

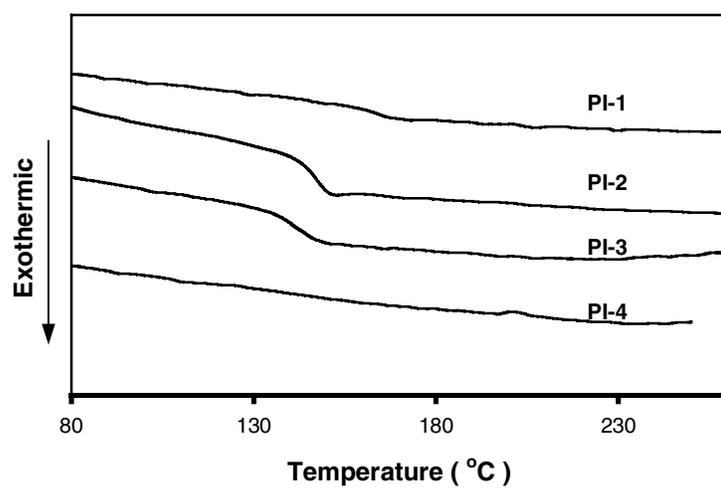
Supporting information.

## **Synthesis, Characterization, and Multilayer Assemblies of Acid and Base Polyimides**

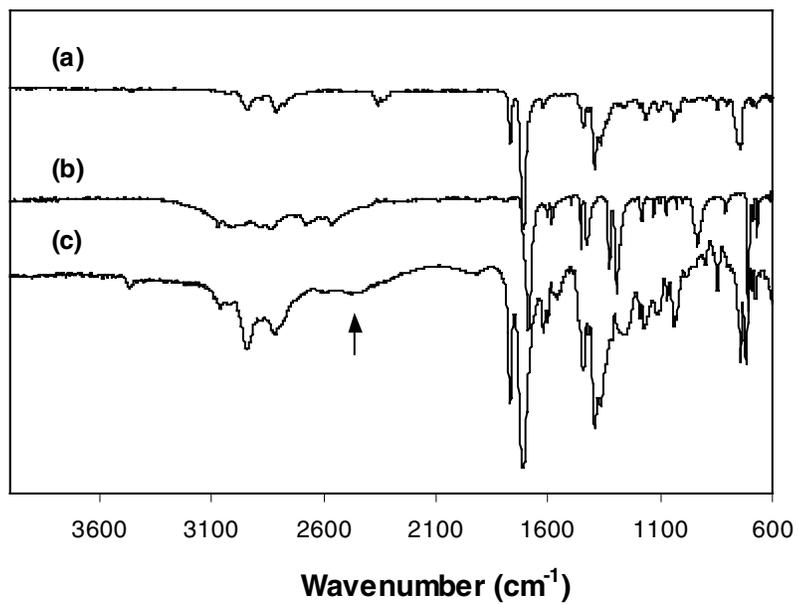
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**Figure 1.** DSC traces of base polyimides **PI-1-4** in nitrogen at a heating rate of 20 C/min.



**Figure 2.** IR spectra of (a) base polyimide **PI-2**, (b) benzoic acid and (c) their mixture (in 1:1 mole ratio, as calculated with the repeat unit of **PI-2**).



**Figure 3.** DSC traces of acid-base polyimide **PI-5/PI-1** mixtures measured in nitrogen with a heating rate of 20 °C/min: (a) base polyimide **PI-1**, (b) **PI-5/PI-1** blend (1/10 by weight), (c) **PI-5/PI-1** blend (1/4 by weight), (d) **PI-5/PI-1** blend (1/2 by weight), (e) **PI-5/PI-1** blend (1/1 by weight) and (f) **PI-5/PI-1** blend (2/1 by weight).

