

Supporting Information for

Metallopolymer-Based Block Copolymers for the Preparation of Porous and Redox-Responsive Materials

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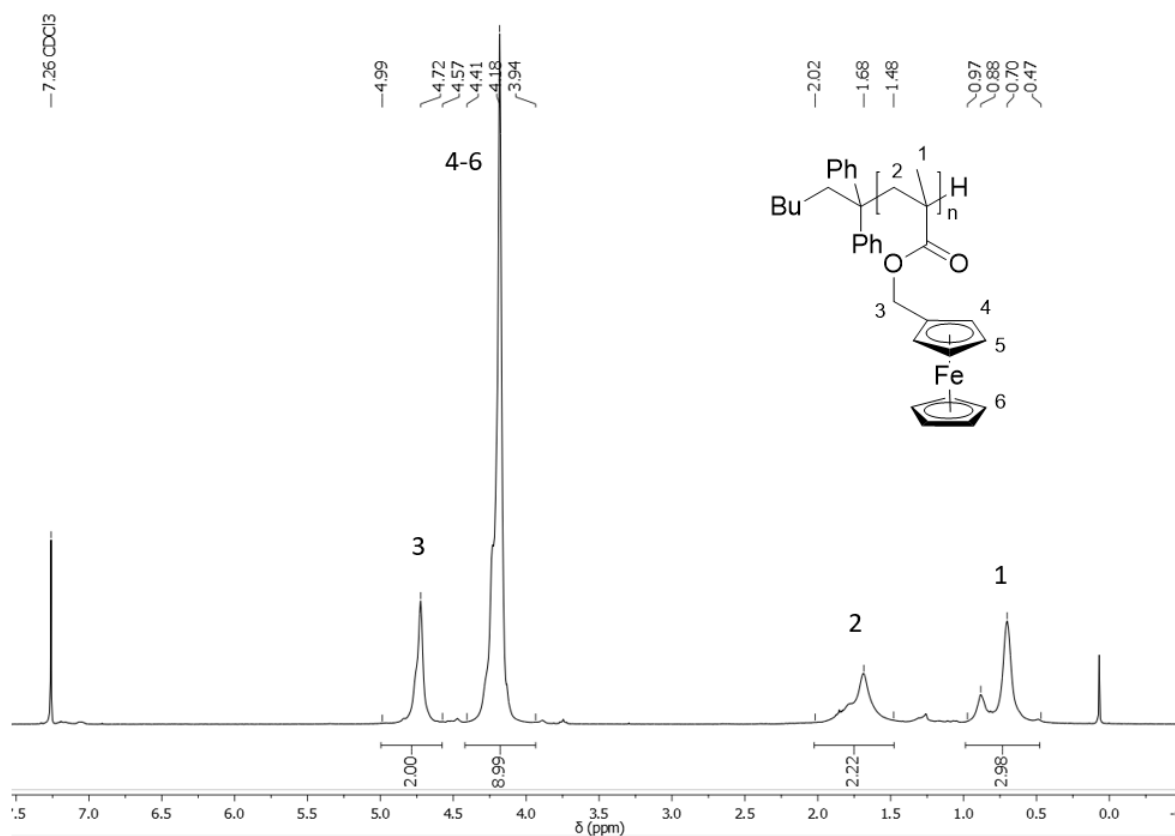


Figure S1. ^1H NMR spectrum of PFMMA₁₀₀ in CDCl_3 .

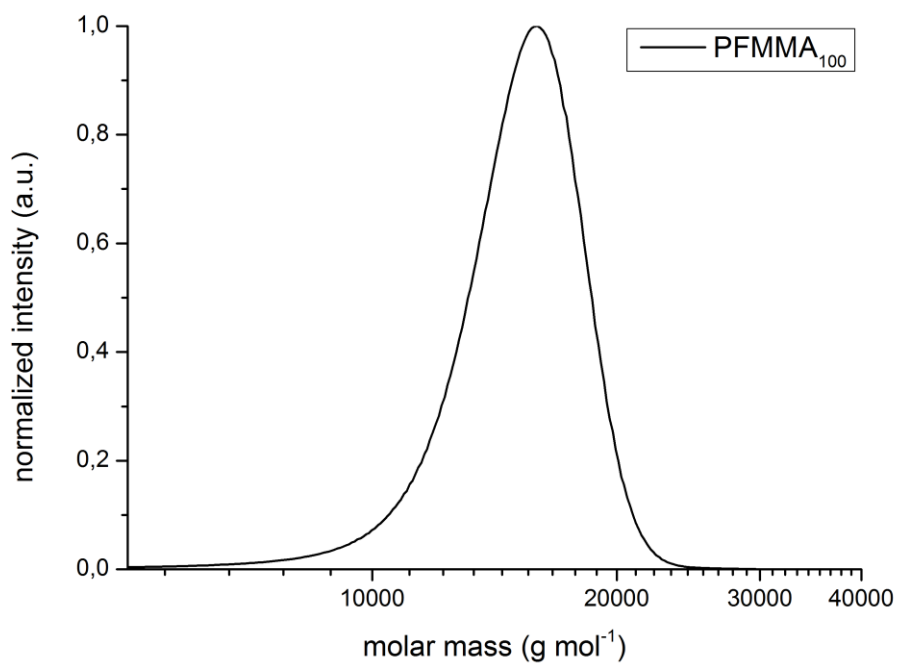


Figure S2. Molar mass distribution obtained by SEC measurements vs. PS standards in THF as eluent for PFMMA₁₀₀ (black line).

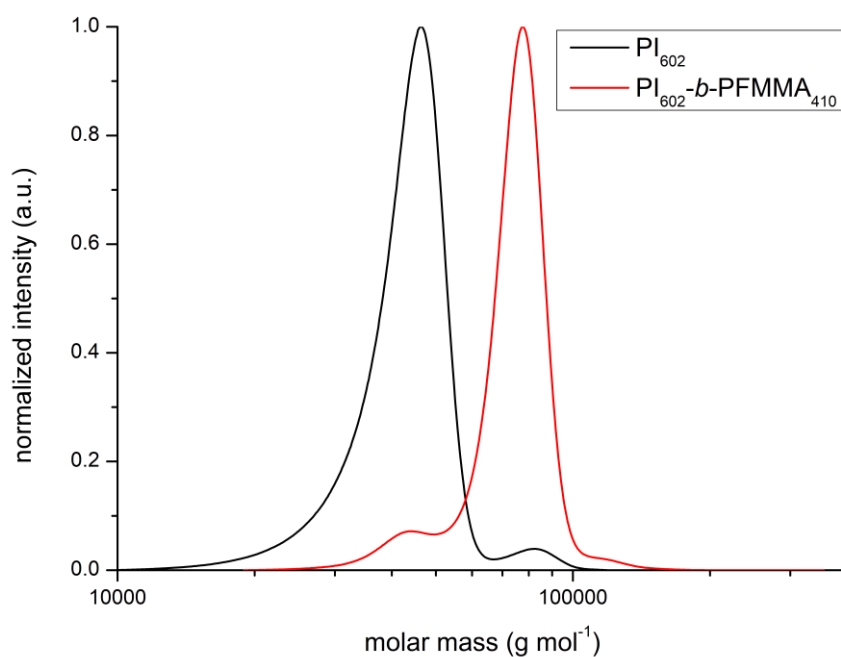


Figure S3. Molar mass distributions obtained by SEC measurements vs. PS standards in THF as eluent for PI_{602} precursor (black line) and $\text{PI}_{602}\text{-}b\text{-PFMMA}_{410}$ (red line).

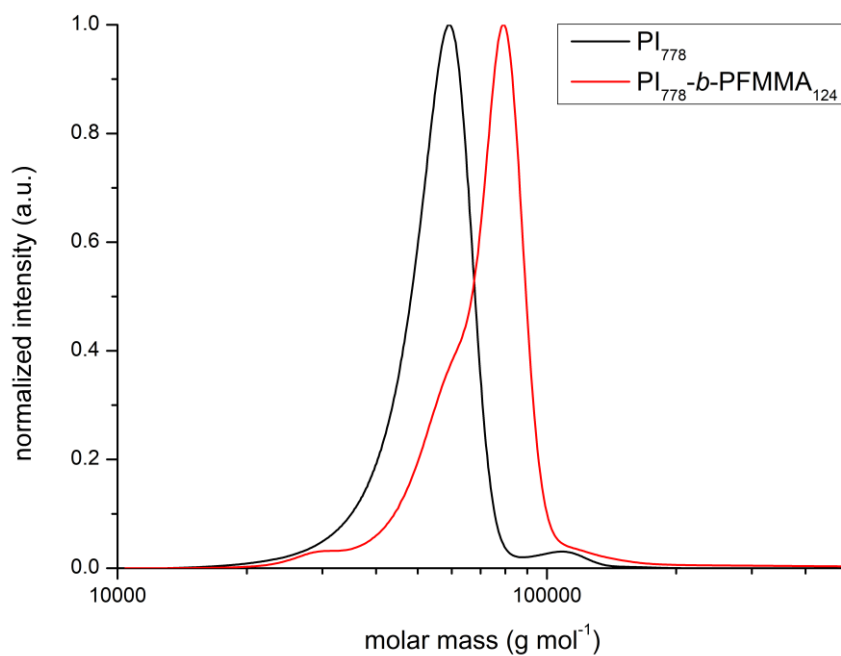


Figure S4. Molar mass distributions obtained by SEC measurements vs. PS standards in THF as eluent for PI_{778} precursor (black line) and $\text{PI}_{778}\text{-}b\text{-PFMMA}_{124}$ (red line).

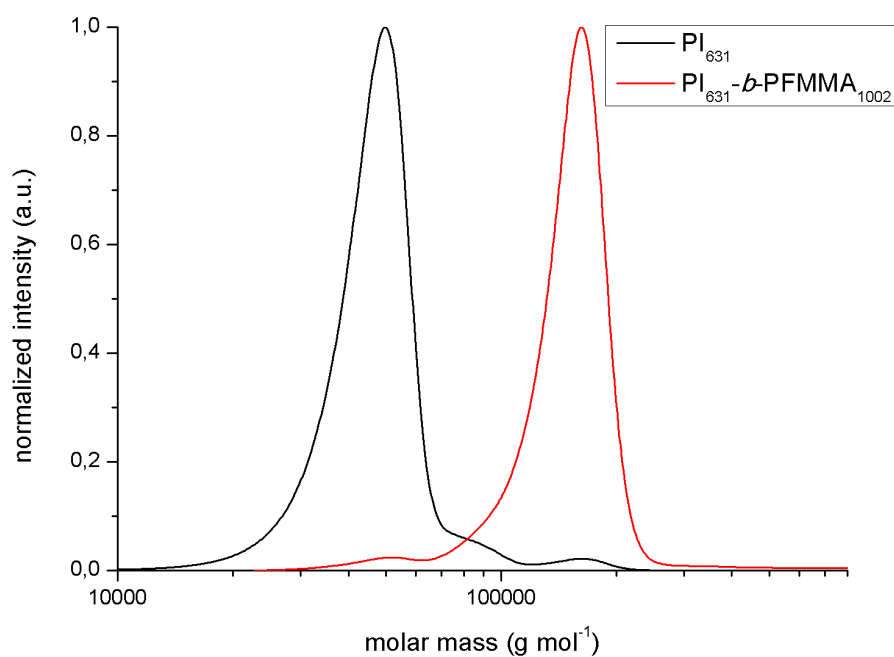


Figure S5. Molar mass distributions obtained by SEC measurements vs. PS standards in THF as eluent for PI_{631} precursor (black line) and $\text{PI}_{631}\text{-}b\text{-PFMMA}_{1002}$ (red line).

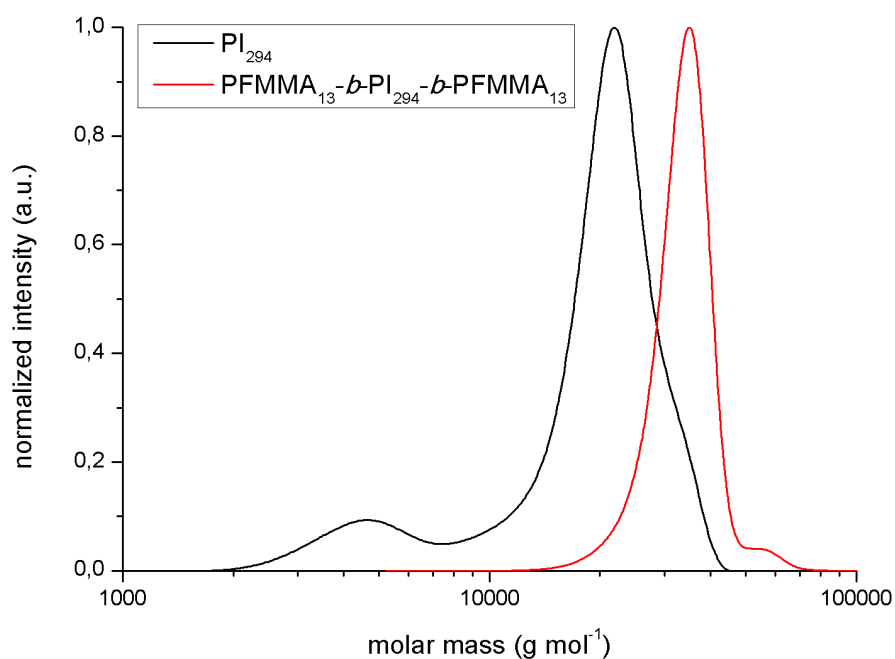


Figure S6. Molar mass distributions obtained by SEC measurements vs. PS standards in THF as eluent for PI_{294} precursor (black line) and $\text{PFMMA}_{13}\text{-}b\text{-PI}_{294}\text{-}b\text{-PFMMA}_{13}$ (red line).

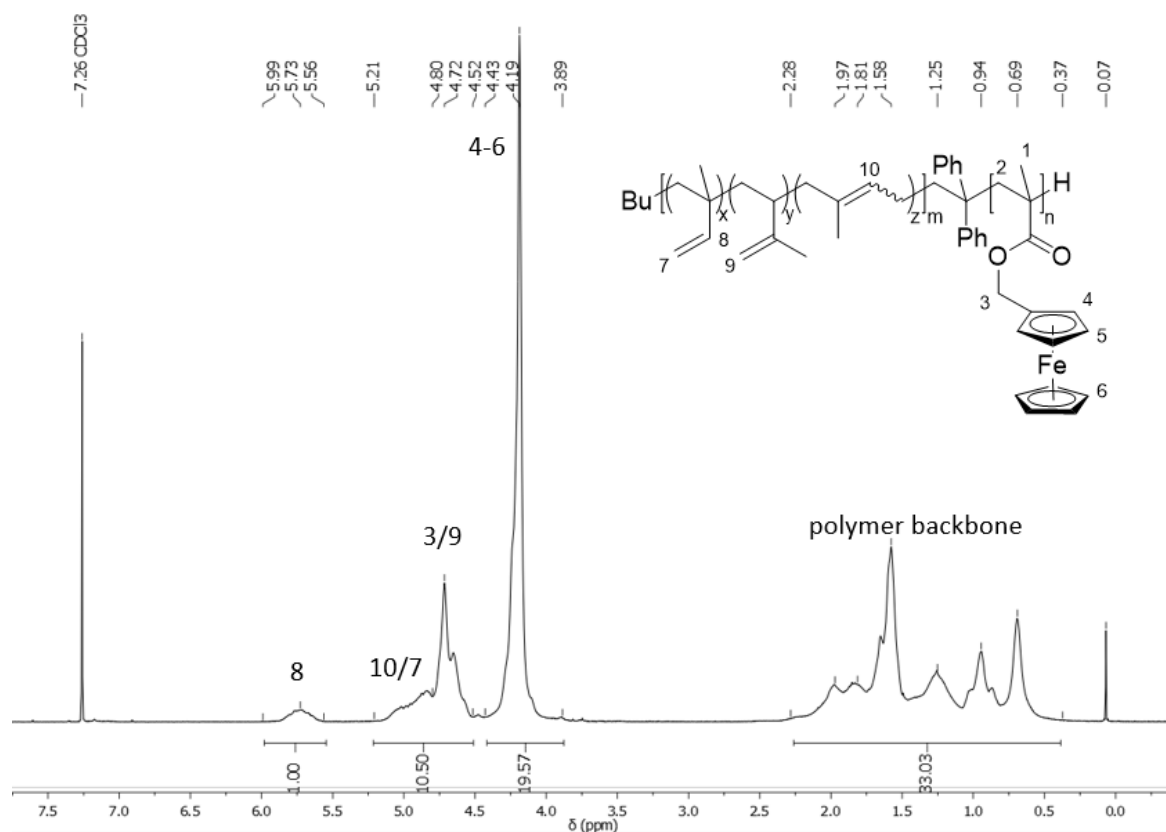


Figure S7. ¹H NMR spectrum of PI₆₀₂-*b*-PFMMA₄₁₀ in CDCl₃.

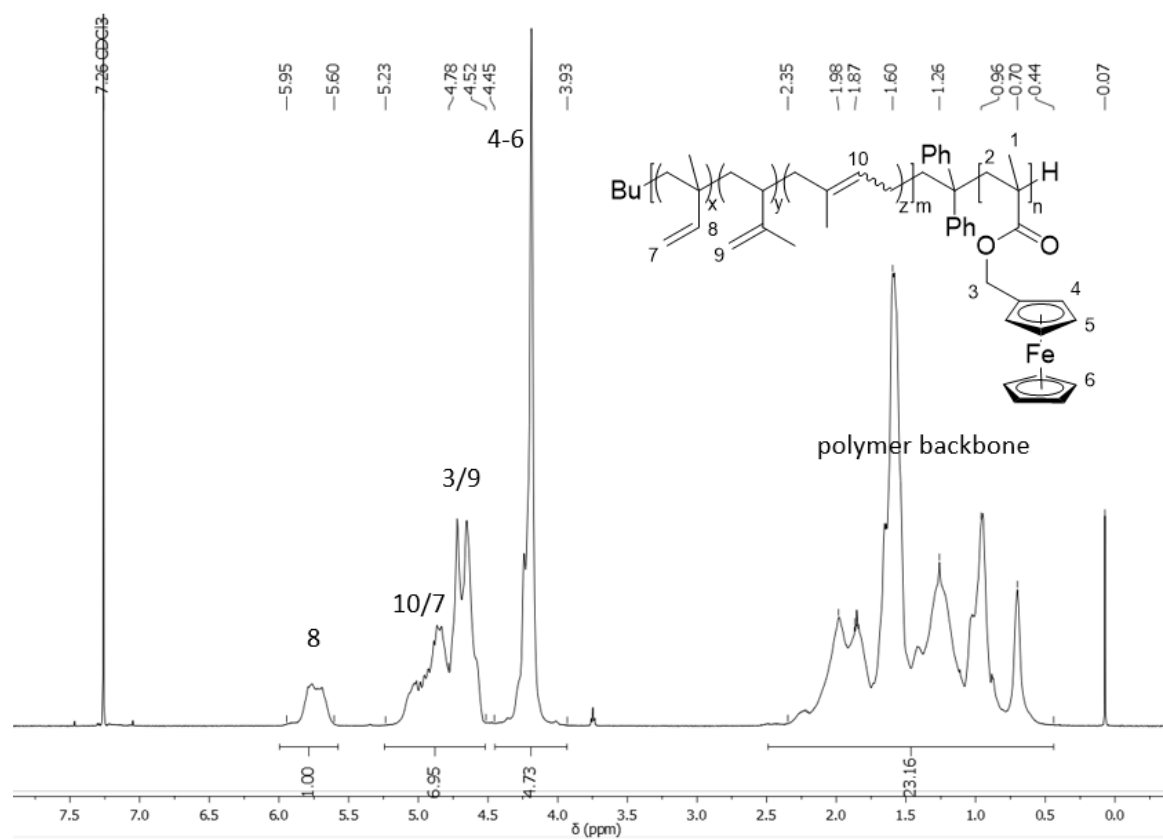


Figure S8. ¹H NMR spectrum of PI₇₇₈-*b*-PFMMA₁₂₄ in CDCl₃.

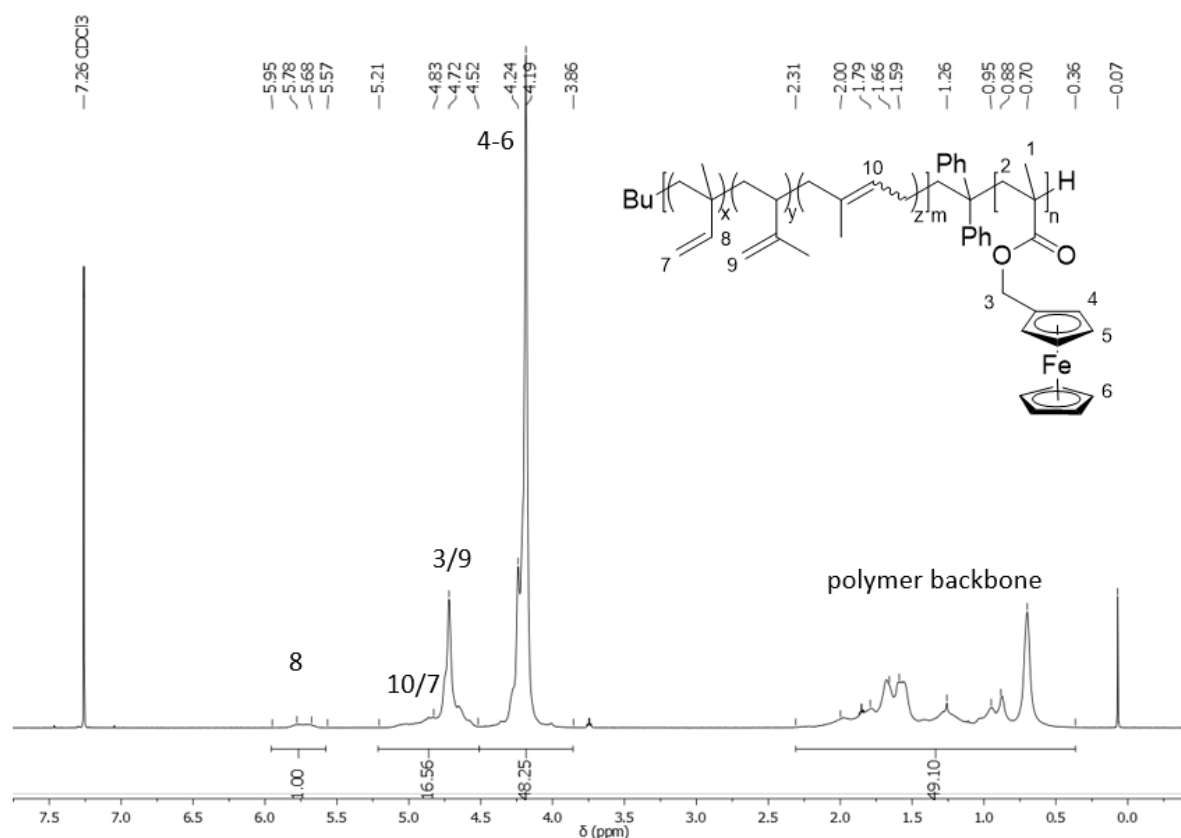


Figure S9. ¹H NMR spectrum of PI₆₃₁-*b*-PFMA₁₀₀₂ in CDCl₃.

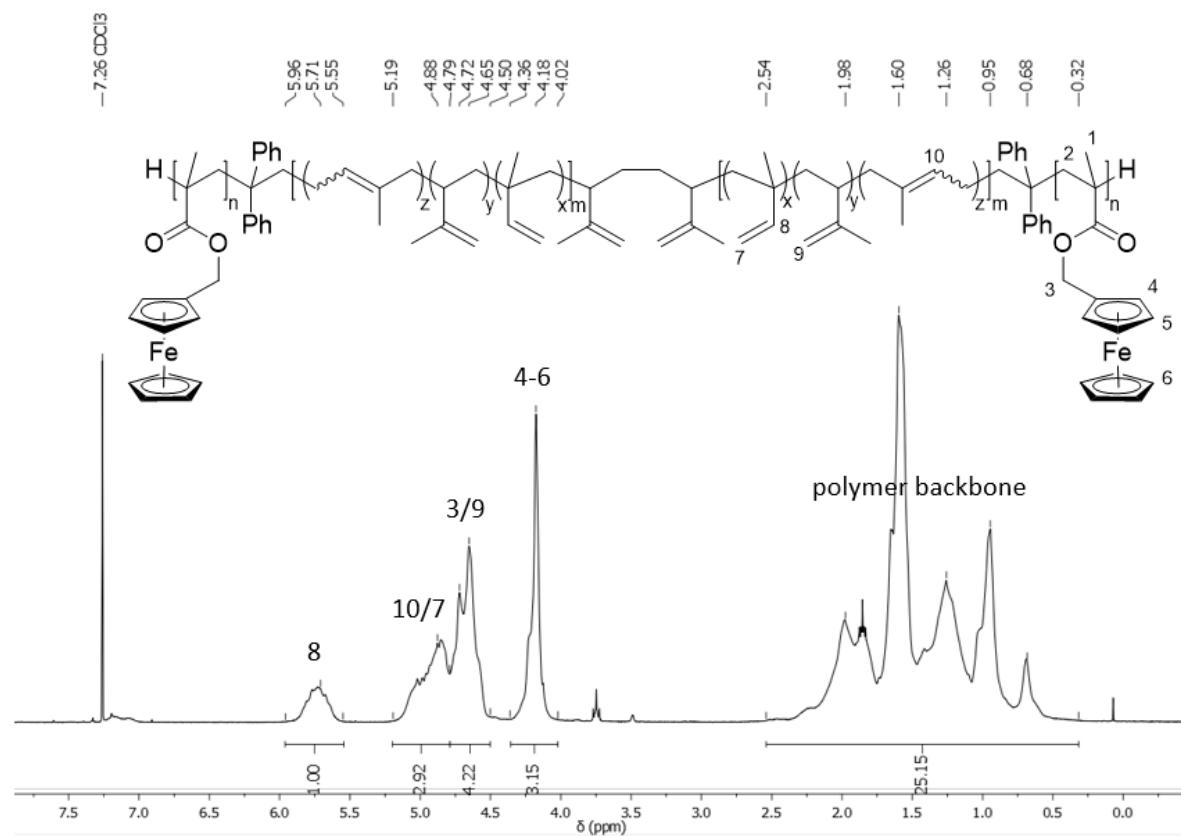


Figure S10. ¹H NMR spectrum of PFMA₁₃-*b*-PI₂₉₄-*b*-PFMA₁₃ in CDCl₃.

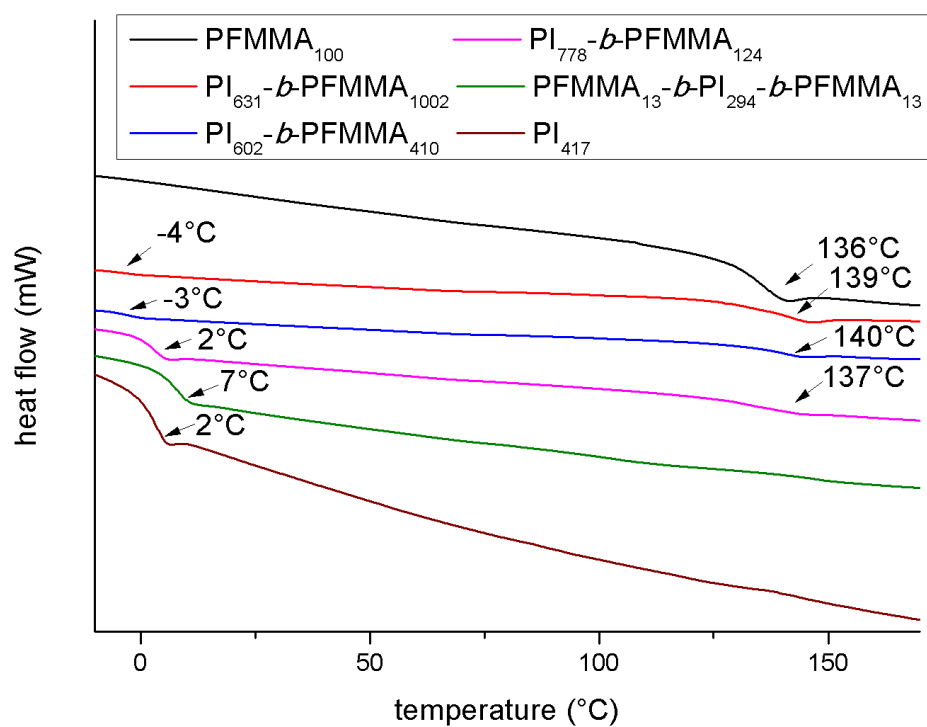


Figure S11. DSC thermograms of PFMMA₁₀₀ (black line), PI₆₃₁-*b*-PFMMA₁₀₀₂ (red line), PI₆₀₂-*b*-PFMMA₄₁₀ (blue line), PI₇₇₈-*b*-PFMMA₁₂₄ (pink line), PFMMA₁₃-*b*-PI₂₉₄-*b*-PFMMA₁₃ (green line) and PI₄₁₇ (brown line). The applied heat rate for the DSC run was 10 K min⁻¹ under nitrogen atmosphere.

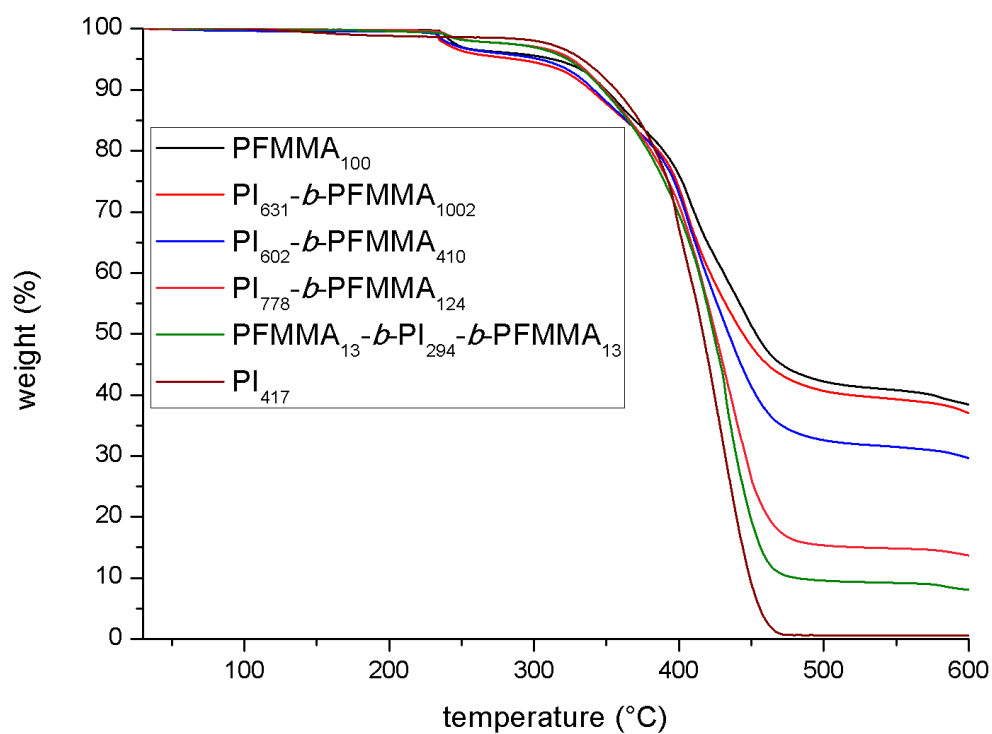


Figure S12. TGA curves of PFMMA₁₀₀ (black line), PI₆₃₁-*b*-PFMMA₁₀₀₂ (red line), PI₆₀₂-*b*-PFMMA₄₁₀ (blue line), PI₇₇₈-*b*-PFMMA₁₂₄ (pink line), PFMMA₁₃-*b*-PI₂₉₄-*b*-PFMMA₁₃ (green line) and PI₄₁₇ (brown line). The applied heat rate for the TGA measurements was 10 K min⁻¹ in a nitrogen atmosphere until 600 °C.

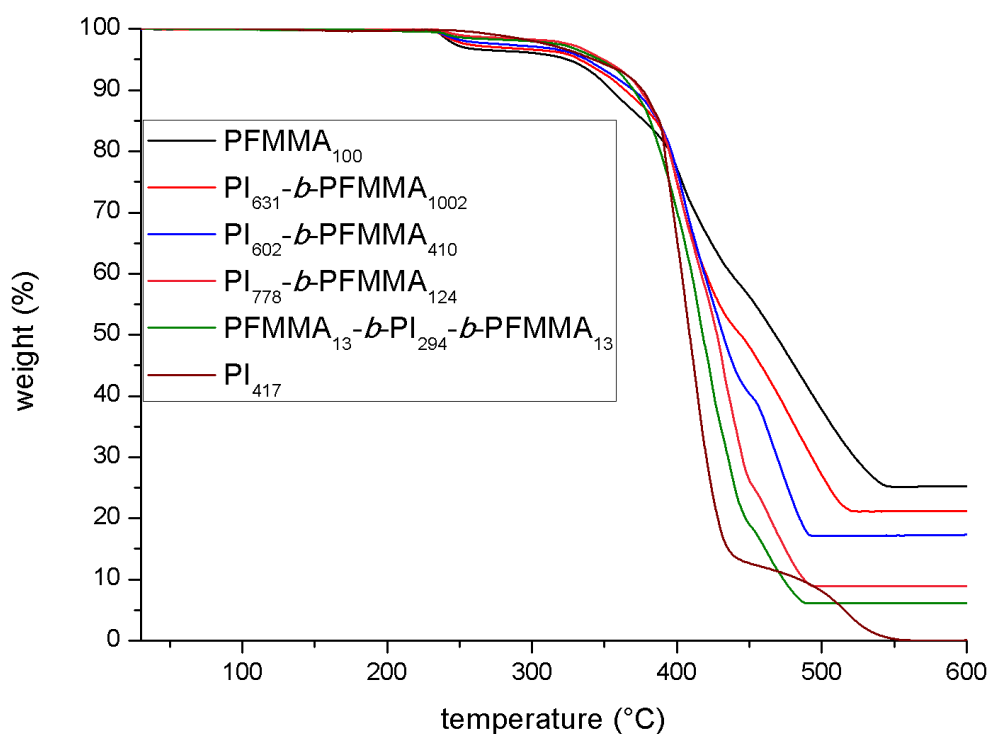


Figure S13. TGA thermograms of PFMMA₁₀₀ (black line), PI₆₃₁-*b*-PFMMA₁₀₀₂ (red line), PI₆₀₂-*b*-PFMMA₄₁₀ (blue line), PI₇₇₈-*b*-PFMMA₁₂₄ (pink line), PFMMA₁₃-*b*-PI₂₉₄-*b*-PFMMA₁₃ (green line) and PI₄₁₇ (brown line). The applied heat rate for the TGA measurements was 10 K min⁻¹ in air atmosphere until 600 °C.

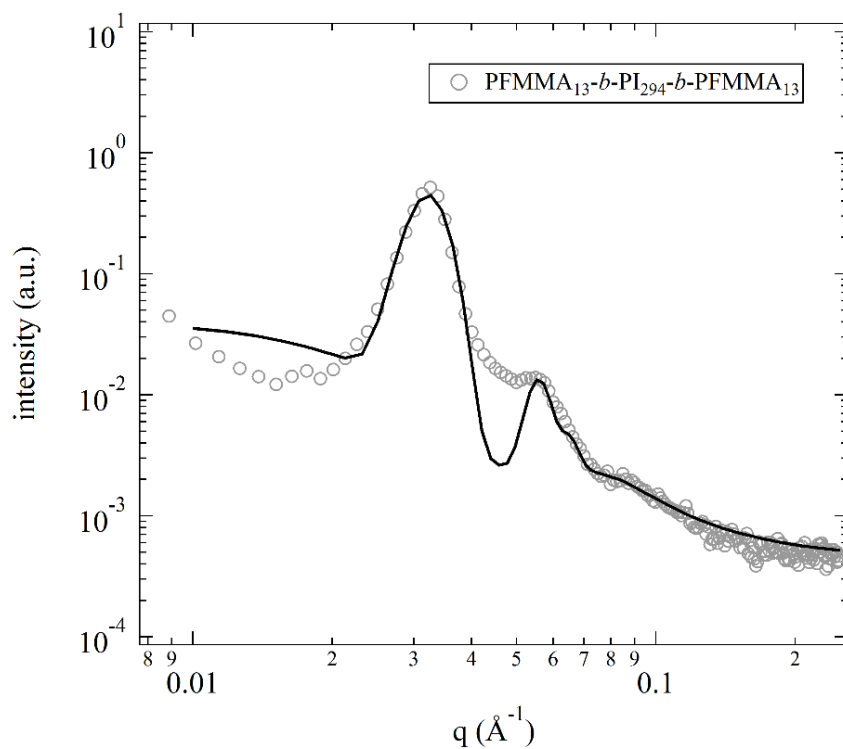


Figure S14. SAXS pattern of PFMMA₁₃-*b*-PI₂₉₄-*b*-PFMMA₁₃ sample.

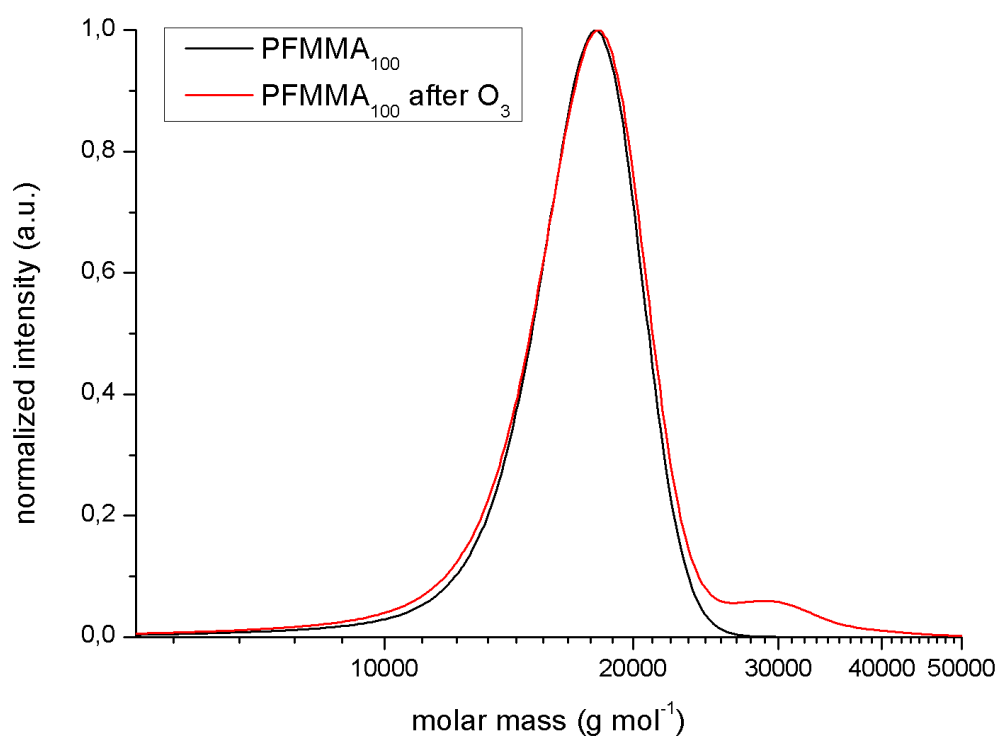


Figure S15. Molar mass distributions obtained by SEC measurements vs. PS standards in THF as eluent for PFMMA₁₀₀ (black line) and PFMMA₁₀₀ after two weeks in an ozone atmosphere (red line).

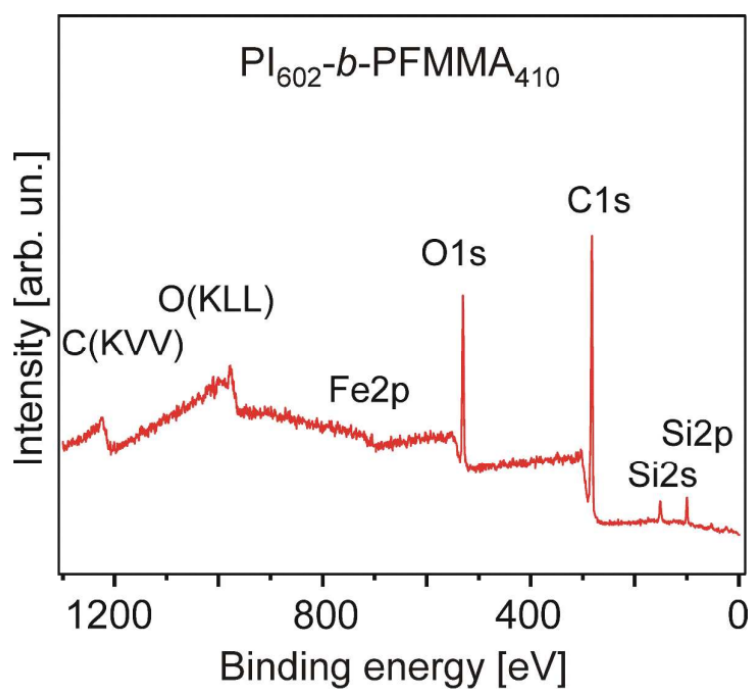


Figure S16. Al K α survey photoelectron spectrum of PI₆₀₂-*b*-PFMMA₄₁₀ deposited on a paper substrate prior to ozone treatment.

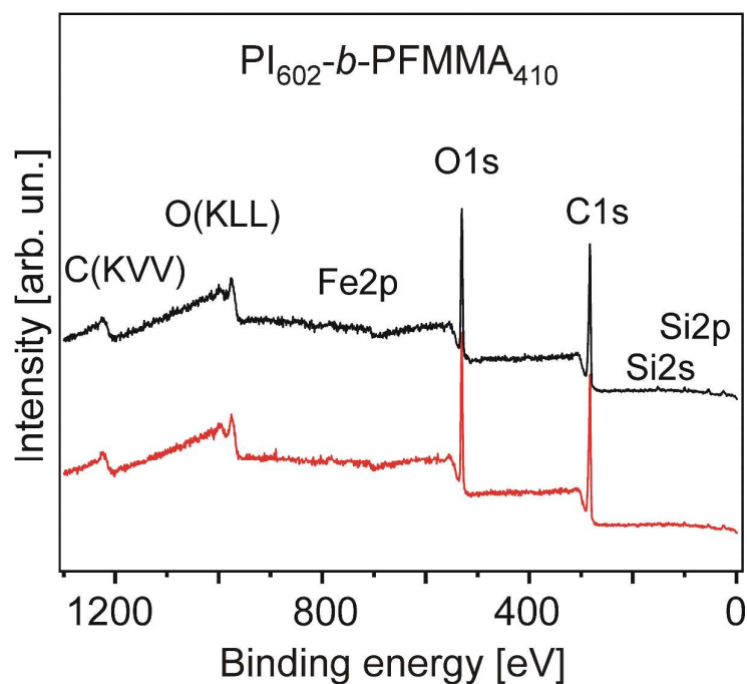


Figure S17. Al K α survey photoelectron spectra of PI₆₀₂-*b*-PFMMA₄₁₀ deposited on a paper substrate after ozone treatment measured at different areas of the sample.

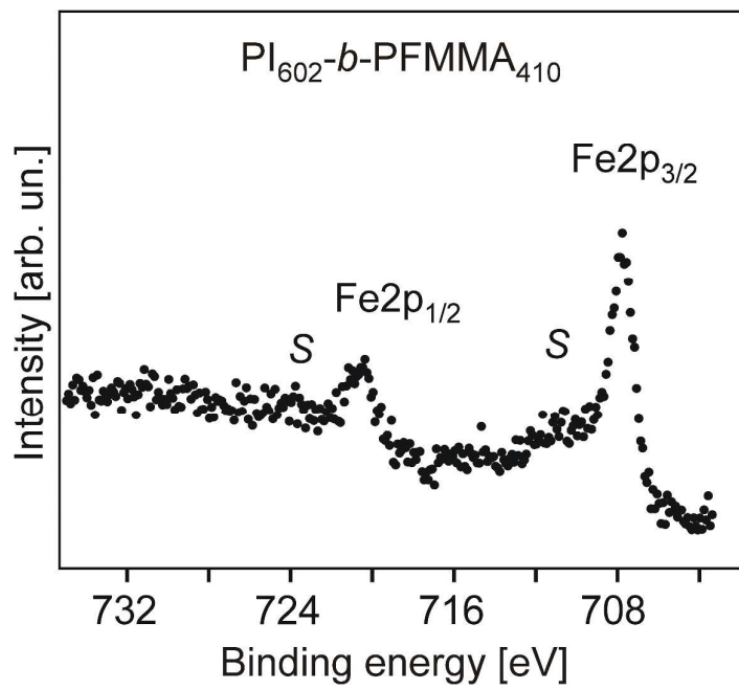


Figure S18. Fe2p photoelectron spectrum of PI₆₀₂-*b*-PFMMA₄₁₀ deposited on a paper substrate prior to ozone treatment.

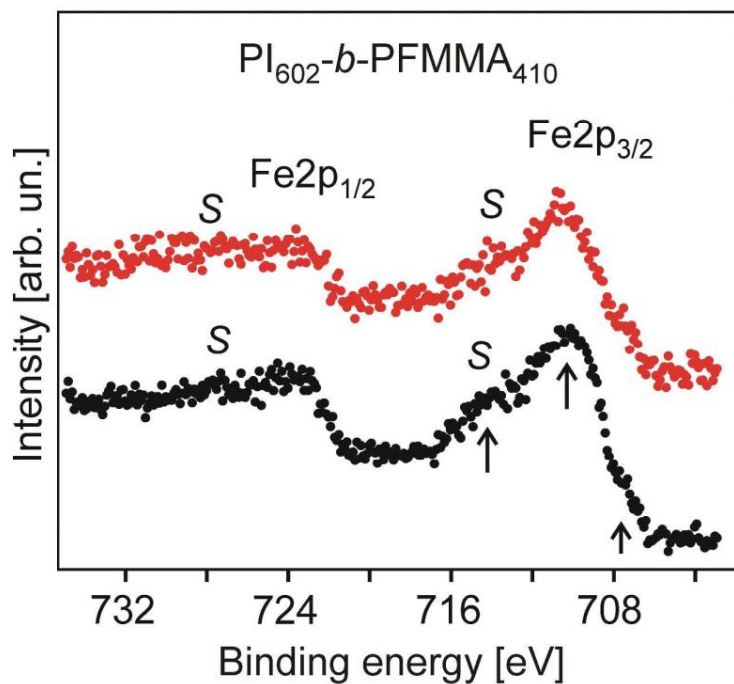


Figure S19. Fe2p photoelectron spectrum of sample PI₆₀₂-*b*-PFMMA₄₁₀ deposited on a paper substrate after ozone treatment measured at different areas of the sample.

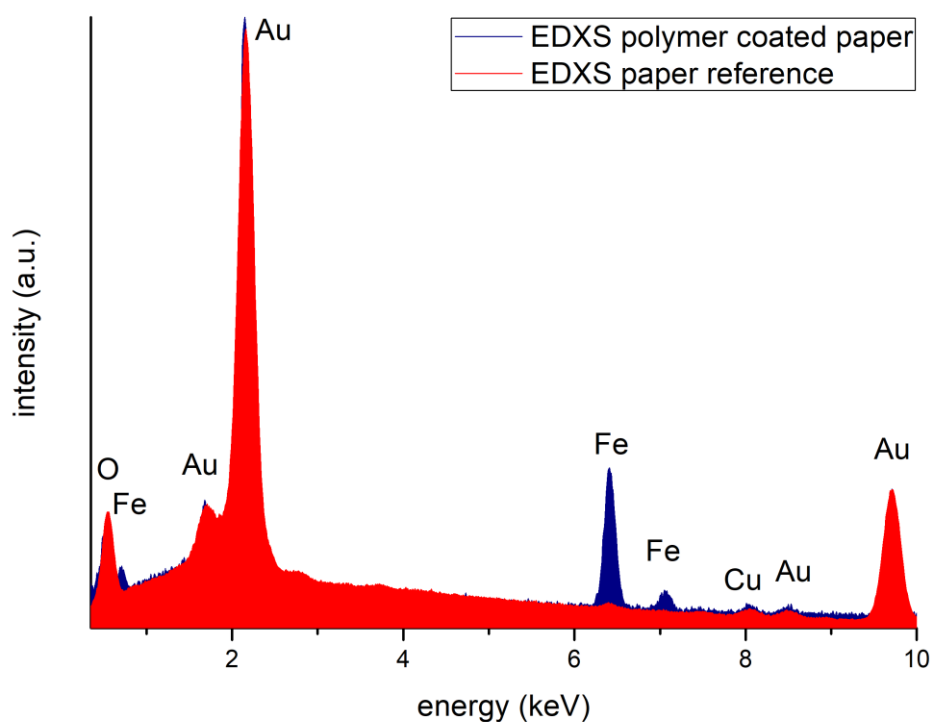


Figure S20. EDXS spectra of PI₆₀₂-*b*-PFMMA₄₁₀ coated paper substrate (blue) and untreated paper substrate (red) to prove the successful coating with synthesized ferrocene-containing polymer.

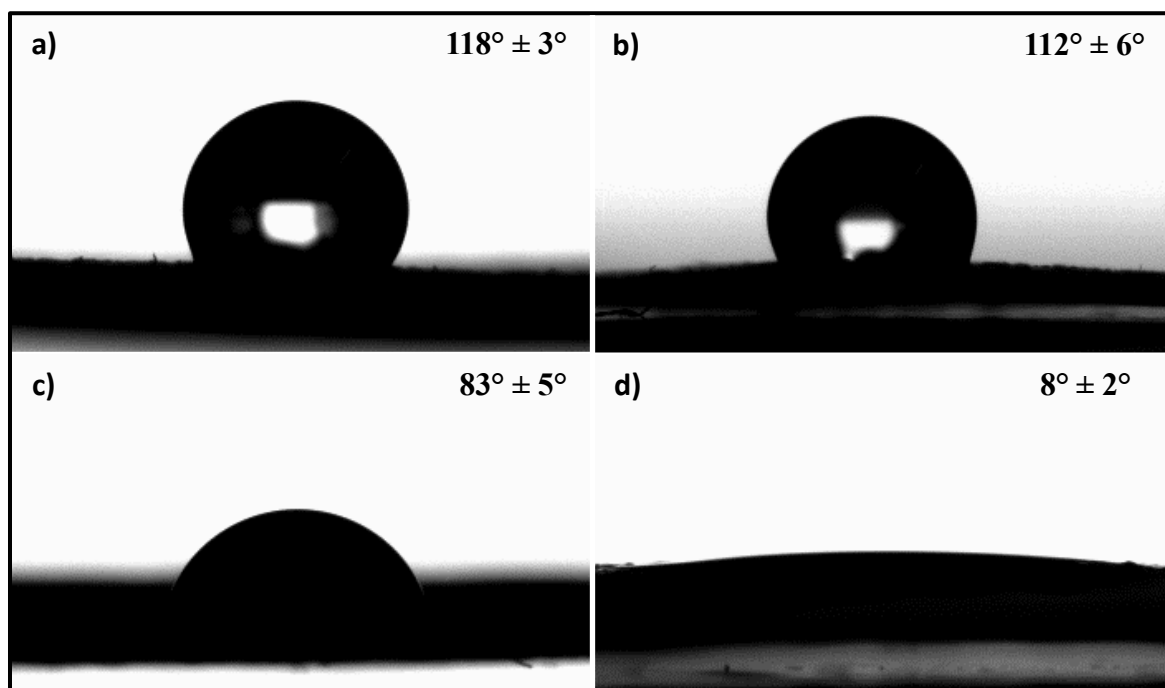


Figure S21. Contact angles obtained for PI₆₀₂-*b*-PFMMA₄₁₀ coated paper substrates: a) polymer coated paper substrate; b) polymer coated paper substrate after oxidation; c) polymer coated paper substrate after ozone and ethanol treatment; d) polymer coated paper substrate after ozone, ethanol treatment and oxidation.