

Figure S1. The results of FTIR spectroscopy for the products of oligomerization 3-buten-2-ol obtained using  $[\text{VO}(\text{TDA})(\text{phen})] \cdot 1.5 \text{ H}_2\text{O}$ .

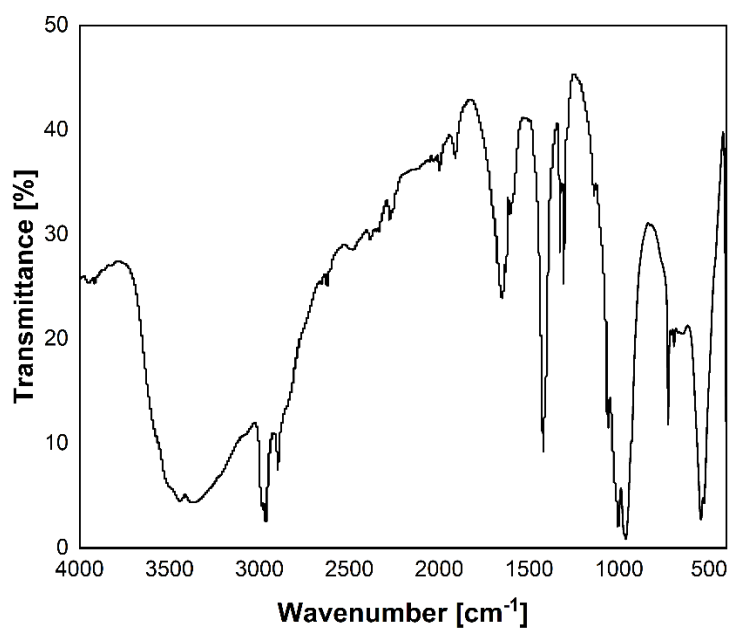


Figure S2. The results of FTIR spectroscopy for the products of oligomerization 3-buten-2-ol obtained using [VOO(dipic)(2-phepyH)] • H<sub>2</sub>O.

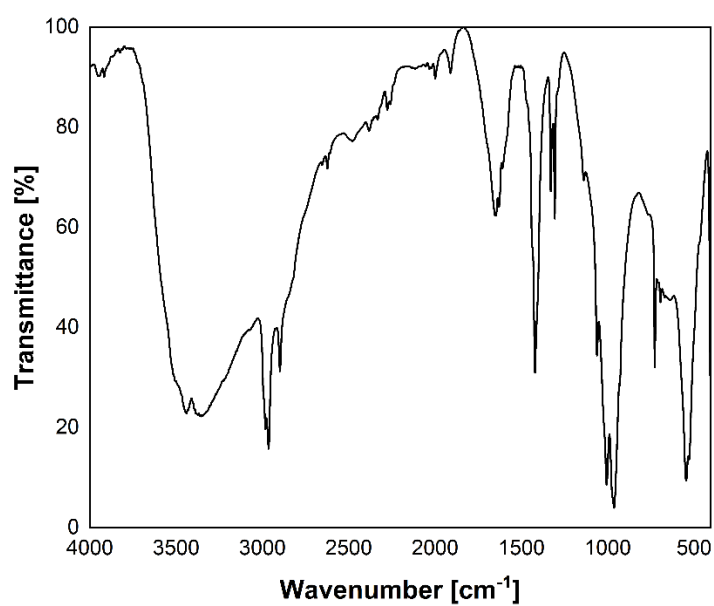


Figure S3. The results of FTIR spectroscopy for the products of oligomerization 3-buten-2-ol obtained using [VO(dipic)(dmbipy)] • 2 H<sub>2</sub>O.

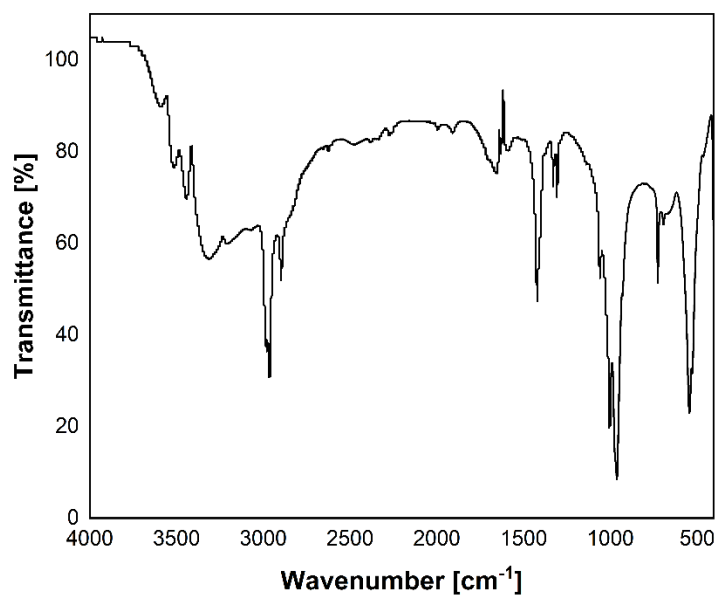


Figure S4. The results of FTIR spectroscopy for the products of oligomerization 3-buten-2-ol obtained using  $[\text{VO}(\text{ODA})\text{bipy}] \cdot 2 \text{H}_2\text{O}$ .

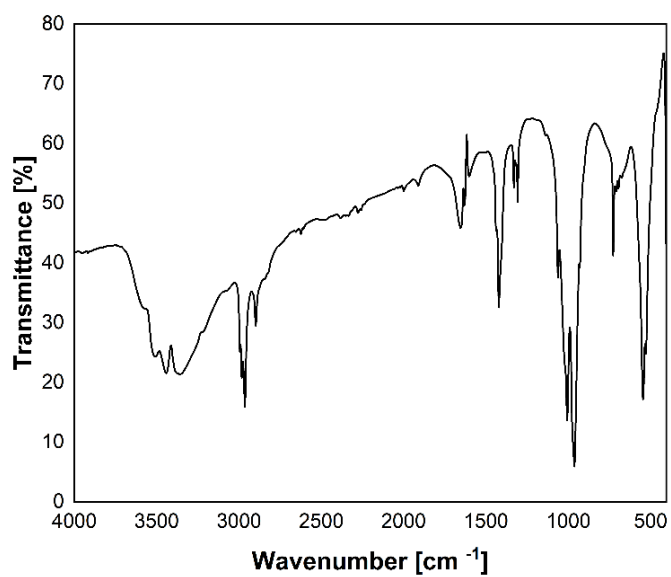


Figure S5. The results of FTIR spectroscopy for the products of oligomerization allyl alcohol obtained using  $[\text{VO}(\text{TDA})(\text{phen})] \cdot 1.5 \text{H}_2\text{O}$ .

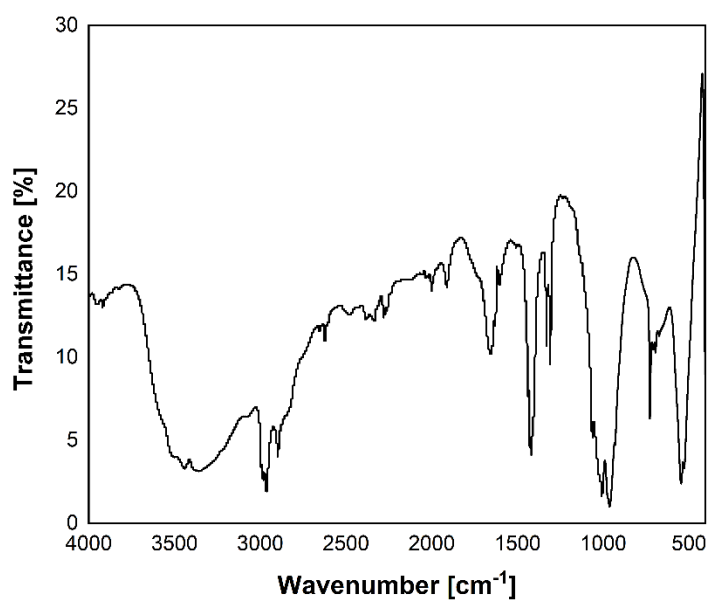


Figure S6. The results of FTIR spectroscopy for the products of oligomerization allyl alcohol obtained using [VOO(dipic)(2-phepyH)] • H<sub>2</sub>O.

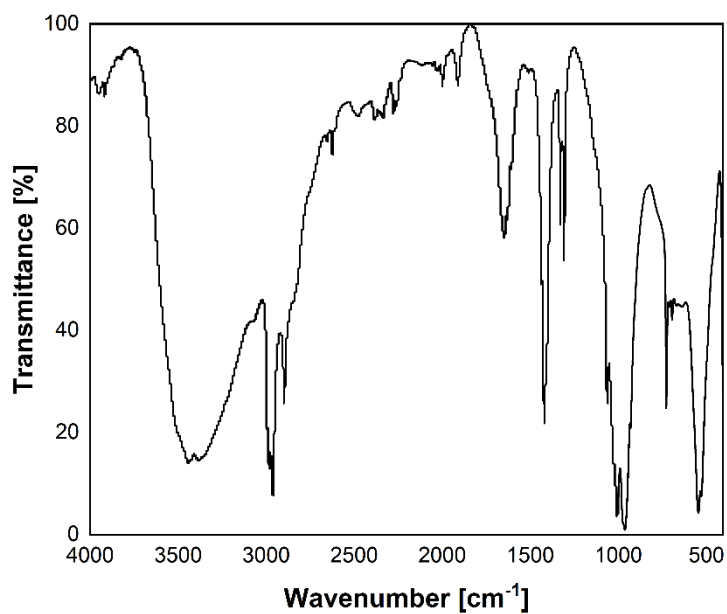


Figure S7. The results of FTIR spectroscopy for the products of oligomerization allyl alcohol obtained using [VO(dipic)(dmbipy)] • 2 H<sub>2</sub>O.

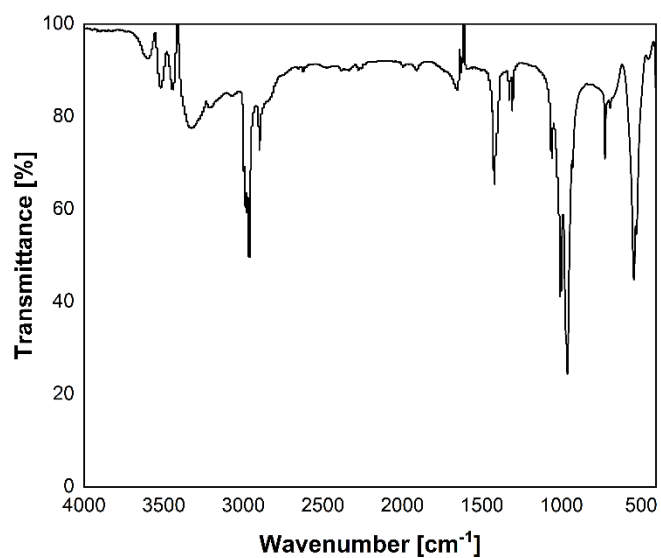


Figure S8. The results of FTIR spectroscopy for the products of oligomerization allyl alcohol obtained using  $[\text{VO}(\text{ODA})\text{bipy}] \cdot 2 \text{H}_2\text{O}$ .

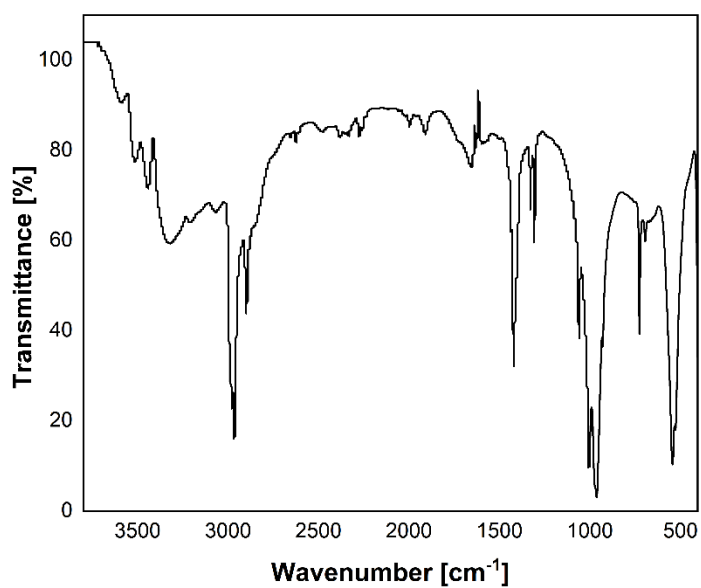


Figure S9. The results of FTIR spectroscopy for the products of oligomerization 2,3-dibromo-2-propen-1-ol obtained using  $[\text{VO}(\text{TDA})(\text{phen})] \cdot 1.5 \text{H}_2\text{O}$ .

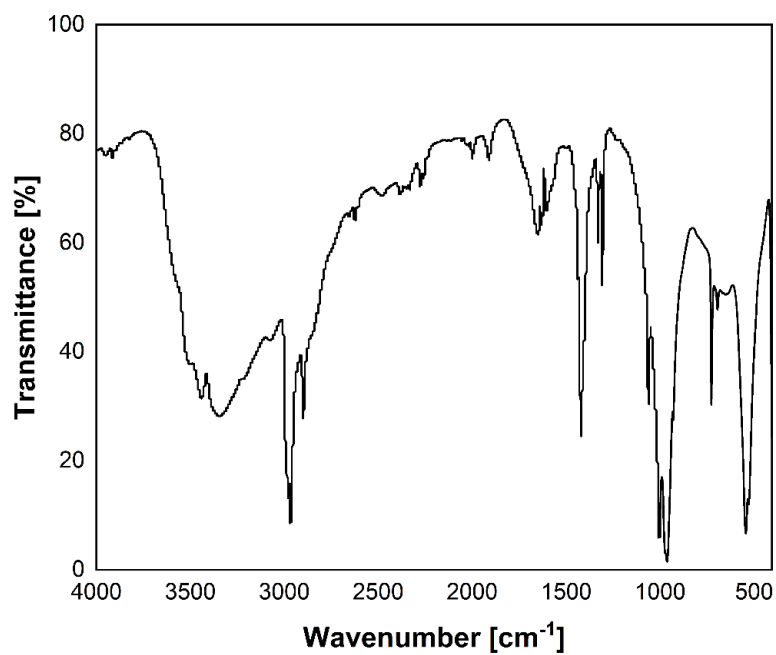


Figure S10. The results of FTIR spectroscopy for the products of oligomerization 2,3-dibromo-2-propen-1-ol obtained using  $[\text{VOO}(\text{dipic})(2\text{-phepyH})] \cdot \text{H}_2\text{O}$ .

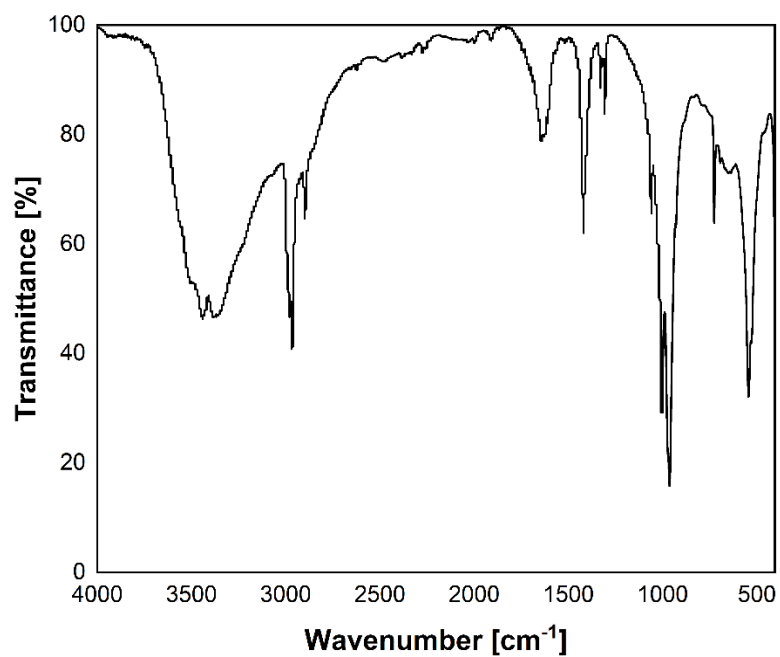


Figure S11. The results of FTIR spectroscopy for the products of oligomerization 2,3-dibromo-2-propen-1-ol obtained using  $[\text{VO}(\text{dipic})(\text{dmbipy})] \cdot 2 \text{H}_2\text{O}$ .

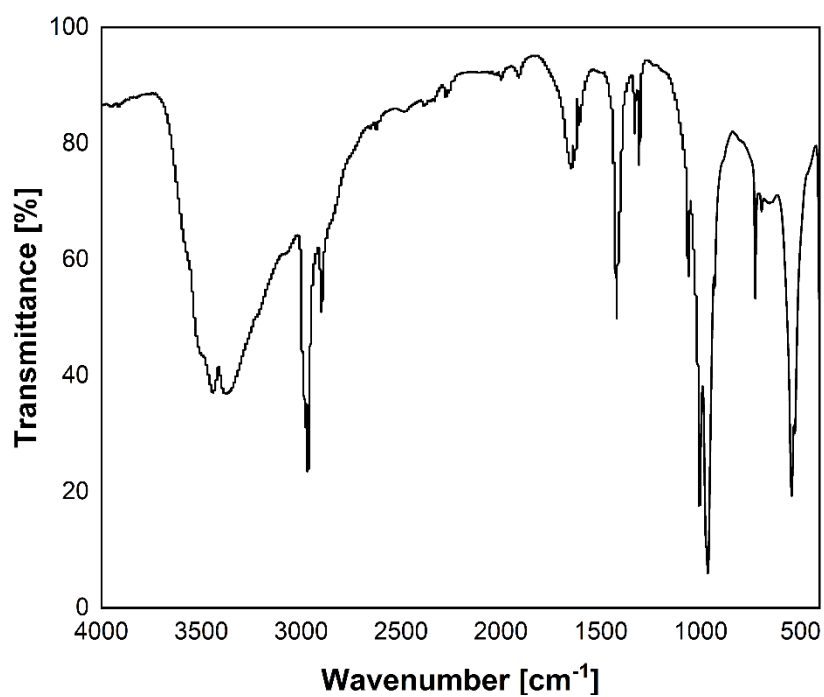


Figure S12. The results of FTIR spectroscopy for the products of oligomerization 2,3-dibromo-2-propen-1-ol obtained using  $[\text{VO}(\text{ODA})\text{bipy}] \cdot 2 \text{H}_2\text{O}$ .

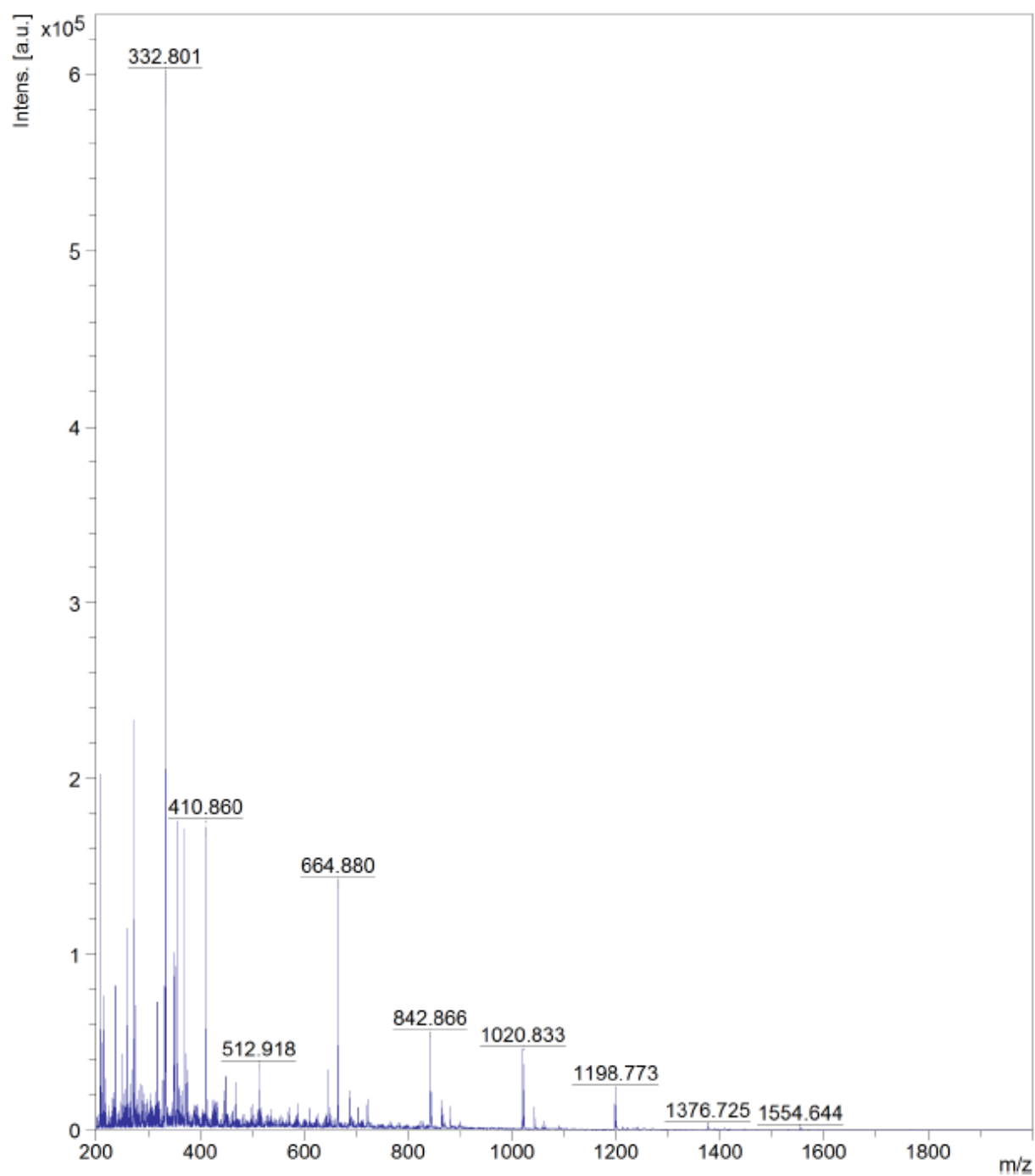


Figure S13. The MALDI-TOF-MS spectrum of the 3-buten-2-ol oligomer obtained using [VO(TDA)(phen)] • 1.5 H<sub>2</sub>O.

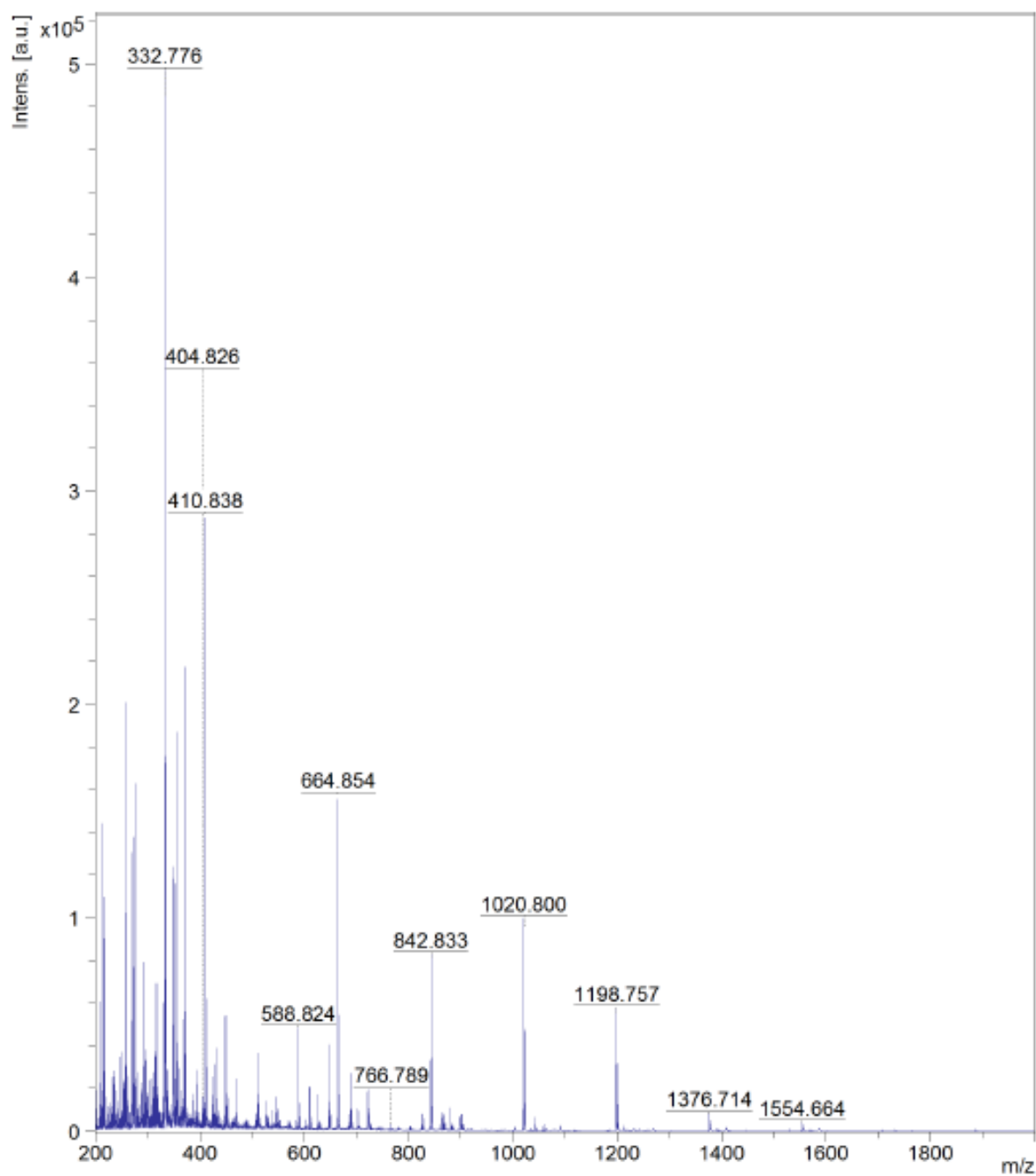


Figure S14. The MALDI-TOF-MS spectrum of the allyl alcohol oligomer obtained using  $[\text{VO}(\text{TDA})(\text{phen})] \cdot 1.5 \text{ H}_2\text{O}$ .

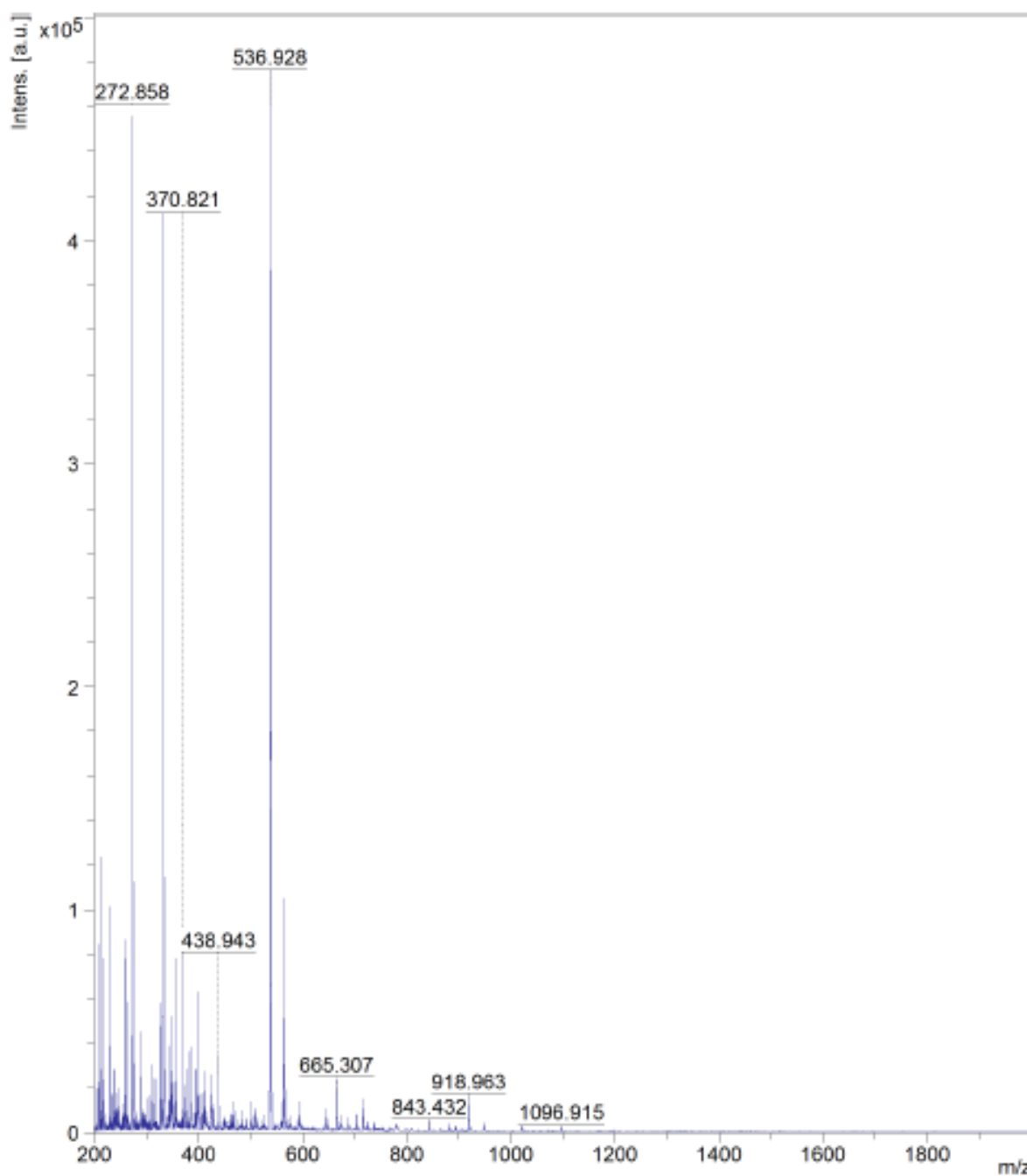


Figure S15. The MALDI-TOF-MS spectrum of the 2,3-dibromo-2-propen-1-ol oligomer obtained using  $[\text{VO}(\text{TDA})(\text{phen})] \cdot 1.5 \text{ H}_2\text{O}$ .

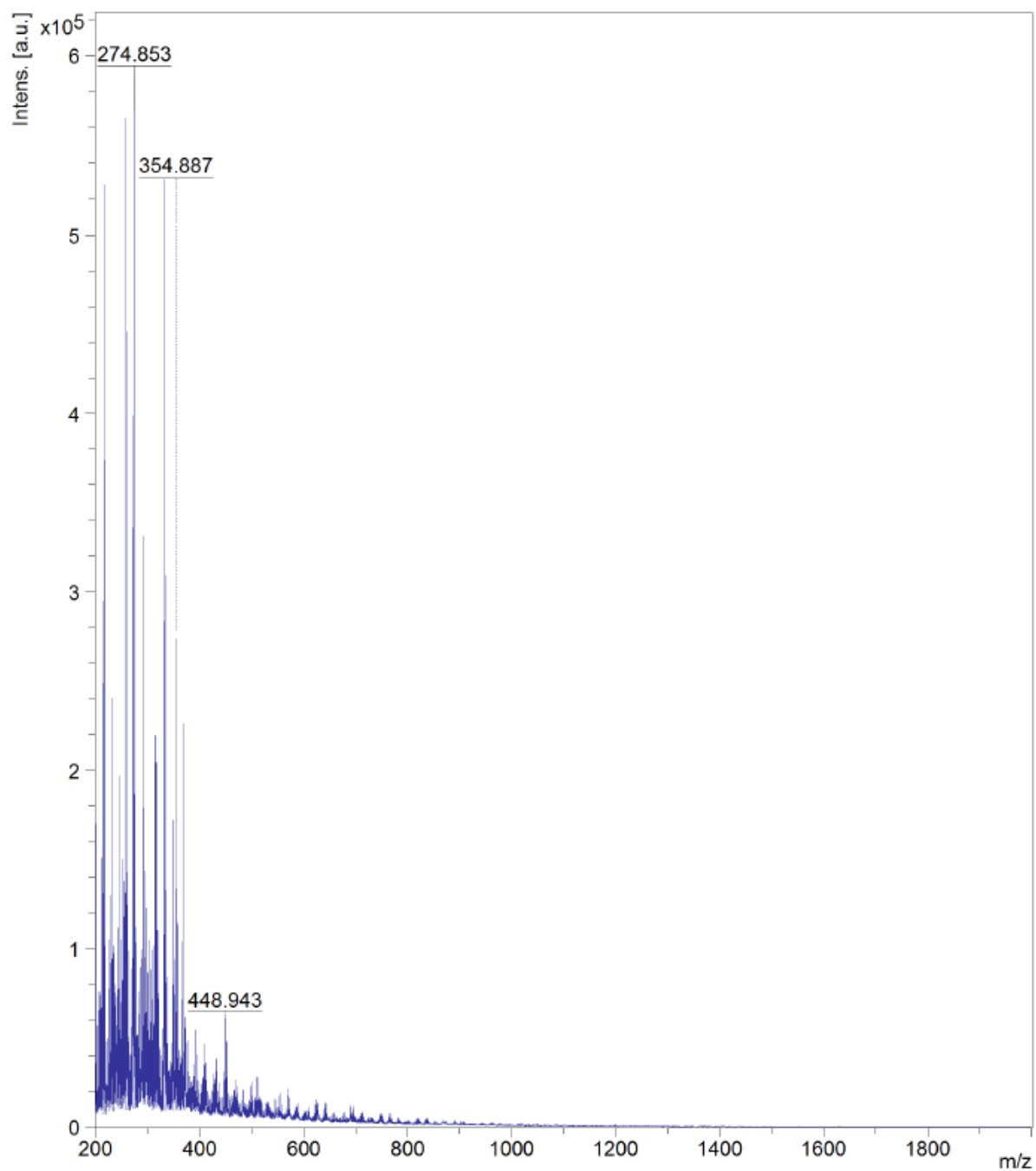


Figure S16. The MALDI-TOF-MS spectrum of the 3-buten-2-ol oligomer obtained using [VOO(dipic)(2-phepyH)]  $\cdot$  H<sub>2</sub>O.

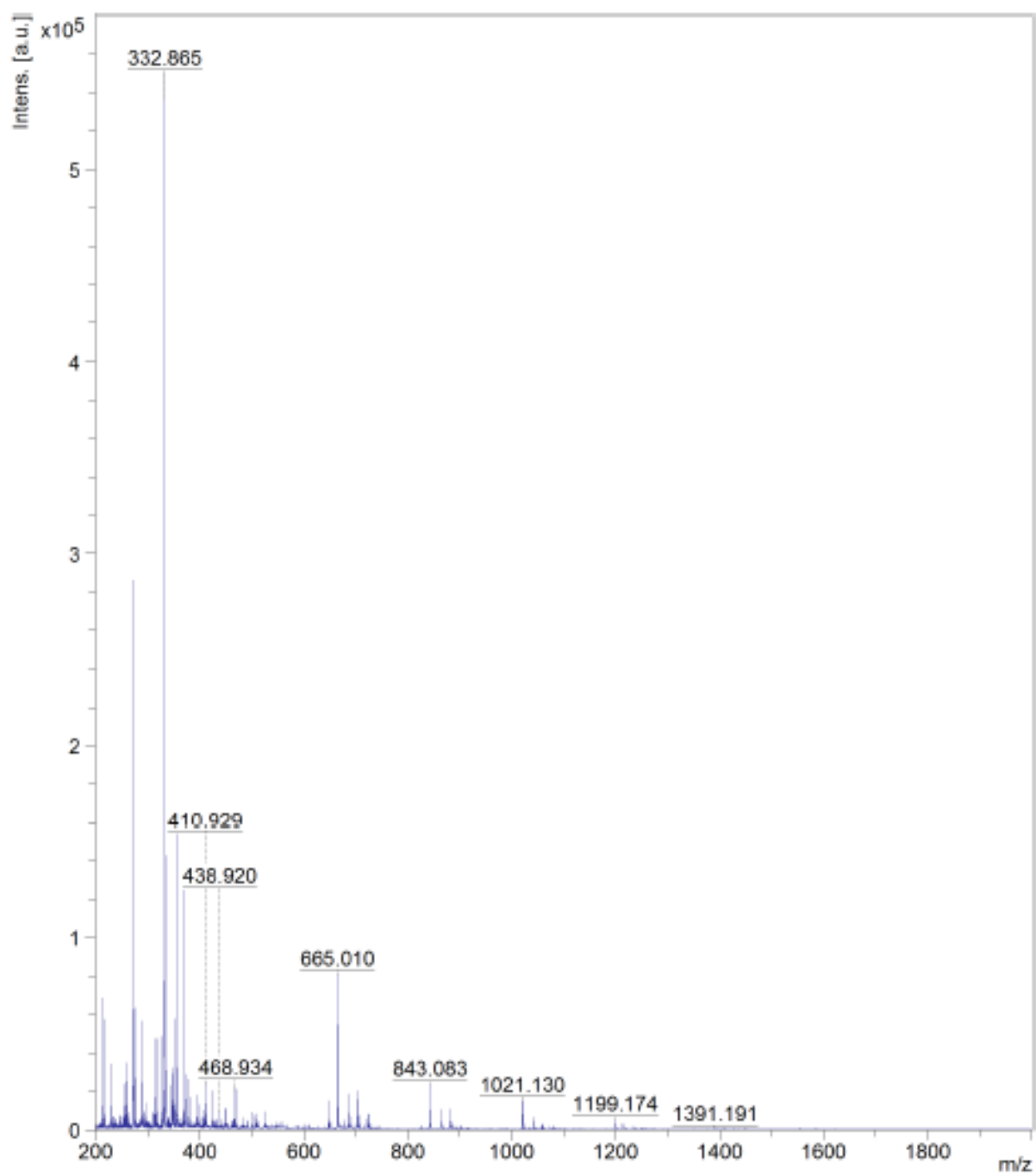


Figure S17. The MALDI-TOF-MS spectrum of the allyl alcohol oligomer obtained using [VOO(dipic)(2-phepyH)] • H<sub>2</sub>O.

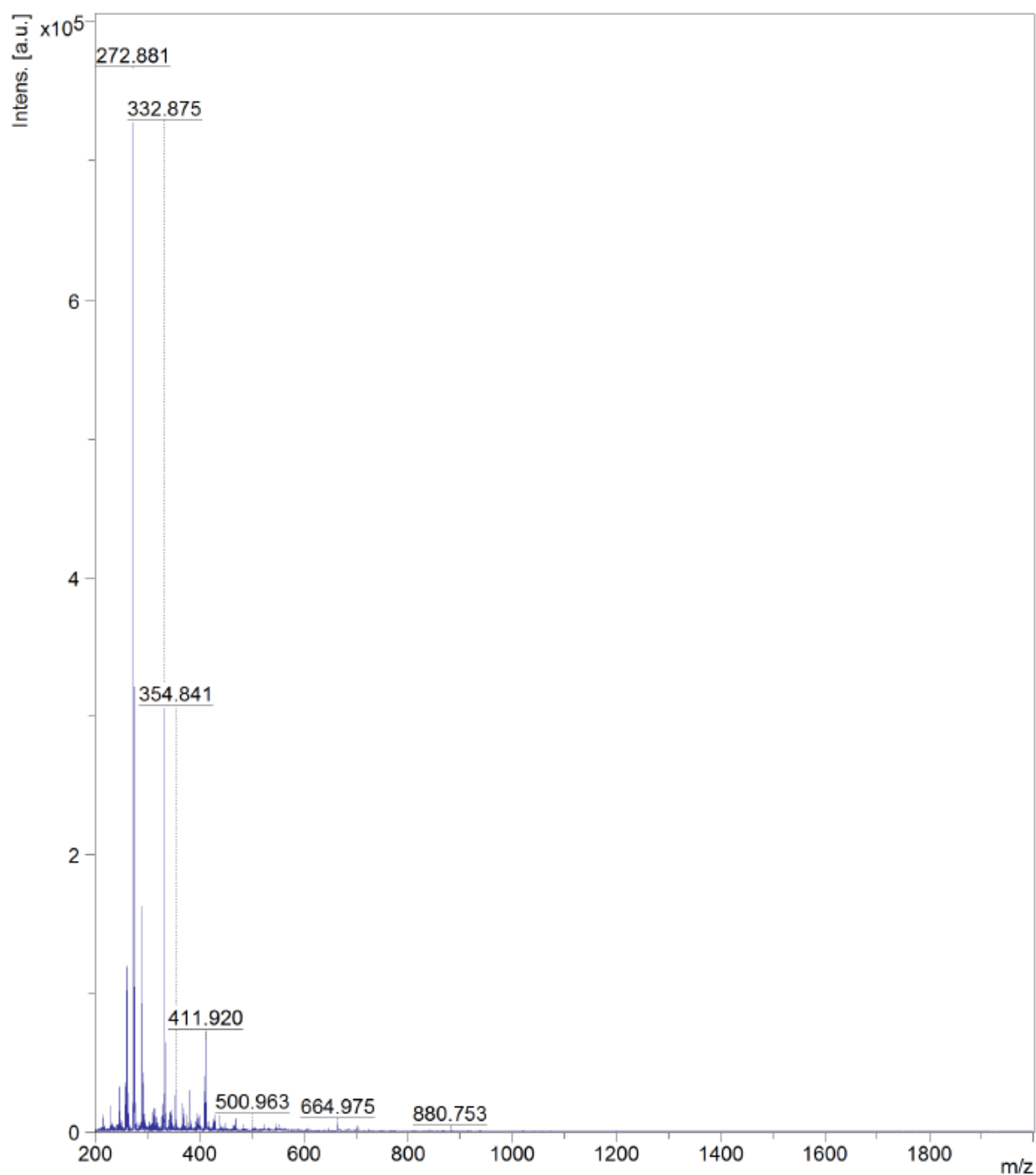


Figure S18. The MALDI-TOF-MS spectrum of the 2,3-dibromo-2-propen-1-ol oligomer obtained using [VOO(dipic)(2-phepyH)]  $\cdot$  H<sub>2</sub>O.

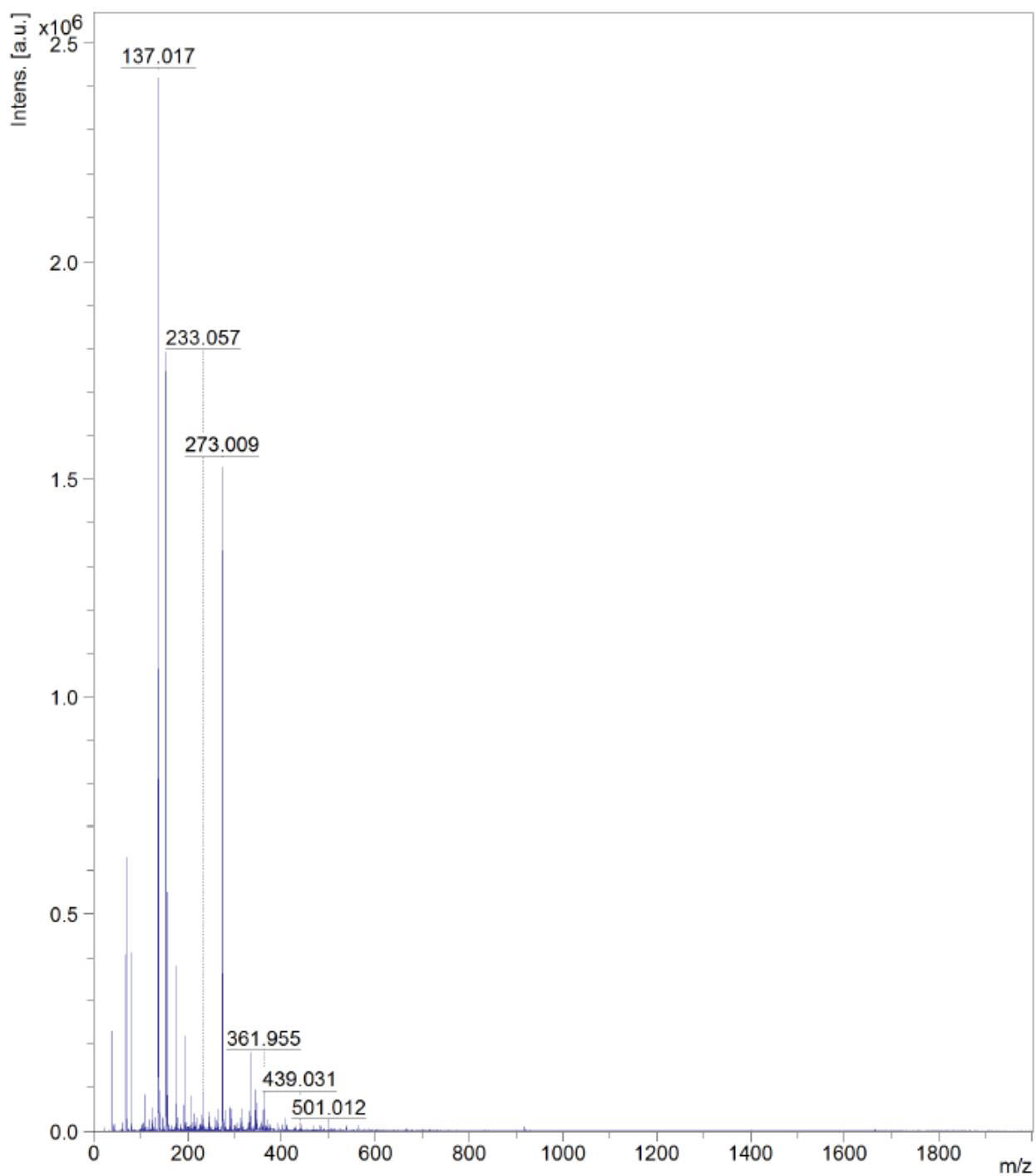


Figure S19. The MALDI-TOF-MS spectrum of the 3-buten-2-ol oligomer obtained using  $[\text{VO}(\text{dipic})(\text{dmbipy})] \cdot 2 \text{H}_2\text{O}$ .

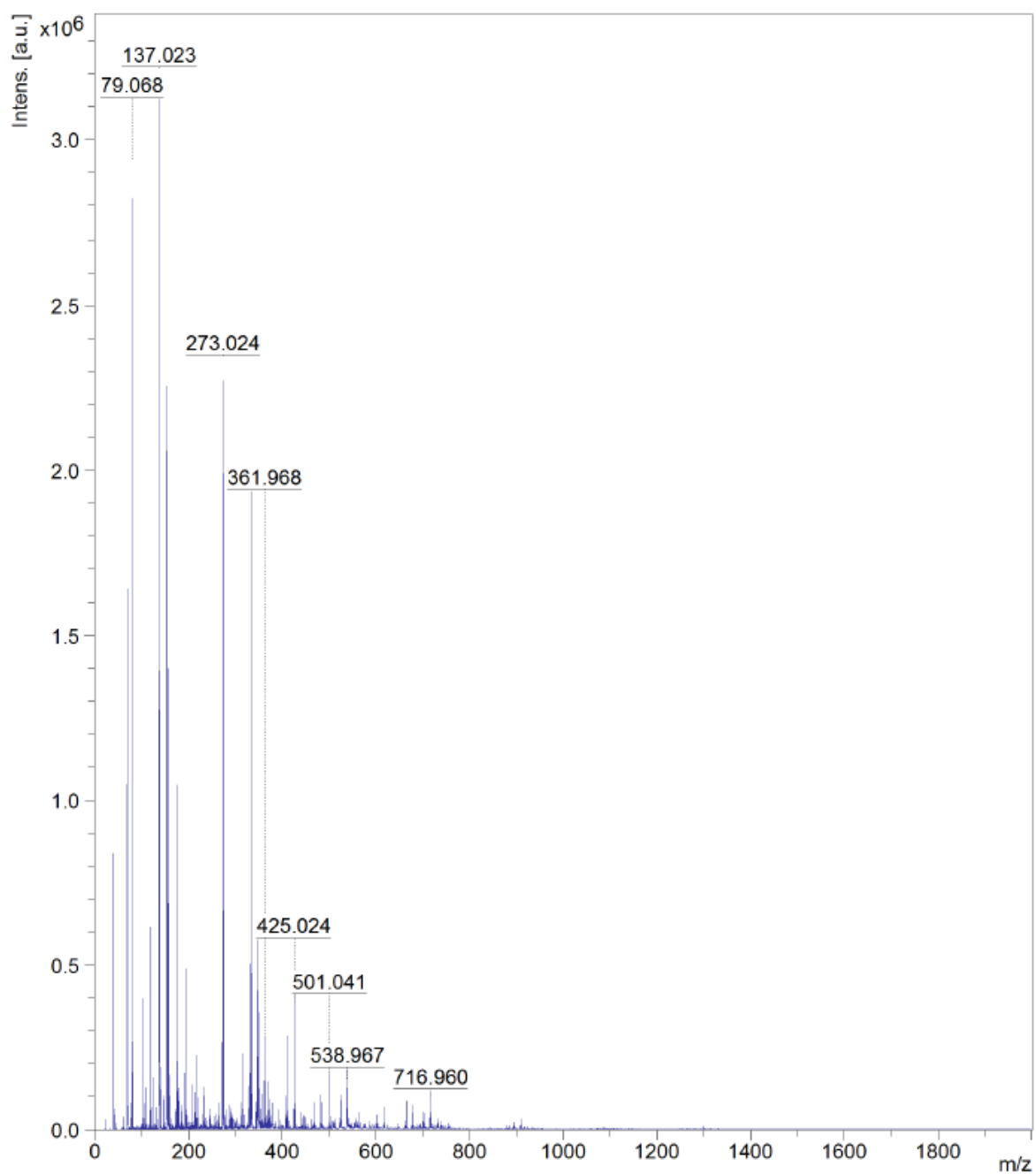


Figure S20. The MALDI-TOF-MS spectrum of the allyl alcohol oligomer obtained using  $[\text{VO}(\text{dipic})(\text{dmbipy})] \cdot 2 \text{H}_2\text{O}$ .

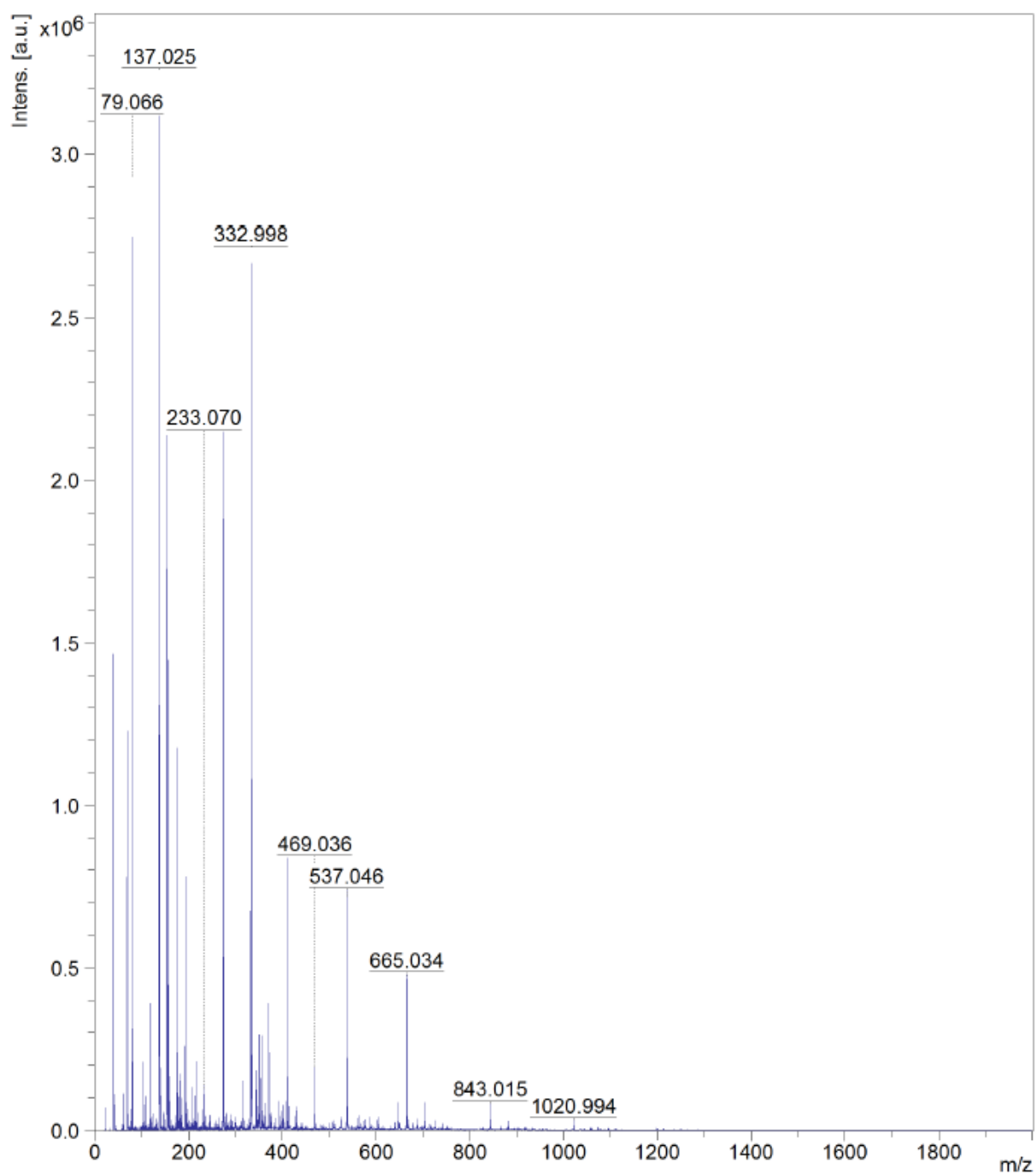


Figure S21. The MALDI-TOF-MS spectrum of the 2,3-dibromo-2-propen-1-ol oligomer obtained using  $[\text{VO}(\text{dipic})(\text{dmbipy})] \cdot 2 \text{H}_2\text{O}$ .

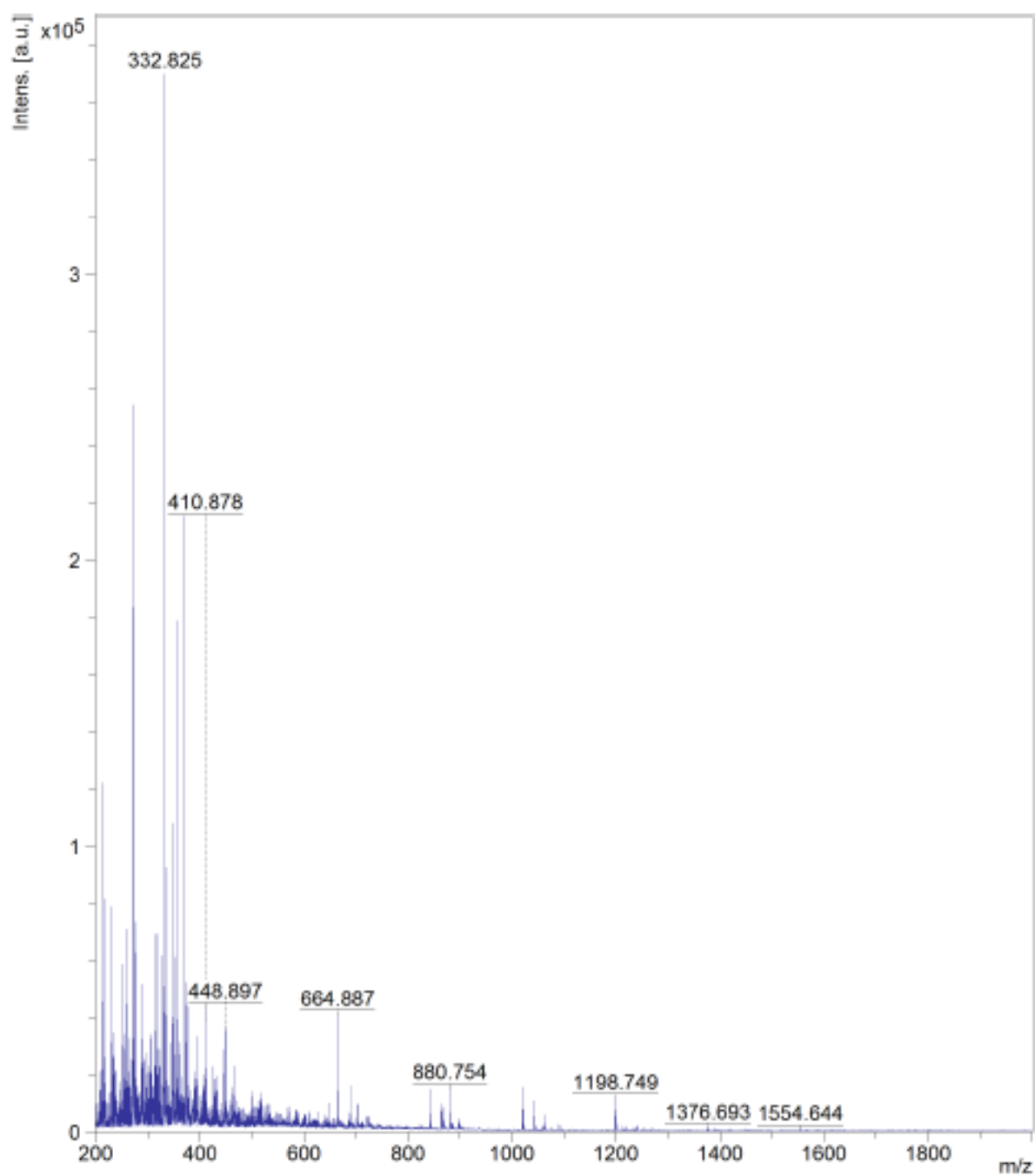


Figure S22. The MALDI-TOF-MS spectrum of the 3-buten-2-ol oligomer obtained using  $[\text{VO}(\text{ODA})\text{bipy}] \cdot 2 \text{H}_2\text{O}$ .

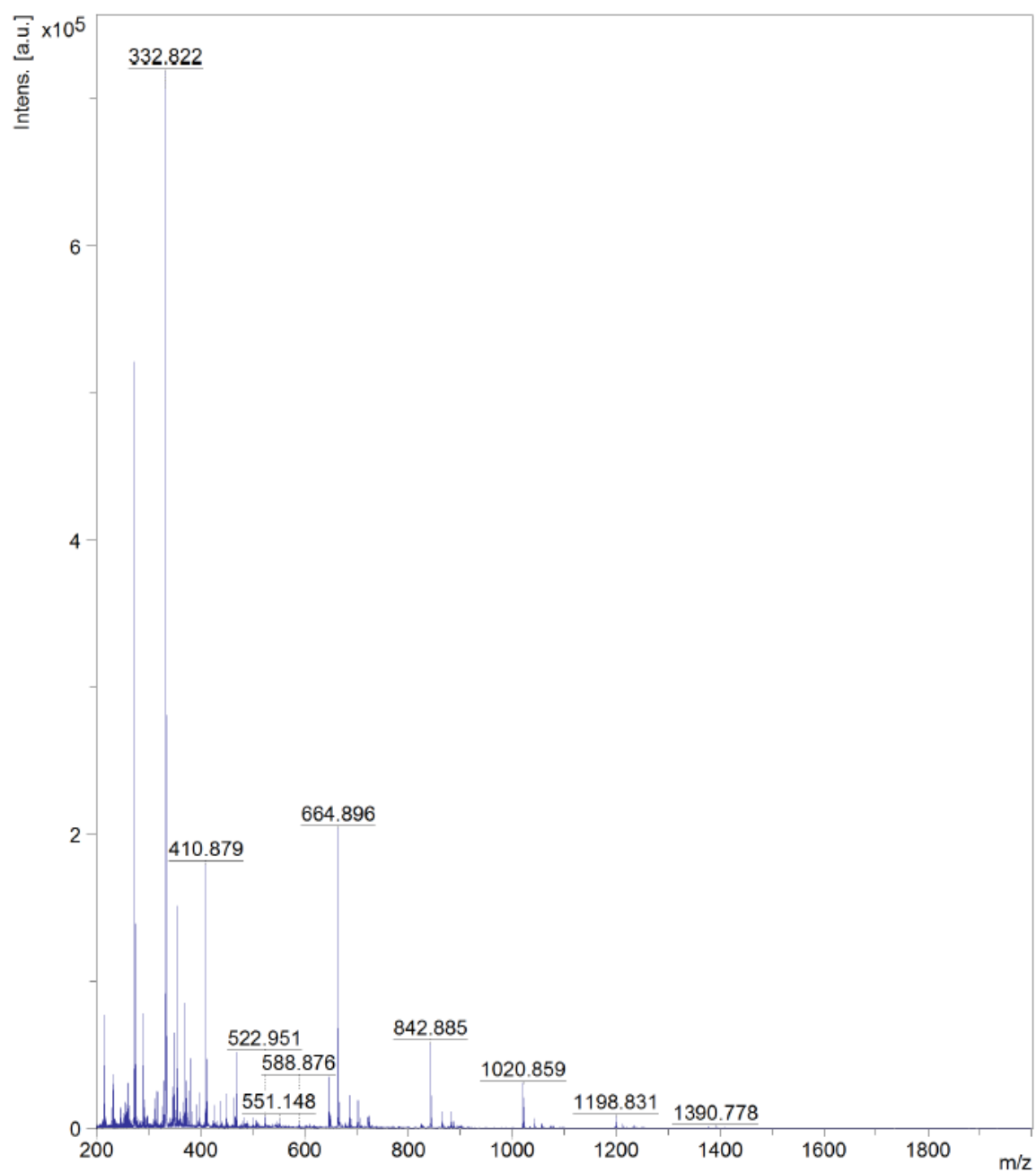


Figure S23. The MALDI-TOF-MS spectrum of the allyl alcohol oligomer obtained using  $[\text{VO}(\text{ODA})\text{bipy}] \cdot 2 \text{H}_2\text{O}$ .

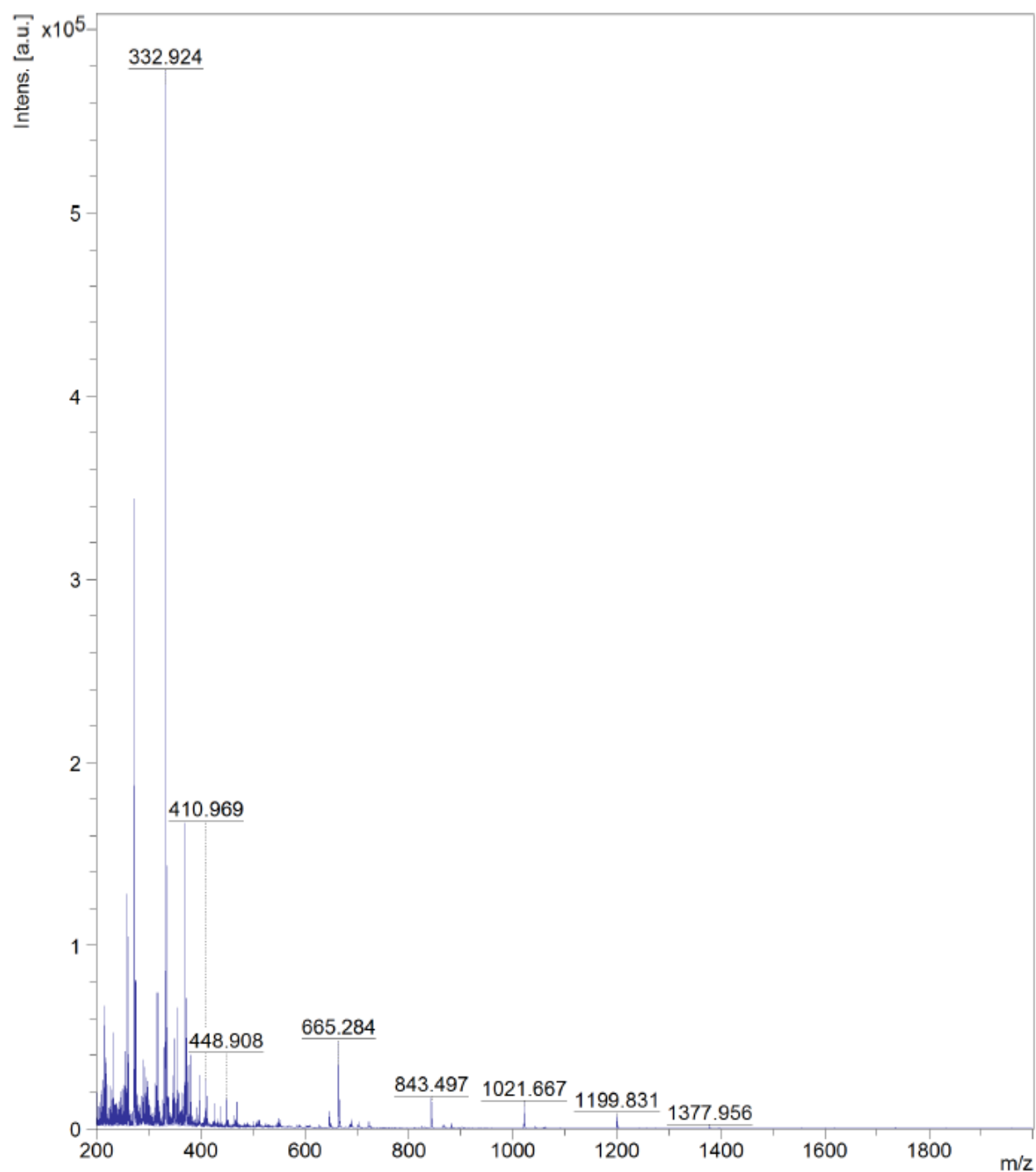


Figure S24. The MALDI-TOF-MS spectrum of the 2,3-dibromo-2-propen-1-ol oligomer obtained using [VO(ODA)bipy] • 2 H<sub>2</sub>O.

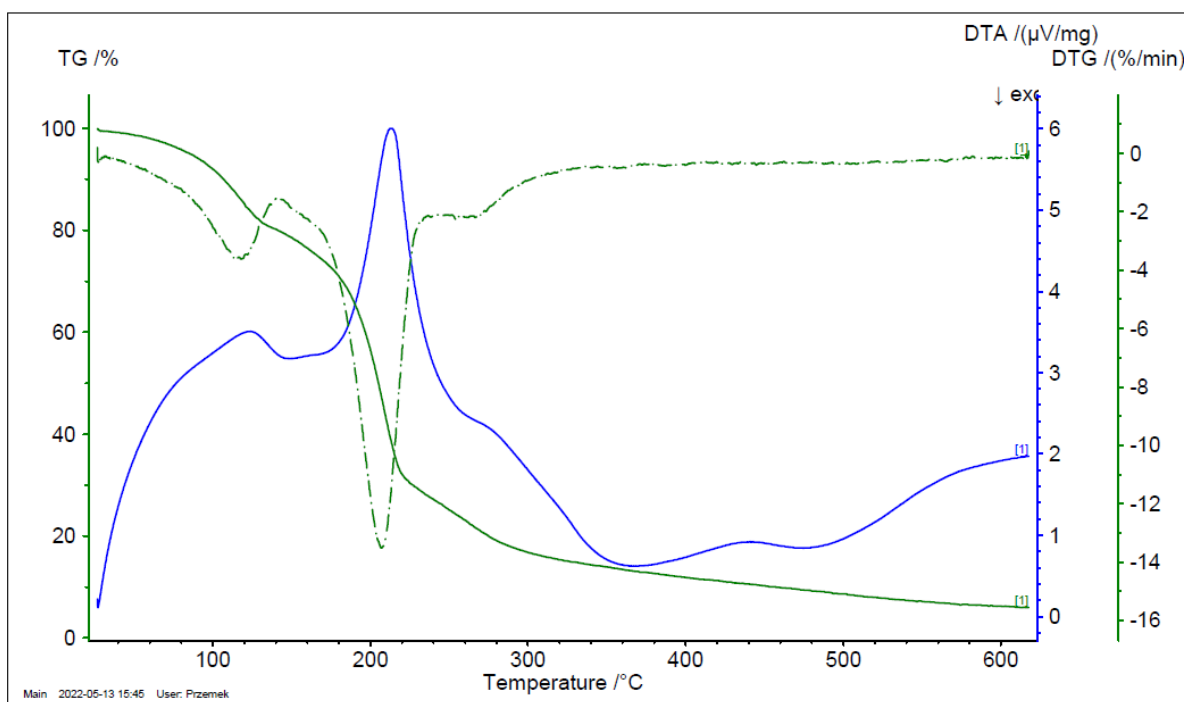


Figure S25. The TG spectrum of the 3-buten-2-ol oligomer obtained using  $[\text{VO}(\text{TDA})\text{phen}] \cdot 1.5 \text{ H}_2\text{O}$ .

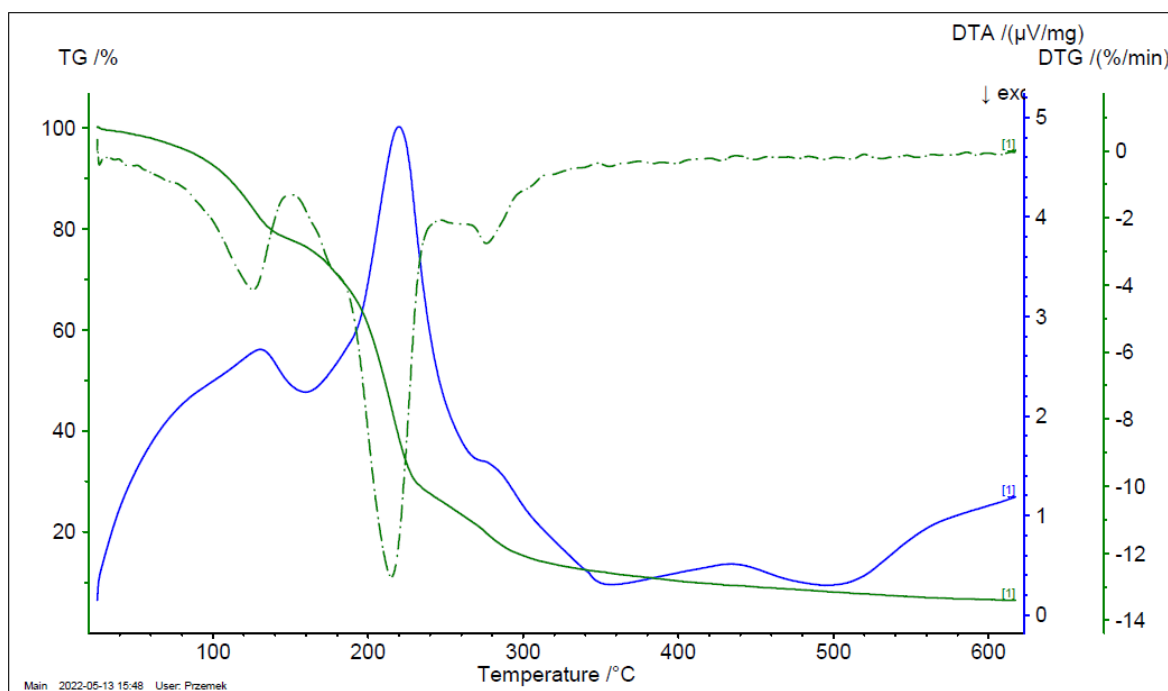


Figure S26. The TG spectrum of the allyl alcohol oligomer obtained using  $[\text{VO}(\text{TDA})\text{phen}] \cdot 1.5 \text{ H}_2\text{O}$ .

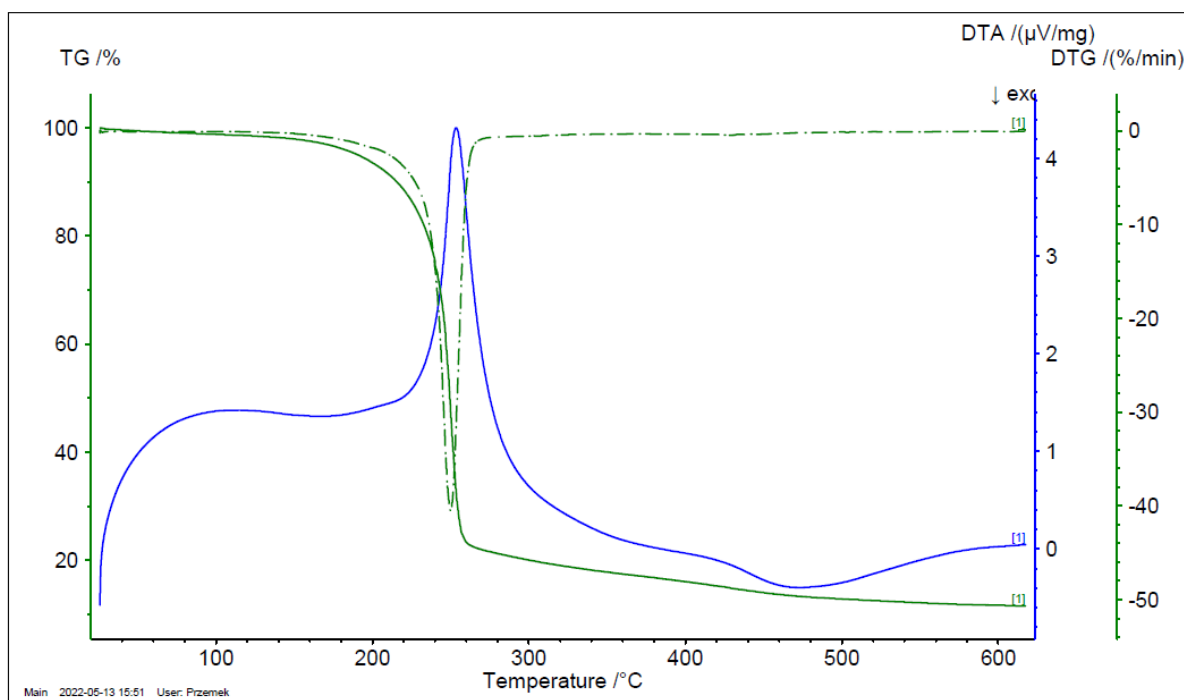


Figure S27. The TG spectrum of the 2,3-dibromo-2-propen-1-ol oligomer obtained using  $[\text{VO}(\text{TDA})\text{phen}] \cdot 1.5 \text{ H}_2\text{O}$ .

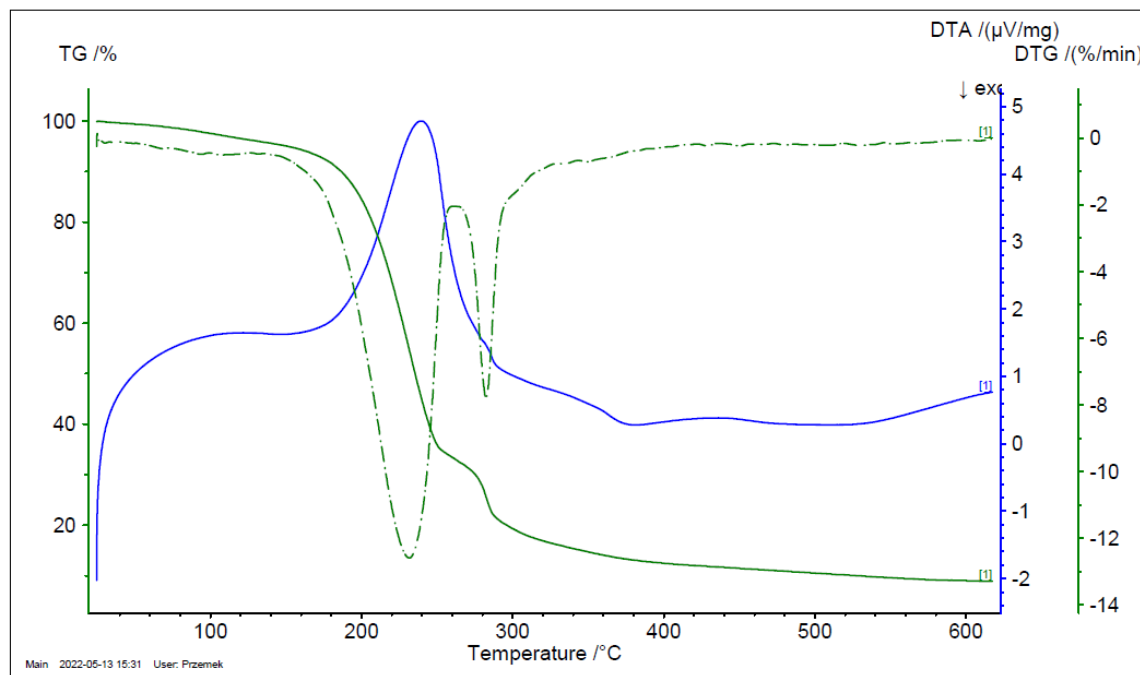


Figure S28. The TG spectrum of the 3-buten-2-ol oligomer obtained using  $[\text{VOO}(\text{dipic})(2\text{-phepyH})] \cdot \text{H}_2\text{O}$ .

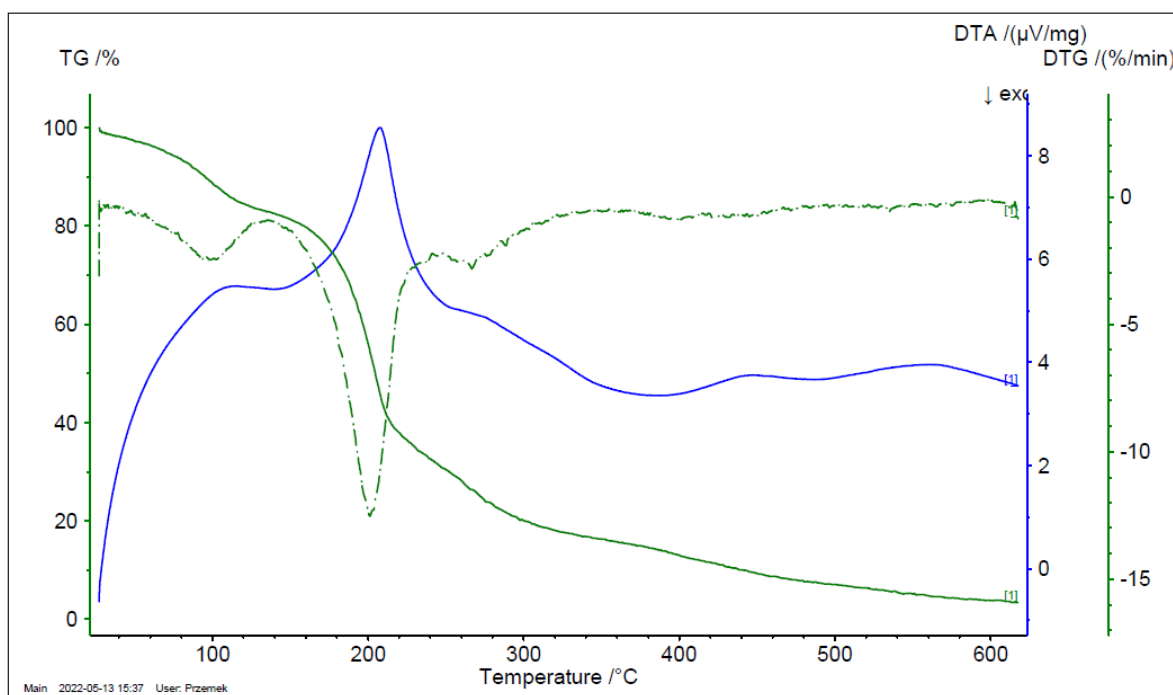


Figure S29. The TG spectrum of the allyl alcohol oligomer obtained using  $[\text{VOO}(\text{dipic})(2\text{-phepyH})] \cdot \text{H}_2\text{O}$ .

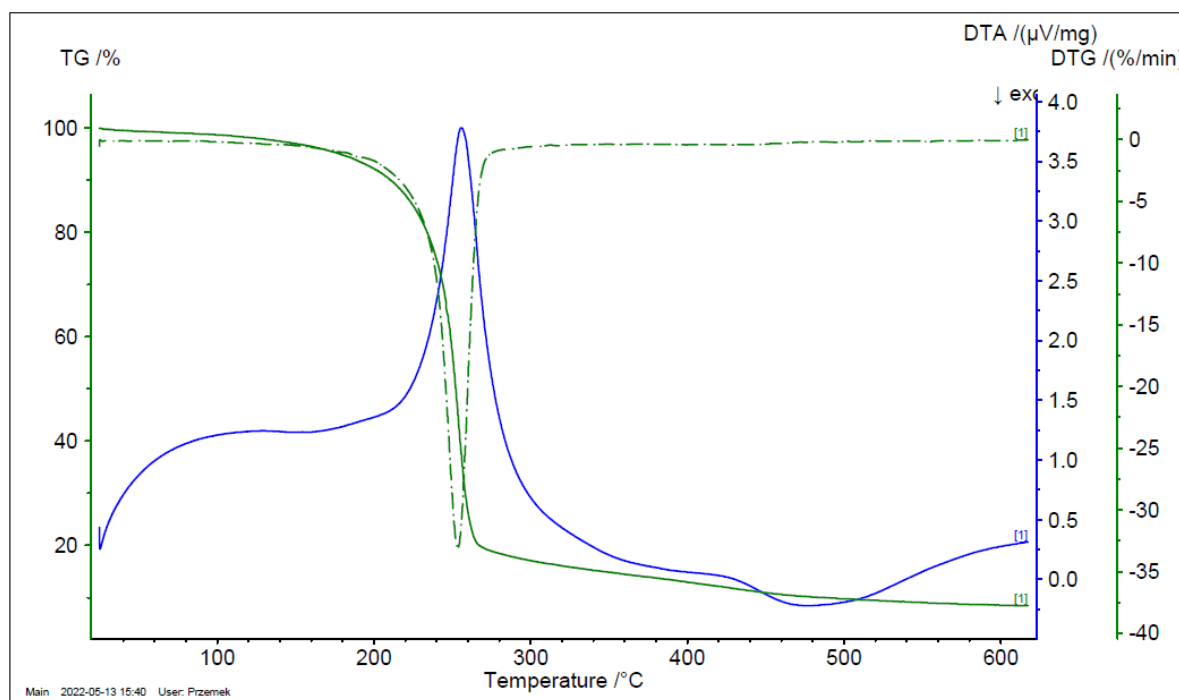


Figure S30 The TG spectrum of the 2,3-dibromo-2-propen-1-ol oligomer obtained using  $[\text{VOO}(\text{dipic})(2\text{-phepyH})] \cdot \text{H}_2\text{O}$ .

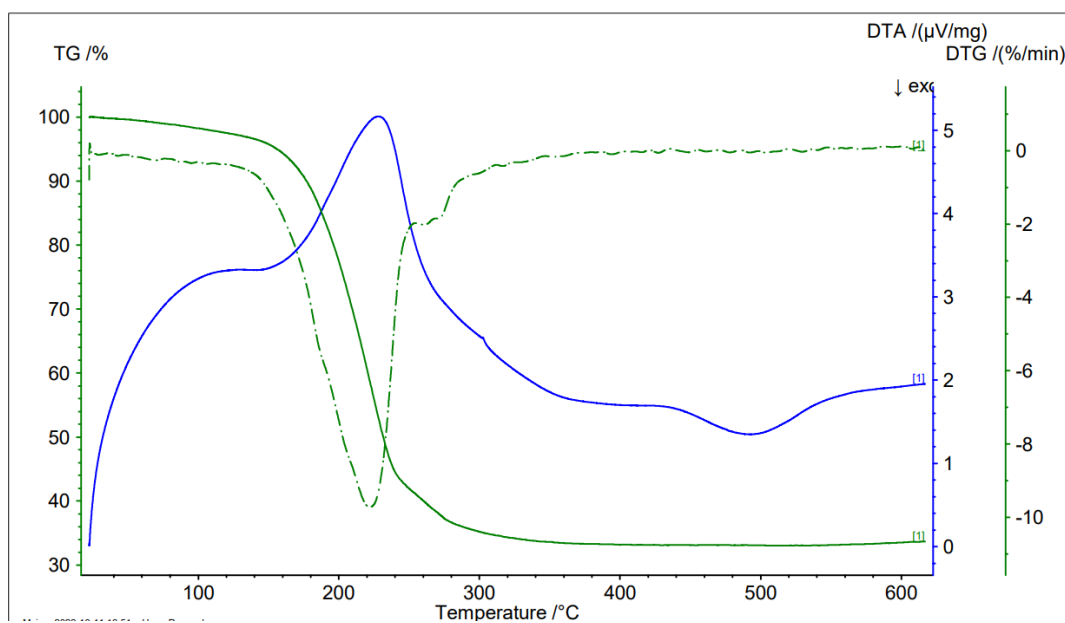


Figure S31. The TG spectrum of the 3-buten-2-ol oligomer obtained using  $[\text{VO}(\text{dipic})(\text{dmbipy})] \cdot 2 \text{H}_2\text{O}$

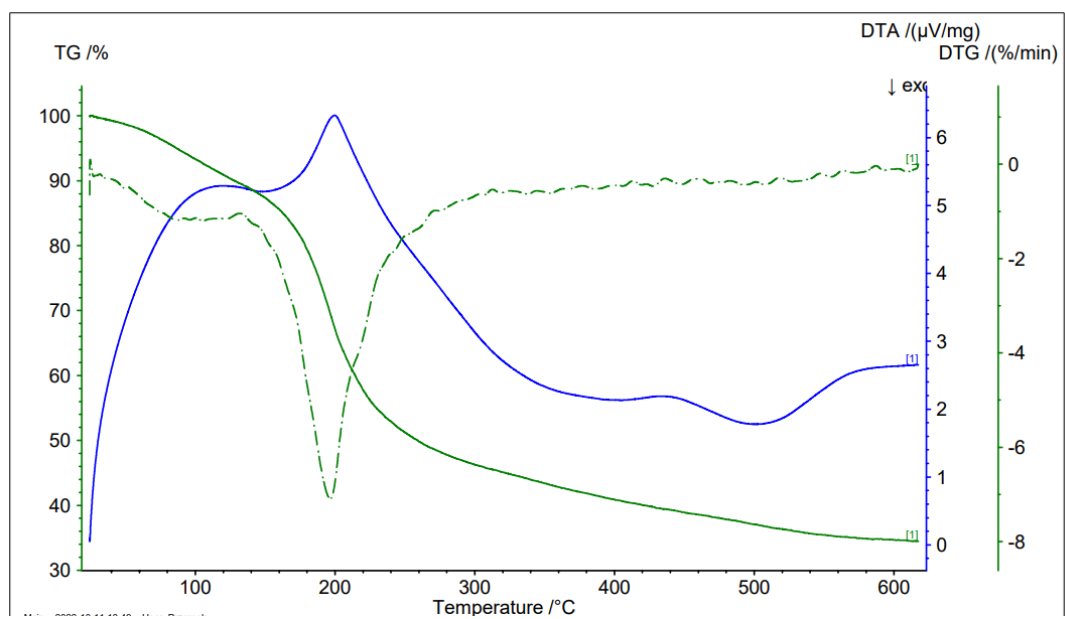


Figure S32. The TG spectrum of the allyl alcohol oligomer obtained using  $[\text{VO}(\text{dipic})(\text{dmbipy})] \cdot 2 \text{H}_2\text{O}$

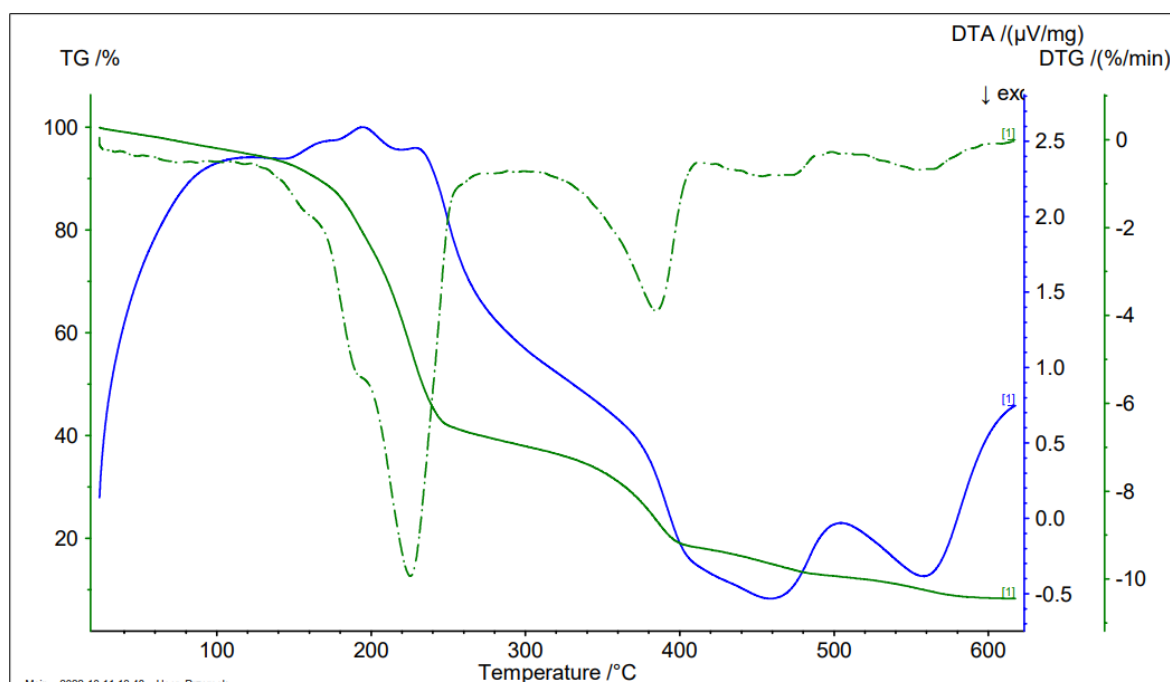


Figure S33. The TG spectrum of the 2,3-dibromo-2-propen-1-ol oligomer obtained using  $[\text{VO}(\text{dipic})(\text{dmbipy})] \cdot 2 \text{H}_2\text{O}$

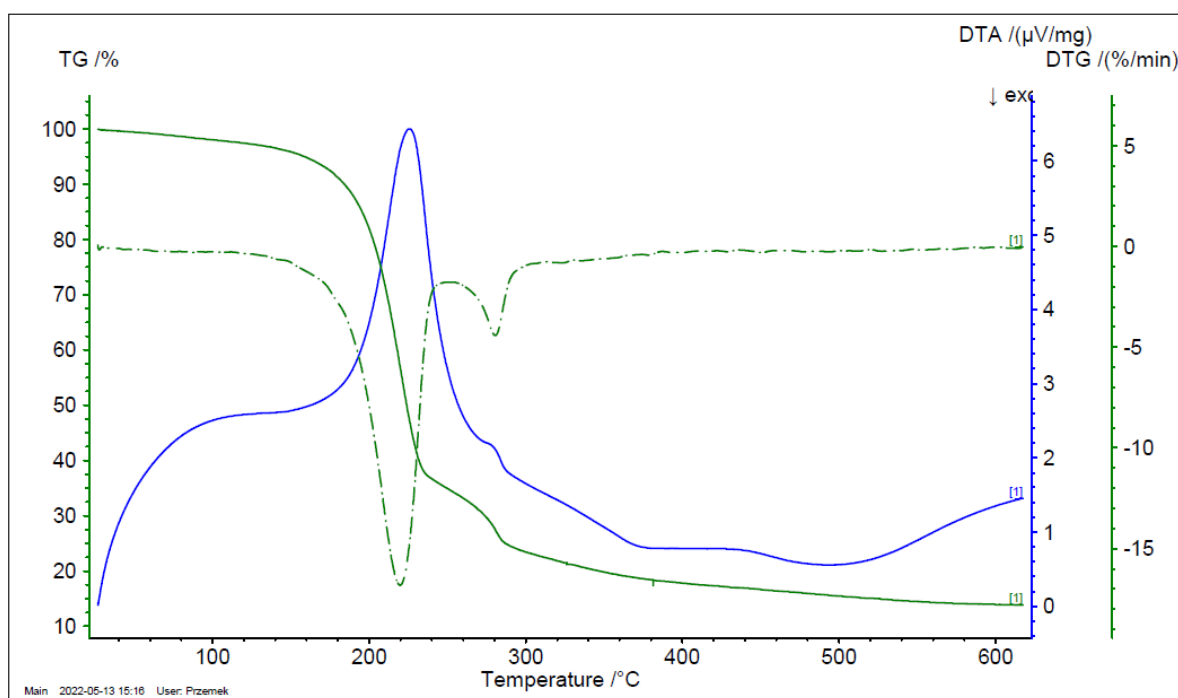


Figure S34. The TG spectrum of the 3-buten-2-ol oligomer obtained using  $[\text{VO}(\text{ODA})\text{bipy}] \cdot 2 \text{H}_2\text{O}$

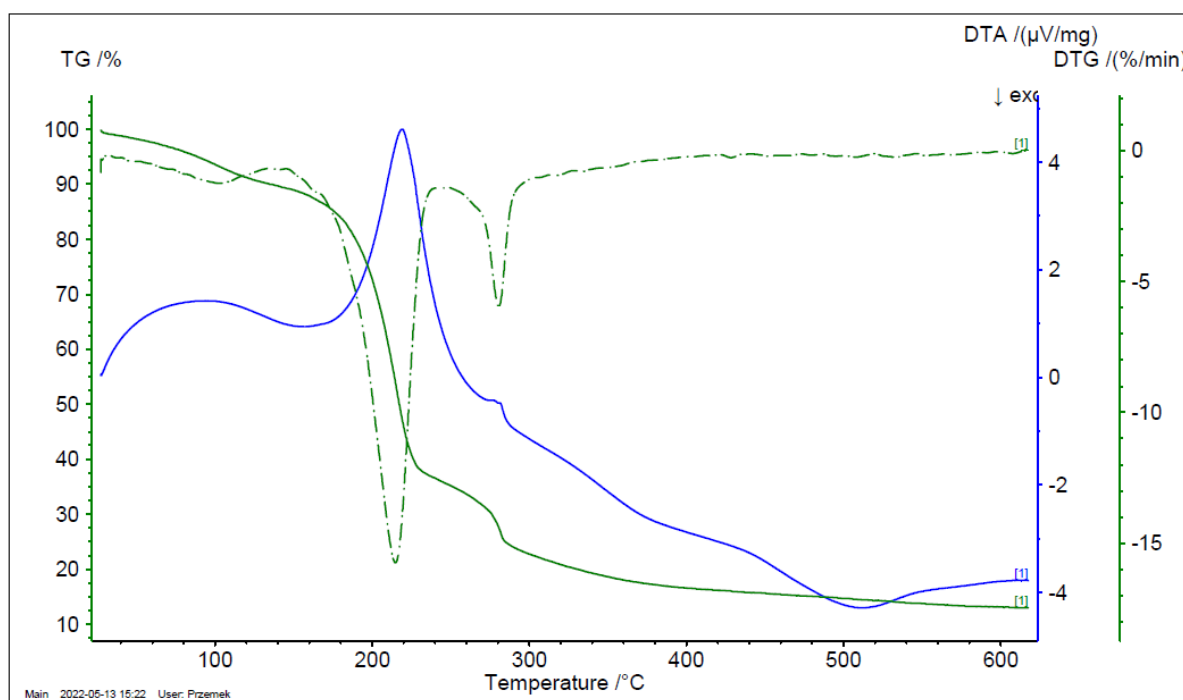


Figure S35. The TG spectrum of the allyl alcohol oligomer obtained using  $[\text{VO}(\text{ODA})\text{bipy}] \cdot 2 \text{H}_2\text{O}$

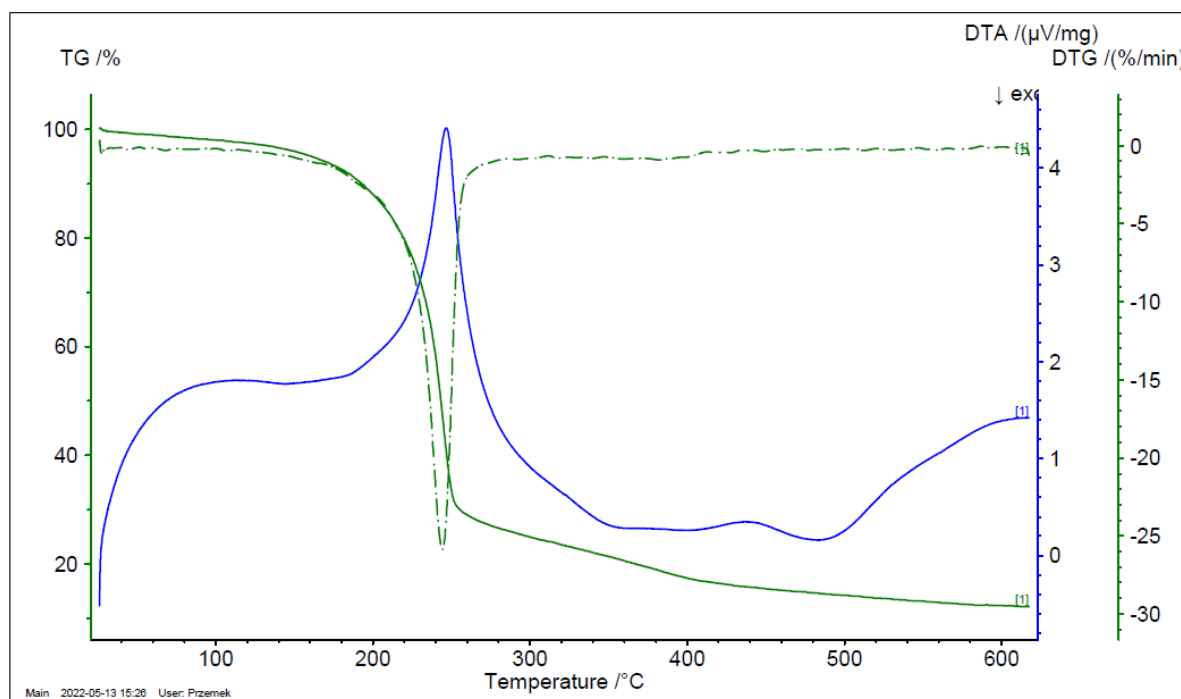


Figure S36. The TG spectrum of the 2,3-dibromo-2-propen-1-ol oligomer obtained using  $[\text{VO}(\text{ODA})\text{bipy}] \cdot 2 \text{H}_2\text{O}$

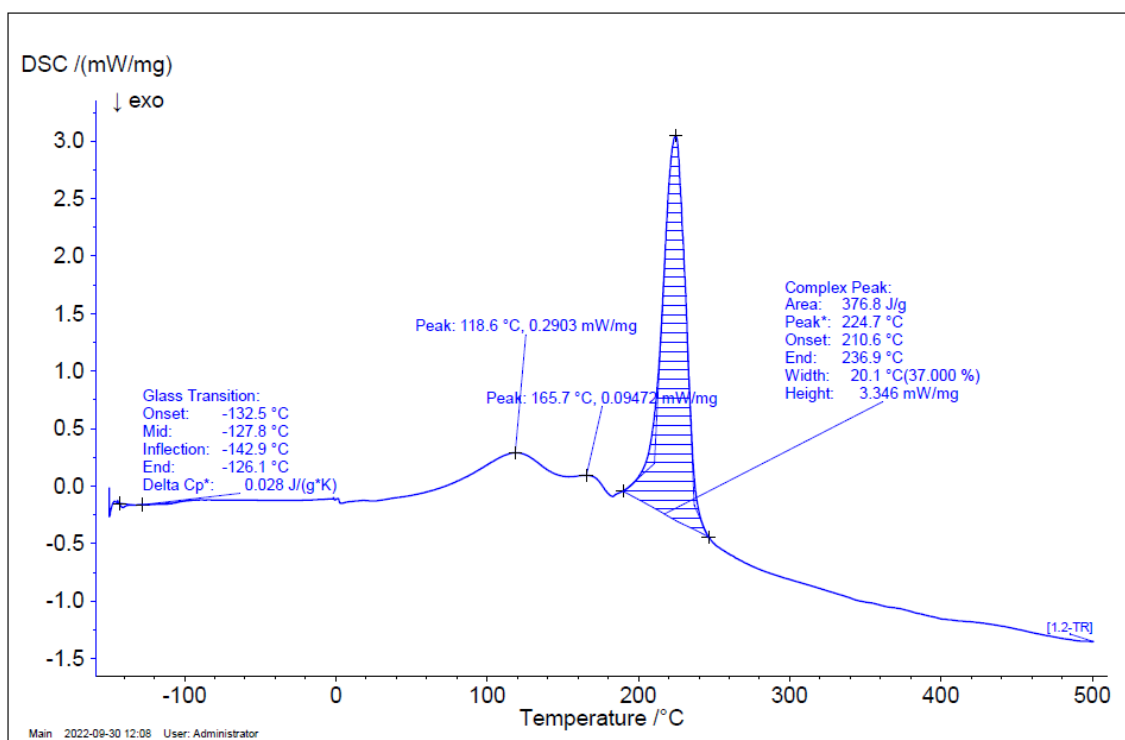


Figure S37. The DSC spectrum of the 3-buten-2-ol oligomer obtained using  $[\text{VO}(\text{TDA})(\text{phen})] \cdot 1.5 \text{H}_2\text{O}$ .

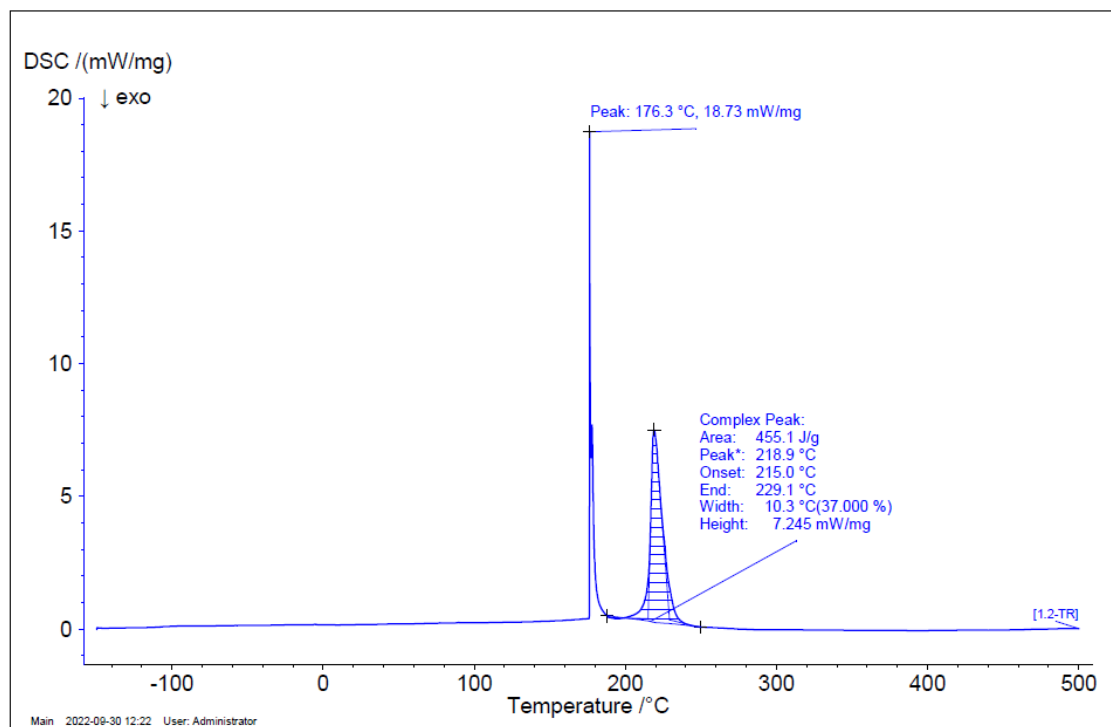


Figure S38. The DSC spectrum of the allyl alcohol oligomer obtained using  $[\text{VO}(\text{TDA})(\text{phen})] \cdot 1.5 \text{H}_2\text{O}$ .

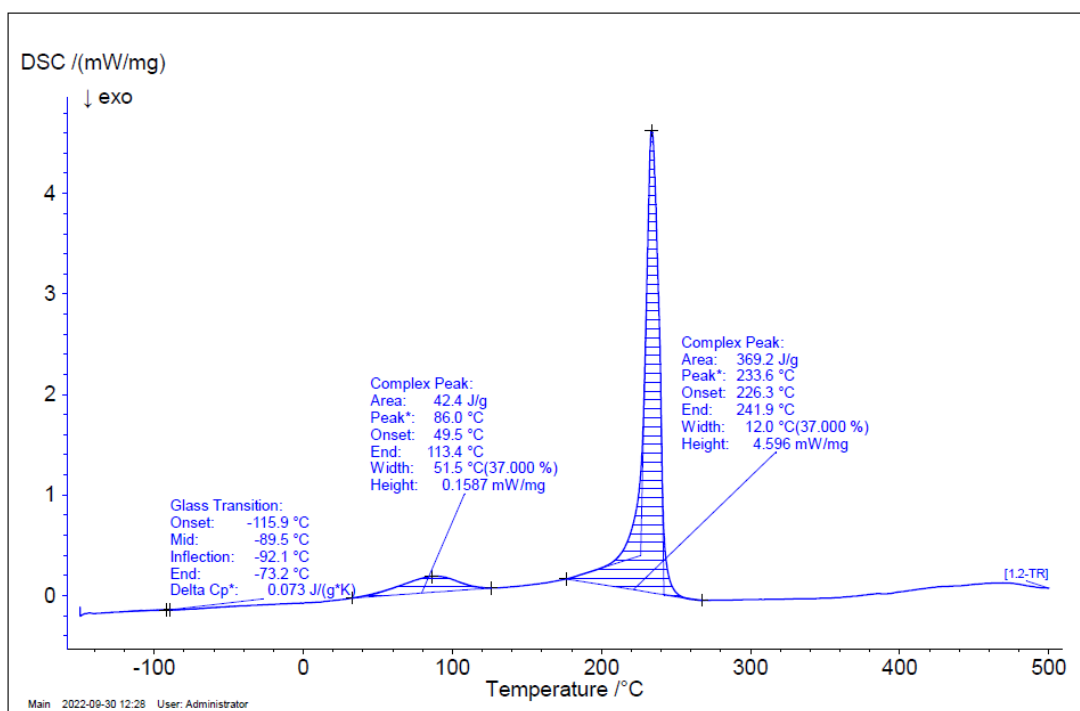


Figure S39. The DSC spectrum of the 2,3-dibromo-2-propen-1-ol oligomer obtained using  $[\text{VO}(\text{TDA})(\text{phen})] \cdot 1.5 \text{ H}_2\text{O}$ .

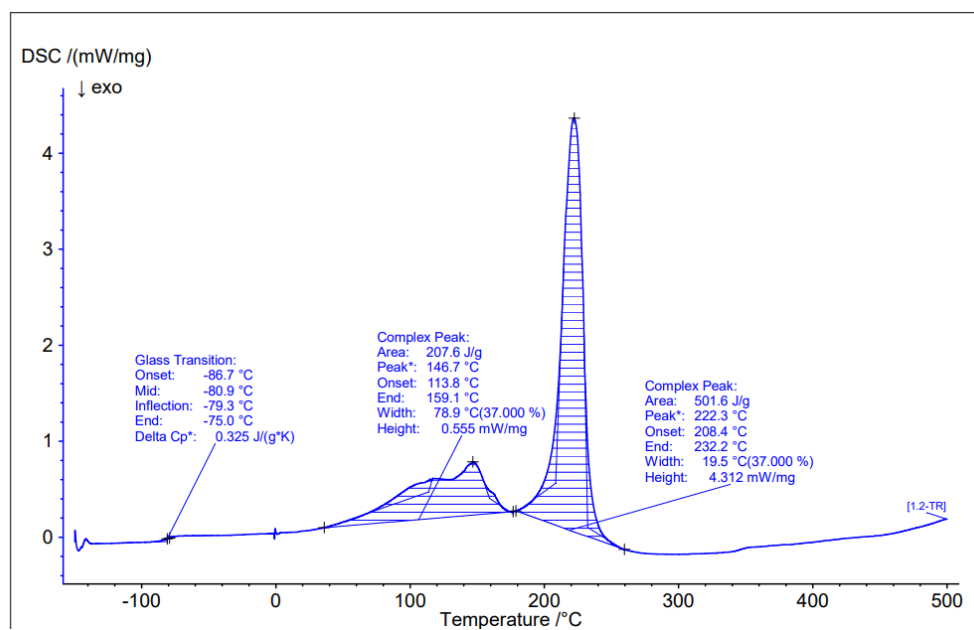


Figure S40. The DSC spectrum of the 3-buten-2-ol oligomer obtained using  $[\text{VOO}(\text{dipic})(2\text{-phepyH})] \cdot \text{H}_2\text{O}$ .

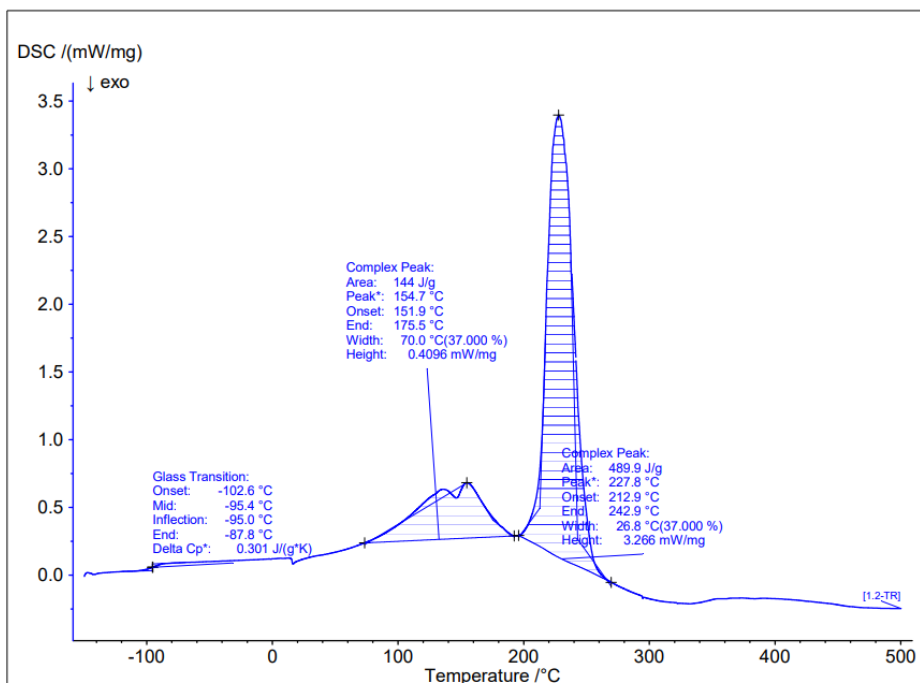


Figure S41. The DSC spectrum of the allyl alcohol oligomer obtained using [VOO(dipic)(2-phepyH)] • H<sub>2</sub>O.

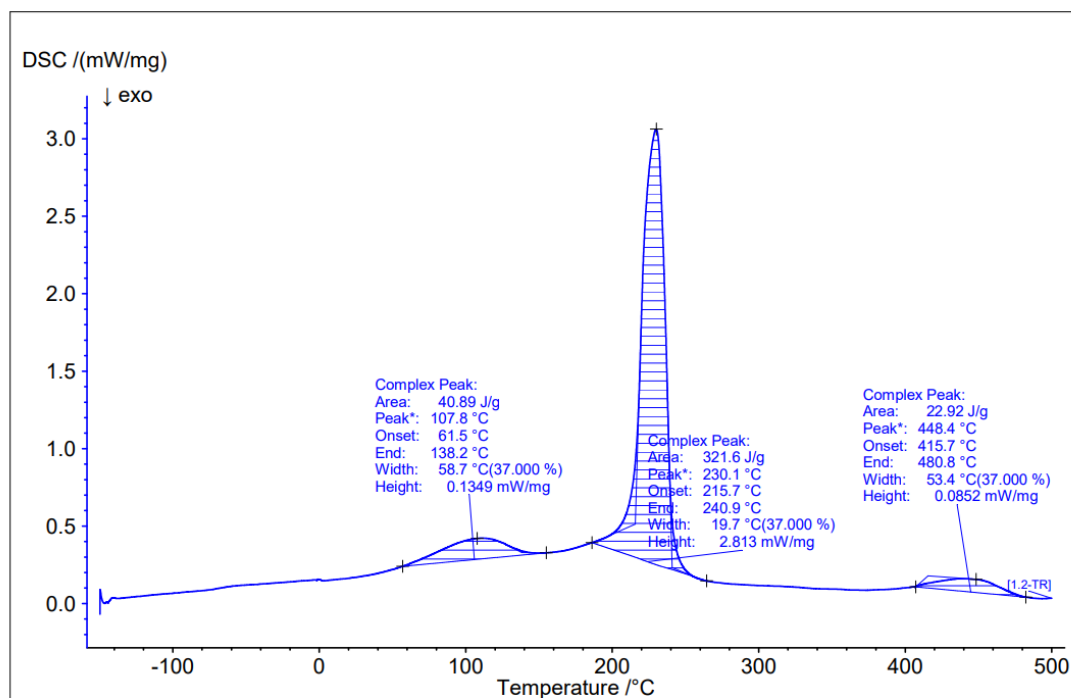


Figure S42. The DSC spectrum of the 2,3-dibromo-2-propen-1-ol oligomer obtained using [VOO(dipic)(2-phepyH)] • H<sub>2</sub>O.

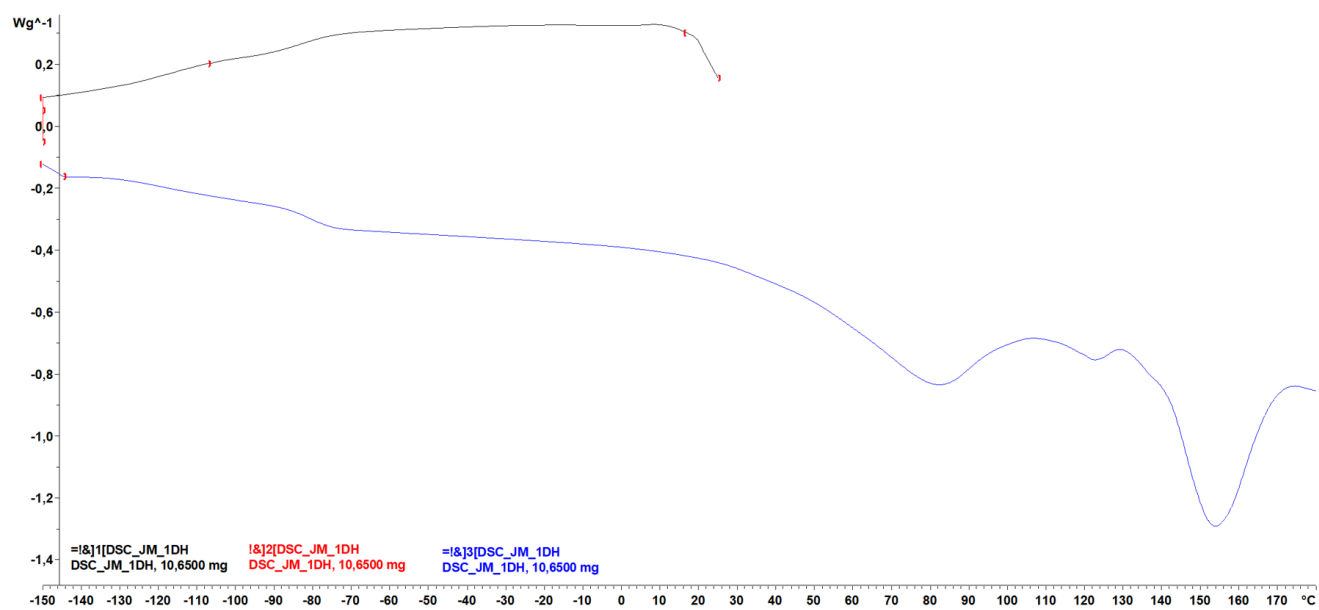


Figure S43. The DSC spectrum of the 3-buten-2ol oligomer obtained using [VO(dipic)(dmbipy)] • 2 H<sub>2</sub>O.

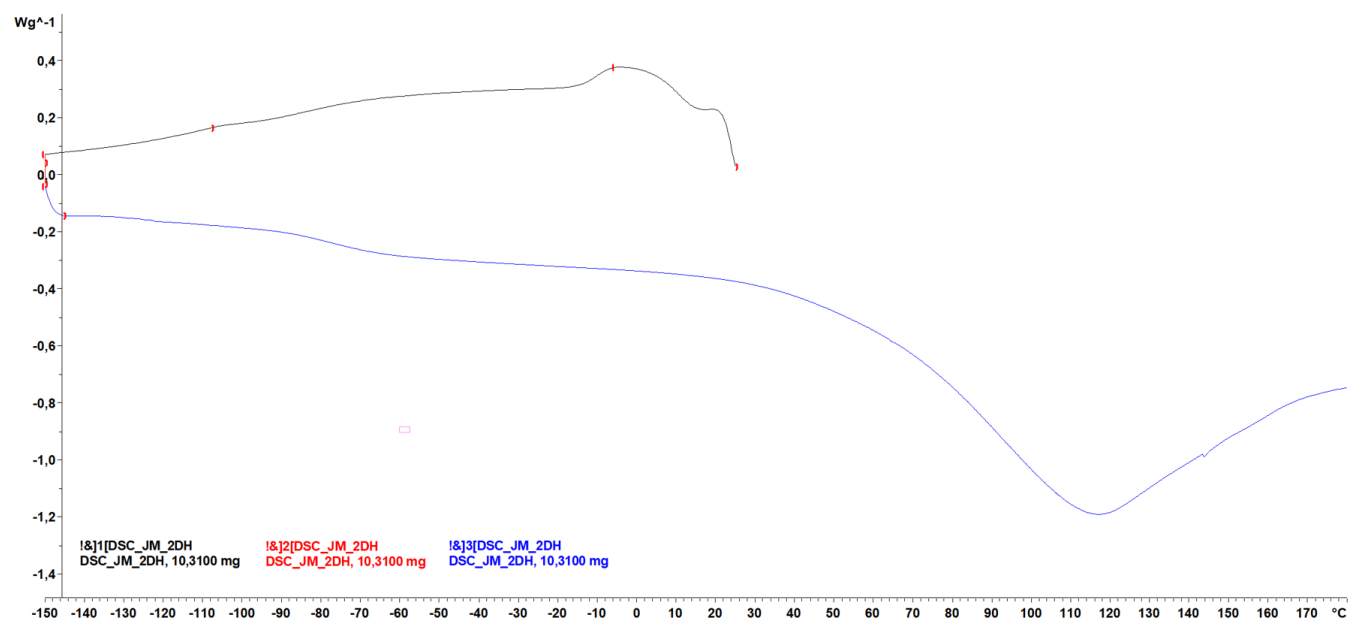


Figure S44. The DSC spectrum of the allyl alcohol oligomer obtained using [VO(dipic)(dmbipy)] • 2 H<sub>2</sub>O.

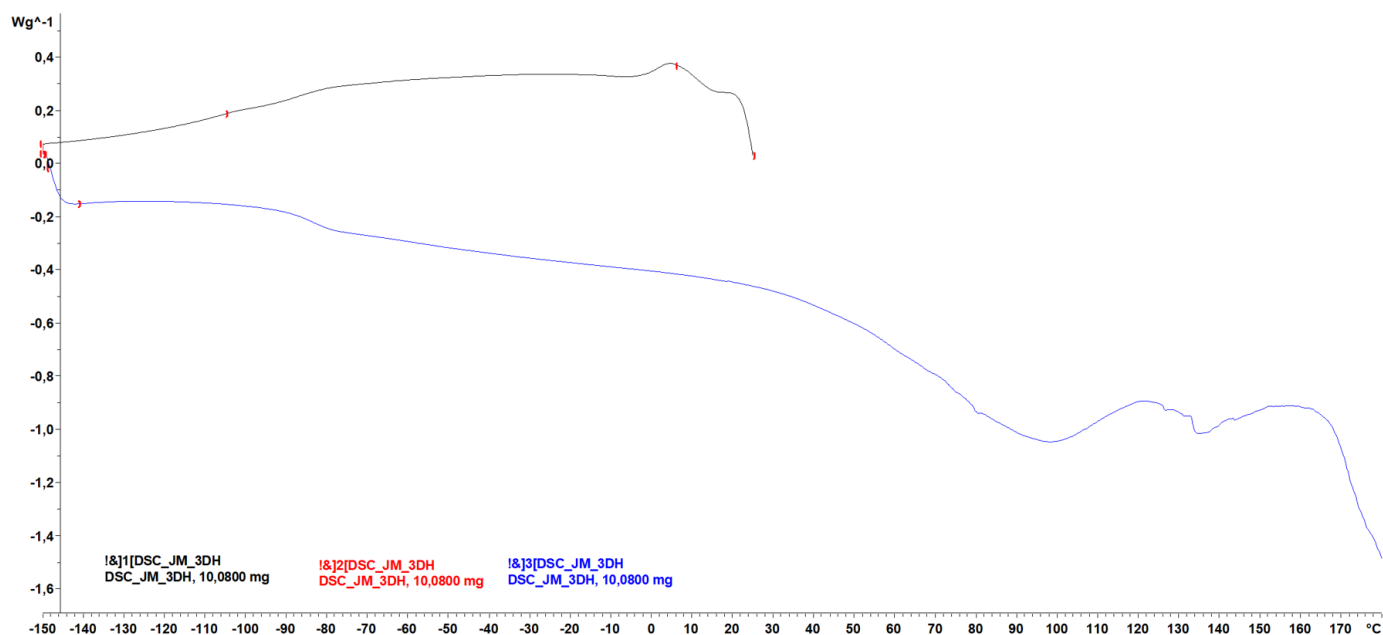


Figure S45. The DSC spectrum of the 2,3-dibromo-2-propen-1-ol oligomer obtained using [VO(dipic)(dmbipy)] • 2 H<sub>2</sub>O.

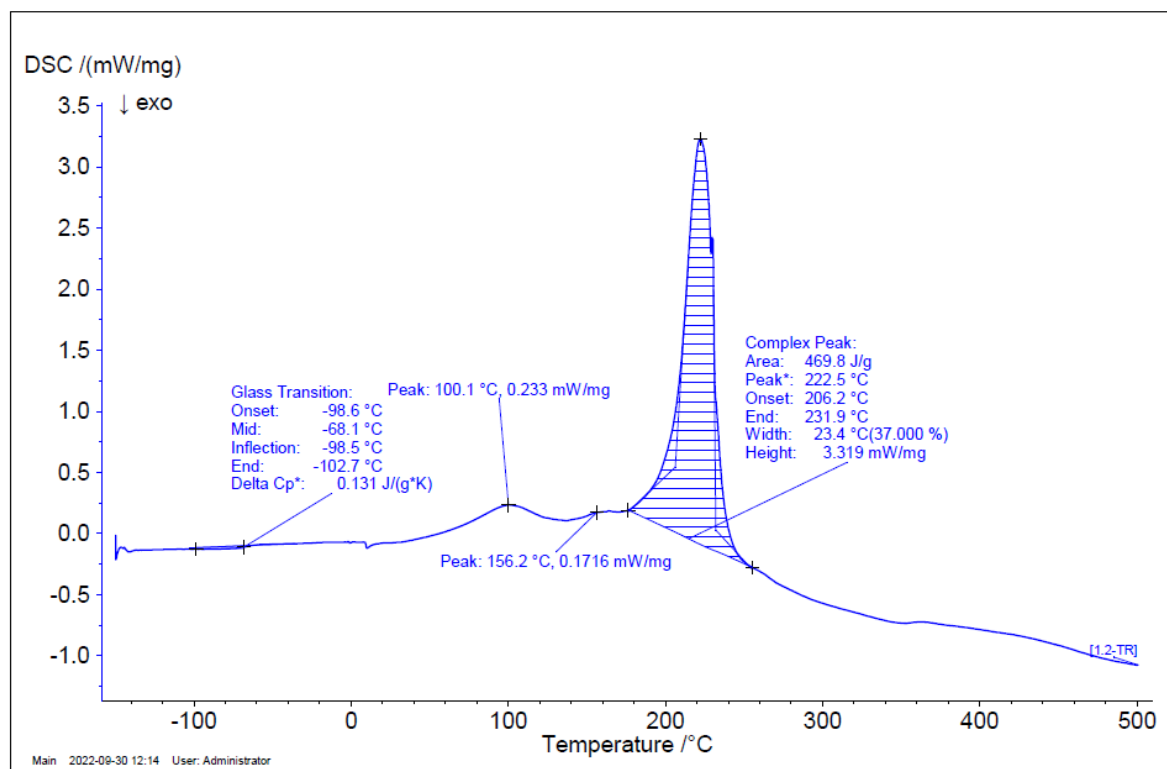


Figure S46. The DSC spectrum of the 3-buten-2-ol oligomer obtained using [VO(ODA)bipy] • 2 H<sub>2</sub>O.

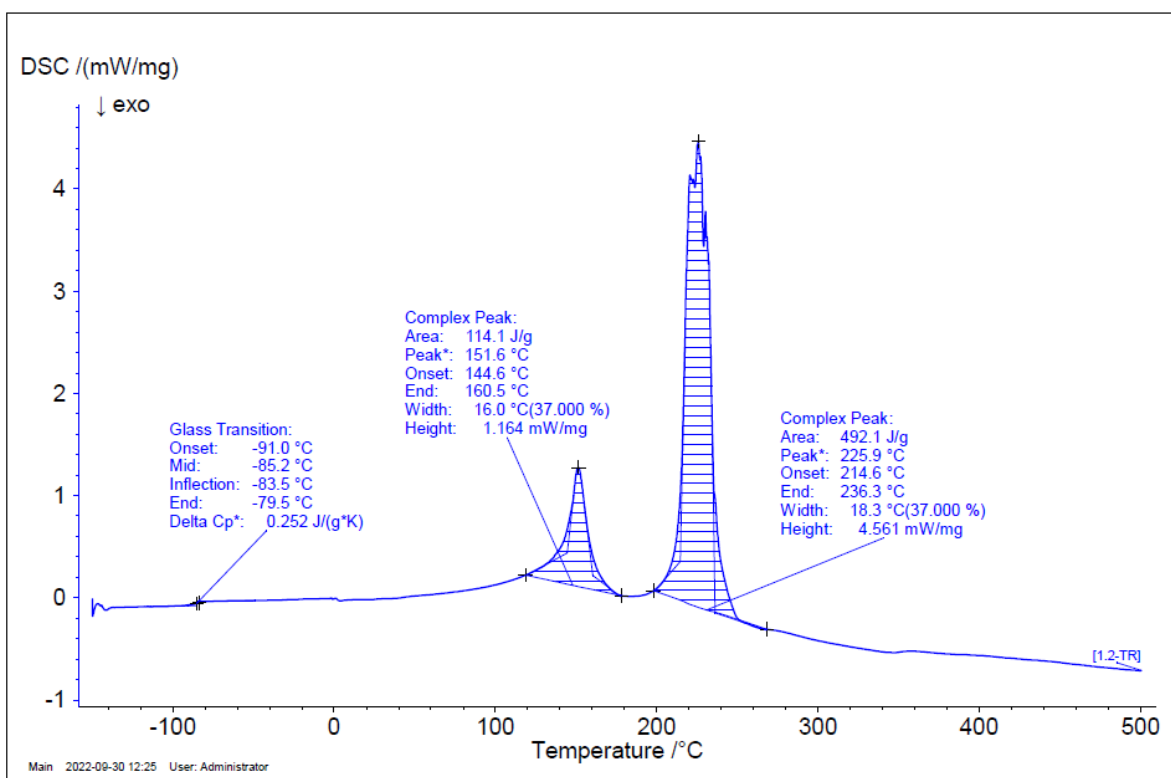


Figure S47. The DSC spectrum of the allyl alcohol oligomer obtained using [VO(ODA)bipy] • 2 H<sub>2</sub>O.

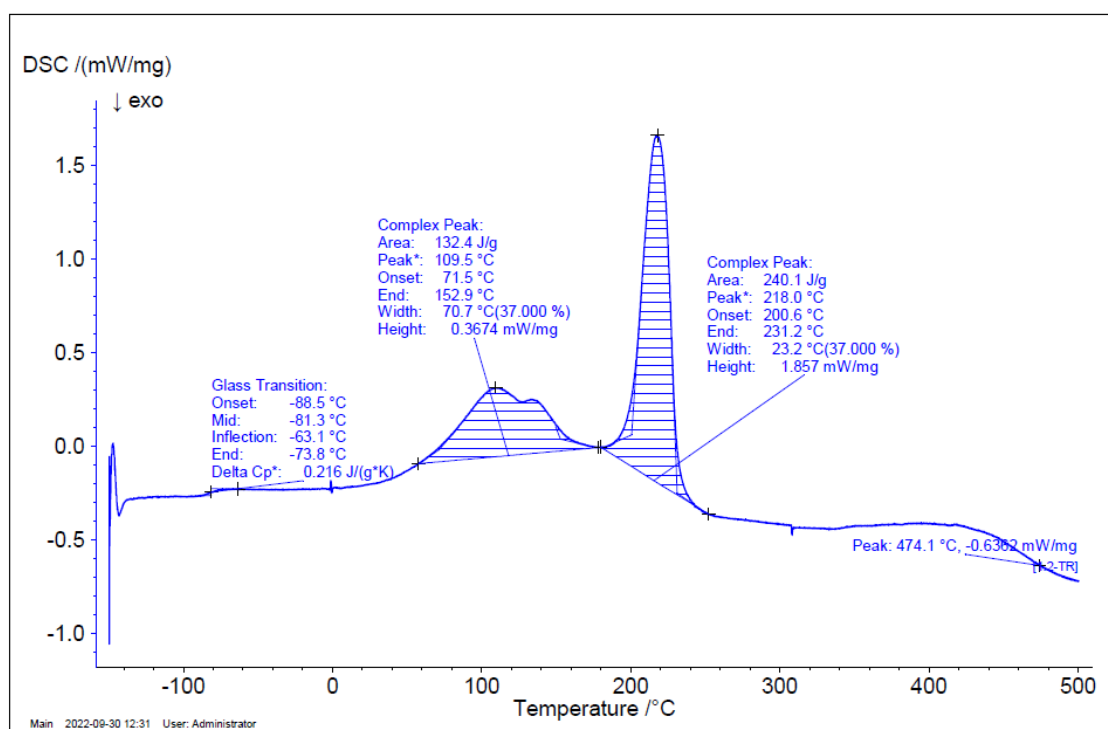


Figure S48. The DSC spectrum of the 2,3-dibromo-2-propen-1-ol oligomer obtained using [VO(ODA)bipy] • 2 H<sub>2</sub>O.