Supporting information

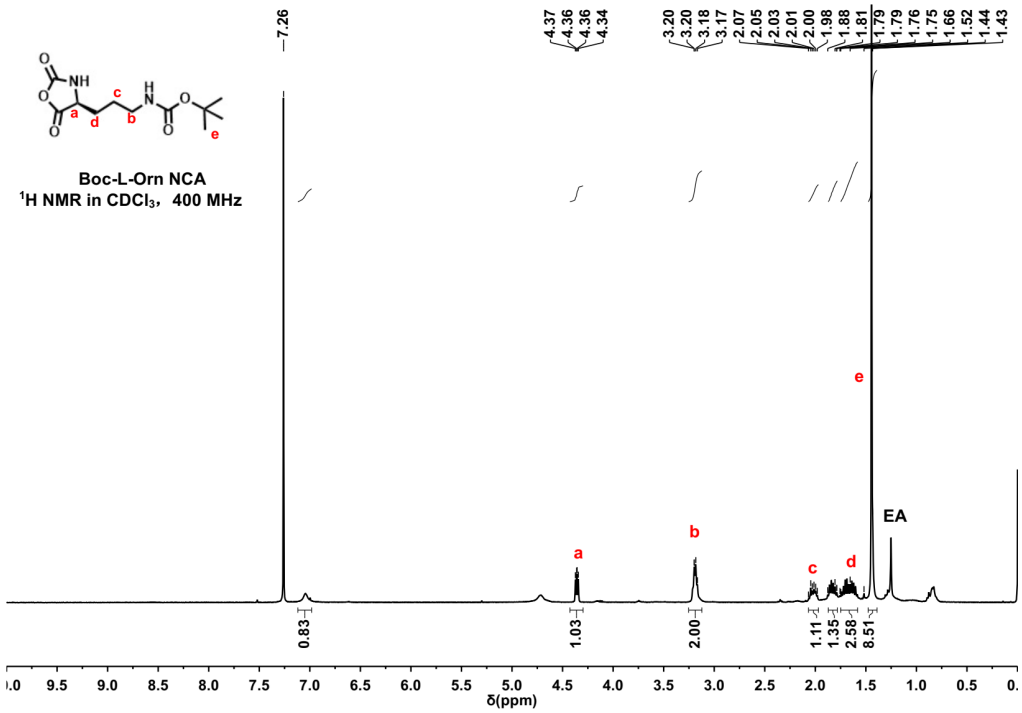

Figure S1. ^{1}H NMR spectrum of *N*δ-*tert*-butyloxycarbonyl-L-ornithine (Boc-L-Orn) NCA in $CDCl_3$, 400 MHz.

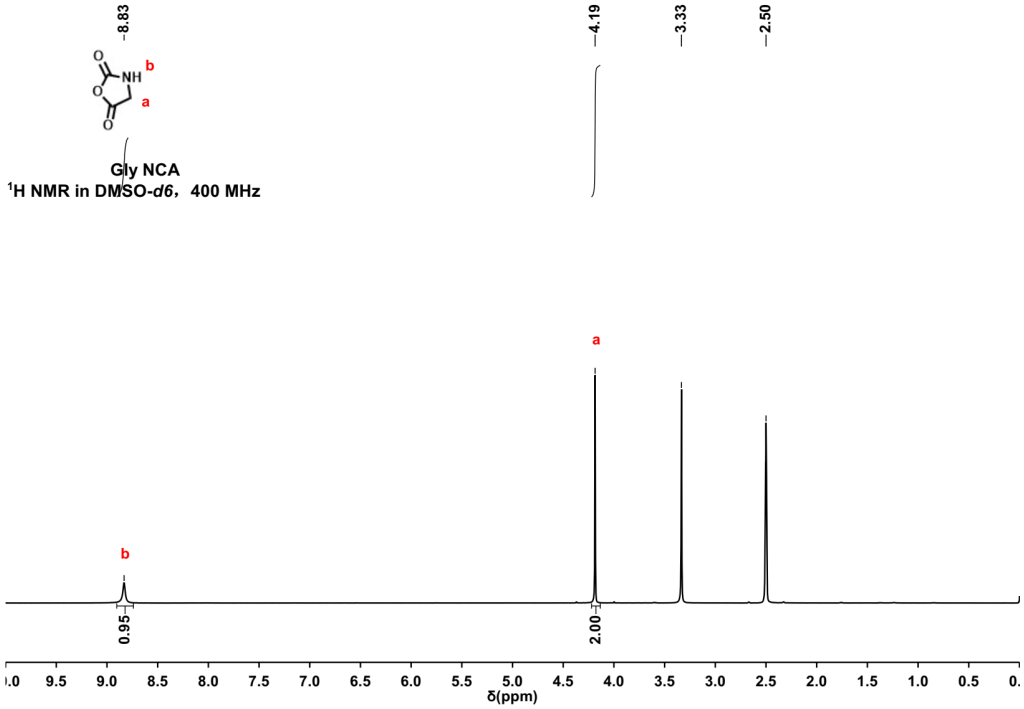

Figure S2. ^{1}H NMR spectrum of glycine (Gly) NCA in DMSO-*d6*, 400 MHz.

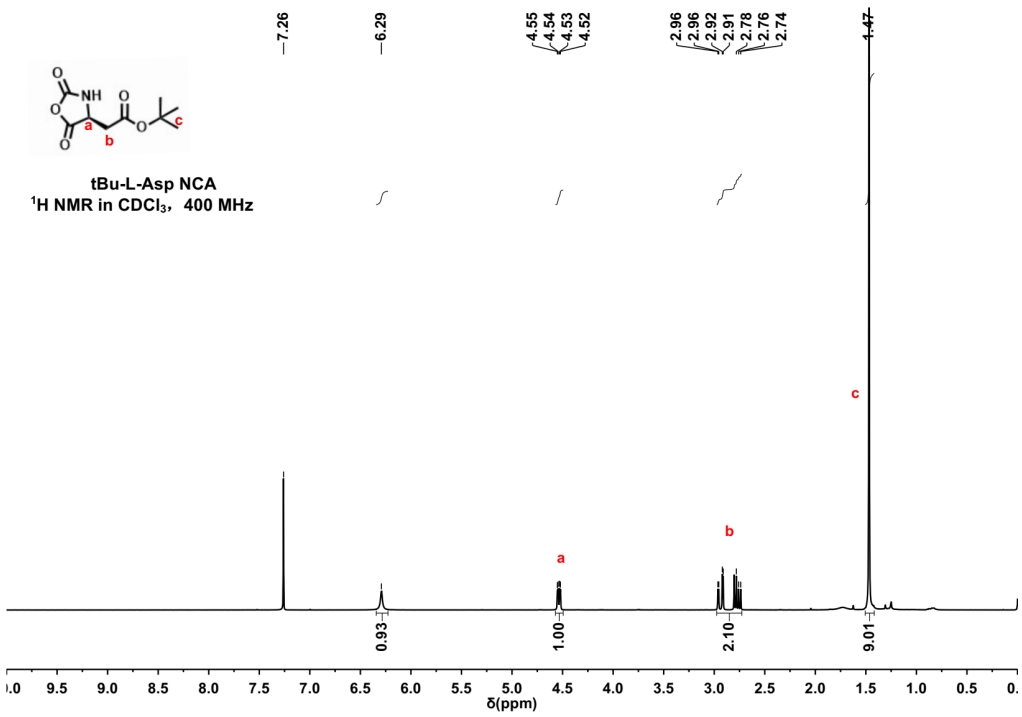

Figure S3. ^{1}H NMR spectrum of L-aspartic acid 4-*tert*-butyl ester (tBu-L-Asp) NCA in $CDCl_3$, 400 MHz.

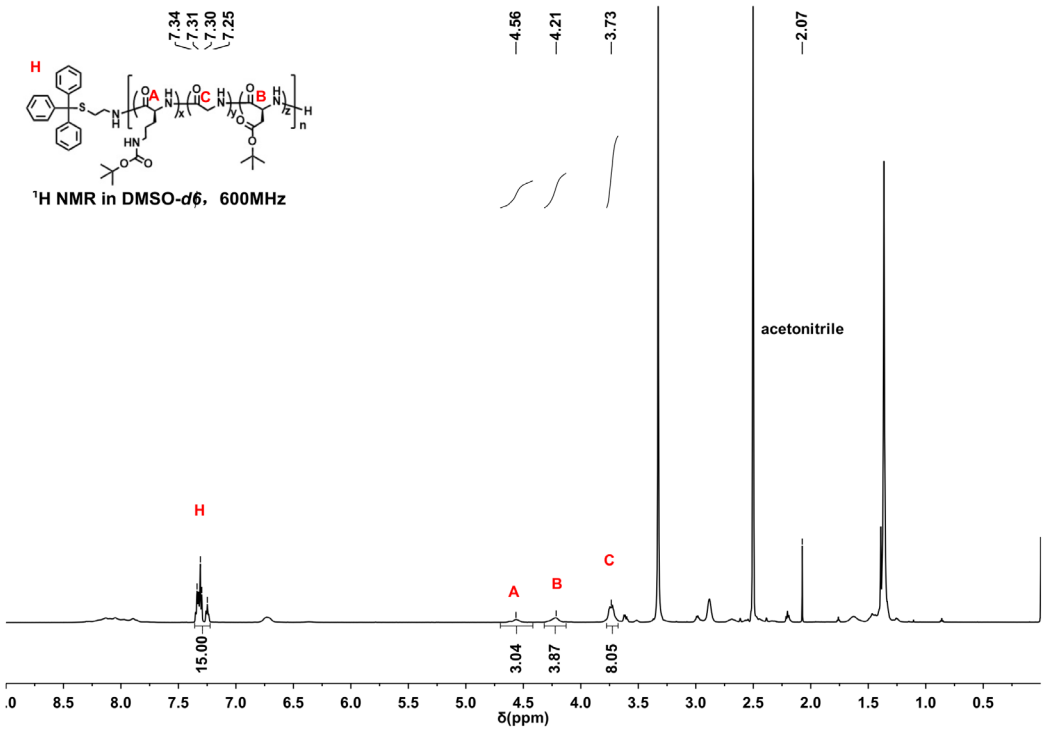

Figure S4. ^{1}H NMR spectrum of $P(Orn_{x\%}\text{-}Gly_{y\%}\text{-}Asp_{z\%})_n$ (DP = 10) at a protected stage in DMSO-*d6*, 600 MHz.

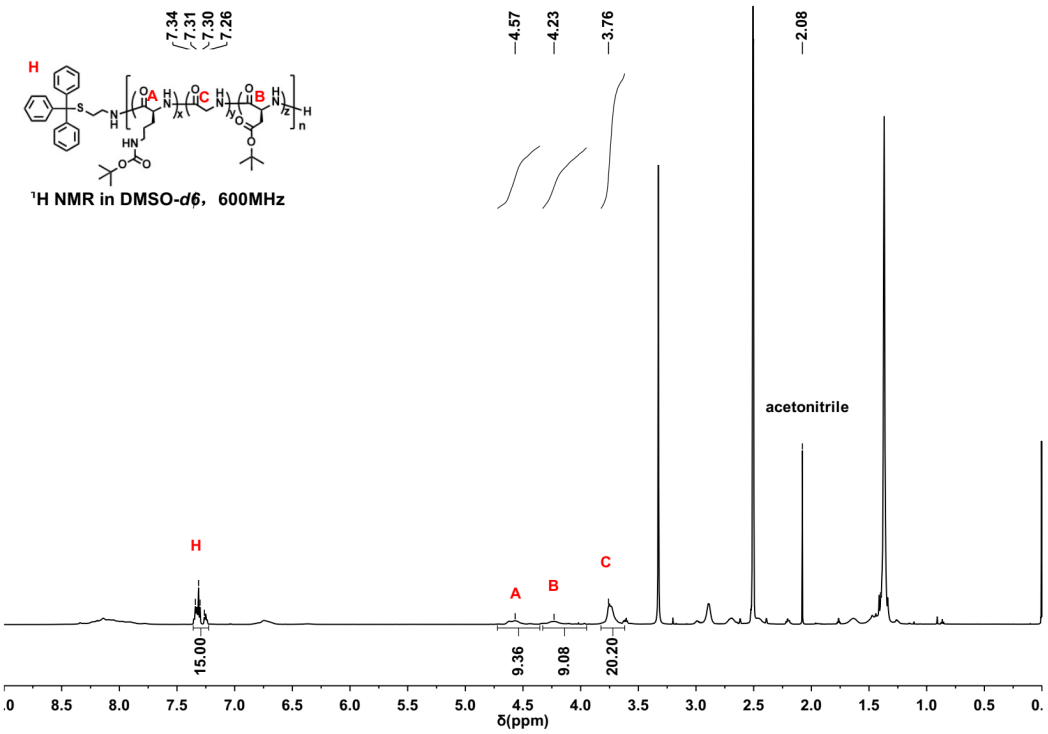

Figure S5. ^{1}H NMR spectrum of P(Orn$_{x\%}$-Gly$_{y\%}$-Asp$_{z\%}$)$_n$ (DP = 30) at a protected stage in DMSO-*d6*, 600 MHz.

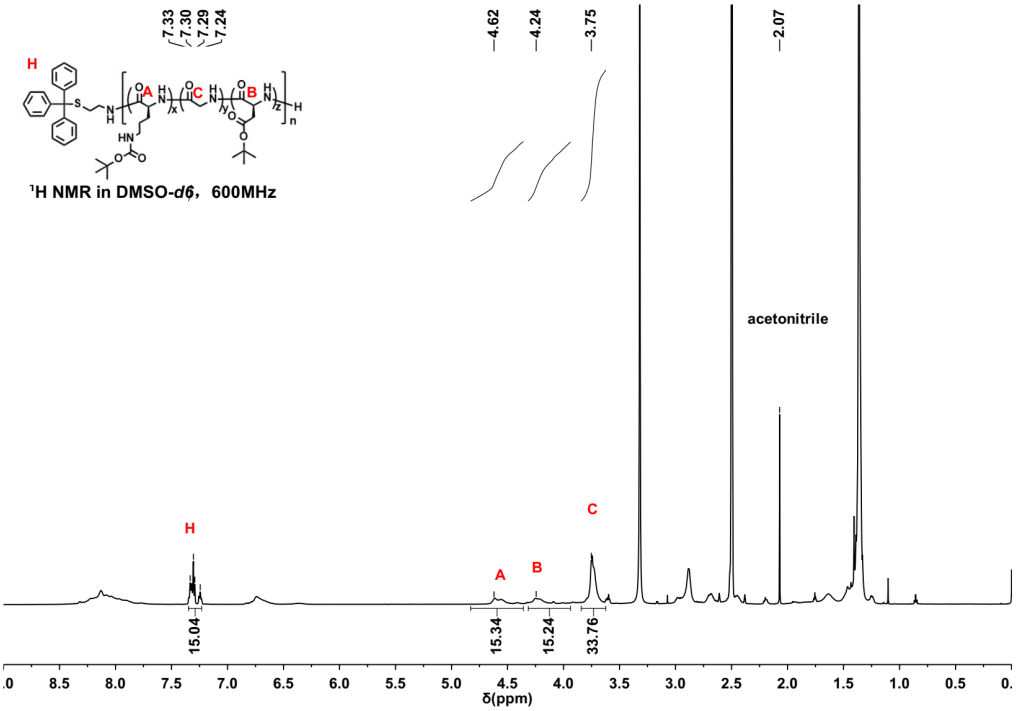

Figure S6. ^{1}H NMR spectrum of P(Orn$_{x\%}$-Gly$_{y\%}$-Asp$_{z\%}$)$_n$ (DP = 50) at a protected stage in DMSO-*d6*, 600 MHz.

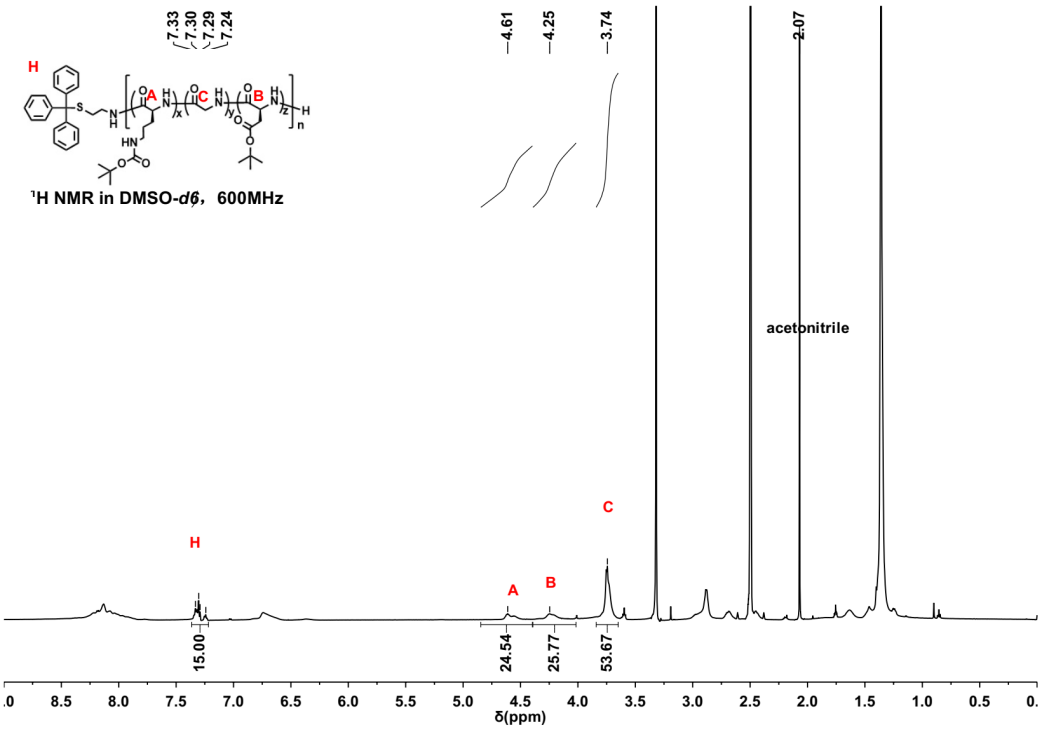

Figure S7. ^{1}H NMR spectrum of P(Orn$_{x\%}$-Gly$_{y\%}$-Asp$_{z\%}$)$_n$ (DP = 80) at a protected stage in DMSO-*d6*, 600 MHz.

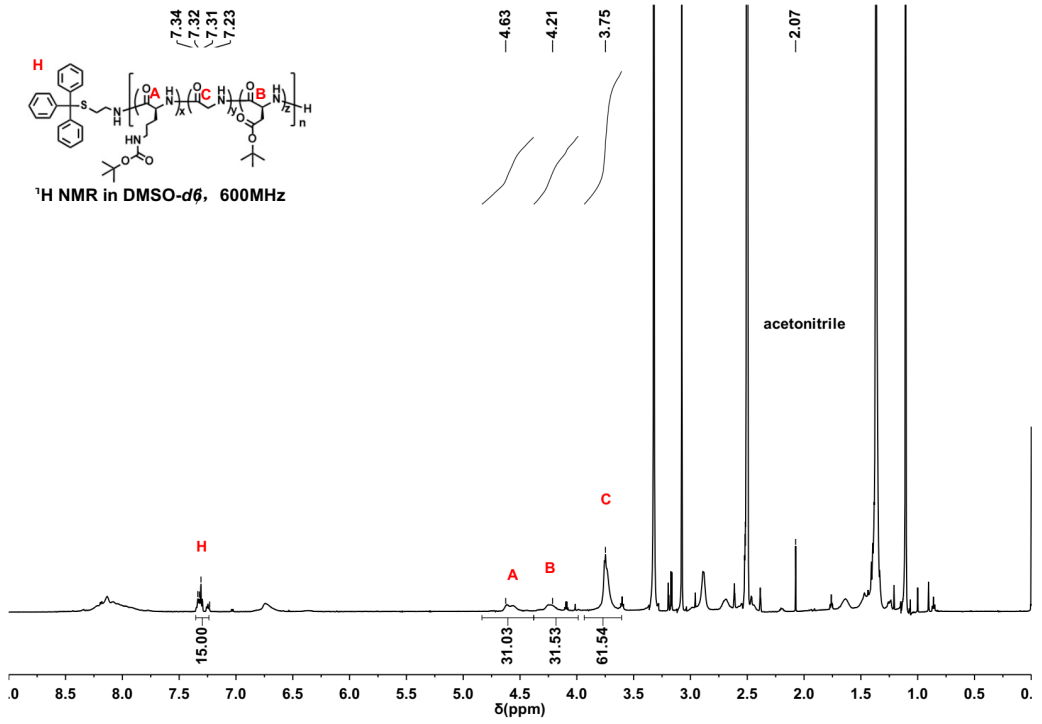

Figure S8. ^{1}H NMR spectrum of P(Orn$_{x\%}$-Gly$_{y\%}$-Asp$_{z\%}$)$_n$ (DP = 100) at a protected stage in DMSO-*d6*, 600 MHz.

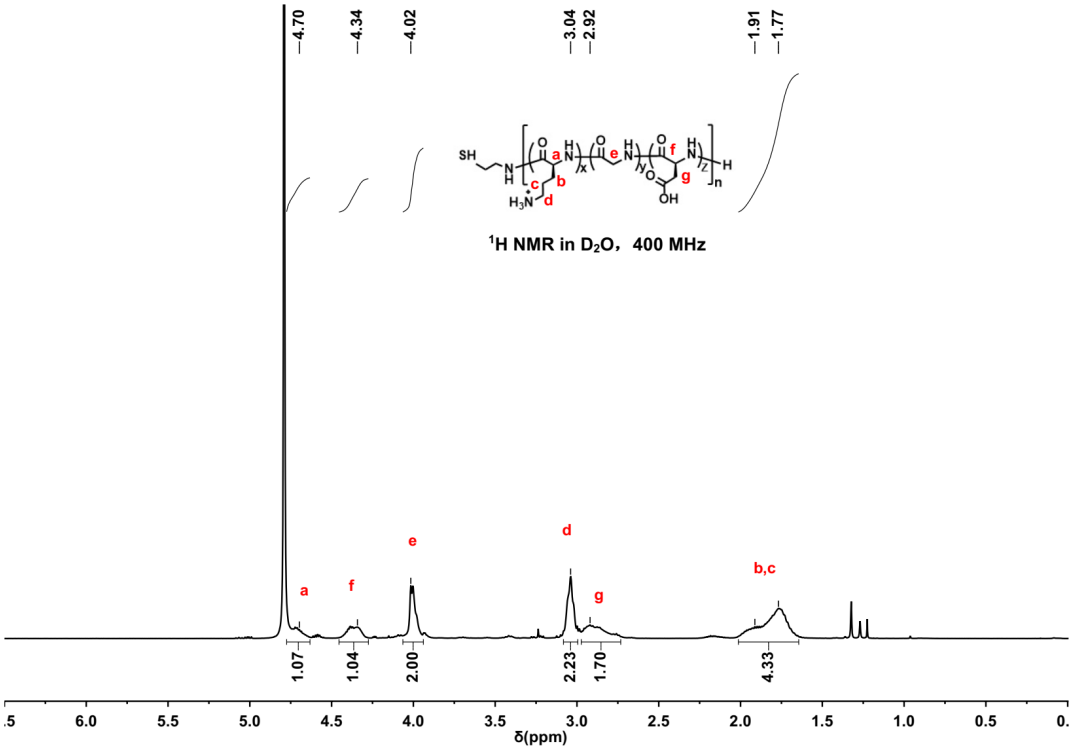

Figure S9. ^{1}H NMR spectrum of P-OGD (DP = 50) after deprotection in D_2O, 400MHz.

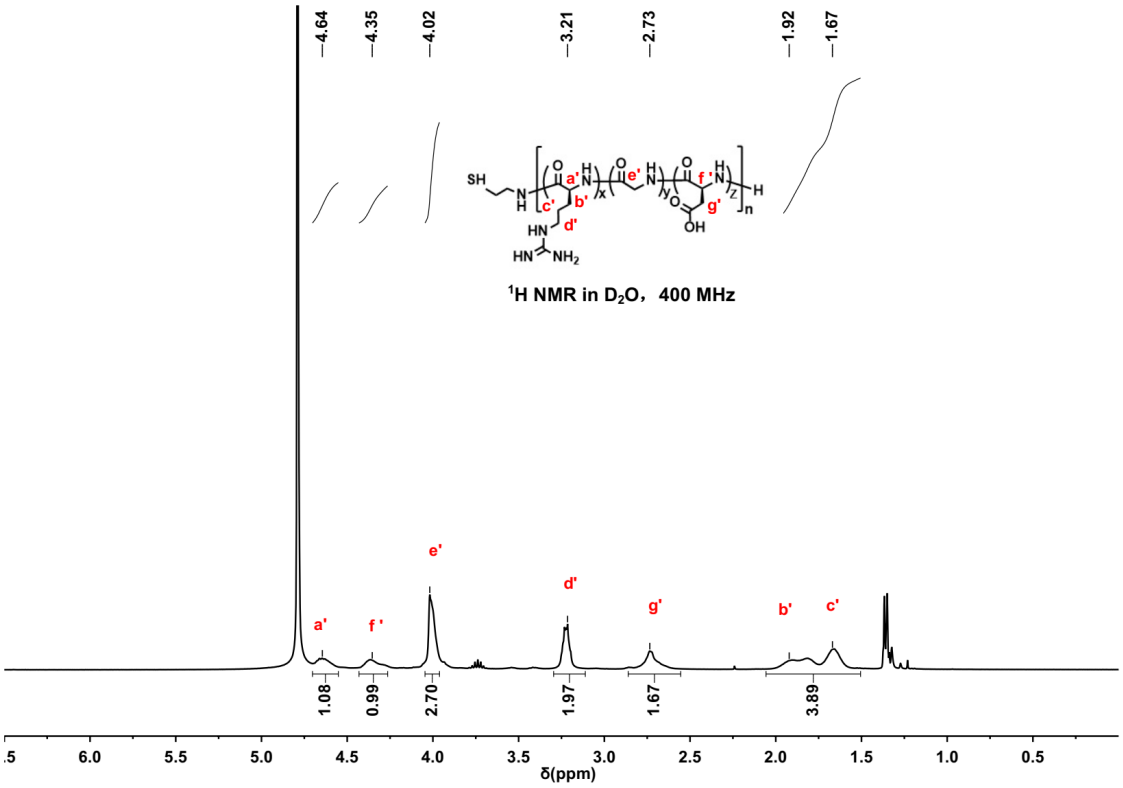

Figure S10. ^{1}H NMR spectrum of P-RGD (DP = 50) after guanidylation in D_2O, 400 MHz.

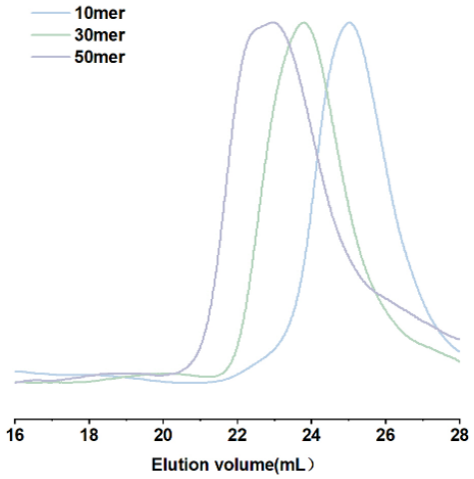

Figure S11. Gel permeation chromatography (GPC) characterization of polymers with different chain lengths before deprotection. GPC was performed on a Waters GPC instrument equipped with a Waters 1515 isocratic HPLC pump and a Waters 2414 refractive index detector using DMF supplemented with 0.01 M LiBr as the mobile phase at a flow rate of 1 mL/min at 50°C. The GPC were equipped by a Tosoh TSKgel Alpha-2500 column (particle size 7 μm) and a Tosoh TSKgel Alpha-3000 column (particle size 7 μm) linked in series. M_n and $Đ$ were calculated from a calibration curve using PMMA as standards.

Table S1. Characterization on polymers using GPC and ^{1}H NMR.

Polymer	**GPC characterization**			**^{1}H NMR characterization**
	M_n (g/mol)	$Đ$	DP	DP
10 mer	1680	1.16	11	10
30 mer	4780	1.21	32	29
50 mer	7400	1.27	50	47
80 mer	*N/A*	*N/A*	*N/A*	77
100 mer	*N/A*	*N/A*	*N/A*	93

[a] M_n is the obtained number average molecular weight, $Đ$ is the dispersity index, DP is the obtained degree of polymerization. *N/A* means uncharacterizable due to poor solubility.

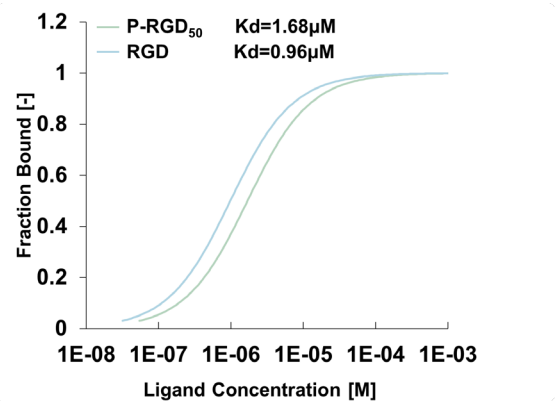

Figure S12. Dose-response analysis of the MST assays for determination of the binding affinity of the Integrin αvβ3 with P-RGD$_{50}$ or RGD.