

Supplementary Materials

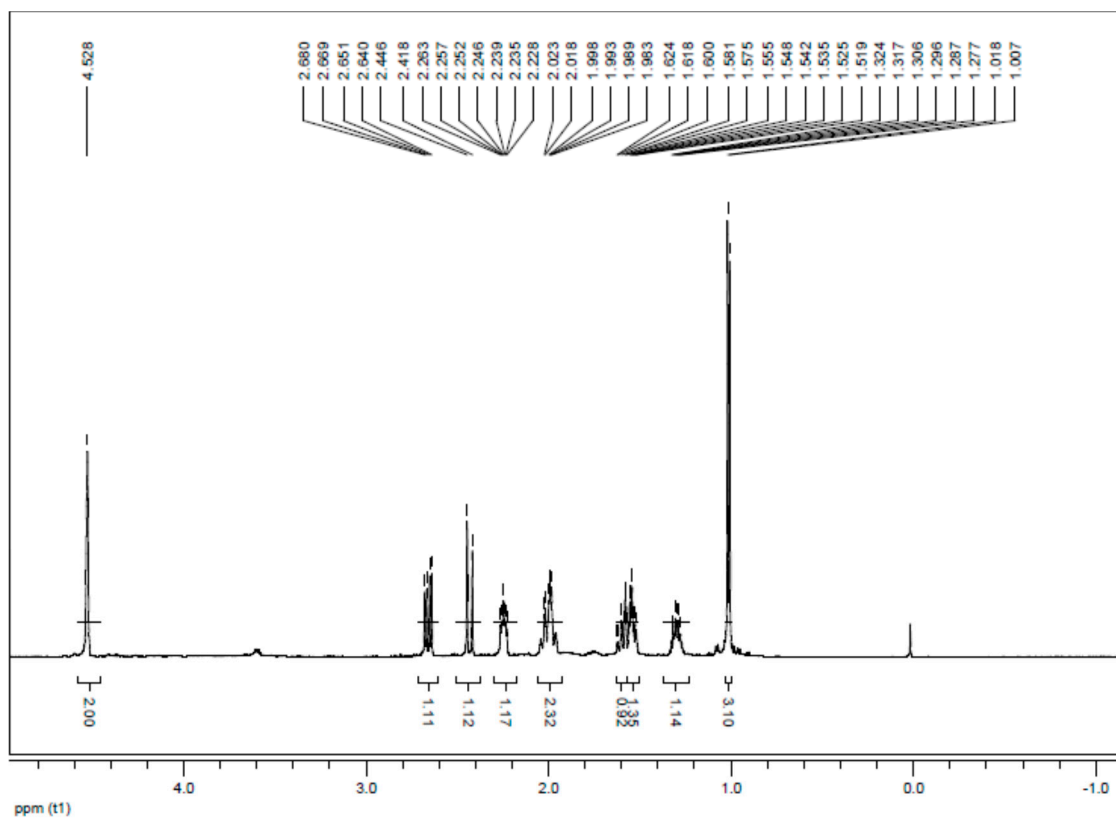


Figure S1. $^1\text{H-NMR}$ (300 MHz, CDCl_3) spectrum of chlorolactone **3a**.

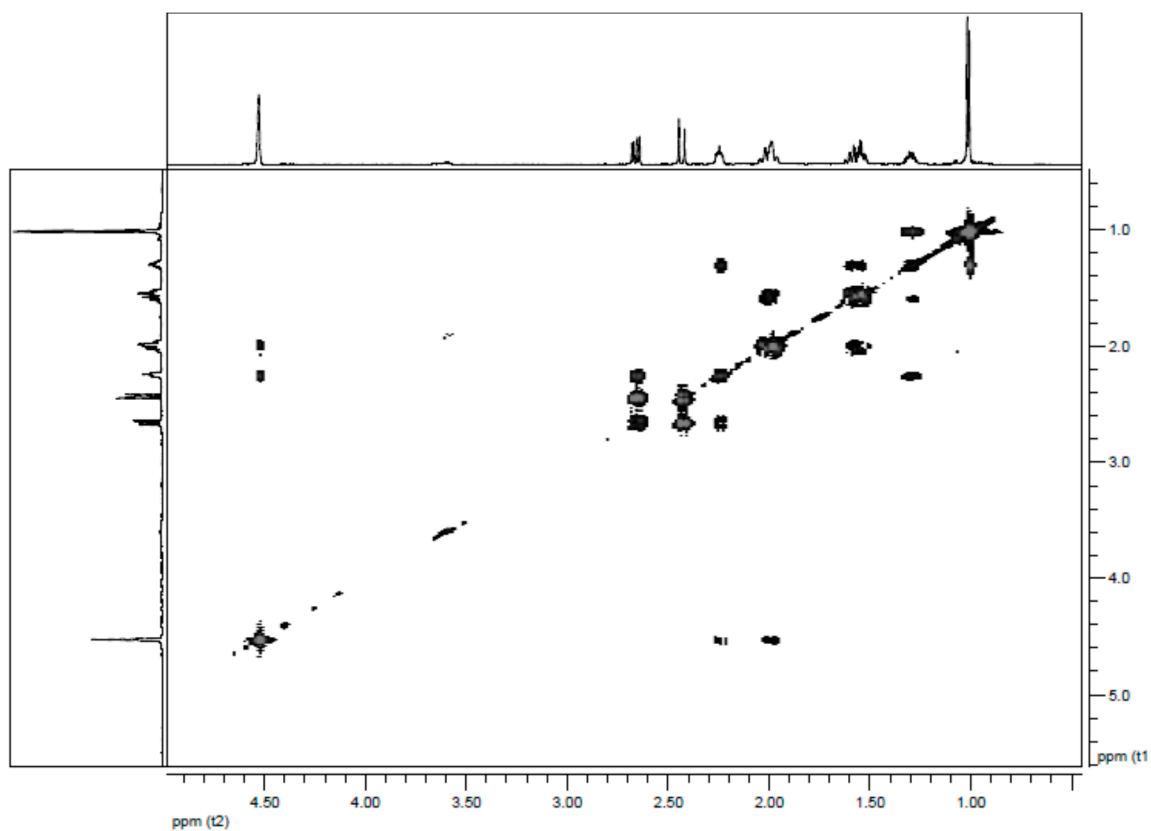


Figure S2. COSY (300 MHz, CDCl_3) spectrum of chlorolactone **3a**.

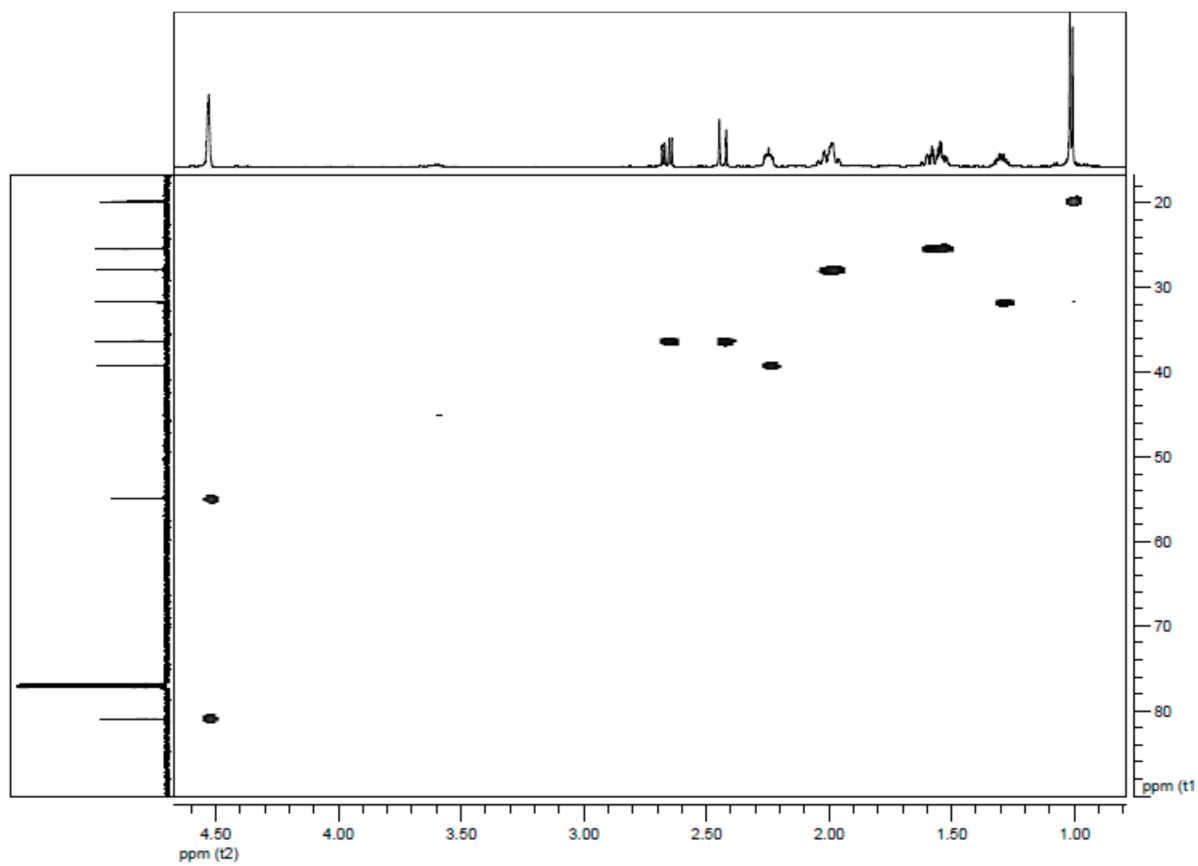


Figure S3. HMQC (300 MHz, CDCl₃) spectrum of chlorolactone **3a**.

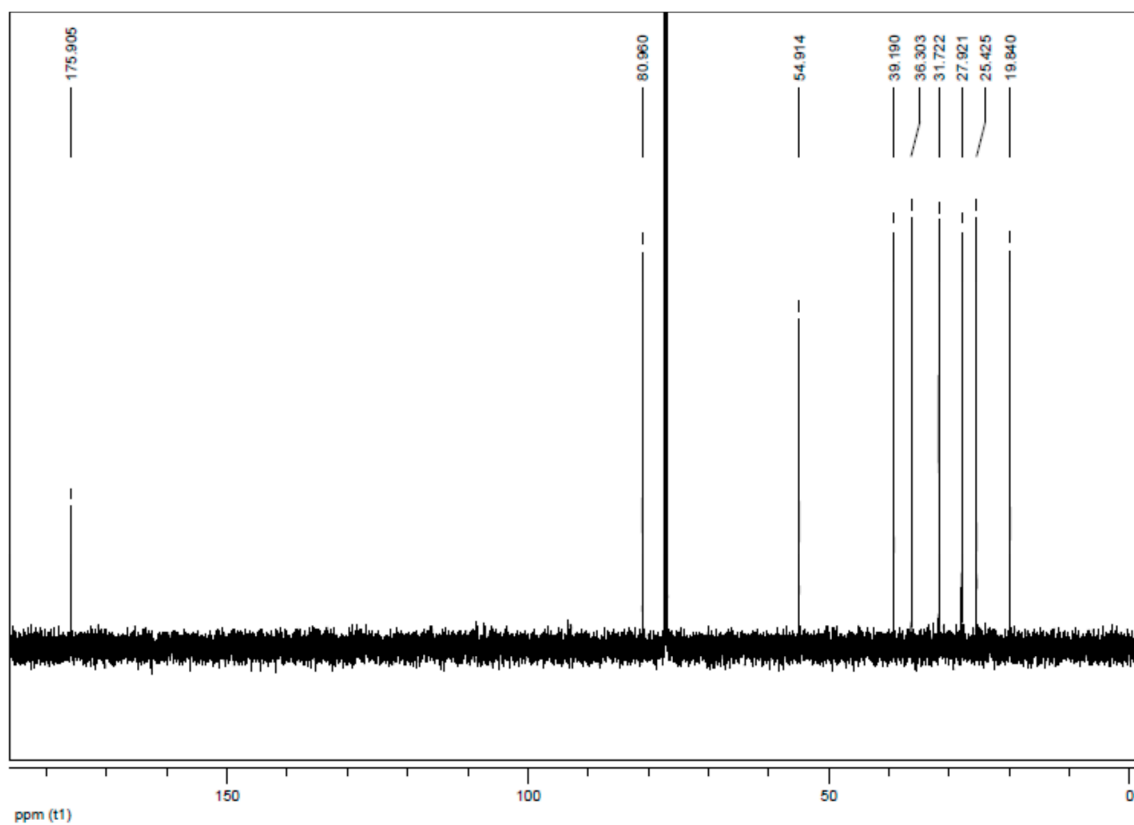


Figure S4. ¹³C-NMR (75.5 MHz, CDCl₃) spectrum of chlorolactone **3a**.

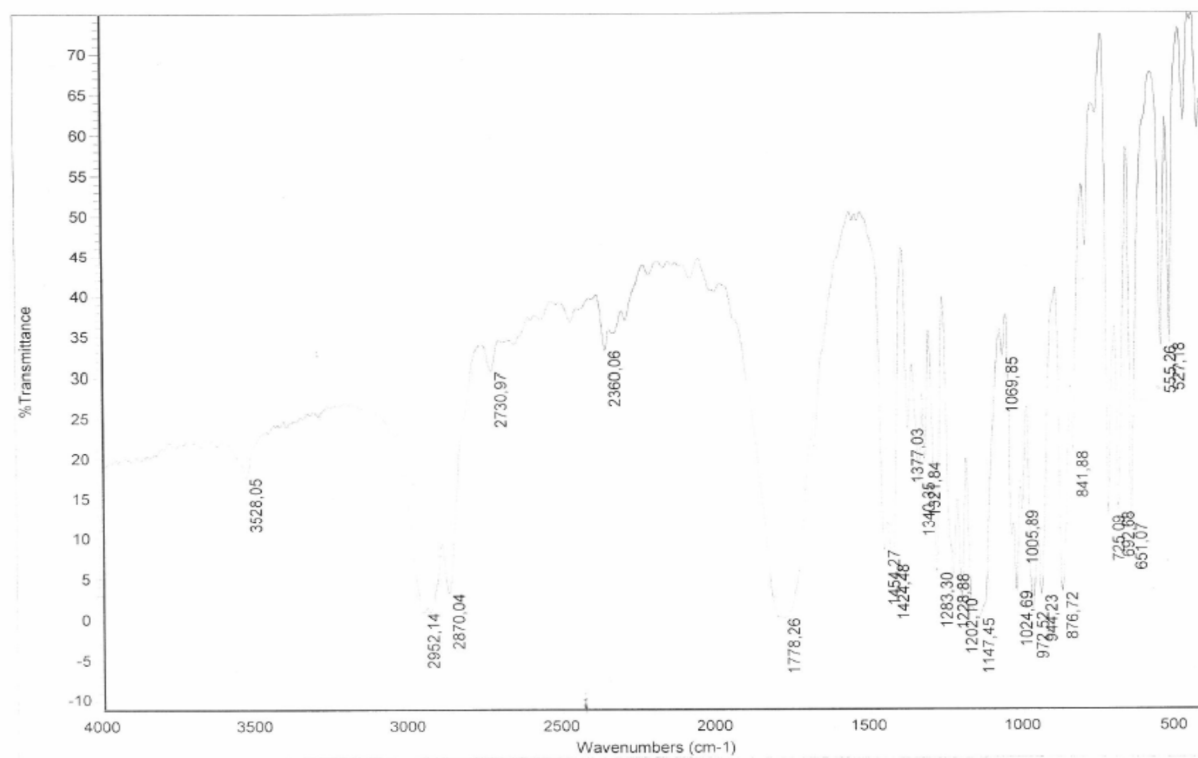


Figure S5. IR spectrum of chlorolactone 3a.

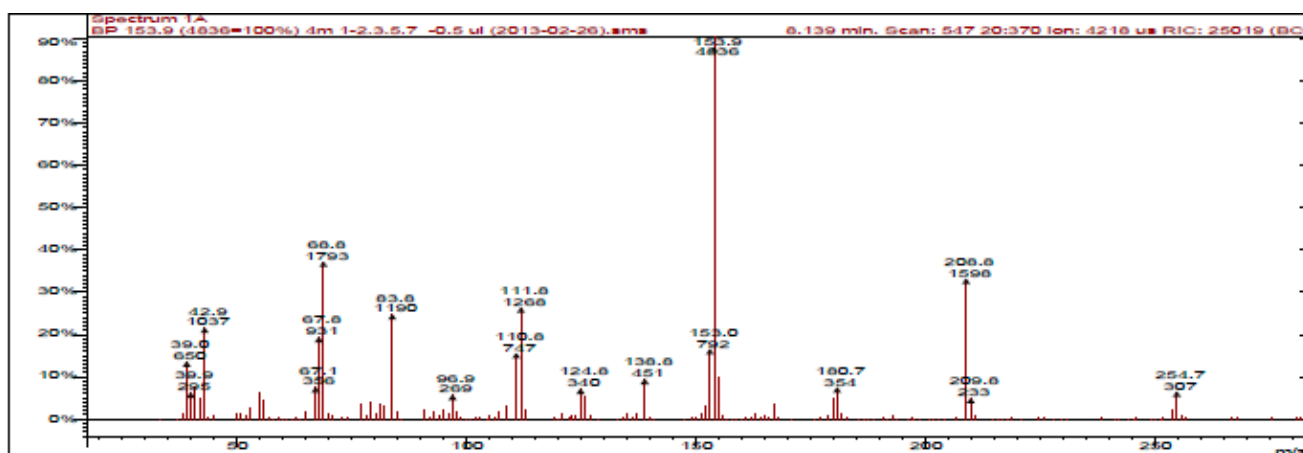


Figure S6. GC-MS spectrum of chlorolactone 3a.

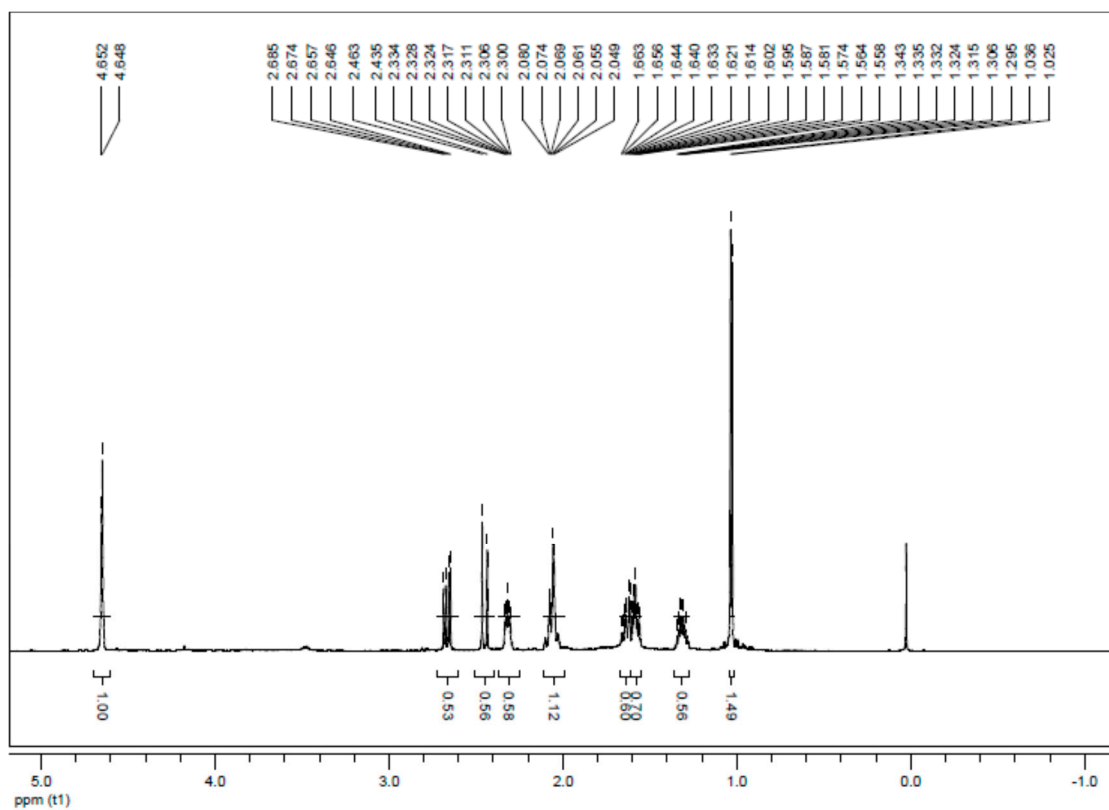


Figure S7. $^1\text{H-NMR}$ (300 MHz, CDCl_3) spectrum of bromolactone **4a**.

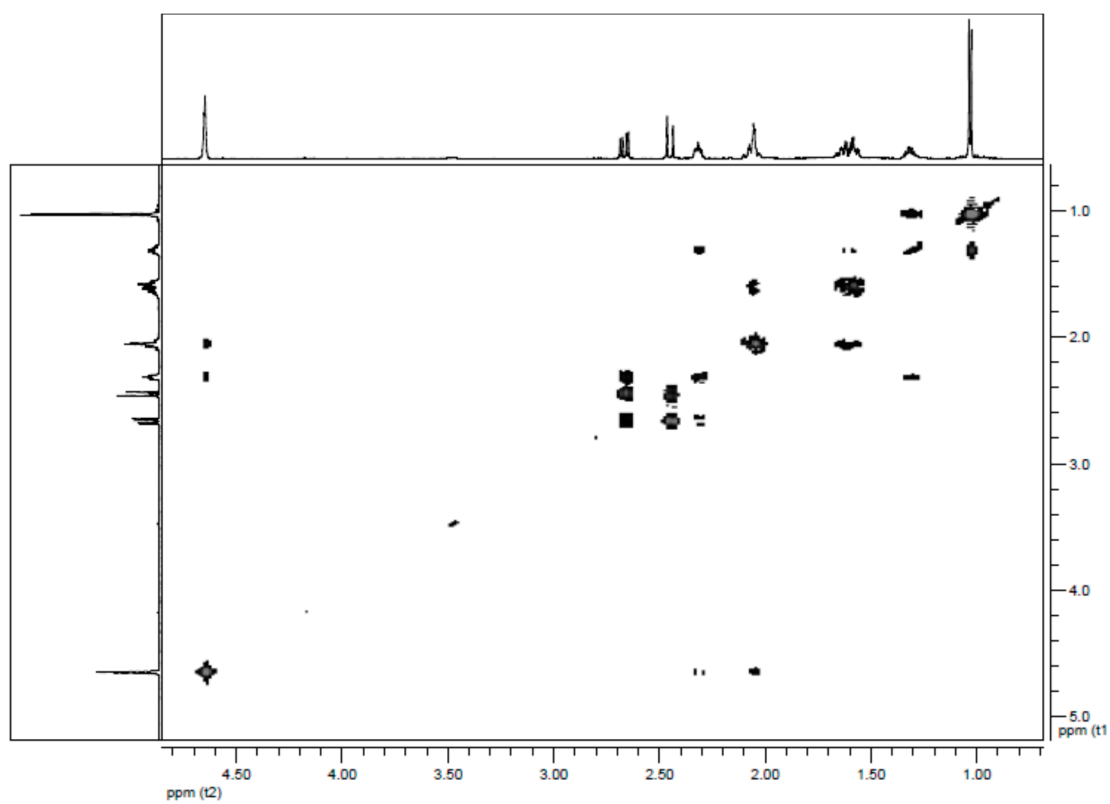


Figure S8. COSY (300 MHz, CDCl_3) spectrum of bromolactone **4a**.

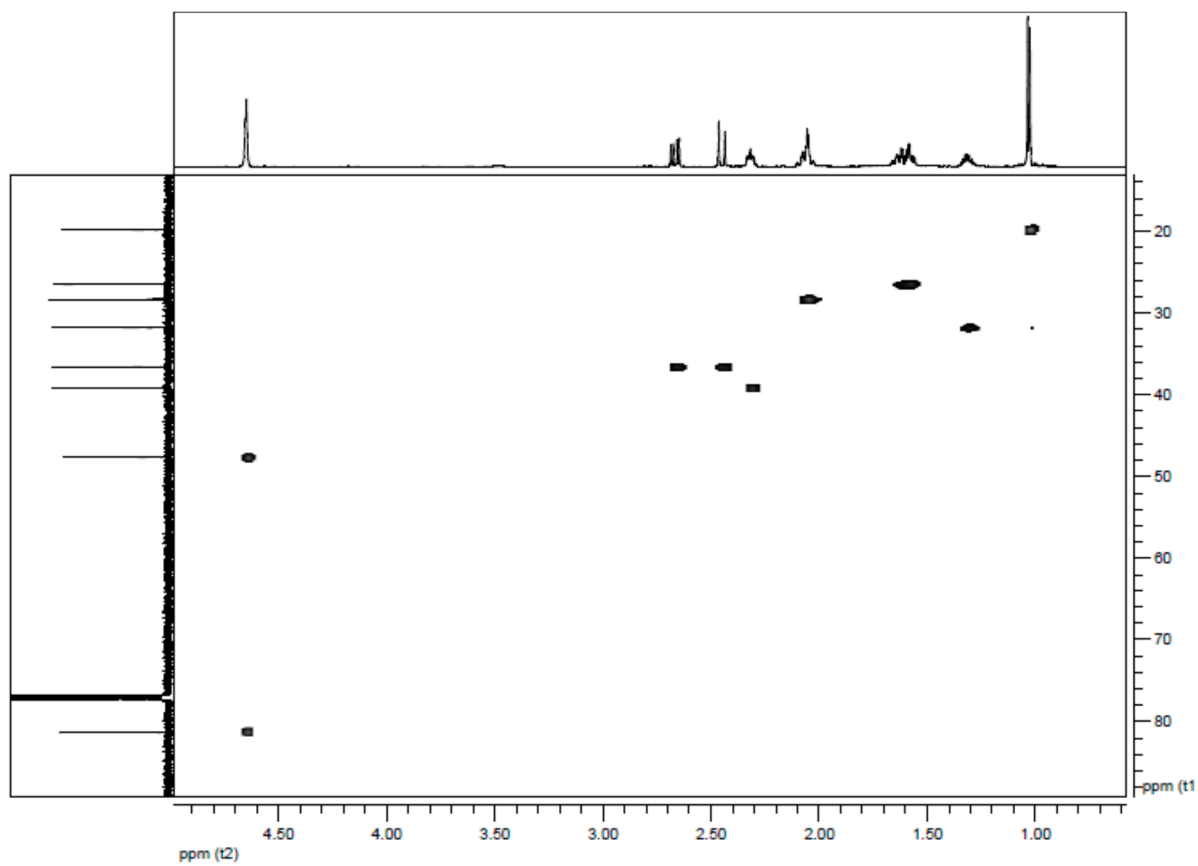


Figure S9. HMQC (300 MHz, CDCl₃) spectrum of bromolactone **4a**.

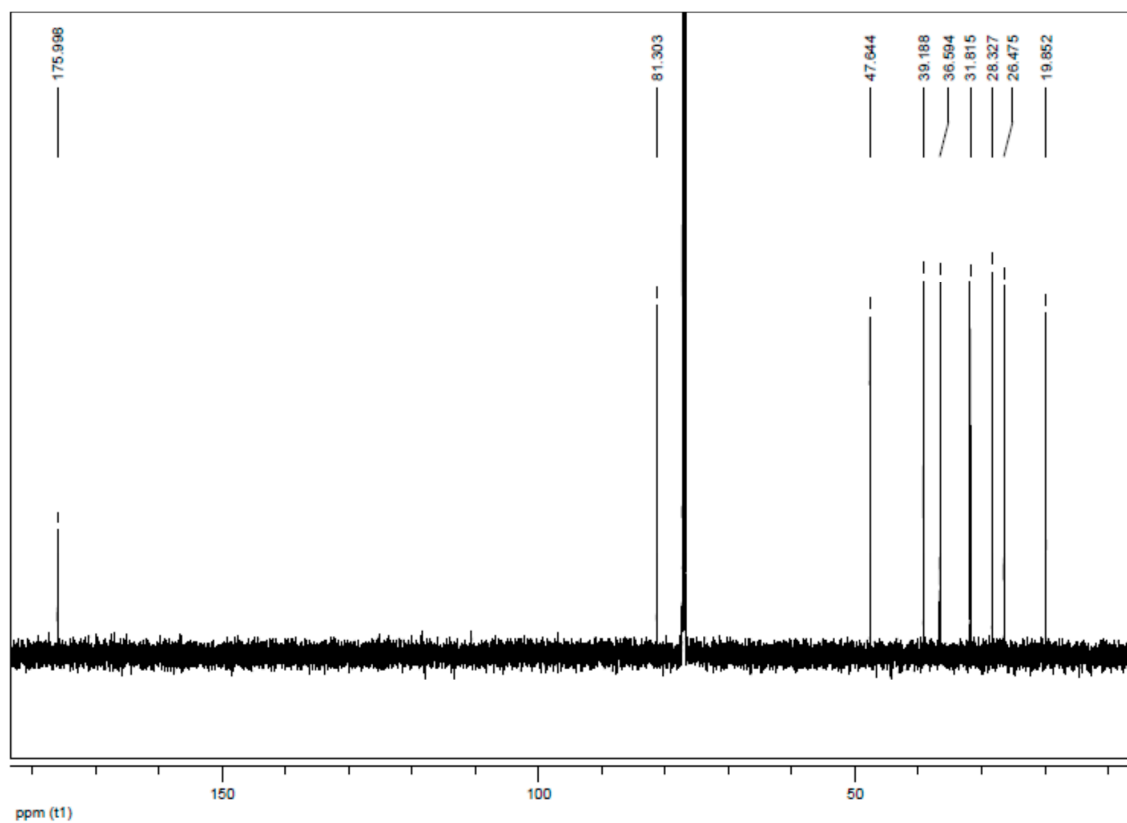


Figure S10. ¹³C-NMR (75.5 MHz, CDCl₃) spectrum of bromolactone **4a**.

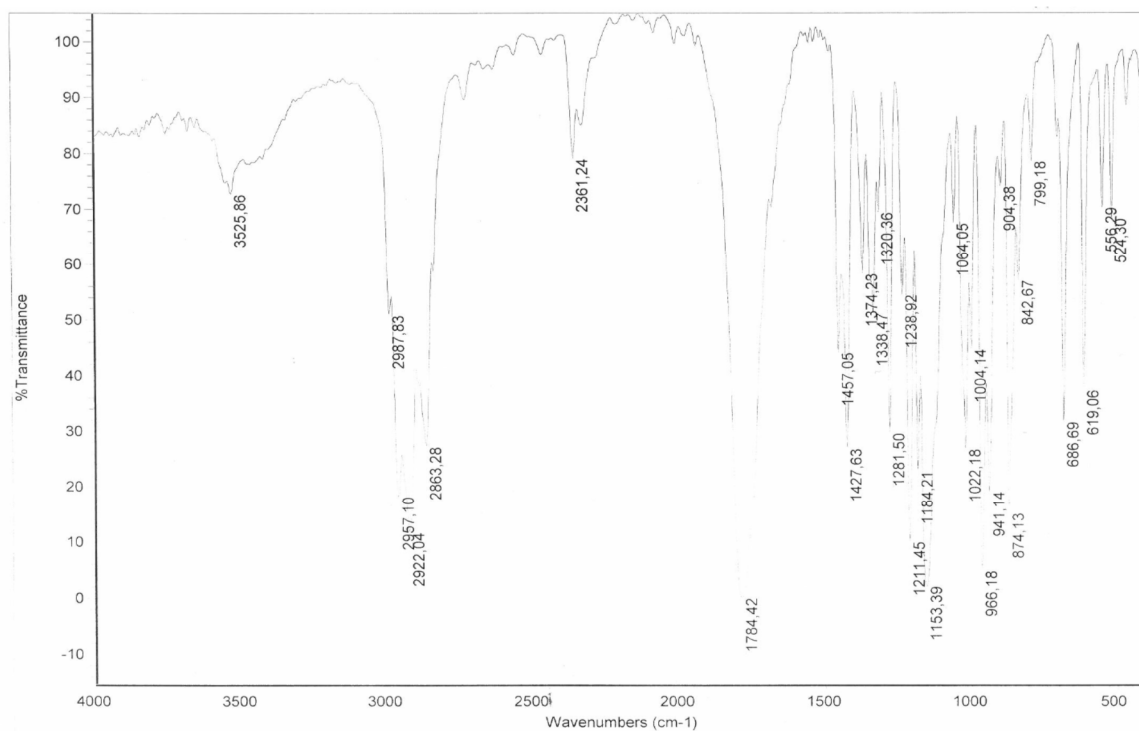


Figure S11. IR Spectrum of bromolactone 4a.

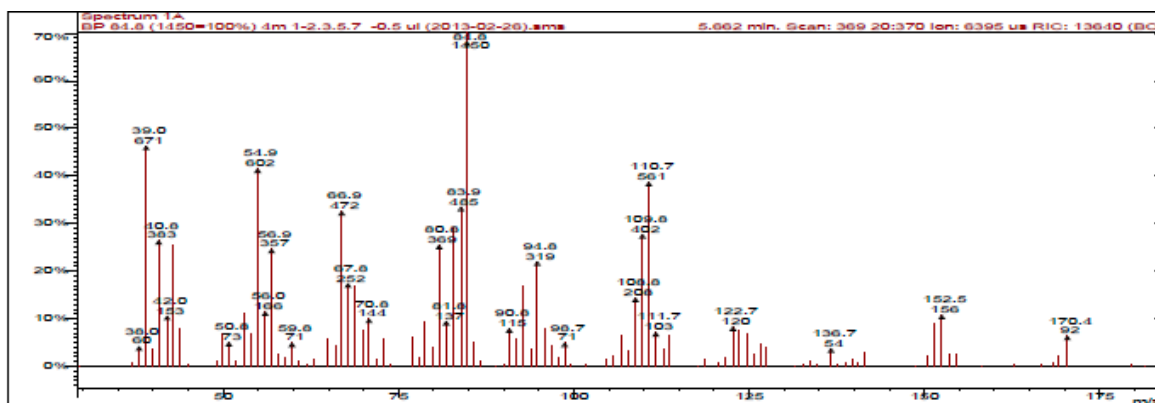


Figure S12. GC-MS spectrum of bromolactone 4a.

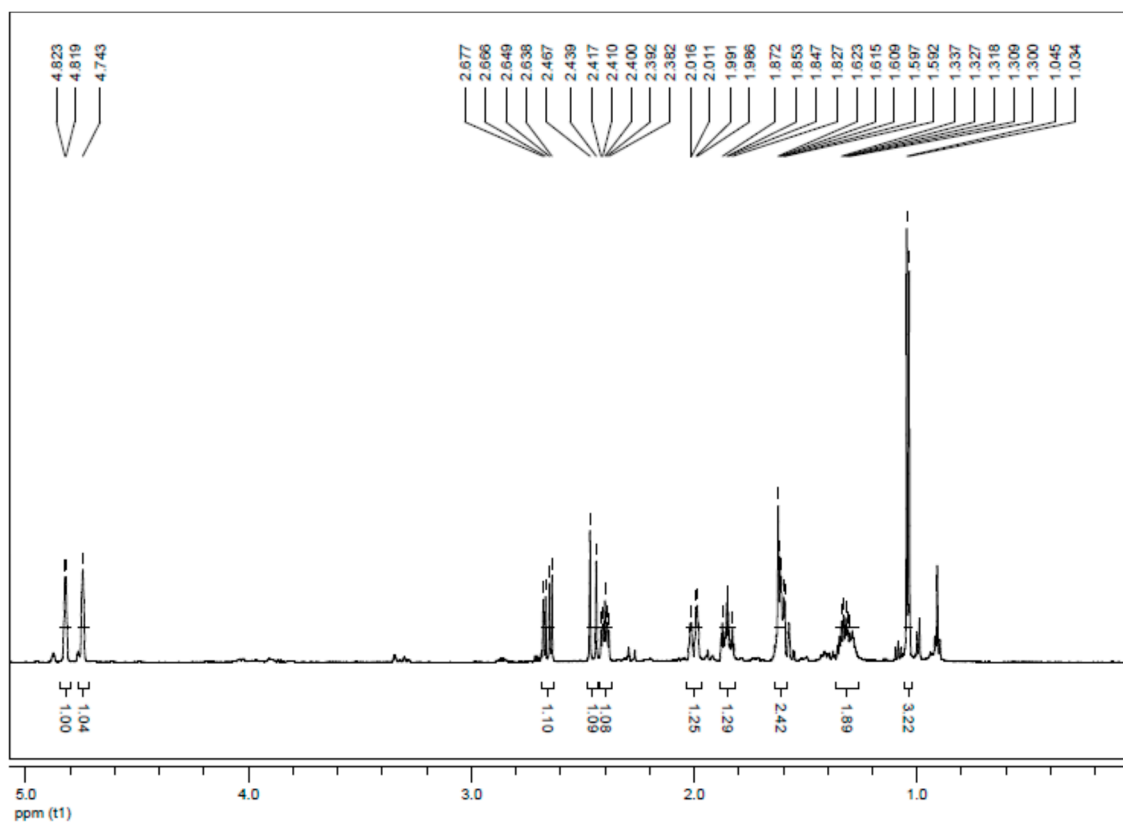


Figure S13. $^1\text{H-NMR}$ (300 MHz, CDCl_3) spectrum of iodolactone **5a**.

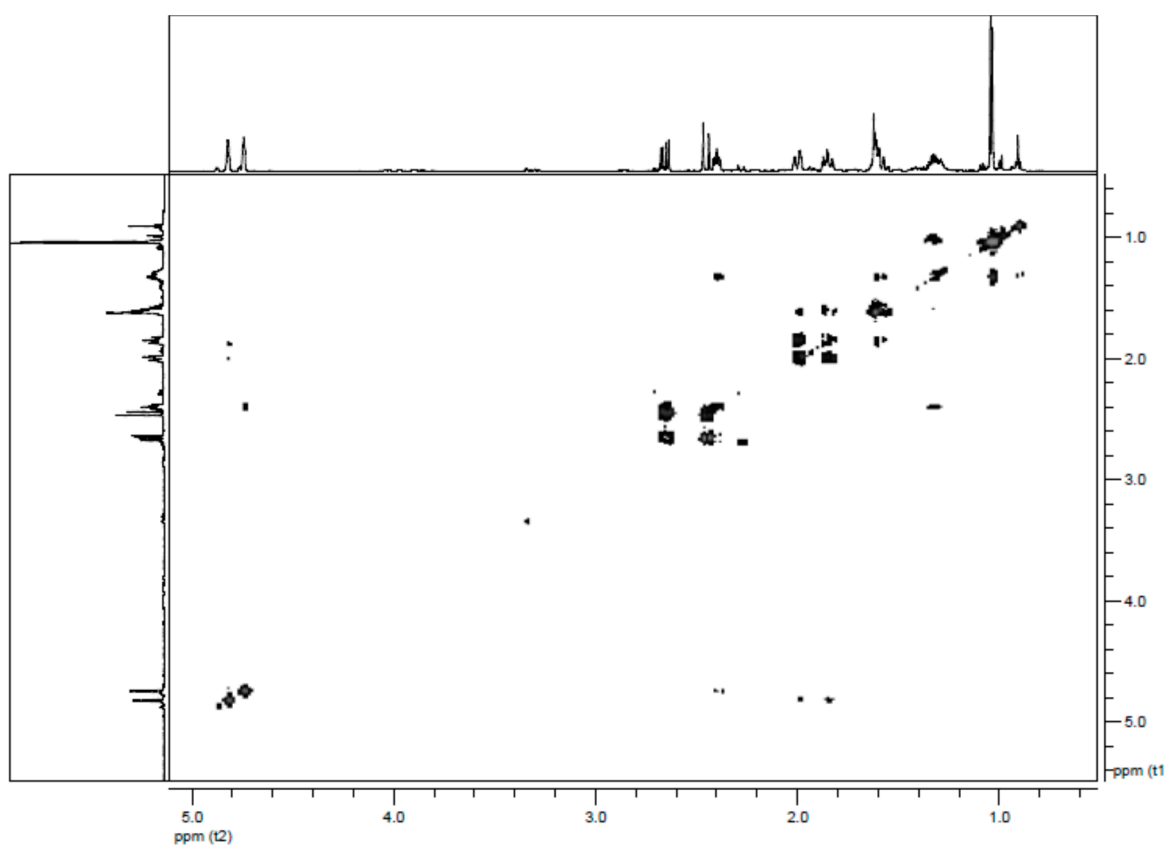
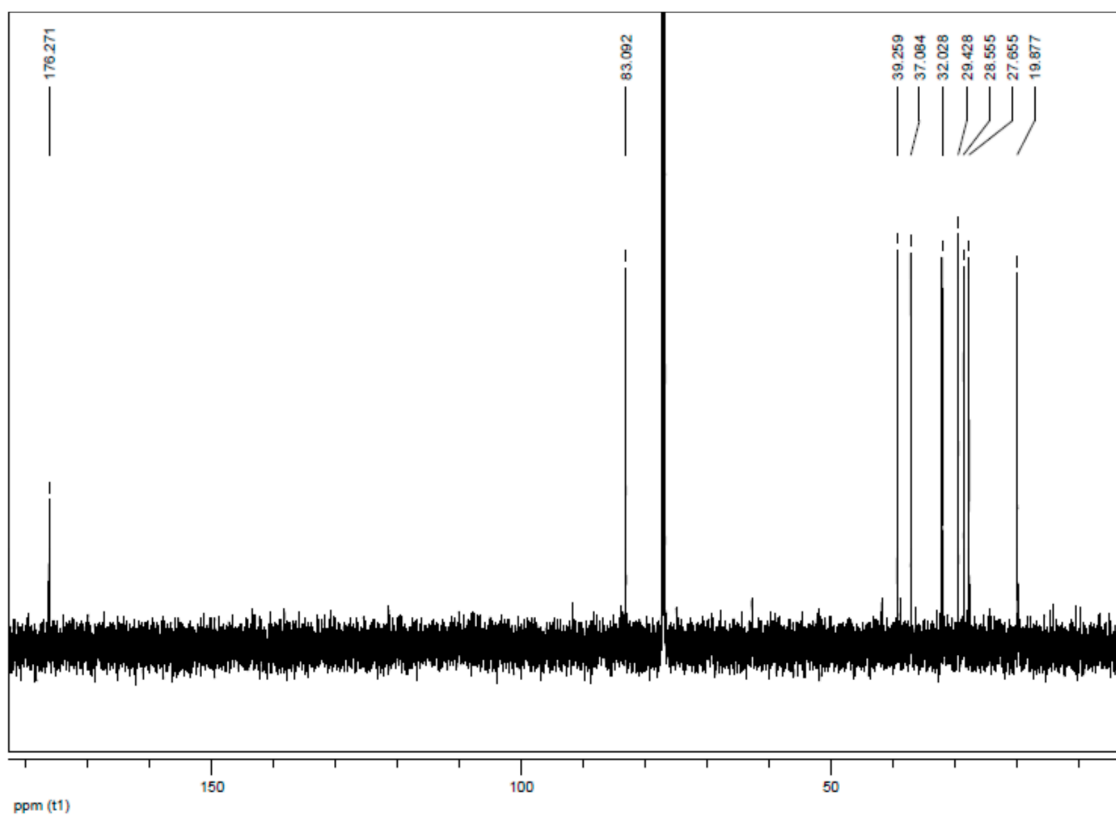
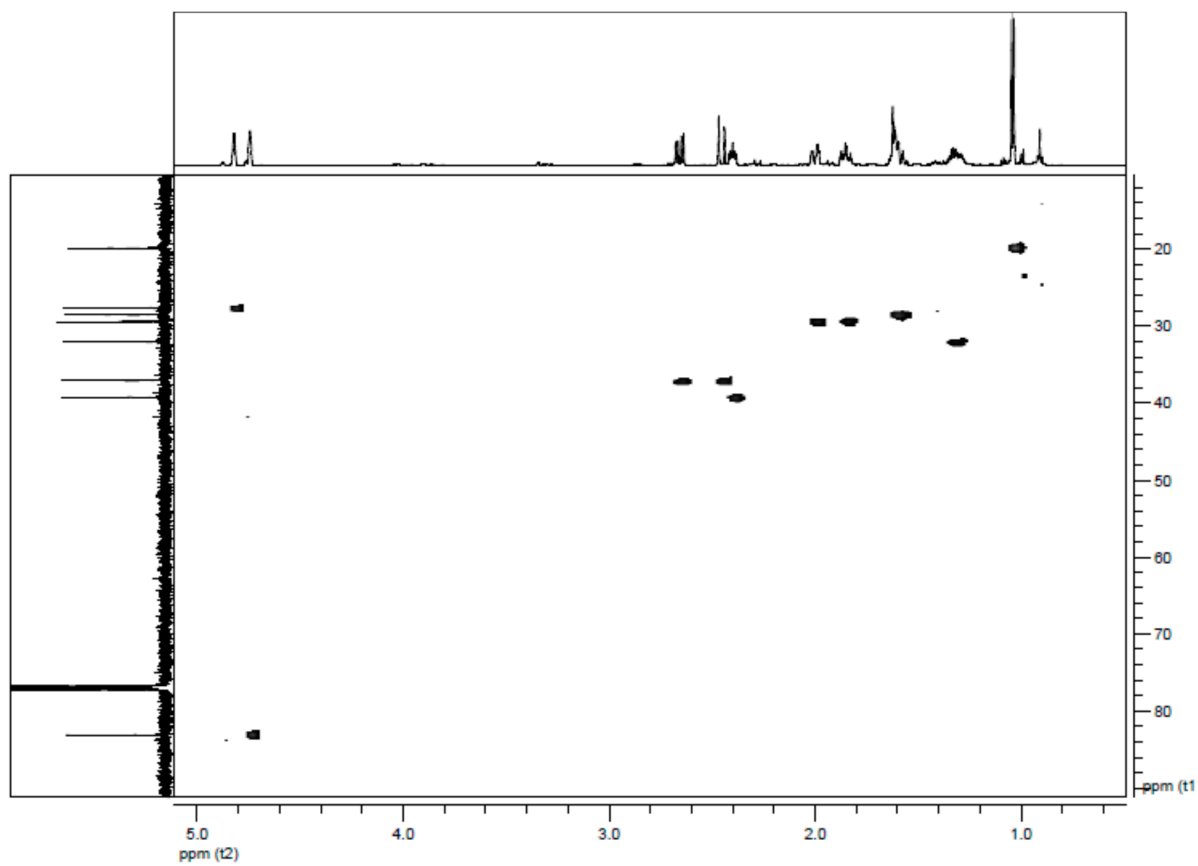


Figure S14. COSY (300 MHz, CDCl_3) spectrum of iodolactone **5a**.



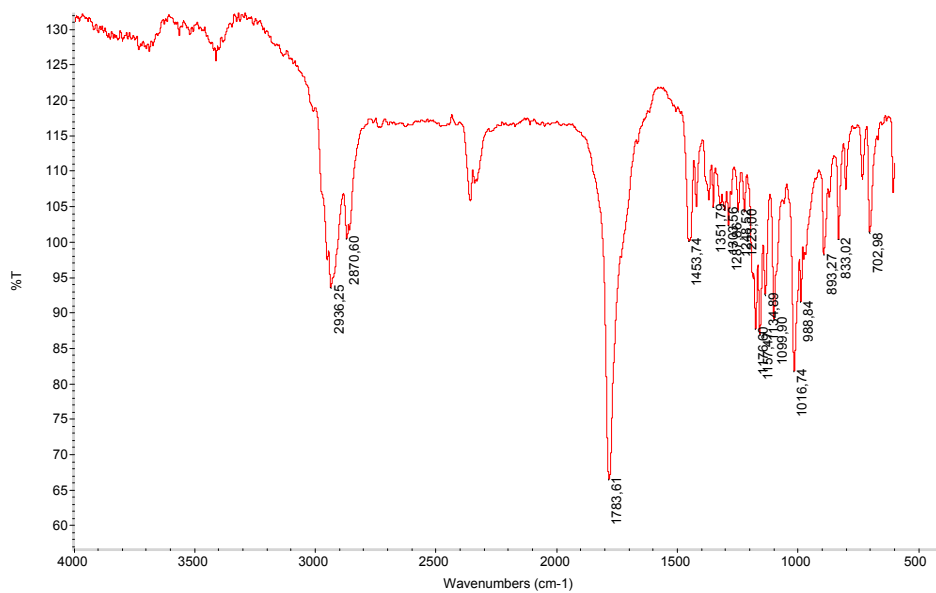


Figure S17. IR spectrum of of iodolactone 5a.

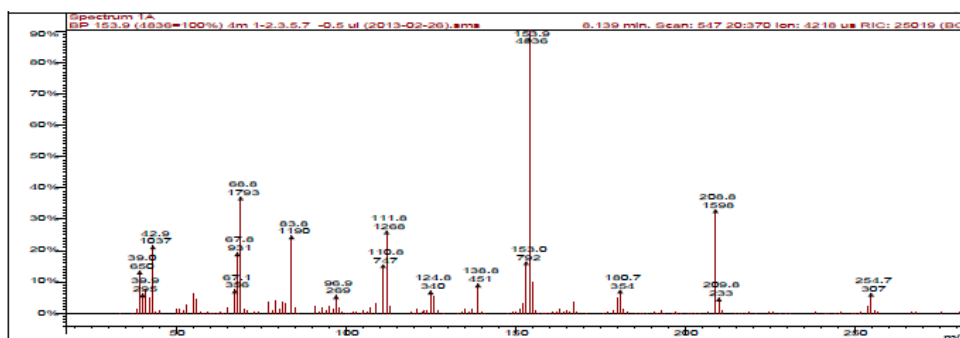


Figure S18. GC-MS spectrum of of iodolactone 5a.

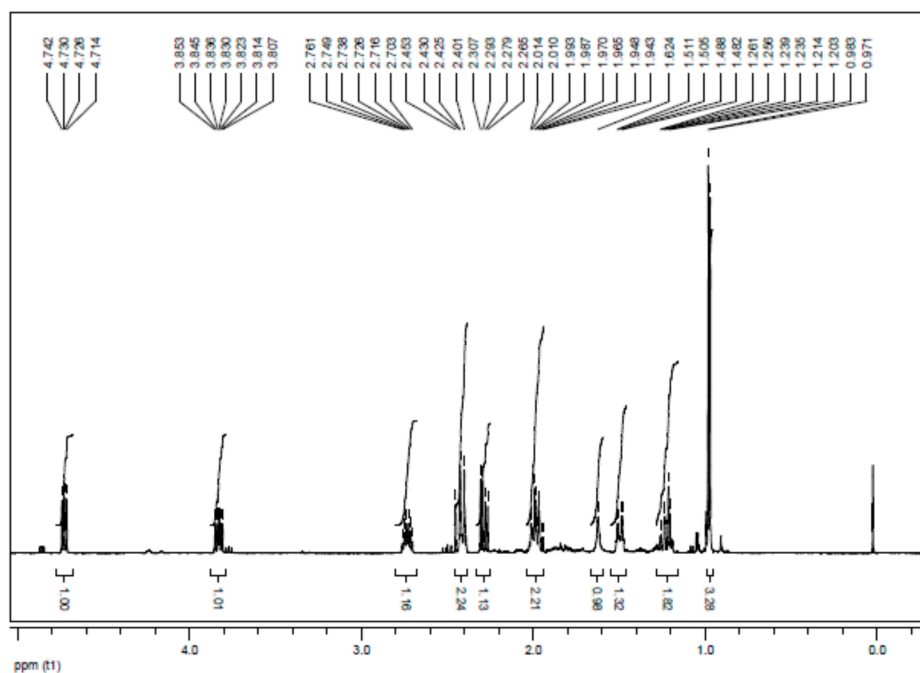


Figure S19. ¹H-NMR (300 MHz, CDCl₃) spectrum of iodolactone 6a.

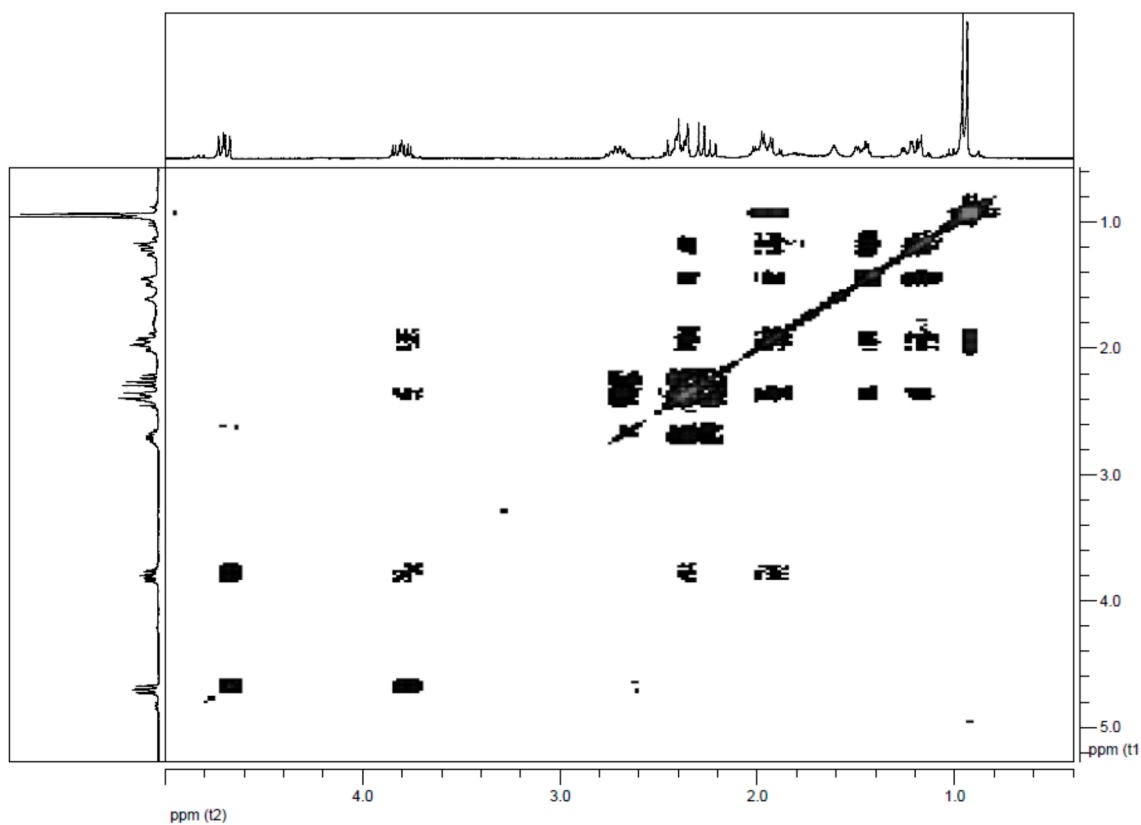


Figure S20. COSY (300 MHz, CDCl₃) spectrum of of iodolactone **6a**.

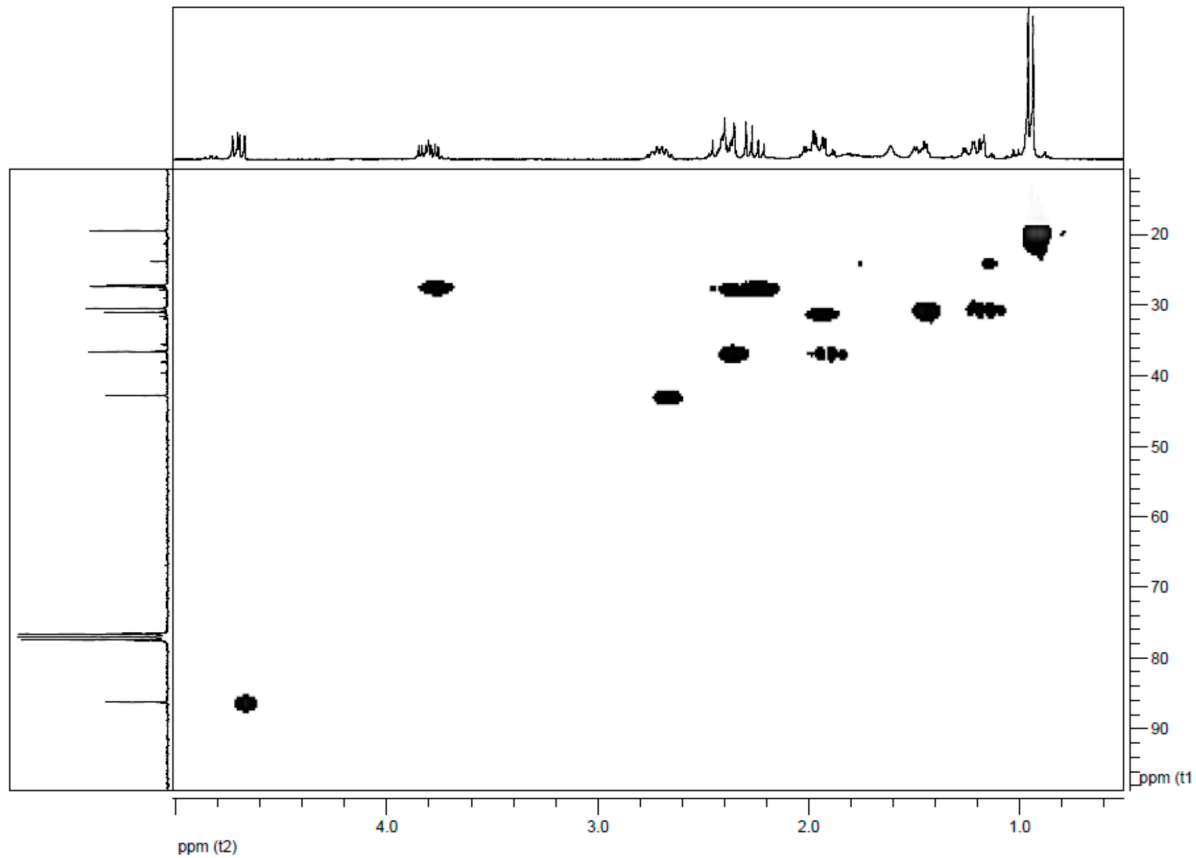


Figure S21. HMQC (300 MHz, CDCl₃) spectrum of of iodolactone **6a**.

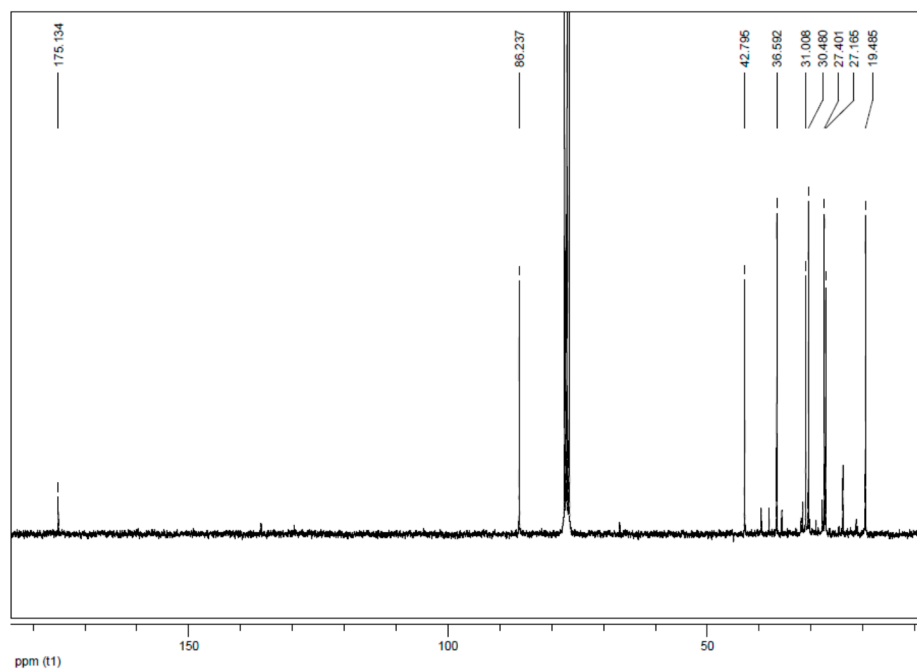


Figure S22. $^{13}\text{C-NMR}$ (75.5 MHz, CDCl_3) spectrum of iodolactone **6a**.

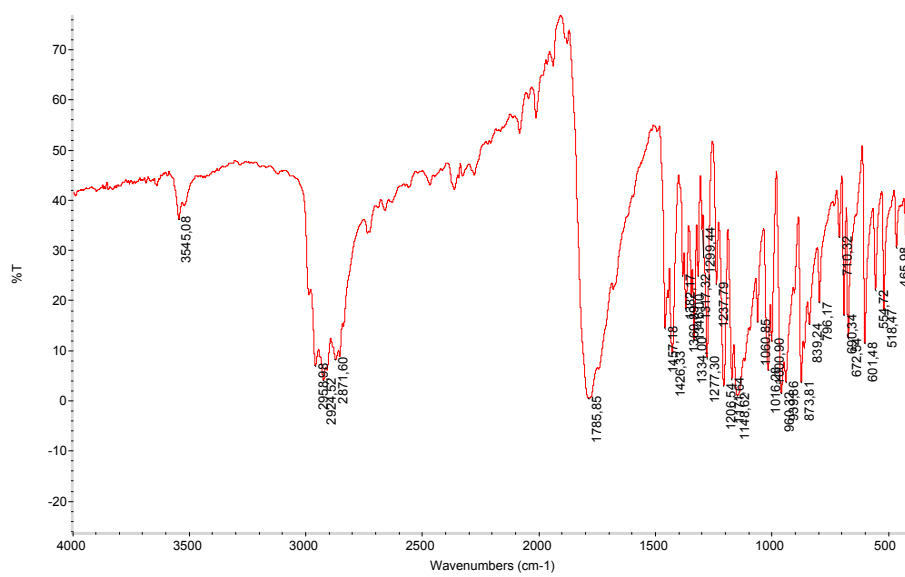


Figure S23. IR spectrum of iodolactone **6a**.

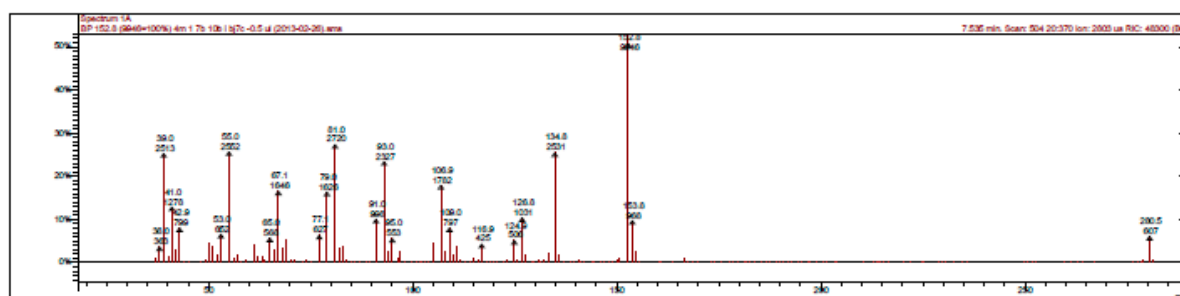


Figure S24. GC-MS spectrum of iodolactone **6a**.

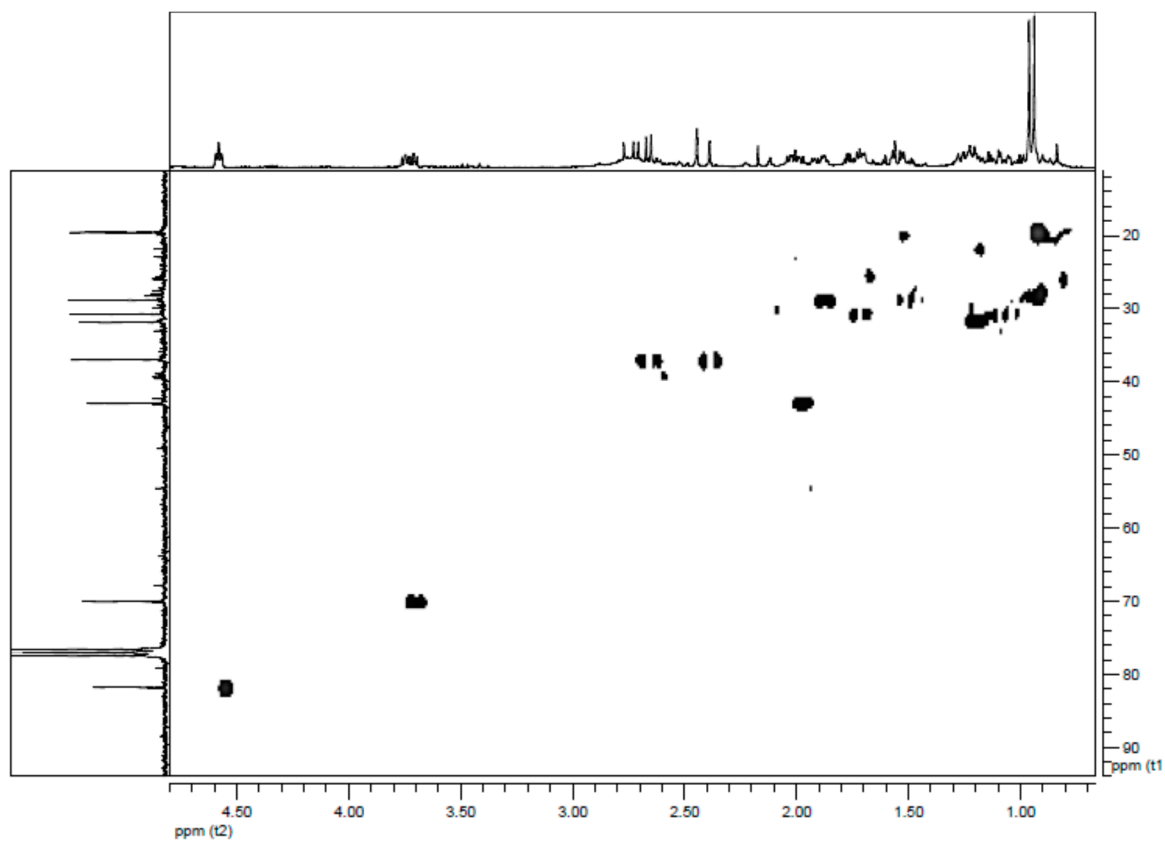


Figure S27. HMQC (300 MHz, CDCl_3) spectrum of hydroxylactone **7a**.

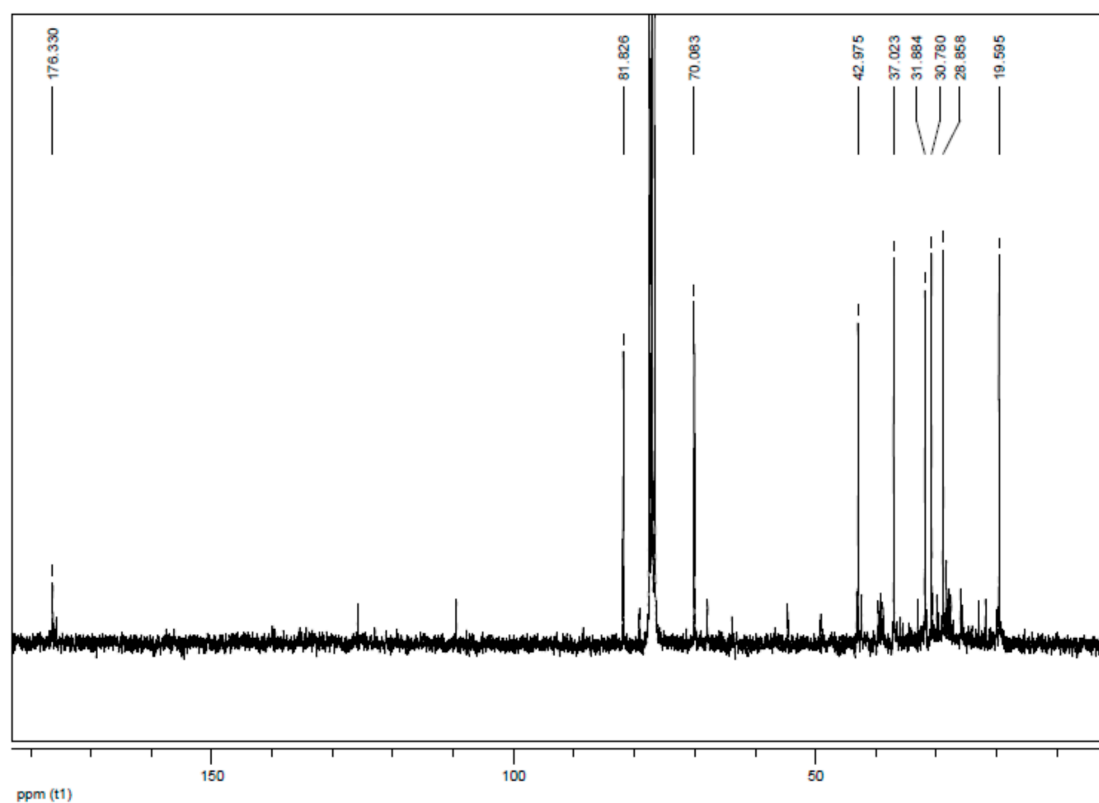


Figure S28. ^{13}C -NMR (75.5 MHz, CDCl_3) spectrum of iodolactone **7a**.

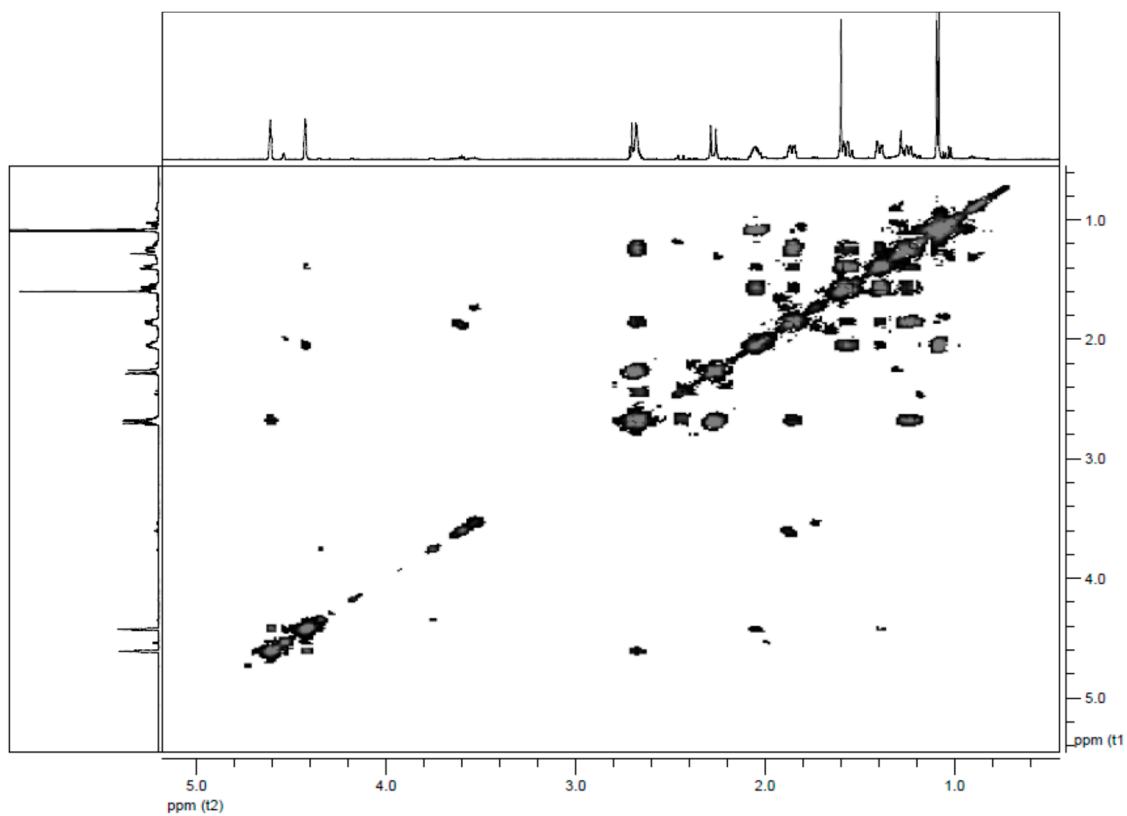


Figure S32. COSY (300 MHz, CDCl₃) spectrum of chlorolactone **3b**.

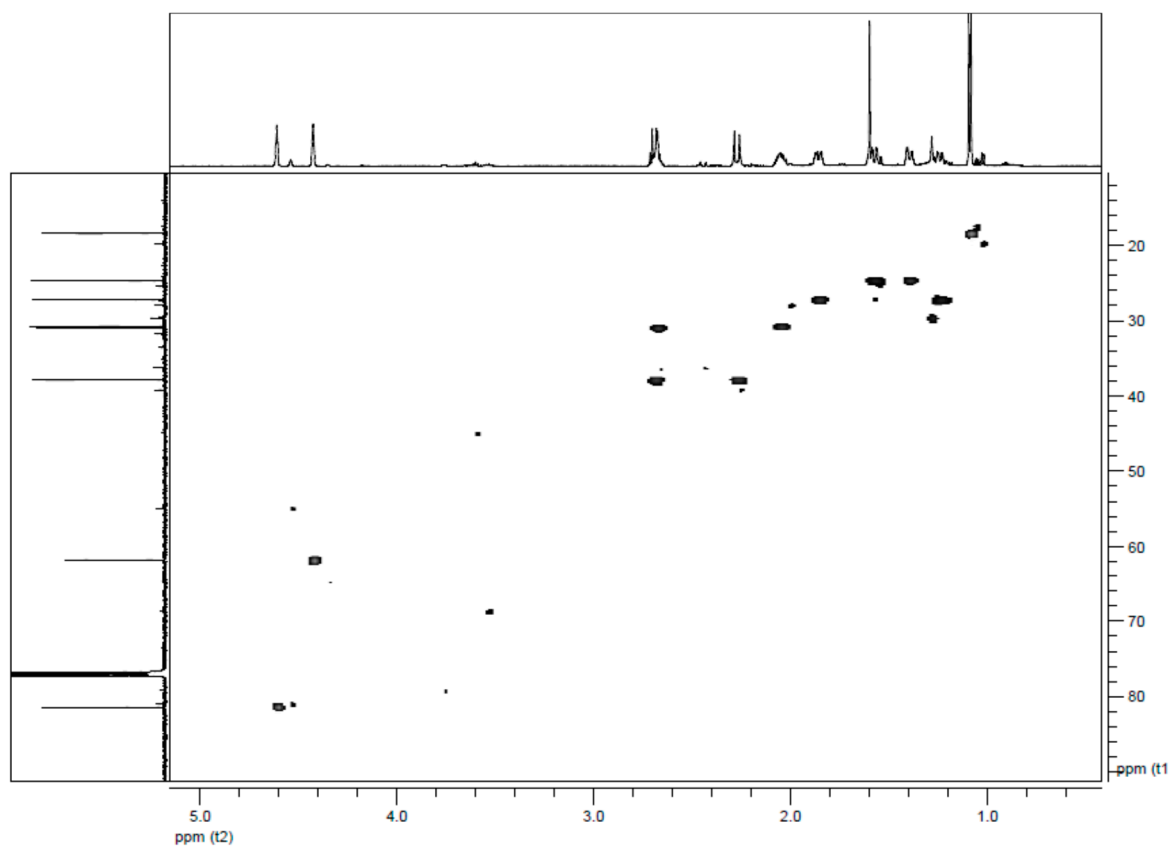


Figure S33. HMQC (300 MHz, CDCl₃) spectrum of chlorolactone **3b**.

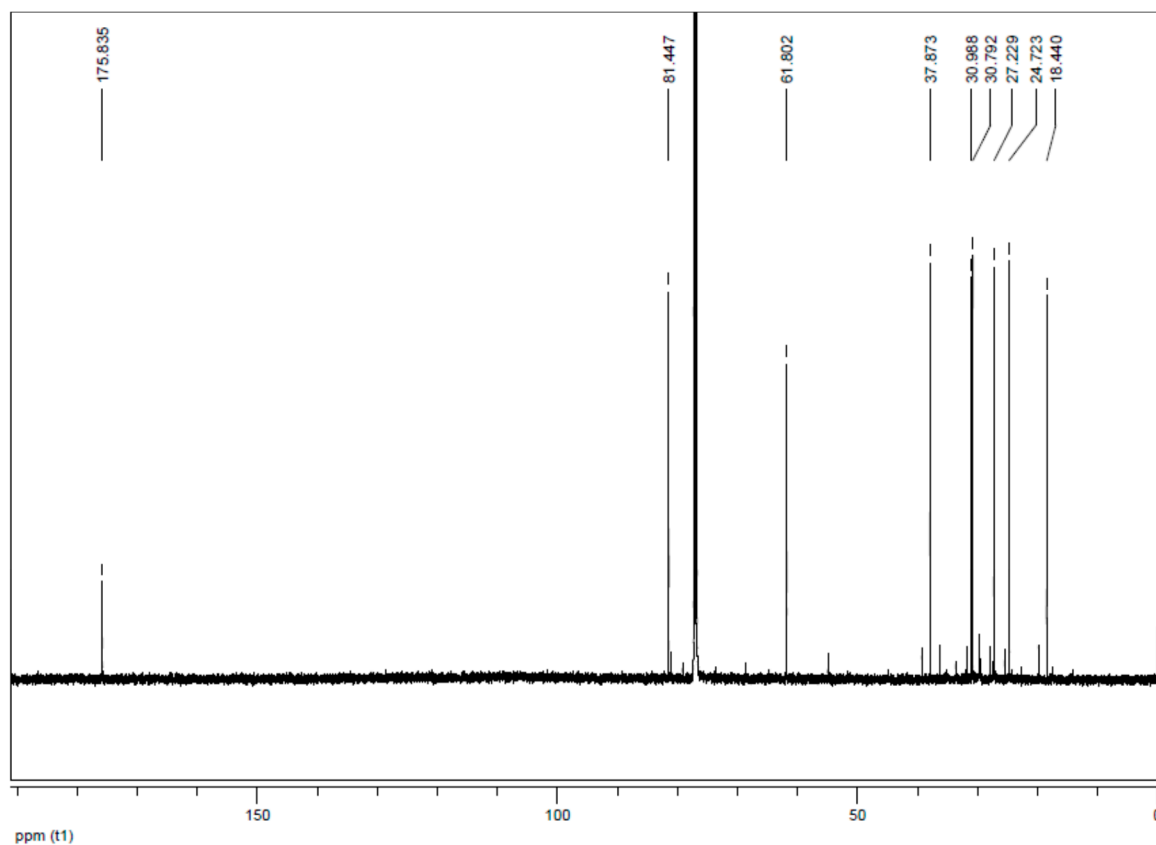


Figure S34. ¹³C-NMR (75.5 MHz, CDCl₃) spectrum of chlorolactone 3b.

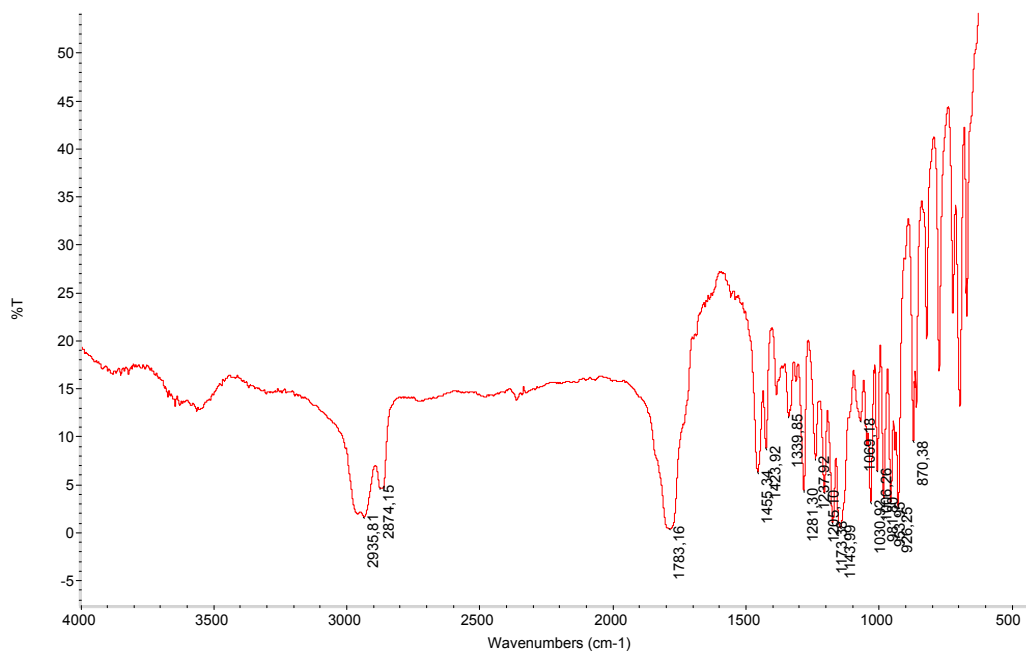


Figure S35. IR spectrum of chlorolactone 3b.

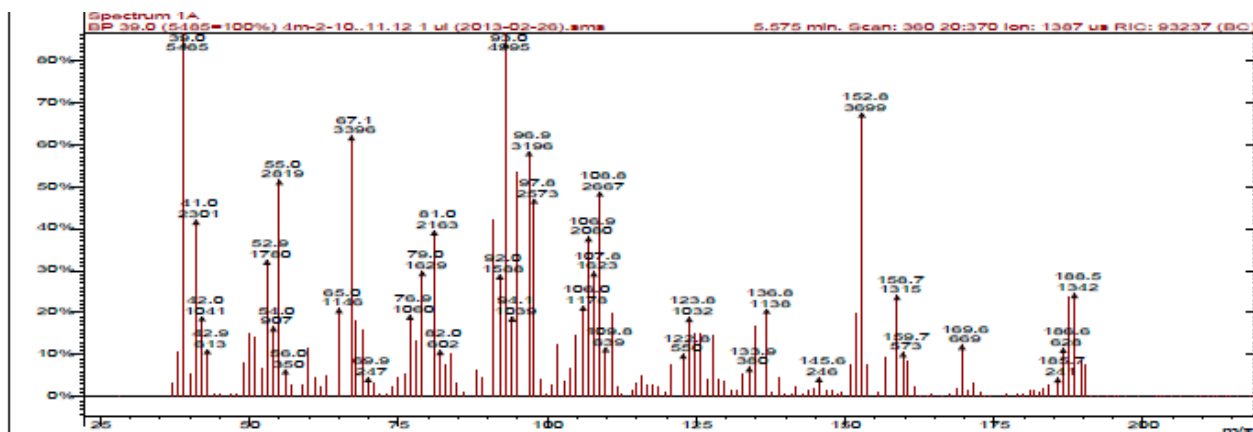


Figure S36. GC-MS spectrum of chlorolactone **3b**.

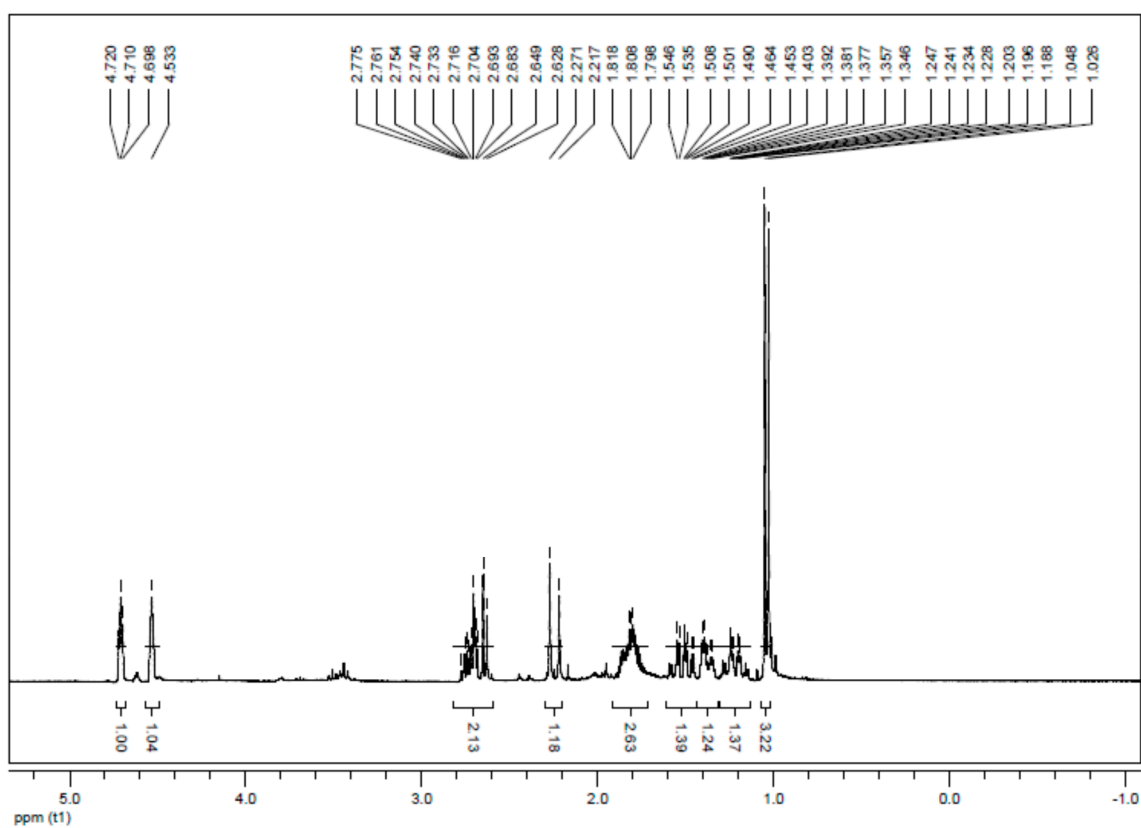


Figure S37. $^1\text{H-NMR}$ (300 MHz, CDCl_3) spectrum of bromolactone **4b**.

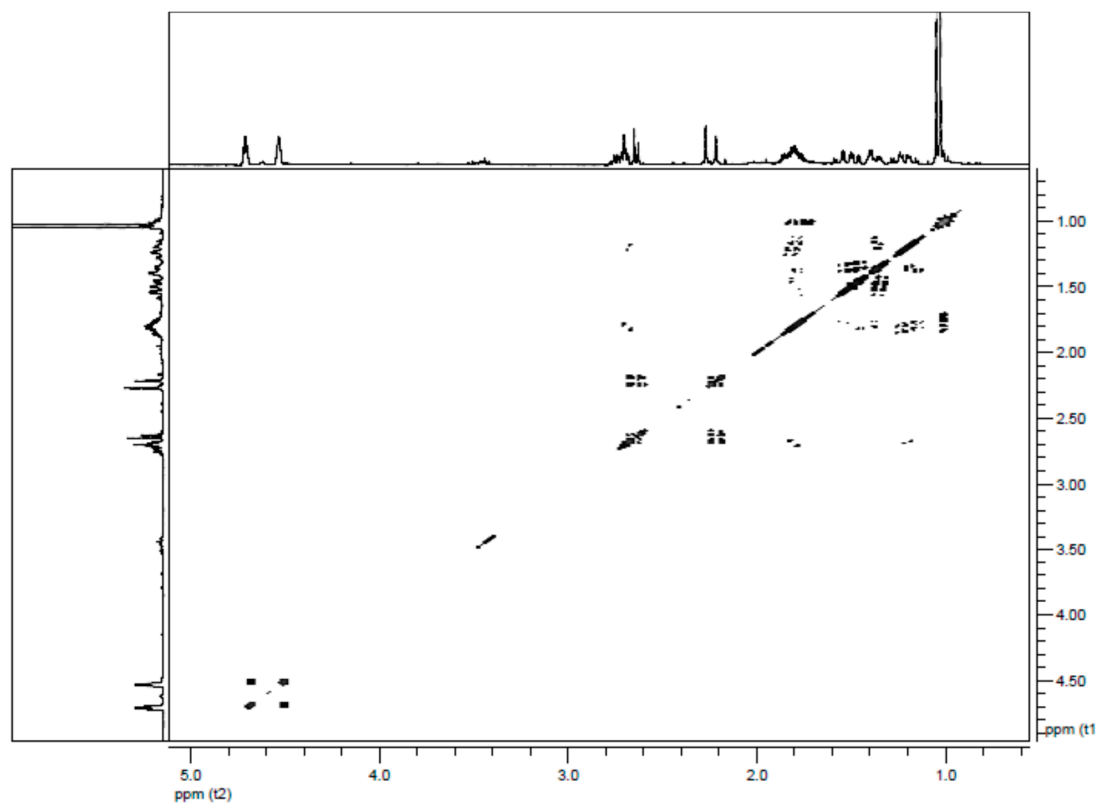


Figure S38. COSY (300 MHz, CDCl₃) spectrum of bromolactone **4b**.

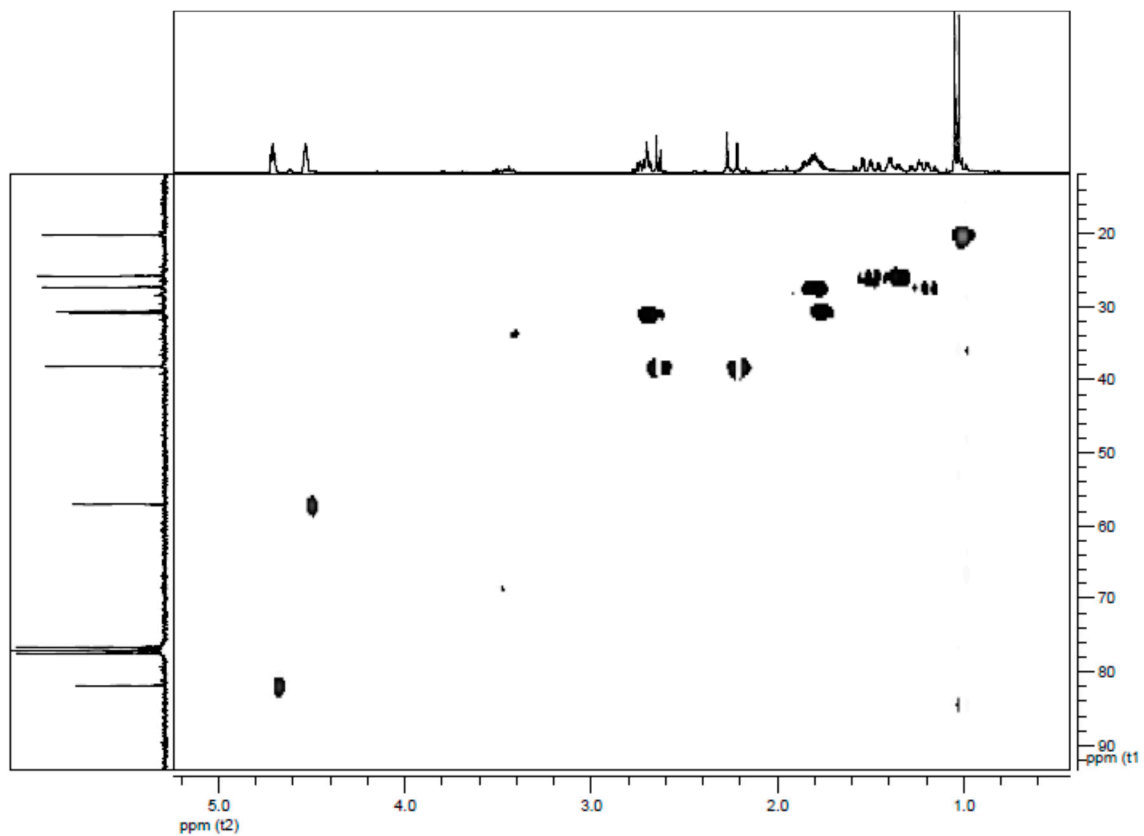


Figure S39. HMBC (300 MHz, CDCl₃) spectrum of bromolactone **4b**.

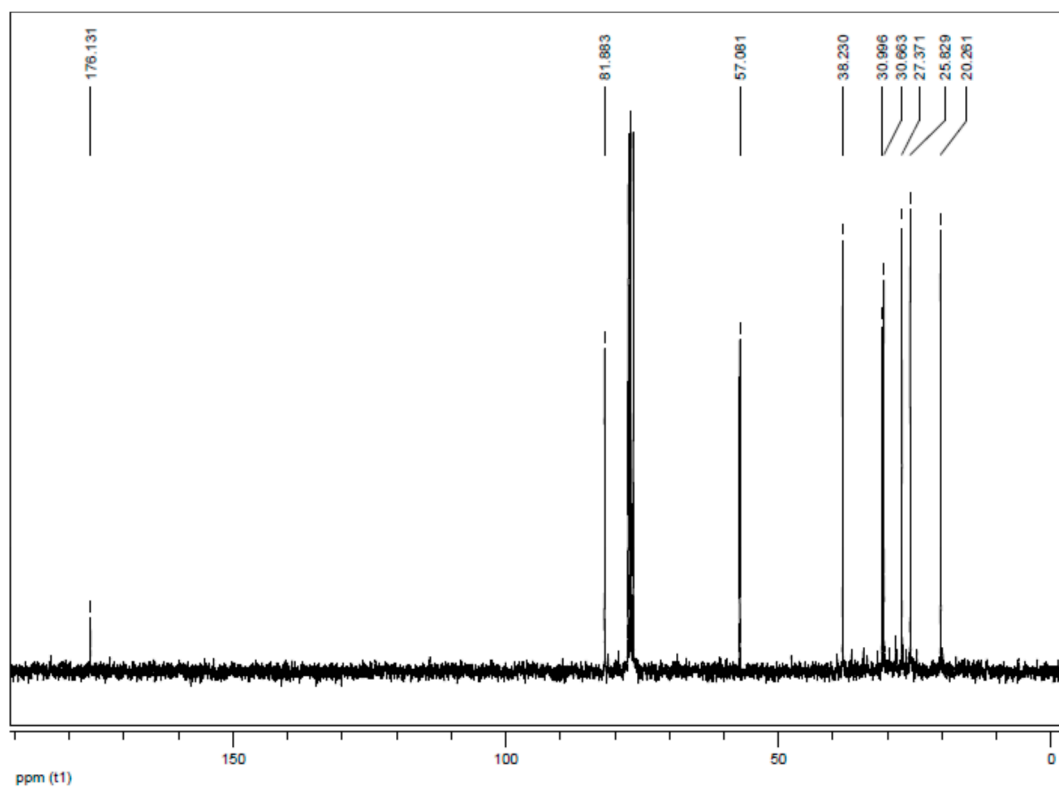


Figure S40. ^{13}C -NMR (75.5 MHz, CDCl_3) spectrum of bromolactone **4b**.

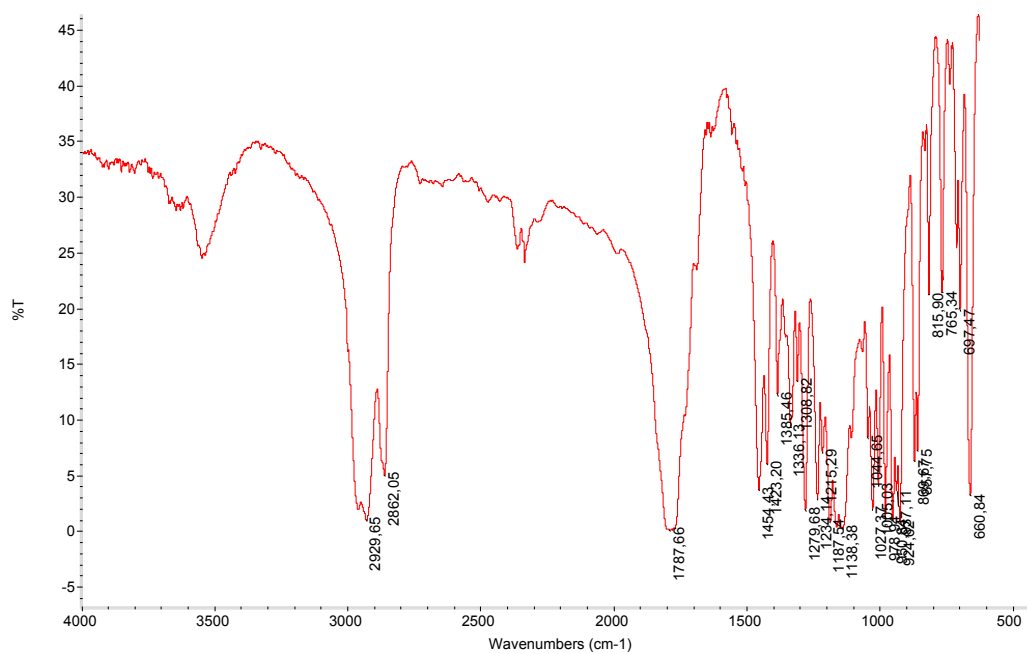


Figure S41. IR spectrum of bromolactone **4b**.

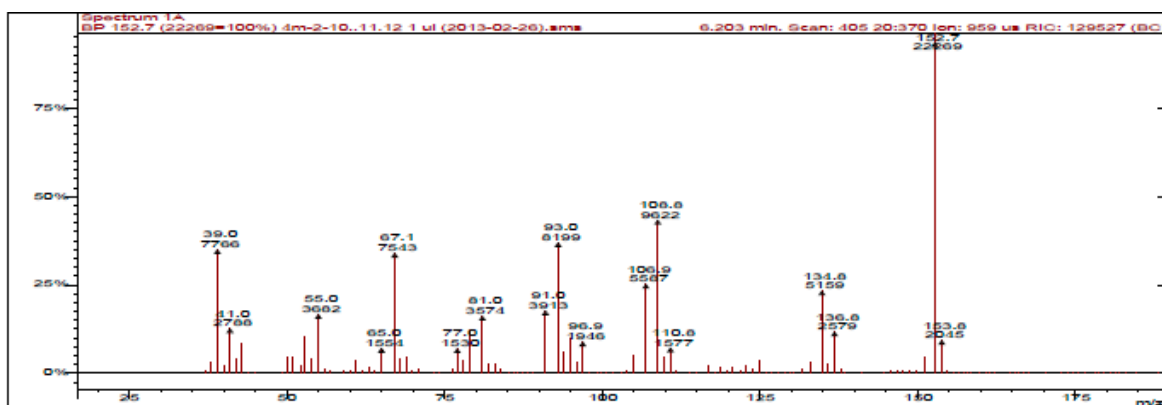


Figure S42. GC-MS spectrum of bromolactone **4b**.

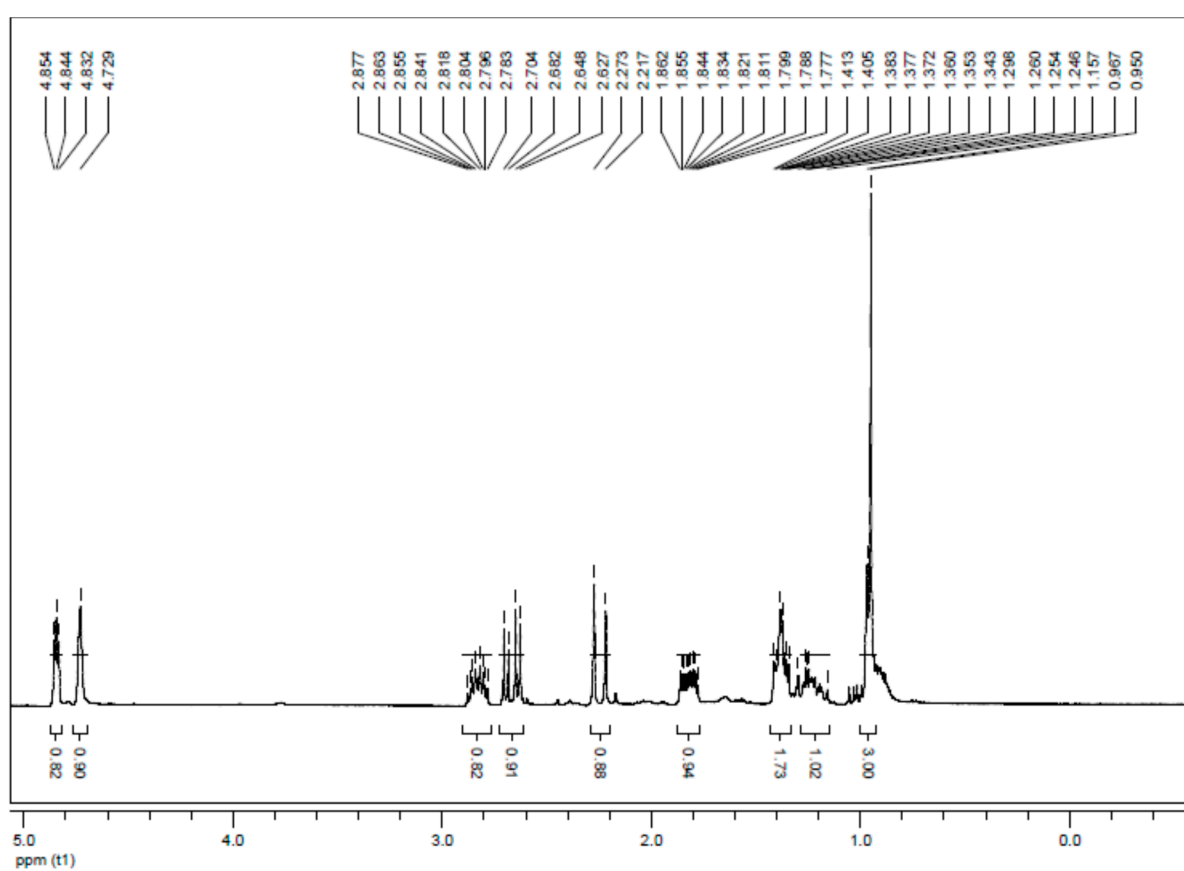


Figure S43. $^1\text{H-NMR}$ (300 MHz, CDCl_3) spectrum of iodolactone **5b**.

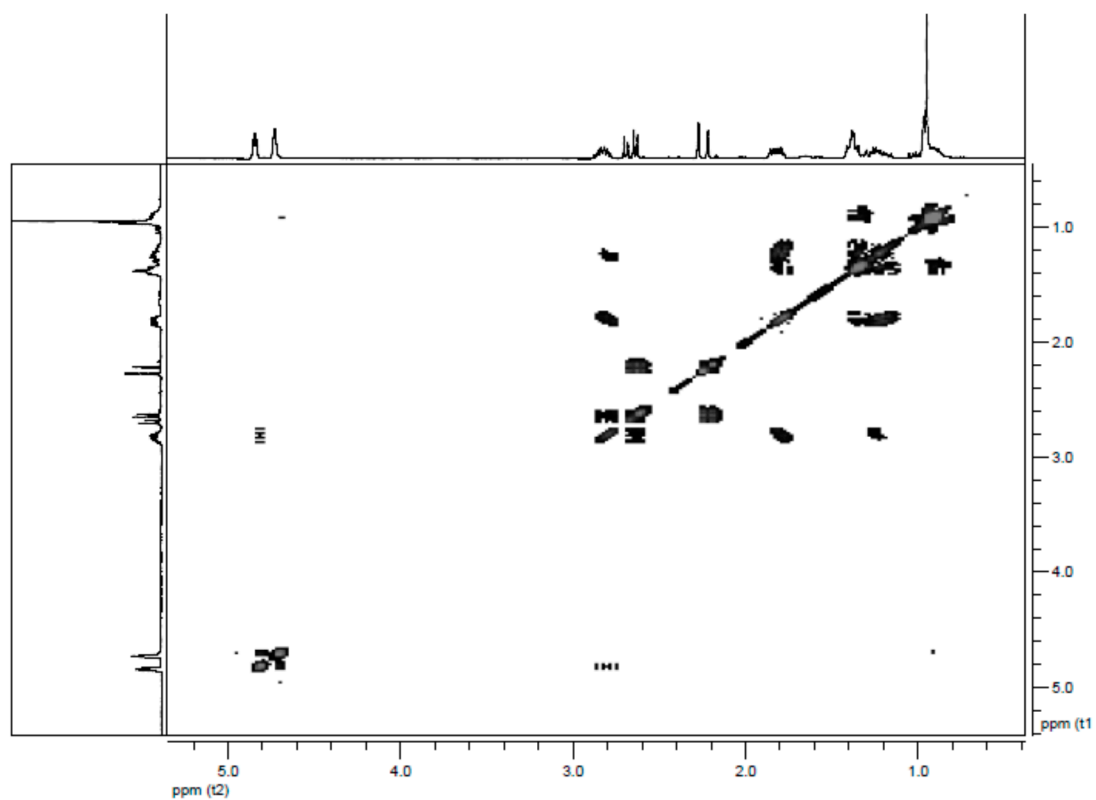


Figure S44. COSY (300 MHz, CDCl₃) spectrum of of iodolactone **5b**.

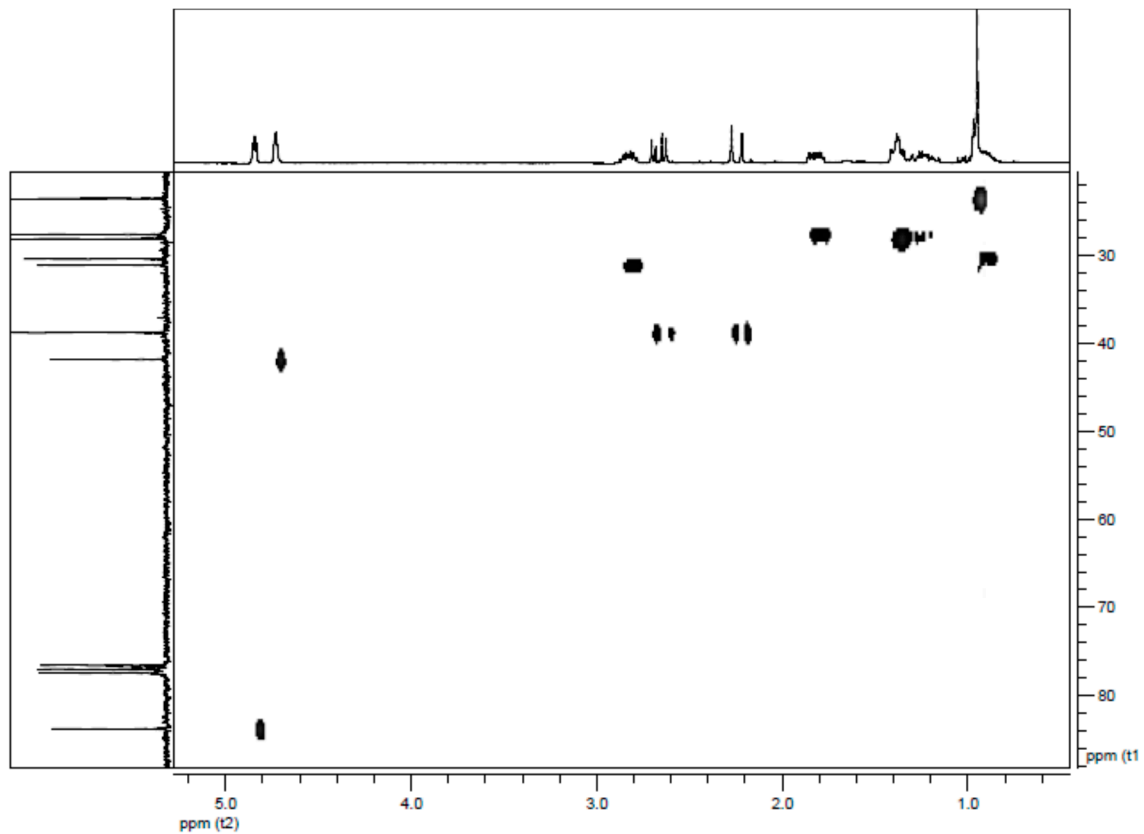


Figure S45. HMQC (300 MHz, CDCl₃) spectrum of of iodolactone **5b**.

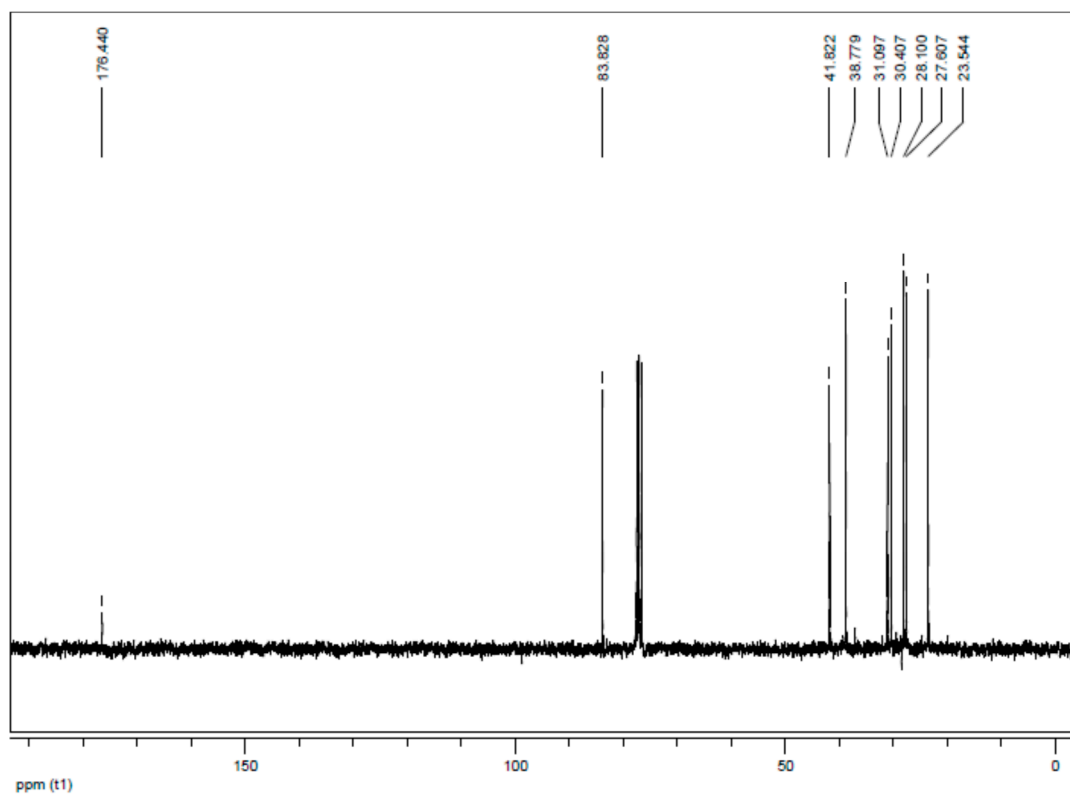


Figure S46. ^{13}C -NMR (75.5 MHz, CDCl₃) spectrum of of iodolactone **5b**.

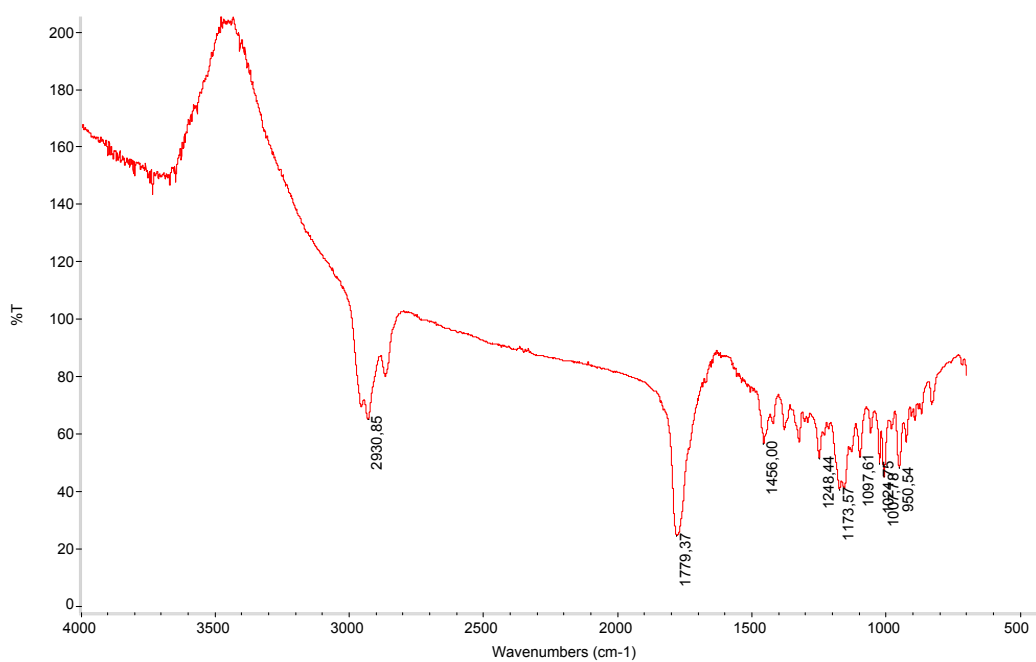


Figure S47. IR spectrum of of iodolactone **5b**.

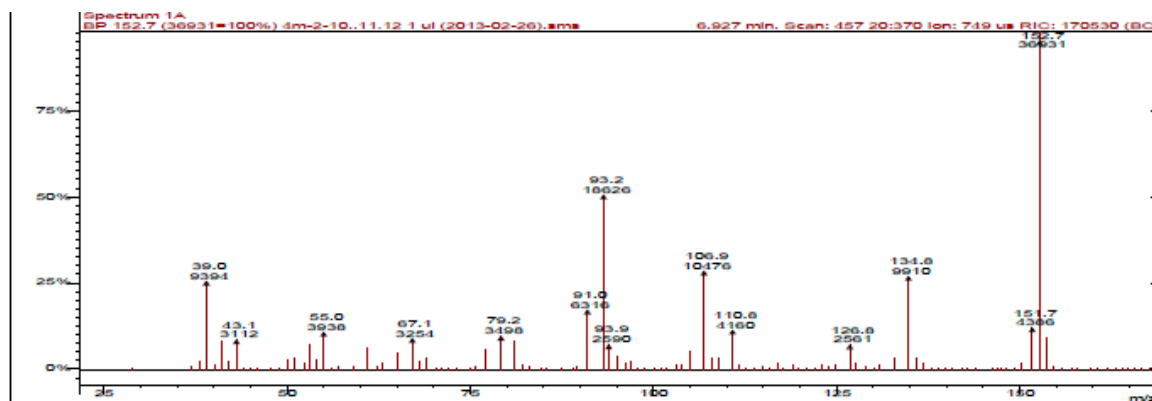


Figure S48. GC-MS spectrum of of iodolactone **5b**.

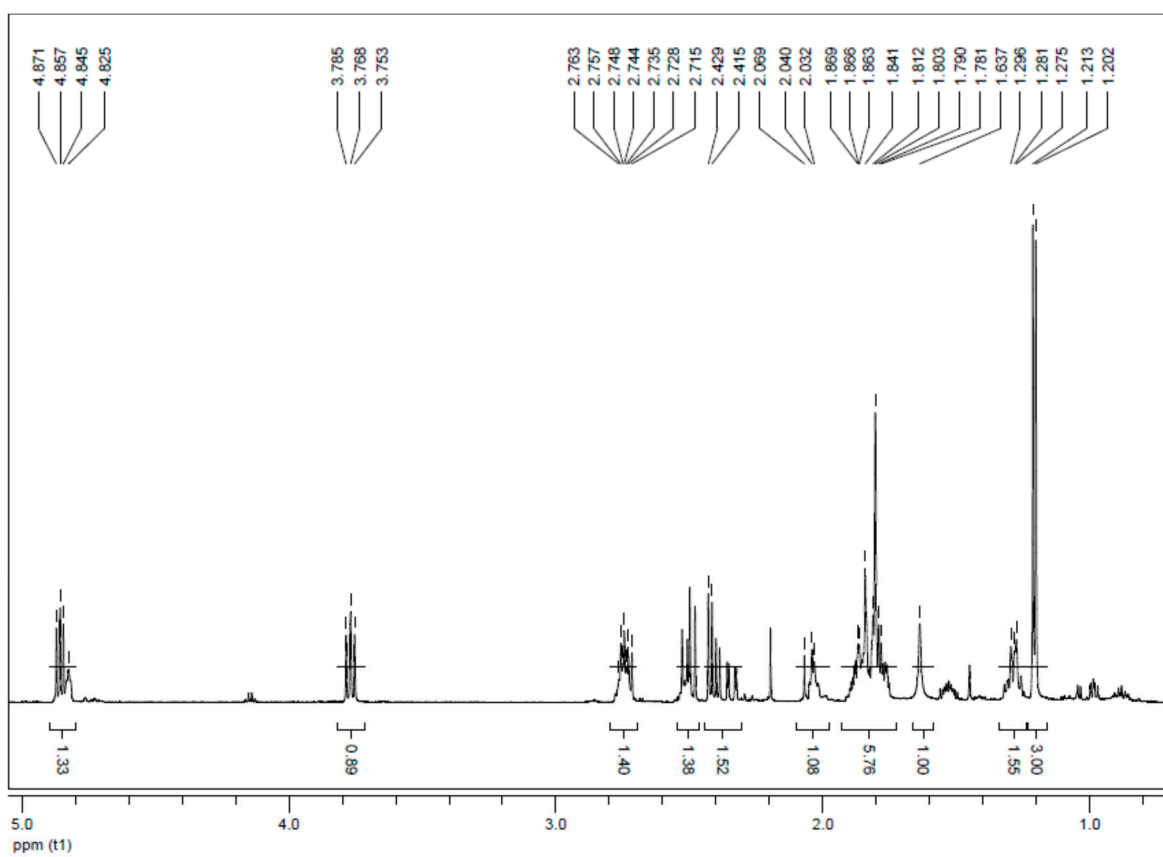


Figure S49. $^1\text{H-NMR}$ (300 MHz, CDCl_3) spectrum of iodolactone **6b**.

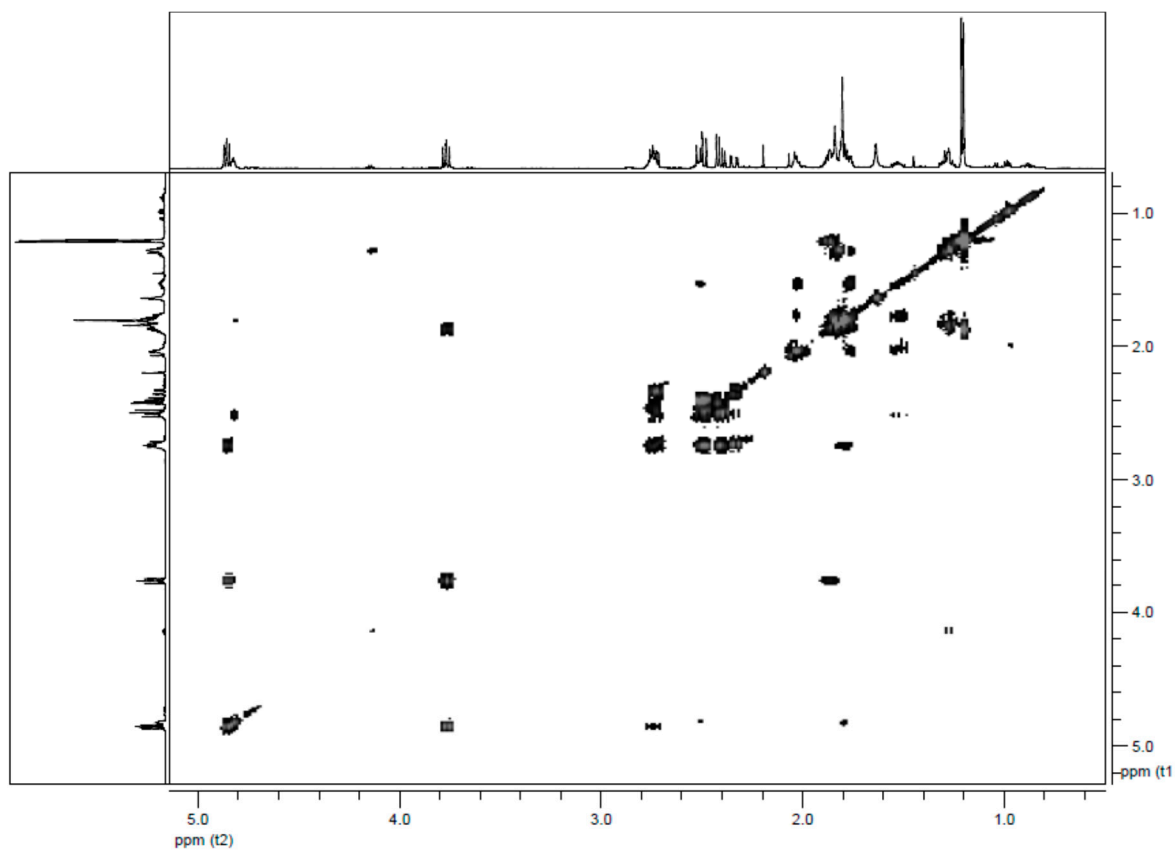


Figure S50. COSY (300 MHz, CDCl₃) spectrum of iodolactone **6b**.

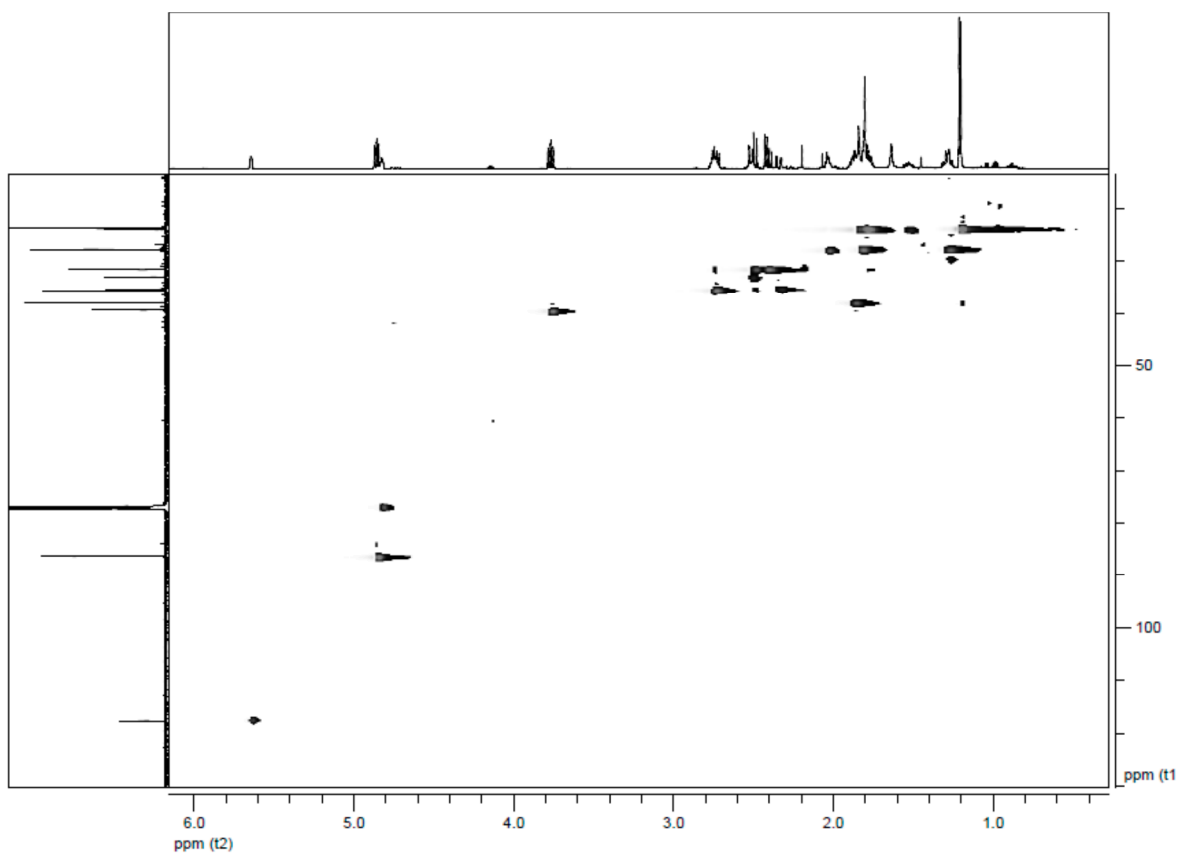


Figure S51. HMBC (300 MHz, CDCl₃) spectrum of iodolactone **6b**.

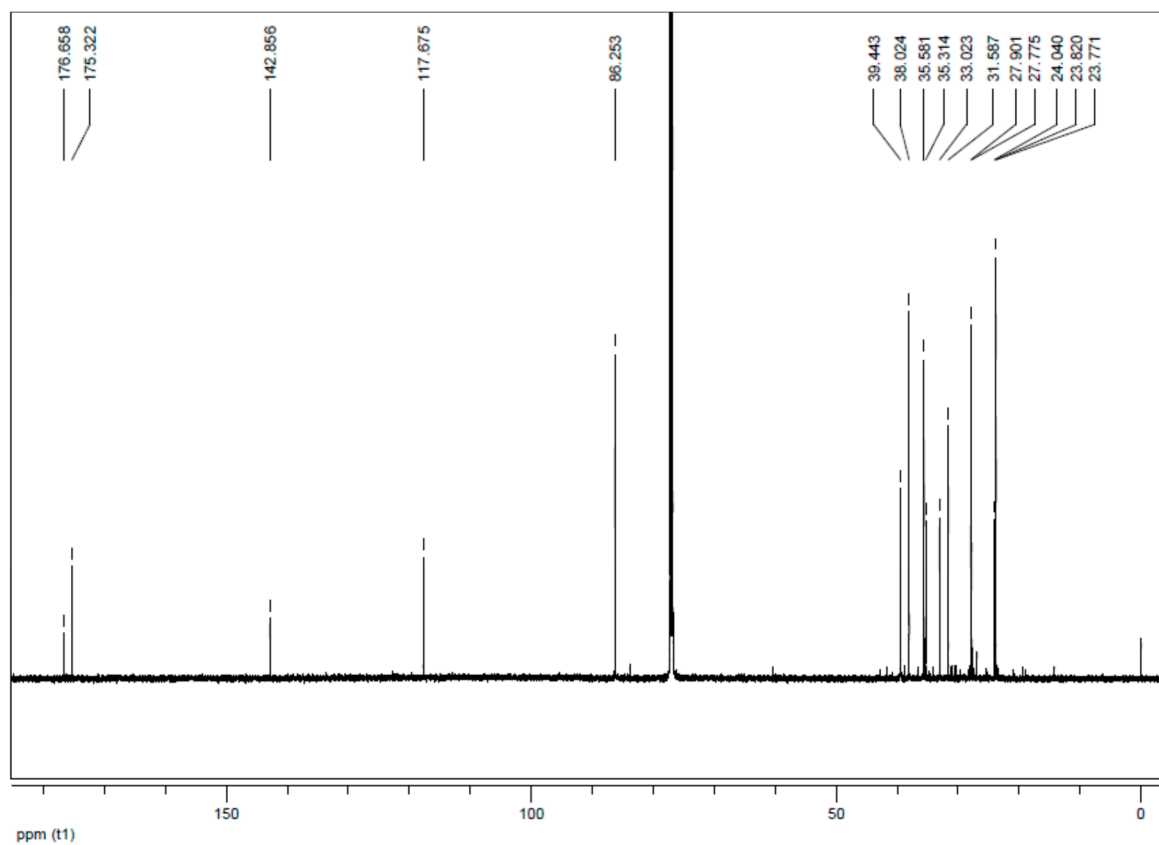


Figure S52. ^{13}C -NMR (75.5 MHz, CDCl_3) spectrum of of iodolactone **6b**.

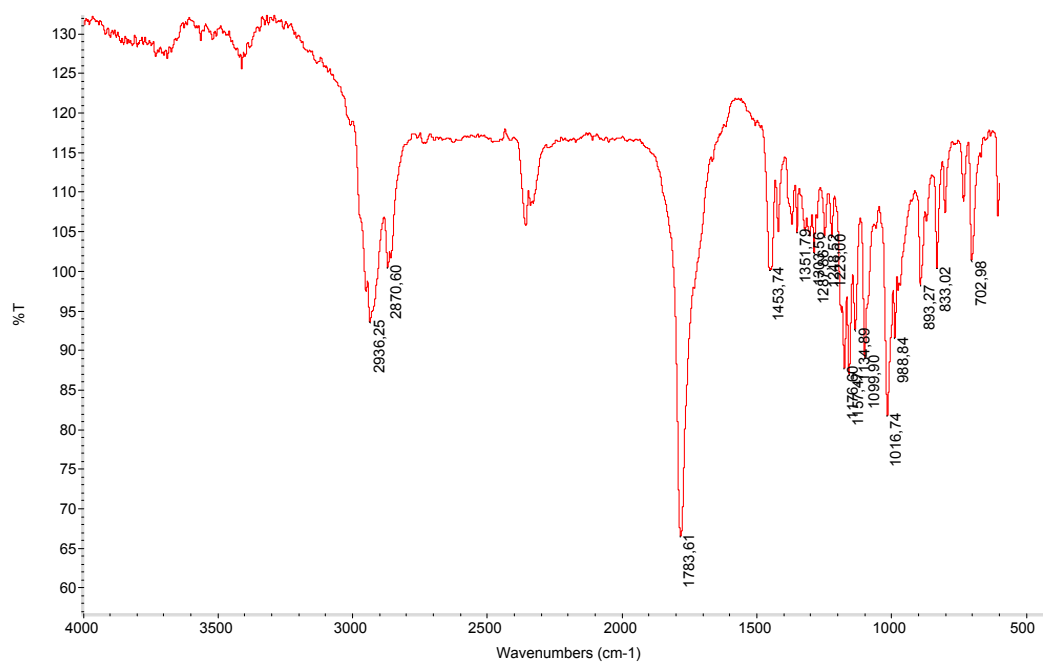


Figure S53. IR spectrum of of iodolactone **6b**.

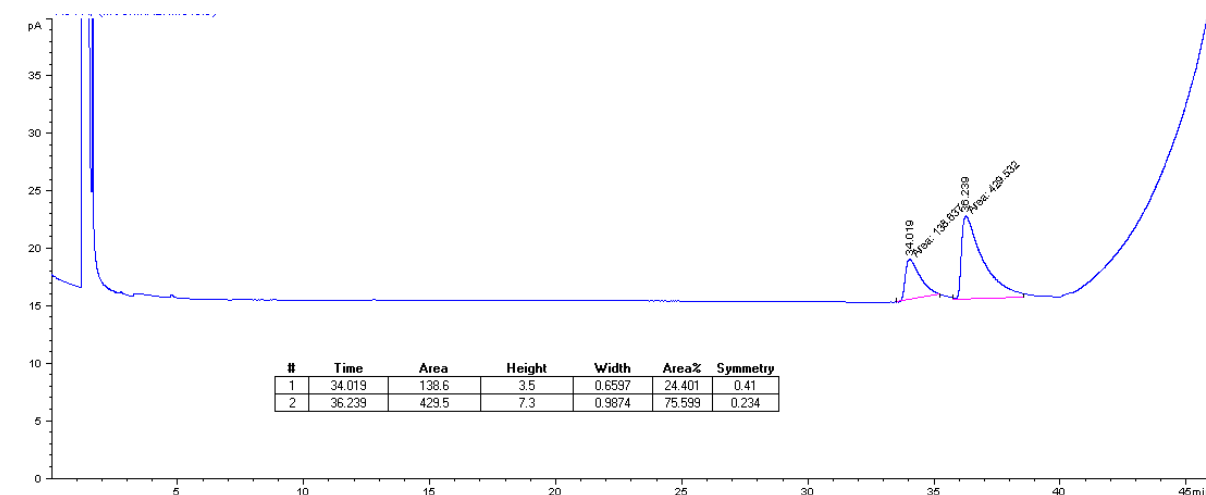


Figure S54. Chromatogram of hydroxylacton **7a** obtained from chlorolactone **3a** by *F. culmorum* AM10.

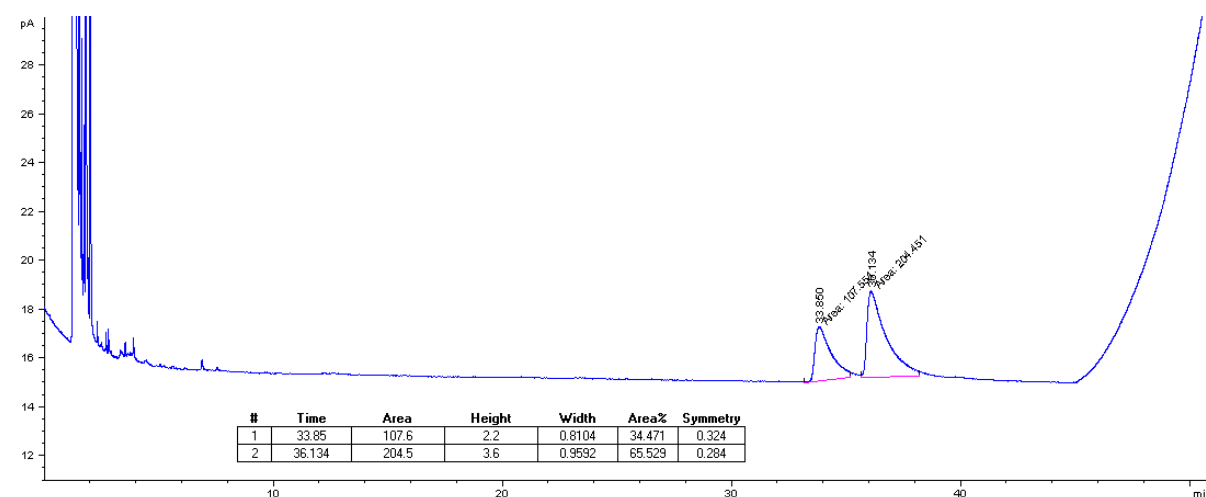


Figure S55. Chromatogram of hydroxylacton **7a** obtained from chlorolactone **3a** by *F. culmorum* AM22.

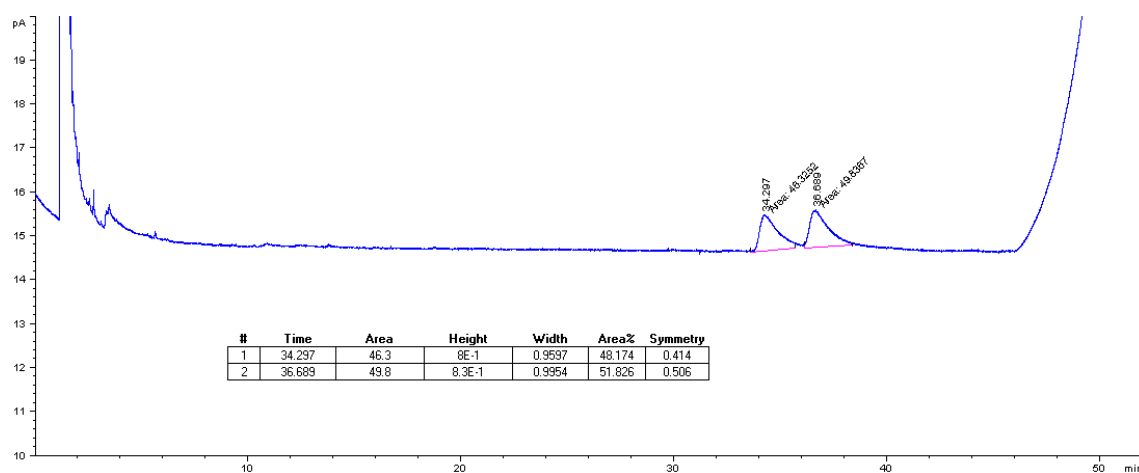


Figure S56. Chromatogram of hydroxylacton **7a** obtained from chlorolactone **3a** by *F. culmorum* AM203.

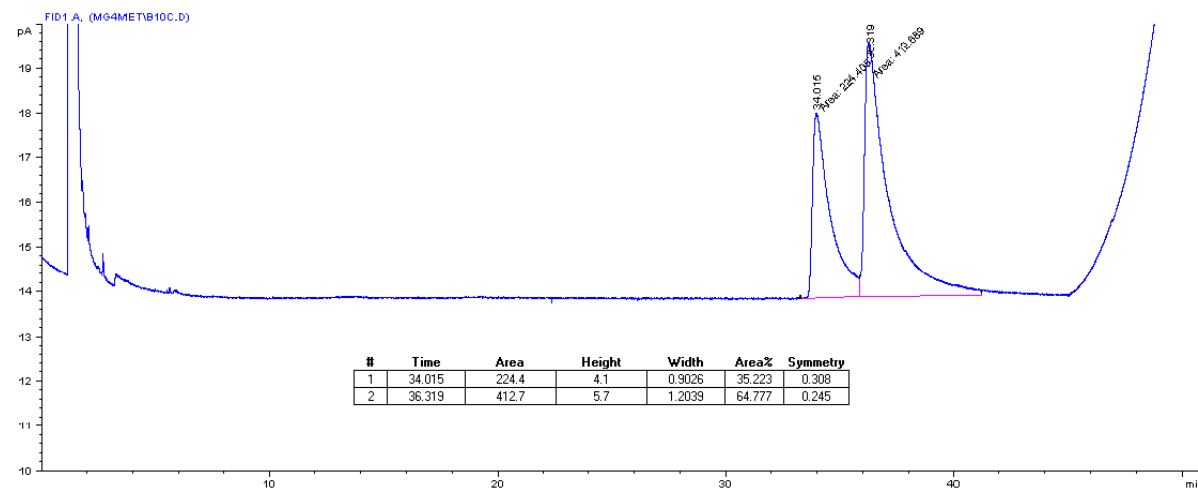


Figure S57. Chromatogram of hydroxylacton **7a** obtained from bromolactone **4a** by *F. culmorum* AM10.

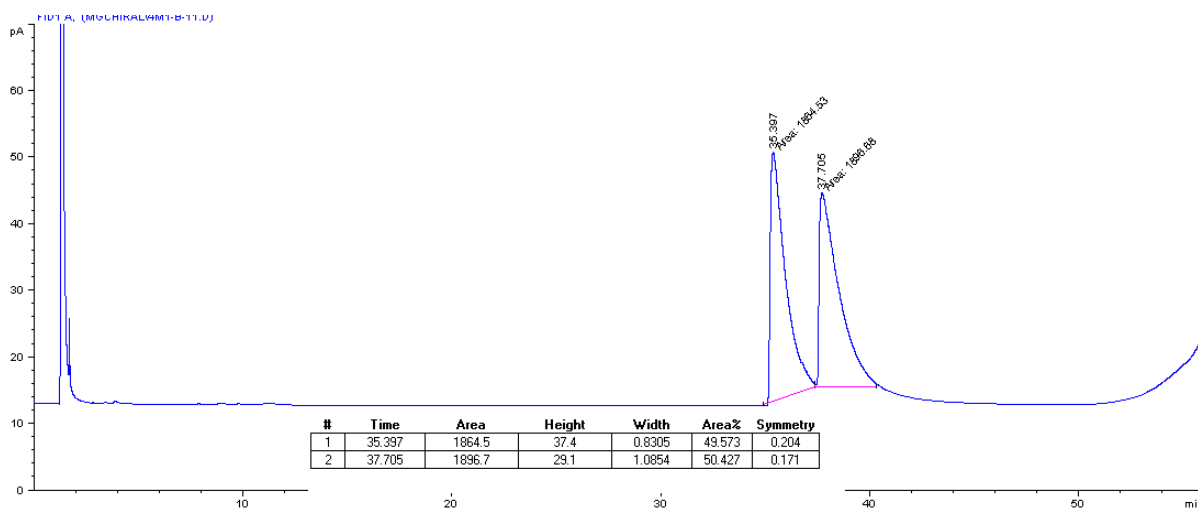


Figure S58. Chromatogram of hydroxylacton **7a** obtained from bromolactone **4a** by *F. culmorum* AM11.

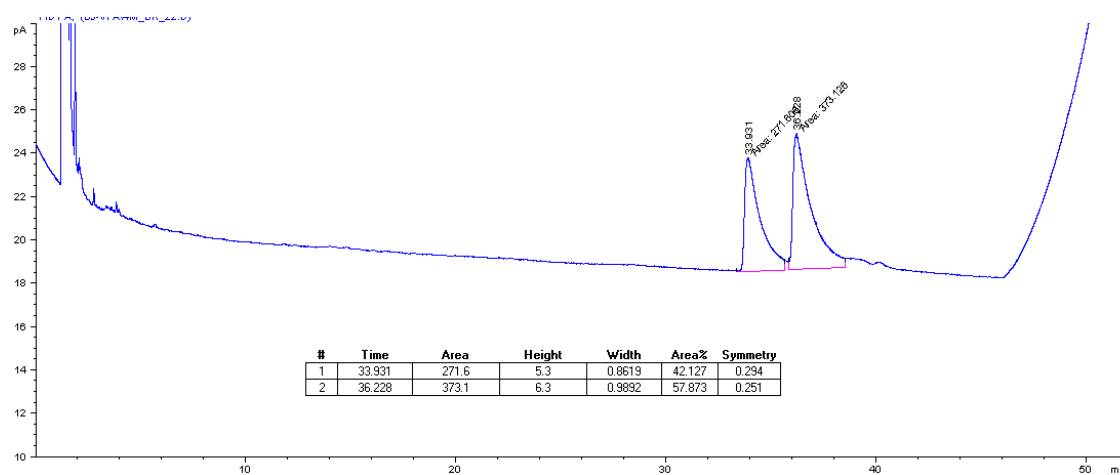


Figure S59. Chromatogram of hydroxylacton **7a** obtained from bromolactone **4a** by *F. culmorum* AM22.

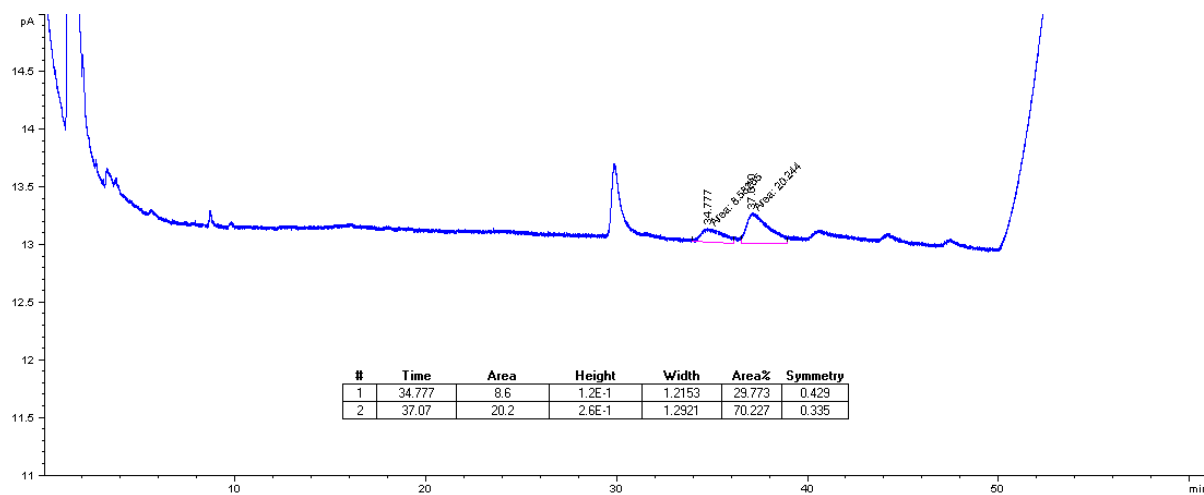


Figure S60. Chromatogram of hydroxylacton **7a** obtained from bromolactone **4a** by *F. culmorum* AM199.

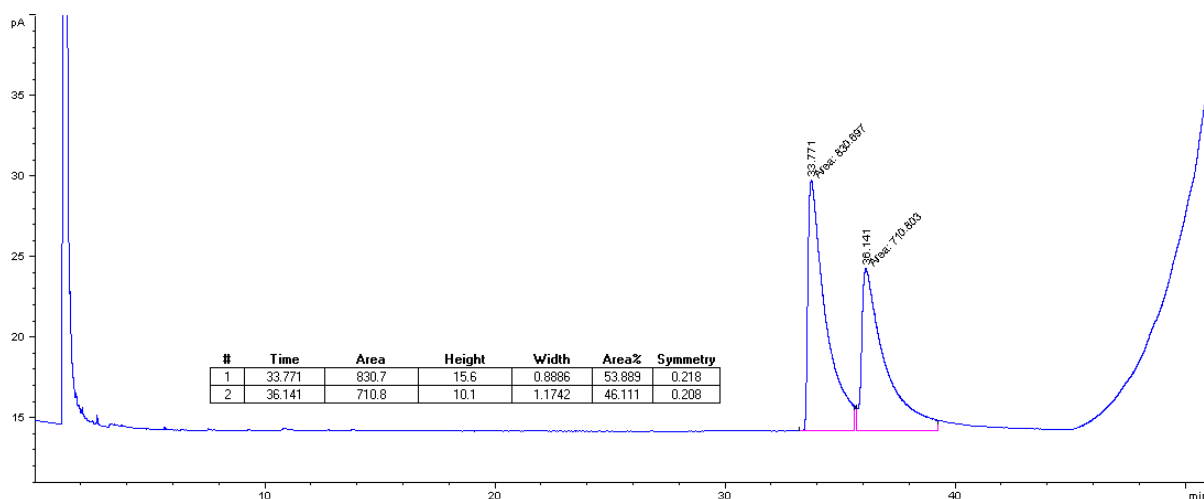


Figure S61. Chromatogram of hydroxylacton **7a** obtained from bromolactone **4a** by *F. culmorum* AM203.

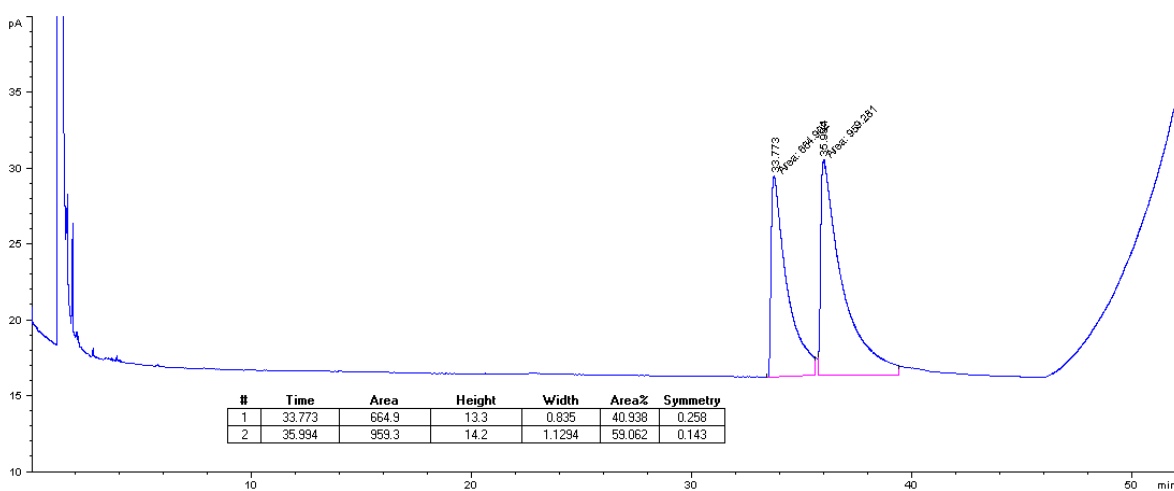


Figure S62. Chromatogram of hydroxylacton **7a** obtained from bromolactone **4a** by *F. culmorum* AM235.

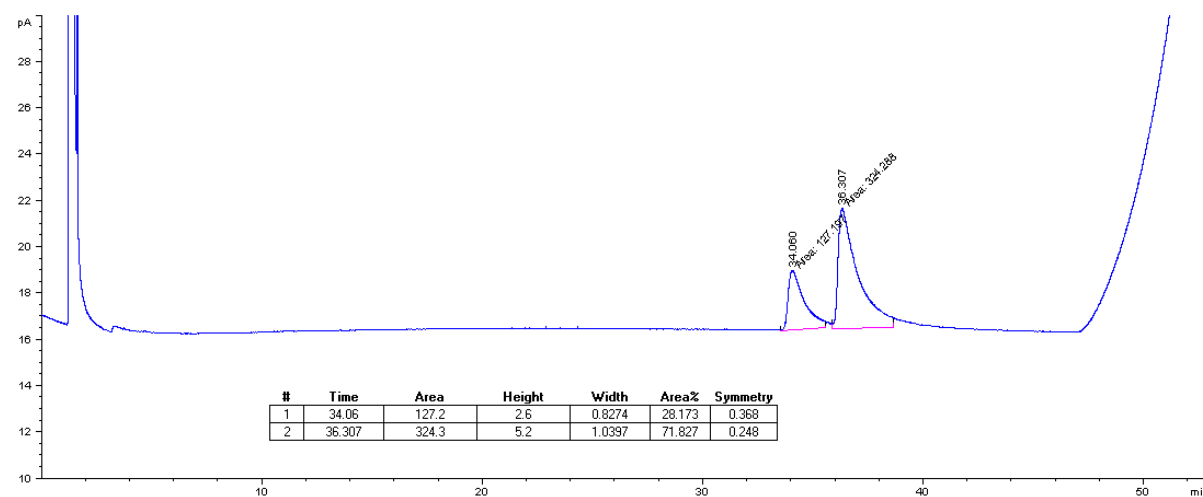


Figure S63. Chromatogram of hydroxylacton **7a** obtained from iodolactone **5a** by *F. culmorum* AM10.

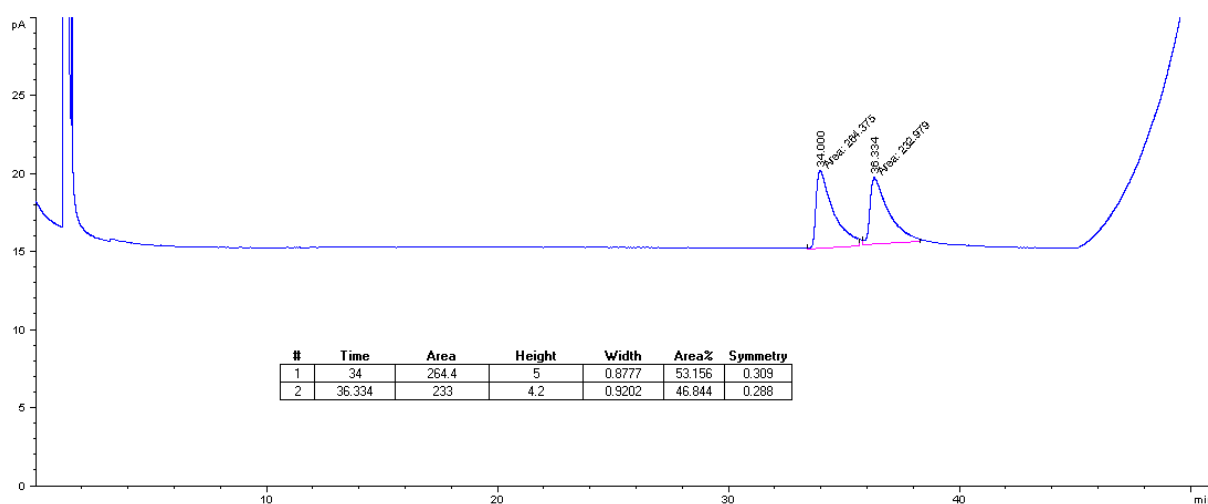


Figure S64. Chromatogram of hydroxylacton **7a** obtained from iodolactone **5a** by *F. culmorum* AM11.

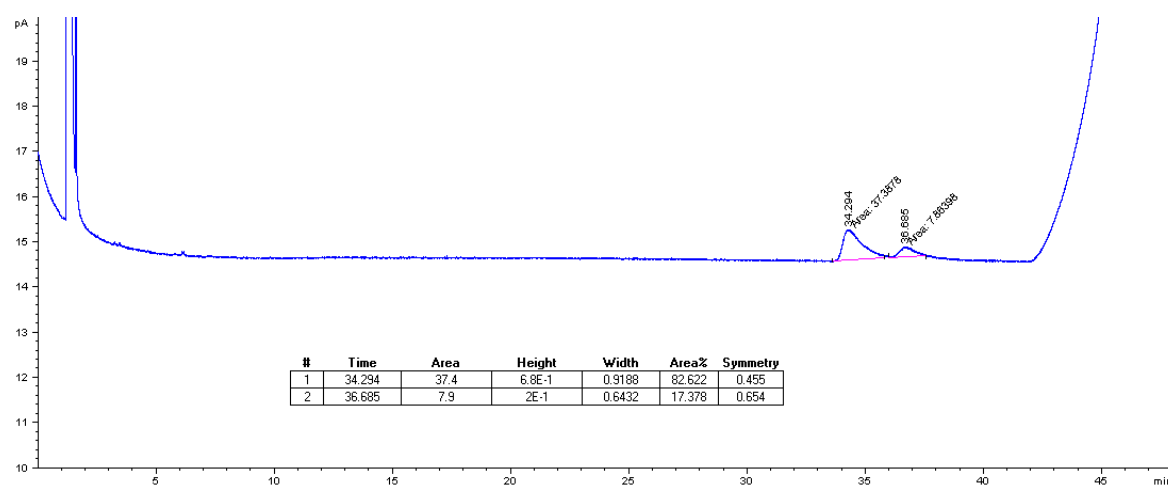


Figure S65. Chromatogram of hydroxylacton **7a** obtained from iodolactone **5a** by *F. culmorum* AM13.

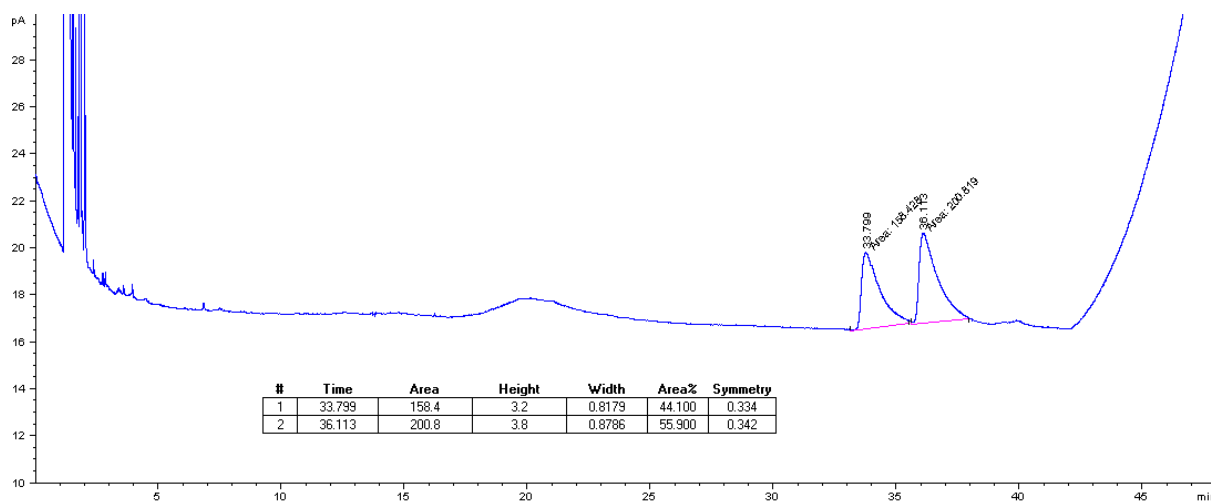


Figure S66. Chromatogram of hydroxylacton **7a** obtained from iodolactone **5a** by *F. culmorum* AM22.

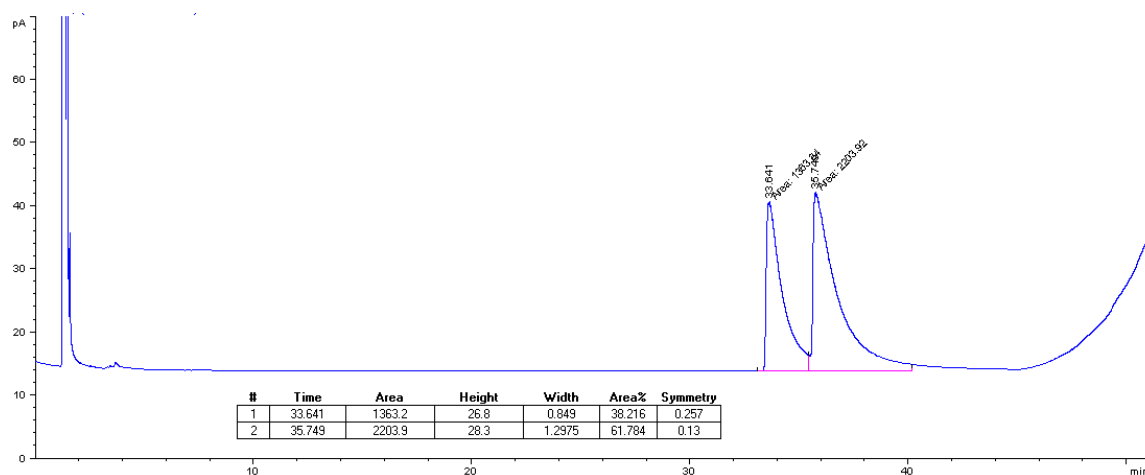


Figure S67. Chromatogram of hydroxylacton **7a** obtained from iodolactone **5a** by *F. culmorum* AM105.

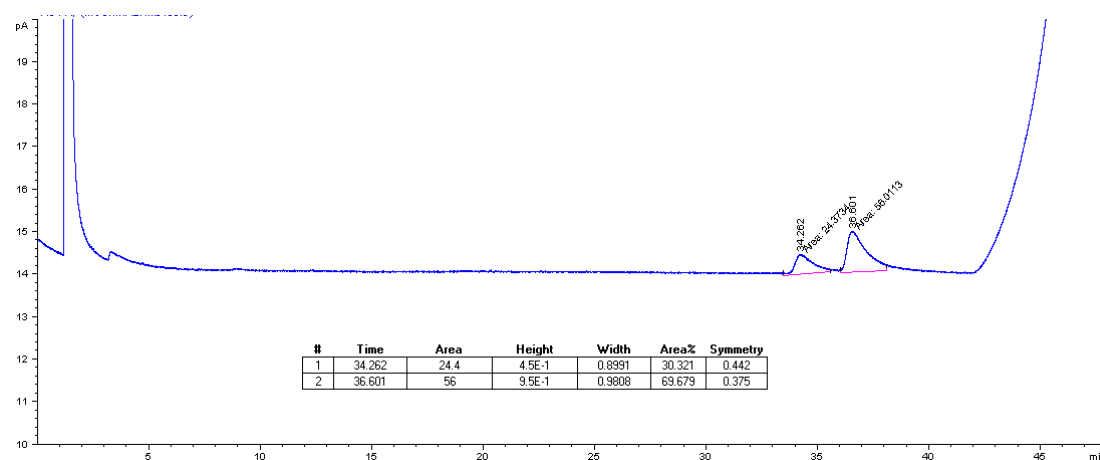


Figure S68. Chromatogram of hydroxylacton **7a** obtained from iodolactone **5a** by *F. culmorum* AM199.

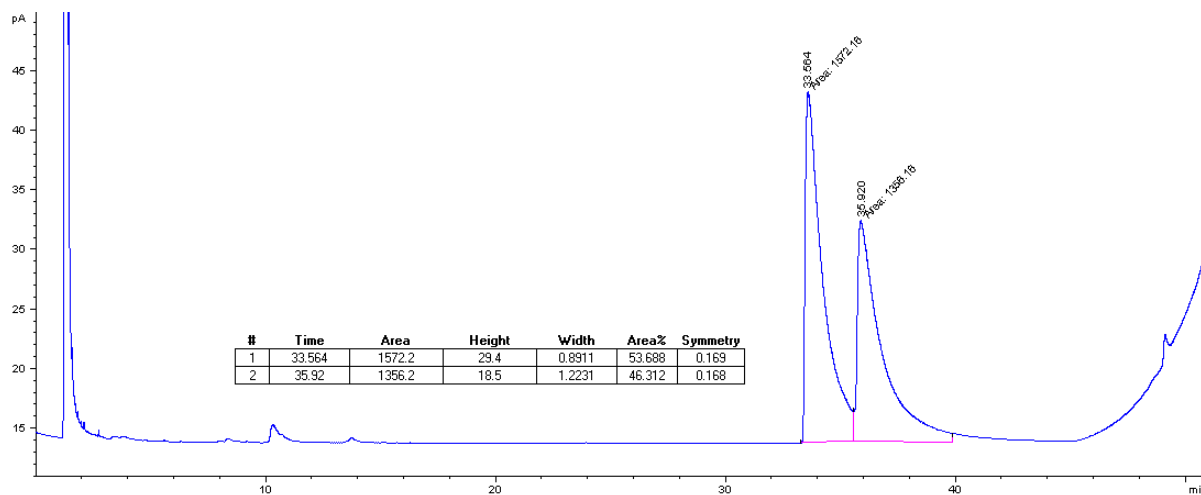


Figure S69. Chromatogram of hydroxylactone **7a** obtained from iodolactone **5a** by *F. culmorum* AM203.

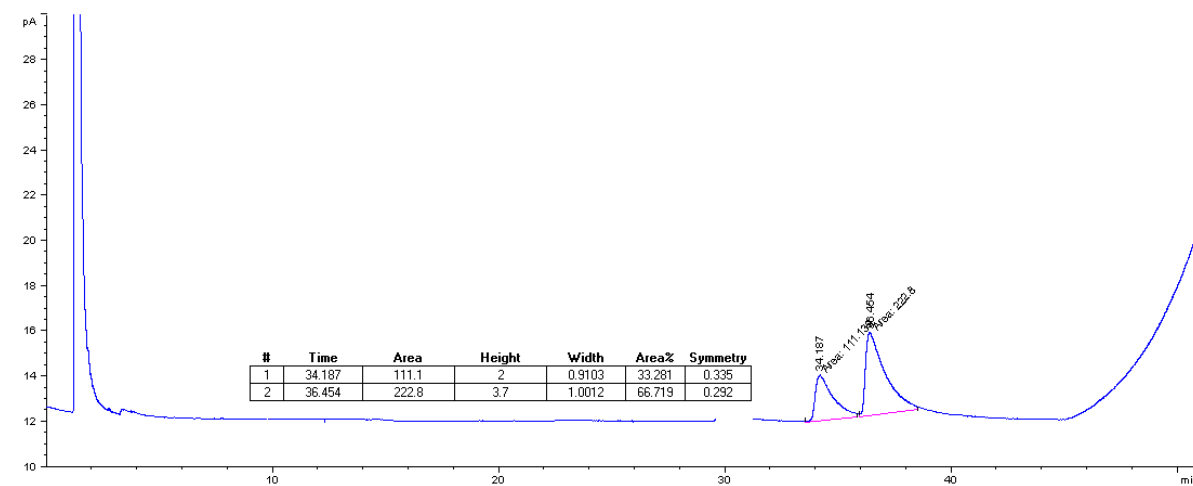


Figure S70. Chromatogram of hydroxylactone **7a** obtained from iodolactone **5a** by *F. culmorum* AM235.