

Supporting Information

Synthesis and Enzymatic Degradation of Sustainable Levoglucosenone-derived Copolyesters with Renewable Citronellol Side Chains

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Table of contents

NMR	2
FTIR	13
DSC	15
TGA	20
SEC	23

NMR

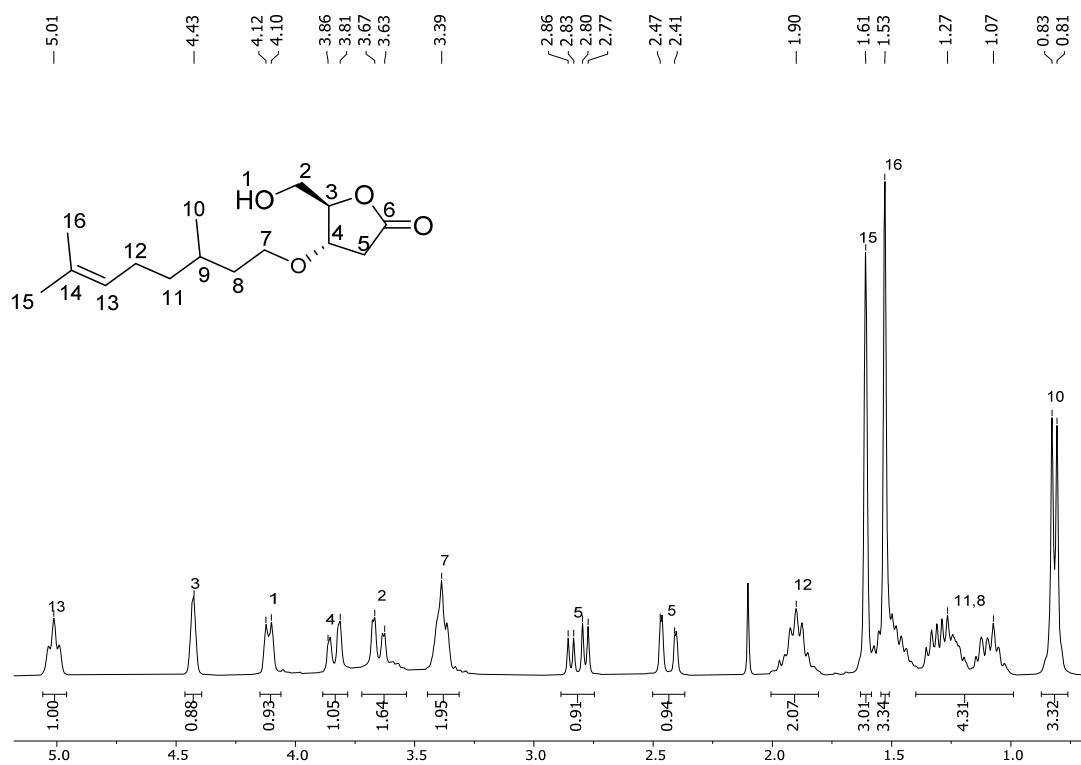


Figure S1. ¹H NMR (CDCl₃) spectrum of HBO-citro.

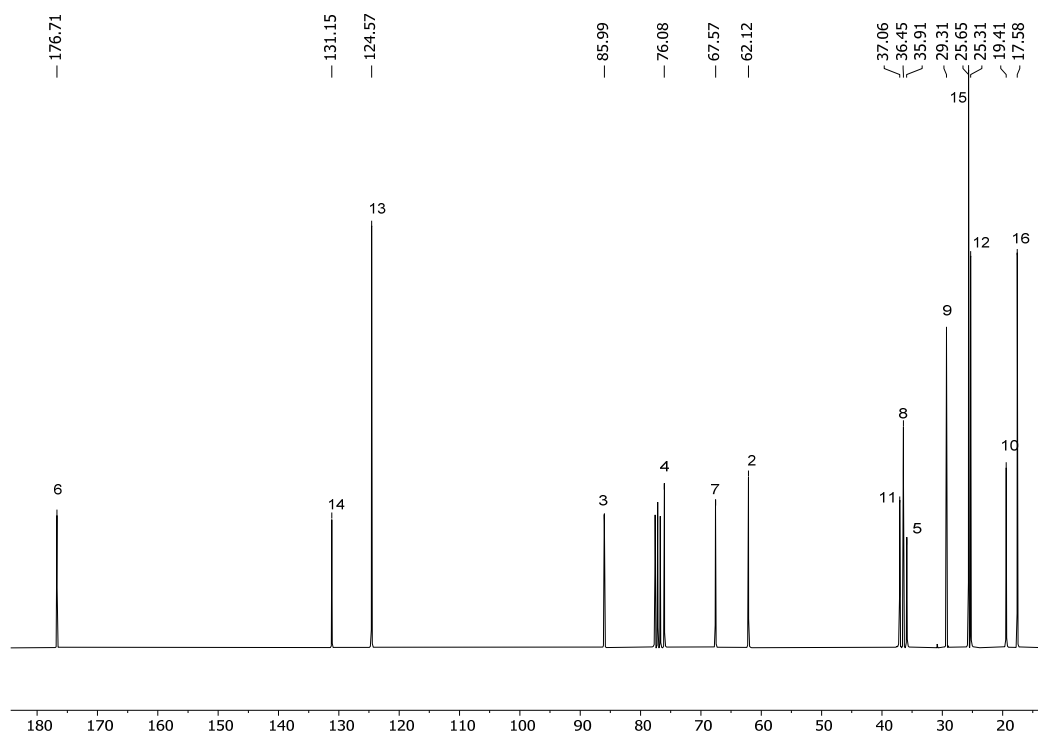


Figure S2. ¹³C NMR (CDCl₃) spectrum of HBO-citro.



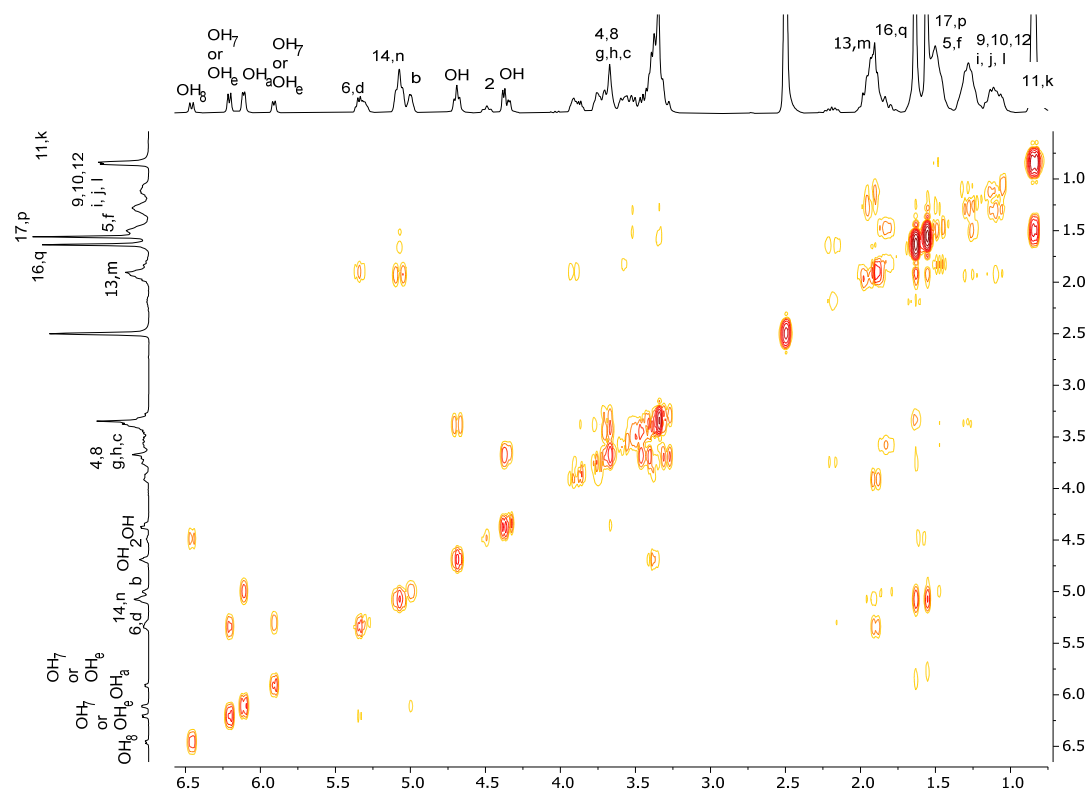


Figure S5. ^1H - ^1H COSY (DMSO- d_6) spectrum of Lactol-citro molecules.

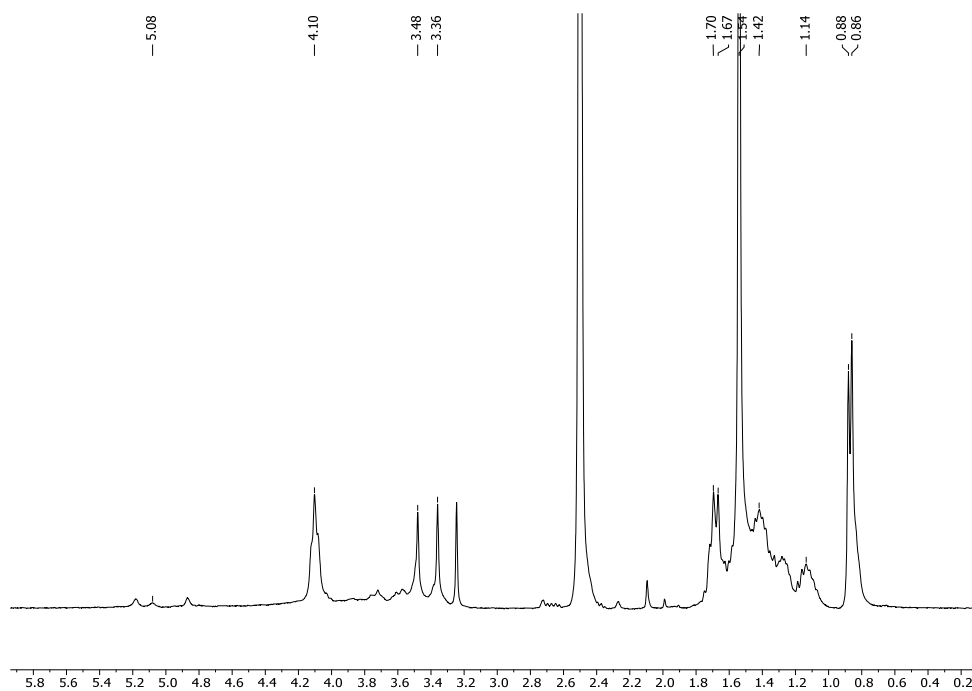


Figure S6. Typical ^1H NMR ($\text{DMSO-}d_6$) spectrum of P5.

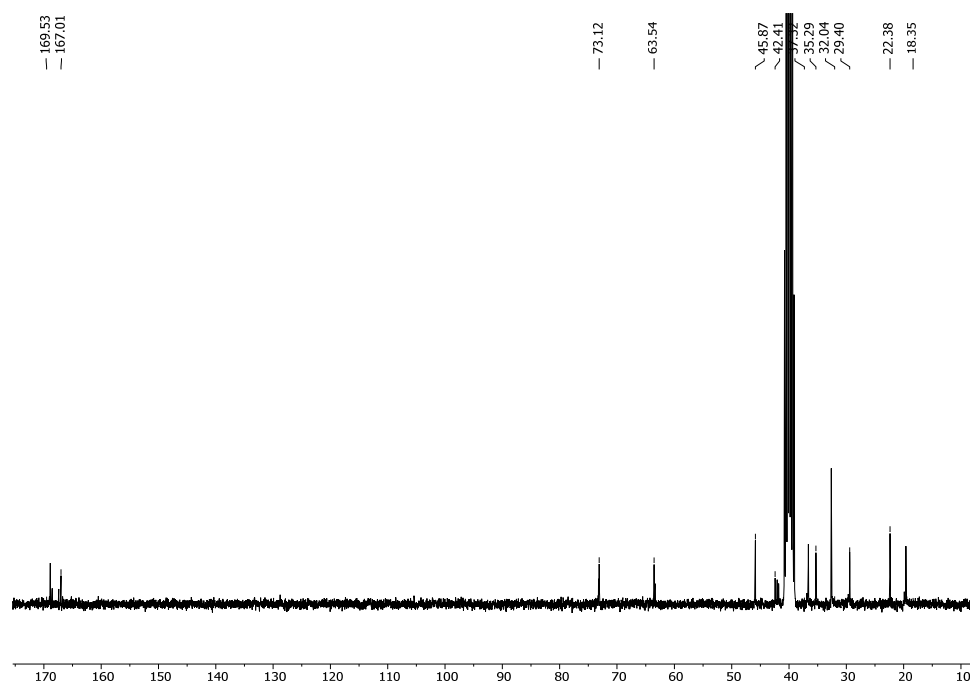


Figure S7. Typical ^{13}C NMR ($\text{DMSO-}d_6$) spectrum of P5.

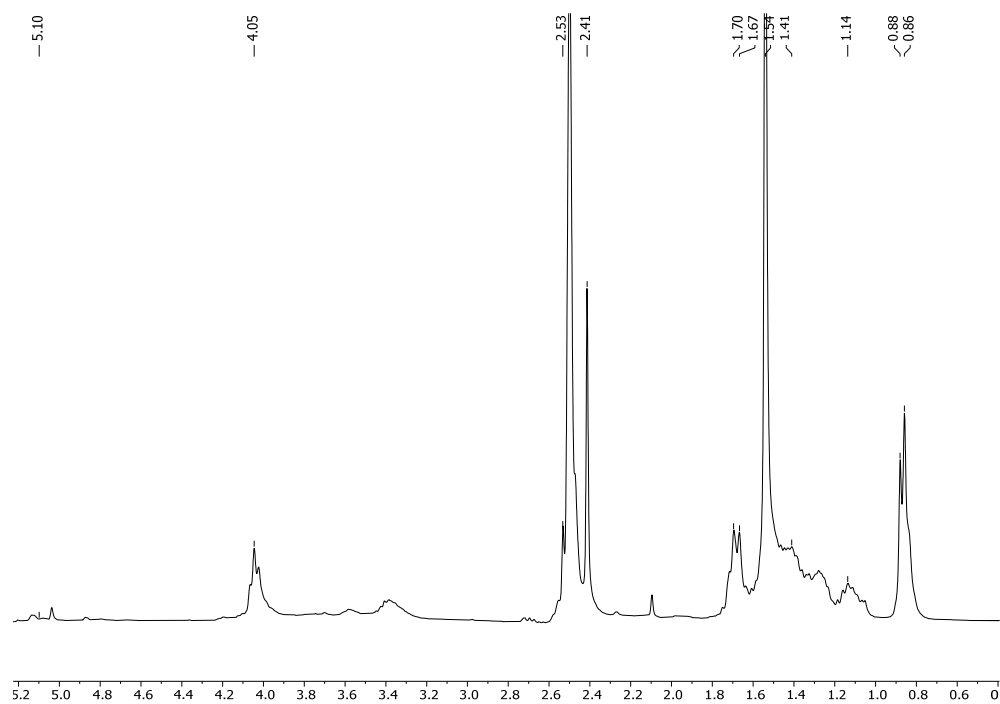


Figure S8. Typical ^1H NMR ($\text{DMSO}-d_6$) spectrum of P6.

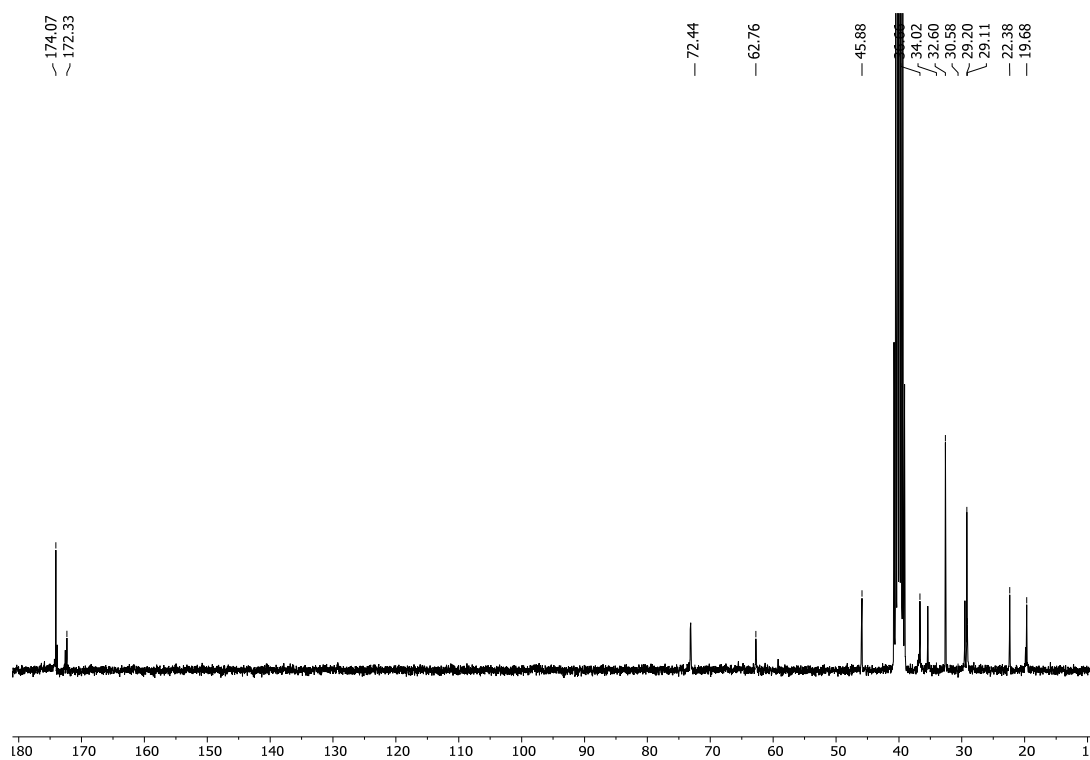


Figure S9. Typical ^{13}C NMR ($\text{DMSO}-d_6$) spectrum of P6.

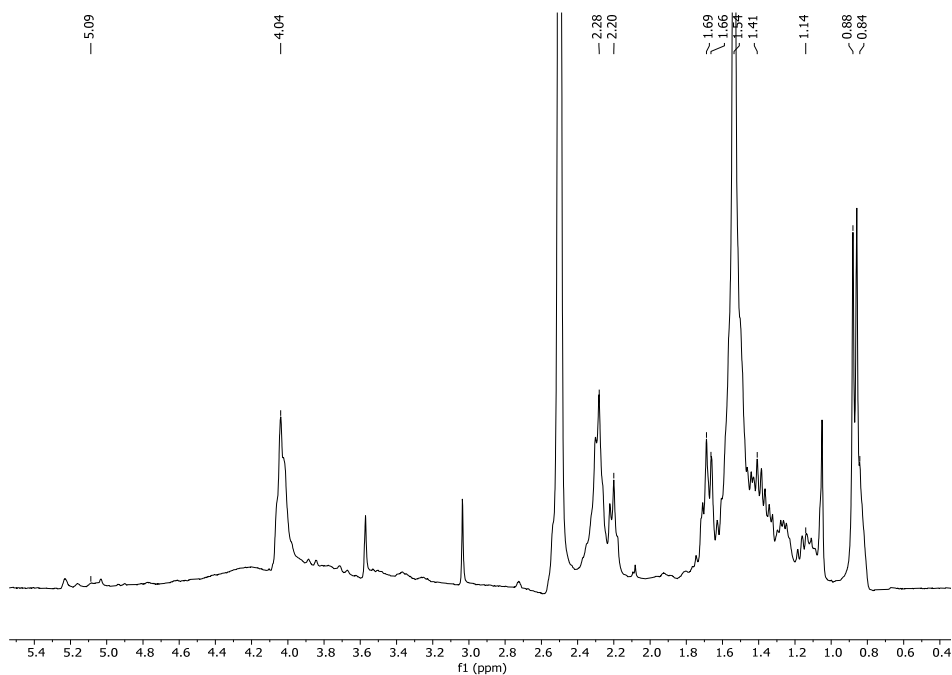


Figure S10. Typical ^1H NMR ($\text{DMSO-}d_6$) spectrum of P7.

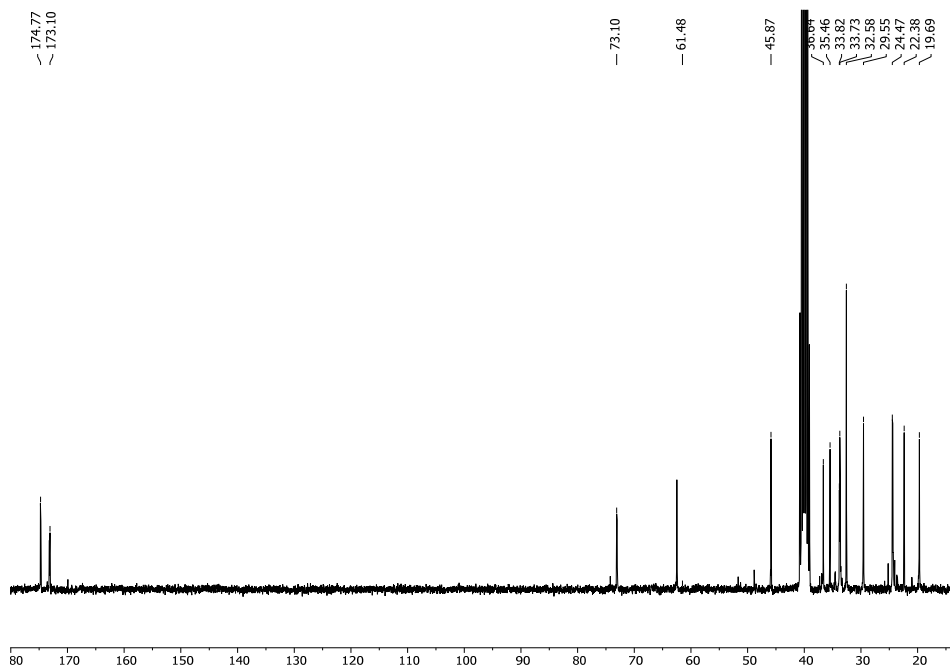


Figure S11. Typical ^{13}C NMR ($\text{DMSO-}d_6$) spectrum of P7.

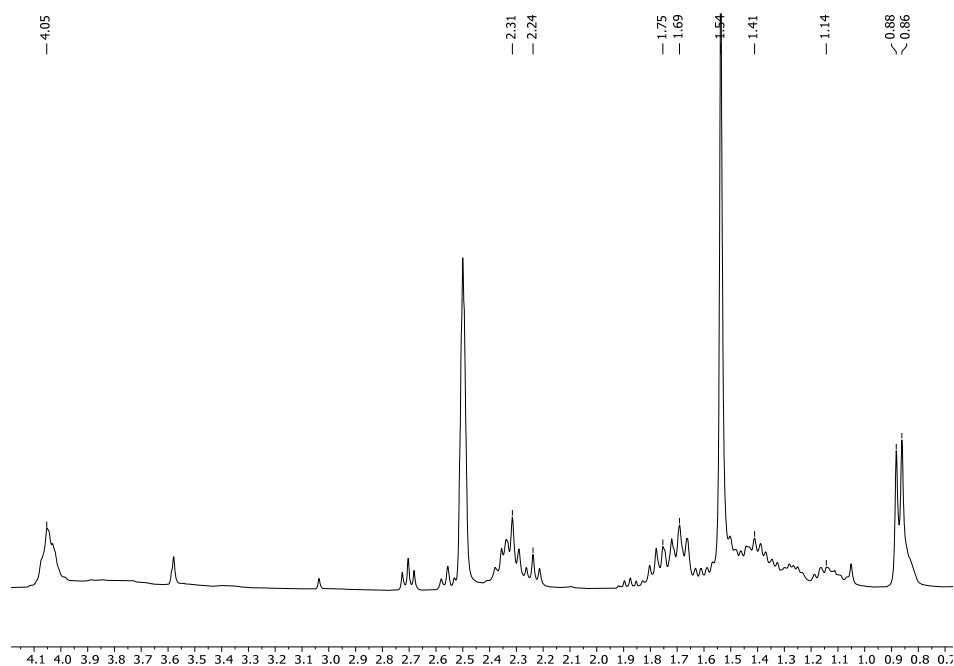


Figure S12. Typical ^1H NMR ($\text{DMSO-}d_6$) spectrum of P8.

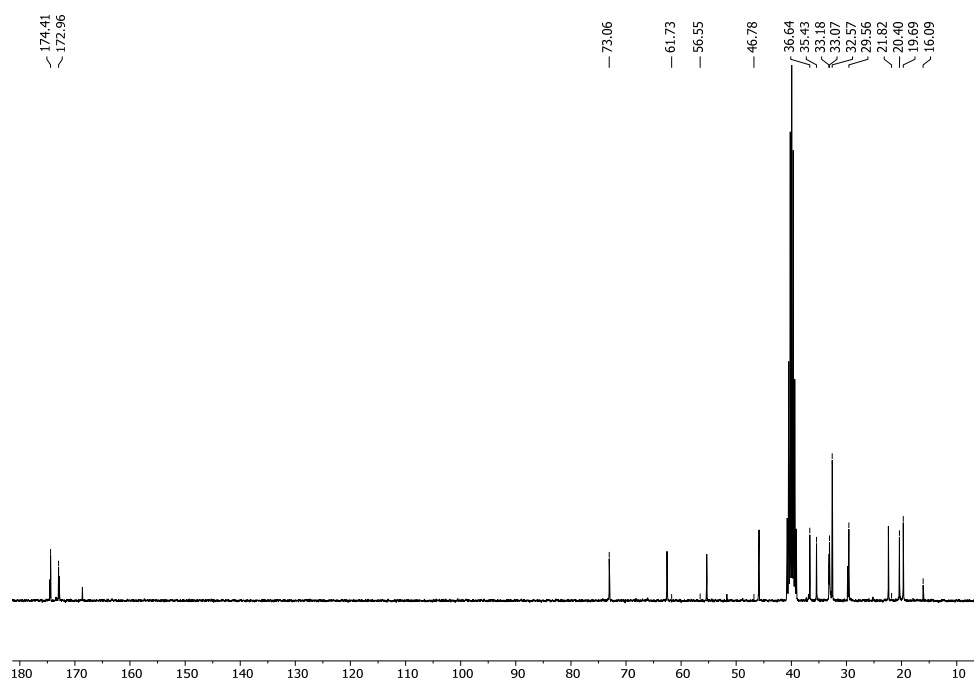


Figure S13. Typical ^{13}C NMR ($\text{DMSO-}d_6$) spectrum of P8.

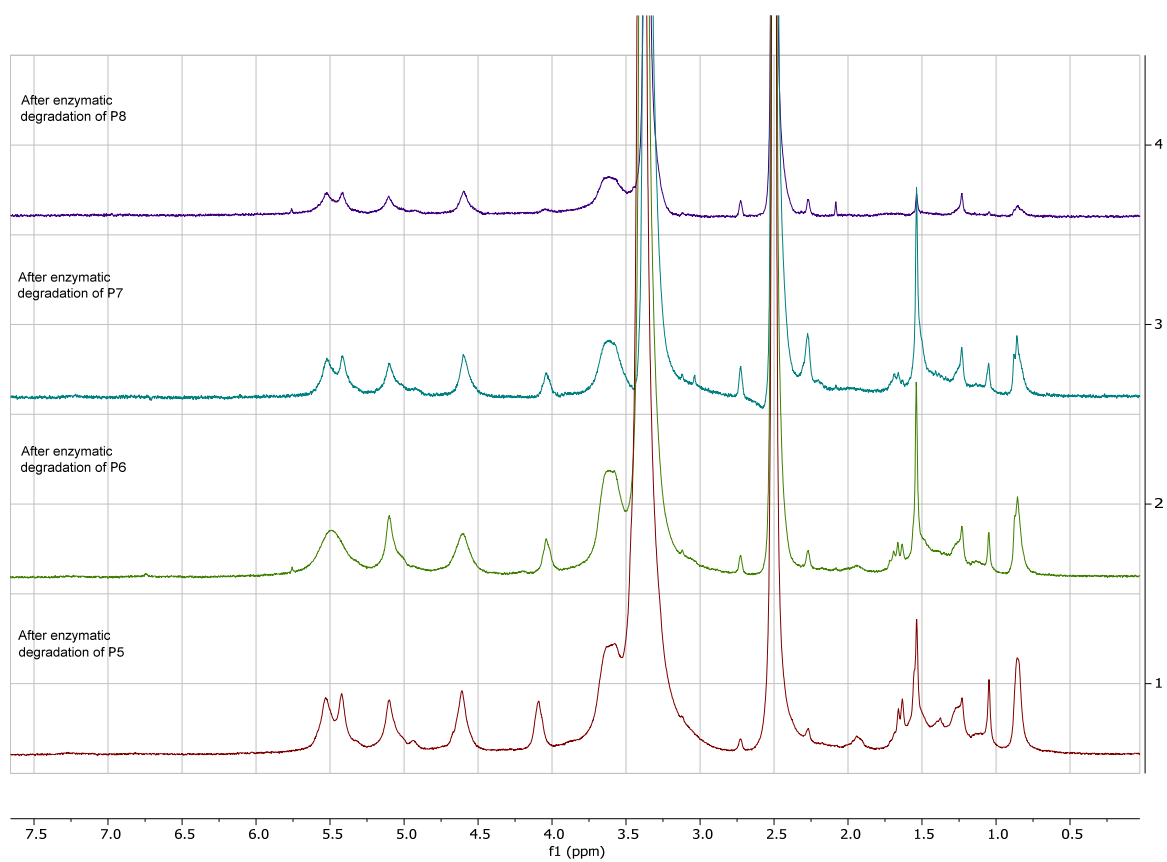


Figure S14. ^1H NMR ($\text{DMSO}-d_6$) spectra of the hydrolyzed products of P5, P6, P7 and P8 after enzymatic degradation (spectra 1, 2, 3 and 4 respectively).

FTIR

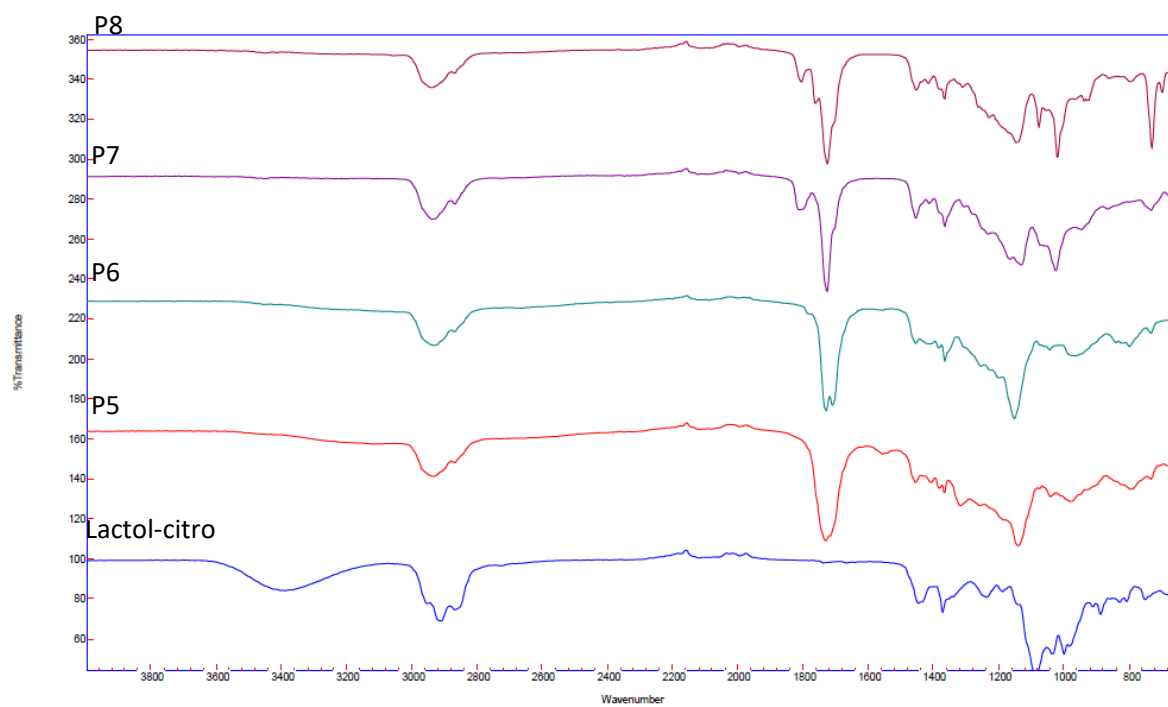


Figure S15. Typical FTIR spectra of P5-P8.

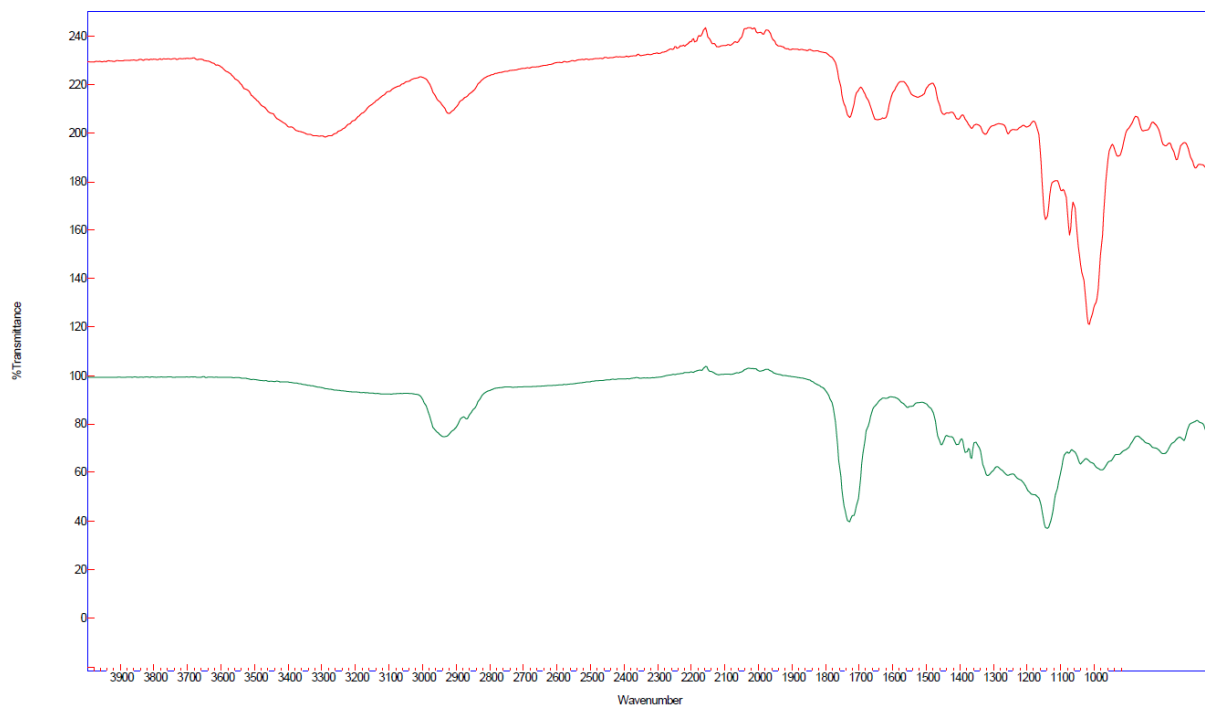


Figure S16. Typical FTIR spectra of P5 before and after enzymatic degradation (green and red, respectively).

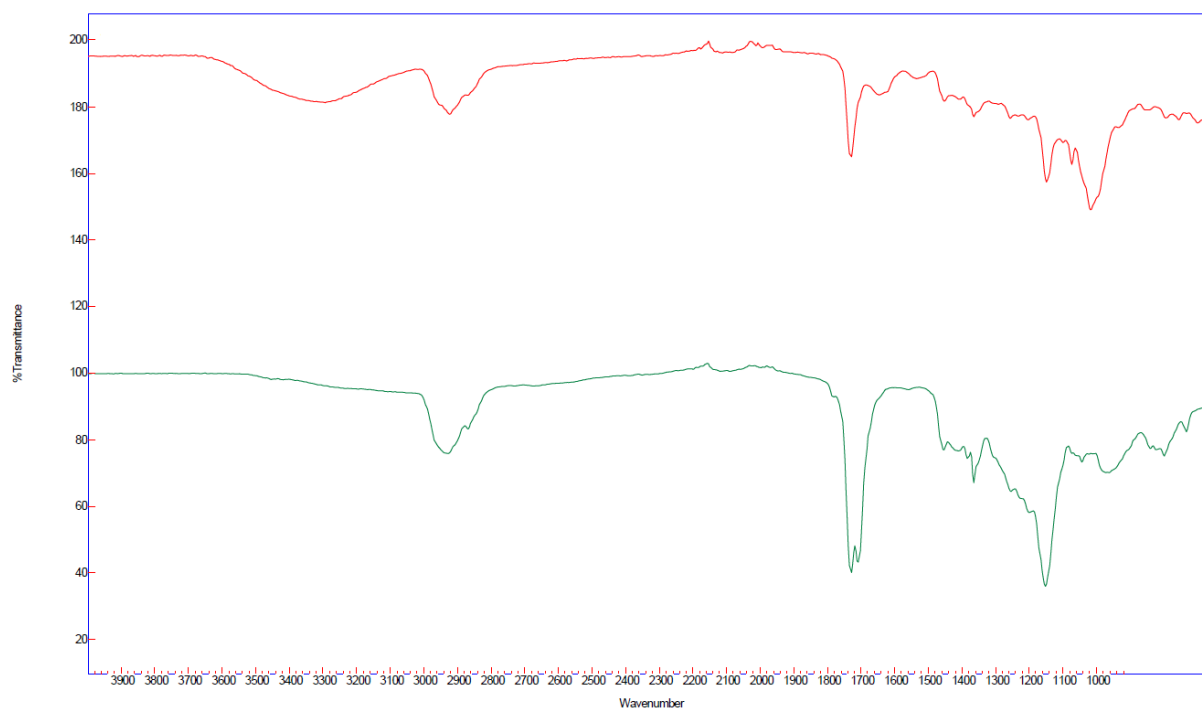


Figure S17. Typical FTIR spectra of P6 before and after enzymatic degradation (green and red, respectively).

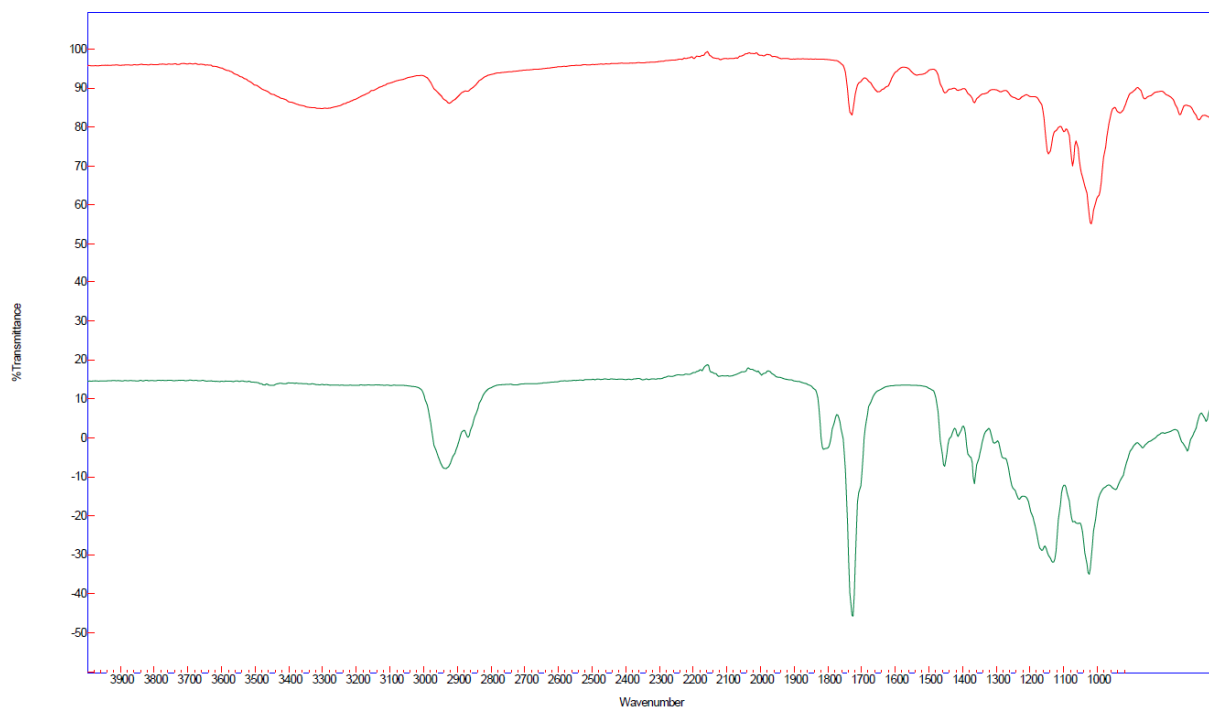


Figure S18. Typical FTIR spectra of P7 before and after enzymatic degradation (green and red, respectively).



Figure S19. Typical FTIR spectra of P8 before and after enzymatic degradation (green and red, respectively).

DSC

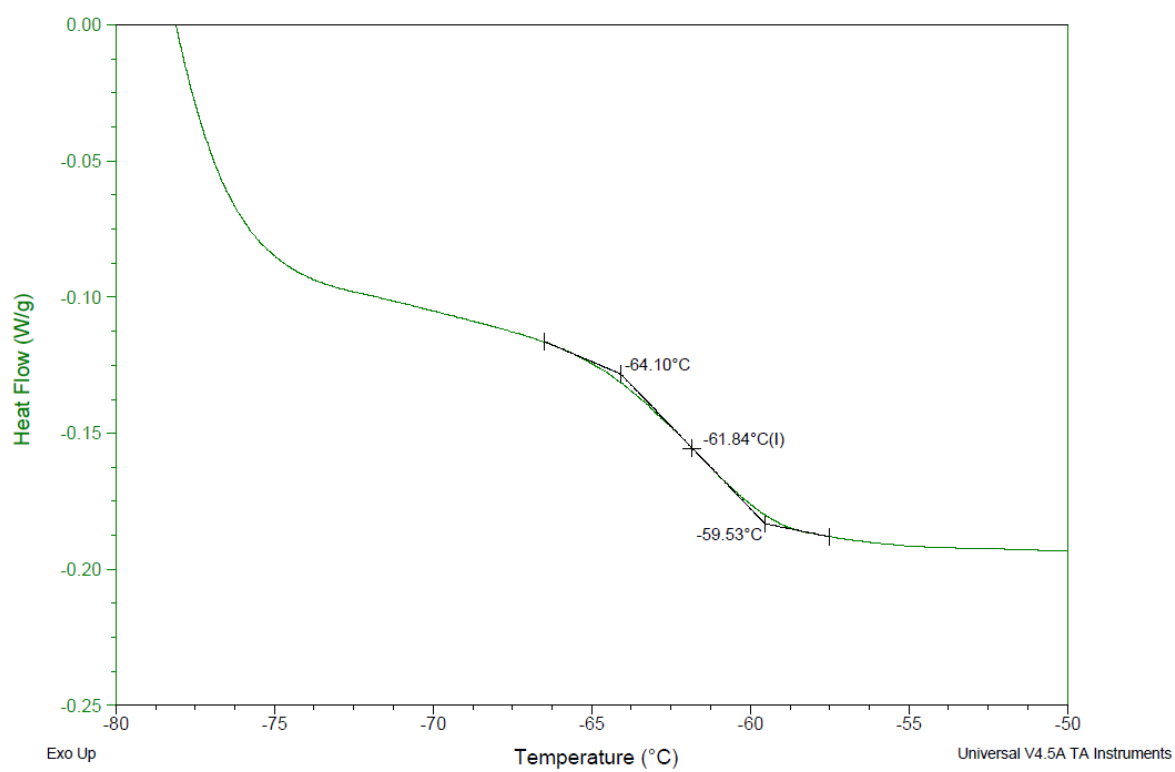


Figure S20. DSC thermogram (3rd heat cycle) of P5, run 1, Table 1.

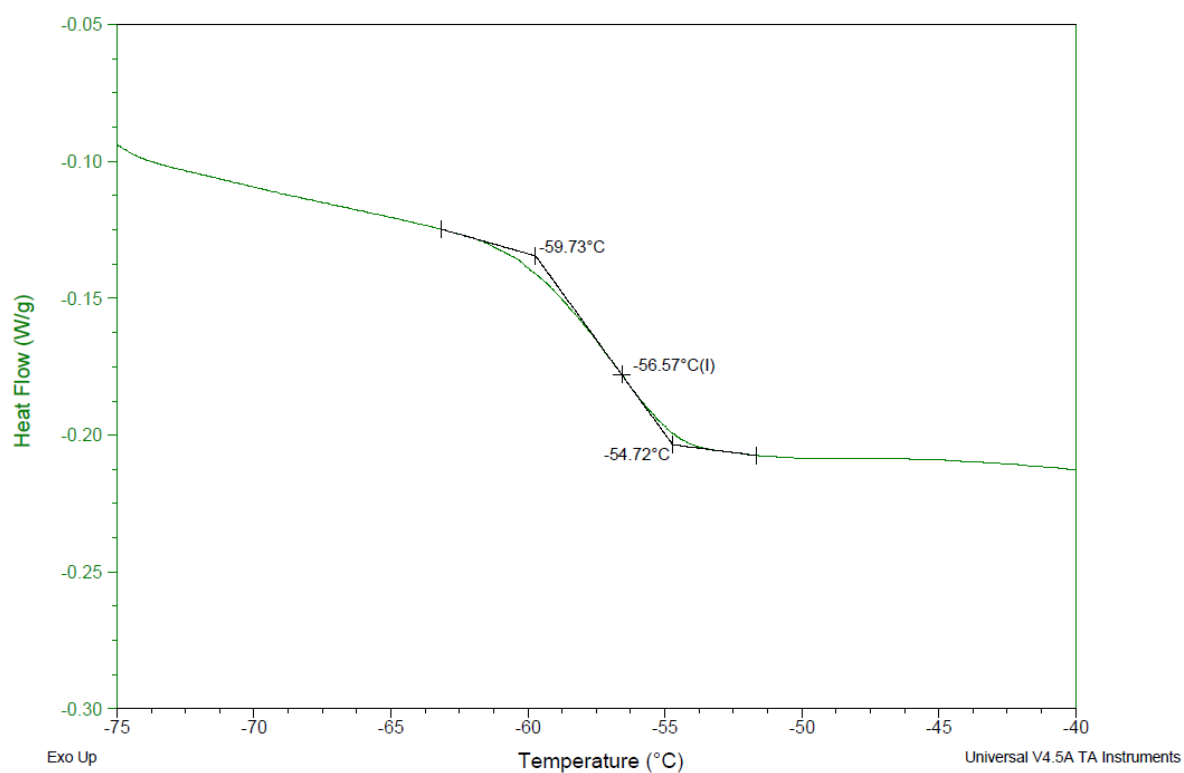


Figure S21. DSC thermogram (3rd heat cycle) of P6, run 2, Table 1.

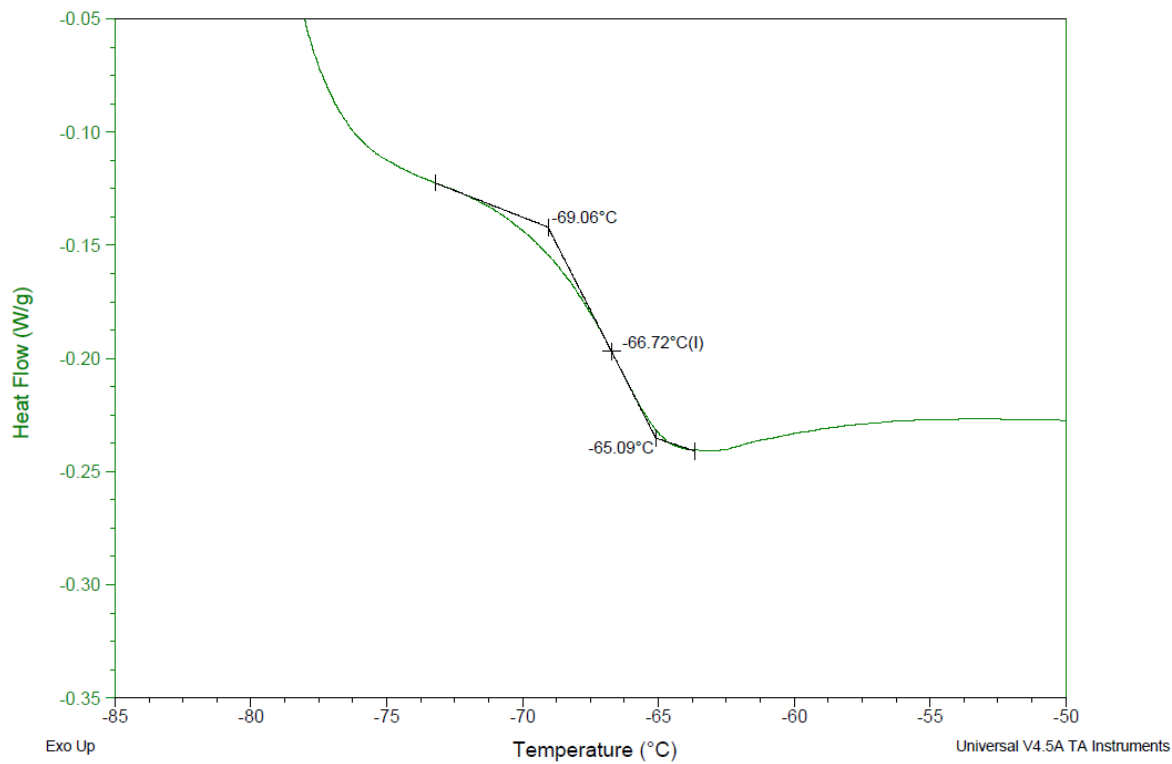


Figure S22. DSC thermogram (3rd heat cycle) of P7, run 3, Table 1.

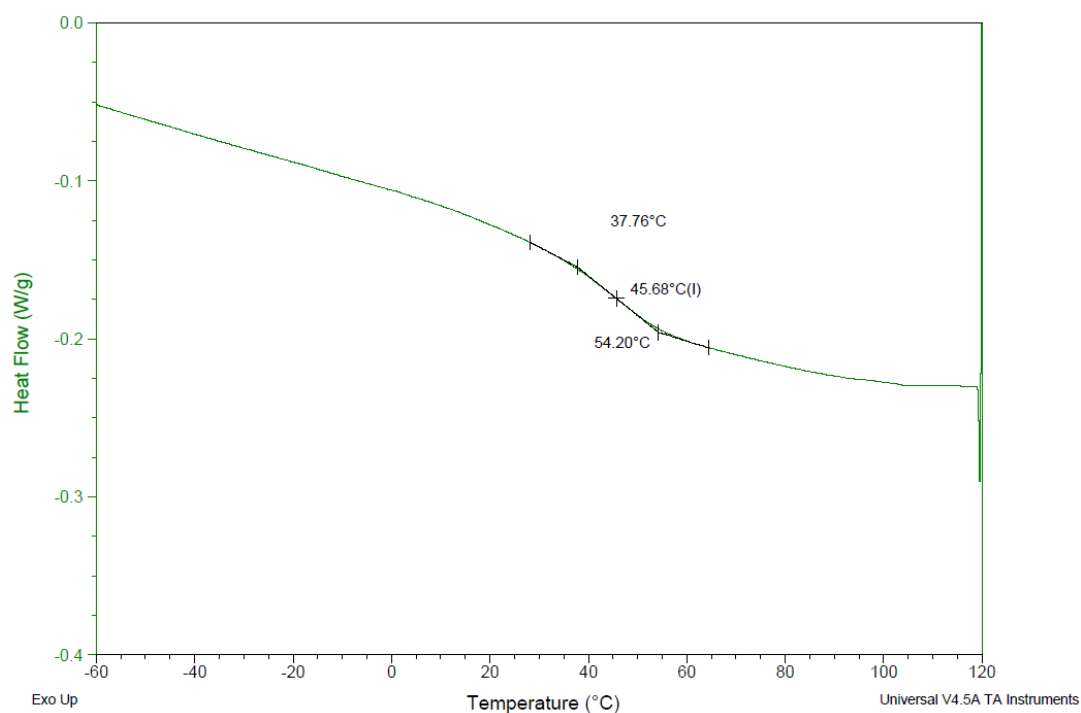


Figure S23. DSC thermogram (3rd heat cycle) of P5 after enzymatic degradation, run 1, Table 2.

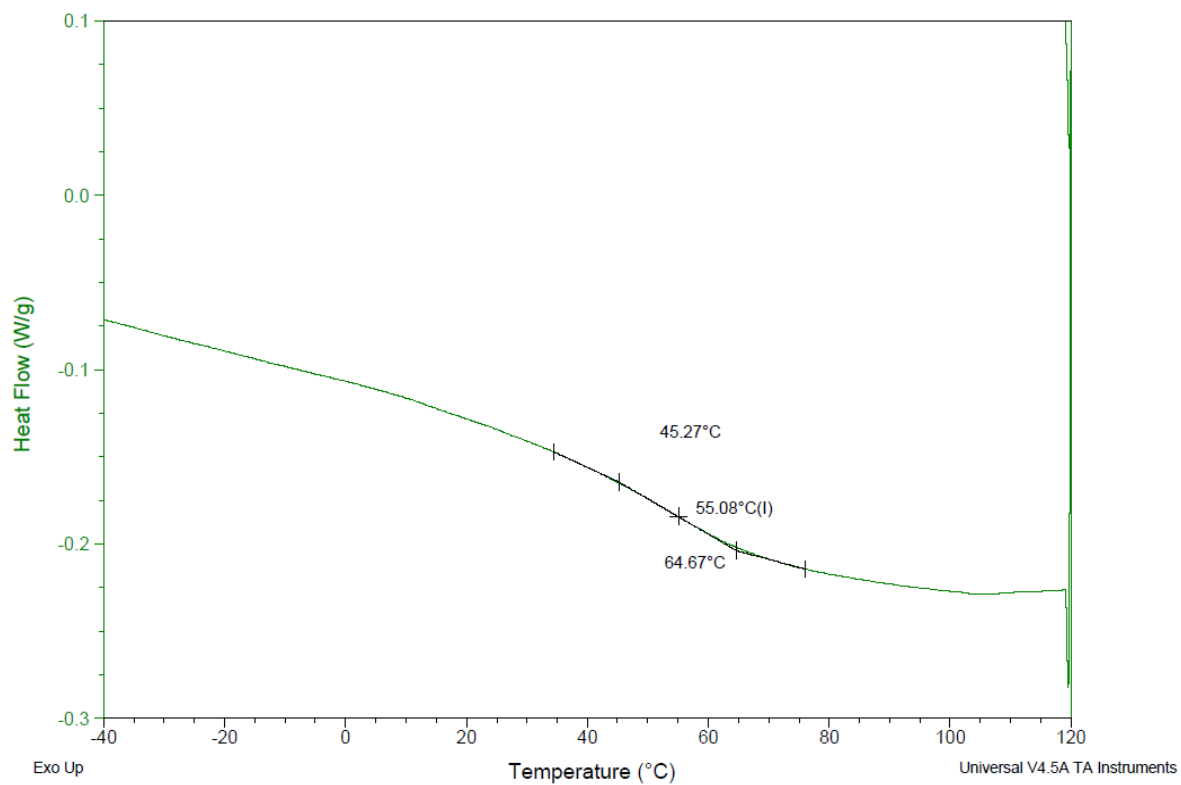


Figure S24. DSC thermogram (3rd heat cycle) of P6 after enzymatic degradation, run 2, Table 2.

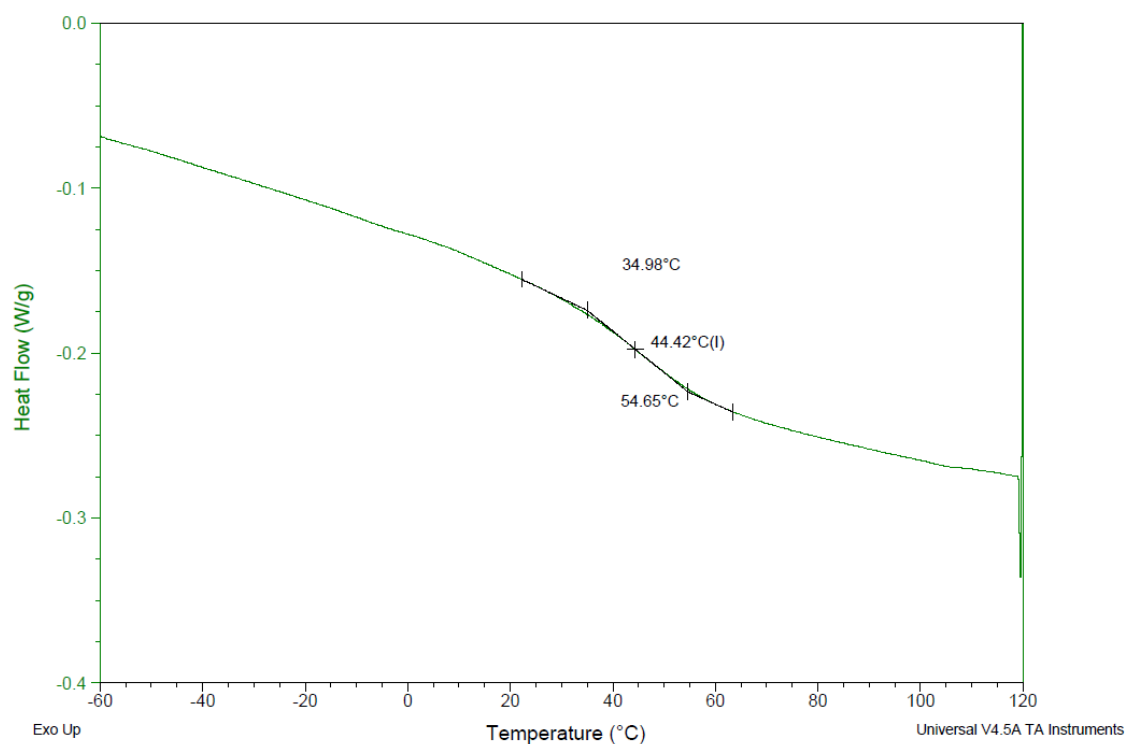


Figure S25. DSC thermogram (3rd heat cycle) of P7 after enzymatic degradation, run 3, Table 2.

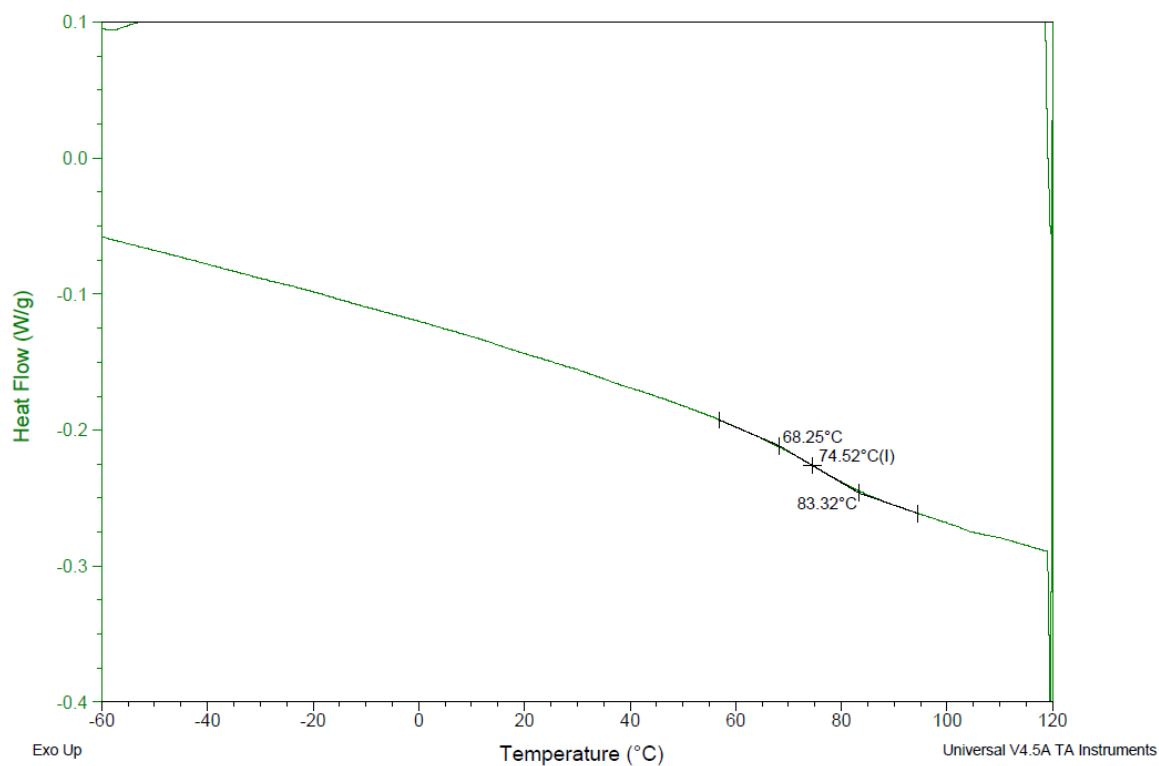


Figure S26. DSC thermogram (3rd heat cycle) of P8 after enzymatic degradation, run 4, Table 2.

TGA

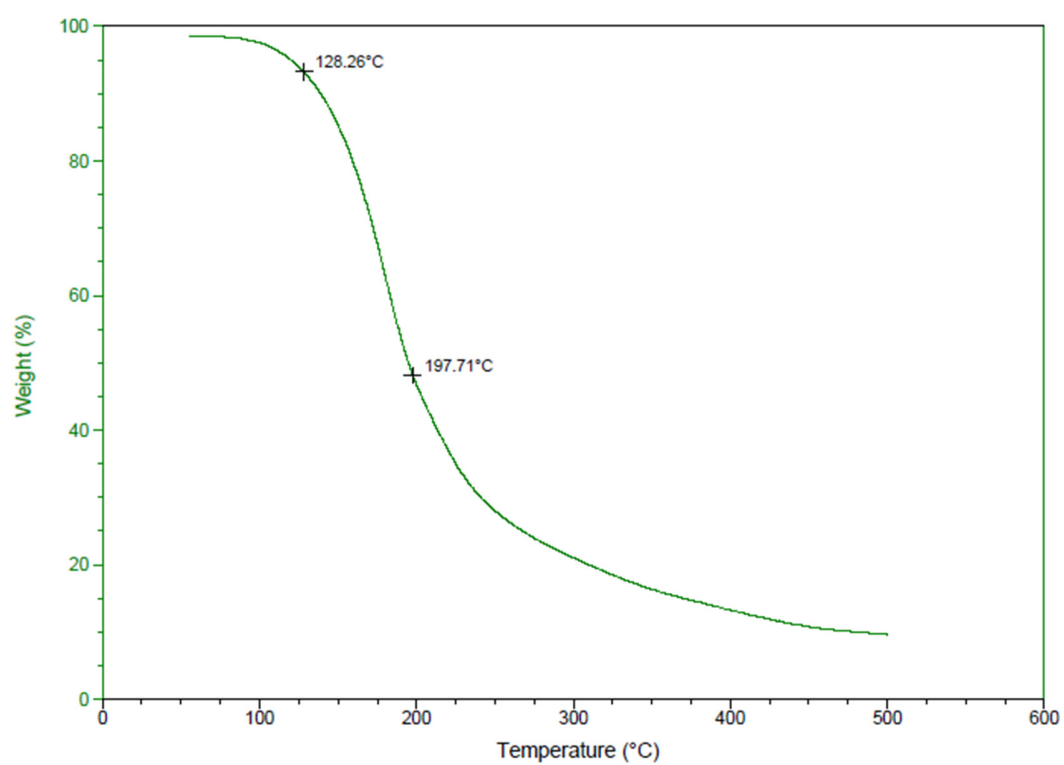


Figure S27. TGA thermogram of P5, run 1, Table 1.

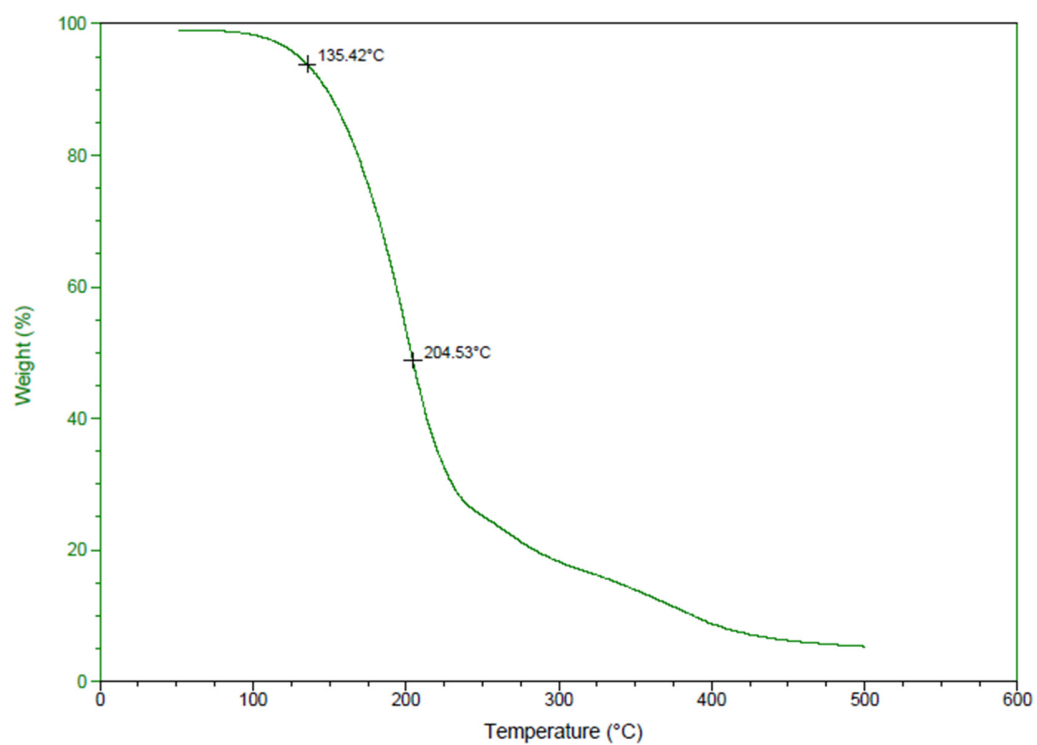


Figure S28. TGA thermogram of P6, run 2, Table 1.

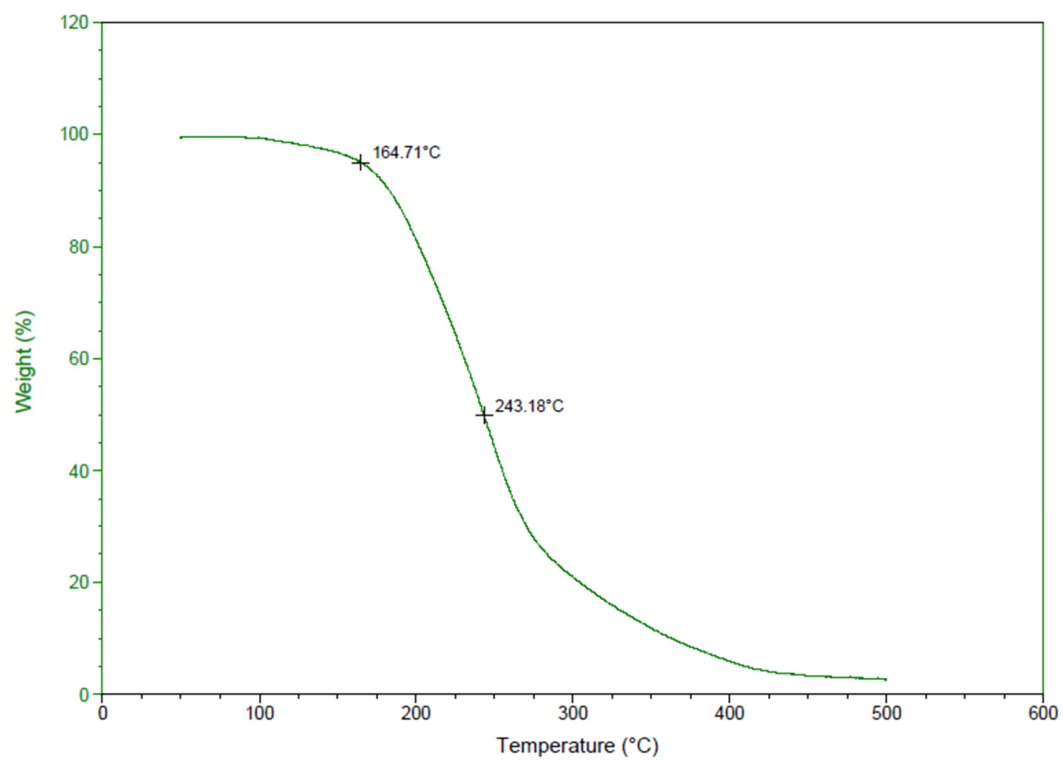


Figure S29. TGA thermogram of P7, run 3, Table 1.

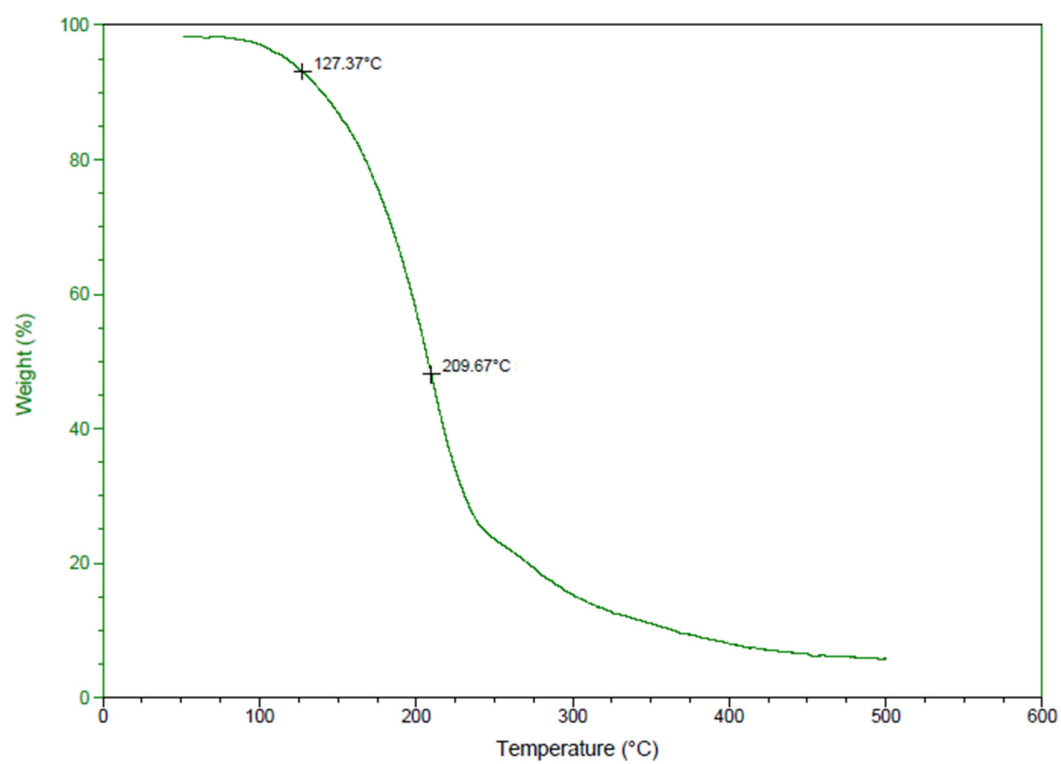


Figure S30. TGA thermogram of P8, run 4, Table 1.

SEC

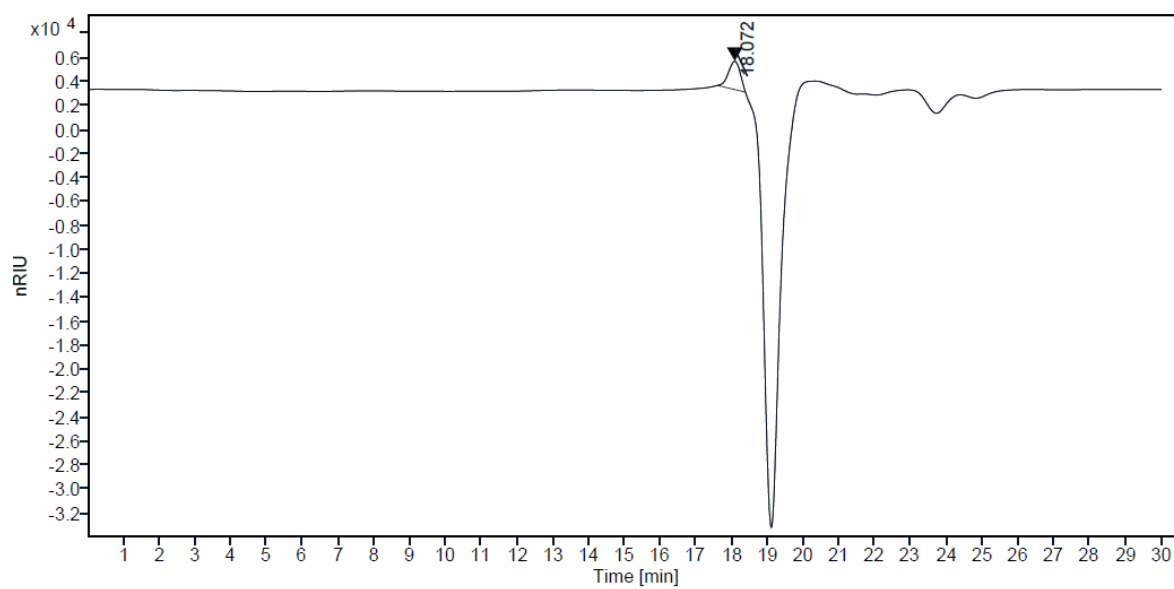


Figure S31. SEC trace of the resulting product of P5 after enzymatic degradation.

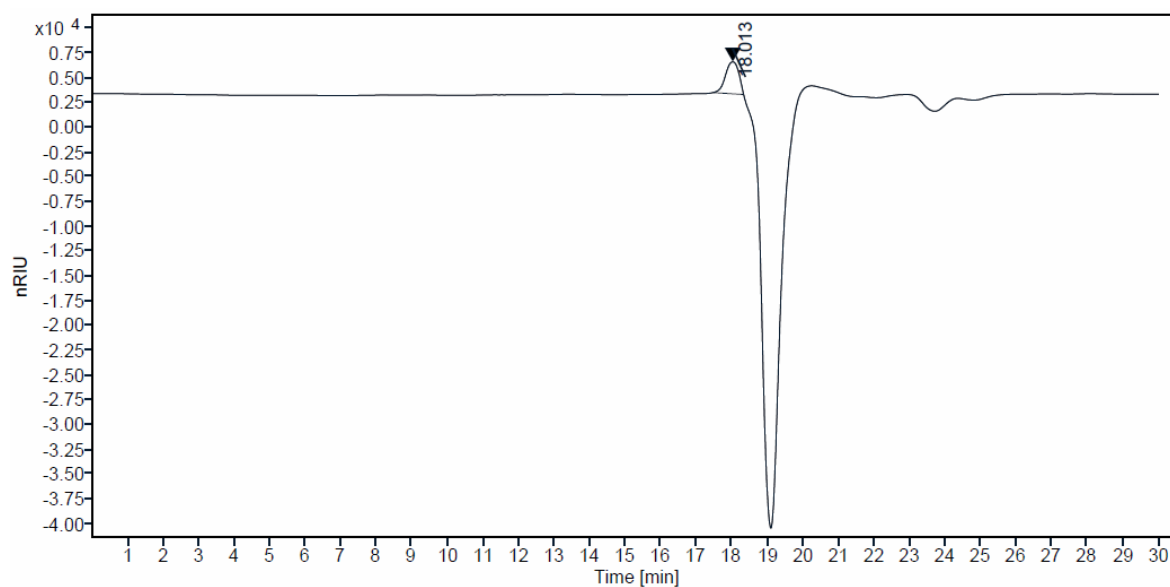


Figure S32. SEC trace of the resulting product of P6 after enzymatic degradation.

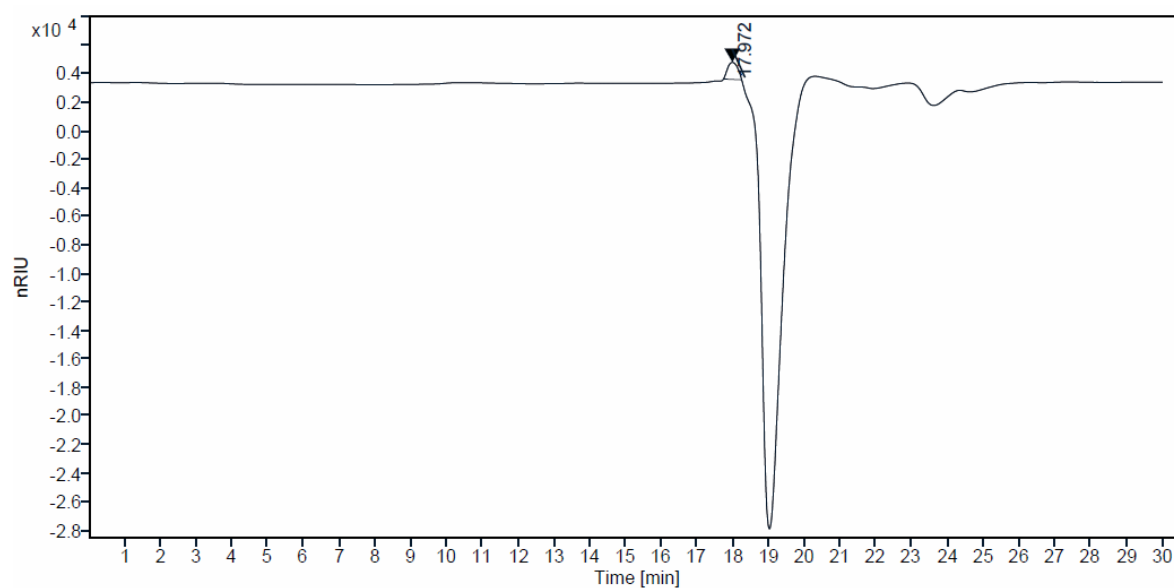


Figure S33. SEC trace of the resulting product of P7 after enzymatic degradation.

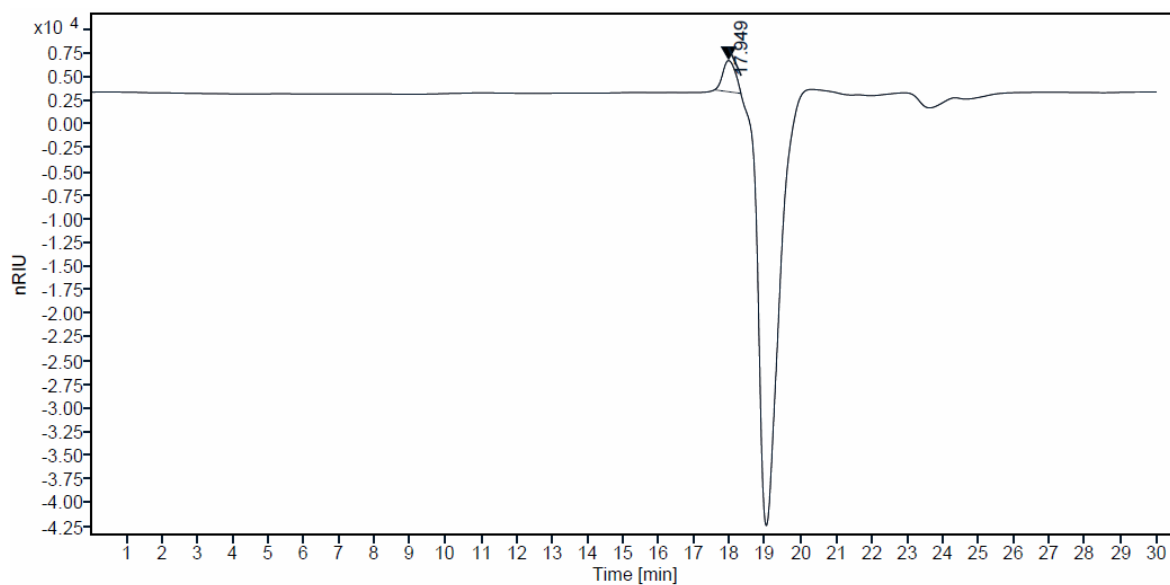


Figure S34. SEC trace of the resulting product of P8 after enzymatic degradation.