

# Supporting Information for

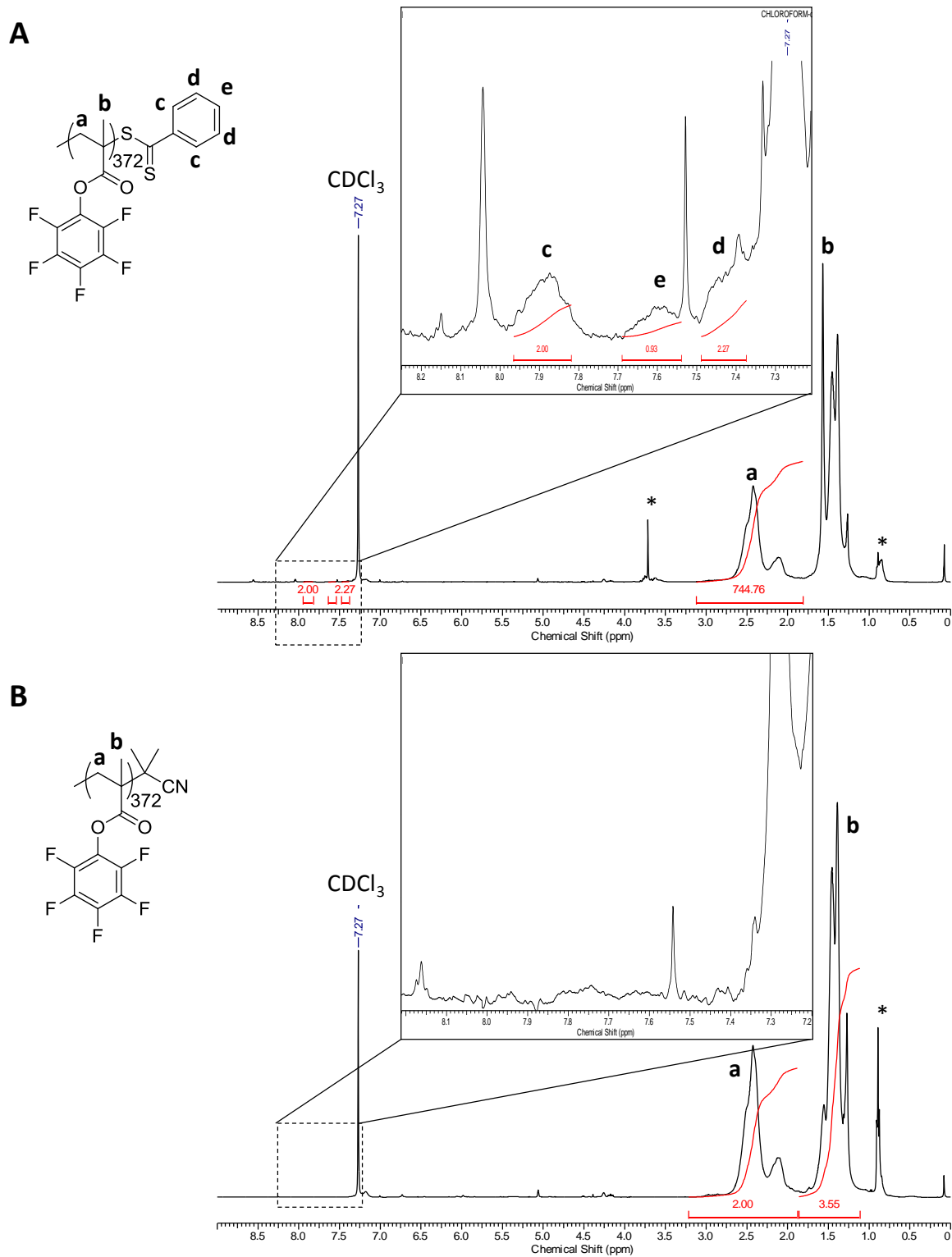
## Polyvalent Side Chain Peptide – Synthetic Polymer

### Conjugates as HIV-1 Entry Inhibitors

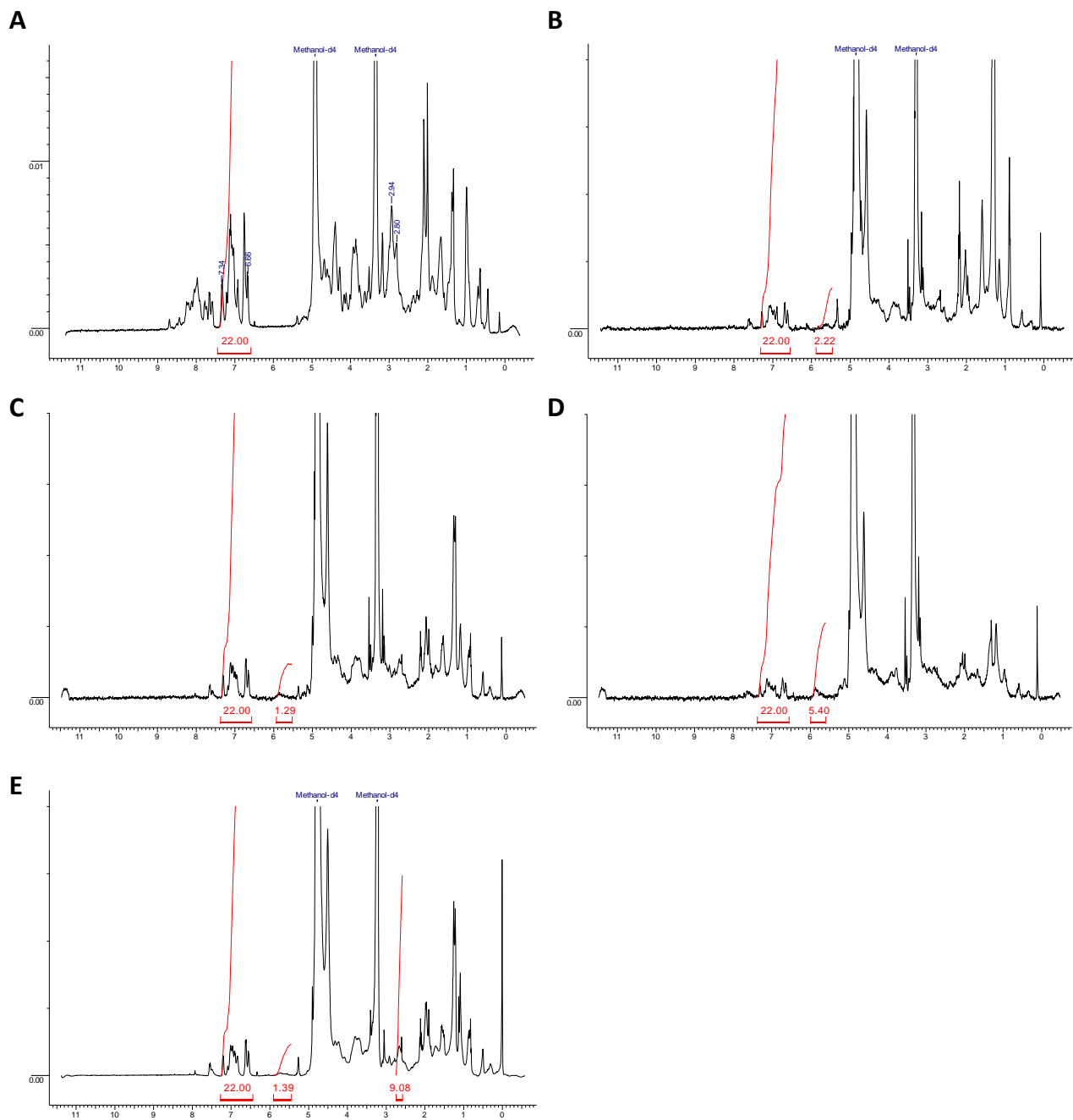
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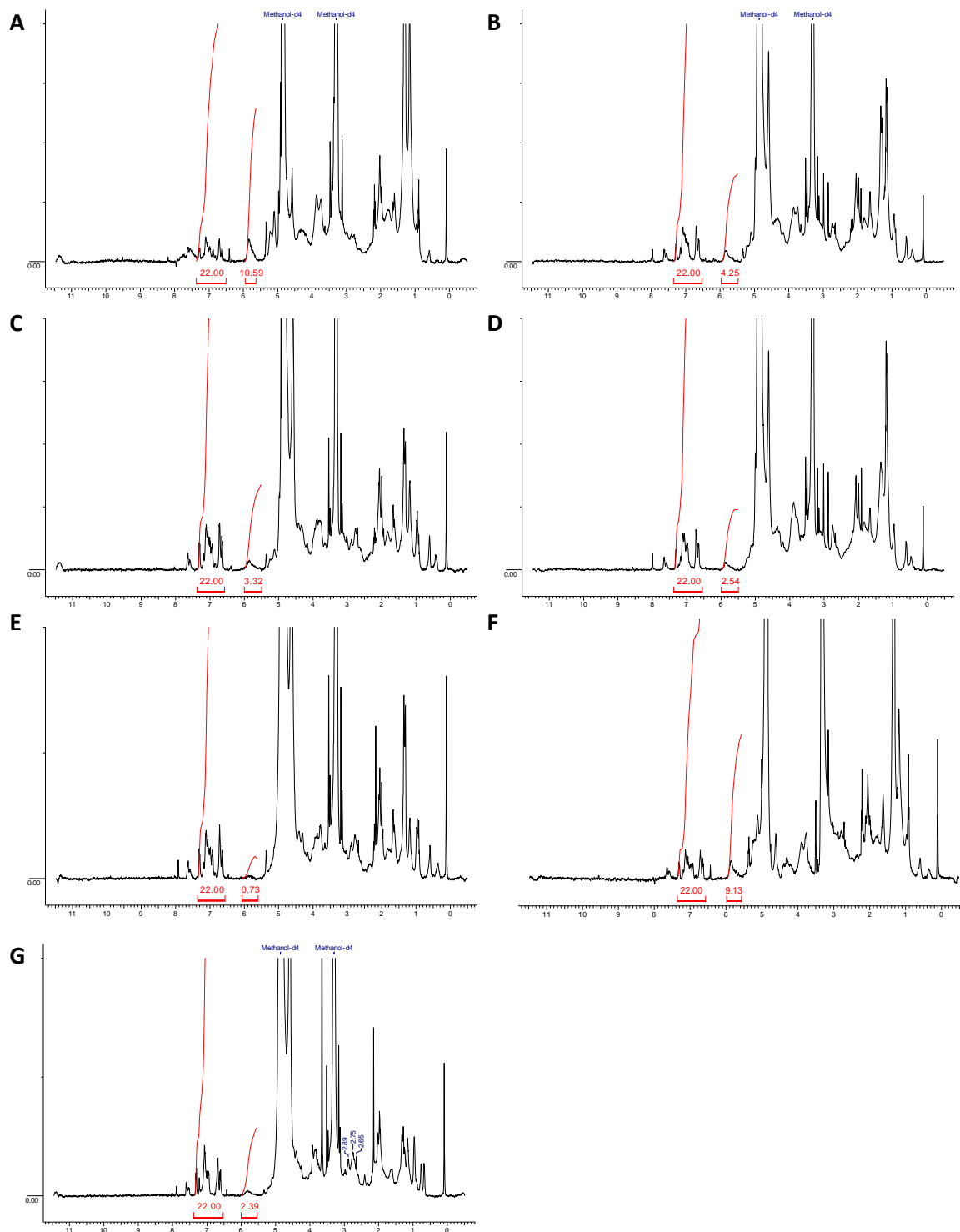
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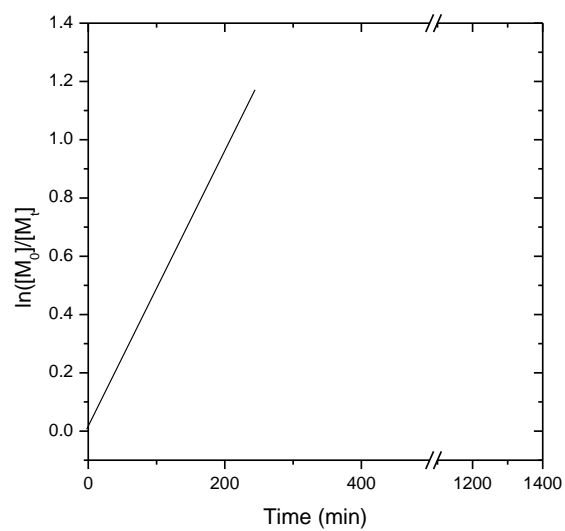
**Figure S1.** <sup>1</sup>H-NMR spectra of (A) PPFMA DP=372 showing the resonances of the RAFT dithiobenzoate end-group used for determination of degree of polymerization and (B) PPFMA after end-group exchange with a 30 mole excess of AIBN. \* indicates residual solvent.



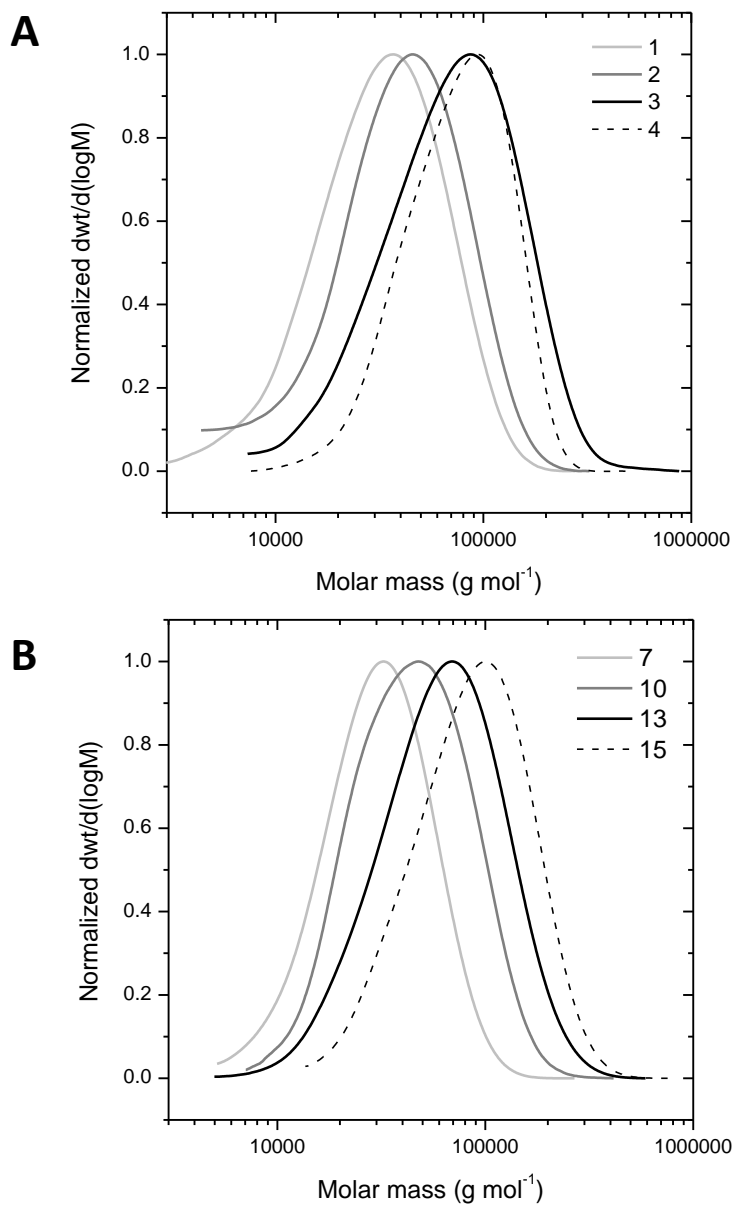
**Figure S2.**  $^1\text{H-NMR}$  spectra of (A) CDR H3 peptide, (B) polymer **16** (18 peptides / copolymer), (C) polymer **17** (12 peptides / copolymer), (D) polymer **18** (19 peptides / copolymer), (E) and polymer **19** (18 peptides / copolymer).



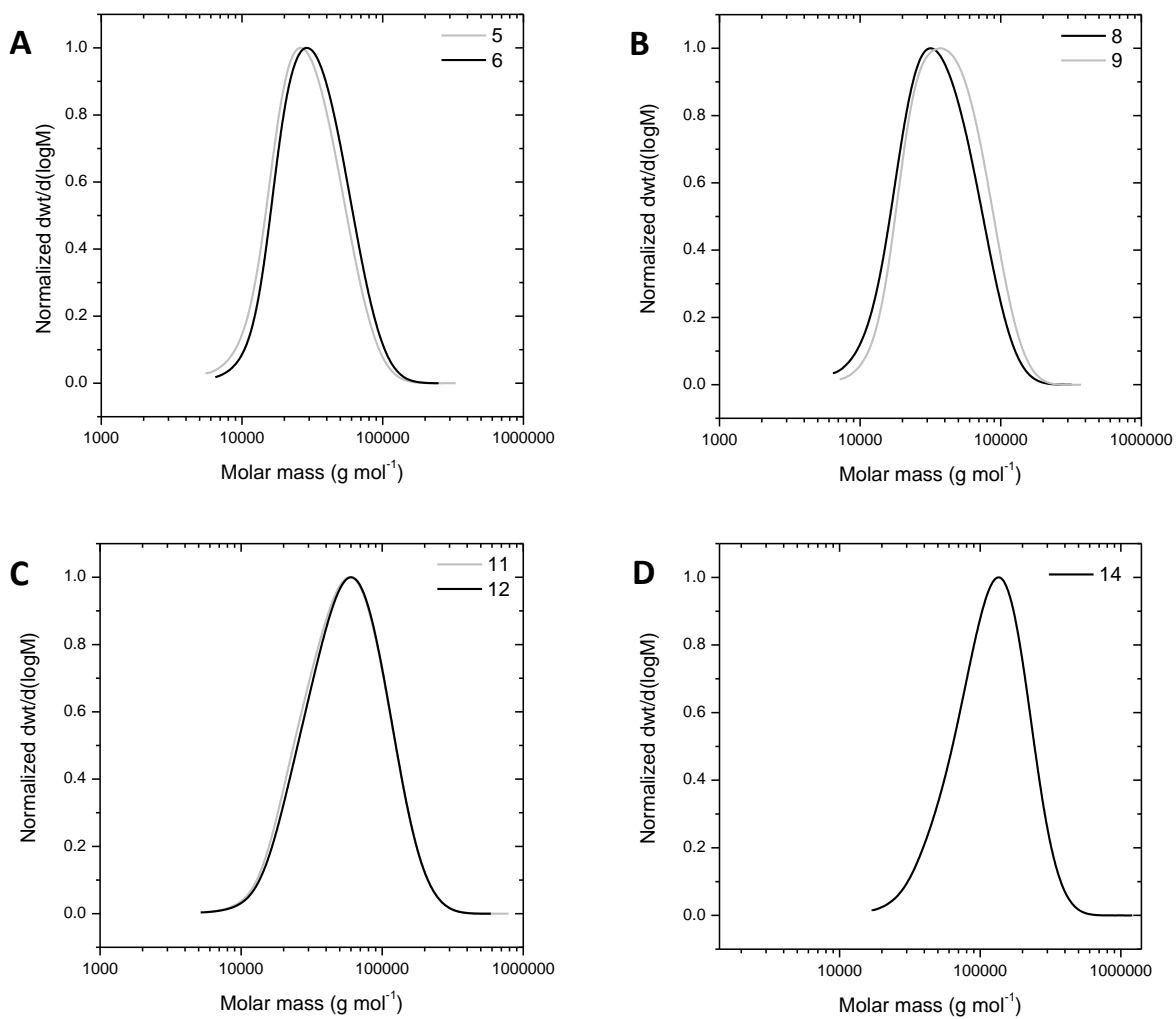
**Figure S3.**  $^1\text{H-NMR}$  spectra of (A) copolymer **20** (15 peptides / copolymer), (B) copolymer **21** (32 peptides / copolymer), (C) copolymer **22** (39 peptides / copolymer), (D) copolymer **23** (19 peptides / copolymer), (E) copolymer **24** (40 peptides / copolymer), (F) copolymer **25** (30 peptides / copolymer) and (G) copolymer **26** (49 scrambled peptides / copolymer).



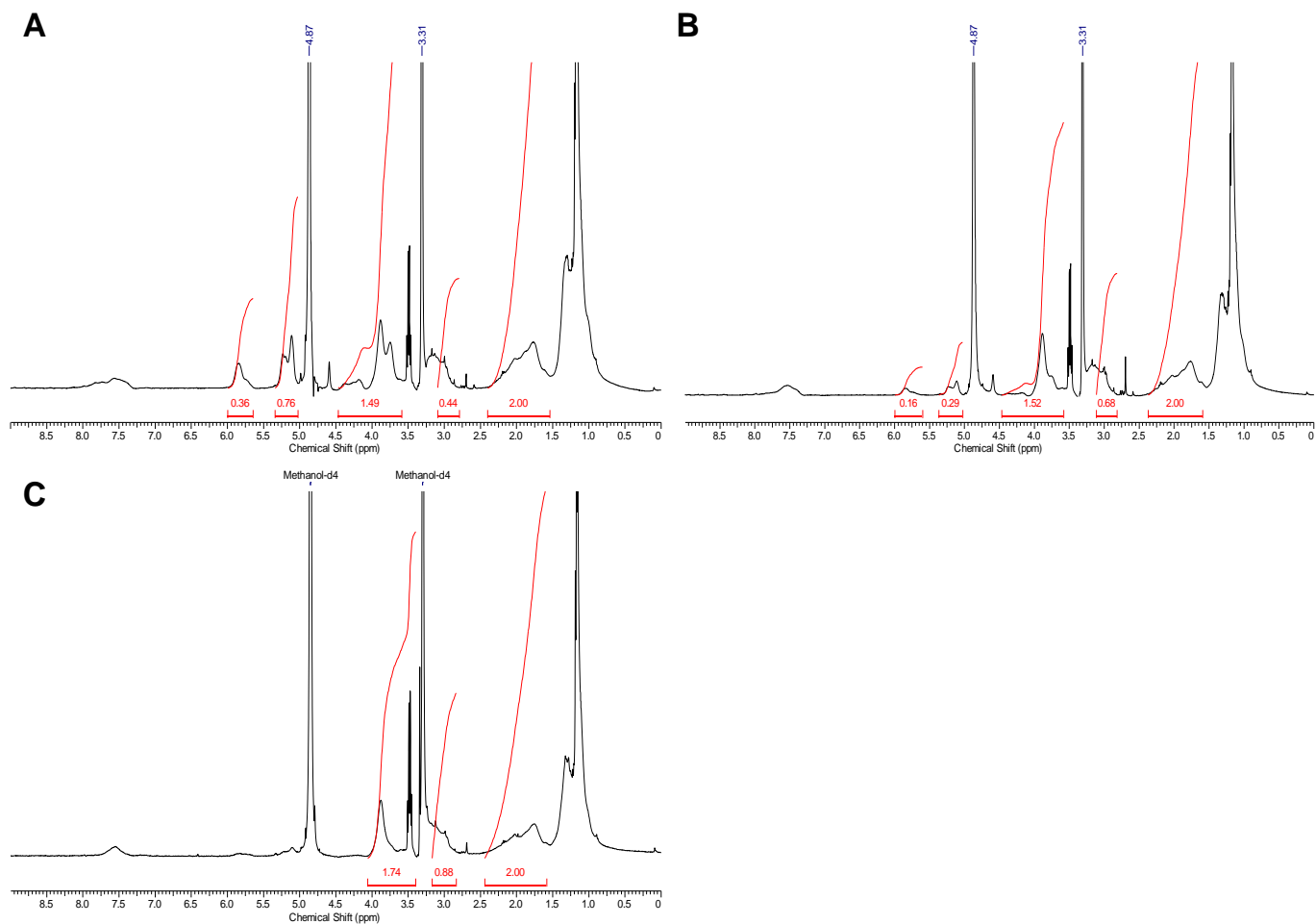
**Figure S4.** Kinetics of polymerization of polymer **3** showing loss of linearity at ~ 70 % conversion at ~ 240 minutes.



**Figure S5.** Gel permeation chromatograms of (A) PPFMA polymer precursors **1**, **2**, **3** and **4** and (B) post-modified PHPMA polymers **7**, **10**, **13** and **15**.

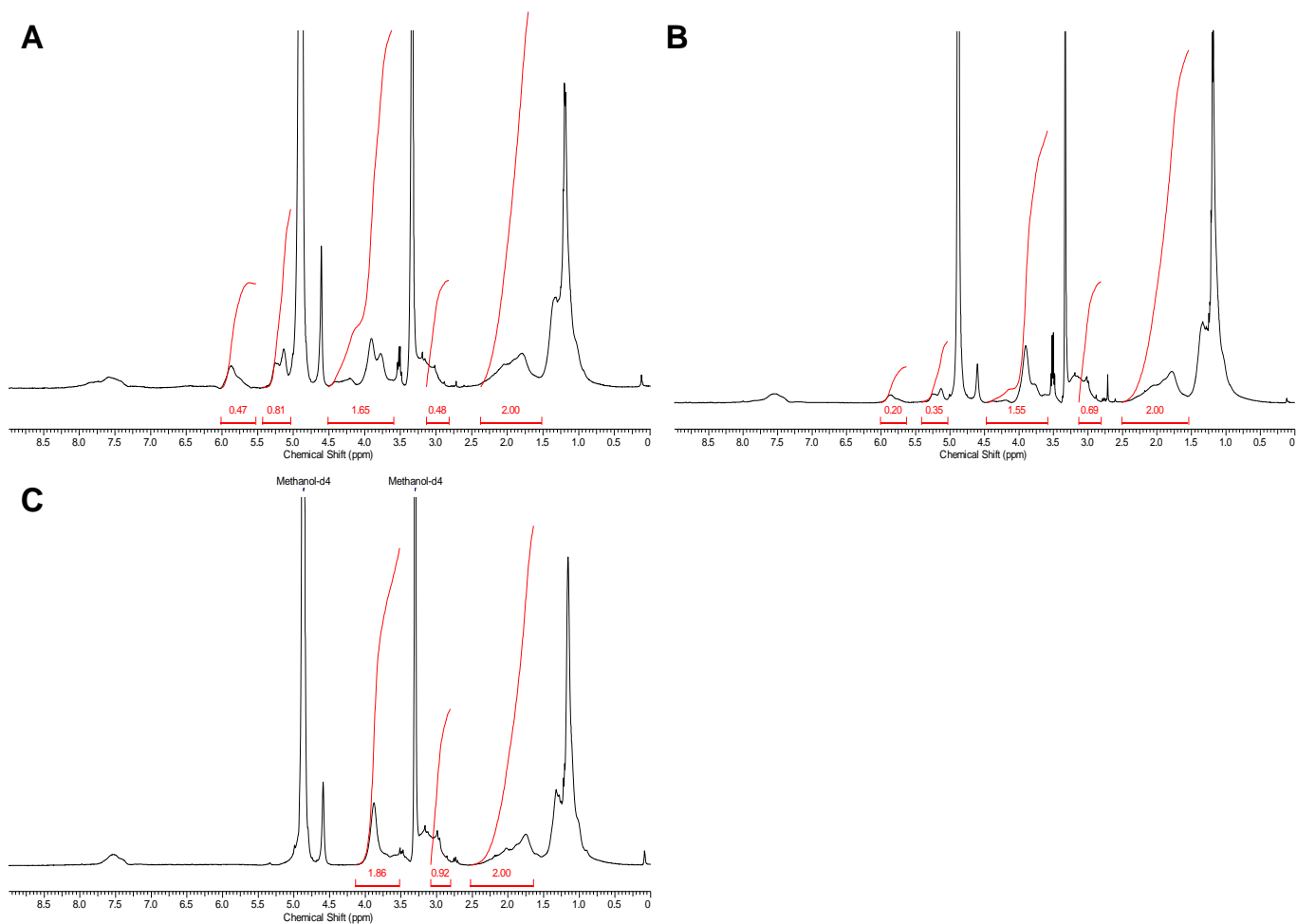


**Figure S6.** Size exclusion chromatograms of the copolymers produced by post-polymerization modification of PPFMA polymers **1**, **2**, and **3** with allylamine and 2-hydroxypropylamine yielding (A) copolymers **5** and **6** (B) copolymers **8** and **9**, (C) copolymers **11** and **12** and (D) copolymer **14**.

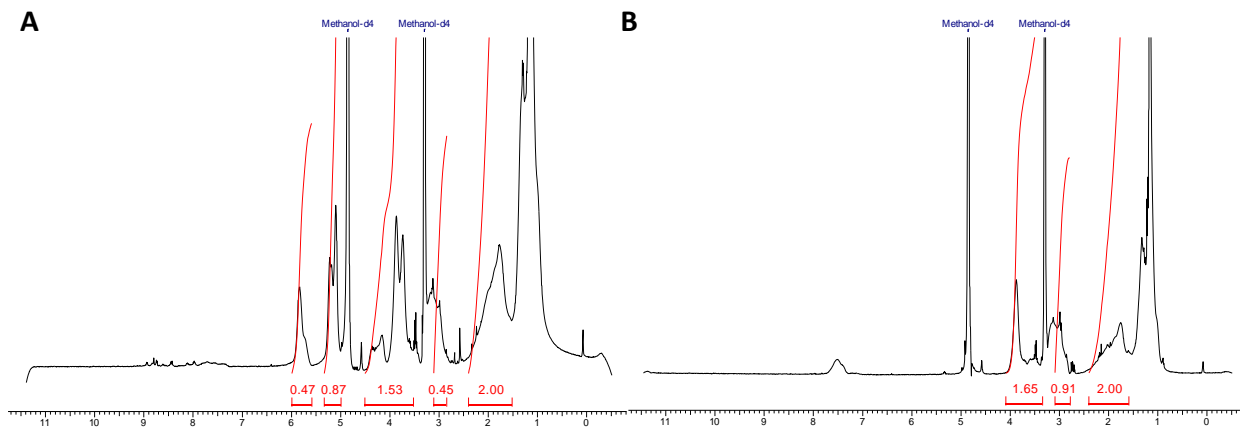


**Figure S7.**  $^1\text{H-NMR}$  spectra of (A) poly(AIIMA<sub>50</sub>-co-HPMA<sub>50</sub>) polymer **5**, poly(AIIMA<sub>20</sub>-co-HPMA<sub>80</sub>) polymer **6** (B) and (C) poly(HPMA<sub>100</sub>) polymer **7**. The subscripts indicate the percentage of allylamine and 2-hydroxypropylamine in the feed.

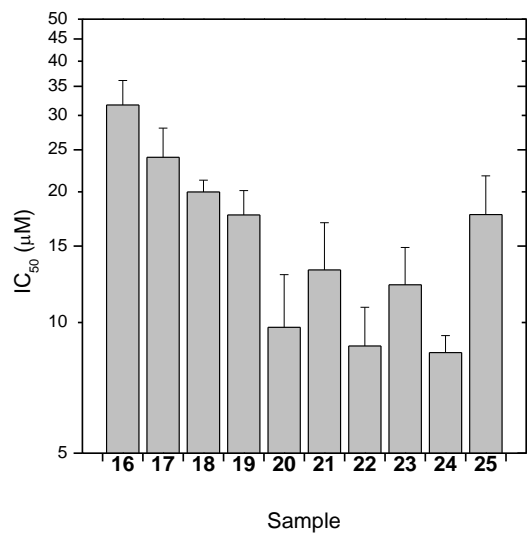




**Figure S8.**  $^1\text{H-NMR}$  spectra of (A) poly(AllMA<sub>50</sub>-co-HPMA<sub>50</sub>) polymer **8**, (B) poly(AllMA<sub>20</sub>-co-HPMA<sub>80</sub>) polymer **9**, and (C) poly(HPMA<sub>100</sub>) polymer **10**. The subscripts indicate the percentage of allylamine and 2-hydroxypropylamine in the feed.



**Figure S9.**  $^1\text{H-NMR}$  spectra of (A) poly(AllMA<sub>50</sub>-co-HPMA<sub>50</sub>) polymer **14** and (B) poly(HPMA<sub>100</sub>) polymer **15**. The subscripts indicate the percentage of allylamine and 2-hydroxypropylamine in the feed.



**Figure S10.** Infectivity inhibition of HIV<sub>JRFL</sub> primary strain on HOS CCR5 cells.