Electronic Supplementary Material (ESI) for Green Chemistry.

Supporting Information

Vanillin-derived amines for bio-based thermosets

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I. Characterization data

a. Dihydroxyaminopropane of bisphenol A (***4***)

Described in the literature:

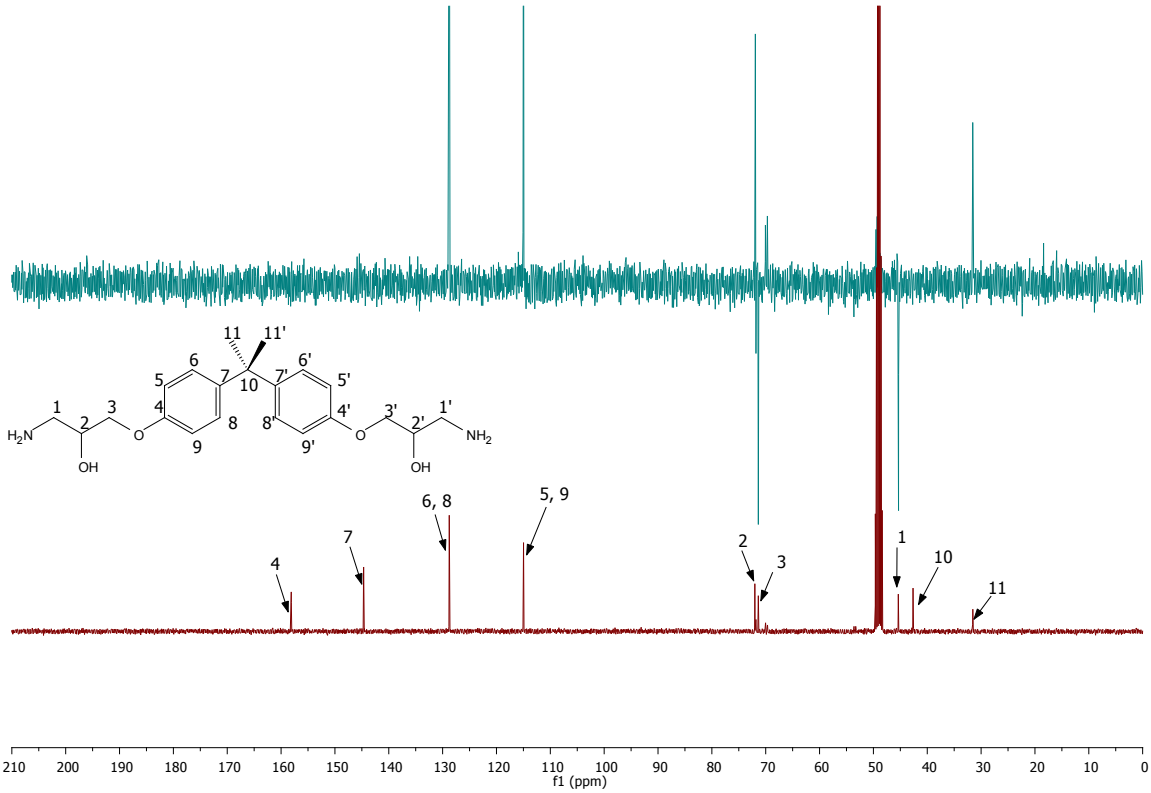
IR (neat, ν, cm-1): 3371–3042, 2969–2925, 2866, 1604, 1582, 1508, 1240, 1029, 830.

^{1}H NMR (400 MHz, CD3OD, ppm) δ: 7.13 and 6.85 (d, 8H, H_{ar}); 4.07–3.92 (m, 6H, 2xO-CH_2, 2xCH); 2.89–2.72 (m, 4H, 2xN-CH_2), 1.62 (s, 6H, 2xCH_3).

ESMS (in MeOH, positive ions): m/z ¼ 375.2 ([M + H^+], calculated: 375.23). MS/MS: m/z ¼ 375.2, 357.2, 302.1, 208.0, 135.0.

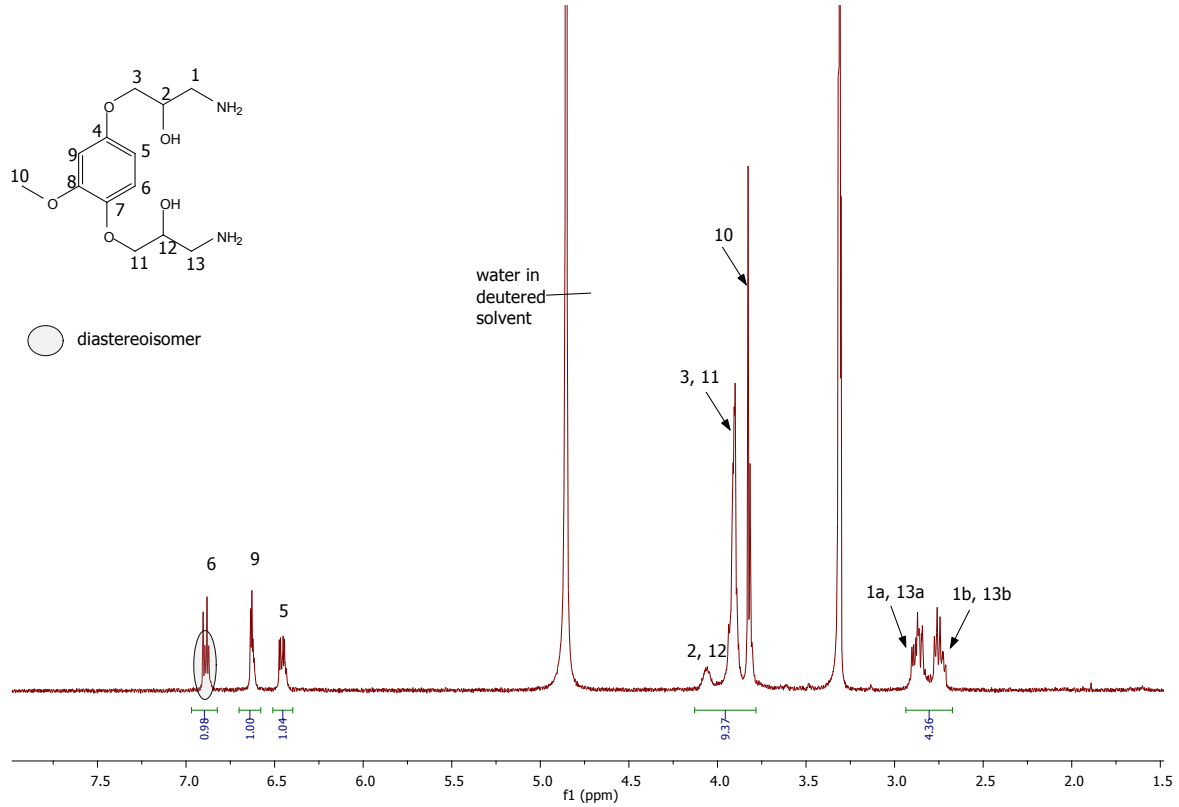
Recorded during this study:

^{13}C NMR (101 MHz, MeOD) and DEPT 135

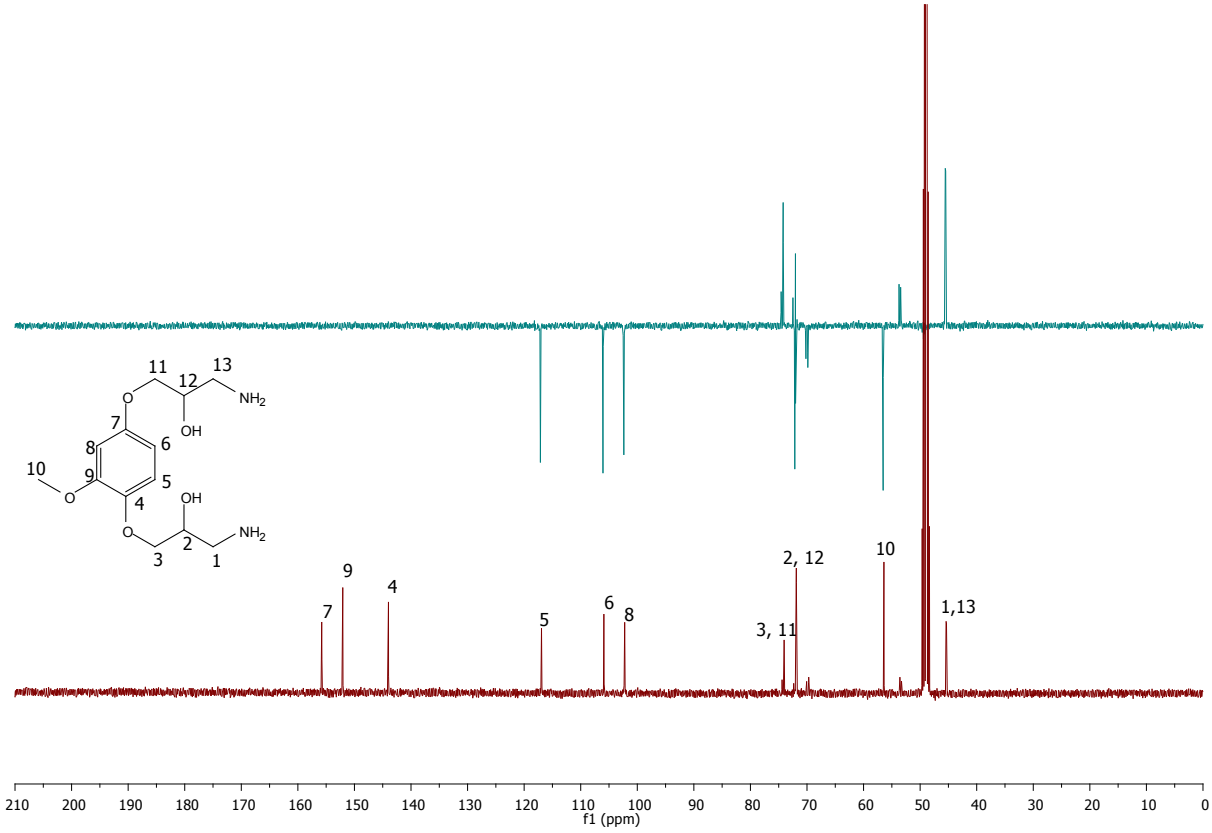


b. Dihydroxyaminopropane of methoxyhydroquinone (***5***)

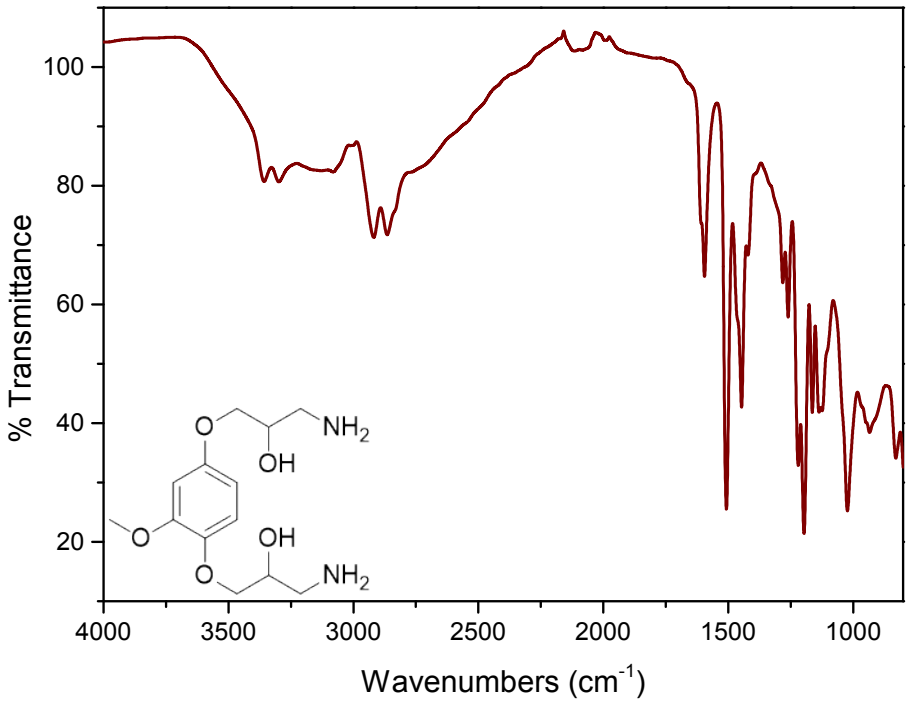
^{1}H NMR (400 MHz, MeOD)



^{13}C NMR (101 MHz, MeOD) and DEPT 135

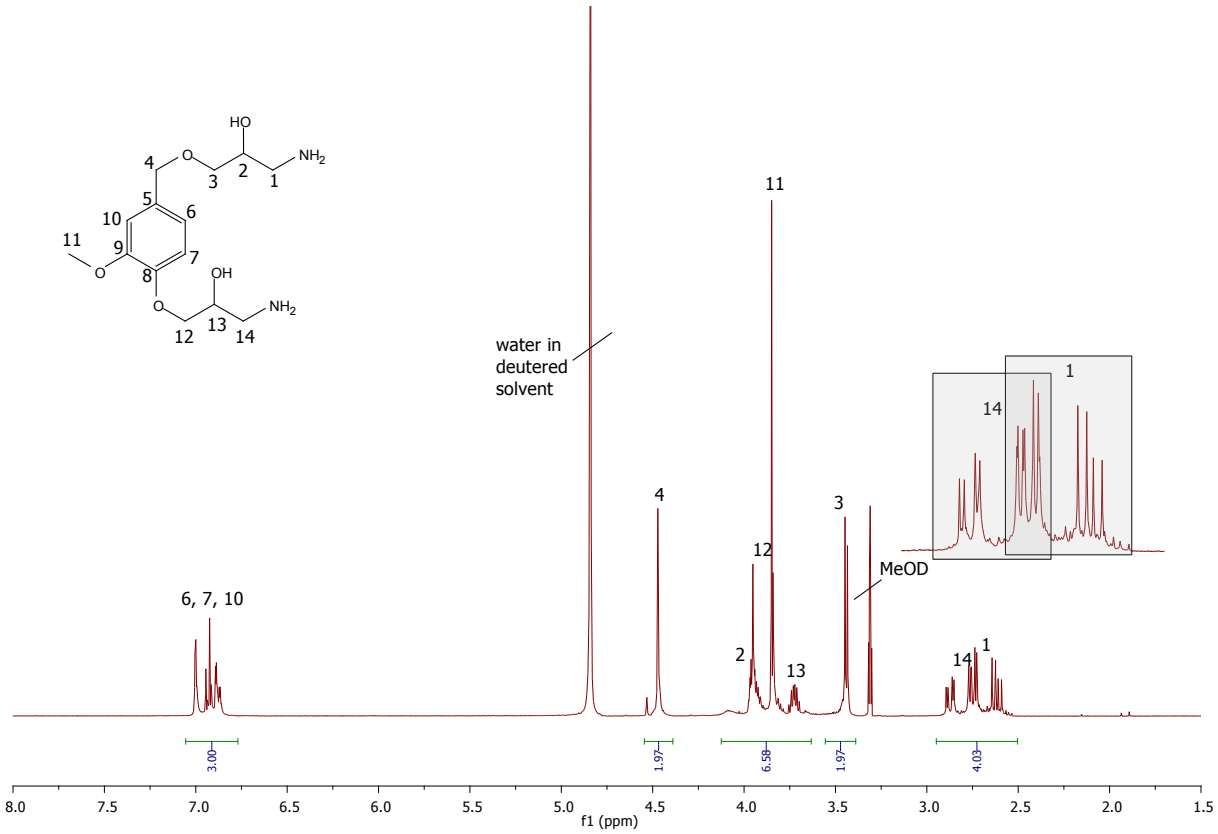


FTIR

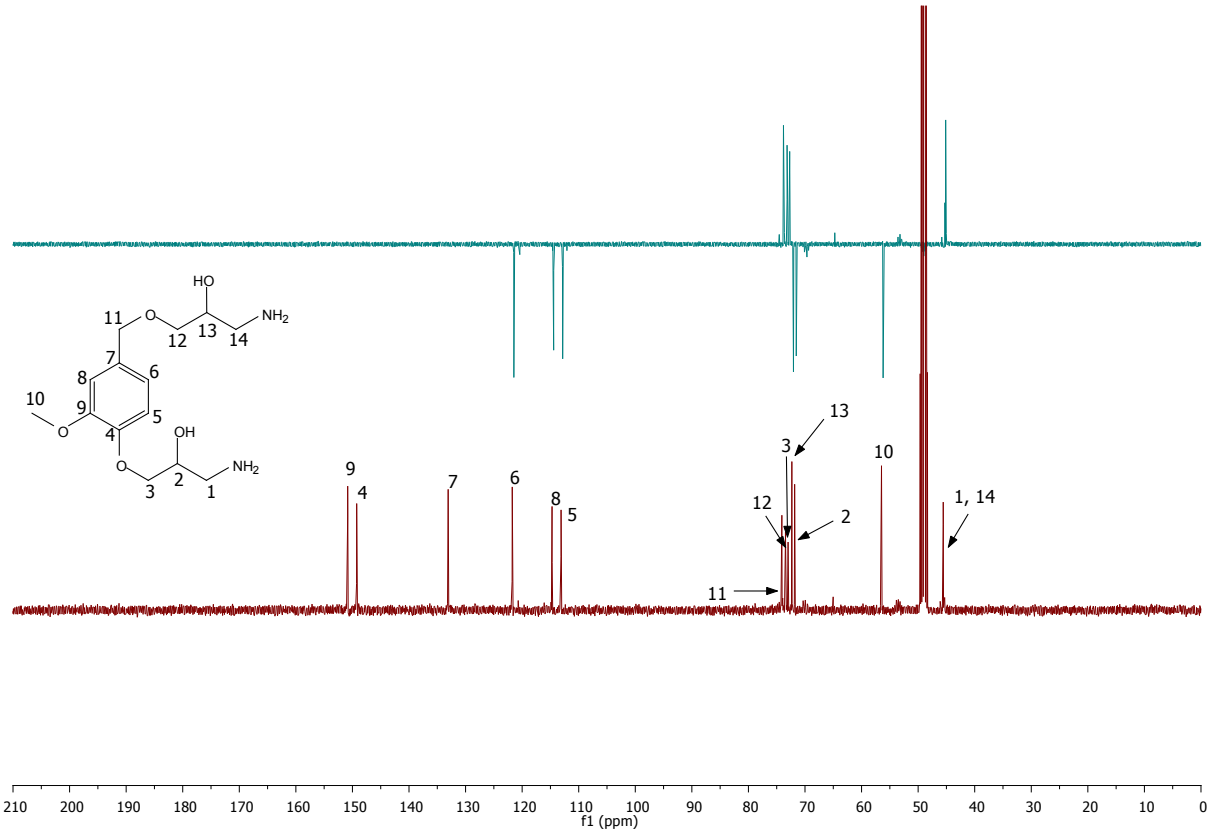


c. Dihydroxyaminopropane of vanillyl alcohol (***6***)

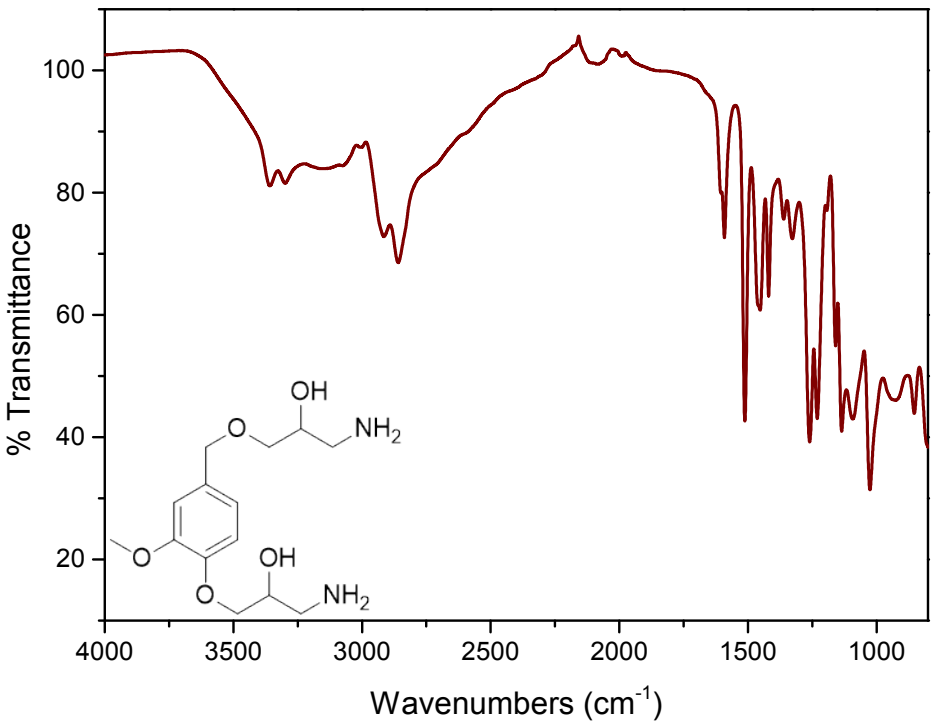
^{1}H NMR (400 MHz, MeOD)



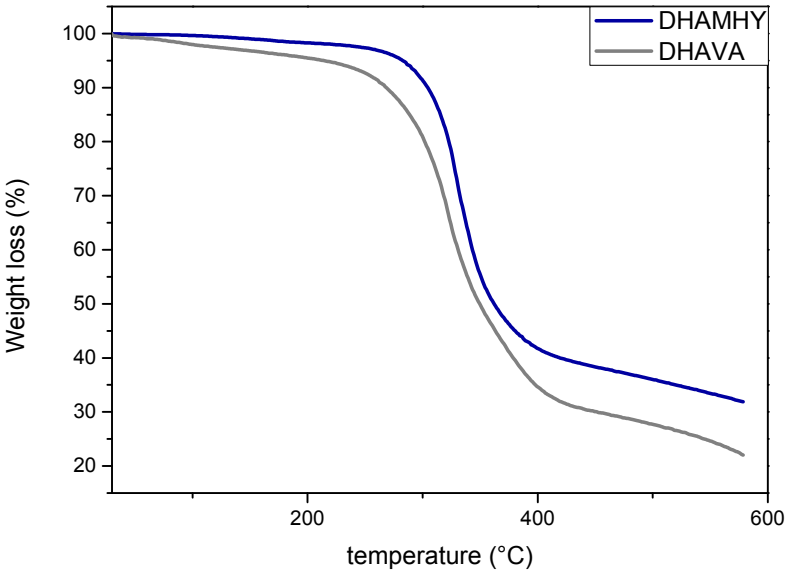
^{13}C NMR (101 MHz, MeOD) and DEPT 135



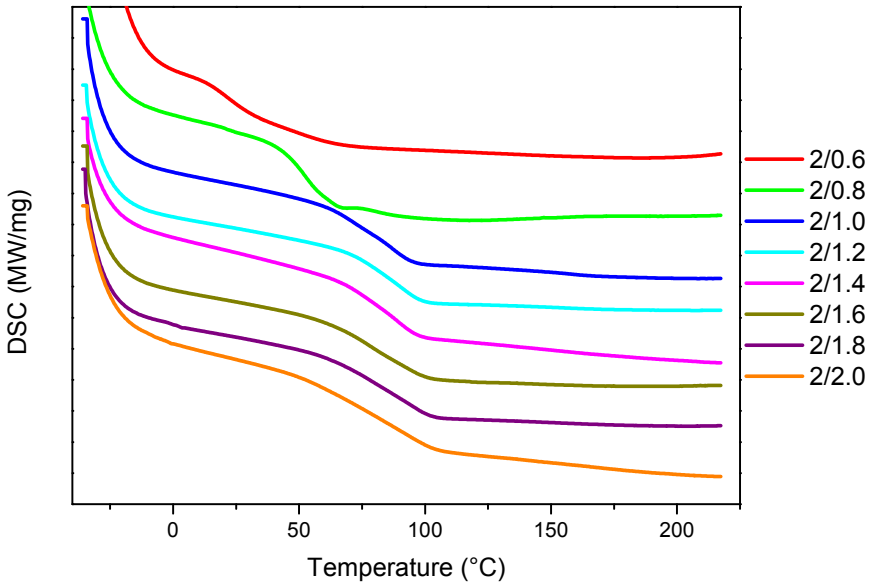
FTIR



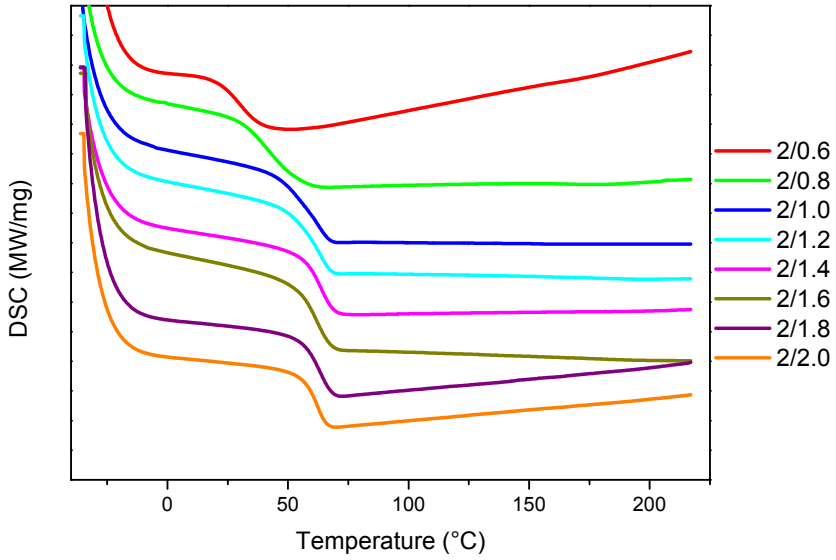
d. T_g measurements of DHAMHY and DHAVA



e. Various T_g measurements of the DHAVA/DGEBA materials



f. Various T_g measurements of the DHAVA/DGEBA materials



g. T_g of the DHAVA materials as a function of the epoxy/amine ratio used