Supporting Information

For

Extremely High Thermal Resistive Poly(*p*-phenylene benzobisoxazole) with Desired Shape and Form from a Newly Synthesized Soluble Precursor

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Figure S1. (a) FT-IR spectrum of TBS-DAR. (b) ¹H NMR spectrum of TBS-DAR.

(a)



Figure S2. TGA curves of PPBO prepared from TBS-prePBO having different molecular weight annealed at 500 $^{\circ}$ C under flowing N₂ for (a) 1 h and (b) 24 h.



Figure S3. IR spectra of the PPBO after annealing for given time.



Figure S4. DSC curves of the TBS-prePBO (the first cooling and second heating) measured at the heating/cooling rate of 10 °C/min.



Figure S5. SEM images of a cross-section of PPBO film from the TBS-prePBO film at low magnification (left) and high magnification (right).



Figure S6. X-ray diffraction profiles of TBS-prePBO after heating at 200 °C (brown line), 250 °C (green line), 300 °C (gray line), 350 °C (pink line), 400 °C (purple line), 450 °C (orange line) and 500 °C (red line). XRD patterns of TBS-prePBO (black line) and Zylon[®] (blue line) are shown for comparison.



Figure S7. TGA curves for the Zylon[®] fiber before (black line) and after (red line) washing with solvent (ethanol/hexane = 1 / 1 v/v).