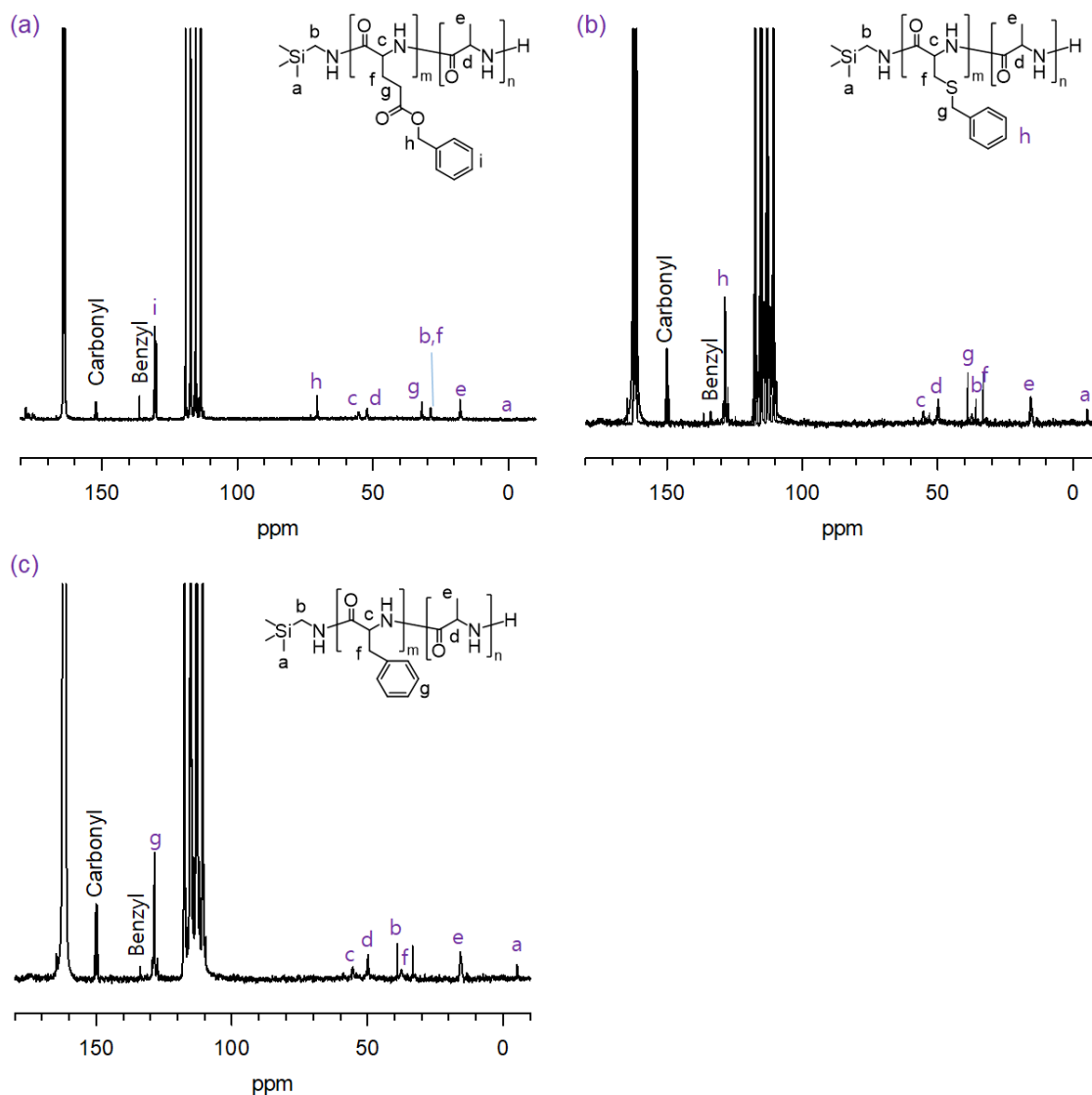
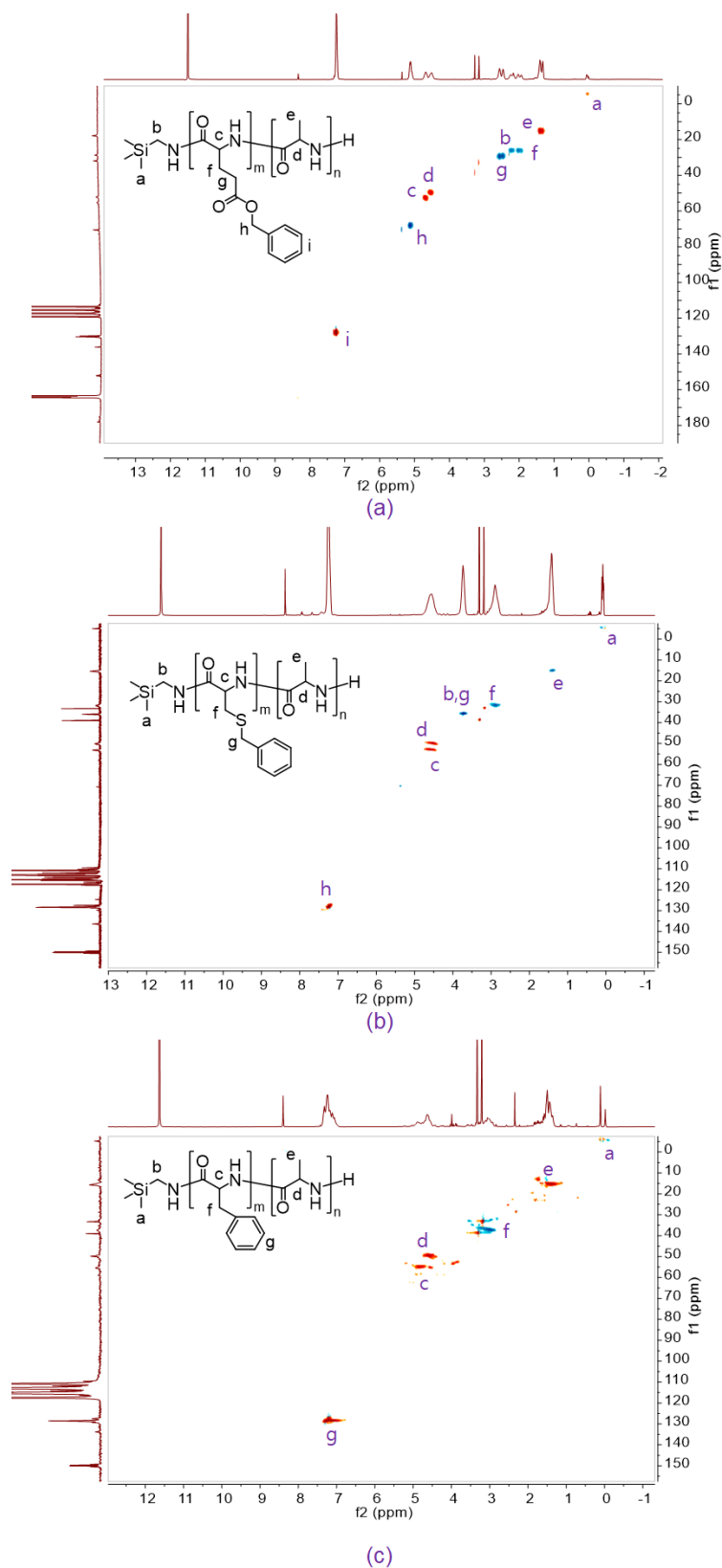


# Supplementary Materials: *N*-Heterocyclic Carbene-catalyzed Random Copolymerization of *N*-carboxyanhydrides of $\alpha$ -amino Acids

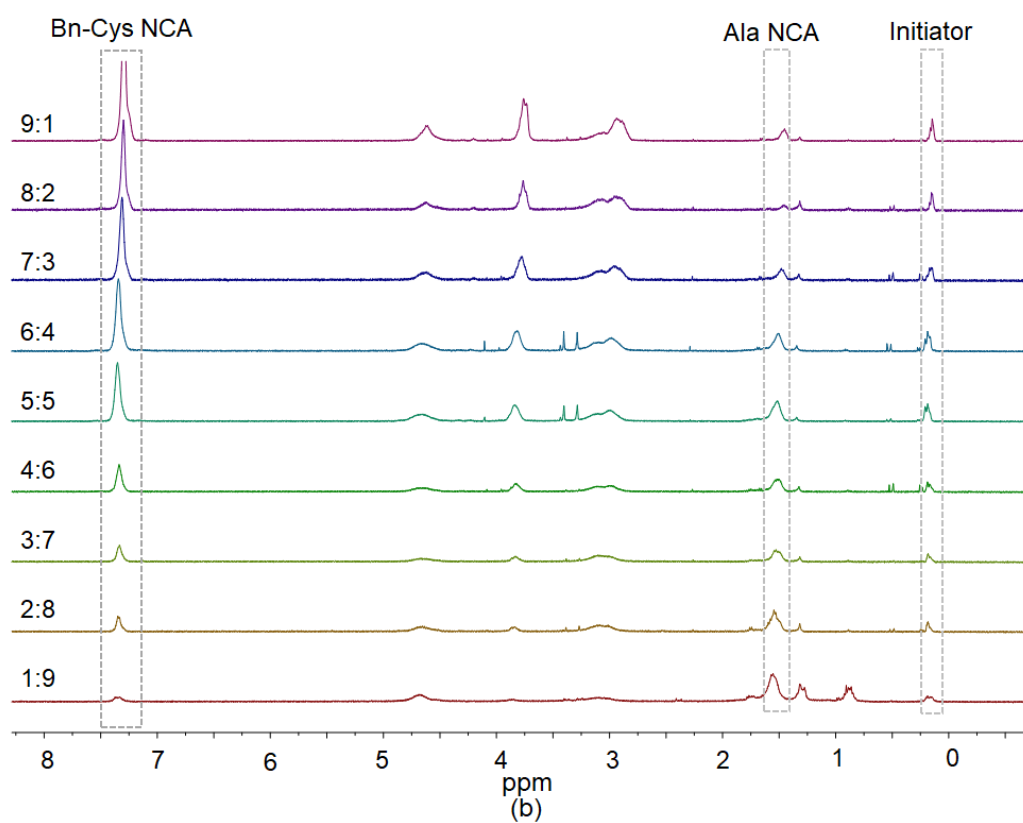
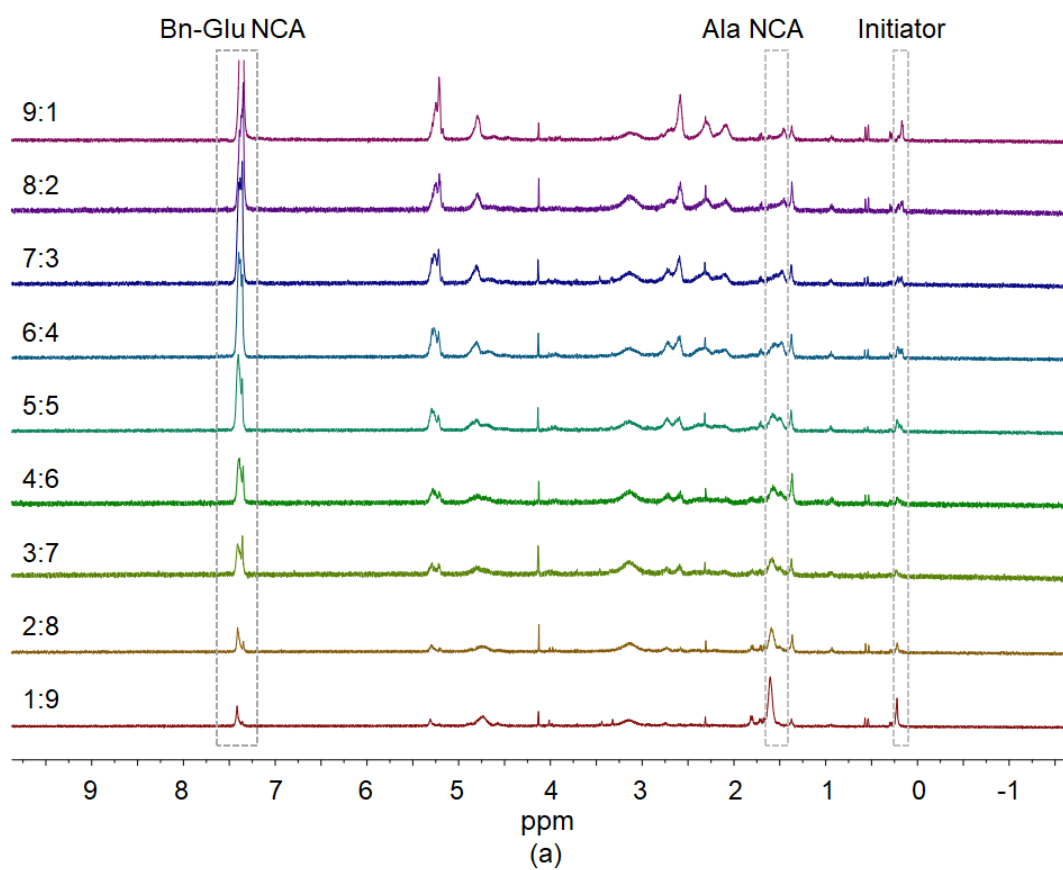
Kuen Hee Eom, Seokhyeon Baek and Il Kim\*

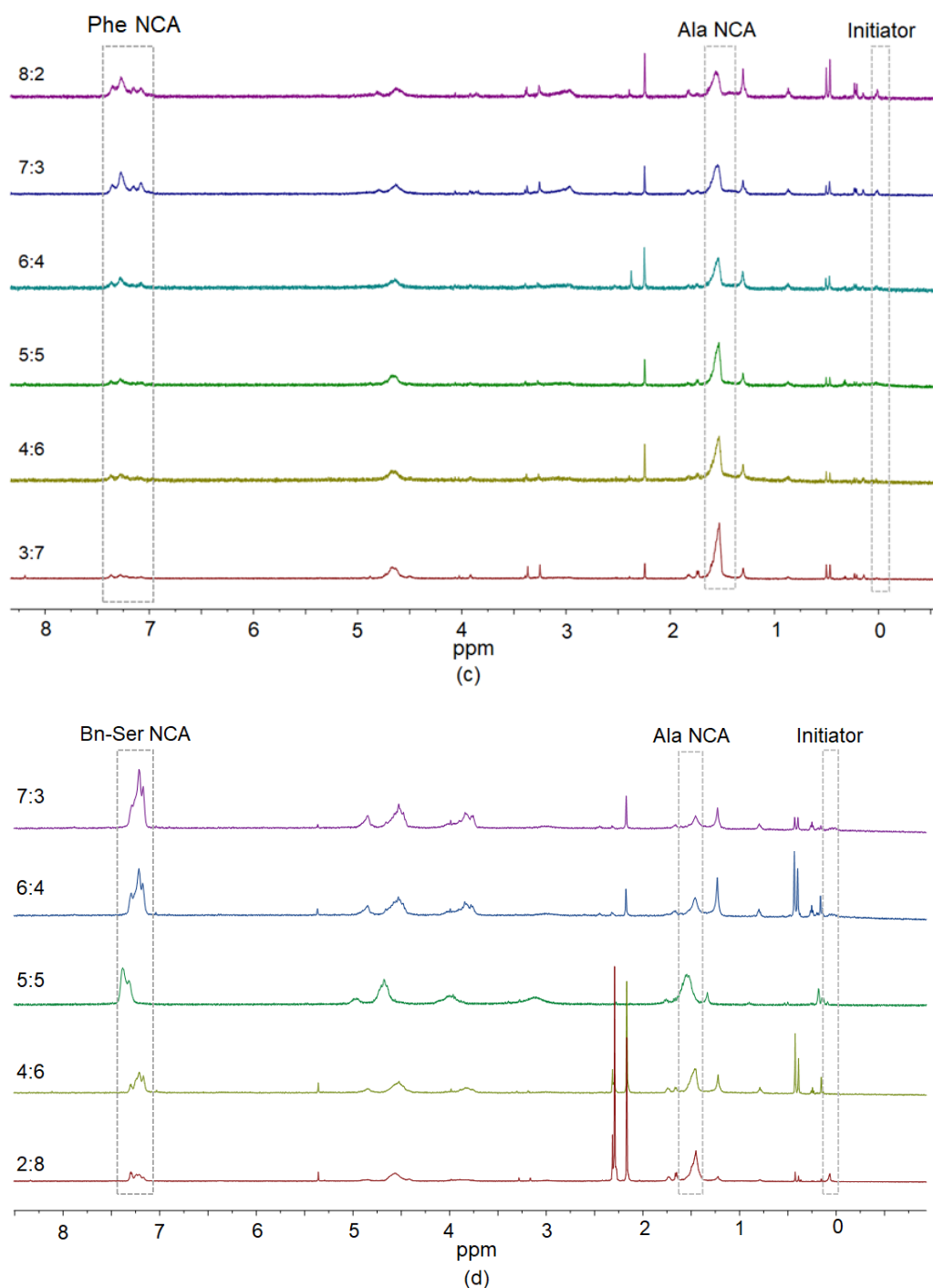


**Figure S1.**  $^{13}\text{C}$  NMR spectra of (a) poly(Ala-co-Bn-Glu), (b) poly(Ala-co-Bn-Cys), and (c) poly(Ala-co-Phe) measured in trifluoroacetic acid ( $\text{TFA-d}$ ).

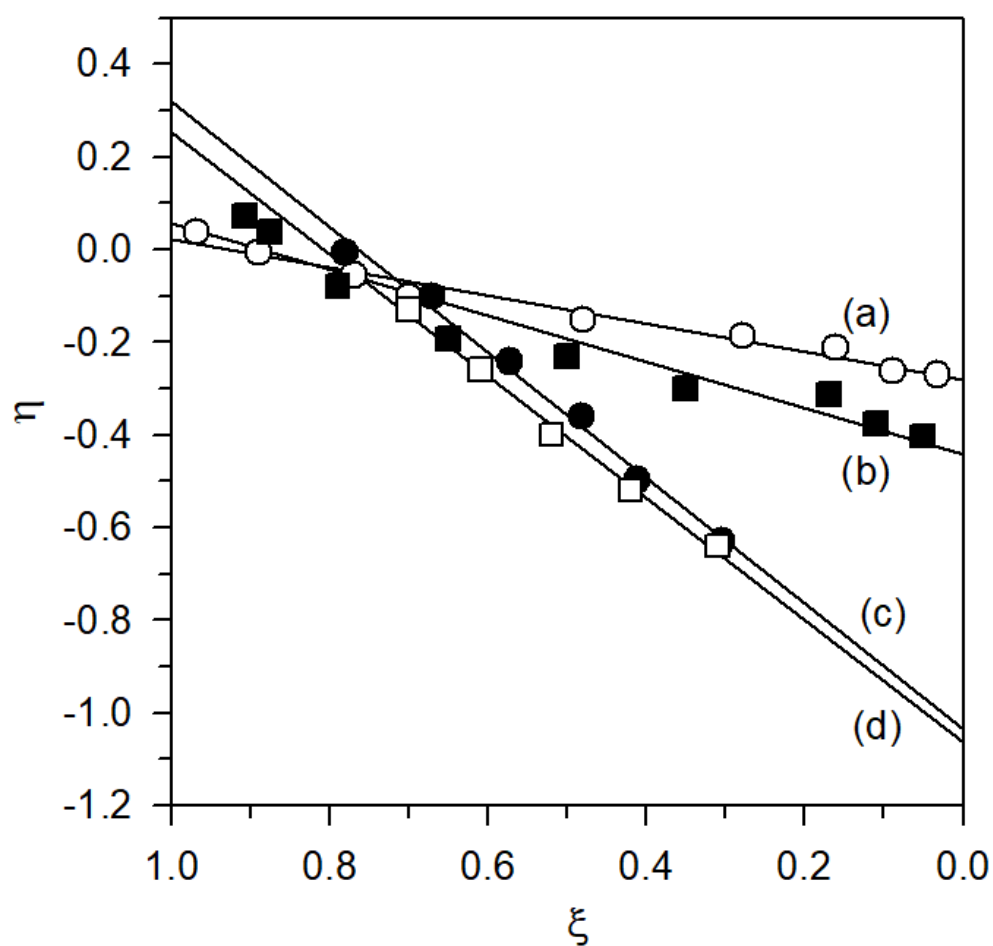


**Figure S2.** HSQC spectra of (a) poly(Ala-co-Bn-Glu), (b) poly(Ala-co-Bn-Cys), and (c) poly(Ala-co-Phe) measured in trifluoroacetic acid (TFA-d).





**Figure S3.** <sup>1</sup>H NMR spectra of (a) poly(Ala-co-Bn-Glu), (b) poly(Ala-co-Bn-Cys), (c) poly(Ala-co-Phe), and (d) poly(Ala-co-Bn-Ser) collected after 5 min of copolymerizations at a wide range of relative composition. Part of the copolymer samples could not be measured due to the low solubility in trifluoroacetic acid (TFA-d).



**Figure S4.** Extended Kelen-Tüdös plots for the determination of the reactivity ratios for (a) Bn-Glu NCA and Ala NCA, (b) Bn-Cys NCA and Ala NCA, (c) Bn-Ser NCA and Ala NCA, and (d) Phe NCA and Ala NCA copolymerization systems, where Ala NCA is monomer 2 in all cases.