Supporting Information for

RAFT Polymerization of Methacrylates Containing Tryptophan Moiety: Controlled Synthesis of Biocompatible Fluorescent Cationic Chiral Polymers with Smart pH-Responsiveness

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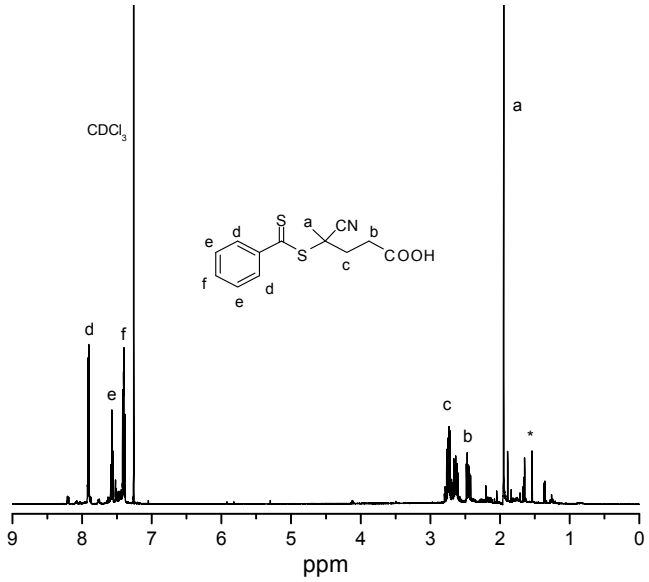

Fig. S1 ^{1}H NMR spectrum of CTP in $CDCl_3$ (* denotes H_2O resonance).

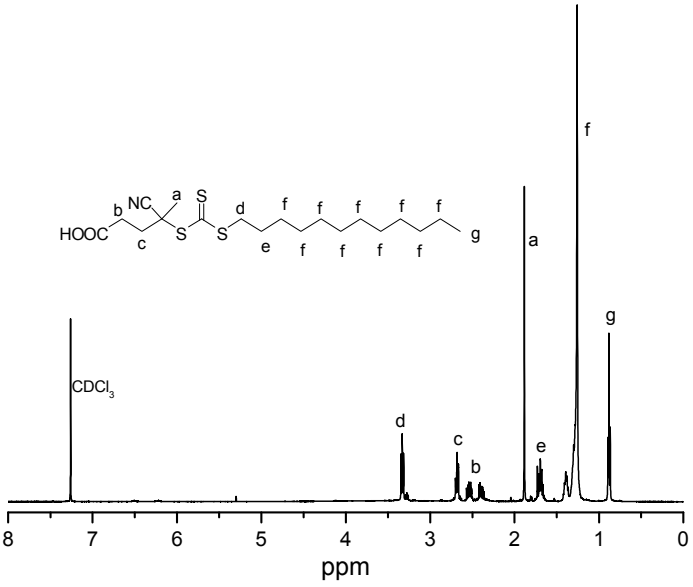

Fig. S2 ^{1}H NMR spectrum of CDP in $CDCl_3$.

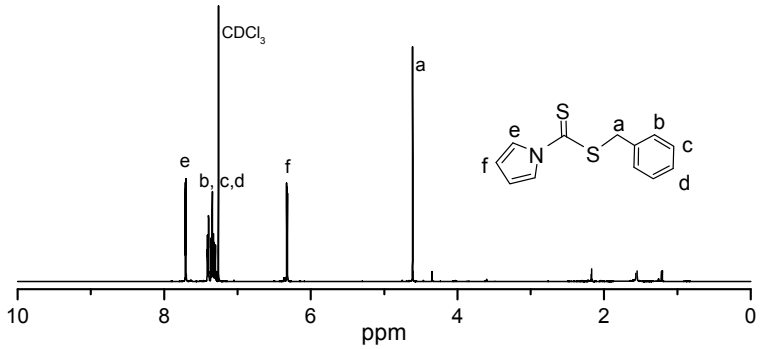

Fig. S3 ^{1}H NMR spectrum of BPC in $CDCl_3$.

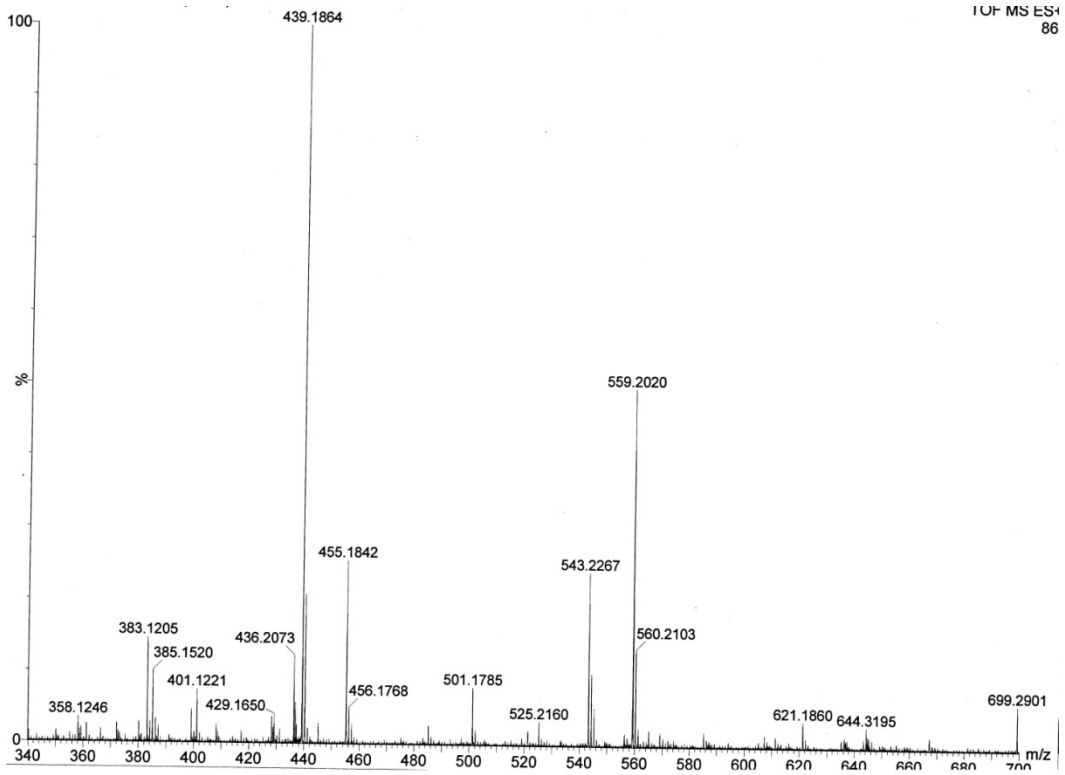

Fig. S4 The ESI-MS spectrum of Boc-L-Trp-HEMA (calculated for [M + Na^+]: 439.18 *m*/*z*, observed: 439.186 *m*/*z*).

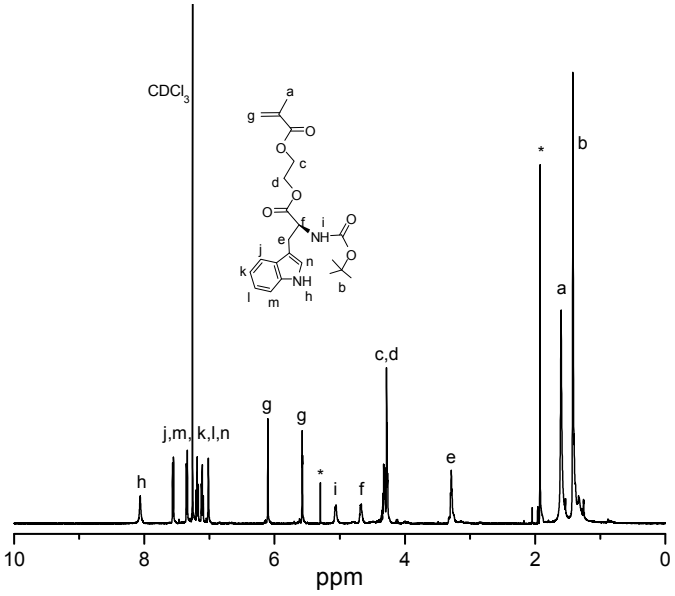

Fig. S5 The ^{1}H NMR spectrum of Boc-D-Trp-HEMA in $CDCl_3$.

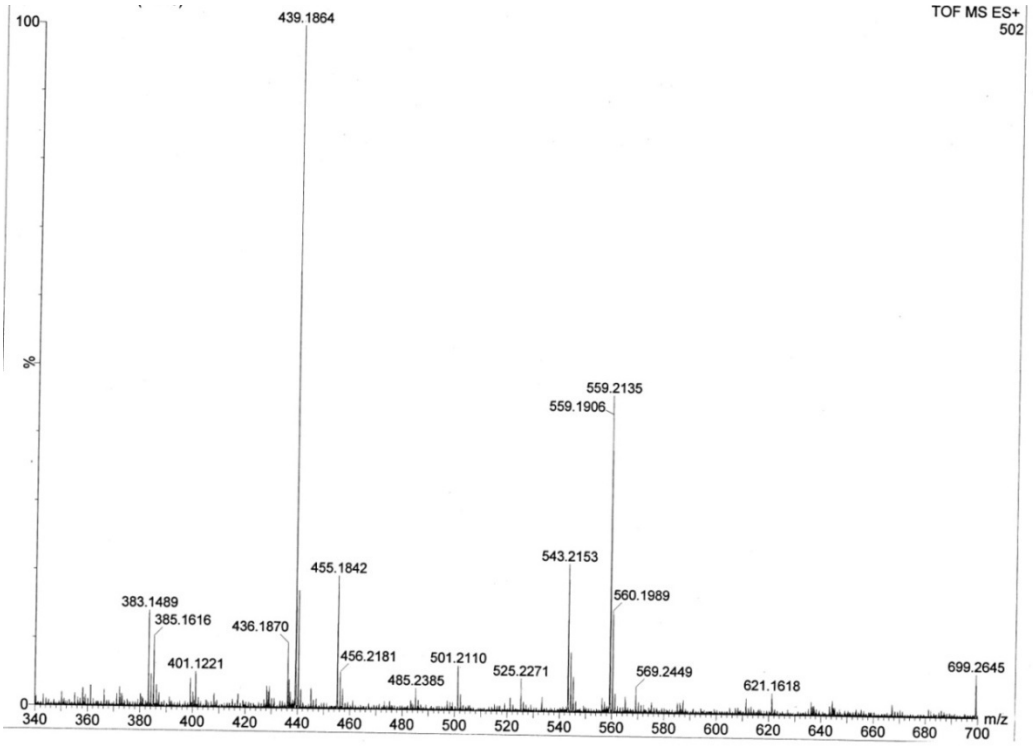

Fig. S6 The ESI-MS spectrum of Boc-D-Trp-HEMA (calculated for [M + Na^+]: 439.18 *m*/*z*, observed: 439.186 *m*/*z*).

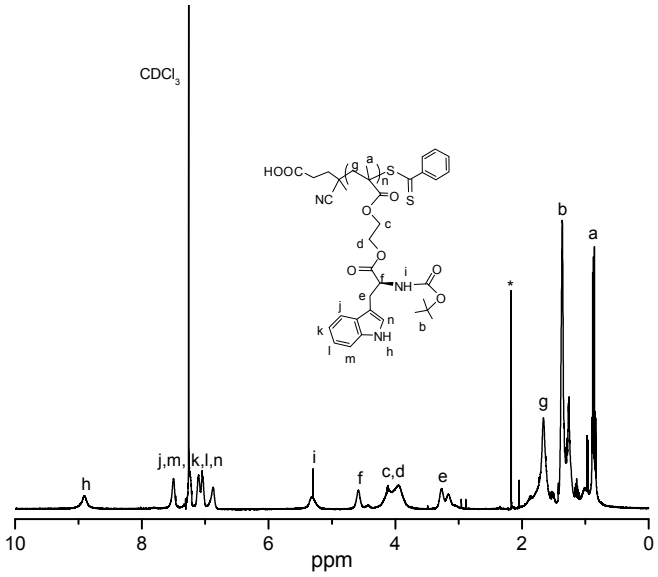

Fig. S7 The ^{1}H NMR spectrum of P(Boc-D-Trp-HEMA) in $CDCl_3$.

UV-Vis Study of Polymer End-Groups. Three different concentrations of 4-cyano-4-(thiobenzylthio)pentanoic acid (CTP) were prepared in *N*,*N*-dimethylformamide (DMF) and their absorbance values were measured at 501 nm. From these data, average molar absorptivity (ε) of the dithioester moiety was calculated as 144.83 M^{-1} cm^{-1} in DMF at 27 ^{o}C. Polymer solutions were prepared in DMF and their absorbance at 501 nm was determined. The absorbance at 501 nm and ε = 144.83 M^{-1} cm^{-1} provided the concentration of dithioester moiety present in the polymer and from the known weight of the polymer, number average molecular weight ($M_{n,UV\text{-}Vis}$) values were determined.

Table S1 Solubility of P(L-Trp-HEMA) in different solvents.[a]

Solvent	Solubility	Solvent	Solubility
Water	+	THF	+
Acetone	+	Petroleum ether	×
Chloroform	×	Diethyl ether	×
DCM	×	EtOAc	×
CCl_4	×	Hexanes	×
Methanol	+	Benzene	×
Ethanol	+	Toluene	×
DMF	+	1,4-dioxane	+
DMSO	+	Acetonitrile	+

[a] The symbols (+) and (×) indicate soluble and insoluble, respectively.

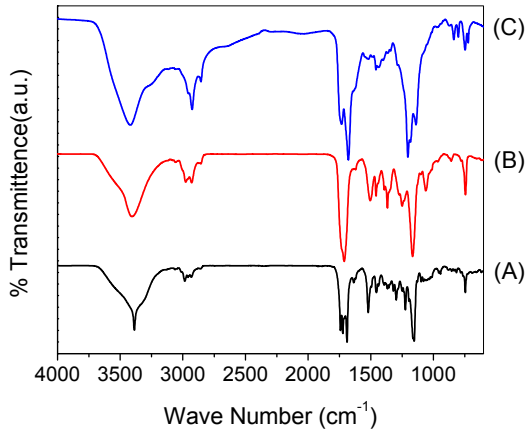

Fig. 8 FT-IR spectra of (A) Boc-L-Trp-HEMA, (B) P(Boc-L-Trp-HEMA), and (C) P(L-Trp-HEMA).