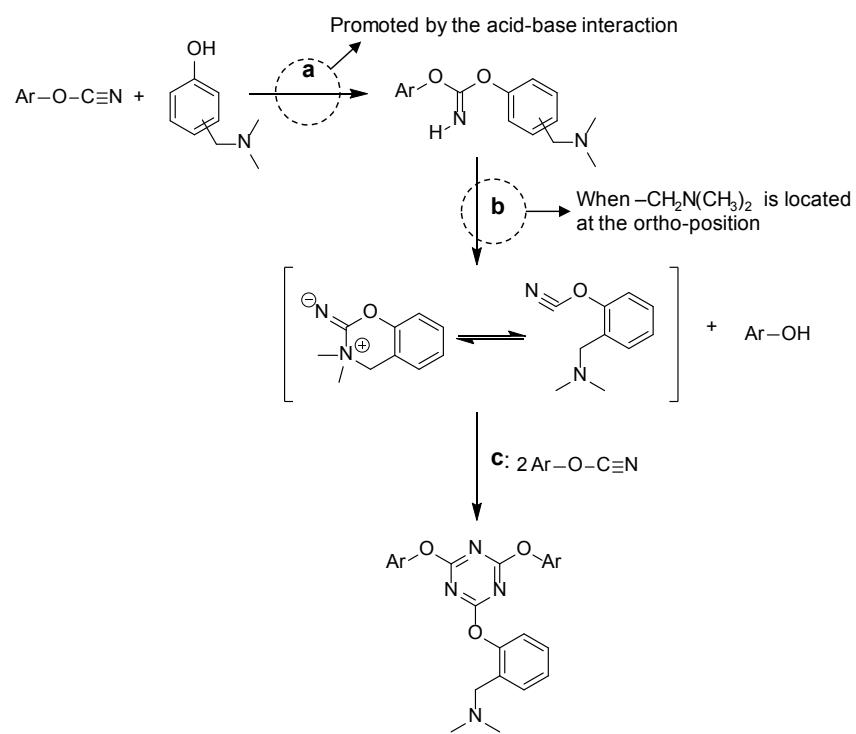


Scheme 1 Cyclotrimerization of cyanate ester resin



Scheme 2 Presumed curing mechanism of cyanate ester resin in the presence of *o*-DAMP

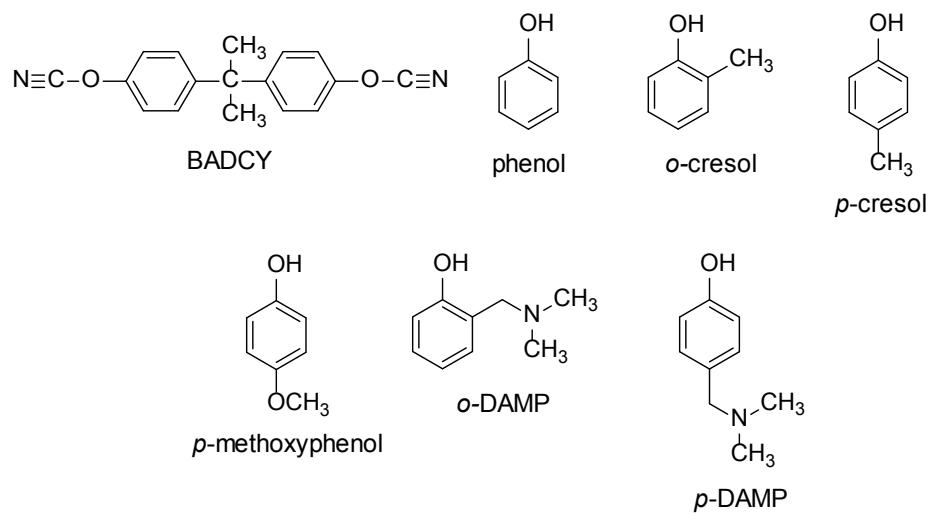


Figure 1 Chemical structures of the compounds used in this study

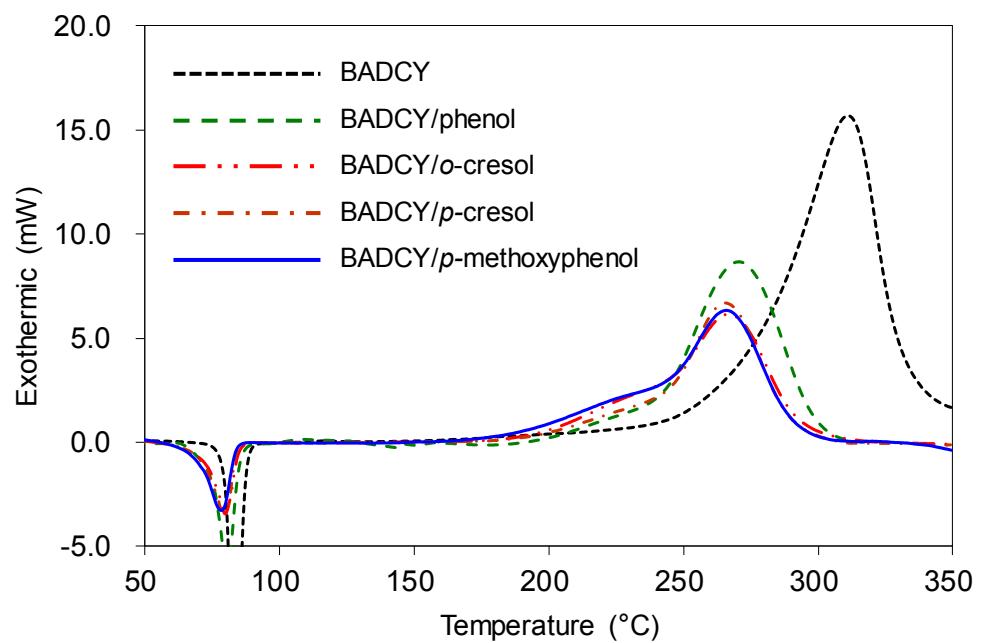


Figure 2 DSC thermograms of BADCYs in the absence and presence of the phenolic compounds ($\text{OCN}/\text{OH} = 1.0/0.05$).

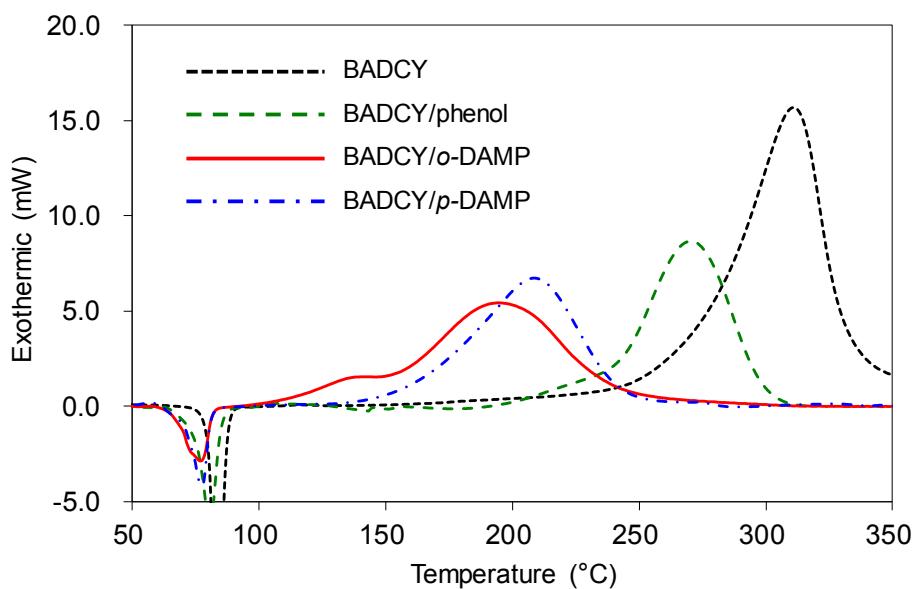


Figure 3 DSC thermograms of BADCYs in the absence and presence of phenol, *o*-DAMP and *p*-DAMP ($\text{OCN}/\text{OH} = 1.0/0.05$).

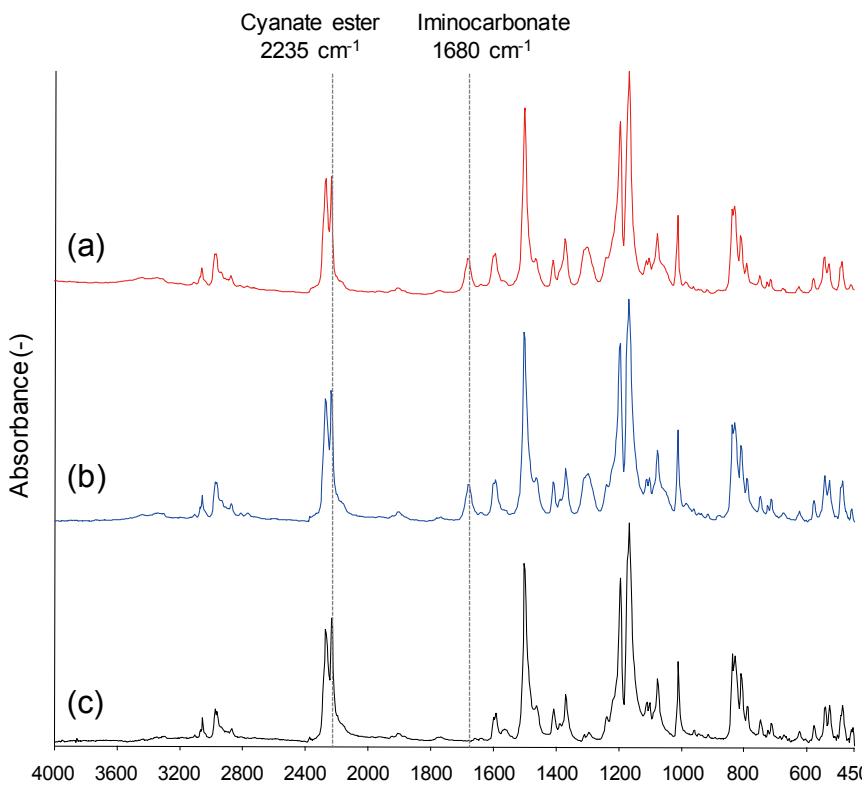


Figure 4 FT-IR spectra of (a) BADCY/*o*-DAMP, (b) BADCY/*p*-DAMP and (c) BADCY/phenol before the DSC measurements (OCN/OH = 1.0/0.05).

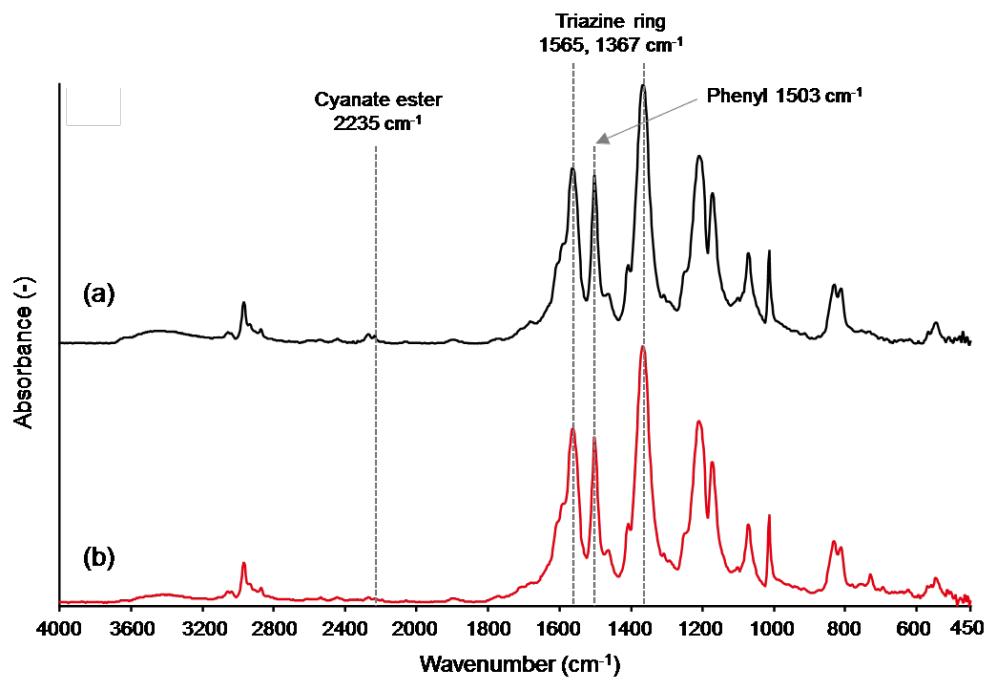


Figure 5 FT-IR spectra of BADCY/*o*-DAMPs cured at (a) $120 \text{ }^{\circ}\text{C}/2\text{h} + 150 \text{ }^{\circ}\text{C}/2\text{h} + 170 \text{ }^{\circ}\text{C}/6\text{h}$ and (b) $120 \text{ }^{\circ}\text{C}/2\text{h} + 150 \text{ }^{\circ}\text{C}/2\text{h} + 180 \text{ }^{\circ}\text{C}/6\text{h}$ ($\text{OCN}/\text{OH} = 1.0/0.05$).

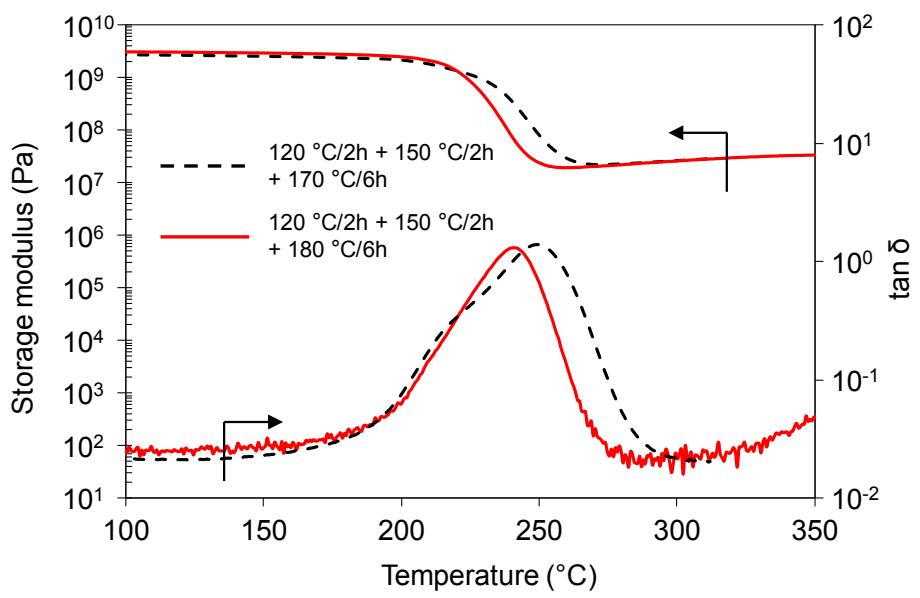


Figure 6 DMA results of BADCY/*o*-DAMPs cured under different conditions (OCN/OH = 1.0/0.05).

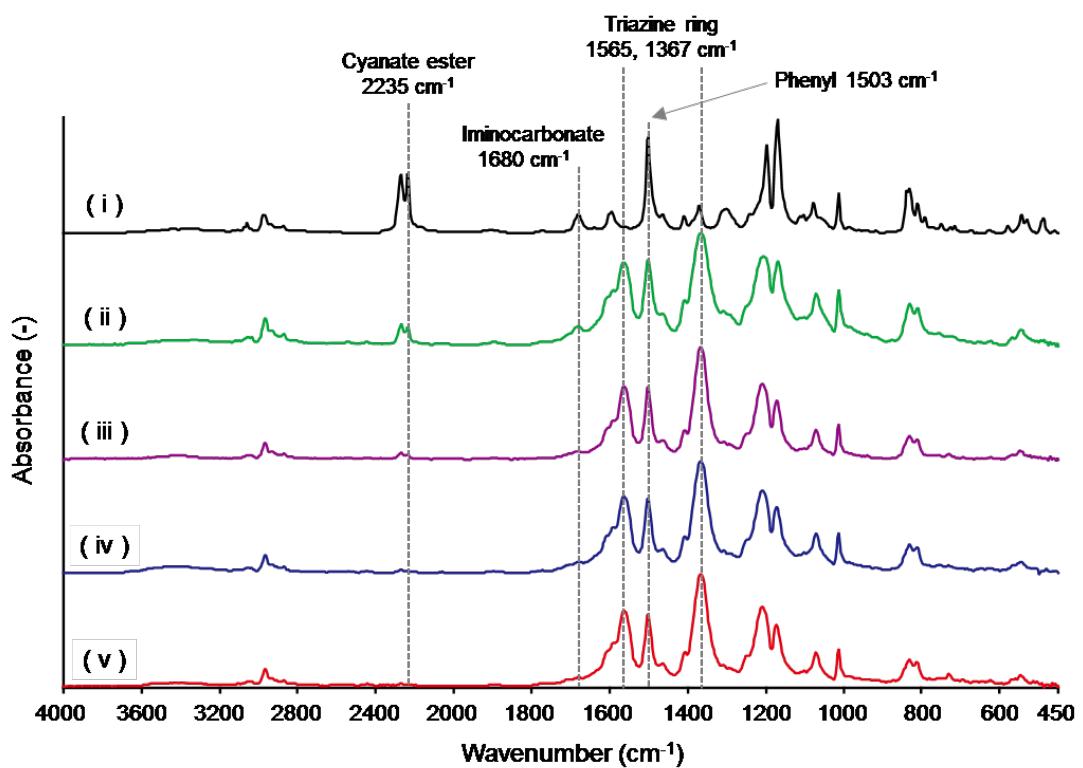


Figure 7 FT-IR spectra of BADCY/*o*-DAMP at each curing step ($\text{OCN}/\text{OH} = 1.0/0.05$); (i) before curing, (ii) after $120^\circ\text{C}/2\text{ h}$, (iii) after $120^\circ\text{C}/2\text{ h} + 150^\circ\text{C}/2\text{ h}$, (iv) after $120^\circ\text{C}/2\text{ h} + 150^\circ\text{C}/2\text{ h} + 180^\circ\text{C}/2\text{ h}$, and (v) after $120^\circ\text{C}/2\text{ h} + 150^\circ\text{C}/2\text{ h} + 180^\circ\text{C}/6\text{ h}$.

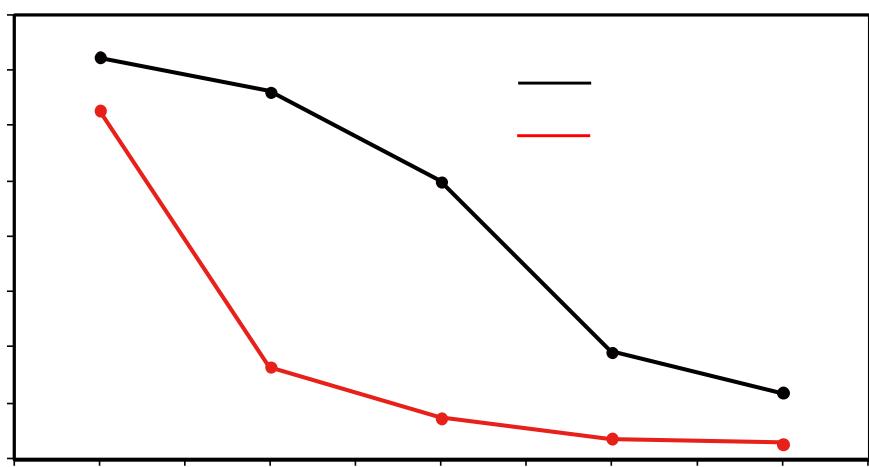


Figure 8 Changes in A-OCN/A-phenyl for each curing step in BADCY/*o*-DAMP (OCN/OH = 1.0/0.05) and BADCY without a catalyst; (i) before curing, (ii) after 120 °C/2 h, (iii) after 120 °C/2 h + 150 °C/2 h, (iv) after 120 °C/2 h + 150 °C/2 h + 180 °C/2 h, and (v) after 120 °C/2 h + 150 °C/2 h + 180 °C/6 h.

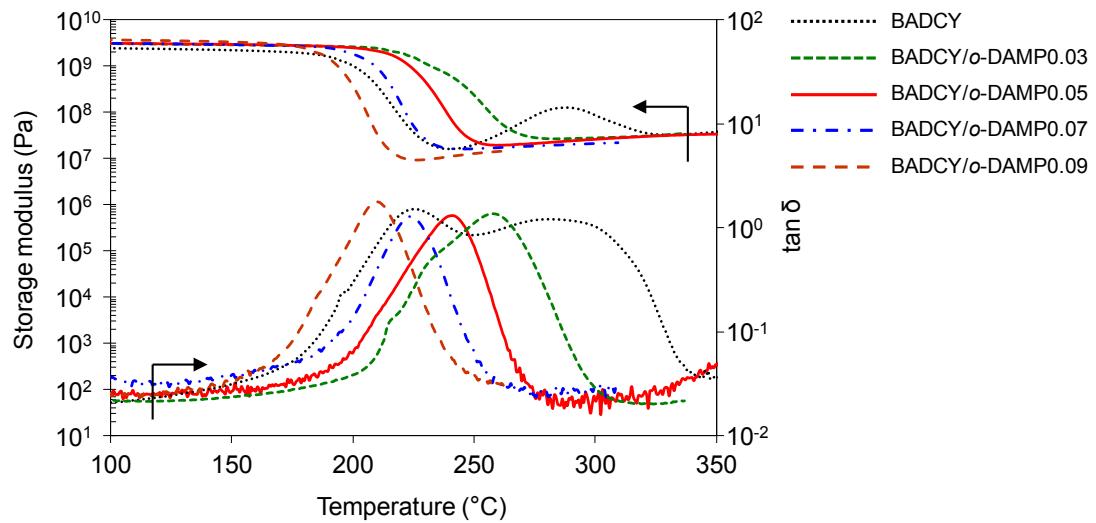


Figure 9 DMA results of BADCY/*o*-DAMPs with different ratios between OCN in BADCY and OH in *o*-DAMP.