

Supporting Information

Chemical recycling of aliphatic polyamides by microwave assisted hydrolysis for efficient monomer recovery

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Number of pages: 20

Number of figures: 36

Contents

Figure S1. (Left) Microwave reactor Monowave 400 used for depolymerization studies and (right) typical temperature profile of PA depolymerization experiment together with microwave power input and system pressure.	3
Figure S2. ¹ H NMR spectrum of AA recovered from PA 66.	3
Figure S3. ¹³ C NMR spectrum of AA recovered from PA 66.	4
Figure S4. FTIR spectra of commercial AA and that recovered from PA 66.	4
Figure S5. ¹ H NMR spectrum of HMDA recovered from PA 66.	5
Figure S6. ¹³ C NMR spectrum of HMDA recovered from PA 66.	5
Figure S7. FTIR spectra of commercial HMDA and that recovered from PA 66.	6
Figure S8. ¹ H NMR spectrum of SA recovered from PA 1010.	6
Figure S9. ¹³ C NMR spectrum of SA recovered from PA 1010.	7
Figure S10. FTIR spectra of commercial SA and that recovered from PA 1010.	7
Figure S11. ¹ H NMR spectrum of 1,10-DDA recovered from PA 1010.	8
Figure S12. ¹³ C NMR spectrum of 1,10-DDA recovered from PA 1010.	8

Figure S13. FTIR spectra of commercial 1,10-DDA and that recovered from PA 1010.	9
Figure S14. ¹ H NMR spectrum of 11-AUDAxHCl recovered from PA 11.	9
Figure S15. ¹³ C NMR spectrum of 11-AUDAxHCl recovered from PA 11.	10
Figure S16. FTIR spectra of 11-AUDAxHCl prepared from commercial 11-AUDA and that recovered from PA 11.	10
Figure S17. ¹ H NMR spectrum of 12-ADDAxHCl recovered from PA 12.	11
Figure S18. ¹³ C NMR spectrum of 12-ADDAxHCl recovered from PA 12.	11
Figure S19. FTIR spectra of 12-ADDAxHCl prepared from commercial 12-ADDA and that recovered from PA 12.	12
Figure S20. ¹ H NMR spectrum of AA recovered from PA 66-GF ₃₅	12
Figure S21. ¹³ C NMR spectrum of AA recovered from PA 66-GF ₃₅	13
Figure S22. FTIR spectra of commercial AA and that recovered from PA 66-GF ₃₅	13
Figure S23. ¹ H NMR spectrum of HMDA recovered from PA 66-GF ₃₅	14
Figure S24. ¹³ C NMR spectrum of HMDA recovered from PA 66-GF ₃₅	14
Figure S25. FTIR spectra of commercial HMDA and that recovered from PA 66-GF ₃₅	15
Figure S26. ¹ H NMR spectrum of 11-AUDAxHCl recovered from PA 11-GF ₃₀	15
Figure S27. ¹³ C NMR spectrum of 11-AUDAxHCl recovered from PA 11-GF ₃₀	16
Figure S28. FTIR spectra of 11-AUDAxHCl prepared from commercial 11-AUDA and that recovered from PA 11-GF ₃₀	16
Figure S29. ¹ H NMR spectrum of 11-AUDAxHCl recovered from PA 11-CF ₃₀	17
Figure S30. ¹³ C NMR spectrum of 11-AUDAxHCl recovered from PA 11-CF ₃₀	17
Figure S31. FTIR spectra of 11-AUDAxHCl prepared from commercial 11-AUDA and that recovered from PA 11-CF ₃₀	18
Figure S32. ¹ H NMR spectrum of 12-ADDAxHCl recovered from PA 12-GF ₅₀	18
Figure S33. ¹³ C NMR spectrum of 12-ADDAxHCl recovered from PA 12-GF ₅₀	19
Figure S34. FTIR spectra of 12-ADDAxHCl prepared from commercial 12-ADDA and that recovered from PA 12-GF ₅₀	19
Figure S35. FTIR spectrum of GF recovered from PA 11-GF ₃₀	20
Figure S36. FTIR spectrum of CF recovered from PA 11-CF ₃₀	20

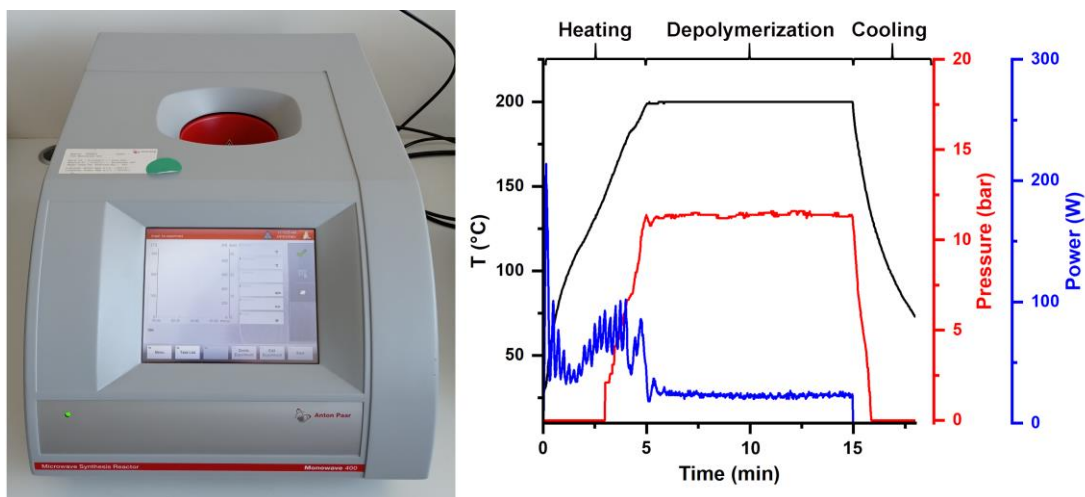


Figure S1. (Left) Microwave reactor Monowave 400 used for depolymerization studies and (right) typical temperature profile of PA depolymerization experiment together with microwave power input and system pressure.

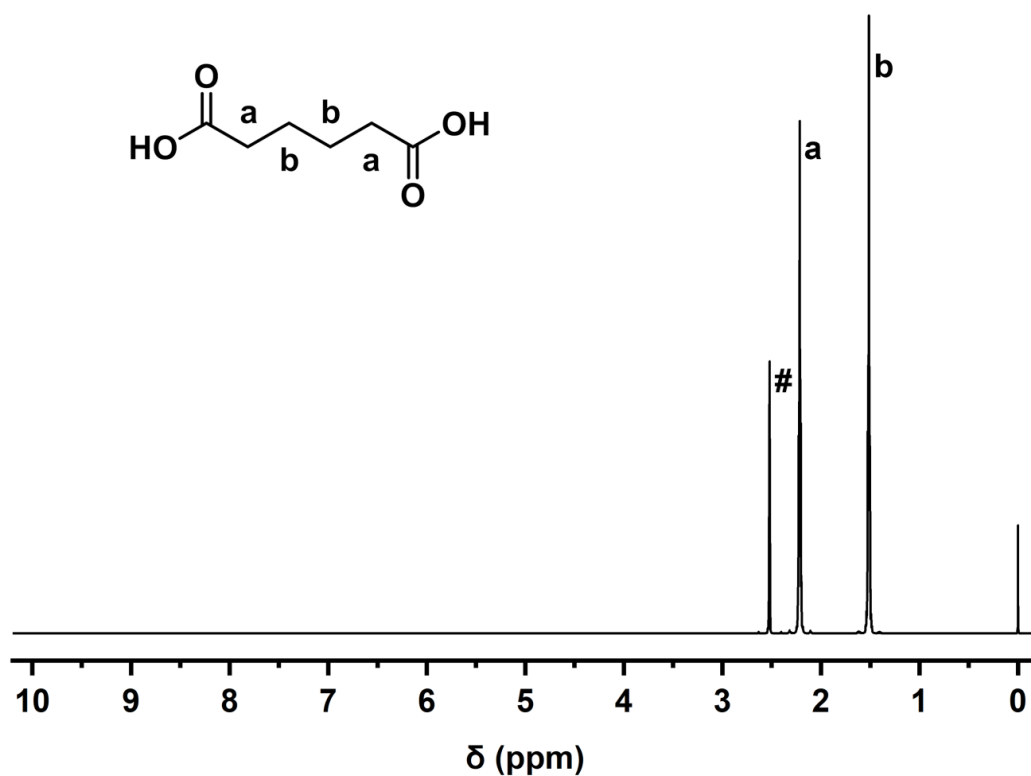


Figure S2. ¹H NMR spectrum of AA recovered from PA 66.

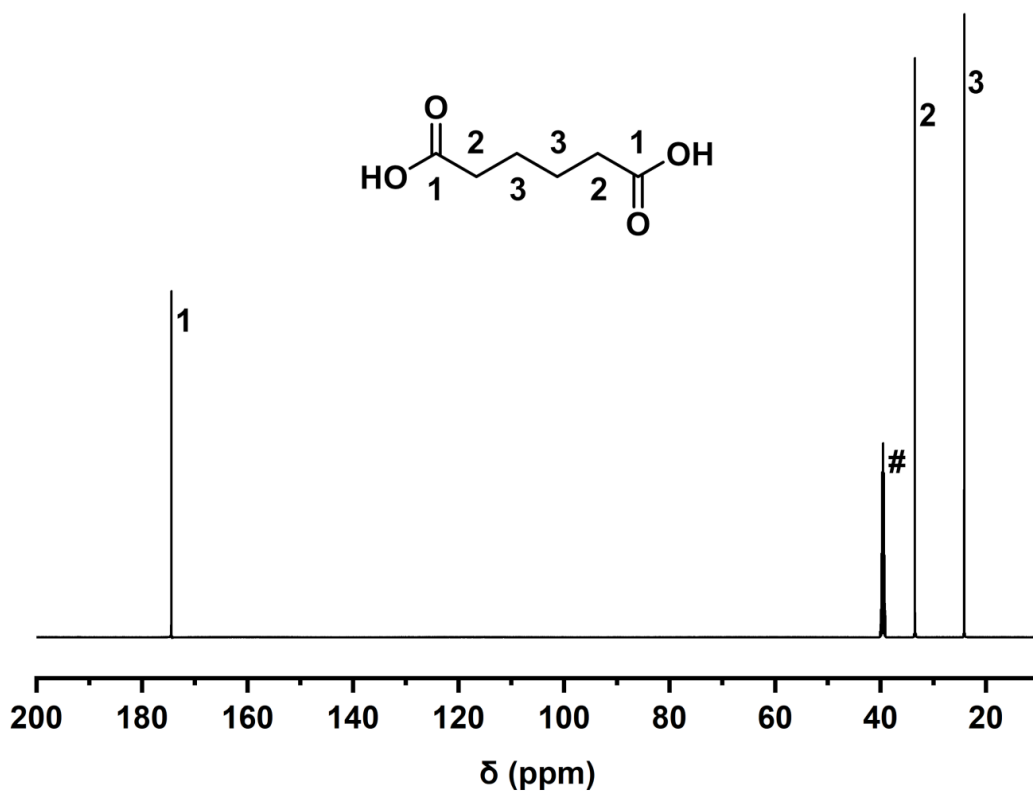


Figure S3. ^{13}C NMR spectrum of AA recovered from PA 66.

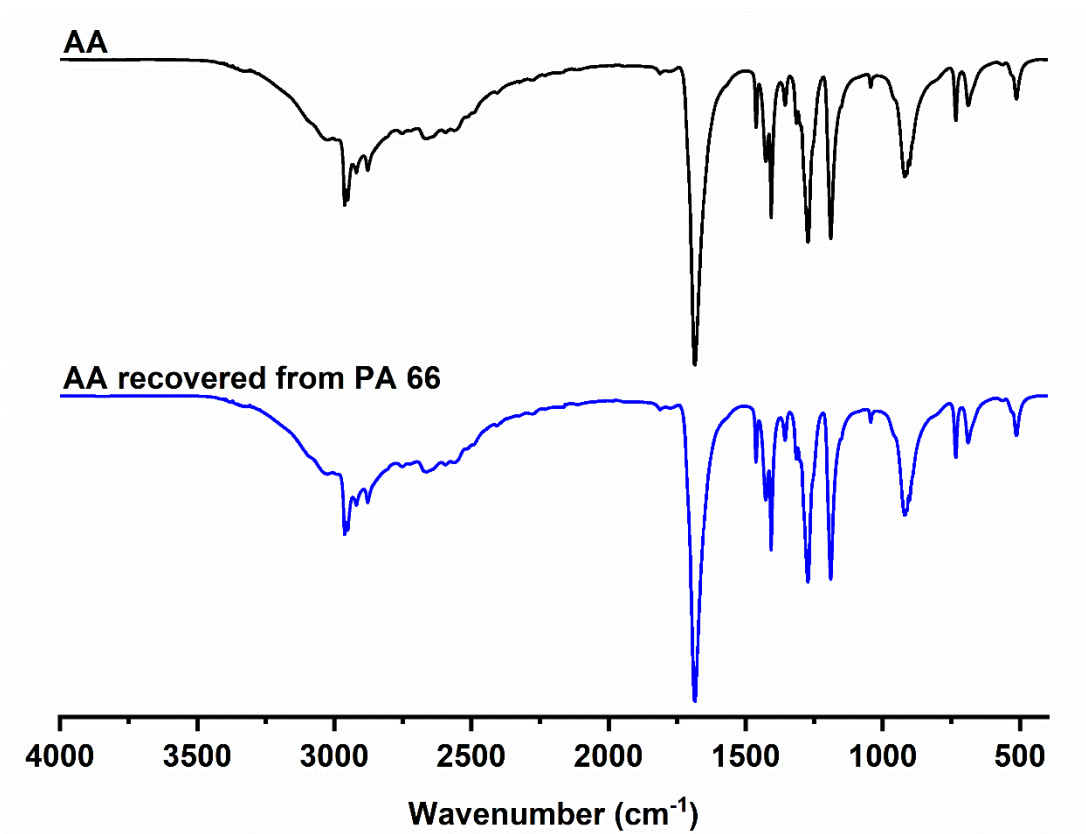


Figure S4. FTIR spectra of commercial AA and that recovered from PA 66.

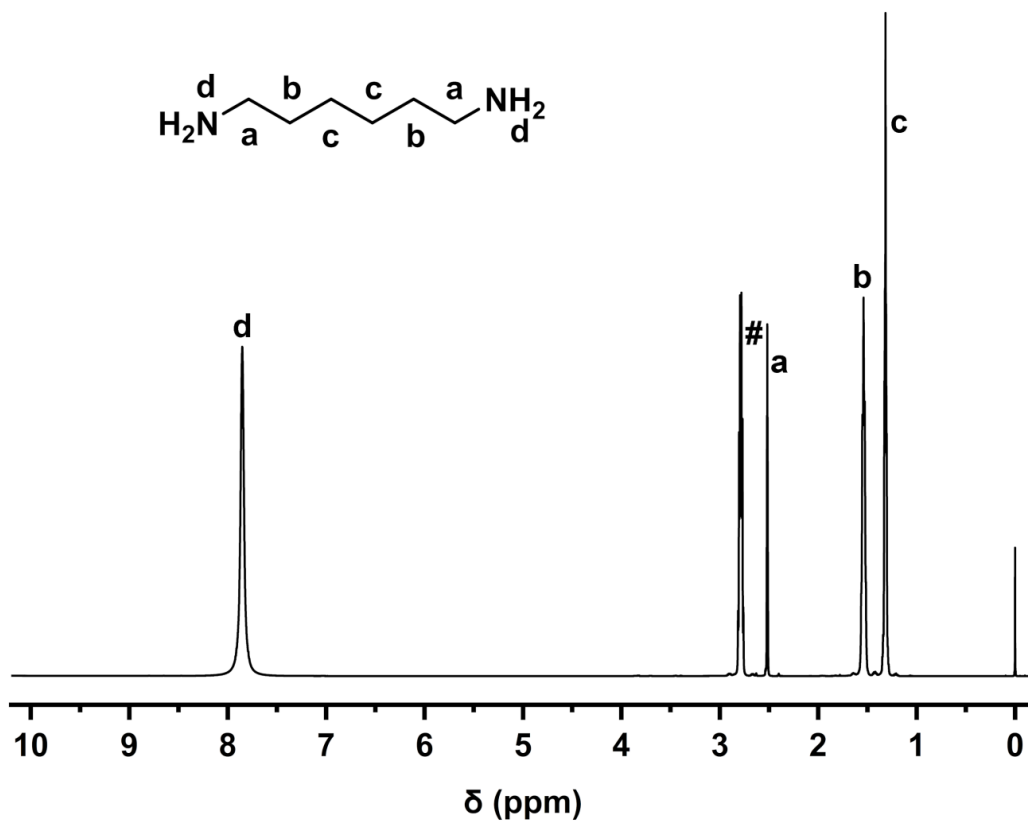


Figure S5. ^1H NMR spectrum of HMDA recovered from PA 66.

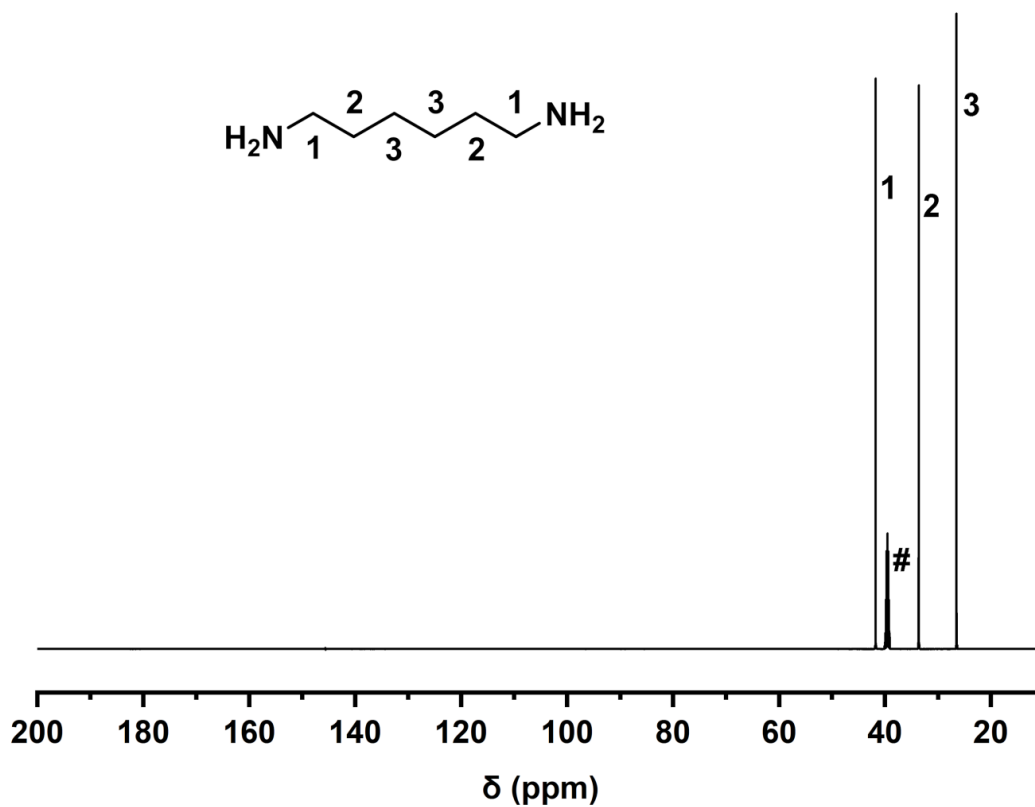


Figure S6. ^{13}C NMR spectrum of HMDA recovered from PA 66.

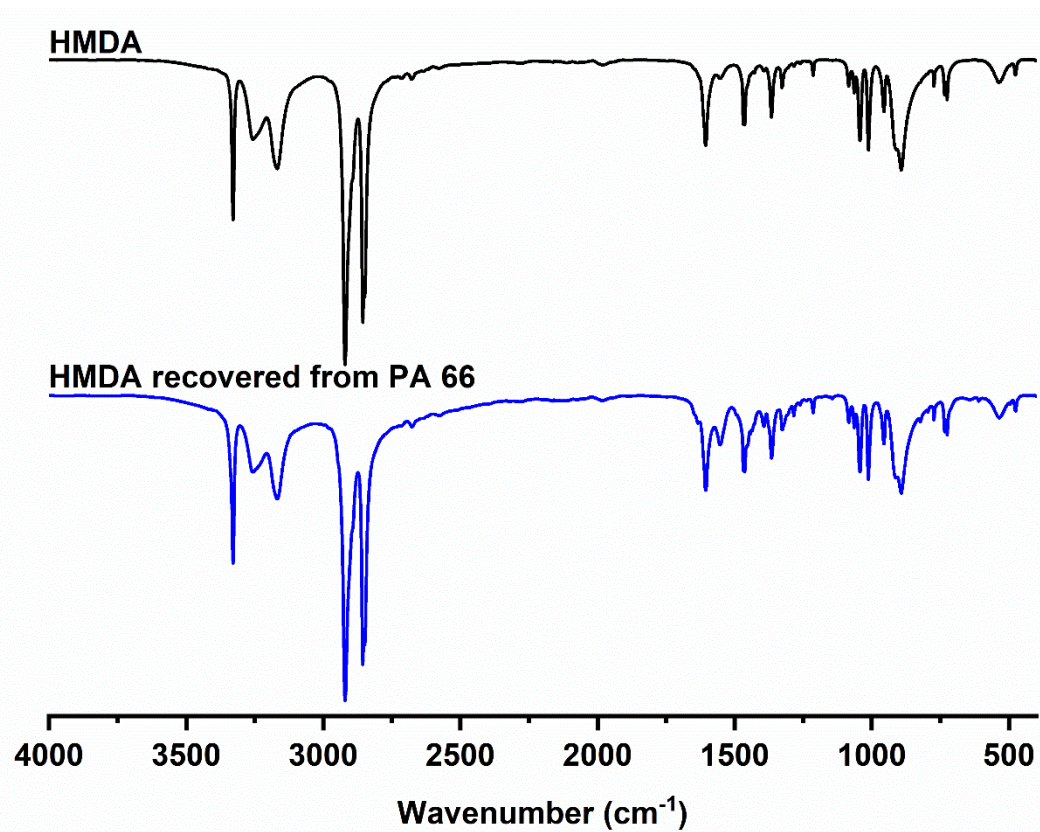


Figure S7. FTIR spectra of commercial HMDA and that recovered from PA 66.

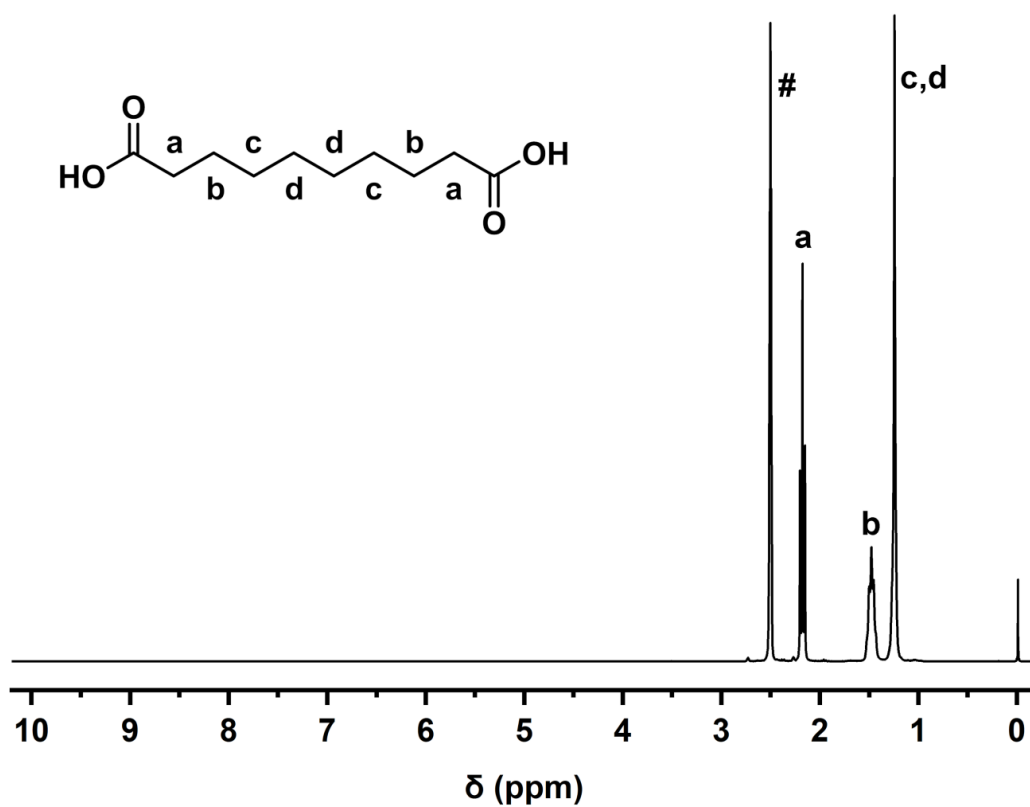


Figure S8. ¹H NMR spectrum of SA recovered from PA 1010.

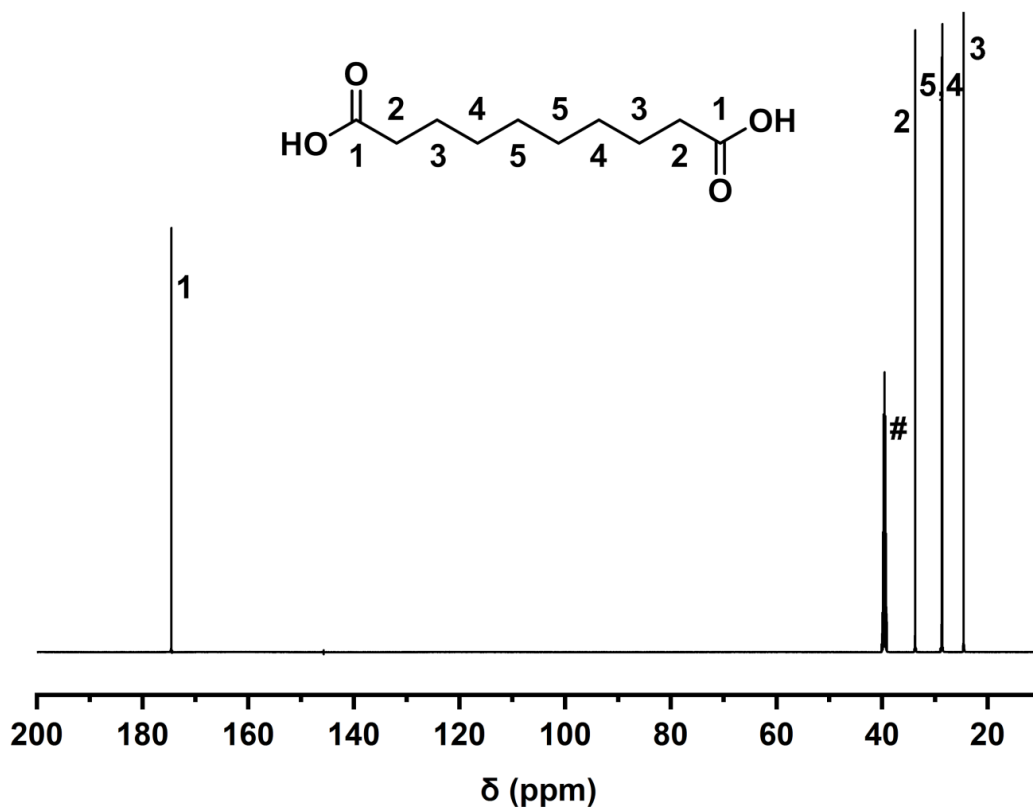


Figure S9. ^{13}C NMR spectrum of SA recovered from PA 1010.

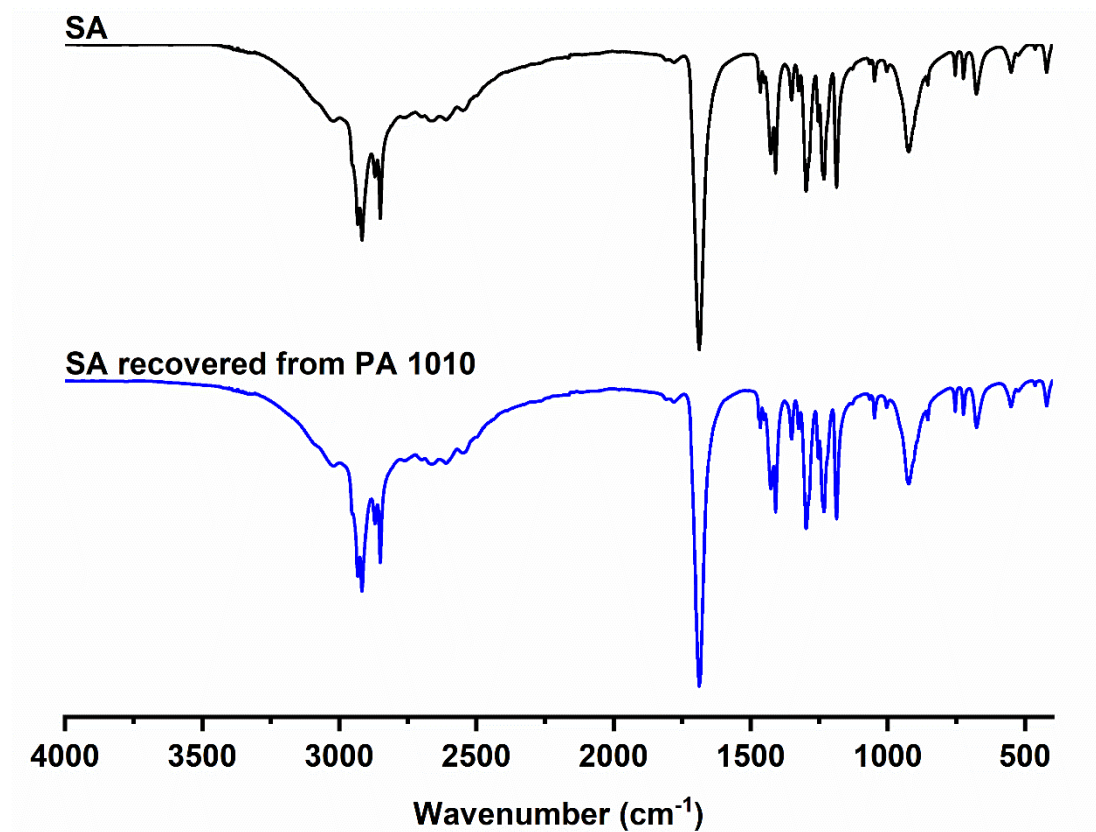


Figure S10. FTIR spectra of commercial SA and that recovered from PA 1010.

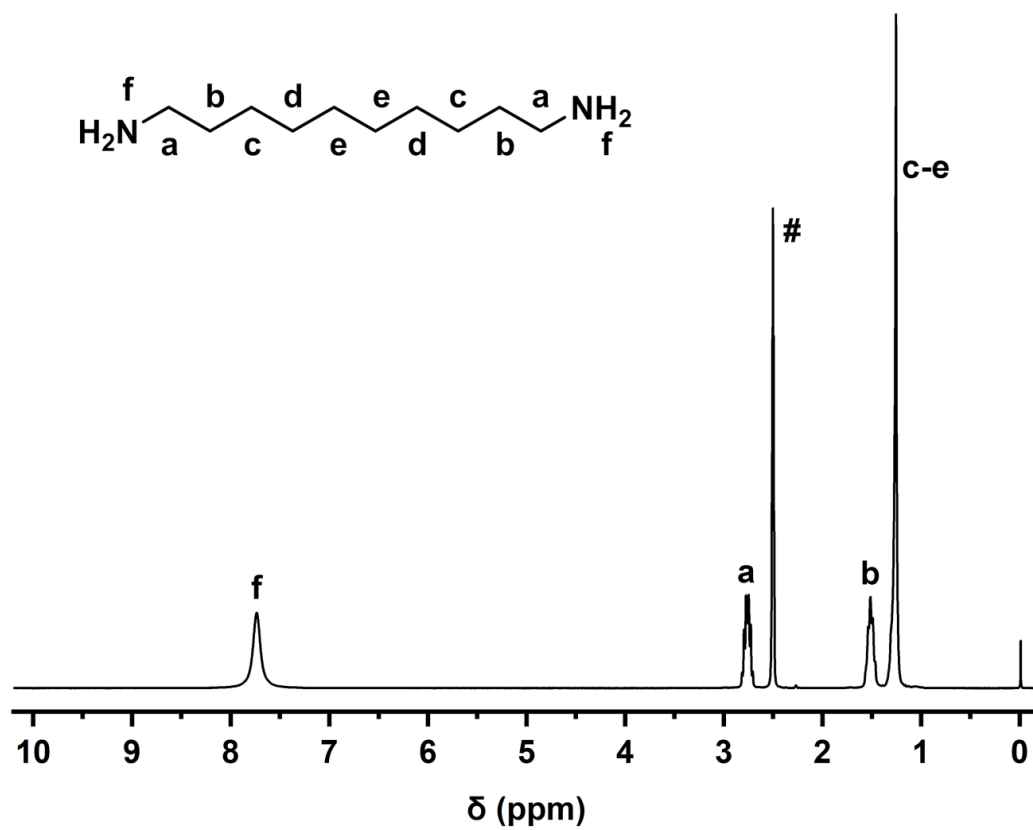


Figure S11. ¹H NMR spectrum of 1,10-DDA recovered from PA 1010.

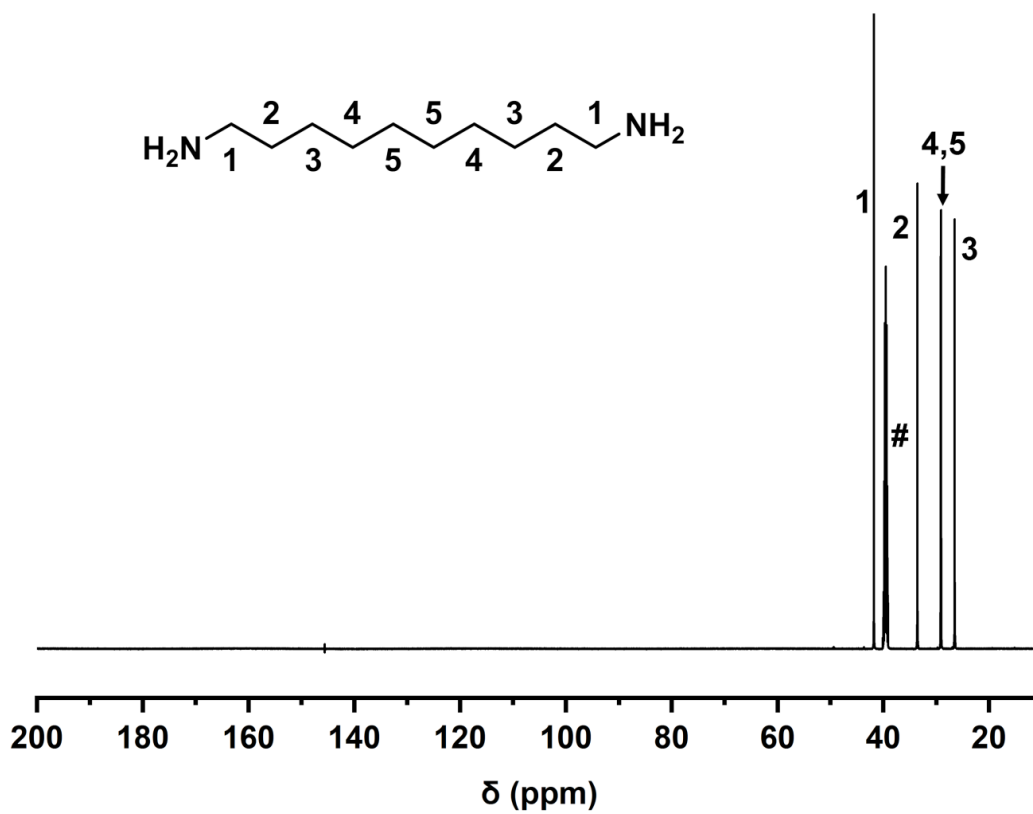


Figure S12. ¹³C NMR spectrum of 1,10-DDA recovered from PA 1010.

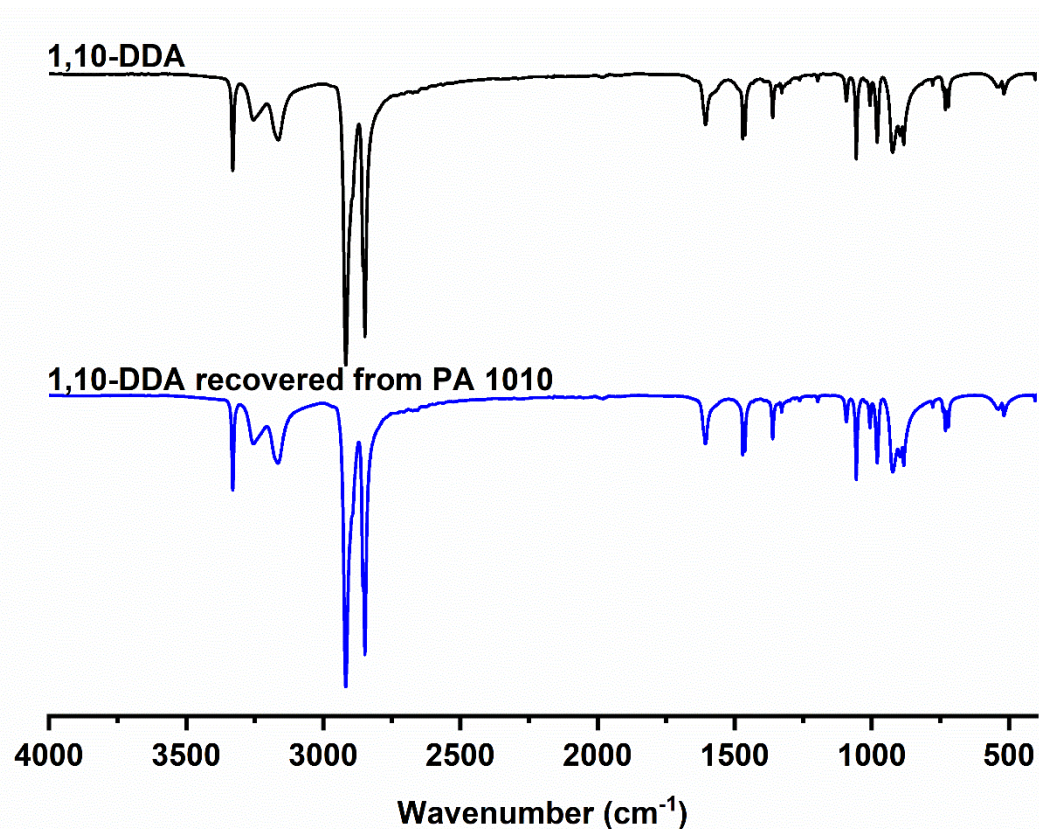


Figure S13. FTIR spectra of commercial 1,10-DDA and that recovered from PA 1010.

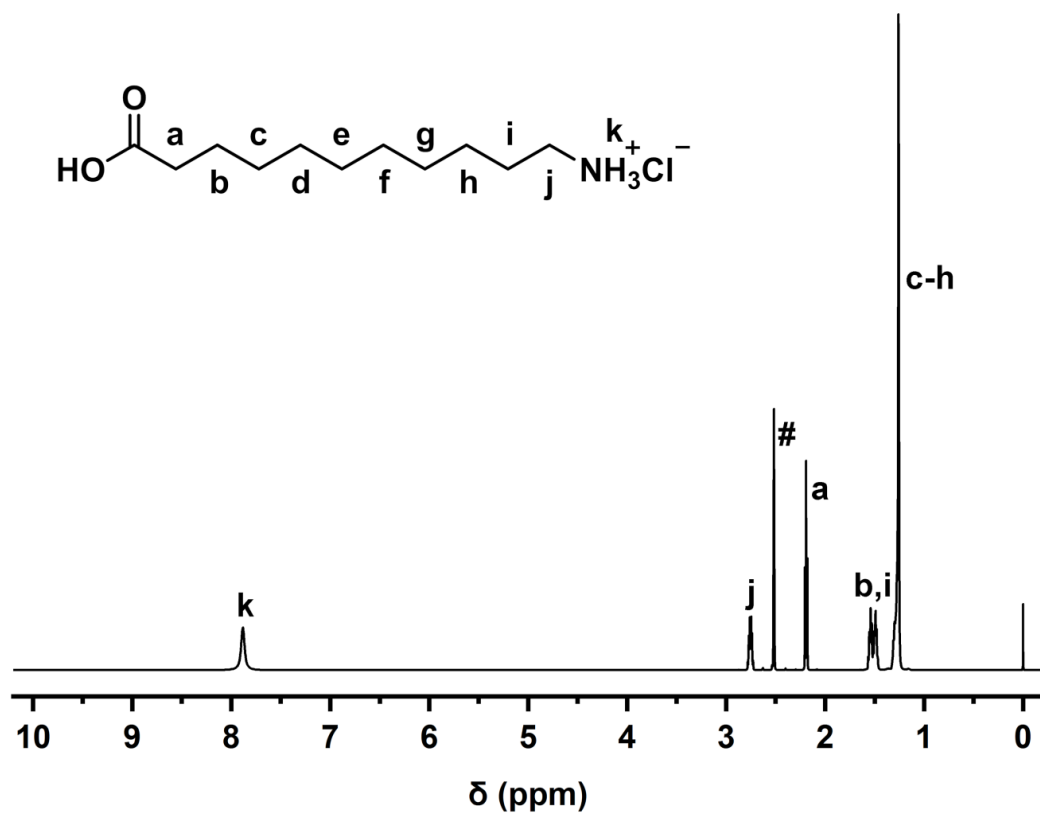


Figure S14. ^1H NMR spectrum of 11-AUDAxHCl recovered from PA 11.

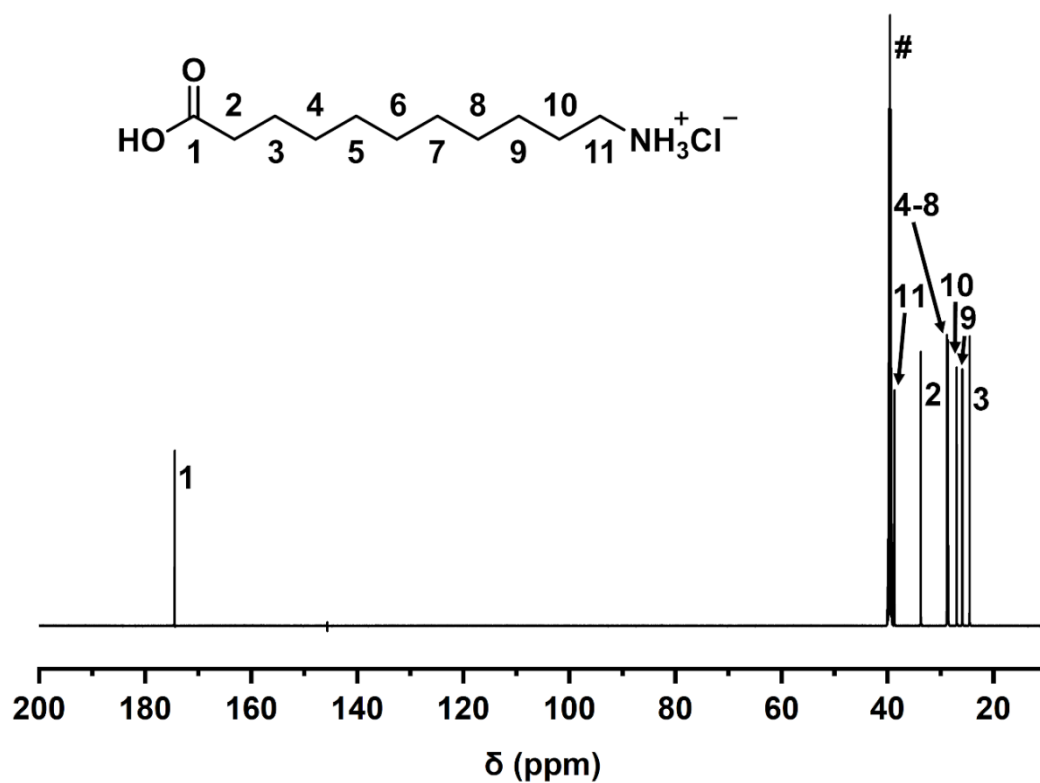


Figure S15. ^{13}C NMR spectrum of 11-AUDAxHCl recovered from PA 11.

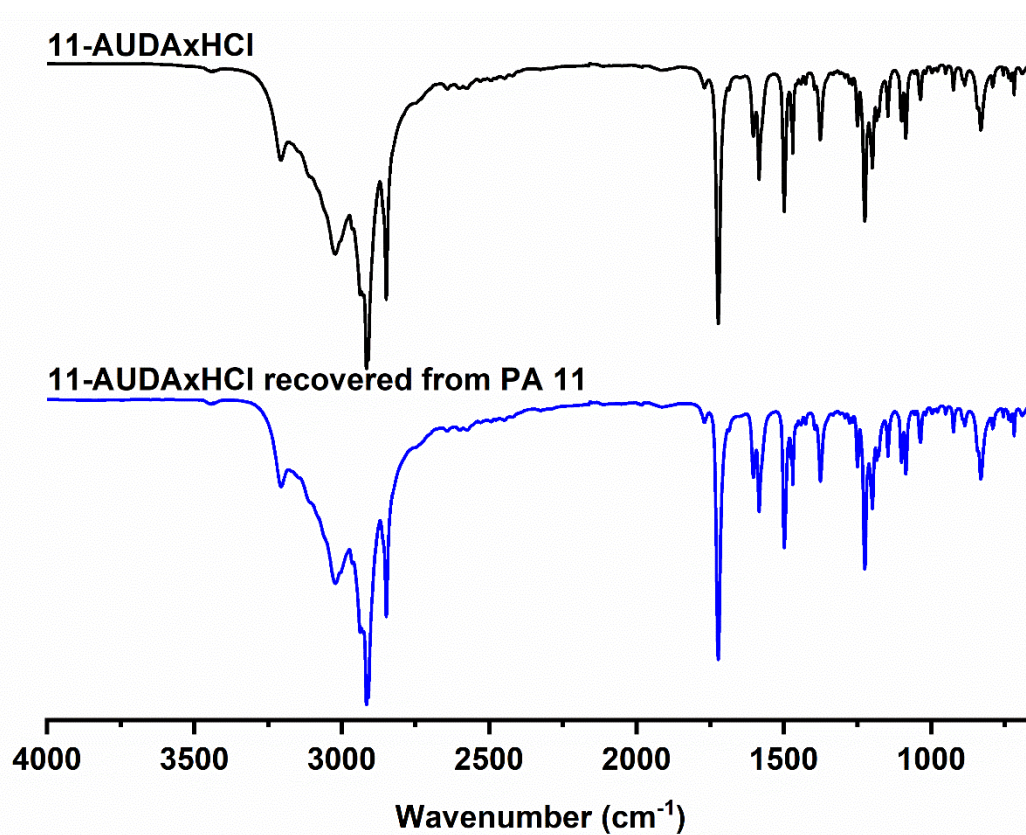


Figure S16. FTIR spectra of 11-AUDAxHCl prepared from commercial 11-AUDA and that recovered from PA 11.

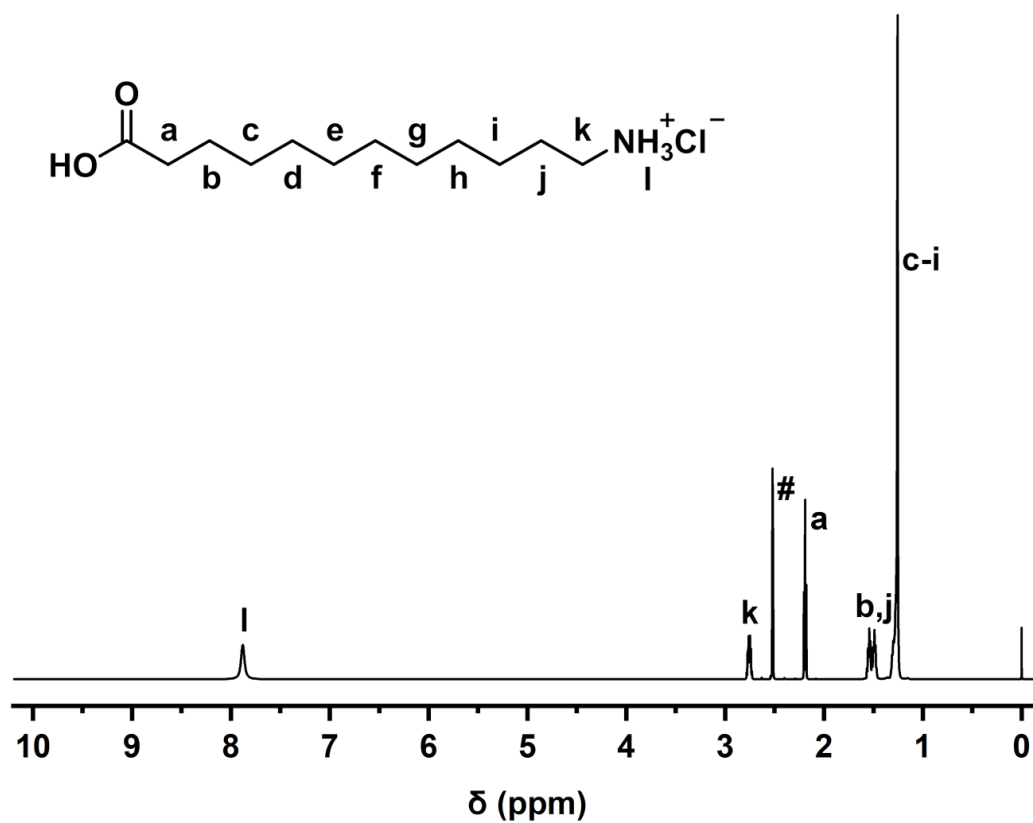


Figure S17. ^1H NMR spectrum of 12-ADDAXHCl recovered from PA 12.

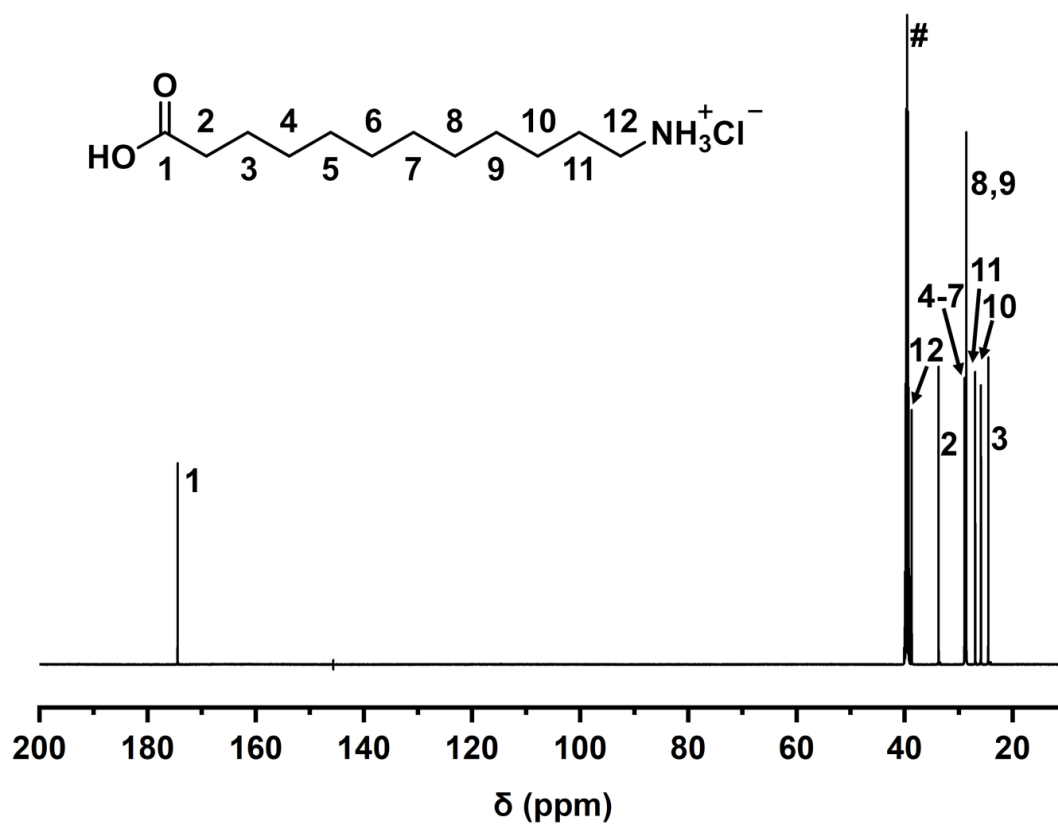


Figure S18. ^{13}C NMR spectrum of 12-ADDAXHCl recovered from PA 12.

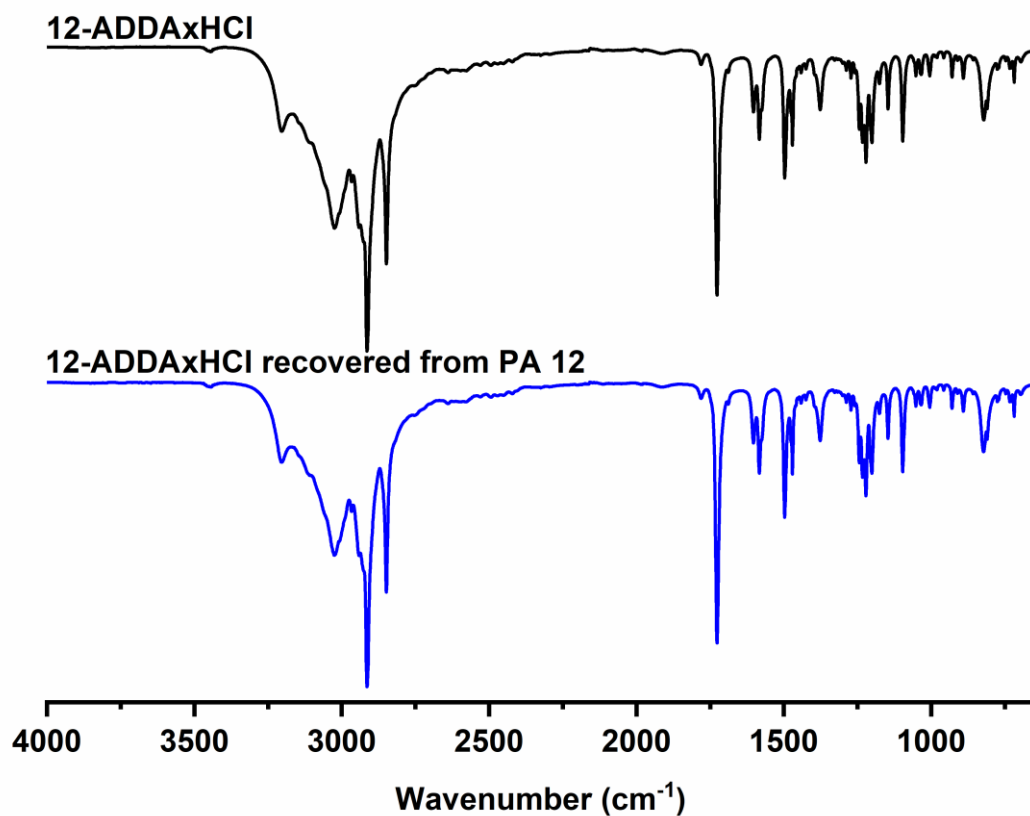


Figure S19. FTIR spectra of 12-ADDaxHCl prepared from commercial 12-ADDA and that recovered from PA 12.

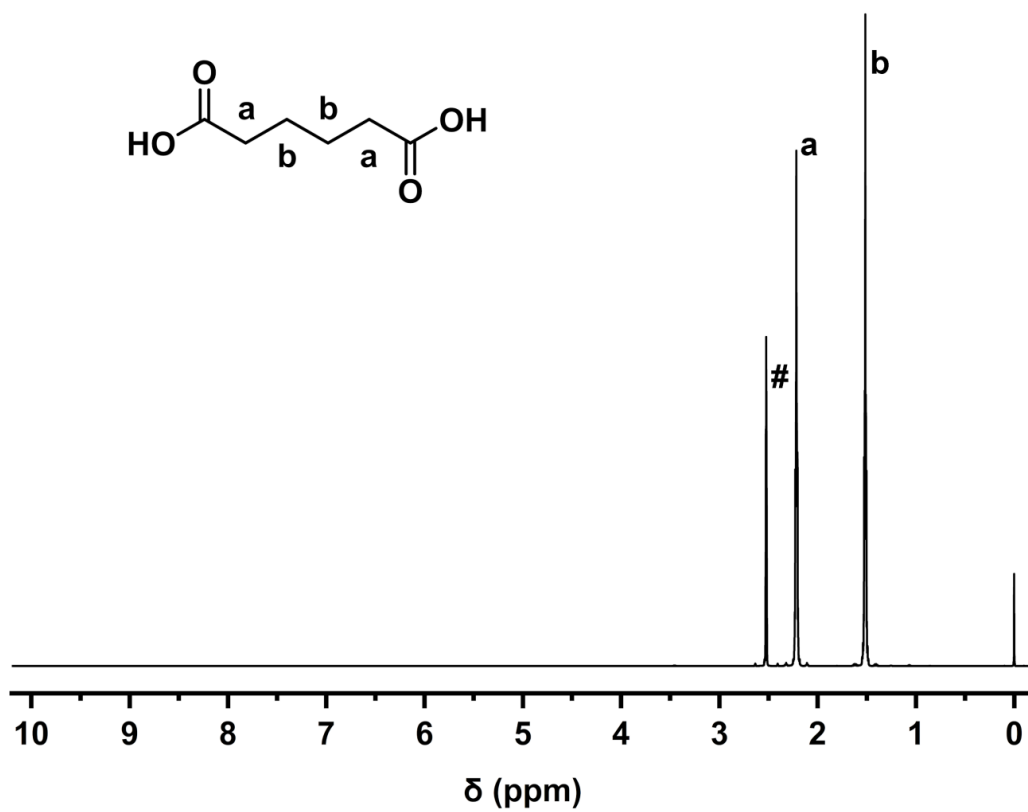


Figure S20. ¹H NMR spectrum of AA recovered from PA 66-GF₃₅.

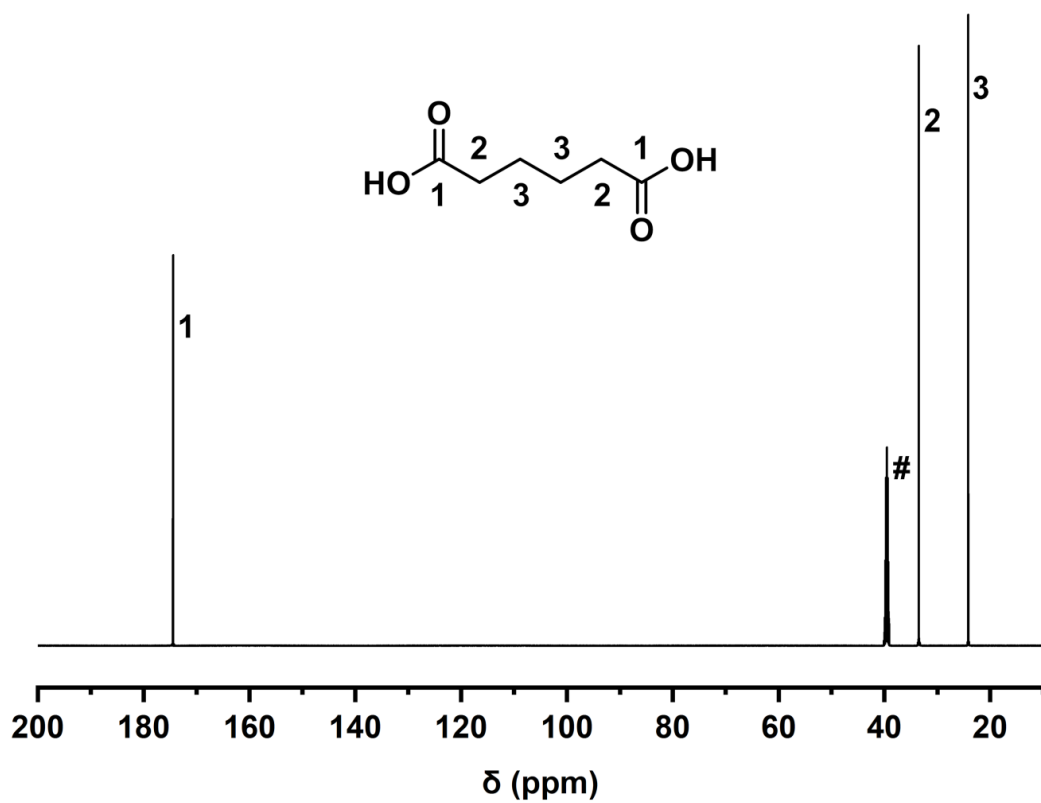


Figure S21. ^{13}C NMR spectrum of AA recovered from PA 66-GF₃₅.

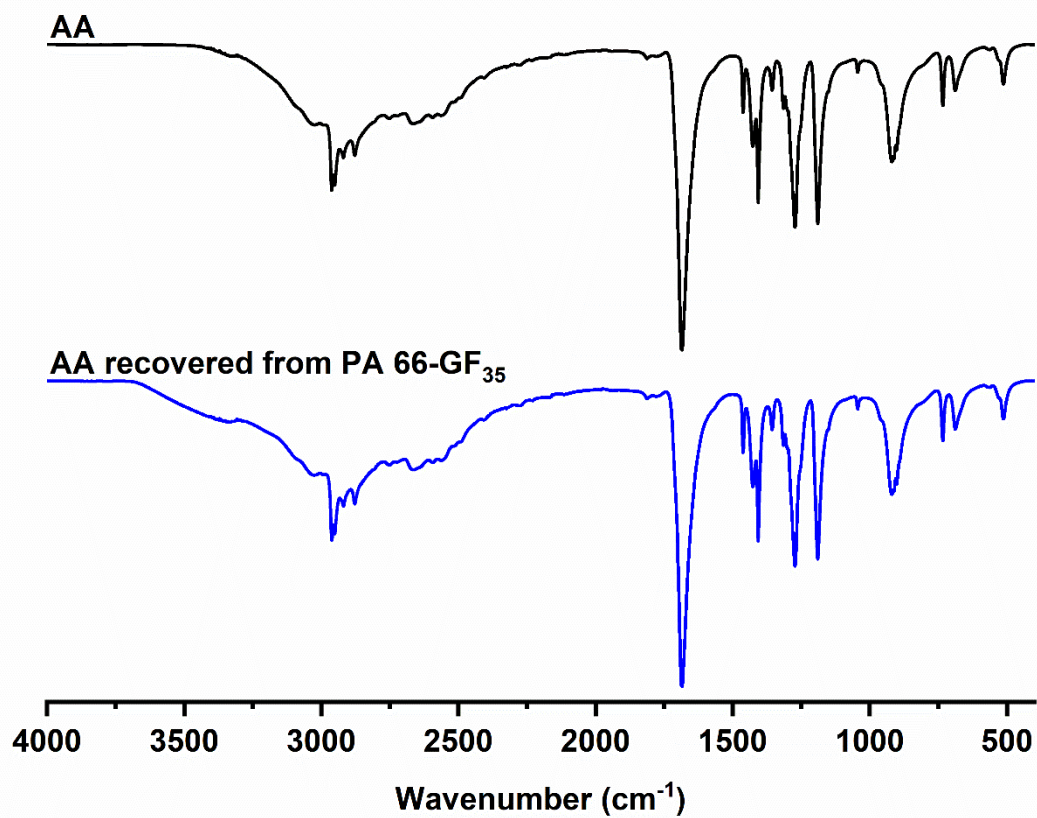


Figure S22. FTIR spectra of commercial AA and that recovered from PA 66-GF₃₅.

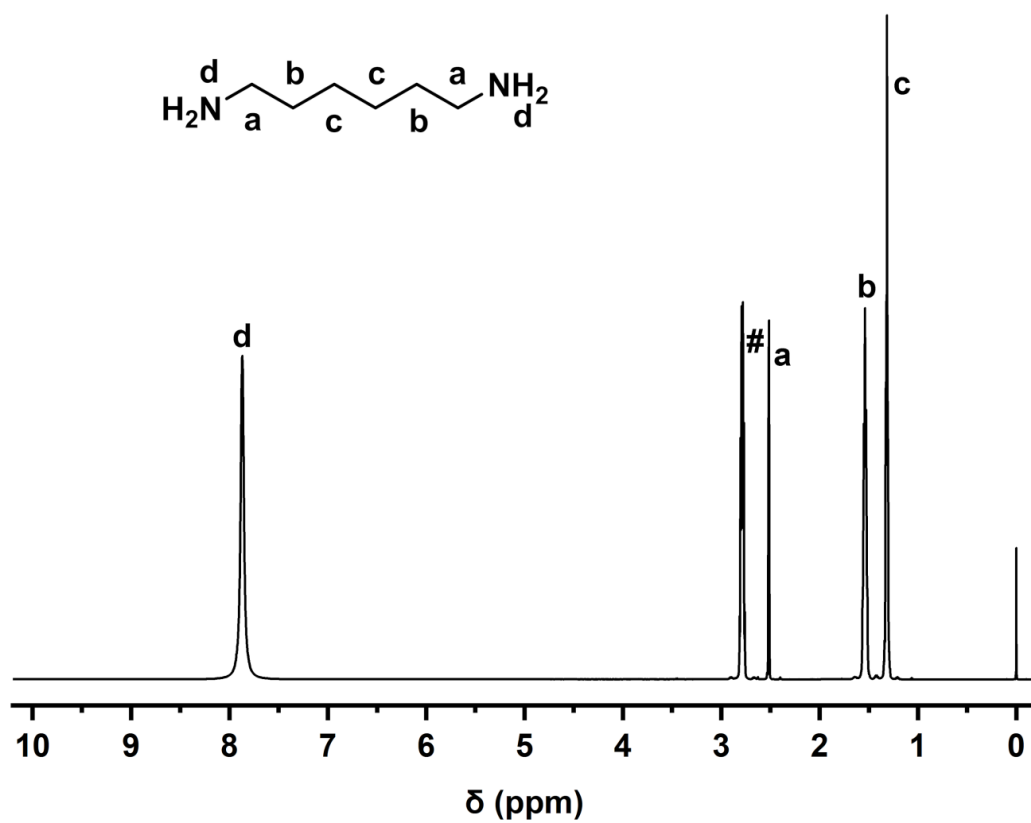


Figure S23. ^1H NMR spectrum of HMDA recovered from PA 66-GF₃₅.

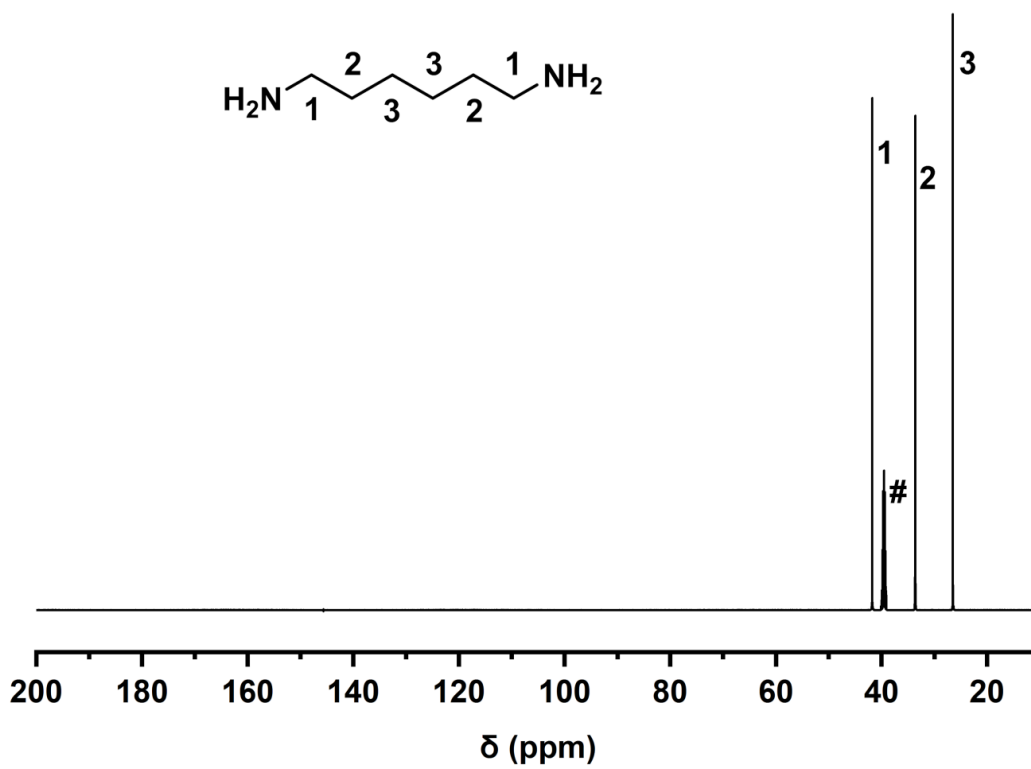


Figure S24. ^{13}C NMR spectrum of HMDA recovered from PA 66-GF₃₅.

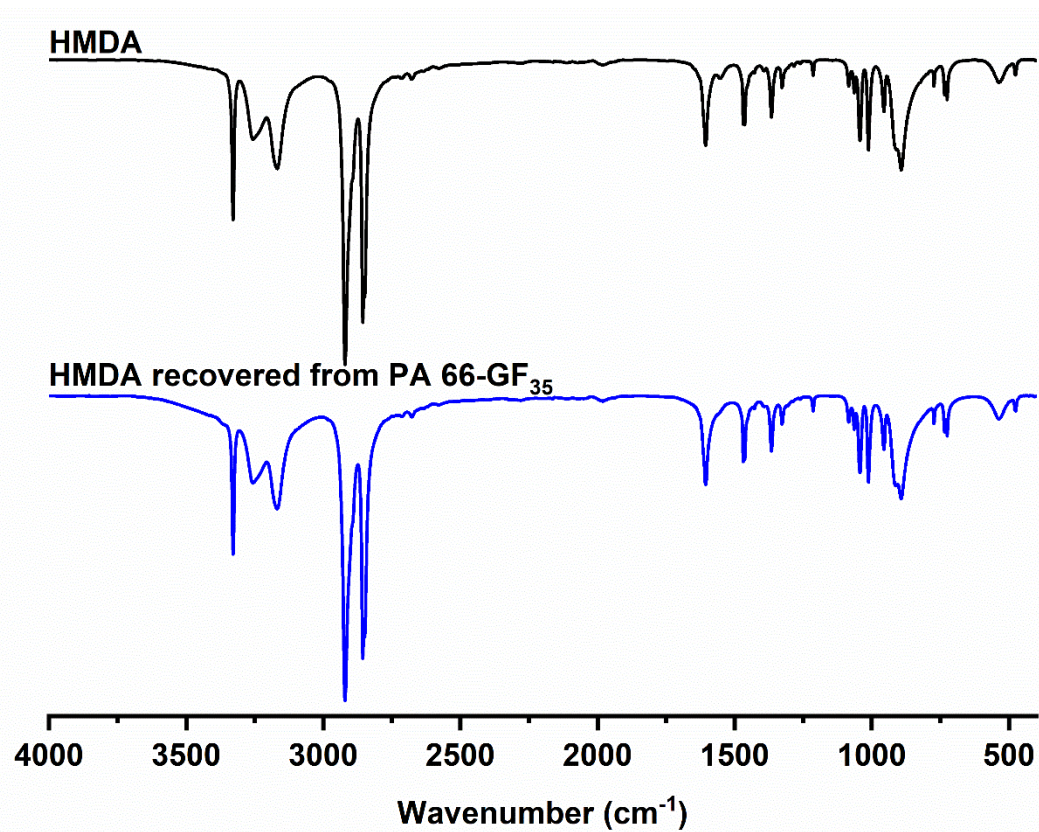


Figure S25. FTIR spectra of commercial HMDA and that recovered from PA 66-GF₃₅.

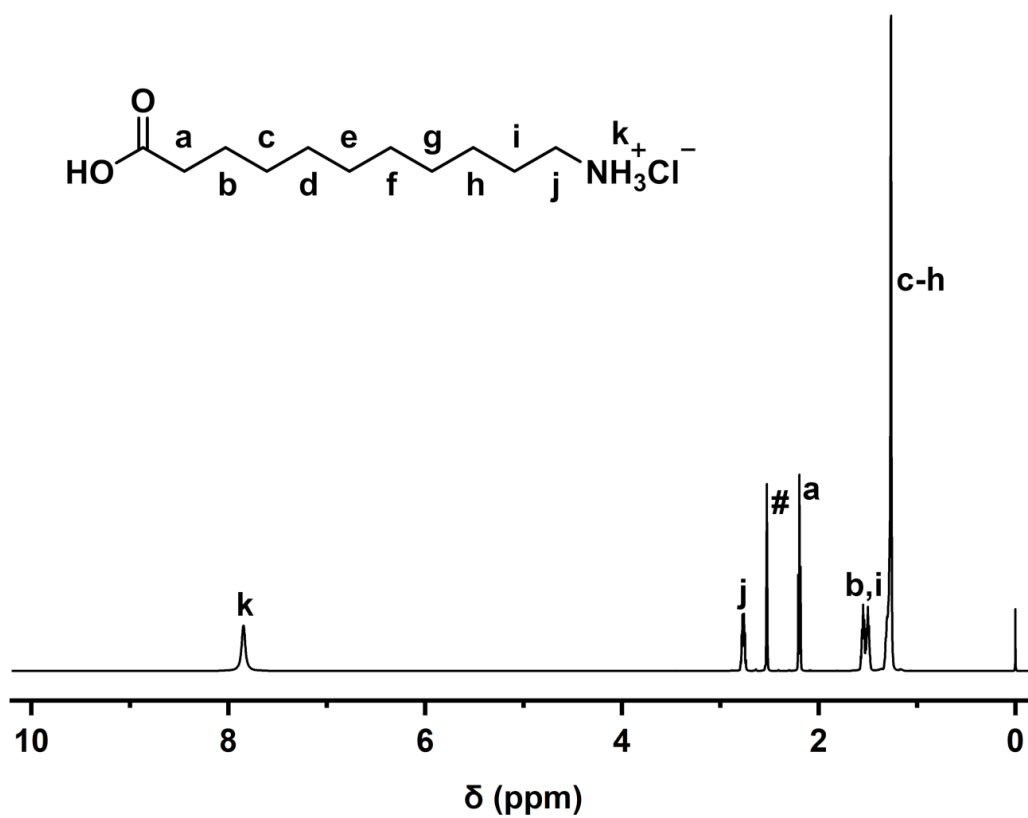


Figure S26. ¹H NMR spectrum of 11-AUDAxHCl recovered from PA 11-GF₃₀.

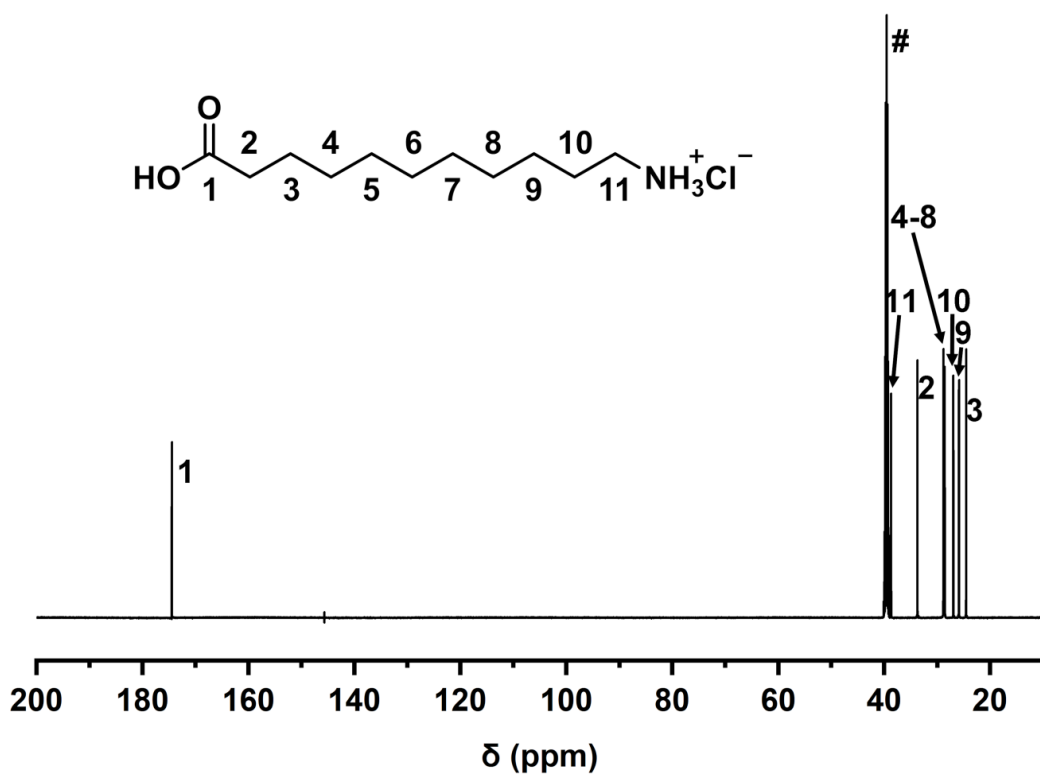


Figure S27. ¹³C NMR spectrum of 11-AUDAxHCl recovered from PA 11-GF₃₀.

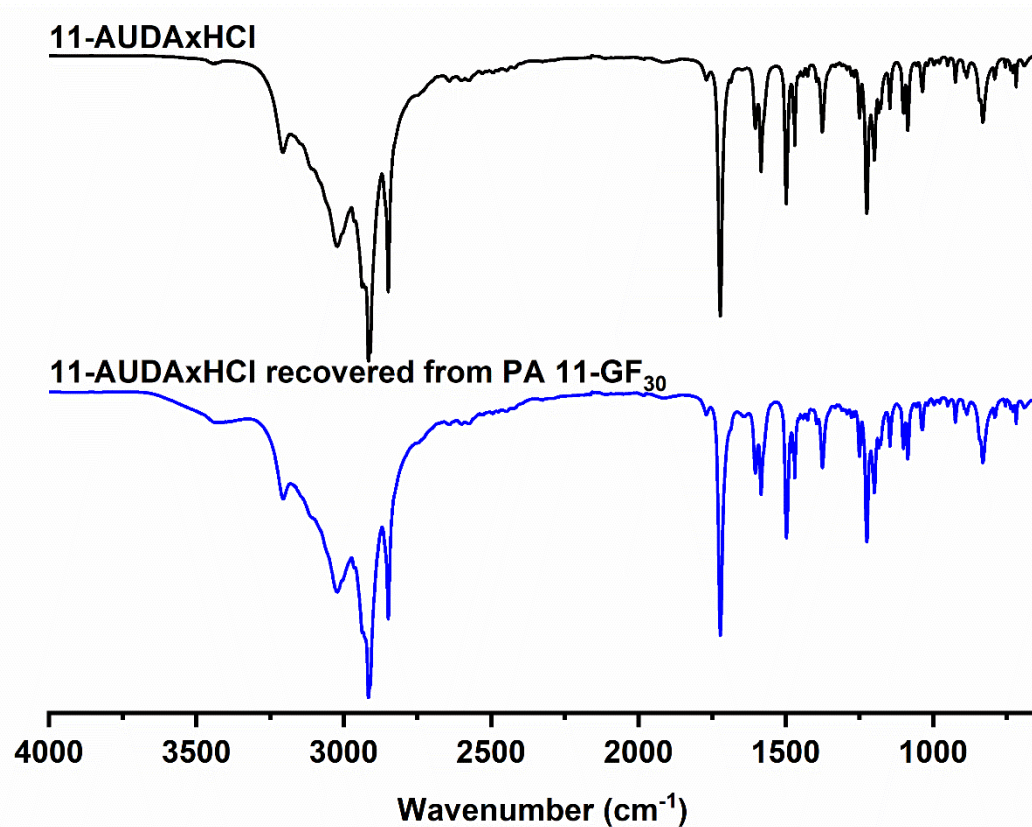


Figure S28. FTIR spectra of 11-AUDAxHCl prepared from commercial 11-AUDA and that recovered from PA 11-GF₃₀.

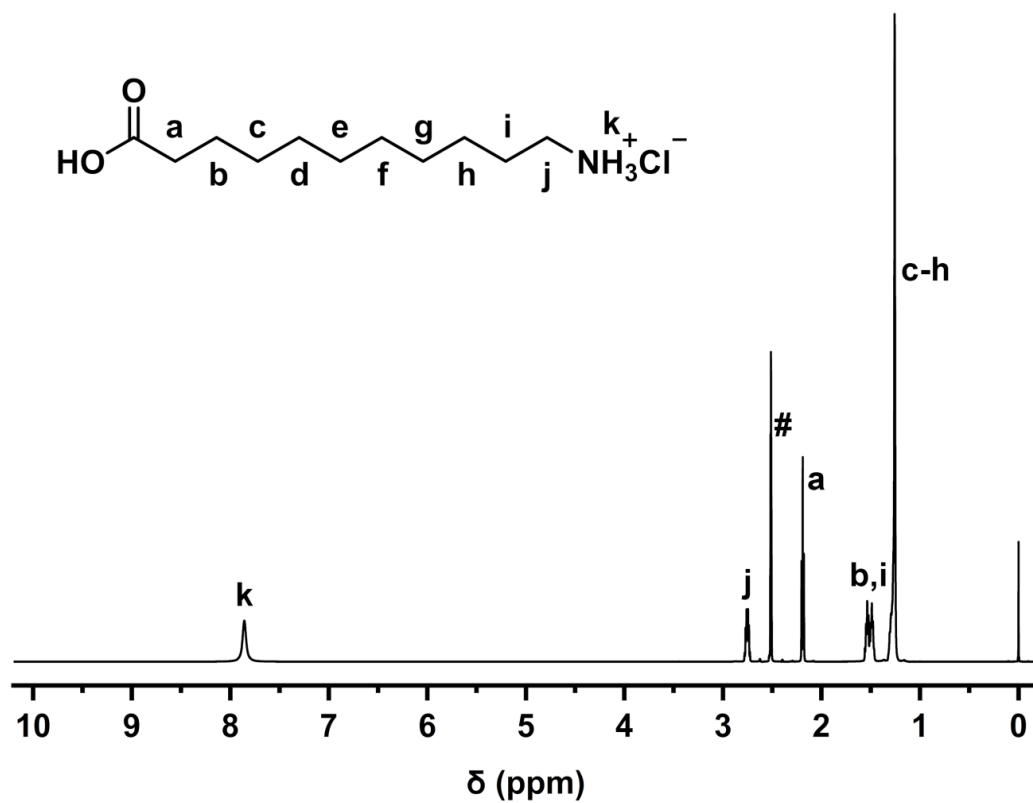


Figure S29. ^1H NMR spectrum of 11-AUDAxHCl recovered from PA 11-CF₃₀.

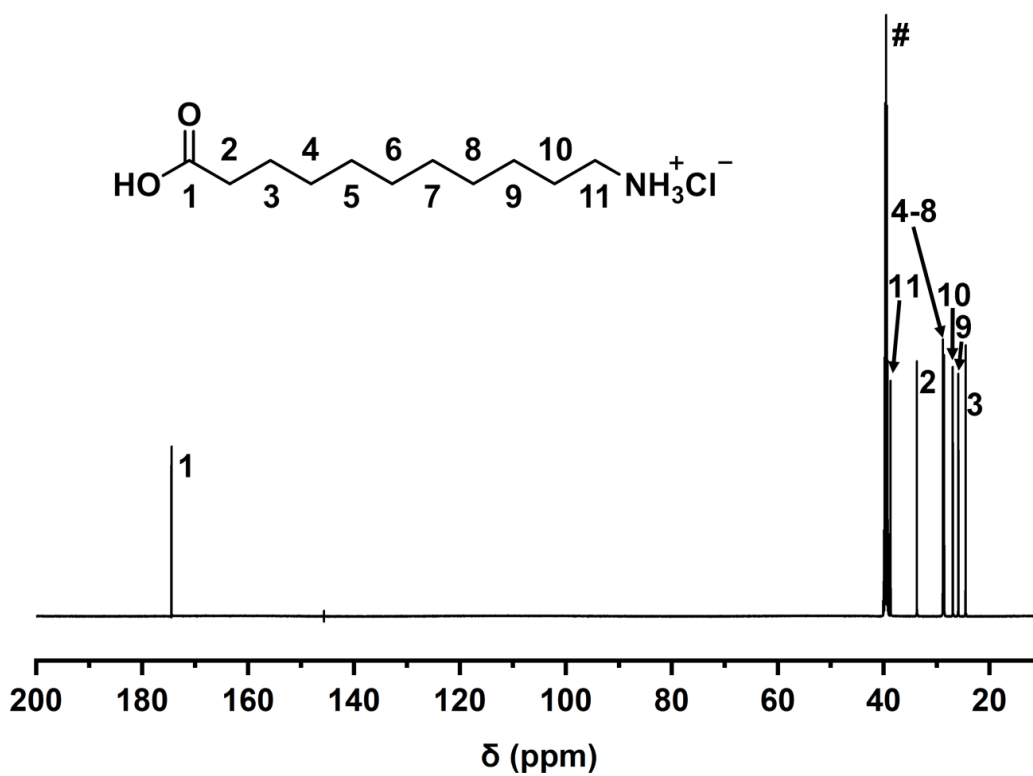


Figure S30. ^{13}C NMR spectrum of 11-AUDAxHCl recovered from PA 11-CF₃₀.

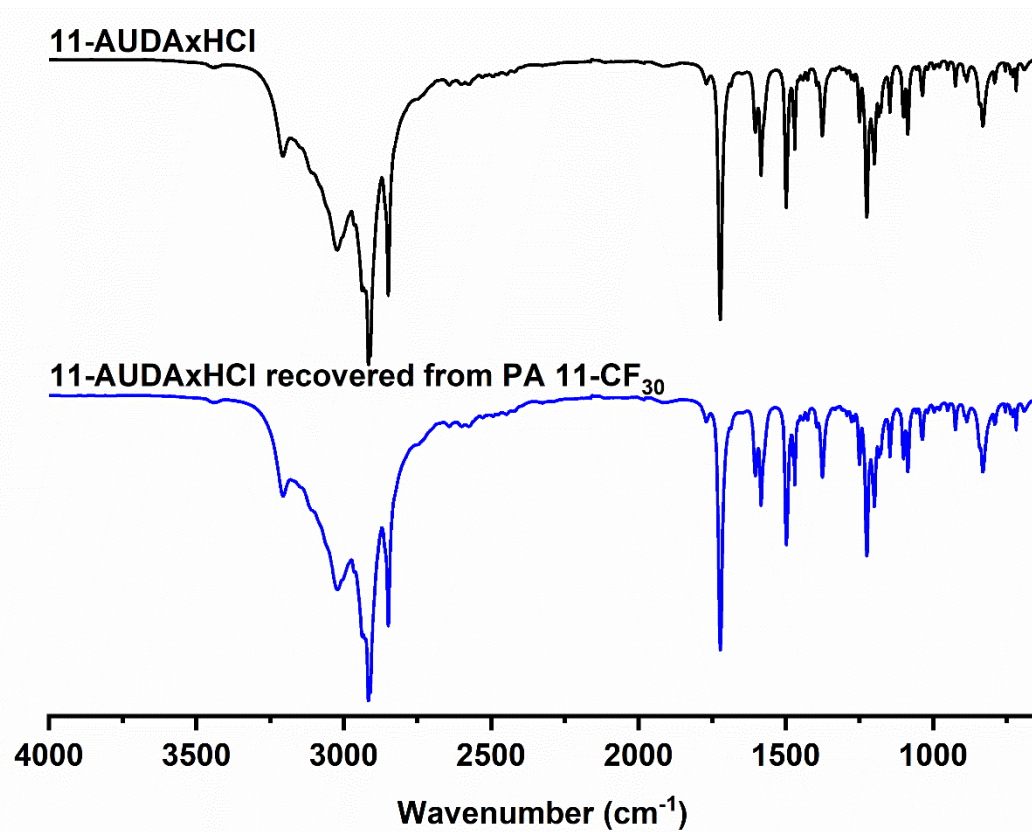


Figure S31. FTIR spectra of 11-AUDAxHCl prepared from commercial 11-AUDA and that recovered from PA 11-CF₃₀.

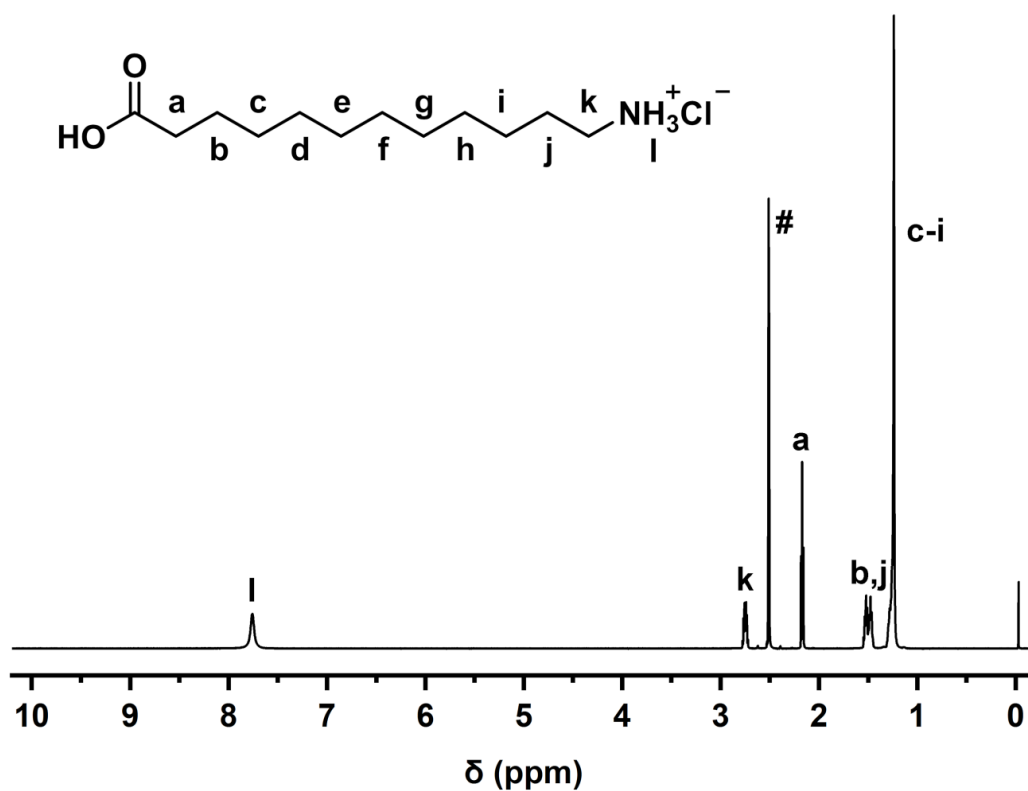


Figure S32. ¹H NMR spectrum of 12-ADDAxHCl recovered from PA 12-GF₅₀.

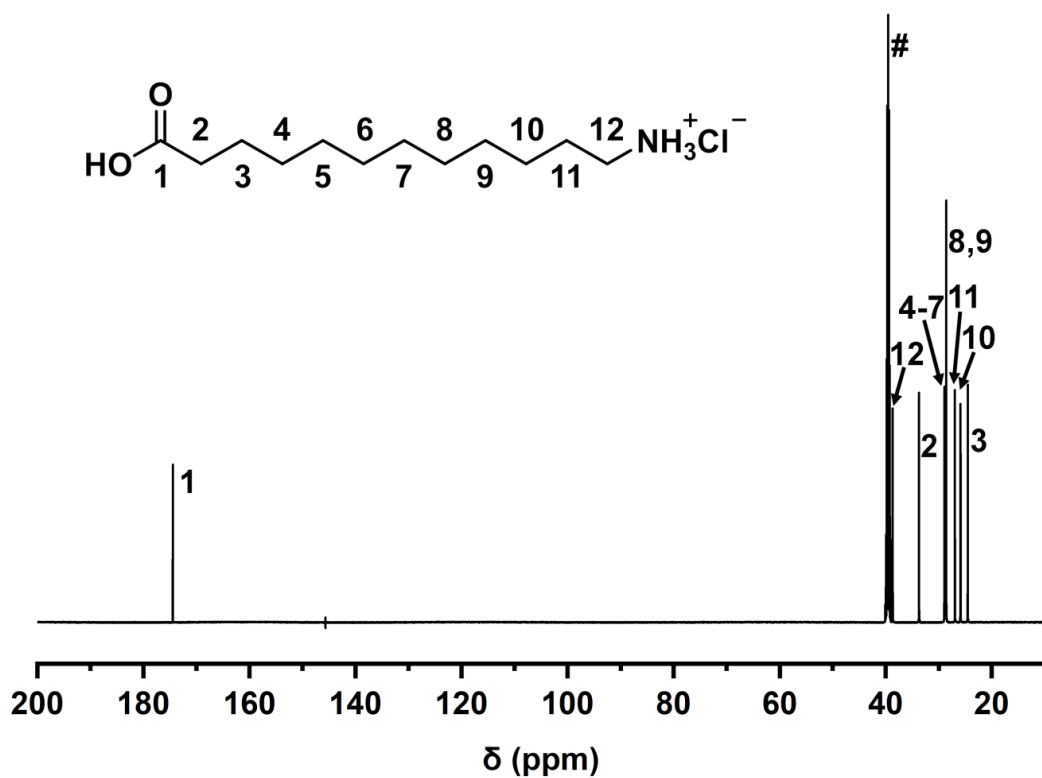


Figure S33. ^{13}C NMR spectrum of 12-ADDaxHCl recovered from PA 12-GF₅₀.

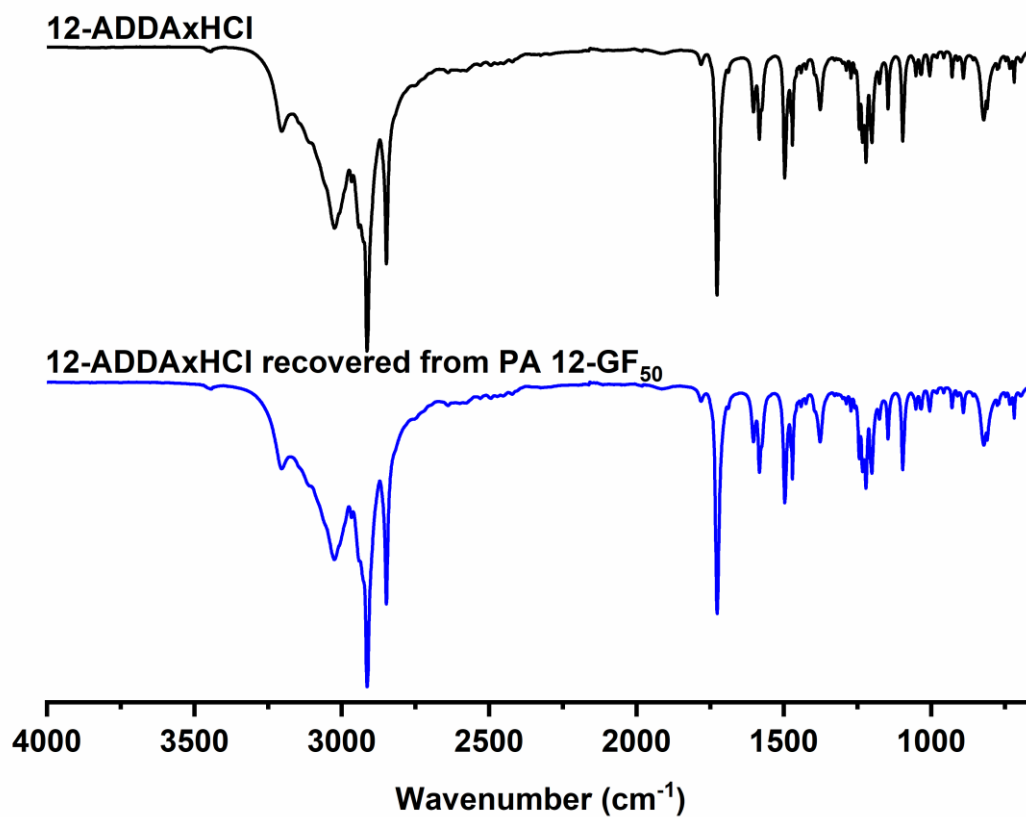


Figure S34. FTIR spectra of 12-ADDaxHCl prepared from commercial 12-ADDA and that recovered from PA 12-GF₅₀.

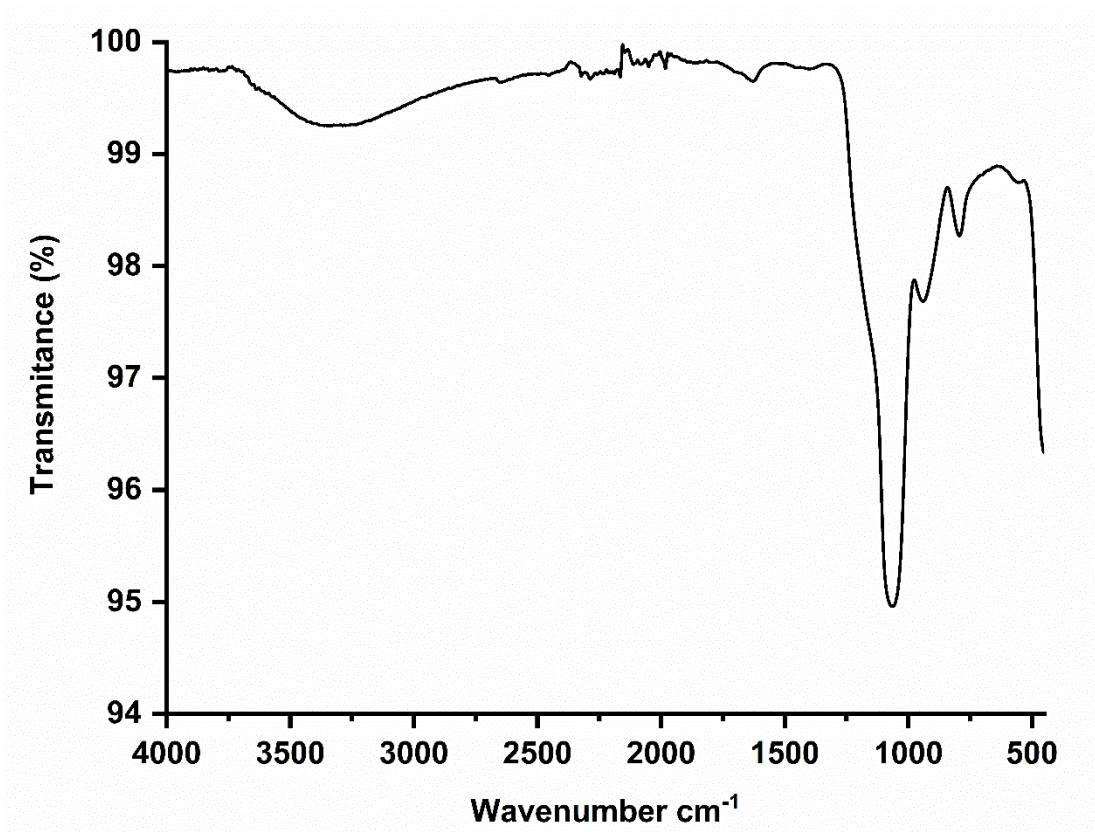


Figure S35. FTIR spectrum of GF recovered from PA 11-GF30.

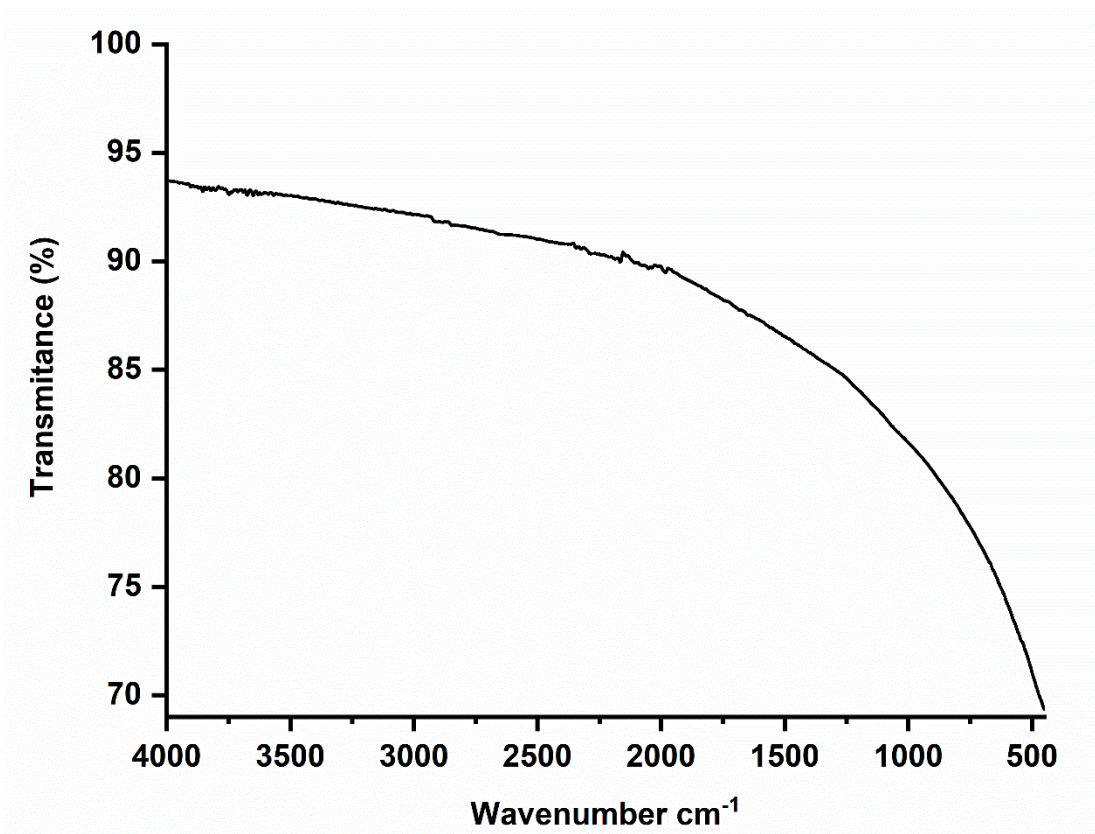


Figure S36. FTIR spectrum of CF recovered from PA 11-CF₃₀.