Electronic Supplementary Information

Amination of Polylactic Acid to Alanine by Ru-Co Bimetallic Catalyst

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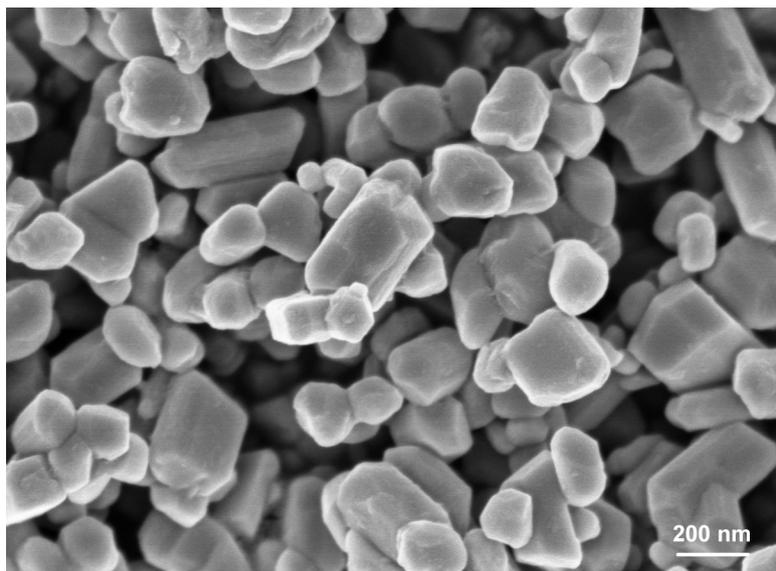
Figure S1. The scanning electron microscope (SEM) image of TiO_2.
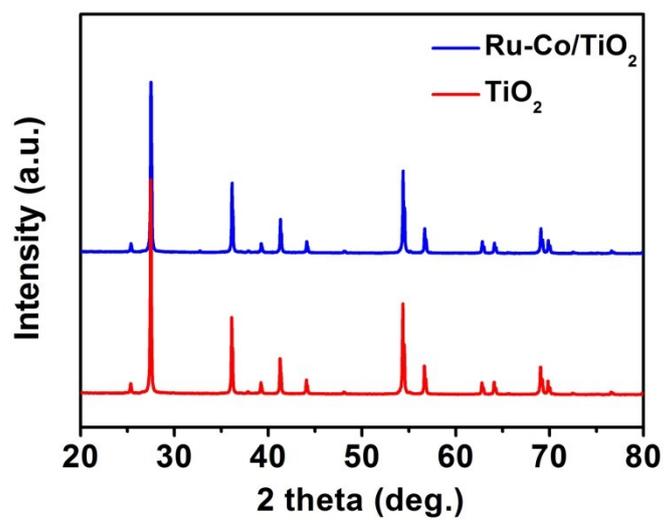
Figure S2. XRD patterns of TiO_2 and Ru-Co/TiO_2 catalyst.
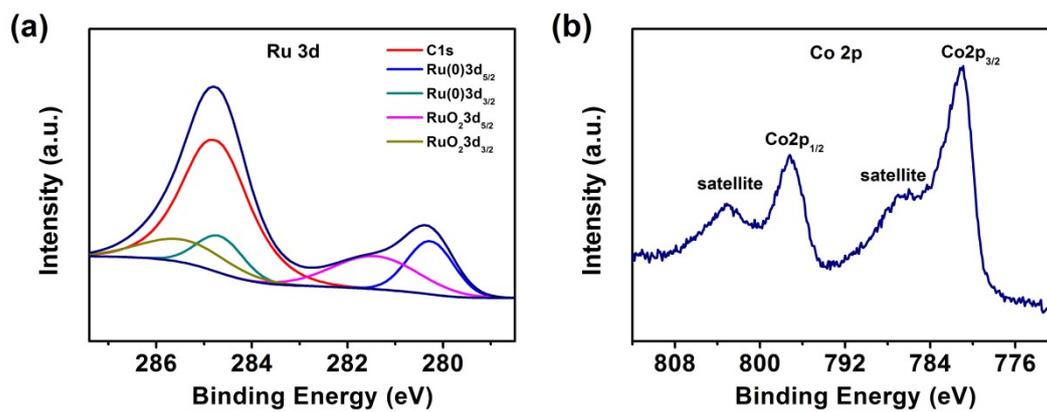
Figure S3. XPS spectra of the fresh Ru-Co/TiO$_2$ catalyst: (a) Ru 3d; (b) Co 2p.
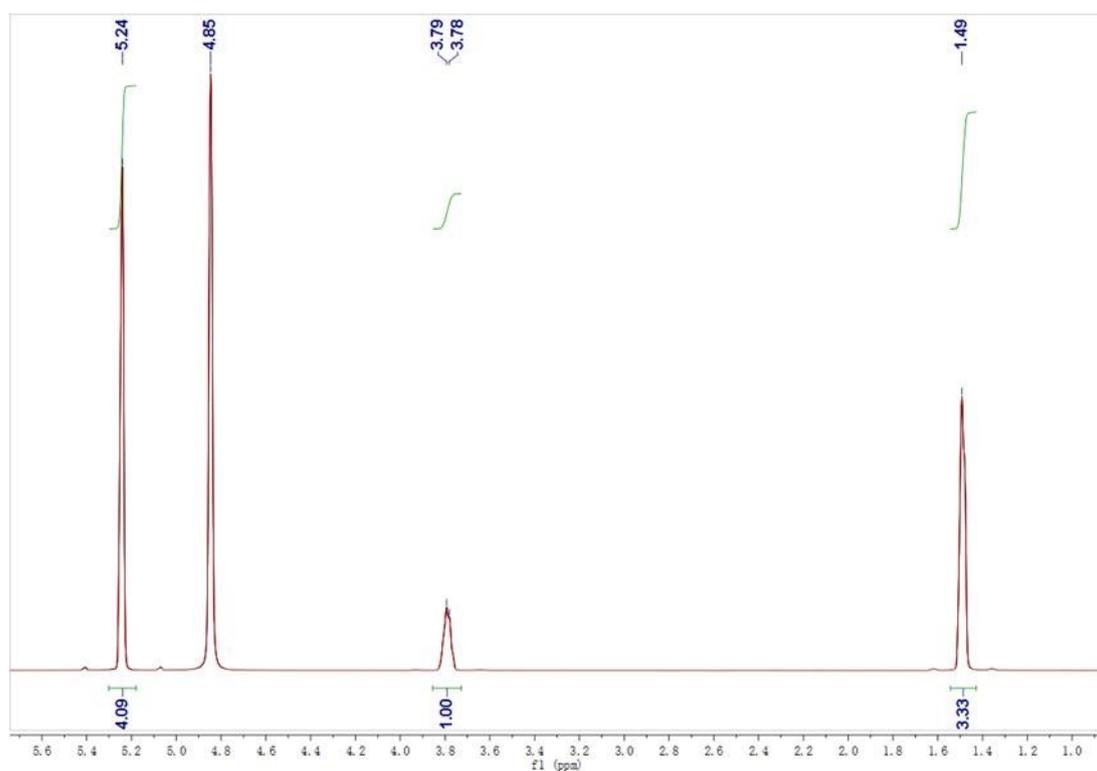
Figure S4. ^{1}H NMR spectrum of commercial alanine (s-trioxane as internal standard, 5.24 ppm).
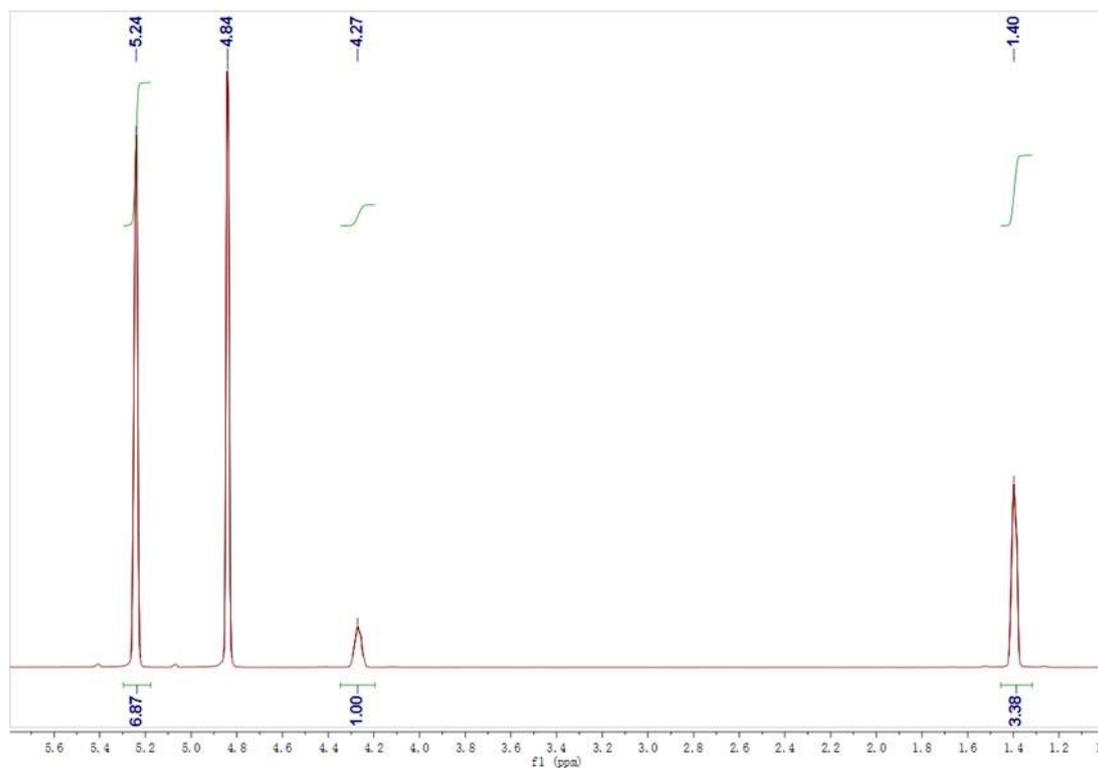
Figure S5. ¹H NMR spectrum of commercial lactamide (s-trioxane as internal standard, 5.24 ppm).
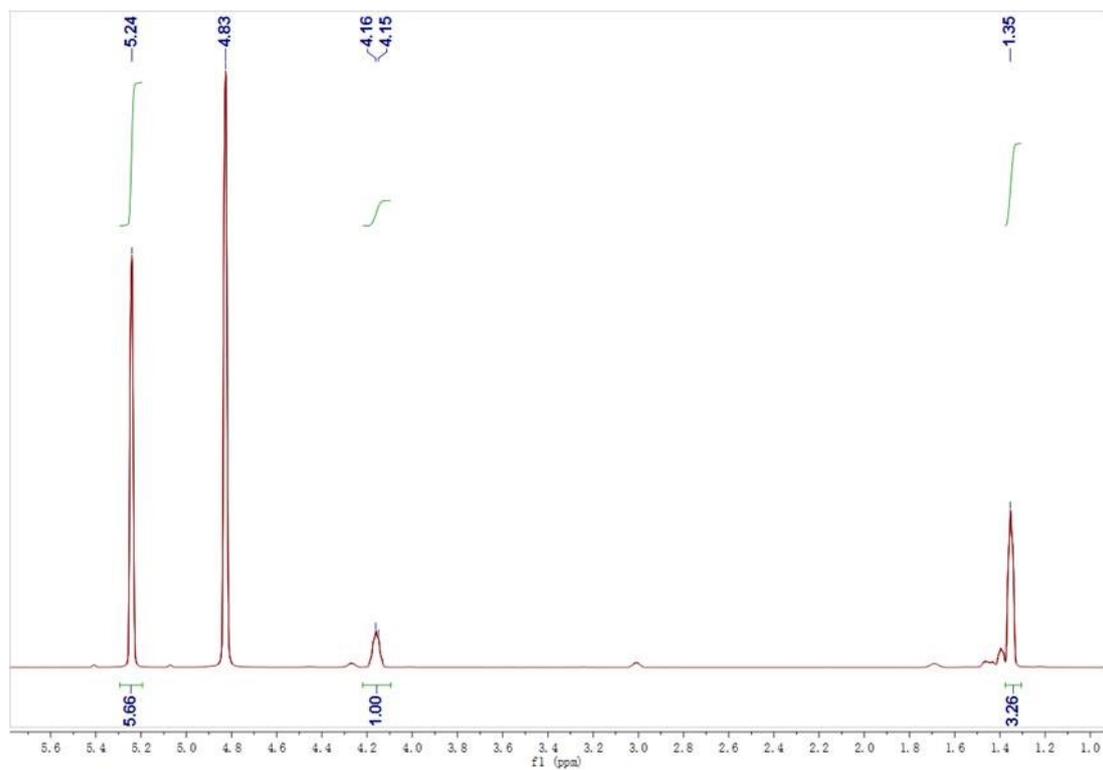
Figure S6. ^{1}H NMR spectrum of commercial ammonium lactate (s-trioxane as internal standard, 5.24 ppm).
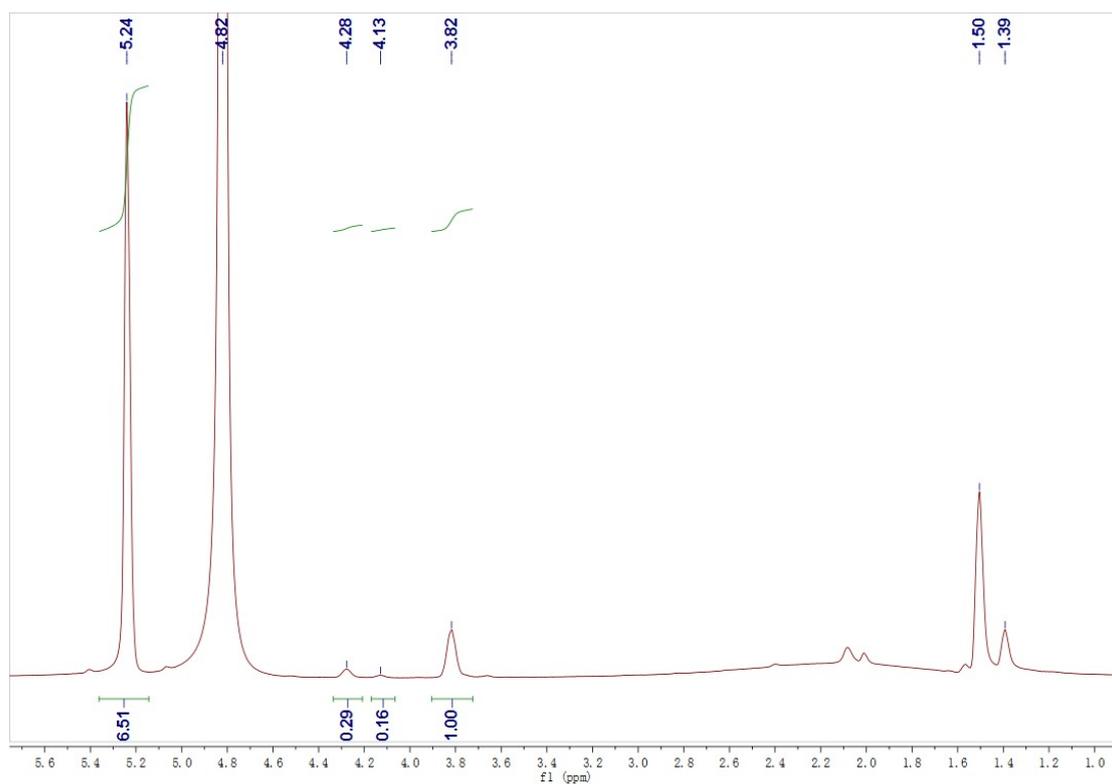
Figure S7. ^{1}H NMR spectrum of produced alanine, lactamide and ammonium lactate (s-trioxane as internal standard, 5.24 ppm).
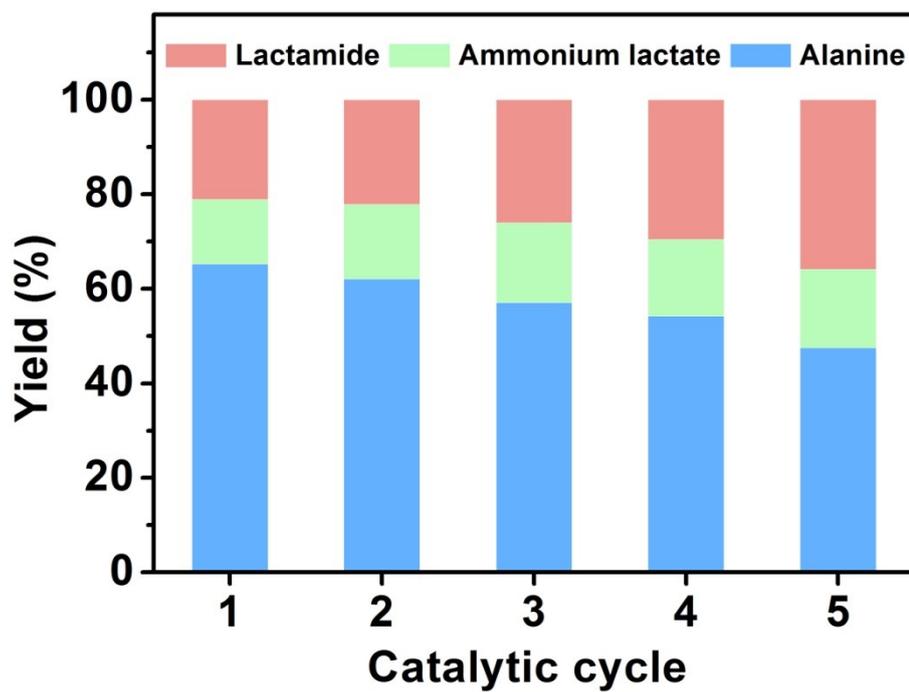
Figure S8. The results of recycling test. The reaction conditions were the same as that of entry 1 in Table 1.
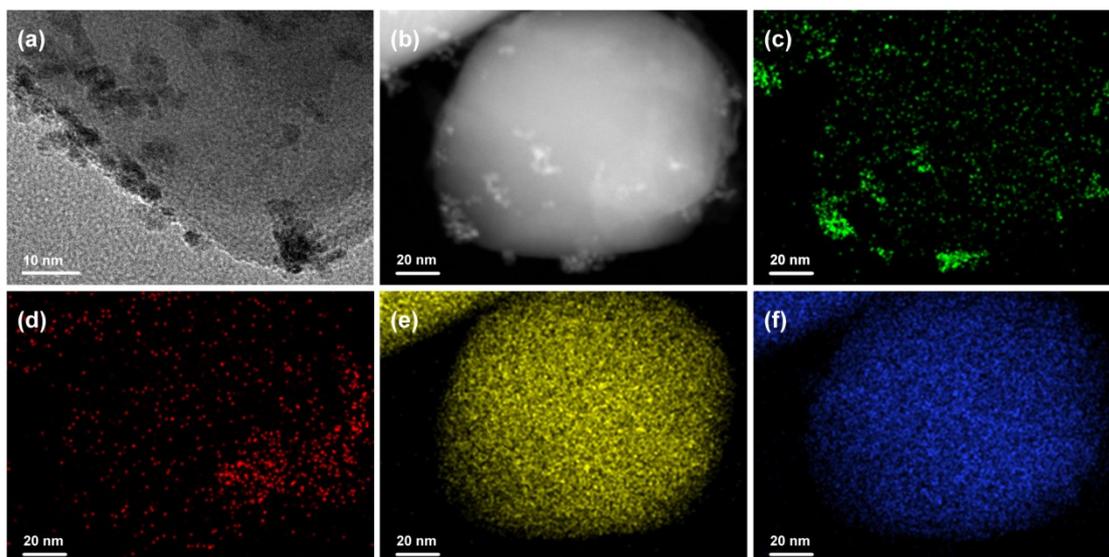
Figure S9. (a) TEM image of the spent Ru-Co/TiO$_2$ catalyst. The HAADF image (b) and corresponding EDS elemental mapping (c, Ru; d, Co; e, Ti; f, O) of Ru-Co/TiO$_2$.
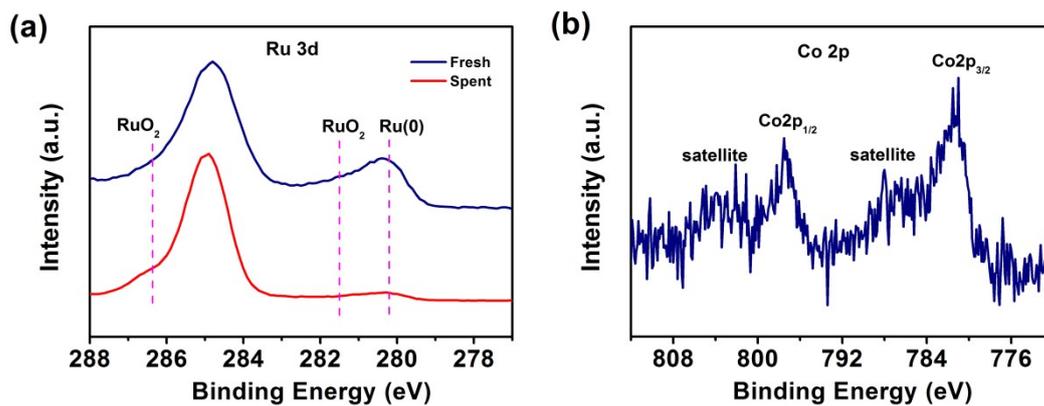
Figure S10. XPS spectra of the Ru-Co/TiO$_2$ catalyst: (a) Ru 3d of the fresh and spent catalyst; (b) Co 2p of the spent catalyst.