Supplementary data content page

Title: Kurilosides A_1, A_2, C_1, D, E and F – triterpene glycosides from the Far Eastern sea cucumber *Thyonidium (=Duasmodactyla) kurilensis* (Levin): structures with unusual non-holostane aglycones and cytotoxicities.

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Contents:

Figure S12. The HMBC (700.00 MHz) spectrum of the aglycone part of kuriloside A_2 (**2**) in C_5D_5N/D_2O (4/1)

Figure S13. The ROESY (700.00 MHz) spectrum of the aglycone part of kuriloside A_2 (**2**) in C_5D_5N/D_2O (4/1)

Figure S14. HR-ESI-MS and ESI-MS/MS spectra of kuriloside A_2 (**2**)

Figure S15. The ^{13}C NMR (176.03 MHz) spectrum of kuriloside C_1 (**3**) in C_5D_5N/D_2O (4/1)

Figure S16. The ^1H NMR (700.00 MHz) spectrum of kuriloside C_1 (**3**) in C_5D_5N/D_2O (4/1)

Figure S17. The COSY (700.00 MHz) spectrum of the carbohydrate part of kuriloside C_1 (**3**) in C_5D_5N/D_2O (4/1)

Figure S18. The HSQC (700.00 MHz) spectrum of the carbohydrate part of kuriloside C_1 (**3**) in C_5D_5N/D_2O (4/1)

Figure S19. The HMBC (700.00 MHz) spectrum of the carbohydrate part of kuriloside C_1 (**3**) in C_5D_5N/D_2O (4/1)

Figure S20. The ROESY (700.00 MHz) spectrum of the carbohydrate part of kuriloside C_1 (**3**) in C_5D_5N/D_2O (4/1)

Figure S21. 1 D TOCSY (700.00 MHz) spectra of the carbohydrate part of kuriloside C_1 (**3**) in C_5D_5N/D_2O (4/1)

Figure S22. HR-ESI-MS and ESI-MS/MS spectra of kuriloside C_1 (**3**)

Figure S23. The ^{13}C NMR (176.03 MHz) spectrum of kuriloside D (**4**) in C_5D_5N/D_2O (4/1)

Figure S24. The ^1H NMR (700.00 MHz) spectrum of kuriloside D (**4**) in C_5D_5N/D_2O (4/1)

Figure S25. The COSY (700.00 MHz) spectrum of kuriloside D (**4**) in C_5D_5N/D_2O (4/1)

Figure S26. The HSQC (700.00 MHz) spectrum of kuriloside D (**4**) in C_5D_5N/D_2O (4/1)

Figure S27. The ROESY (700.00 MHz) spectrum of kuriloside D (**4**) in C_5D_5N/D_2O (4/1)

Figure S28. The HMBC (700.00 MHz) spectrum of kuriloside D (**4**) in C_5D_5N/D_2O (4/1)

Figure S29. 1 D TOCSY (700.00 MHz) spectra of kuriloside D (**4**) in C_5D_5N/D_2O (4/1)

Figure S48. 1D TOCSY (700.00 MHz) spectra of the carbohydrate part of kuriloside F (**6**) in C_5D_5N/D_2O (4/1)

Figure S49. HR-ESI-MS and ESI-MS/MS spectra of kuriloside F (**6**)

Figure S50. The ^{13}C NMR (176.03 MHz) spectrum of kuriloside A (**7**) in C_5D_5N/D_2O (4/1)

Figure S51. The ^1H NMR (700.00 MHz) spectrum of kuriloside A (**7**) in C_5D_5N/D_2O (4/1)

Figure S52. The COSY (700.00 MHz) spectrum of kuriloside A (**7**) in C_5D_5N/D_2O (4/1)

Figure S53. The HSQC (700.00 MHz) spectrum of kuriloside A (**7**) in C_5D_5N/D_2O (4/1)

Figure S54. The HMBC (700.00 MHz) spectrum of kuriloside A (**7**) in C_5D_5N/D_2O (4/1)

Figure S55. The ROESY (700.00 MHz) spectrum of kuriloside A (**7**) in C_5D_5N/D_2O (4/1)

Figure S56. 1 D TOCSY (700.00 MHz) spectra of kuriloside A (**7**) in C_5D_5N/D_2O (4/1)

Figure S57. 1 D TOCSY (700.00 MHz) spectra of kuriloside A (**7**) in C_5D_5N/D_2O (4/1)

Figure S58. HR-ESI-MS and ESI-MS/MS spectra of kuriloside A (**7**)

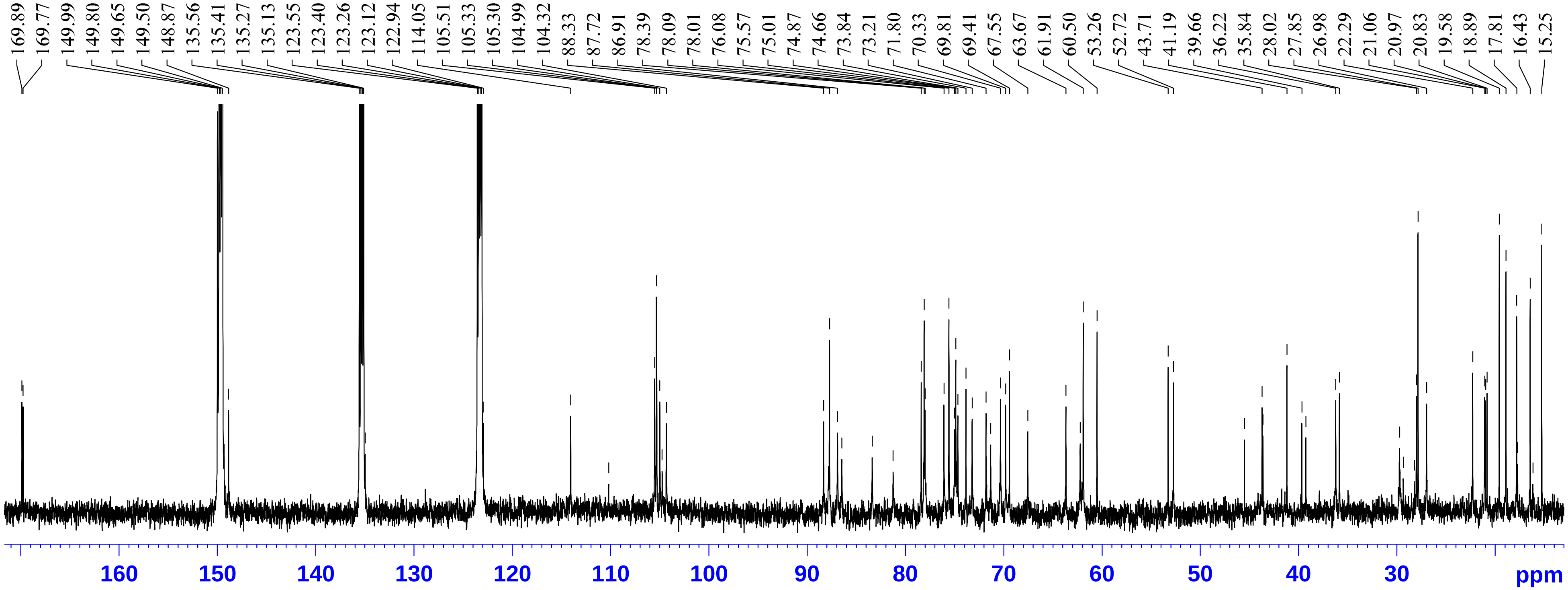

Figure S1. The ^{13}C NMR (176.03 MHz) spectrum of kuriloside A$_1$ (**1**) in C_5D_5N/D_2O (4/1)

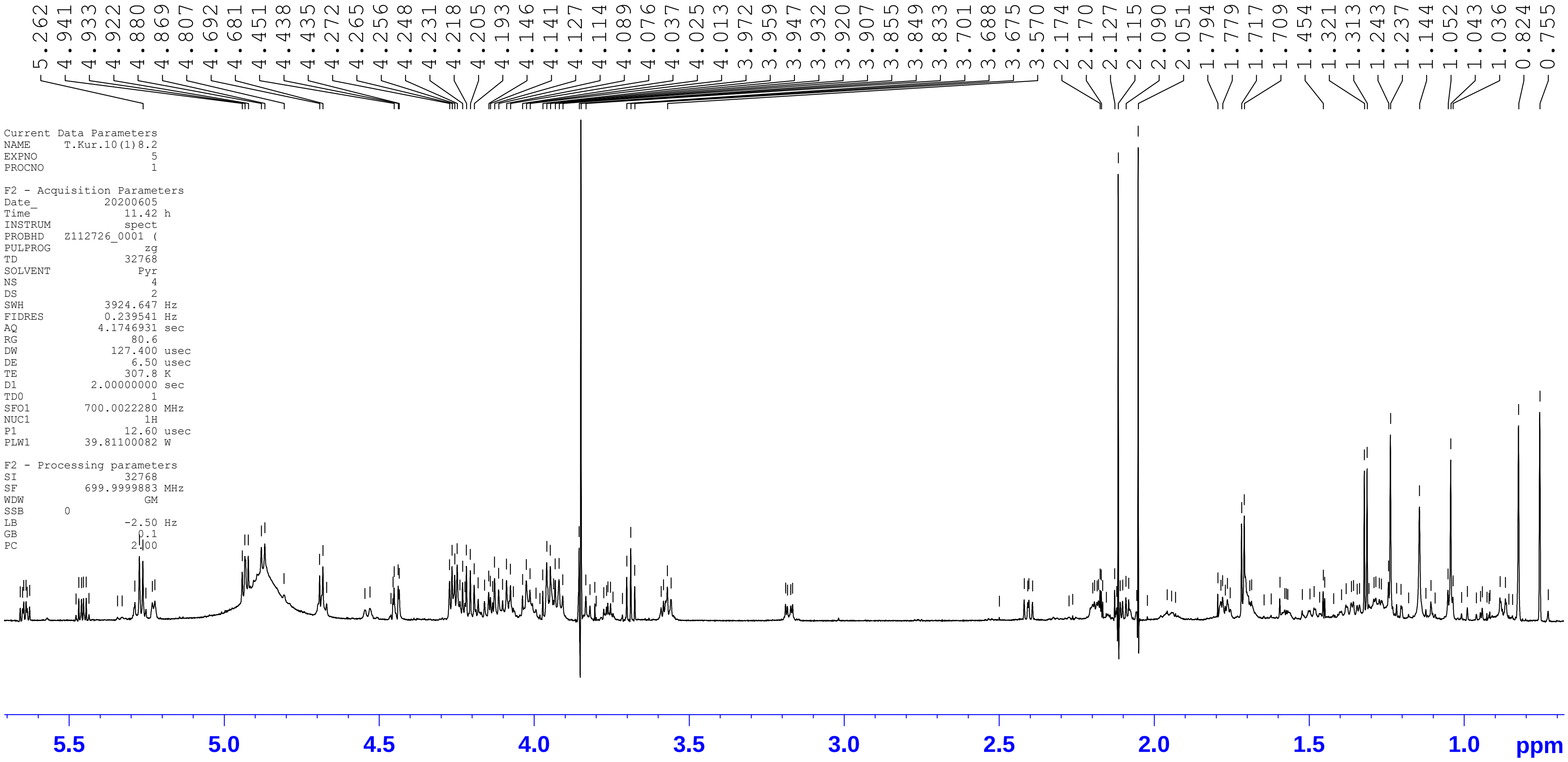

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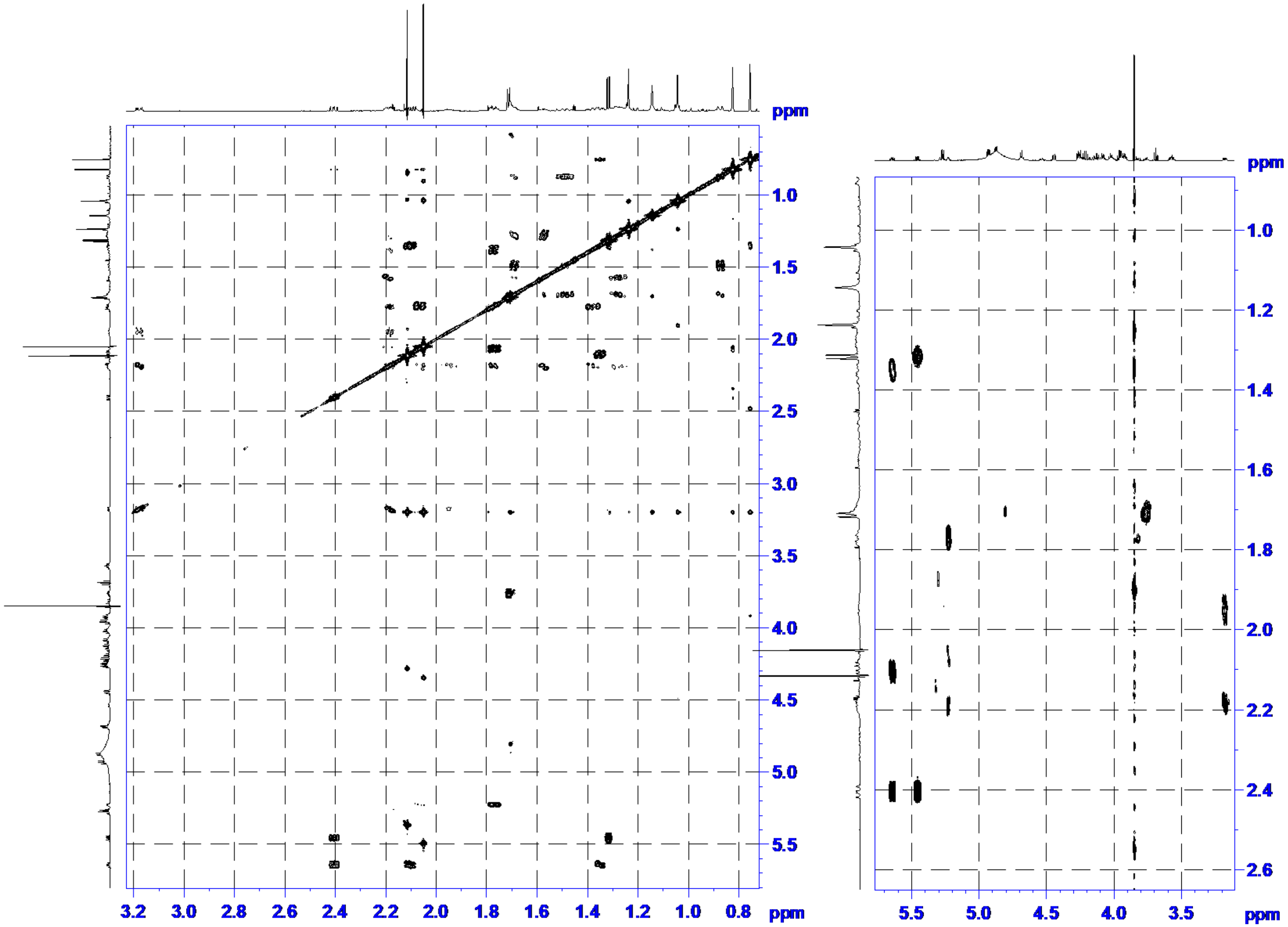
Figure S2. The ^{1}H NMR (700.00 MHz) spectrum of kuriloside A$_1$ (**1**) in C_5D_5N/D_2O (4/1)



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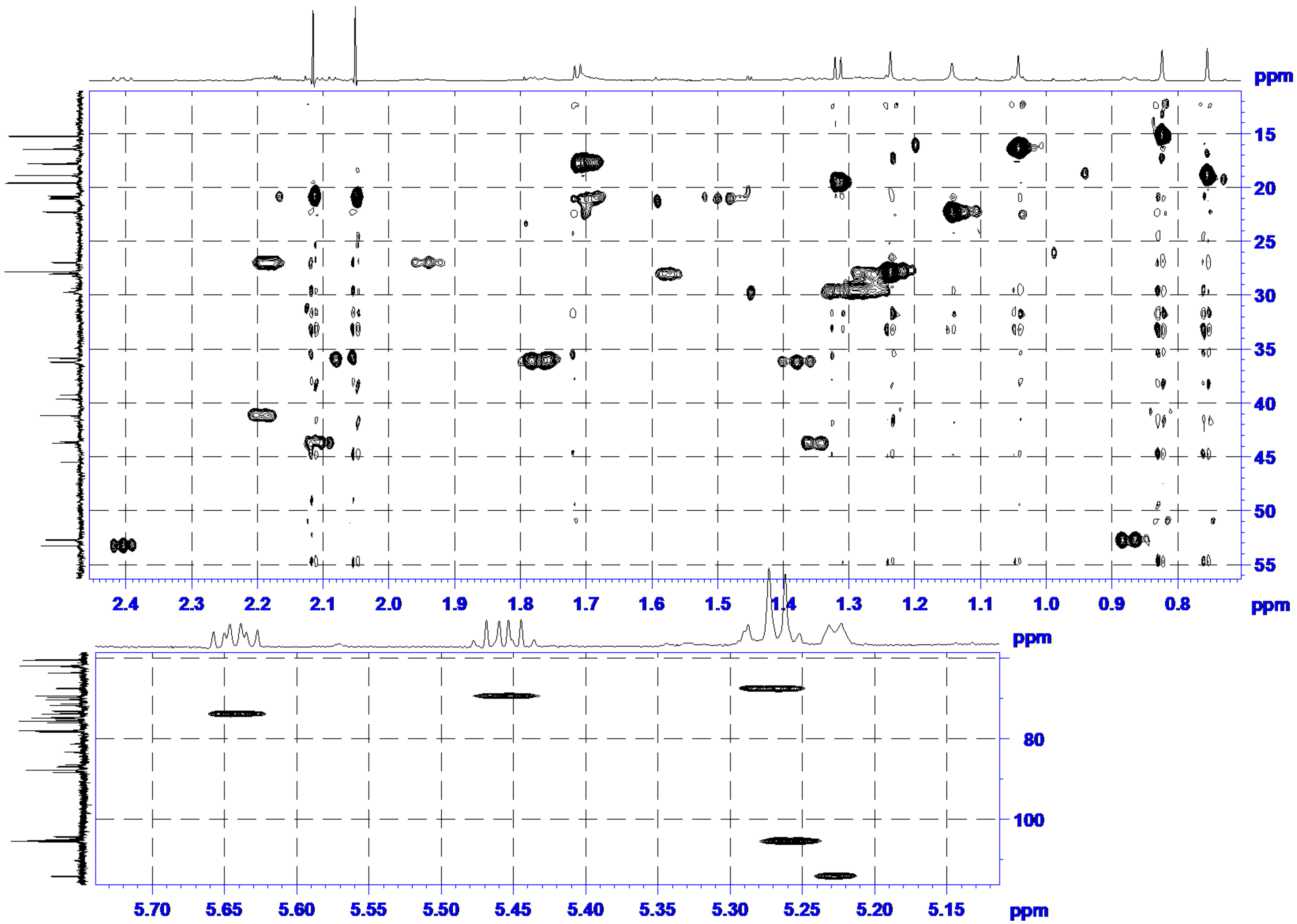


Figure S4. The HSQC (700.00 MHz) spectrum of the aglycone part of kuriloside A$_1$ (**1**) in C_5D_5N/D_2O (4/1)

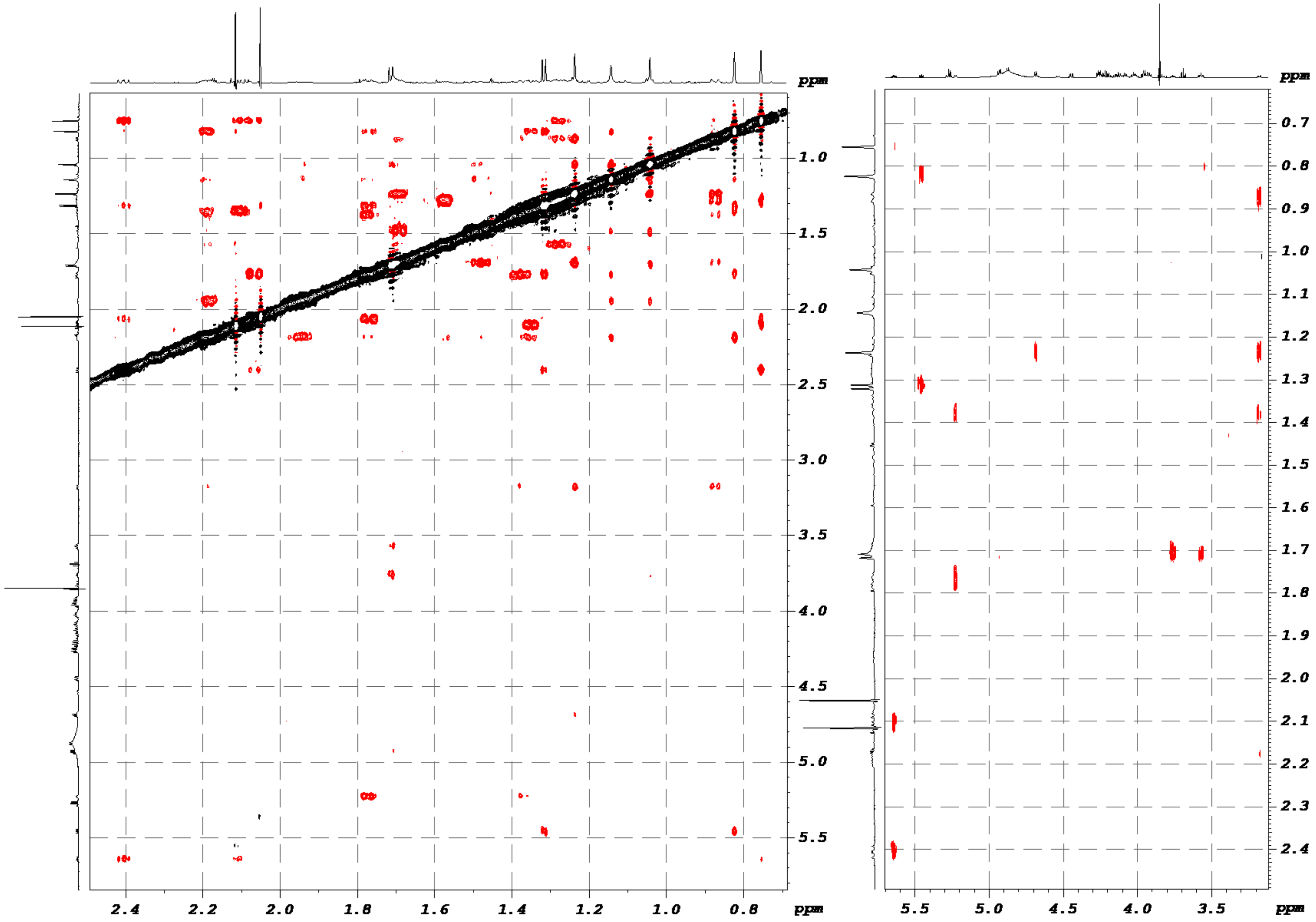


Figure S5. The ROESY (700.00 MHz) spectrum of the aglycone part of kuriloside A$_1$ (**1**) in C_5D_5N/D_2O (4/1)

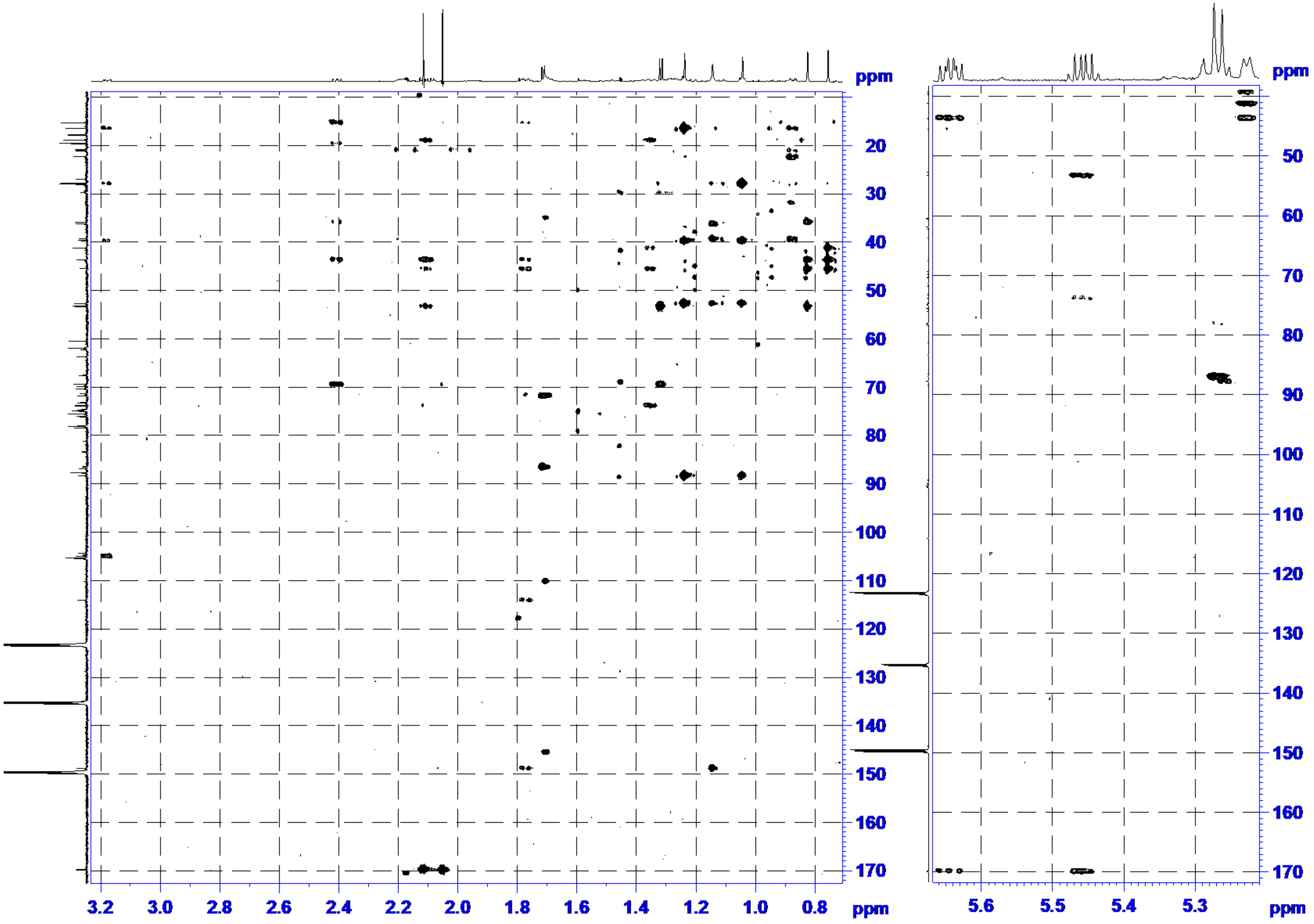


Figure S6. The HMBC (700.00 MHz) spectrum of the aglycone part of kuriloside A_1 (**1**) in C_5D_5N/D_2O (4/1)

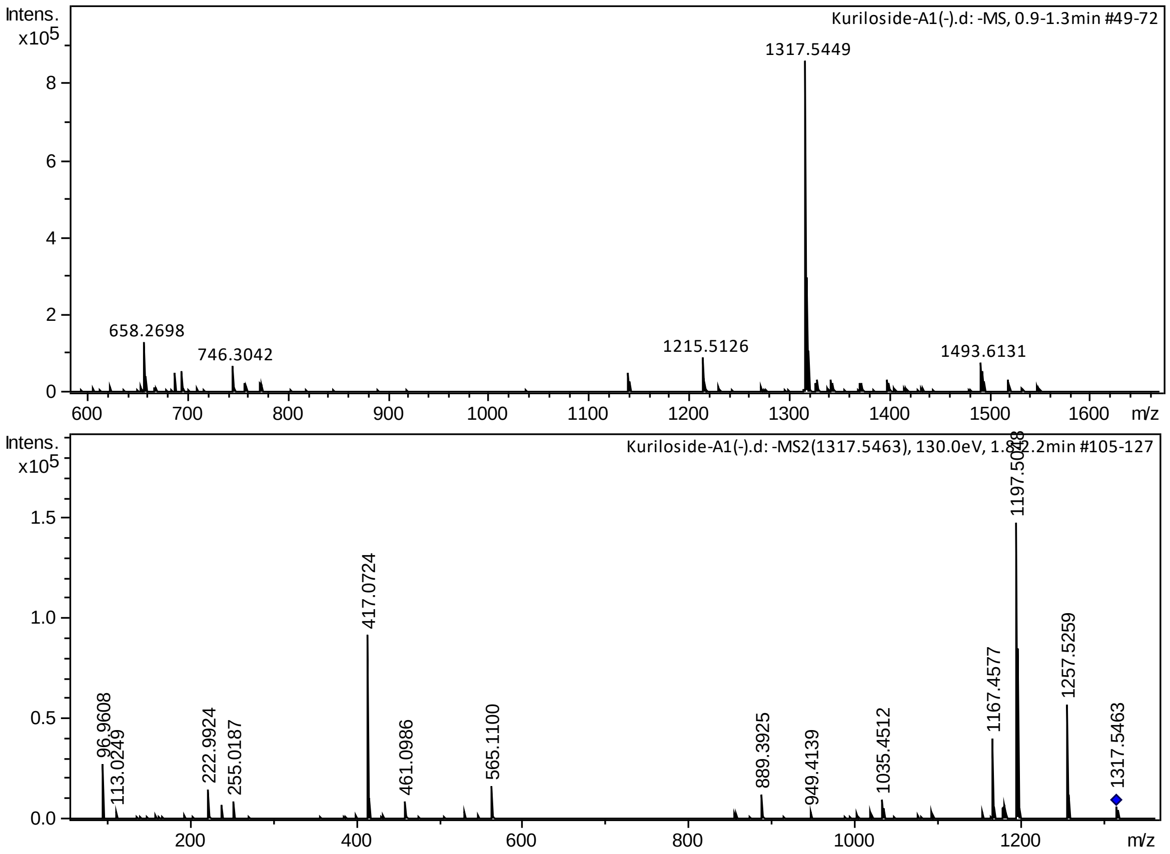


Figure S7. HR-ESI-MS and ESI-MS/MS spectra of kuriloside A₁ (**1**)

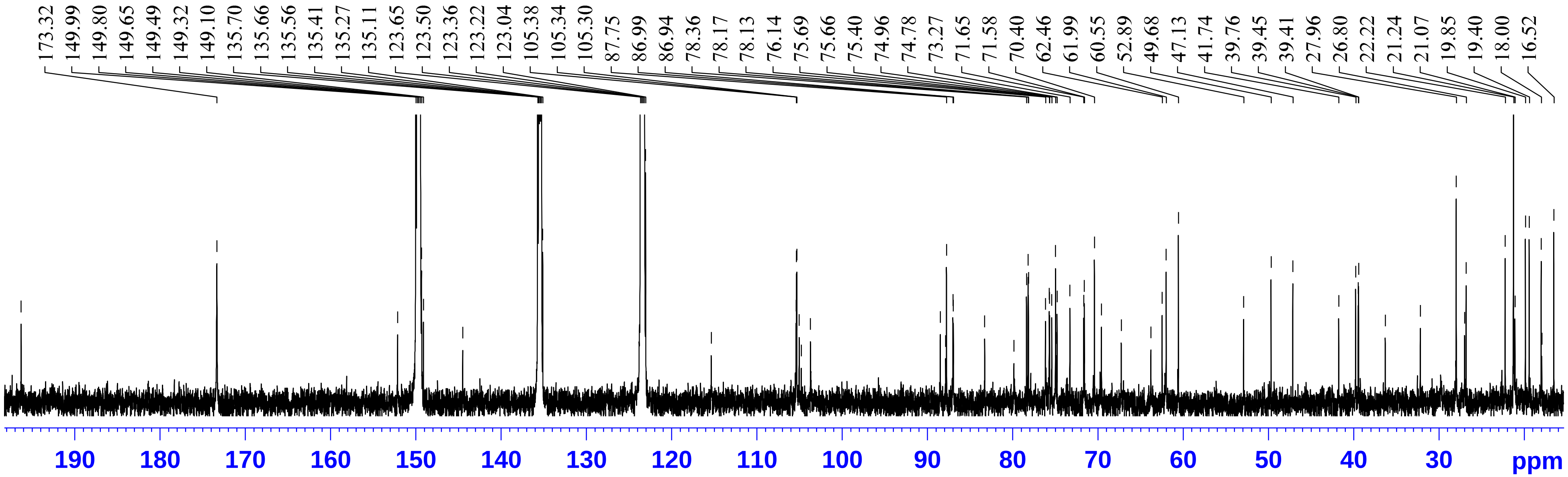
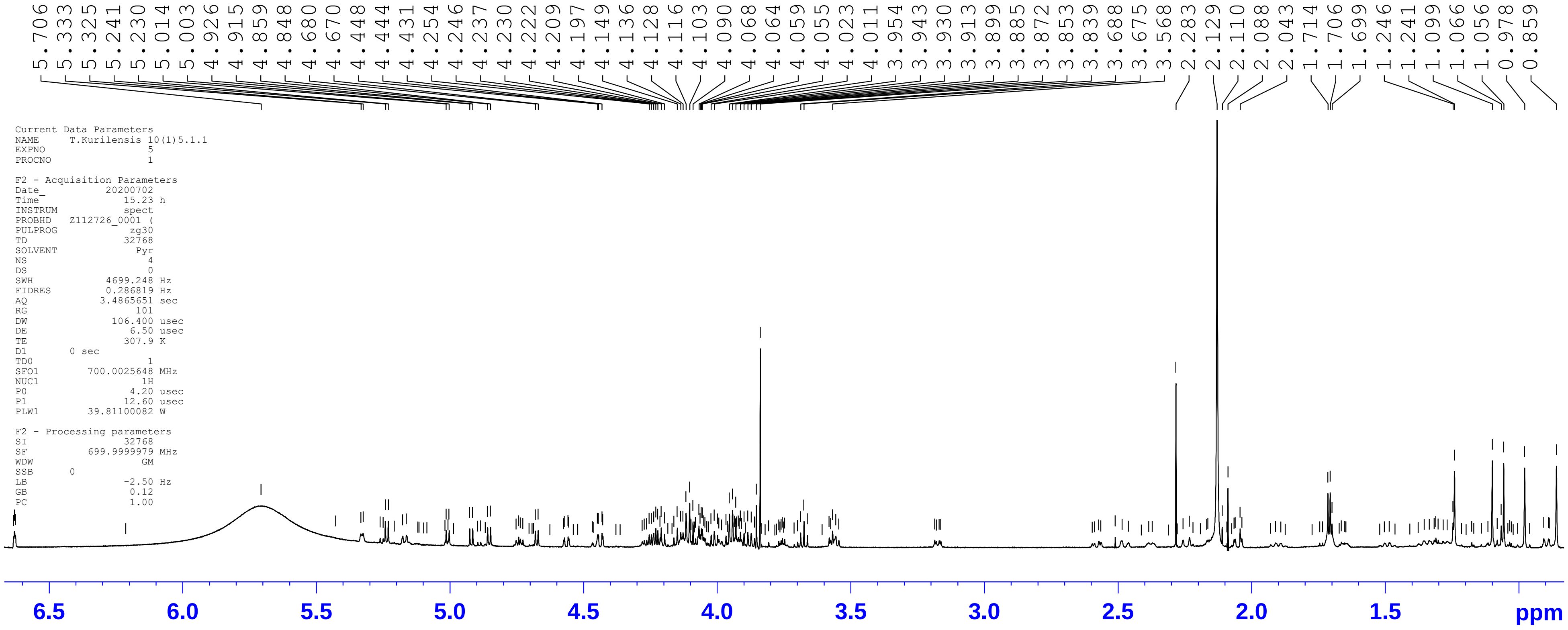


Figure S8. The ^{13}C NMR (176.03 MHz) spectrum of kuriloside A$_2$ (**2**) in C_5D_5N/D_2O (4/1)



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P1                  12.60 usec
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F2 - Processing parameters
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Figure S9. The ^{1}H NMR (700.00 MHz) spectrum of kuriloside A$_2$ (**2**) in C_5D_5N/D_2O (4/1)

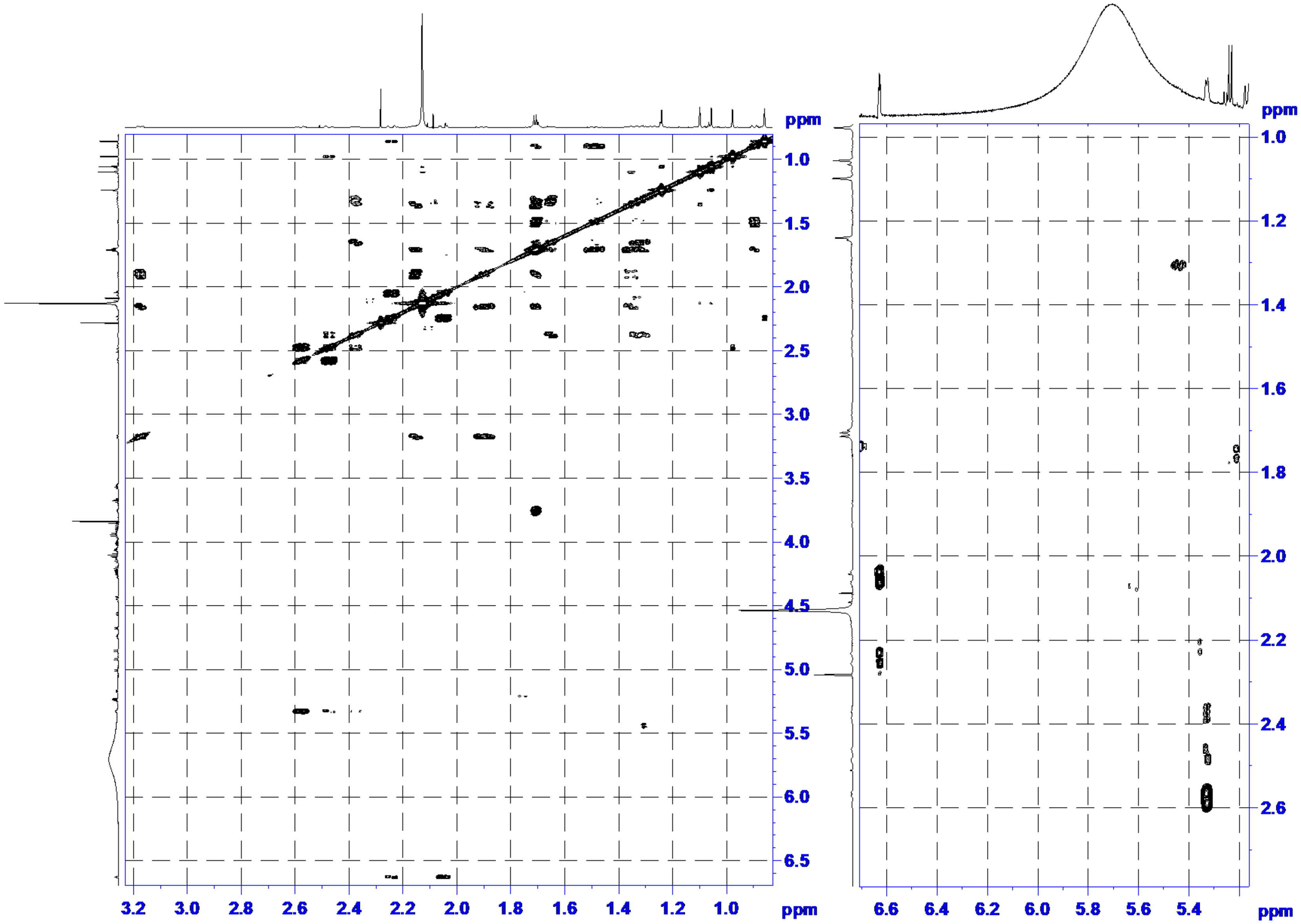


Figure S10. The COSY (700.00 MHz) spectrum of the aglycone part of kuriloside A$_2$ (**2**) in C_5D_5N/D_2O (4/1)

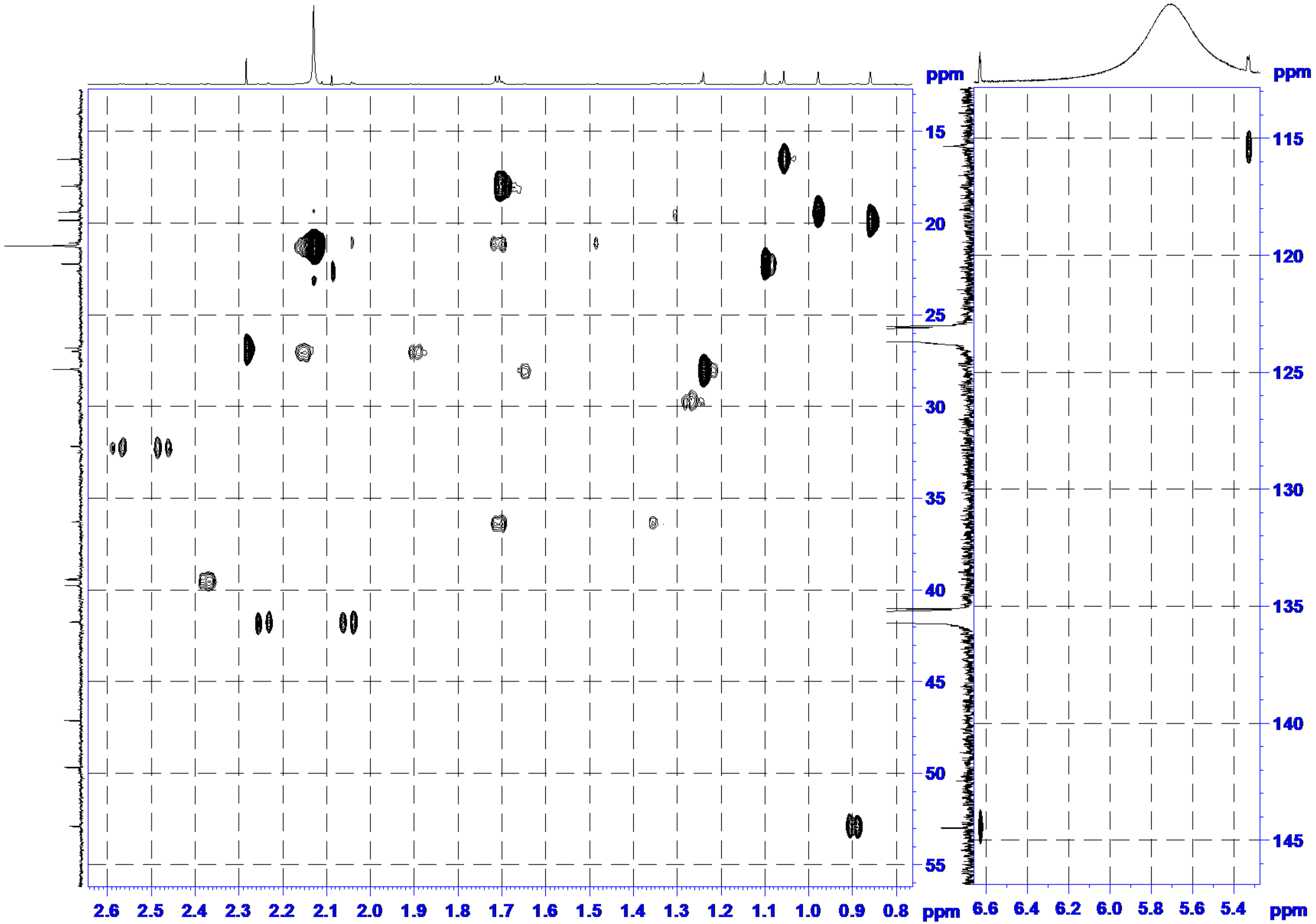


Figure S11. The HSQC (700.00 MHz) spectrum of the aglycone part of kuriloside A$_2$ (**2**) in C_5D_5N/D_2O (4/1)

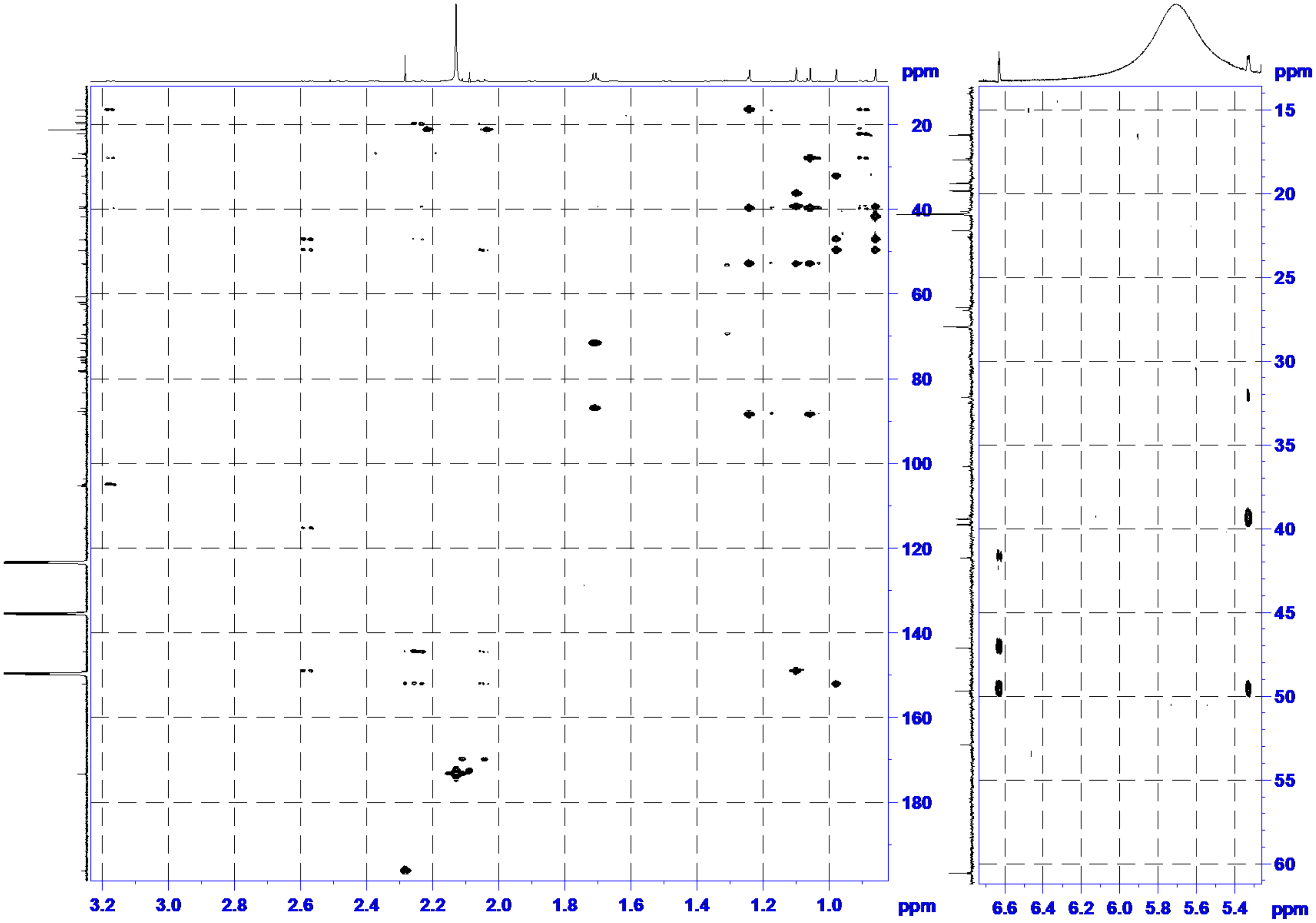


Figure S12. The HMBC (700.00 MHz) spectrum of the aglycone part of kuriloside A2 (**2**) in C_5D_5N/D_2O (4/1)

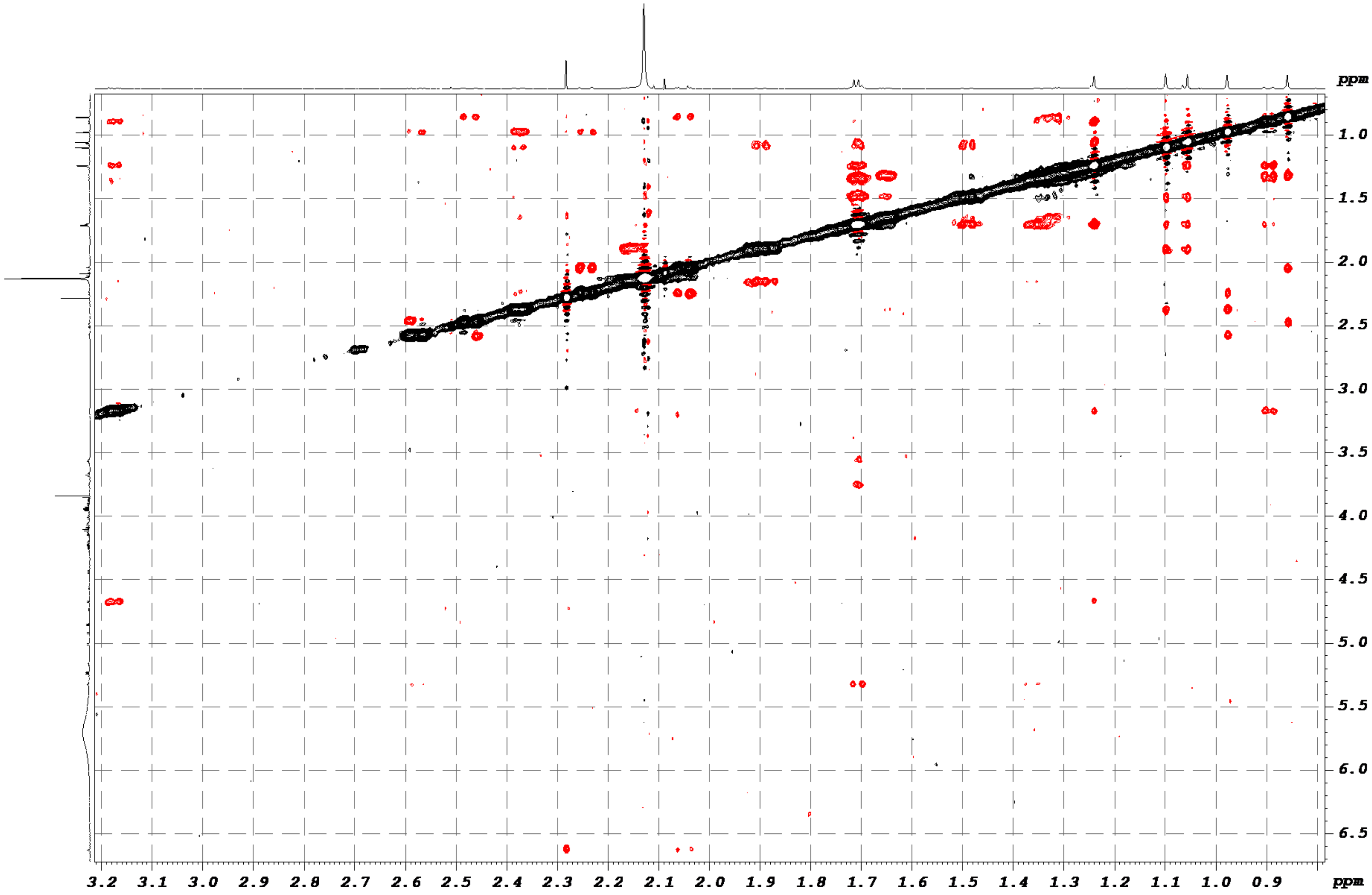
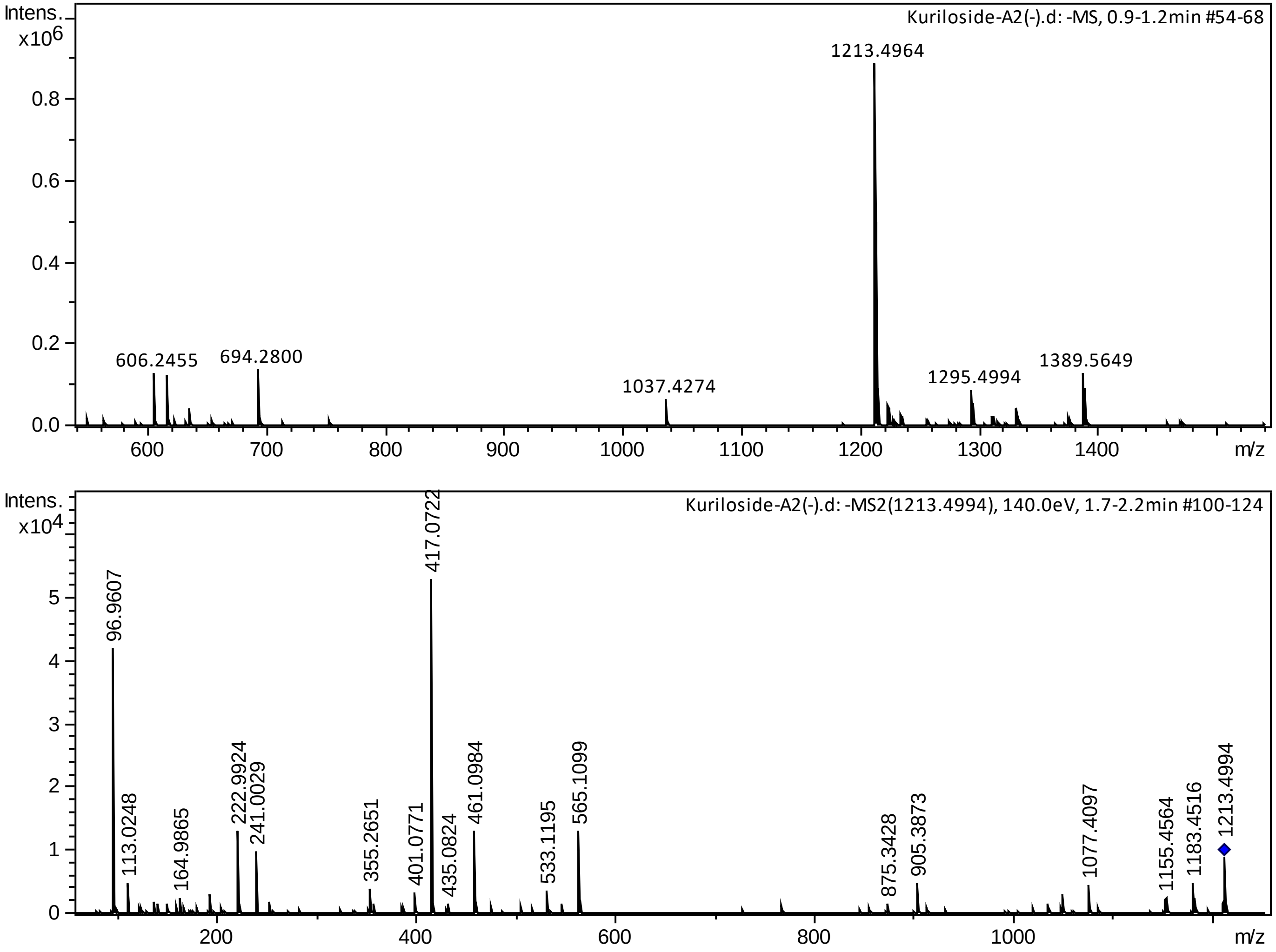


Figure S13. The ROESY (700.00 MHz) spectrum of the aglycone part of kuriloside A_2 (**2**) in C_5D_5N/D_2O (4/1)



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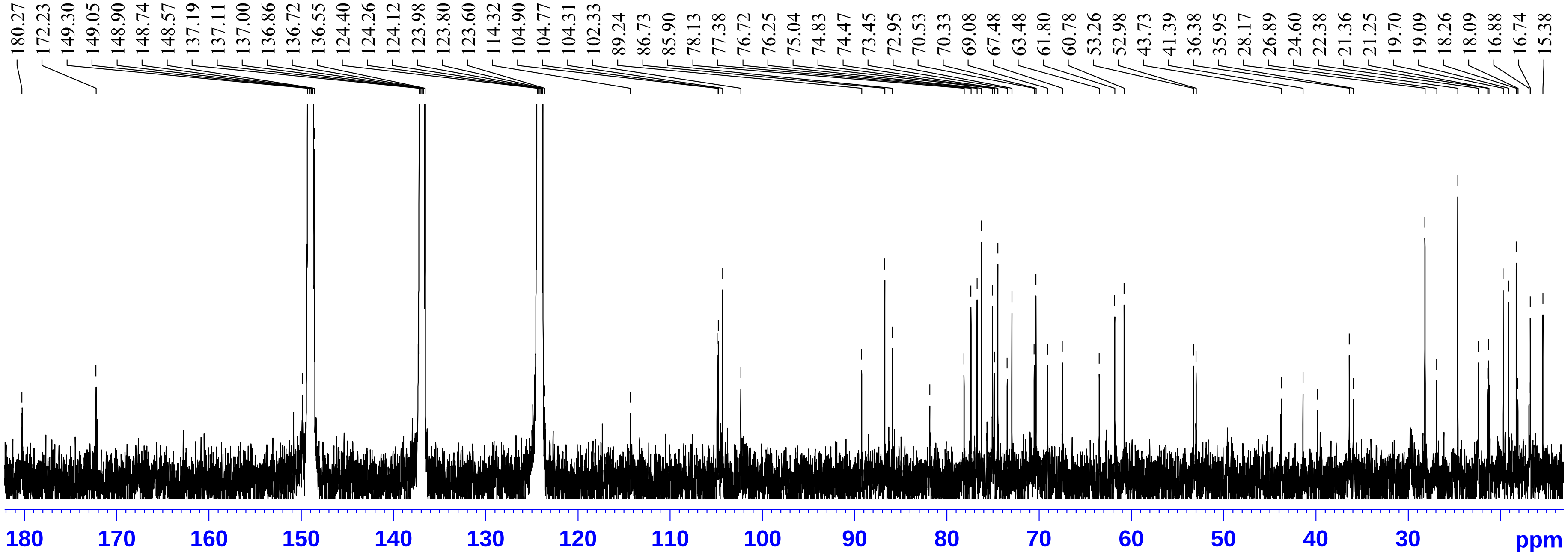

Figure S15. The ^{13}C NMR (176.03 MHz) spectrum of kuriloside C_1 (**3**) in C_5D_5N/D_2O (4/1)

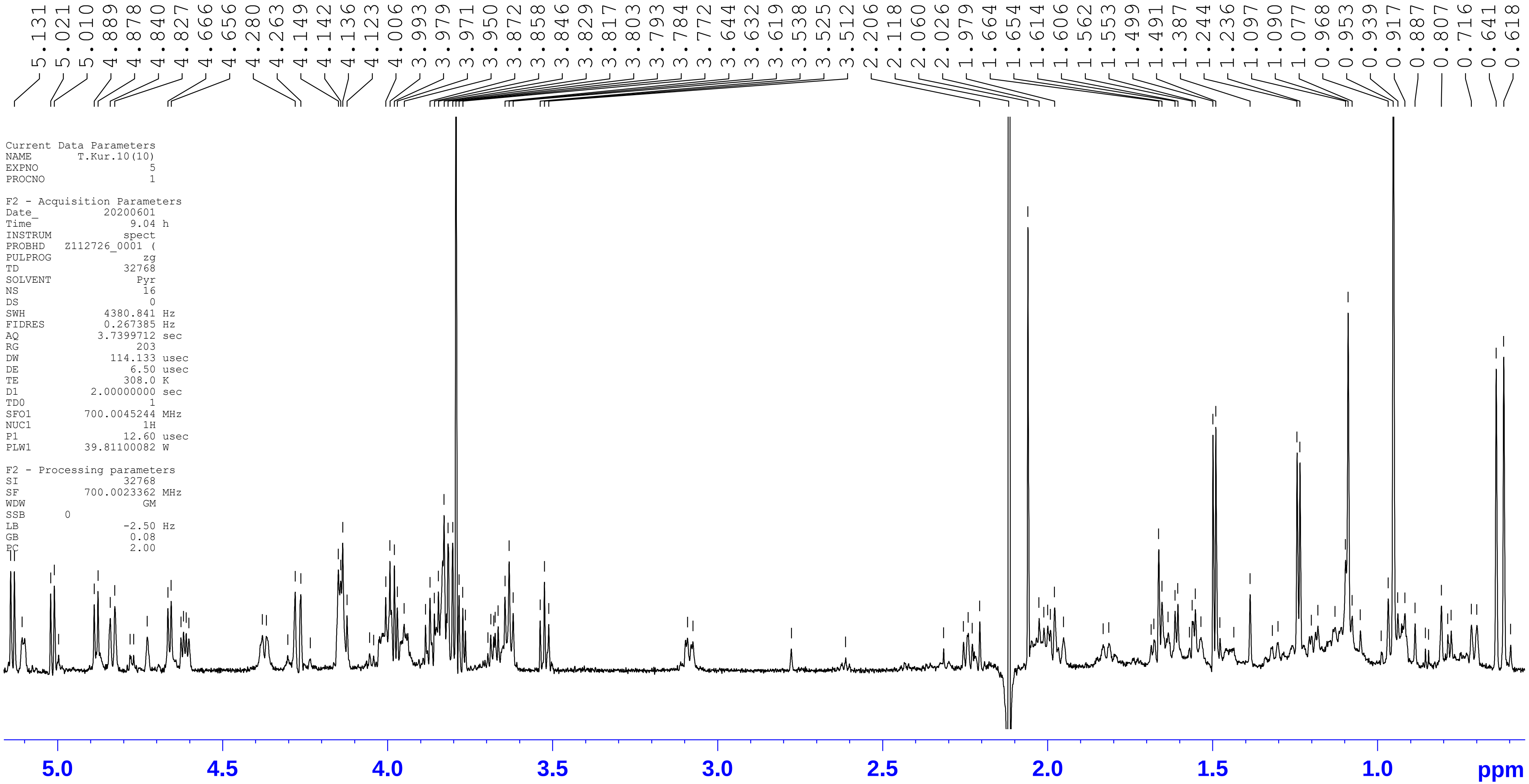

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Figure S16. The ^{1}H NMR (700.00 MHz) spectrum of kuriloside C$_1$ (**3**) in C$_5$D$_5$N/D$_2$O (4/1)

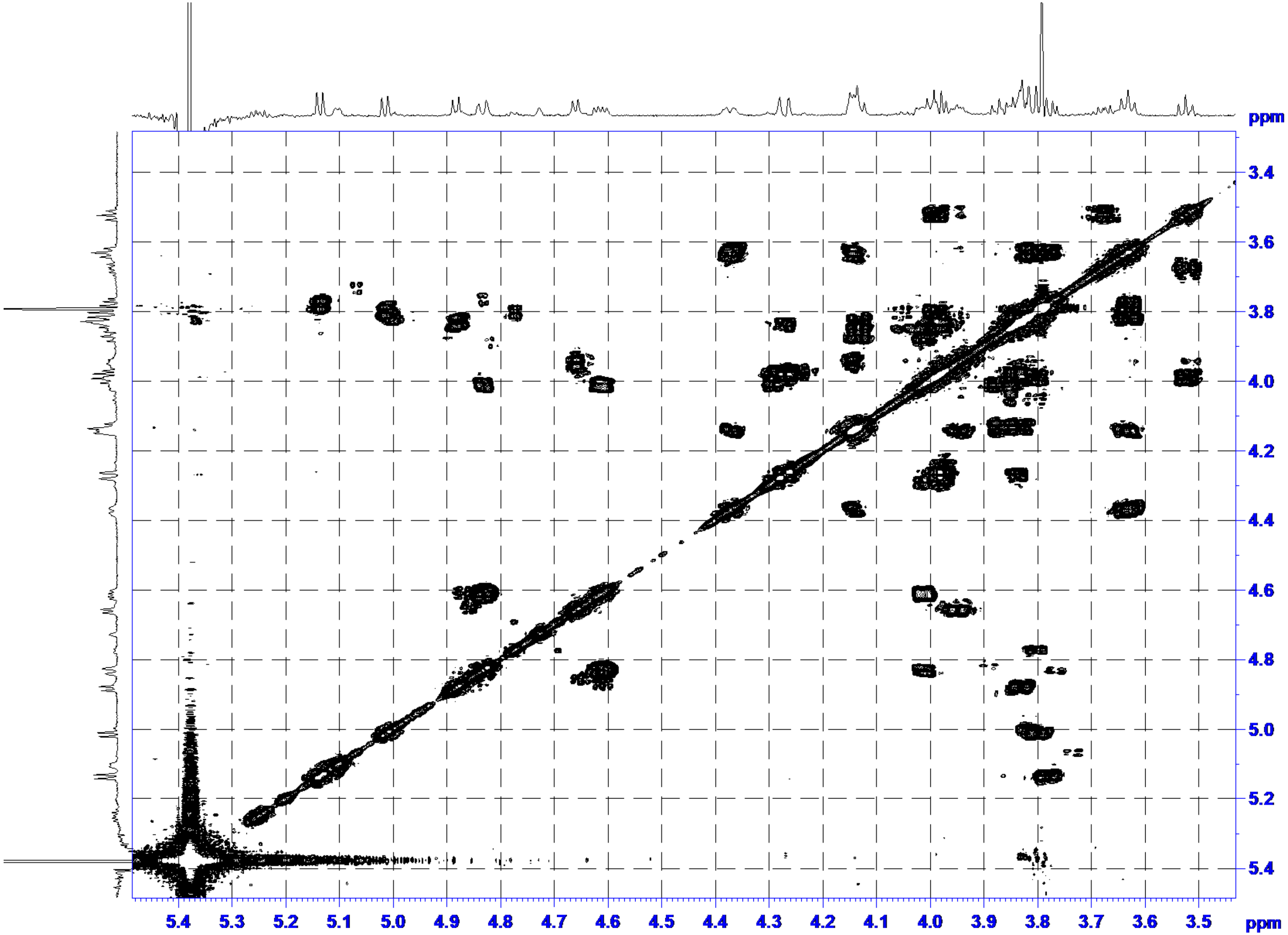


Figure S17. The COSY (700.00 MHz) spectrum of the carbohydrate part of kuriloside C_1 (**3**) in C_5D_5N/D_2O (4/1)

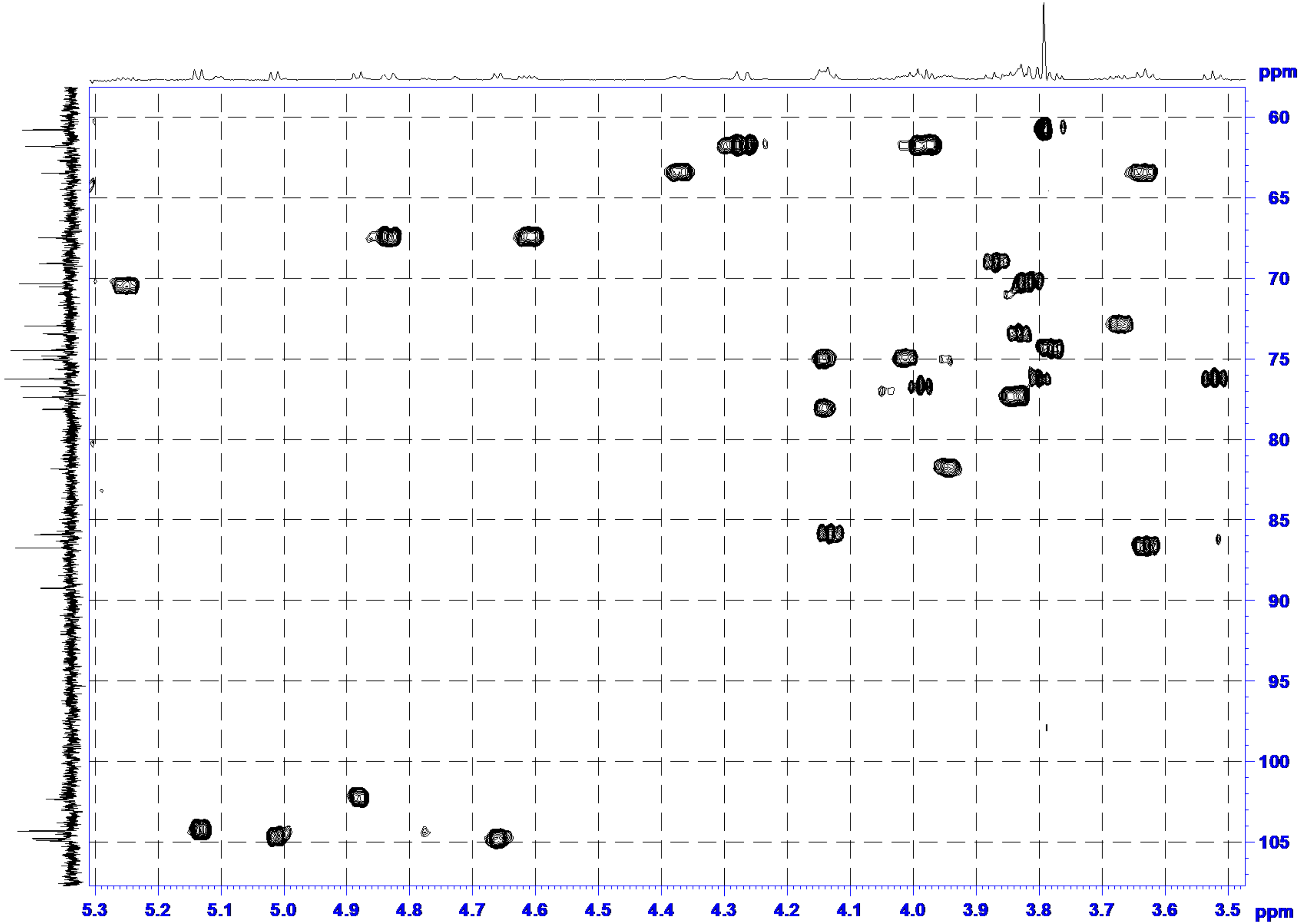
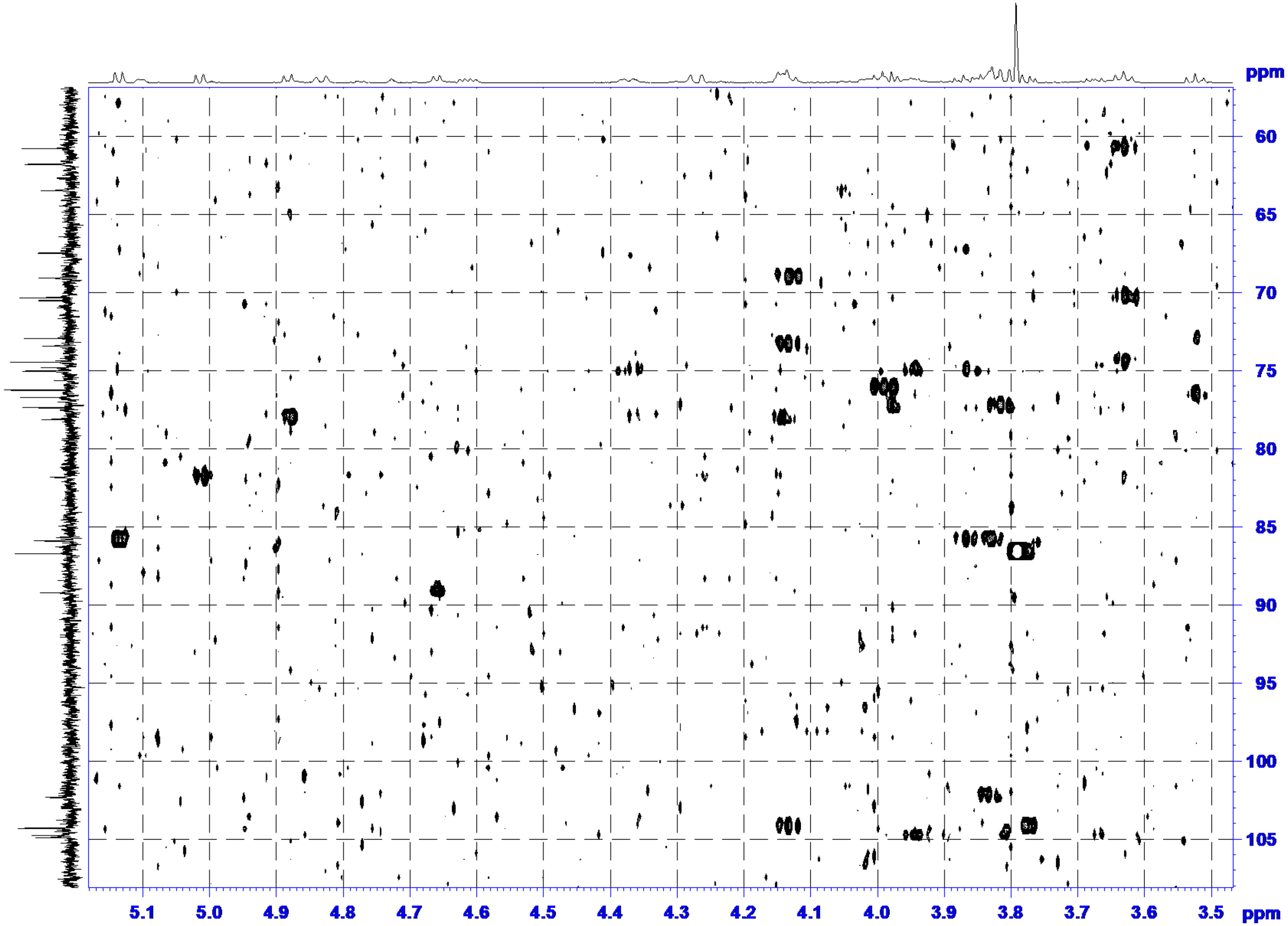


Figure S18. The HSQC (700.00 MHz) spectrum of the carbohydrate part of kuriloside C_1 (**3**) in C_5D_5N/D_2O (4/1)



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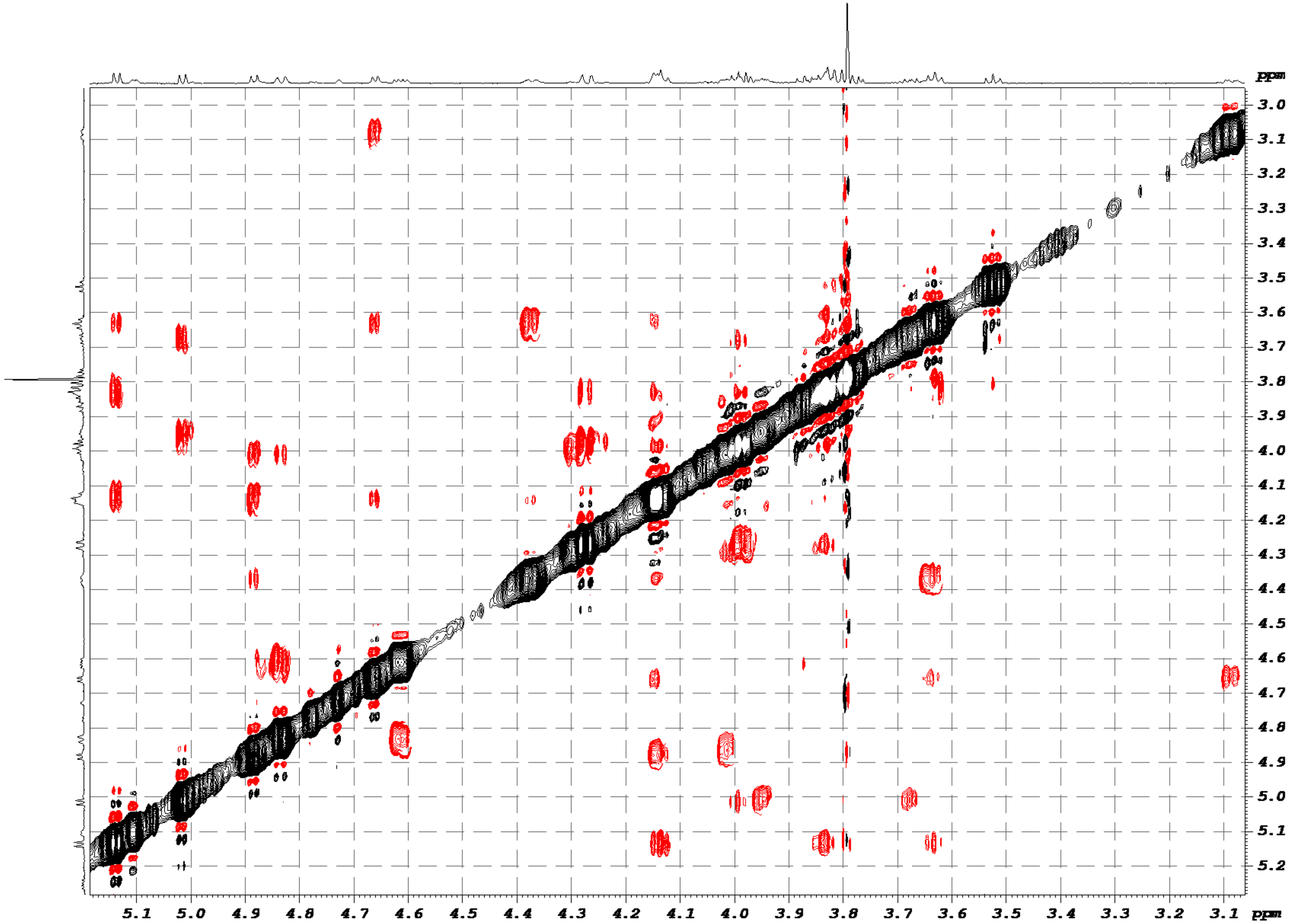

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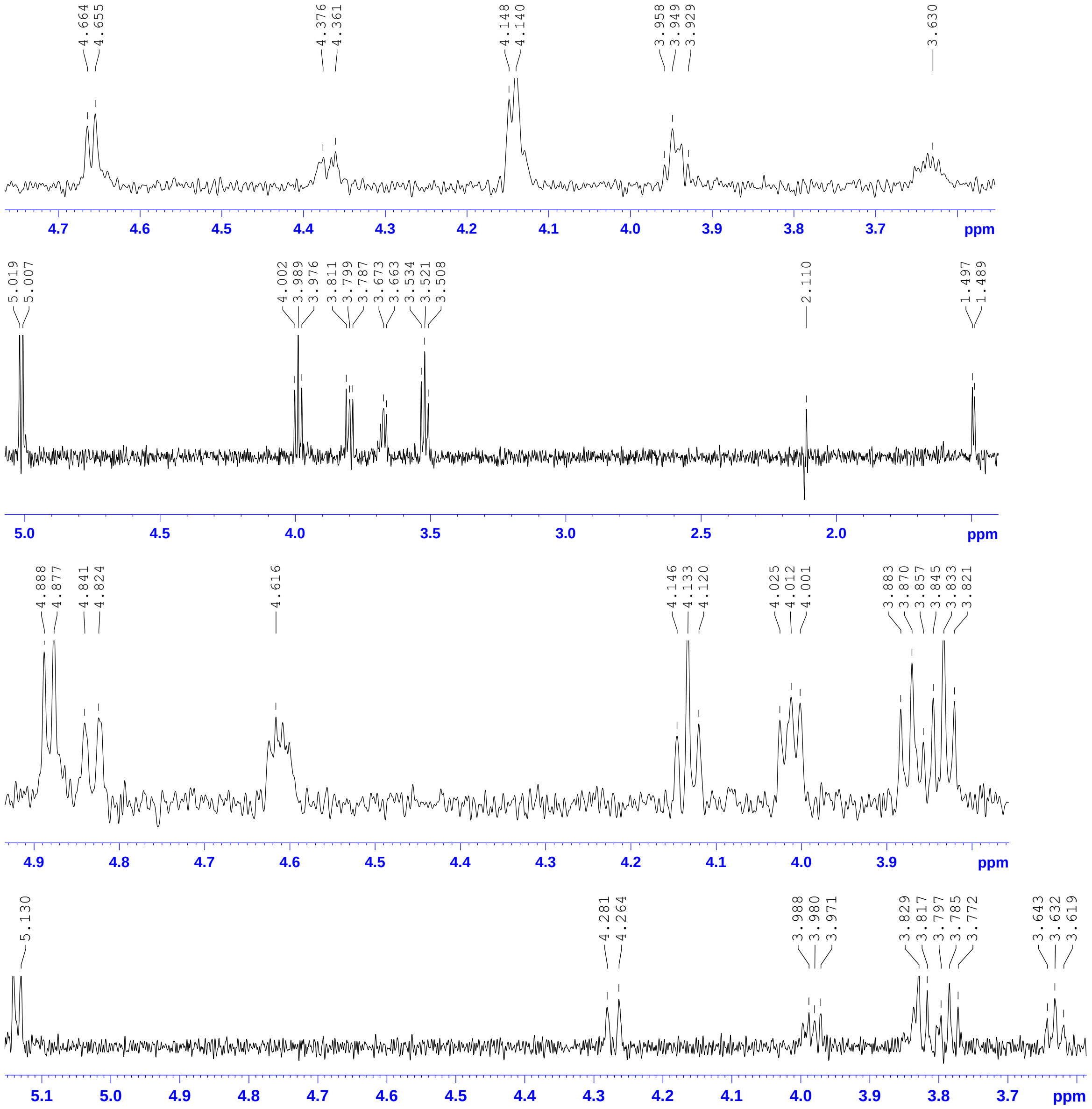
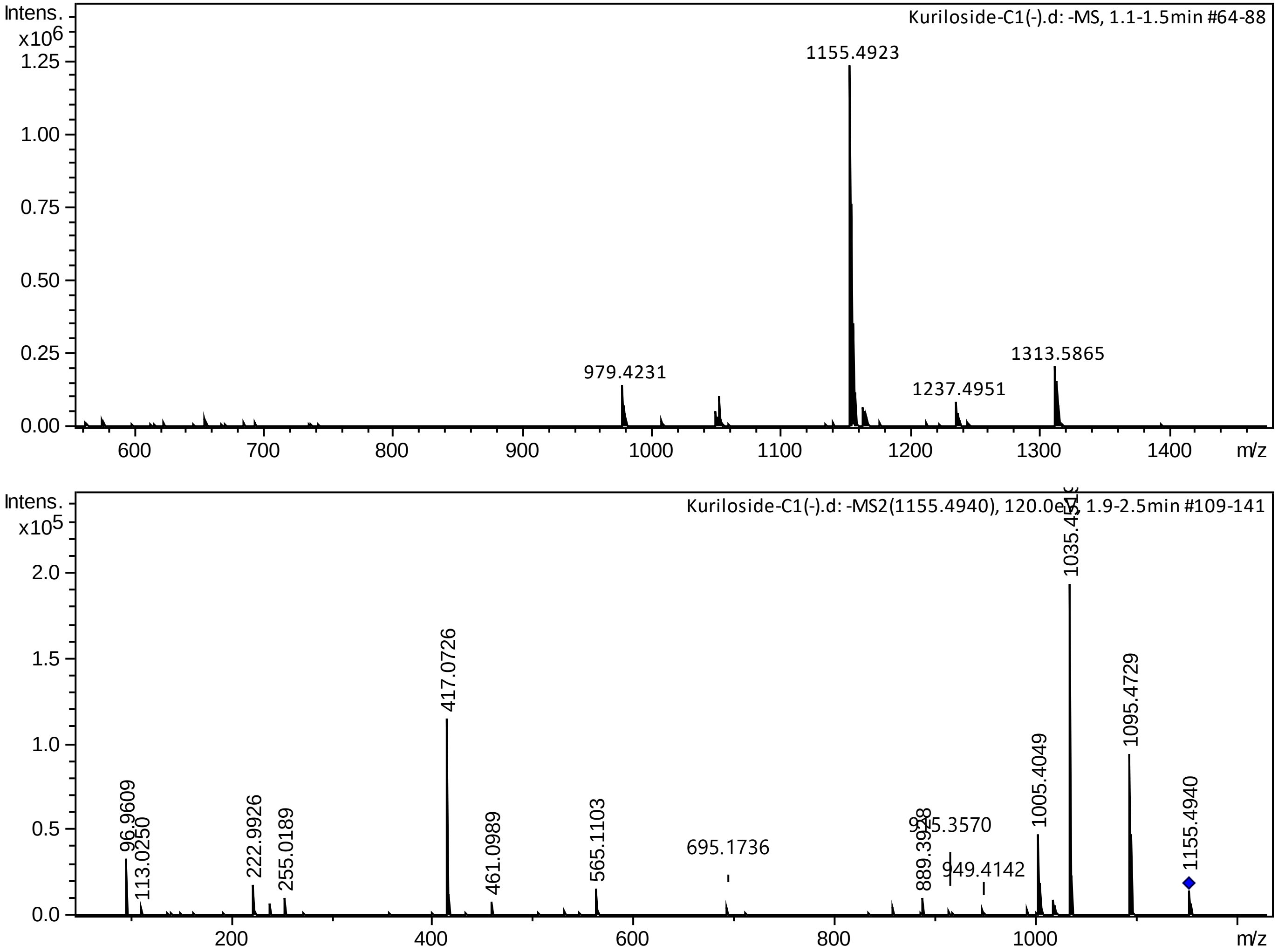


Figure S21. 1 D TOCSY (700.00 MHz) spectra of the carbohydrate part of kuriloside C$_1$ (**3**) in C_5D_5N/D_2O (4/1)



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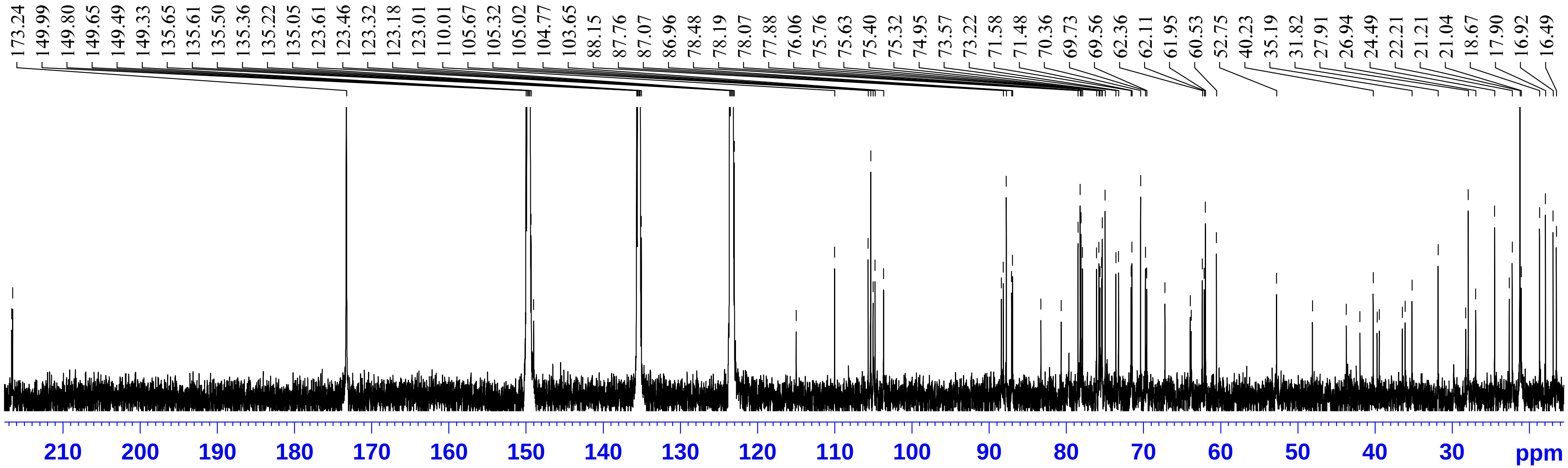

Figure S23. The ^{13}C NMR (176.03 MHz) spectrum of kuriloside D (**4**) in C_5D_5N/D_2O (4/1)

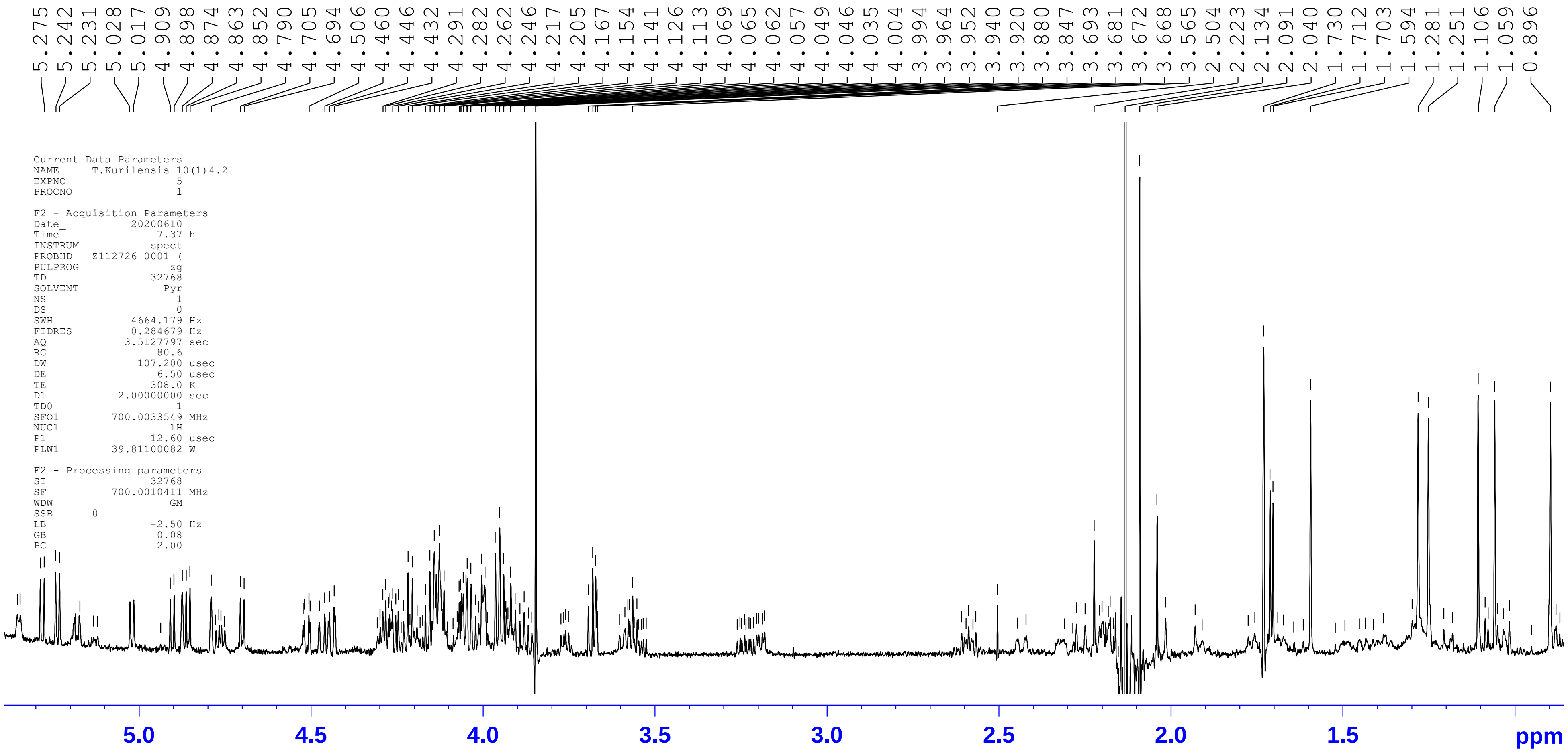

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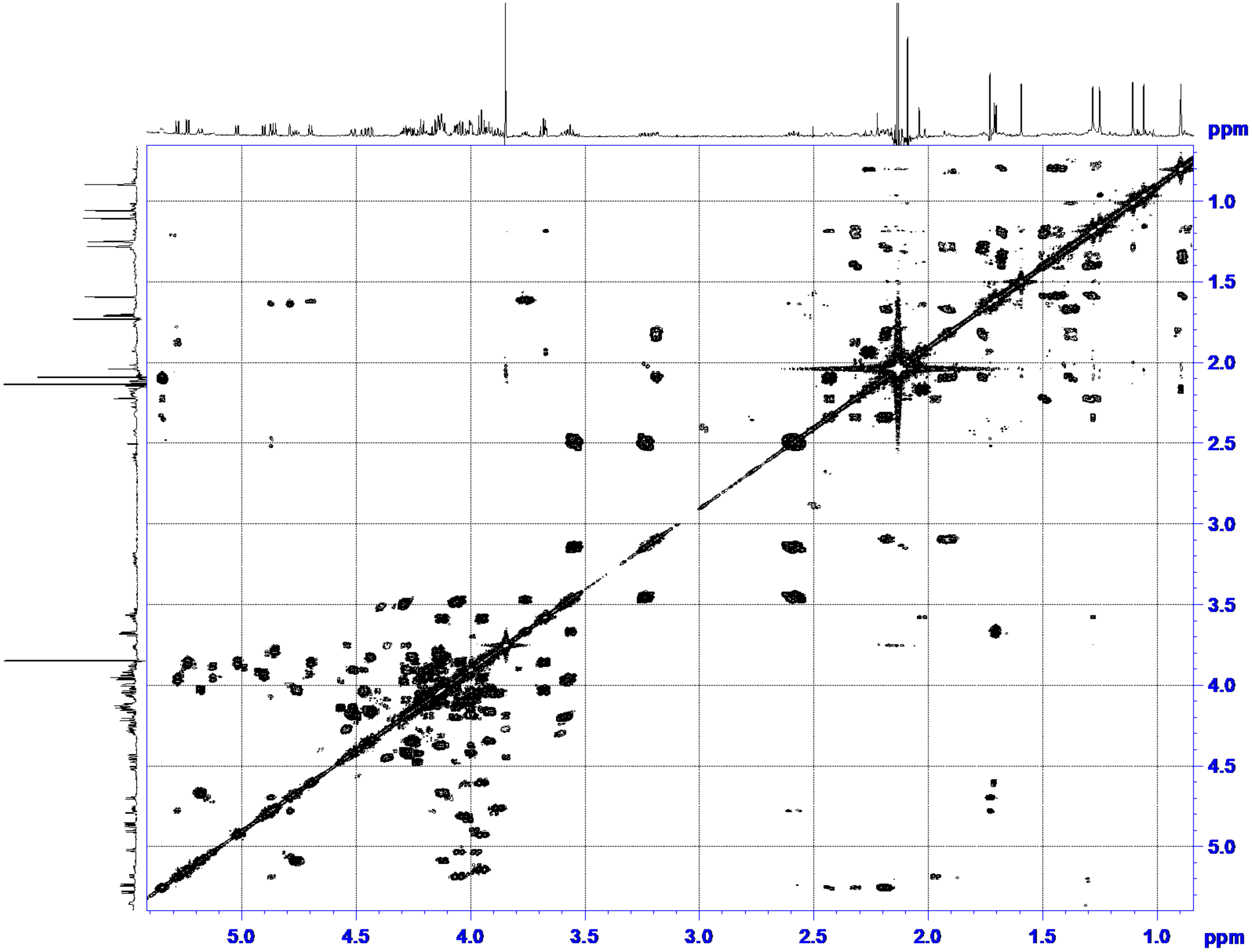
Figure S24. The ^{1}H NMR (700.00 MHz) spectrum of kuriloside D (**4**) in C_5D_5N/D_2O (4/1)



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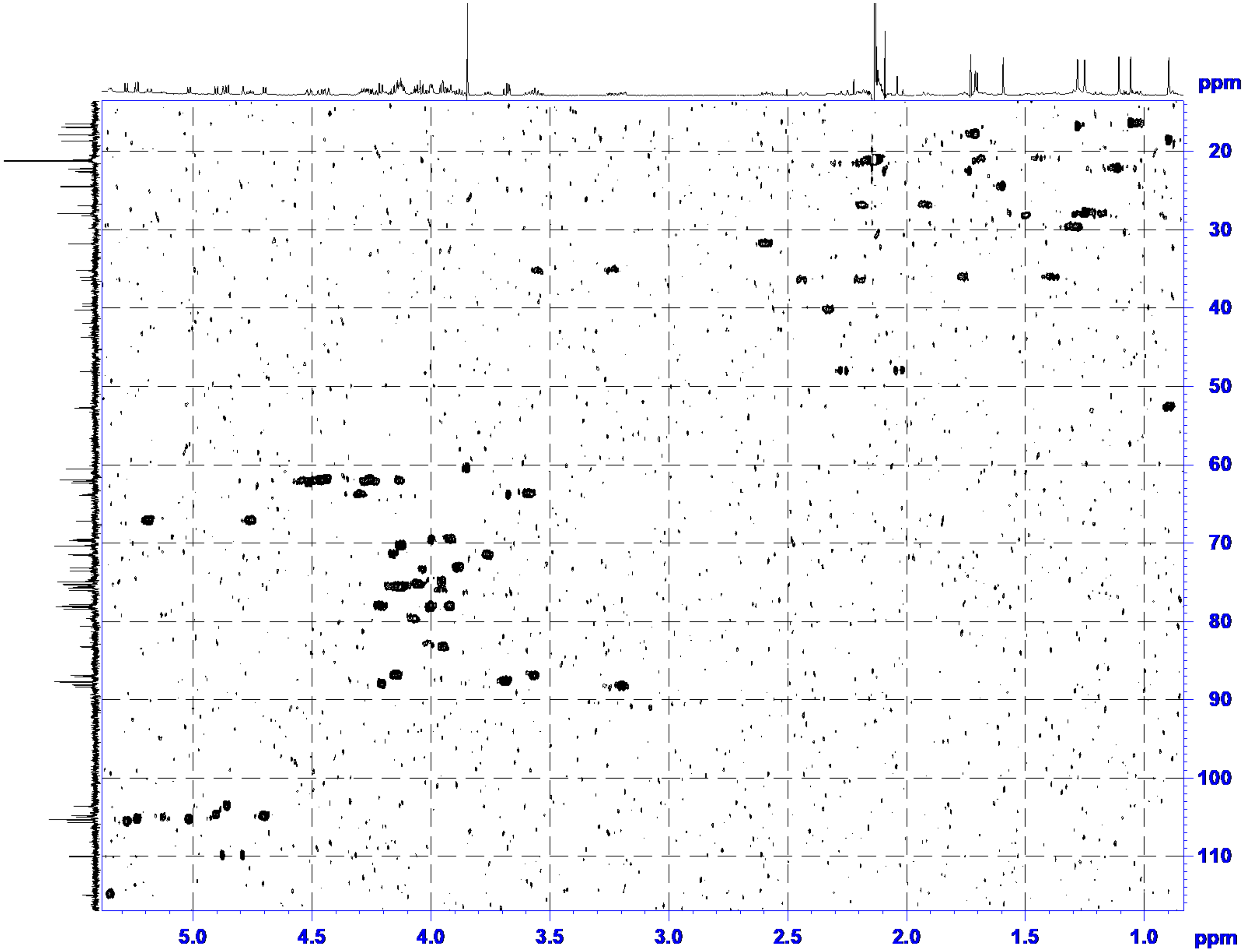

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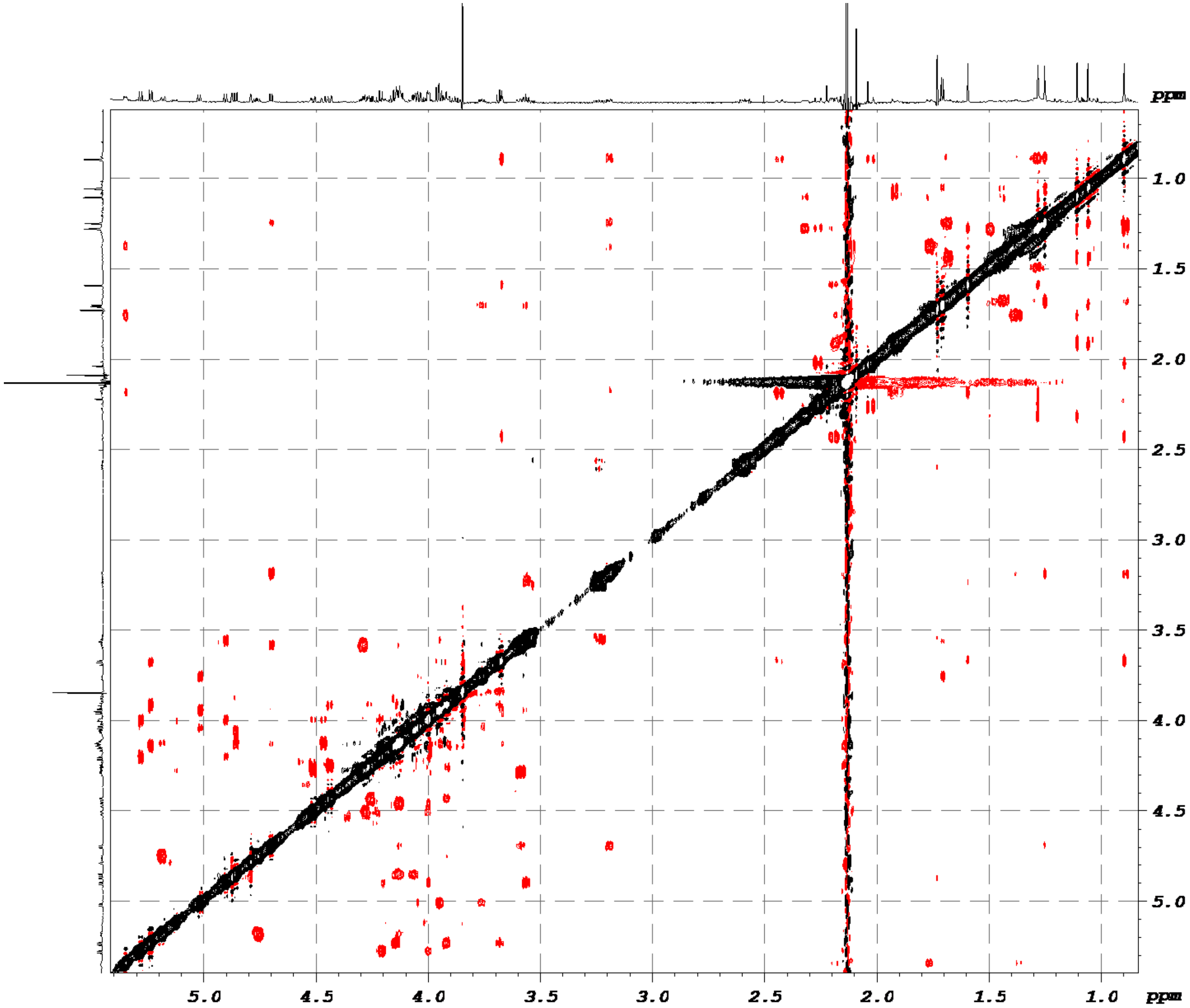
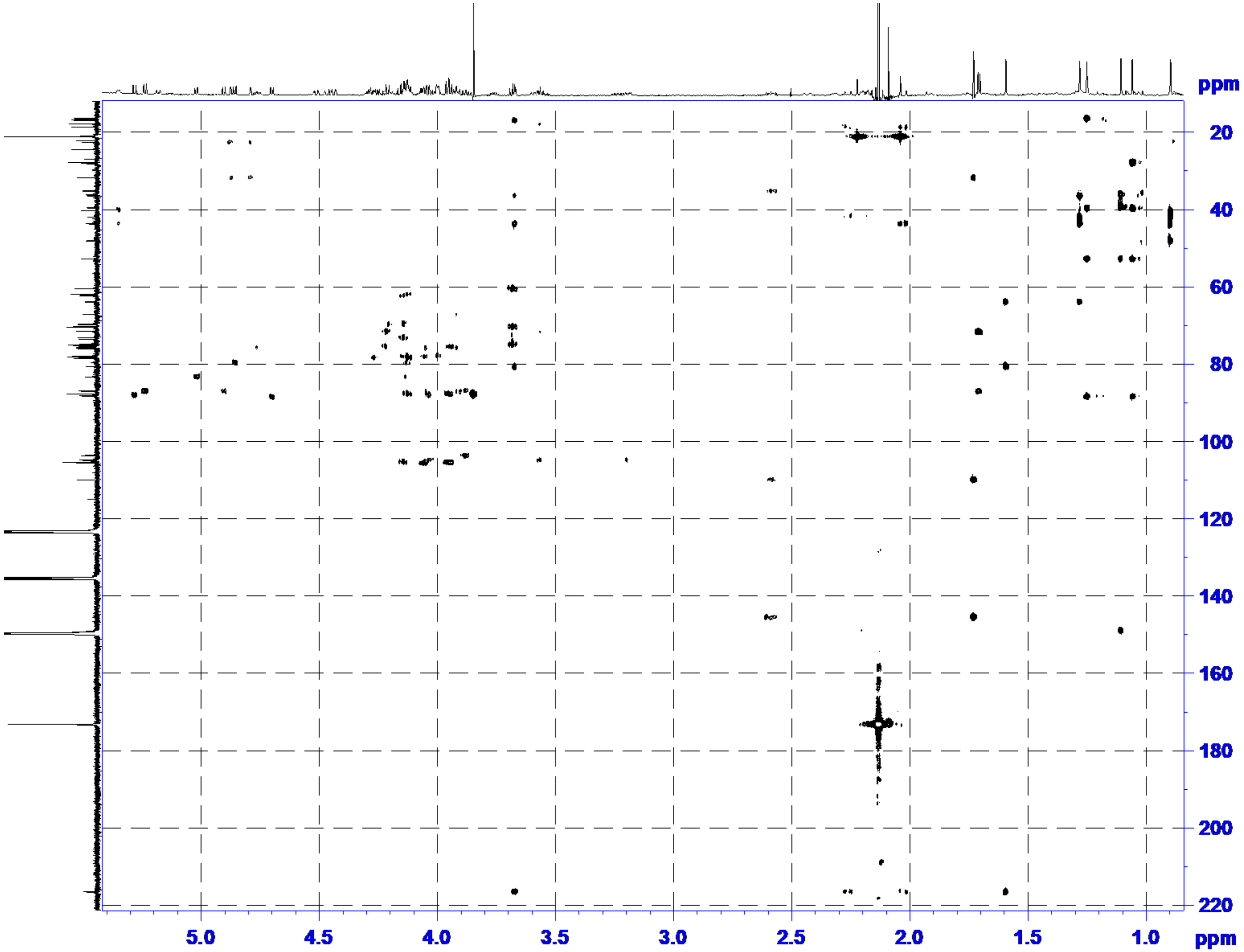


Figure S27. The ROESY (700.00 MHz) spectrum of kuriloside D (**4**) in C_5D_5N/D_2O (4/1)



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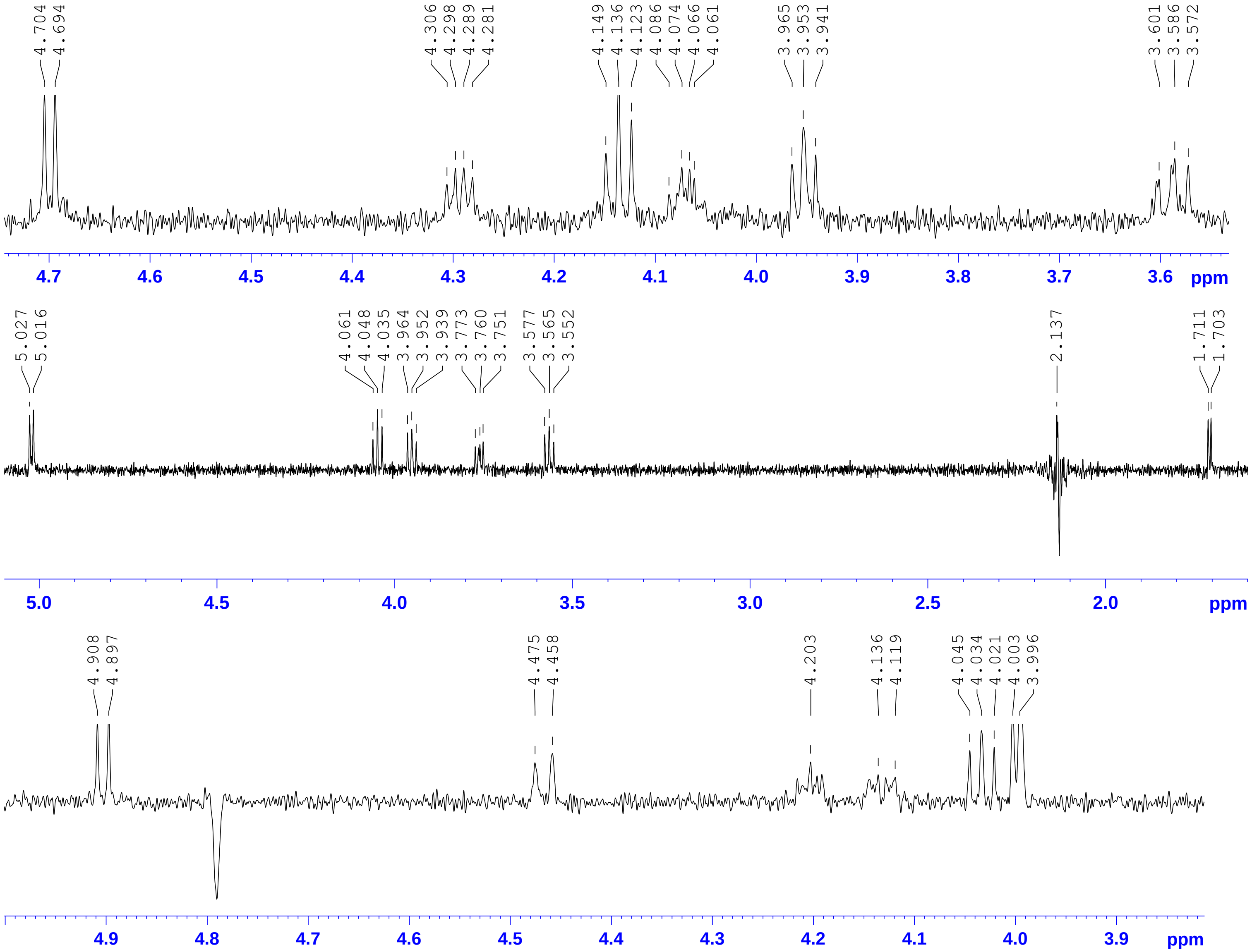

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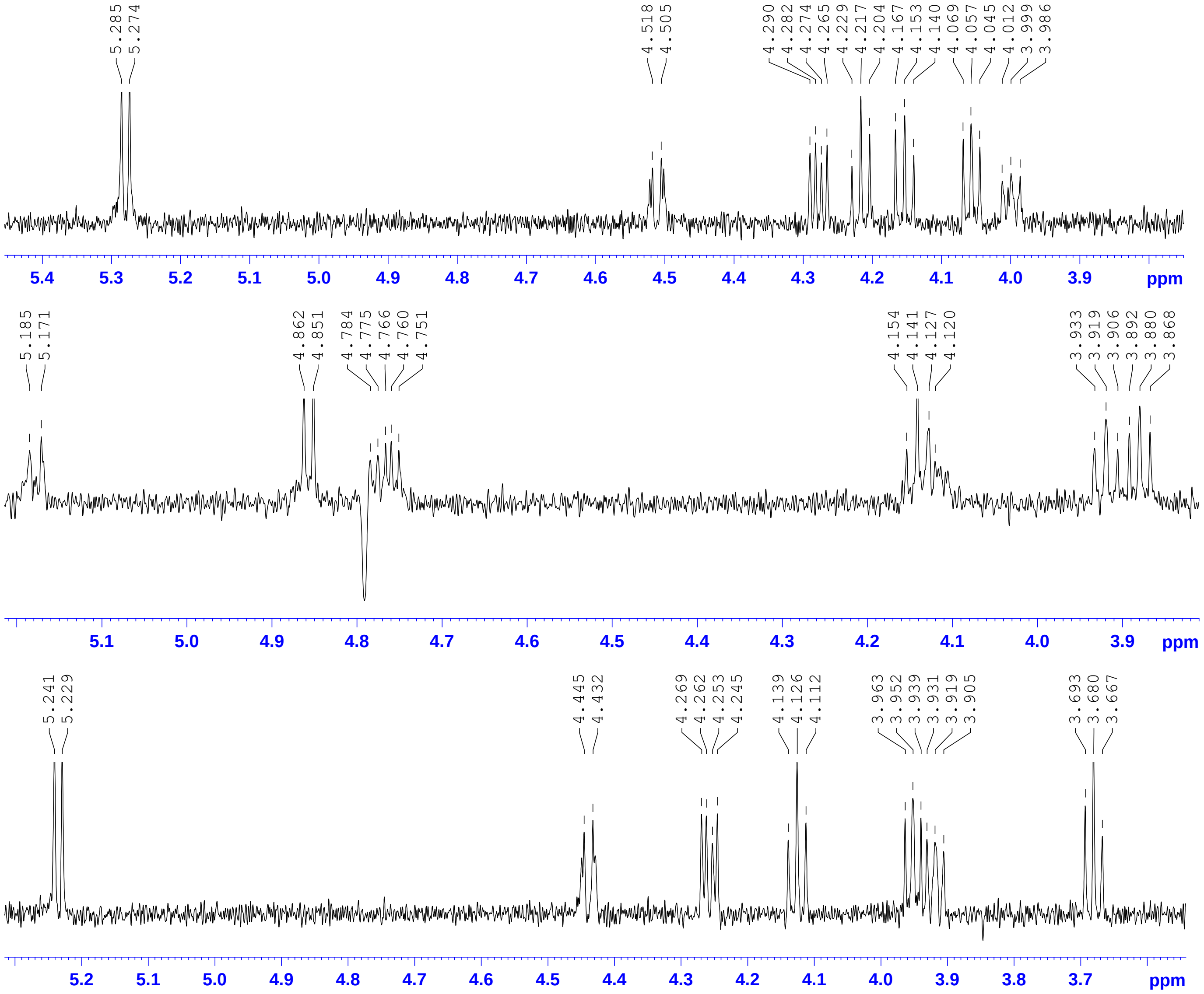

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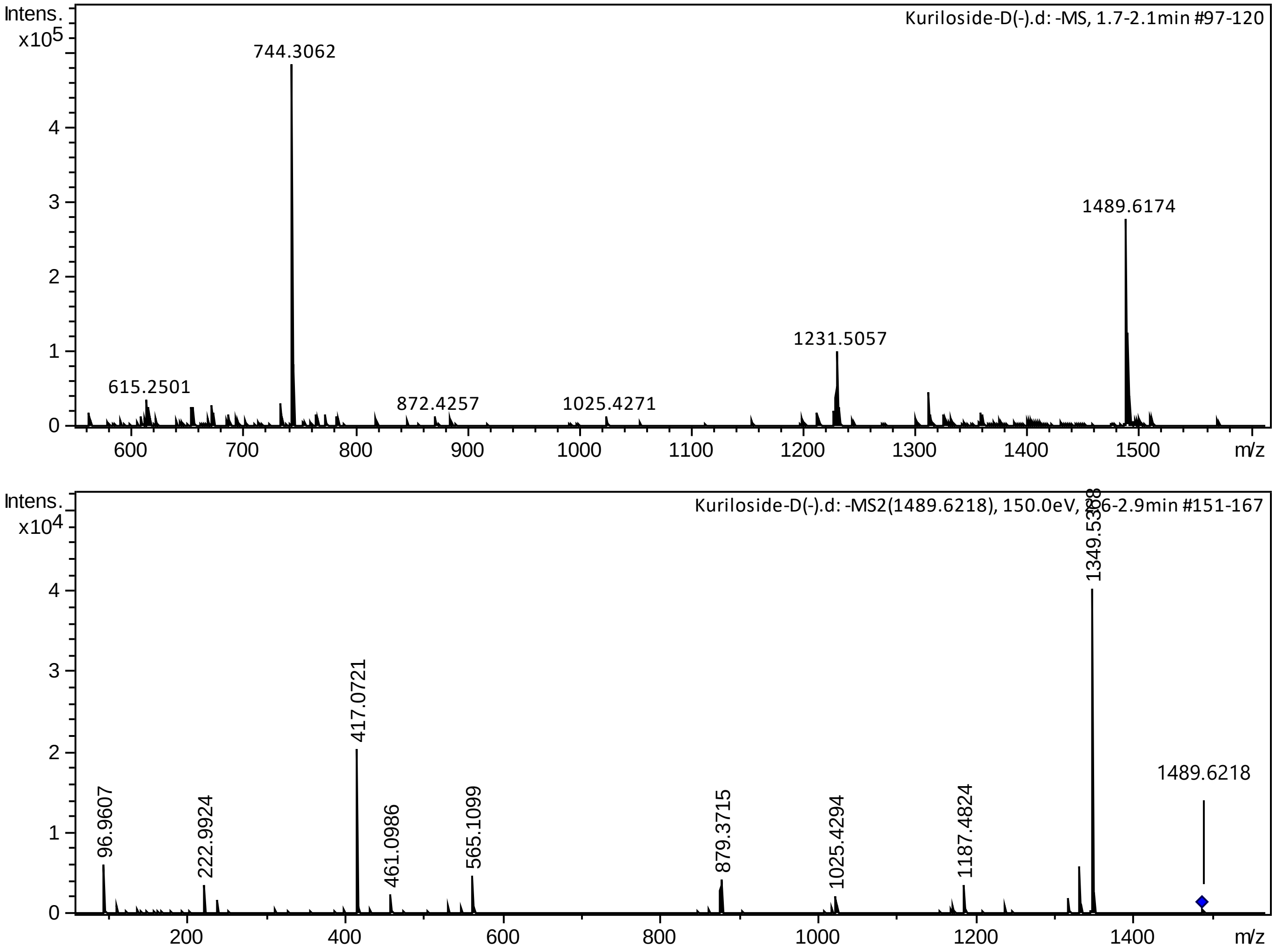

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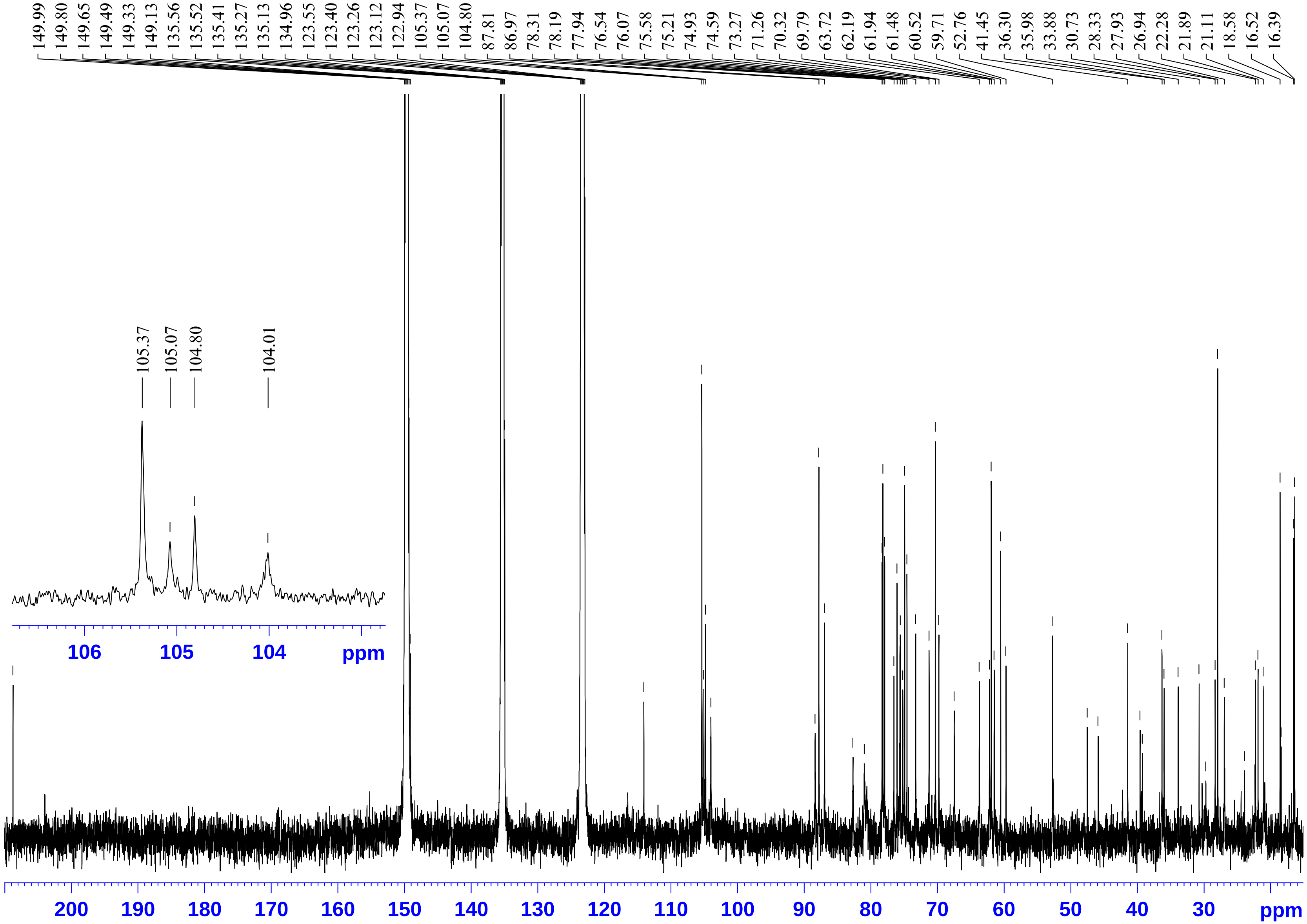

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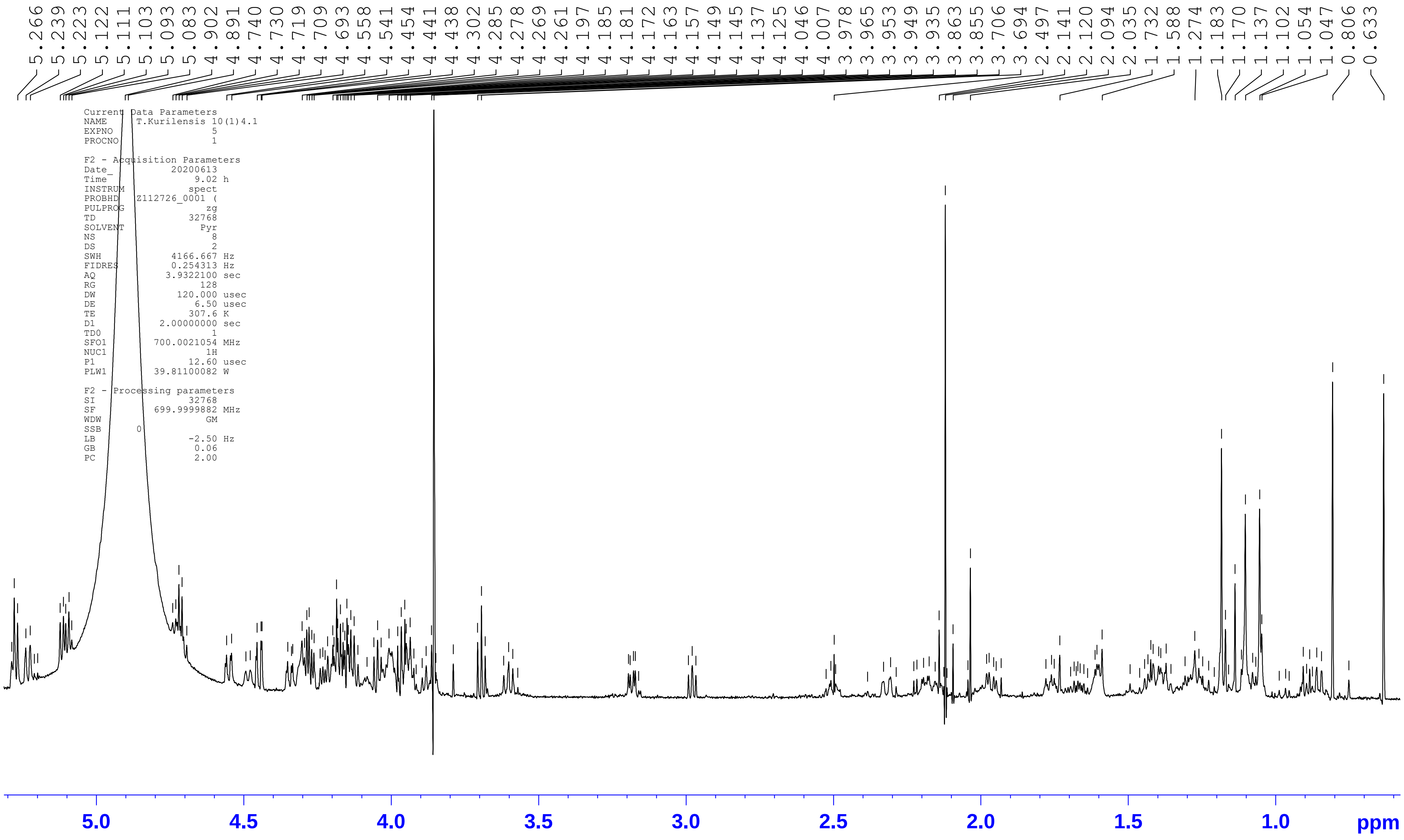

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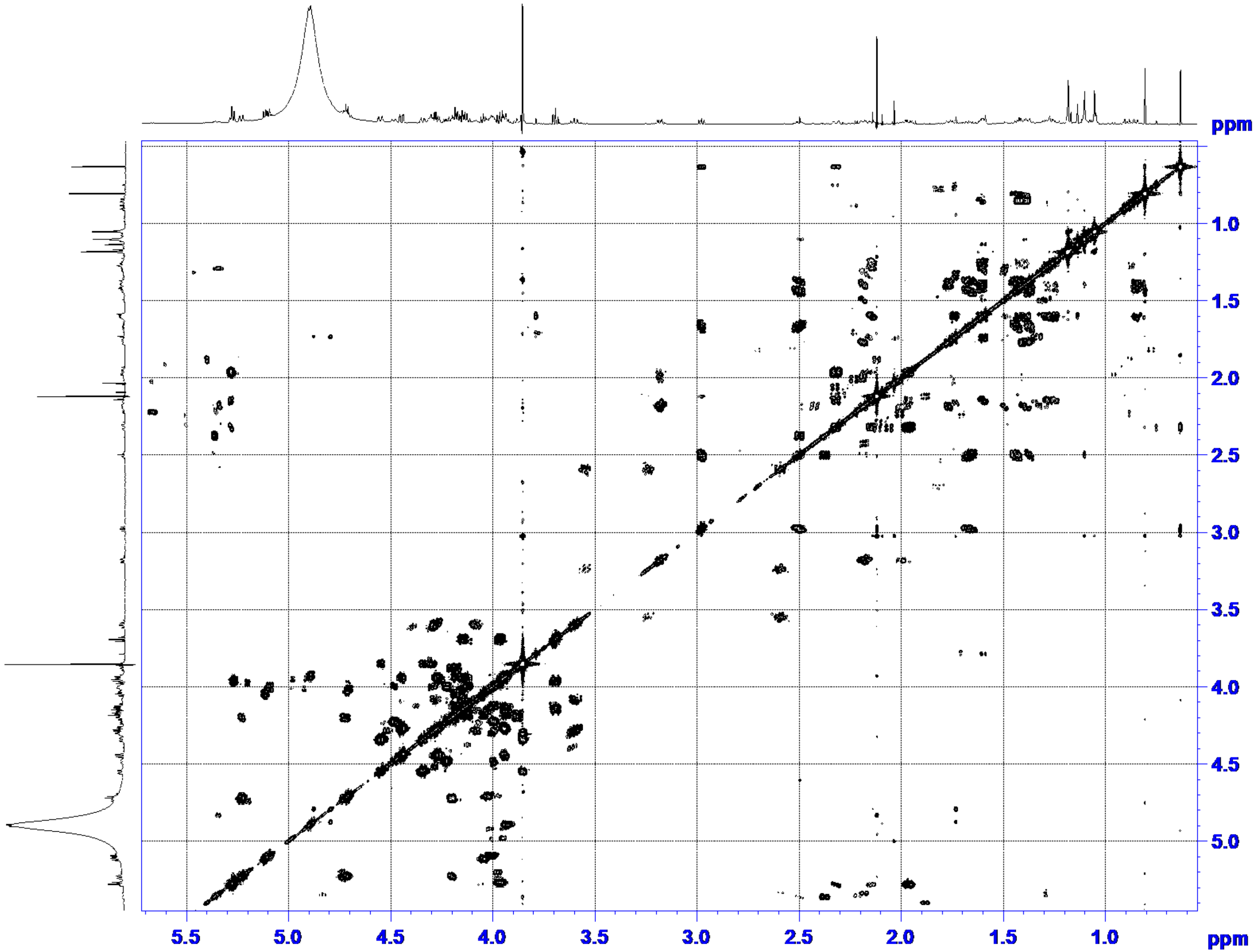


Figure S34. The COSY (700.00 MHz) spectrum of kuriloside E (**5**) in C_5D_5N/D_2O (4/1)

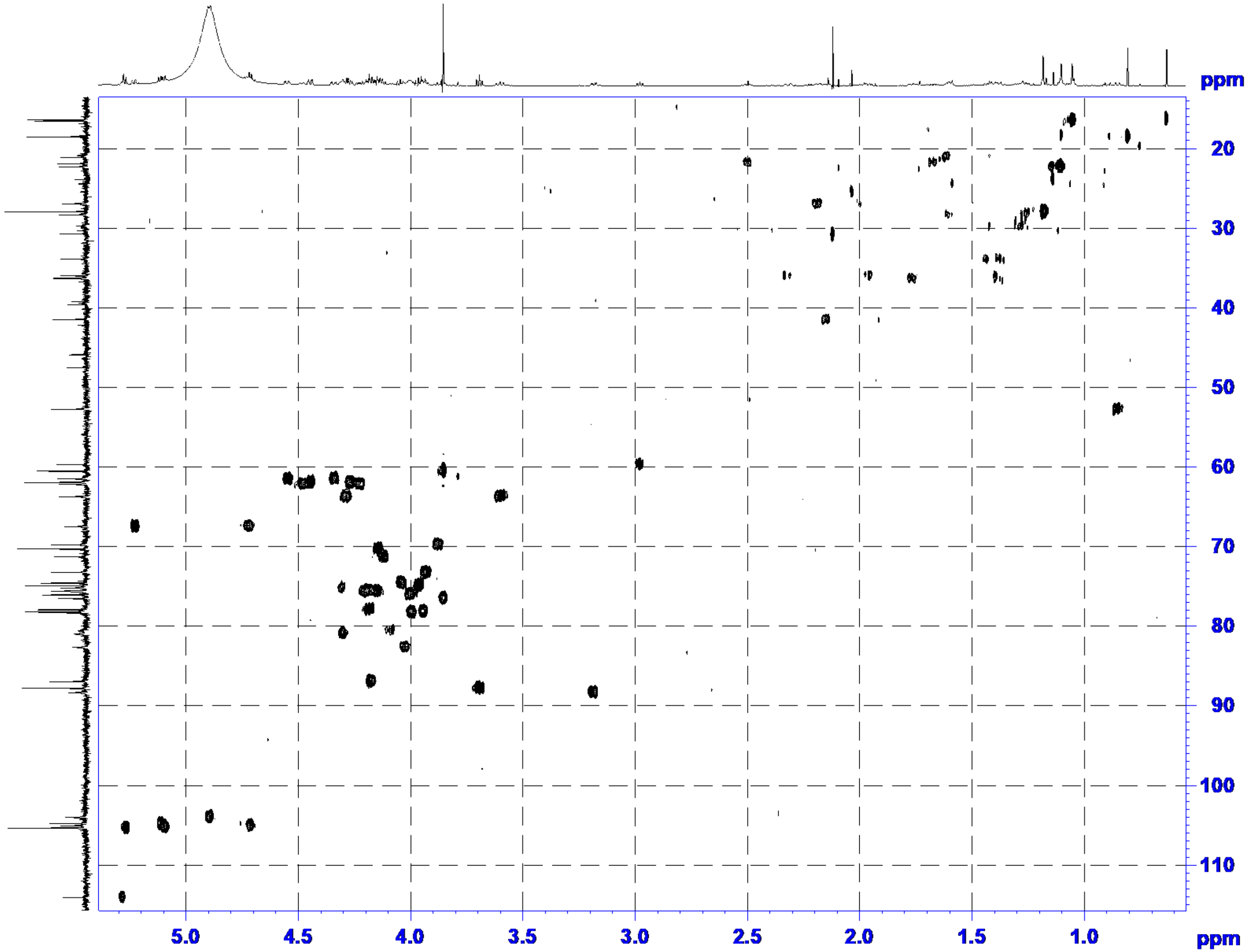


Figure S35. The HSQC (700.00 MHz) spectrum of kuriloside E (**5**) in C_5D_5N/D_2O (4/1)

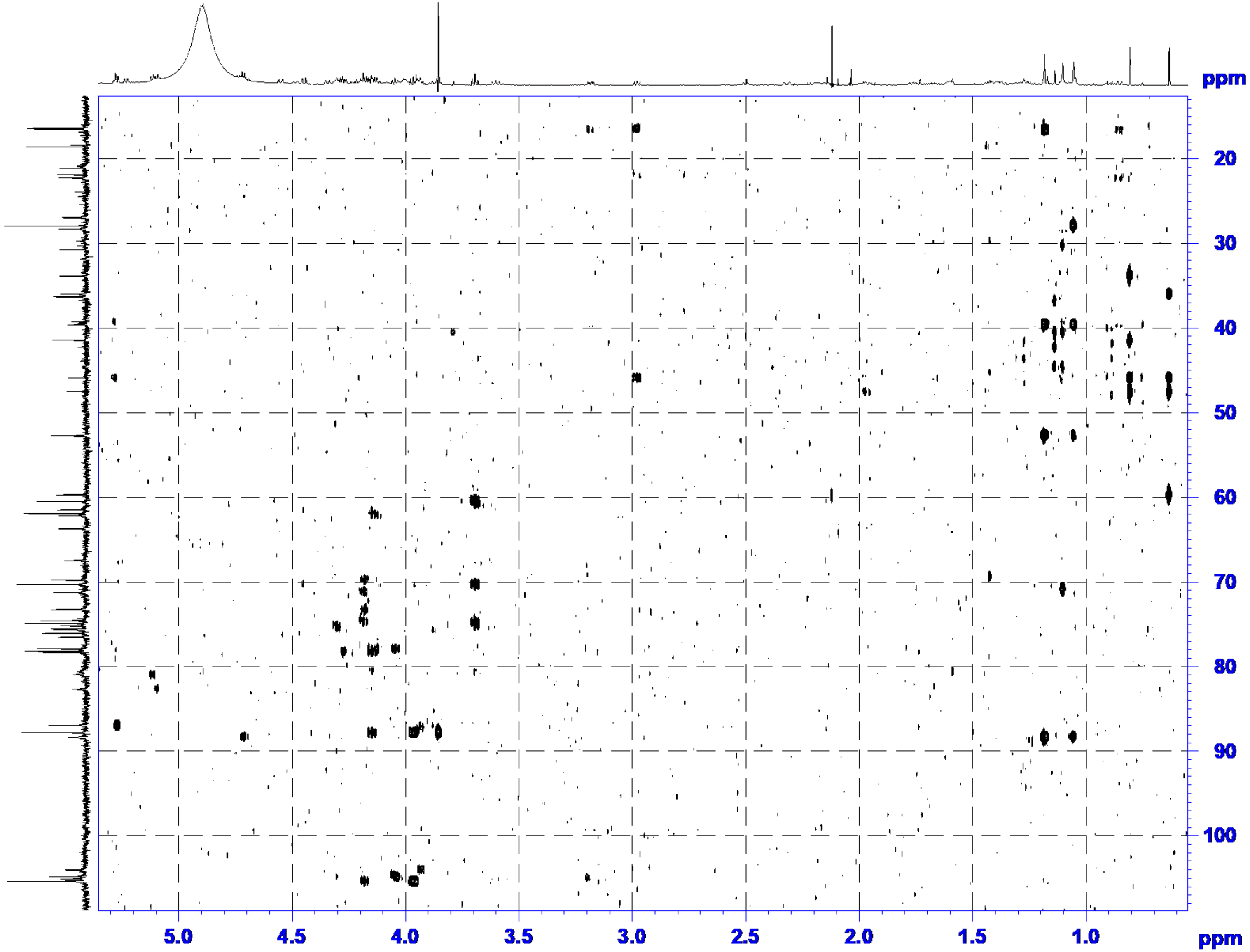


Figure S36. The HMBC (700.00 MHz) spectrum of kuriloside E (**5**) in C_5D_5N/D_2O (4/1)

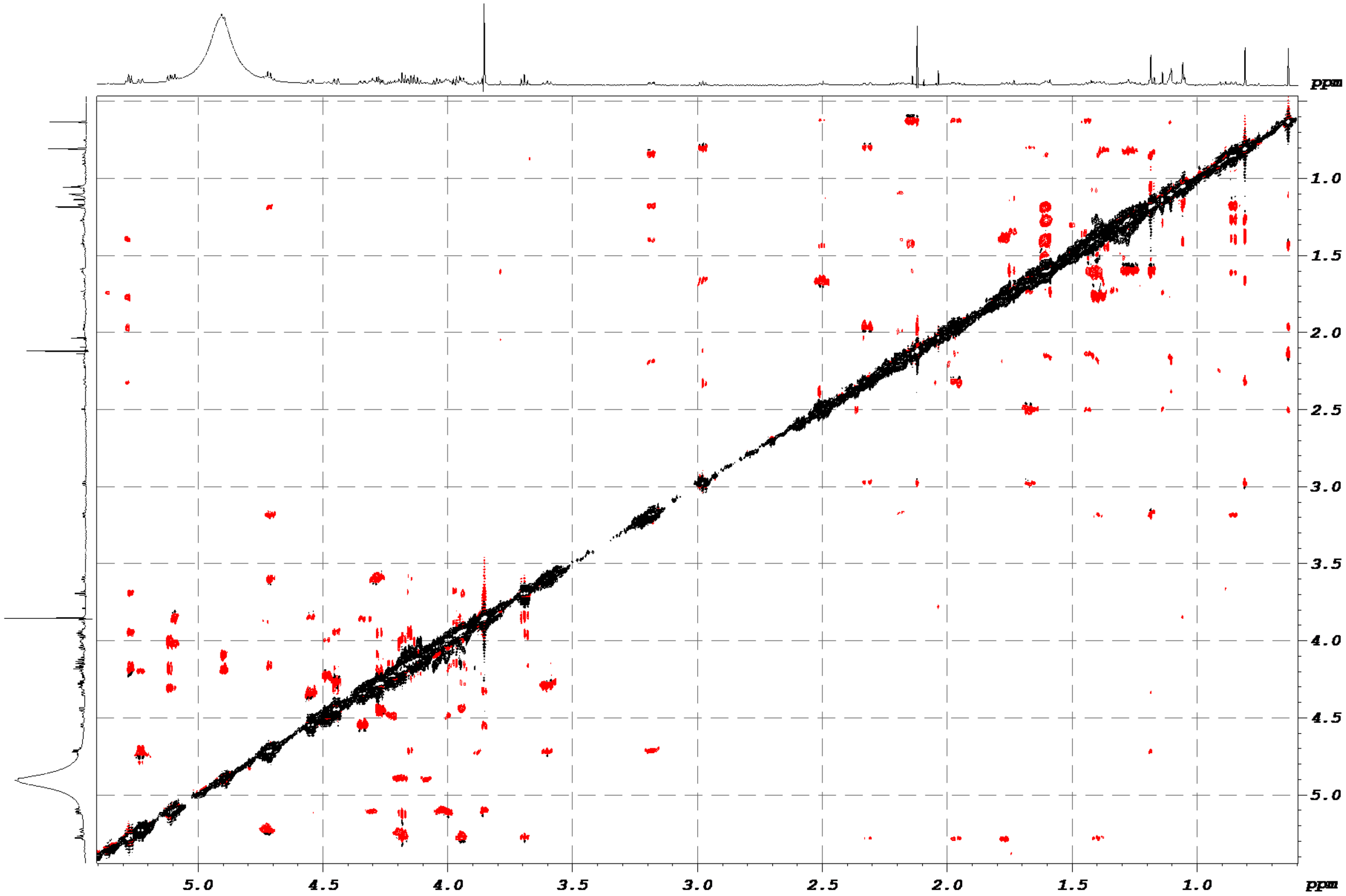


Figure S37. The ROESY (700.00 MHz) spectrum of kuriloside E (**5**) in C_5D_5N/D_2O (4/1)

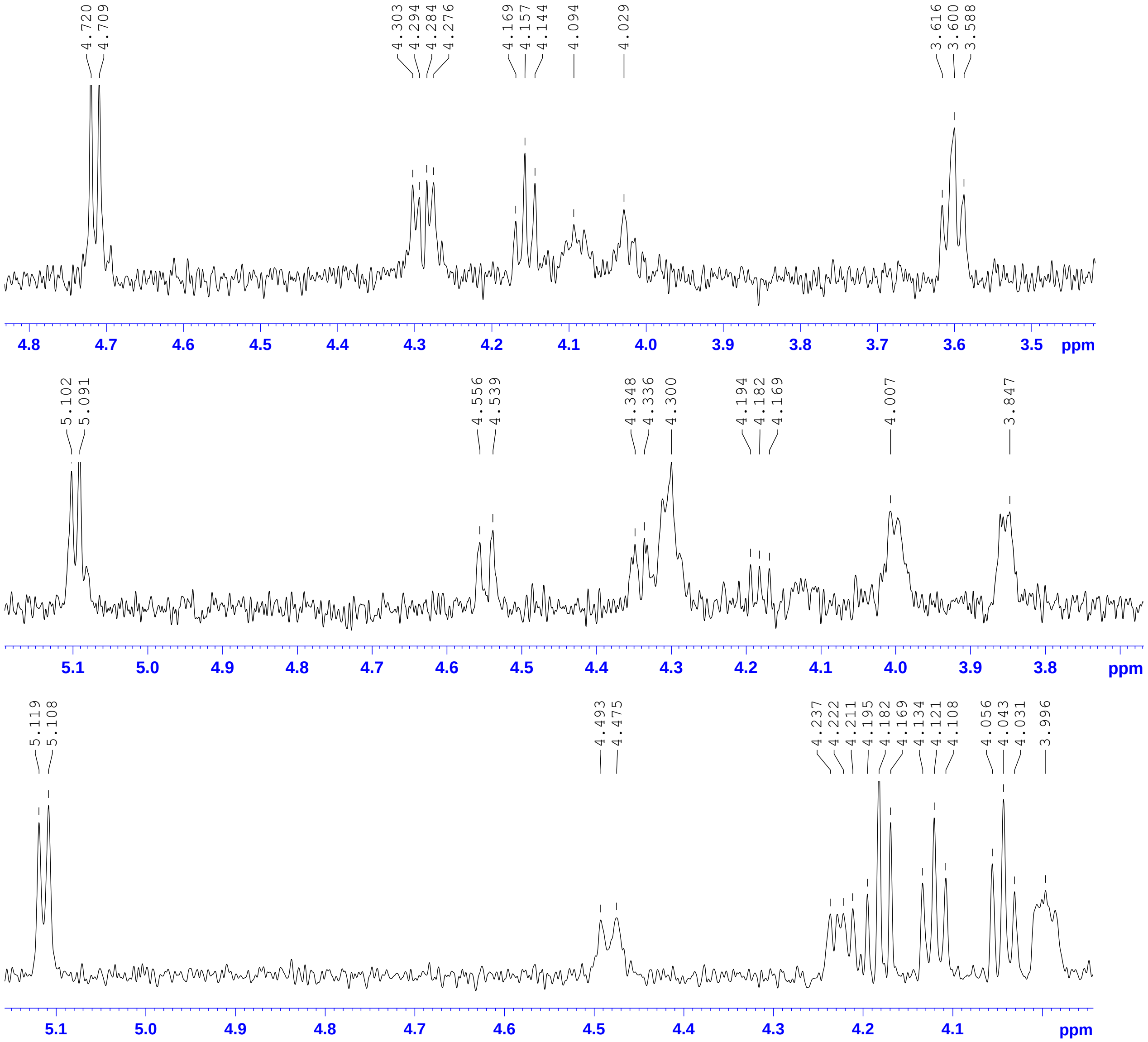


Figure S38. 1D TOCSY (700.00 MHz) spectra of kuriloside E (**5**) in C_5D_5N/D_2O (4/1)

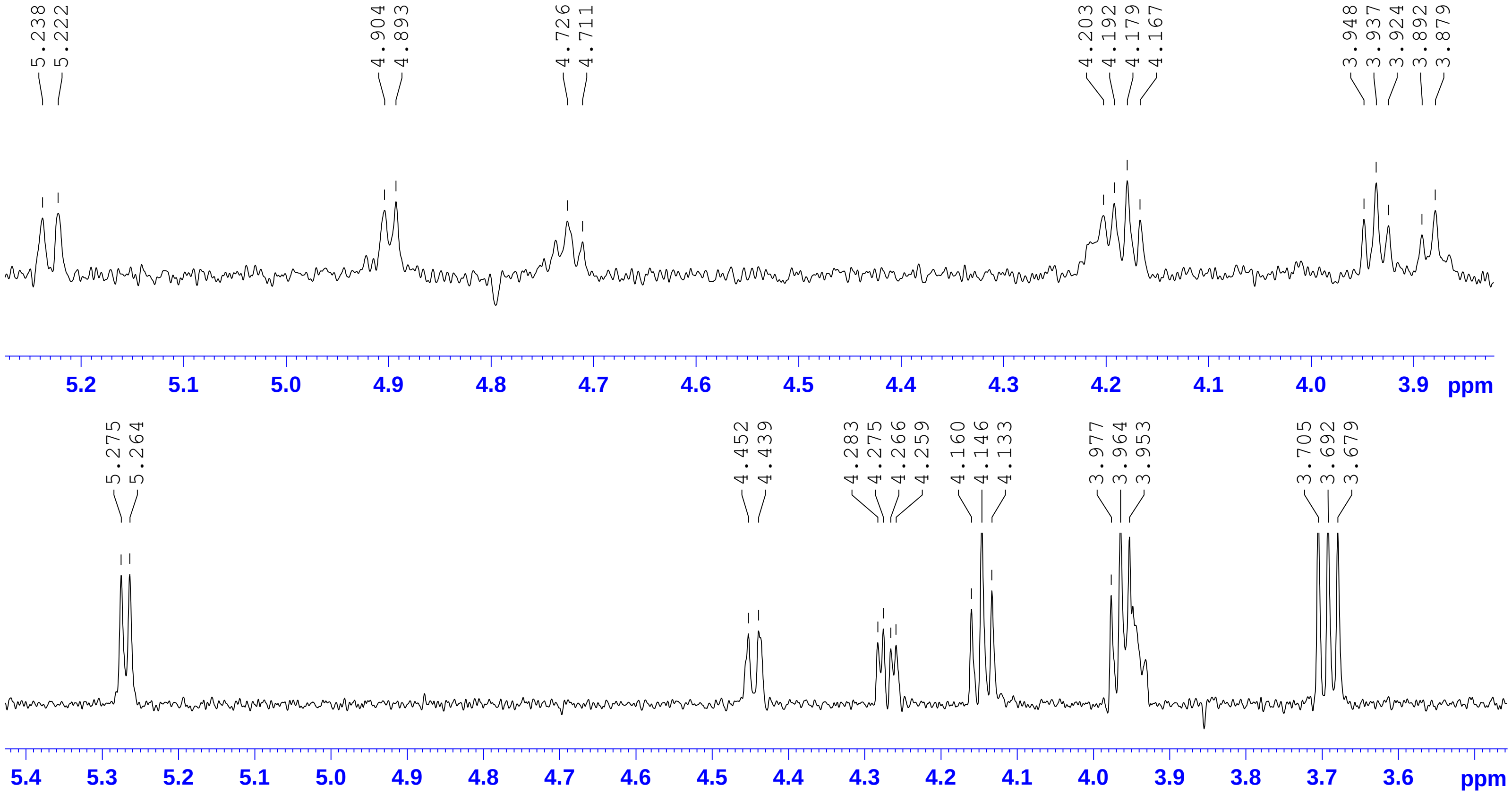


Figure S39. 1D TOCSY (700.00 MHz) spectra of kuriloside E (**5**) in C_5D_5N/D_2O (4/1)

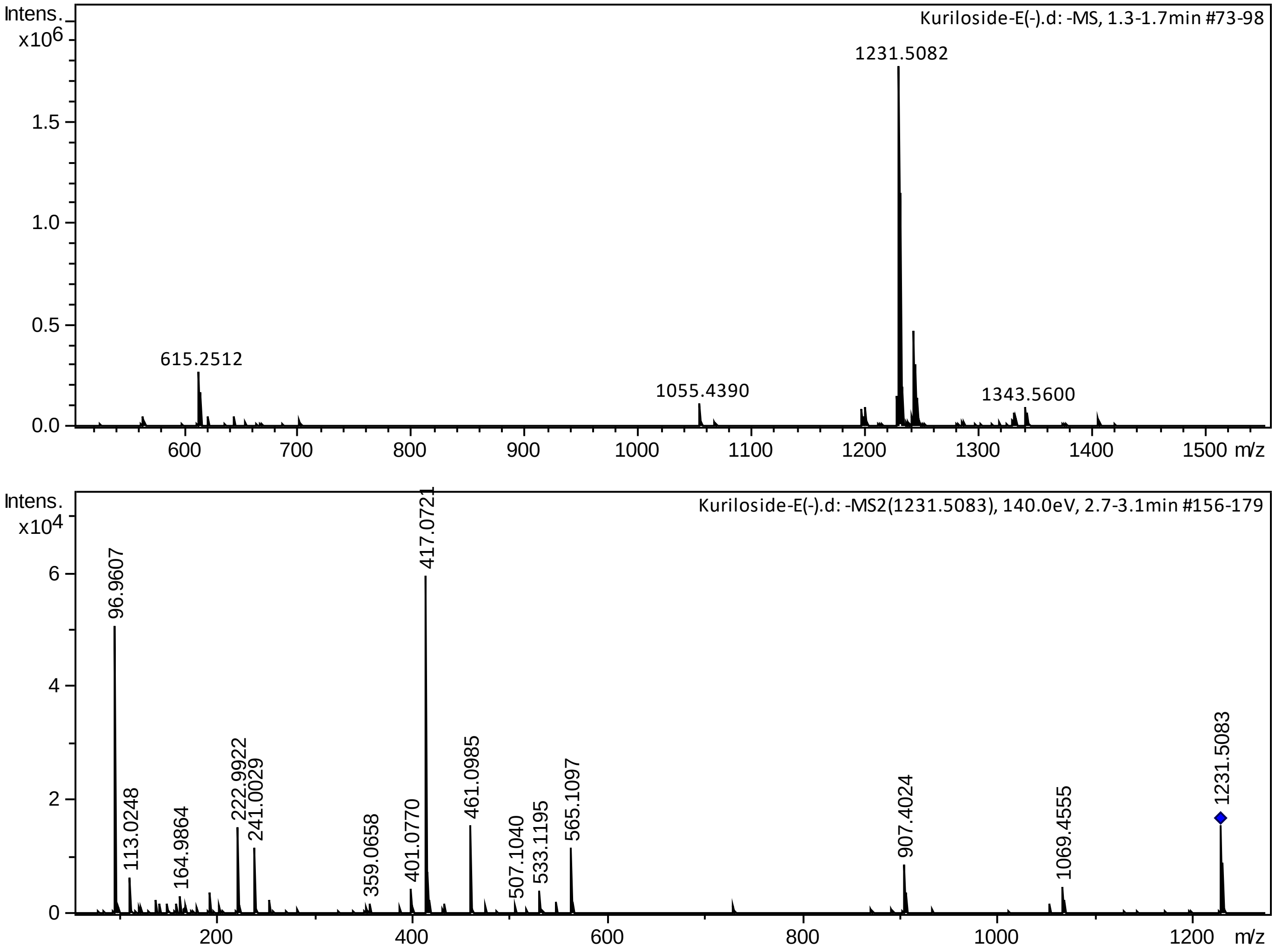


Figure S40. HR-ESI-MS and ESI-MS/MS spectra of kuriloside E (**5**)

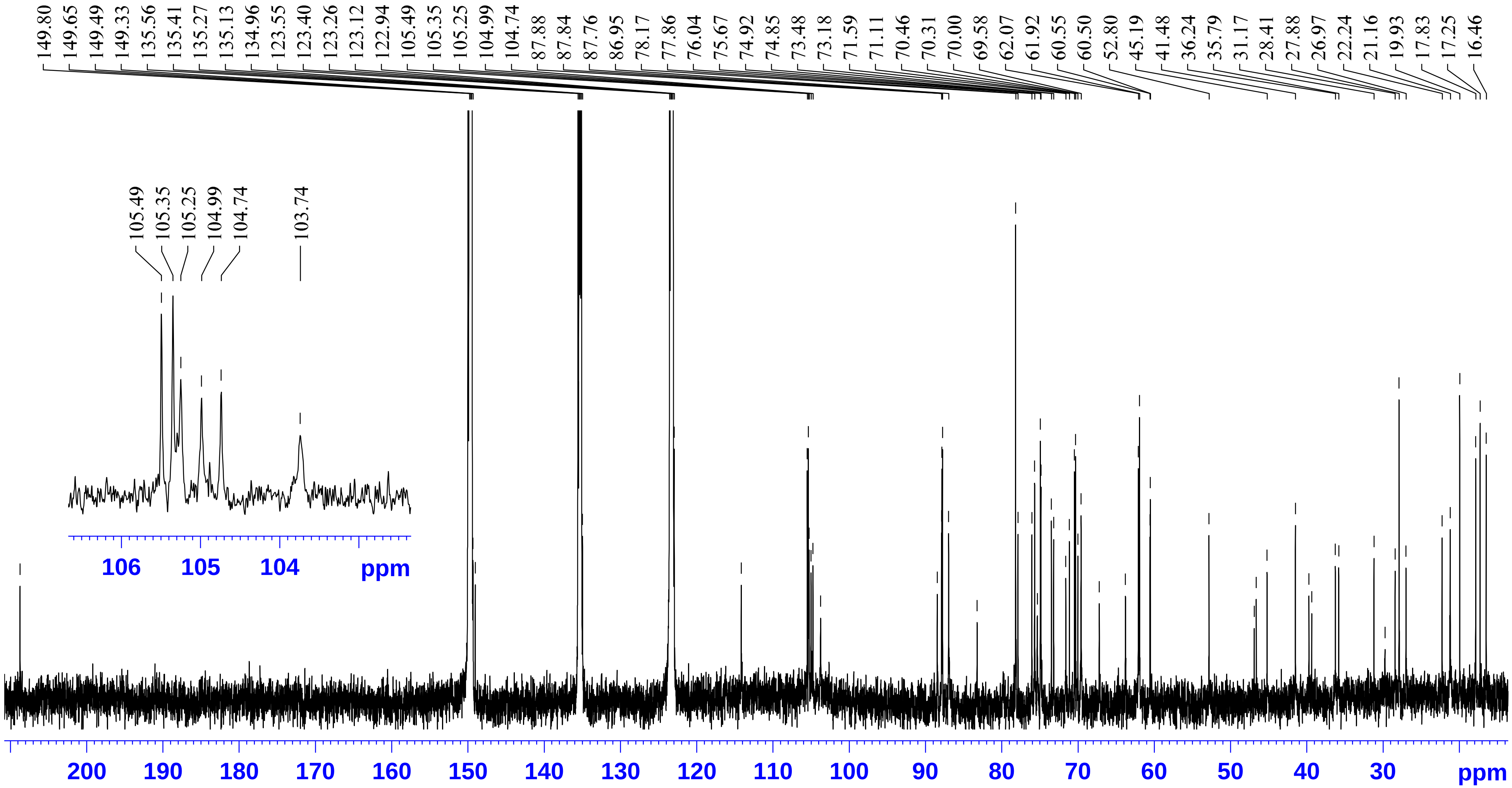
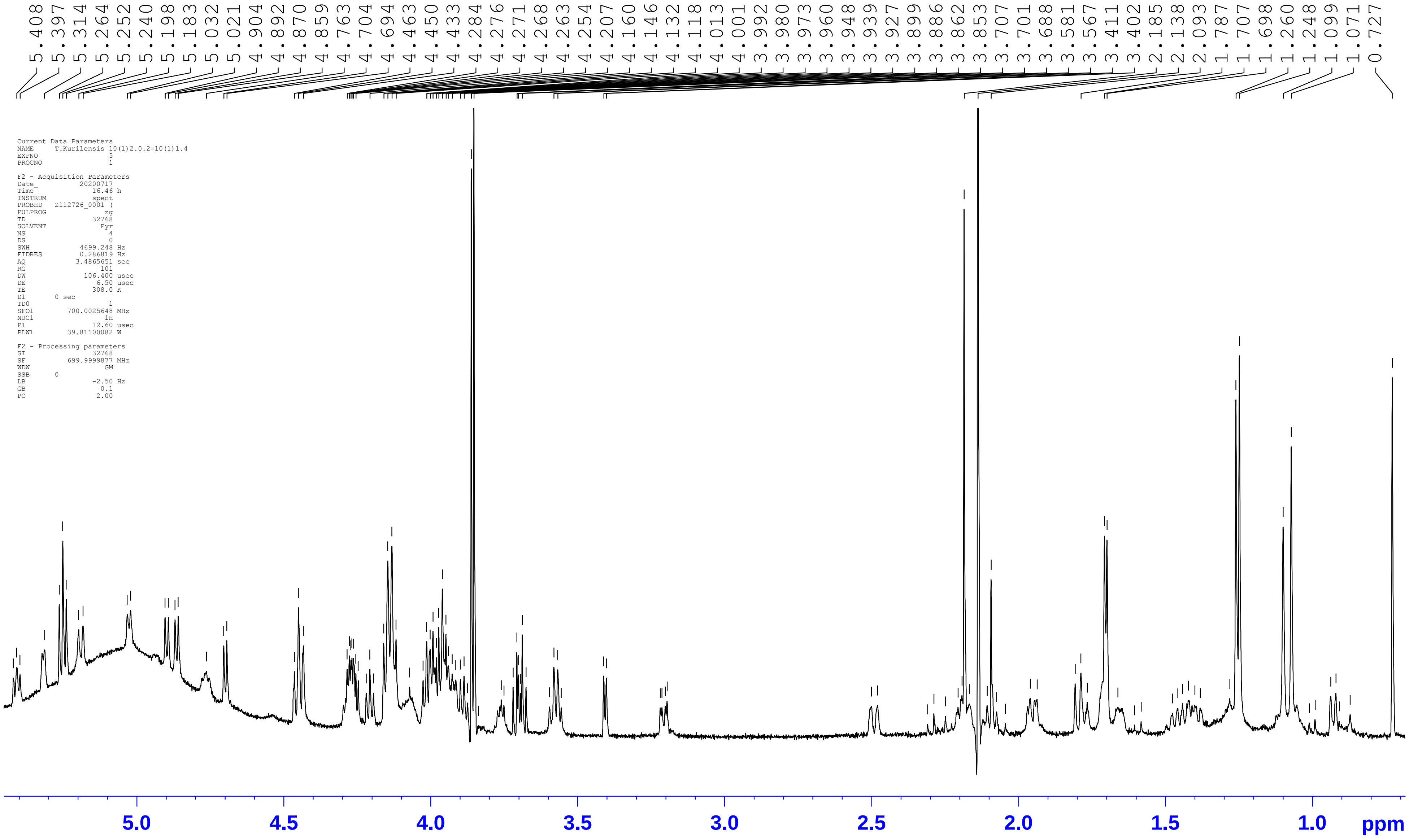


Figure S41. The ^{13}C NMR (176.03 MHz) spectrum of kuriloside F (**6**) in C_5D_5N/D_2O (4/1)



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RG                   101
DW               106.400 usec
DE                  6.50 usec
TE                 308.0 K
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NUC1                  1H
P1                 12.60 usec
PLW1         39.81100082 W

F2 - Processing parameters
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PC                  2.00
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Figure S42. The ^{1}H NMR (700.00 MHz) spectrum of kuriloside F (**6**) in C_5D_5N/D_2O (4/1)

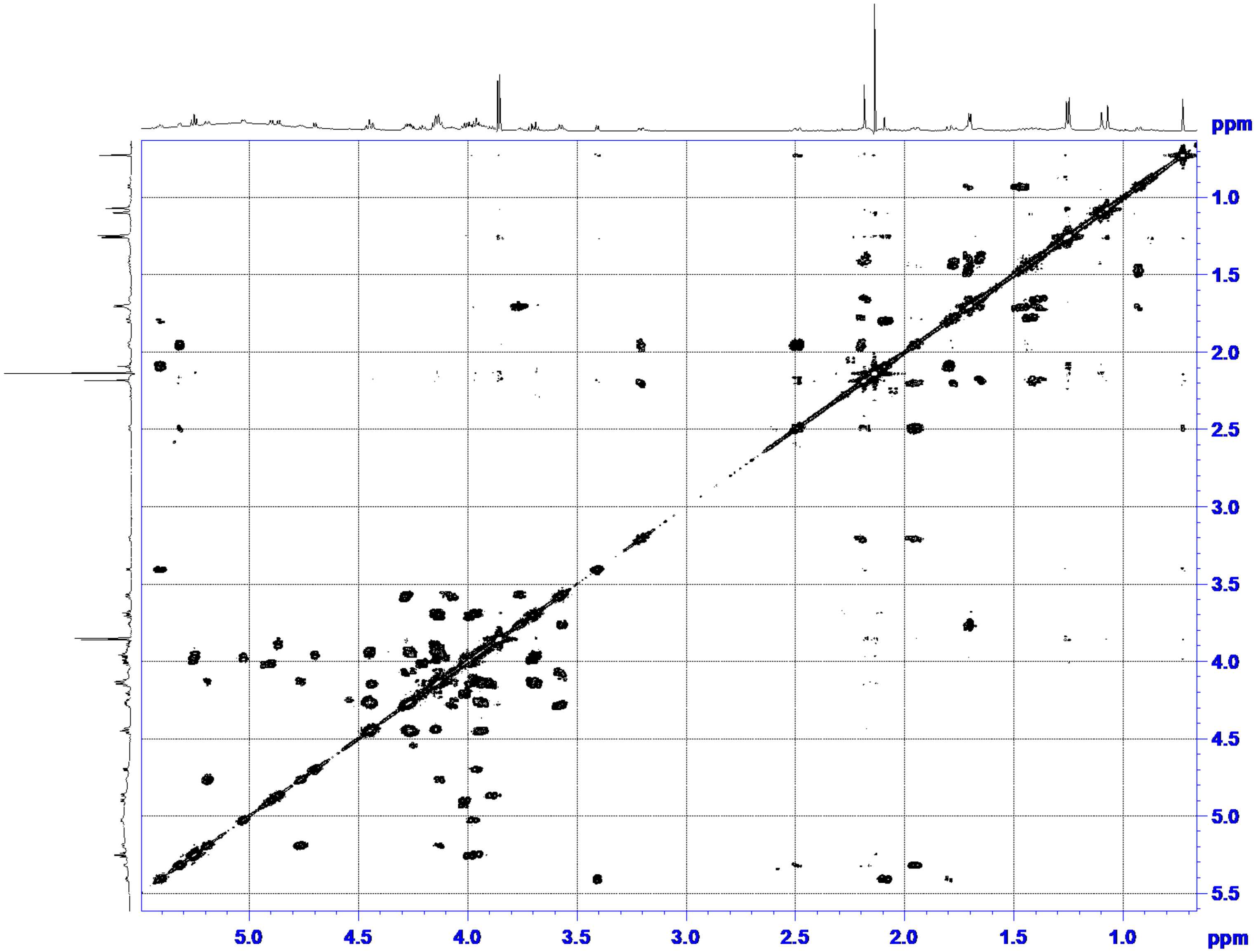


Figure S43. The COSY (700.00 MHz) spectrum of kuriloside F (**6**) in C_5D_5N/D_2O (4/1)

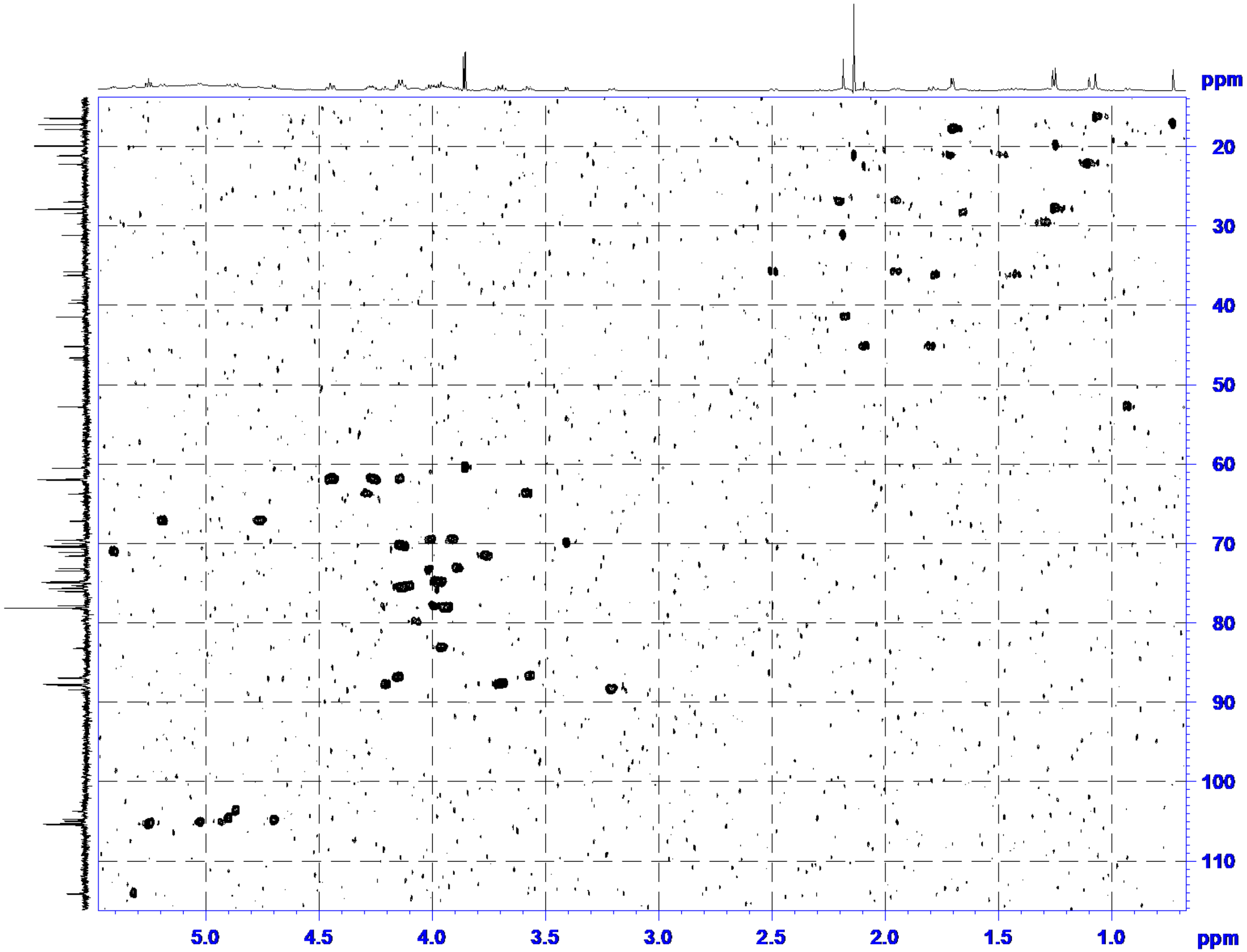


Figure S44. The HSQC (700.00 MHz) spectrum of kuriloside F (**6**) in C_5D_5N/D_2O (4/1)

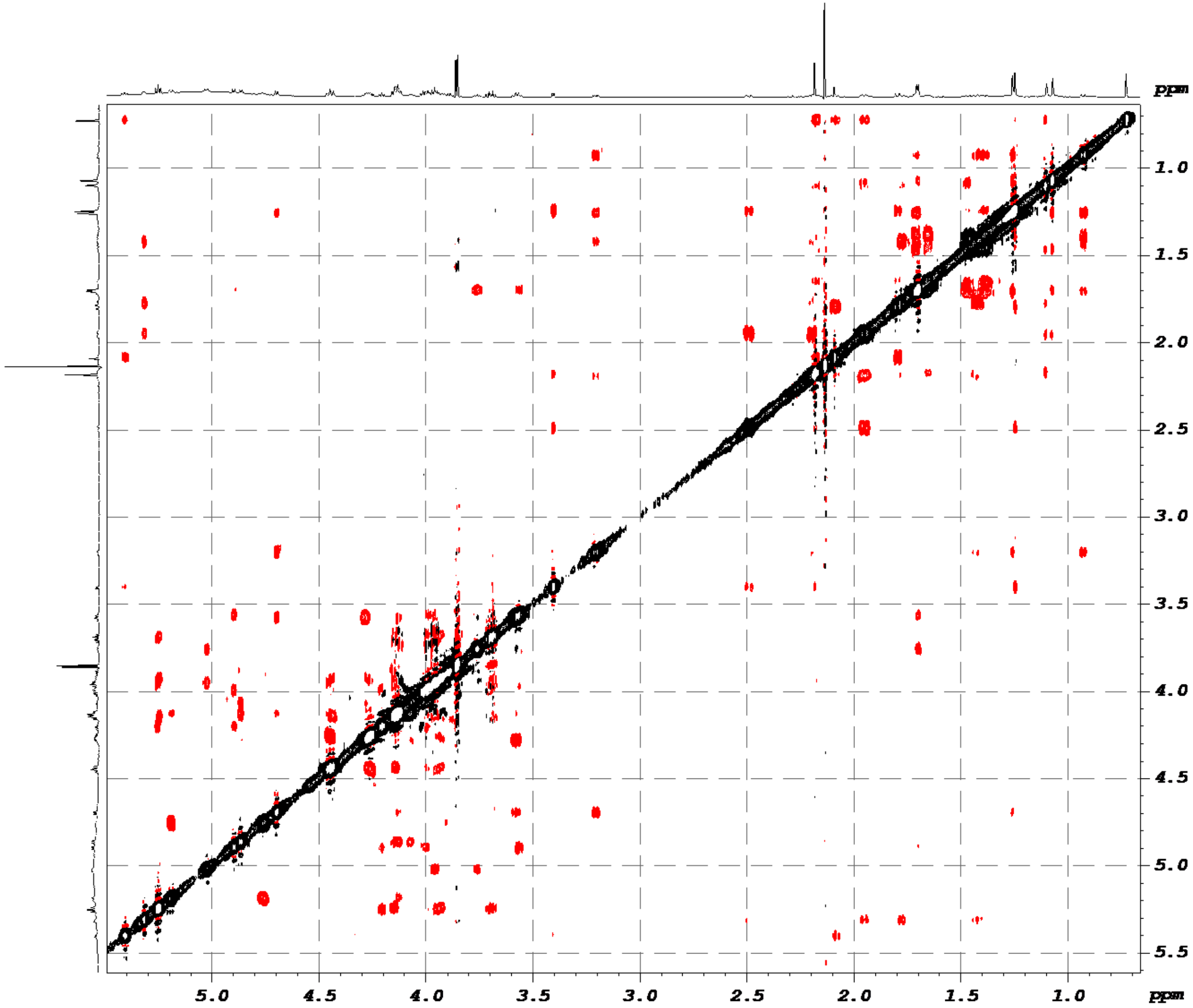


Figure S45. The ROESY (700.00 MHz) spectrum of kuriloside F (**6**) in C_5D_5N/D_2O (4/1)

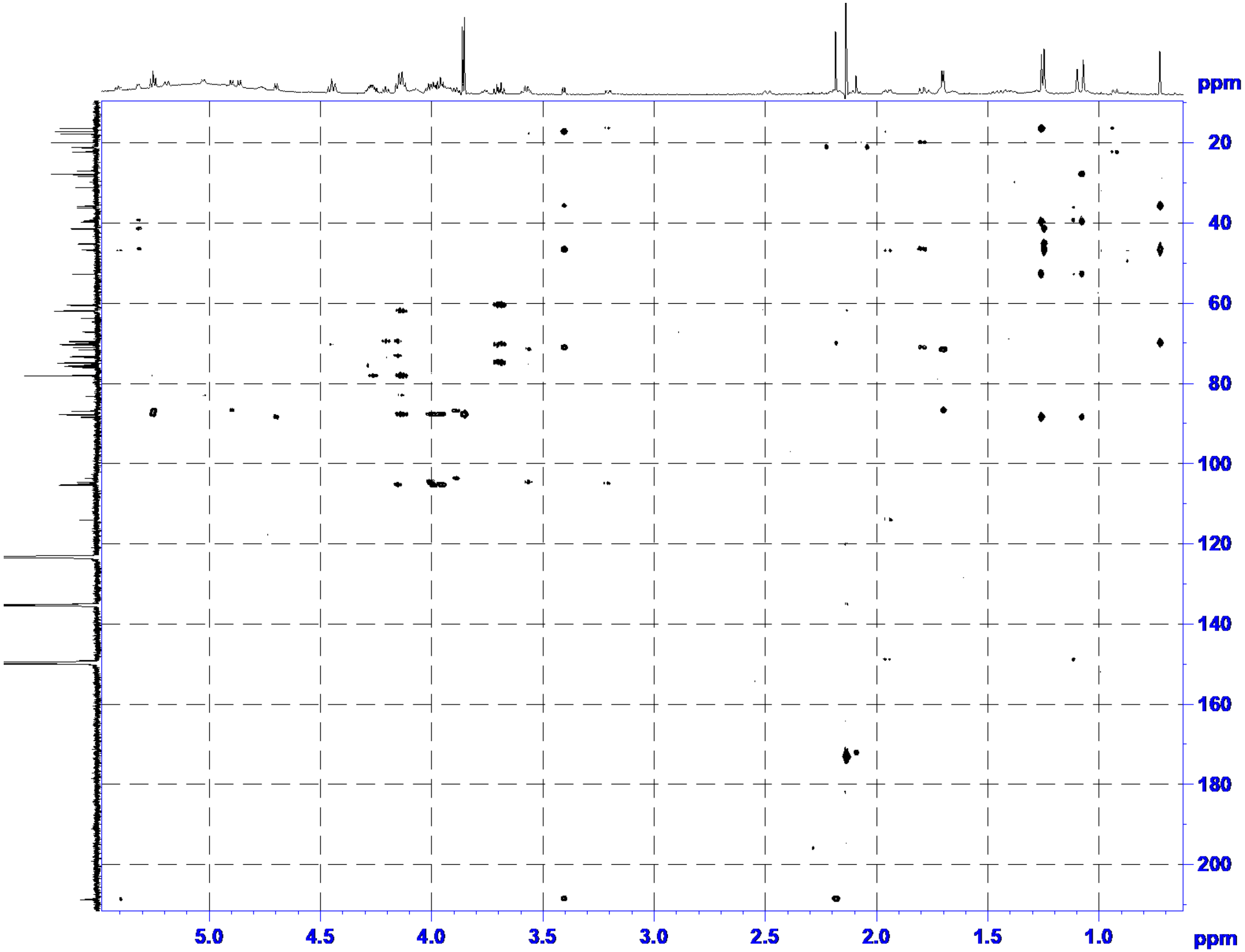


Figure S46. The HMBC (700.00 MHz) spectrum of kuriloside F (**6**) in C_5D_5N/D_2O (4/1)

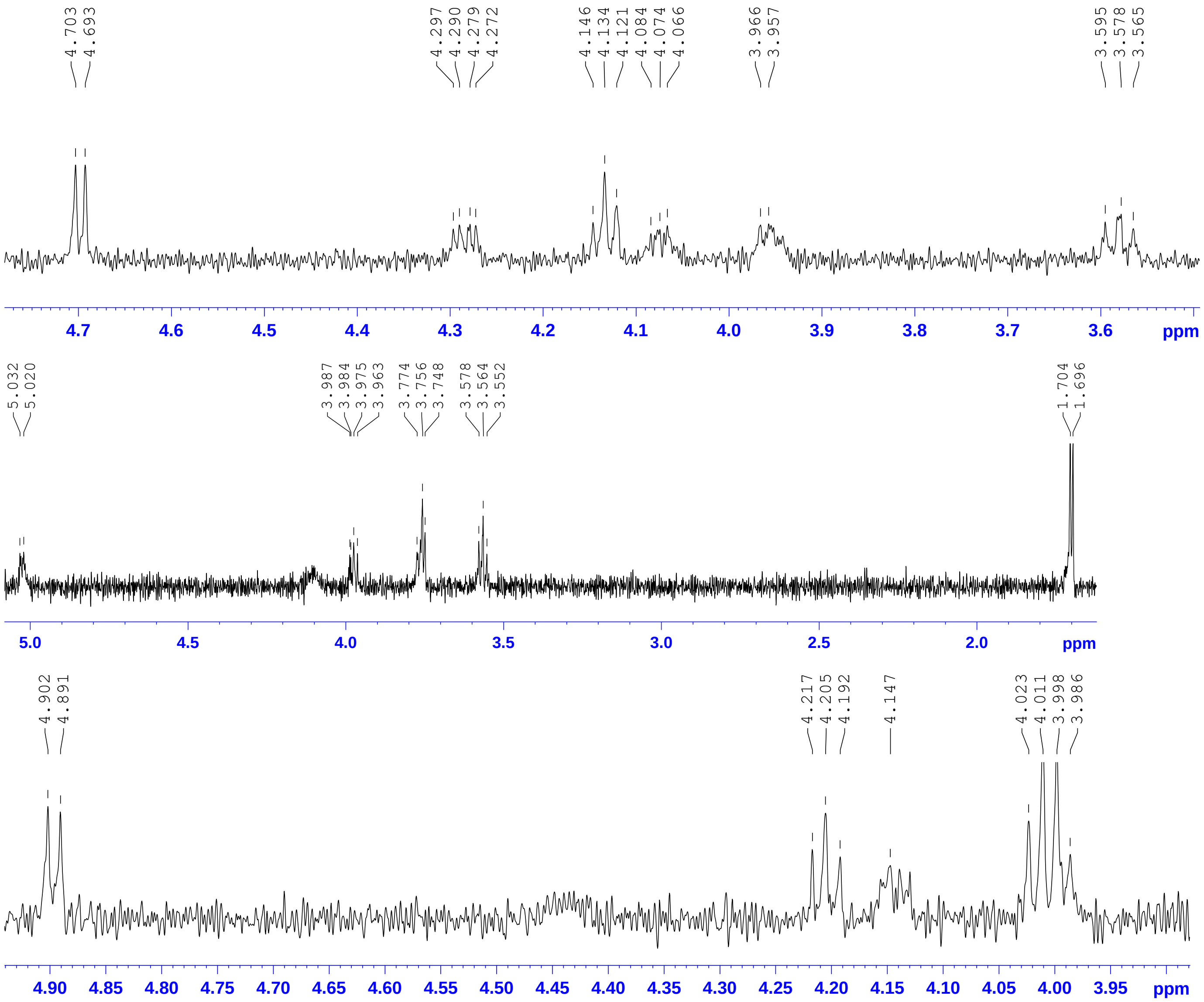


Figure S47. 1D TOCSY (700.00 MHz) spectra of the carbohydrate part of kuriloside F (**6**) in C_5D_5N/D_2O (4/1)

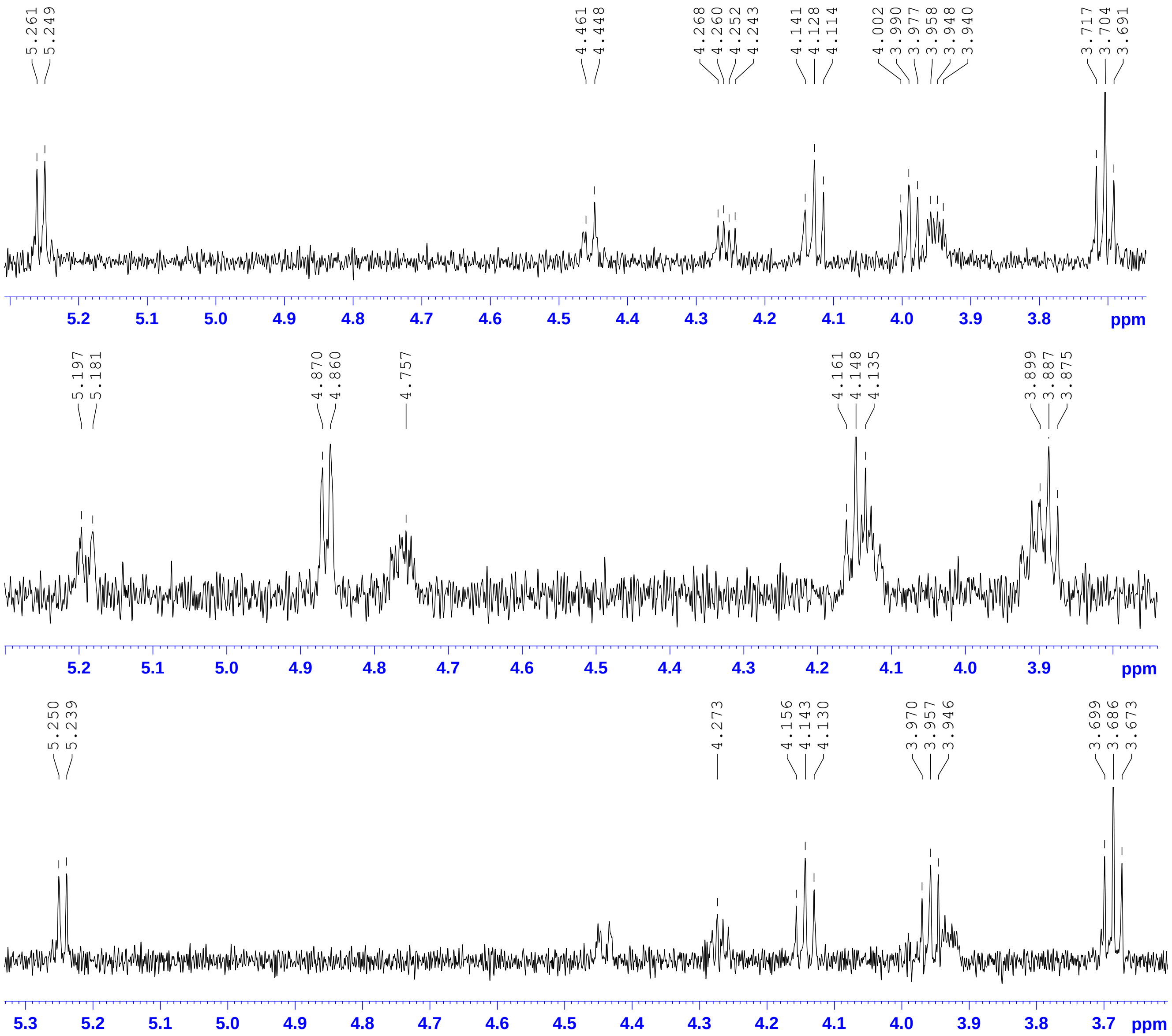


Figure S48. 1D TOCSY (700.00 MHz) spectra of the carbohydrate part of kuriloside F (**6**) in C_5D_5N/D_2O (4/1)

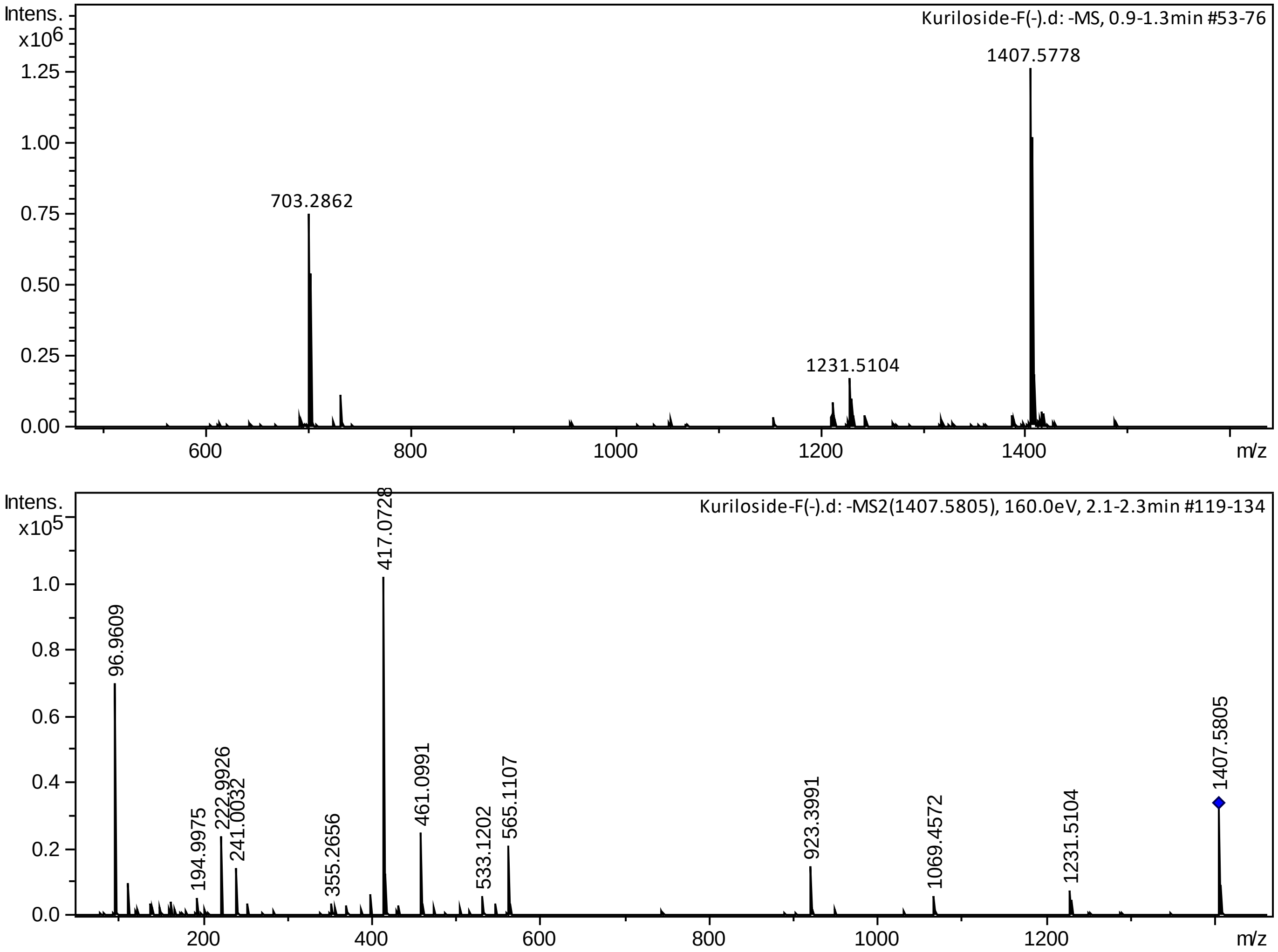


Figure S49. HR-ESI-MS and ESI-MS/MS spectra of kuriloside F (**6**)

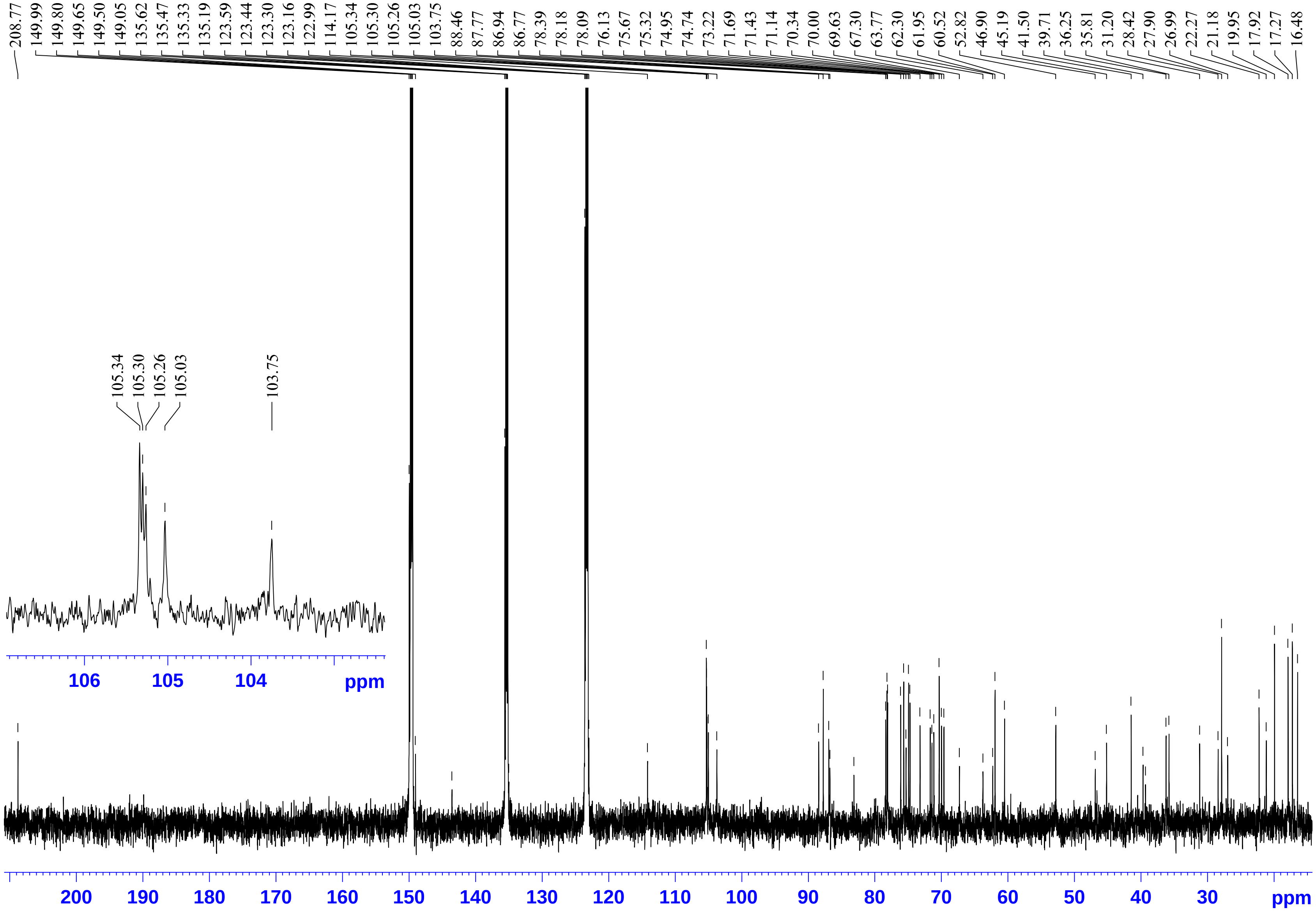
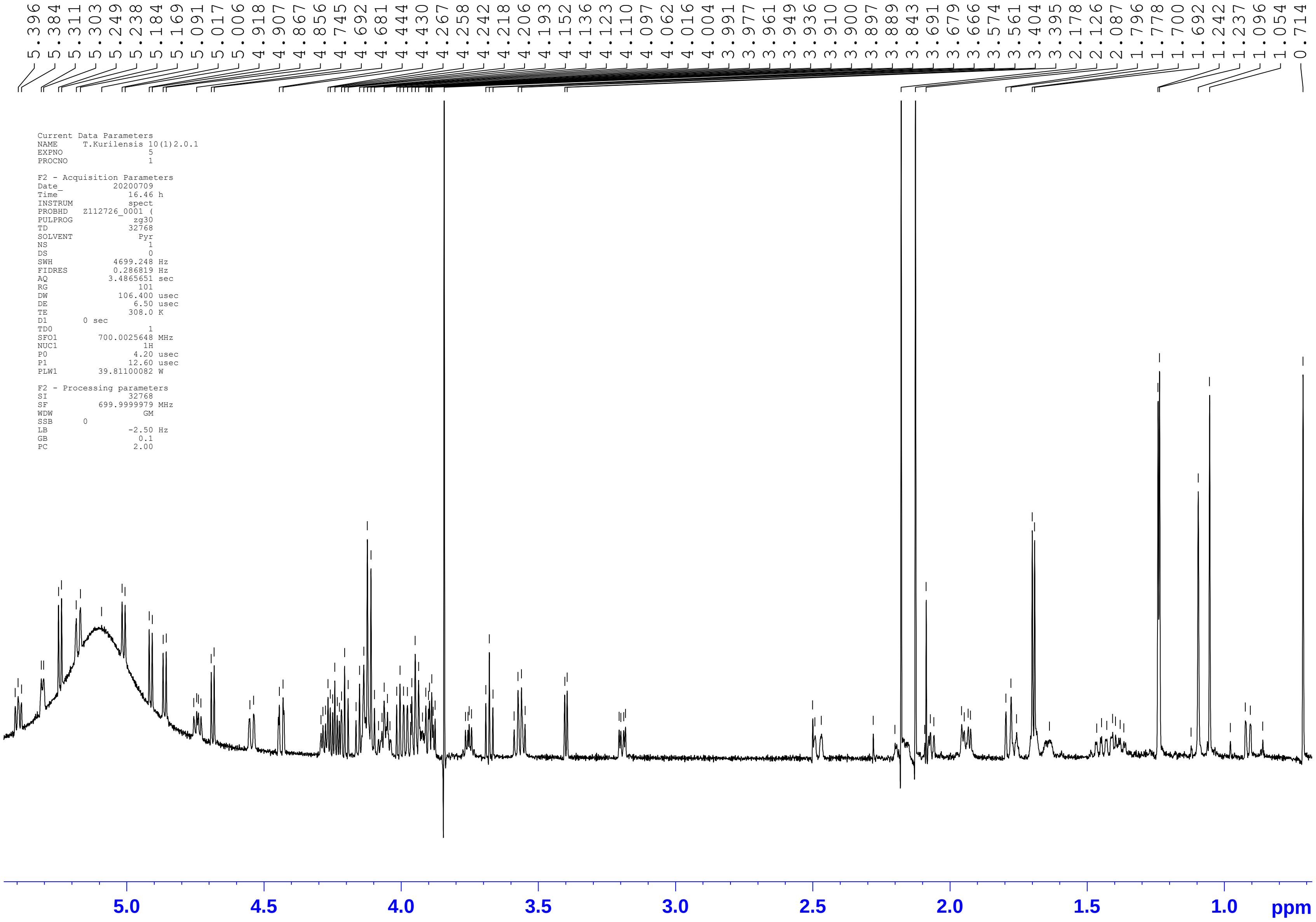


Figure S50. The ^{13}C NMR (176.03 MHz) spectrum of kuriloside A (**7**) in C_5D_5N/D_2O (4/1)



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NS                     1
DS                     0
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AQ             3.4865651 sec
RG                   101
DW               106.400 usec
DE                  6.50 usec
TE                 308.0 K
D1       0 sec
TD0                    1
SFO1         700.0025648 MHz
NUC1                  1H
P0                  4.20 usec
P1                 12.60 usec
PLW1         39.81100082 W

F2 - Processing parameters
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Figure S51. The ¹H NMR (700.00 MHz) spectrum of kuriloside A (**7**) in C_5D_5N/D_2O (4/1)

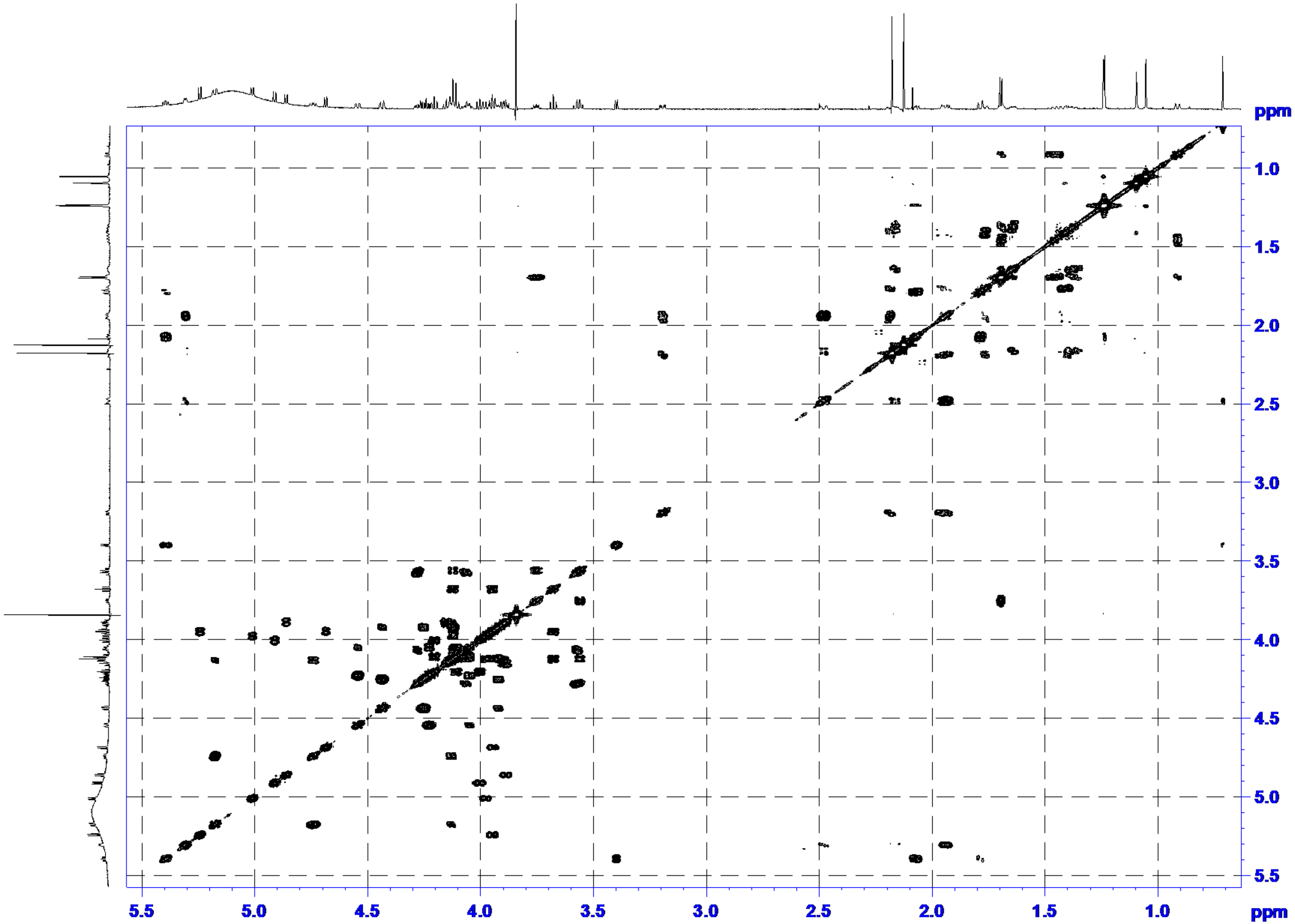

Figure S52. The COSY (700.00 MHz) spectrum of kuriloside A (**7**) in C_5D_5N/D_2O (4/1)

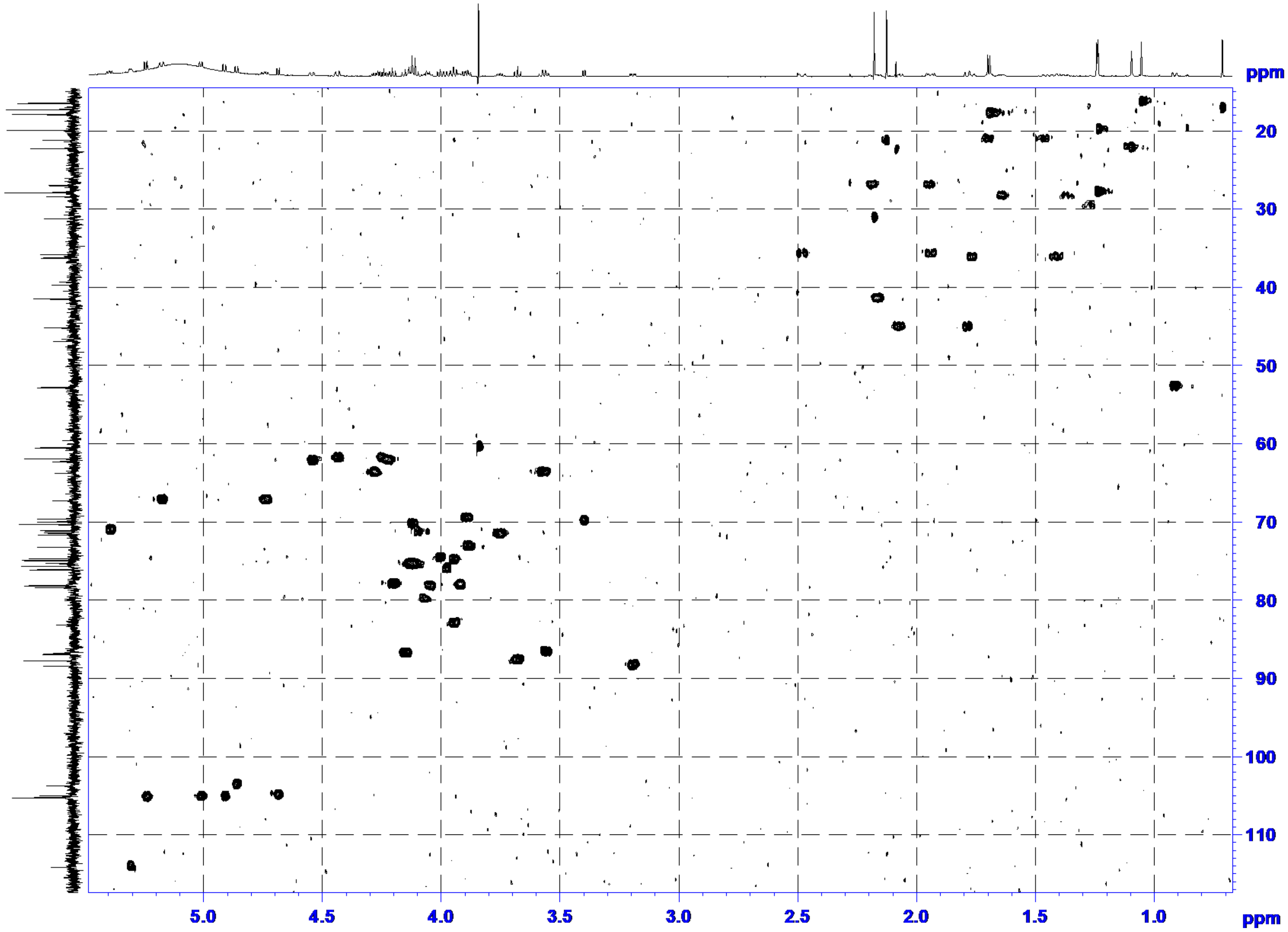

Figure S53. The HSQC (700.00 MHz) spectrum of kuriloside A (**7**) in C_5D_5N/D_2O (4/1)

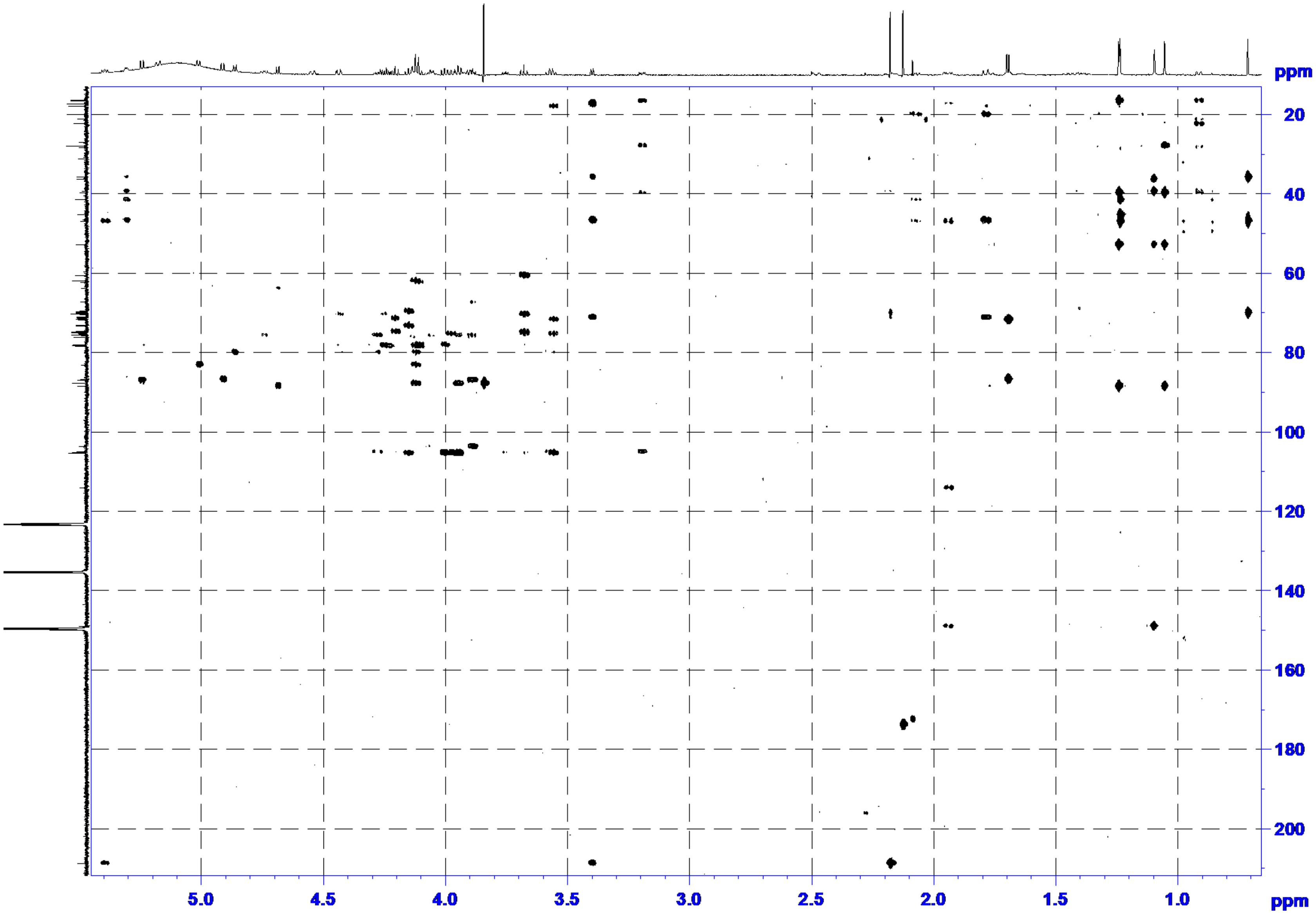

Figure S54. The HMBC (700.00 MHz) spectrum of kuriloside A (**7**) in C_5D_5N/D_2O (4/1)

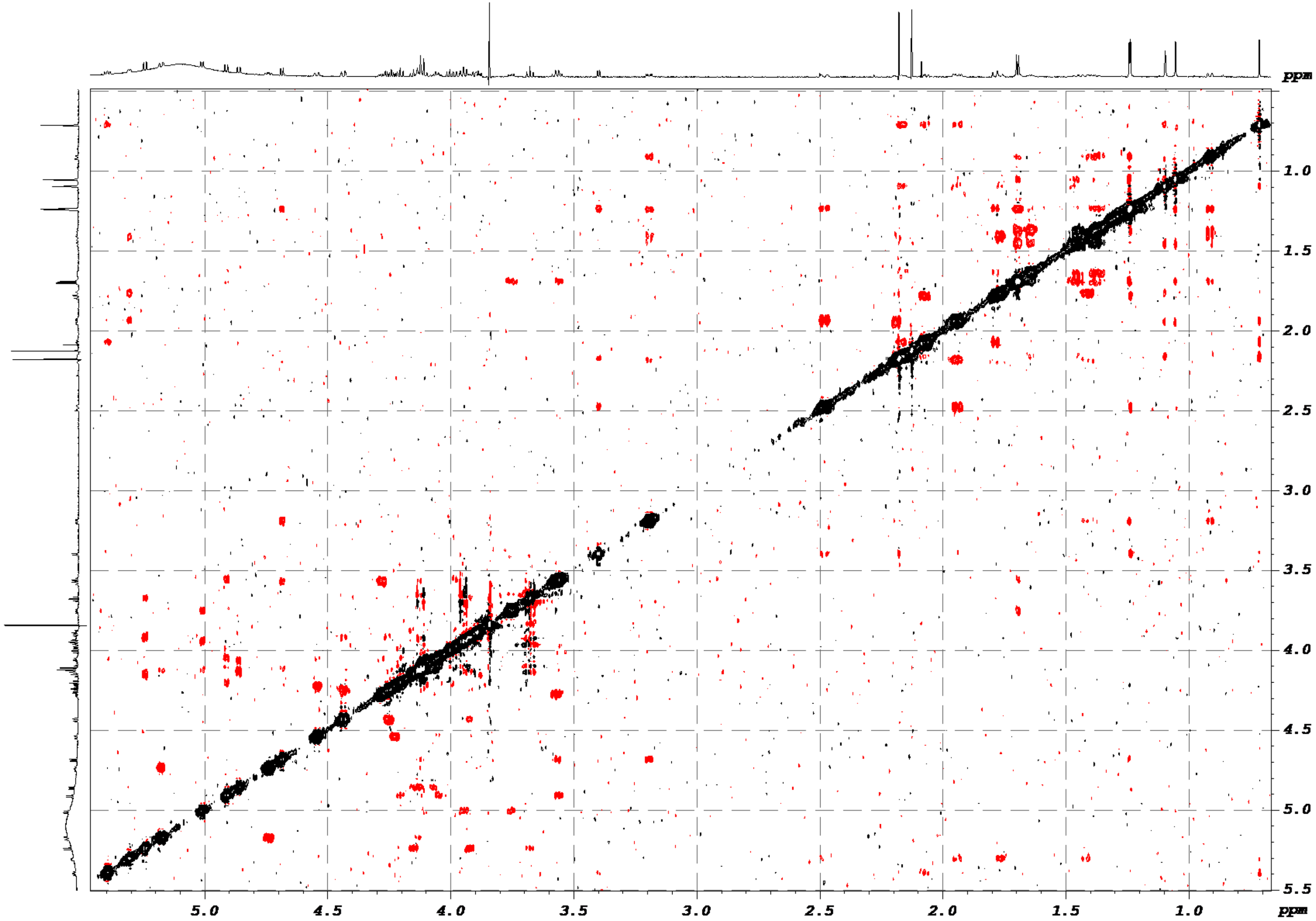

Figure S55. The ROESY (700.00 MHz) spectrum of kuriloside A (**7**) in C_5D_5N/D_2O (4/1)

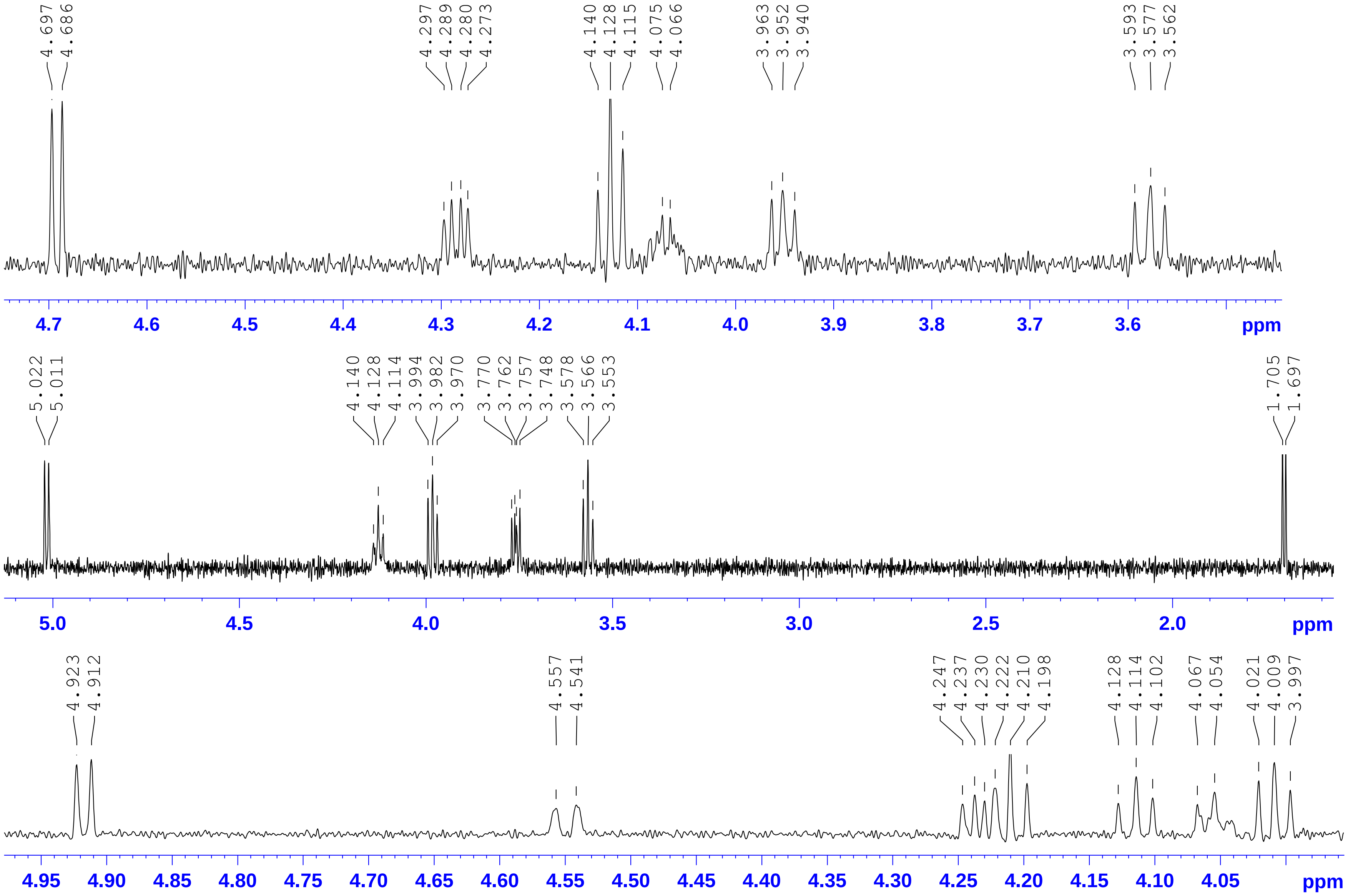

Figure S56. 1 D TOCSY (700.00 MHz) spectra of kuriloside A (**7**) in C_5D_5N/D_2O (4/1)

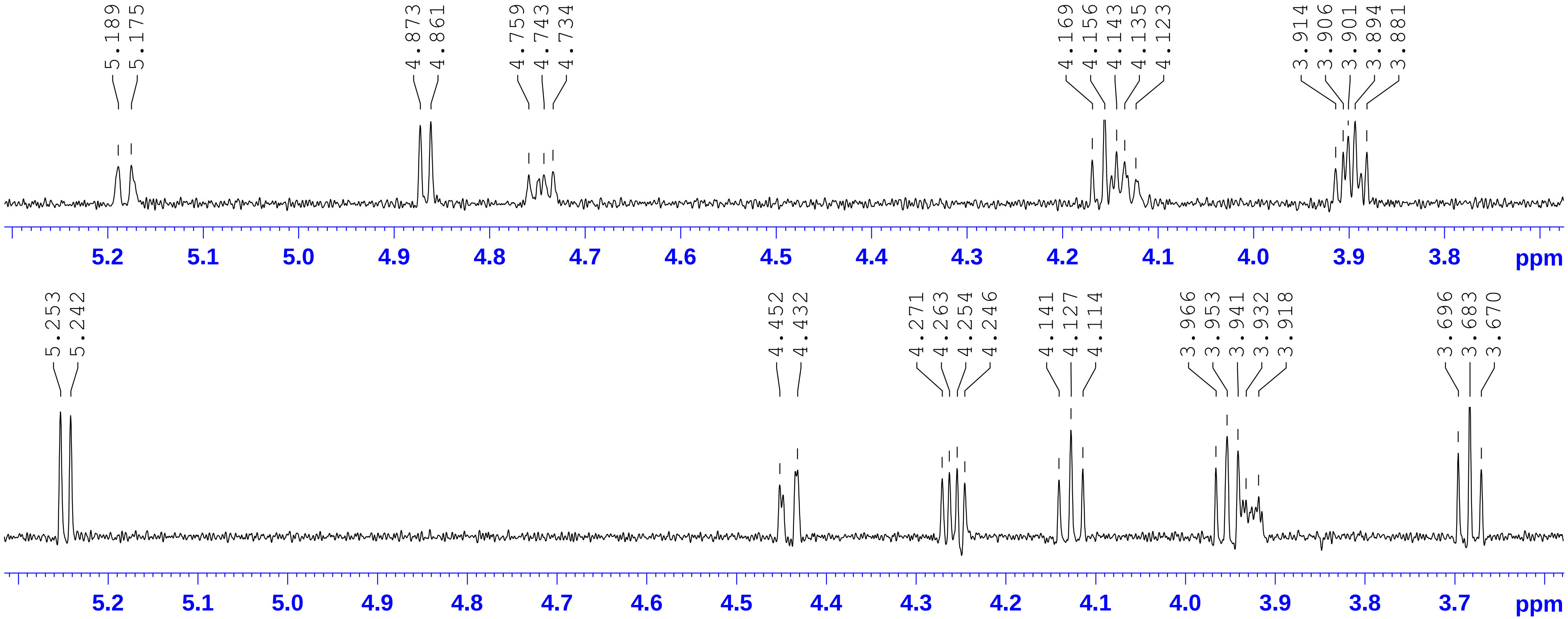

Figure S57. 1 D TOCSY (700.00 MHz) spectra of kuriloside A (**7**) in C_5D_5N/D_2O (4/1)

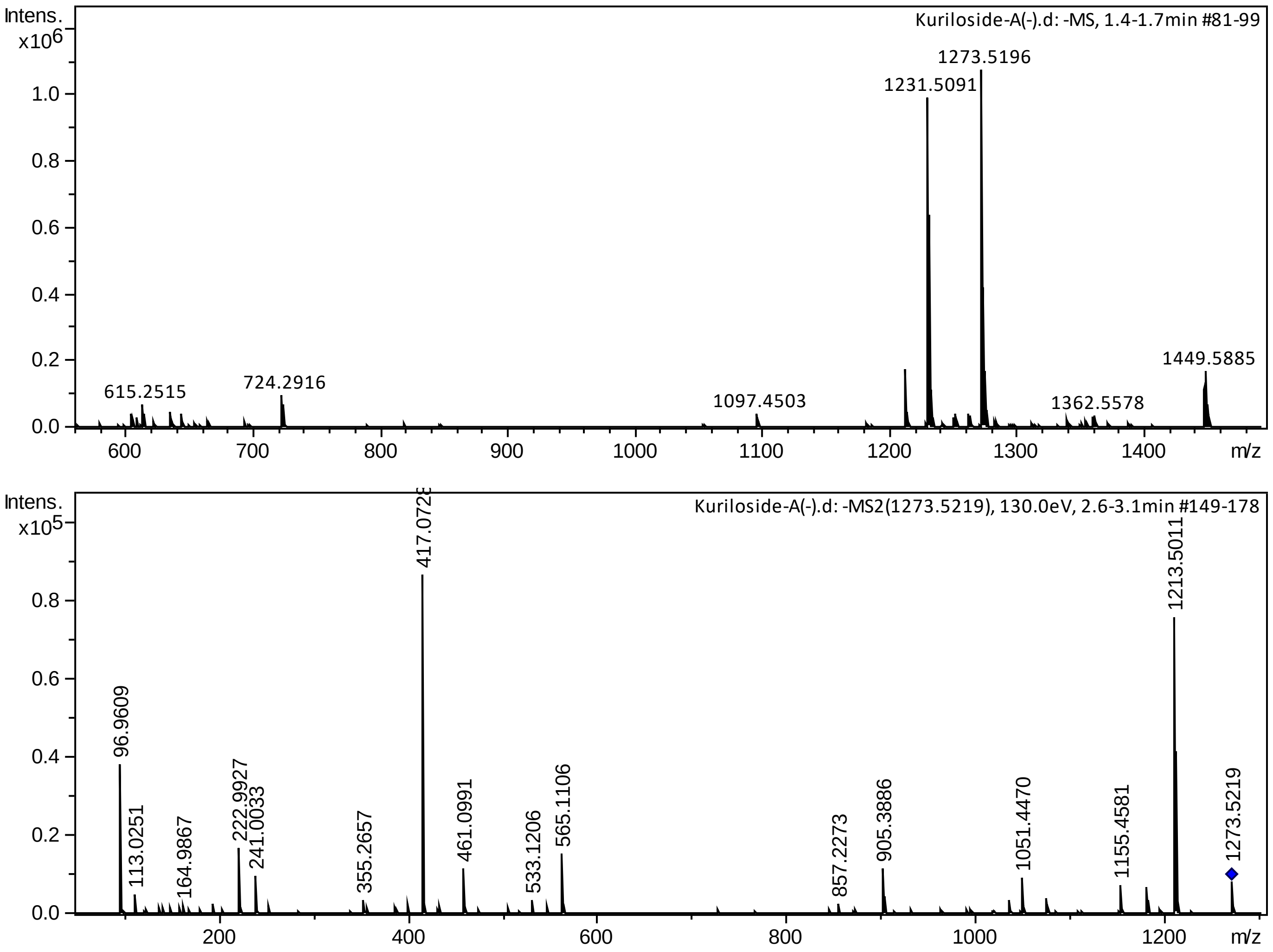

Figure S58. HR-ESI-MS and ESI-MS/MS spectra of kuriloside A (**7**)