

Supplementary Information

Reusable glucose-based crown ethers anchored to PVC

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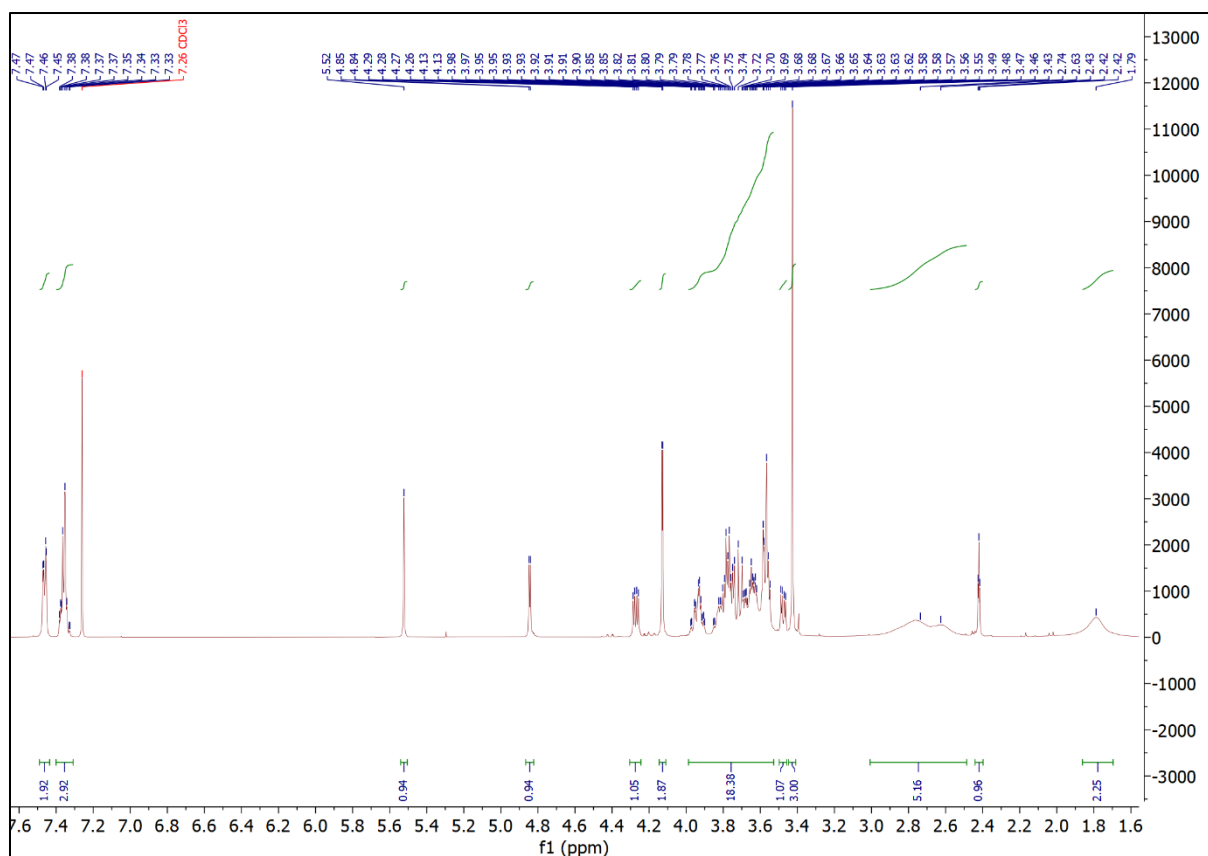


Figure S1. ¹H NMR spectra of crown ether 1.

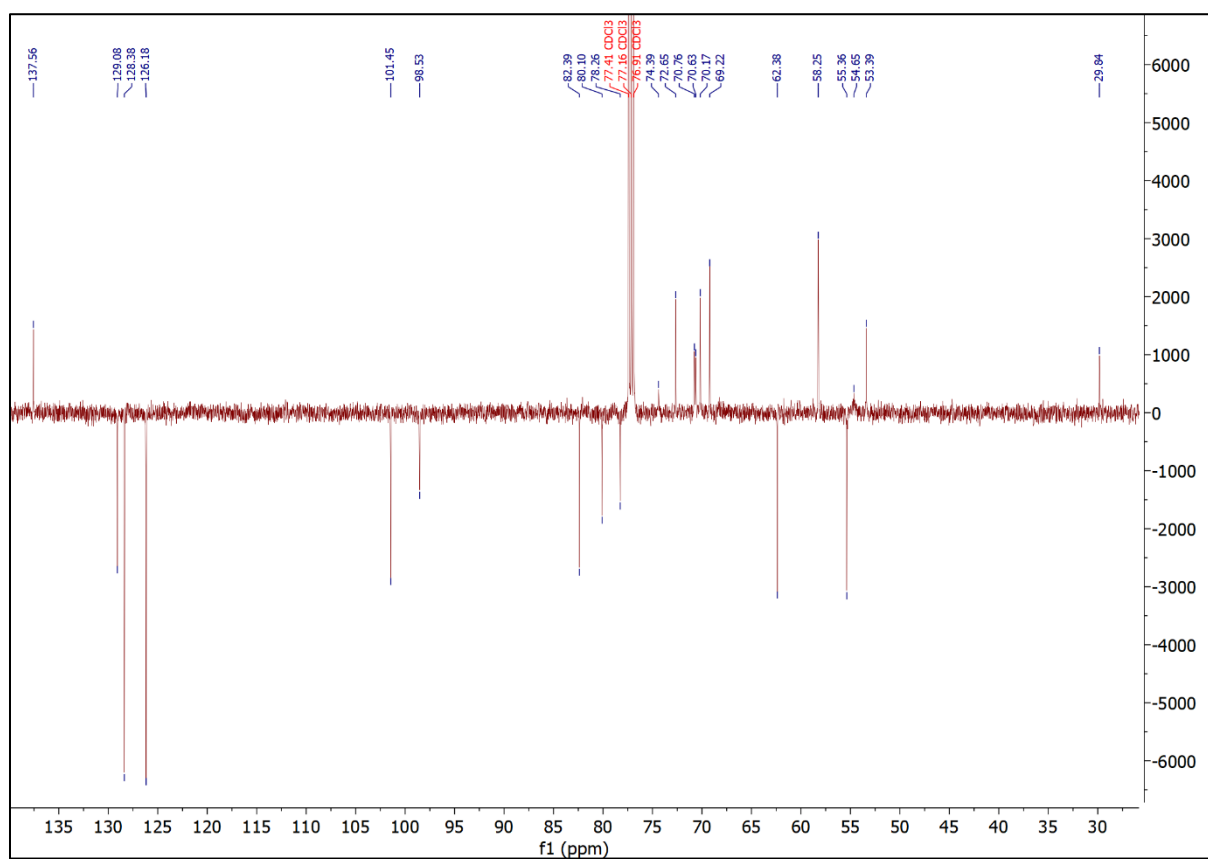


Figure S2. ¹³C NMR (APT) spectra of crown ether 1.

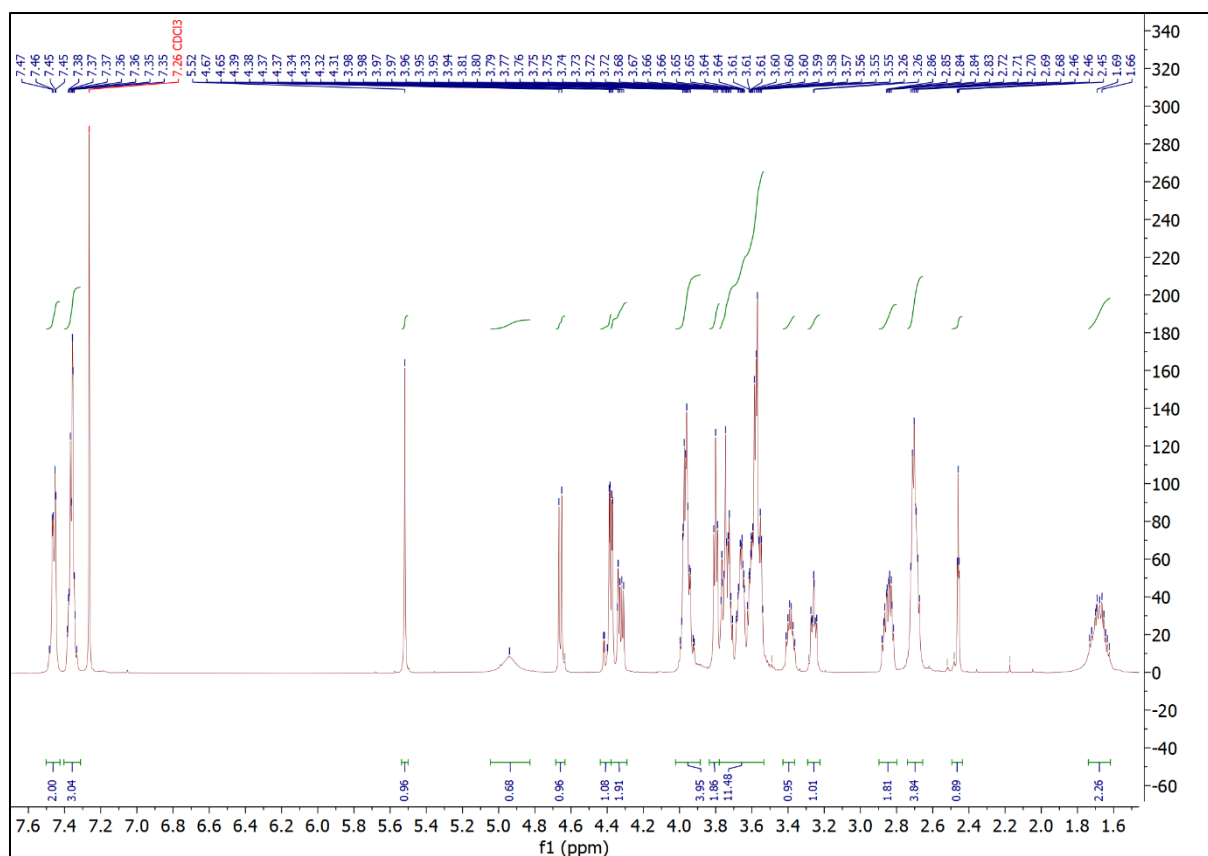


Figure S3. ¹H NMR spectra of crown ether 2.

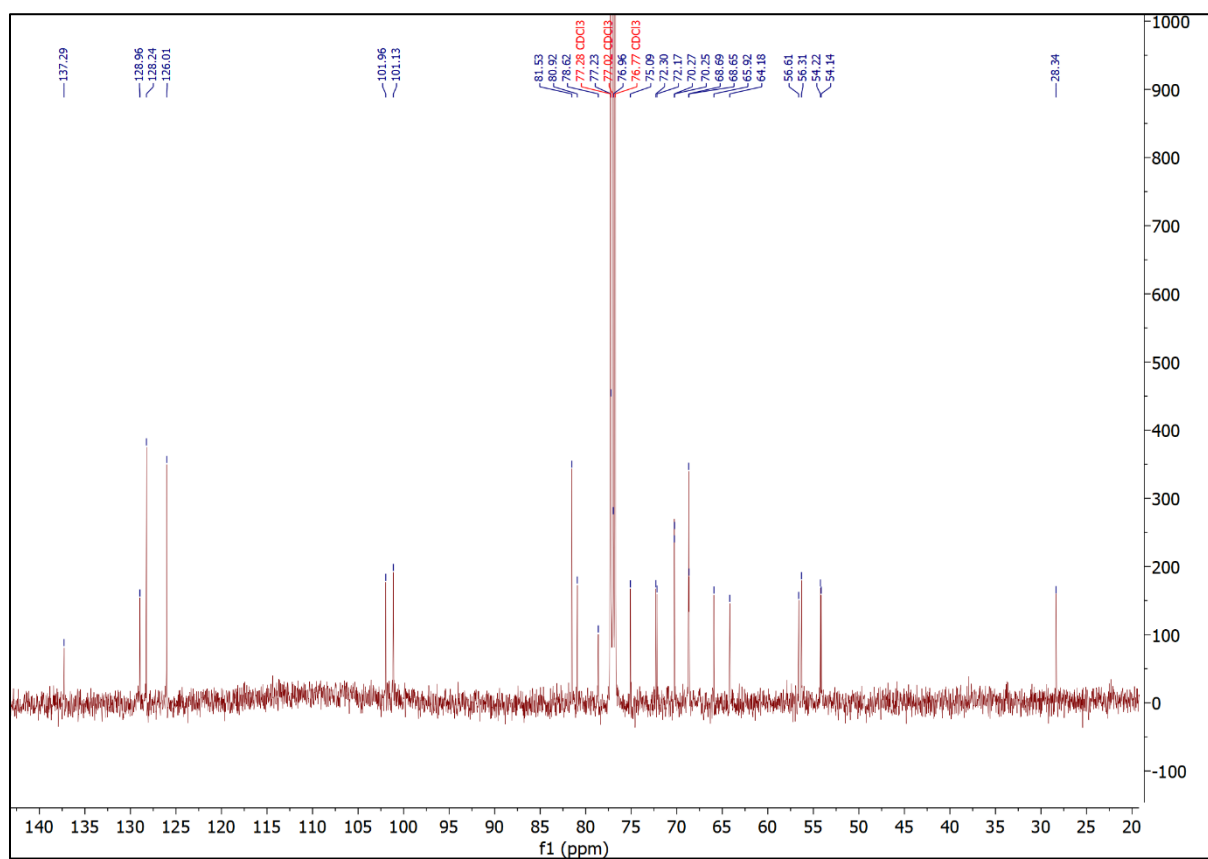


Figure S4. ¹³C NMR (APT) spectra of crown ether 2.

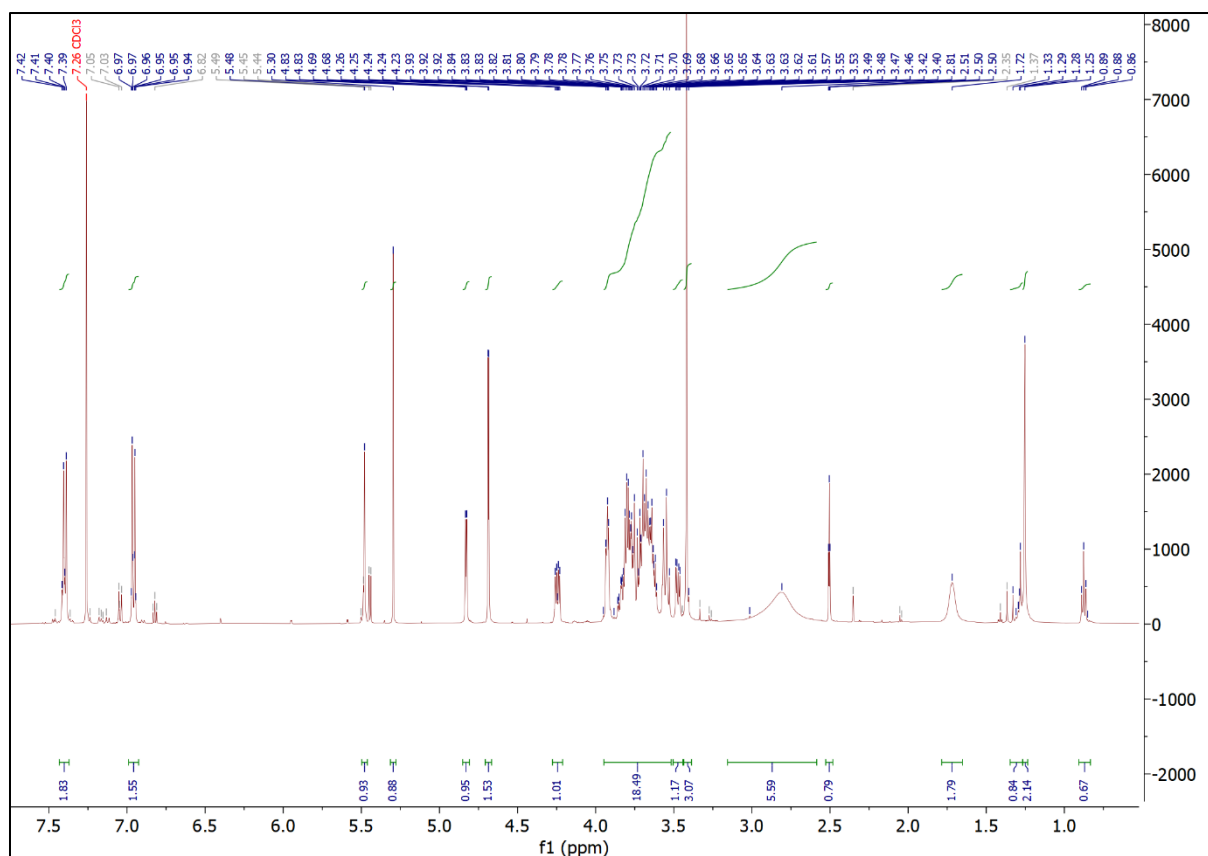


Figure S5. ¹H NMR spectra of crown ether 3.

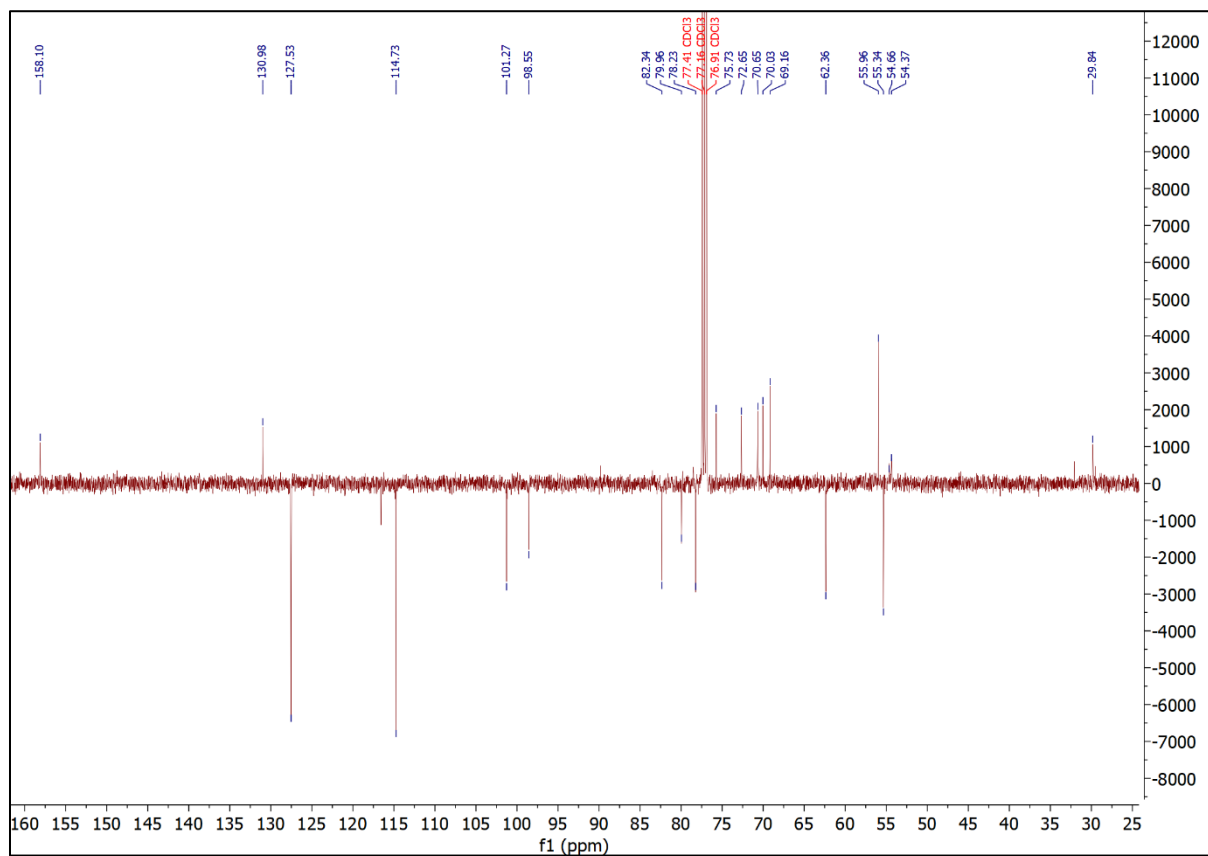


Figure S6. ¹³C NMR (APT) spectra of crown ether 3.

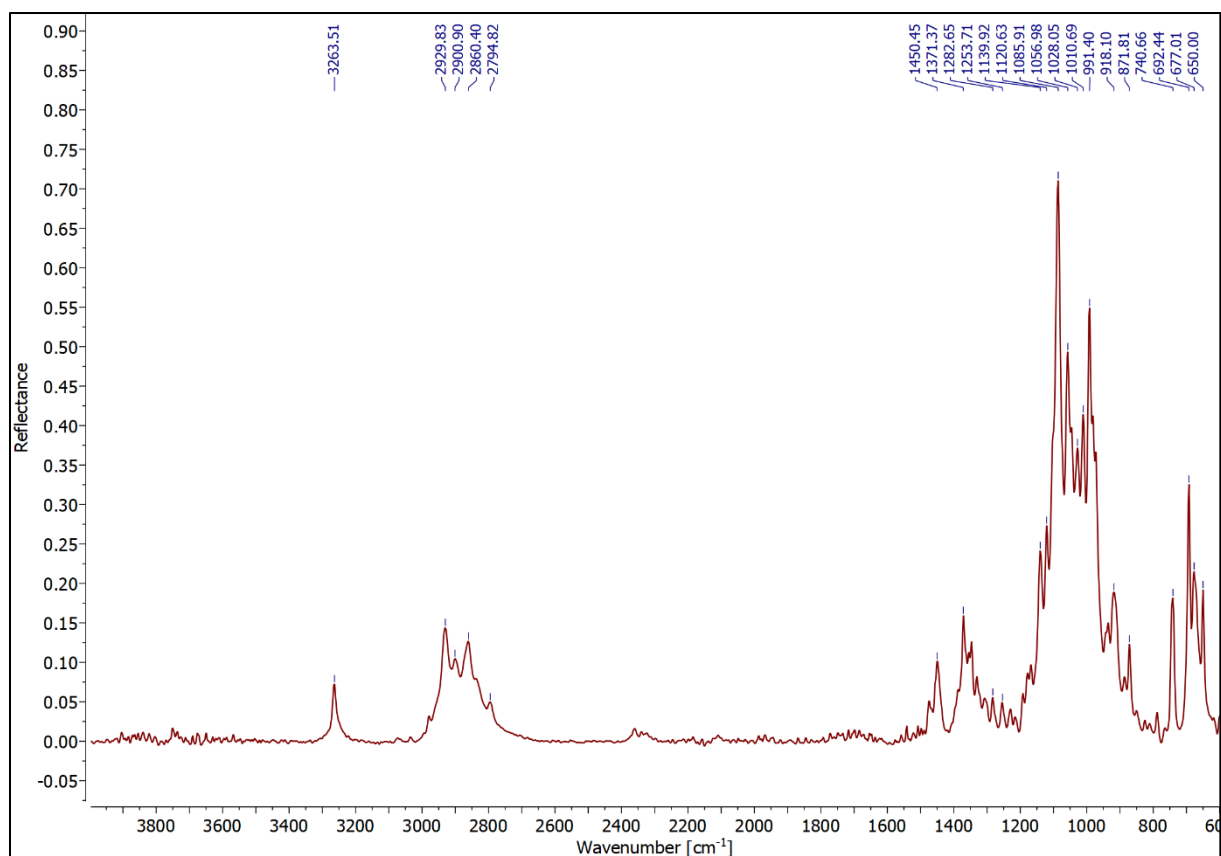


Figure S7. FTIR (ATR) spectra of crown ether 1.

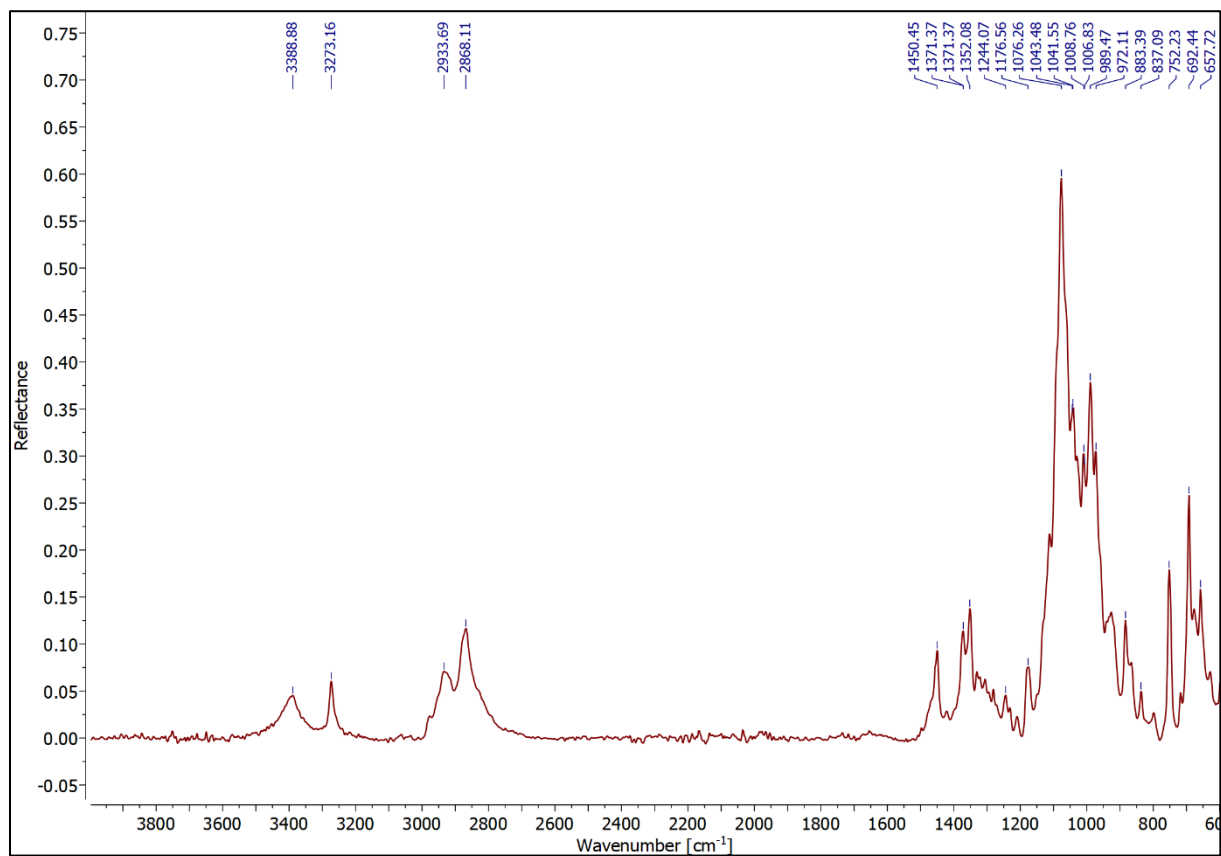


Figure S8. FTIR (ATR) spectra of crown ether 2.

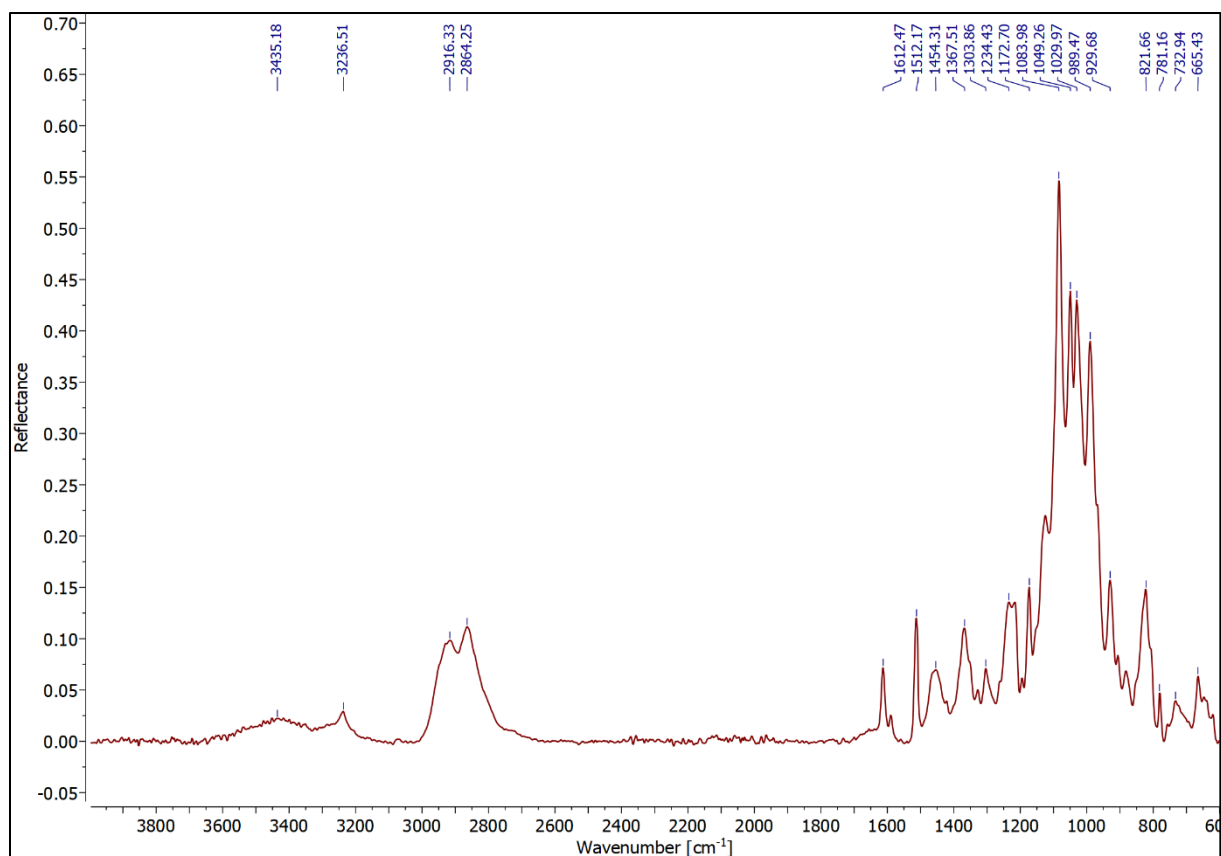


Figure S9. FTIR (ATR) spectra of crown ether **3**.

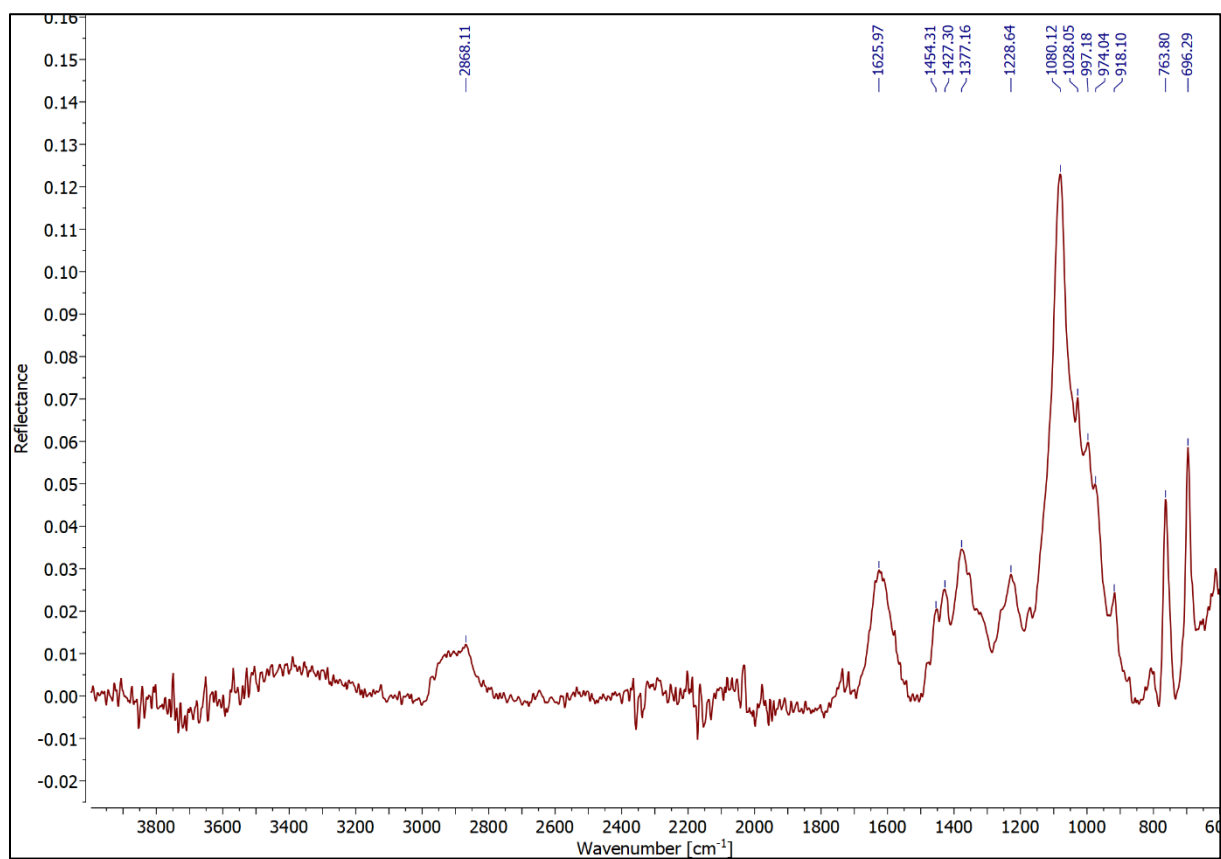


Figure S10. FTIR (ATR) spectra of immobilized catalyst **13**.

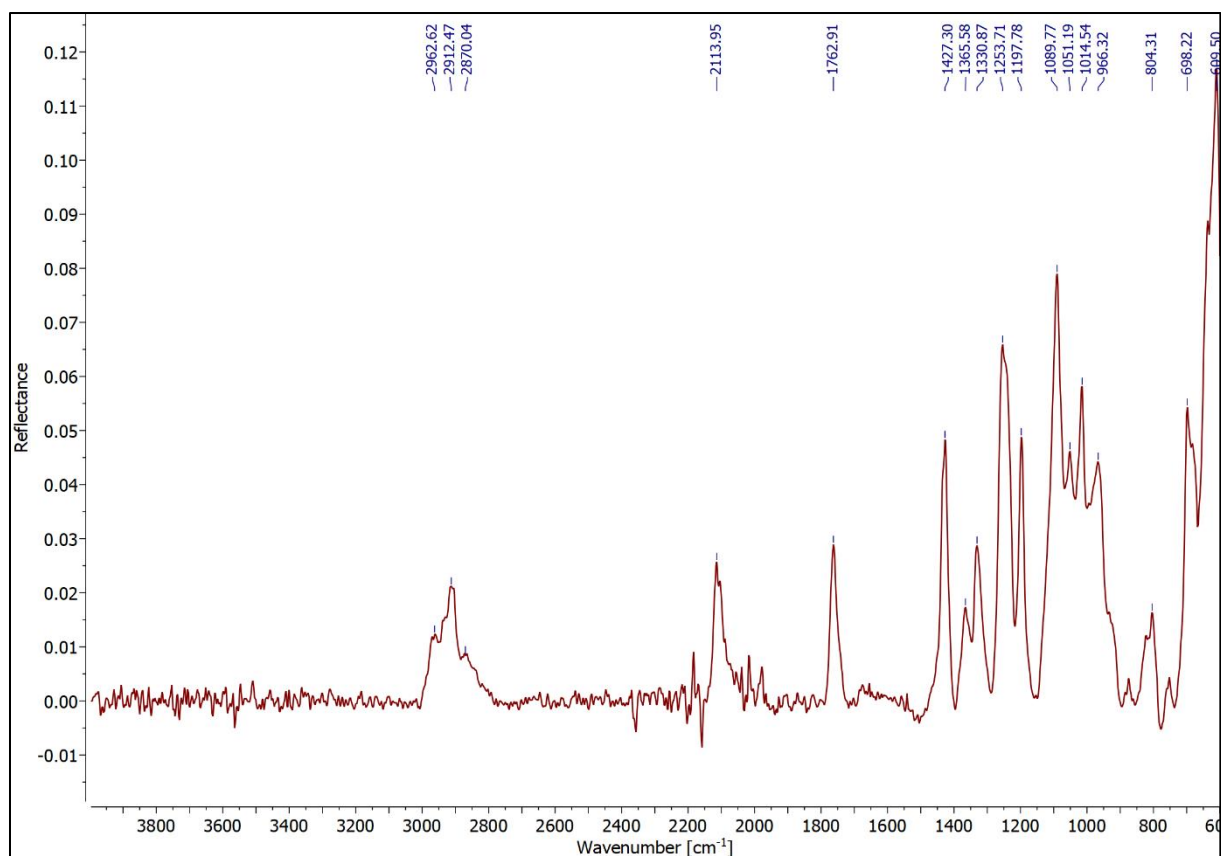


Figure S11. FTIR (ATR) spectra of immobilized catalyst **14a**.

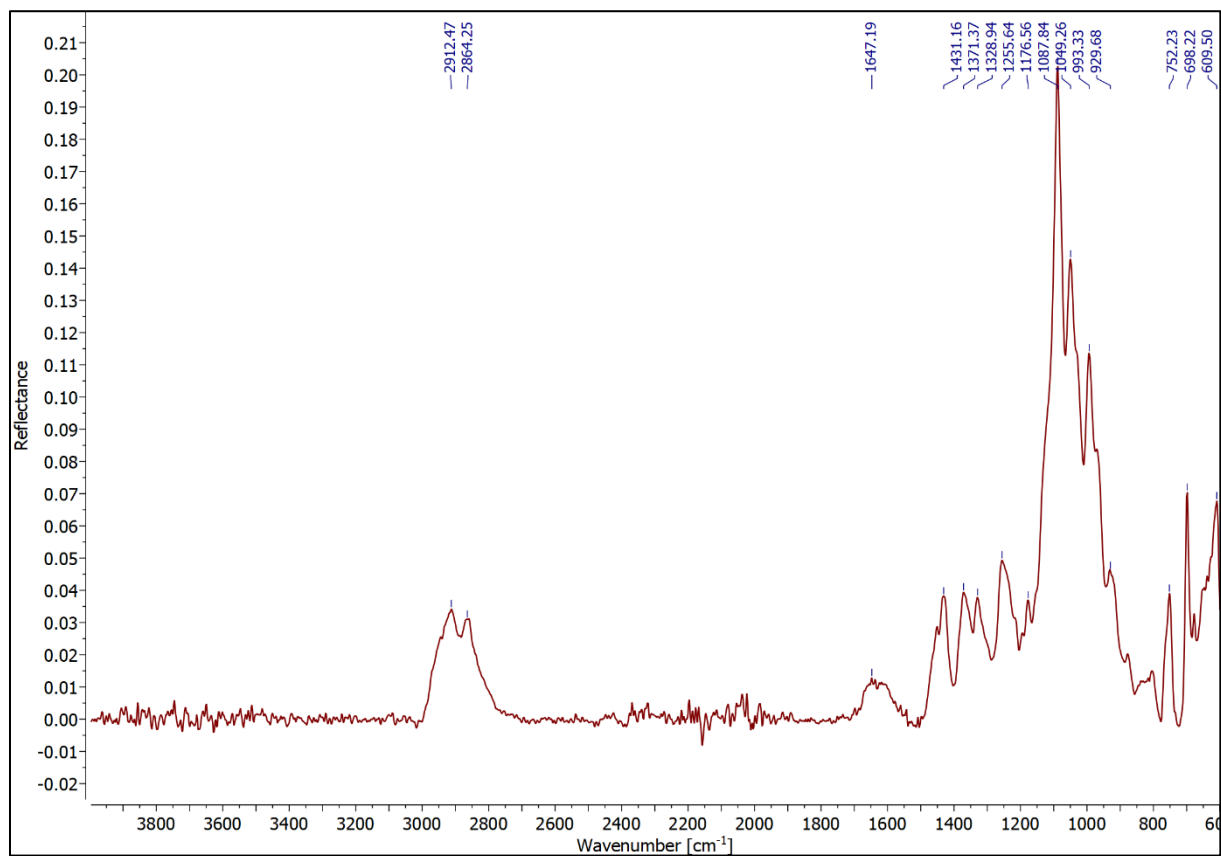


Figure S12. FTIR (ATR) spectra of immobilized catalyst **14b**.

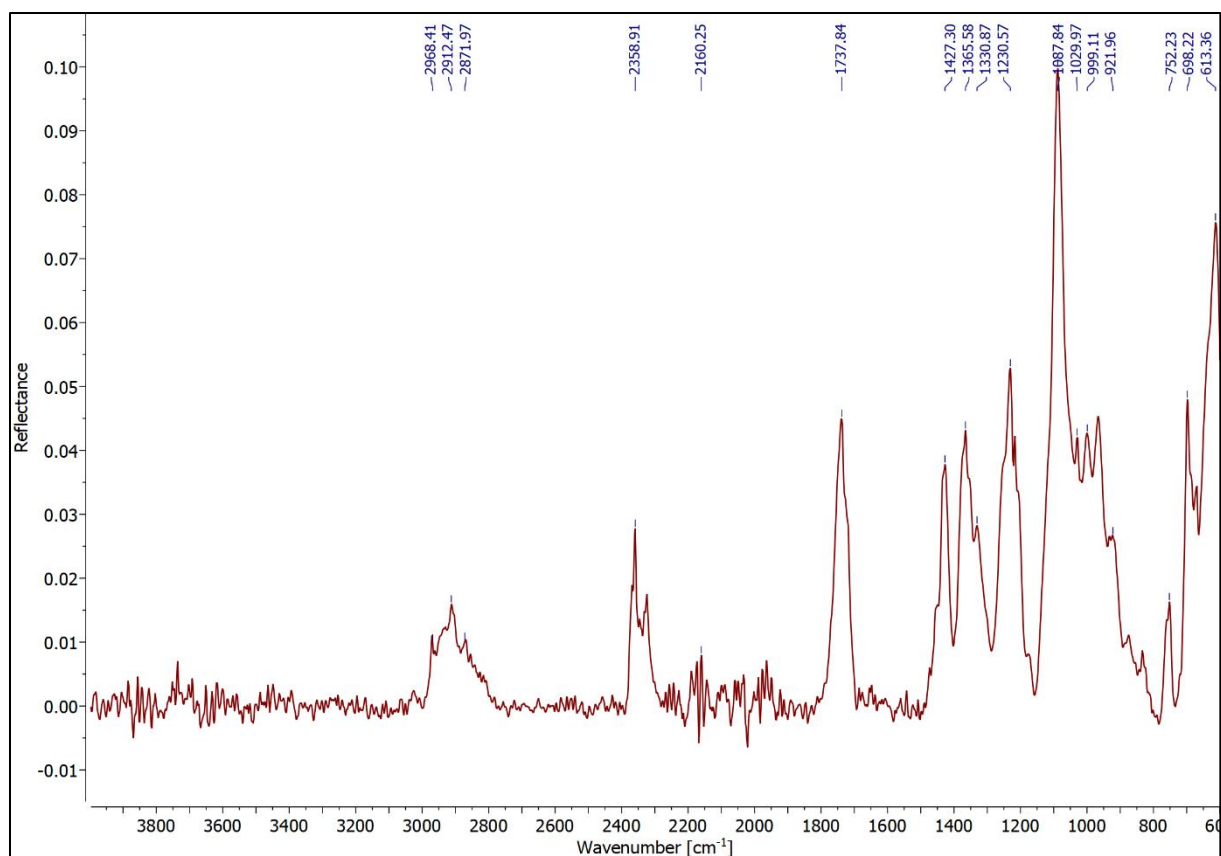


Figure S13. FTIR (ATR) spectra of immobilized catalyst **15a**.

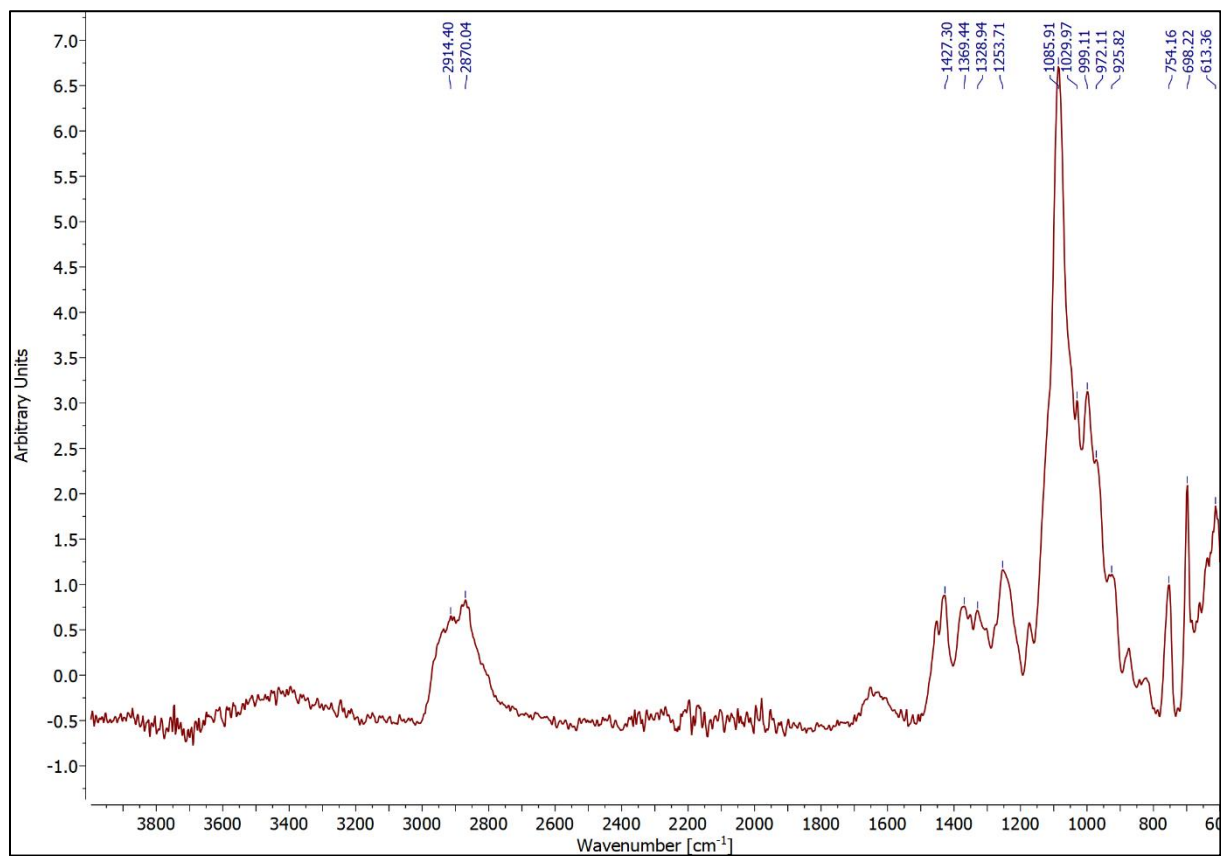


Figure S14. FTIR (ATR) spectra of immobilized catalyst **15b**.

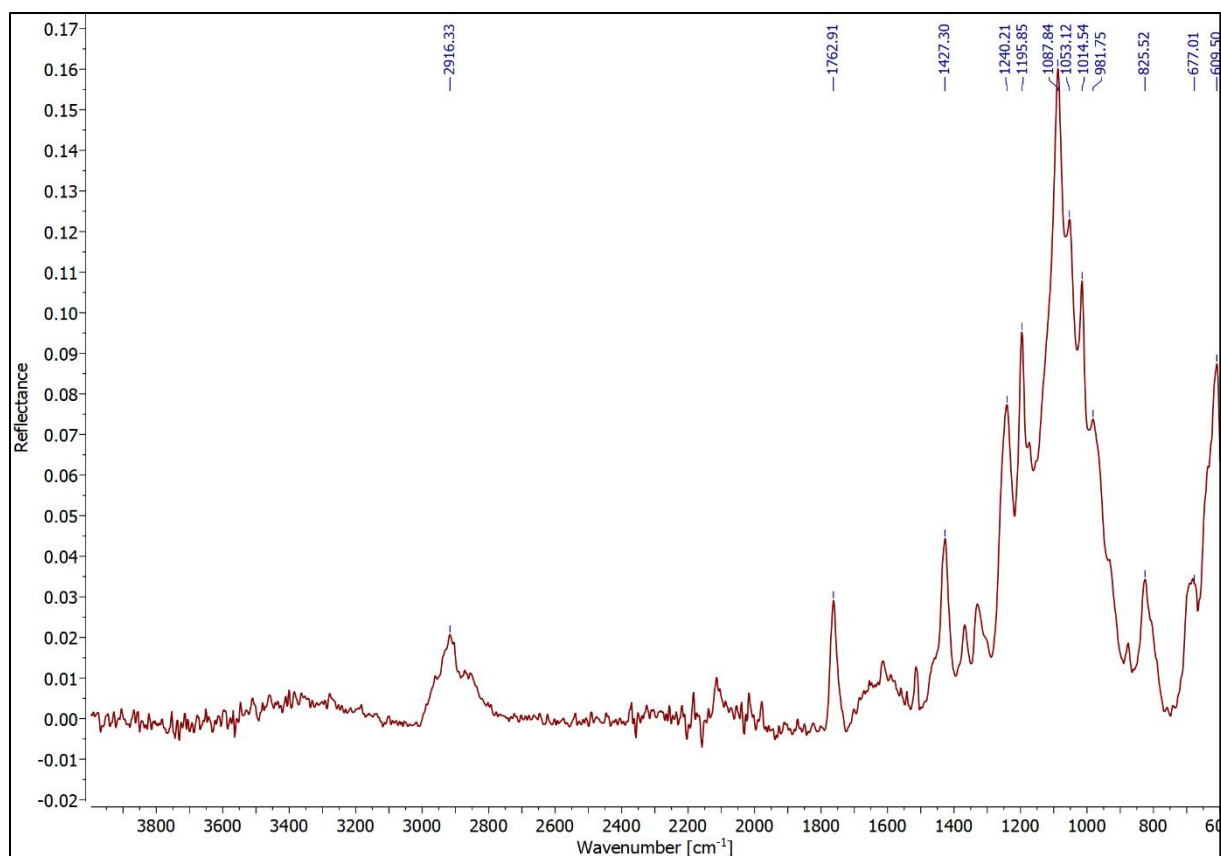


Figure S15. FTIR (ATR) spectra of immobilized catalyst **16a**.

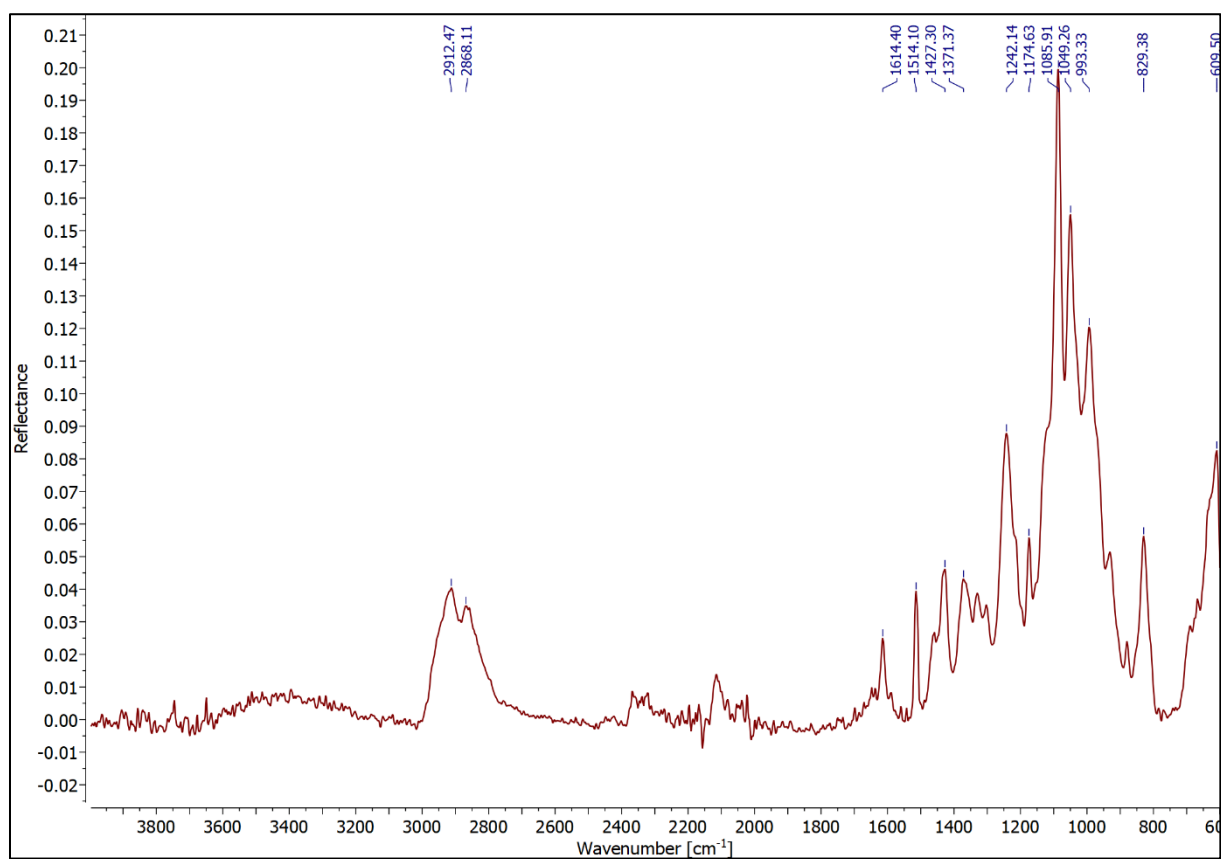


Figure S16. FTIR (ATR) spectra of immobilized catalyst **16b**.

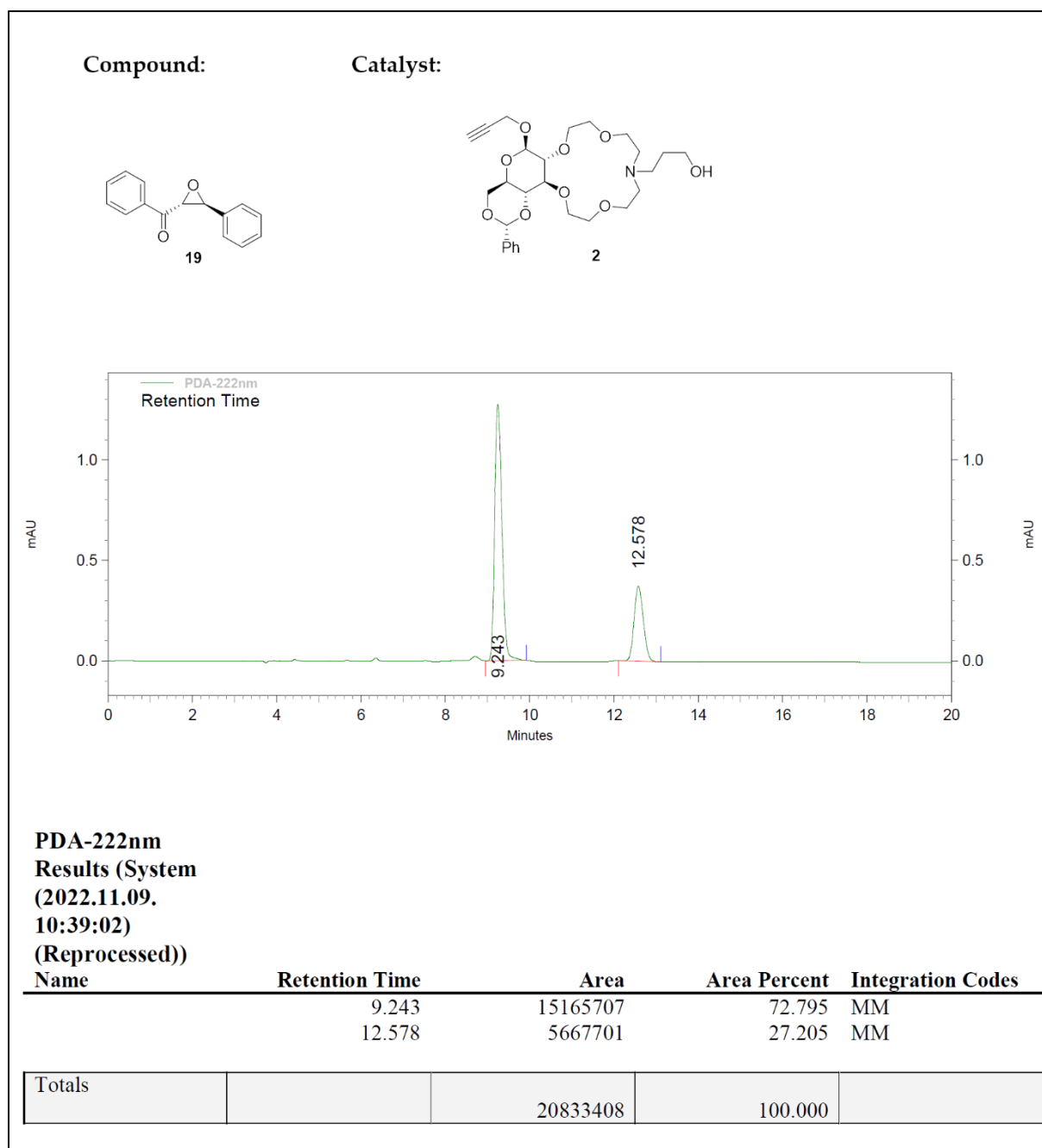


Figure S17. Chiral HPLC chromatogram of **19** (Scheme 5, catalyst **2**).

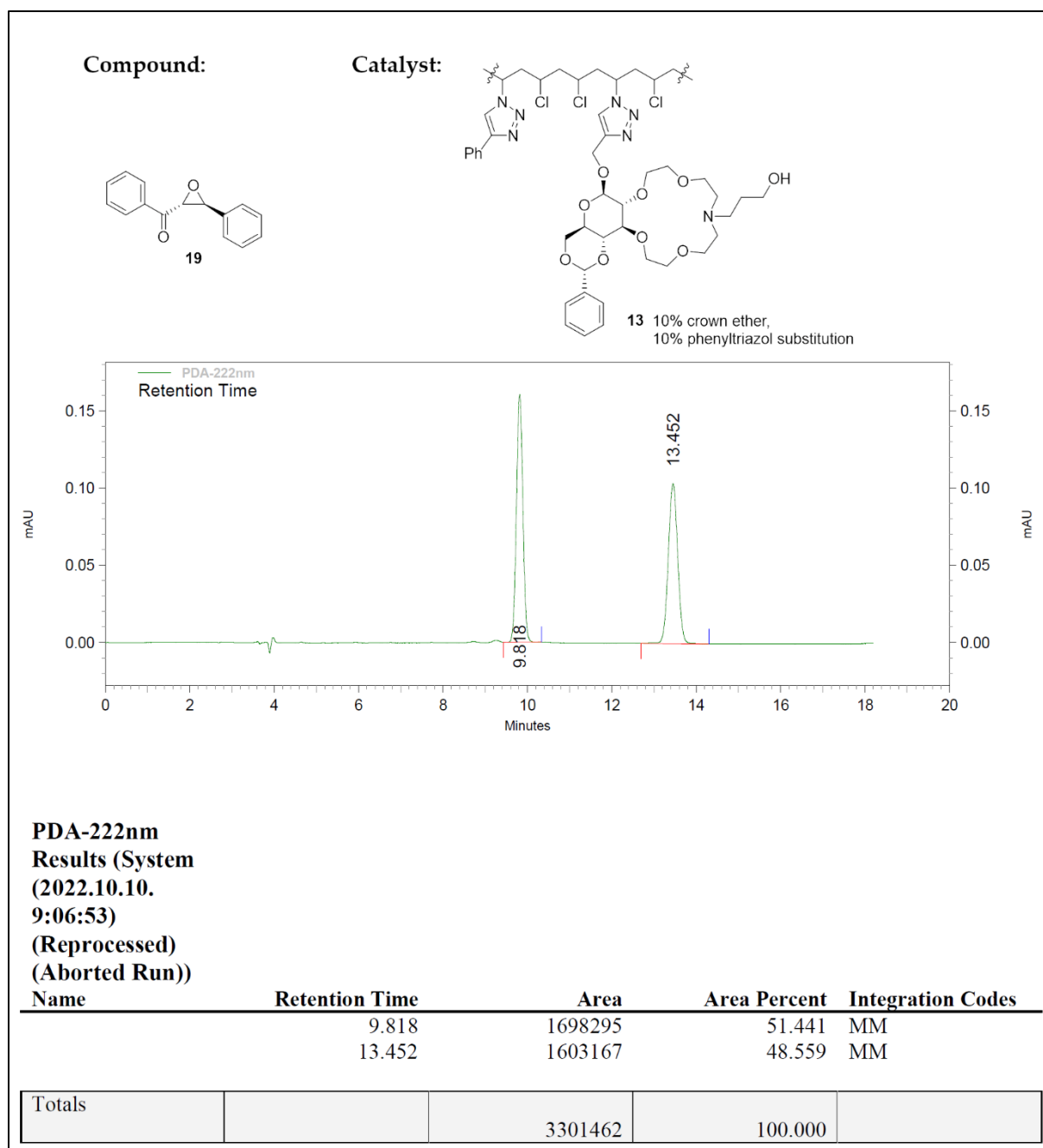


Figure S18. Chiral HPLC chromatogram of **19** (Scheme 5, catalyst **13**).

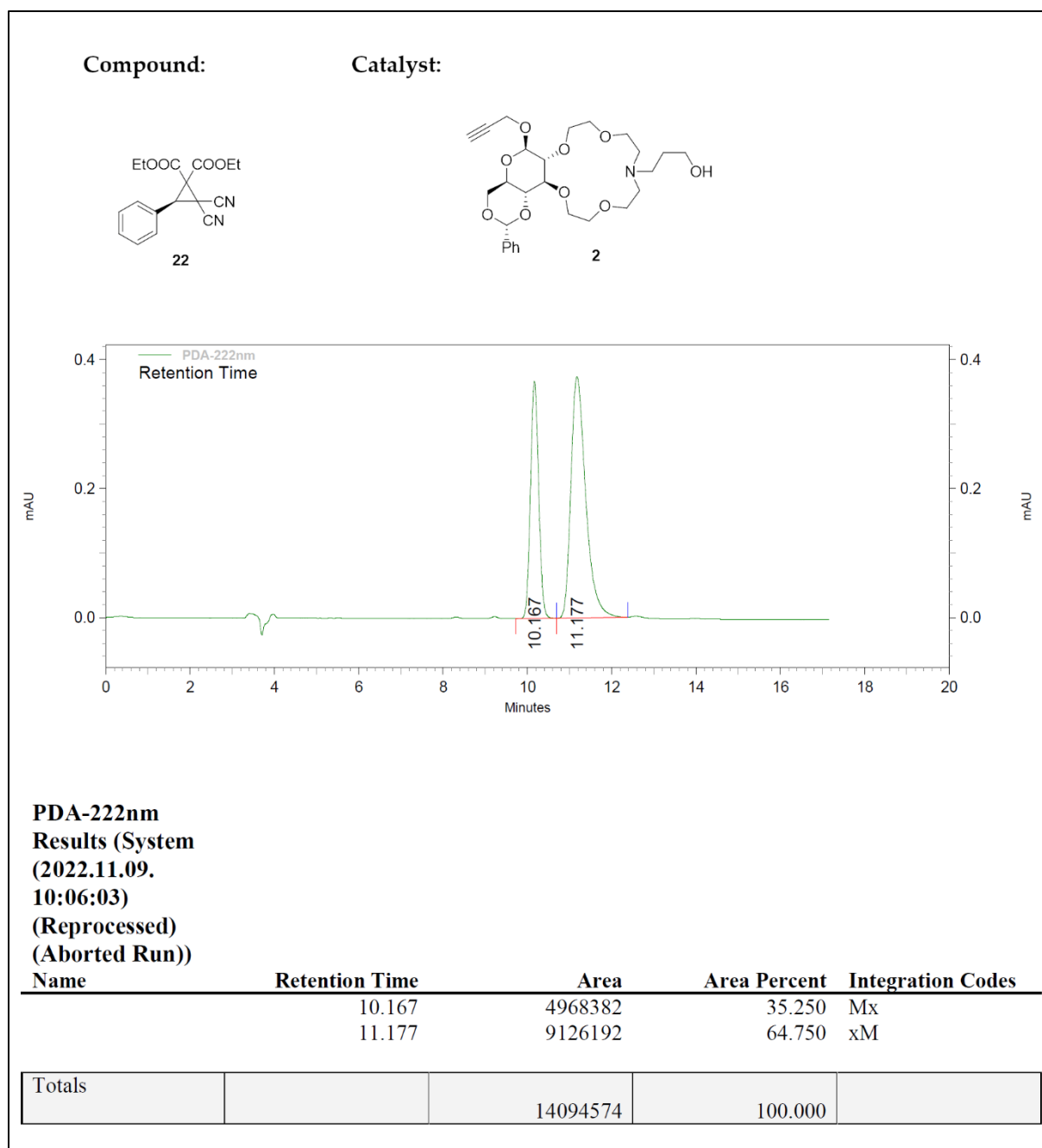


Figure S19. Chiral HPLC chromatogram of **22** (Scheme 6, catalyst **2**).

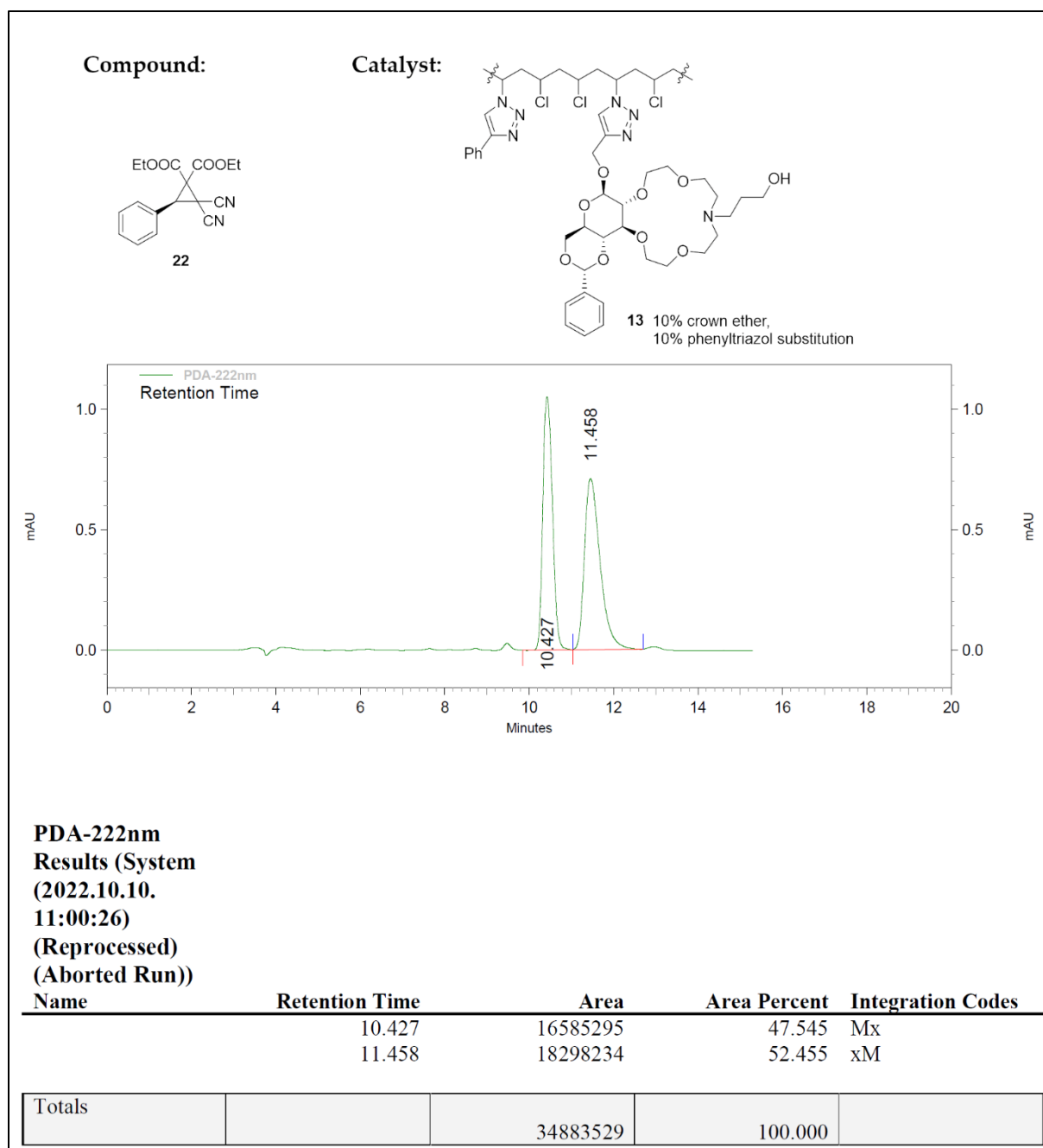


Figure S20. Chiral HPLC chromatogram of **22** (Scheme 6, catalyst **13**).

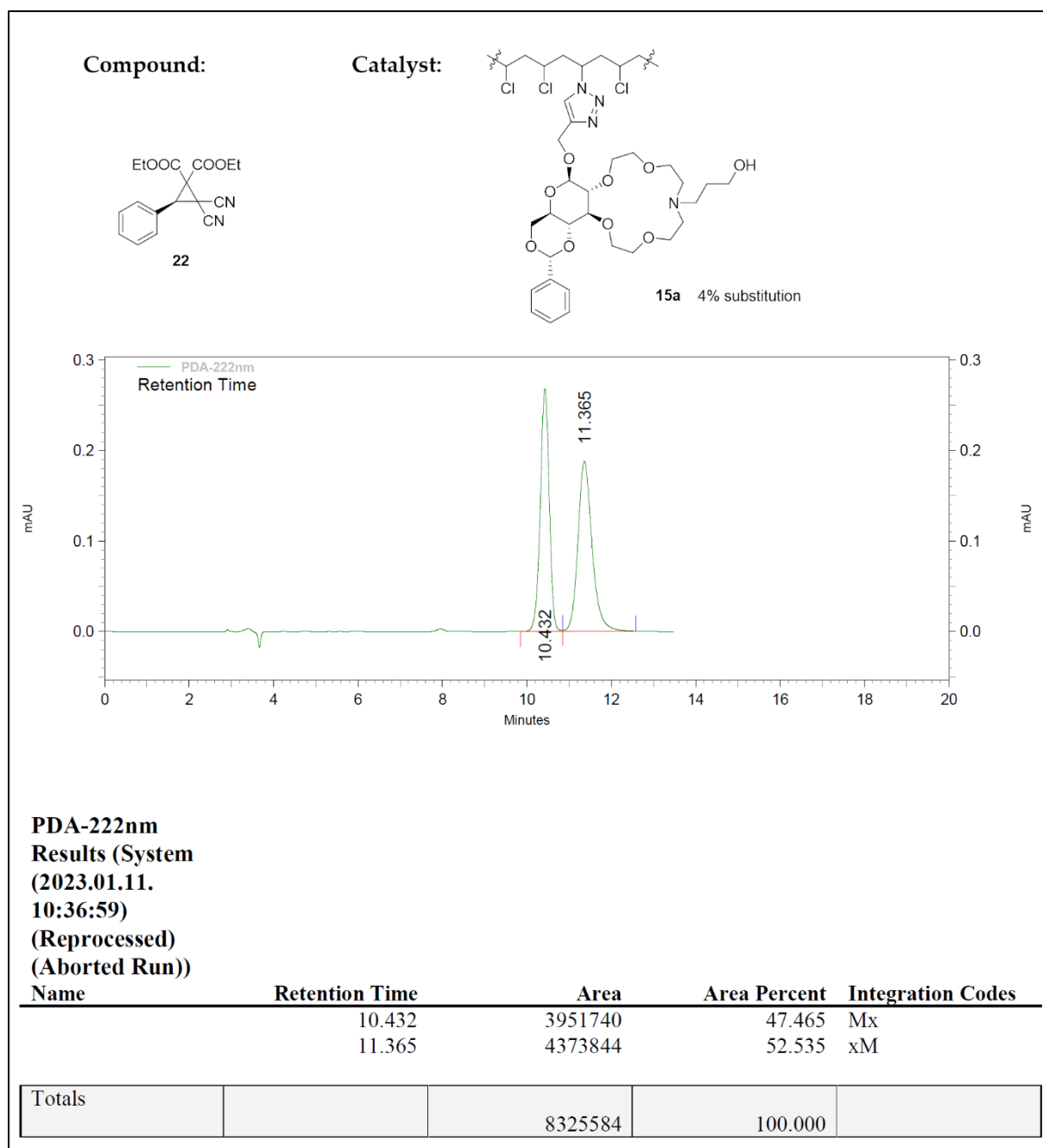


Figure S21. Chiral HPLC chromatogram of **22** (Scheme 6, catalyst **15a**).

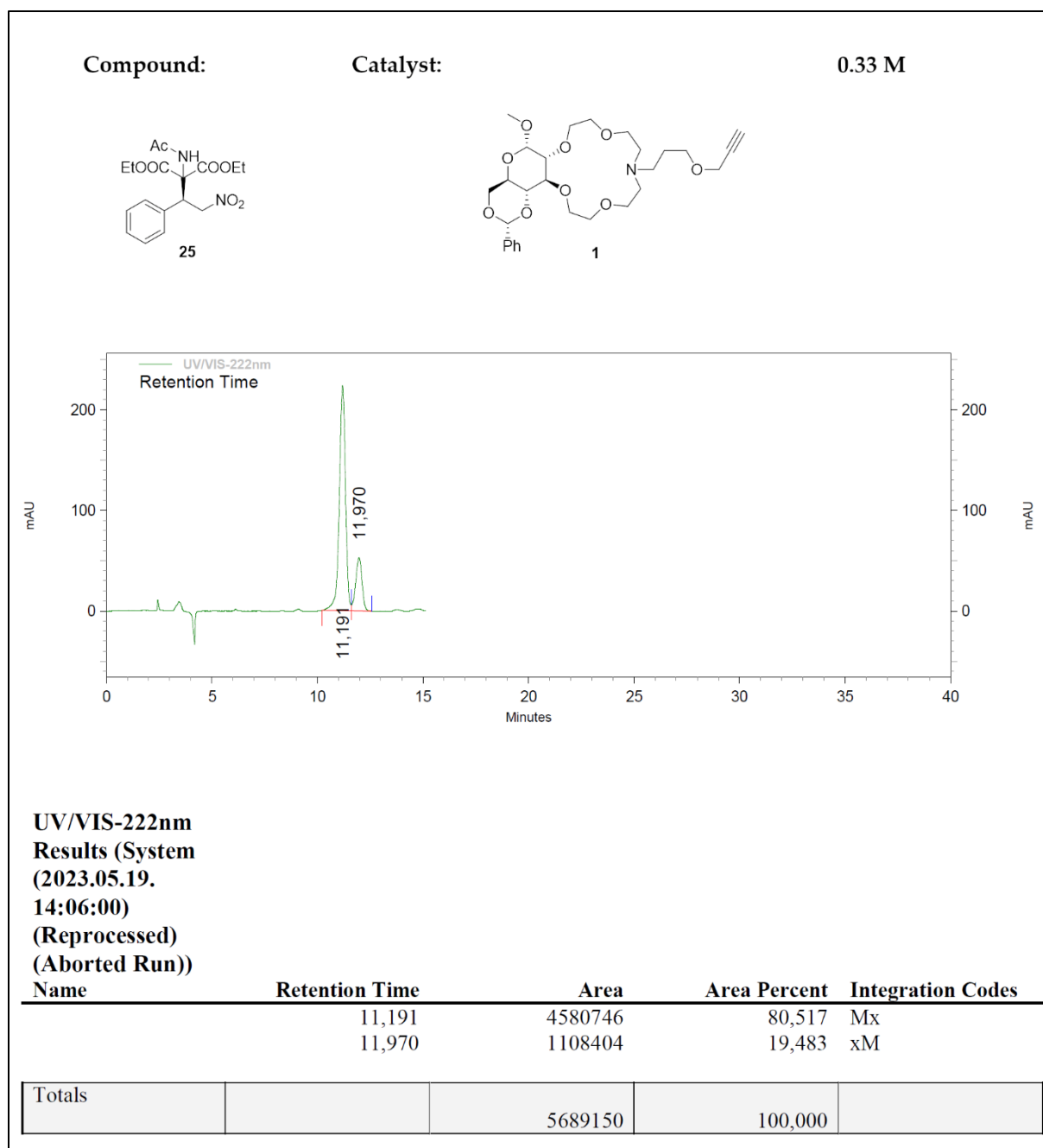


Figure S22. Chiral HPLC chromatogram of **25** (Table 1, Entry 1).

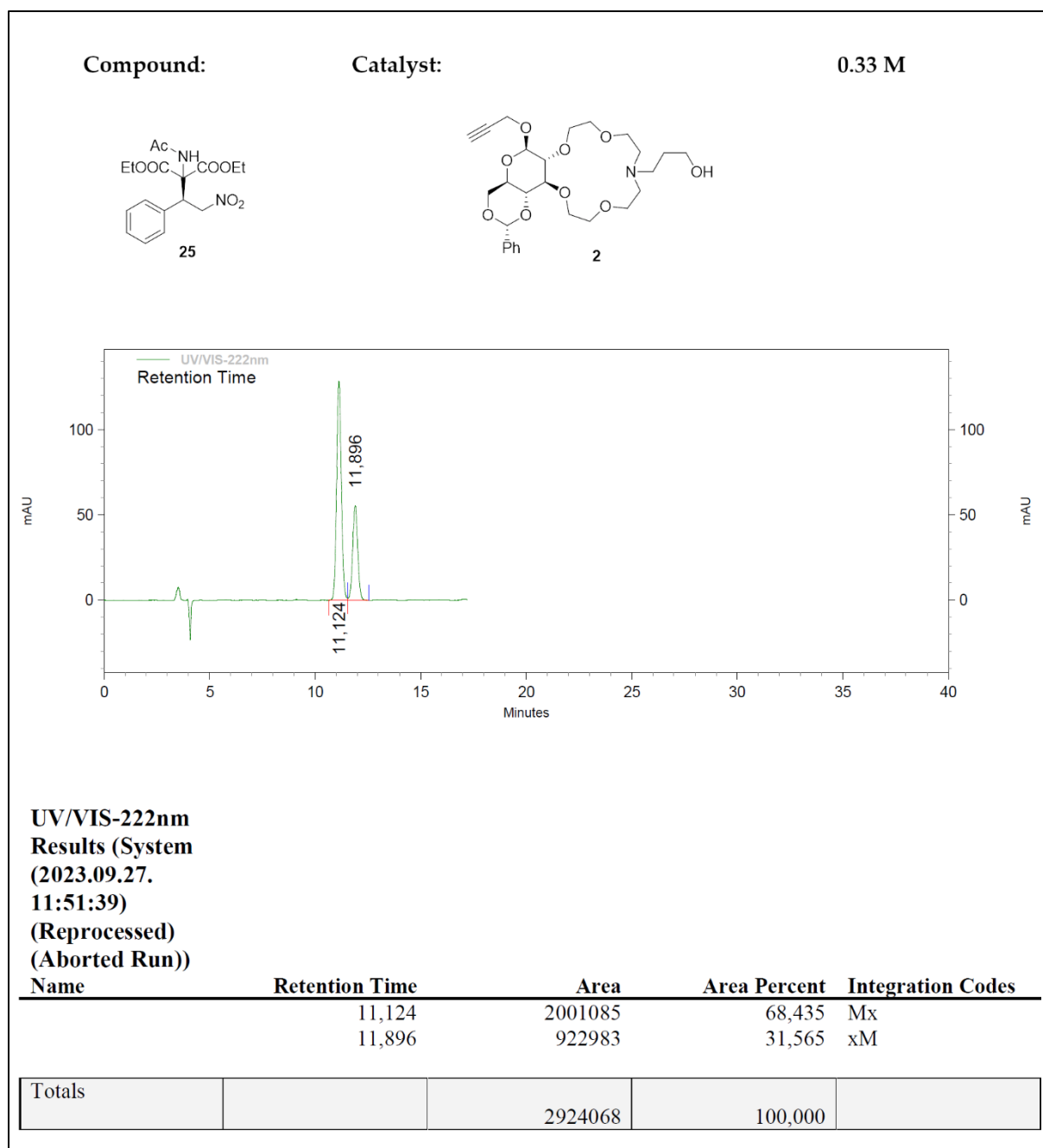


Figure S23. Chiral HPLC chromatogram of **25** (Table 1, Entry 2).

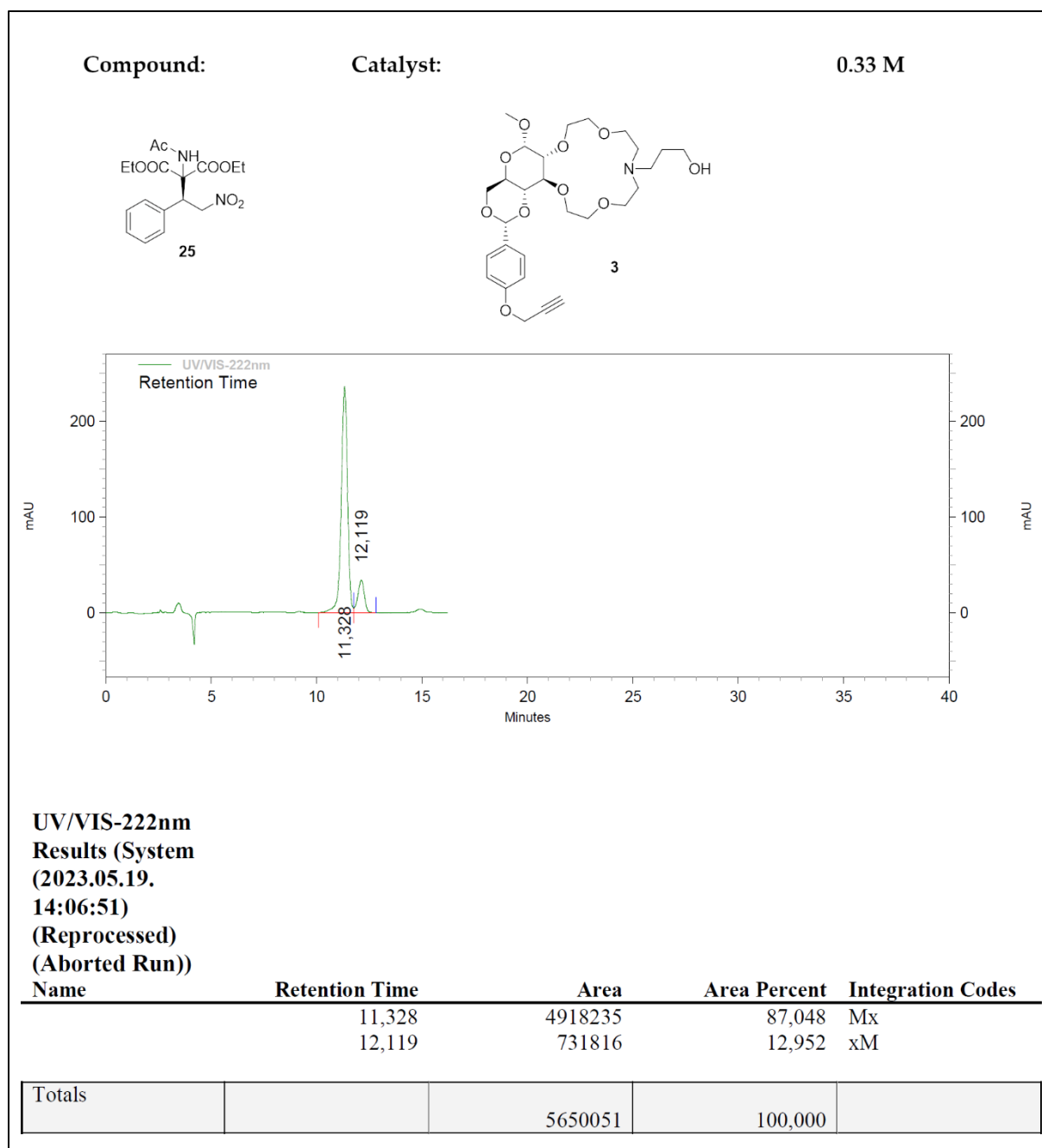


Figure S24. Chiral HPLC chromatogram of **25** (Table 1, Entry 3).

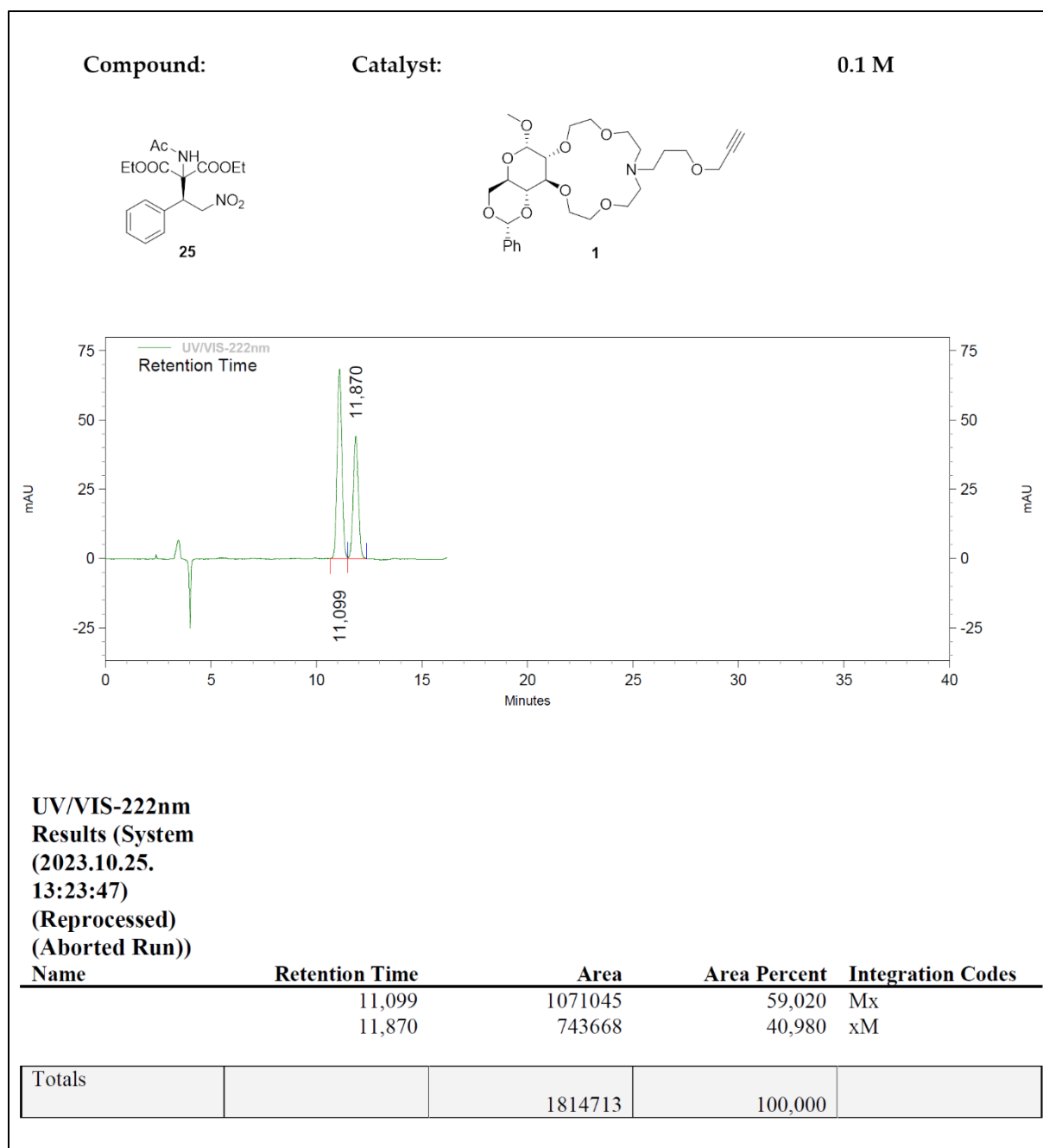


Figure S25. Chiral HPLC chromatogram of **25** (Table 1, Entry 4).

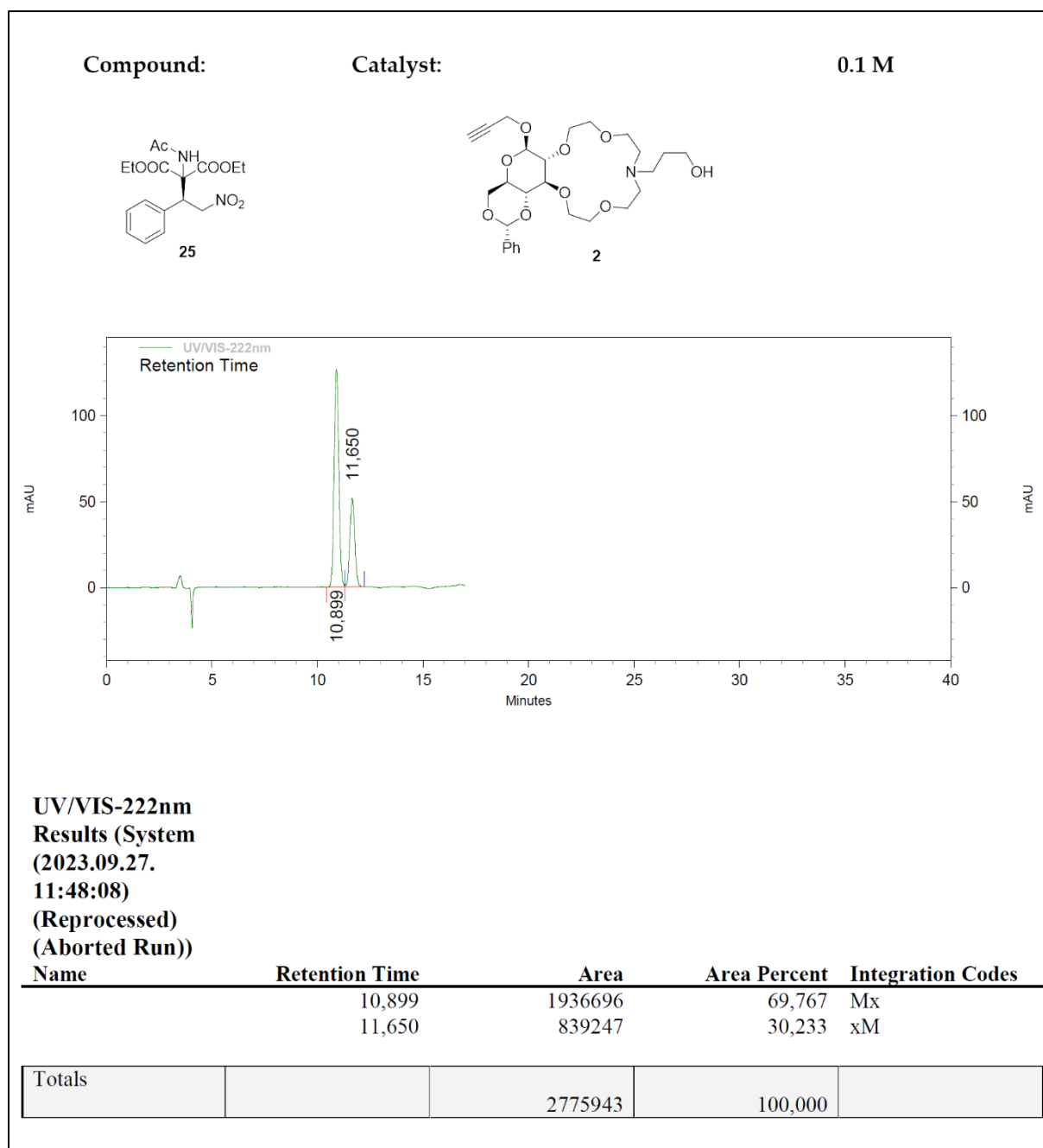


Figure S26. Chiral HPLC chromatogram of **25** (Table 1, Entry 5).

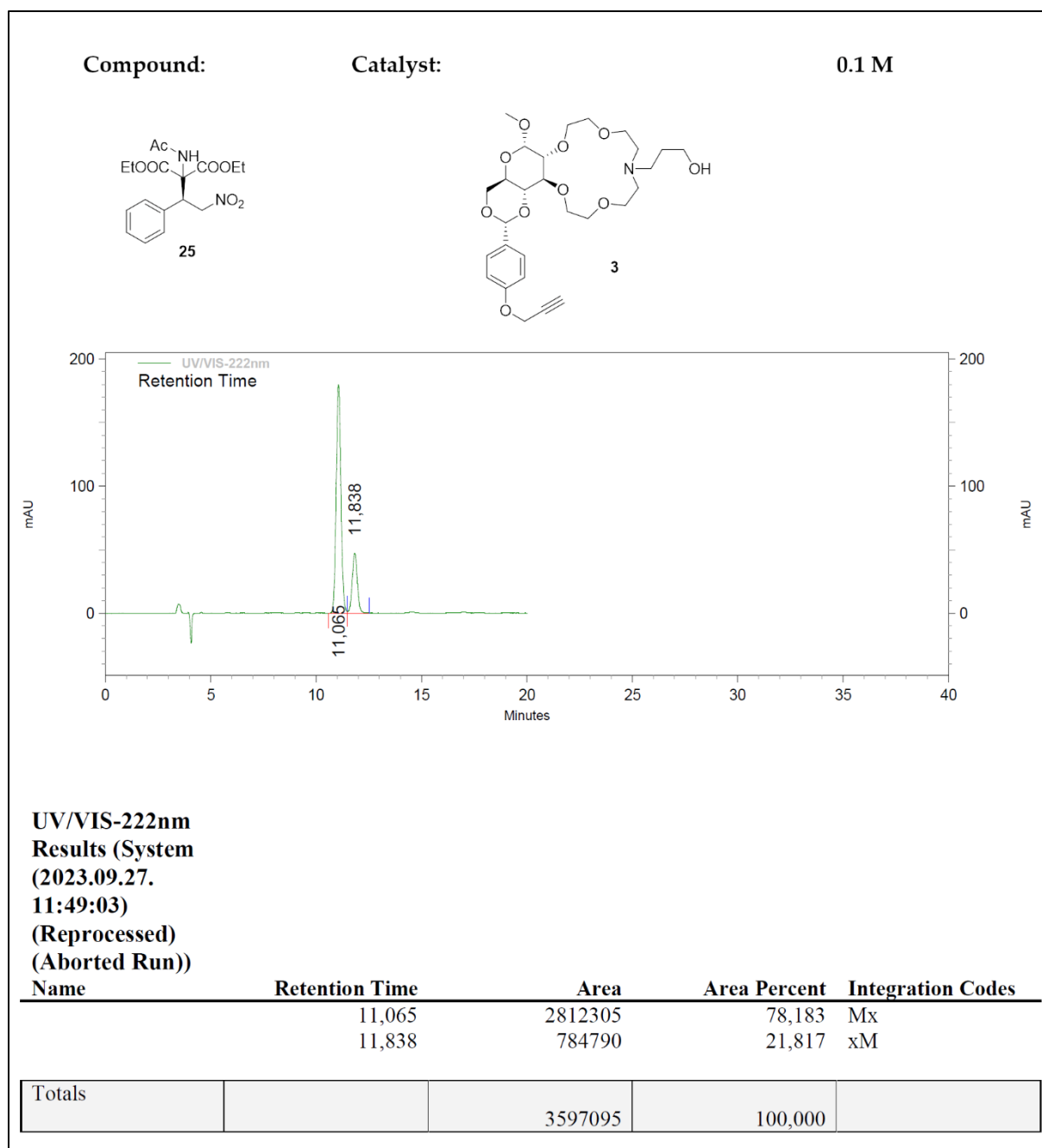


Figure S27. Chiral HPLC chromatogram of **25** (Table 1, Entry 6).

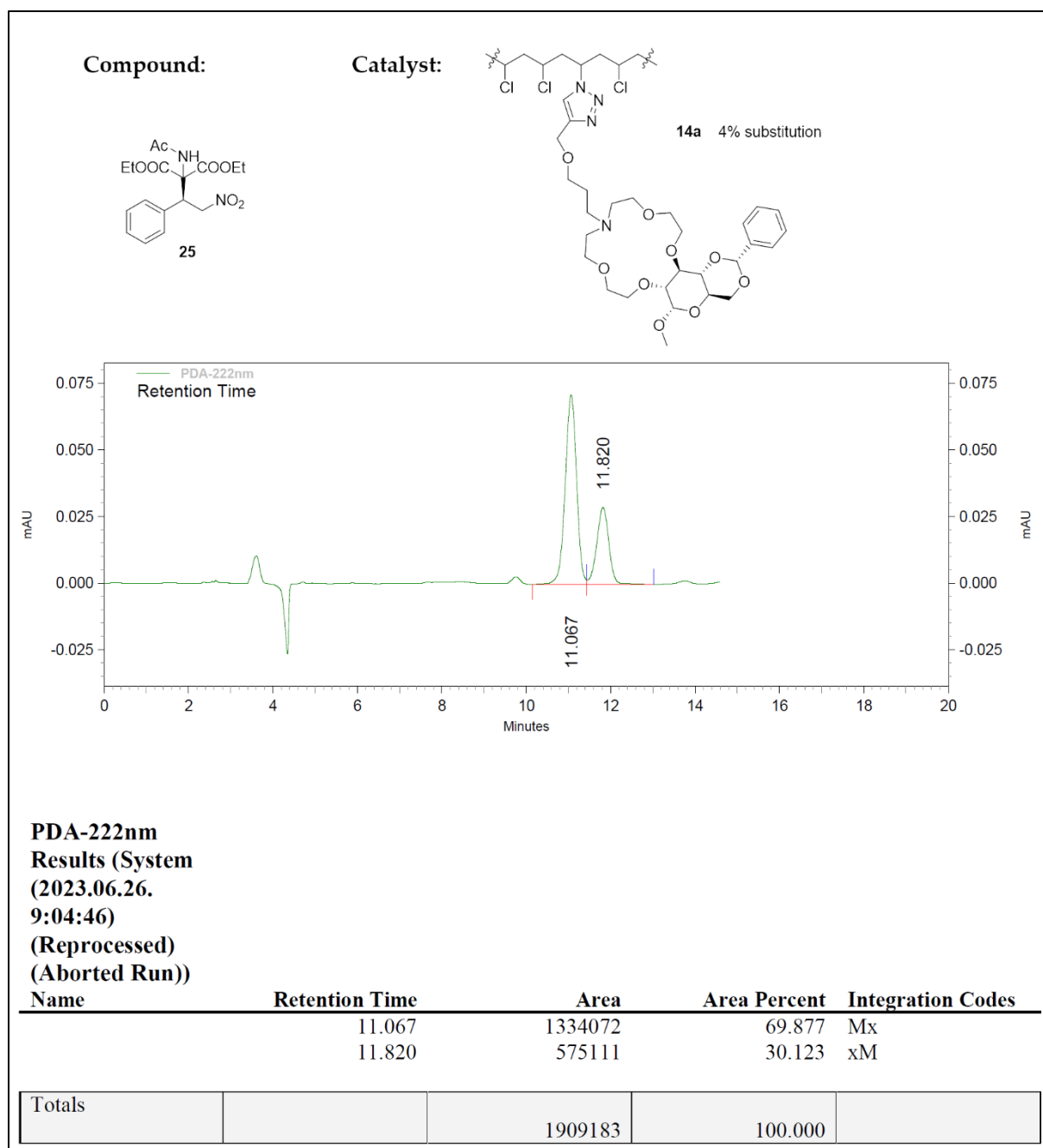


Figure S28. Chiral HPLC chromatogram of **25** (Table 2, Entry 1).

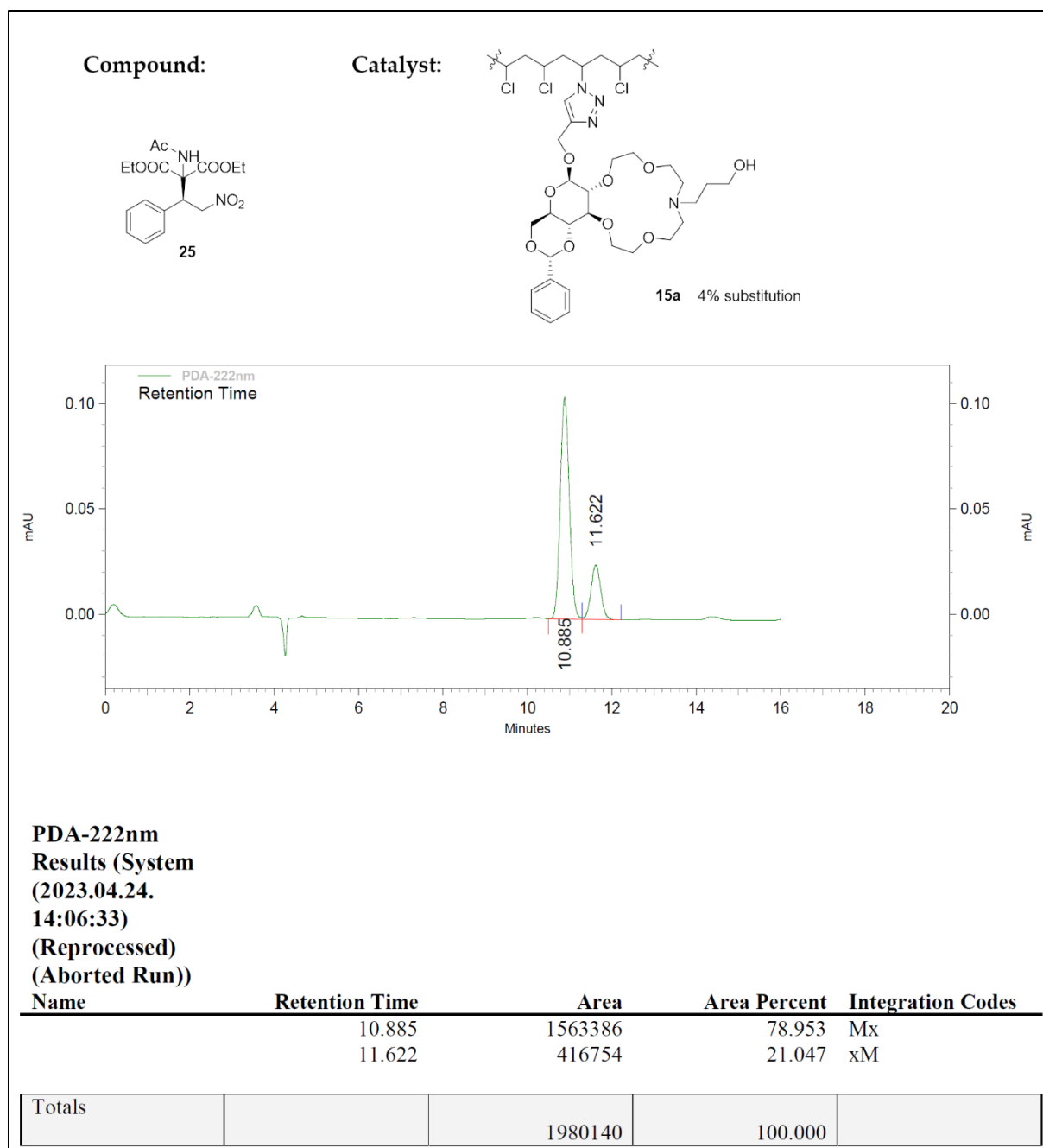


Figure S29. Chiral HPLC chromatogram of **25** (Table 2, Entry 2).

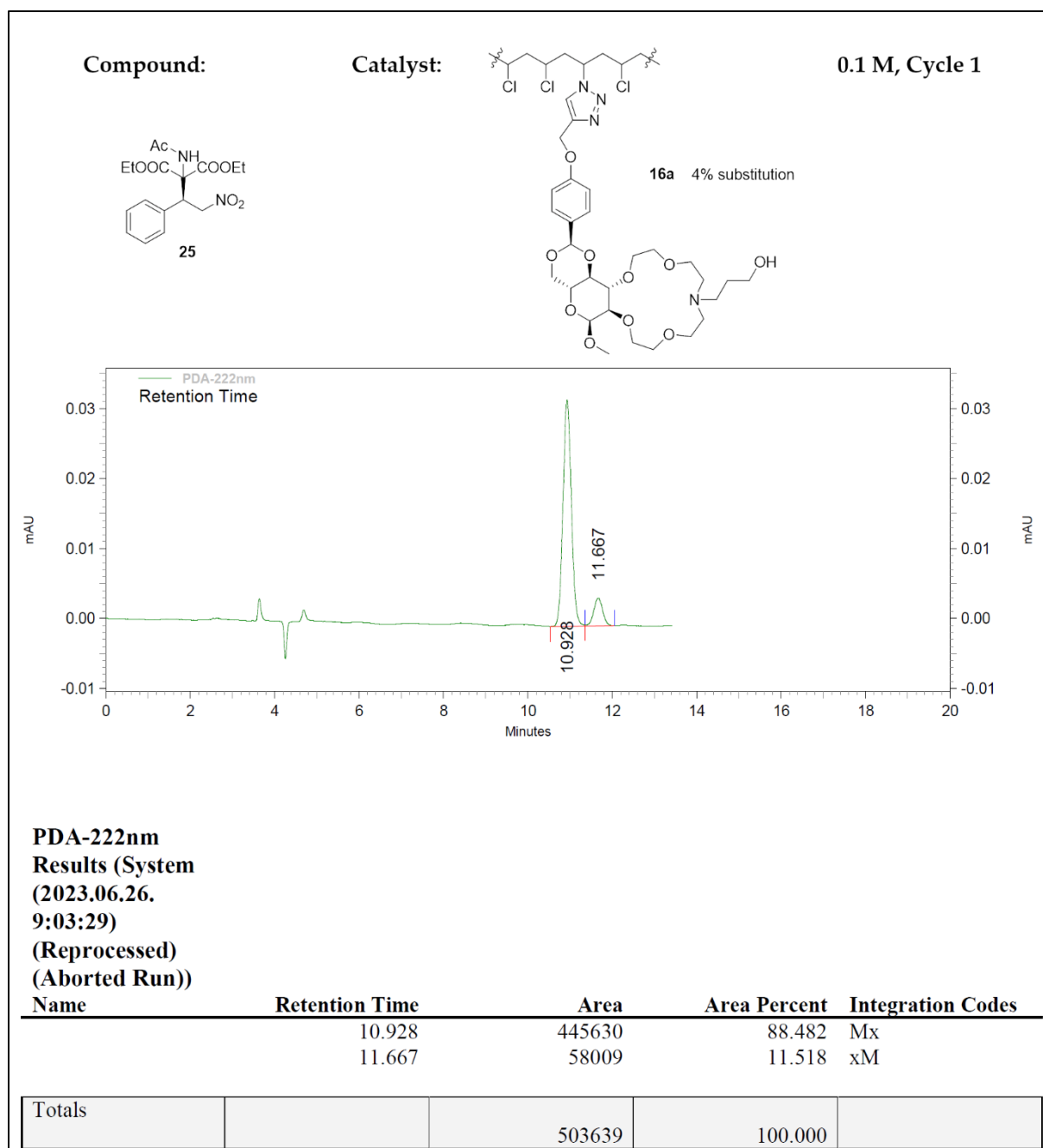
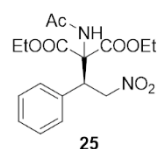
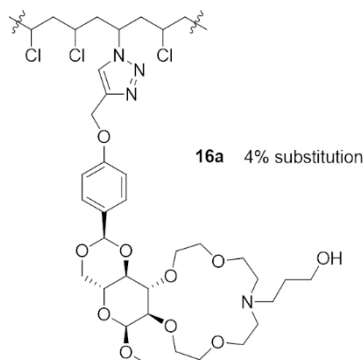


Figure S30. Chiral HPLC chromatogram of **25** (Table 2, Entry 3, Cycle 1).



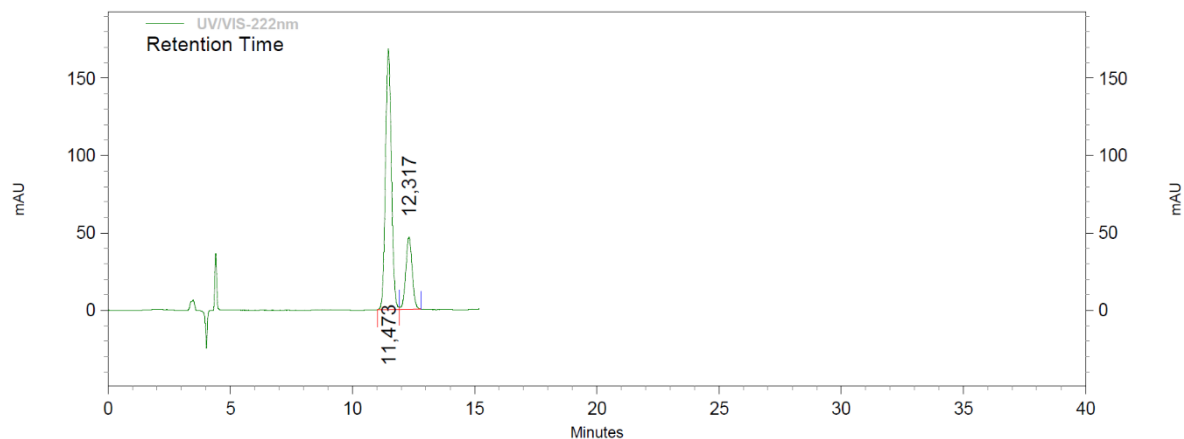
25

Catalyst:



16a 4% substitution

0.1 M, Cycle 3



**UV/VIS-222nm
Results (System
(2023.10.25.
13:51:56)
(Reprocessed)
(Aborted Run))**

Name	Retention Time	Area	Area Percent	Integration Codes
	11,473	2840391	77,101	Mx
	12,317	843617	22,899	xM
Totals		3684008	100,000	

Figure S32. Chiral HPLC chromatogram of **25** (Table 2, Entry 3, Cycle 3).

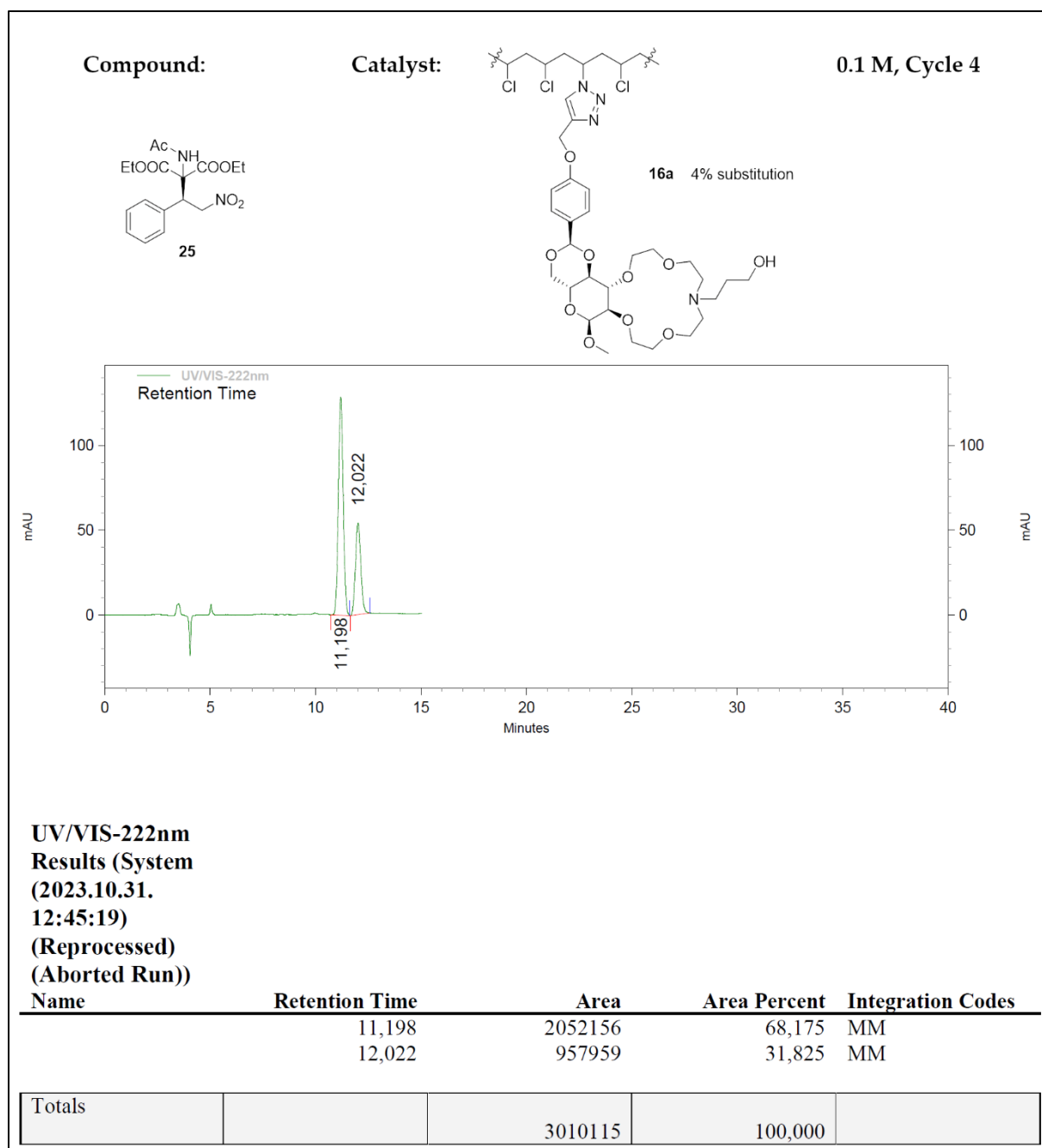
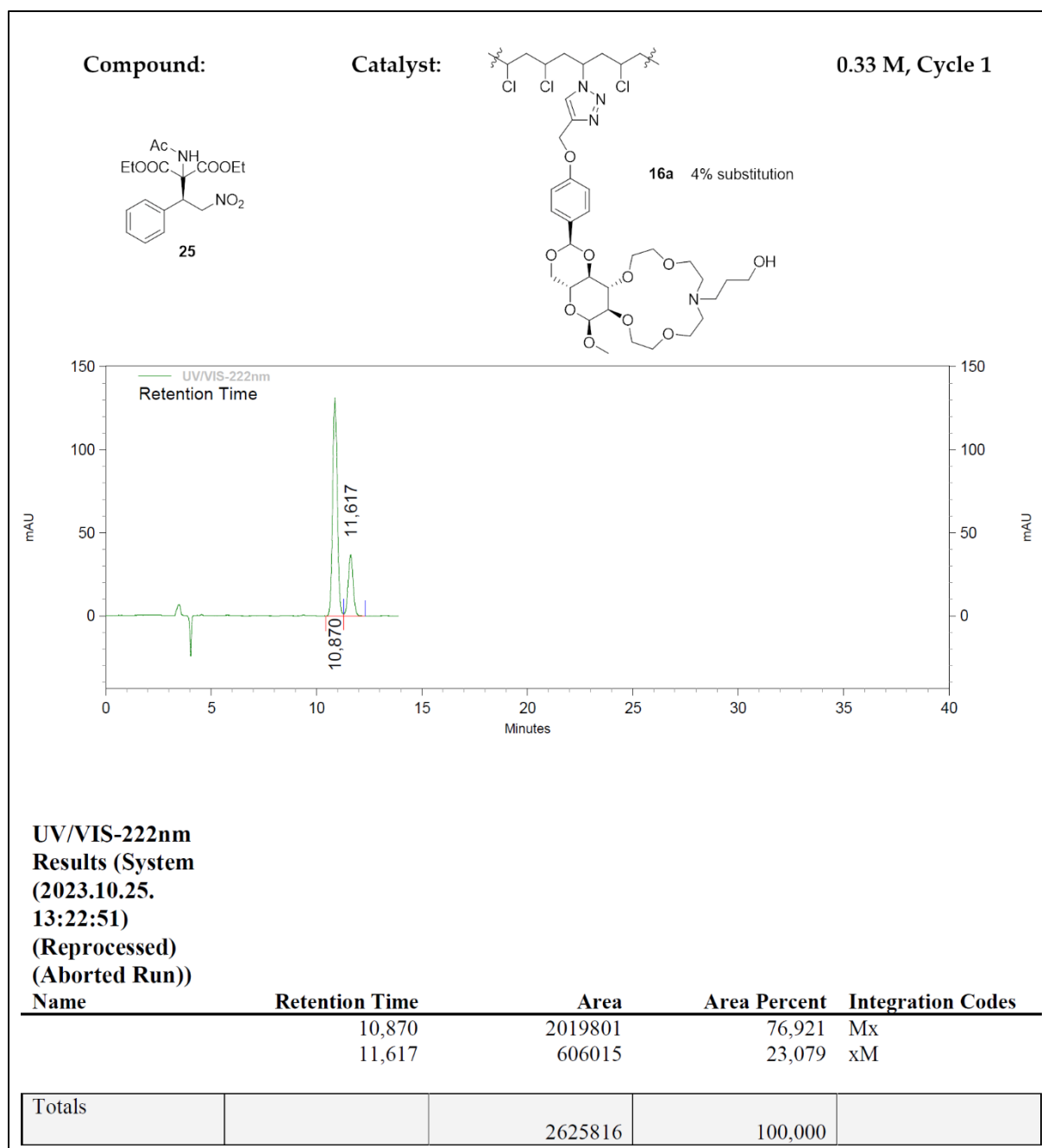
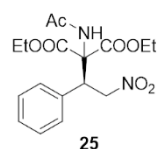


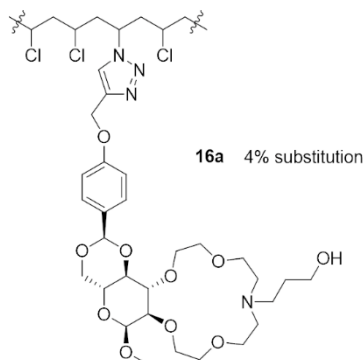
Figure S33. Chiral HPLC chromatogram of **25** (Table 2, Entry 3, Cycle 4).





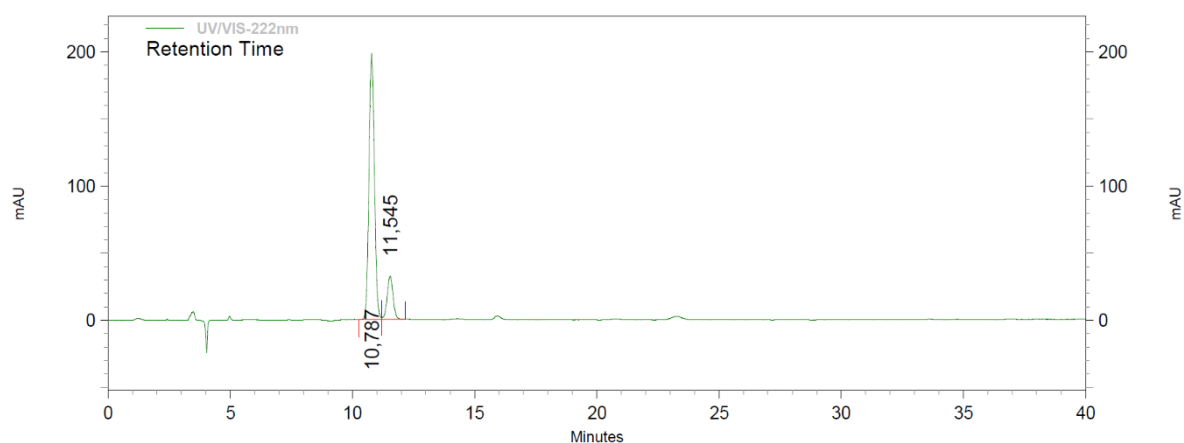
25

Catalyst:



16a 4% substitution

0.33 M, Cycle 2



**UV/VIS-222nm
Results (System
(2023.10.25.
13:21:17)
(Reprocessed))**

(Reprocessed)				
Name	Retention Time	Area	Area Percent	Integration Codes
	10,787	3088201	85,150	Mx
	11,545	538565	14,850	xM
Totals		3626766	100,000	

Figure S36. Chiral HPLC chromatogram of **25** (Table 2, Entry 4, Cycle 2).

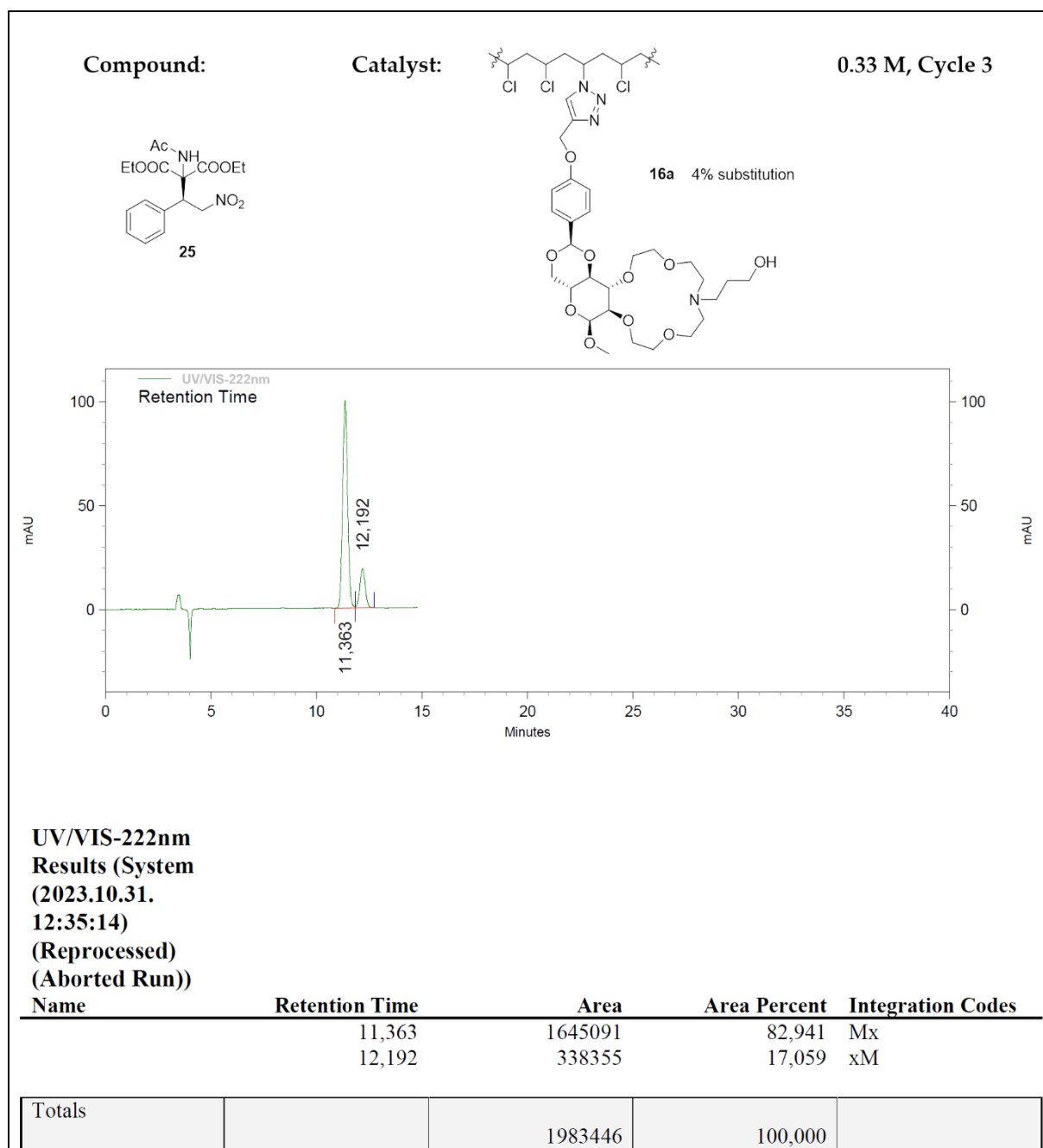


Figure S37. Chiral HPLC chromatogram of **25** (Table 2, Entry 4, Cycle 3).

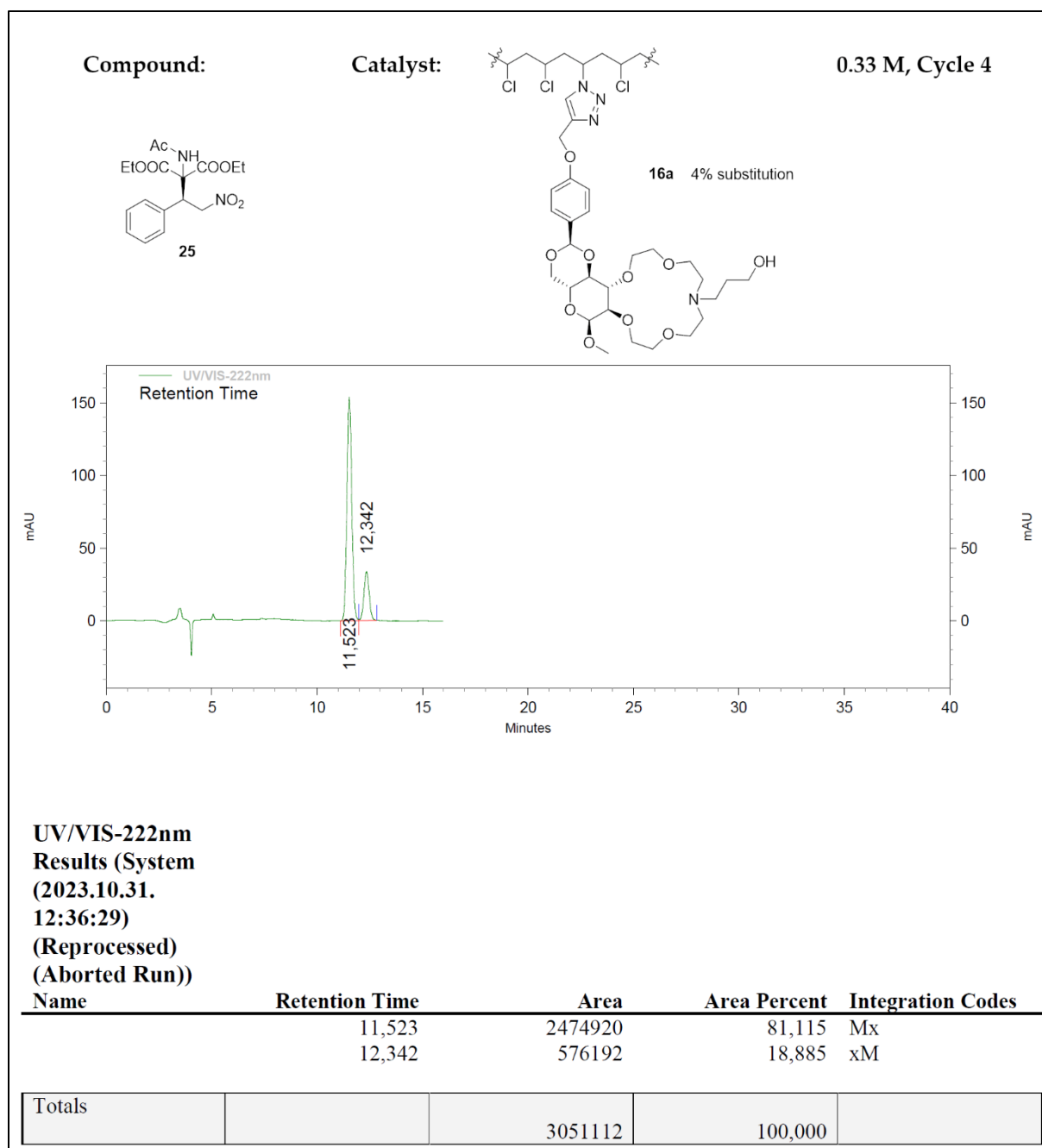
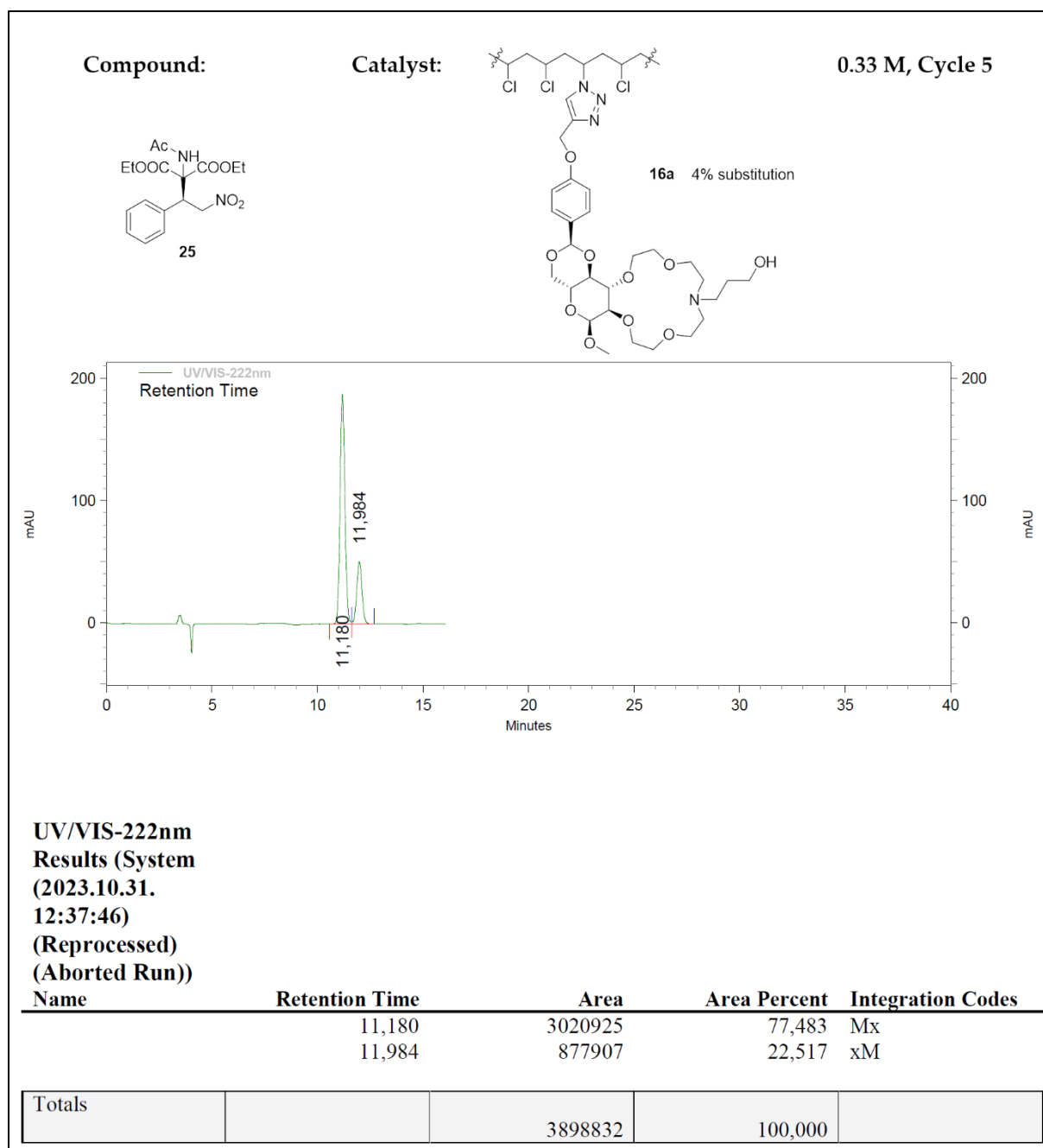


Figure S38. Chiral HPLC chromatogram of **25** (Table 2, Entry 4, Cycle 4).



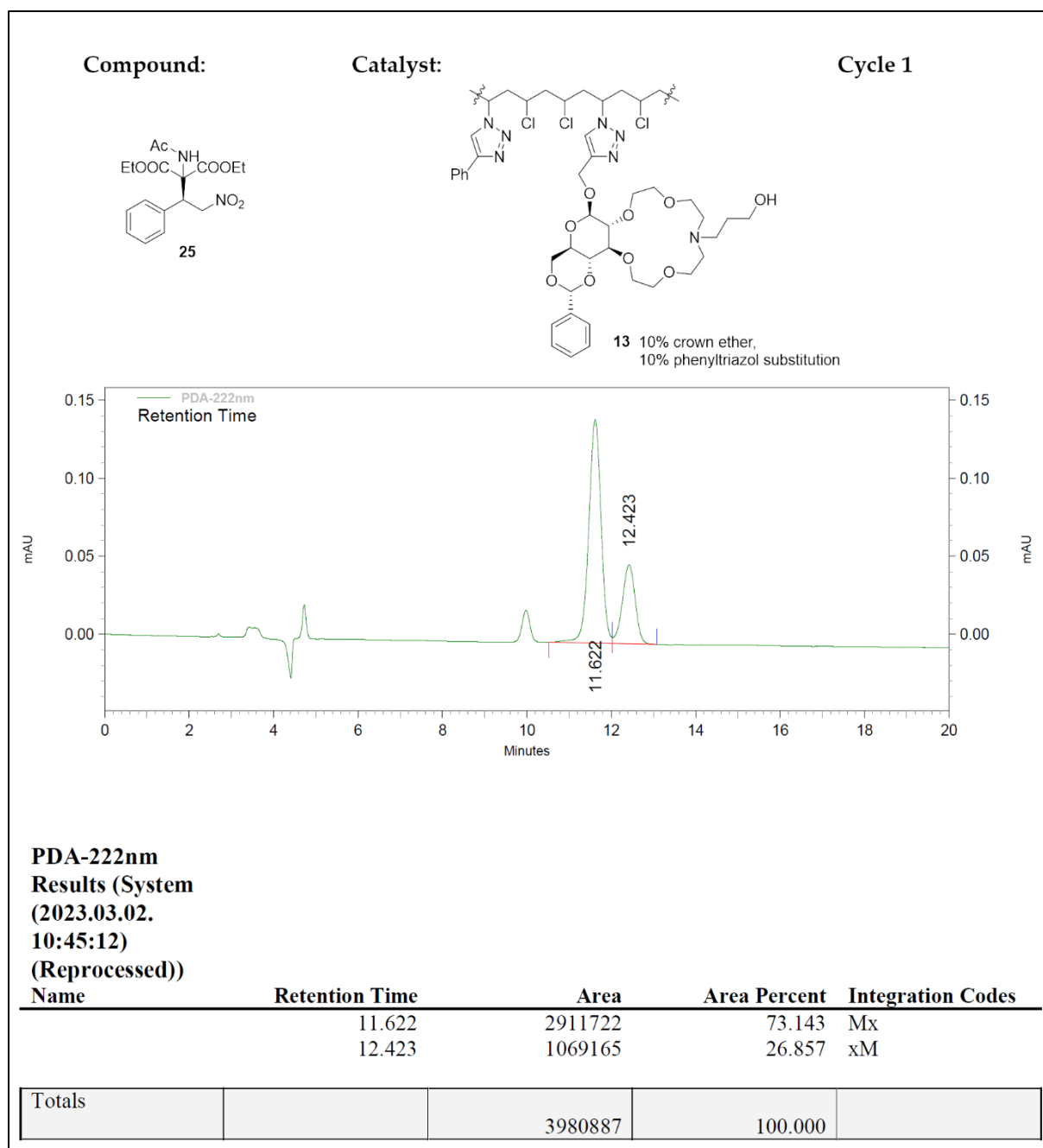


Figure S40. Chiral HPLC chromatogram of **25** (Table 2, Entry 5, Cycle 1).

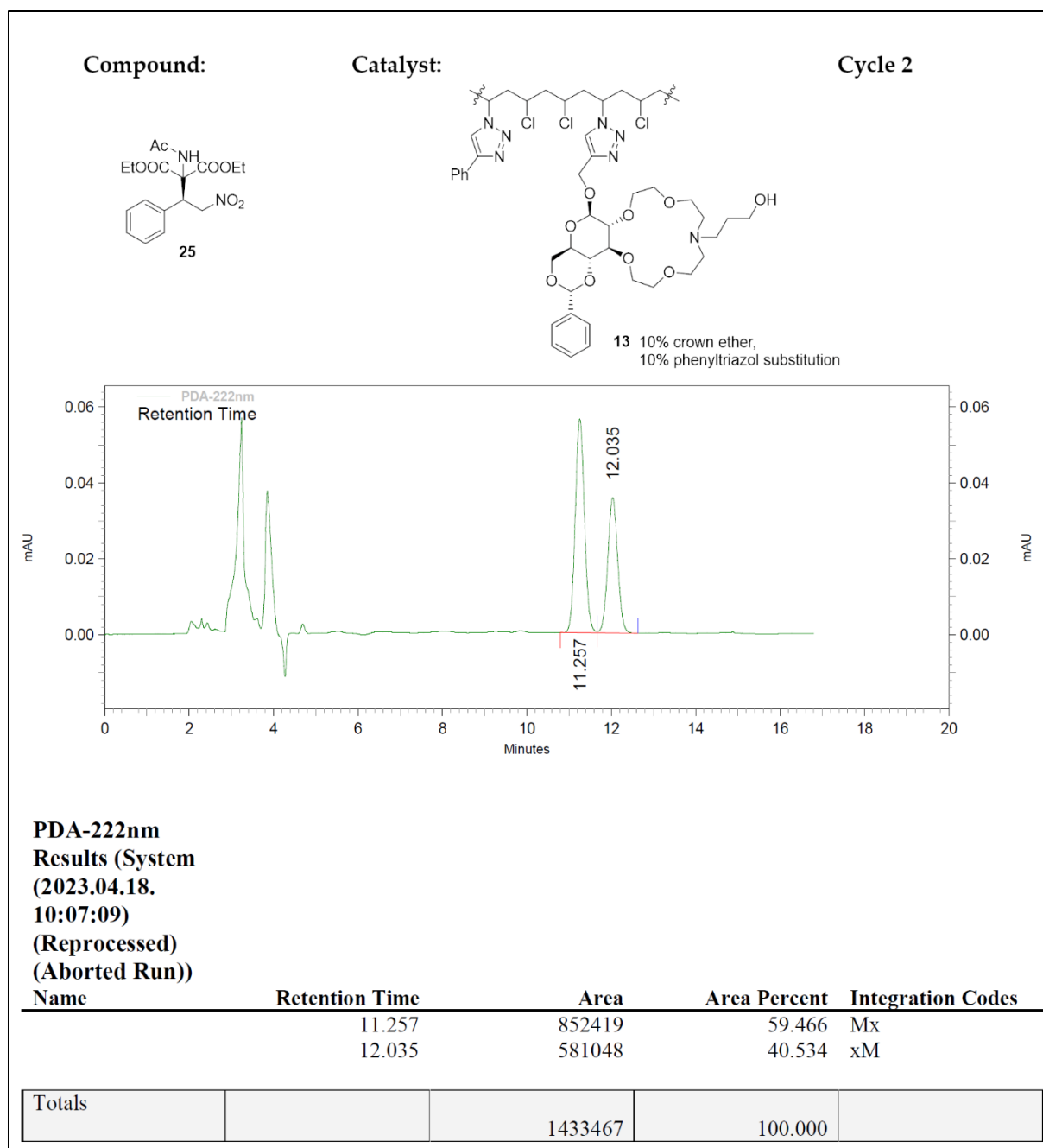


Figure S41. Chiral HPLC chromatogram of **25** (Table 2, Entry 5, Cycle 2).

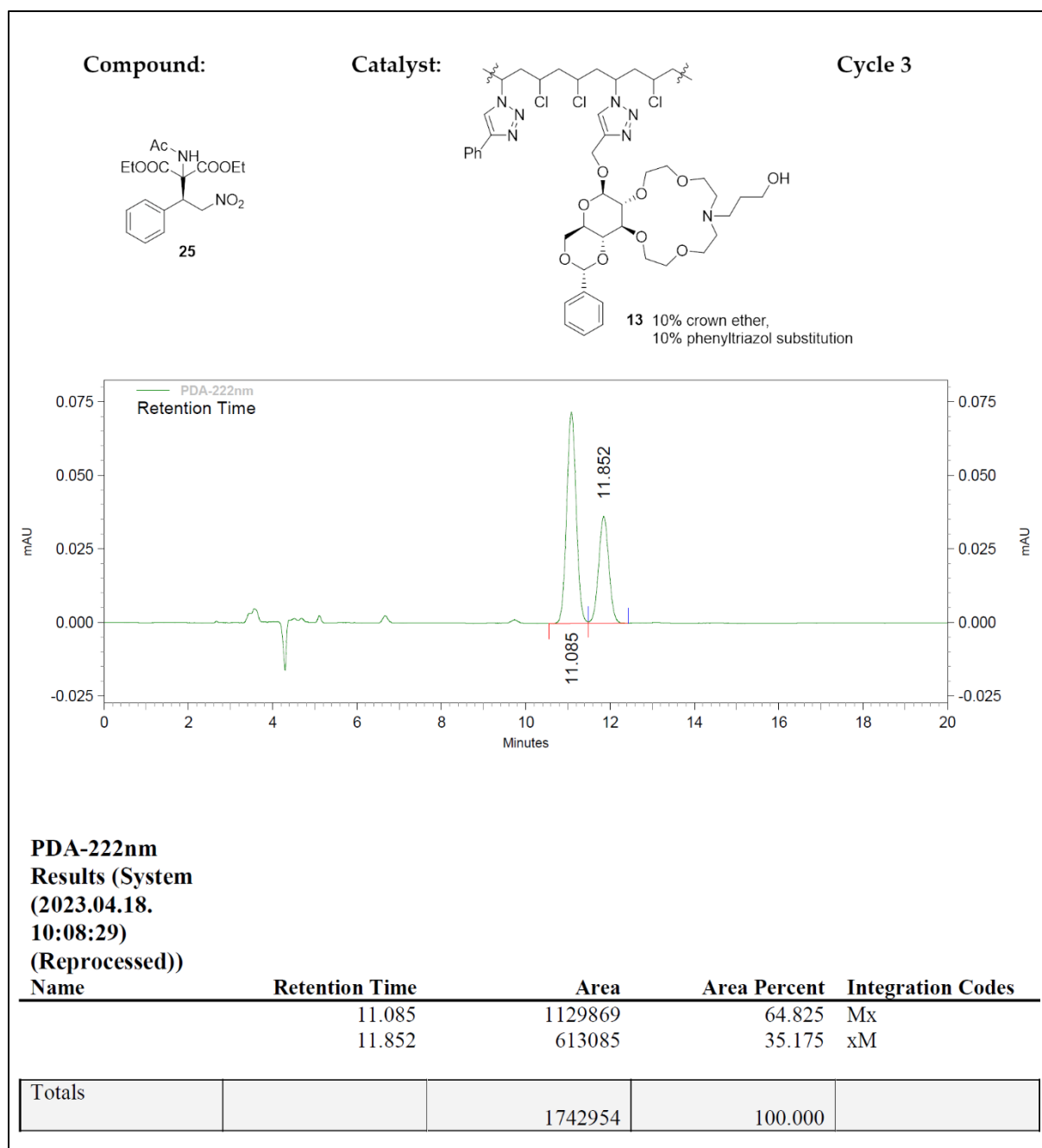


Figure S42. Chiral HPLC chromatogram of **25** (Table 2, Entry 5, Cycle 3).

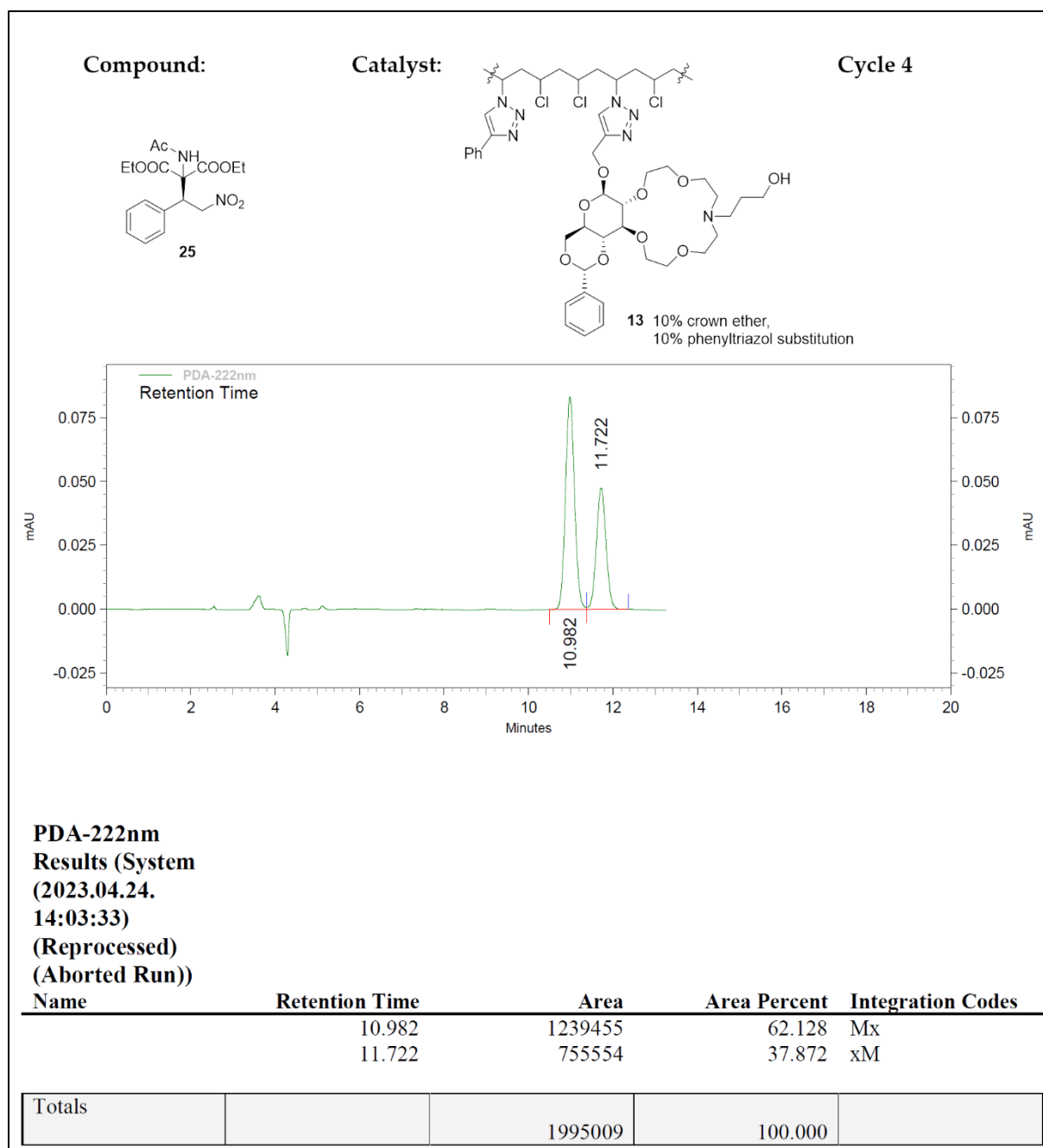


Figure S43. Chiral HPLC chromatogram of **25** (Table 2, Entry 5, Cycle 4).

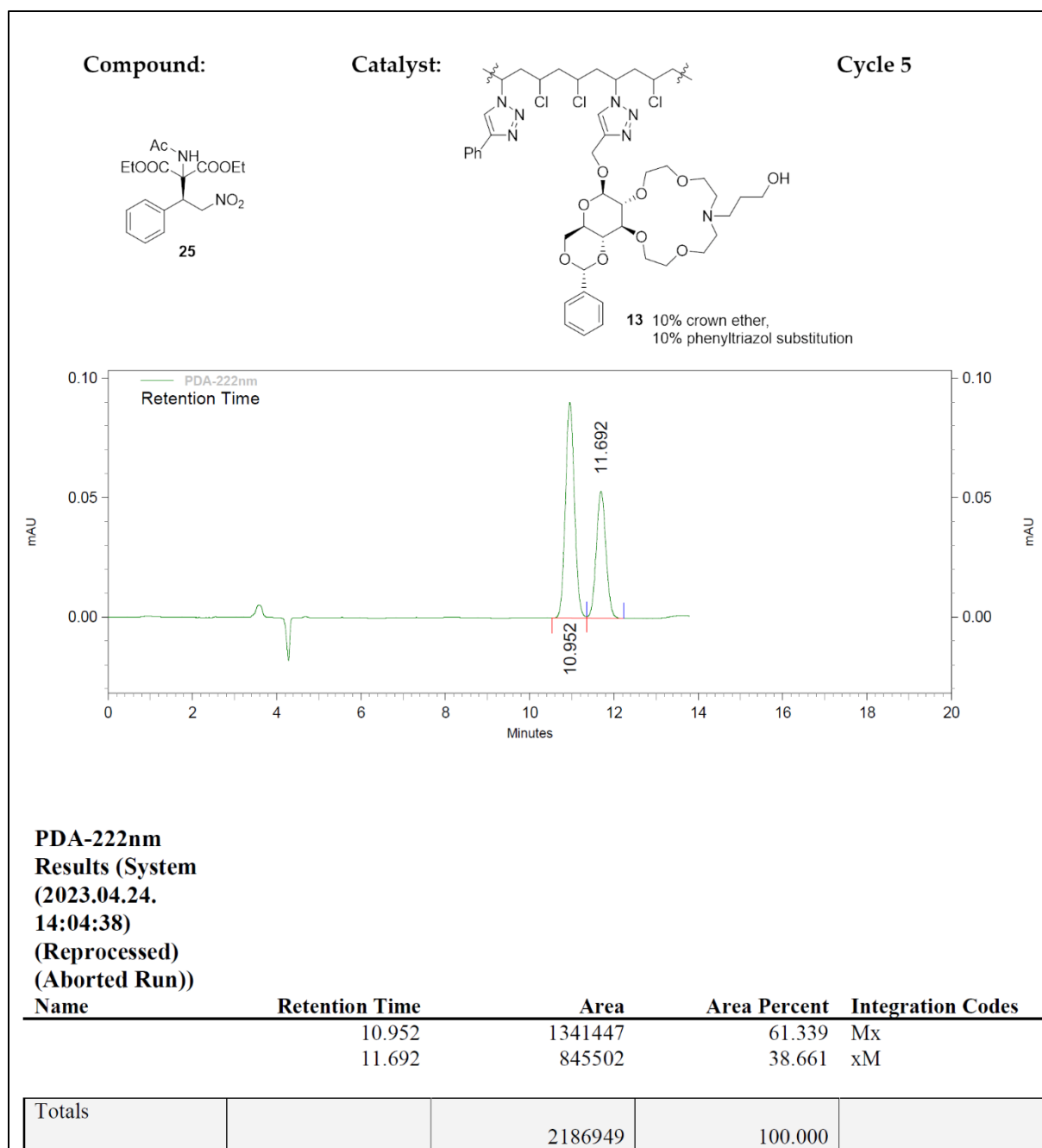


Figure S44. Chiral HPLC chromatogram of **25** (Table 2, Entry 5, Cycle 5).

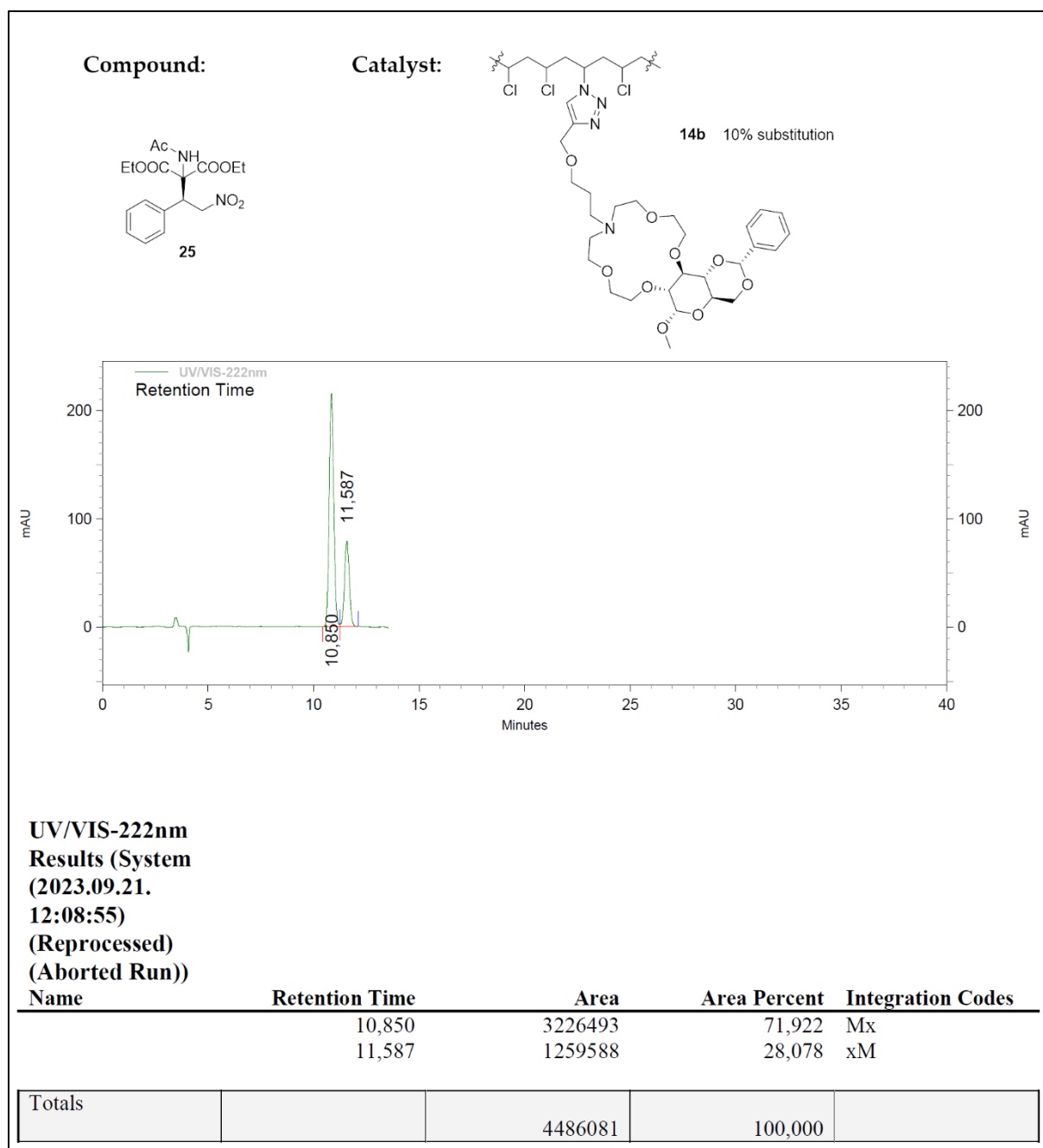


Figure S45. Chiral HPLC chromatogram of **25** (Table 2, Entry 6).

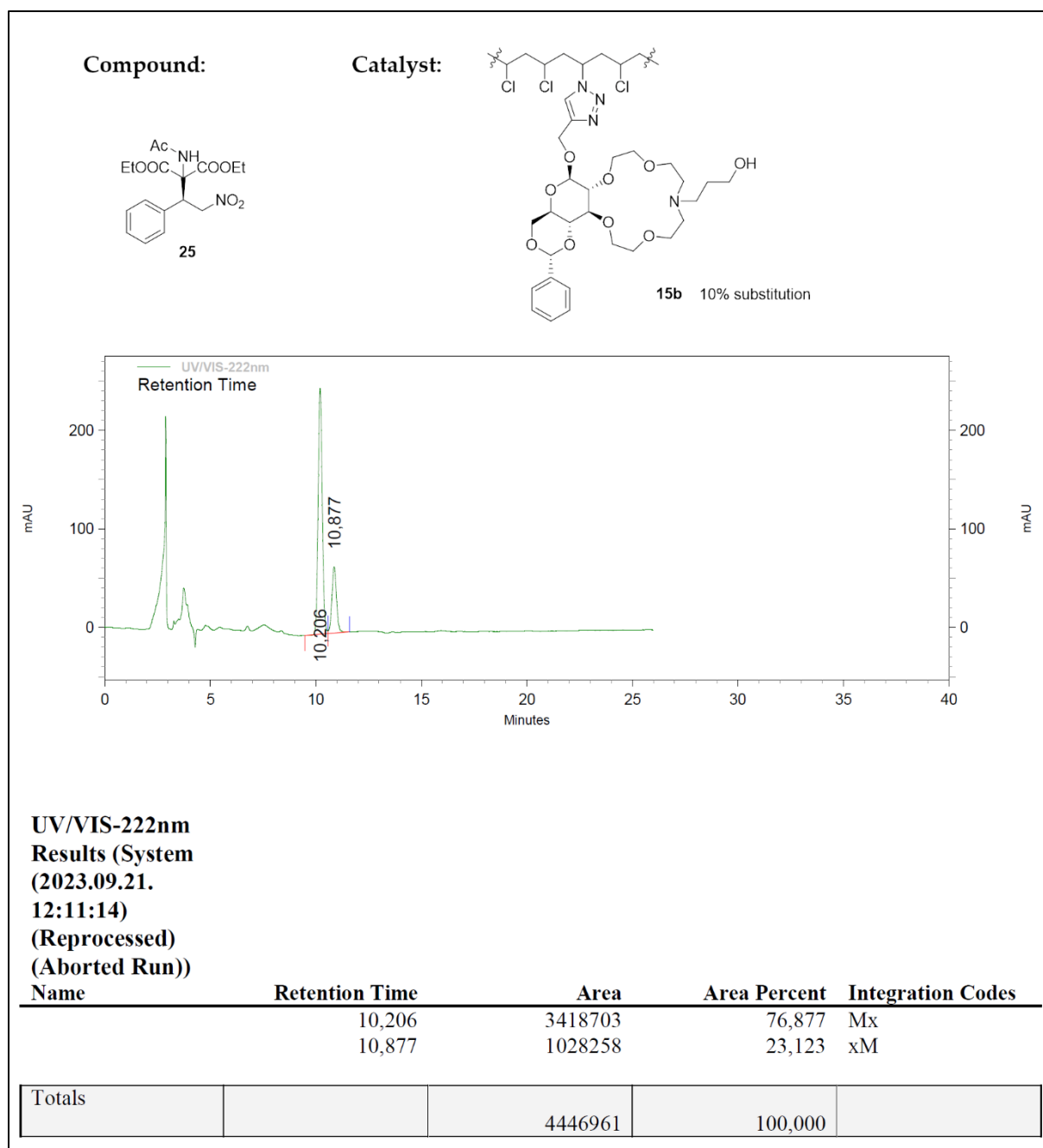


Figure S46. Chiral HPLC chromatogram of **25** (Table 2, Entry 7).

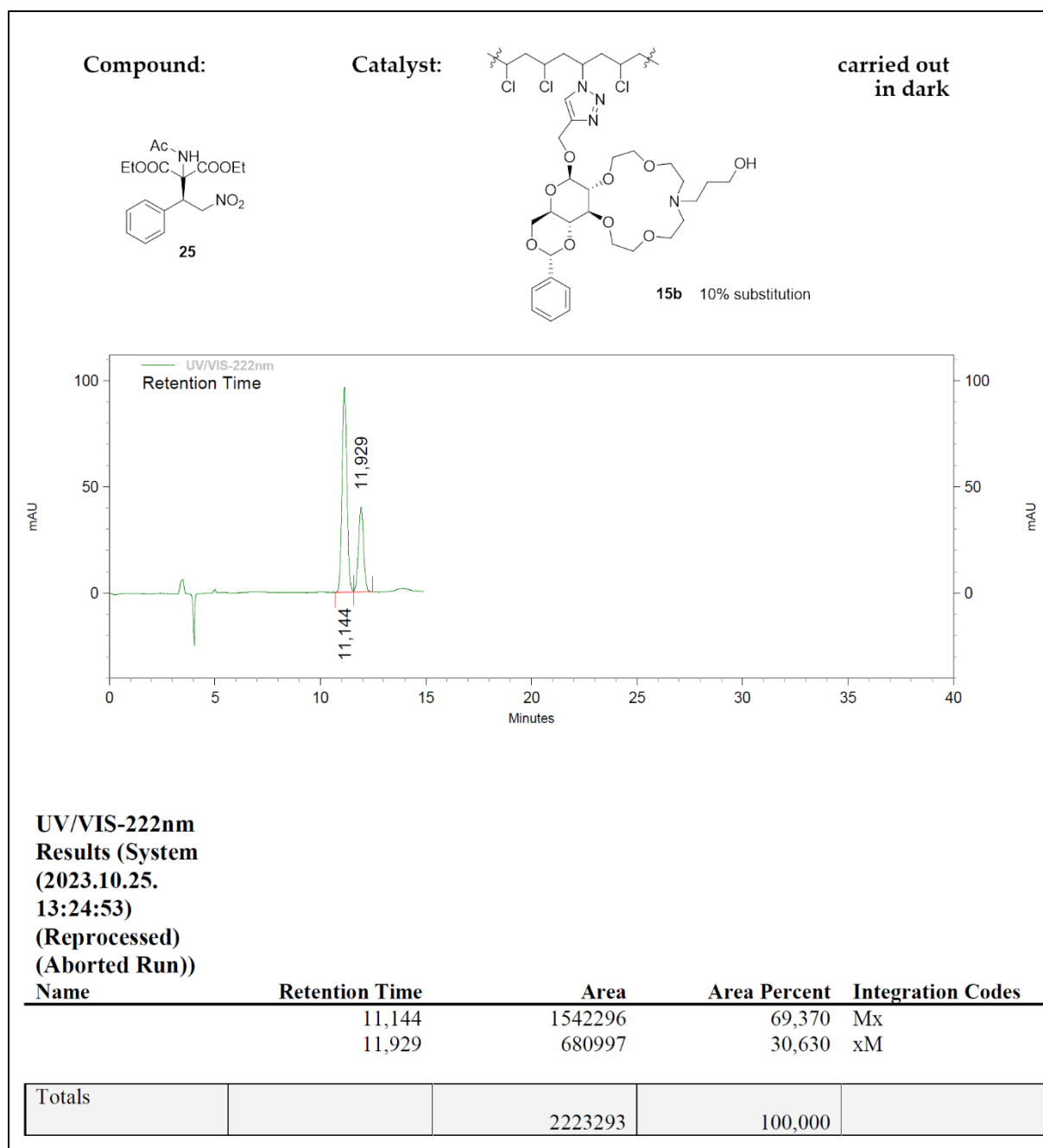


Figure S47. Chiral HPLC chromatogram of **25** (Table 2, Entry 8).

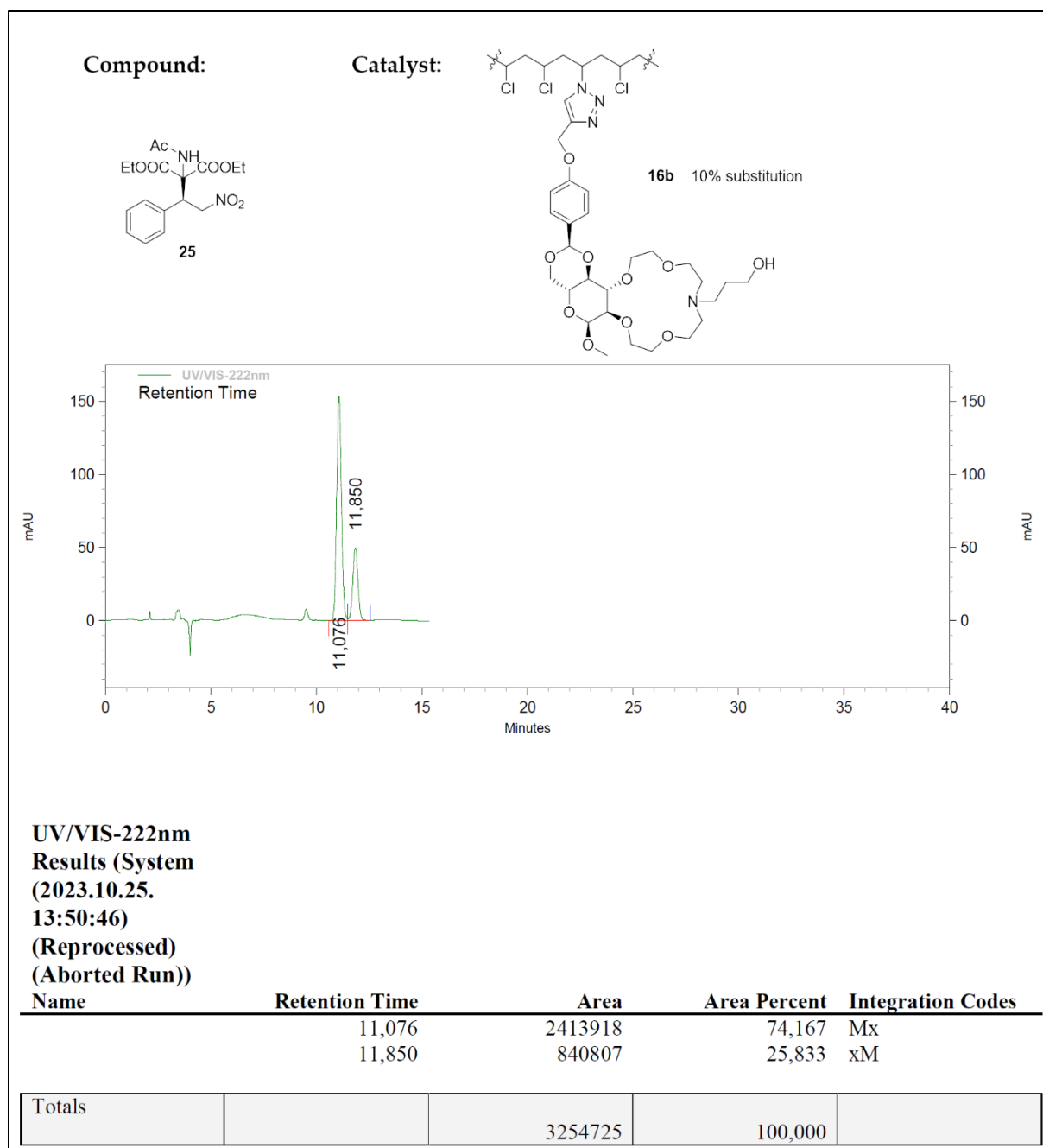


Figure S48. Chiral HPLC chromatogram of **25** (Table 2, Entry 9).