Electronic Supplementary Material (ESI) for RSC Advances.

An in-situ self-catalytic hybrid cyanate ester resin and its self- catalytic polymerization behavior

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Polymerization of Si-NCE-1 and Si-NCE-2

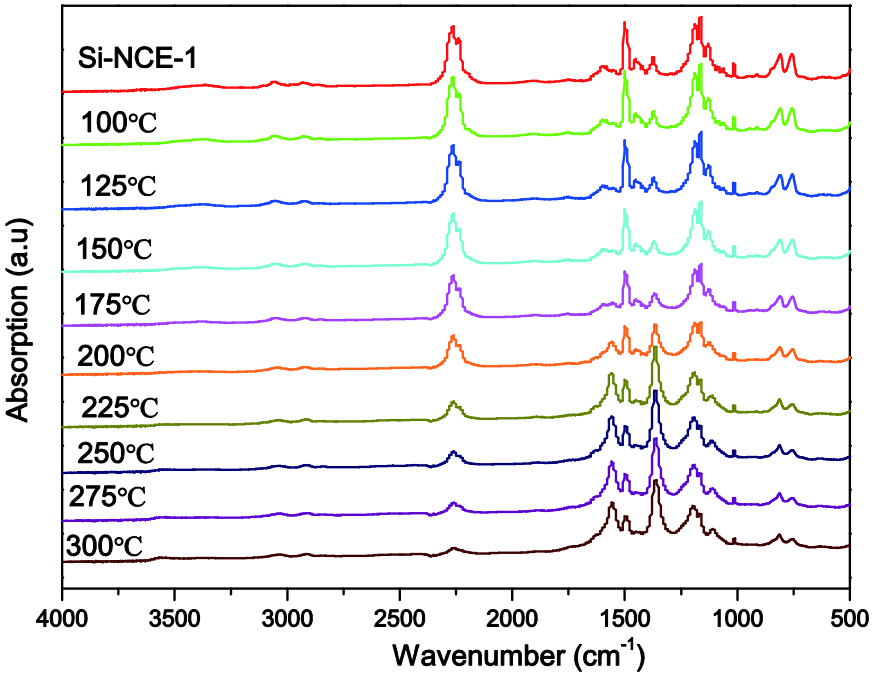

Figure 1S. FT-IR spectra of Si-NCE-1 at different temperature

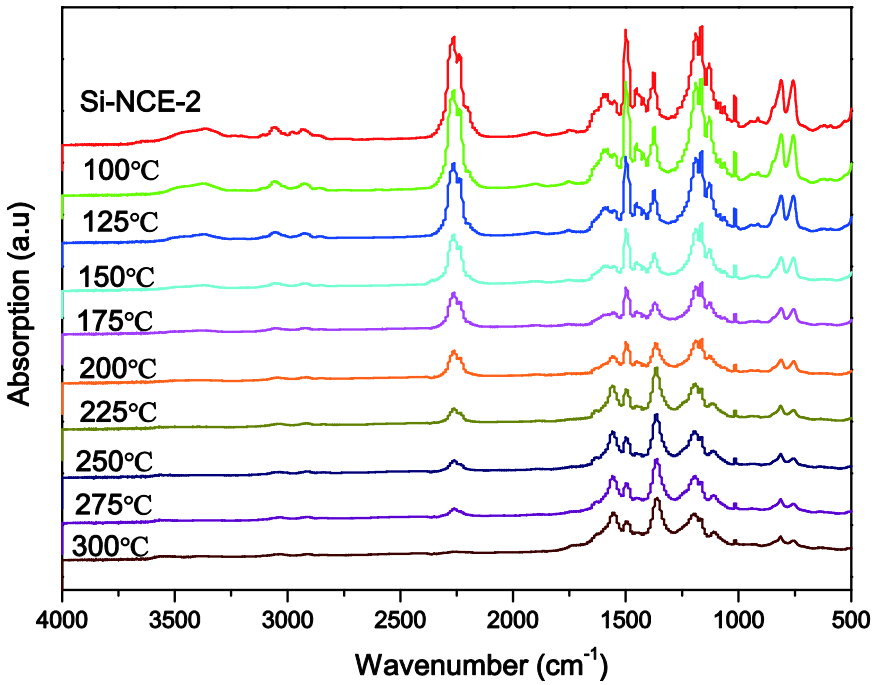

Figure 2S. FT-IR spectra of Si-NCE-2 at different temperature

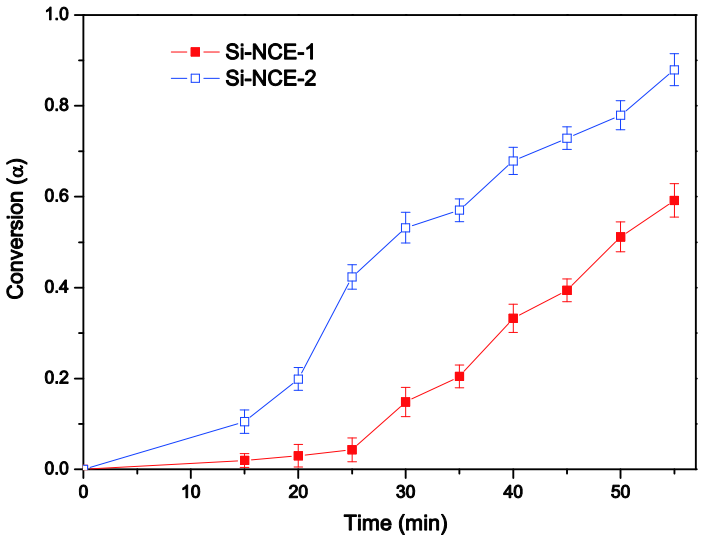

Figure 3S. The curve of conversion of group (-OCN) versus time for Si-NCE-1 and Si-NCE-2.

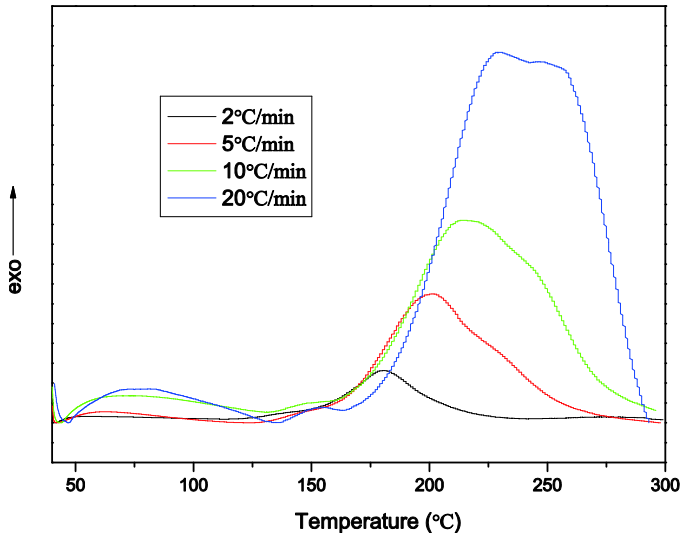

Figure 4S. DSC therogram of Si-NCE-1 at different heating rate under N_2.

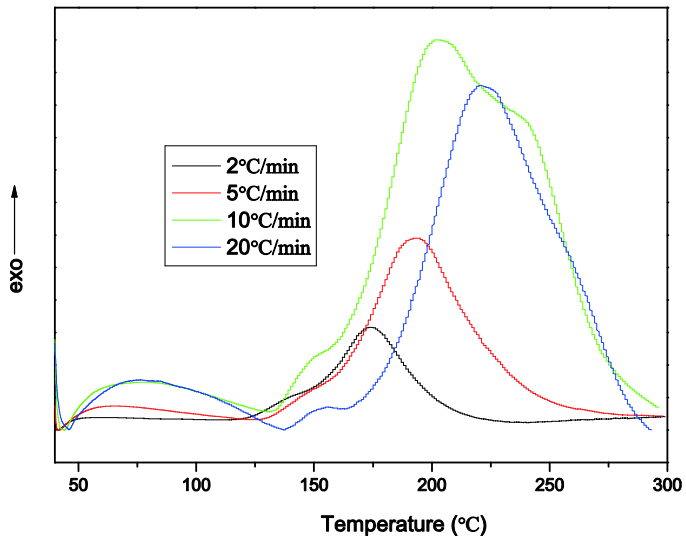

Figure 5S. DSC therogram of Si-NCE-2 at different heating rate under N_2.

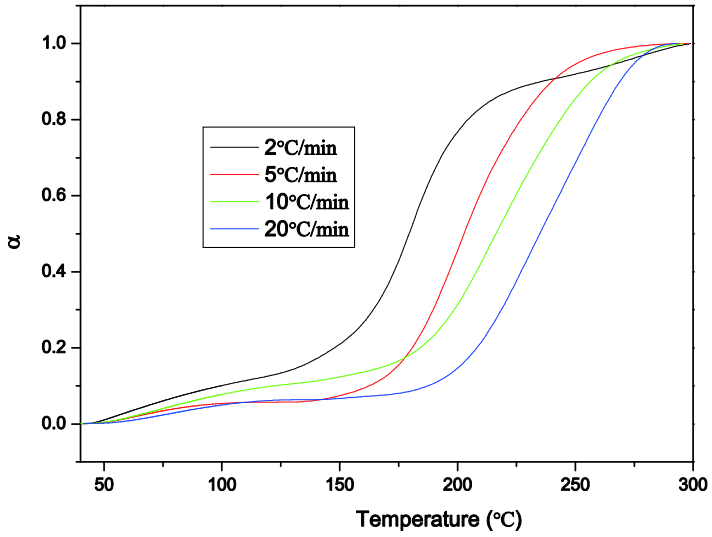

Figure 6S. The conversion of Si-NCE-1 versus temperature at different heating rate.

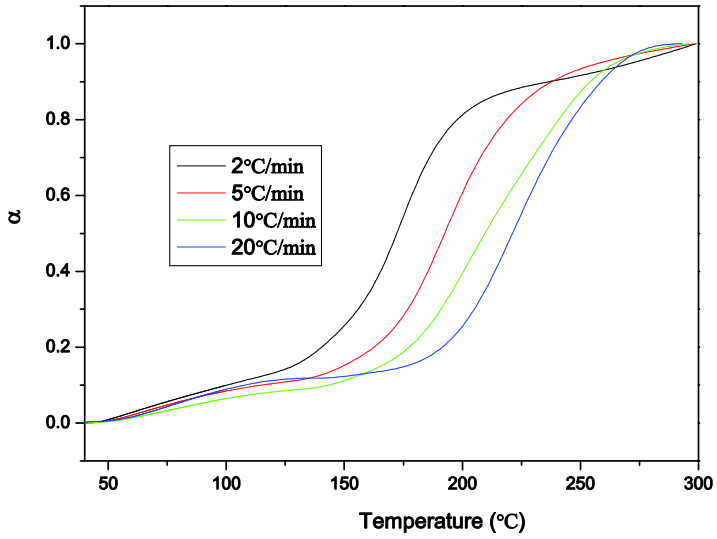

Figure 7S. The conversion of Si-NCE-2 versus temperature at different heating rate.

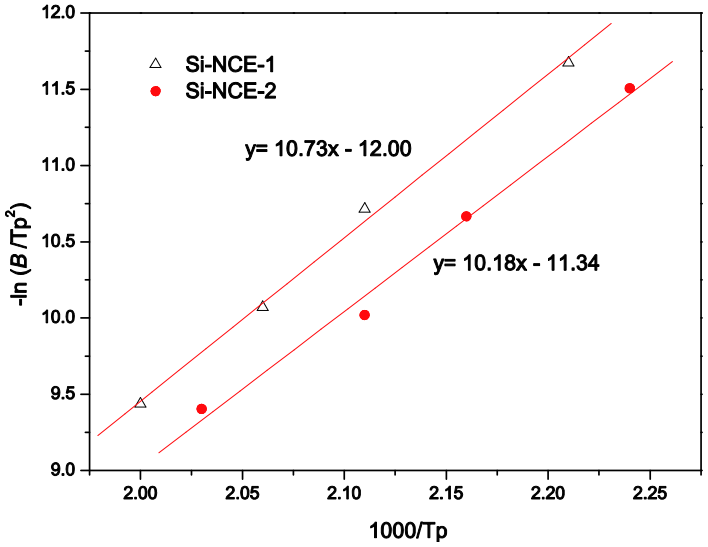

Figure 8S. Kissinger plot for determination of the activation energy of Si-NCE-1 and Si-NCE-2.

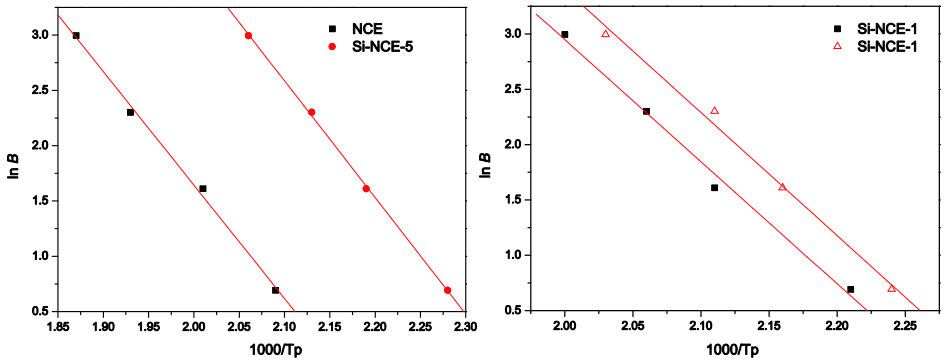

Figure 9S. Plots of ln*B* vs. 1000/Tp for hybrid NCE resins.

Table 1S. The kinetic parameter of hybrid NCE resins.

Hybrid NCE	Ea (activity energy) (KJ/mol)	n (order of curing reaction)	m (order of curing reaction)	Pre-exponential factor (A) (min^{-1})
NCE	93.83	2.42	1.01	1.45×10^{9}
Si-NCE-1	89.21	2.37	0.99	1.77×10^{9}
Si-NCE-2	84.64	2.31	0.99	8.58×10^{8}
Si-NCE-5	80.31	2.29	0.98	3.61×10^{8}

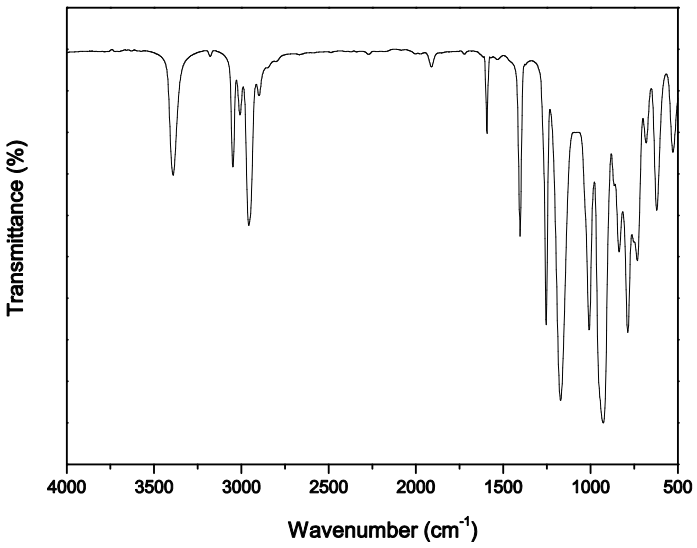

Figure 10S. FT-IR spectrum of the MVSZ.

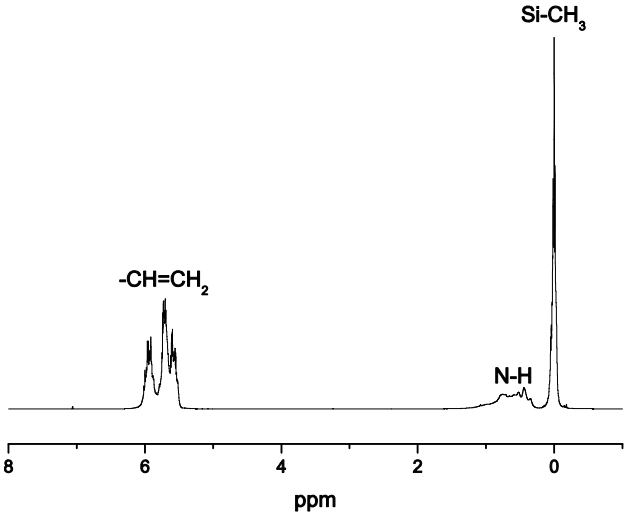

Figure 11S. ^{1}H-NMR spectrum of the MVSZ.