

Supporting Information

Peptide-based hydrogels and nanogels containing Gd(III) complexes as T_1 relaxation agents

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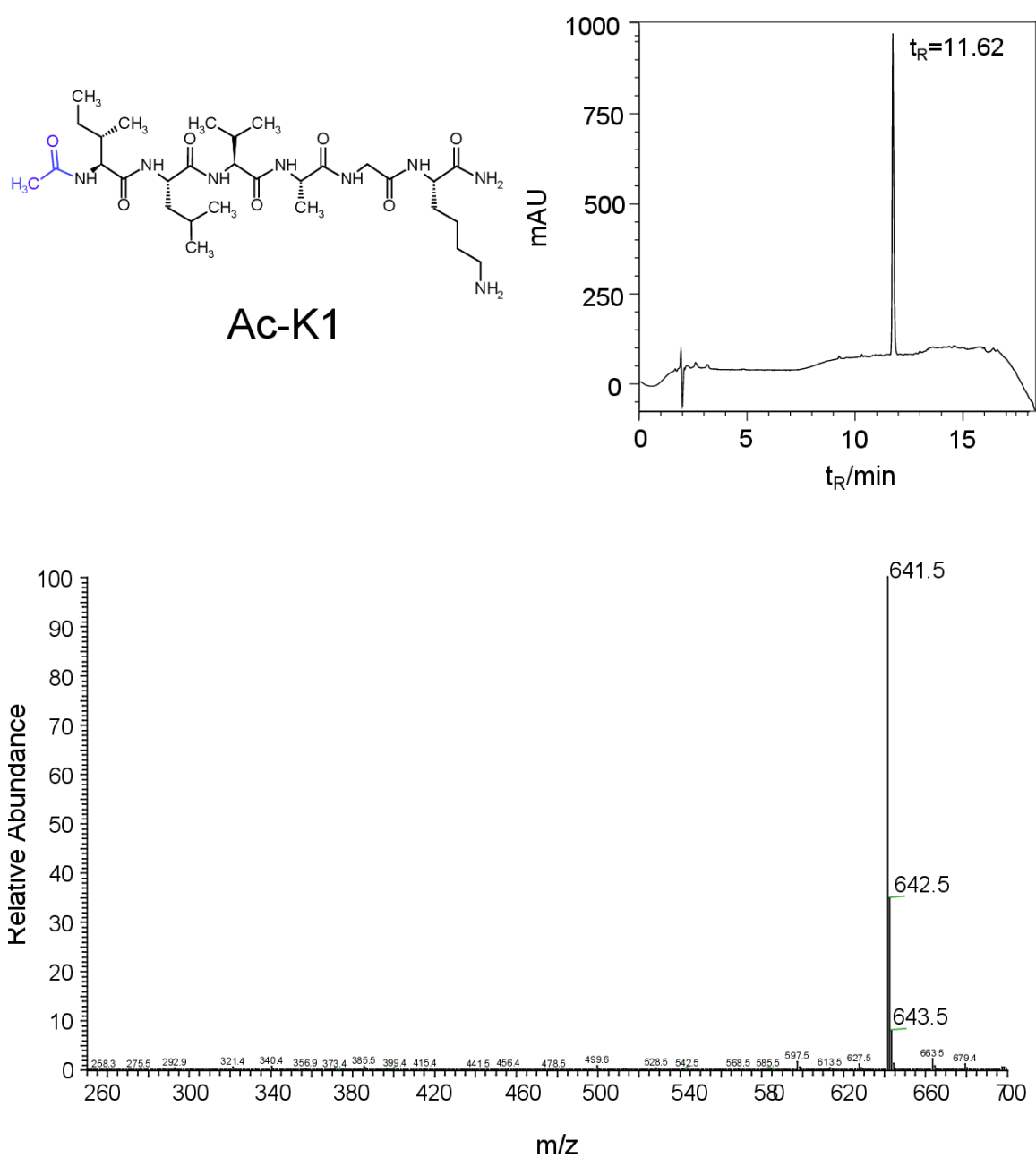


Figure S1: Chemical structure of Ac-K1 peptide with the corresponding RP-HPLC chromatogram and ESI mass spectrum

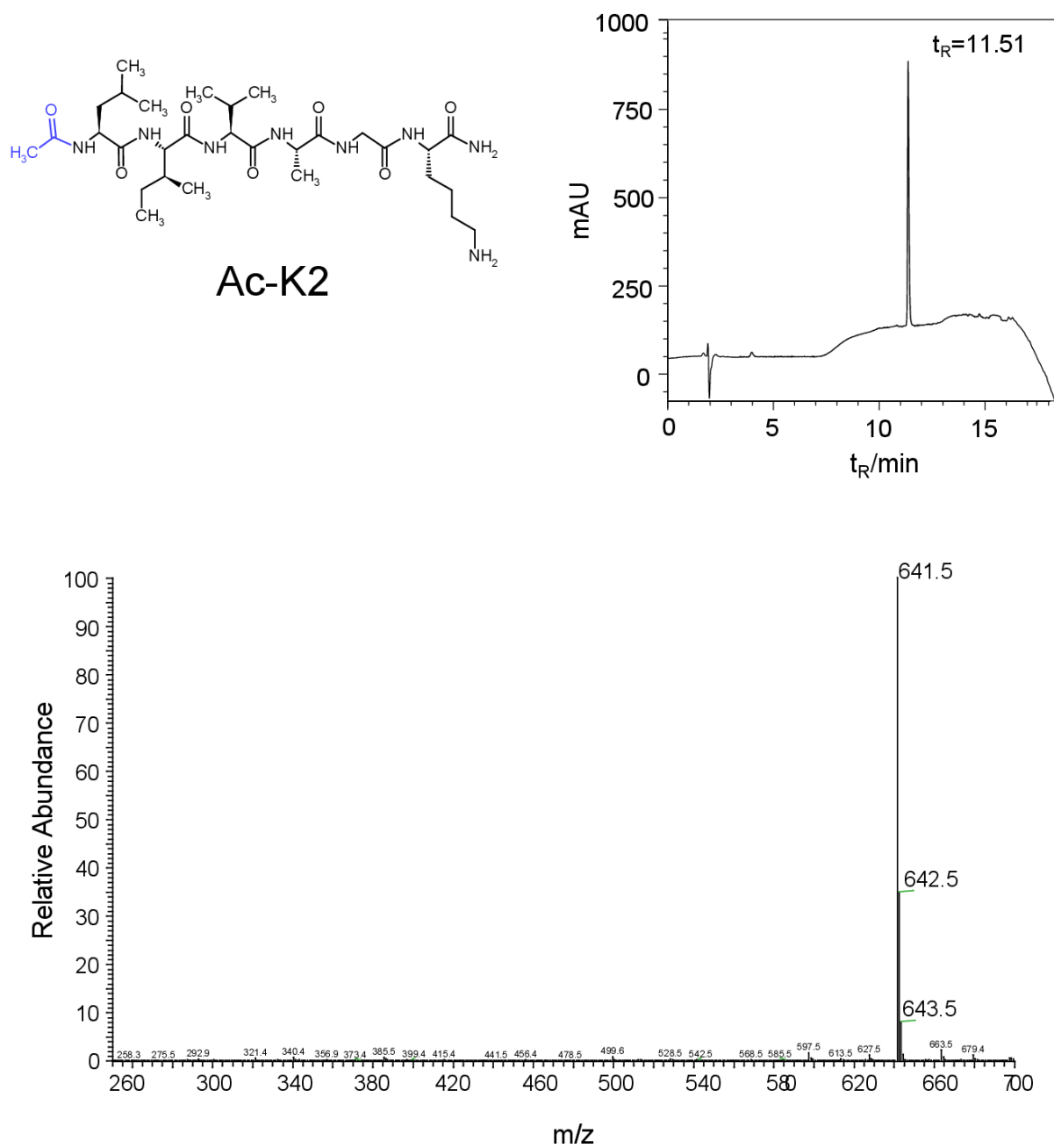


Figure S2: Chemical structure of Ac-K2 peptide with the corresponding RP-HPLC chromatogram and ESI mass spectrum



and ESI mass spectrum

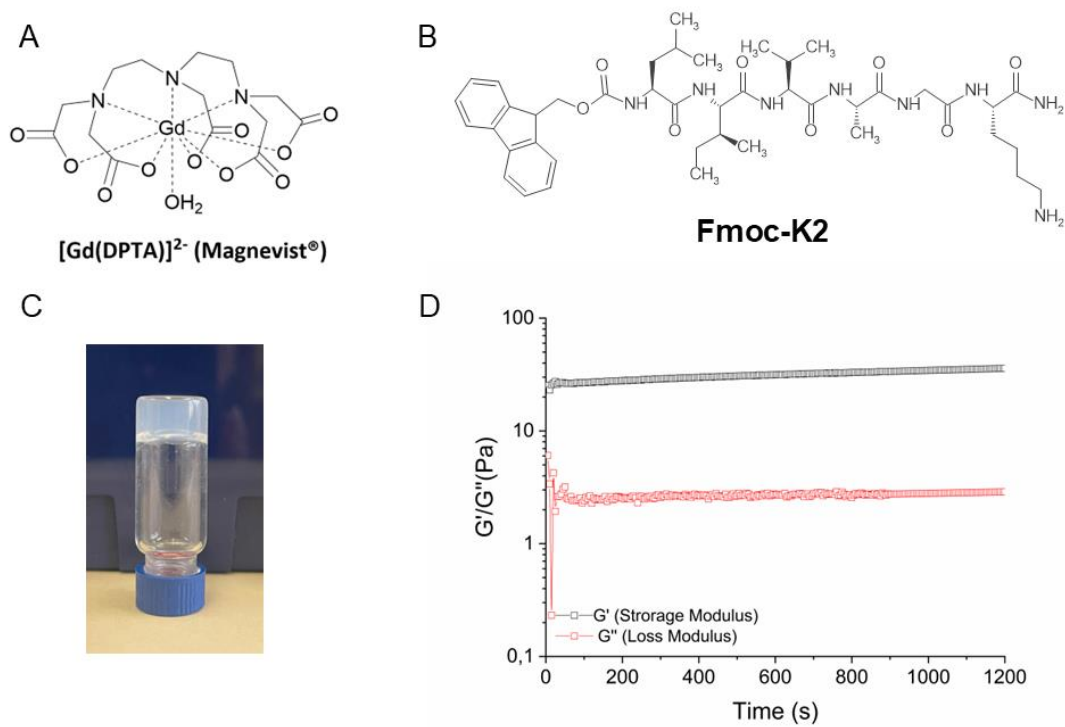


Figure S4: Schematic representation of $[Gd(DTPA)]^{2-}$ complex (A) and of Fmoc-K2 peptide (B). C) Inverted tube test for $[Gd(DTPA)]^{2-}$ filled Fmoc-K2 hydrogel. D) Time sweep rheological analysis of Fmoc-K2 hydrogel loaded with $[Gd(DTPA)]^{2-}$ reported as storage modulus (G') and loss modulus (G'').

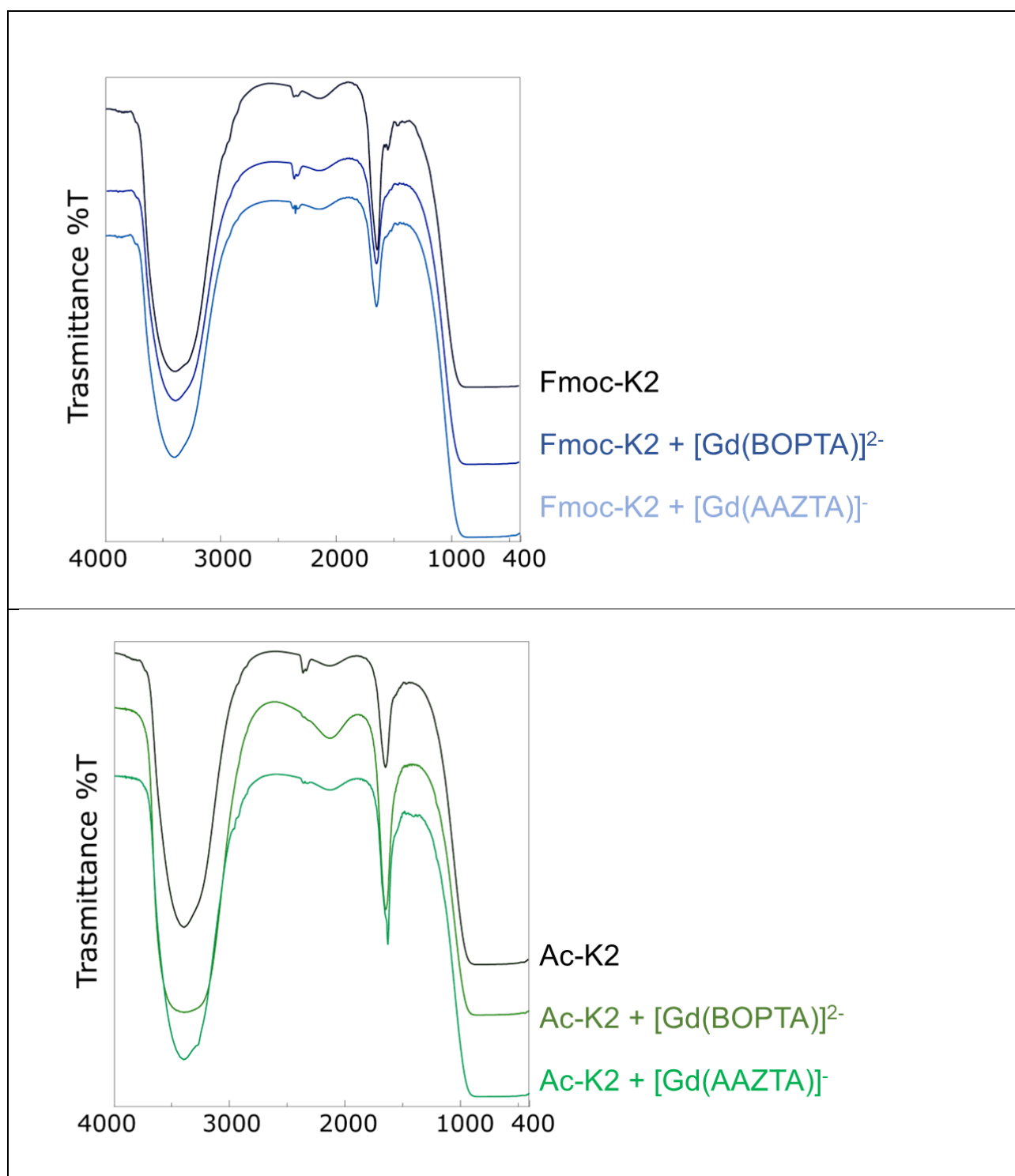


Figure S5: FTIR spectra of Fmoc-K2 and Ac-K2 empty hydrogels compared with hydrogels loaded with [Gd(BOPTA)]²⁻ or [Gd(AAZTA)]⁻ complexes.

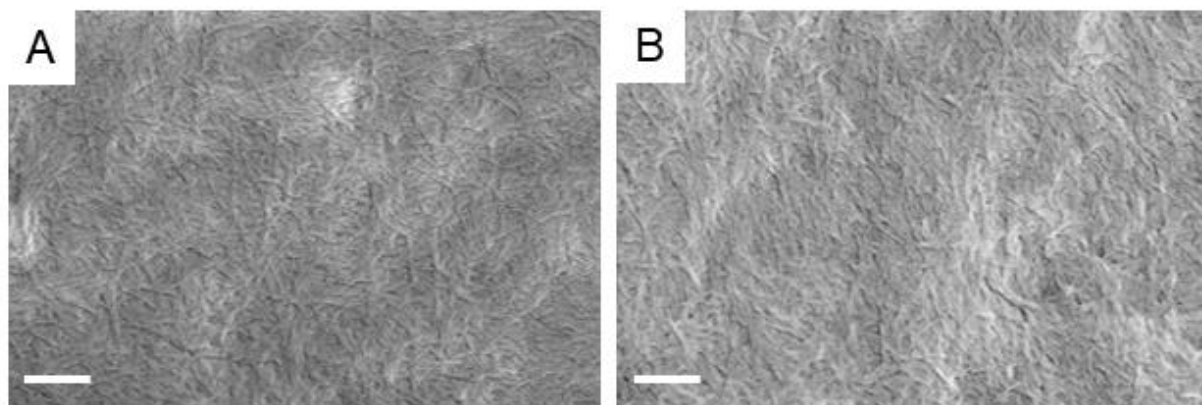


Figure S6: SEM micro-photos of Fmoc-K2 (A) and Fmoc-K3 (B) loaded with $[\text{Gd}(\text{AAZTA})]^-$ (scale bar is 500 nm).

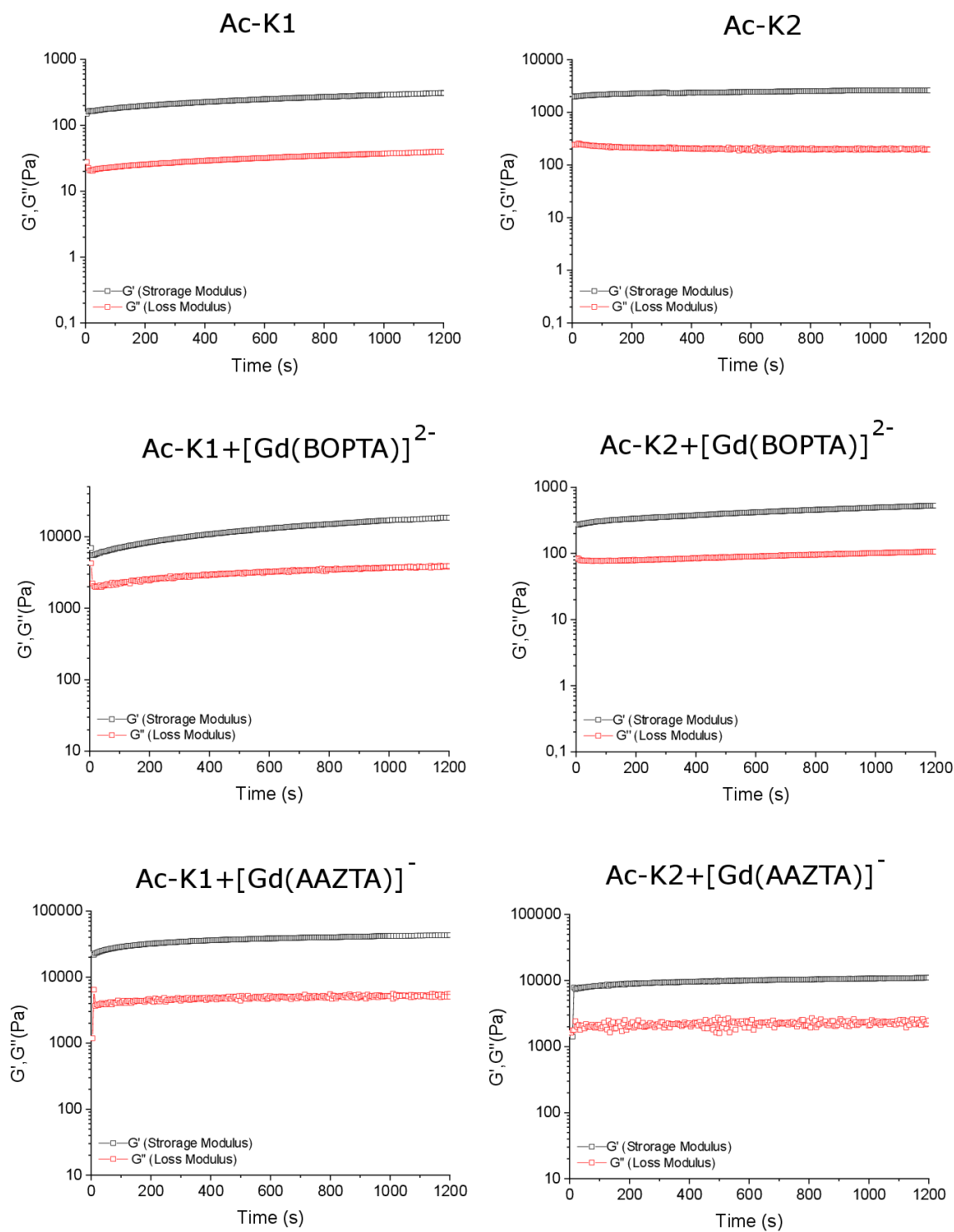


Figure S7: Rheological profiles of time sweep measurements for Ac-peptide series. G' and G'' are graphed in black and red, respectively.

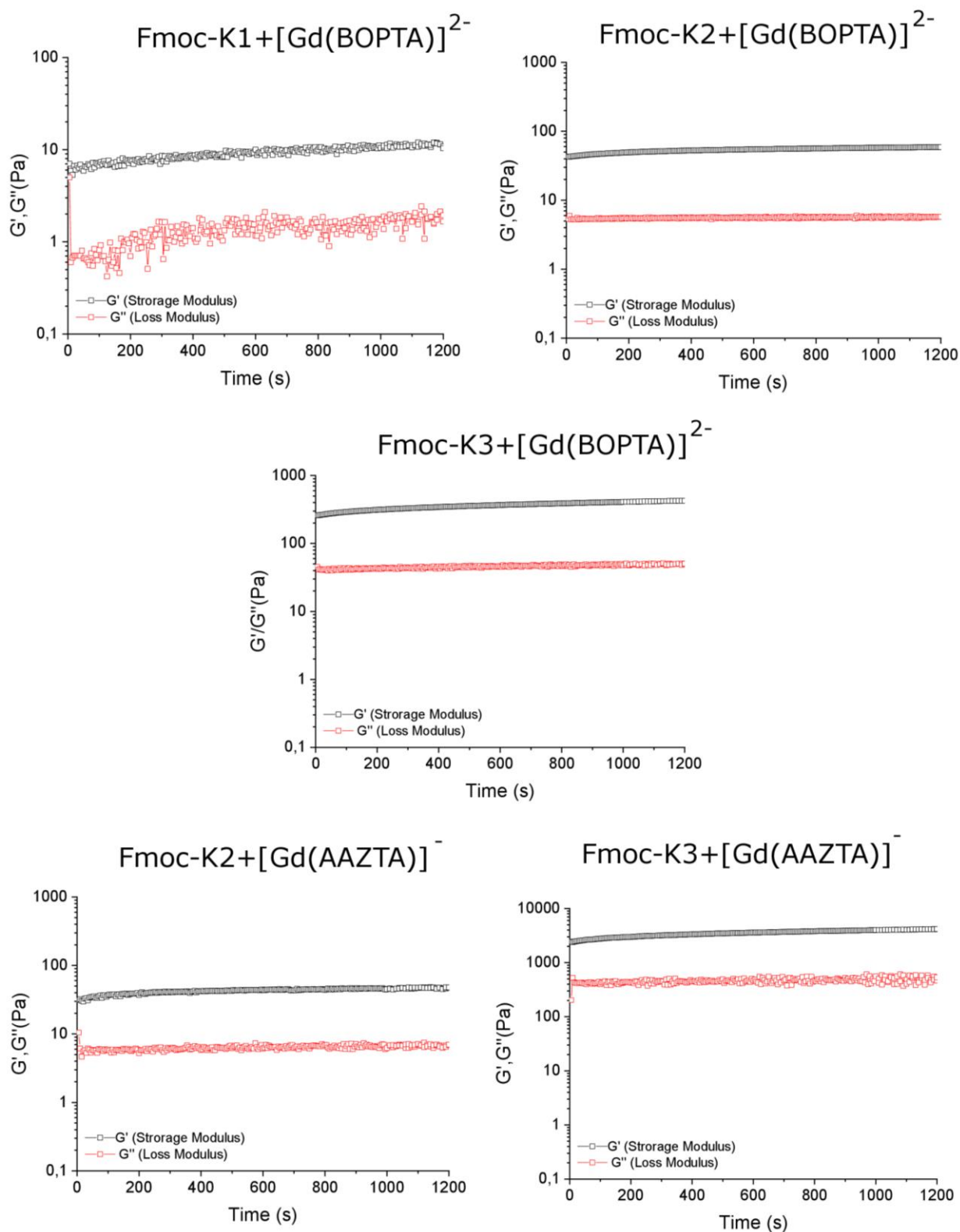


Figure S8: Rheological profiles of time sweep measurements for Fmoc-peptide series. G' and G'' are graphed in black and red, respectively.

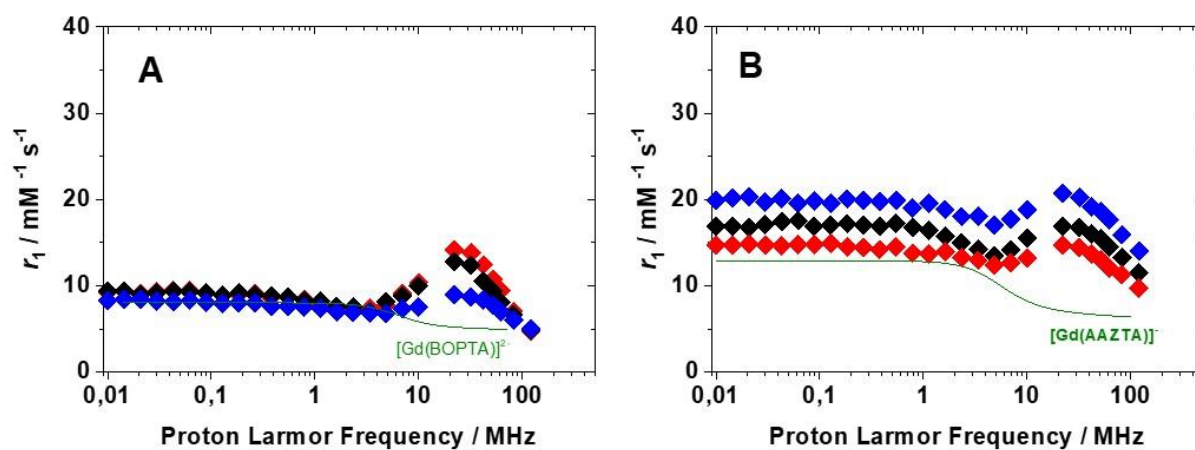


Figure S9: ^1H NMRD profiles of $\text{Fmoc-K3} + [\text{Gd}(\text{BOPTA})]^{2-}$ (A), $\text{Fmoc-K3} + [\text{Gd}(\text{AAZTA})]^{-}$ (B) at 283 (blue), 298 (black) and 310 K (red). The profiles of the corresponding chelates in aqueous solution are also reported as solid lines.

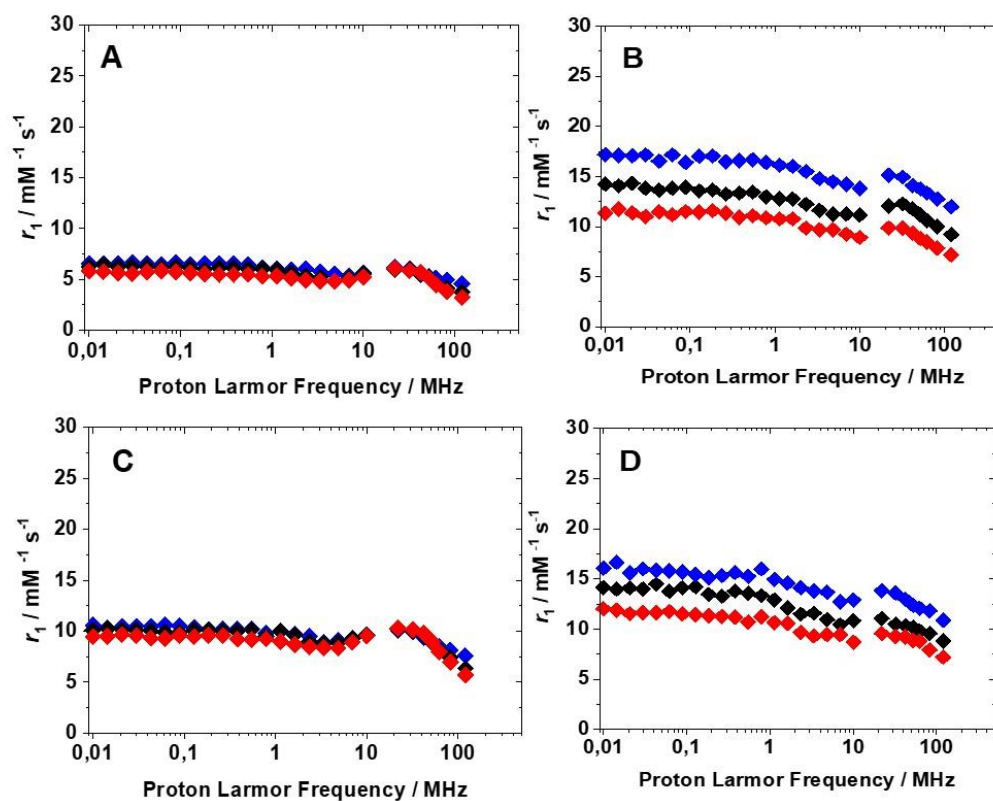


Figure S10: ^1H NMRD profiles of $\text{Ac-K1}+[\text{Gd}(\text{BOPTA})]^{2-}$ (A), $\text{Ac-K1}+[\text{Gd}(\text{AAZTA})]^-$ (B), $\text{Ac-K2}+[\text{Gd}(\text{BOPTA})]^{2-}$ (C), $\text{Ac-K2}+[\text{Gd}(\text{AAZTA})]^-$ (D) at 283 (blue), 298 (black) and 310 K (red).