

Supplementary Material

Organocatalytic enantioselective Michael addition of β -diketones to β -nitrostyrene: The first Michael addition of dipivaloylmethane to an activated olefin

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Table of Contents

1. NMR spectra	S2
2. HPLC Chromatograms	S11

1. NMR Spectra

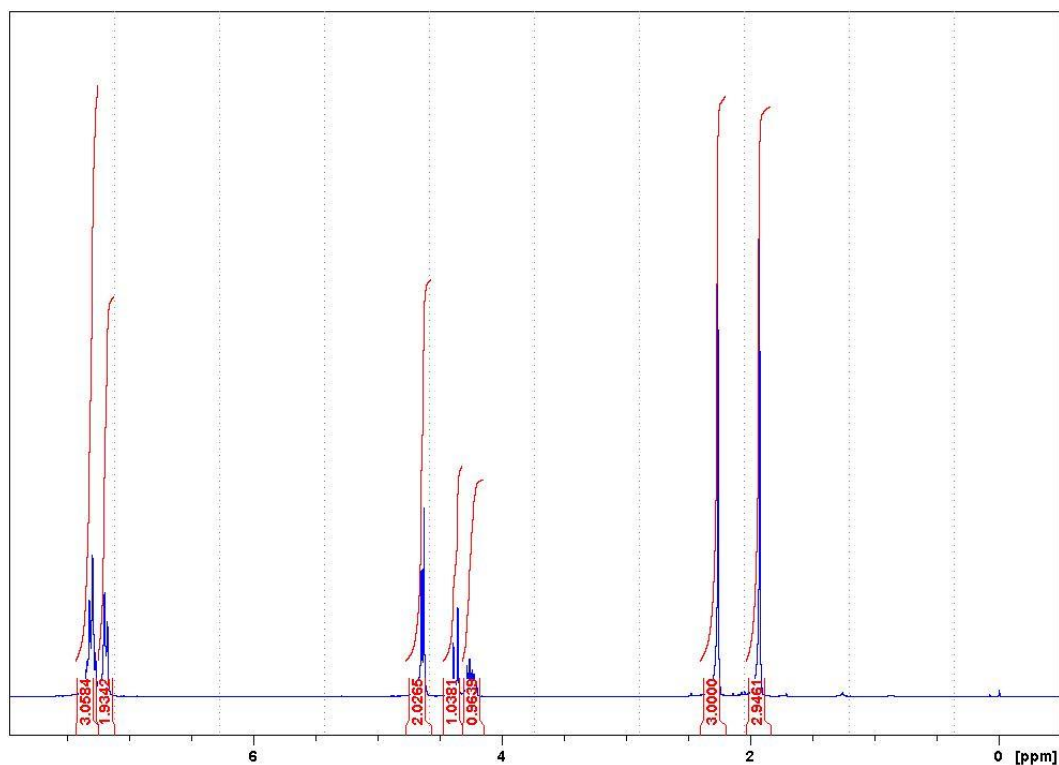


Figure S1. ¹H NMR spectrum for **6a**.

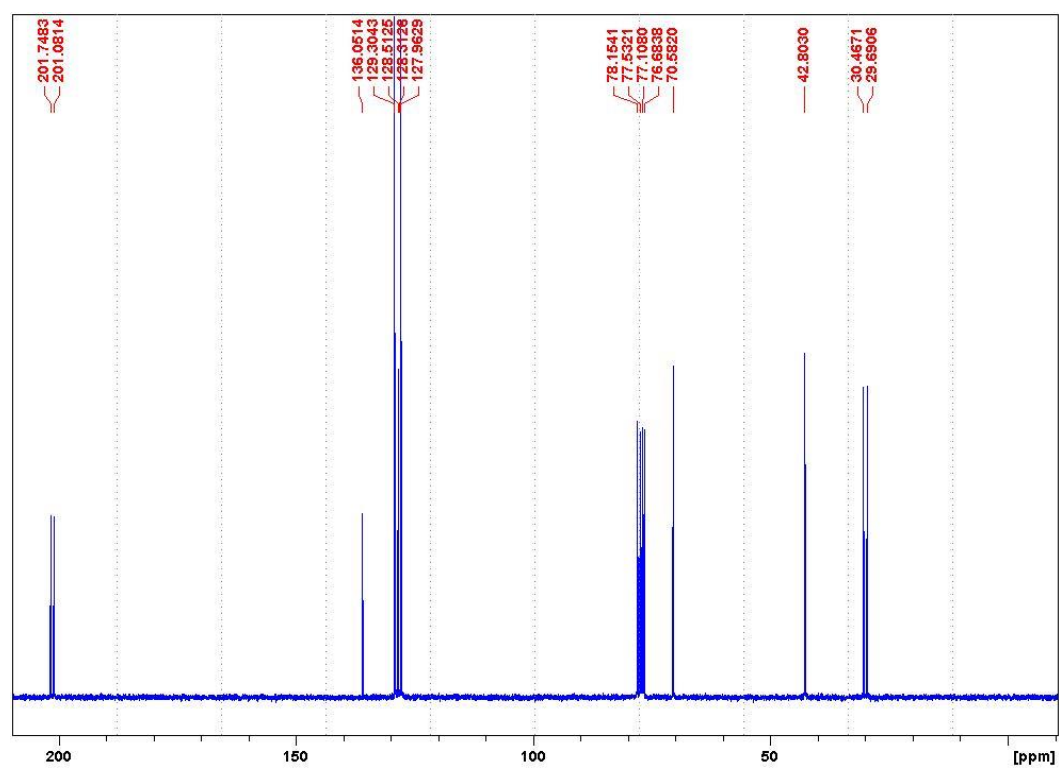
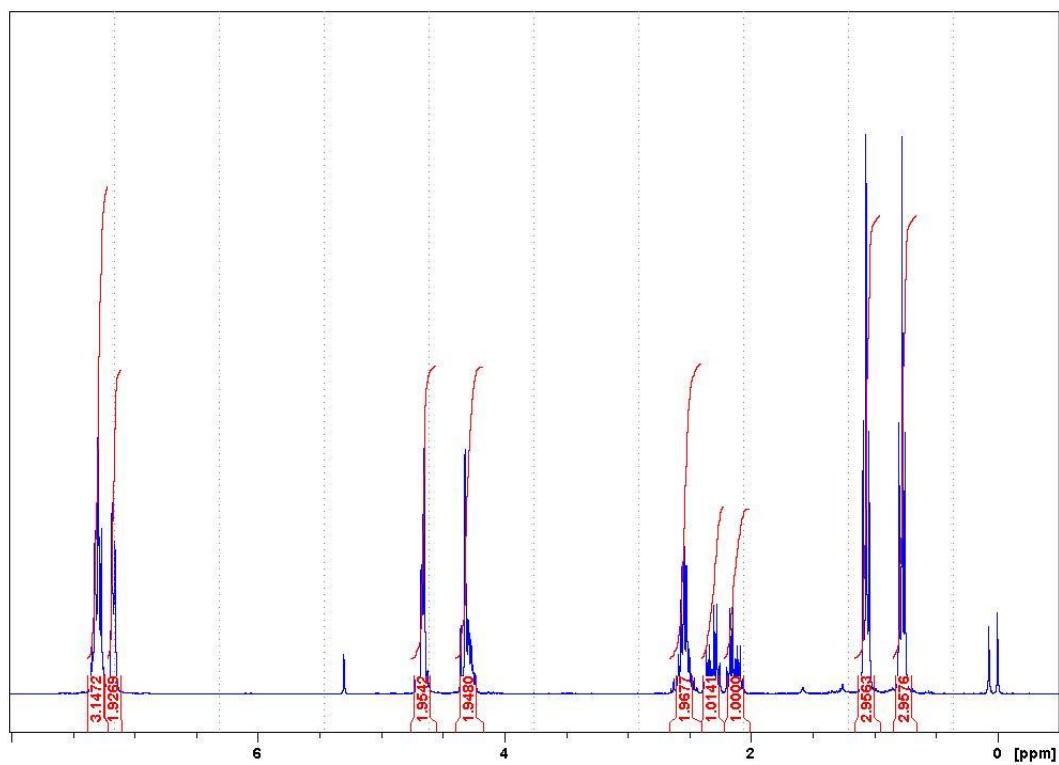
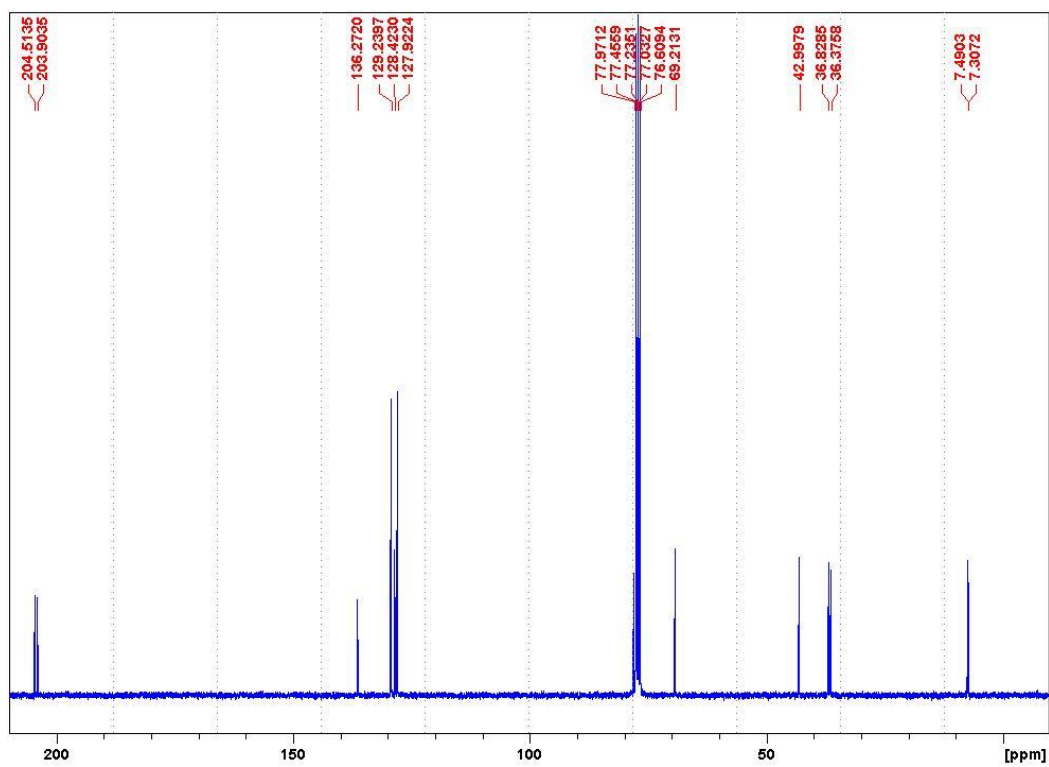


Figure S2. ¹³C NMR spectrum for **6a**.

Figure S3. ^1H NMR spectrum for **6b**.Figure S4. ^{13}C NMR spectrum for **6b**.

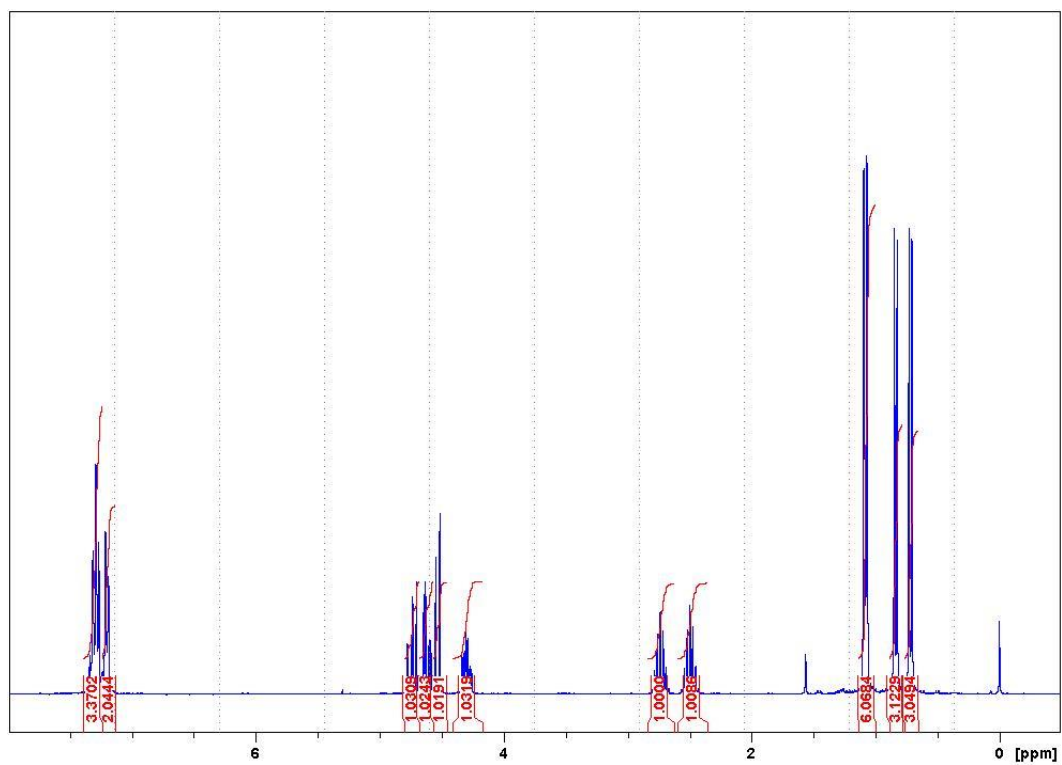


Figure S5. ¹H NMR spectrum for **6c**.

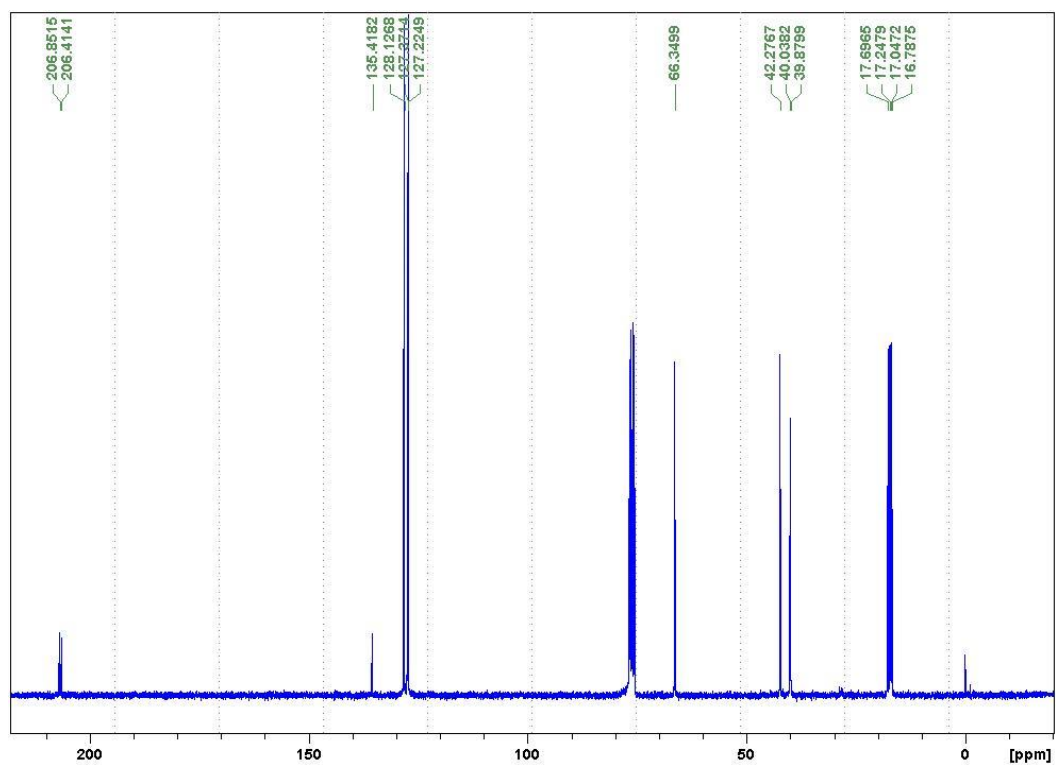


Figure S6. ¹³C NMR spectrum for **6c**.

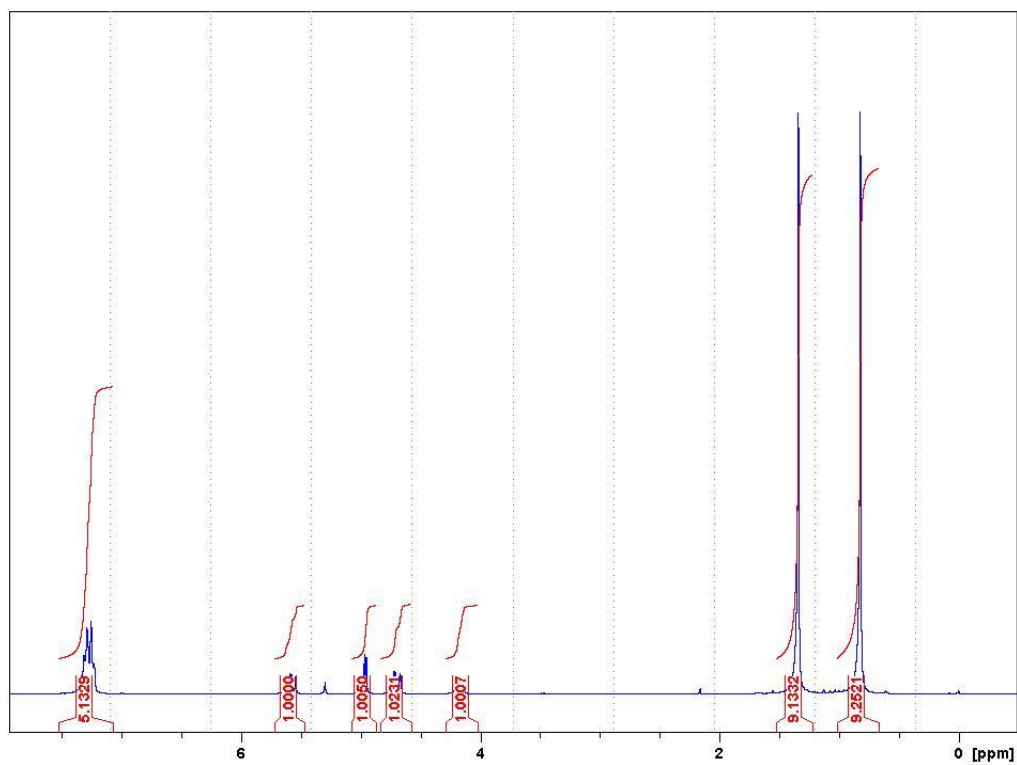


Figure S7. ^1H NMR spectrum for **6d**.

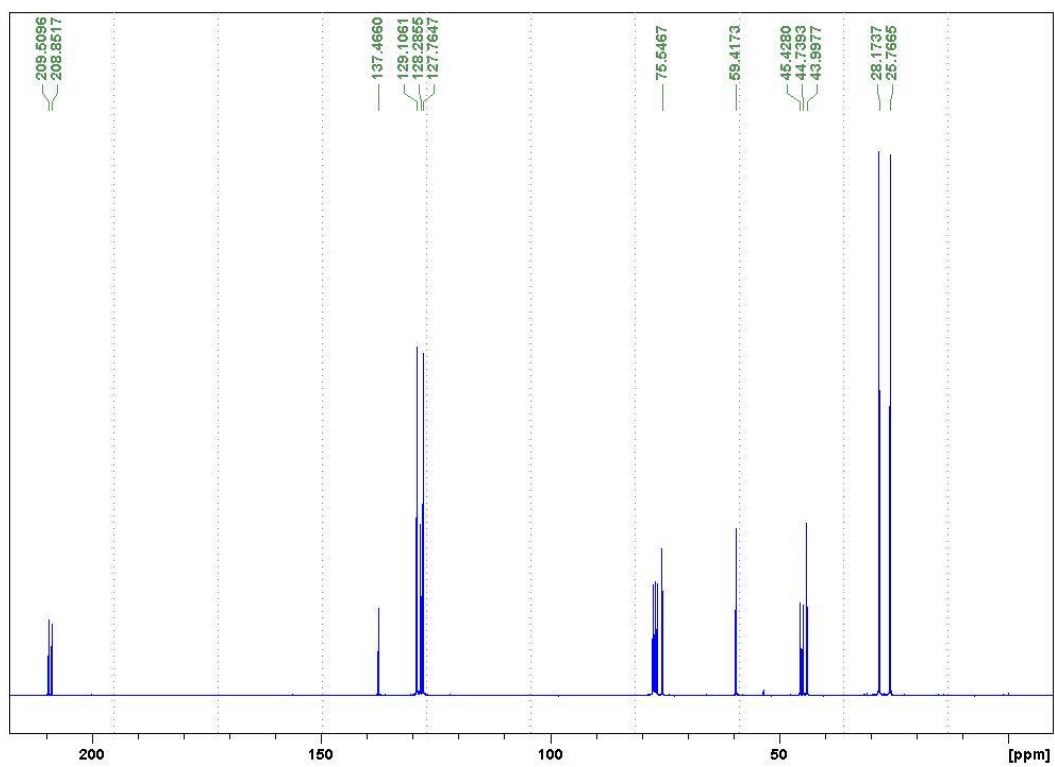


Figure S8. ^{13}C NMR spectrum for **6d**.

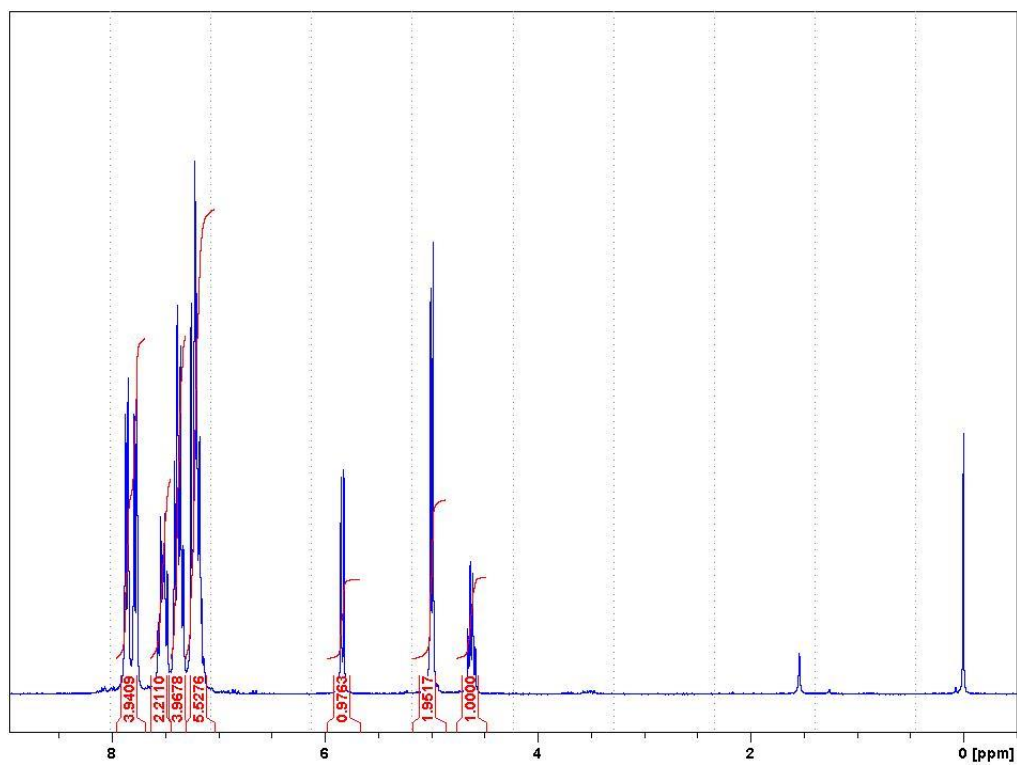


Figure S9. ¹H NMR spectrum for **6e**.

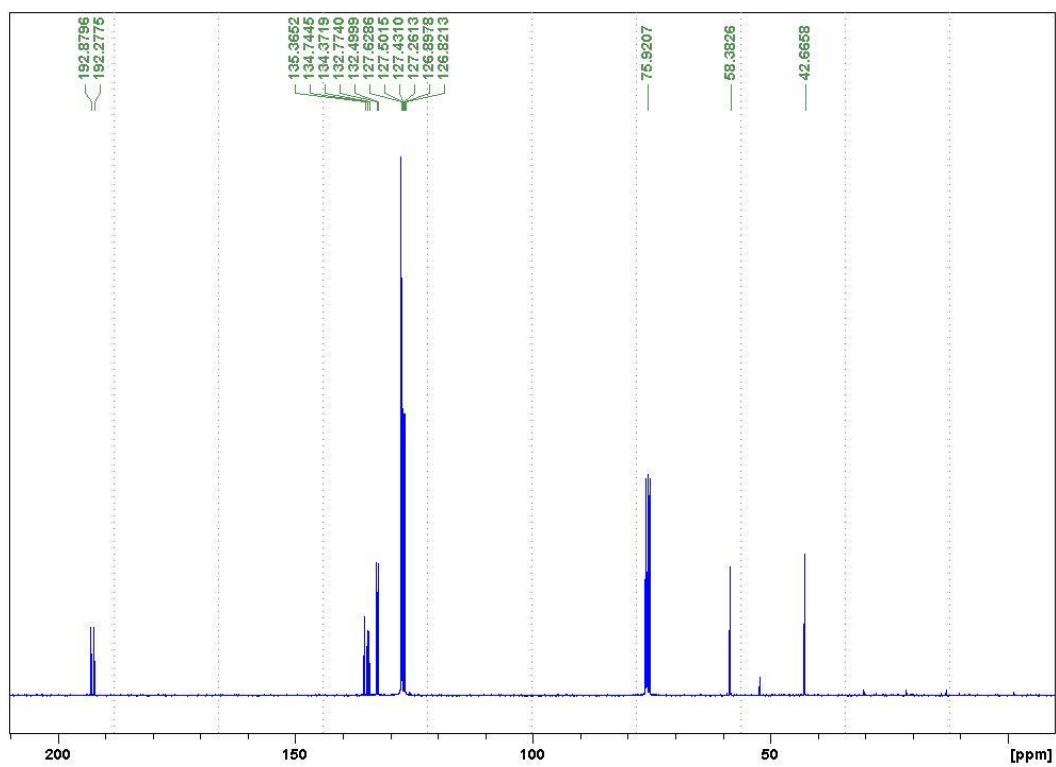


Figure S10. ¹³C NMR spectrum for **6e**.

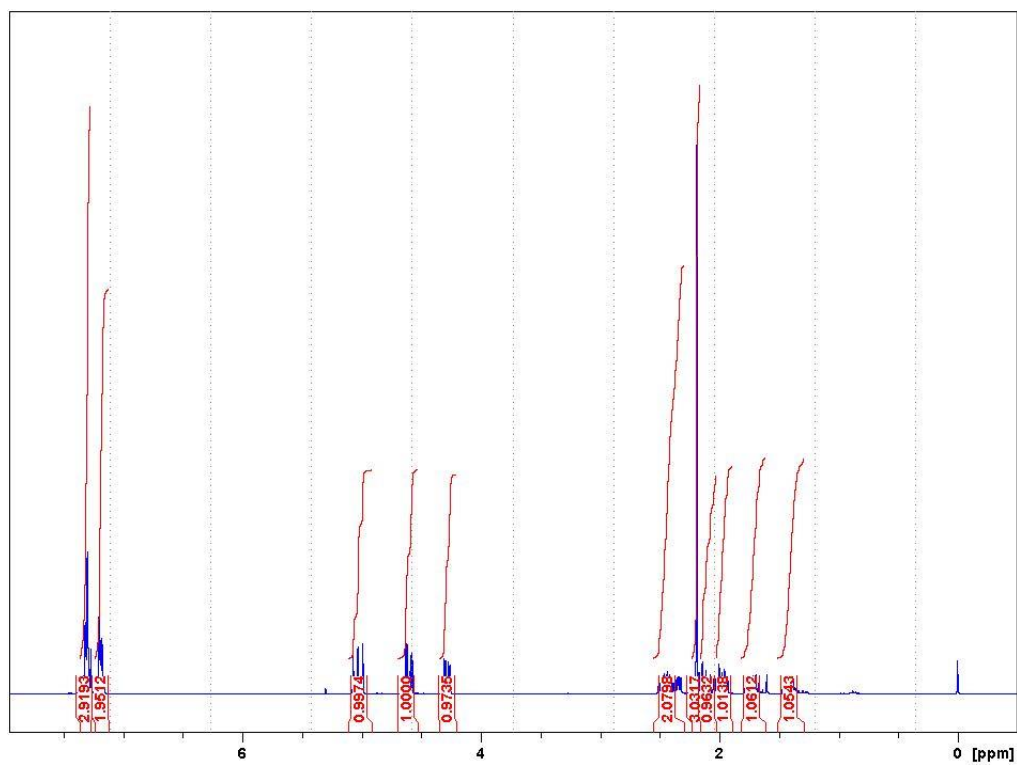


Figure S11. ^1H NMR spectrum for **6f** (major diastereomer).

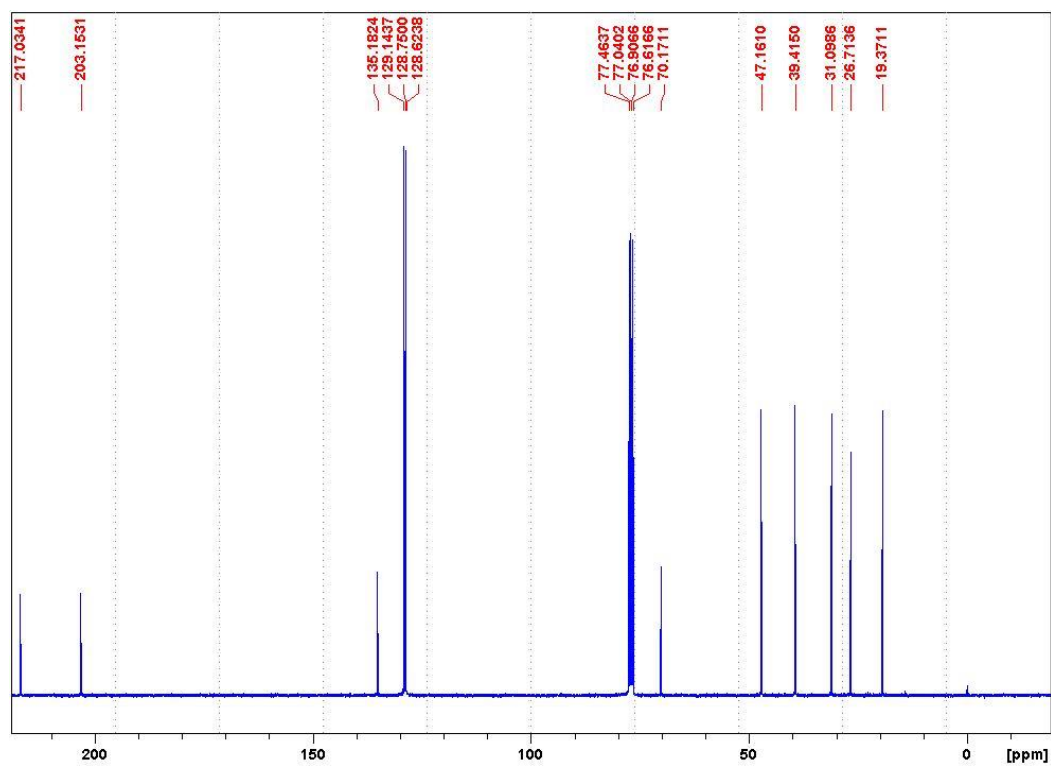


Figure S12. ^{13}C NMR spectrum for **6f** (major diastereomer).

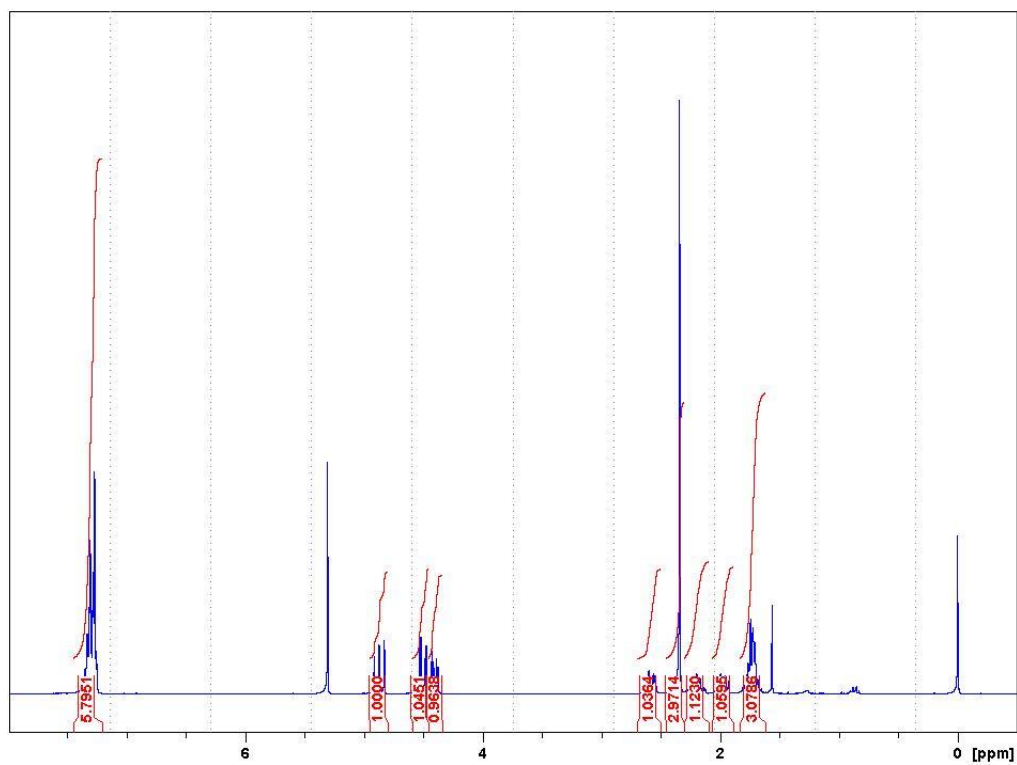


Figure S13. ^1H NMR spectrum for **6f** (minor diastereomer).

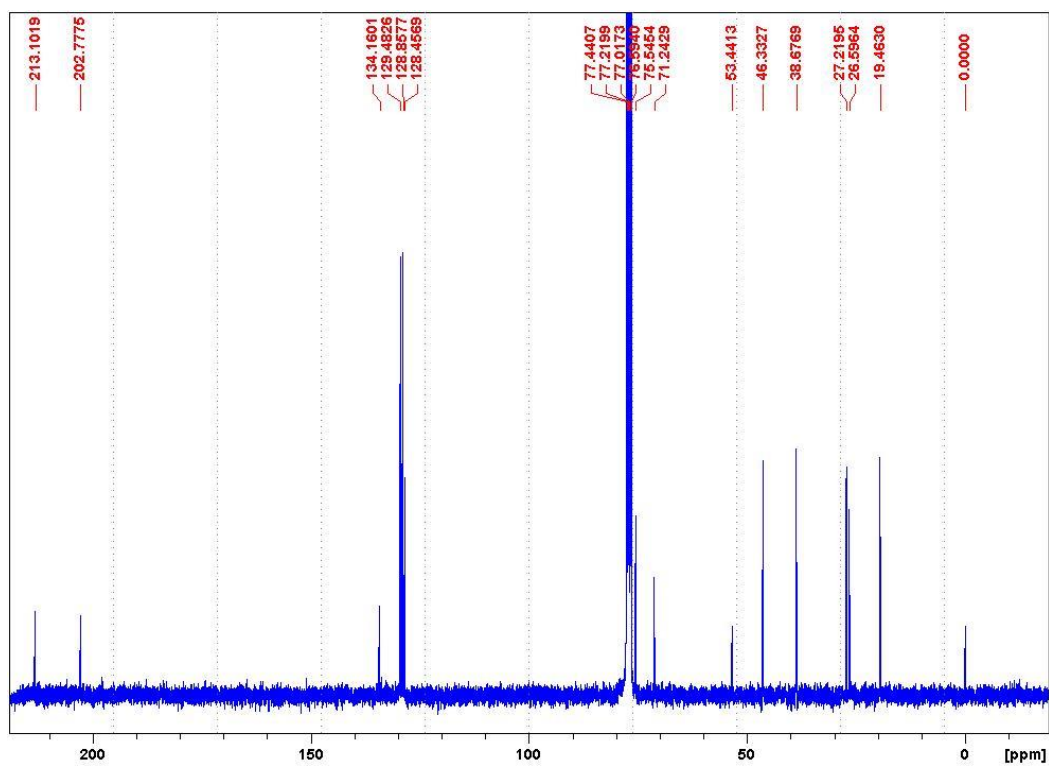
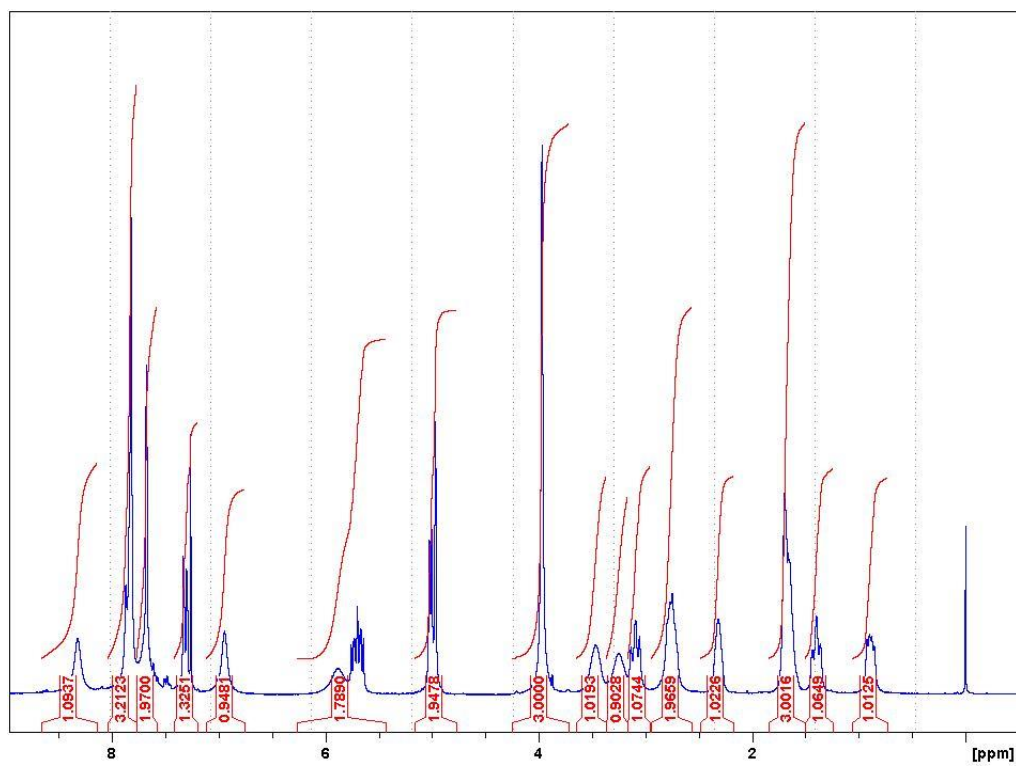
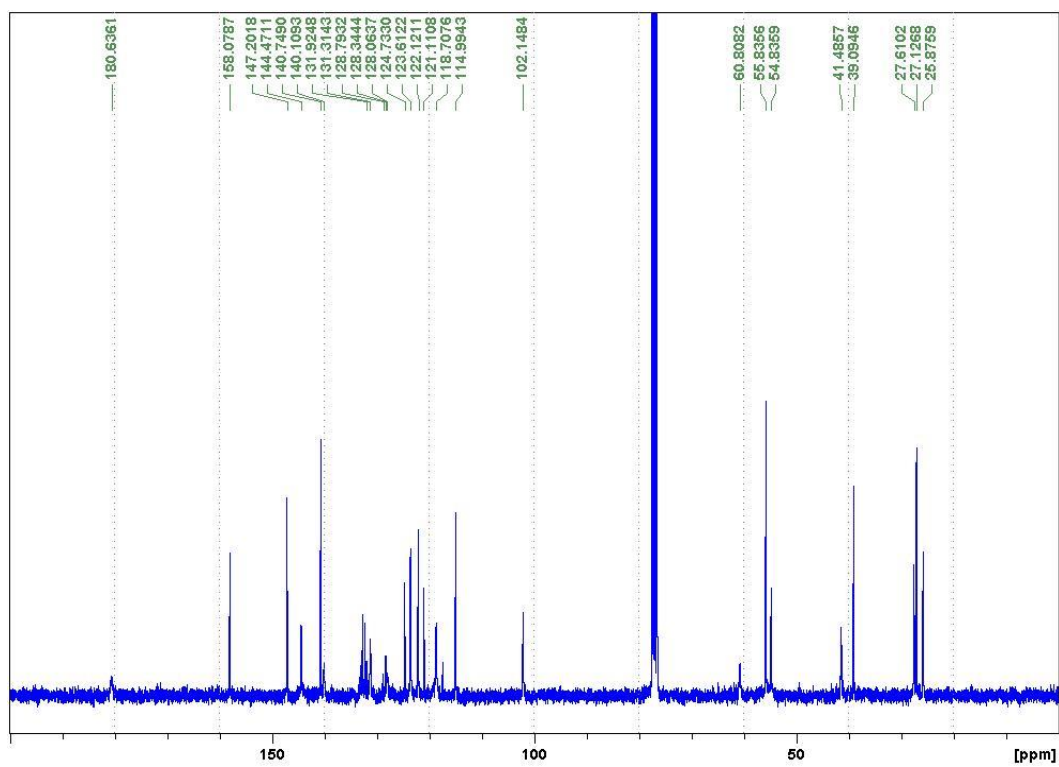


Figure S14. ^{13}C NMR spectrum for **6f** (minor diastereomer).

Figure S15. ^1H NMR spectrum for organocatalyst **2**.Figure S16. ^{13}C NMR spectrum for organocatalyst **2**.

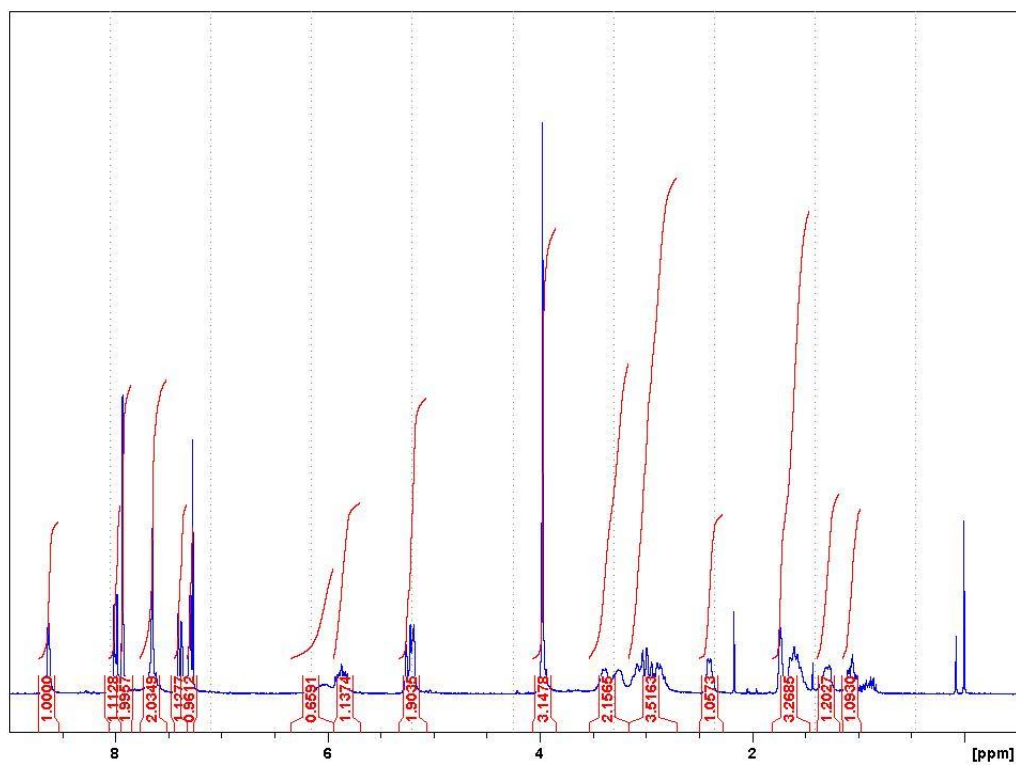


Figure S17. ^1H NMR spectrum for organocatalyst **14**.

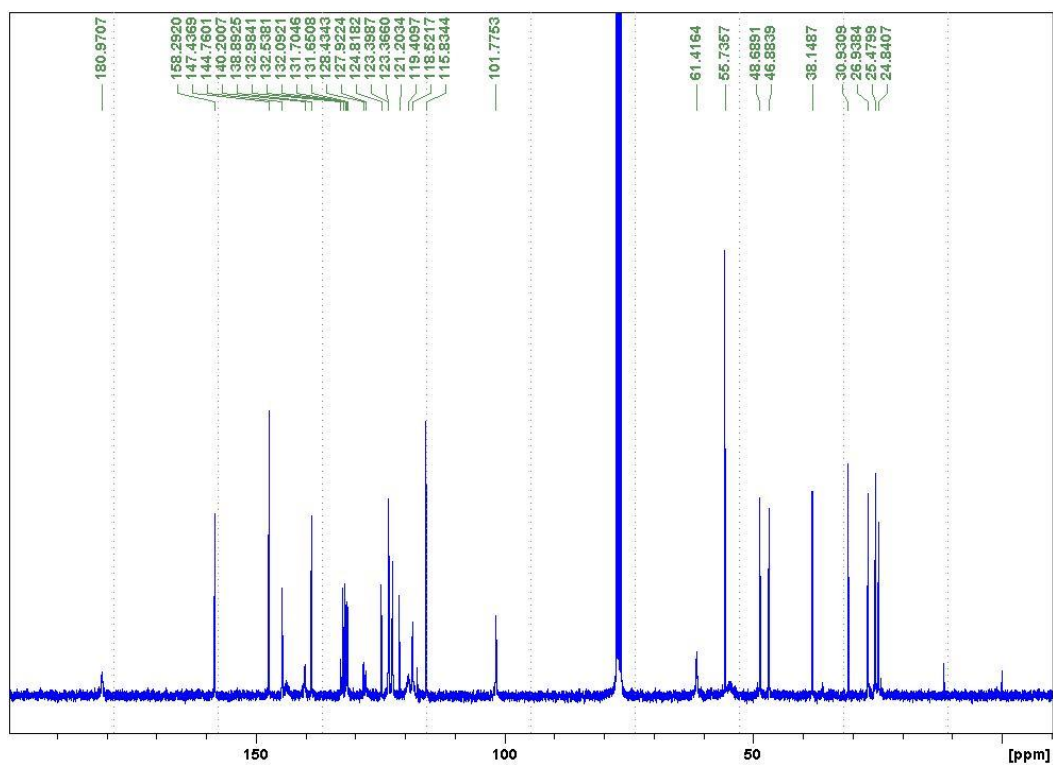


Figure S18. ^{13}C NMR spectrum for organocatalyst **14**.

2. HPLC Chromatograms

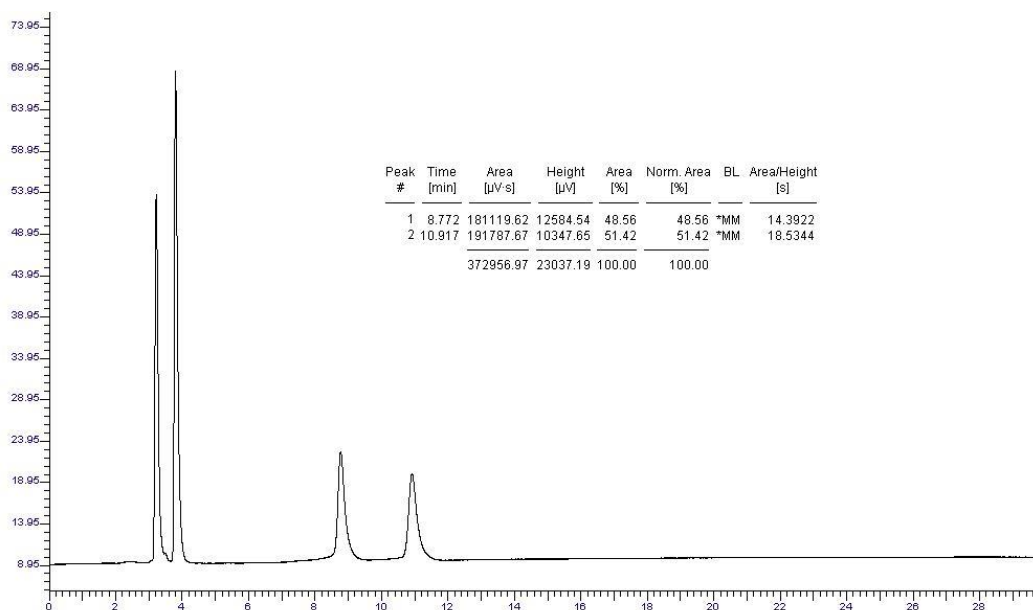


Figure S19. Racemic product **6a**.

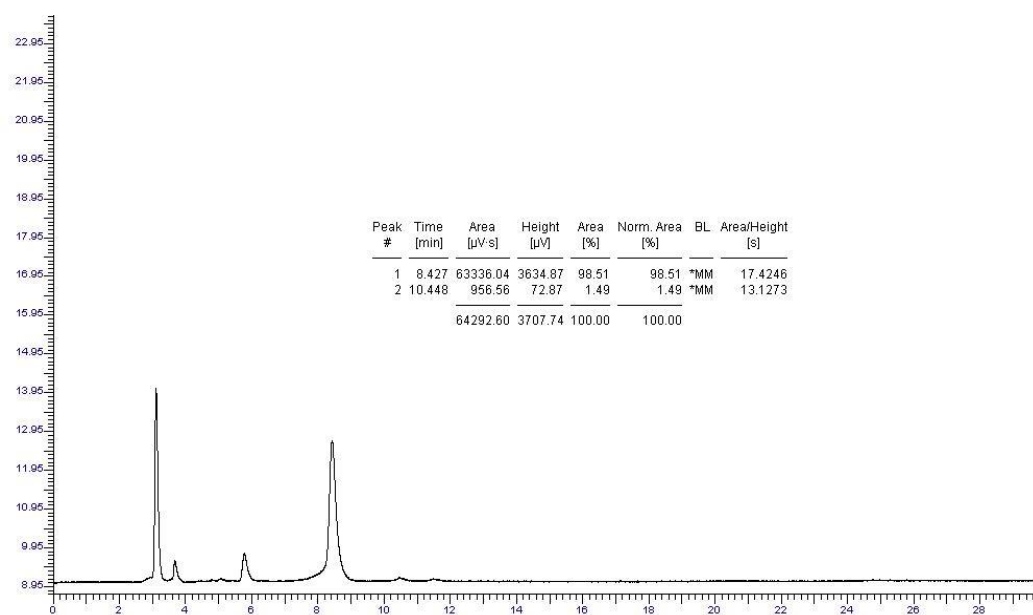


Figure S20. Product **6a** resulting from reaction catalyzed by organocatalyst **2**.

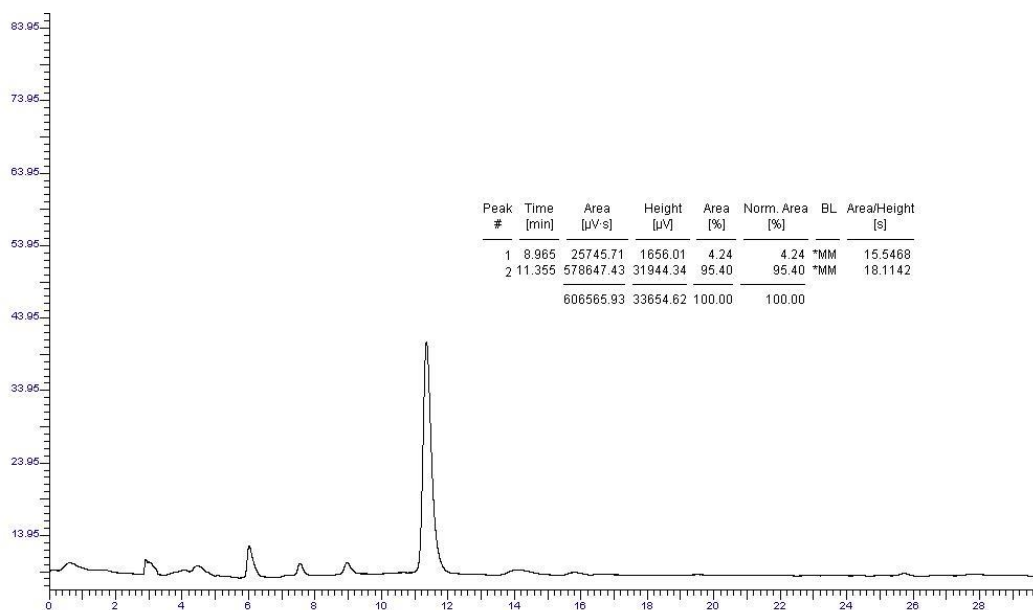


Figure S21. Product **6a** resulting from reaction catalysed by organocatalyst **14**.

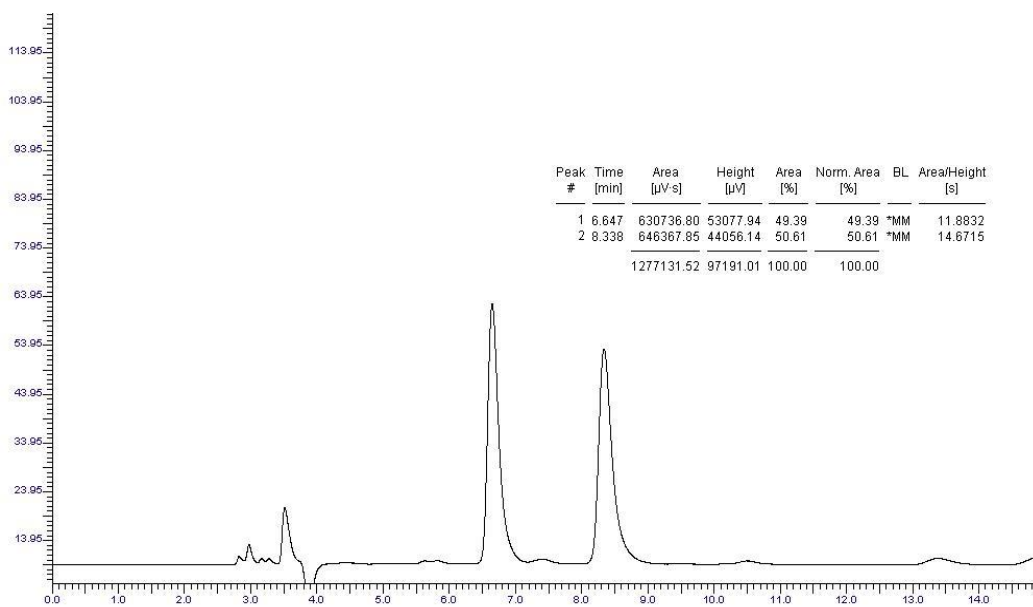


Figure S22. Racemic product **6b**.

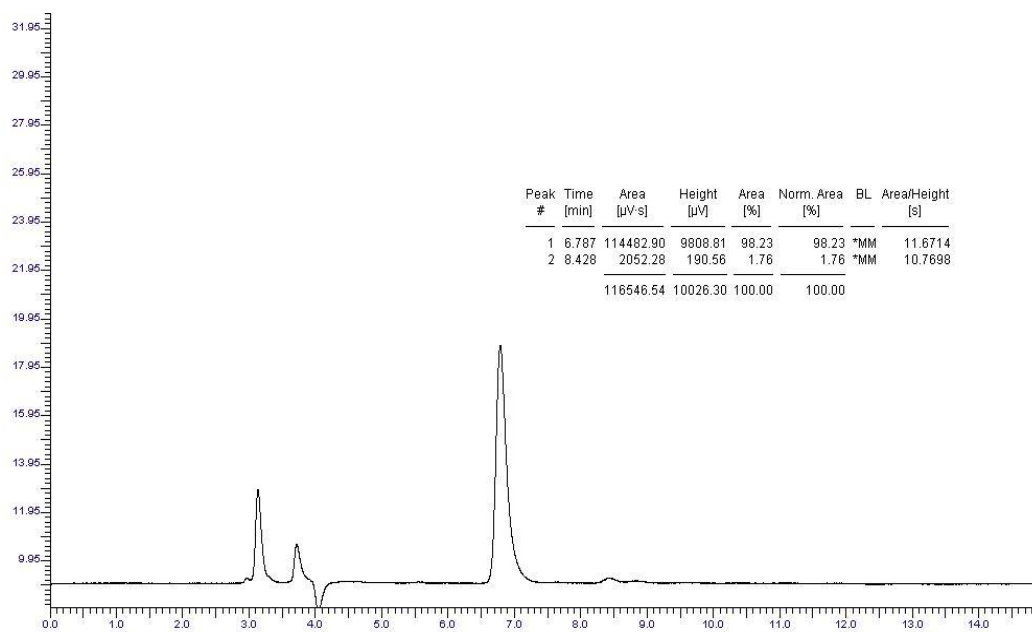


Figure S23. Product **6b** resulting from reaction catalysed by organocatalyst **2**.

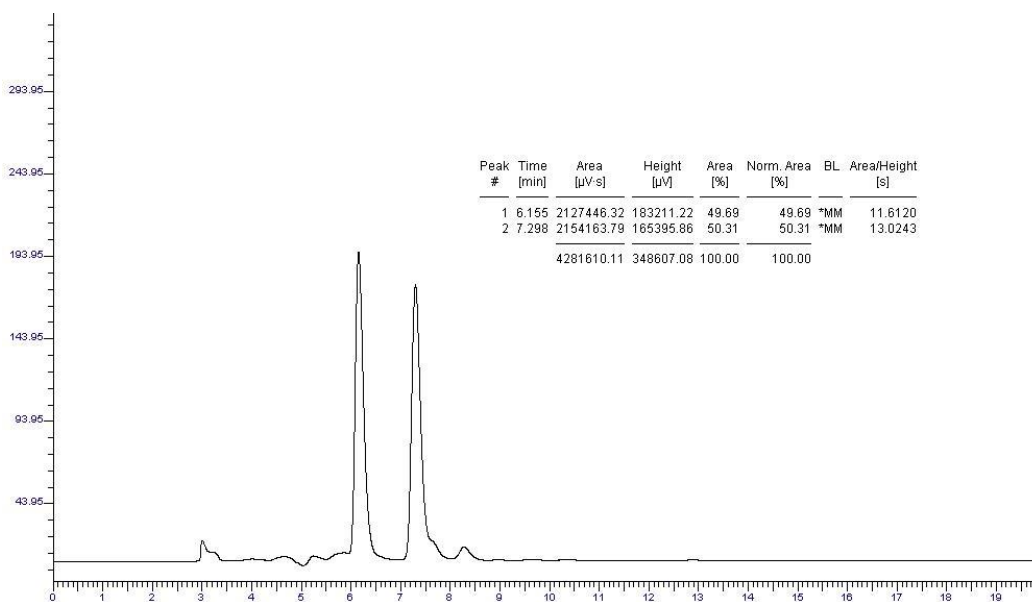


Figure S24. Racemic product **6c**.

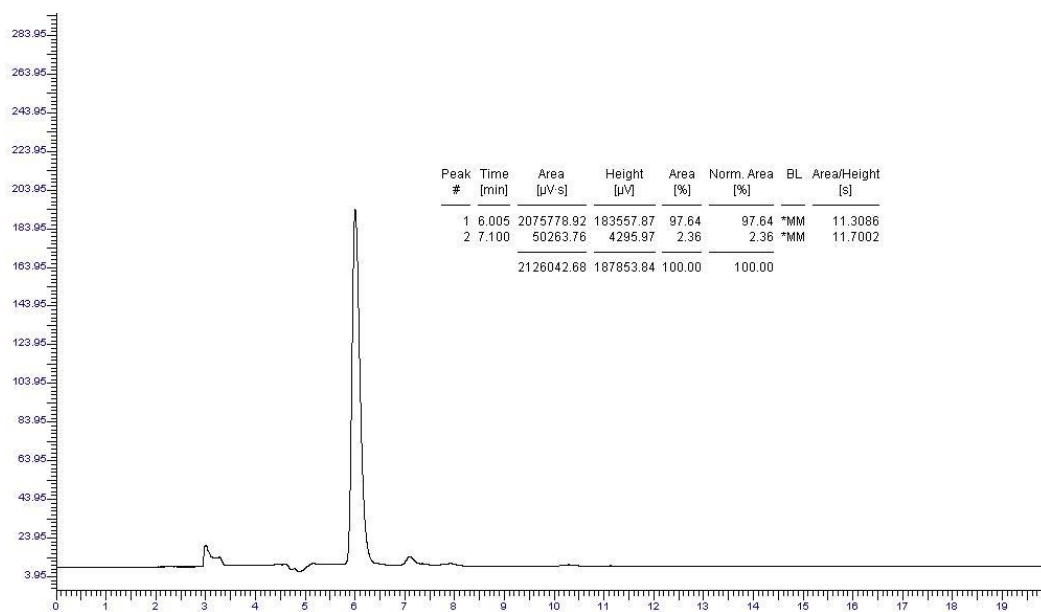


Figure S25. Product **6c** resulting from reaction catalysed by organocatalyst **2**.

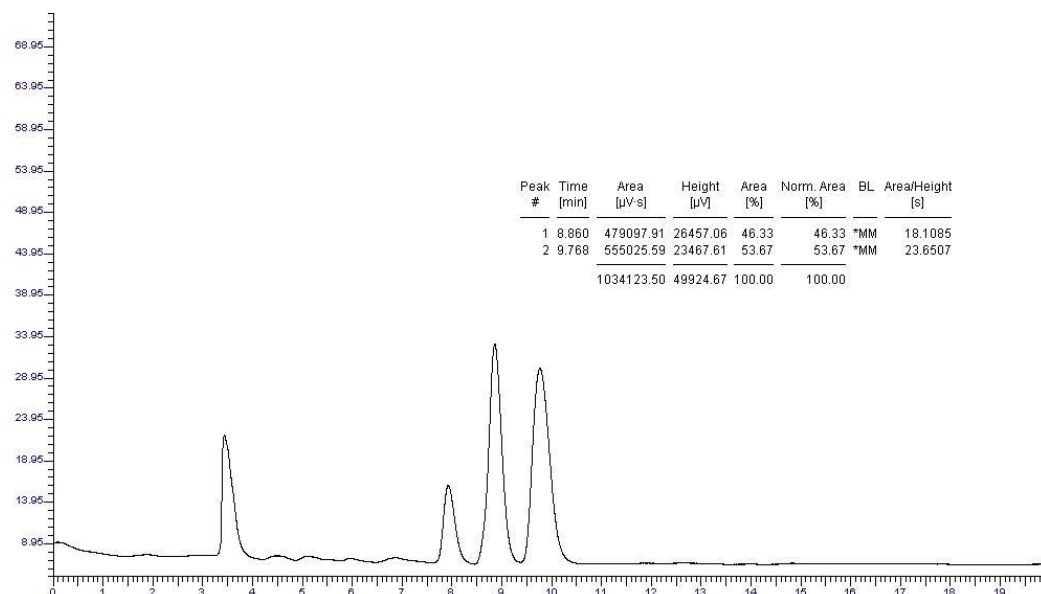


Figure S26. Product **6d** resulting from reaction catalysed by a mixture of organocatalysts **2** and **14**.

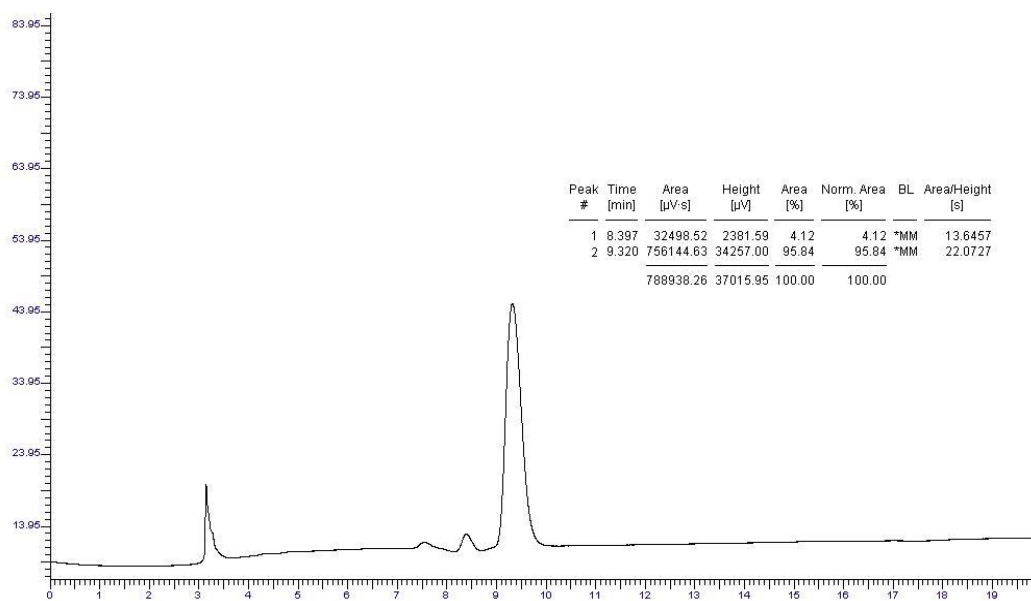


Figure S27. Product **6d** resulting from reaction catalysed by organocatalyst **14**.

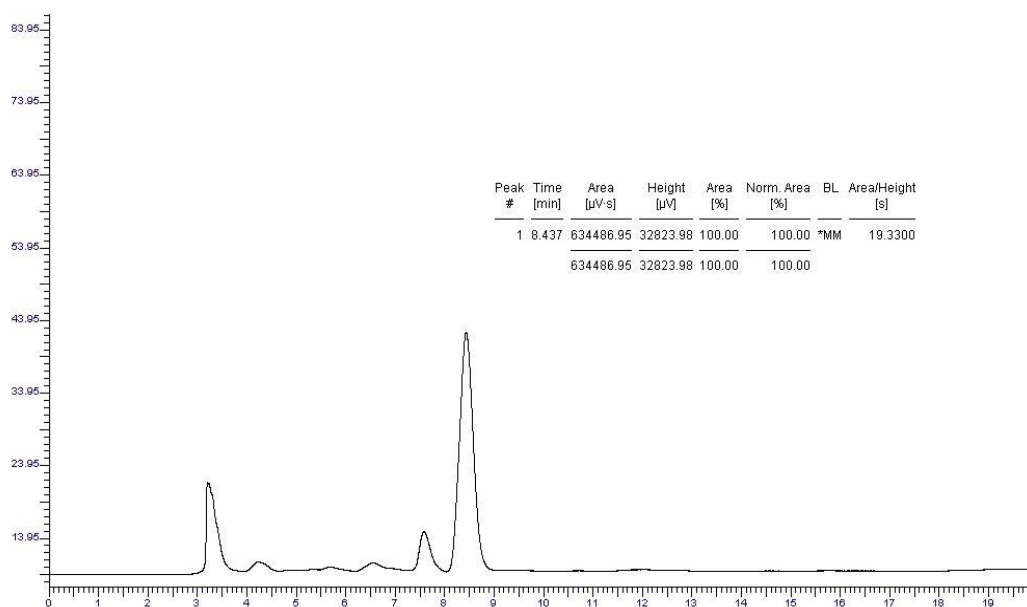


Figure S28. Product **6d** resulting from reaction catalysed by organocatalyst **2**.

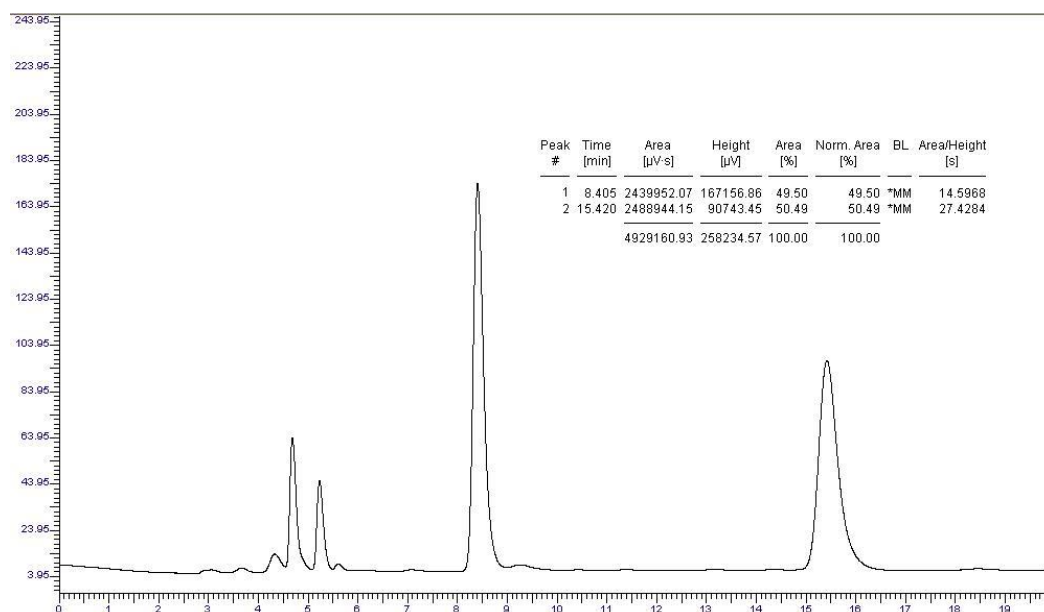


Figure S29. Racemic product **6e**.

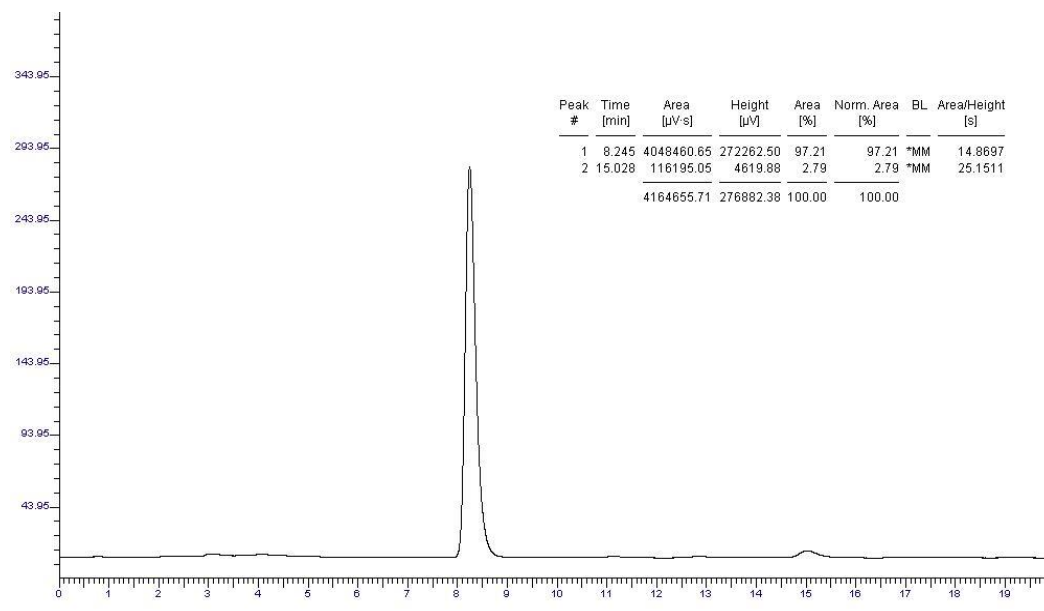


Figure S30. Product **6e** resulting from reaction catalysed by organocatalyst **2**.

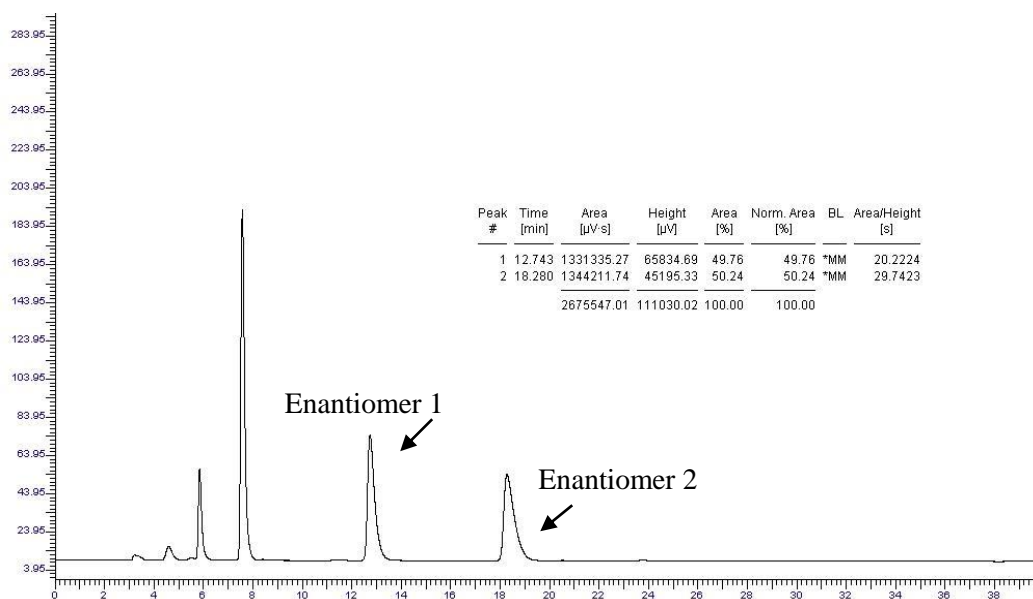


Figure S31. Product **6h** resulting from reaction catalysed by KOtBu (major diastereomer).

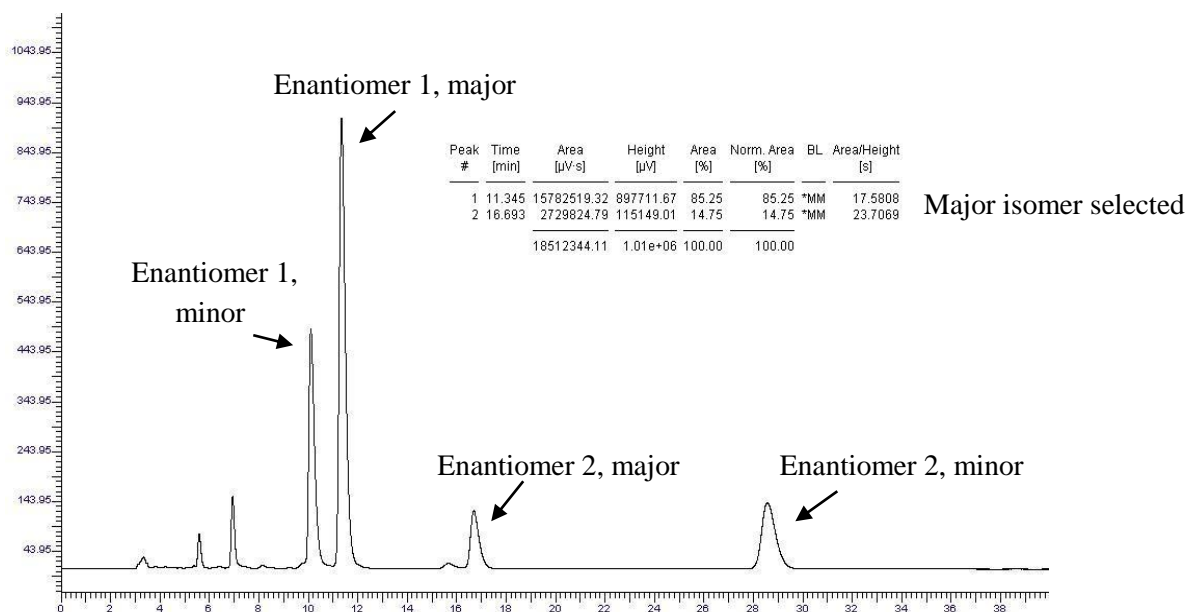


Figure S32. Product **6f** resulting from reaction catalysed by organocatalyst **2**.

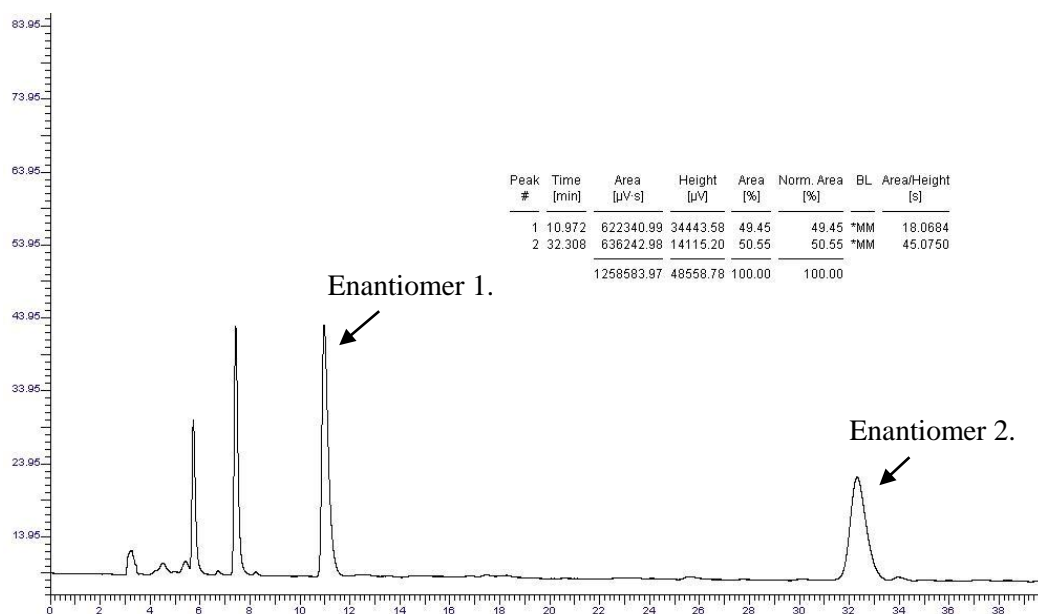


Figure S33. Product **6f** resulting from reaction catalysed by KOTBu (minor diastereomer).

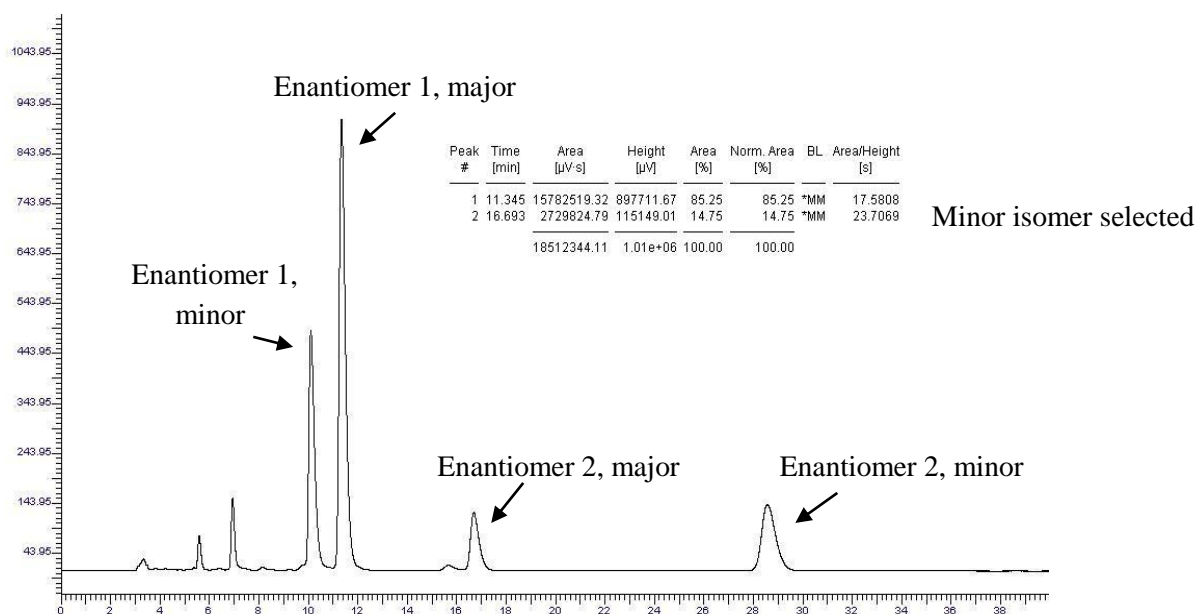


Figure S34. Product **6f** resulting from reaction catalysed by organocatalyst **2**.