

Figure S1

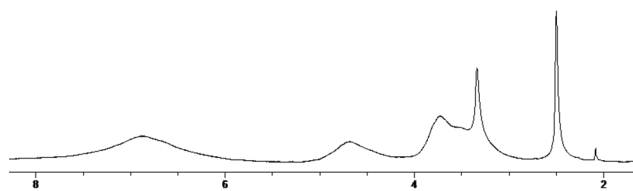


Figure S2

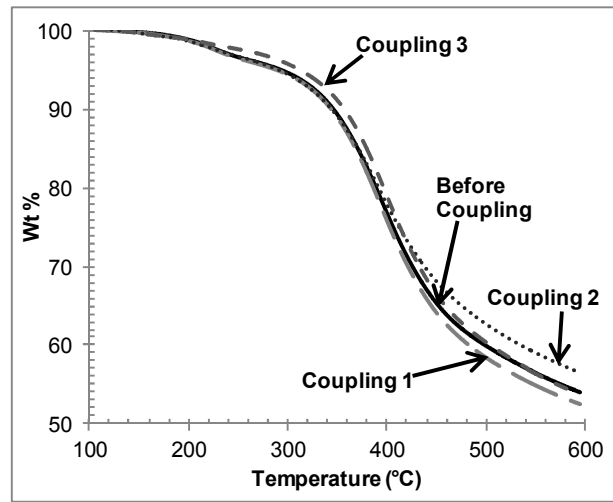


Figure S3

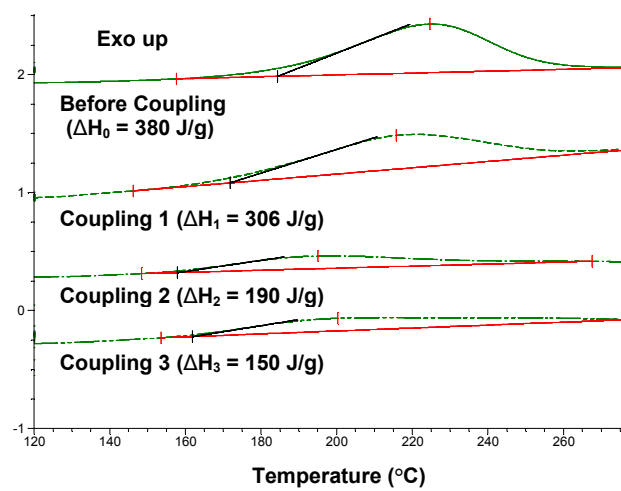


Figure S4

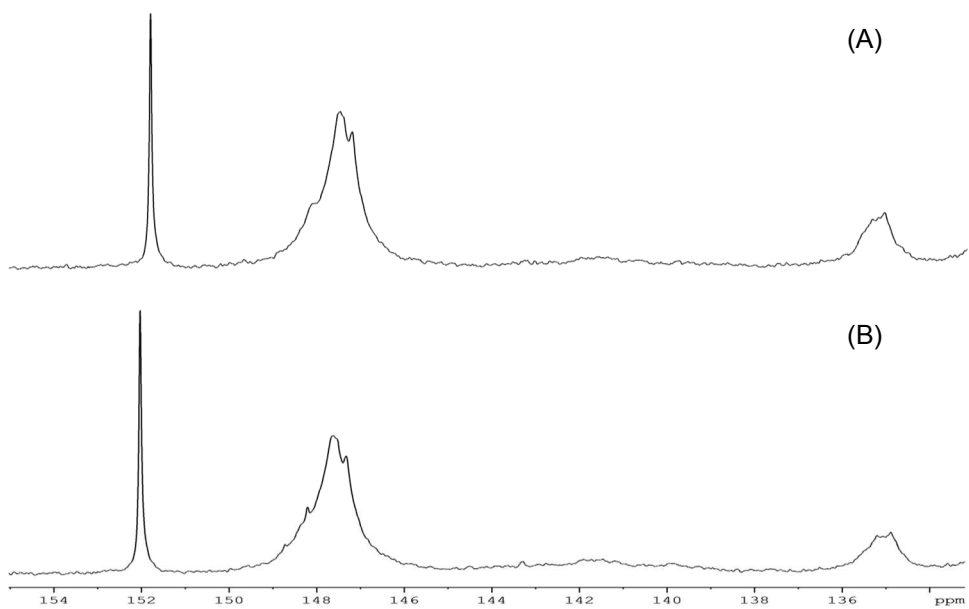


Figure S5

Sample	Aliphatic -OH (mmo/g)	Phenolic -OH (mmol/g)	Carboxylic -OH (mmol/g)
25% methylated 75% propargylated	6.40	0.40	1.80
25% methylated 75% propargylated (after heating in bulk at 150 °C for 1h)	5.90	0.37	1.30

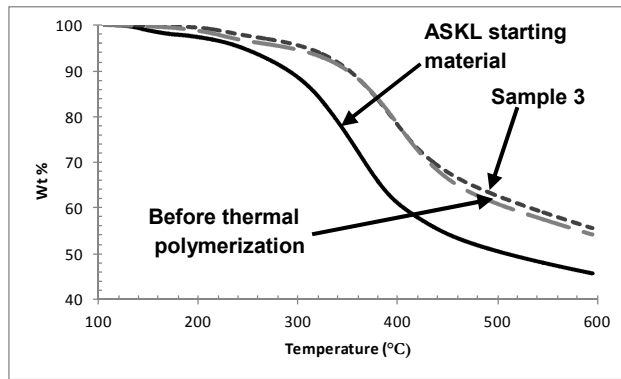


Figure S6

**Figure captions:**

**Figure S1.** Linear relation between the increases of intensity of the alkyne CH stretching peak with % of propargylation.

**Figure S2.**  $^1\text{H}$  NMR after the copper mediated coupling reaction

**Figure S3.** TGA traces of the polymer product after oxidative coupling reaction.

**Figure S4.** DSC traces of the polymer product after oxidative coupling reaction.

**Figure S5.** (A)  $^{31}\text{P}$  NMR spectrum of 25% methylated 75% propargylated ASKL. (B)  $^{31}\text{P}$  NMR spectrum of 25% methylated 75% propargylated ASKL after bulk thermal polymerization.

**Figure S6.** Thermal stability of the polymer formed after bulk thermal polymerization.