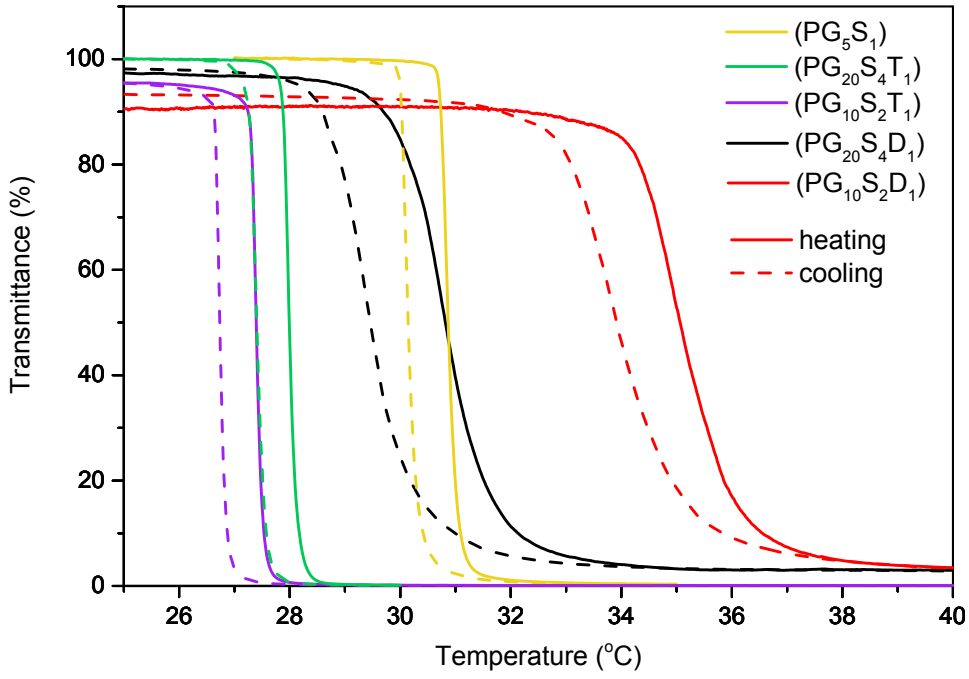

Fig. S6 Turbidity curves of all copolymers

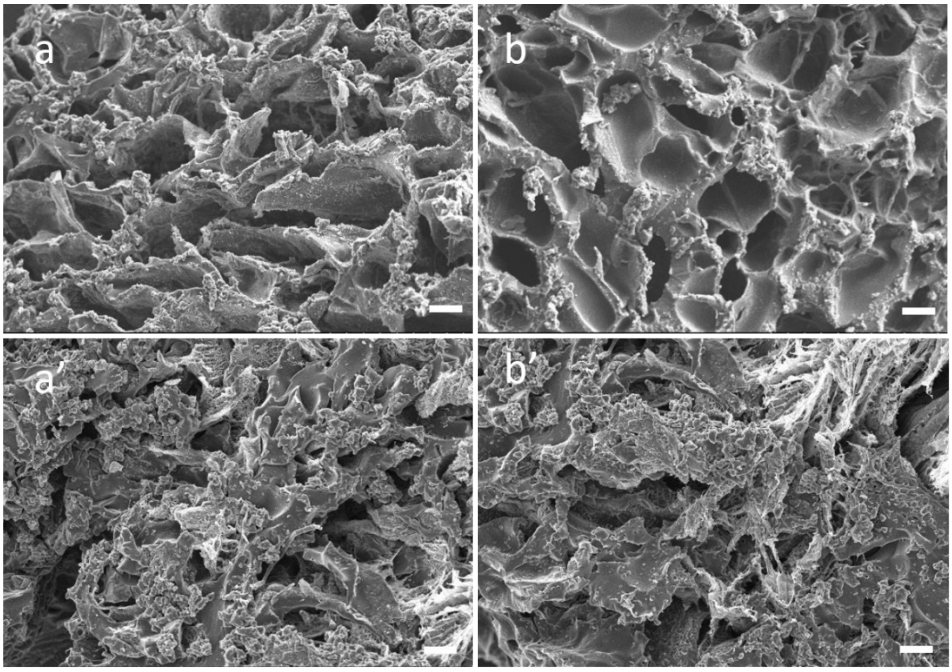

Fig. S7 SEM photographs of **$(PG_{20}S_4T_1)_4/PVA_1$** and **$(PG_{20}S_4T_2)_4/PVA_1$** at 25 °C (a, b) and 40 °C (a', b'), respectively. The scale bar is 60 μm.

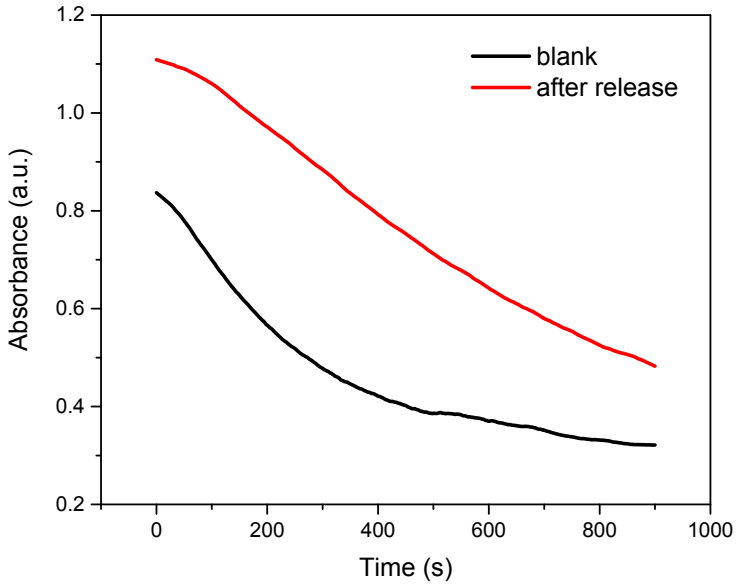

Fig. S8 Enzyme activity of LYS from blank and released samples.

Table S1 Release efficiency of LYS

Release efficiency	$(PG_{20}S_4)_4/PVA_1$	$(PG_{20}S_4T_1)_4/PVA_1$	$(PG_{20}S_4T_2)_4/PVA_1$
First cycle	86.7%	97.4%	0
Second cycle	39.2%	86.1%	0

Table S2 Release efficiency of BSA

Release efficiency	$(PG_{20}S_4)_4/PVA_1$	$(PG_{20}S_4D_1)_4/PVA_1$	$(PG_{20}S_4D_2)_4/PVA_1$
First cycle	50.0%	72.6%	76.7%