SUPPLEMENTARY MATERIAL

Rare acetogenins with anti-inflammatory effect from the red alga *Laurencia obtusa*

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Abstract

Three new rare C12 acetogenins en-ynes derivatives (**1-3**) were isolated from the organic extract obtained from the red alga *Laurencia obtusa*, collected from the Red Sea. The chemical structures of the isolated compounds were established by spectroscopical data analyses. Potent anti-inflammatory effect of the isolated metabolites was evidenced by inhibition of releasing the inflammatory mediators (e.g. TNF-α, IL-1β and IL-6) by employing Human Peripheral Blood Mononuclear Cells (PBMC).

Keywords: Anti-inflammatory; *Laurencia obtusa*; Acetogenins; Spectroscopy; Red Sea

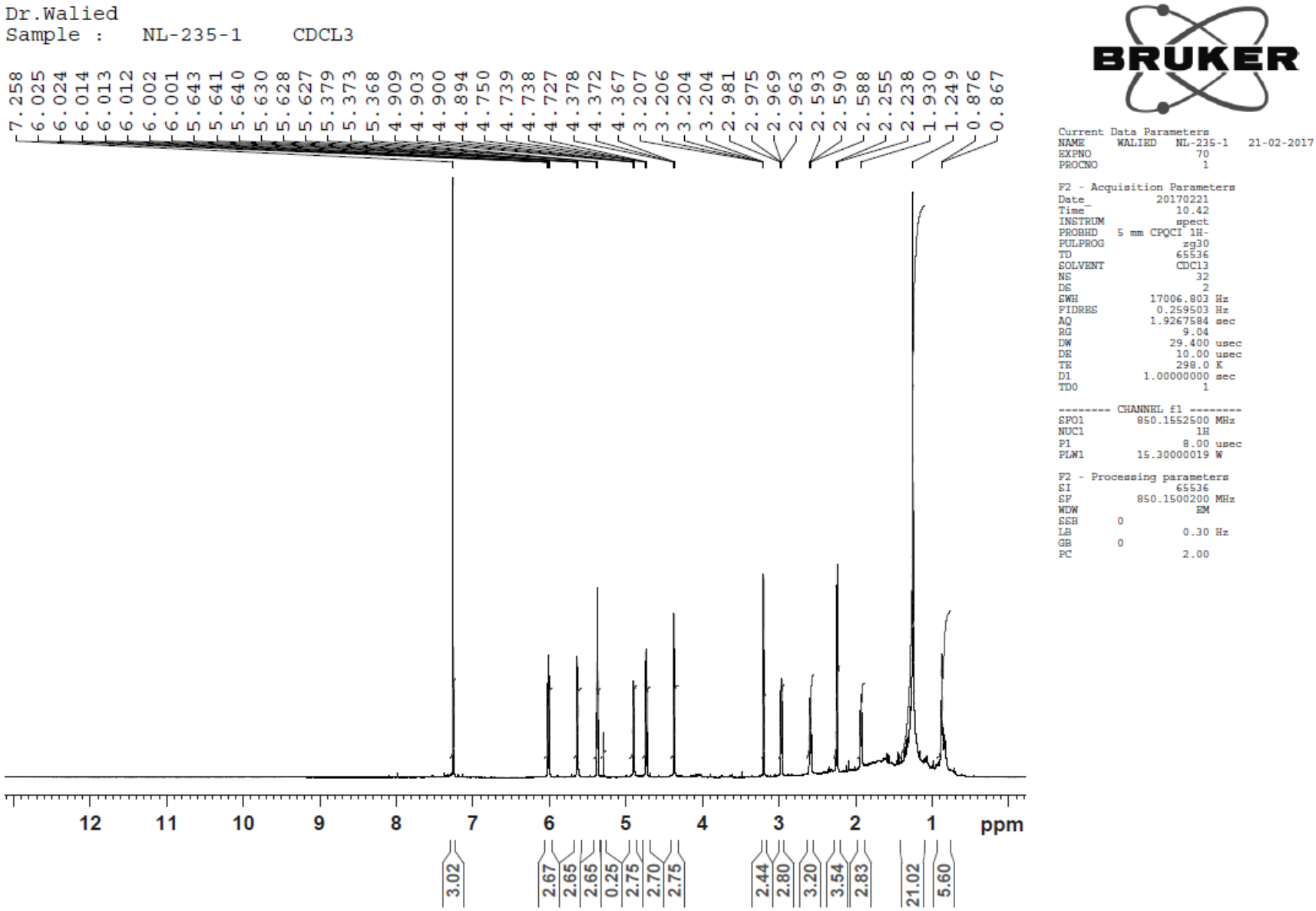

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Figure S1a: ^{1}HNMR of compound 1

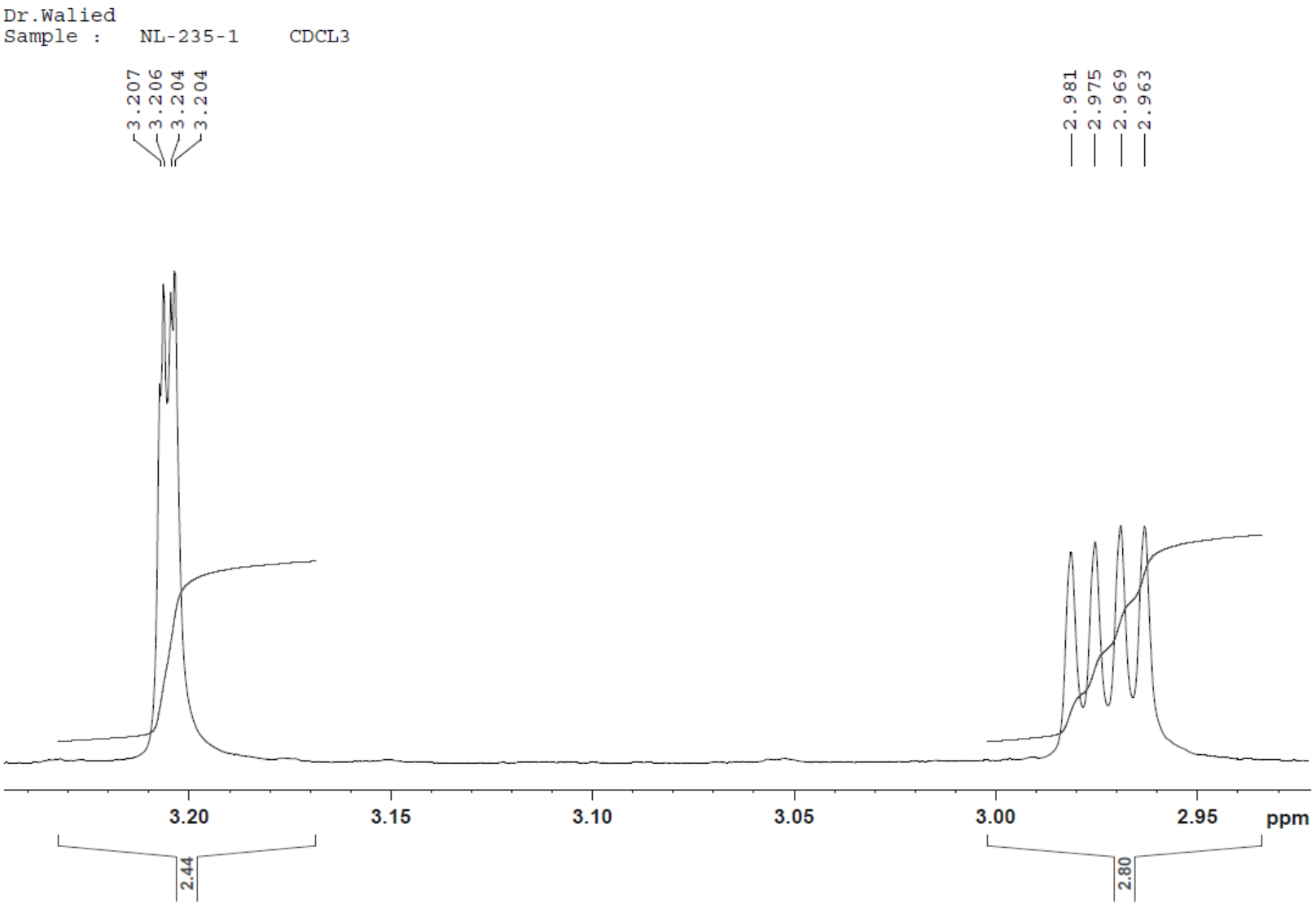


Figure S1b: ^{1}HNMR of compound 1

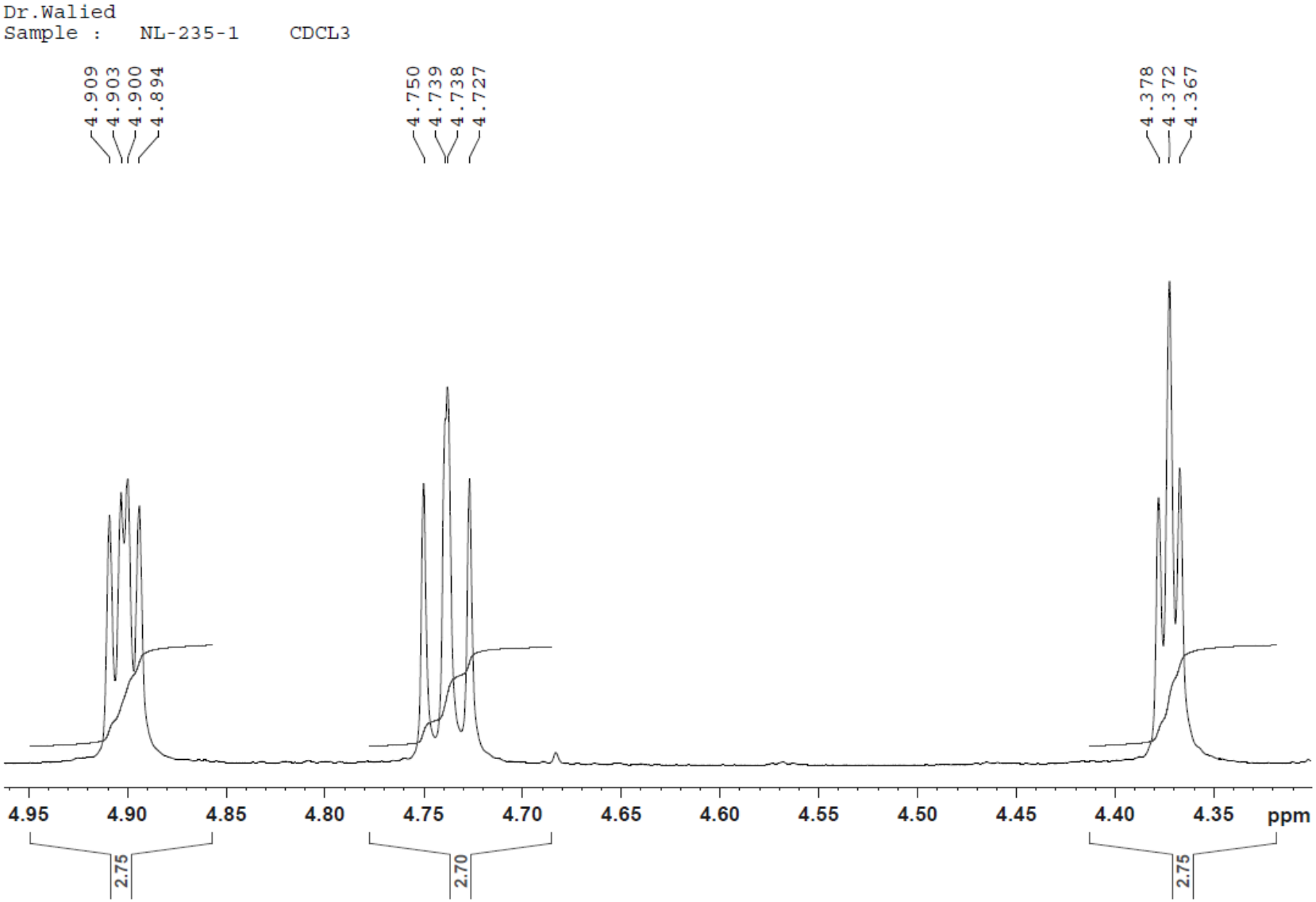


Figure S1c: ^{1}HNMR of compound 1

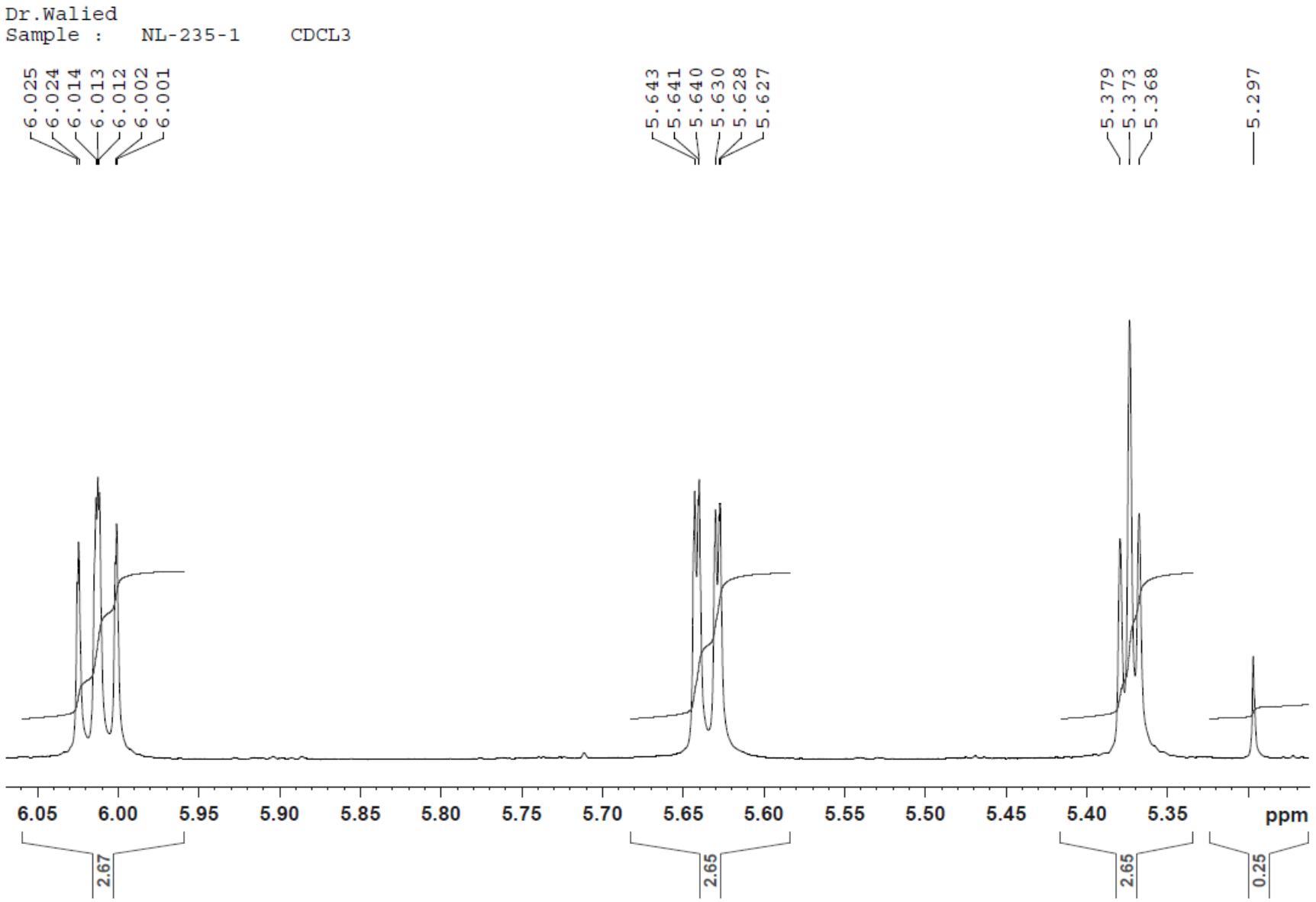


Figure S1d: ^{1}HNMR of compound 1

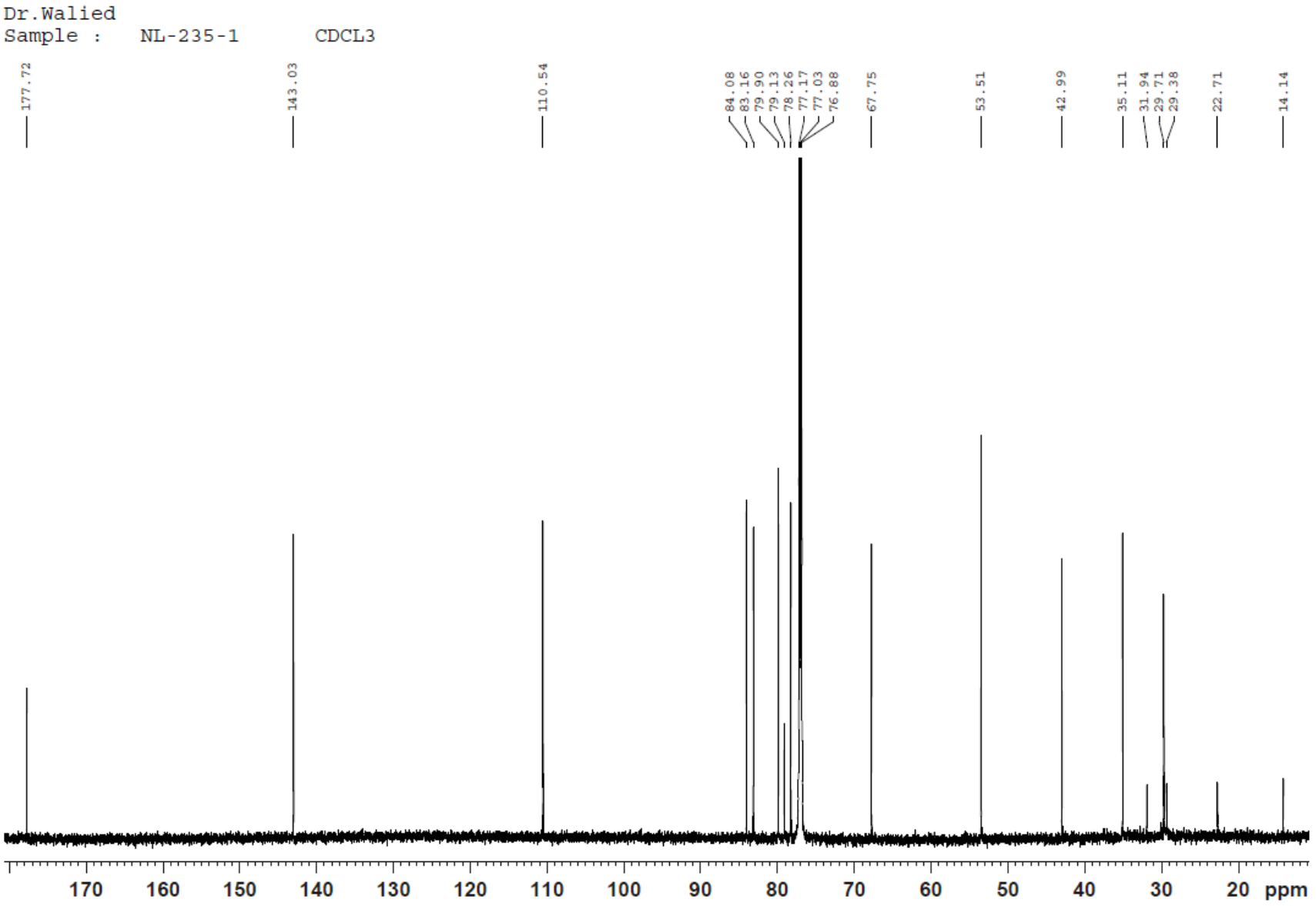


Figure S1e: ^{13}CNMR of compound 1

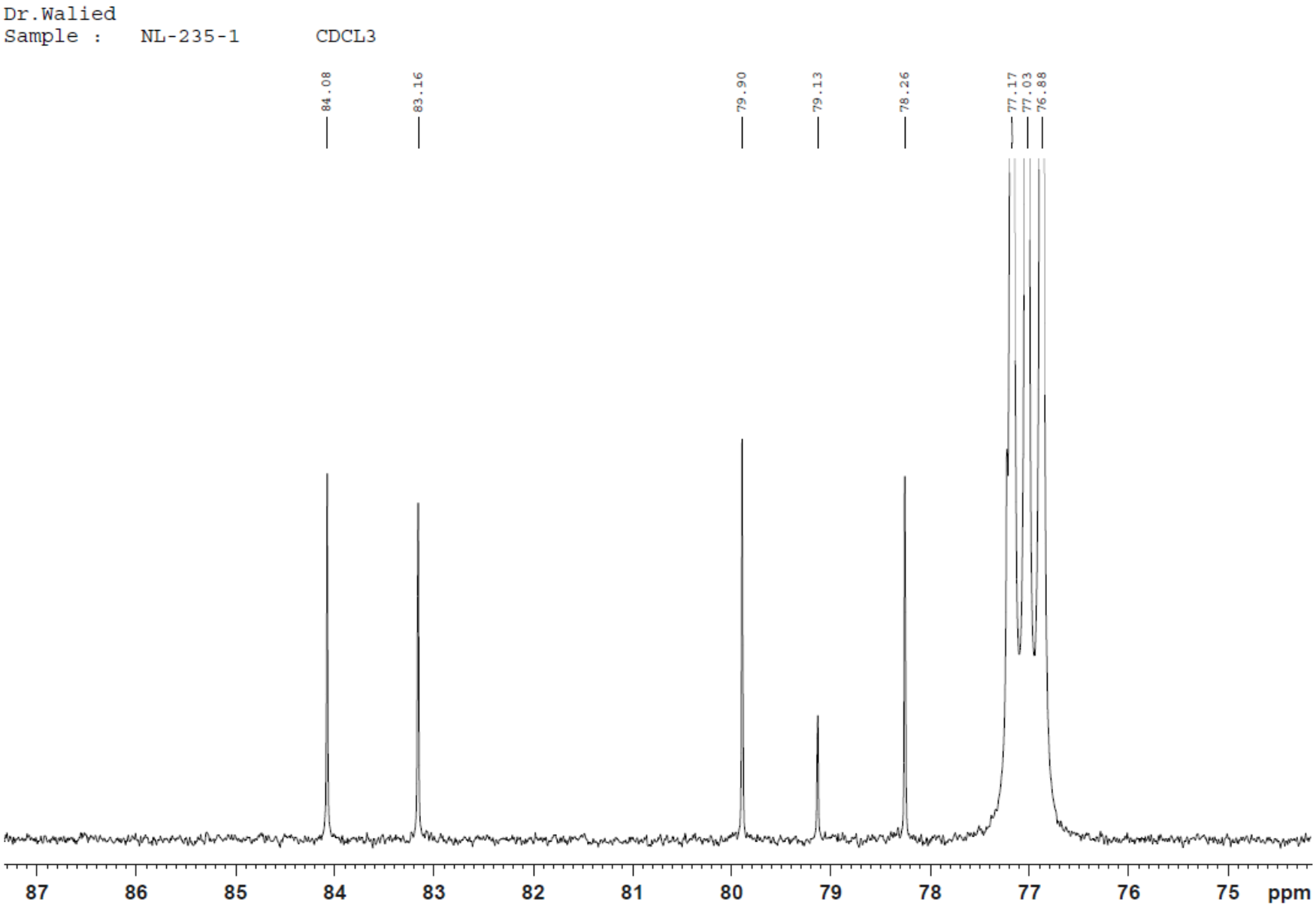


Figure S1f: ^{13}CNMR of compound 1

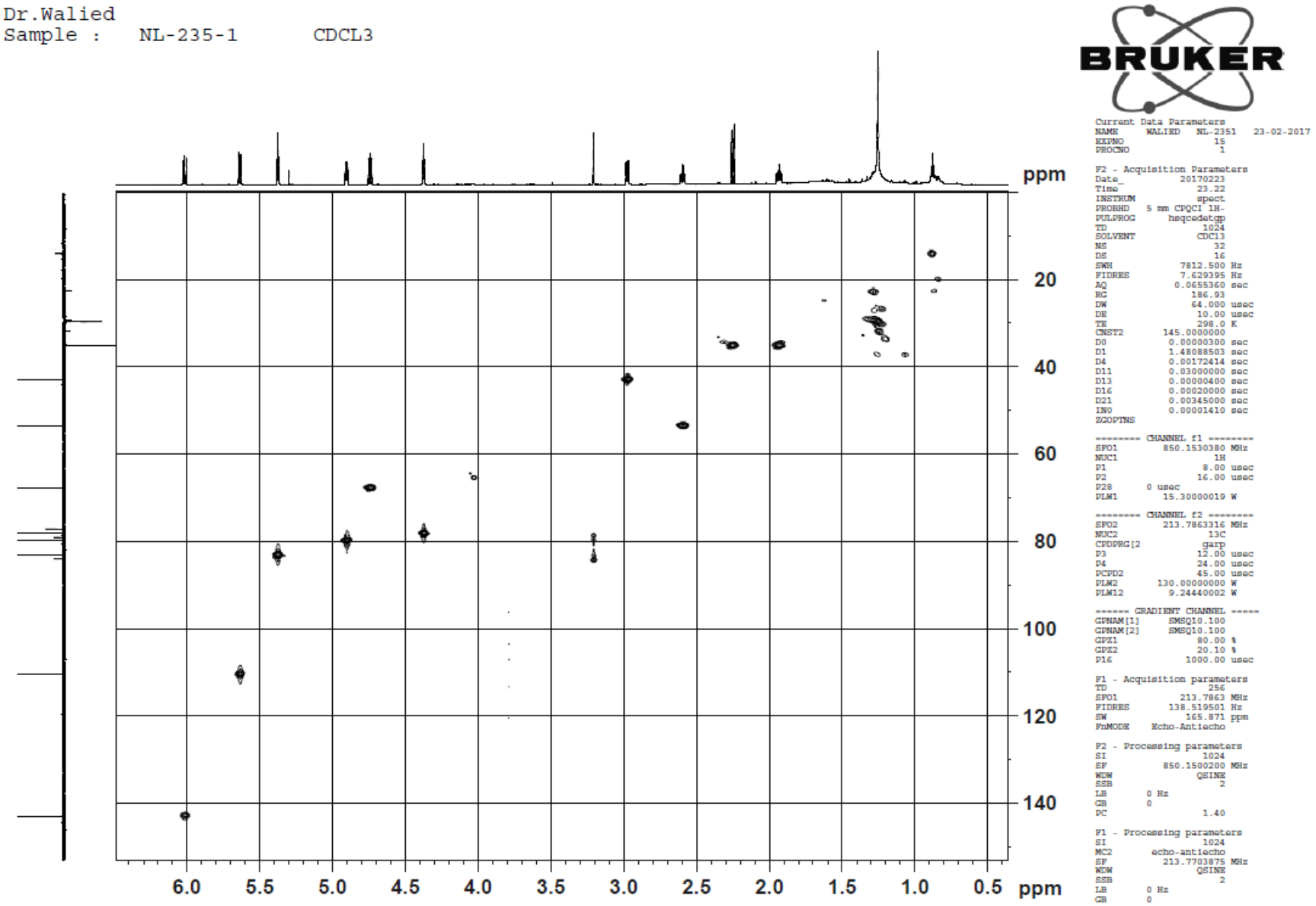


Figure S1g: HSQC NMR of compound 1

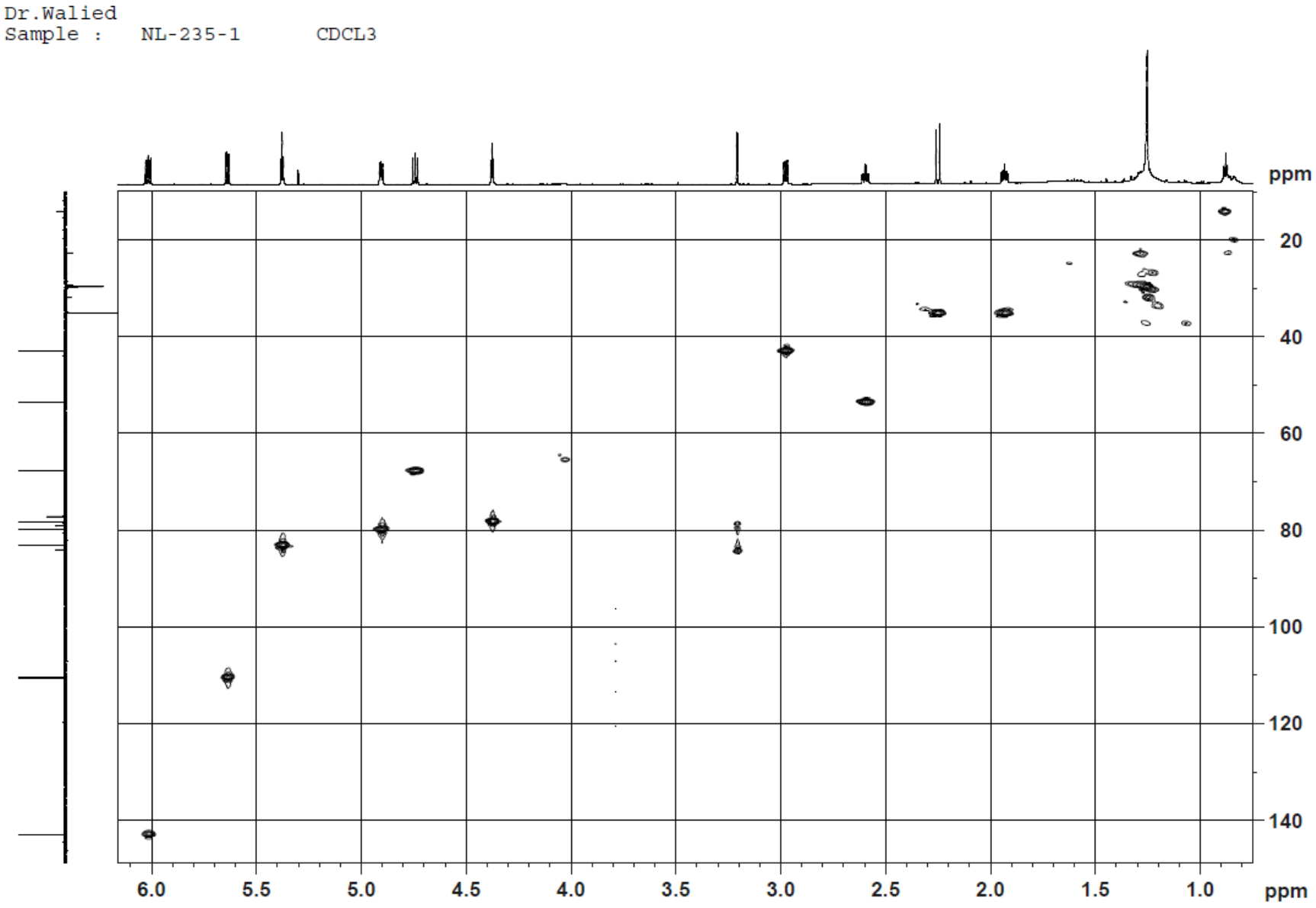


Figure S1h: HSQC NMR of compound 1

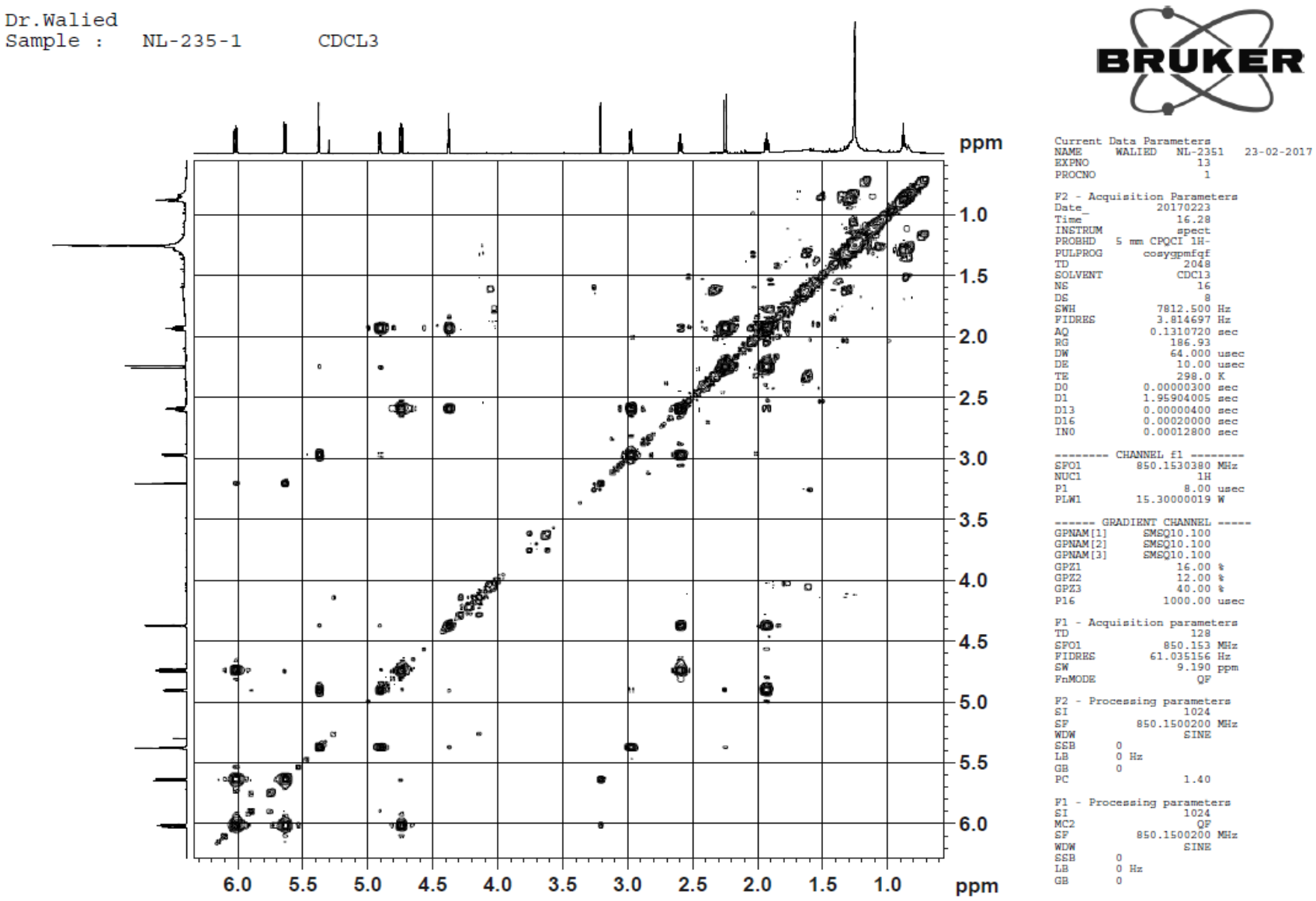


Figure S1i: COSY NMR of compound 1

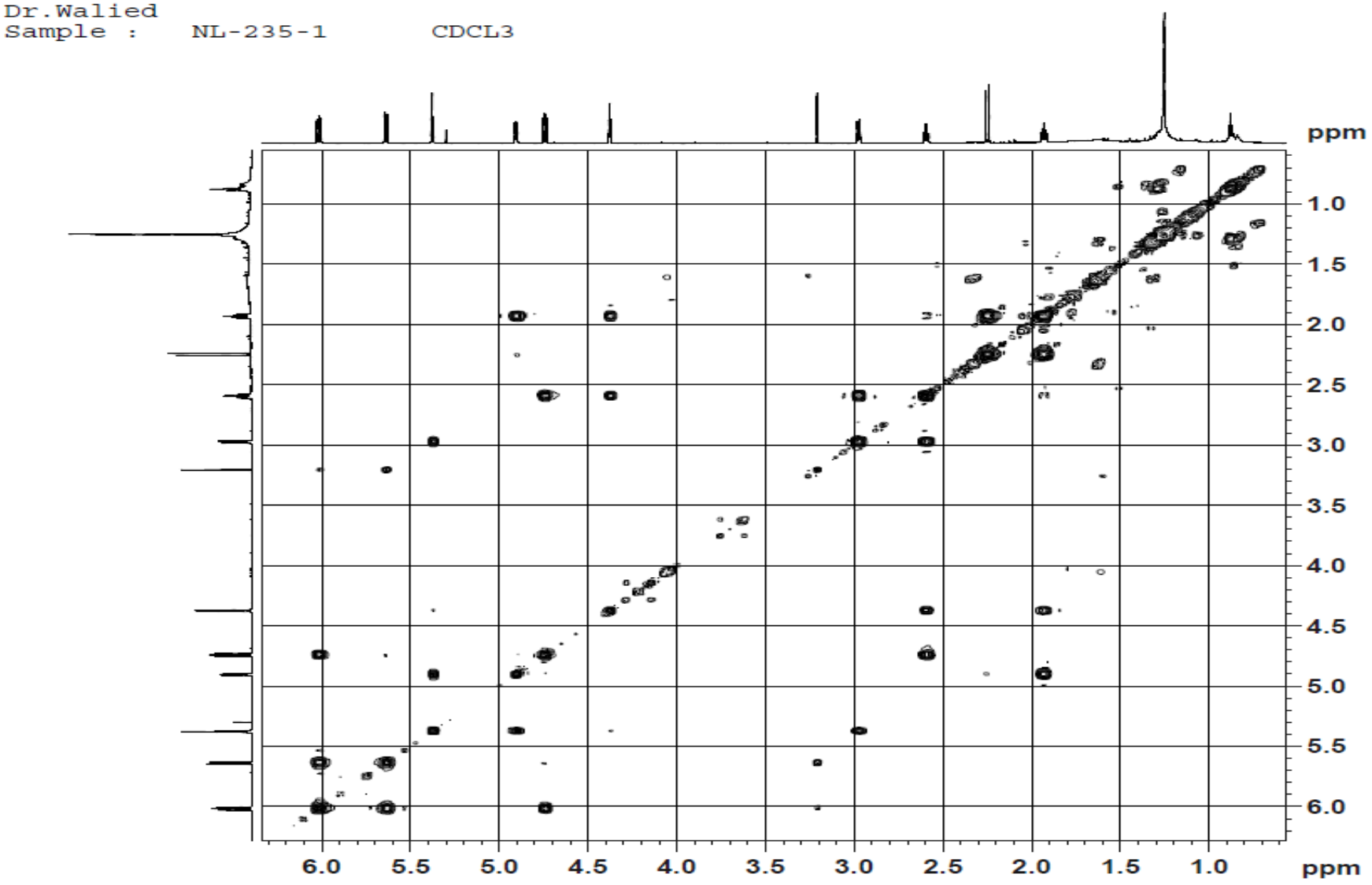


Figure S1j: COSY NMR of compound 1

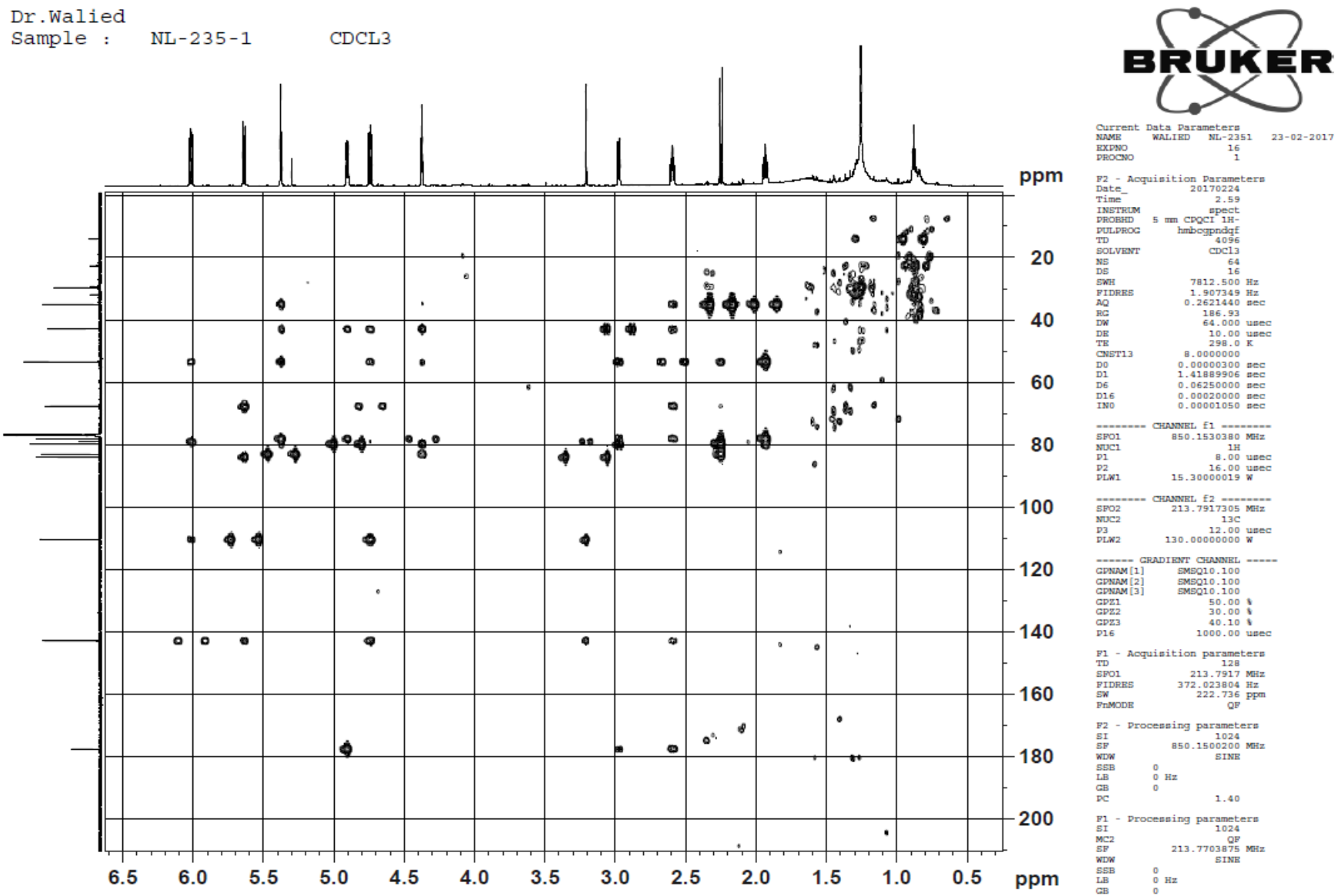


Figure S1k: HMBC NMR of compound 1

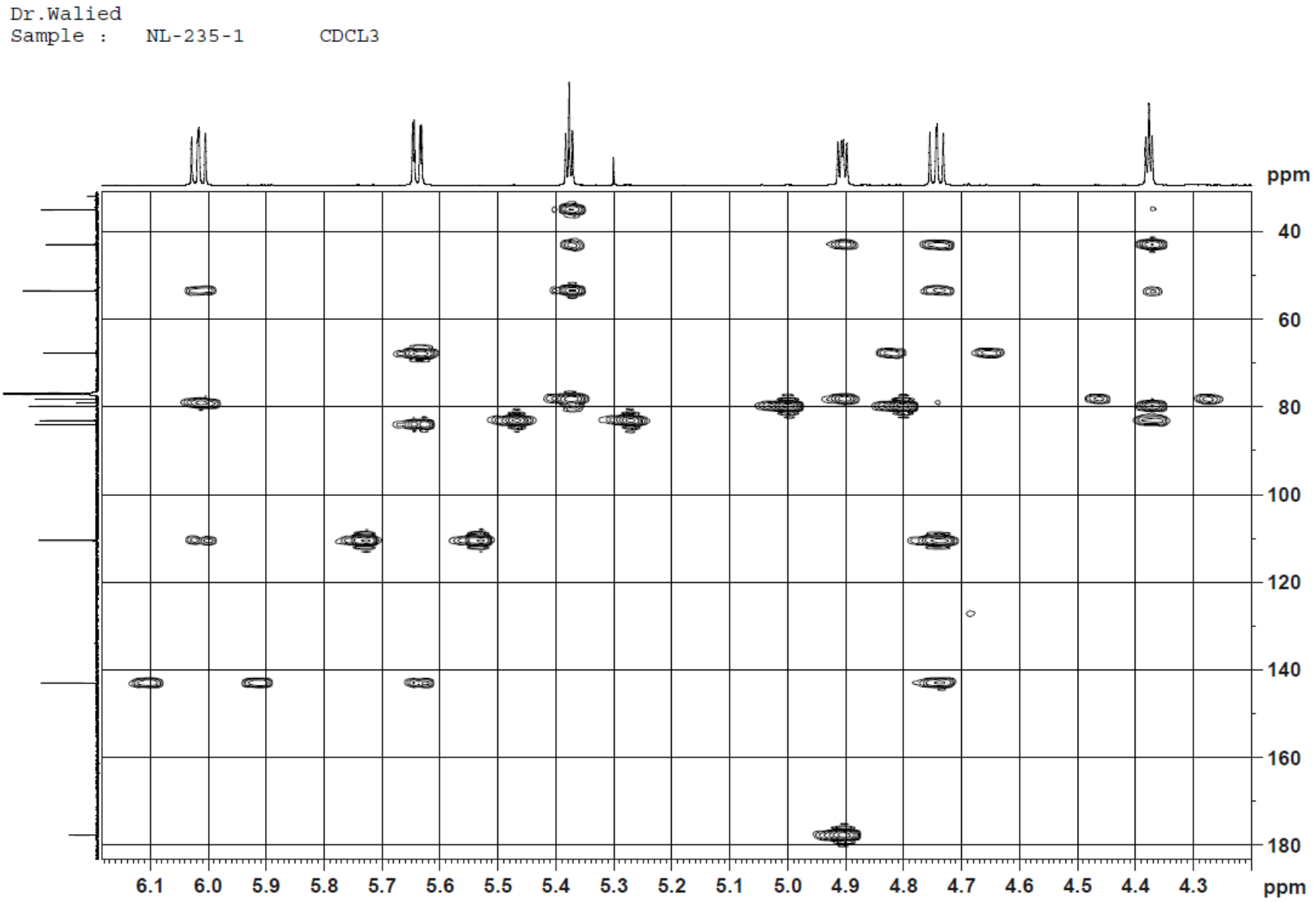


Figure S1l: HMBC NMR of compound 1

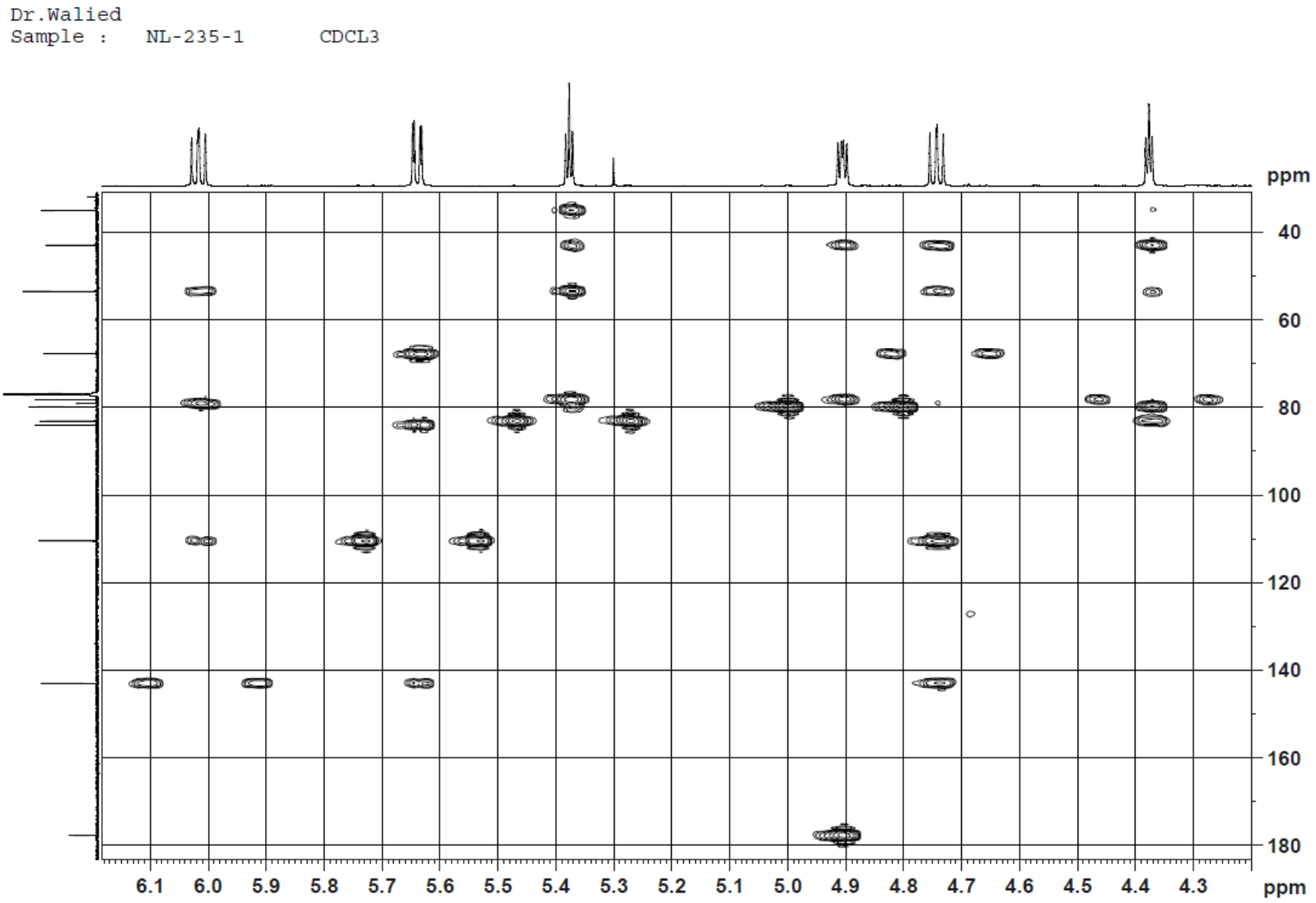


Figure S1m: HMBC NMR of compound 1

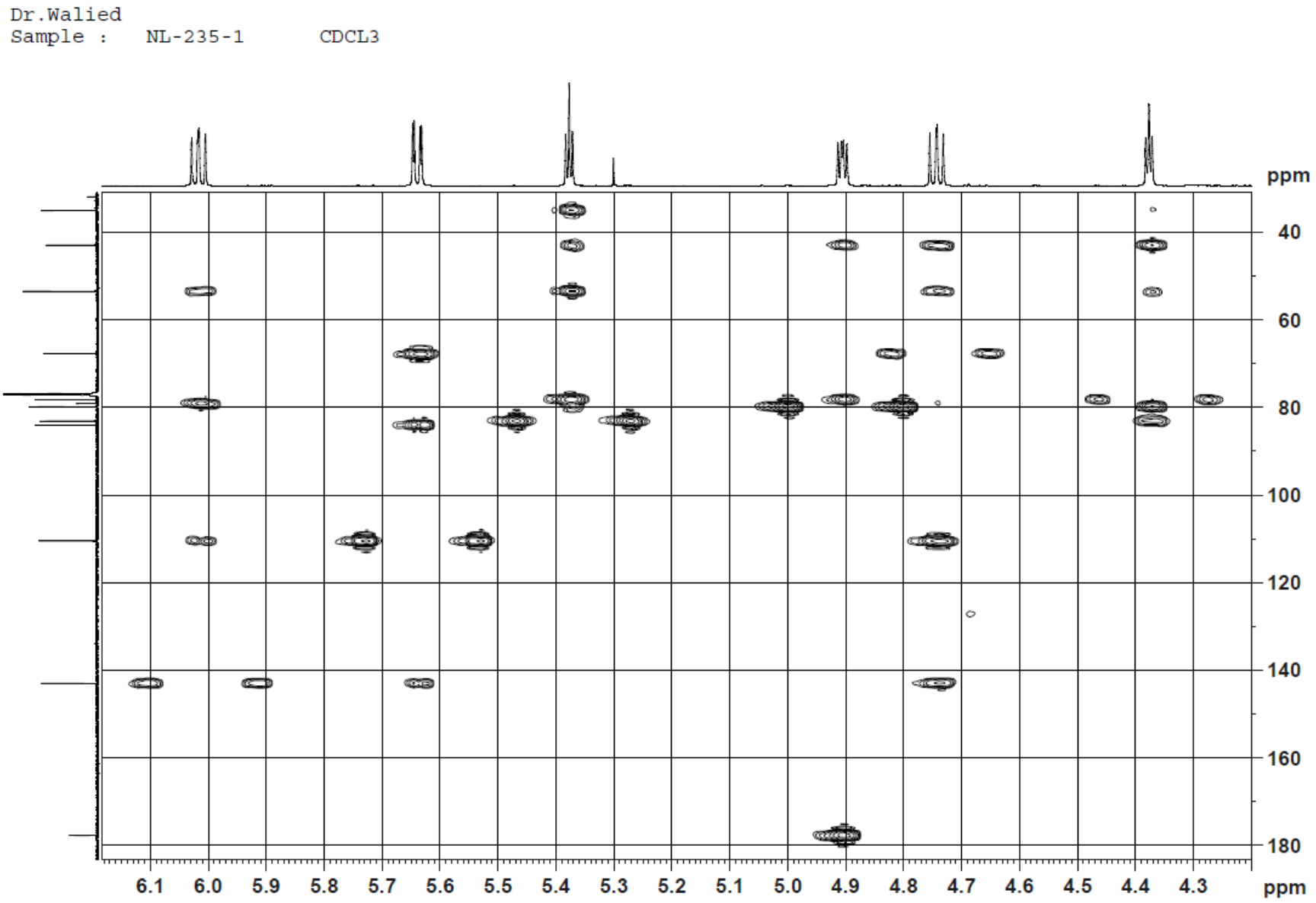


Figure S1n: HMBC NMR of compound 1

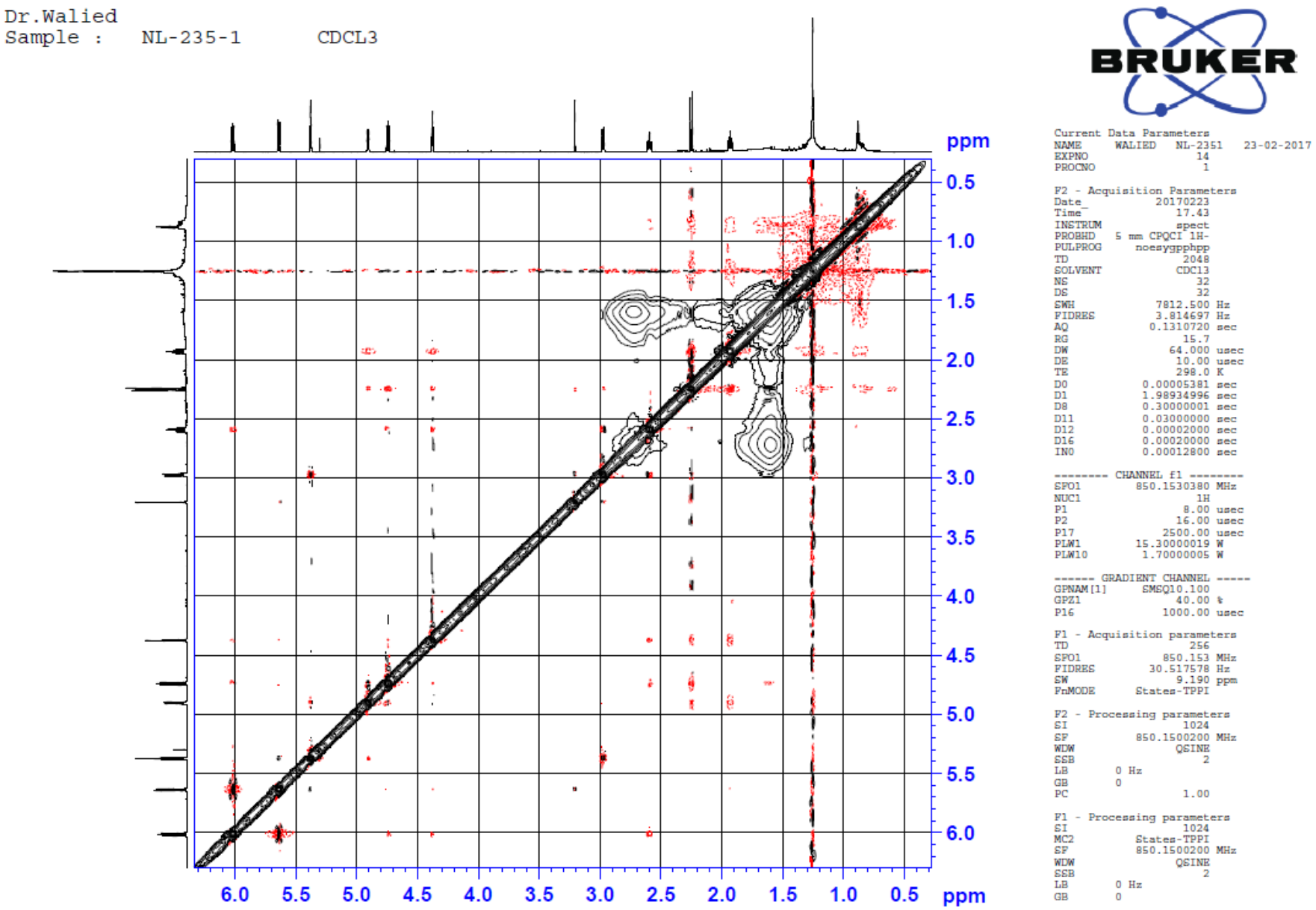


Figure S1o: NOESY NMR of compound 1

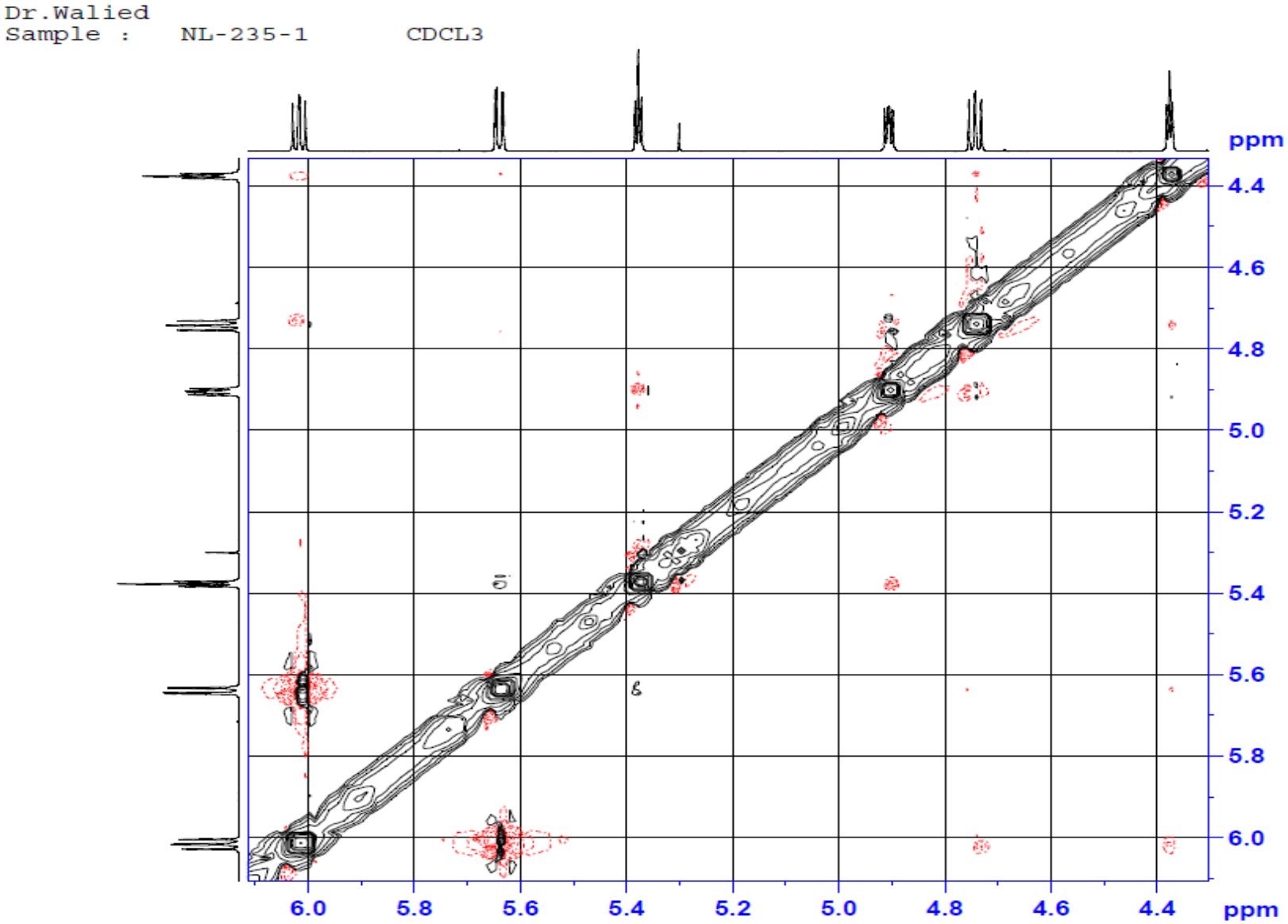


Figure S1p: NOESY NMR of compound 1

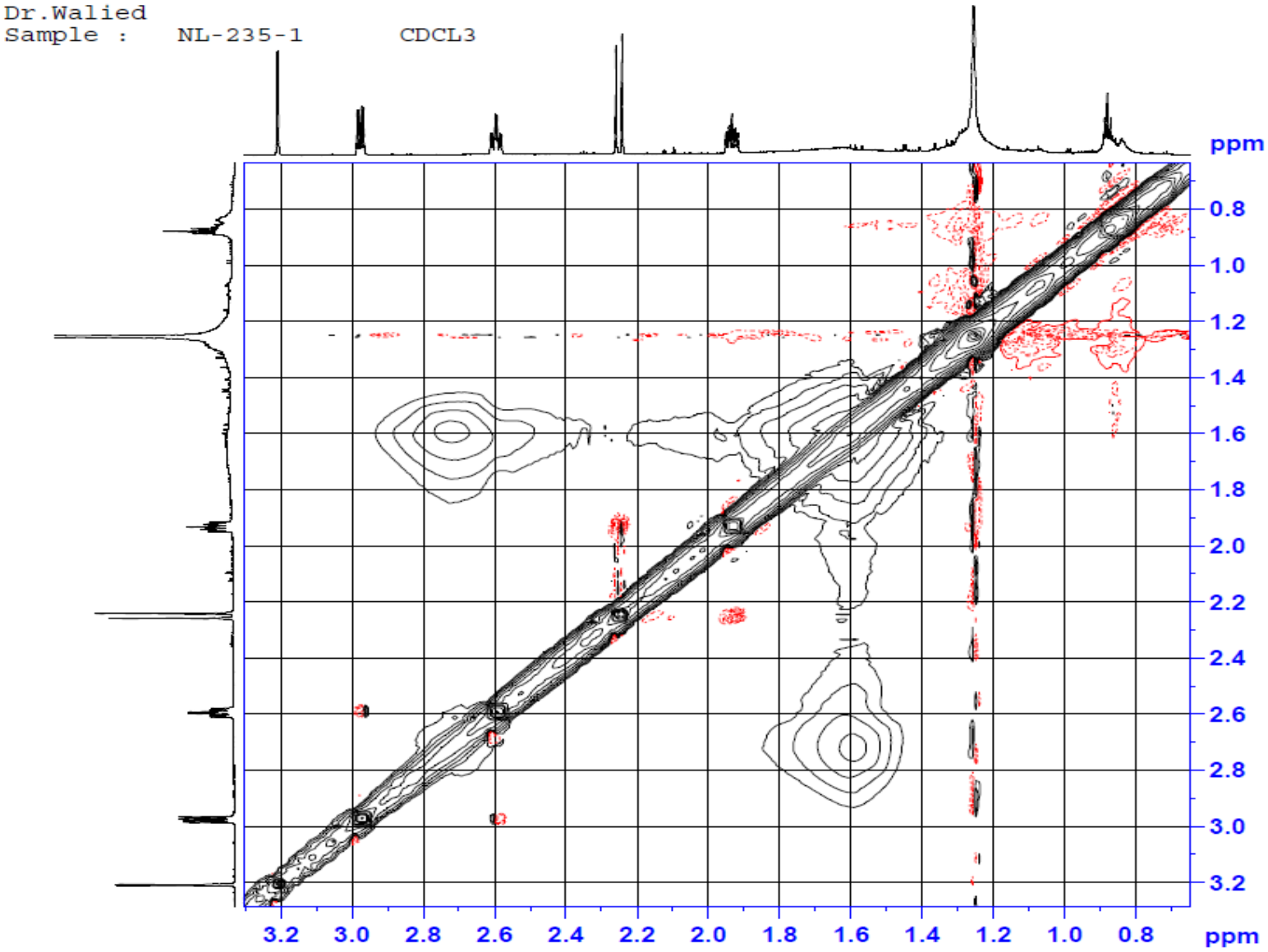


Figure S1q: NOESY NMR of compound 1

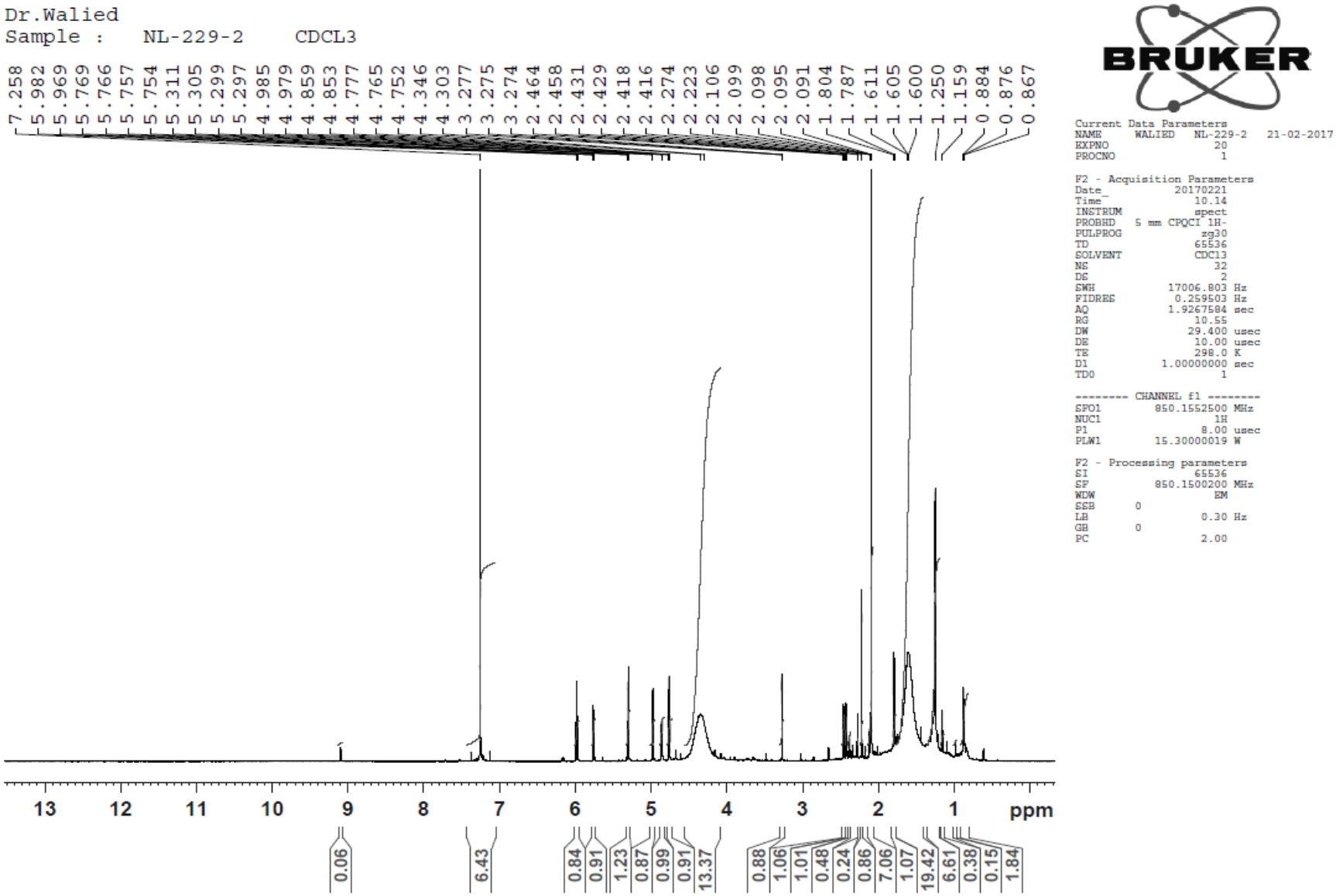


Figure S2a: ^{1}H NMR of compound 2

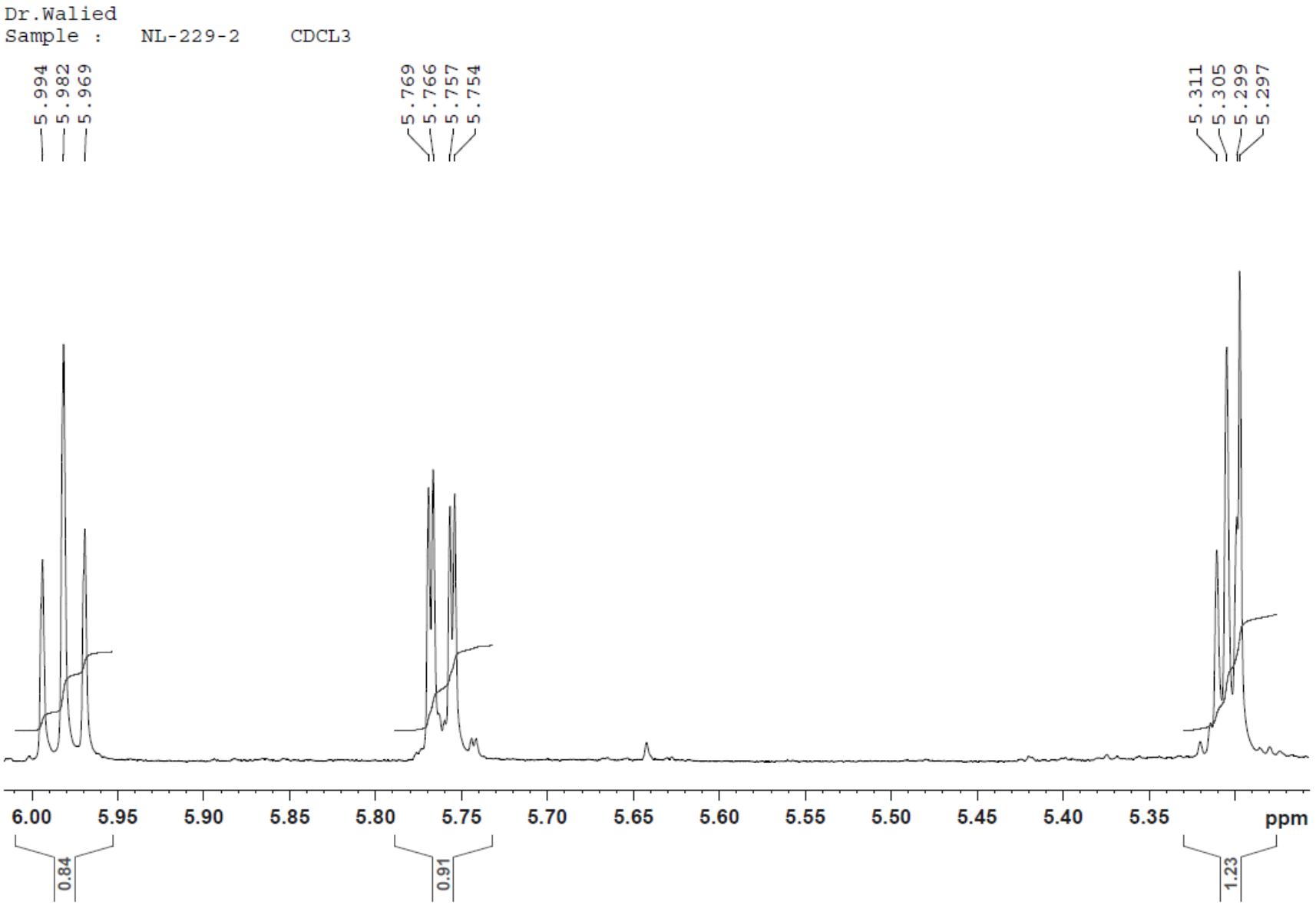


Figure S2a: ^{1}H NMR of compound 2

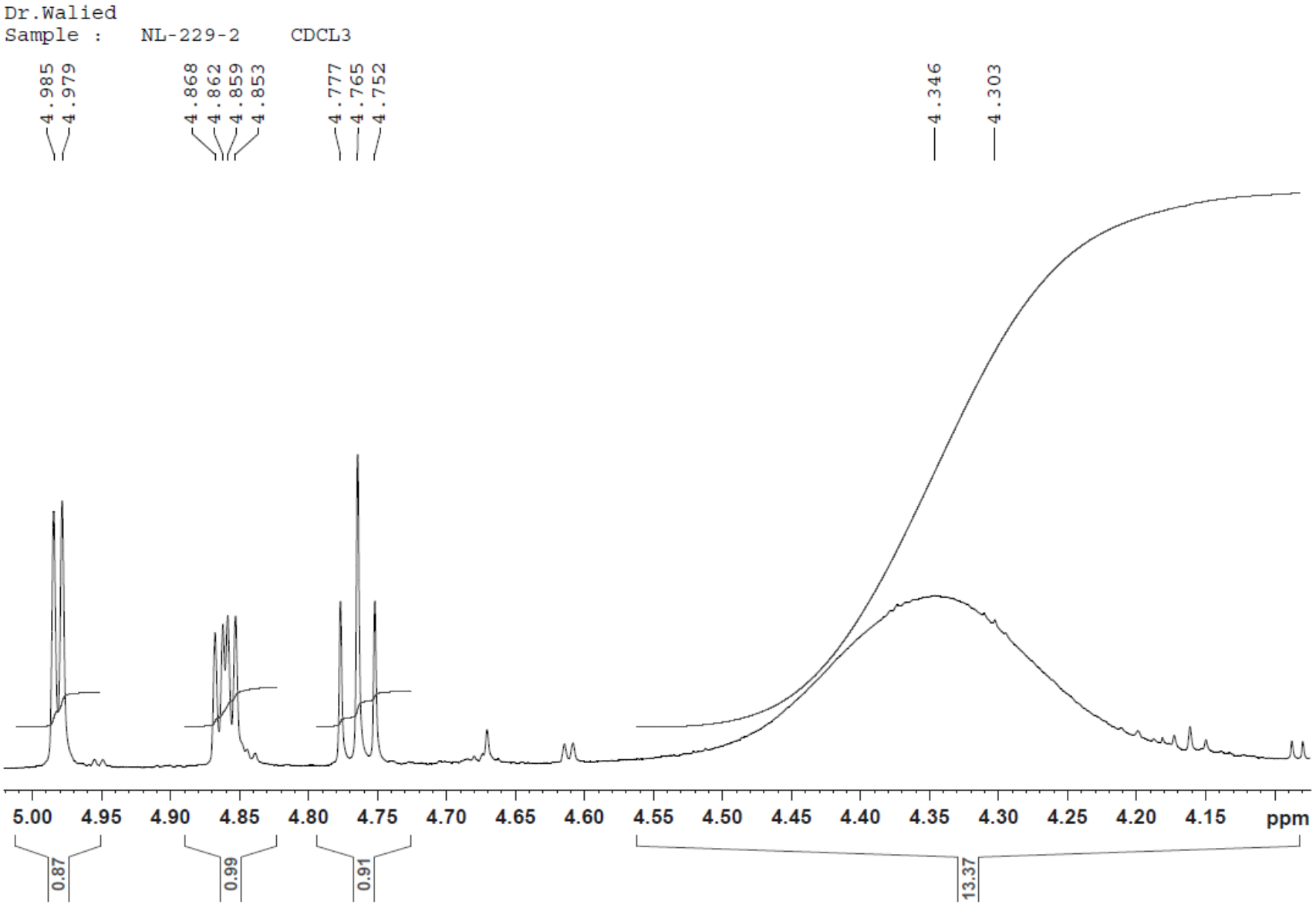


Figure S2b: ^{1}H NMR of compound 2

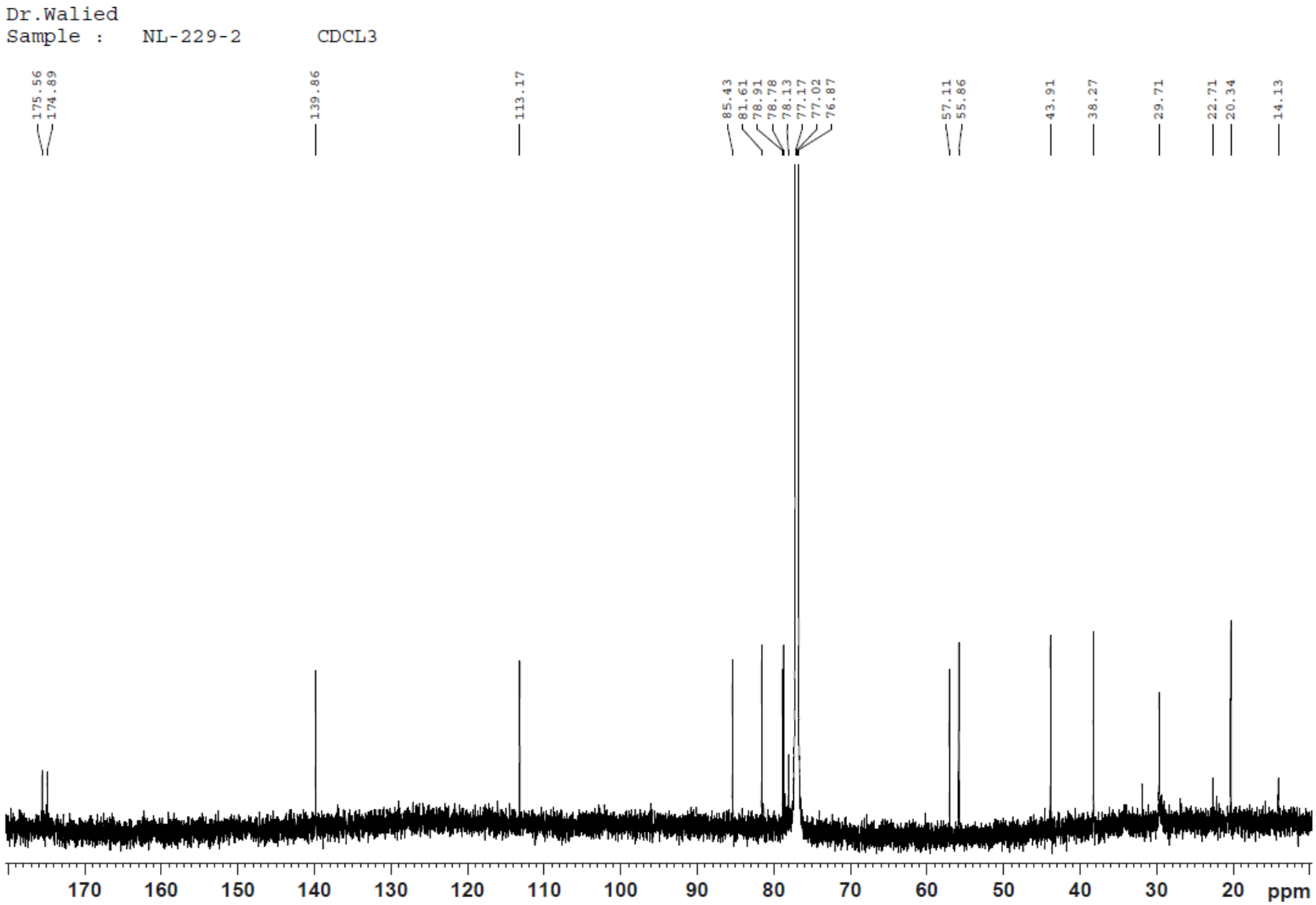
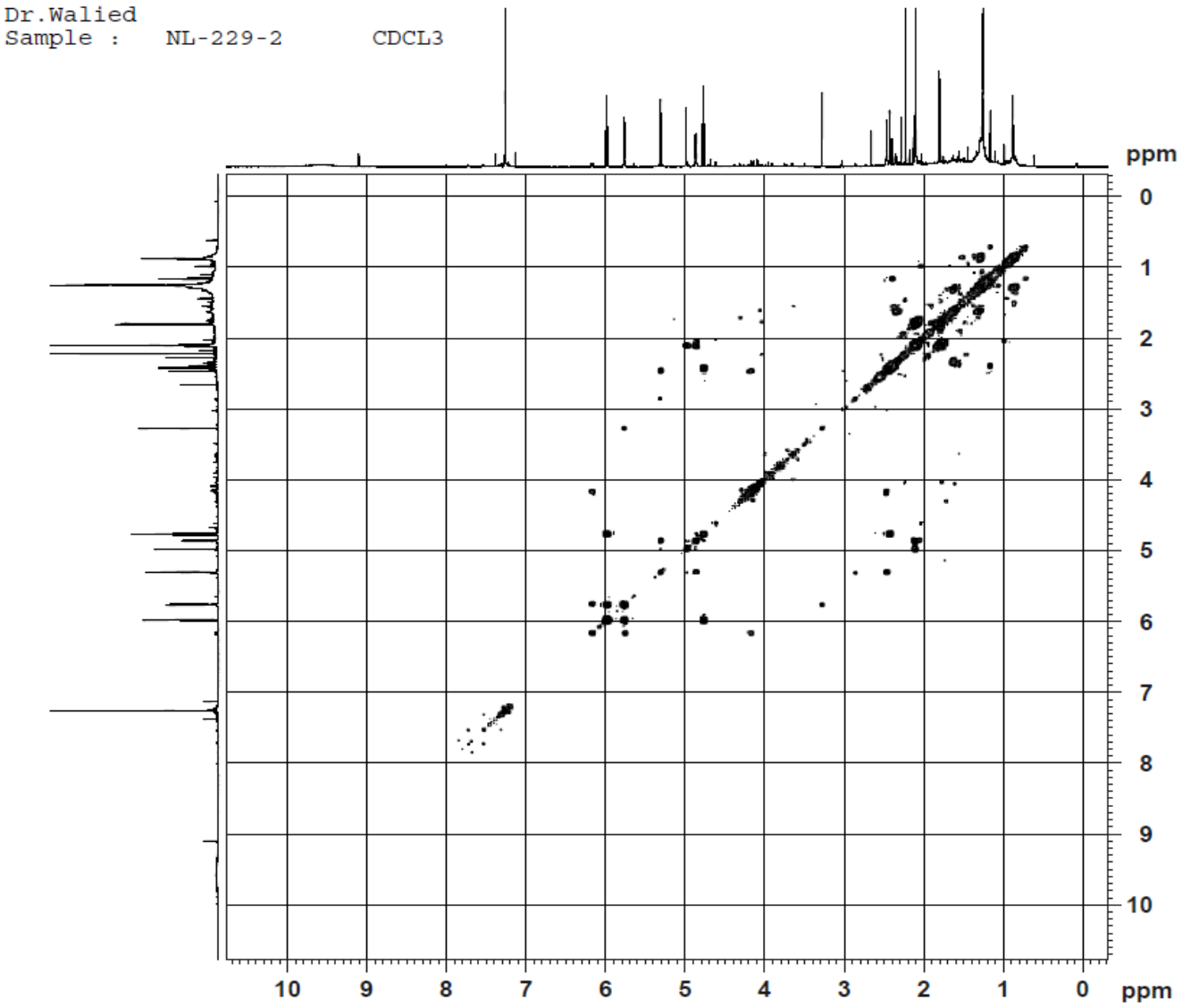


Figure S2c: ^{13}C NMR of compound 2



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TD                2048
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DS                   8
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FIDRES        4.606427 Hz
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RG              186.93
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TE               298.0 K
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Figure S2d: COSY NMR of compound 2

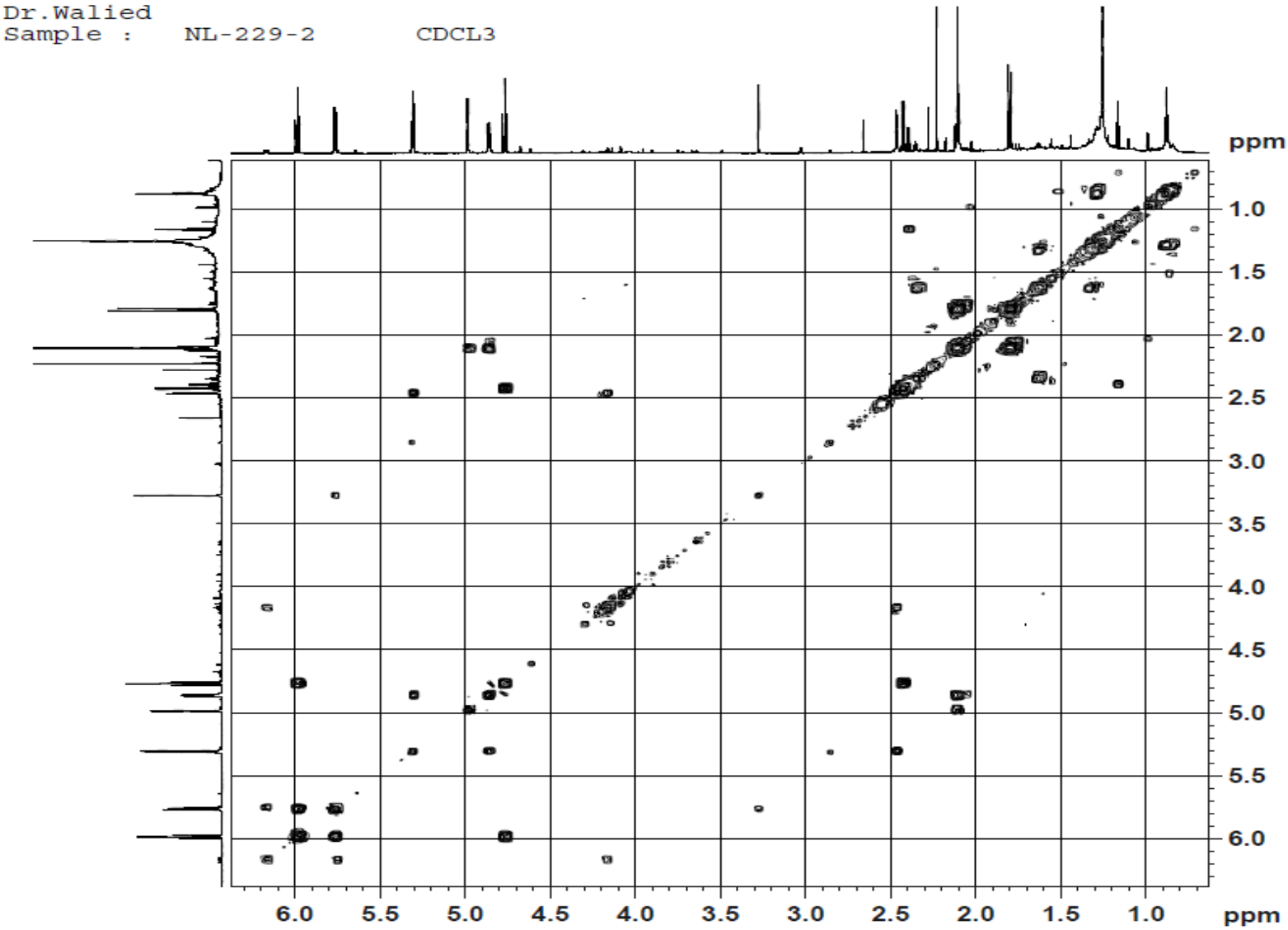

Figure S2e: COSY NMR of compound 2

Dr.Walied
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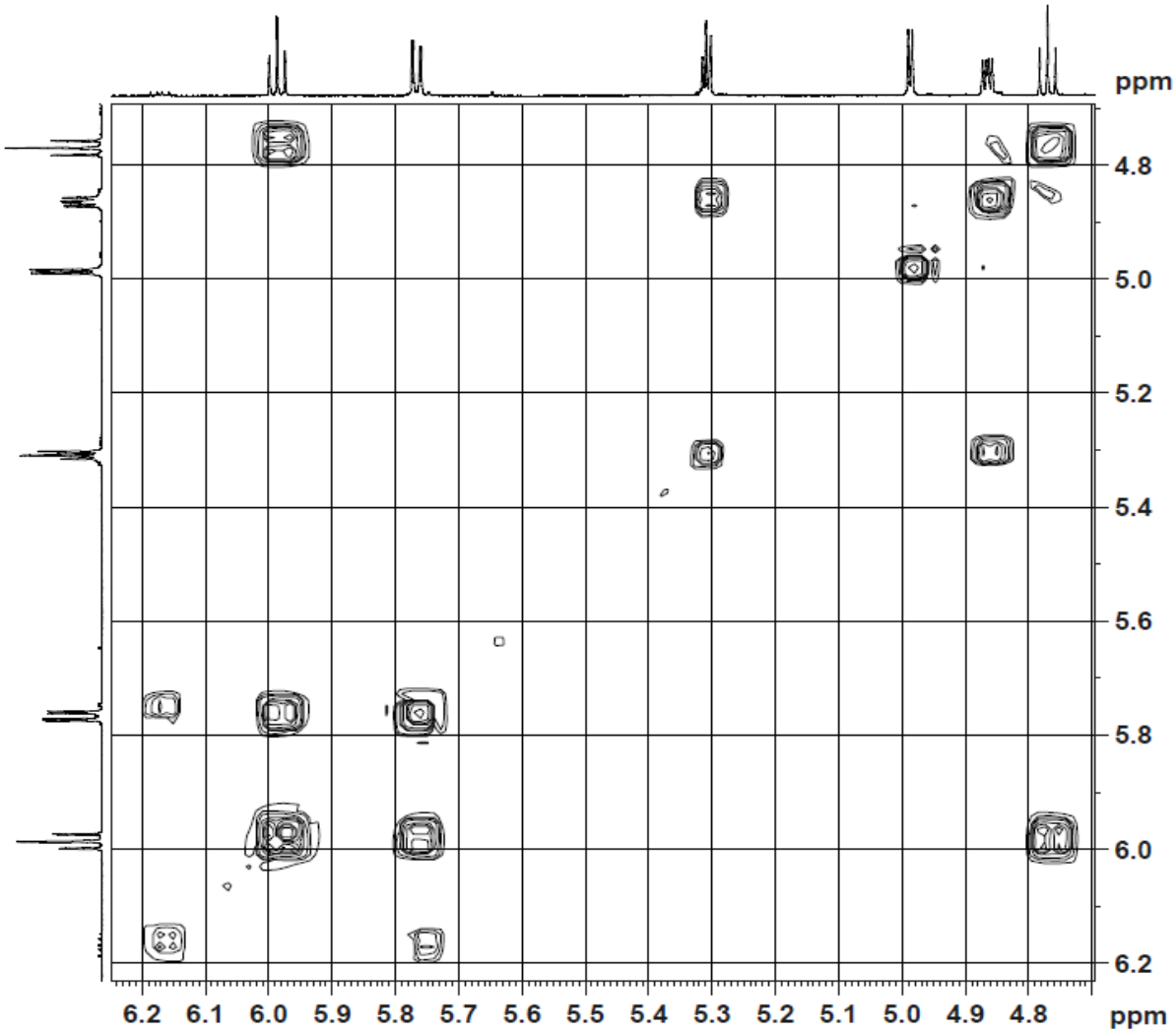

Figure S2f: COSY NMR of compound 2

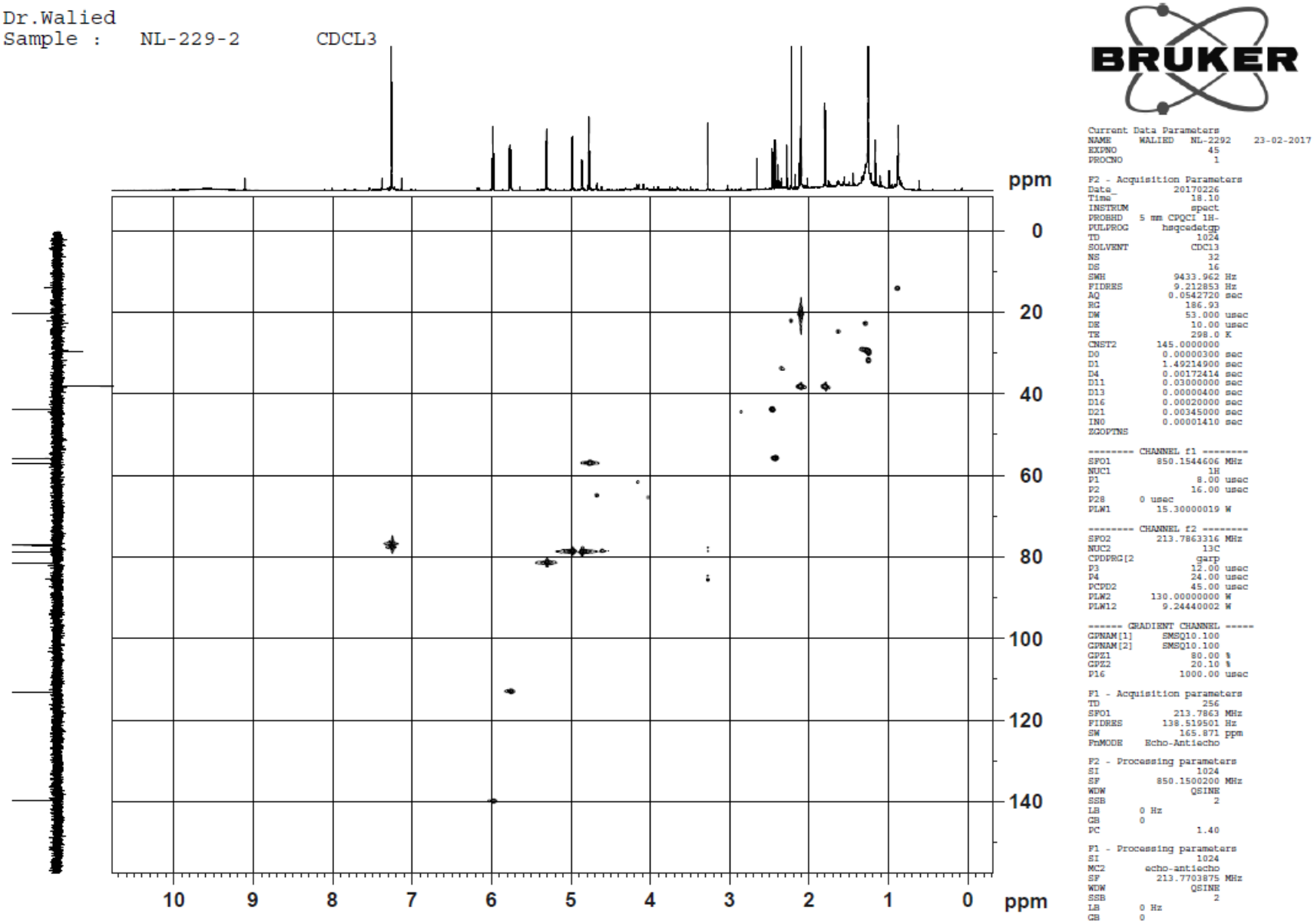

Figure S2g: HSQC NMR of compound 2

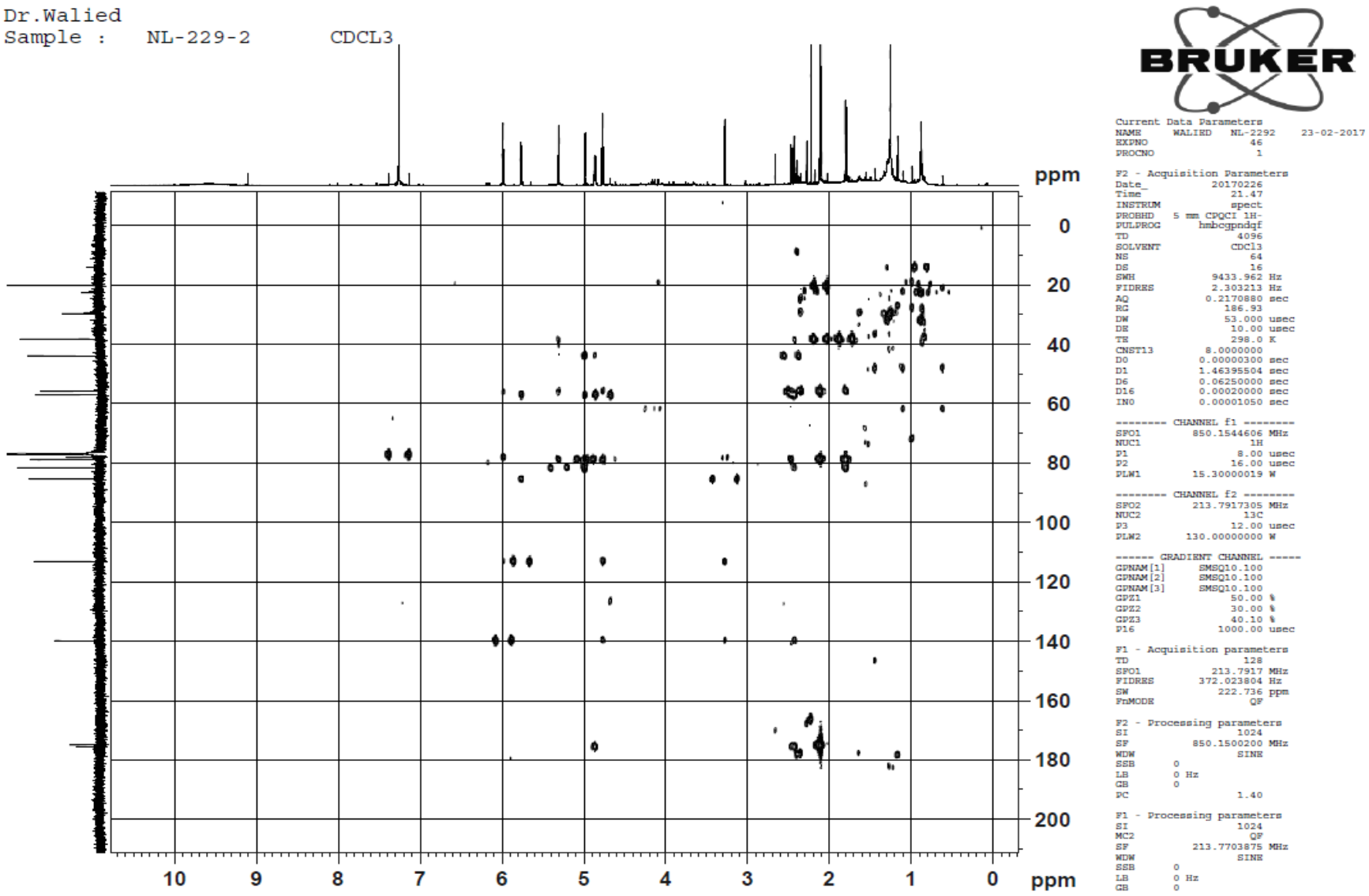

Figure S2h: HMBC NMR of compound 2

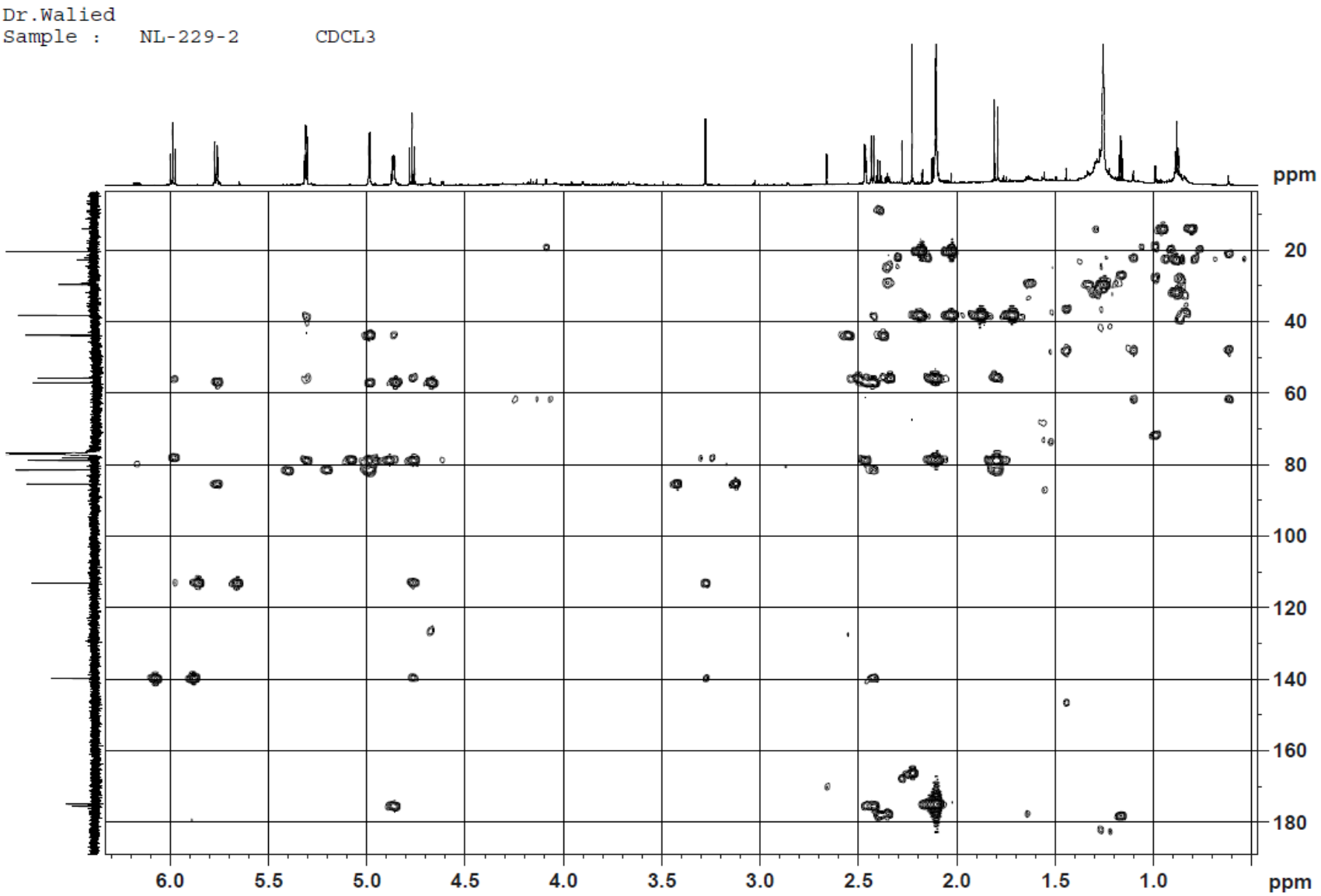

Figure S2i: HMBC NMR of compound 2

Dr.Walied
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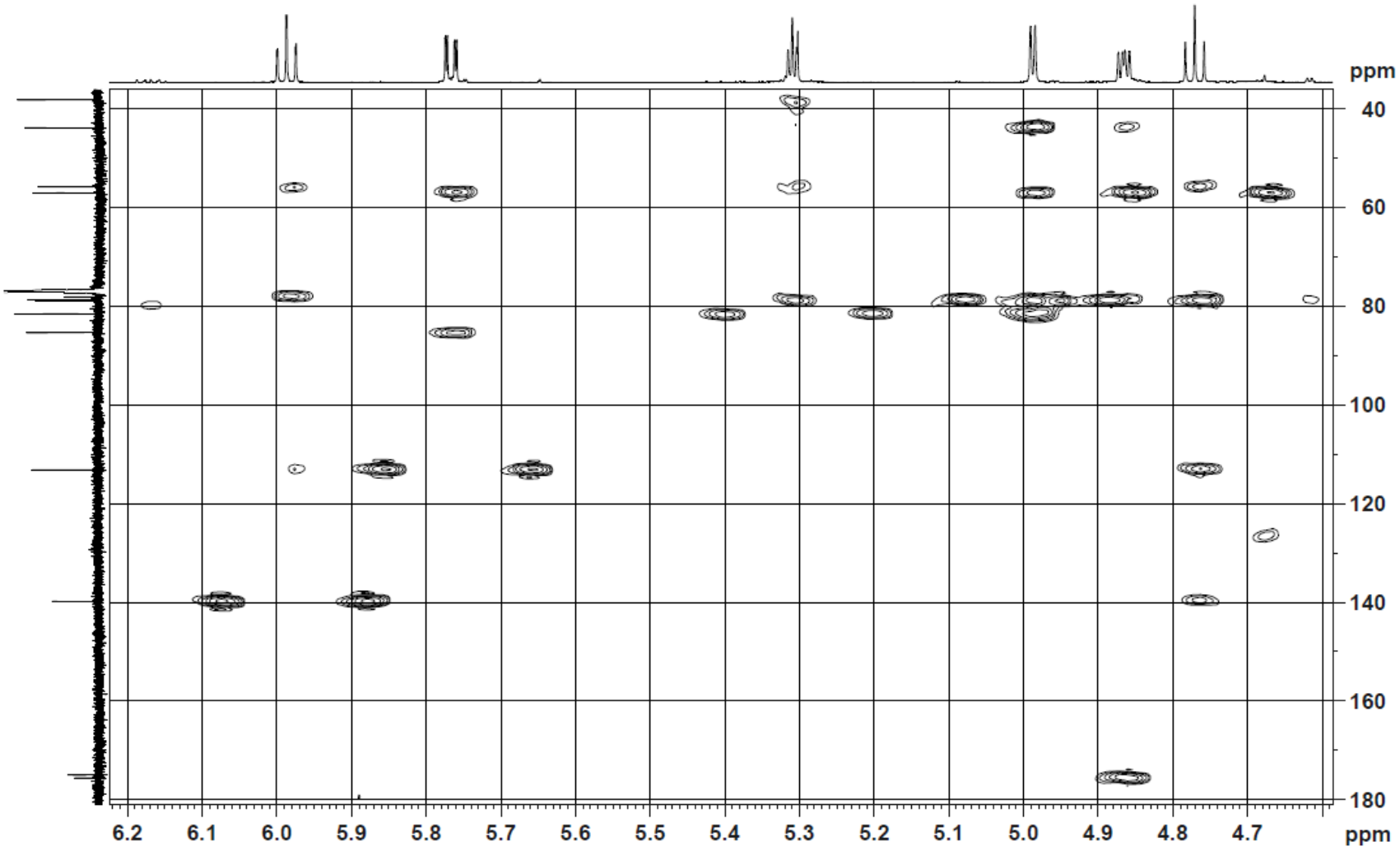

Figure S2j: HMBC NMR of compound 2

Dr.Walied
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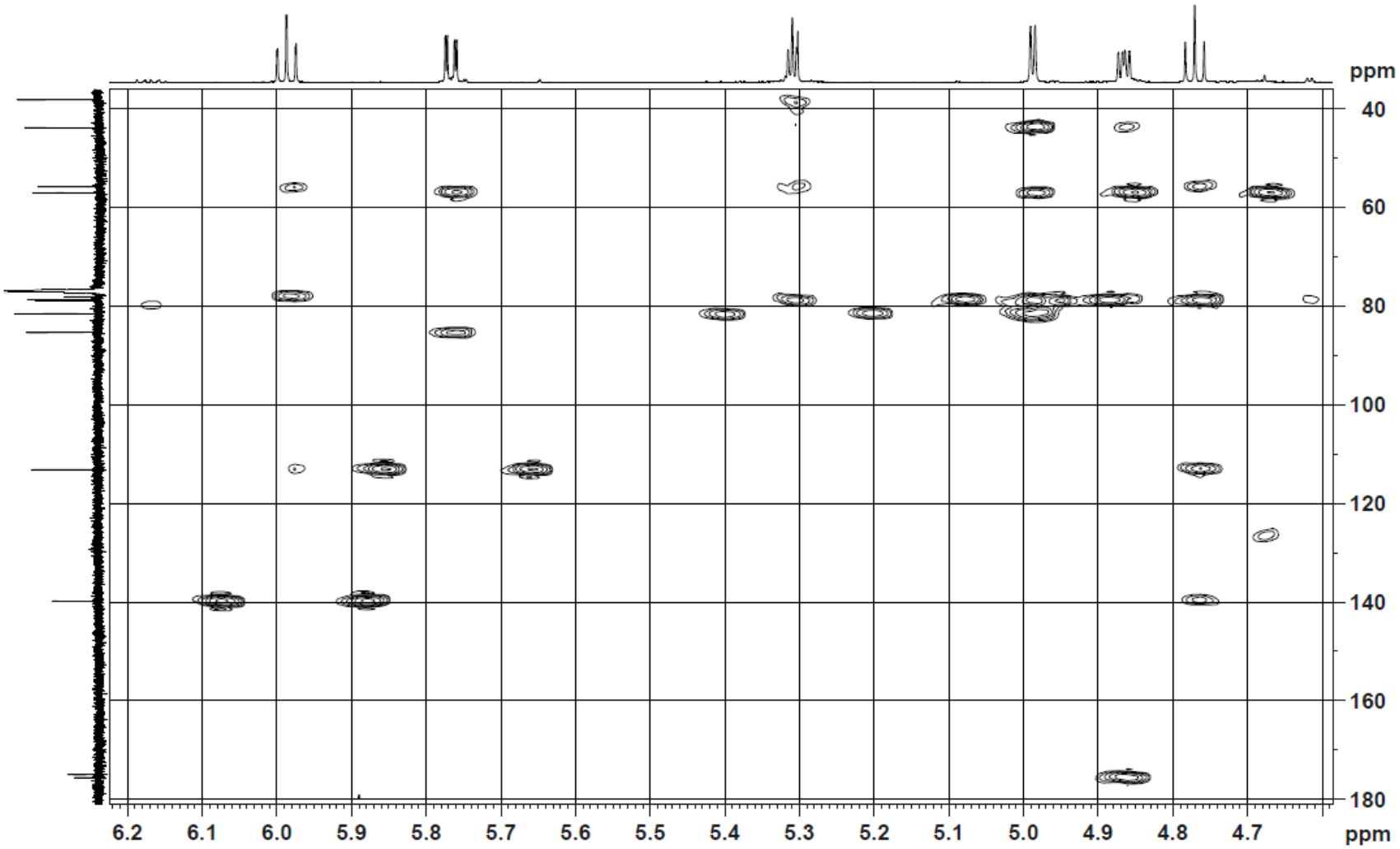


Figure S2k: HMBC NMR of compound 2

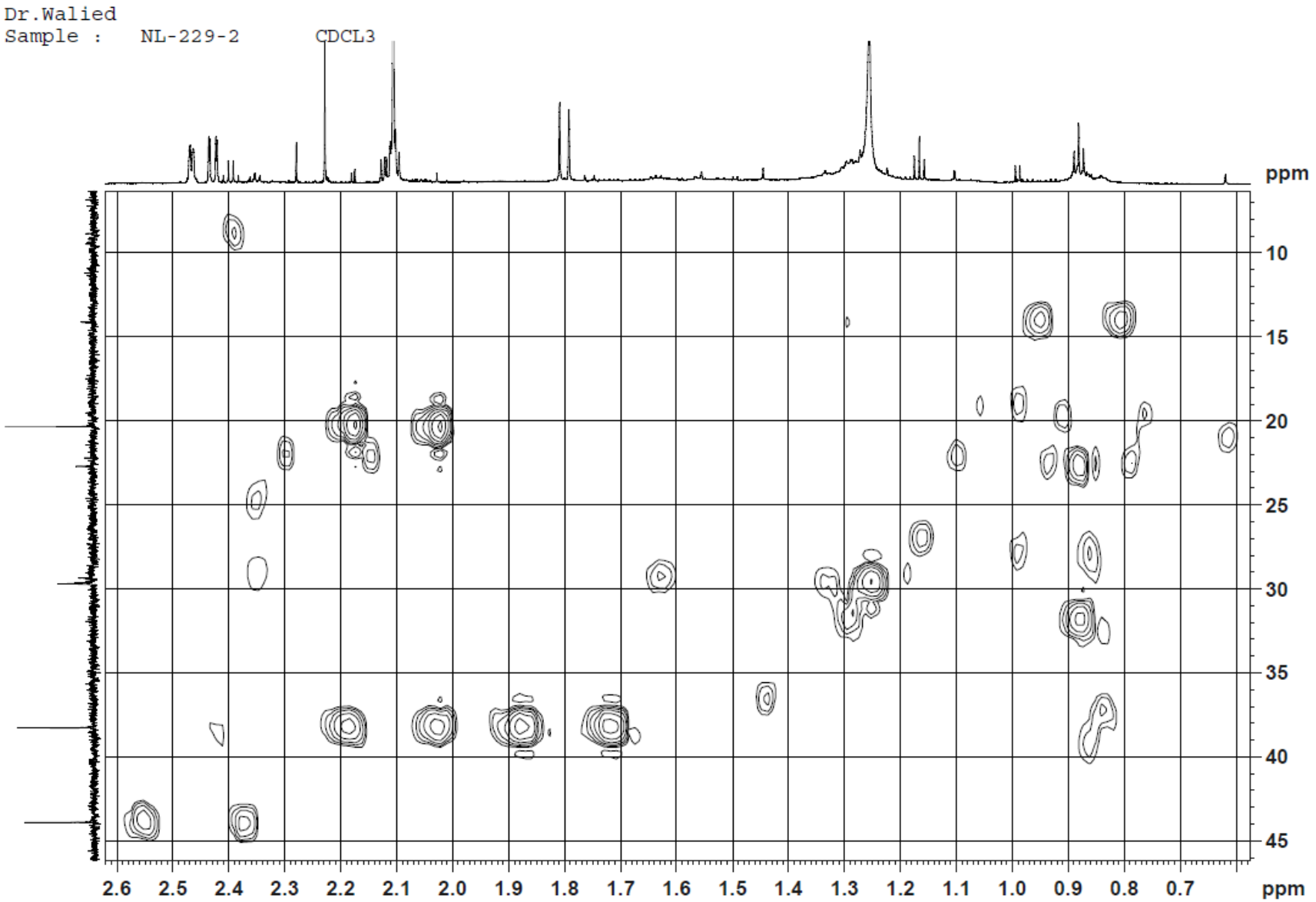
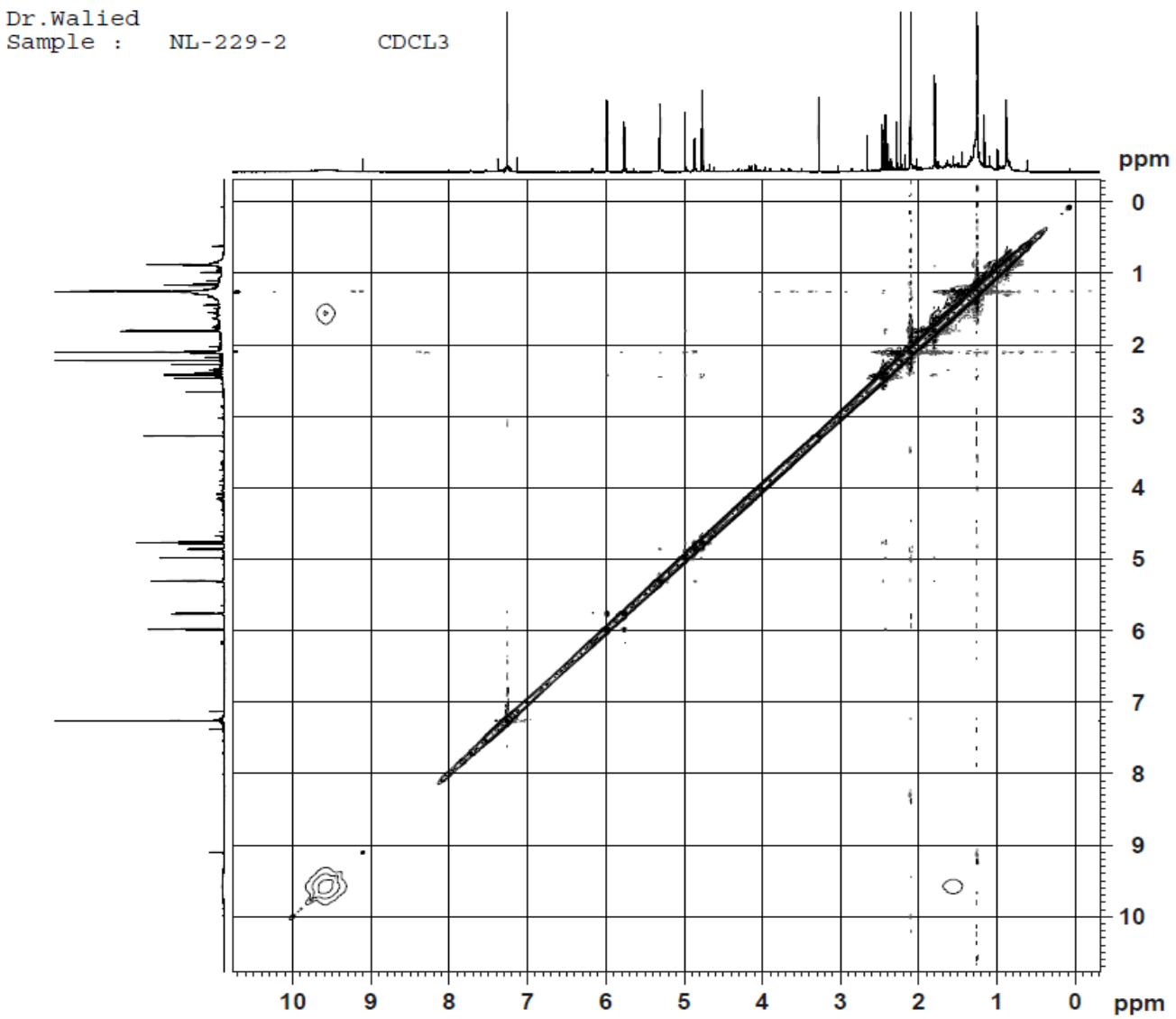


Figure S2l: HMBC NMR of compound 2



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GB        0
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F1 - Processing parameters
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Figure S2l: NOSY NMR of compound 2

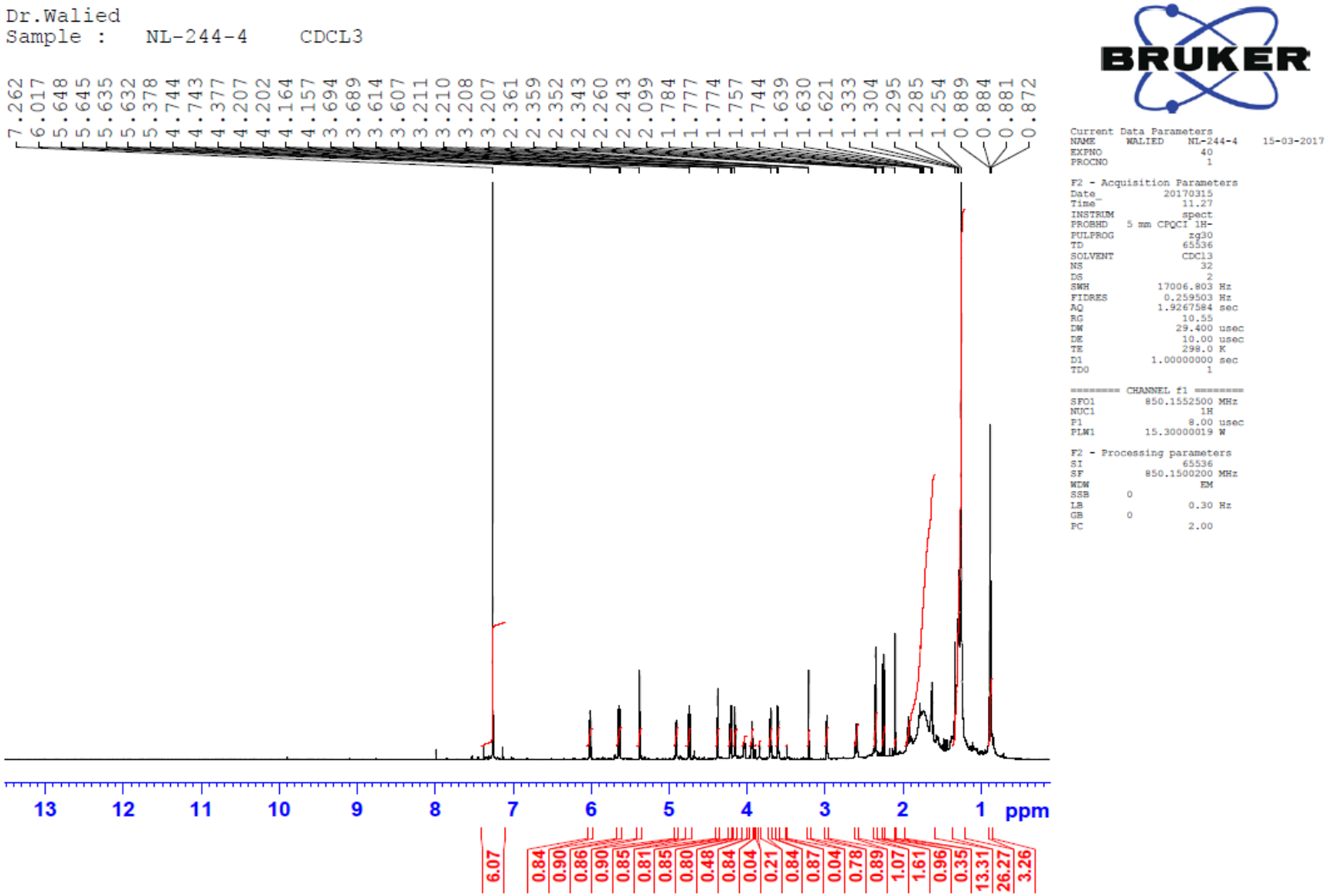


Figure S3a: ^{1}H NMR of compound 3

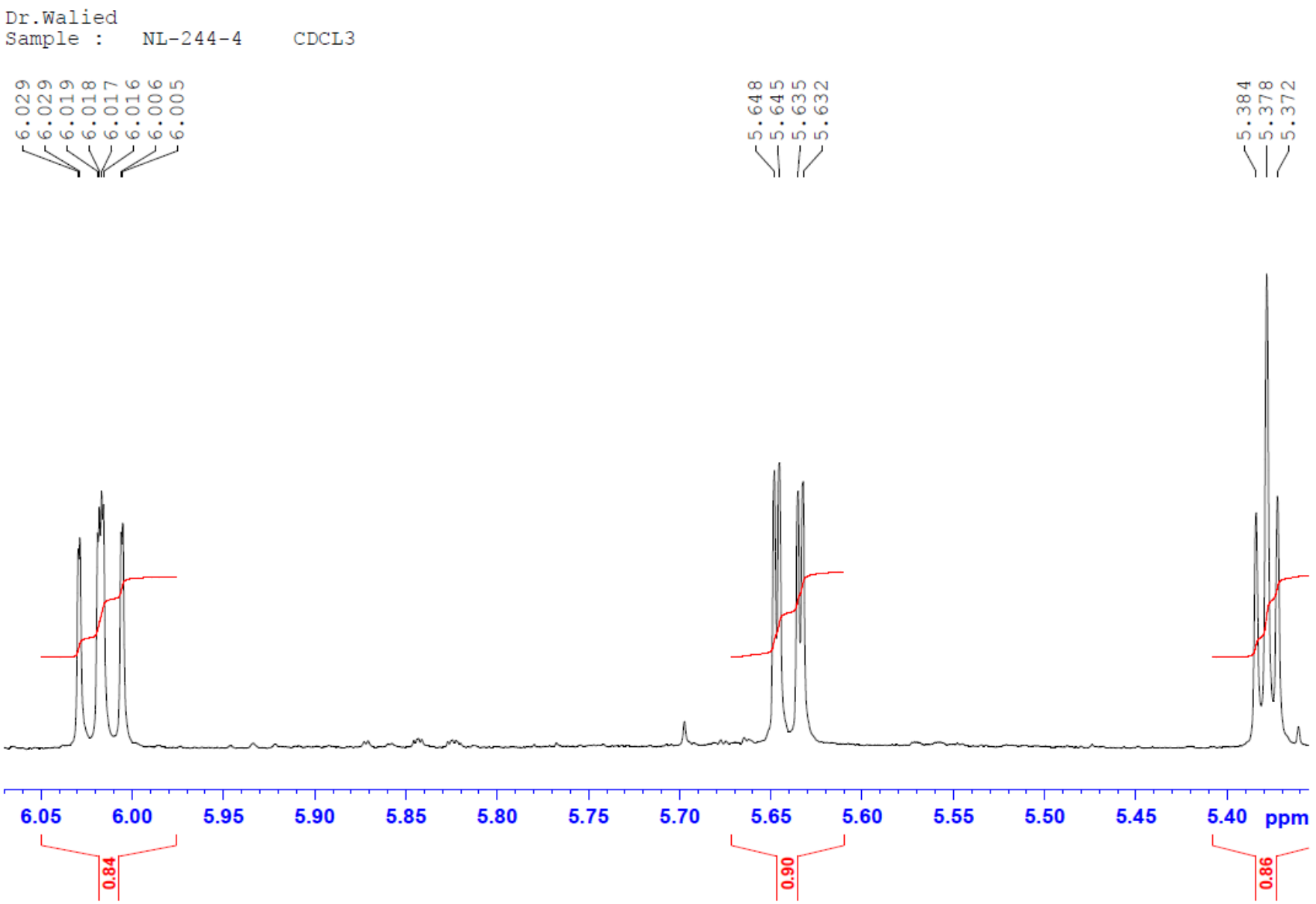


Figure S3b: ^{1}H NMR of compound 3

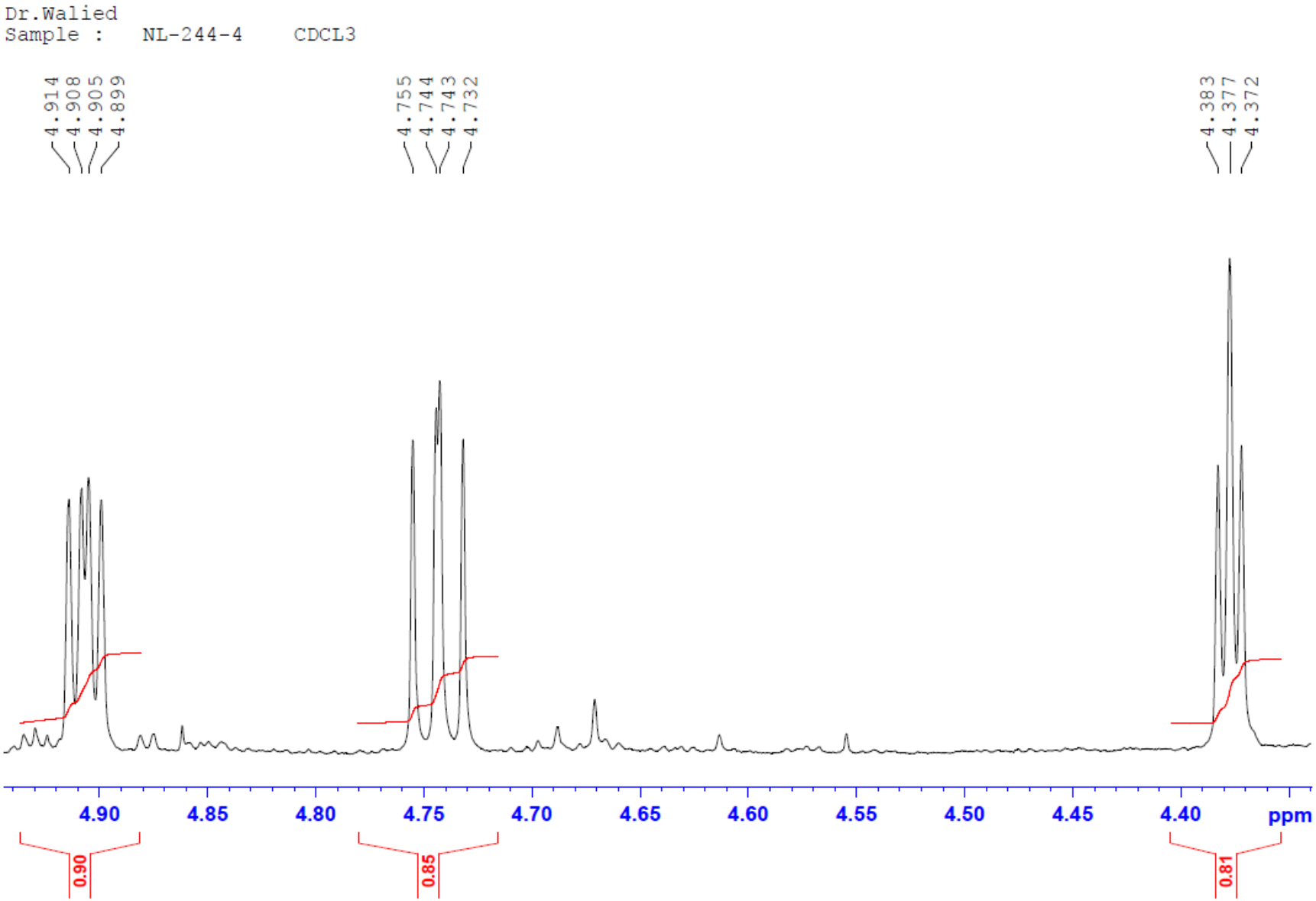


Figure S3c: ^{1}H NMR of compound 3

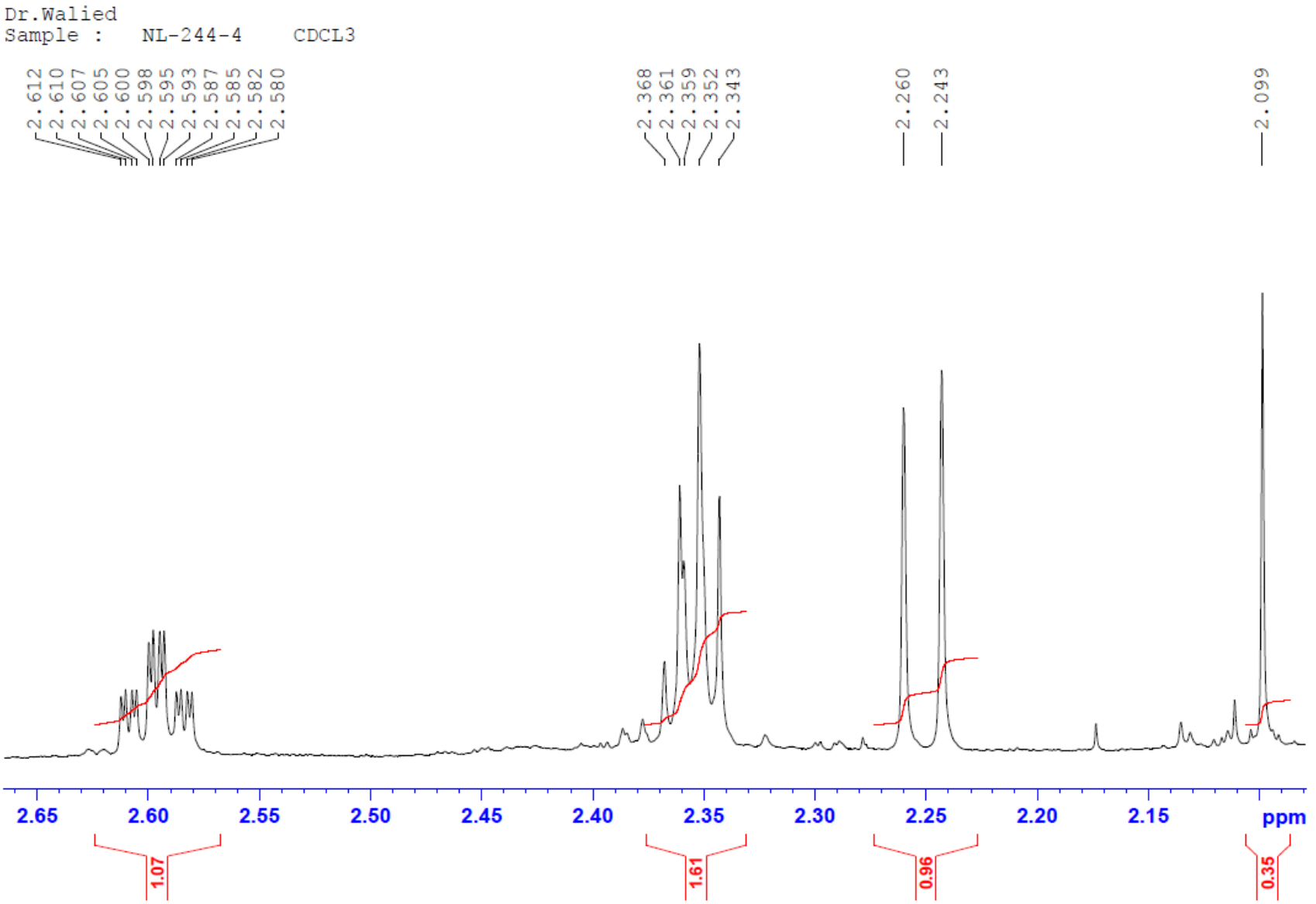


Figure S3d: ^{1}H NMR of compound 3

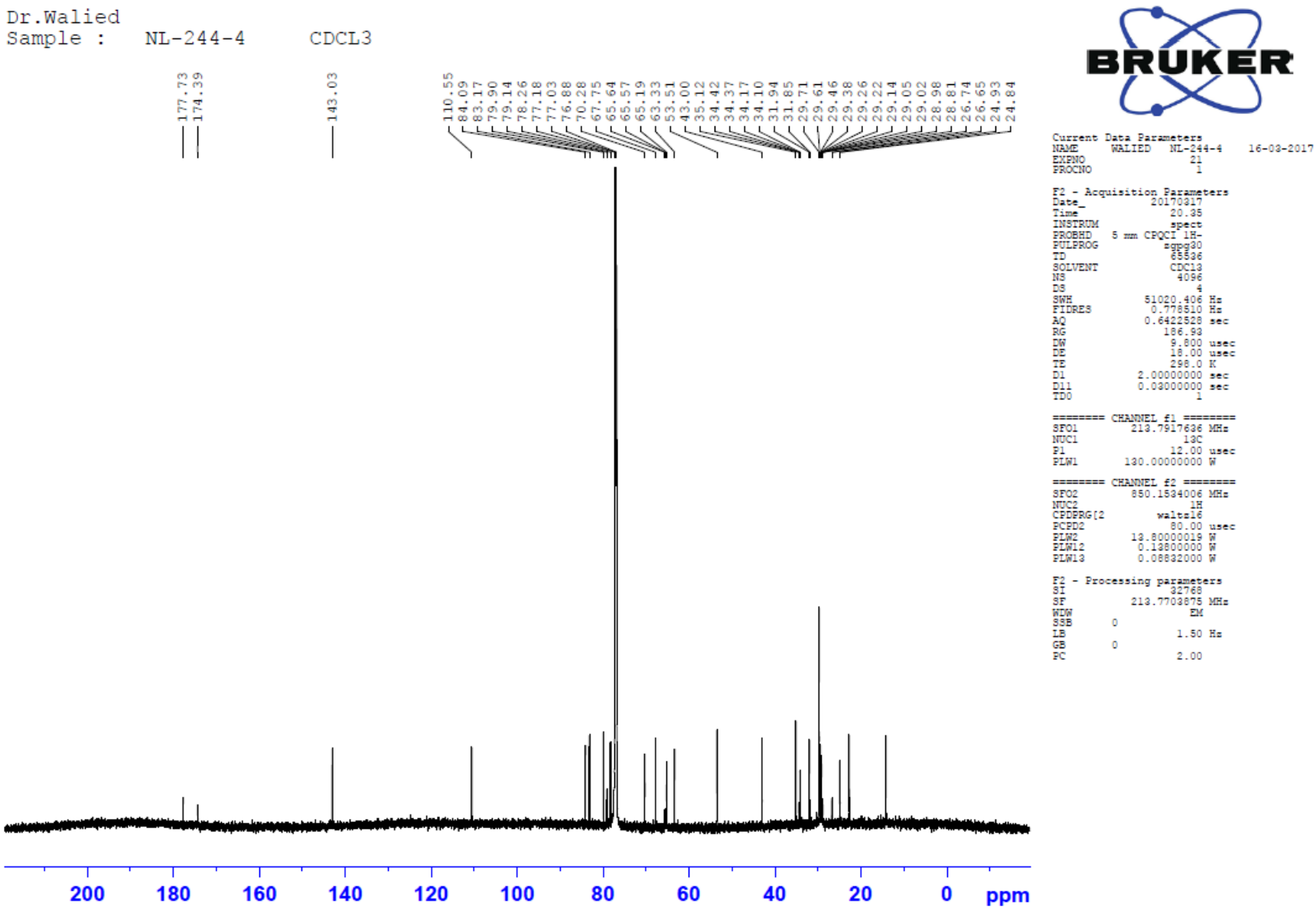


Figure S3e: ^{13}C NMR of compound 3

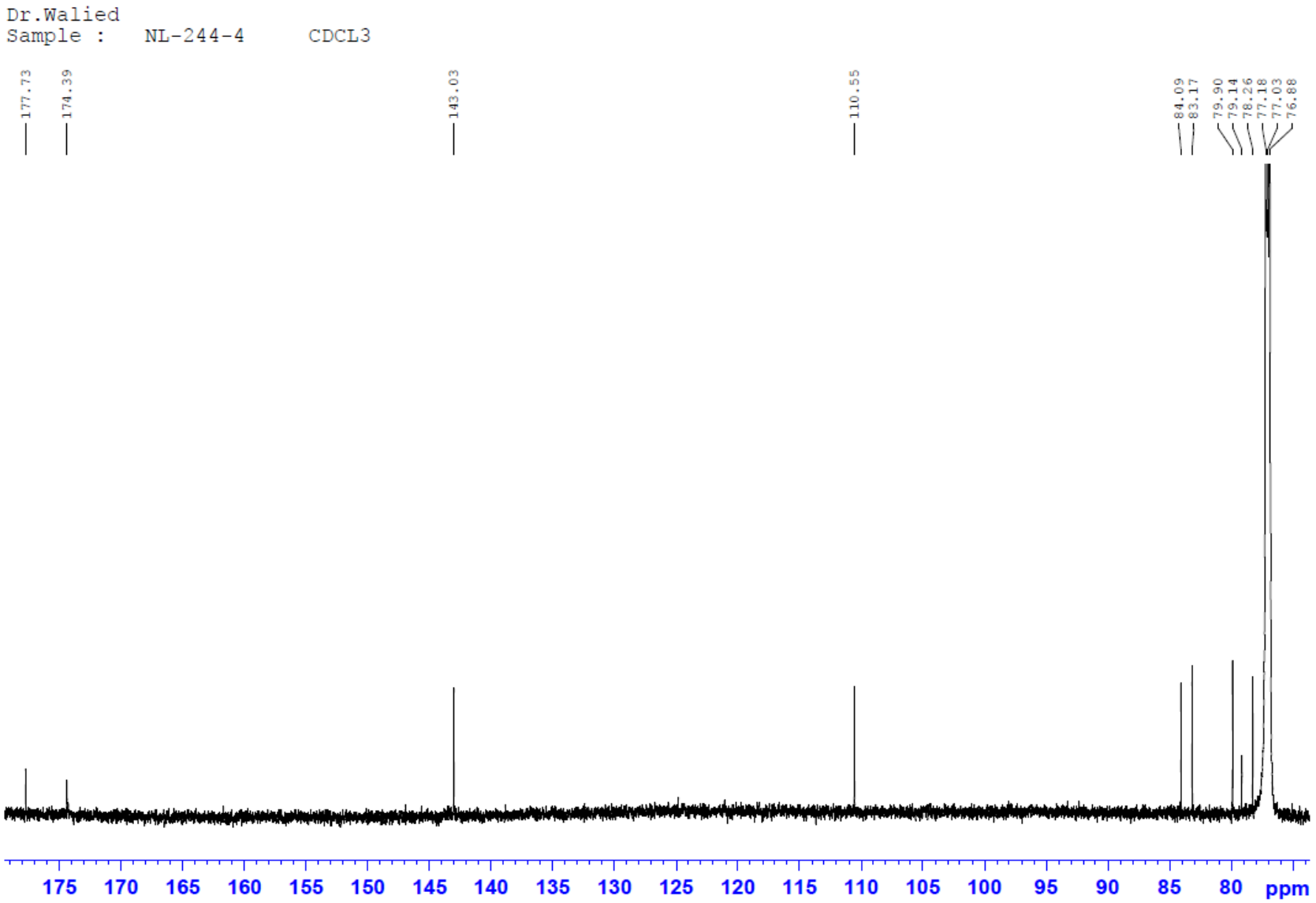


Figure S3f: ^{13}C NMR of compound 3

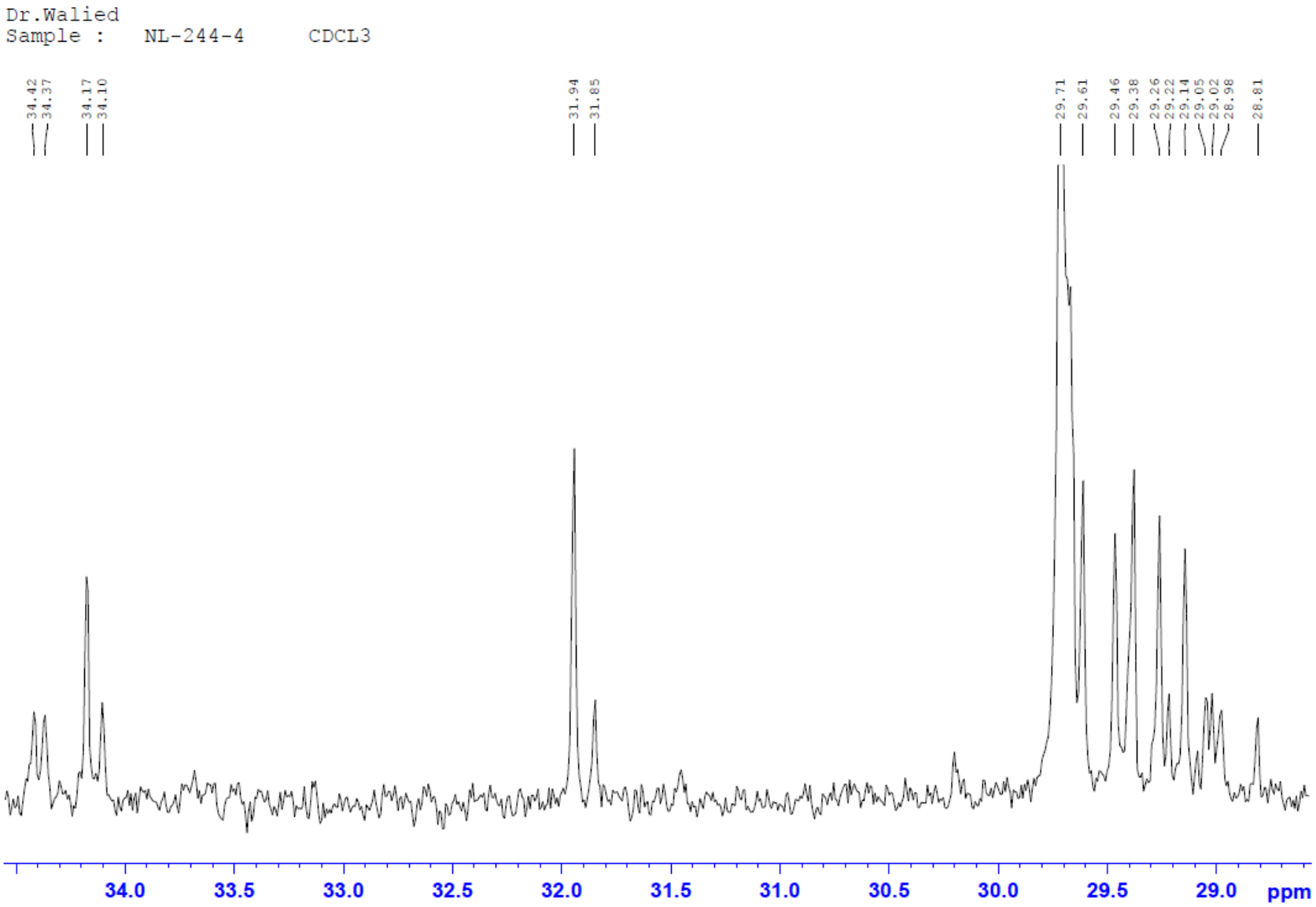
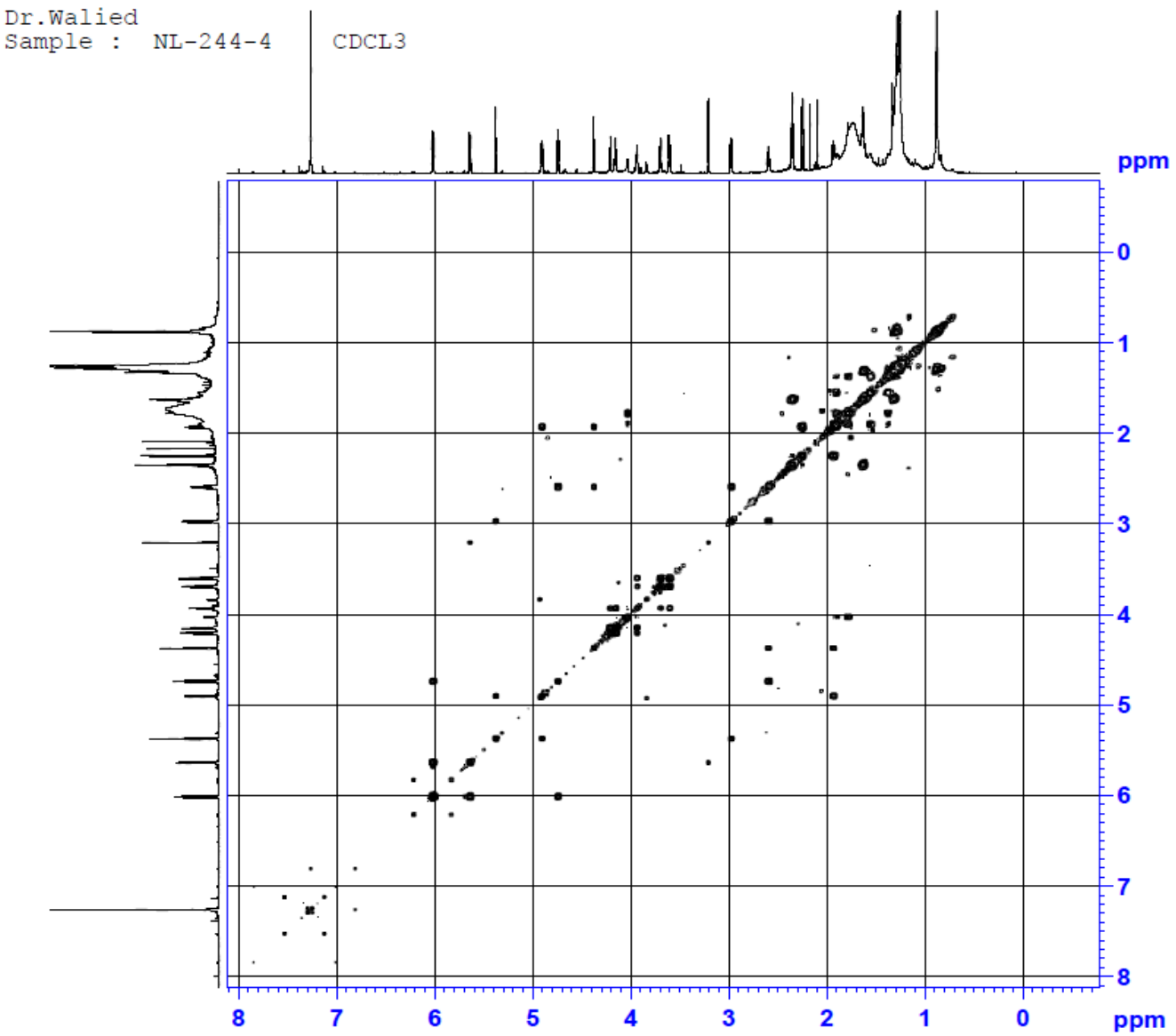


Figure S3g: ^{13}C NMR of compound 3

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FIDRES            3.699100 Hz
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RG                   186.93
DW                   66.000 usec
DE                   10.00 usec
TE                   298.0 K
D0                0.00000300 sec
D1                1.95494401 sec
D13               0.00000400 sec
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GPZ3                  40.00 %
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FnMODE                   QF

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SSB          0
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F1 - Processing parameters
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Figure S3h: COSY NMR of compound 3

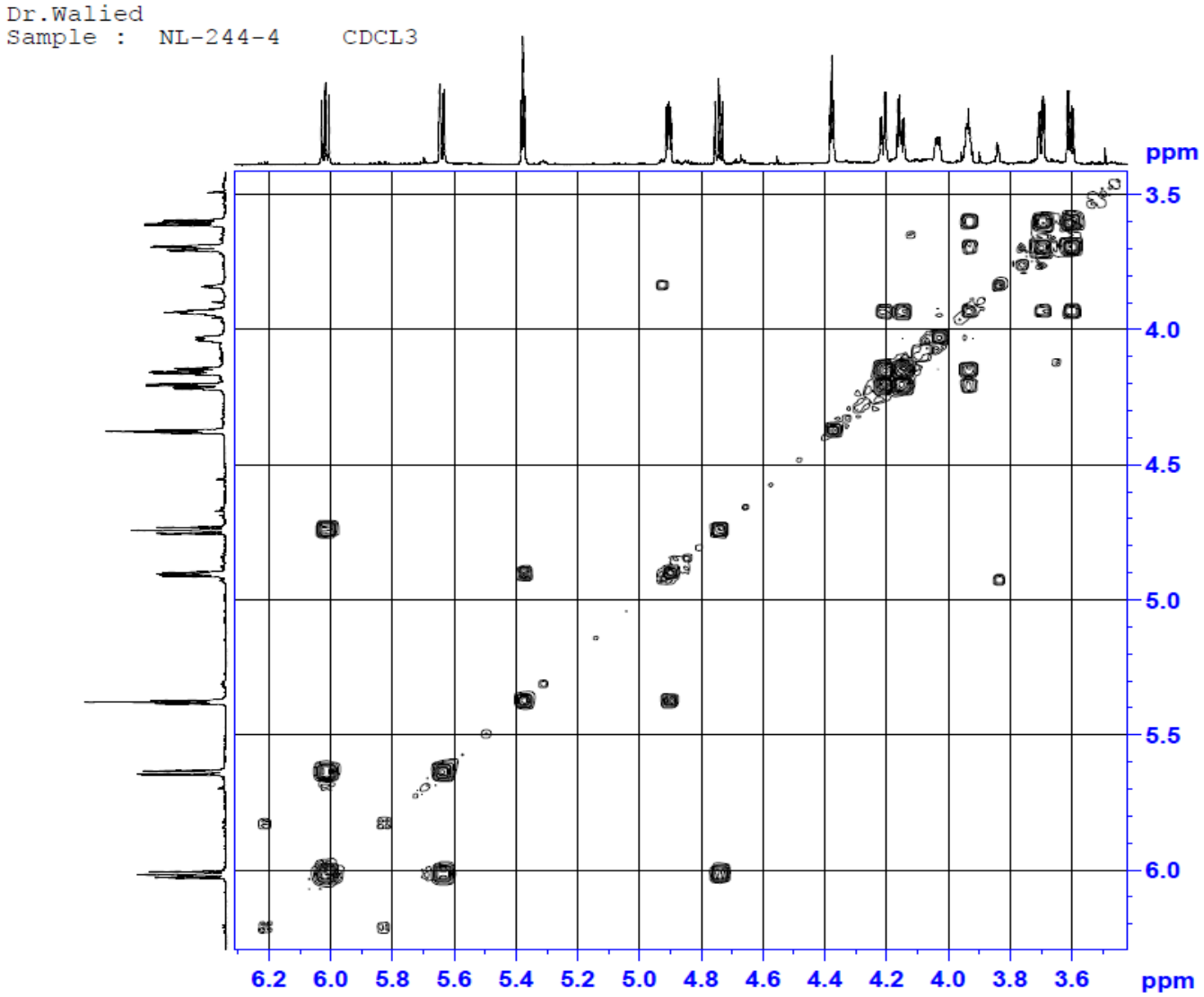

Figure S3i: COSY NMR of compound 3

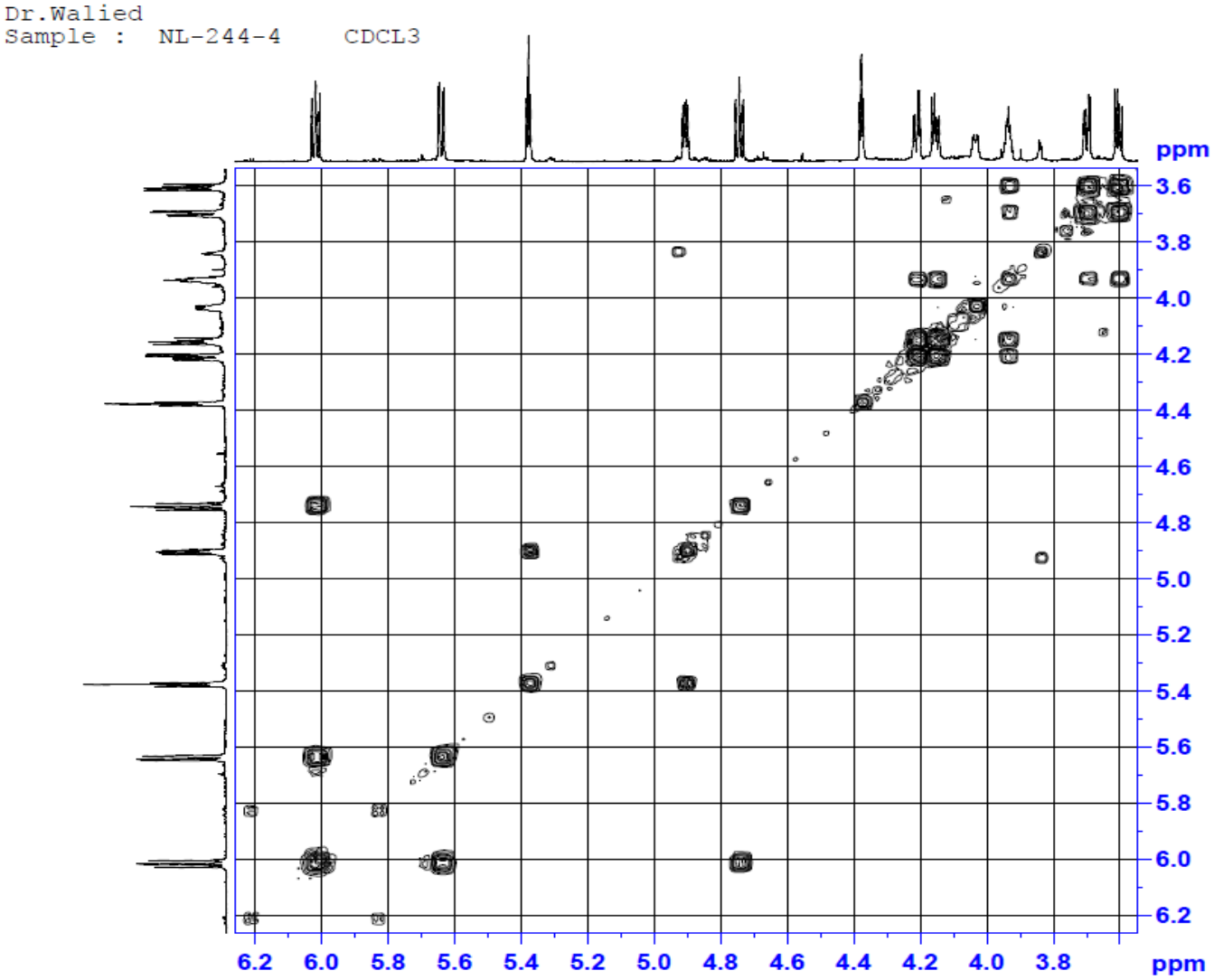

Figure S3j: COSY NMR of compound 3

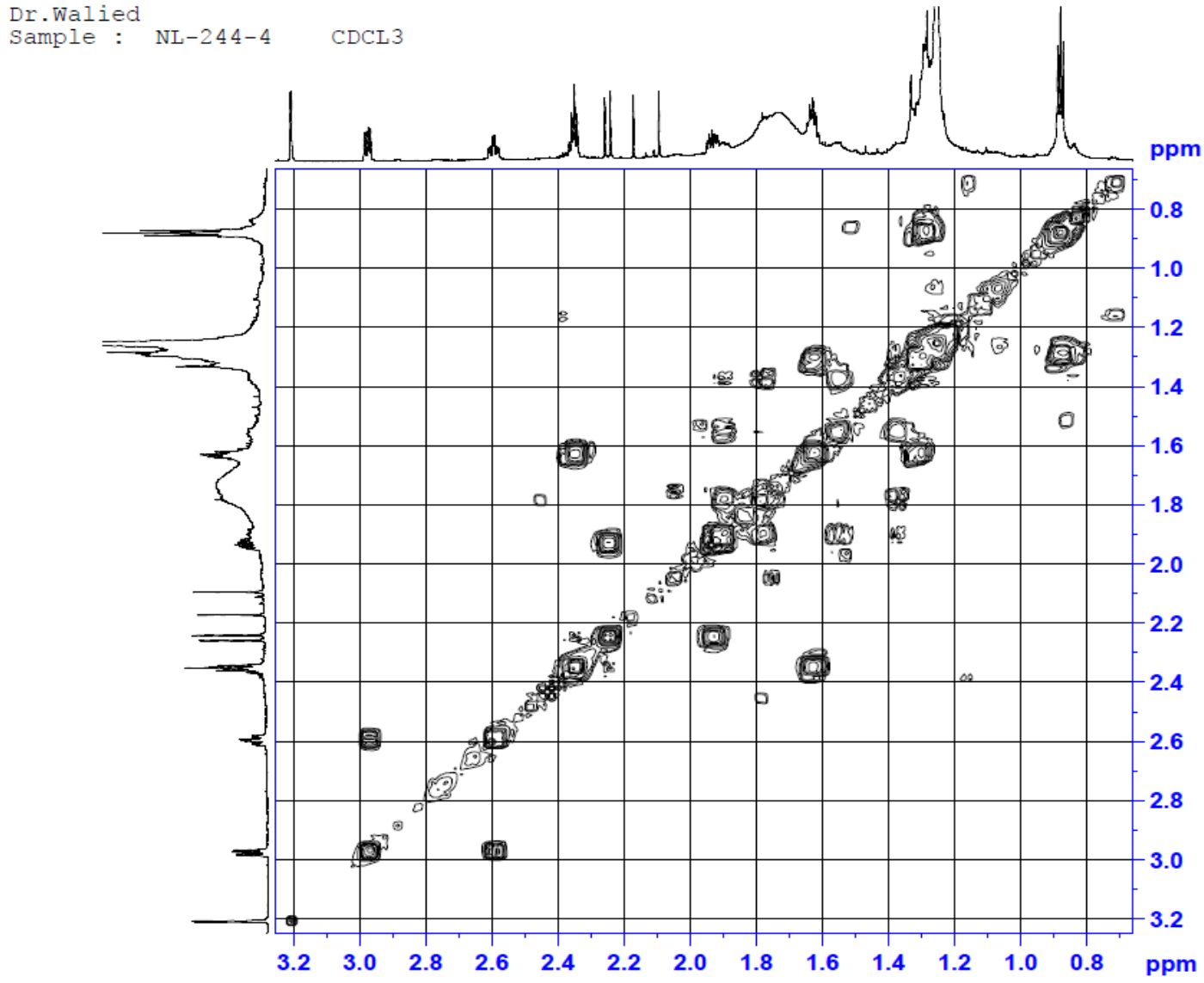

Figure S3k: COSY NMR of compound 3

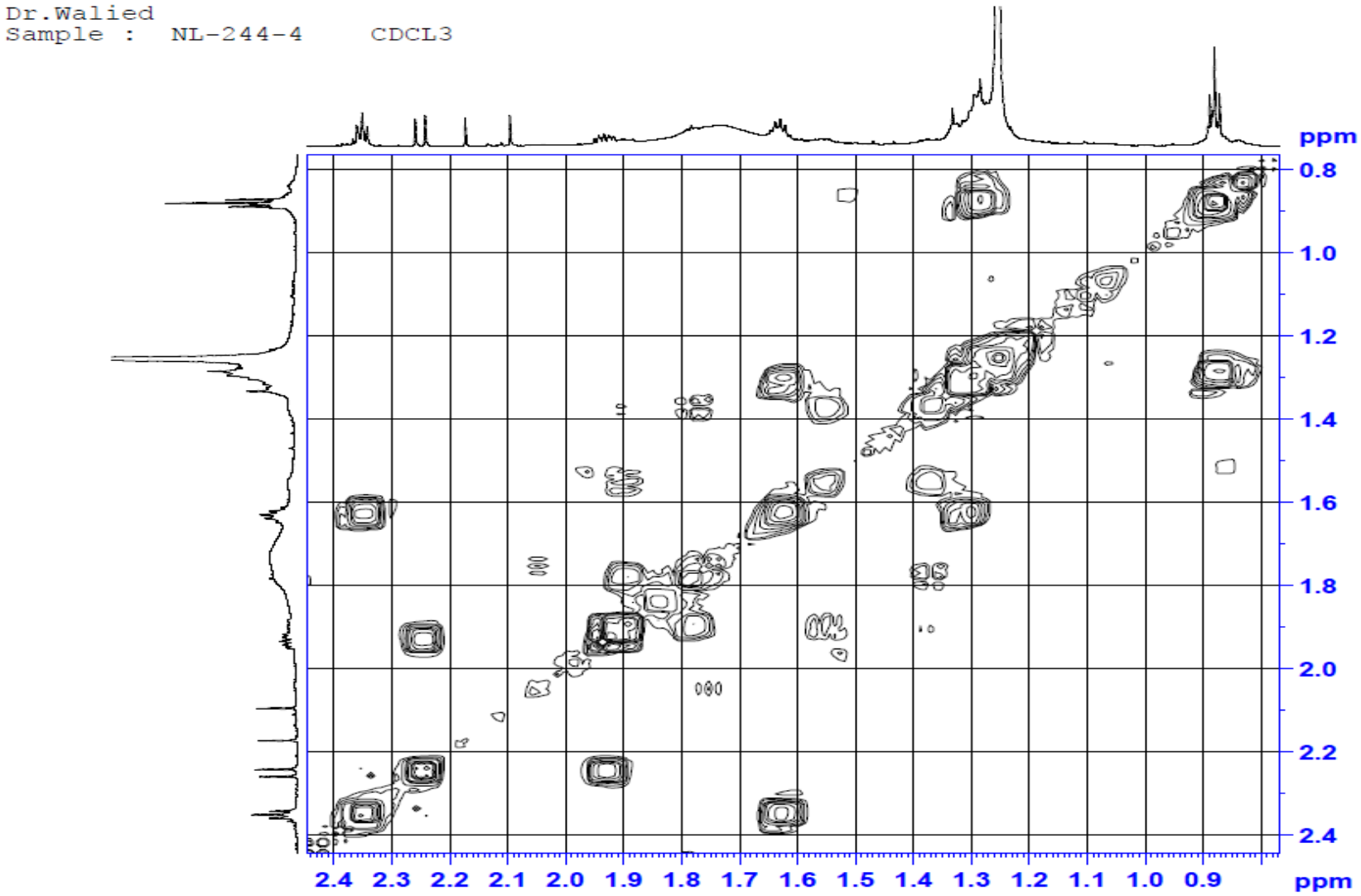

Figure S3l: COSY NMR of compound 3

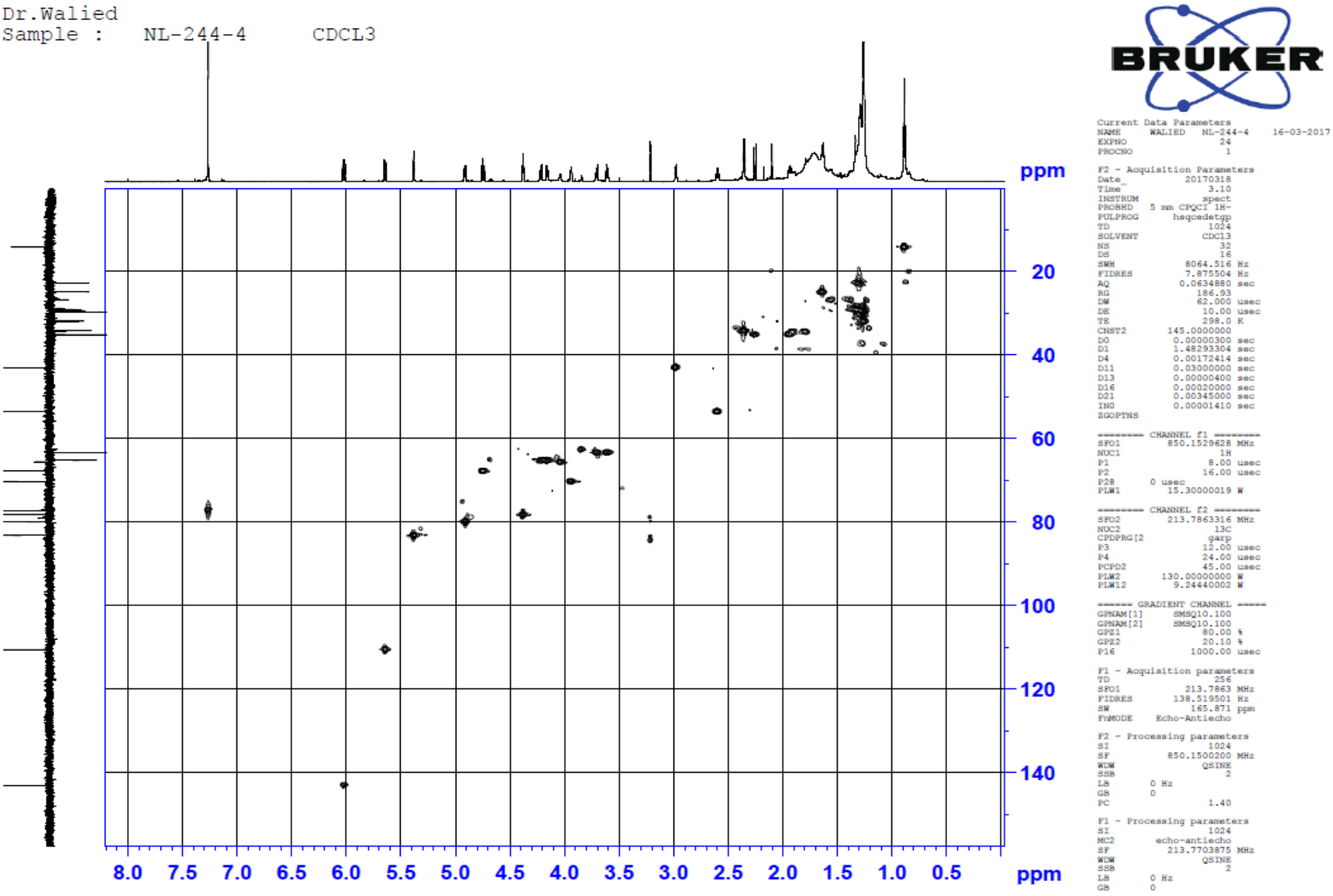

Figure S3m: HSQC NMR of compound 3

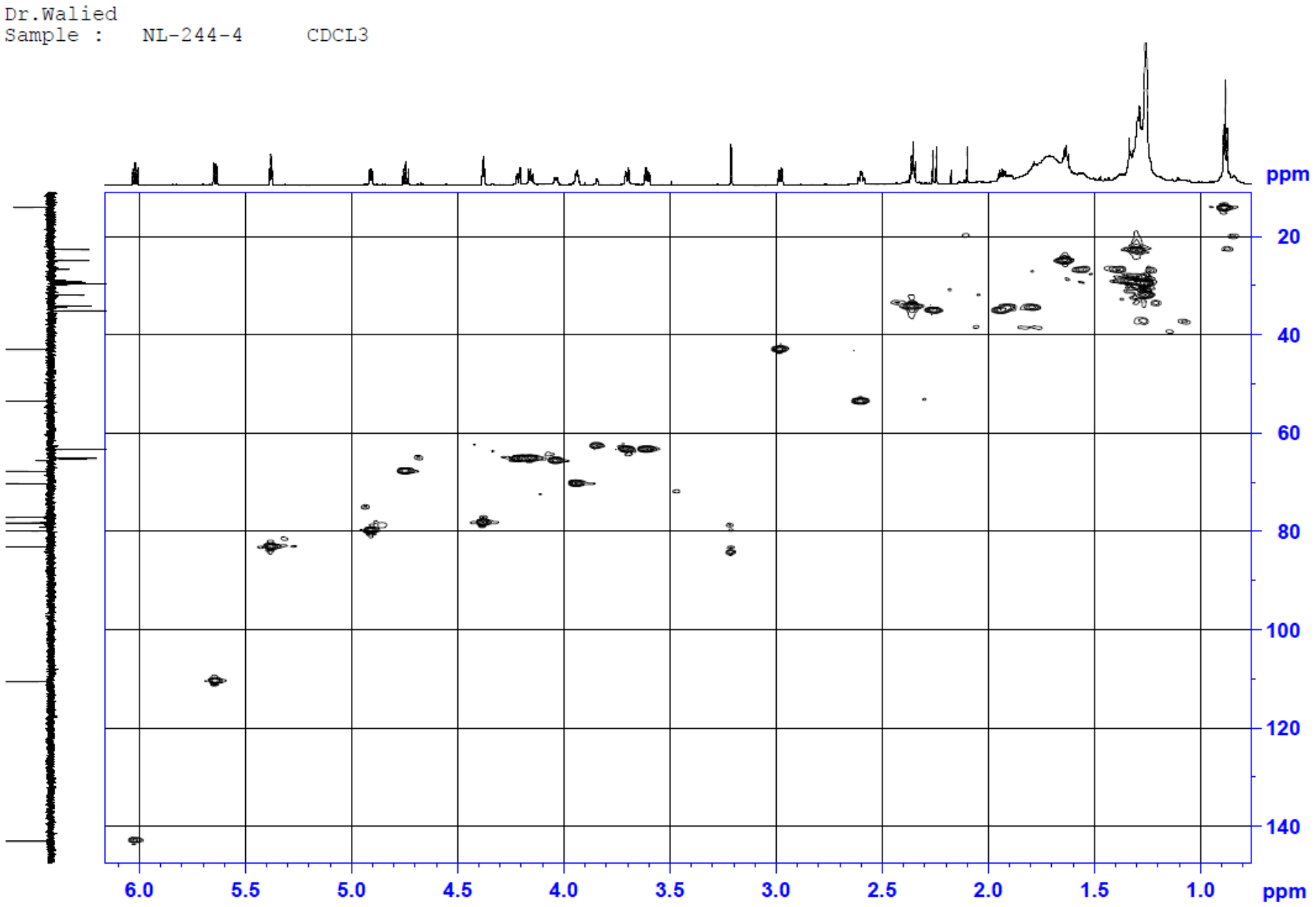

Figure S3n: HSQC NMR of compound 3

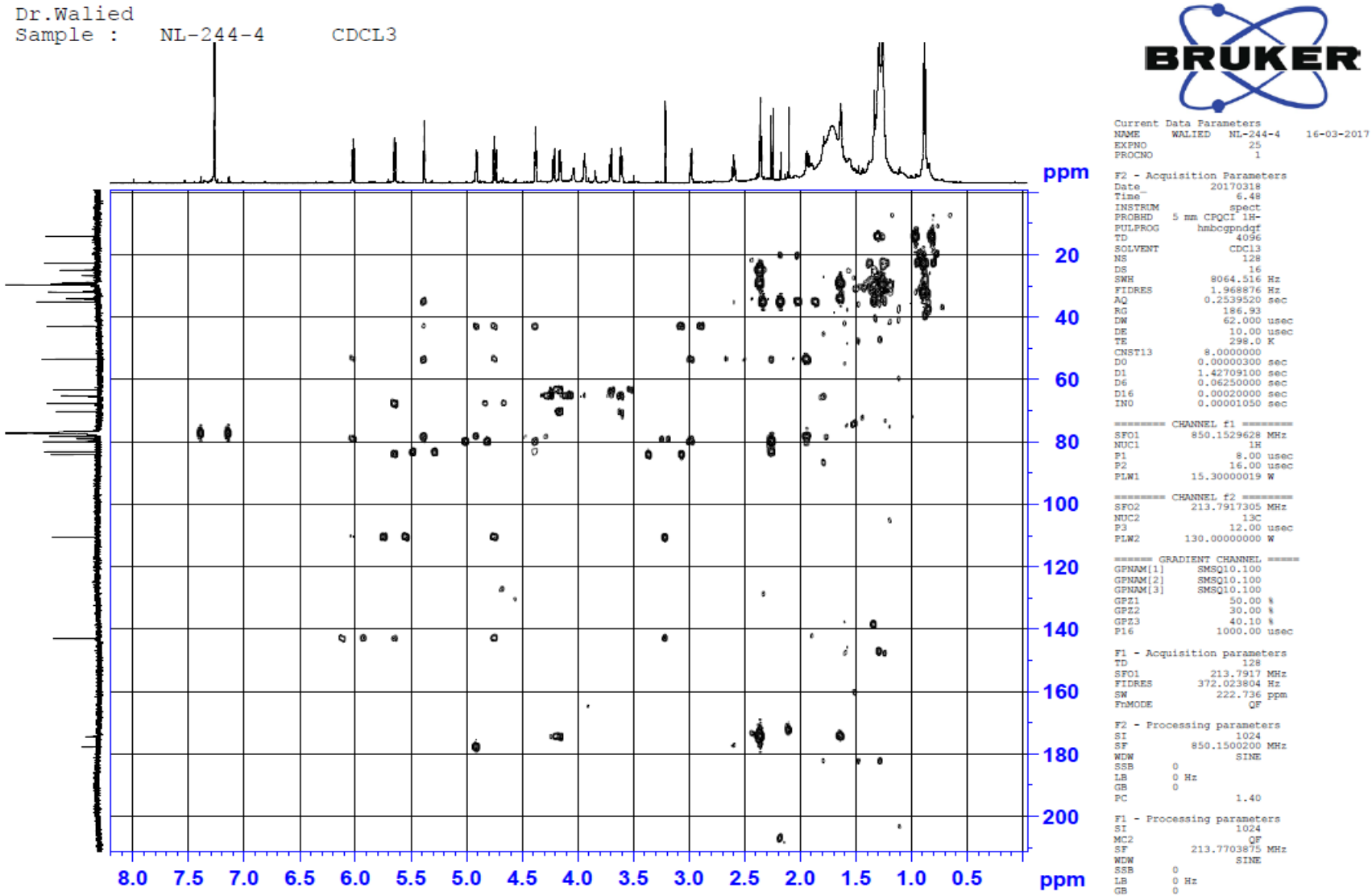

Figure S3o: HMBC NMR of compound 3

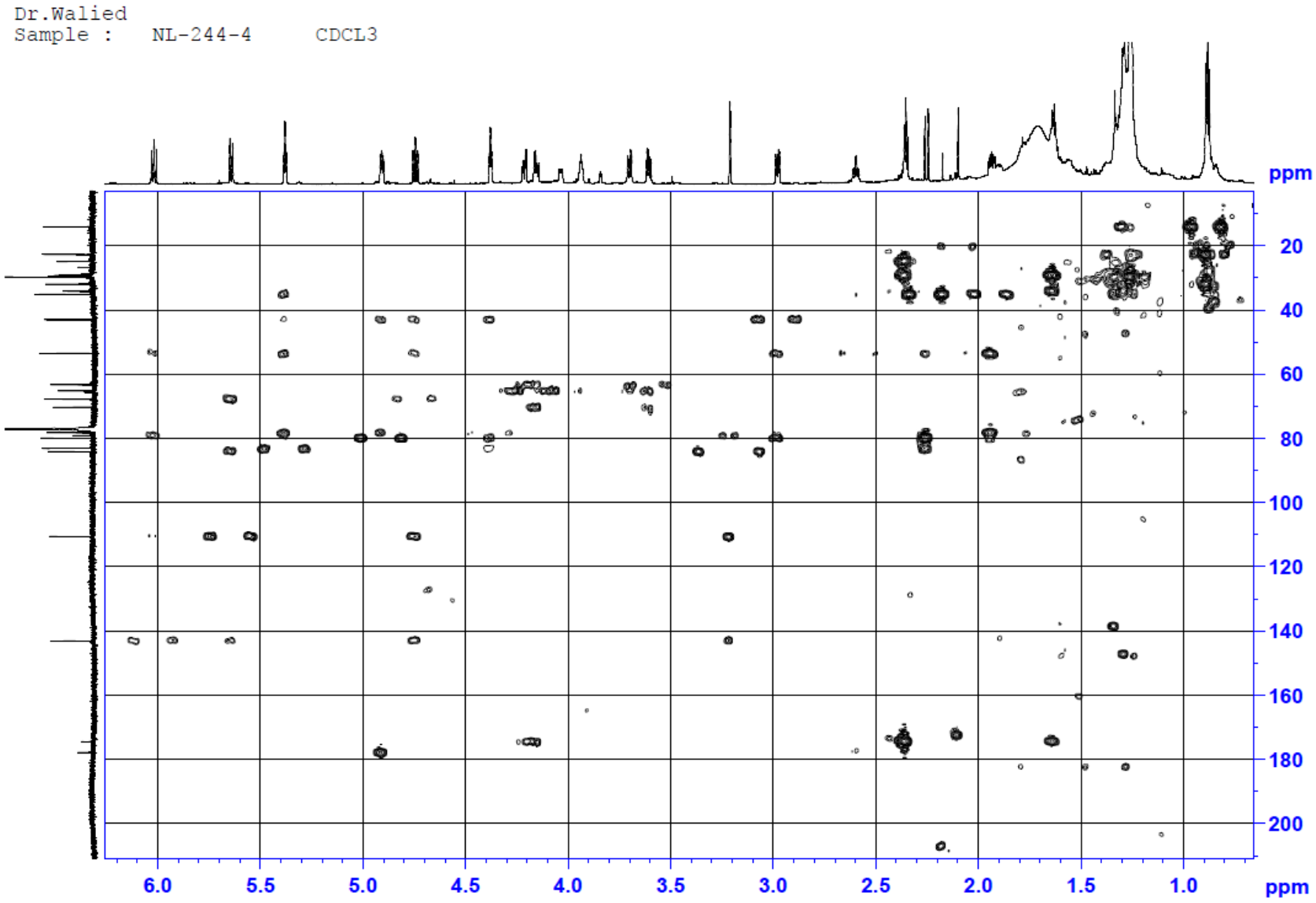

Figure S3p: HMBC NMR of compound 3

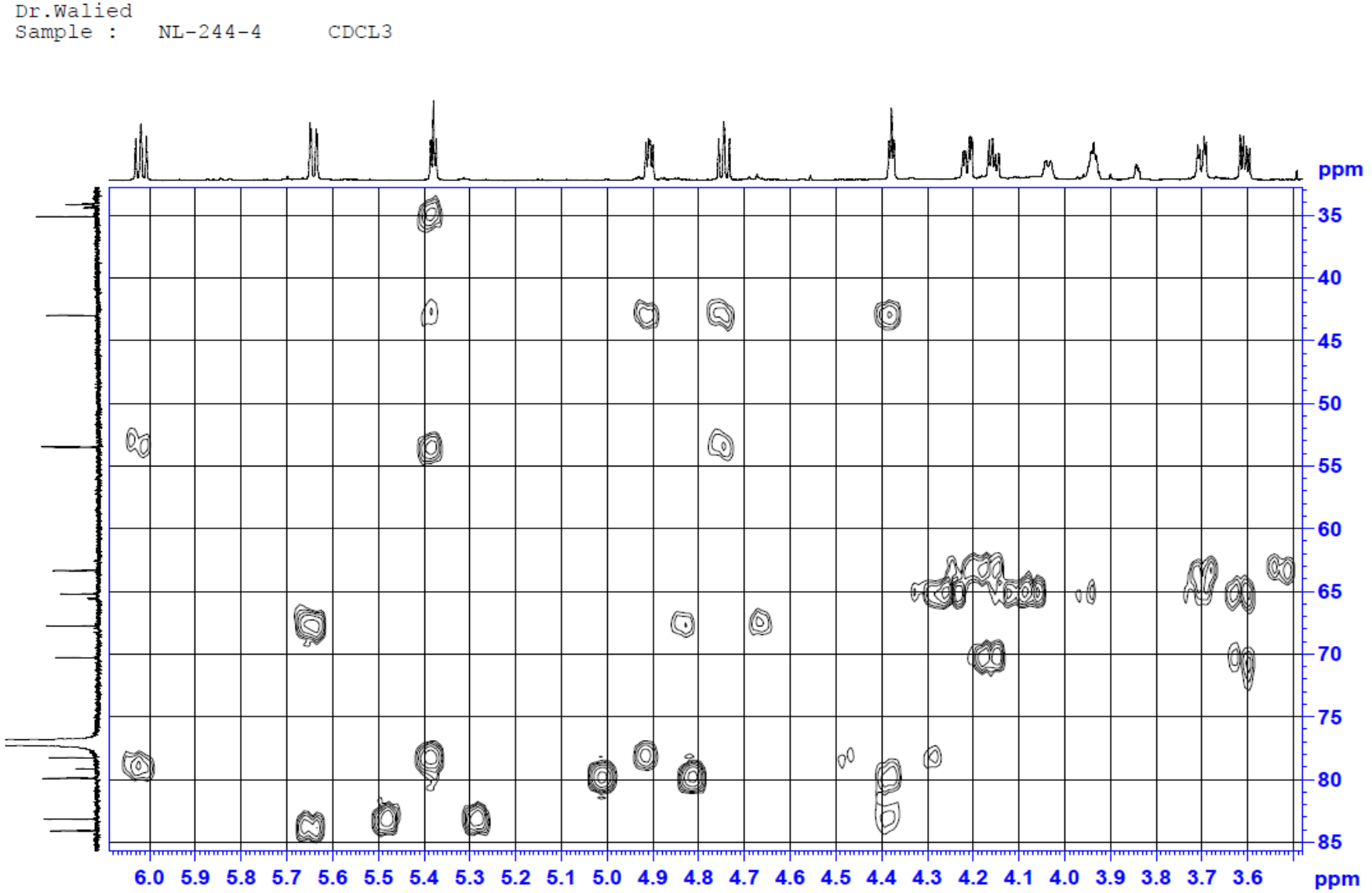

Figure S3q: HMBC NMR of compound 3

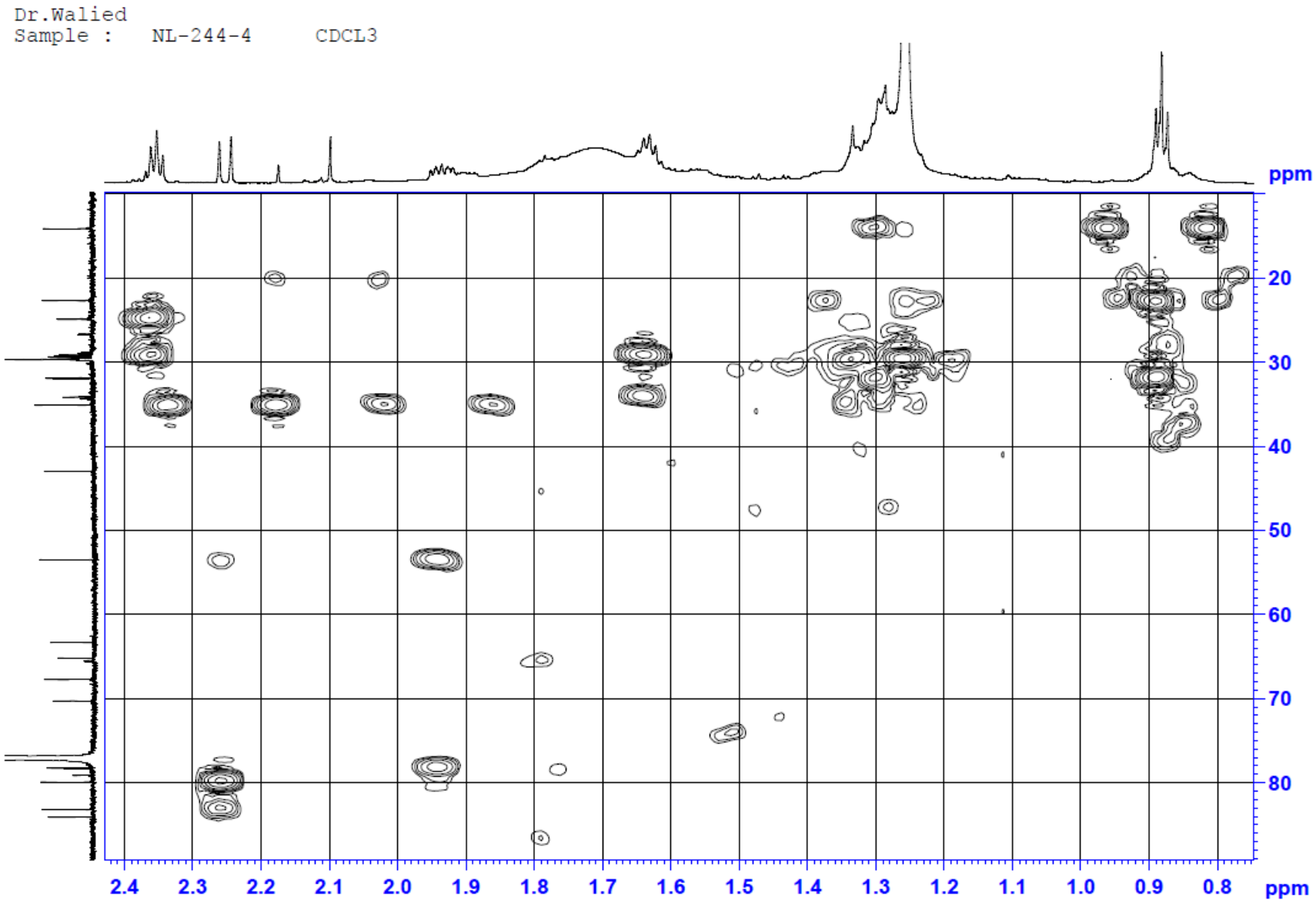

Figure S3r: HMBC NMR of compound 3

Dr.Walied
Sample : NL-244-4 CDCL3

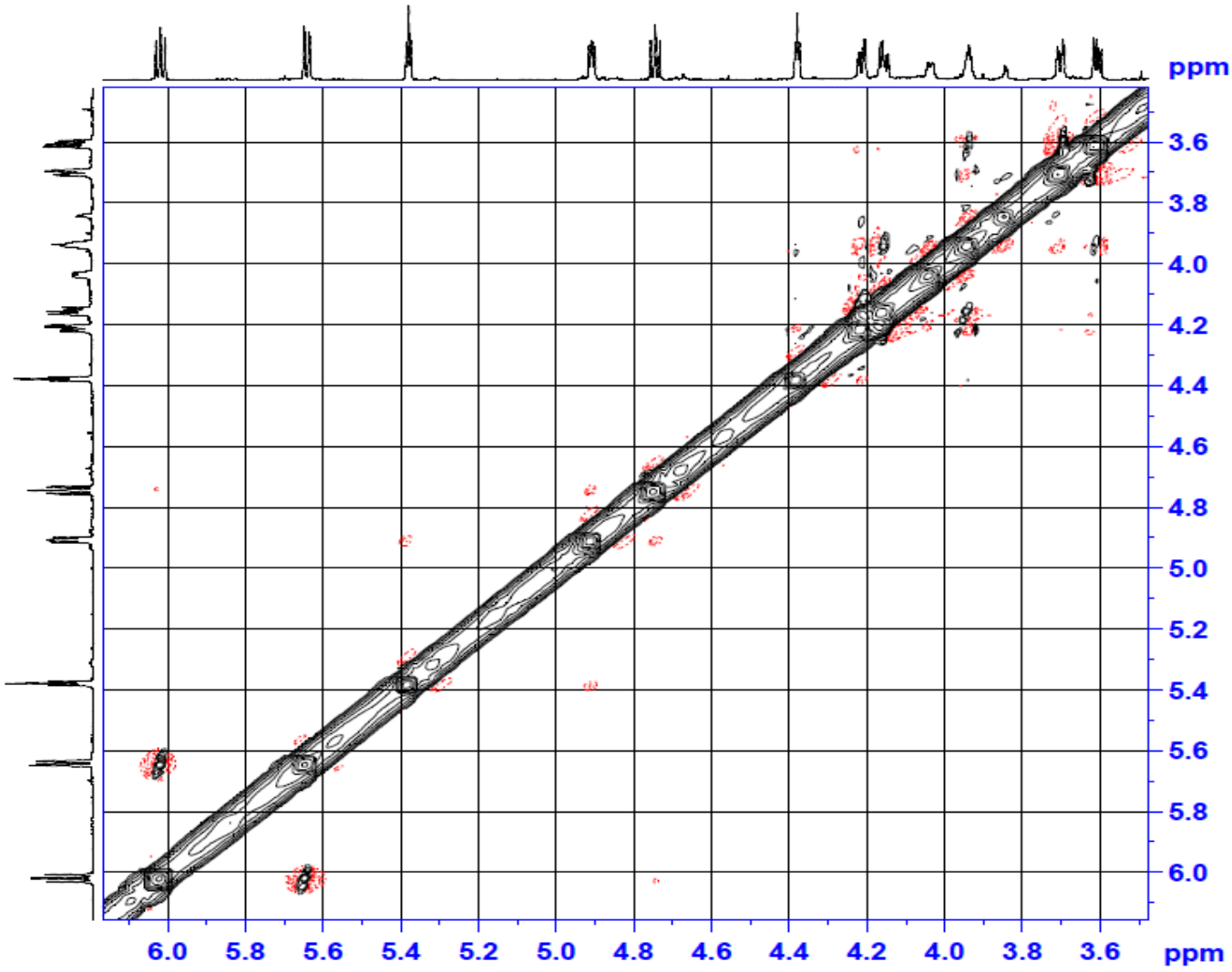

Figure S3s: NOSY NMR of compound 3

Dr.Walied
Sample : NL-244-4 CDCL3

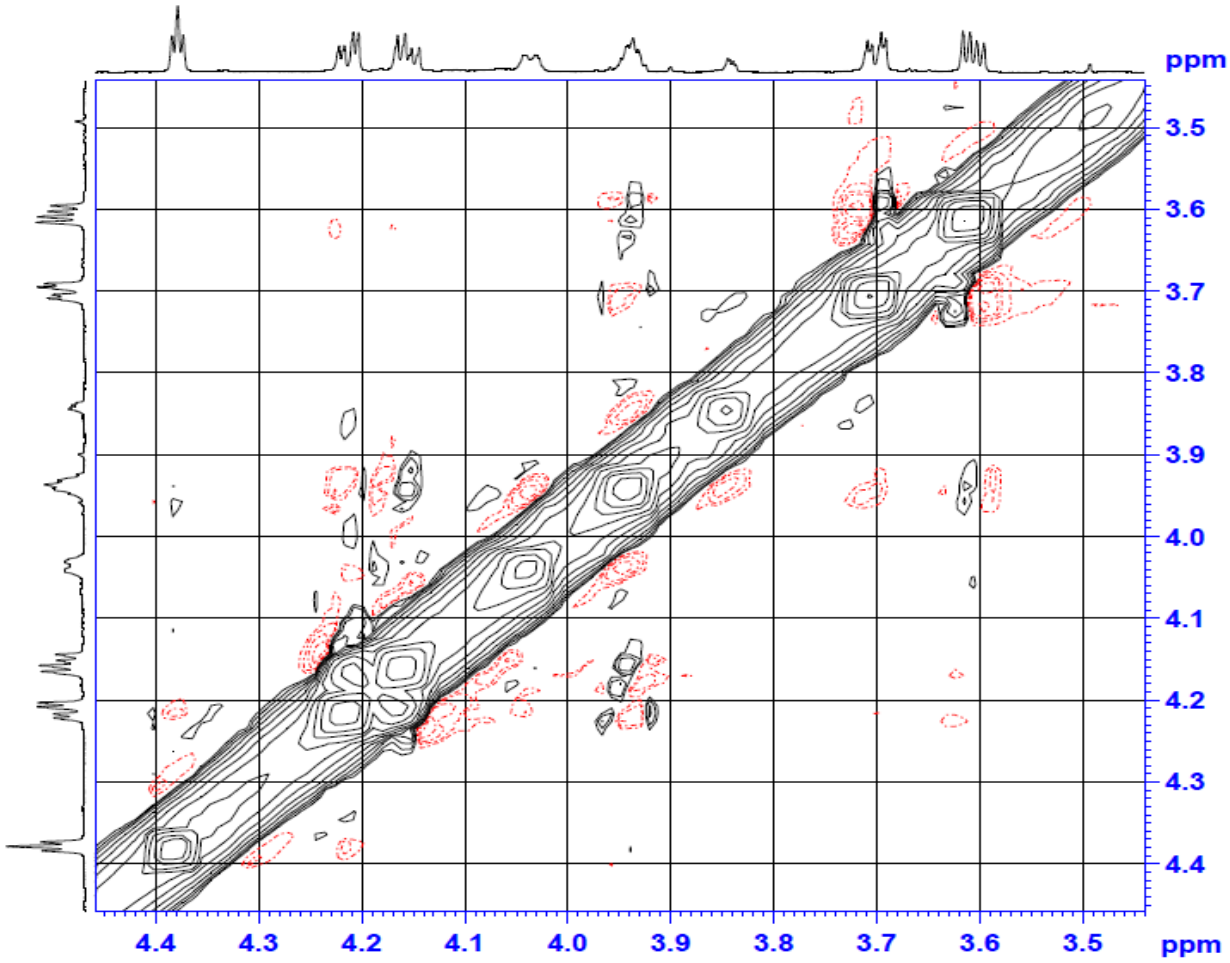

Figure S3t: NOSY NMR of compound 3