

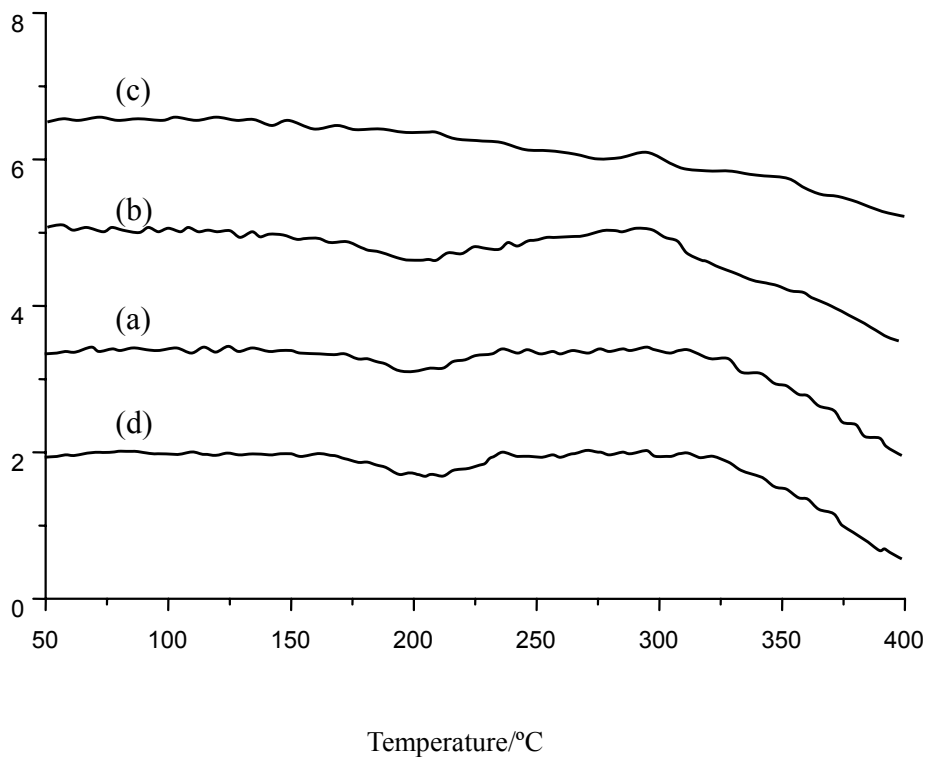
Modification of Polycarbosilane by Polyborazine as a Precursor for Oxygen-free SiC Fibers

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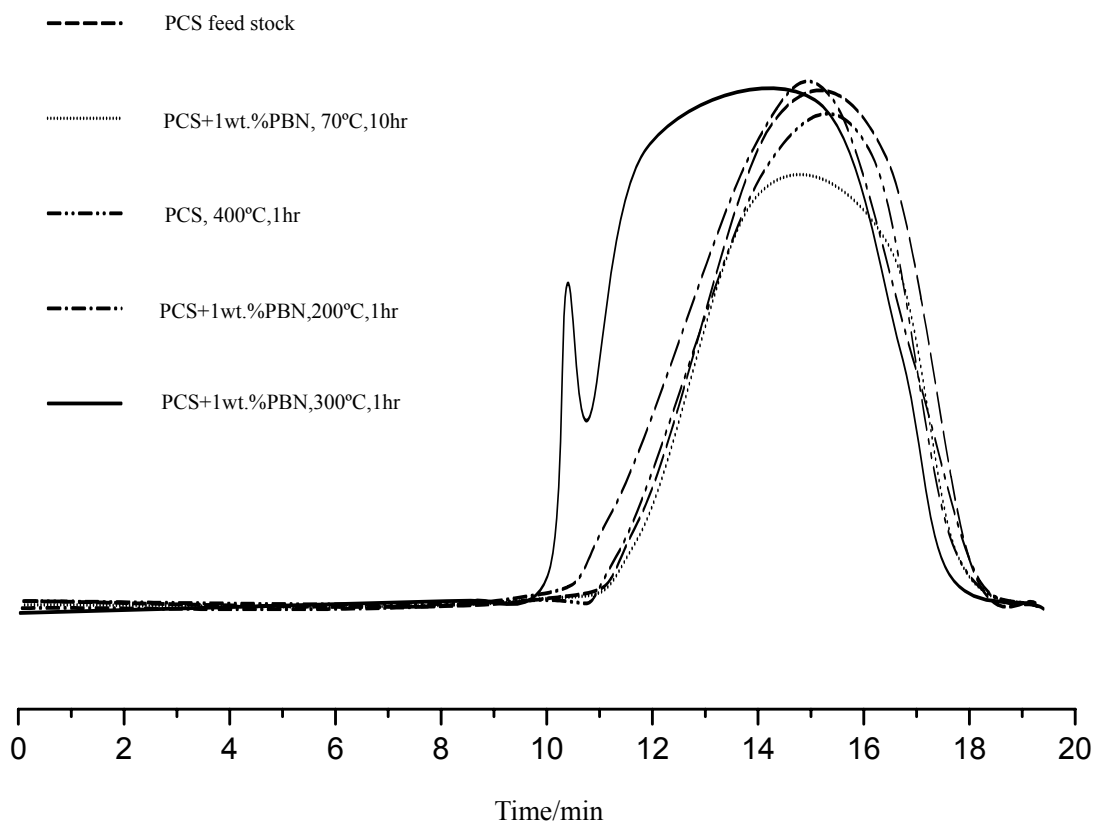
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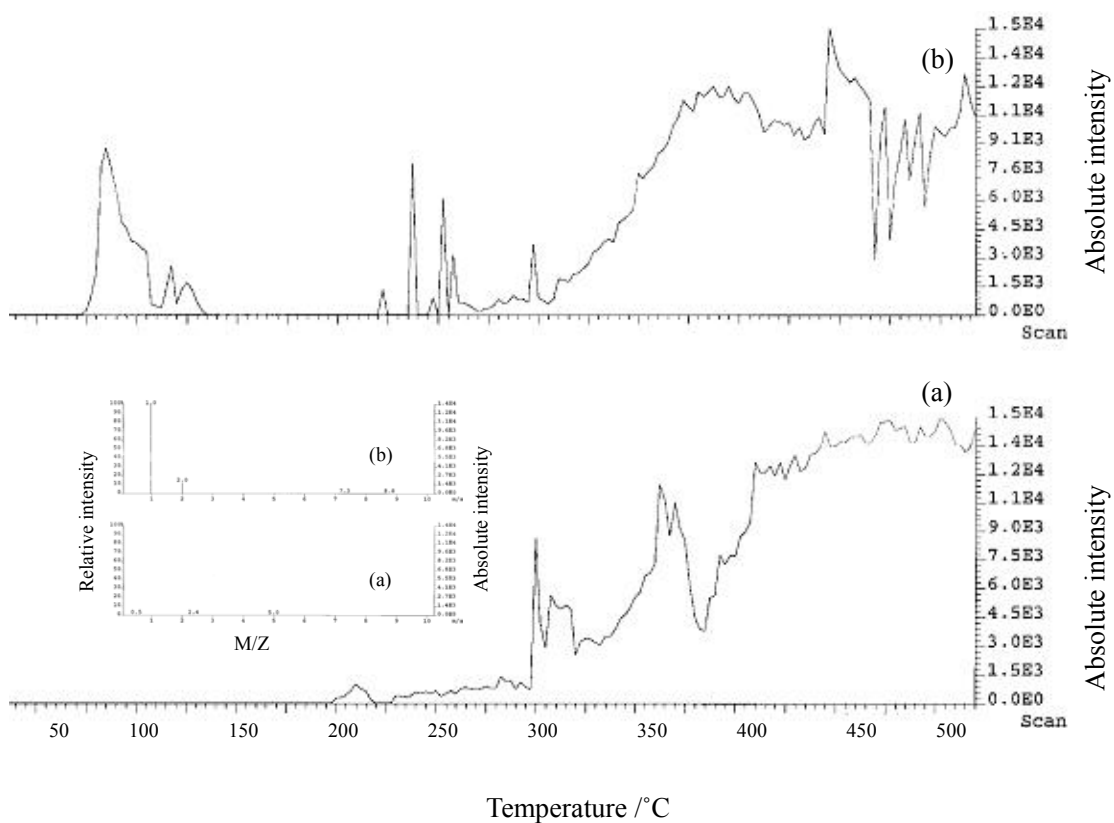
[†] Worked at Prof. Kim's laboratory under co-advisor system.



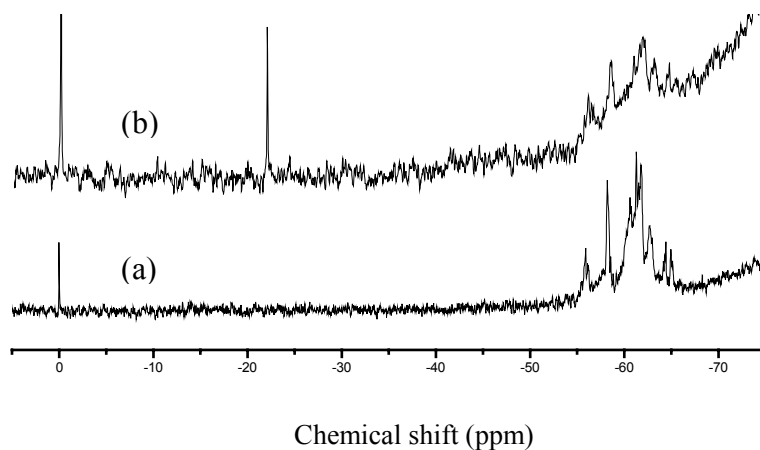
Supplemental Fig. 1. DSC of (a) PCS feed stock, (b) mixture of PCS and 1wt.%PBN, and (c) PCS modified by 1wt.% PBN at 300°C for 1hr, (d) PCS heated at 300°C for 1hr without PBN.



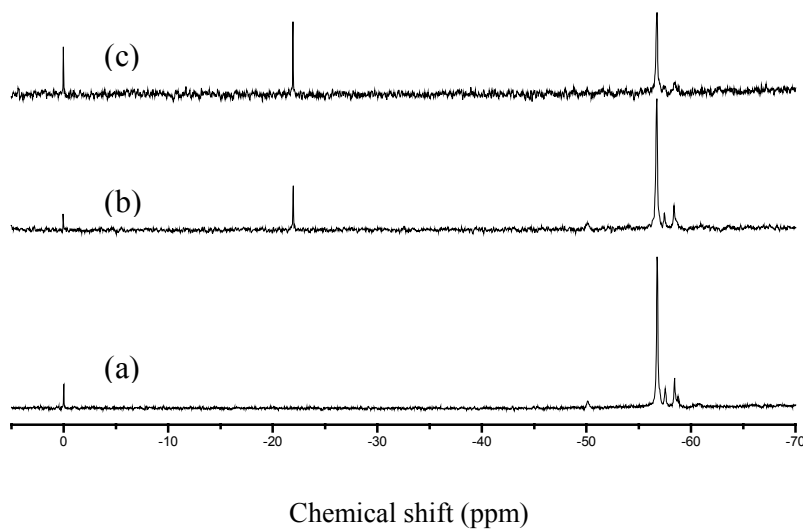
Supplemental Fig. 2 Molecular weight distribution for various PCS



Supplemental Fig. 3 Chromatogram of the hydrogen evolved from (a) PCS feed stock and (b) treated PCS with 1wt.% of PBN, respectively, as heated to 500°C. Insert: average mass spectrum of the gases evolved in the temperature range 75-140°C by samples (a) and (b), respectively.



Supplemental Fig. 4 ^{29}Si -NMR spectra of polyphenylsilane (a) feed stock and (b) treated with 1 wt% PBN at 200°C for 4 hr.



Supplemental Figure 5 ^{29}Si -NMR spectra of Polyvinylsilane (a) feed stock, (b) treated with 1 wt% PBN at 70°C for 10 hr and (c) treated with 1 wt% PBN at 300°C for 1 hr.

Reference (42) L. Y. Hong, F. Cao, D. J. Kim, H. G. Woo, B. H. Kim, M. S. Cho, X. D. Li and D. P. Kim, unpublished data, 2002.