Supporting information:

**Fig. SI 1** The plots of $\bar{M}_n$ as a functional of conversion for BA-a, BA-a-Id, BA-a-IMZ and BA-a-Nal

**Fig. SI 2** The DSC curves of BA-a at different curing degree

**Fig. SI 3** The plots of $T_g$ as a function of $-1000/\bar{M}_n$ for BA-a, BA-a-Id, BA-a-IMZ and BA-a-Nal
Fig. SI 4 The plots of conversion vs time of BA-a at different temperature obtained by isothermal-DSC. The inset presents the corresponding curves of polymerization rate vs conversion.

Fig. SI 5 The plots of conversion vs time of BA-a-tAm at different temperature obtained by isothermal-DSC. The inset presents the corresponding curves of polymerization rate vs conversion.
Fig. SI 6 The plots of conversion vs time of BA-a-Id at different temperature obtained by isothermal-DSC. The inset presents the corresponding curves of polymerization rate vs conversion.

Fig. SI 7 The plots of conversion vs time of BA-a-NaI at different temperature obtained by isothermal-DSC. The inset presents the corresponding curves of polymerization rate vs conversion.
Fig.SI 8 The plots of conversion vs time of BA-a-IMZ at different temperature obtained by isothermal-DSC. The inset presents the corresponding curves of polymerization rate vs conversion.

Fig.SI 9 The plots of conversion vs time of BA-a-12MZ at different temperature obtained by isothermal-DSC. The inset presents the corresponding curves of polymerization rate vs conversion.
Fig.SI 10 The plots of conversion vs time of BA-a-tBp at different temperature obtained by isothermal-DSC. The inset presents the corresponding curves of polymerization rate vs conversion.

Fig.SI 11 The plots of conversion vs time of BA-a-HA at different temperature obtained by isothermal-DSC. The inset presents the corresponding curves of polymerization rate vs conversion.

Fig.SI 12 The plots of conversion vs time of BA-a-pCa at different temperature obtained by isothermal-DSC. The inset presents the corresponding curves of polymerization rate vs conversion.
Fig.SI 13 The plots of conversion vs time of BA-a-sAm at different temperature obtained by isothermal-DSC. The inset presents the corresponding curves of polymerization rate vs conversion.