

High-Temperature Steam-Treatment of PBI, PEEK, and PEKK Polymers with H₂O and D₂O: A Solid-State NMR Study

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Supporting Information Containing Figures S1 to S7

Supplementary Information

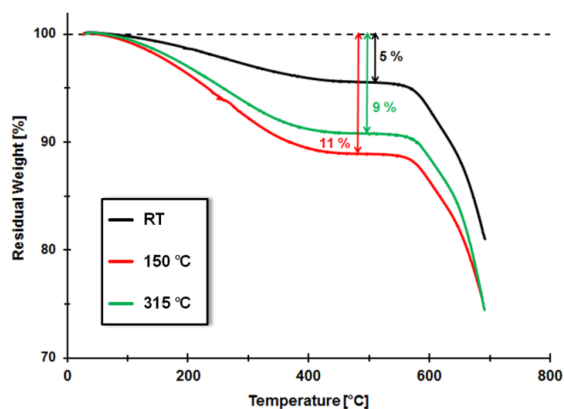


Figure S1. TGA of melt-molded PBI after stirring in H₂O at RT and steam-treatment with H₂O at 150 °C and 315 °C.

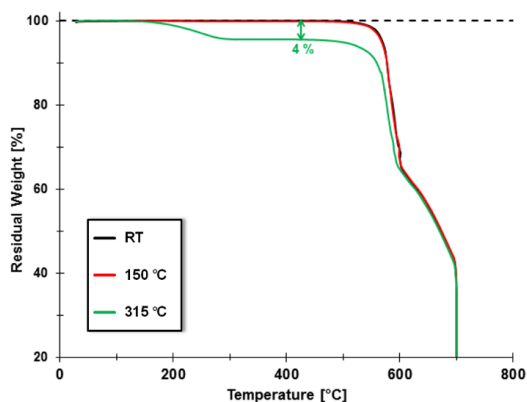


Figure S2. TGA of melt-molded PEEK after stirring in D₂O at RT and steam-treatment with D₂O at 150 °C and 315 °C.

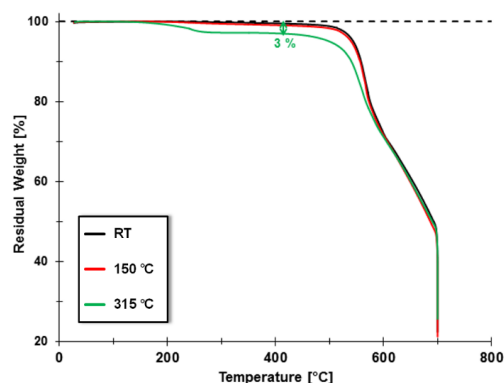


Figure S3. TGA of melt-molded PEKK after stirring in D₂O at RT and steam-treatment with D₂O at 150 °C and 315 °C.

²H MAS

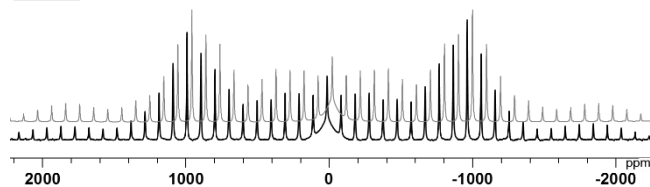


Figure S4. ²H MAS NMR spectrum of melt-molded PBI after steam-treatment with D₂O at 315 °C (Figure 7c) and the simulated spectrum in grey with a slight δ offset for improved visibility.²⁵

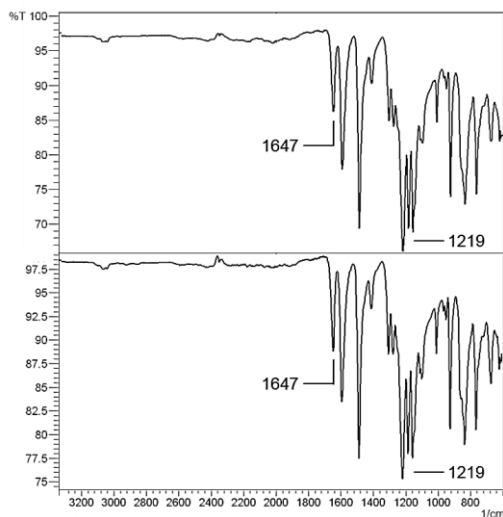


Figure S5. IR spectra of melt-molded PEEK as received (bottom) and after steam-treatment with D₂O at 315 °C (top).

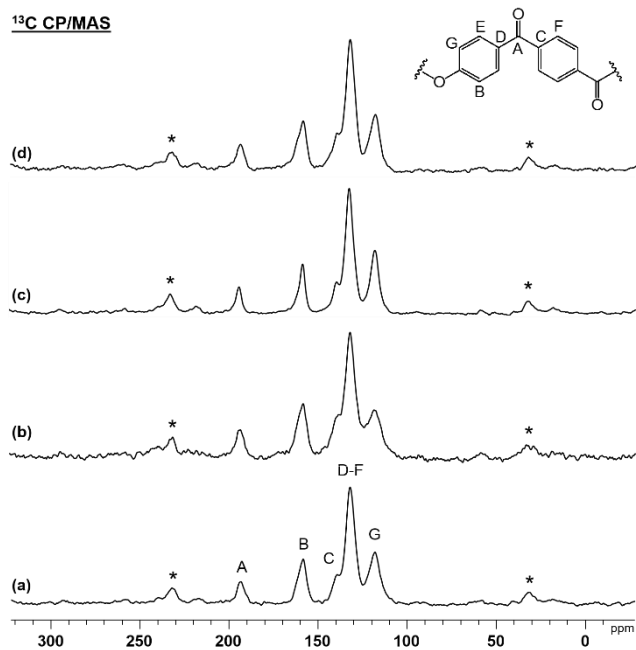


Figure S7. ¹³C CP/MAS NMR spectra of melt-molded PEKK as received (a), after stirring in D₂O at RT (b), steam-treatment with D₂O at 150 °C (c), and immediately after steam-treatment with D₂O at 315 °C (d).

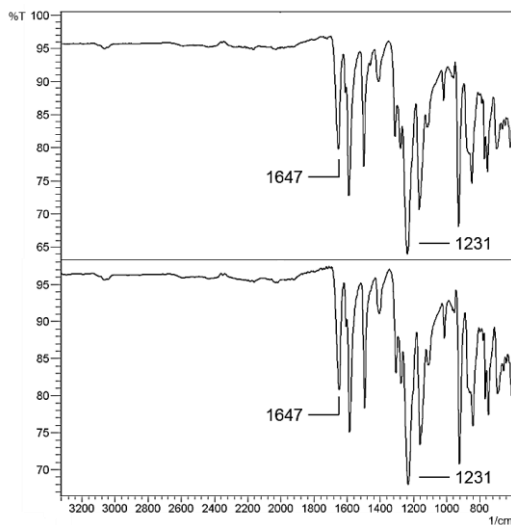


Figure S6. IR spectra of melt-molded PEKK as received (bottom) and after steam-treatment with D₂O at 315 °C (top).