

Supporting Information

Photoredox Cyanomethylation of Indoles: Catalyst Modification and Mechanism

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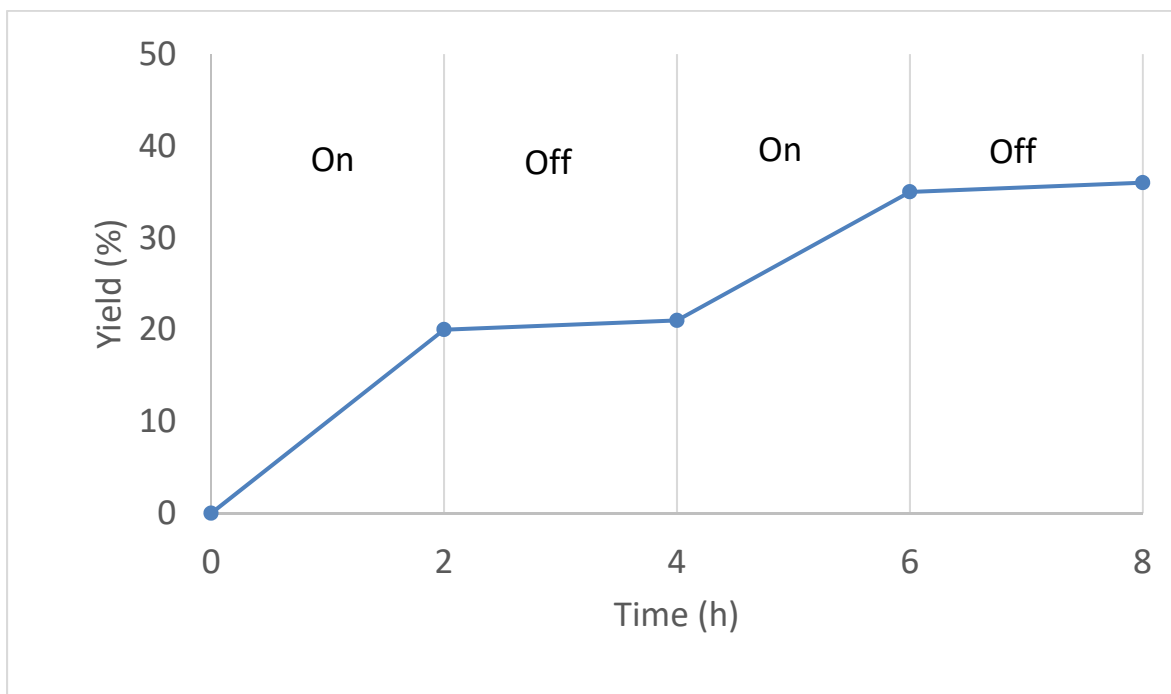


Figure S1. Reaction progress for the conversion of **1** to **3** following Procedure A, with the LED light turned on for 2 h, then off between 2-4 h, turned on between 4-6 h, then turned off from 6-8 h.

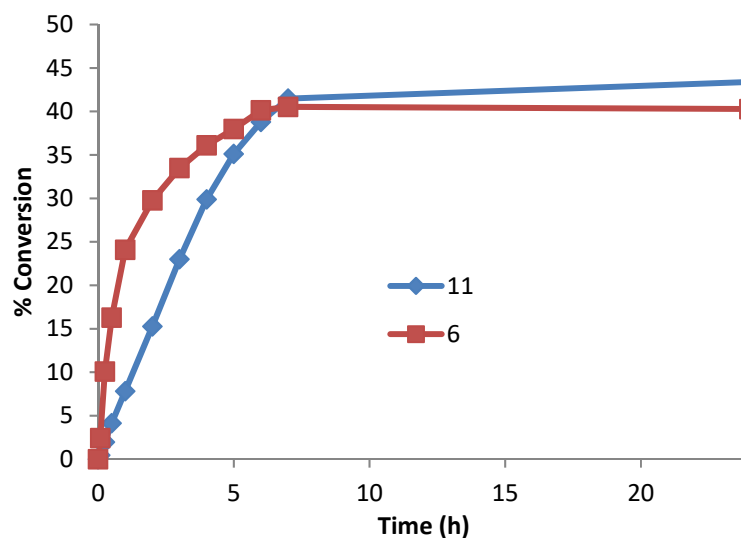


Figure S2. Time course for the reaction of indole and bromoacetonitrile using catalyst **6** or **11**.

Procedure for time course:

Indole (66 mg, 563 μmol), catalyst (0.02 Eq, 11.3 μmol), internal standard ethyl 6-(trifluoromethyl)nicotinate (62 mg, 0.5 equiv, 282 μmol) and sodium hydrogen carbonate (95 mg, 2 Eq, 1.13 mmol) were added to a flame dried vial. The vial was then evacuated, and back-filled with argon three times. Under positive pressure of argon, DCE (0.23 mL) and bromoacetonitrile (101 mg, 58.9 μL , 1.5 equiv, 845 μmol) were added successively. The resulting solution was sparged under argon for 15 min. The vial was then placed in front of the blue light under positive pressure of argon. The reaction was then sampled at set timepoints and the assay yield determined relative to internal standard. Average of two runs +/- 2%.

LC-MS Characterization of BrMeCN Addition to Catalyst

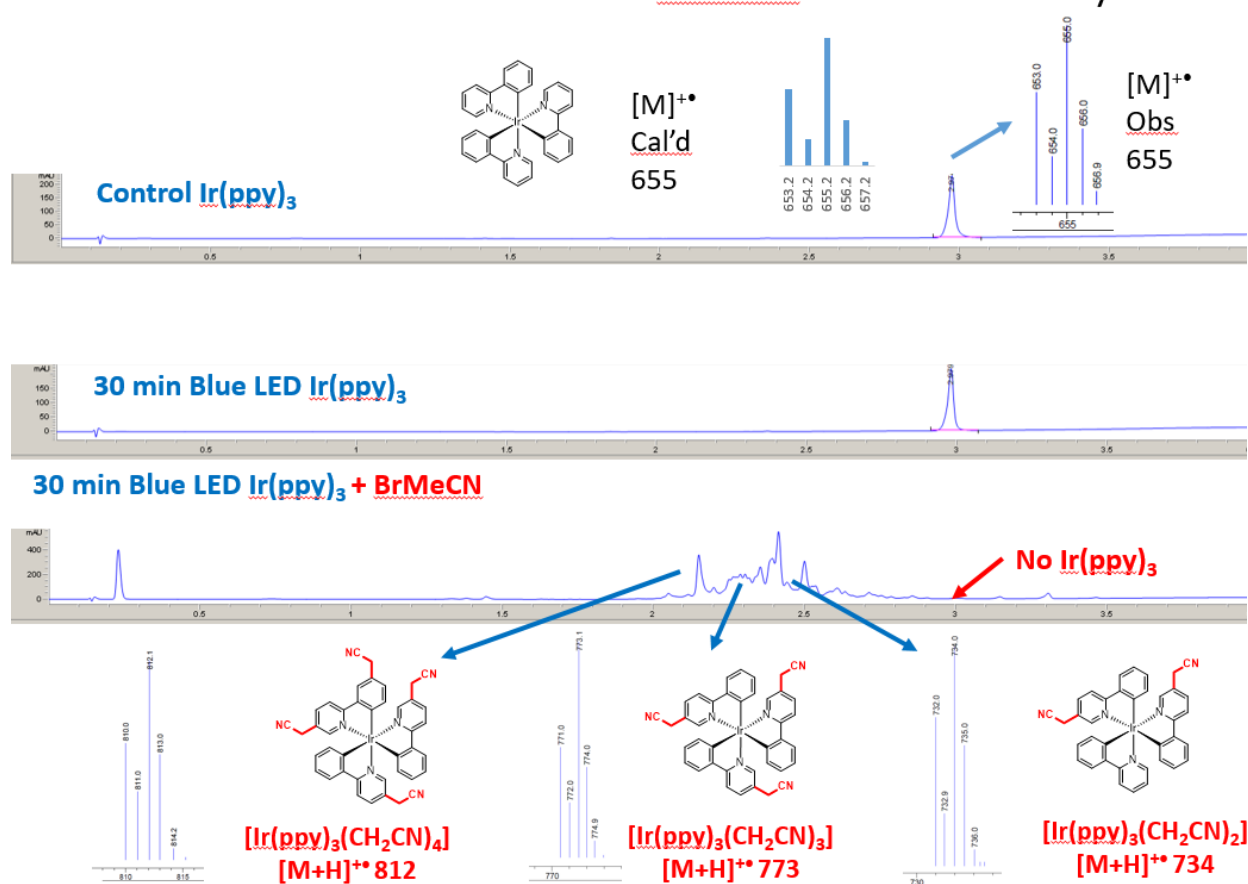
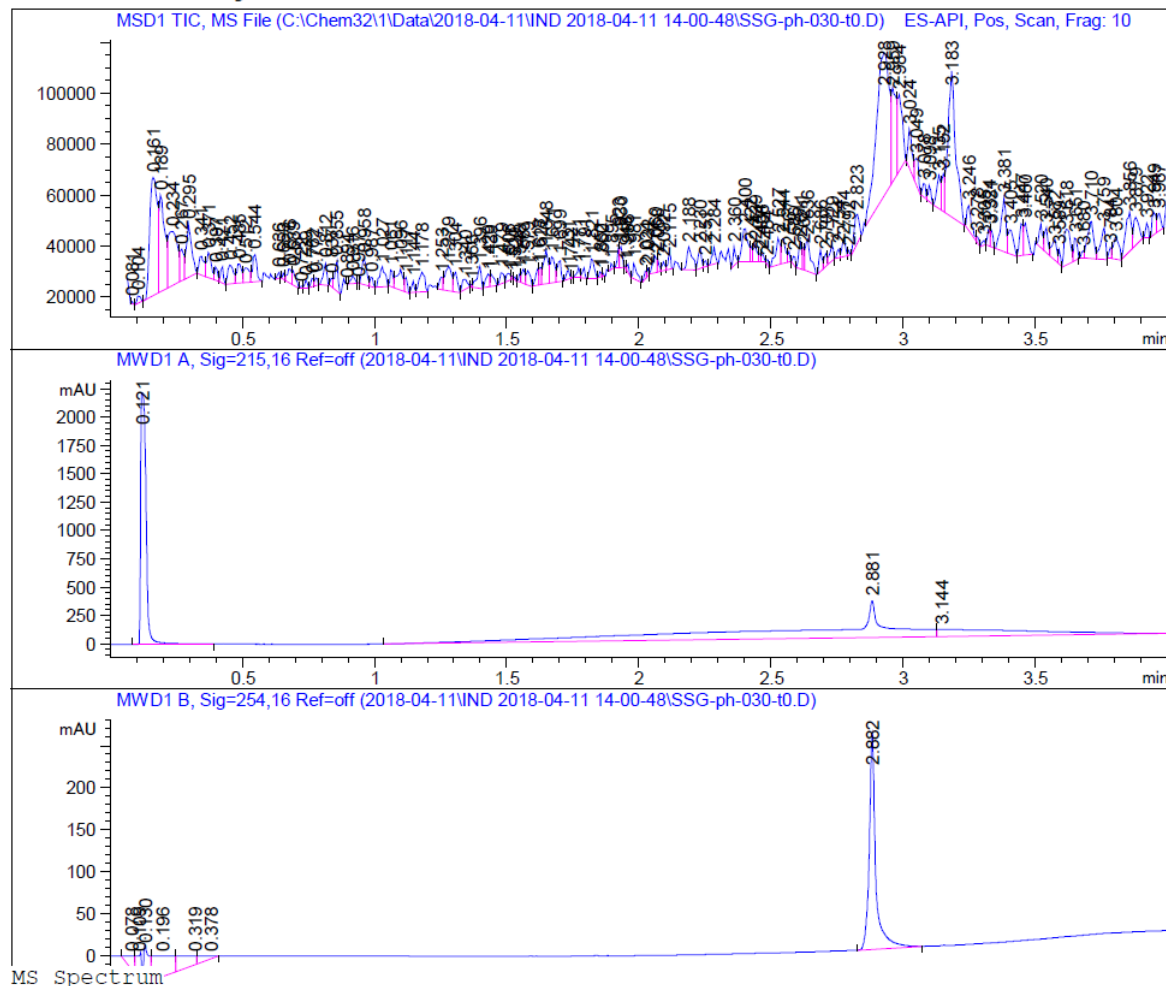
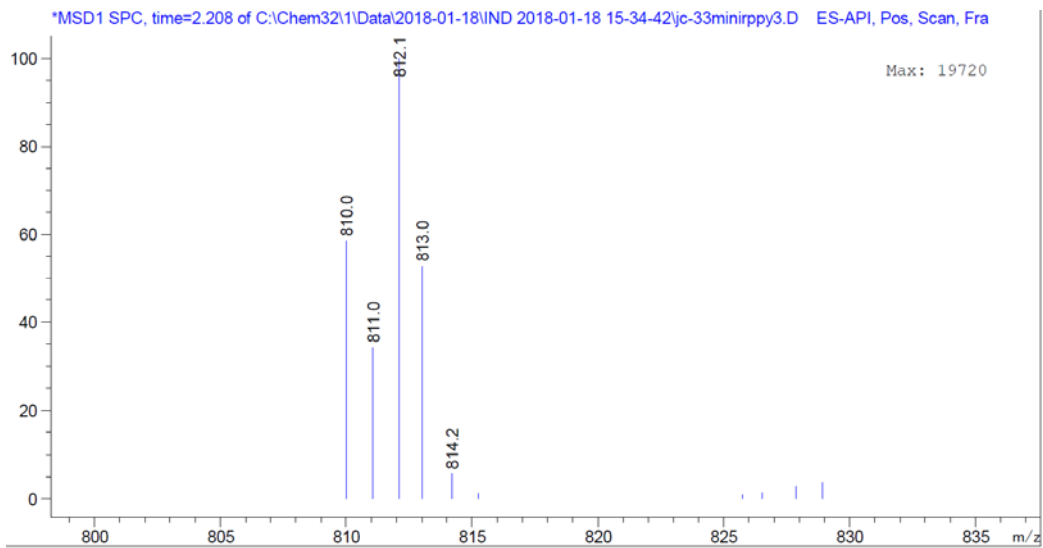
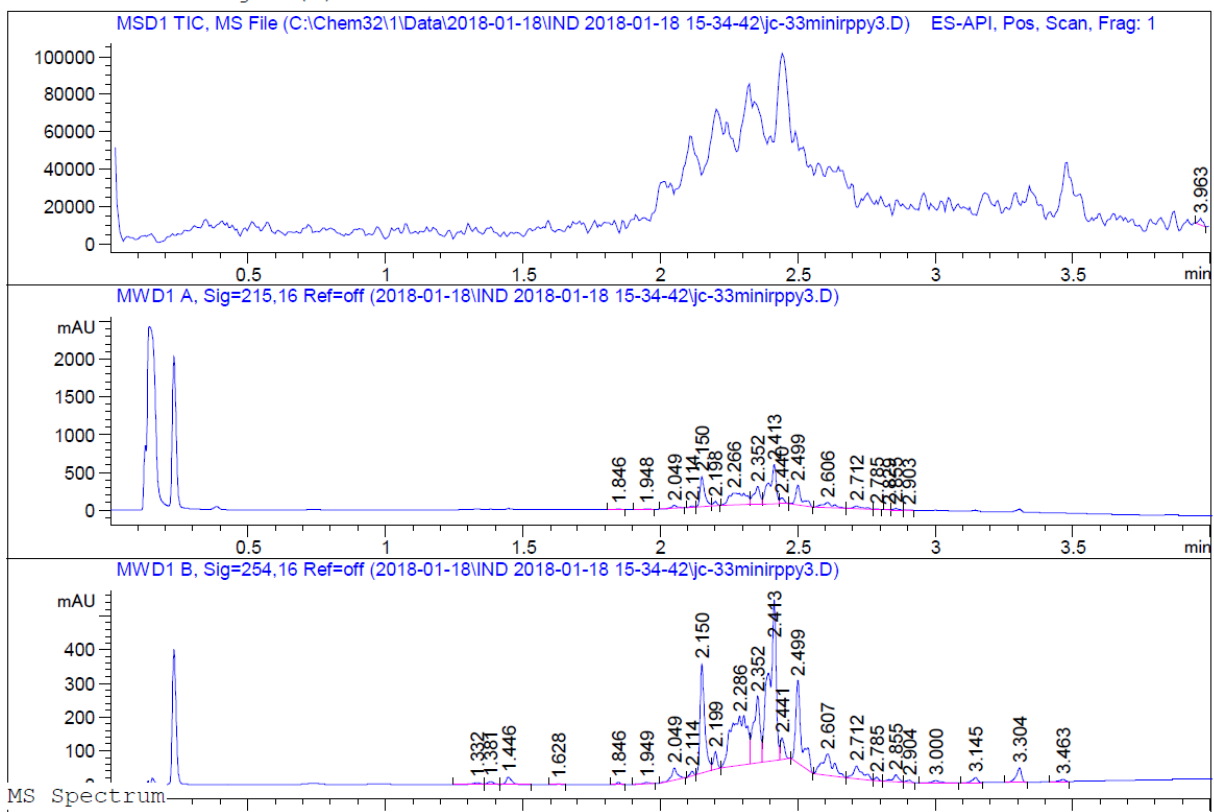


Figure S3. LCMS characterization of BrCH_2CN addition to catalyst **6**.

Current Chromatogram(s)



Current Chromatogram(s)



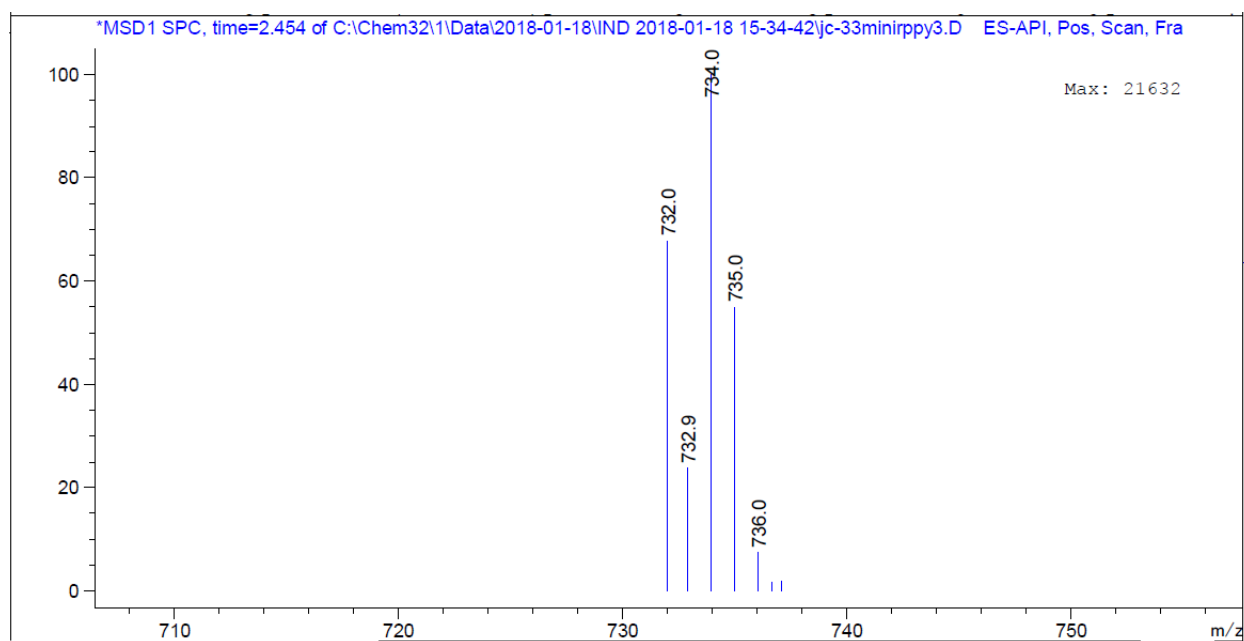
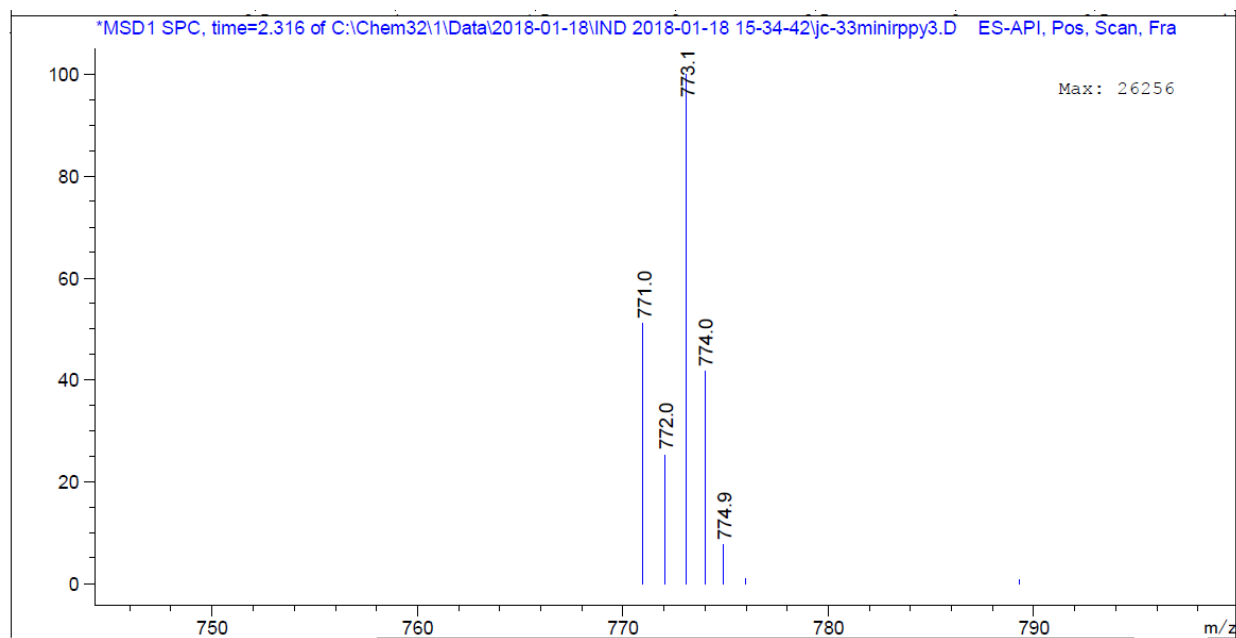


Figure S5. LCMS trace for catalyst **6**, 30 min, 50 equiv BrMeCN, Blue LED with MS spectra for peaks.

LC-MS Characterization of BrMeCN Addition to Catalyst

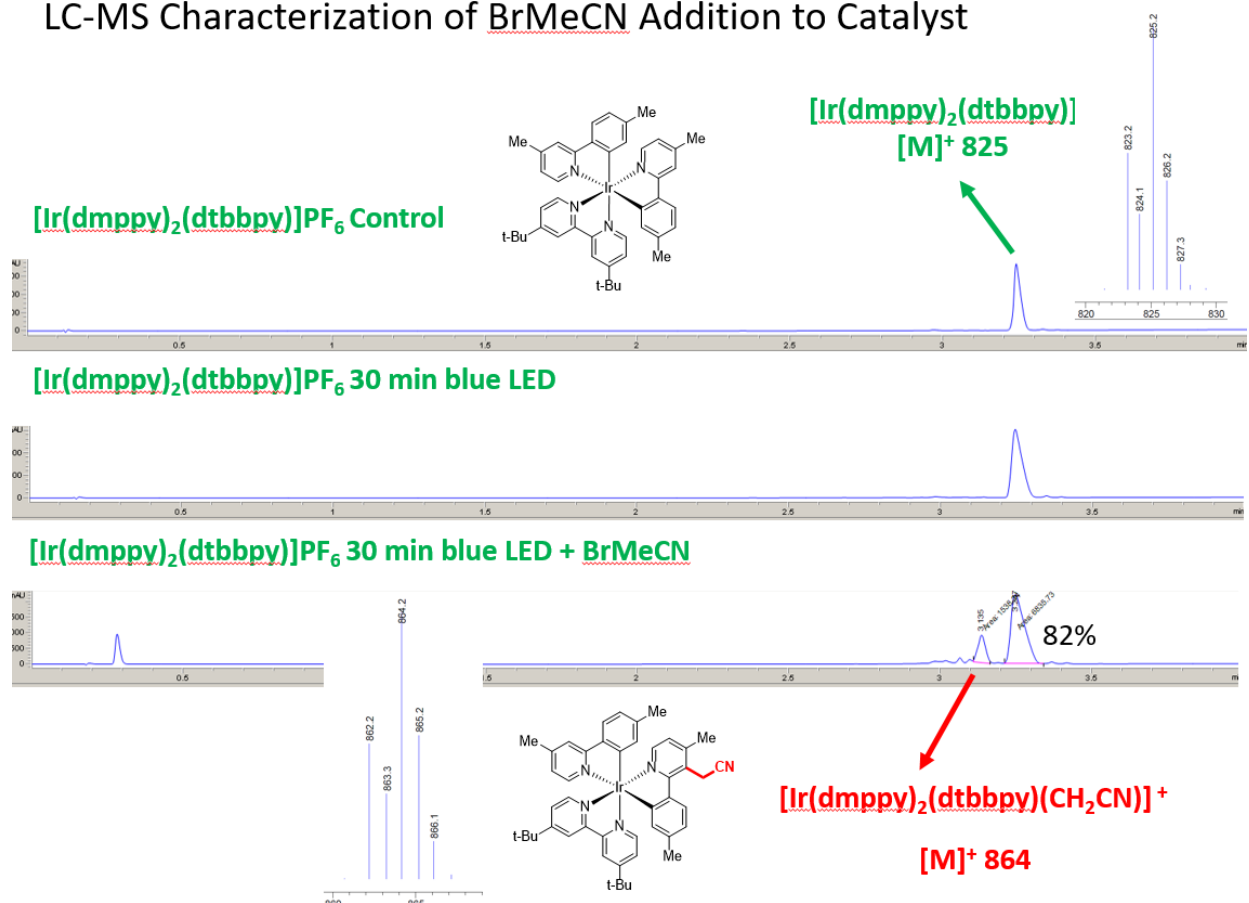


Figure S6. LCMS characterization of BrCH₂CN addition to catalyst **11**.

Current Chromatogram(s)

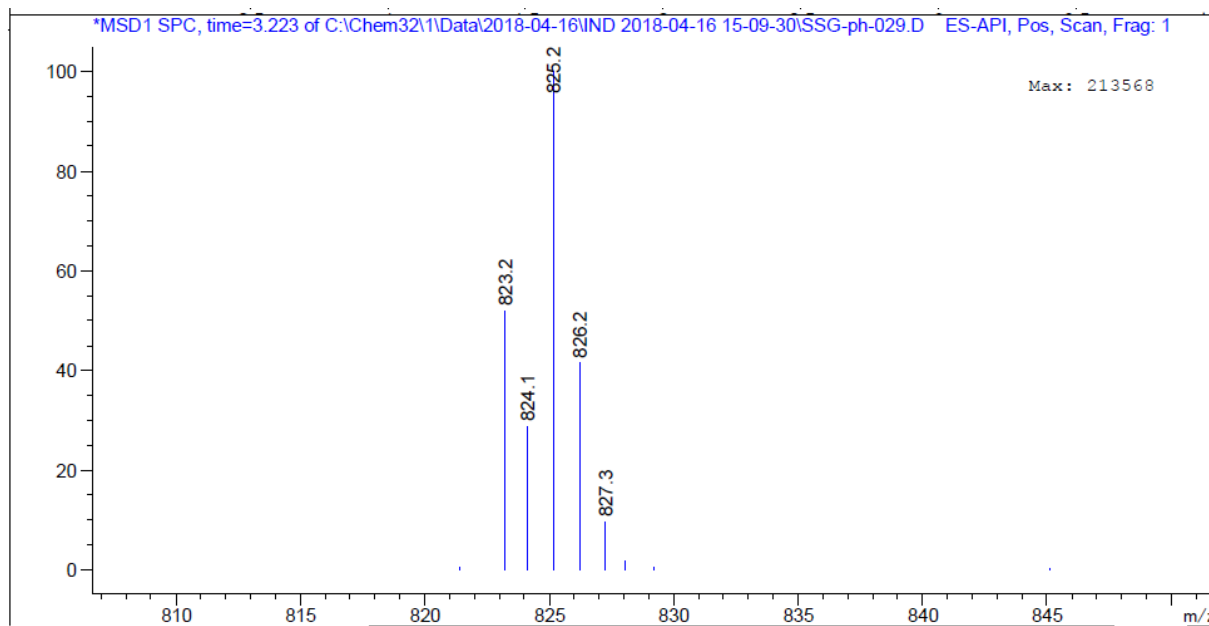
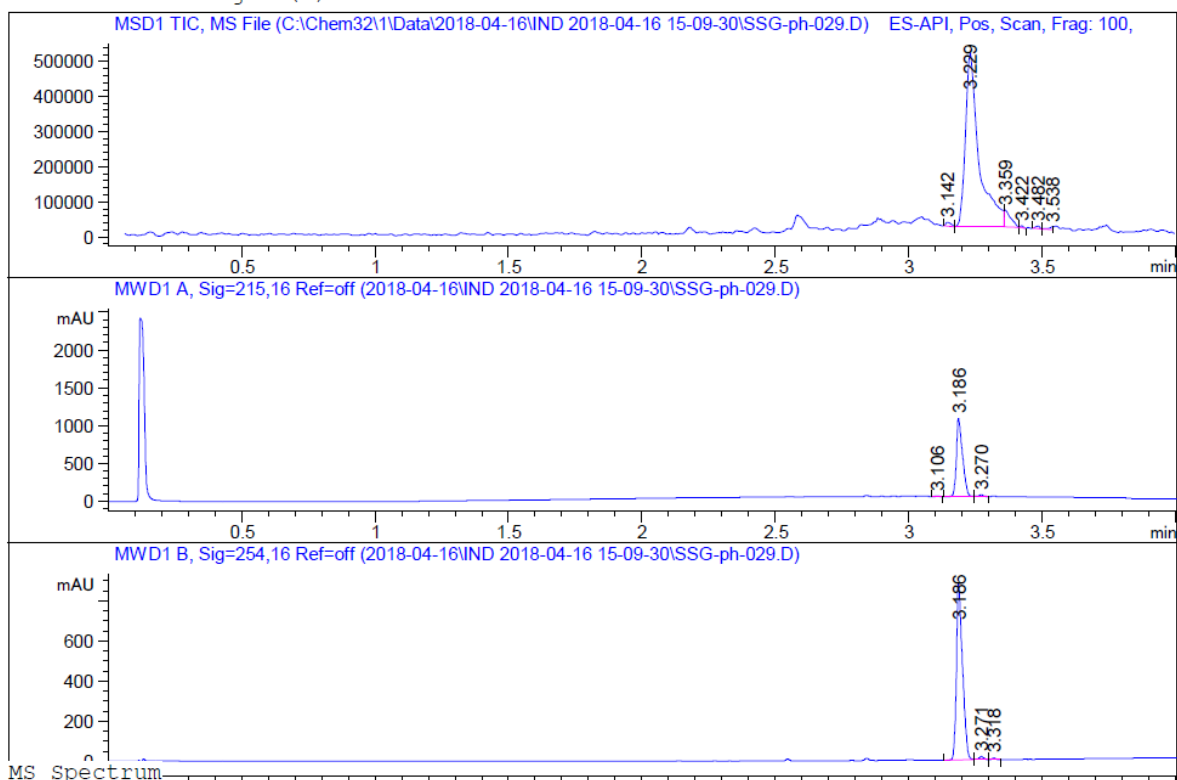
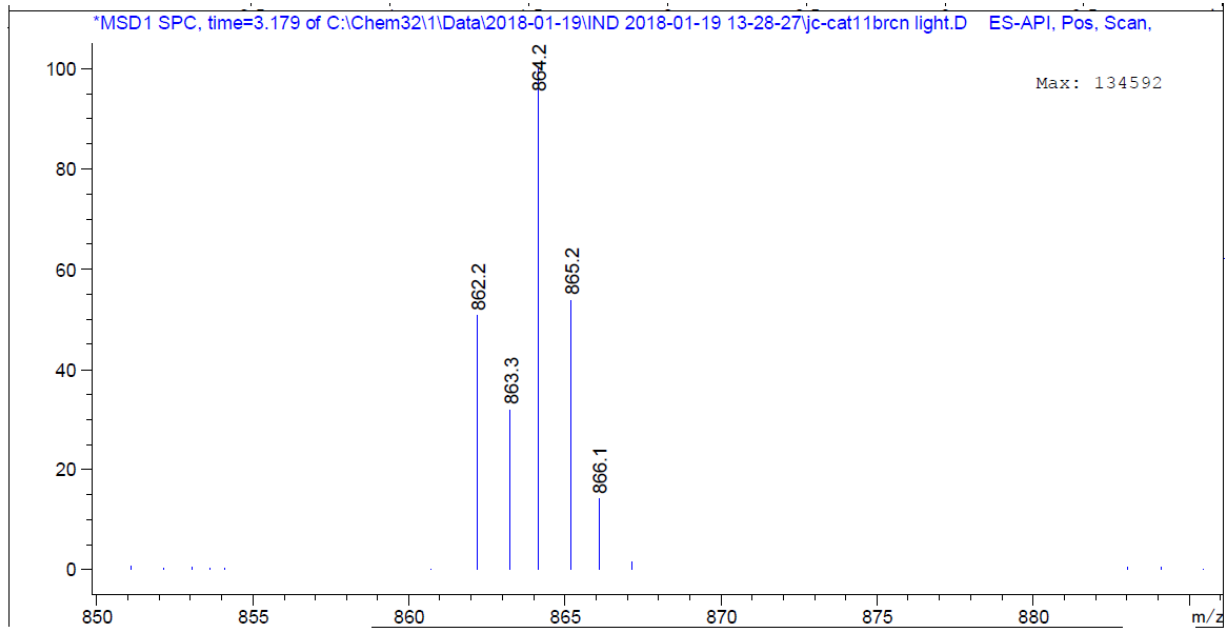
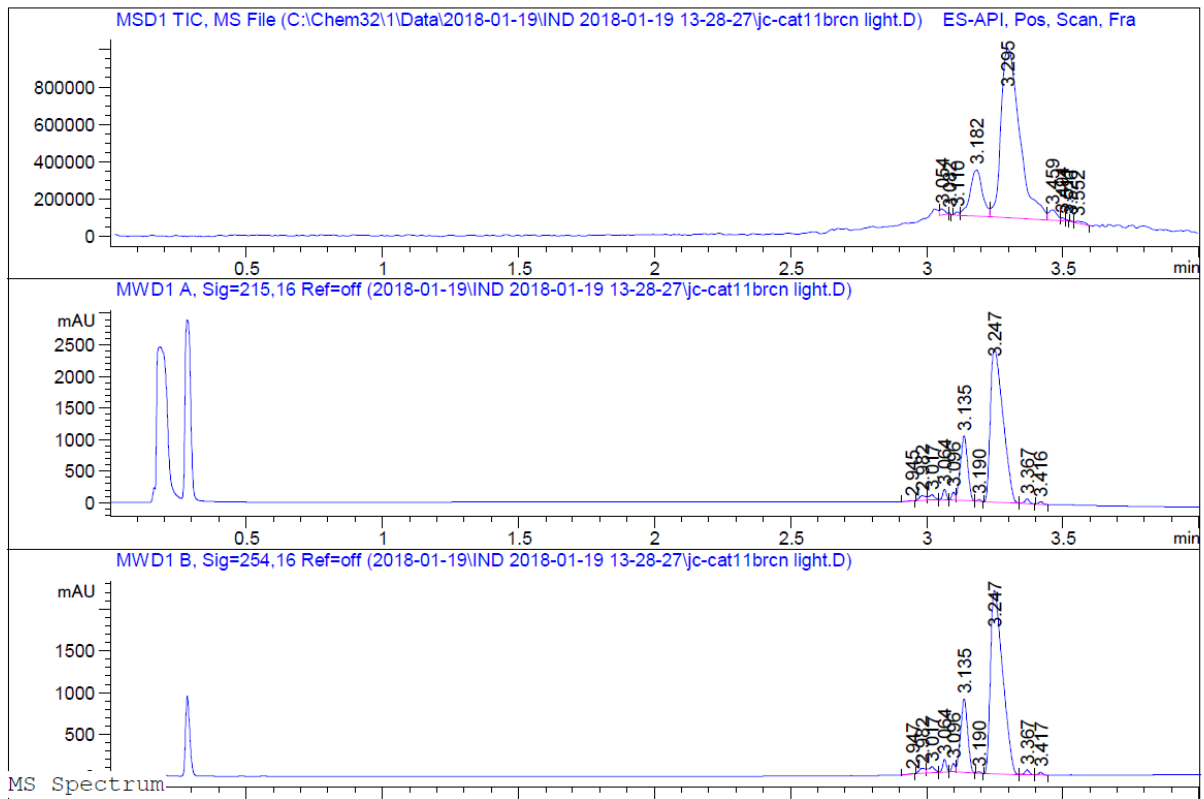


Figure S7. LCMS trace for Catalyst **11**, LCMS, Time 0 with MS spectrum for main peak.

Current Chromatogram(s)



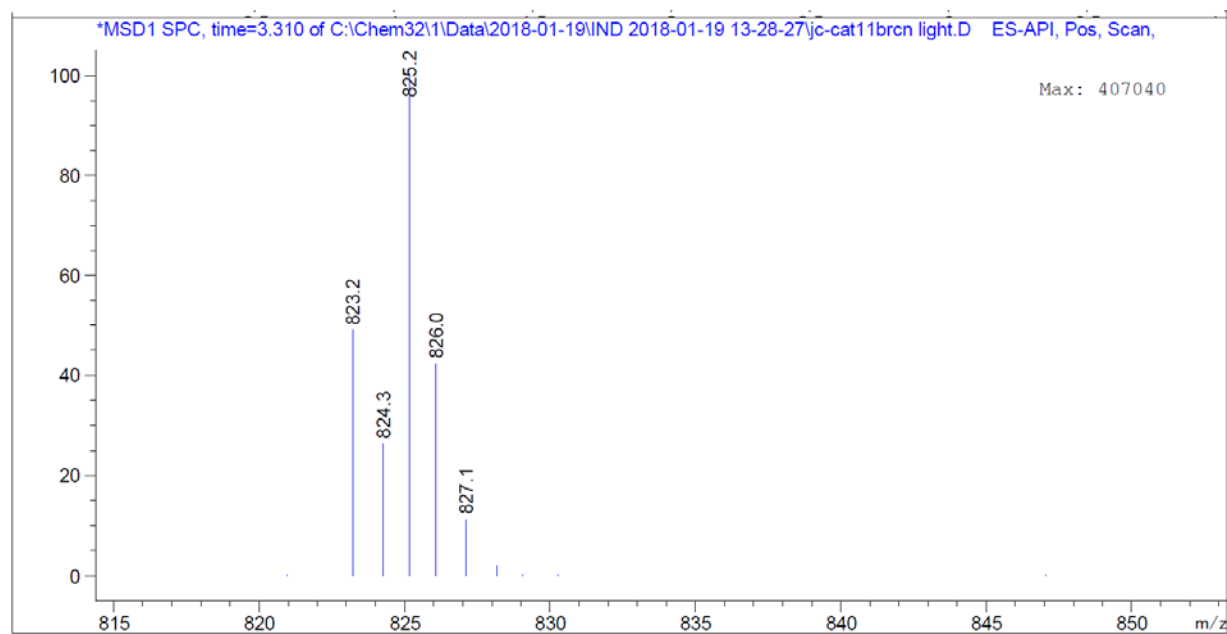


Figure S8. LCMS trace for catalyst **11**, 30 min, 50 equiv BrMeCN, Blue LED with MS spectra for peaks.

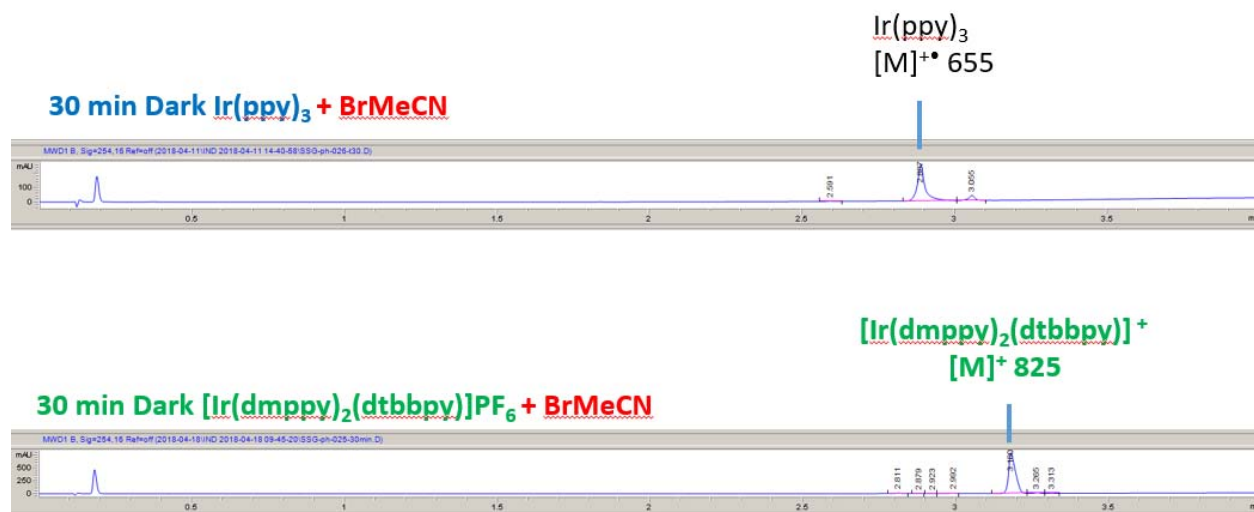
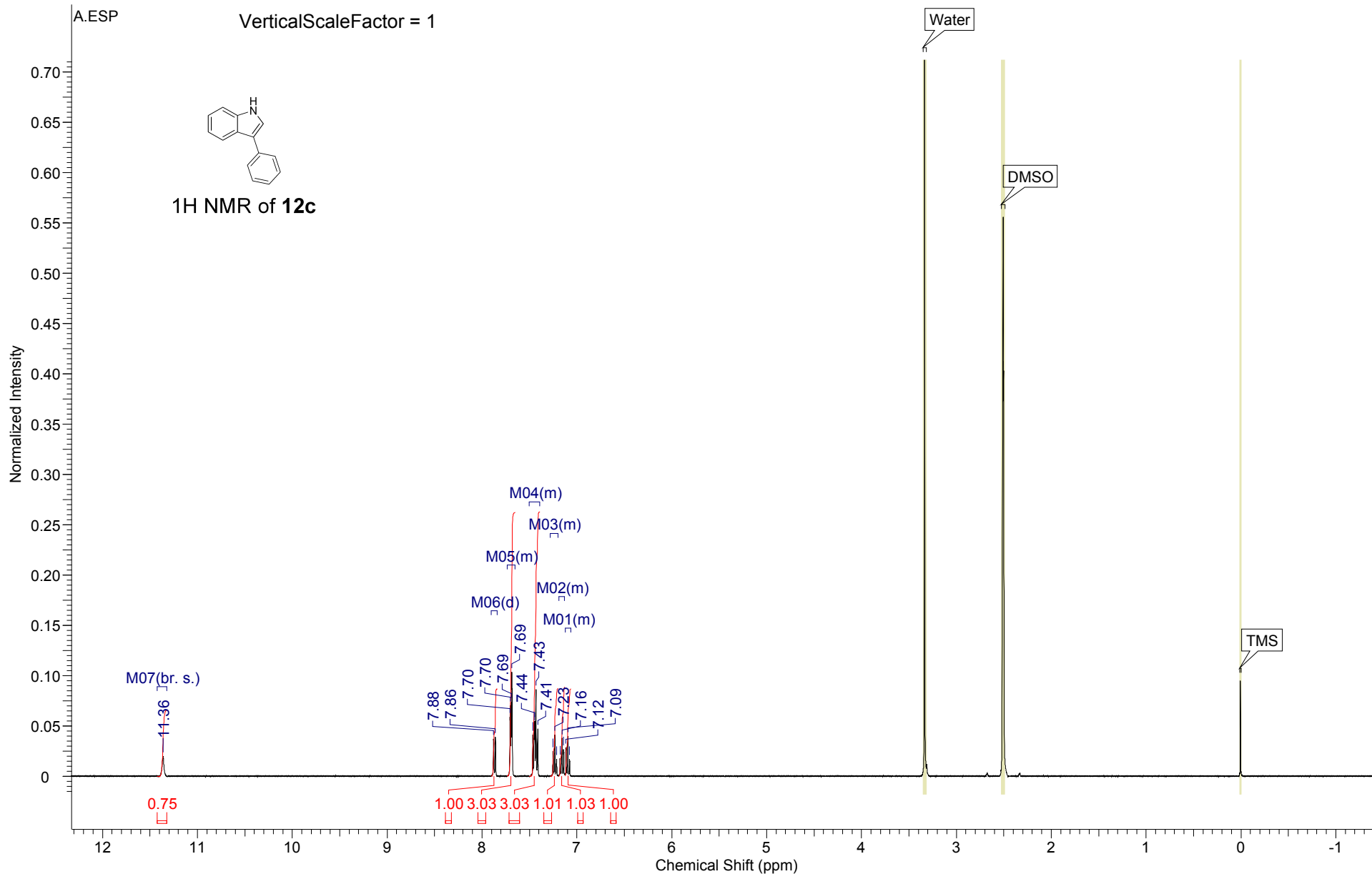


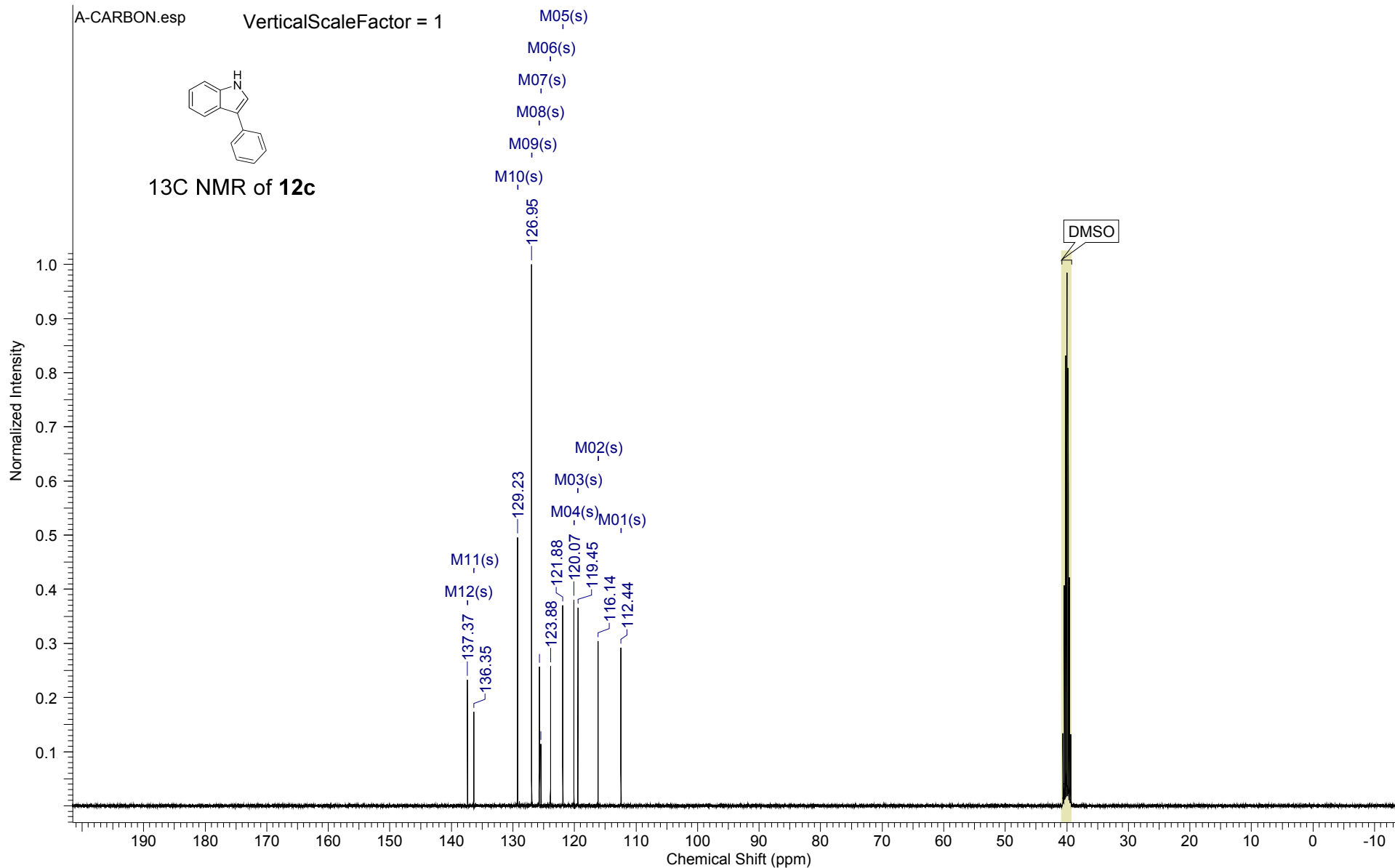
Figure S9. LCMS characterization of catalyst **6** or **11** with BrCH_2CN added and kept in the dark for 30 min.

NMR Spectra

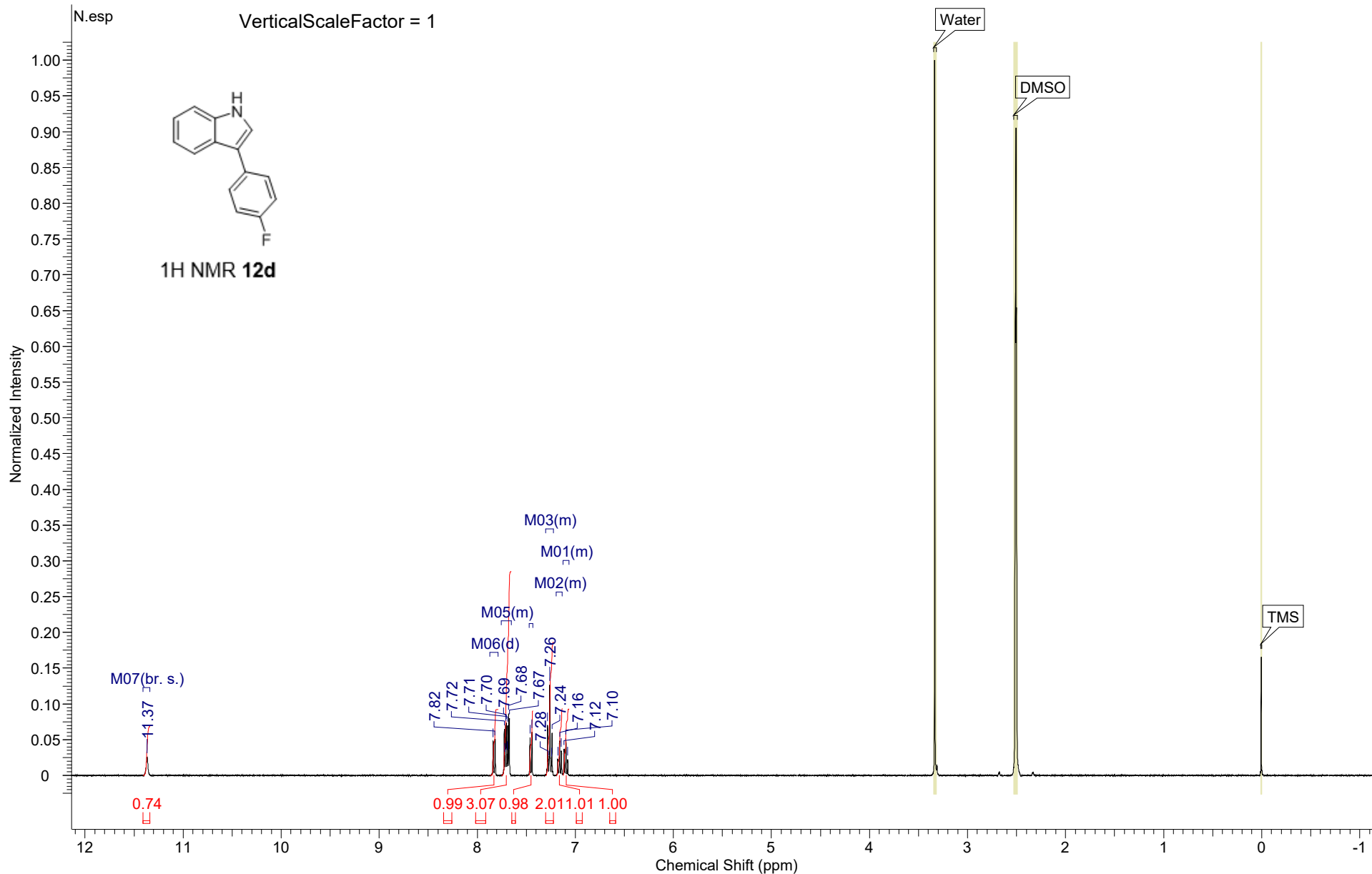
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				Pulse Sequence	zg30
				Spectrum Type	STANDARD



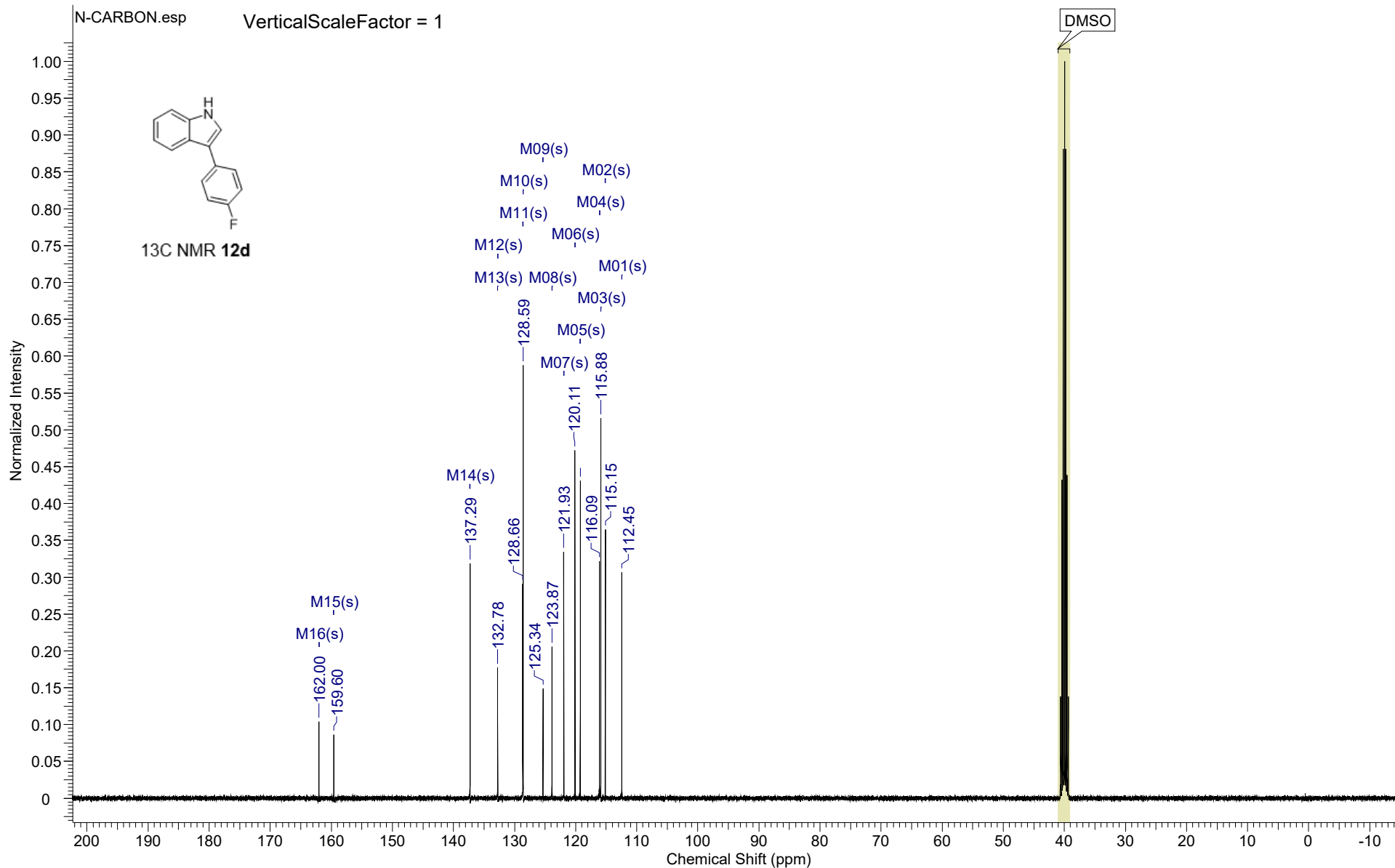
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Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	SW(cyclical) (Hz)	24038.46
Sweep Width (Hz)	24037.73	Temperature (degree C)	23.270	Spectrum Type	STANDARD



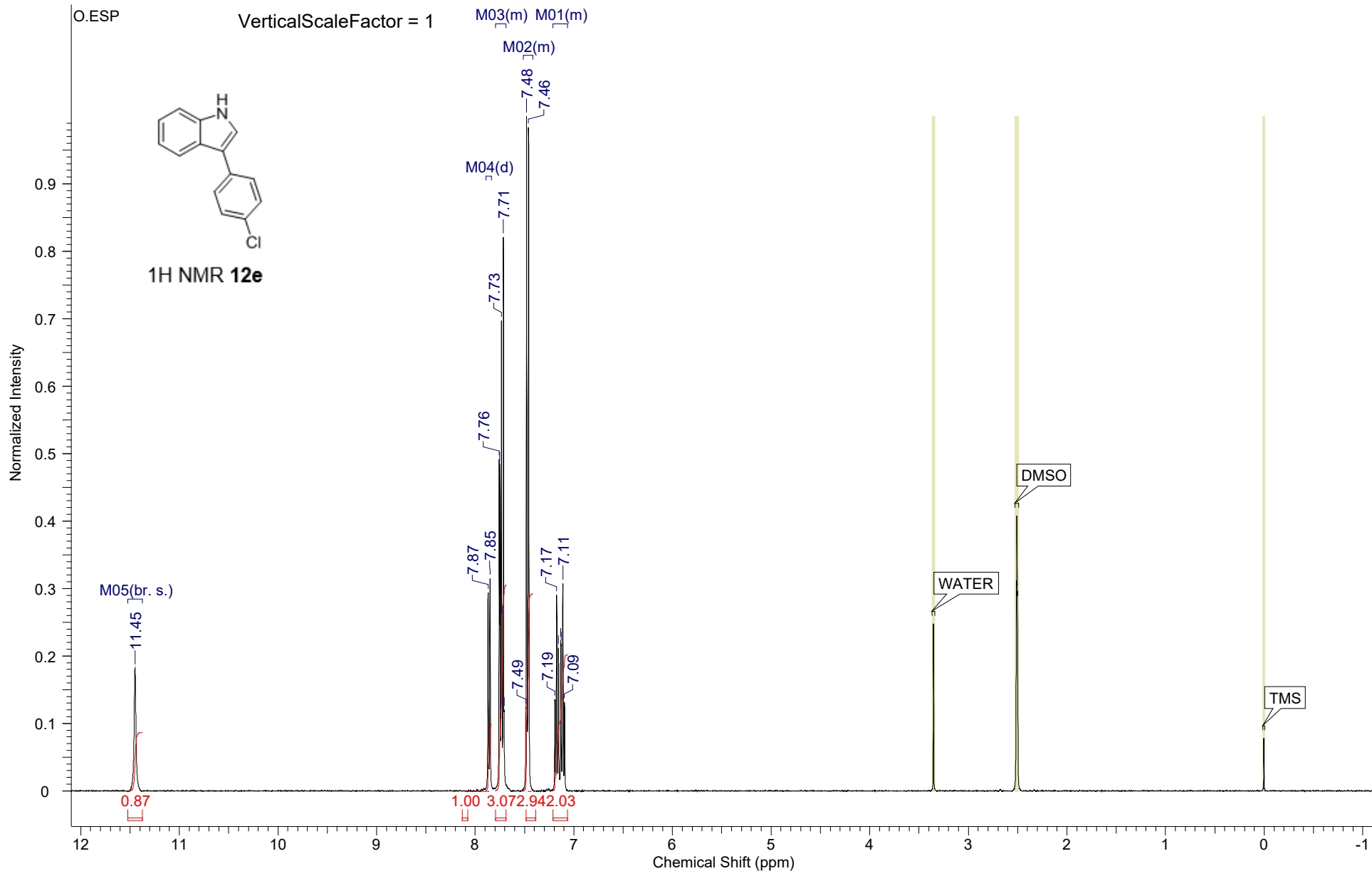
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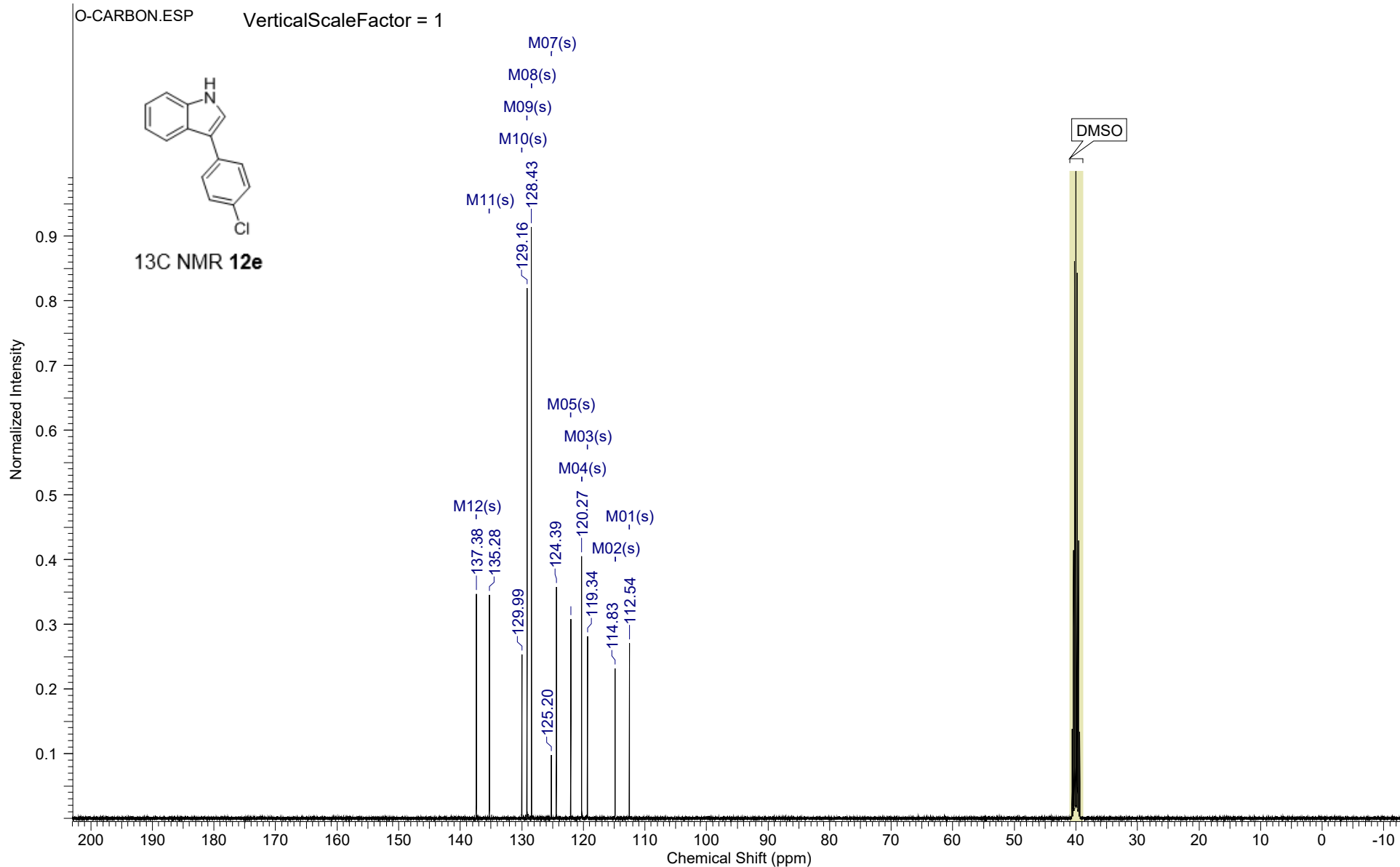
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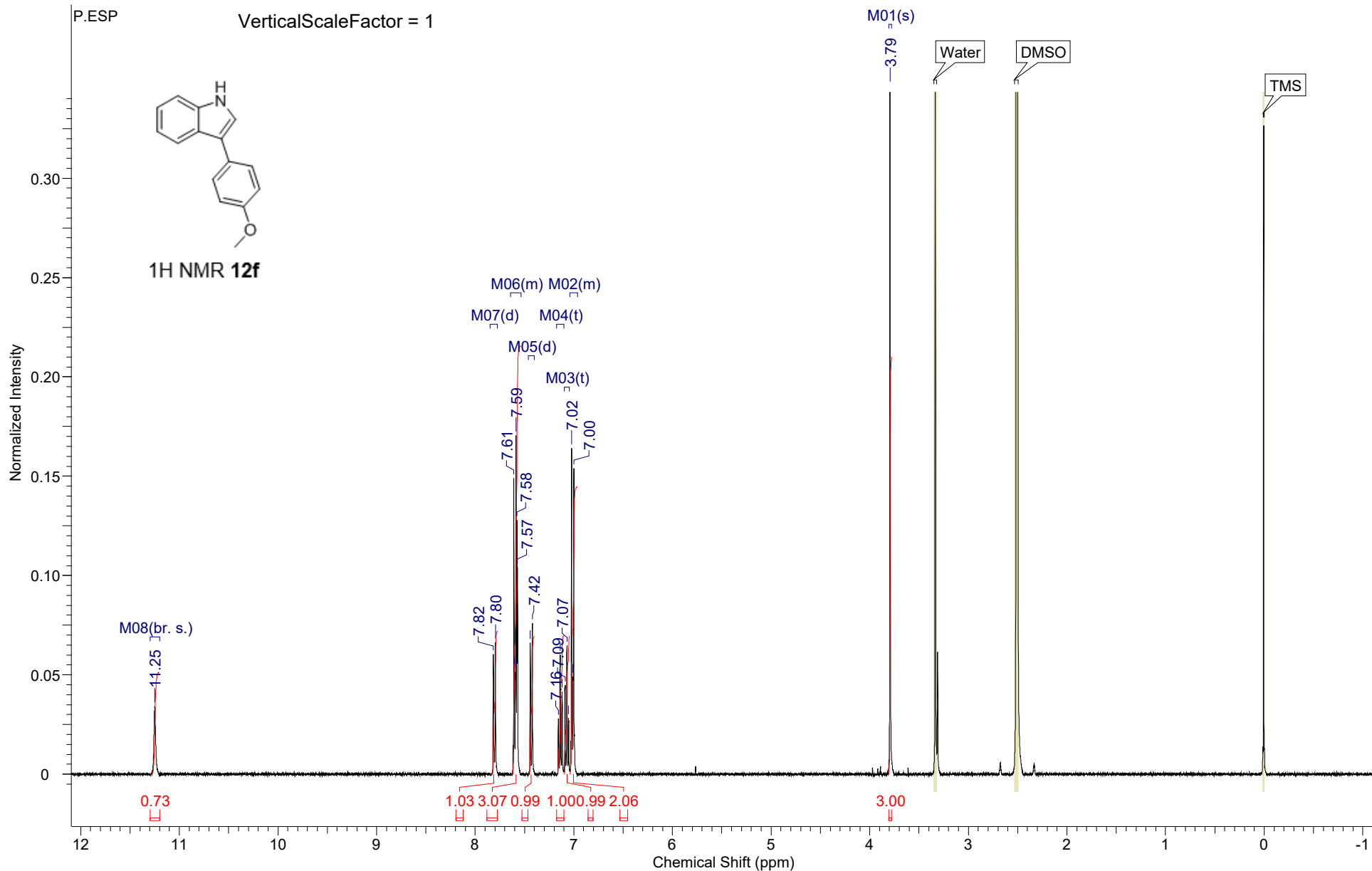
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				Spectrum Type	STANDARD



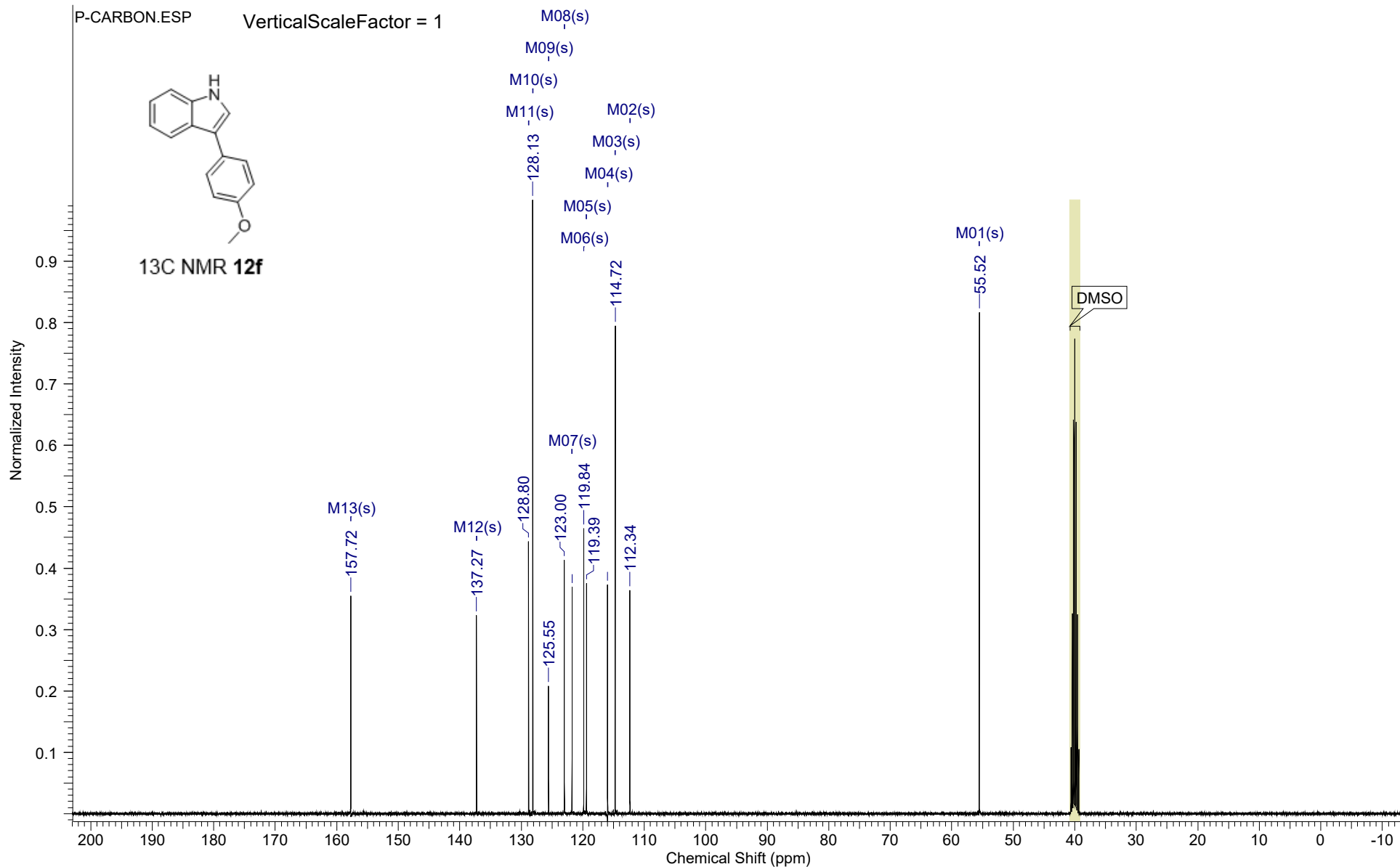
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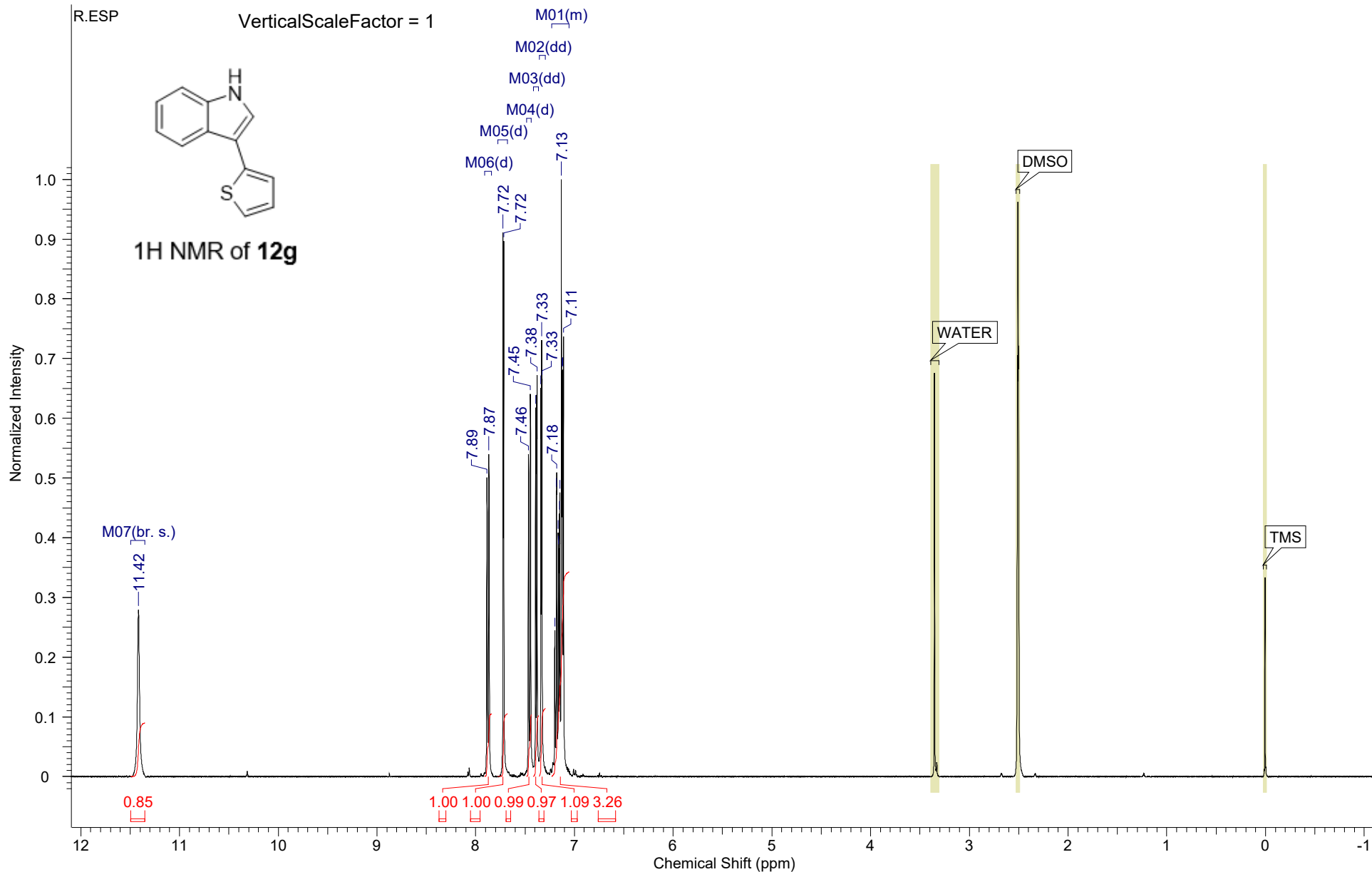
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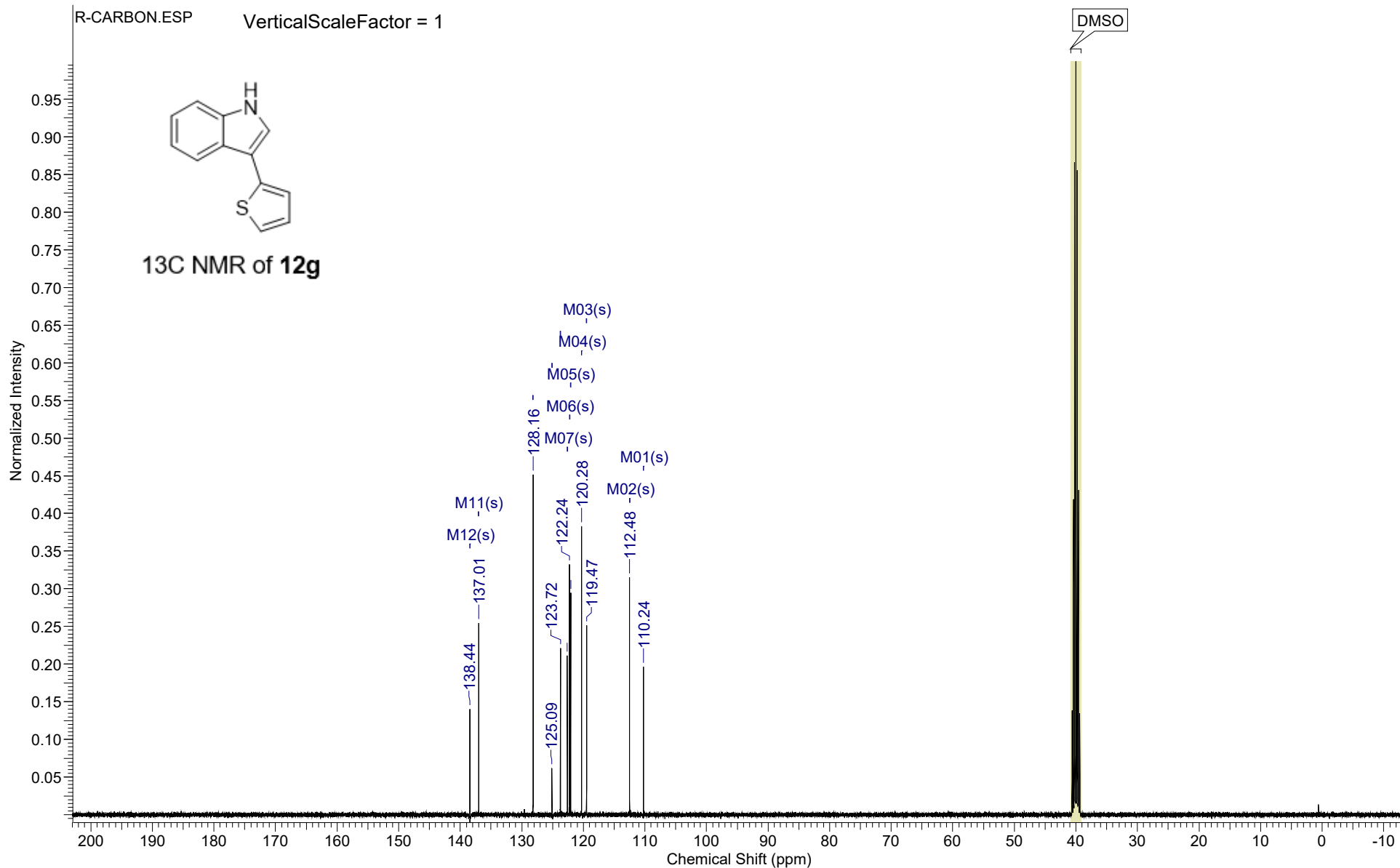
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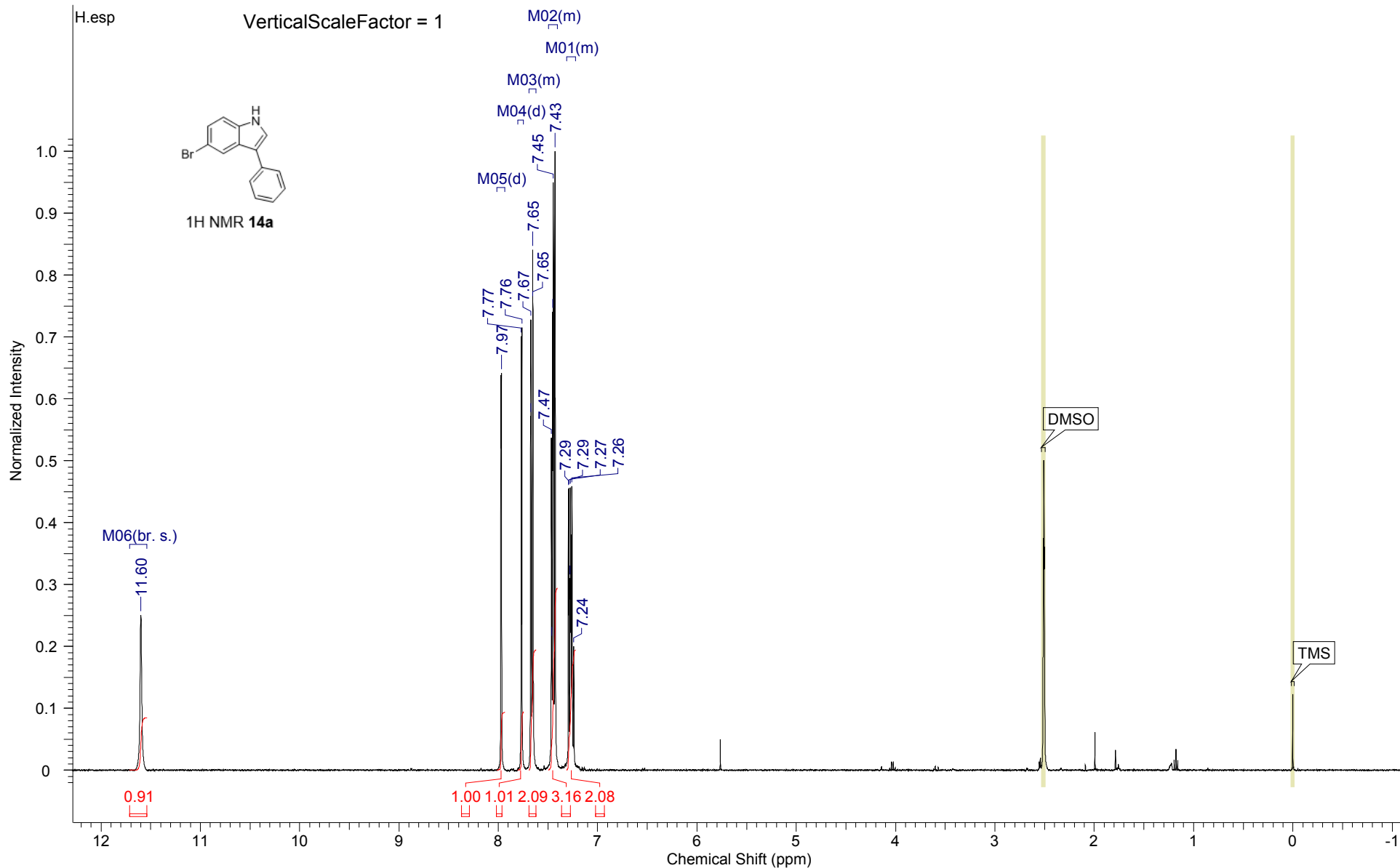
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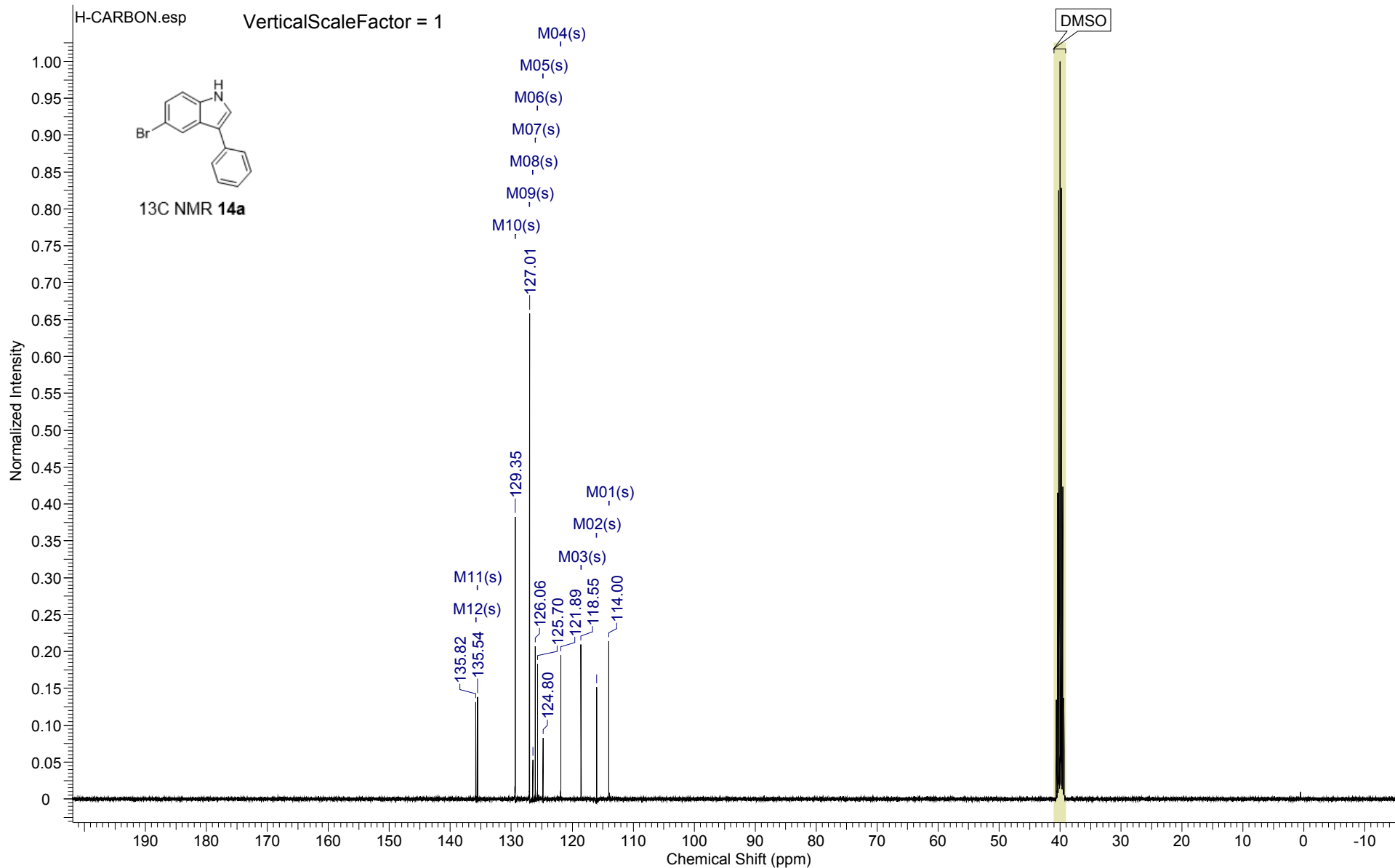
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Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
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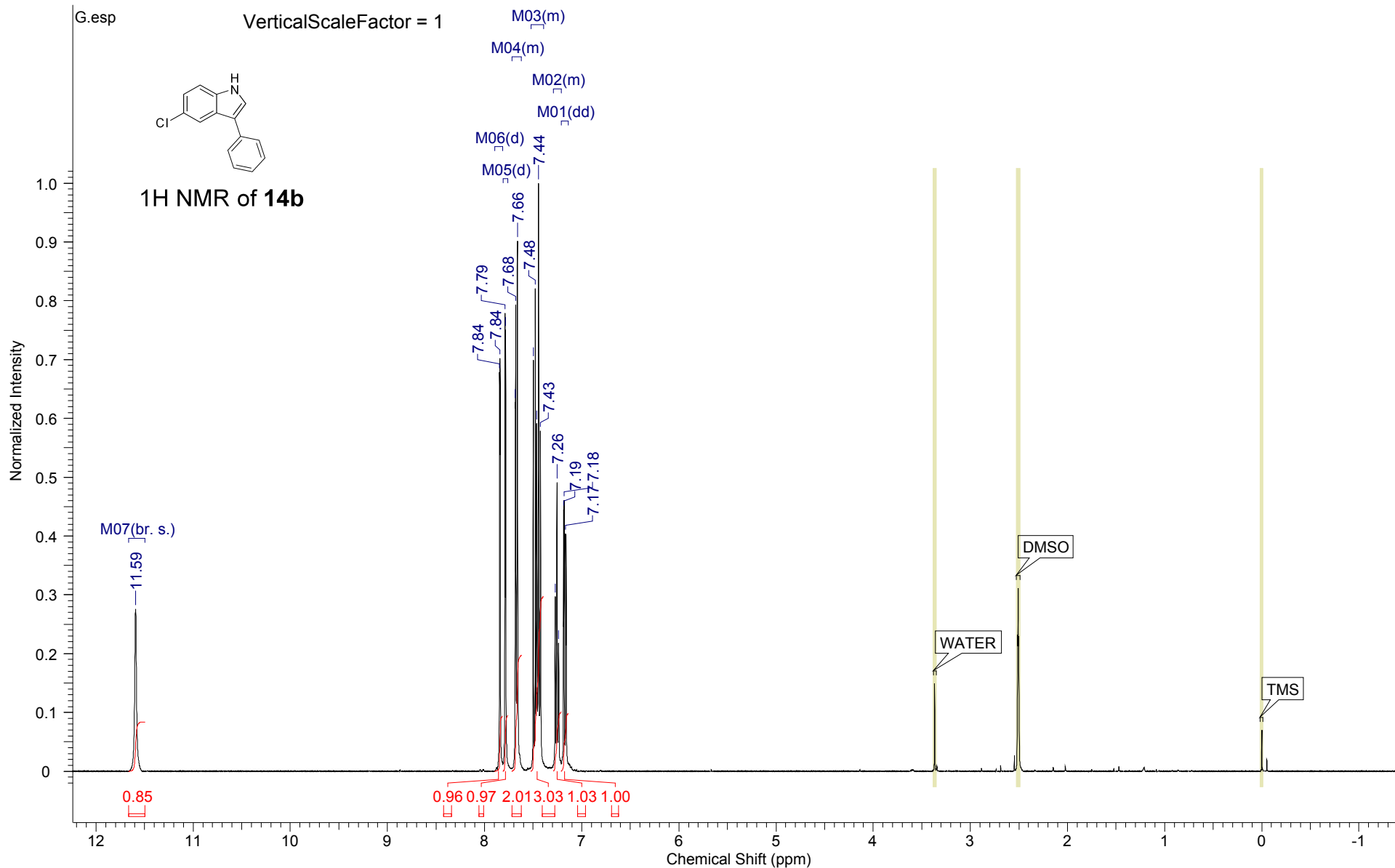
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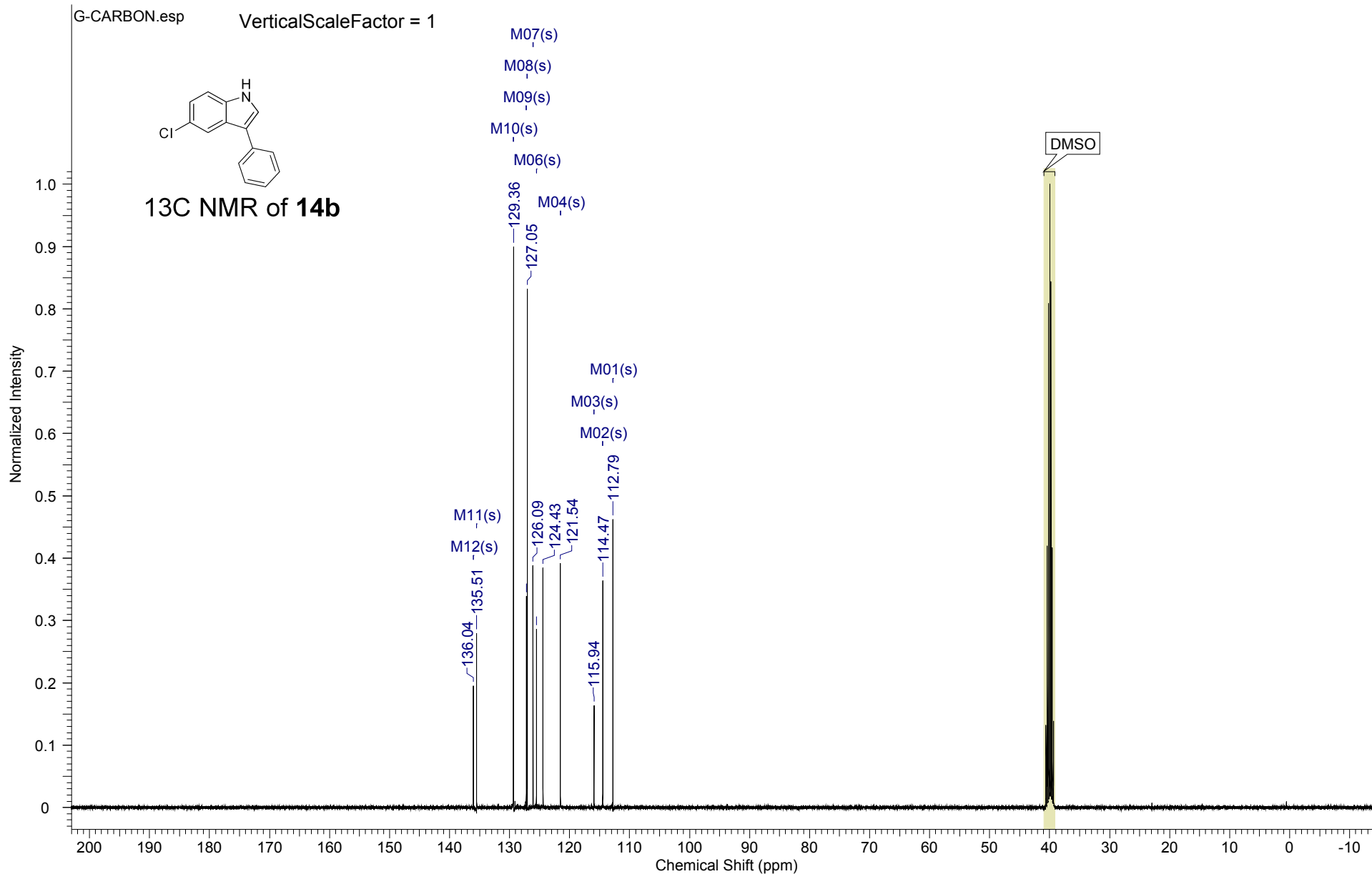
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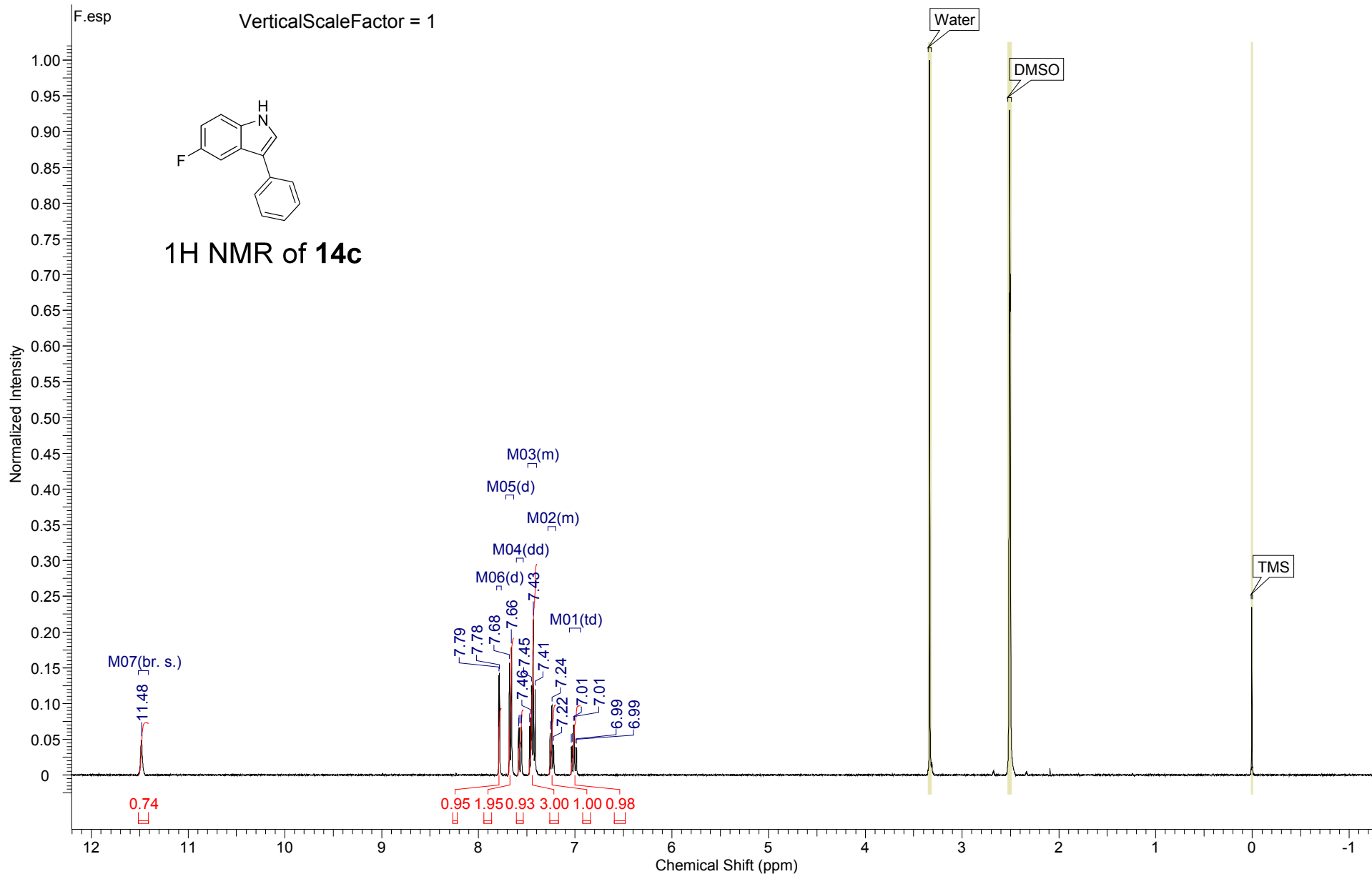
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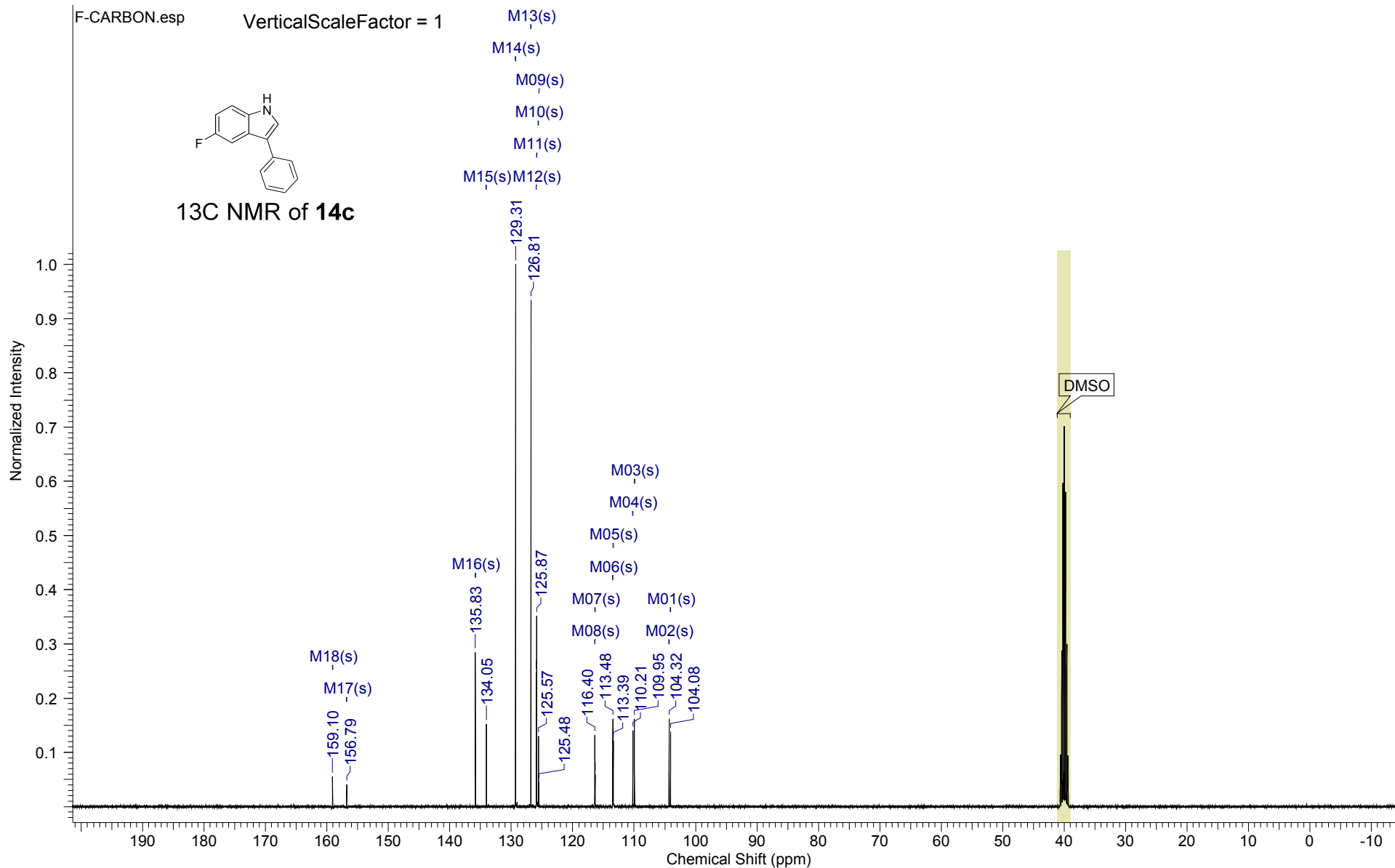
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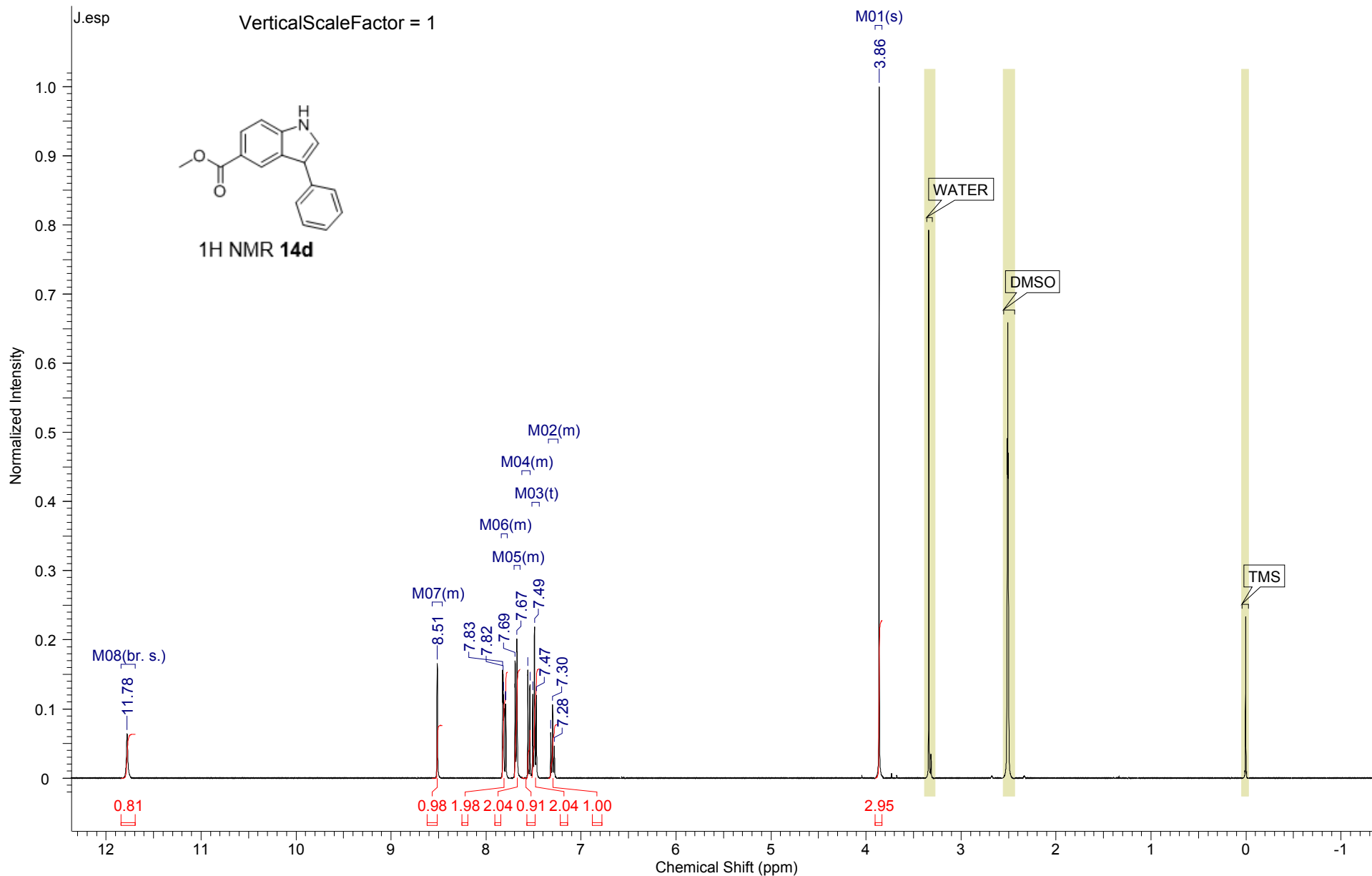
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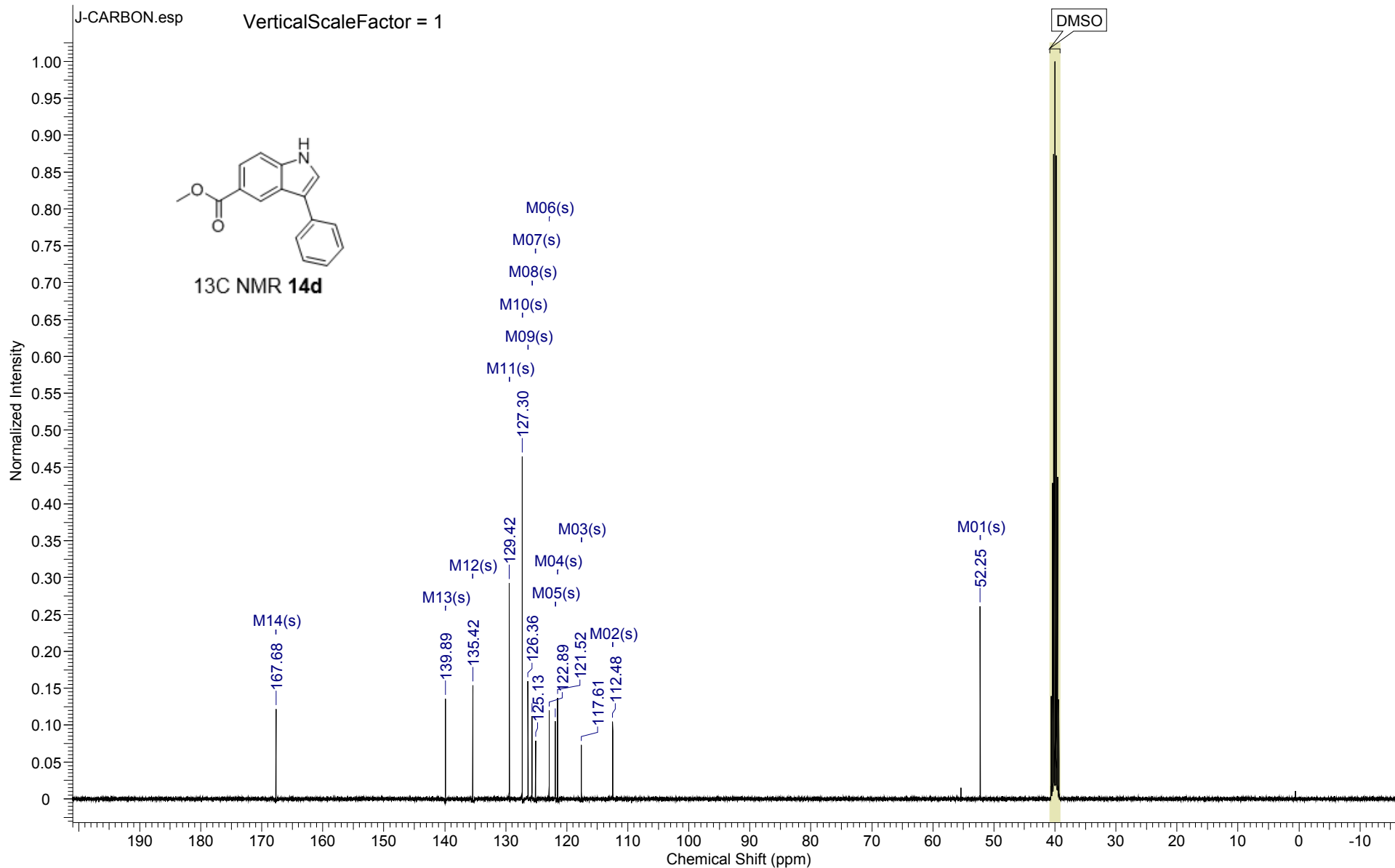
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Sweep Width (Hz)	24037.73	Temperature (degree C)	22.973	Spectrum Type	STANDARD



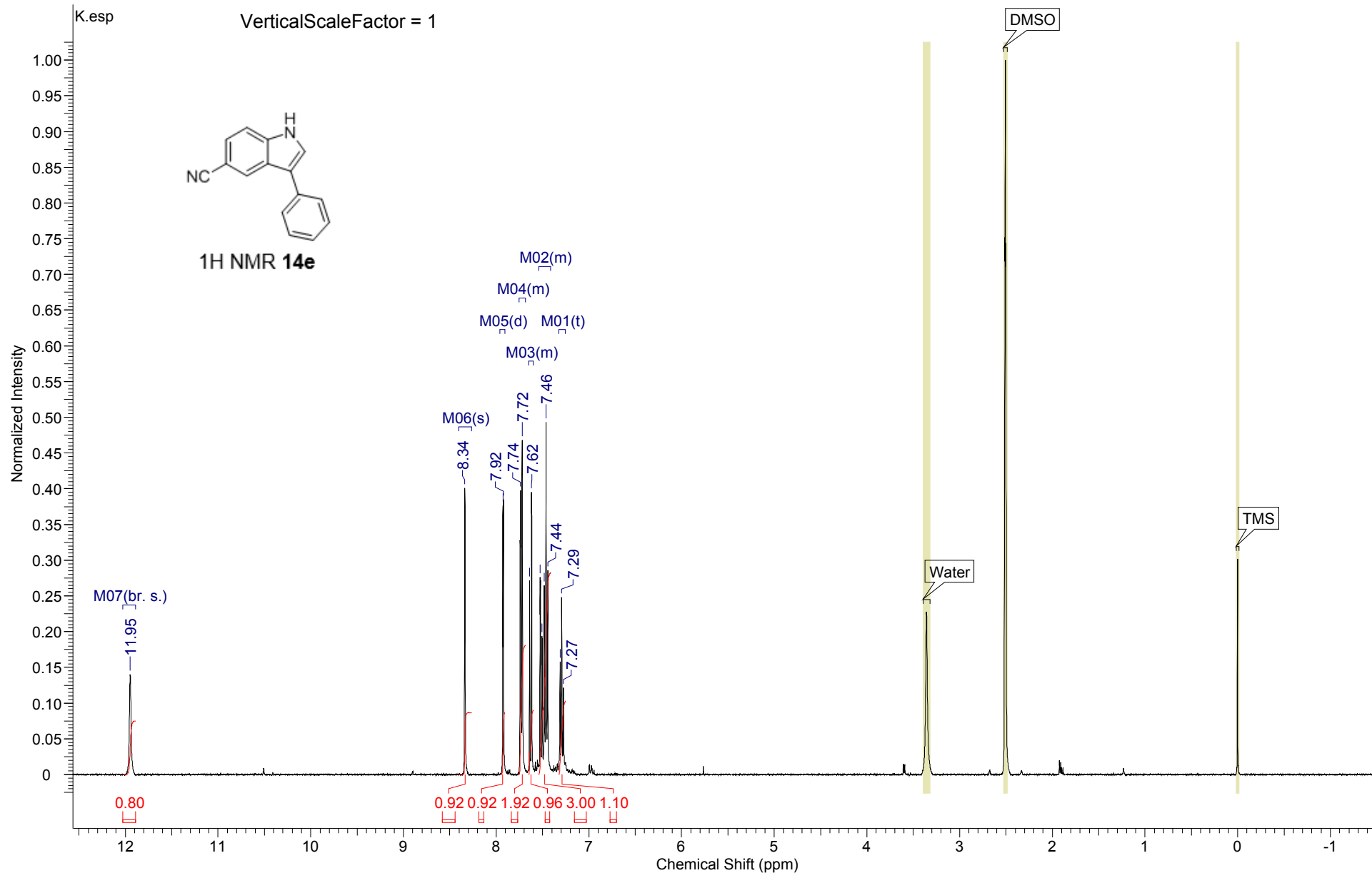
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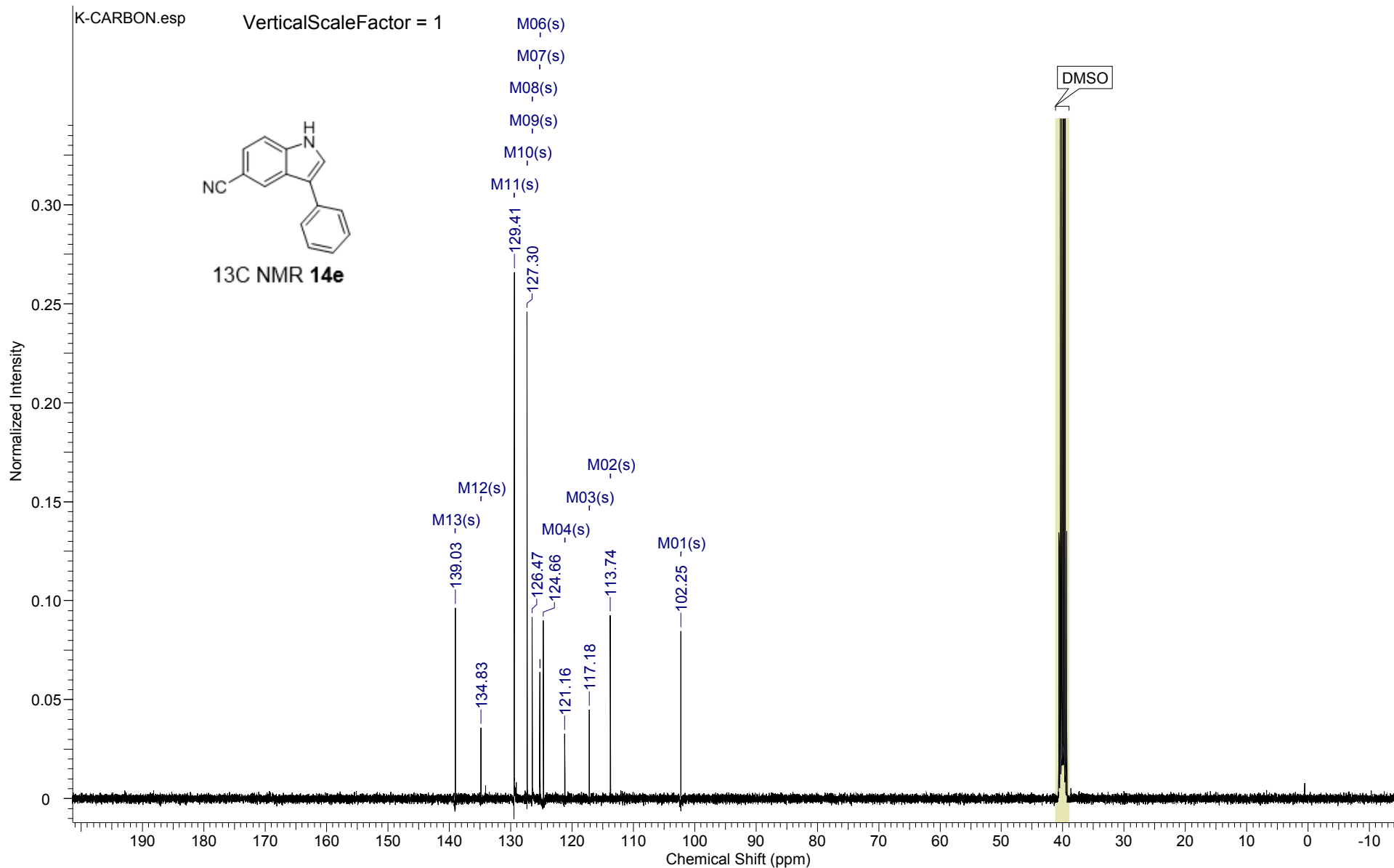
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Temperature (degree C)	23.340						



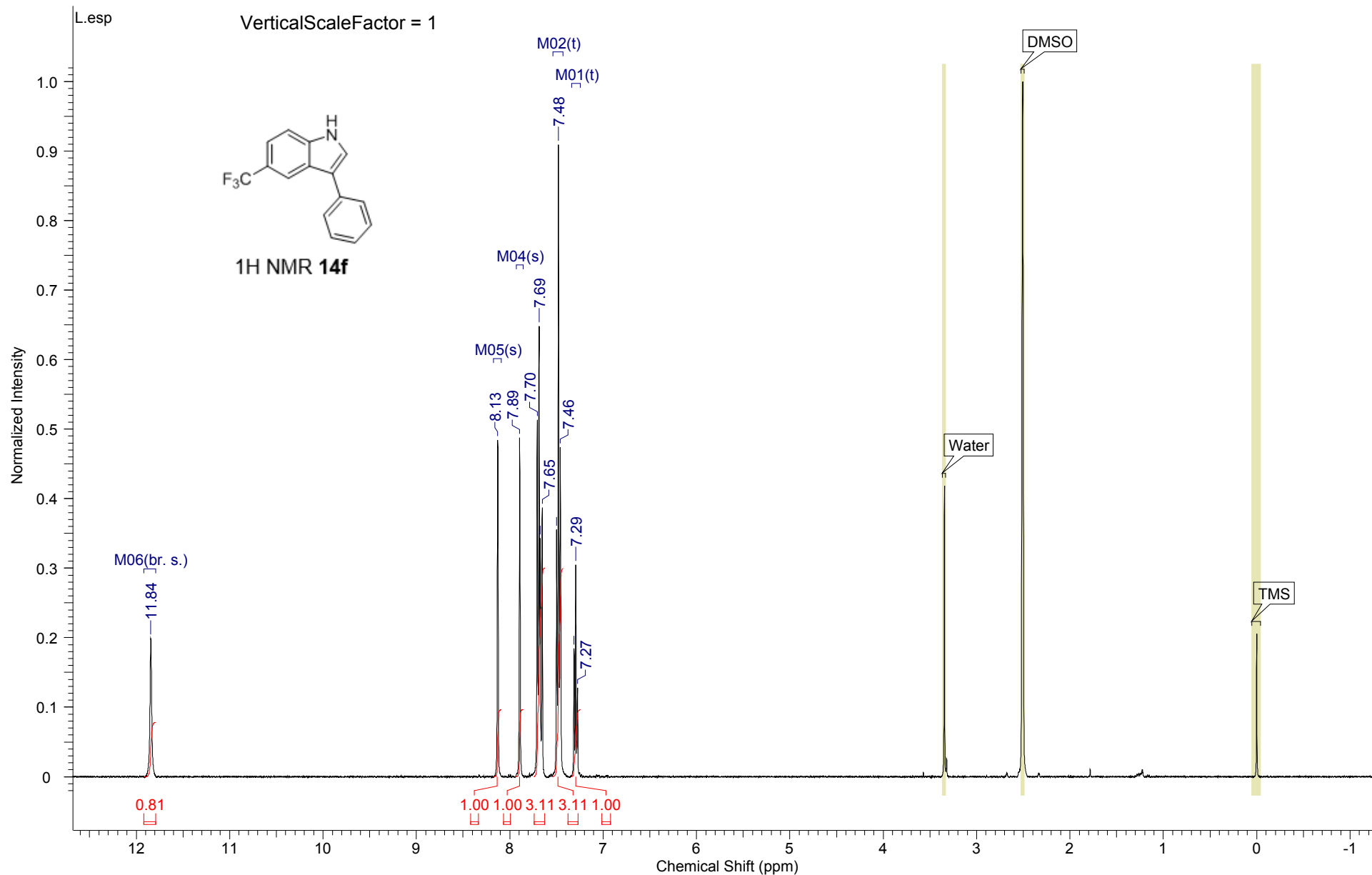
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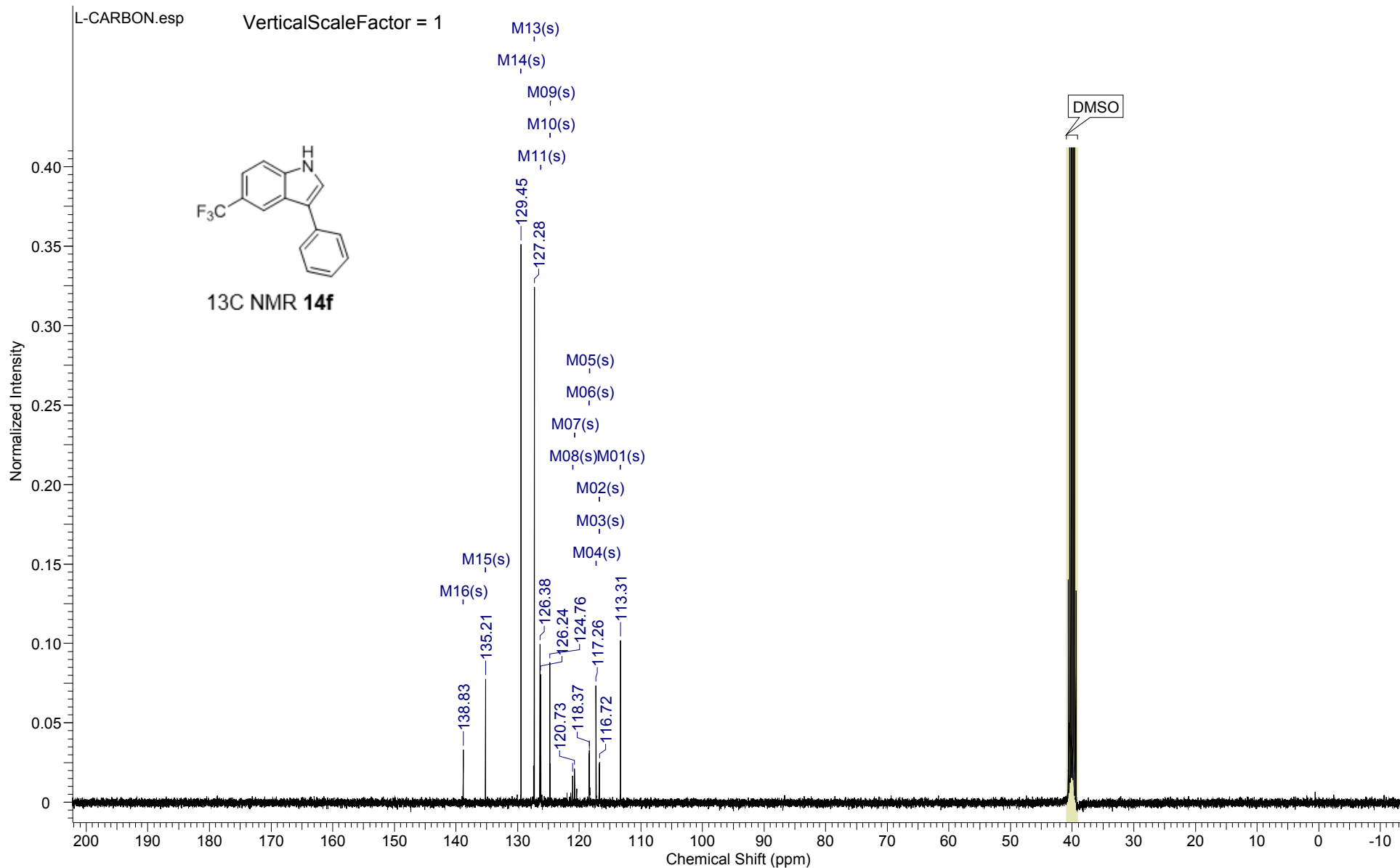
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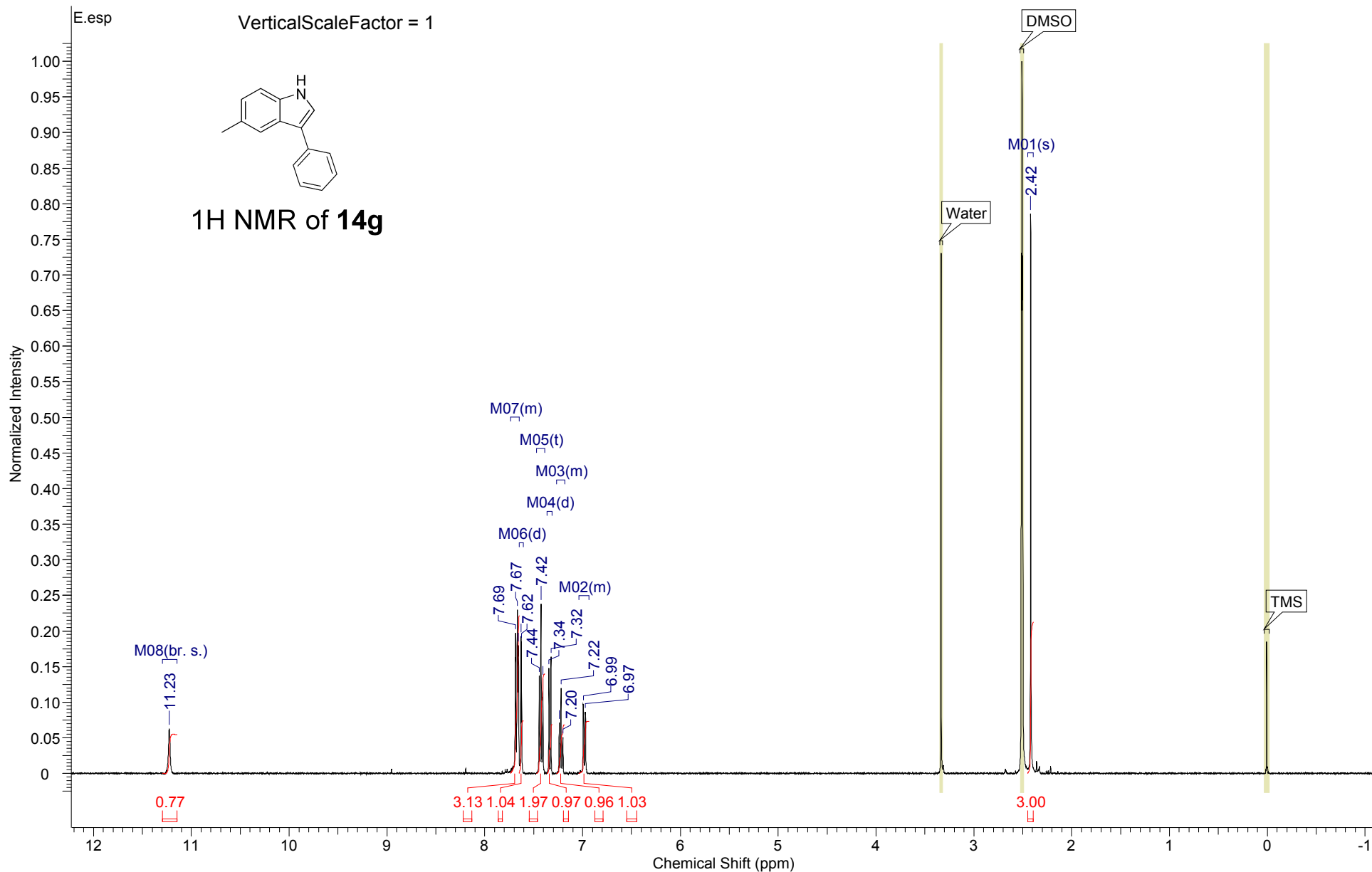
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				Spectrum Type	STANDARD



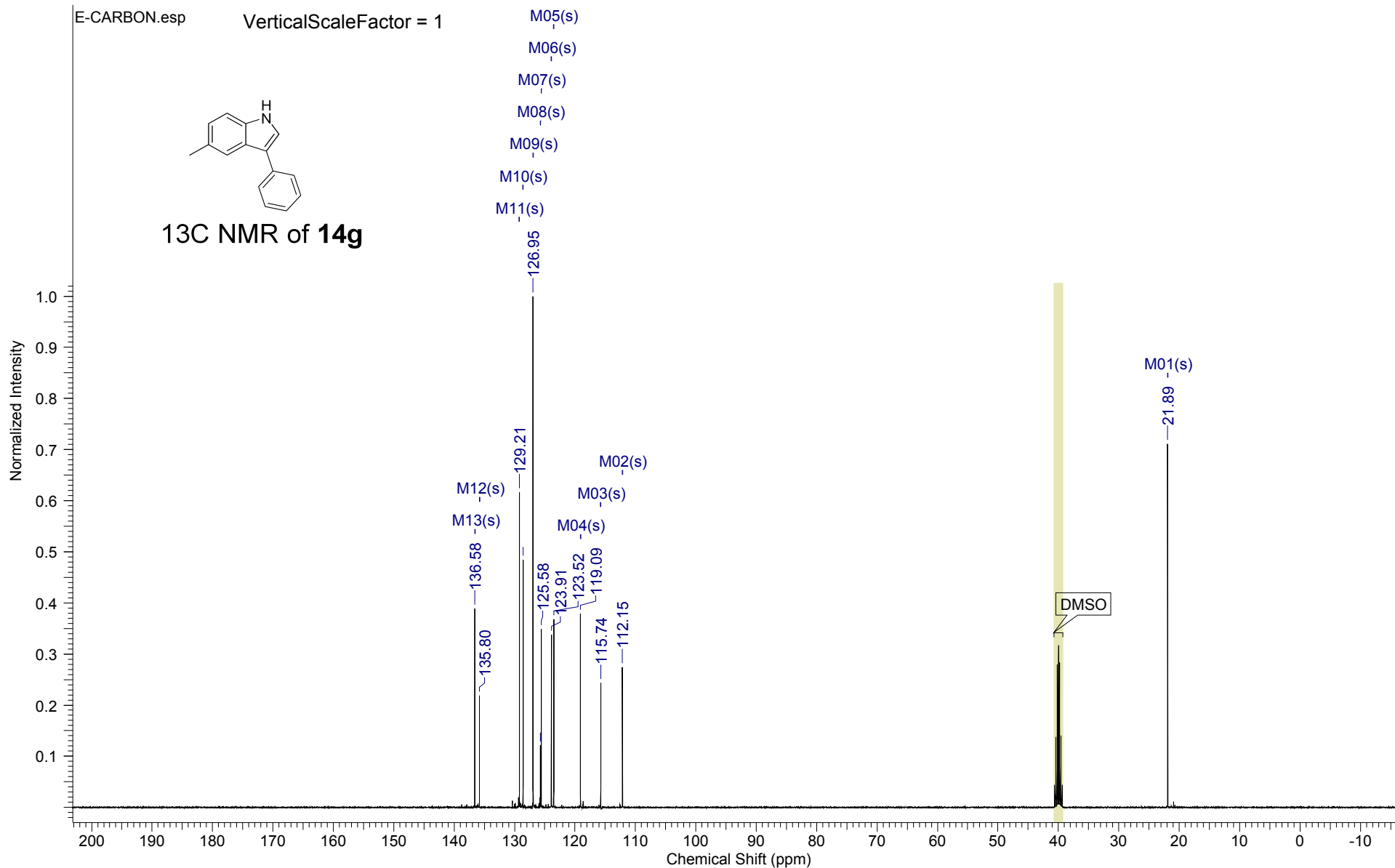
Acquisition Time (sec)	1.3631	Date	04 Aug 2017 06:41:20	Date Stamp	04 Aug 2017 06:41:20
File Name	D:\NMR\CJO\CJO-L\CARBON\fid	Frequency (MHz)	100.63	Nucleus	¹³ C
Number of Transients	3000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.617			SW(cyclical) (Hz)	24038.46
				Sweep Width (Hz)	24037.73



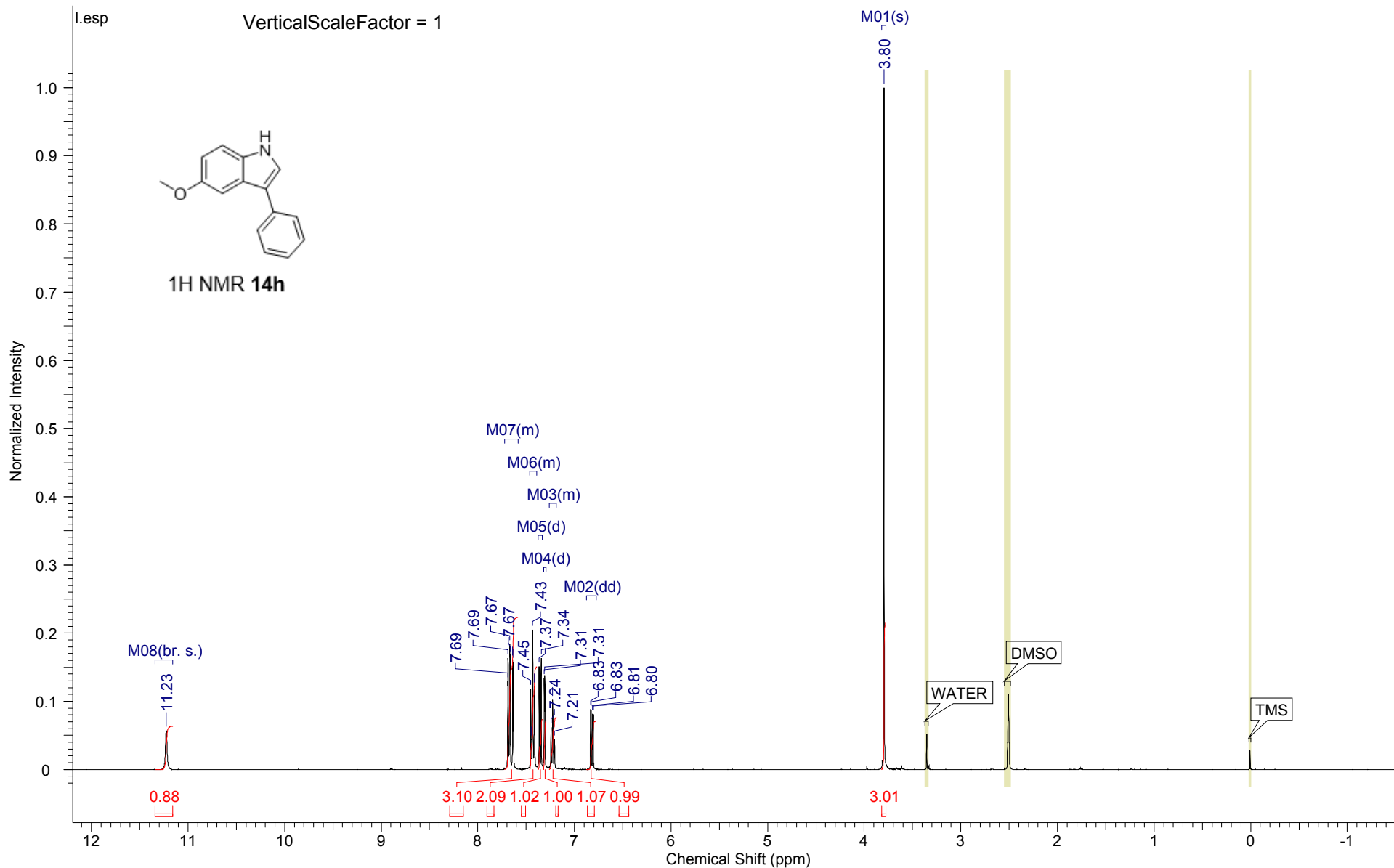
Acquisition Time (sec)	4.0894	Date	21 Jul 2017 08:15:12	Date Stamp	21 Jul 2017 08:15:12
File Name	D:\NMR\CJO\CJO-E1\fid	Frequency (MHz)	400.15	Nucleus	1H
Origin	spect	Original Points Count	32768	Owner	IND-NMR
Receiver Gain	141.25	SW(cyclical) (Hz)	8012.82	Points Count	32768
Sweep Width (Hz)	8012.58	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260
		Temperature (degree C)	22.747	Number of Transients	32
				Pulse Sequence	zg30
				Spectrum Type	STANDARD



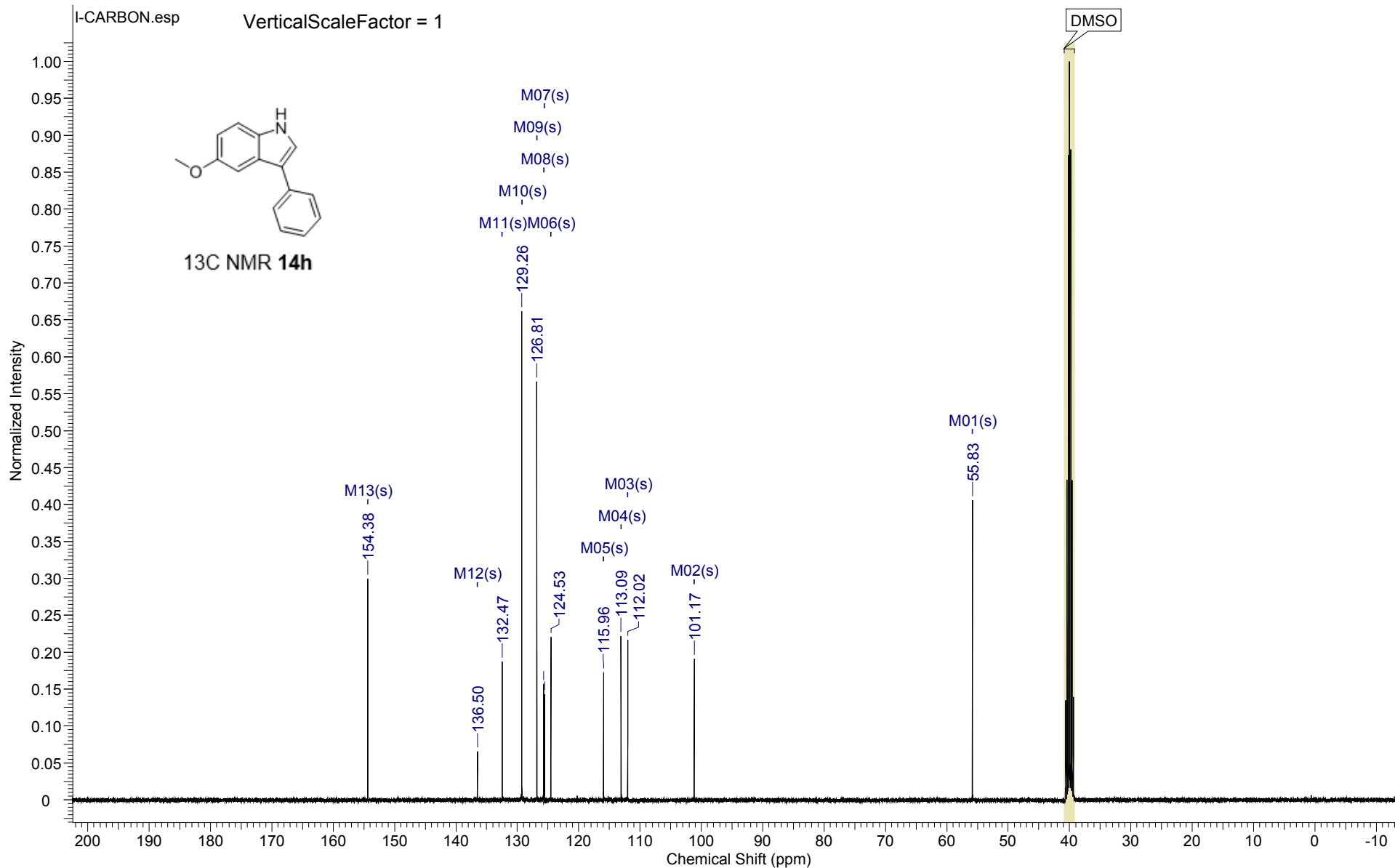
Acquisition Time (sec)	1.3631	Date	27 Jul 2017 05:41:36	Date Stamp	27 Jul 2017 05:41:36
File Name	D:\NMR\CJO\CJO-E\CARBON.fid	Frequency (MHz)	100.63	Nucleus	13C
Number of Transients	4000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	SW(cyclical) (Hz)	24038.46
Sweep Width (Hz)	24037.73	Temperature (degree C)	23.122	Spectrum Type	STANDARD



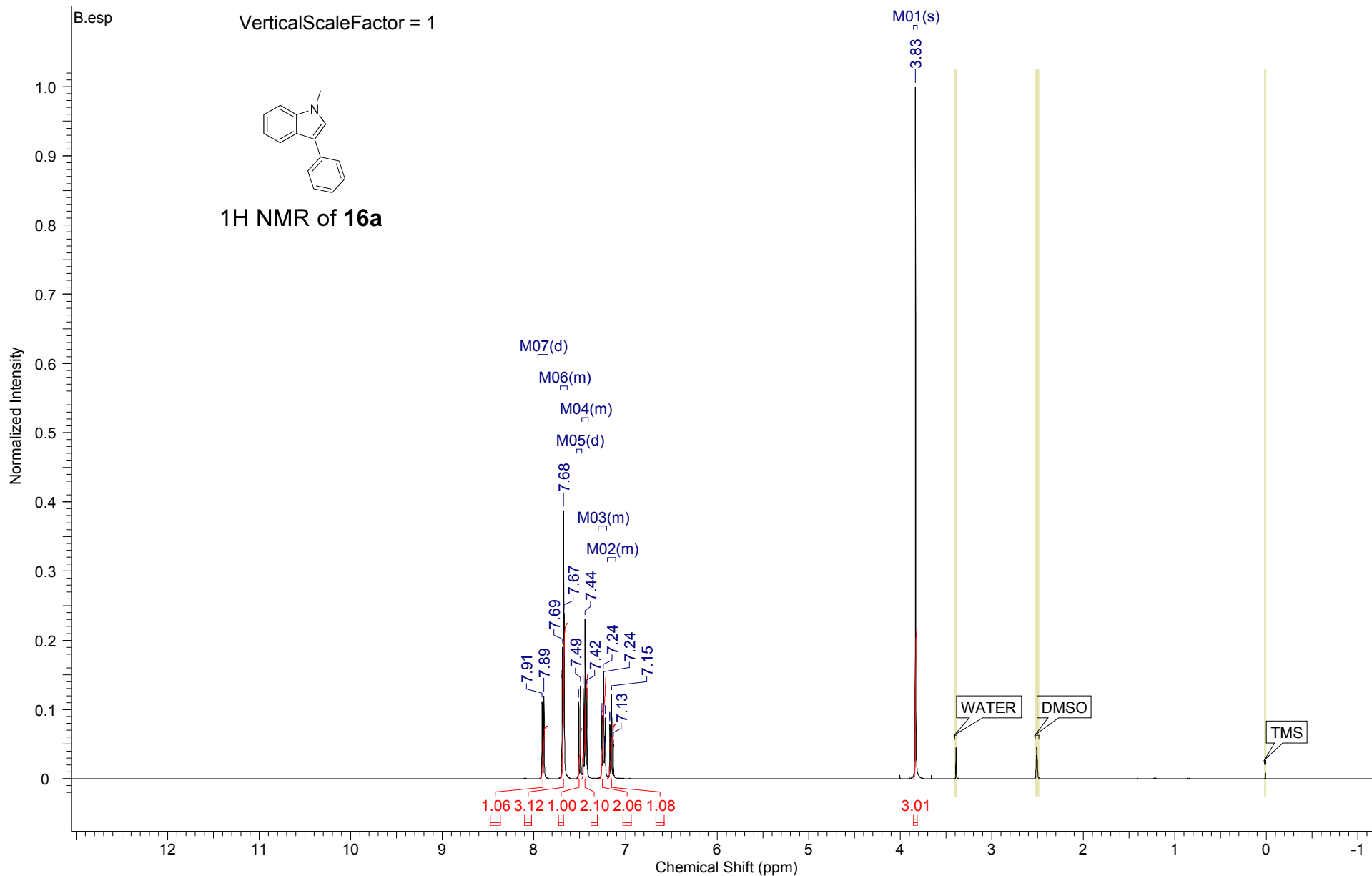
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File Name	D:\NMR\New folder\New folder\015-011(l)\1fid	Frequency (MHz)	400.15	Nucleus	1H
Number of Transients	16	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zg30	Receiver Gain	86.78
Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9255	Spectrum Type	STANDARD
Temperature (degree C)	22.609			SW(cyclical) (Hz)	8012.82
				Sweep Width (Hz)	8012.58



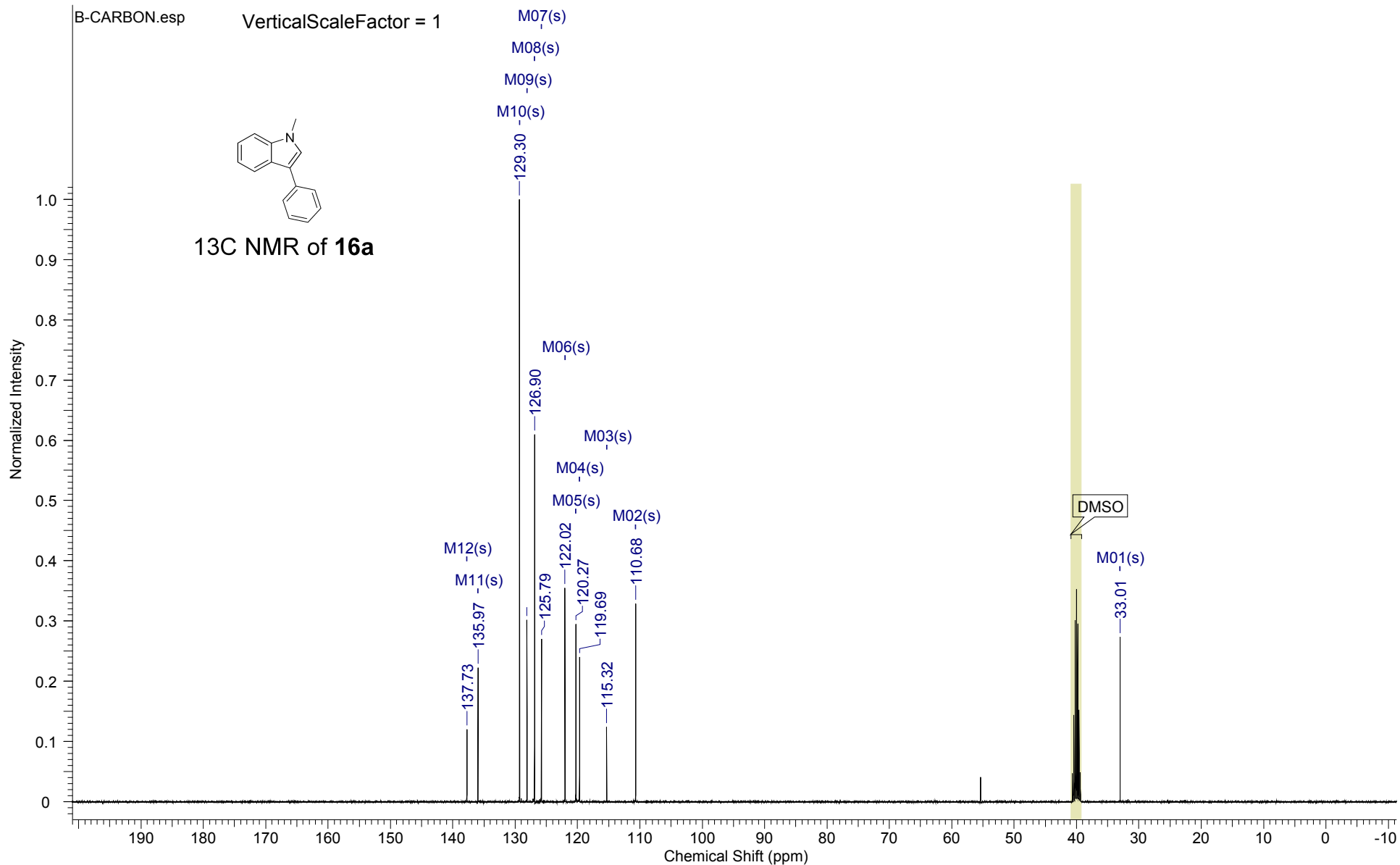
Acquisition Time (sec)	1.3631	Date	29 Jul 2017 11:29:20	Date Stamp	29 Jul 2017 11:29:20
File Name	D:\NMR\CJO\CJO-I-CARBON.fid	Frequency (MHz)	100.63	Nucleus	13C
Number of Transients	4000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	SW(cyclical) (Hz)	24038.46
Sweep Width (Hz)	24037.73	Temperature (degree C)	23.142	Spectrum Type	STANDARD



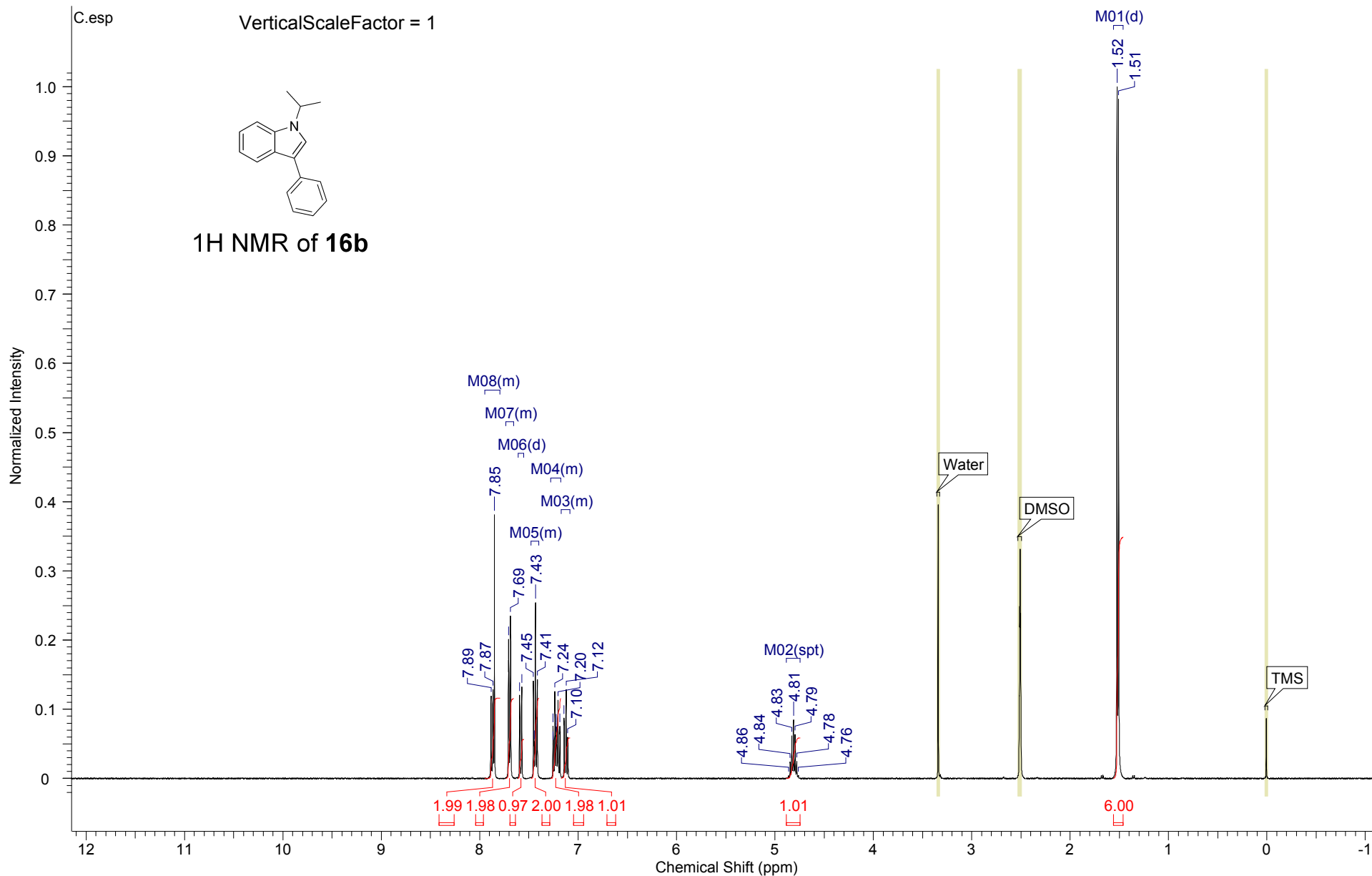
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File Name	D:\NMR\CJO\CJO-B\3\fid		Frequency (MHz)	400.15	Nucleus	1H	Number of Transients	32	
Origin	spect	Original Points Count	32768	Owner	IND-NMR	Points Count	32768	Pulse Sequence	zg30
Receiver Gain	30.74	SW(cyclical) (Hz)	8012.82	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260	Spectrum Type	STANDARD
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.511						



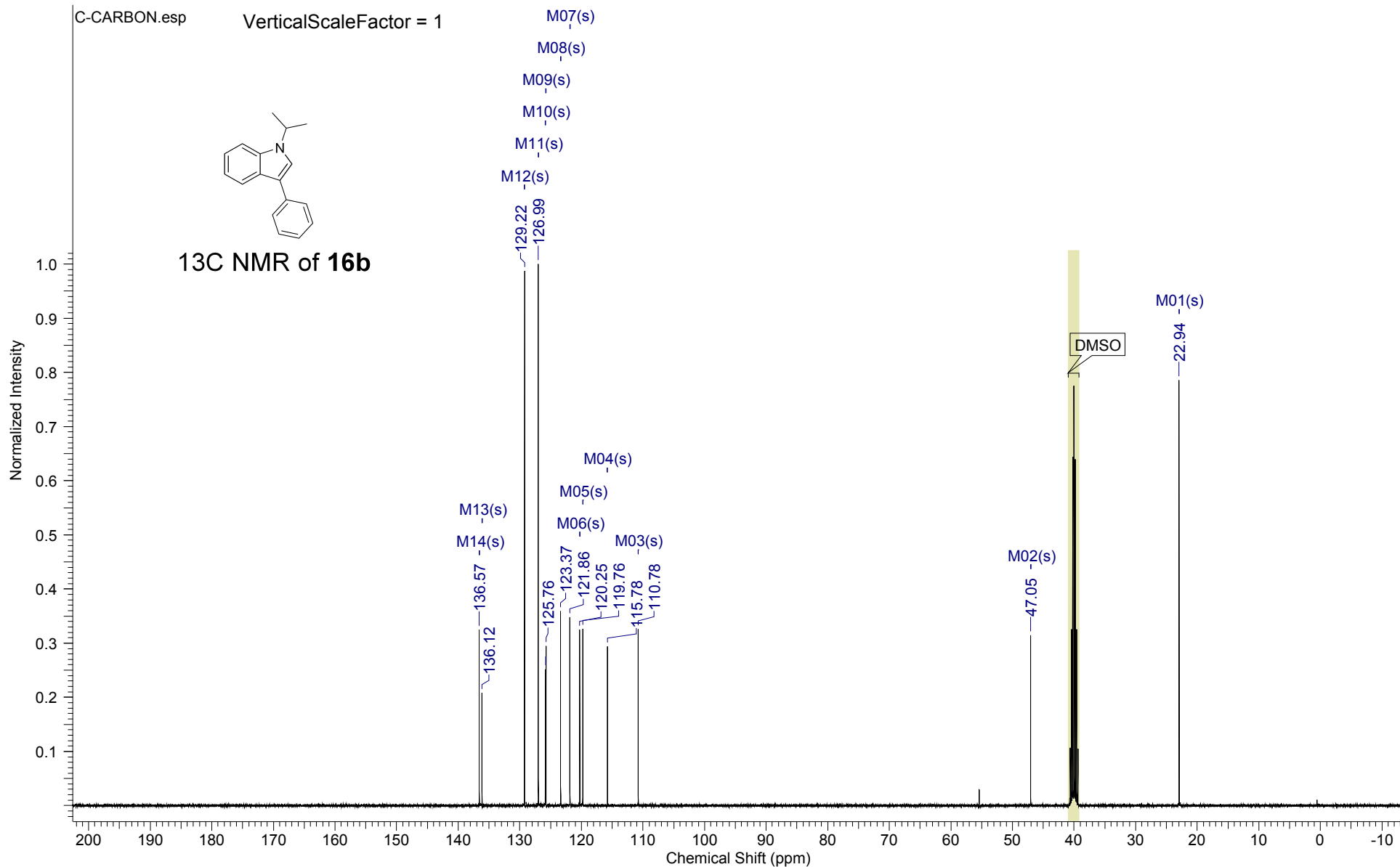
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File Name	D:\NMR\CJO\CJO-B\CARBON\fid	Frequency (MHz)	100.63	Nucleus	13C
Number of Transients	3000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	SW(cyclical) (Hz)	24038.46
Sweep Width (Hz)	24037.73	Temperature (degree C)	23.252	Spectrum Type	STANDARD



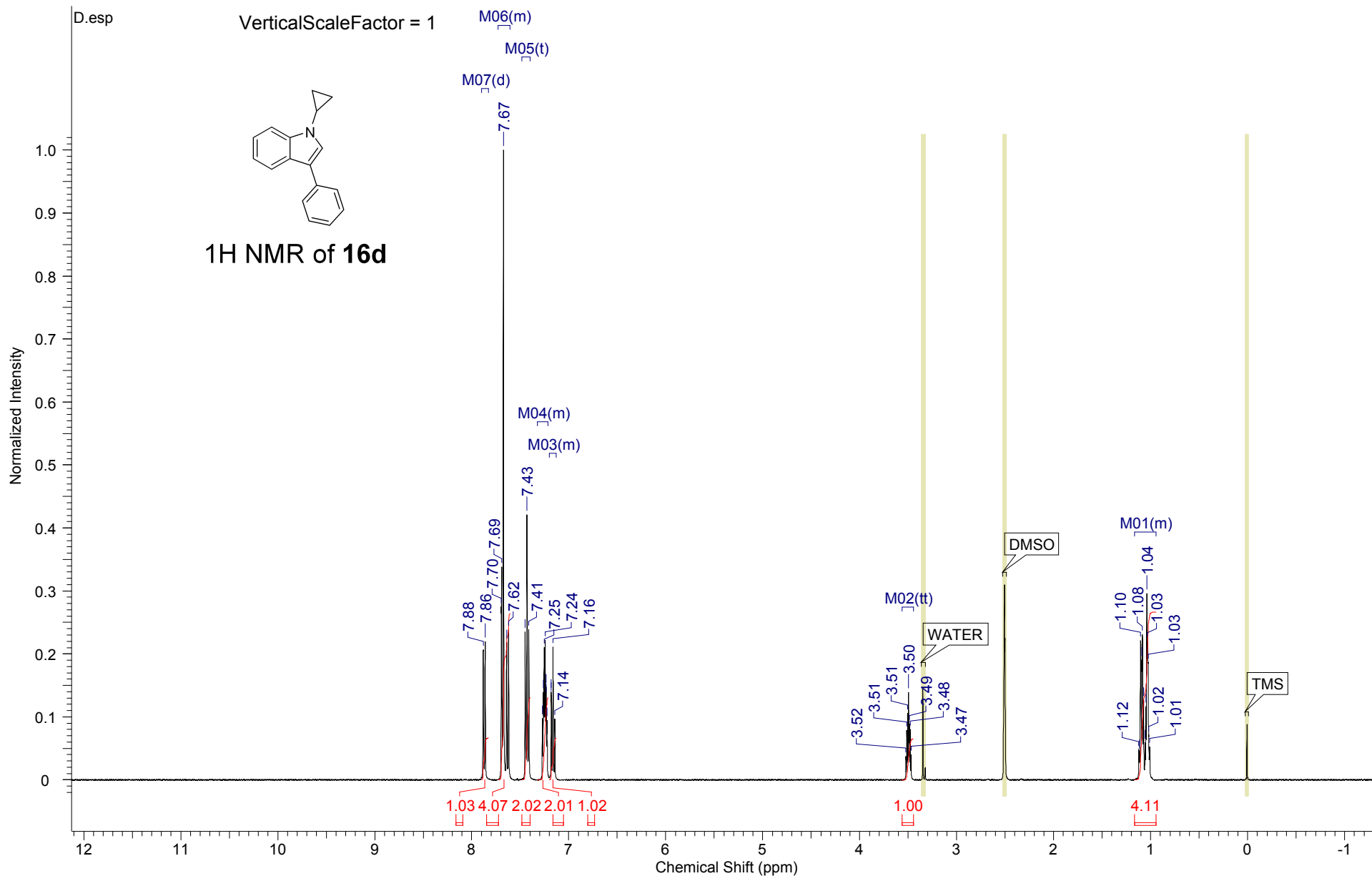
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File Name	D:\NMR\CJO\CJO-C\3\fid	Frequency (MHz)	400.15	Nucleus	¹ H
Origin	spect	Original Points Count	32768	Owner	IND-NMR
Receiver Gain	110.38	SW(cyclical) (Hz)	8012.82	Points Count	32768
Sweep Width (Hz)	8012.58	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260
		Temperature (degree C)	22.498	Number of Transients	32
				Pulse Sequence	zg30
				Spectrum Type	STANDARD



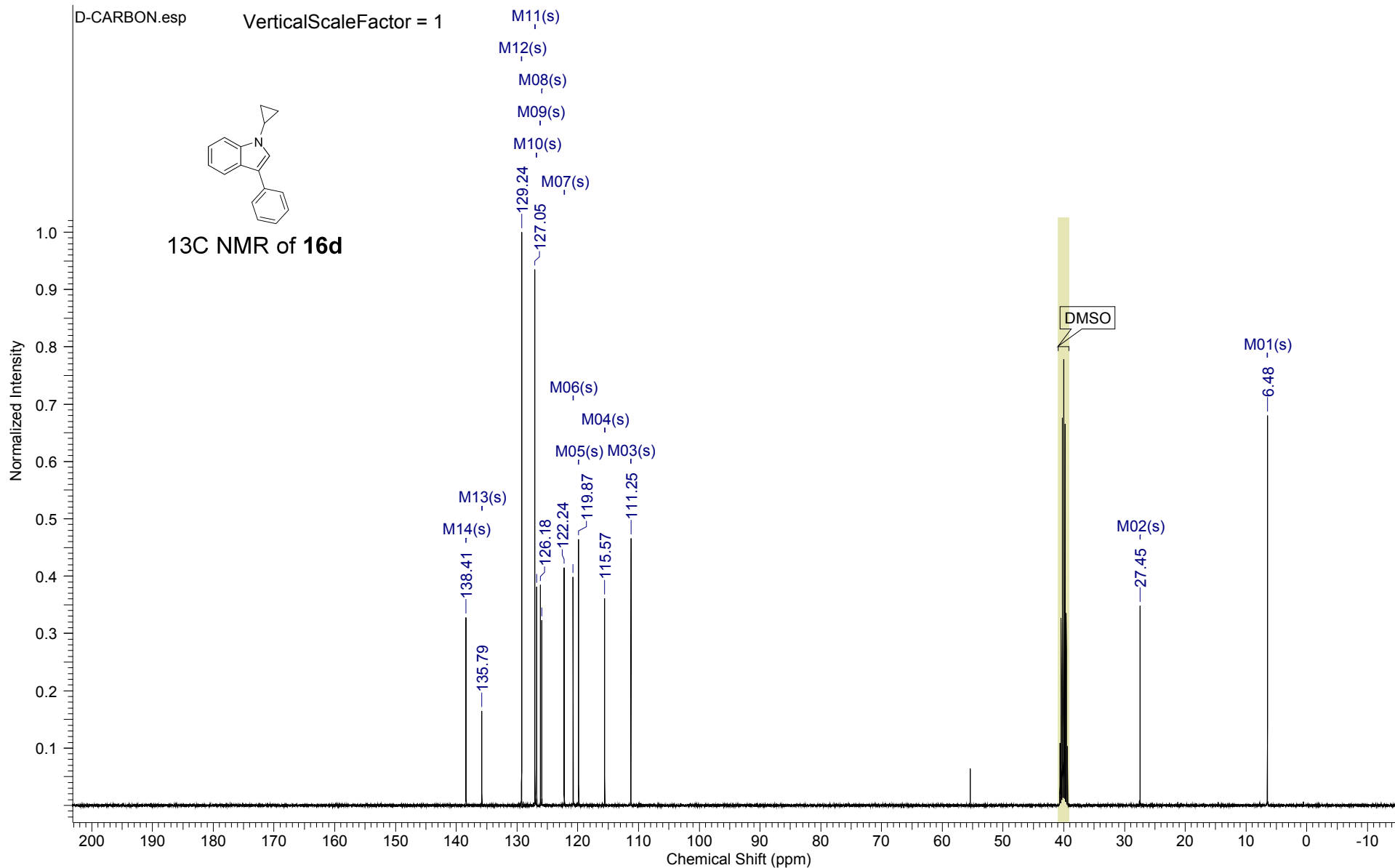
Acquisition Time (sec)	1.3631	Date	30 Jul 2017 04:26:56		Date Stamp	30 Jul 2017 04:26:56	
File Name	D:\NMR\CJO\CJO-C\CARBON\fid		Frequency (MHz)	100.63	Nucleus	13C	
Number of Transients	4000	Origin	spect	Original Points Count	32768	Owner	IND-NMR
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40	SW(cyclical) (Hz)	24038.46
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD		
Sweep Width (Hz)	24037.73	Temperature (degree C)	23.182				



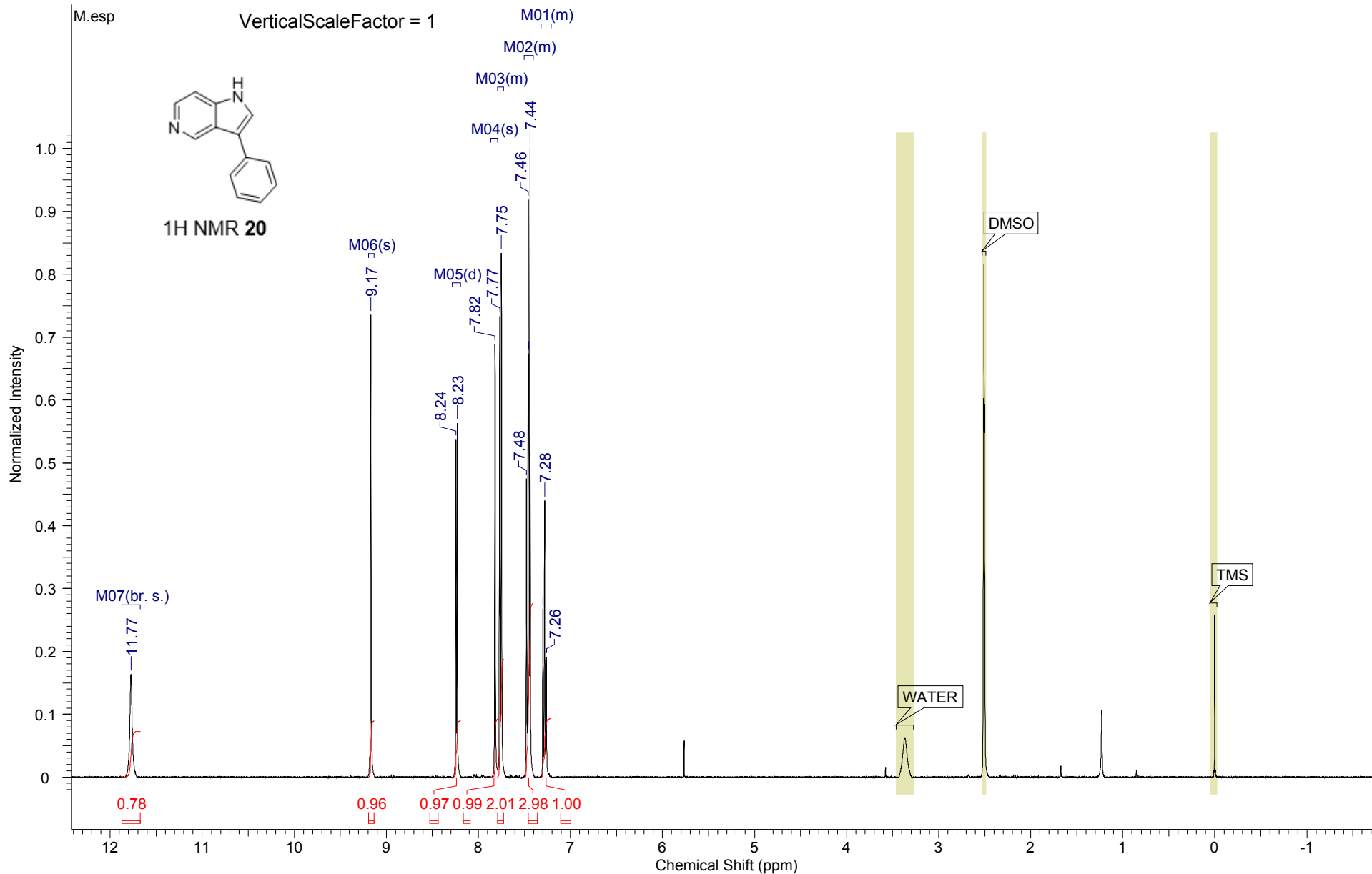
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File Name	D:\NMR\CJO\CJO-D\3\fid	Frequency (MHz)	400.15	Nucleus	¹ H
Origin	spect	Original Points Count	32768	Owner	IND-NMR
Receiver Gain	77.61	SW(cyclical) (Hz)	8012.82	Points Count	32768
Sweep Width (Hz)	8012.58	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260
		Temperature (degree C)	22.496	Number of Transients	32
				Pulse Sequence	zg30
				Spectrum Type	STANDARD



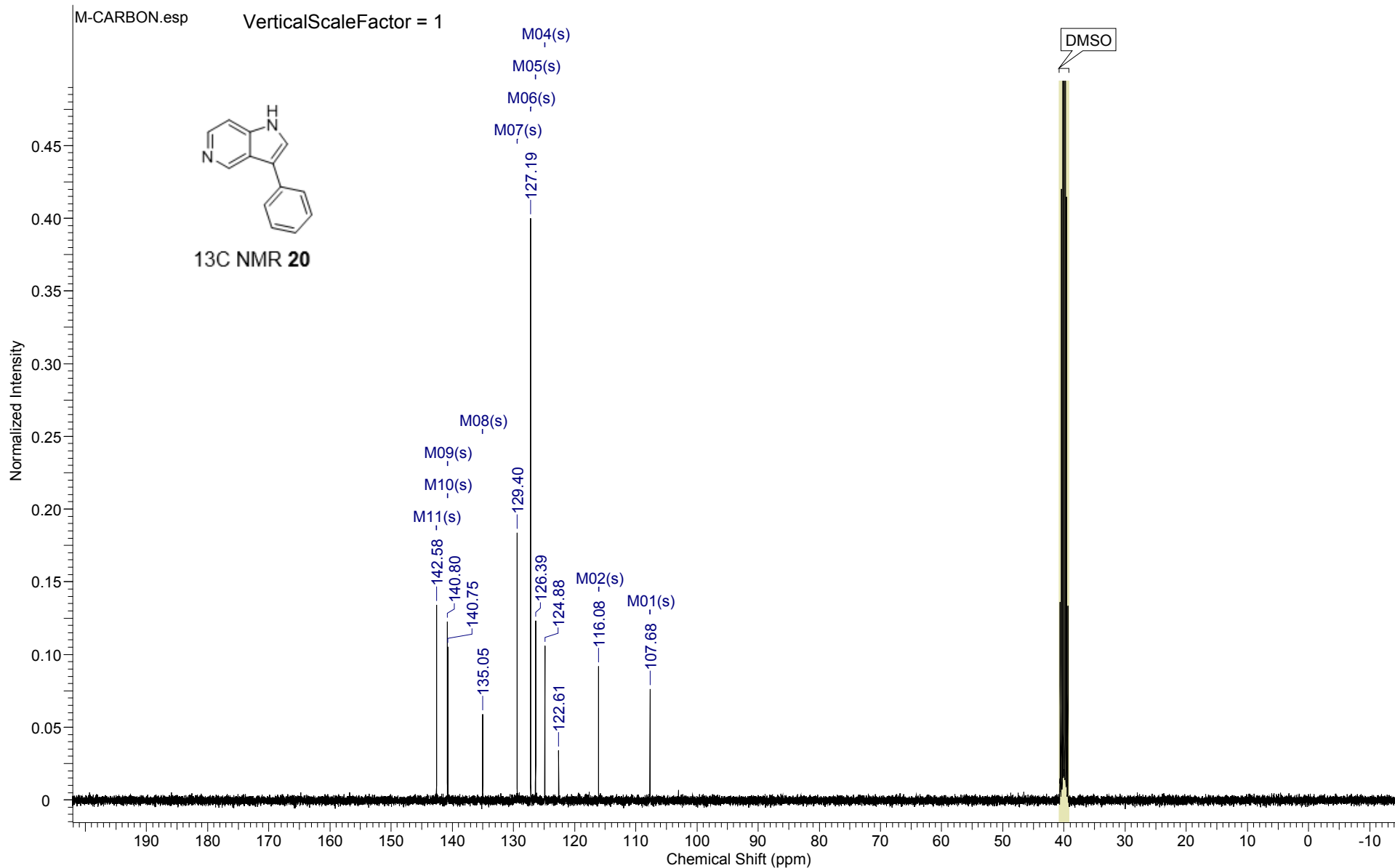
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File Name	D:\NMR\CJO\CJO-D\CARBON\fid	Frequency (MHz)	100.63	Nucleus	13C
Number of Transients	4000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	SW(cyclical) (Hz)	24038.46
Sweep Width (Hz)	24037.73	Temperature (degree C)	23.021	Spectrum Type	STANDARD



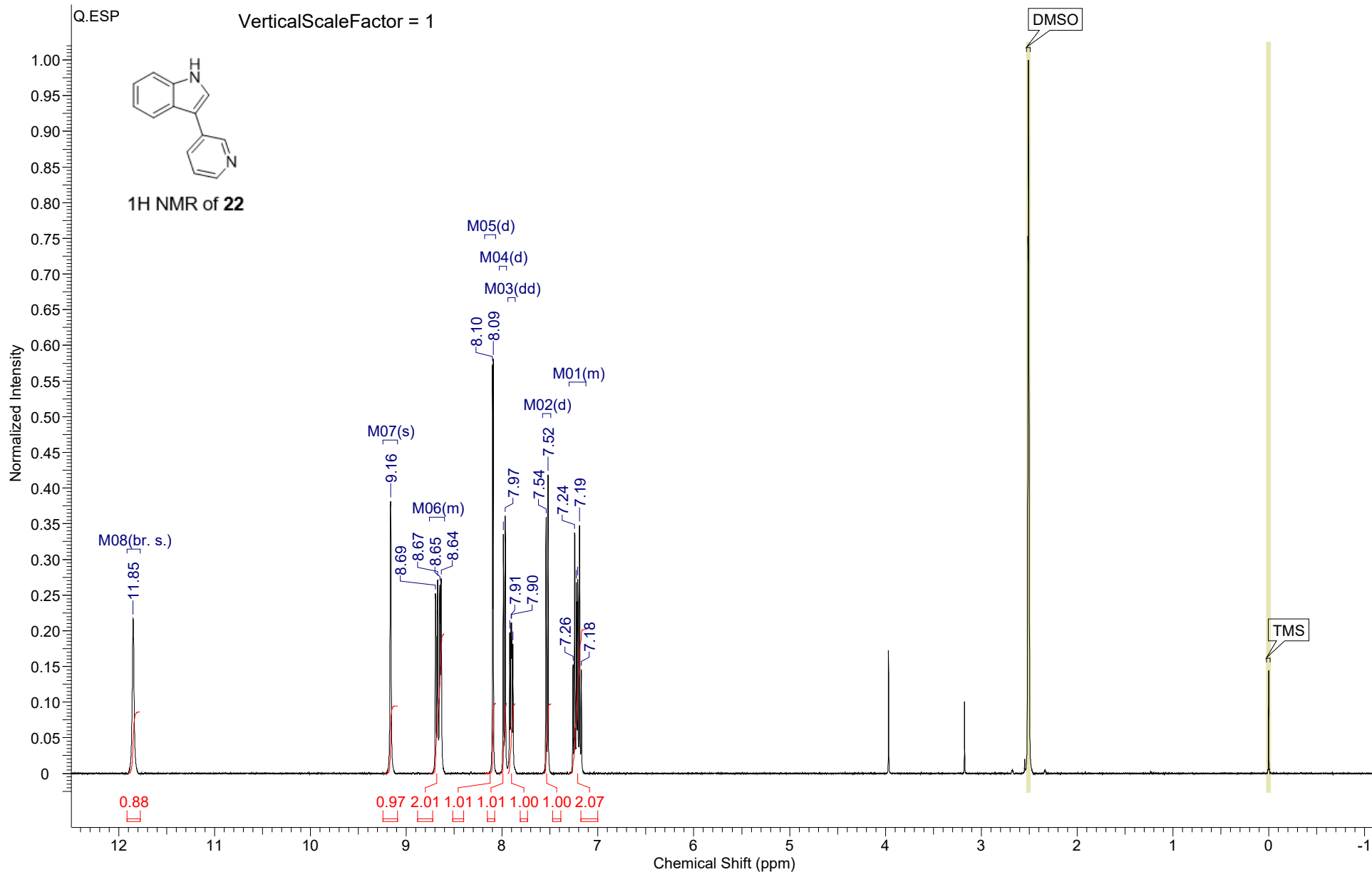
Acquisition Time (sec)	4.0894	Date	16 Aug 2017 14:28:32	Date Stamp	16 Aug 2017 14:28:32
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Origin	spect	Original Points Count	32768	Owner	IND-NMR
Receiver Gain	110.38	SW(cyclical) (Hz)	8012.82	Points Count	32768
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.730	Spectrum Offset (Hz)	2470.9260
				Number of Transients	32
				Pulse Sequence	zg30
				Solvent	DMSO-d6
				Spectrum Type	STANDARD



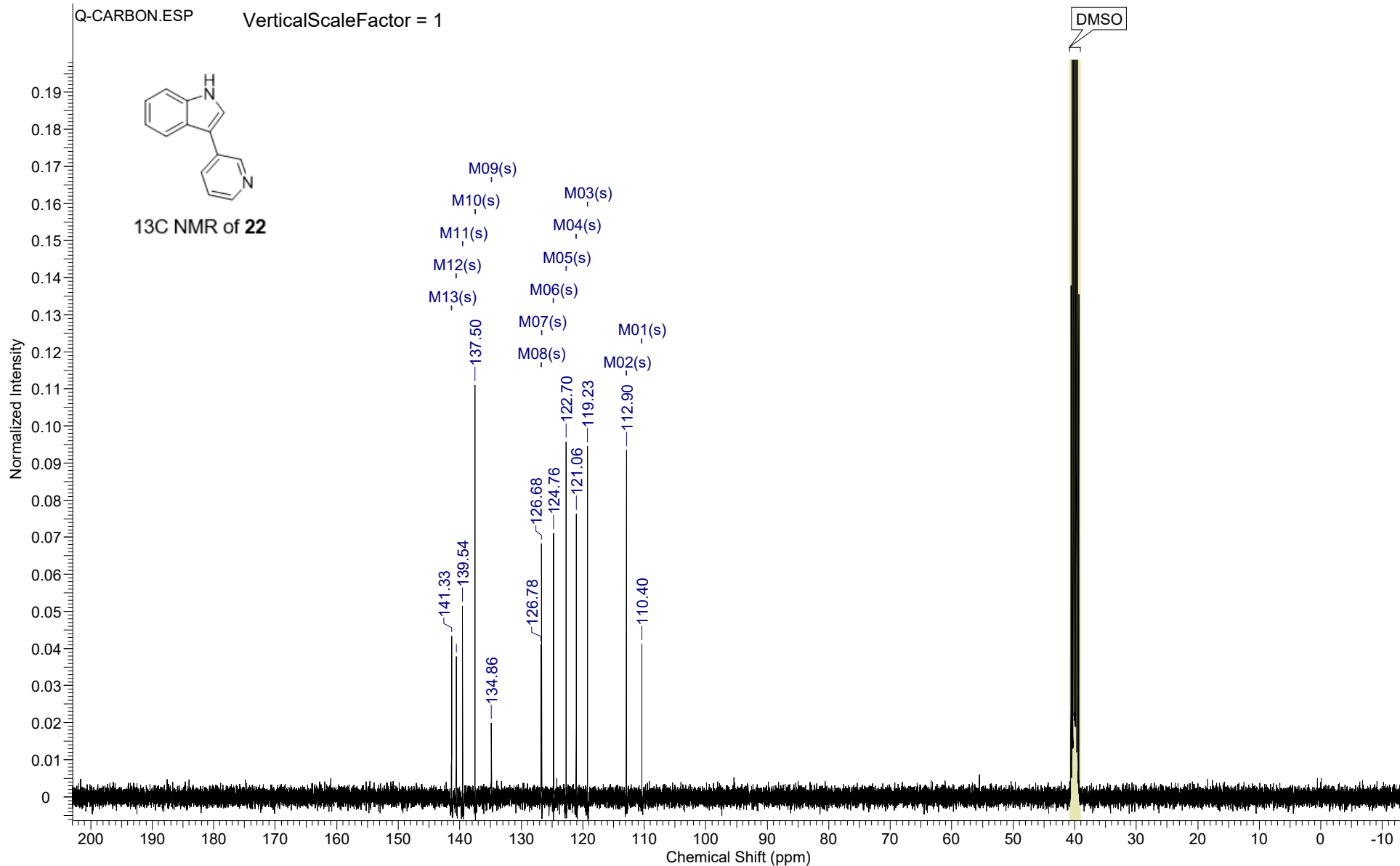
Acquisition Time (sec)	1.3631	Date	17 Aug 2017 05:45:52	Date Stamp	17 Aug 2017 05:45:52
File Name	D:\CJO-UCSF\NMR\CJO-M2\fid	Frequency (MHz)	100.63	Nucleus	13C
Number of Transients	2000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.262			SW(cyclical) (Hz)	24038.46
				Sweep Width (Hz)	24037.73



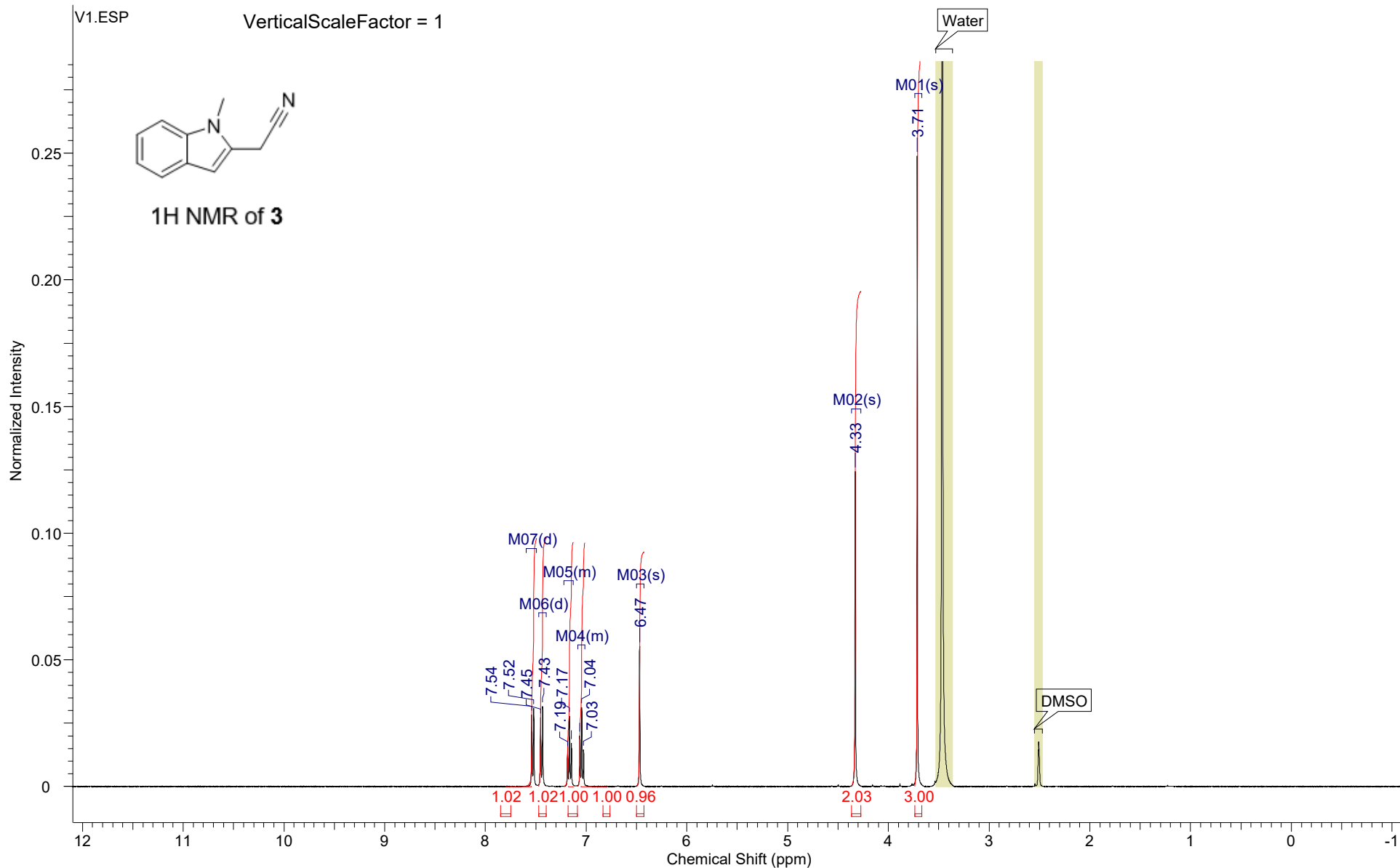
Acquisition Time (sec)	4.0894	Date	10 Aug 2017 08:51:28	Date Stamp	10 Aug 2017 08:51:28
File Name	D:\CJO-UCSF\NMR\CJO-Q\1\fid	Frequency (MHz)	400.15	Nucleus	¹ H
Origin	spect	Original Points Count	32768	Owner	IND-NMR
Receiver Gain	110.38	SW(cyclical) (Hz)	8012.82	Points Count	32768
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.607	Spectrum Offset (Hz)	2470.9260
				Number of Transients	32
				Pulse Sequence	zg30
				Spectrum Type	STANDARD



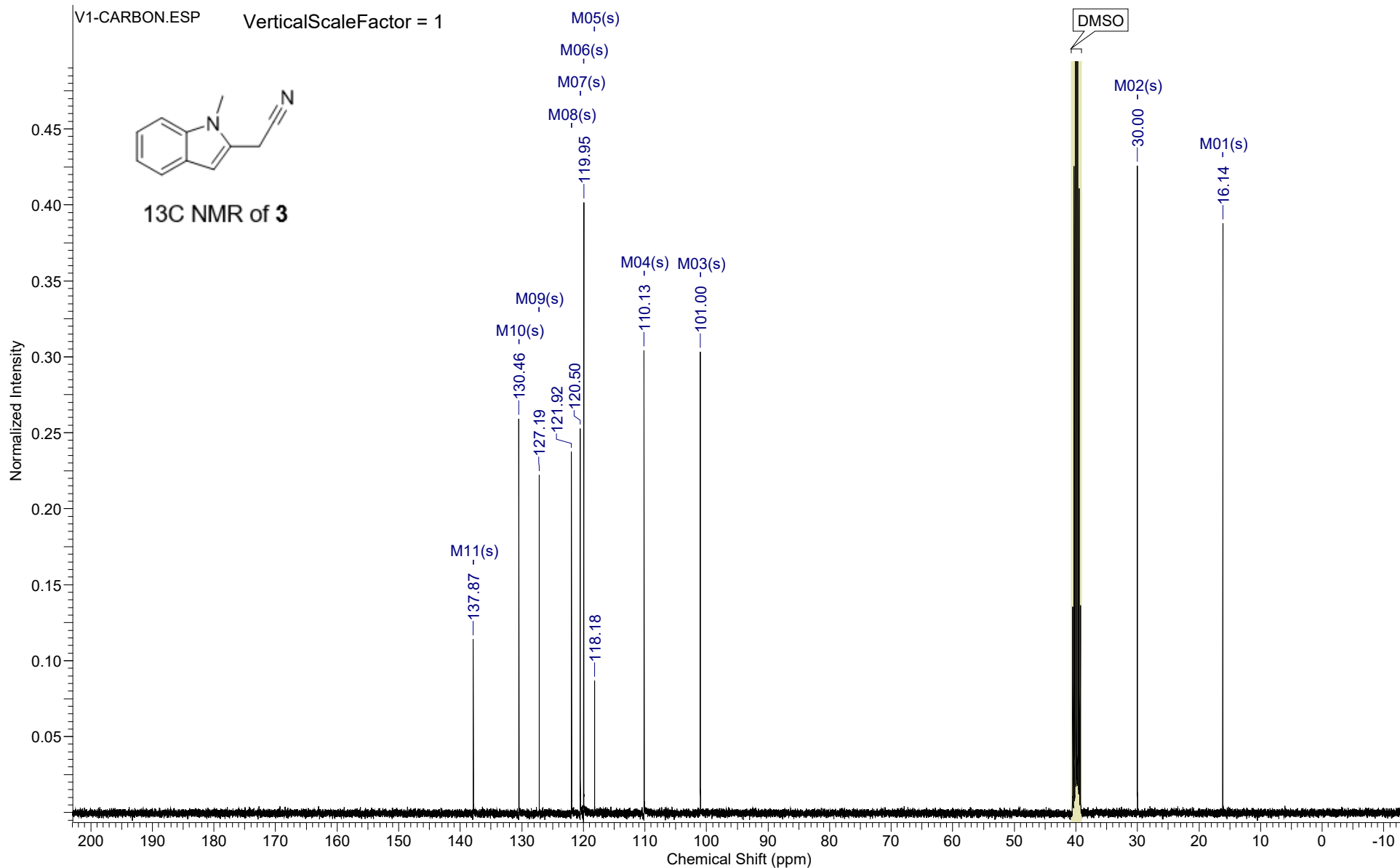
Acquisition Time (sec)	1.3631	Date	11 Aug 2017 00:55:44	Date Stamp	11 Aug 2017 00:55:44
File Name	D:\CJO-UCSF\NMR\CJO-Q\2\fid	Frequency (MHz)	100.63	Nucleus	13C
Number of Transients	3000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.266			SW(cyclical) (Hz)	24038.46
				Sweep Width (Hz)	24037.73



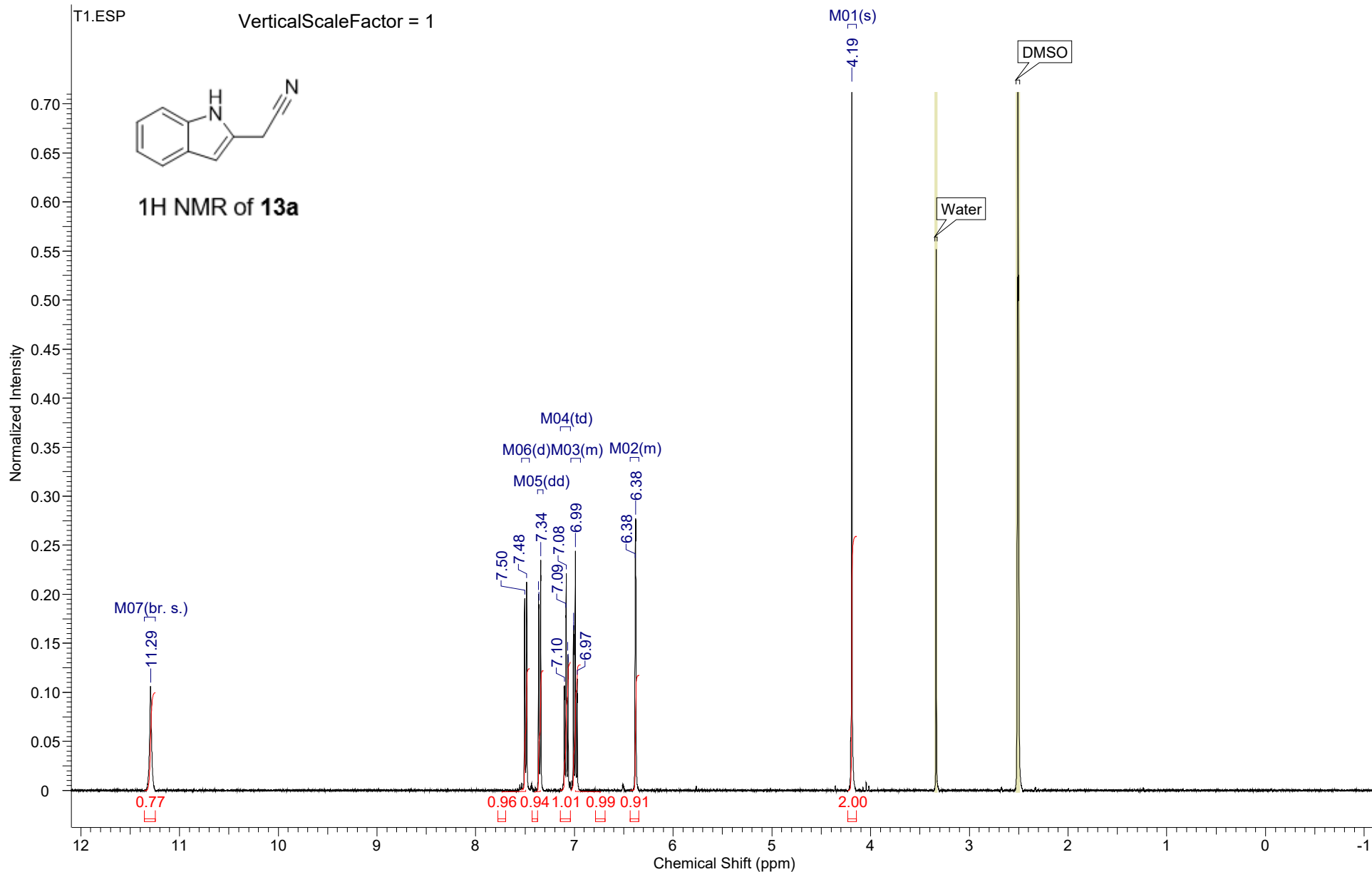
Acquisition Time (sec)	4.0894	Date	06 Sep 2017 09:34:08		Date Stamp	06 Sep 2017 09:34:08	
File Name	D:\CJO-UCSF\NMR\CJO-V1-Alex is cool\1\fid	Frequency (MHz)	400.15	Nucleus	1H		
Number of Transients	24	Origin	spect	Original Points Count	32768	Owner	IND-NMR
Points Count	32768	Pulse Sequence	zg30	Receiver Gain	30.74	SW(cyclical) (Hz)	8012.82
Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260	Spectrum Type	STANDARD	Sweep Width (Hz)	8012.58
Temperature (degree C)	22.400						



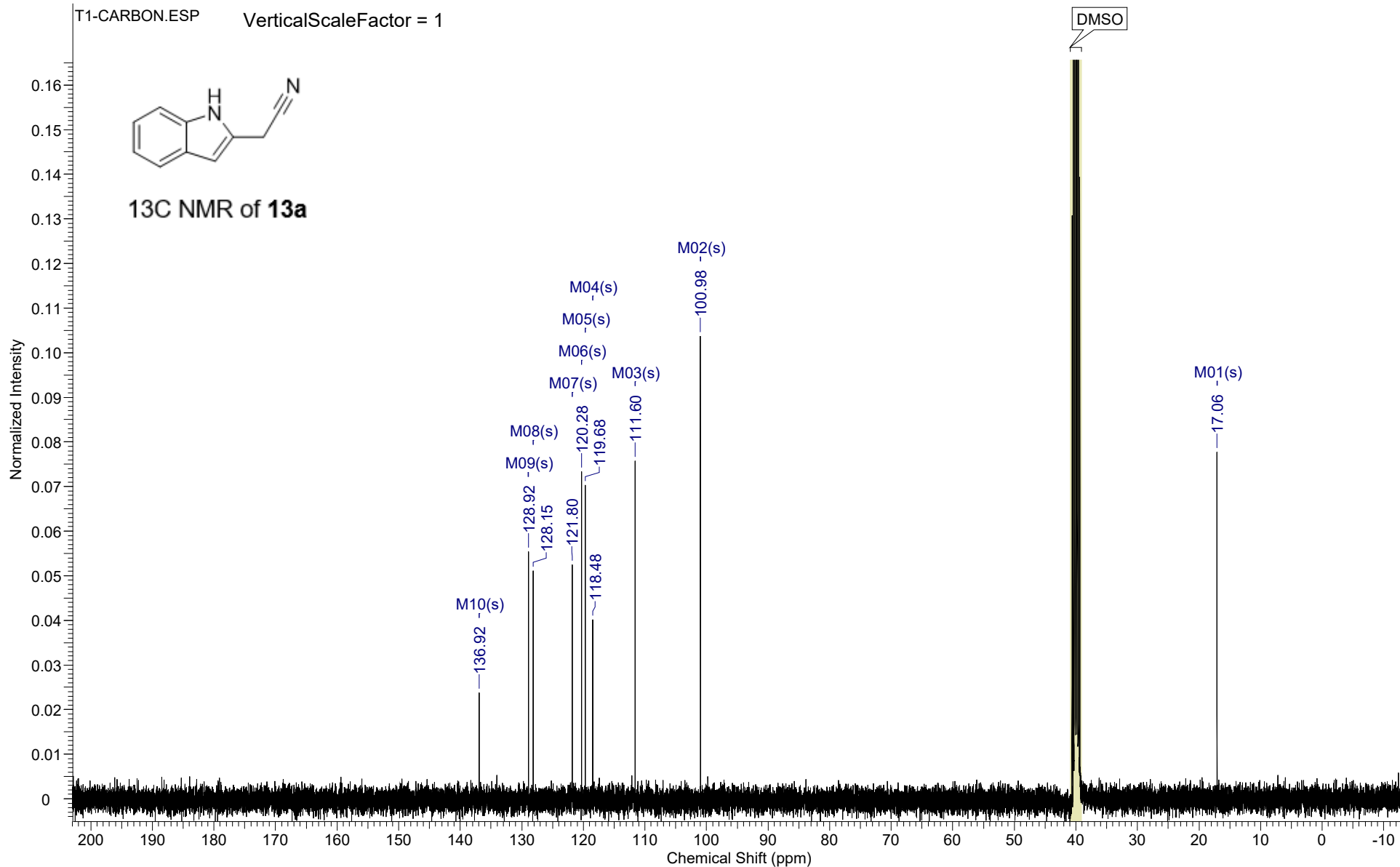
Acquisition Time (sec)	1.3631	Date	07 Sep 2017 23:56:00	Date Stamp	07 Sep 2017 23:56:00
File Name	D:\CJO-UCSF\NMR\CJO-V1-Alex is cool\CARBON\fid	Frequency (MHz)	100.63	Nucleus	13C
Number of Transients	2000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zpgg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.417			SW(cyclical) (Hz)	24038.46
				Sweep Width (Hz)	24037.73



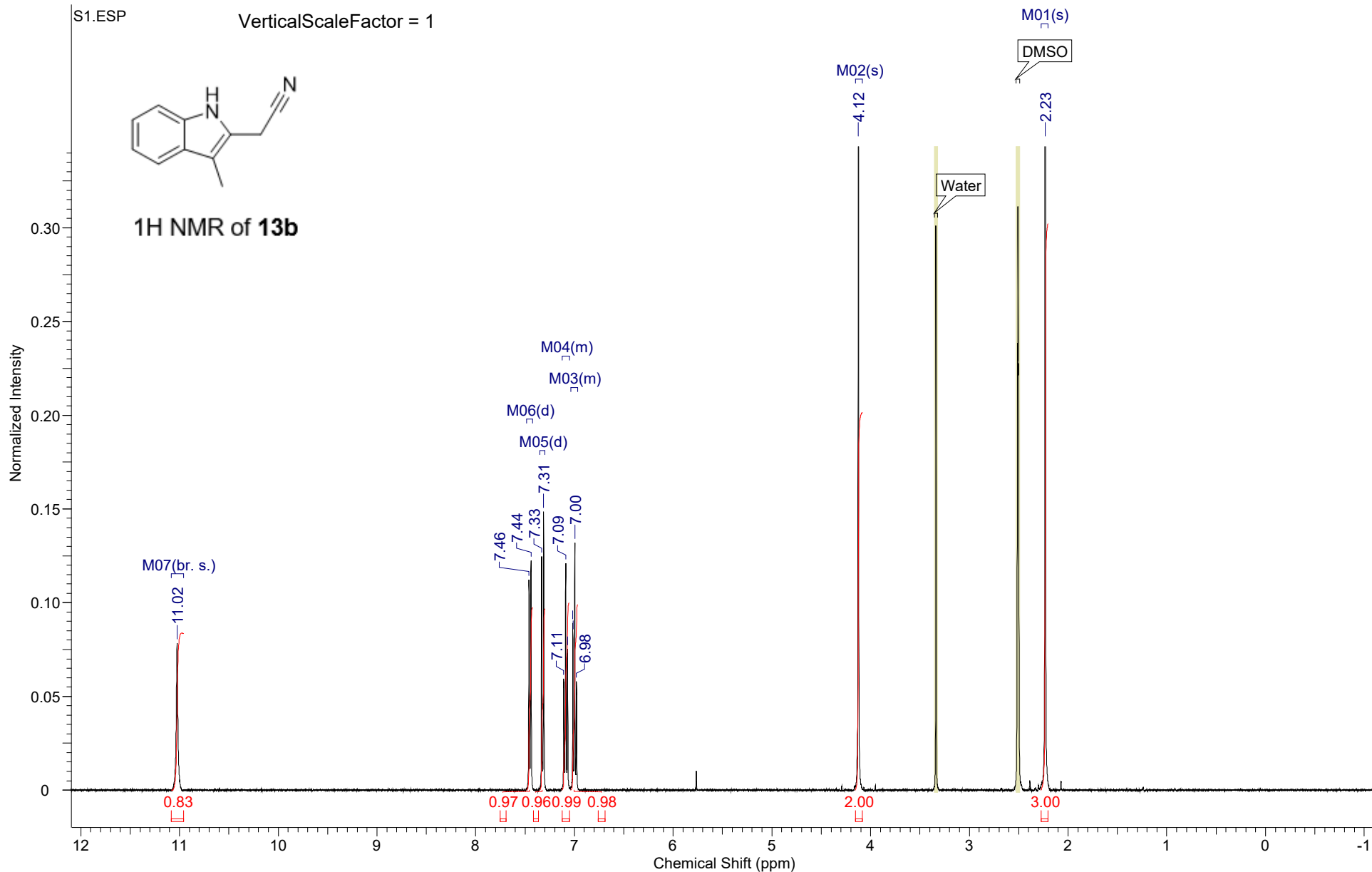
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File Name	D:\CJO-UCSF\NMR\CJO-T1\1\fid	Frequency (MHz)	400.15	Nucleus	¹ H
Origin	spect	Original Points Count	32768	Owner	IND-NMR
Receiver Gain	141.25	SW(cyclical) (Hz)	8012.82	Points Count	32768
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.792	Solvent	DMSO-d6
				Spectrum Offset (Hz)	2470.9260
				Spectrum Type	STANDARD



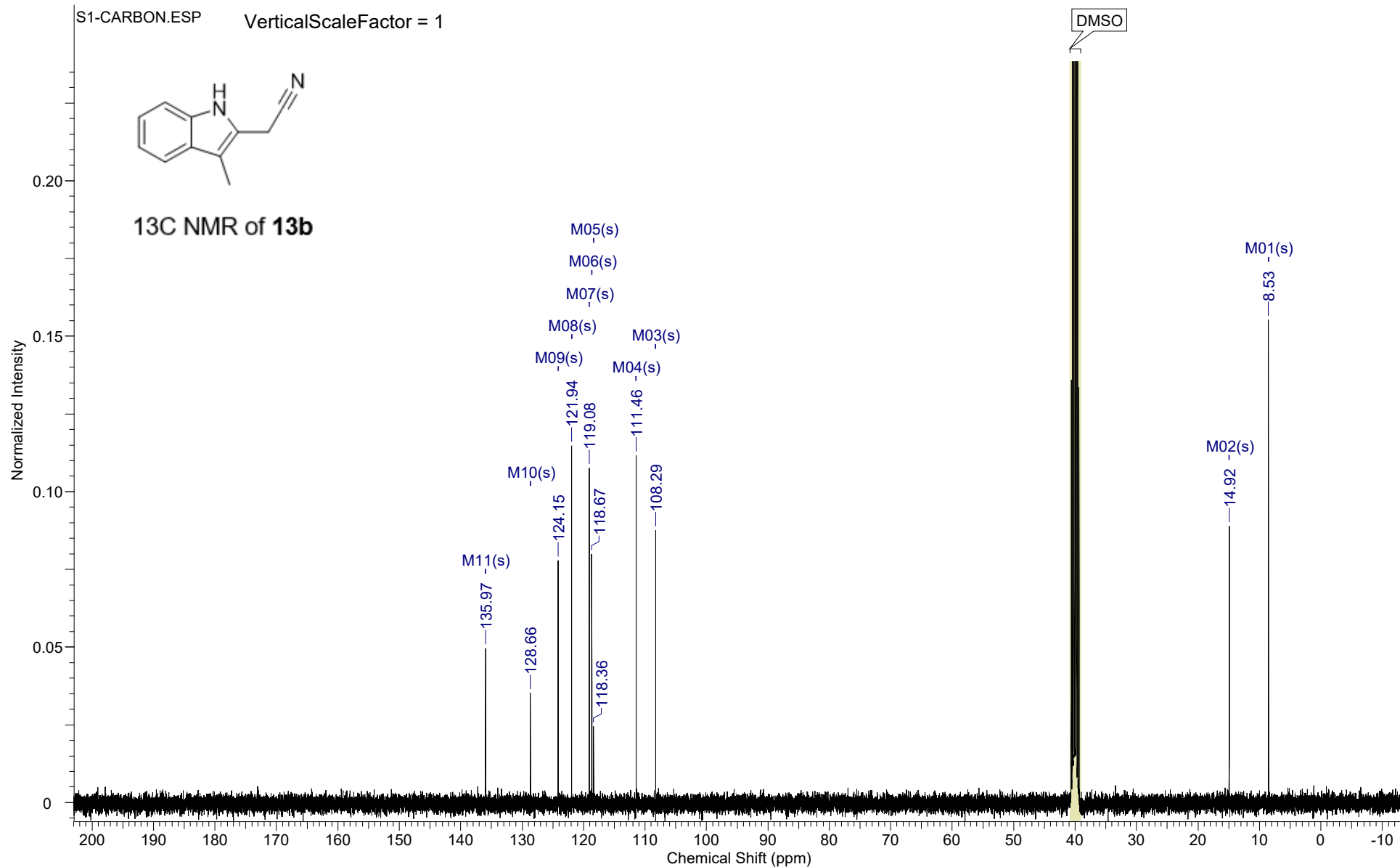
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File Name	D:\CJO-UCSF\NMR\CJO-T1\CARBON\fid	Frequency (MHz)	100.63	Nucleus	¹³ C
Number of Transients	2000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.051			SW(cyclical) (Hz)	24038.46
				Sweep Width (Hz)	24037.73



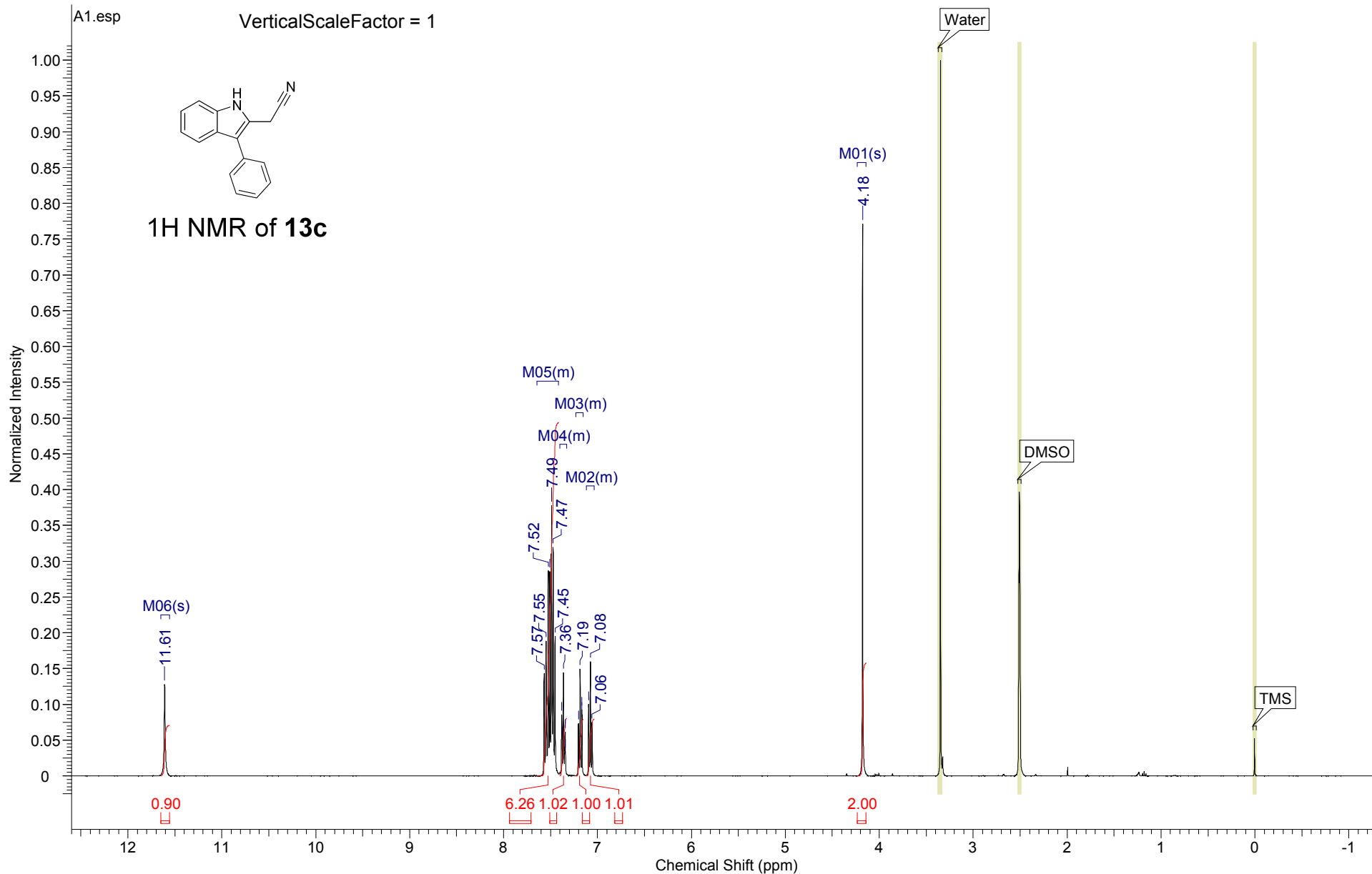
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File Name	D:\CJO-UCSF\NMR\CJO-S1\1\fid	Frequency (MHz)	400.15	Nucleus	¹ H
Origin	spect	Original Points Count	32768	Owner	IND-NMR
Receiver Gain	125.72	SW(cyclical) (Hz)	8012.82	Points Count	32768
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.782	Solvent	DMSO-d6
				Spectrum Offset (Hz)	2470.9260
				Spectrum Type	STANDARD



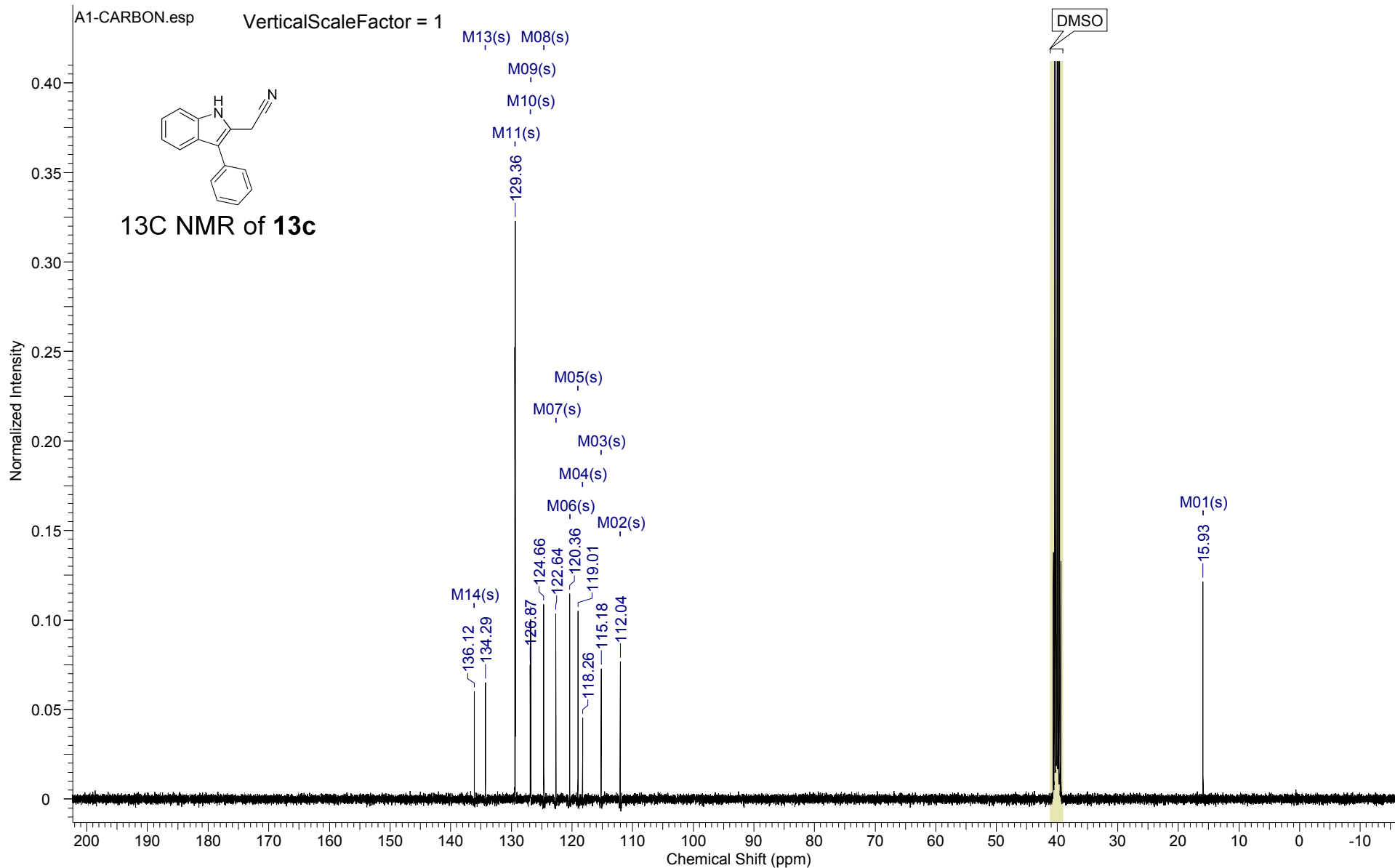
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File Name	D:\CJO-UCSF\NMR\CJO-S1\CARBON\fid	Frequency (MHz)	100.63	Nucleus	¹³ C
Number of Transients	2000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.154			Sweep Width (Hz)	24037.73



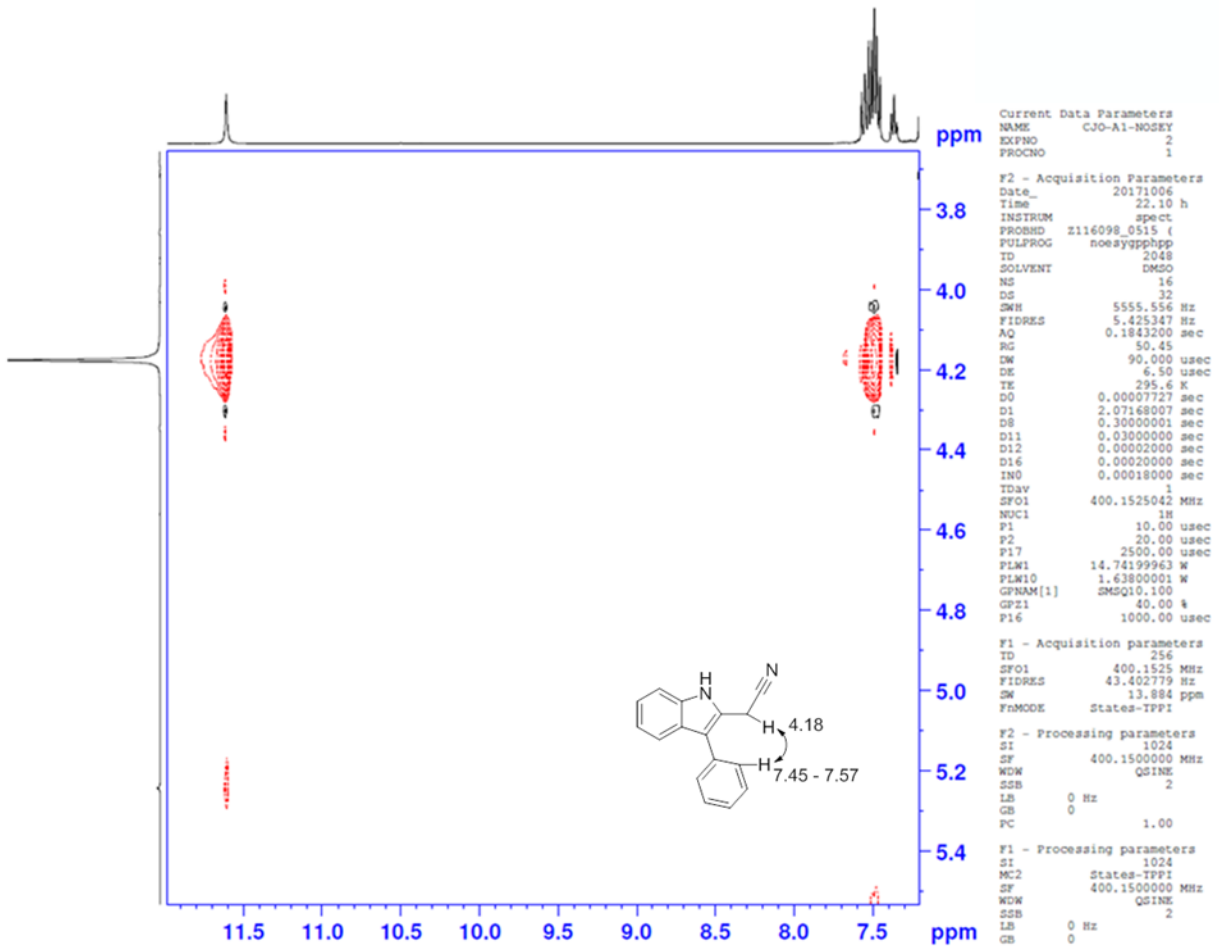
Acquisition Time (sec)	4.0894	Date	03 Aug 2017 10:36:00	Date Stamp	03 Aug 2017 10:36:00				
File Name	D:\NMR\CJO\CJO-A1\2\fid		Frequency (MHz)	400.15	Nucleus	1H	Number of Transients	32	
Origin	spect	Original Points Count	32768	Owner	IND-NMR	Points Count	32768	Pulse Sequence	zg30
Receiver Gain	97.12	SW(cyclical) (Hz)	8012.82	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260	Spectrum Type	STANDARD
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.616						



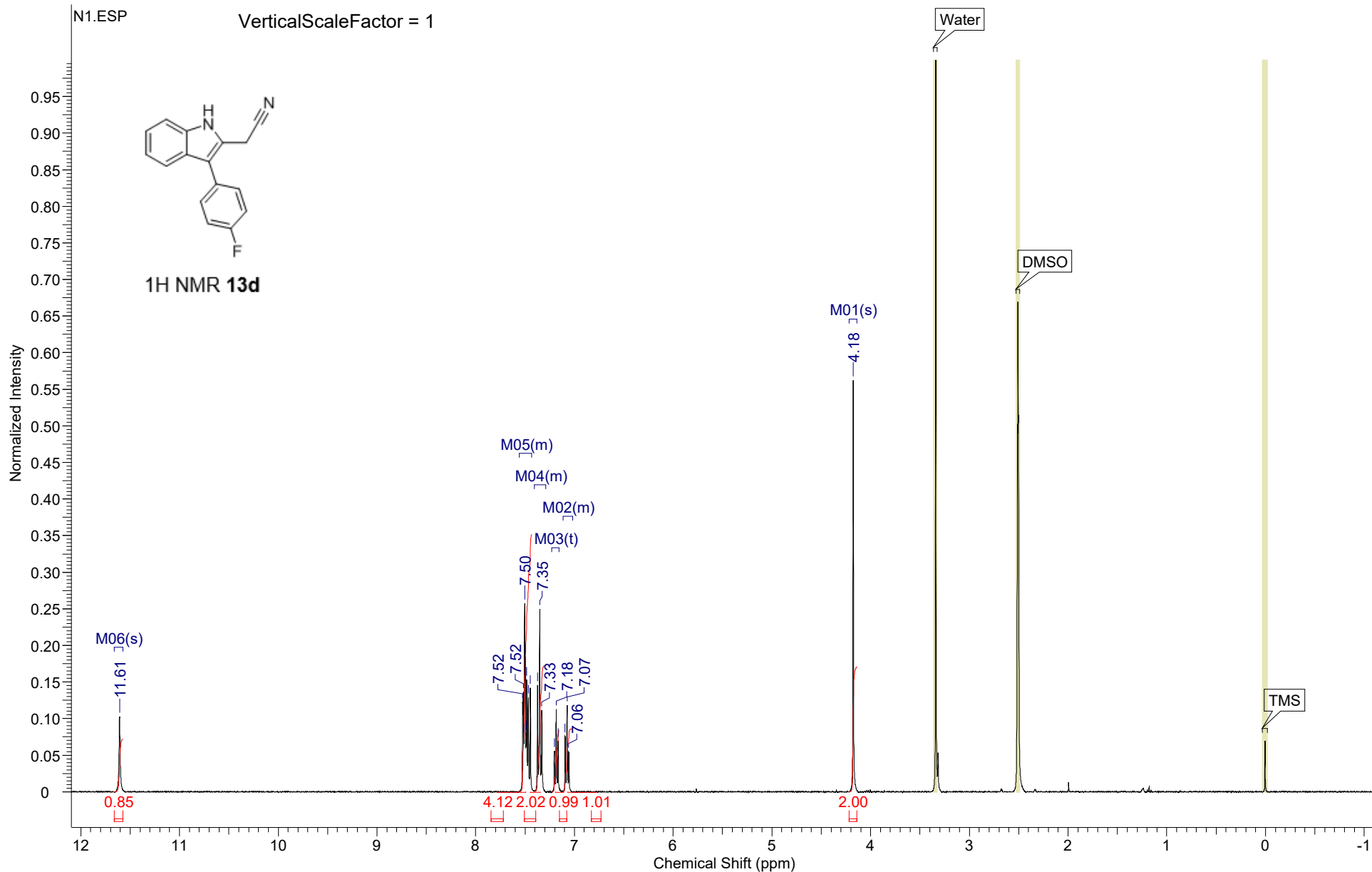
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File Name	D:\NMR\CJO\CJO-A1\CARBON\fid	Frequency (MHz)	100.63	Nucleus	¹³ C
Number of Transients	3000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.584	SW(cyclical) (Hz)		Sweep Width (Hz)	24037.73



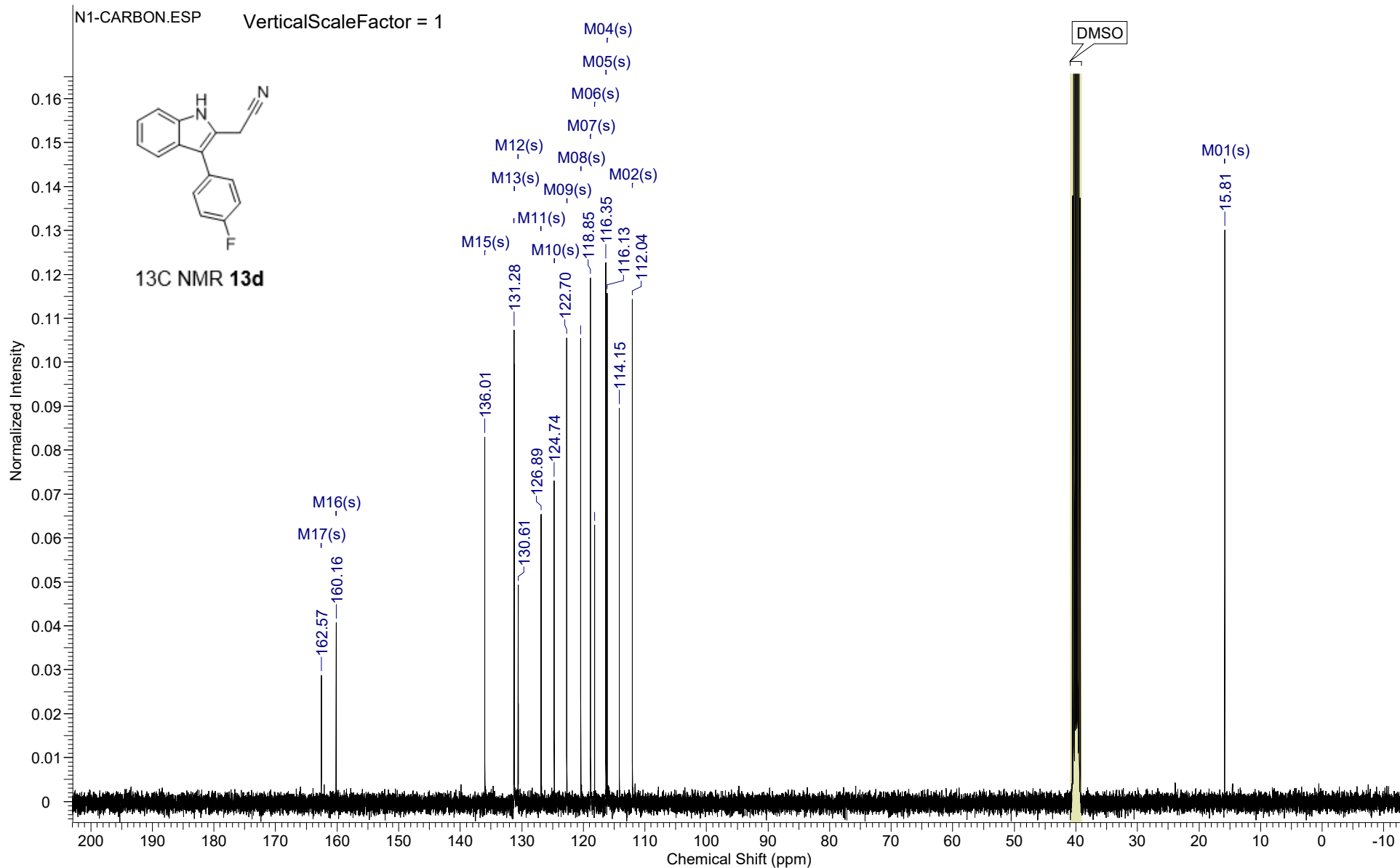
1H NOSEY NMR spectrum of 13c, in DMSO-d6



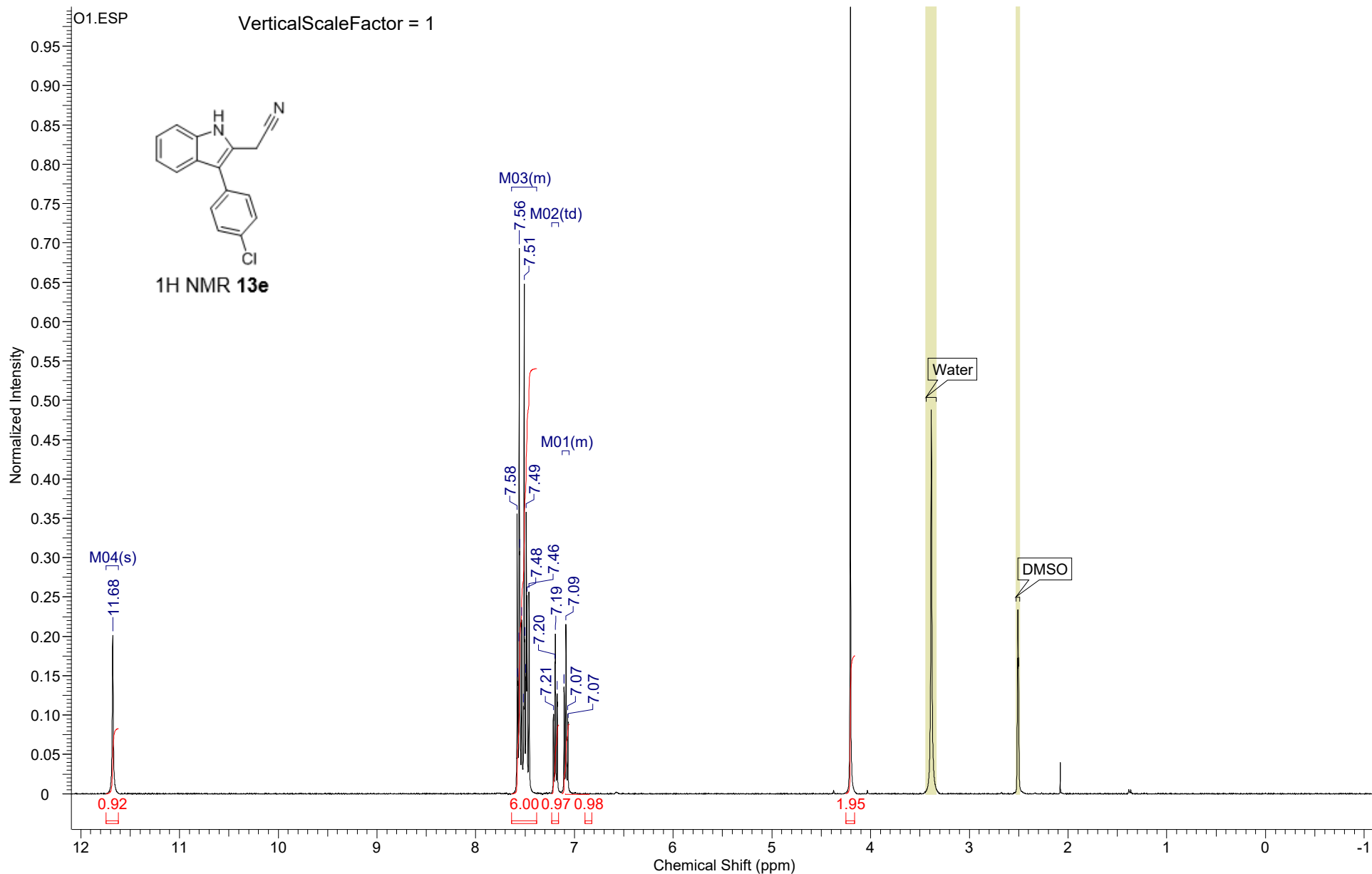
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File Name	D:\NMR\CJO\CJO-N1\1\fid	Frequency (MHz)	400.15	Nucleus	¹ H
Origin	spect	Original Points Count	32768	Owner	IND-NMR
Receiver Gain	125.72	SW(cyclical) (Hz)	8012.82	Points Count	32768
Sweep Width (Hz)	8012.58	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260
		Temperature (degree C)	22.575	Pulse Sequence	zg30
				Spectrum Type	STANDARD



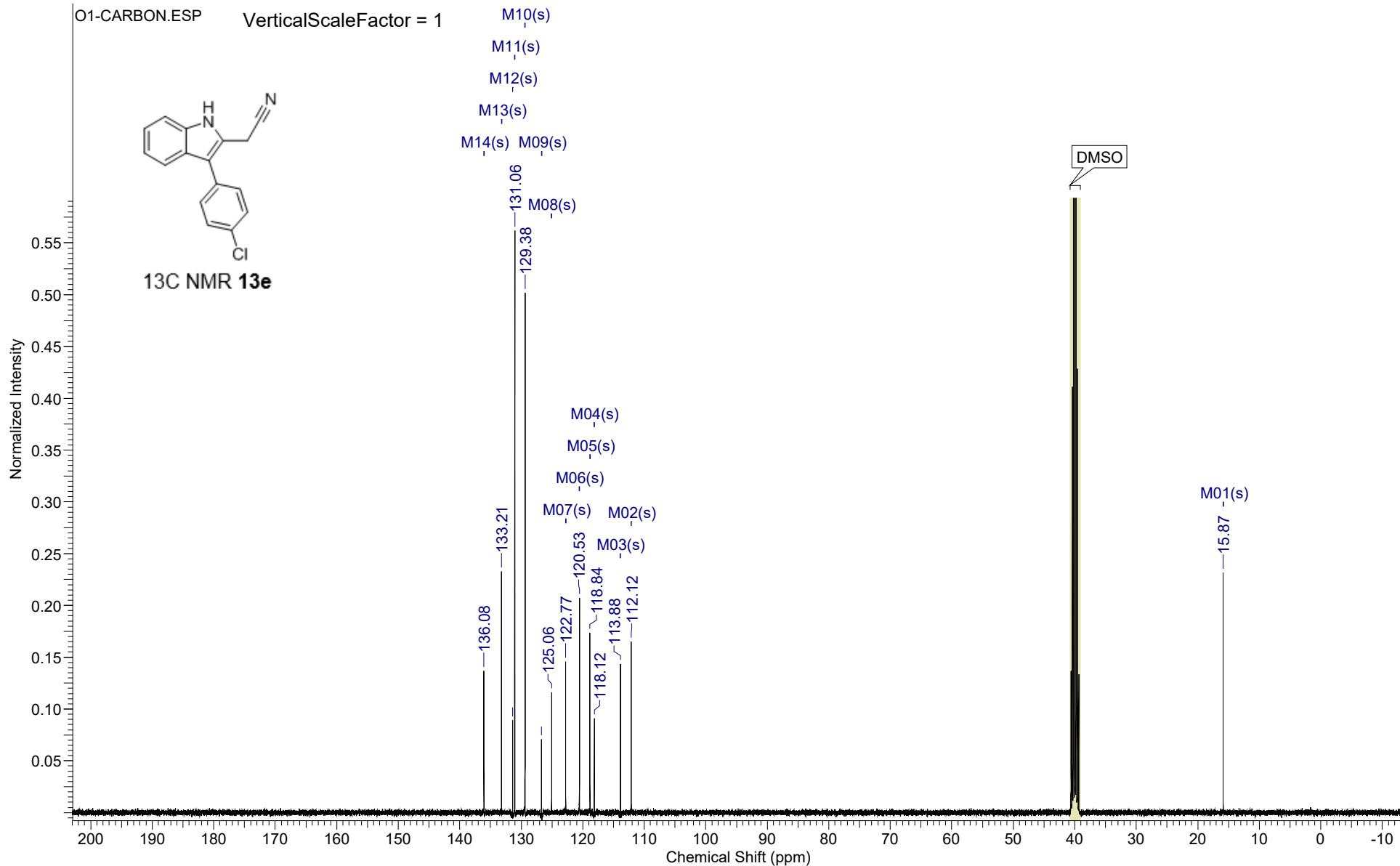
Acquisition Time (sec)	1.3631	Date	01 Aug 2017 01:51:12	Date Stamp	01 Aug 2017 01:51:12
File Name	D:\NMR\CJO\CJO-N1\CARBON\fid	Frequency (MHz)	100.63	Nucleus	13C
Number of Transients	4000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.274	SW(cyclical) (Hz)		Sweep Width (Hz)	24037.73



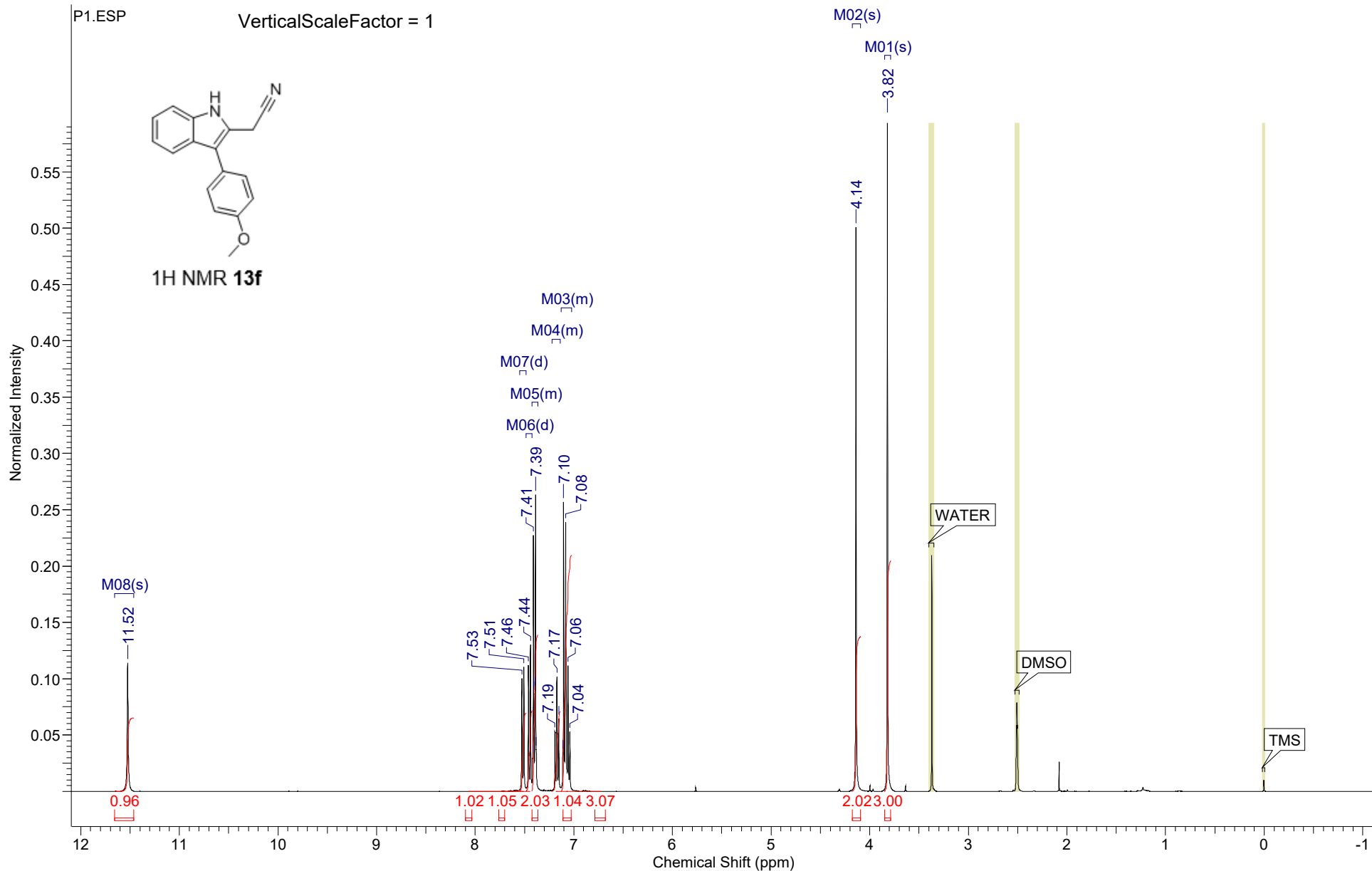
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File Name	D:\CJO-UCSF\CJO-O1\1\fid	Frequency (MHz)	400.15	Nucleus	1H	Number of Transients	32
Origin	spect	Original Points Count	32768	Owner	IND-NMR	Points Count	32768
Receiver Gain	77.61	SW(cyclical) (Hz)	8012.82	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.859			Spectrum Type	STANDARD



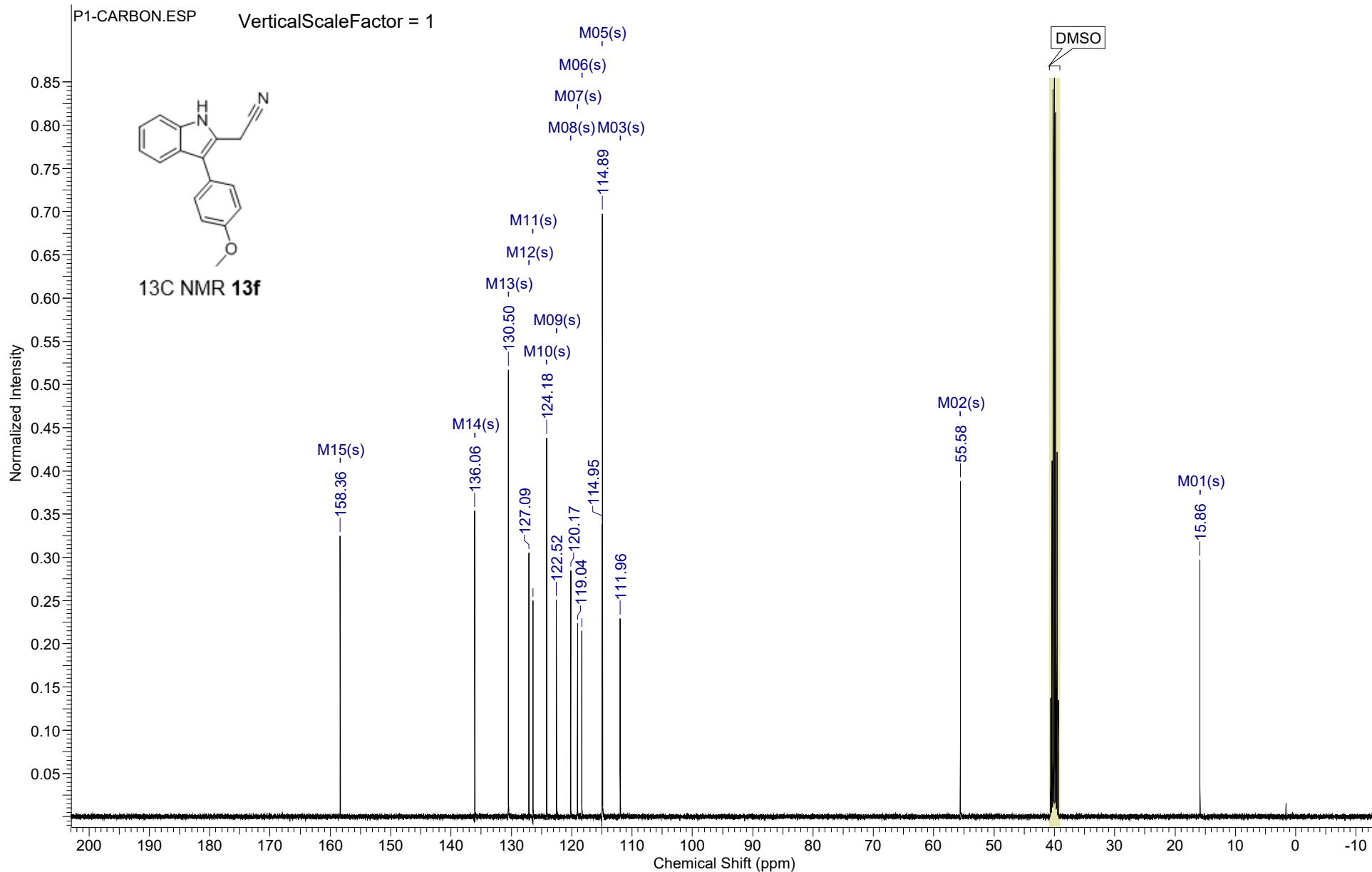
Acquisition Time (sec)	1.3631	Date	10 Aug 2017 06:43:28	Date Stamp	10 Aug 2017 06:43:28
File Name	D:\CJO-UCSF\NMR\CJO-O1\CARBON\fid	Frequency (MHz)	100.63	Nucleus	¹³ C
Number of Transients	3000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.387			SW(cyclical) (Hz)	24038.46
				Sweep Width (Hz)	24037.73



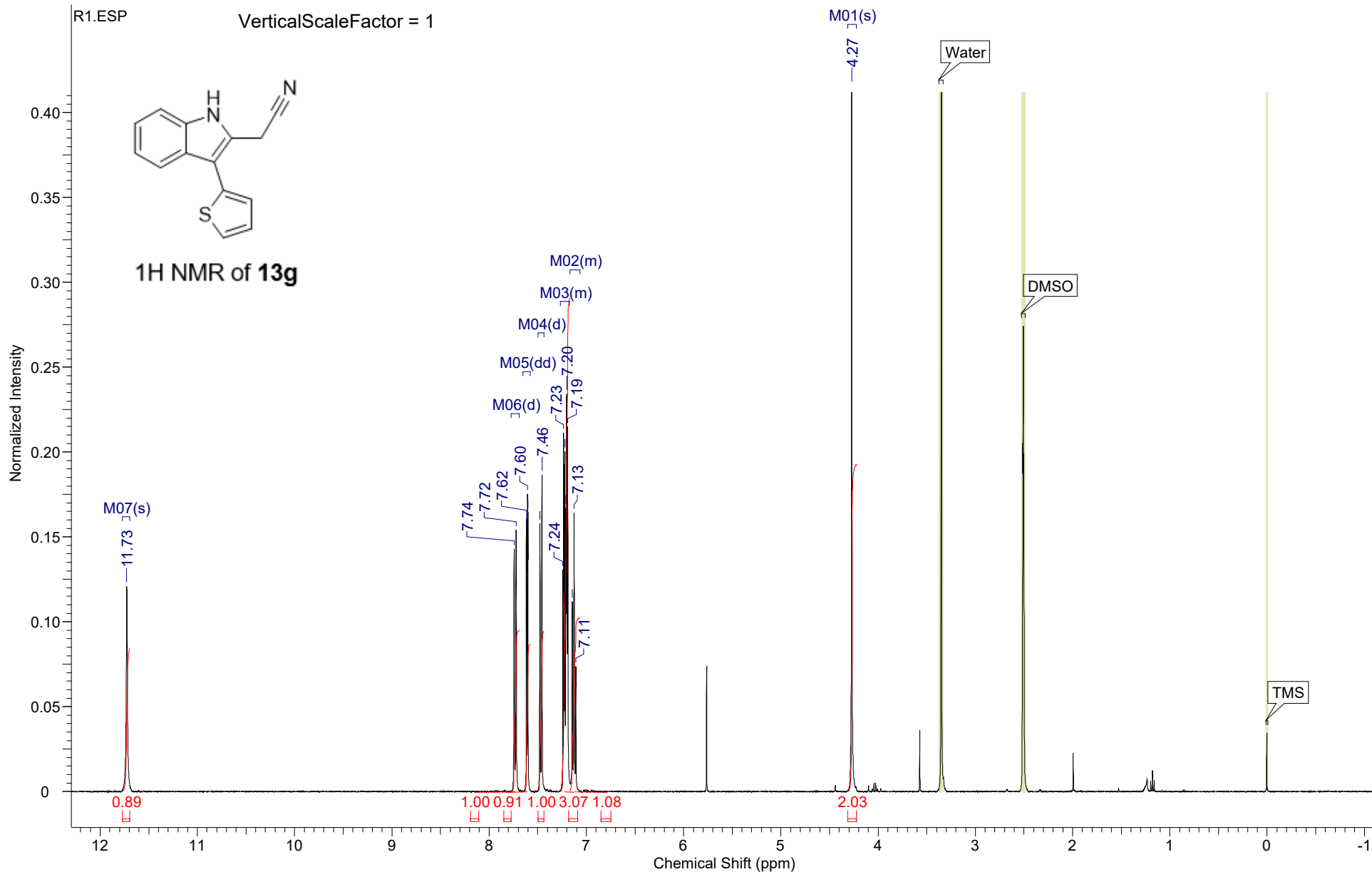
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File Name	D:\NMR\CJO\CJO-P1\1\fid	Frequency (MHz)	400.15	Nucleus	1H
Origin	spect	Original Points Count	32768	Owner	IND-NMR
Receiver Gain	62.81	SW(cyclical) (Hz)	8012.82	Points Count	32768
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.530	Solvent	DMSO-d6
				Spectrum Offset (Hz)	2470.9260
				Spectrum Type	STANDARD



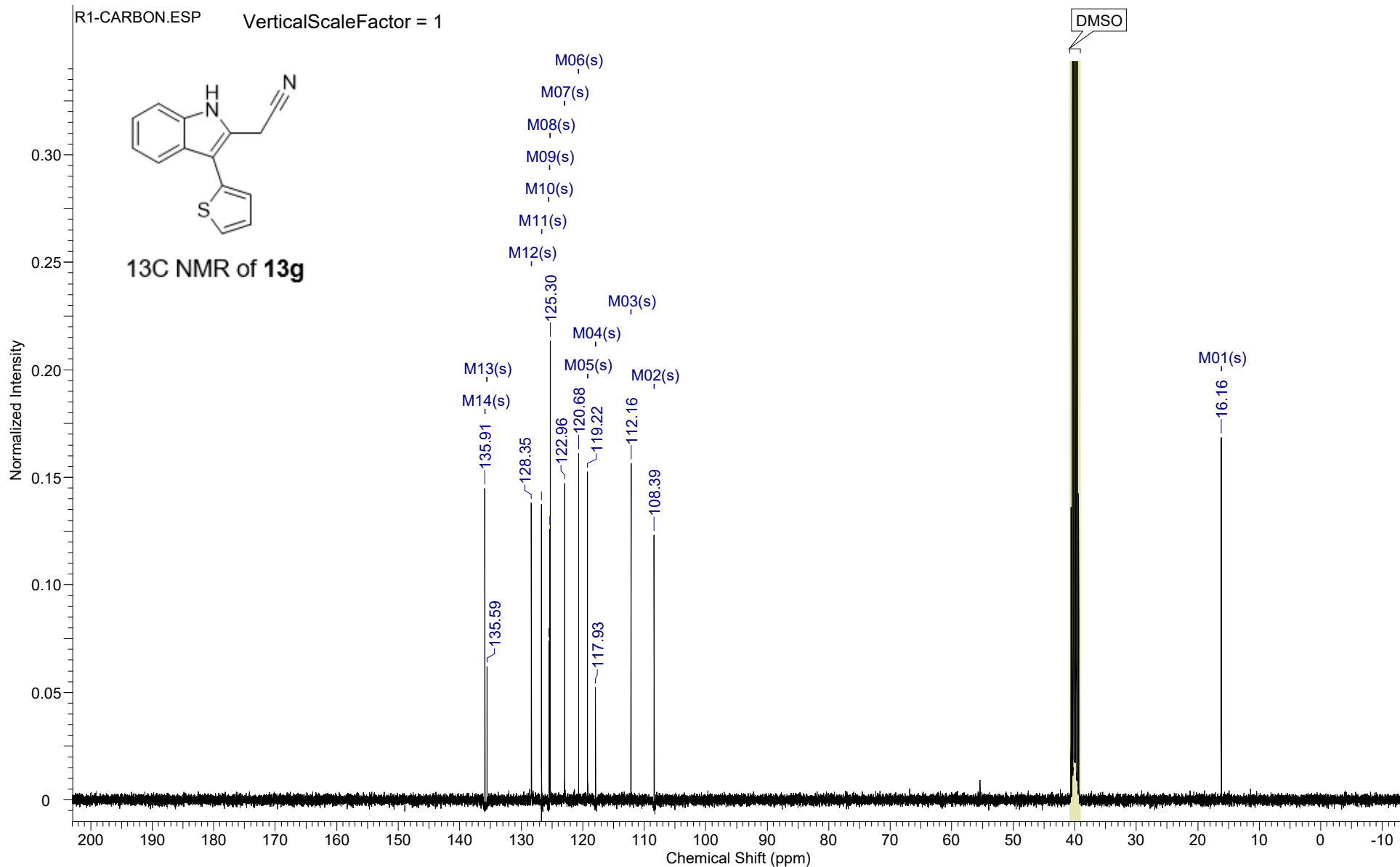
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File Name	D:\CJO-UCSF\CJO-P1\2\fid	Frequency (MHz)	100.63	Nucleus	13C	Number of Transients	3000
Origin	spect	Original Points Count	32768	Owner	IND-NMR	Points Count	32768
Receiver Gain	196.40	SW(cyclical) (Hz)	24038.46	Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803
Sweep Width (Hz)	24037.73	Temperature (degree C)	23.282	Spectrum Type	STANDARD		



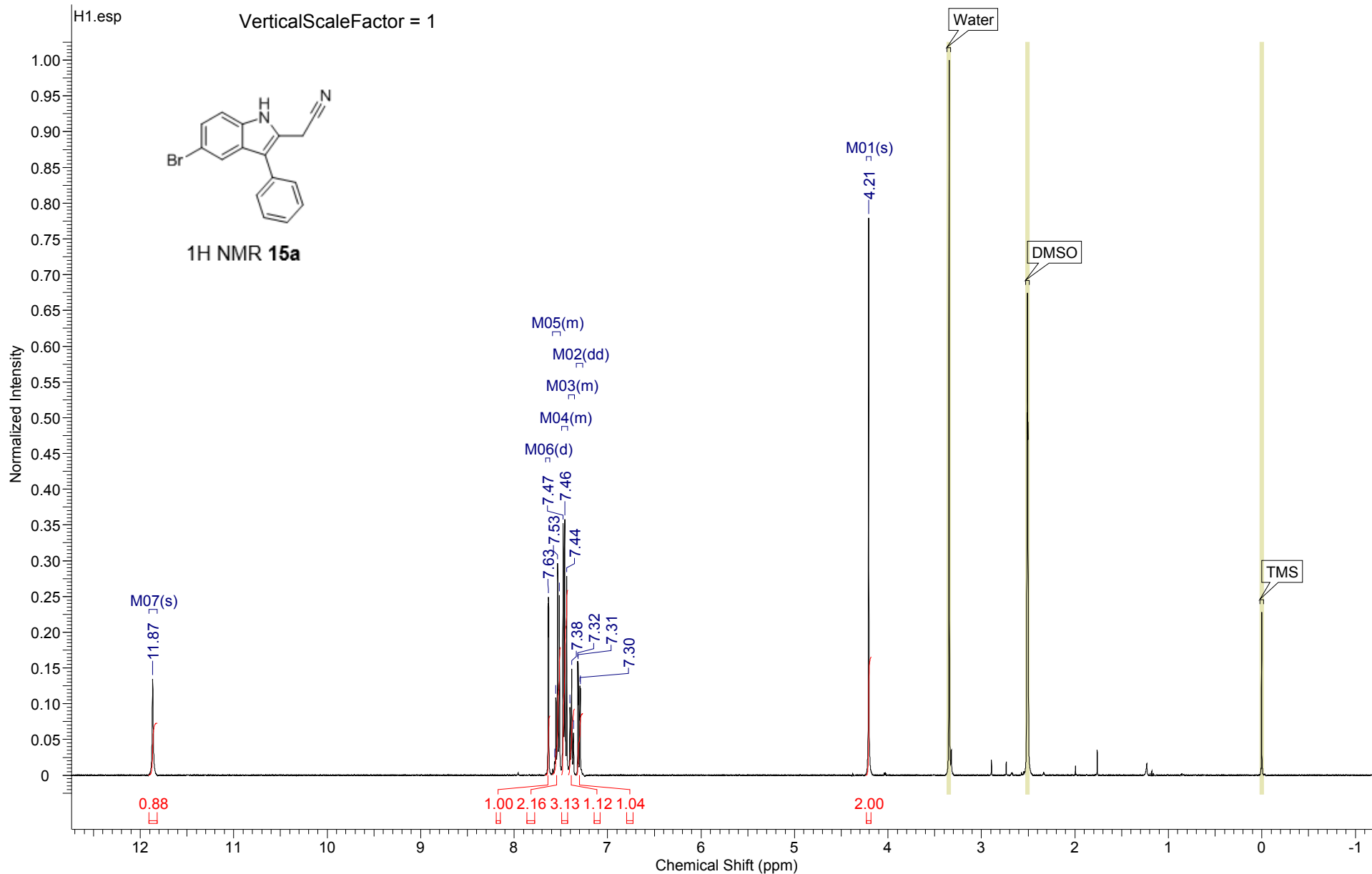
Acquisition Time (sec)	4.0894	Date	09 Aug 2017 09:04:16	Date Stamp	09 Aug 2017 09:04:16		
File Name	D:\CJO-UCSF\CJO-R1\1\fid	Frequency (MHz)	400.15	Nucleus	1H	Number of Transients	32
Origin	spect	Original Points Count	32768	Owner	IND-NMR	Points Count	32768
Receiver Gain	97.12	SW(cyclical) (Hz)	8012.82	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.839	Spectrum Type	STANDARD		



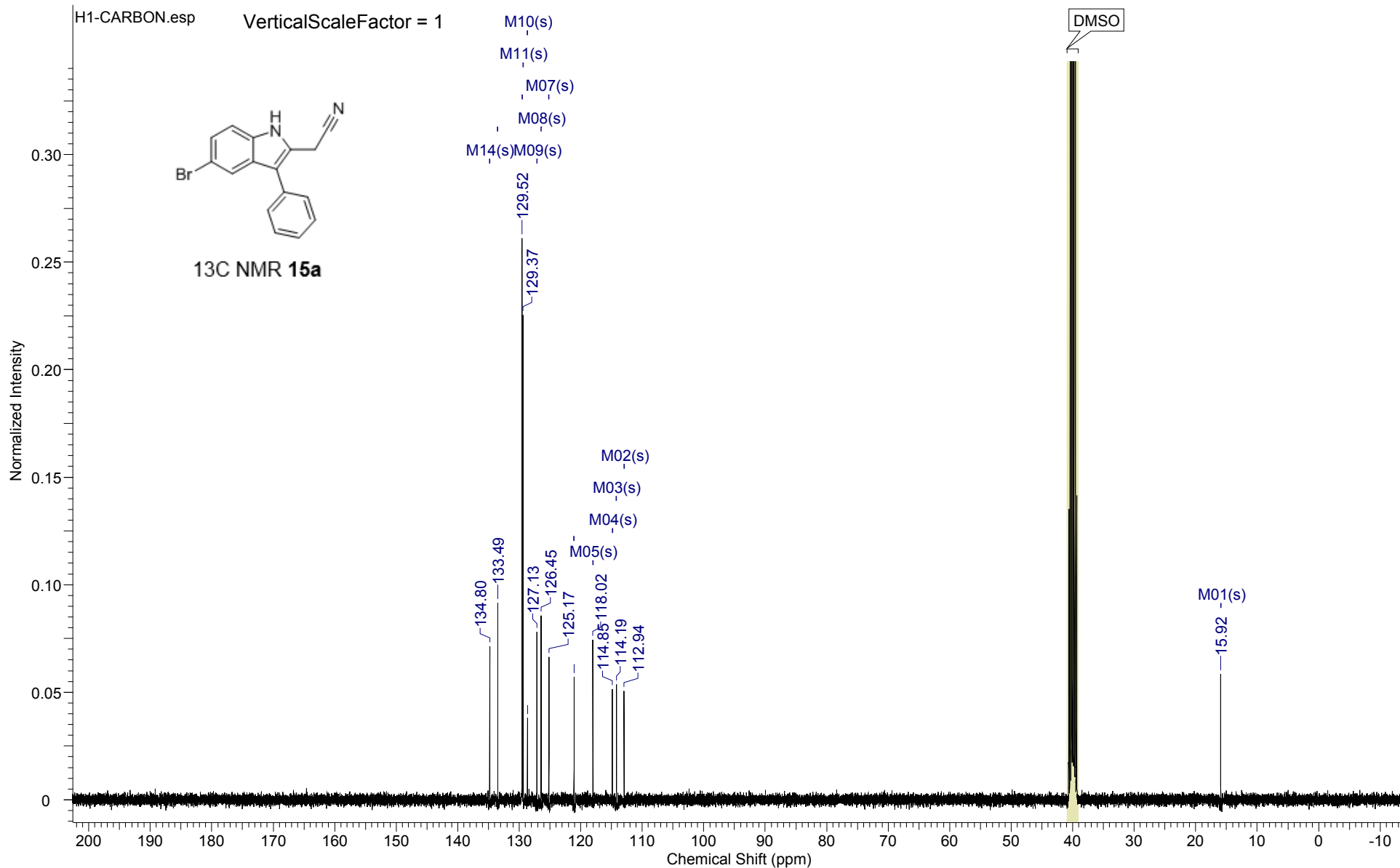
Acquisition Time (sec)	1.3631	Date	10 Aug 2017 03:48:32	Date Stamp	10 Aug 2017 03:48:32
File Name	D:\CJO-UCSF\NMR\CJO-R1\CARBON\fid	Frequency (MHz)	100.63	Nucleus	¹³ C
Number of Transients	3000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.213	SW(cyclical) (Hz)		Sweep Width (Hz)	24037.73



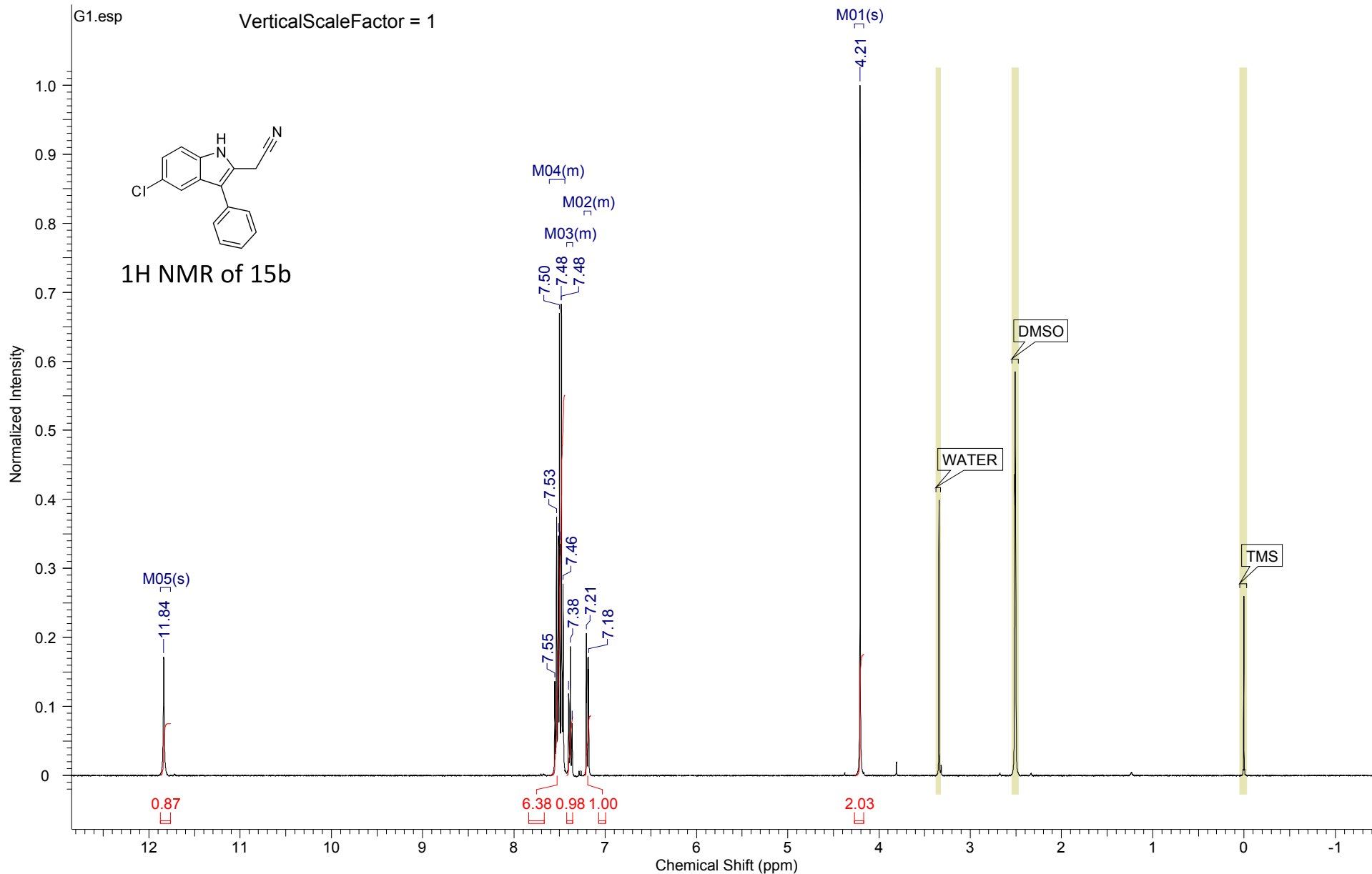
Acquisition Time (sec)	4.0894	Date	04 Aug 2017 11:12:16	Date Stamp	04 Aug 2017 11:12:16				
File Name	D:\NMR\CJO\CJO-H1\1\fid		Frequency (MHz)	400.15	Nucleus	1H	Number of Transients	32	
Origin	spect	Original Points Count	32768	Owner	IND-NMR	Points Count	32768	Pulse Sequence	zg30
Receiver Gain	125.72	SW(cyclical) (Hz)	8012.82	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260	Spectrum Type	STANDARD
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.760						



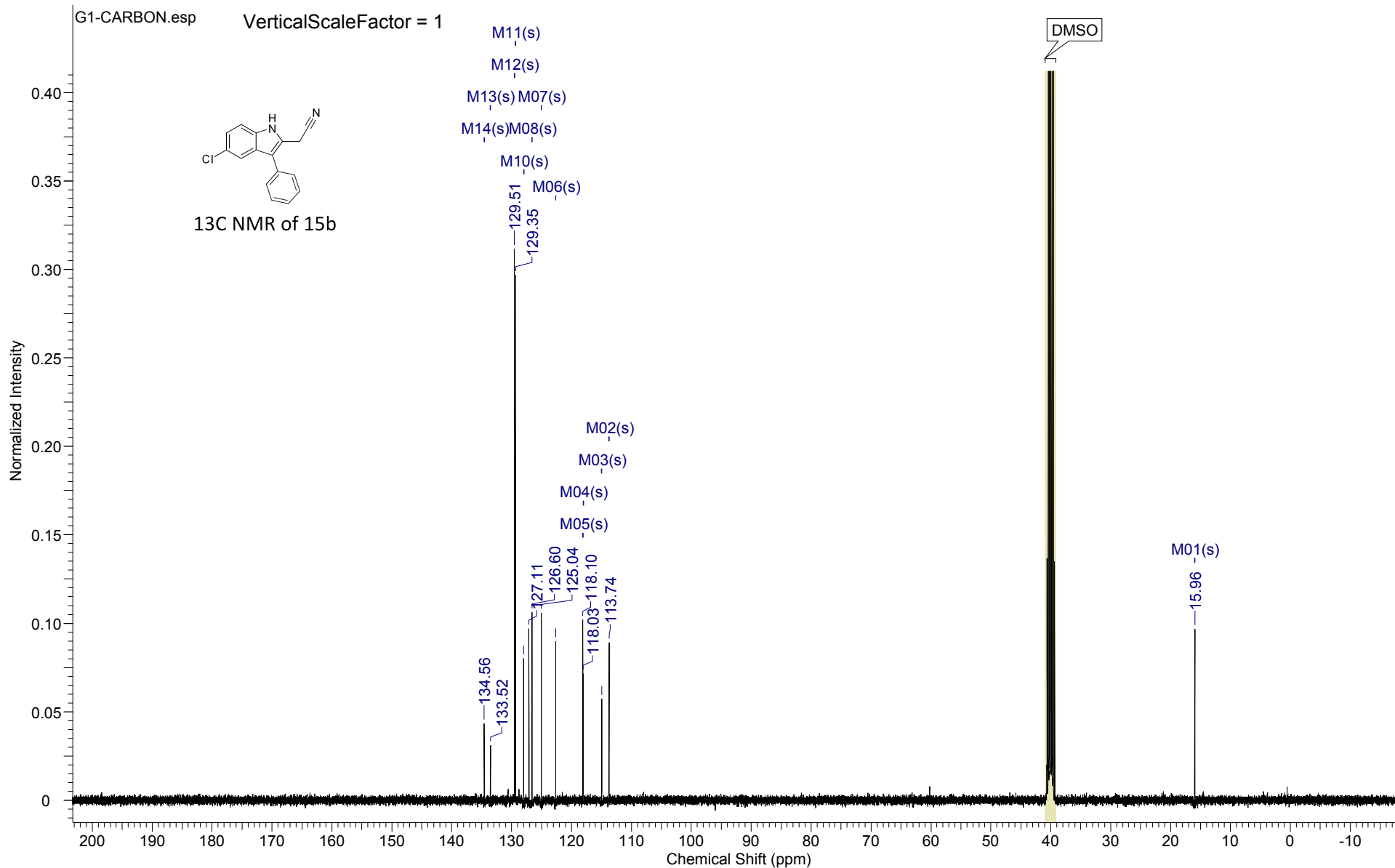
Acquisition Time (sec)	1.3631	Date	05 Aug 2017 19:20:48	Date Stamp	05 Aug 2017 19:20:48
File Name	D:\NMR\CJO\CJO-H1\CARBON\fid	Frequency (MHz)	100.63	Nucleus	13C
Number of Transients	3000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.208	SW(cyclical) (Hz)		Sweep Width (Hz)	24037.73



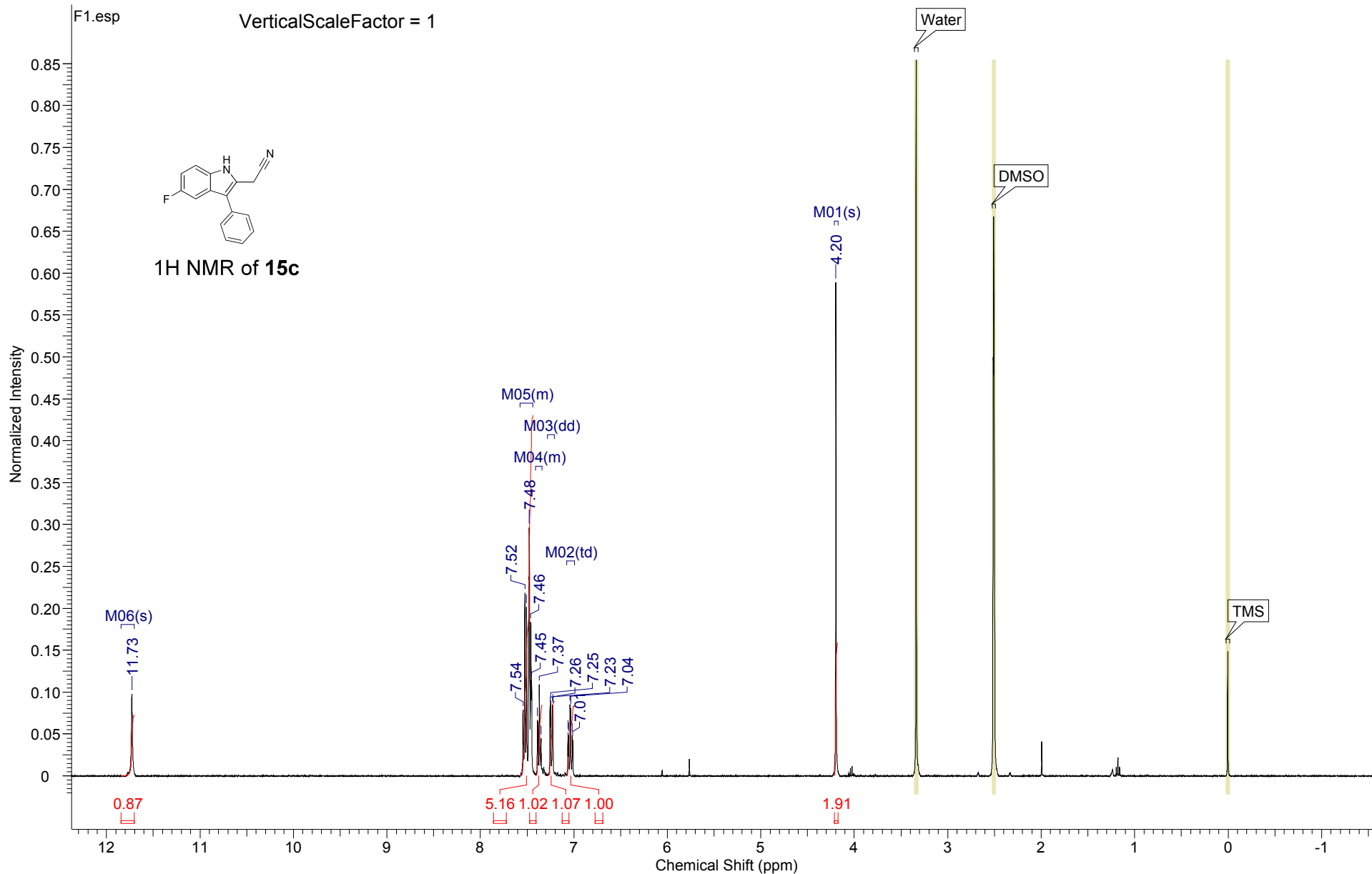
Acquisition Time (sec)	4.0894	Date	04 Aug 2017 11:08:00	Date Stamp	04 Aug 2017 11:08:00
File Name	D:\NMR\CJO\CJO-G1\1fid	Frequency (MHz)	400.15	Nucleus	¹ H
Origin	spect	Original Points Count	32768	Owner	IND-NMR
Receiver Gain	110.38	SW(cyclical) (Hz)	8012.82	Points Count	32768
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.780	Solvent	DMSO-d6
				Spectrum Offset (Hz)	2470.9260
				Spectrum Type	STANDARD



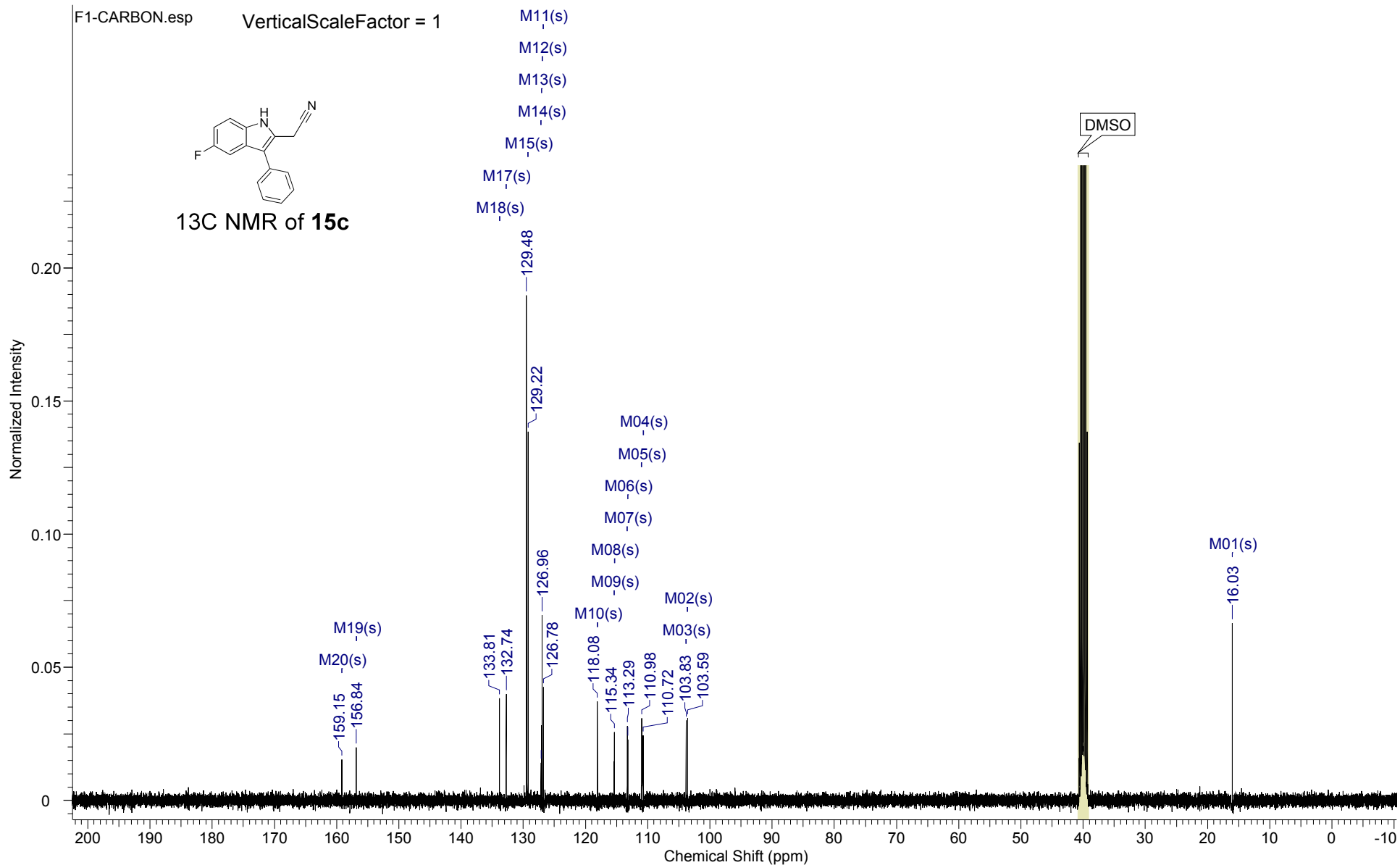
Acquisition Time (sec)	1.3631	Date	05 Aug 2017 16:25:52	Date Stamp	05 Aug 2017 16:25:52
File Name	D:\NMR\CJO\CJO-G1\CARBON\fid	Frequency (MHz)	100.63	Nucleus	13C
Number of Transients	3000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.247			SW(cyclical) (Hz)	24038.46
				Sweep Width (Hz)	24037.73



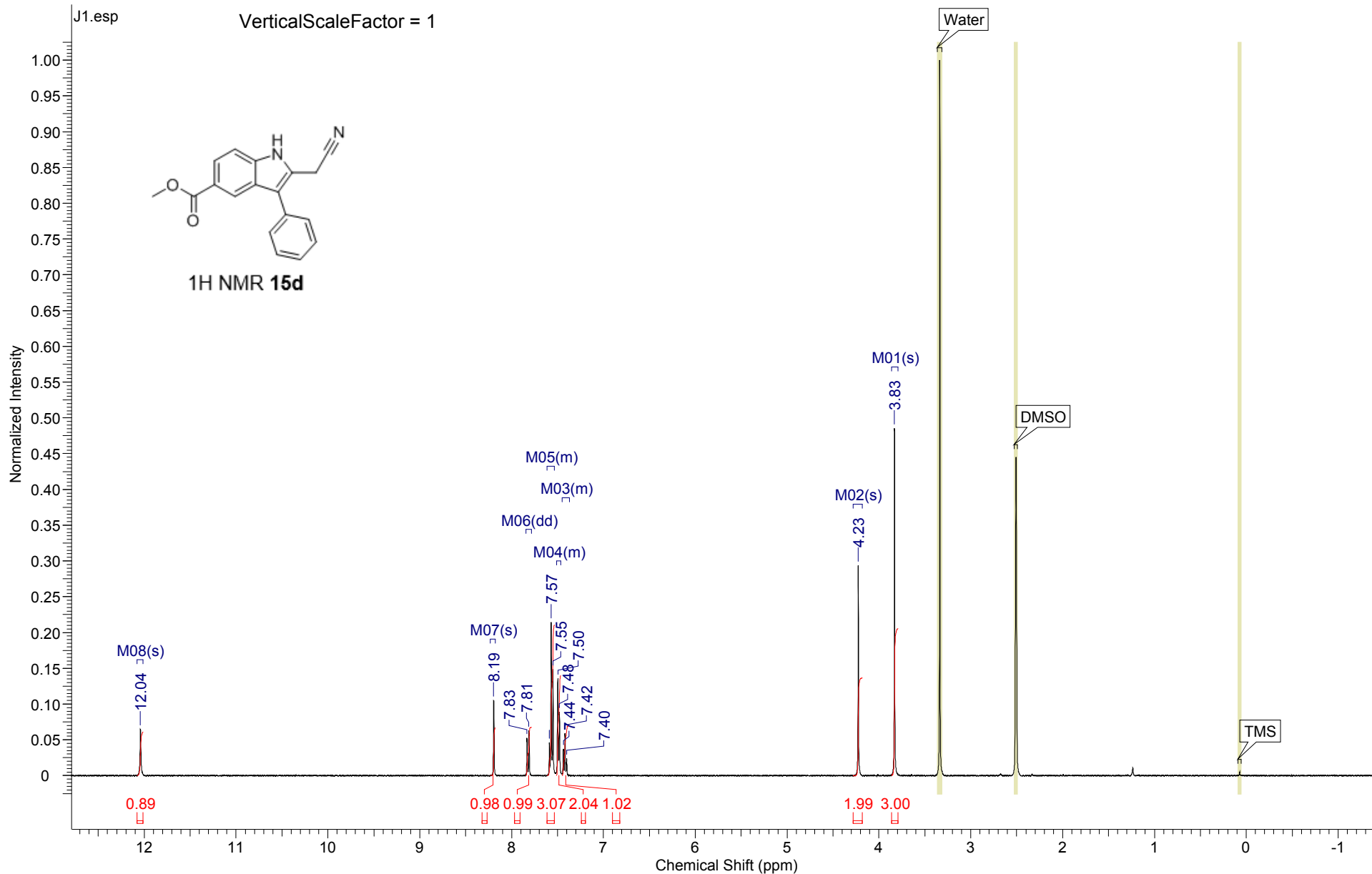
Acquisition Time (sec)	4.0894	Date	01 Aug 2017 08:13:04	Date Stamp	01 Aug 2017 08:13:04				
File Name	D:\NMR\CJO\CJO-F11\fid		Frequency (MHz)	400.15	Nucleus	1H	Number of Transients	32	
Origin	spect	Original Points Count	32768	Owner	IND-NMR	Points Count	32768	Pulse Sequence	zg30
Receiver Gain	141.25	SW(cyclical) (Hz)	8012.82	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260	Spectrum Type	STANDARD
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.666						



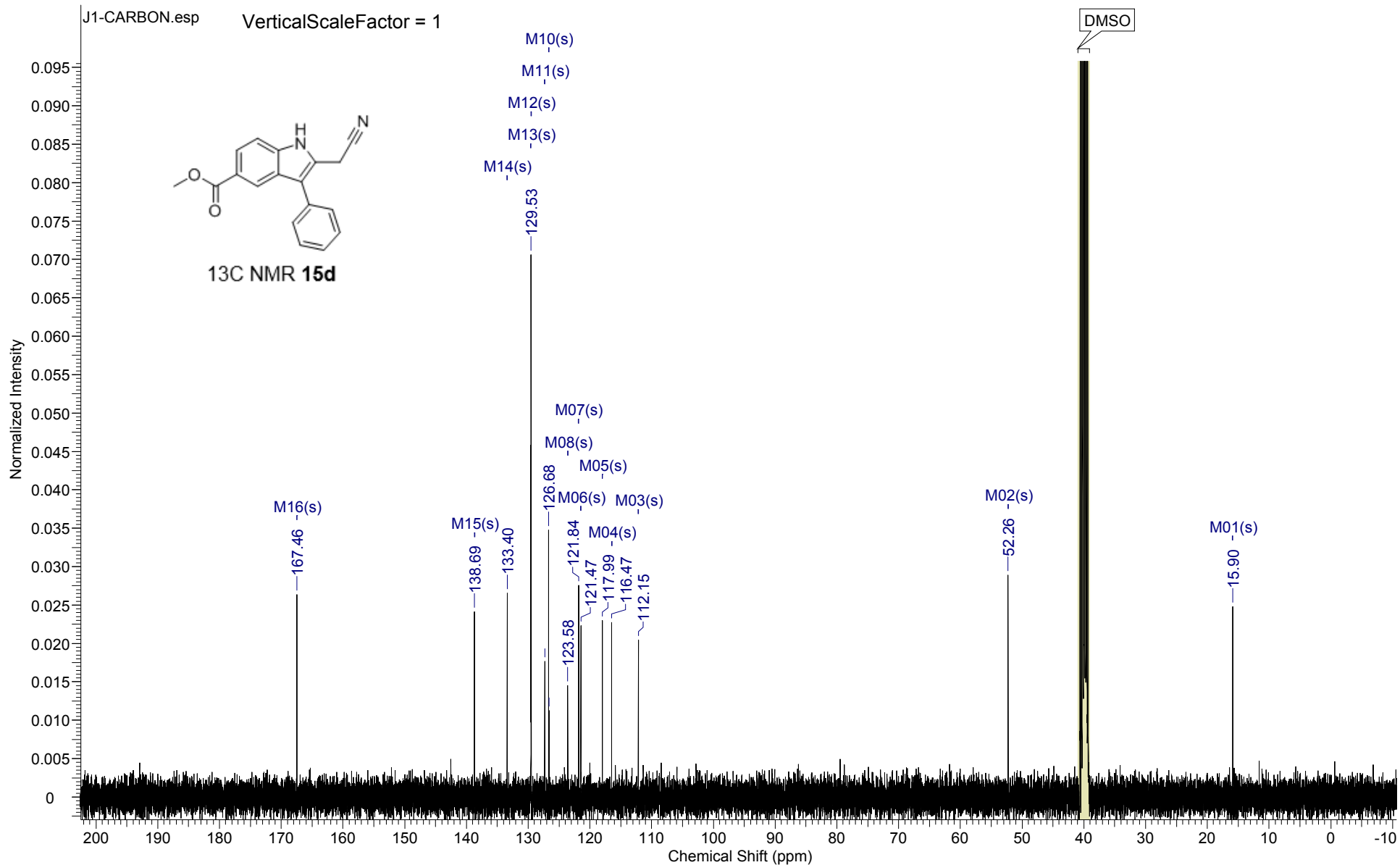
Acquisition Time (sec)	1.3631	Date	02 Aug 2017 01:51:12	Date Stamp	02 Aug 2017 01:51:12
File Name	D:\NMR\CJO\CJO-F1\CARBON\fid	Frequency (MHz)	100.63	Nucleus	13C
Number of Transients	4000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.437			SW(cyclical) (Hz)	24038.46
				Sweep Width (Hz)	24037.73



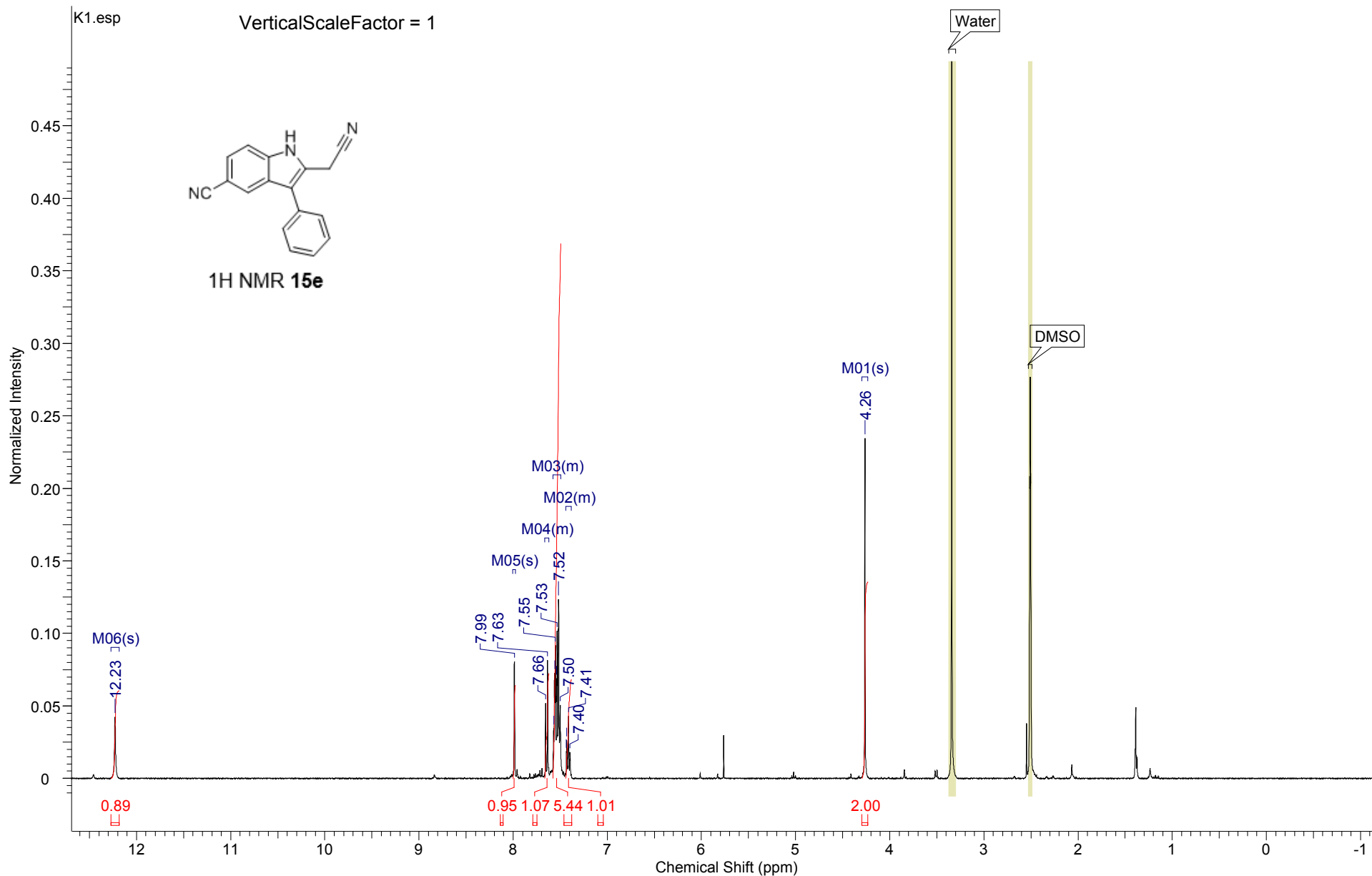
Acquisition Time (sec)	4.0894	Date	25 Aug 2017 10:40:16		Date Stamp	25 Aug 2017 10:40:16	
File Name	D:\CJO-UCSF\NMR\CJO-J11\fid	Frequency (MHz)	400.15	Nucleus	1H	Number of Transients	32
Origin	spect	Original Points Count	32768	Owner	IND-NMR	Points Count	32768
Receiver Gain	141.25	SW(cyclical) (Hz)	8012.82	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.636			Spectrum Type	STANDARD



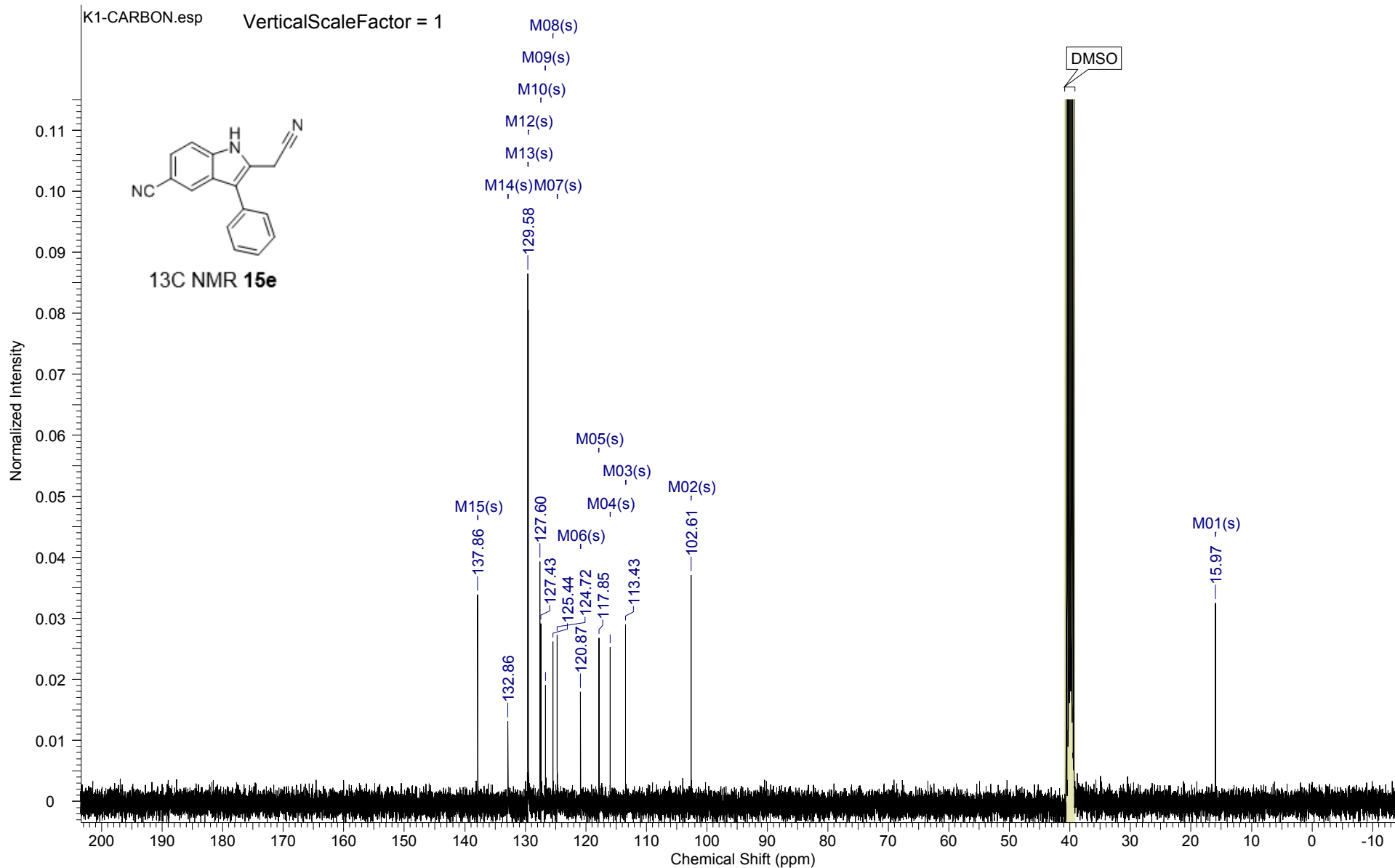
Acquisition Time (sec)	1.3631	Date	26 Aug 2017 00:55:44	Date Stamp	26 Aug 2017 00:55:44
File Name	D:\CJO-UCSF\NMR\CJO-J1\CARBON.fid	Frequency (MHz)	100.63	Nucleus	13C
Number of Transients	3000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.395	SW(cyclical) (Hz)		Sweep Width (Hz)	24037.73



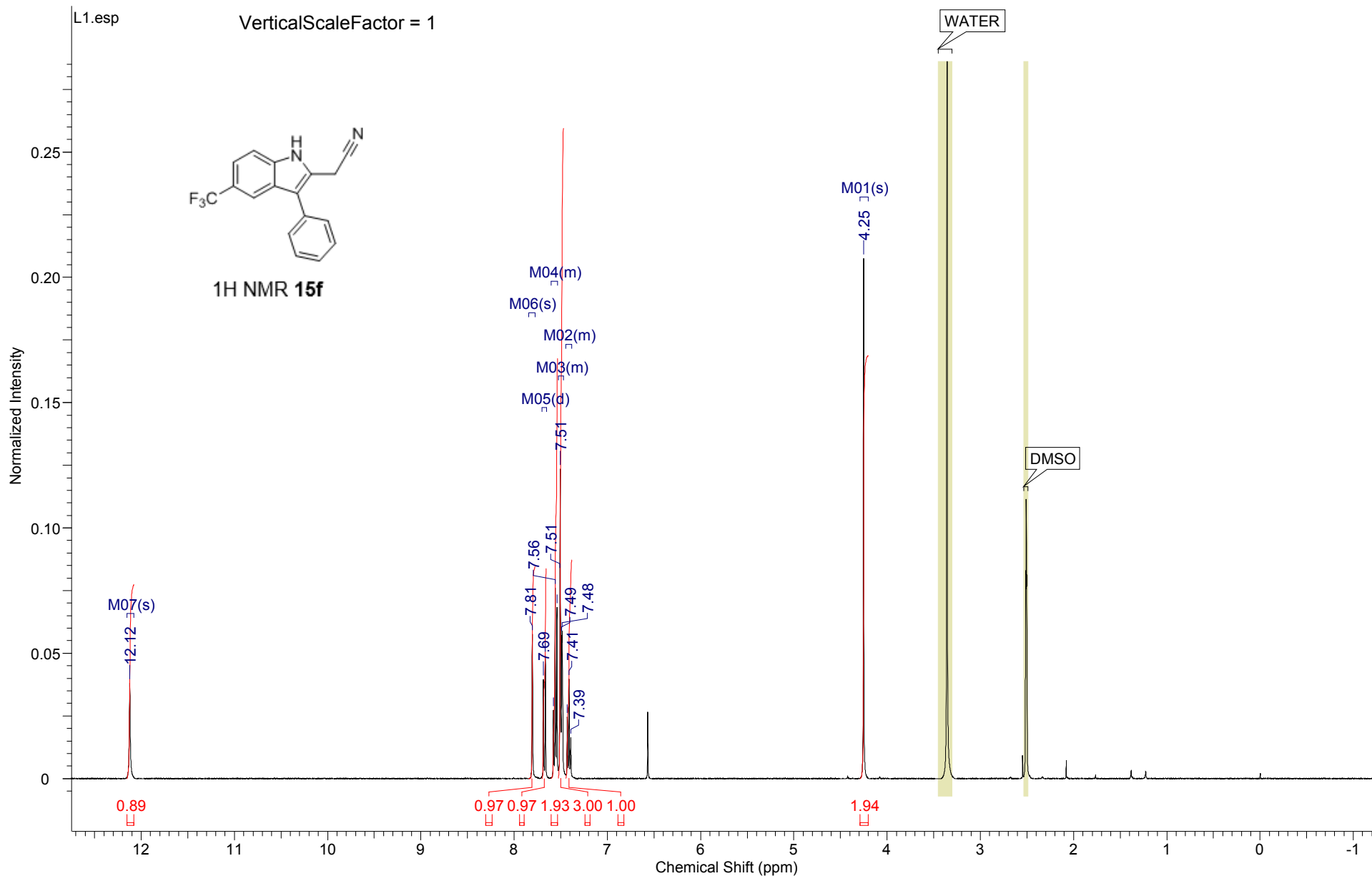
Acquisition Time (sec)	4.0894	Date	01 Sep 2017 08:45:04	Date Stamp	01 Sep 2017 08:45:04		
File Name	D:\CJO-UCSF\NMR\CJO-K1\2\fid	Frequency (MHz)	400.15	Nucleus	1H	Number of Transients	64
Origin	spect	Original Points Count	32768	Owner	IND-NMR	Points Count	32768
Receiver Gain	125.72	SW(cyclical) (Hz)	8012.82	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.602	Spectrum Type	STANDARD		



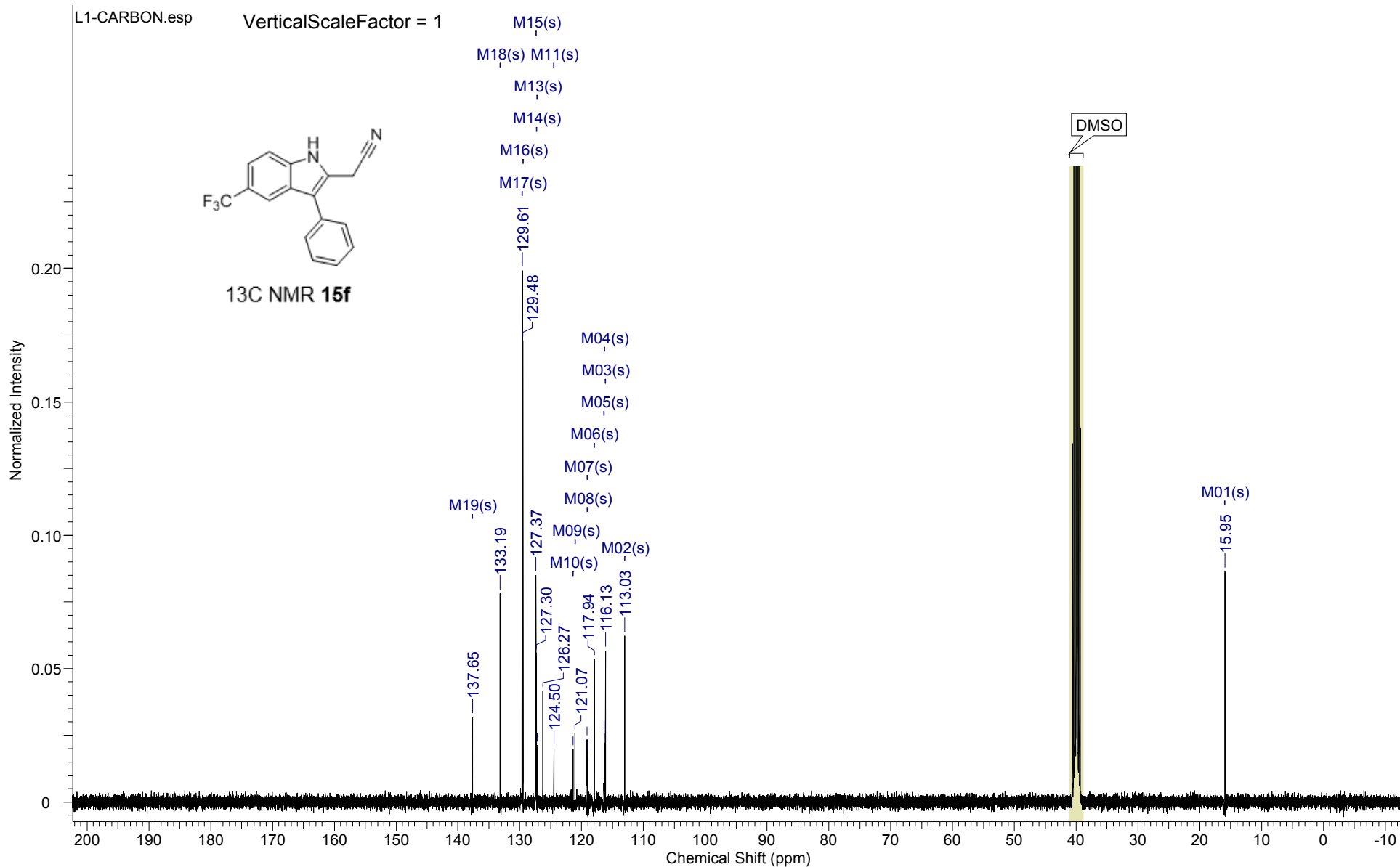
Acquisition Time (sec)	1.3631	Date	02 Sep 2017 04:48:16	Date Stamp	02 Sep 2017 04:48:16
File Name	E:\CJO-Indole Project\NMR\CJO-K1\CARBON\fid	Frequency (MHz)	100.63	Nucleus	13C
Number of Transients	3000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zpgg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.487			SW(cyclical) (Hz)	24038.46
				Sweep Width (Hz)	24037.73



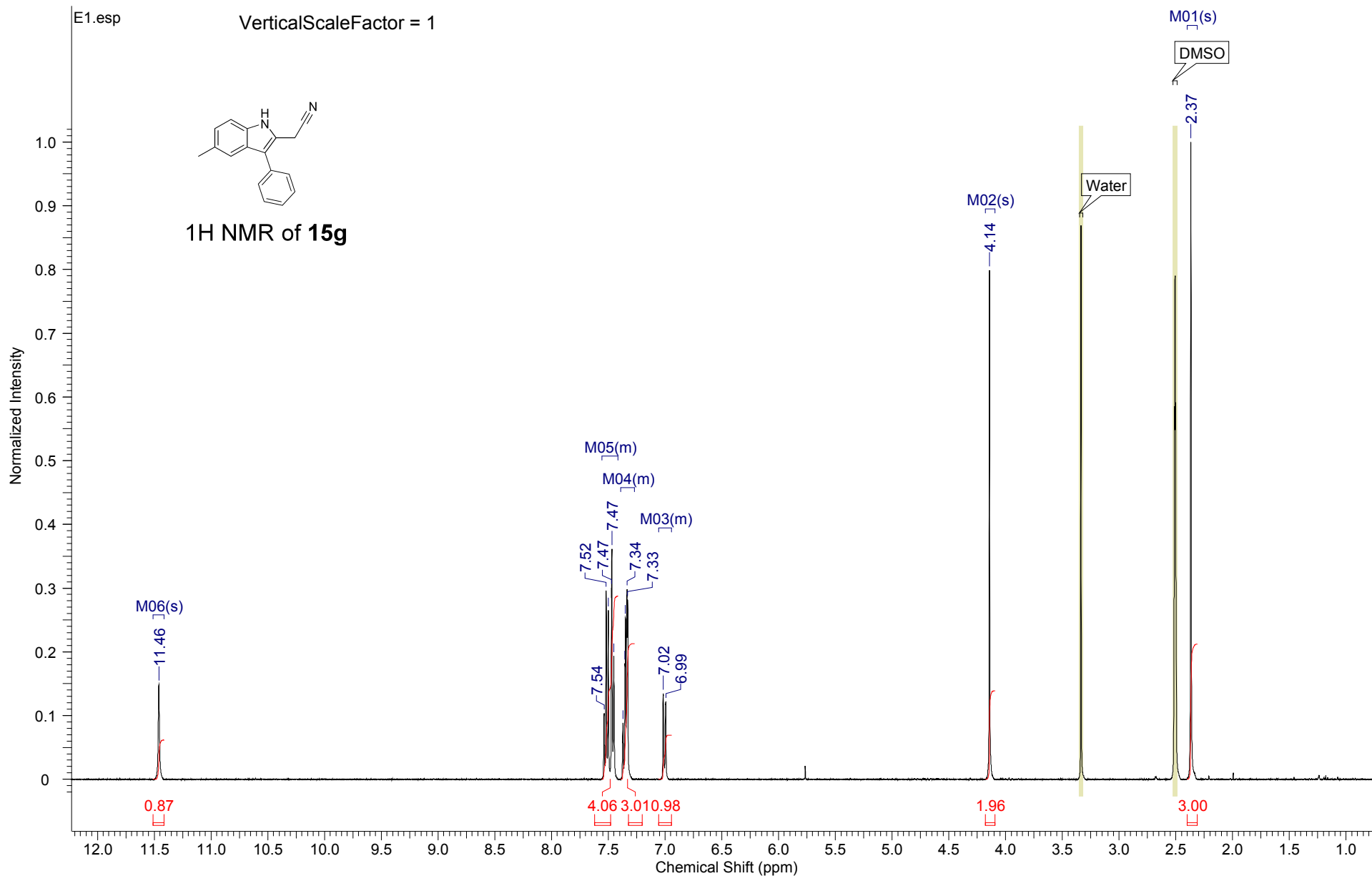
Acquisition Time (sec)	4.0894	Date	09 Aug 2017 09:08:32	Date Stamp	09 Aug 2017 09:08:32		
File Name	D:\CJO-UCSF\CJO-L1\1\fid	Frequency (MHz)	400.15	Nucleus	1H	Number of Transients	32
Origin	spect	Original Points Count	32768	Owner	IND-NMR	Points Count	32768
Receiver Gain	97.12	SW(cyclical) (Hz)	8012.82	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.855			Spectrum Type	STANDARD



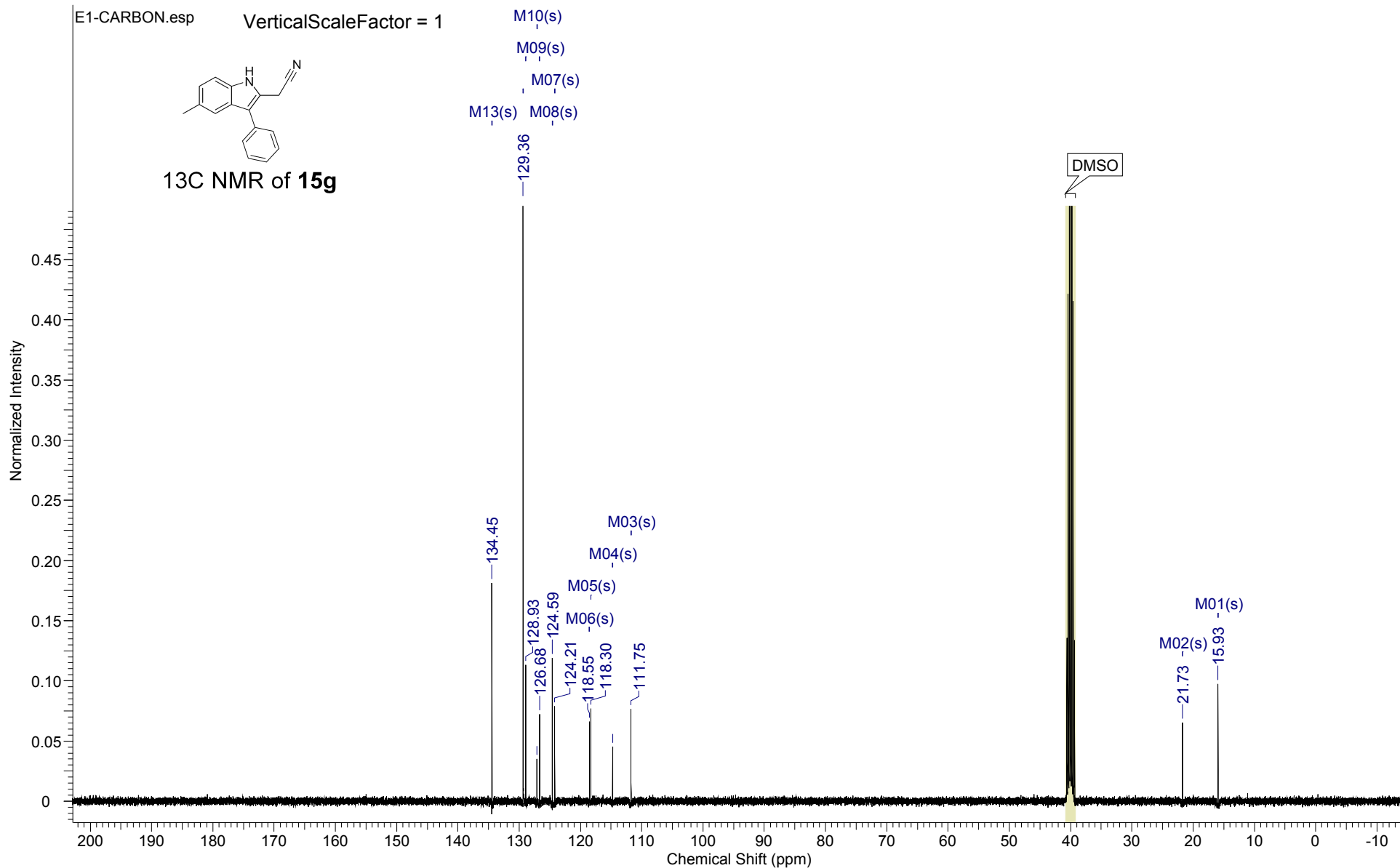
Acquisition Time (sec)	1.3631	Date	10 Aug 2017 00:55:44	Date Stamp	10 Aug 2017 00:55:44
File Name	D:\CJO-UCSF\NMR\CJO-L1\CARBON\fid	Frequency (MHz)	100.63	Nucleus	13C
Number of Transients	3000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zpgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.169	SW(cyclical) (Hz)		Sweep Width (Hz)	24037.73



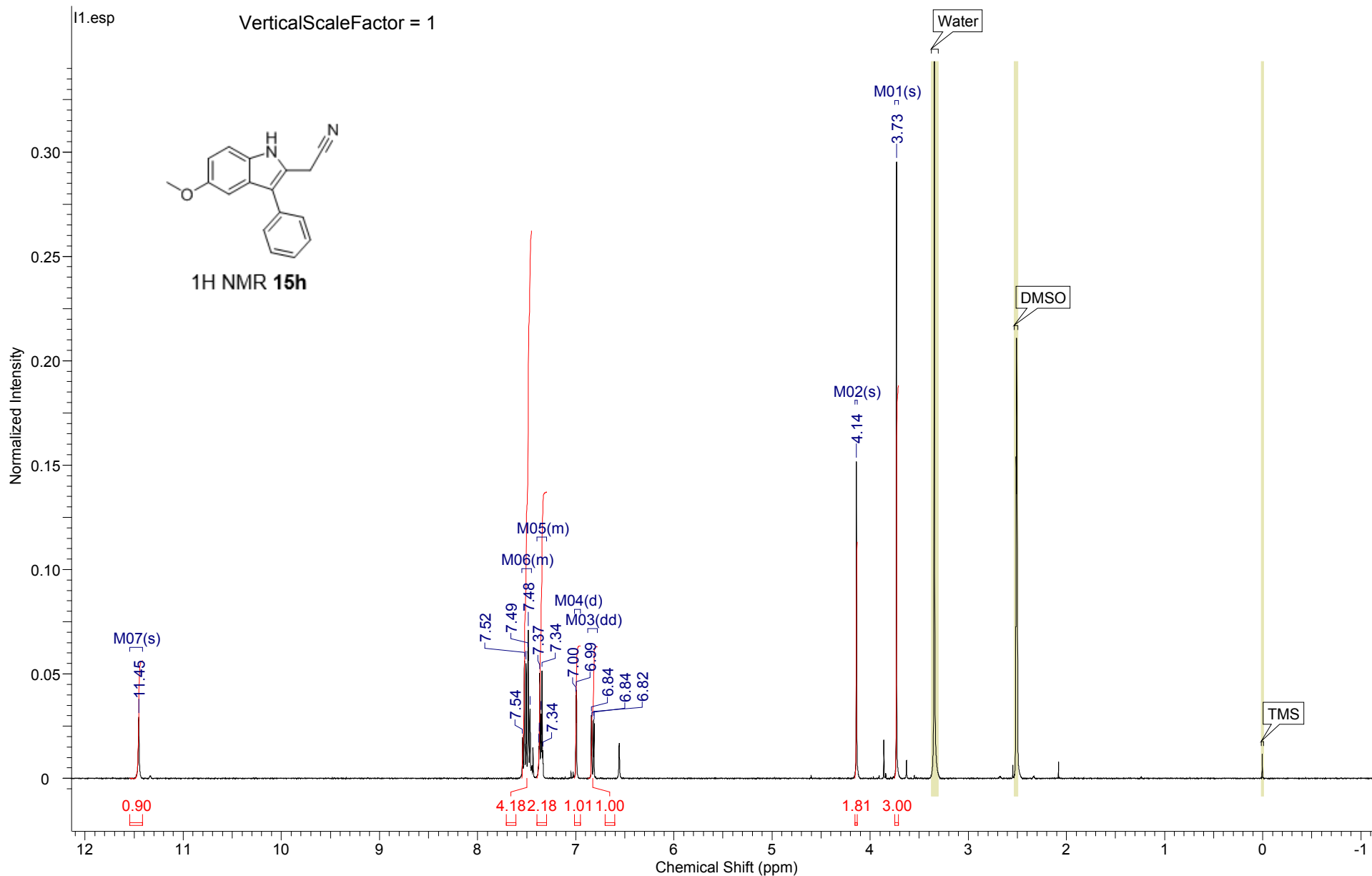
Acquisition Time (sec)	4.0894	Date	29 Aug 2017 08:25:52	Date Stamp	29 Aug 2017 08:25:52
File Name	D:\CJO-UCSF\NMR\CJO-E1\6\fid	Frequency (MHz)	400.15	Nucleus	¹ H
Origin	spect	Original Points Count	32768	Owner	IND-NMR
Receiver Gain	141.25	SW(cyclical) (Hz)	8012.82	Points Count	32768
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.786	Solvent	DMSO-d6
				Spectrum Offset (Hz)	2470.9260
				Spectrum Type	STANDARD



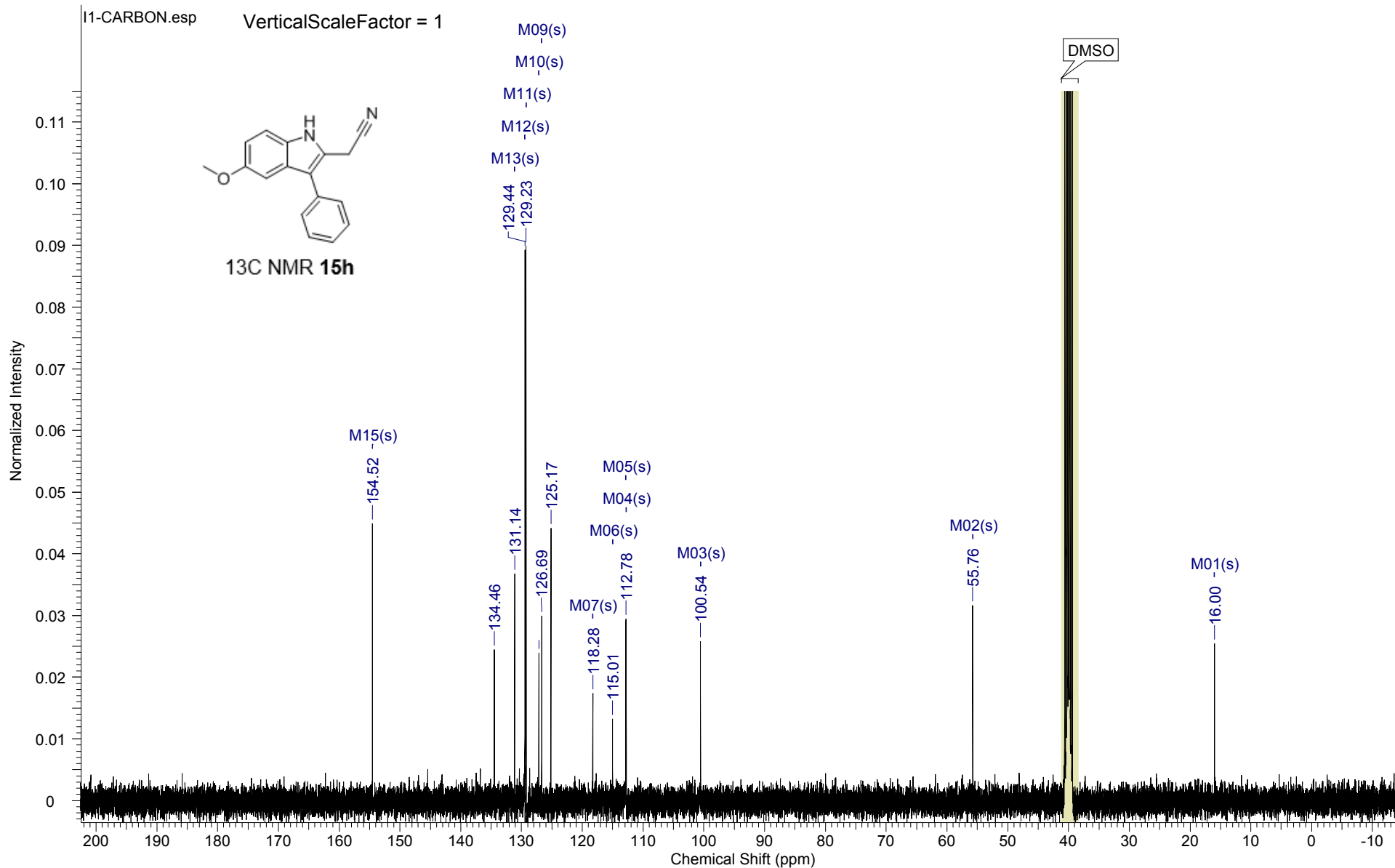
Acquisition Time (sec)	1.3631	Date	01 Sep 2017 06:13:36	Date Stamp	01 Sep 2017 06:13:36
File Name	D:\CJO-UCSF\NMR\CJO-E1\CARBON\fid	Frequency (MHz)	100.63	Nucleus	13C
Number of Transients	2000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.511	SW(cyclical) (Hz)		Sweep Width (Hz)	24037.73



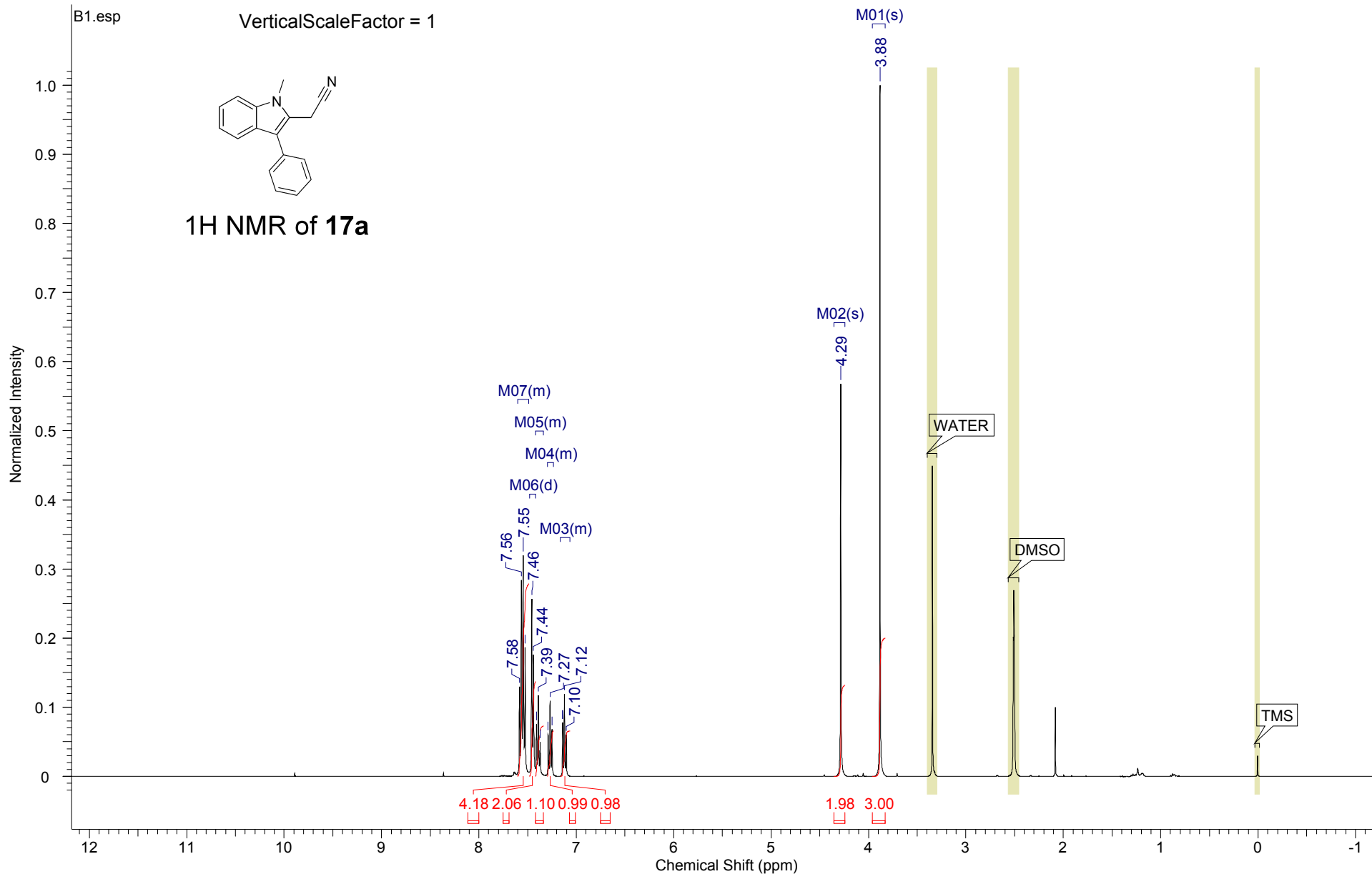
Acquisition Time (sec)	4.0894	Date	11 Aug 2017 09:08:32	Date Stamp	11 Aug 2017 09:08:32		
File Name	D:\CJO-UCSF\NMR\CJO-I1\1\fid	Frequency (MHz)	400.15	Nucleus	1H	Number of Transients	32
Origin	spect	Original Points Count	32768	Owner	IND-NMR	Points Count	32768
Receiver Gain	125.72	SW(cyclical) (Hz)	8012.82	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.667	Spectrum Type	STANDARD		



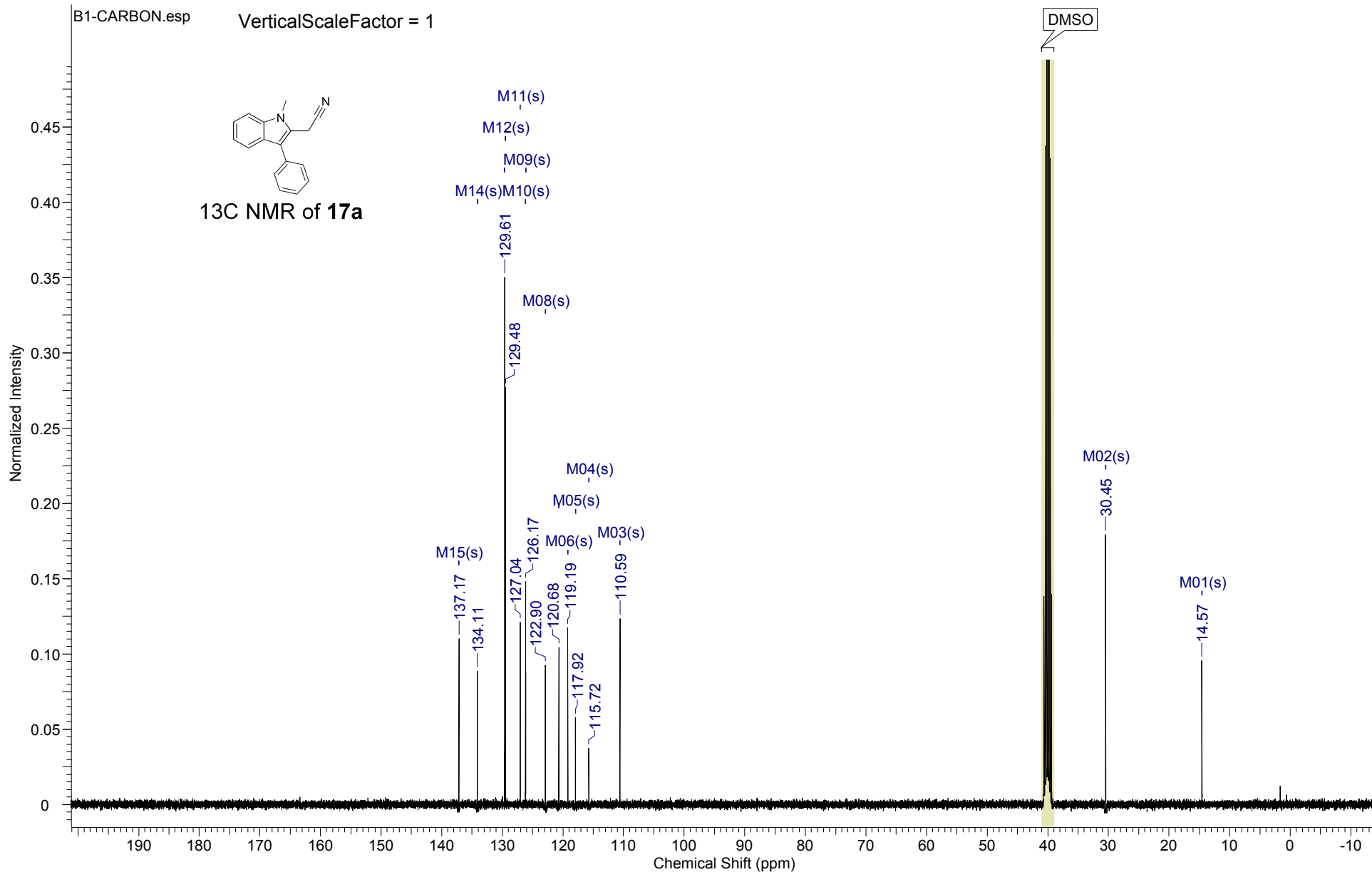
Acquisition Time (sec)	1.3631	Date	12 Aug 2017 03:48:32	Date Stamp	12 Aug 2017 03:48:32
File Name	D:\CJO-UCSF\NMR\CJO-I1\2\fid	Frequency (MHz)	100.63	Nucleus	13C
Number of Transients	3000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.313			SW(cyclical) (Hz)	24038.46
				Sweep Width (Hz)	24037.73



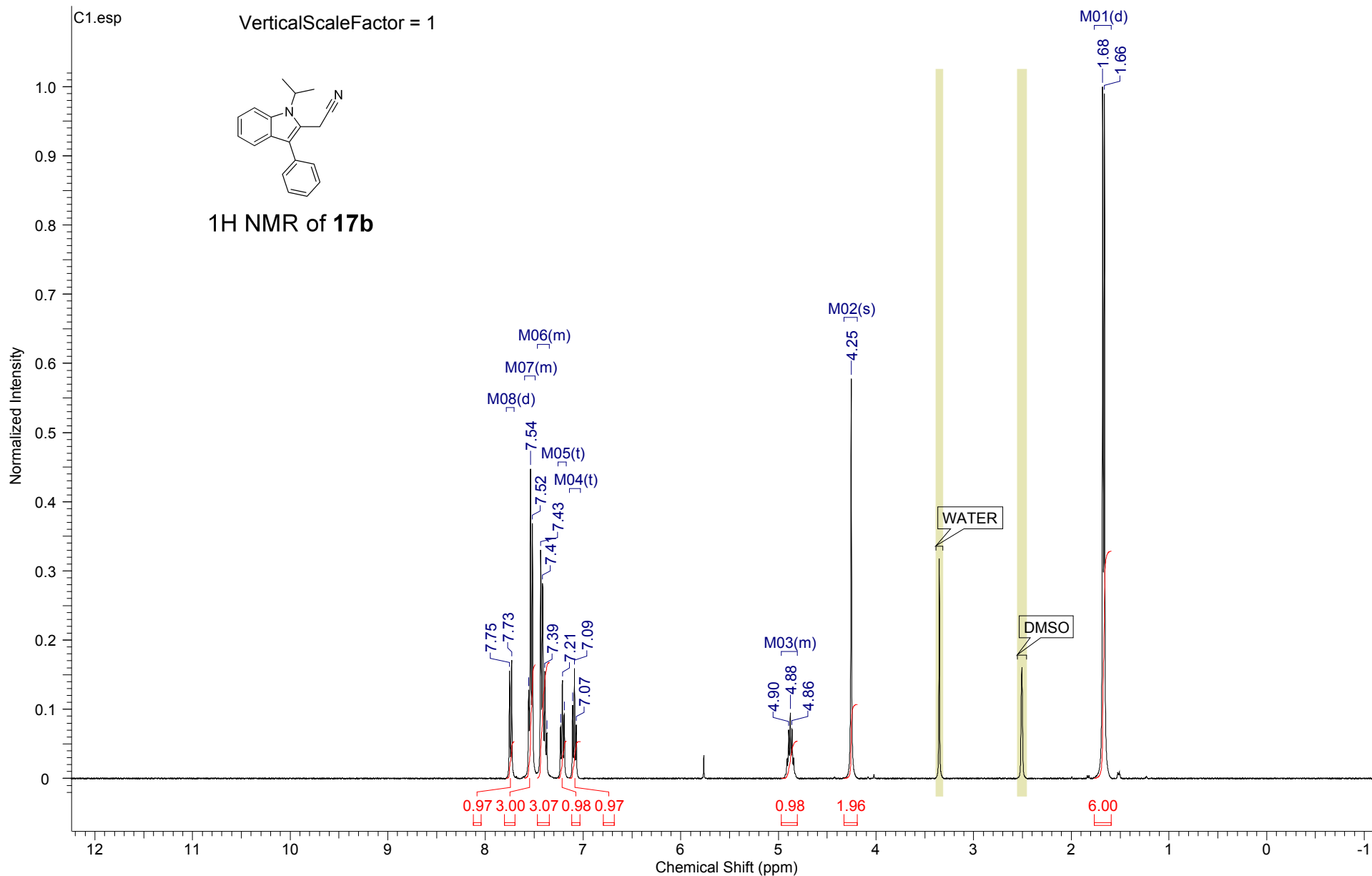
Acquisition Time (sec)	4.0894	Date	08 Aug 2017 09:23:28	Date Stamp	08 Aug 2017 09:23:28		
File Name	D:\CJO-B1\1\fid	Frequency (MHz)	400.15	Nucleus	1H	Number of Transients	64
Origin	spect	Original Points Count	32768	Owner	IND-NMR	Points Count	32768
Receiver Gain	97.12	SW(cyclical) (Hz)	8012.82	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.592			Spectrum Type	STANDARD



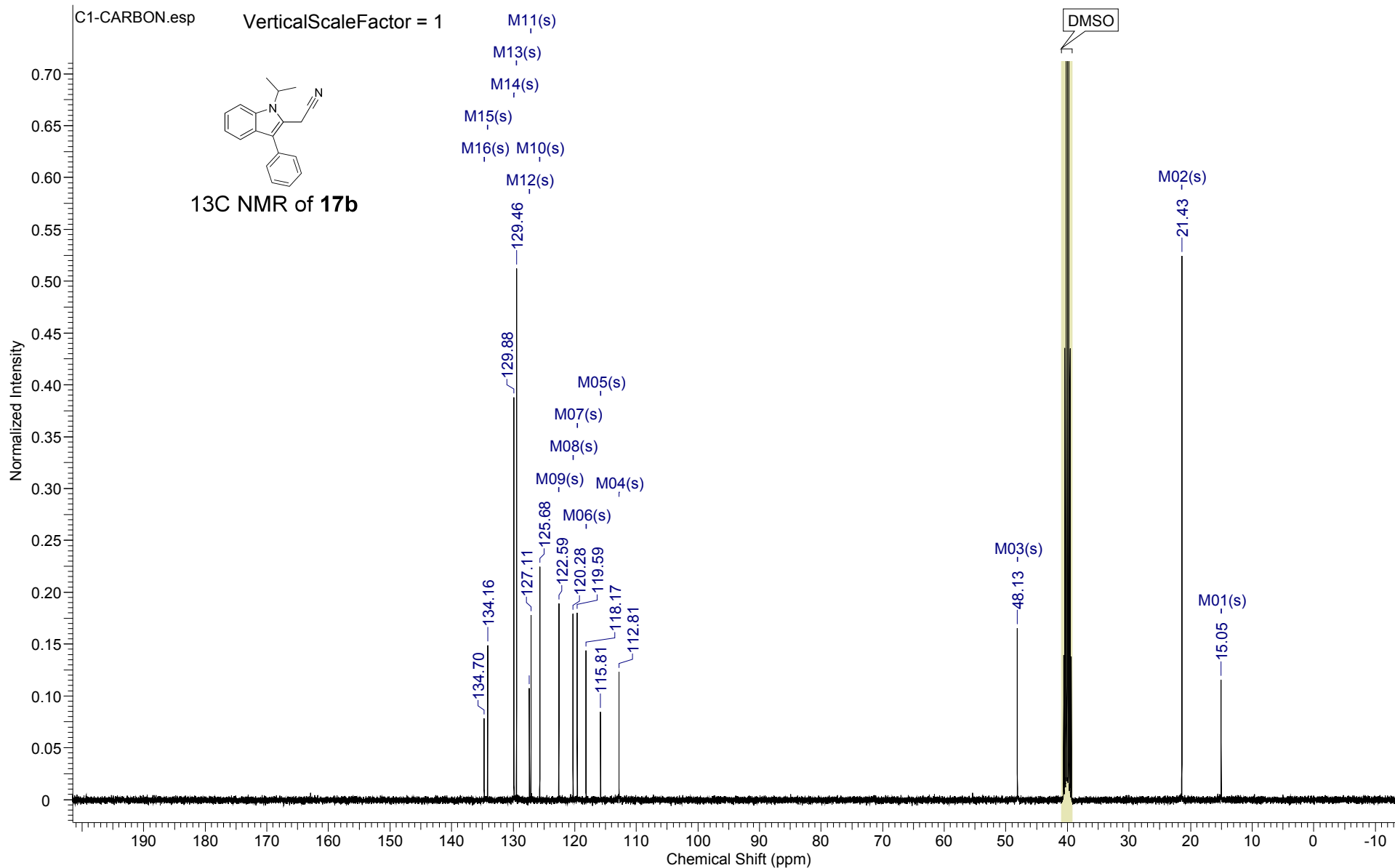
Acquisition Time (sec)	1.3631	Date	09 Aug 2017 03:48:32		Date Stamp	09 Aug 2017 03:48:32	
File Name	D:\CJO-UCSF\CJO-B1\2\fid	Frequency (MHz)	100.63	Nucleus	13C	Number of Transients	3000
Origin	spect	Original Points Count	32768	Owner	IND-NMR	Points Count	32768
Receiver Gain	196.40	SW(cyclical) (Hz)	24038.46	Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803
Sweep Width (Hz)	24037.73	Temperature (degree C)	23.384	Spectrum Type	STANDARD		



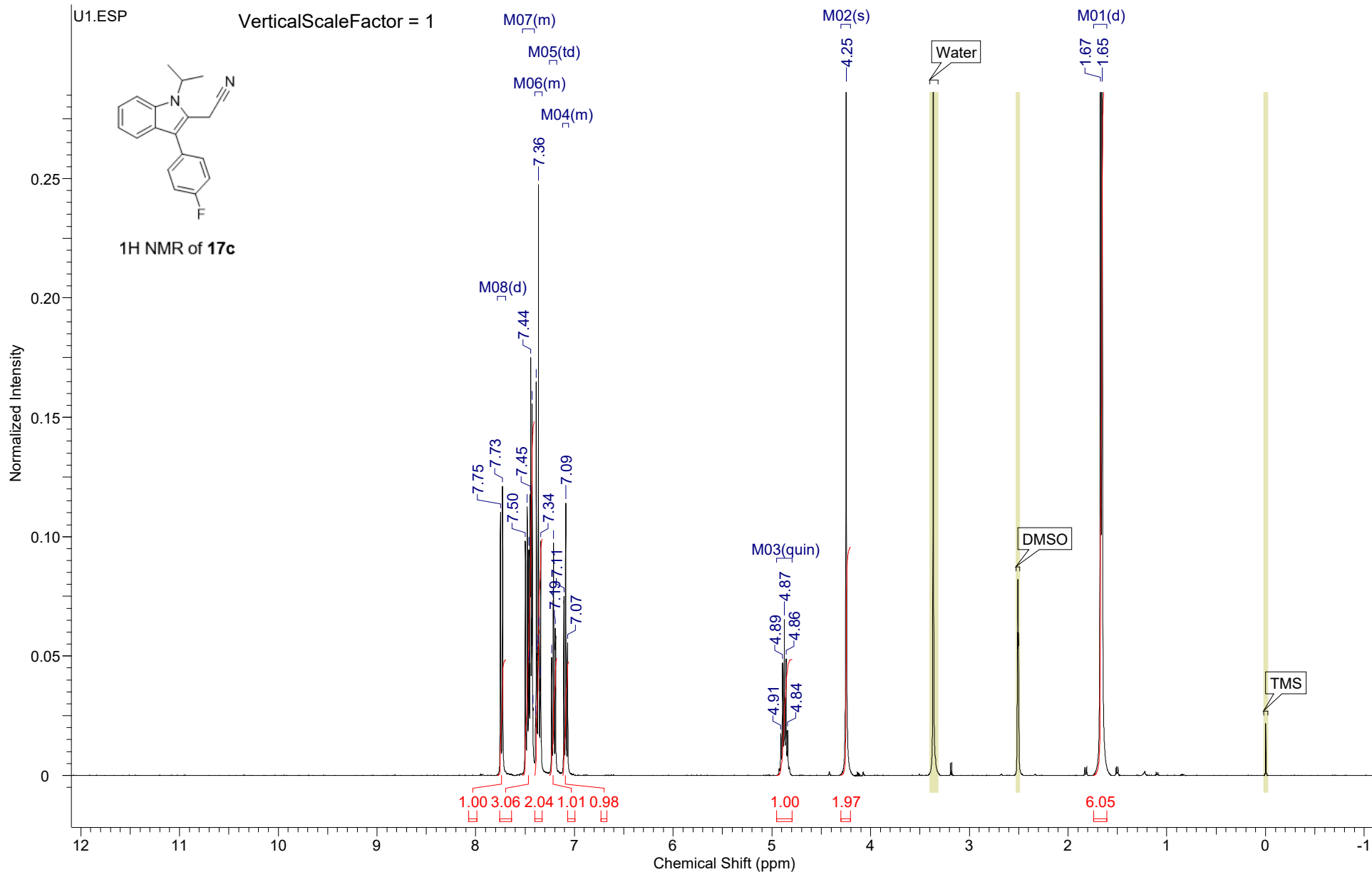
Acquisition Time (sec)	4.0894	Date	12 Sep 2017 10:23:12	Date Stamp	12 Sep 2017 10:23:12
File Name	D:\CJO-UCSF\NMR\CJO-C1\3\fid	Frequency (MHz)	400.15	Nucleus	¹ H
Origin	spect	Original Points Count	32768	Owner	IND-NMR
Receiver Gain	70.44	SW(cyclical) (Hz)	8012.82	Points Count	32768
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.468	Spectrum Offset (Hz)	2470.9255
				Spectrum Type	STANDARD



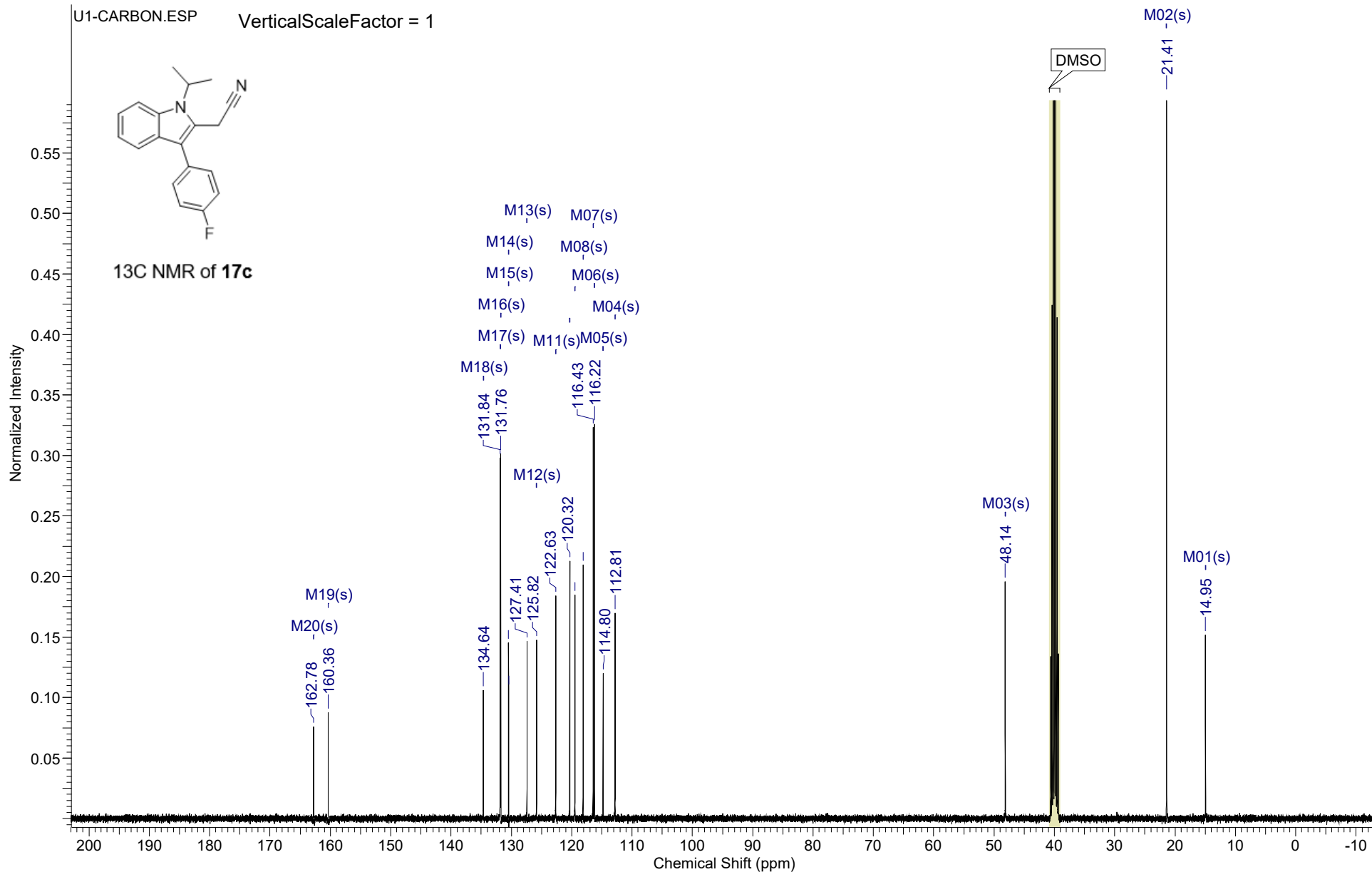
Acquisition Time (sec)	1.3631	Date	12 Sep 2017 23:58:08	Date Stamp	12 Sep 2017 23:58:08
File Name	D:\CJO-UCSF\NMR\CJO-C1\CARBON\fid	Frequency (MHz)	100.63	Nucleus	¹³ C
Number of Transients	2000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.224	SW(cyclical) (Hz)		Sweep Width (Hz)	24037.73



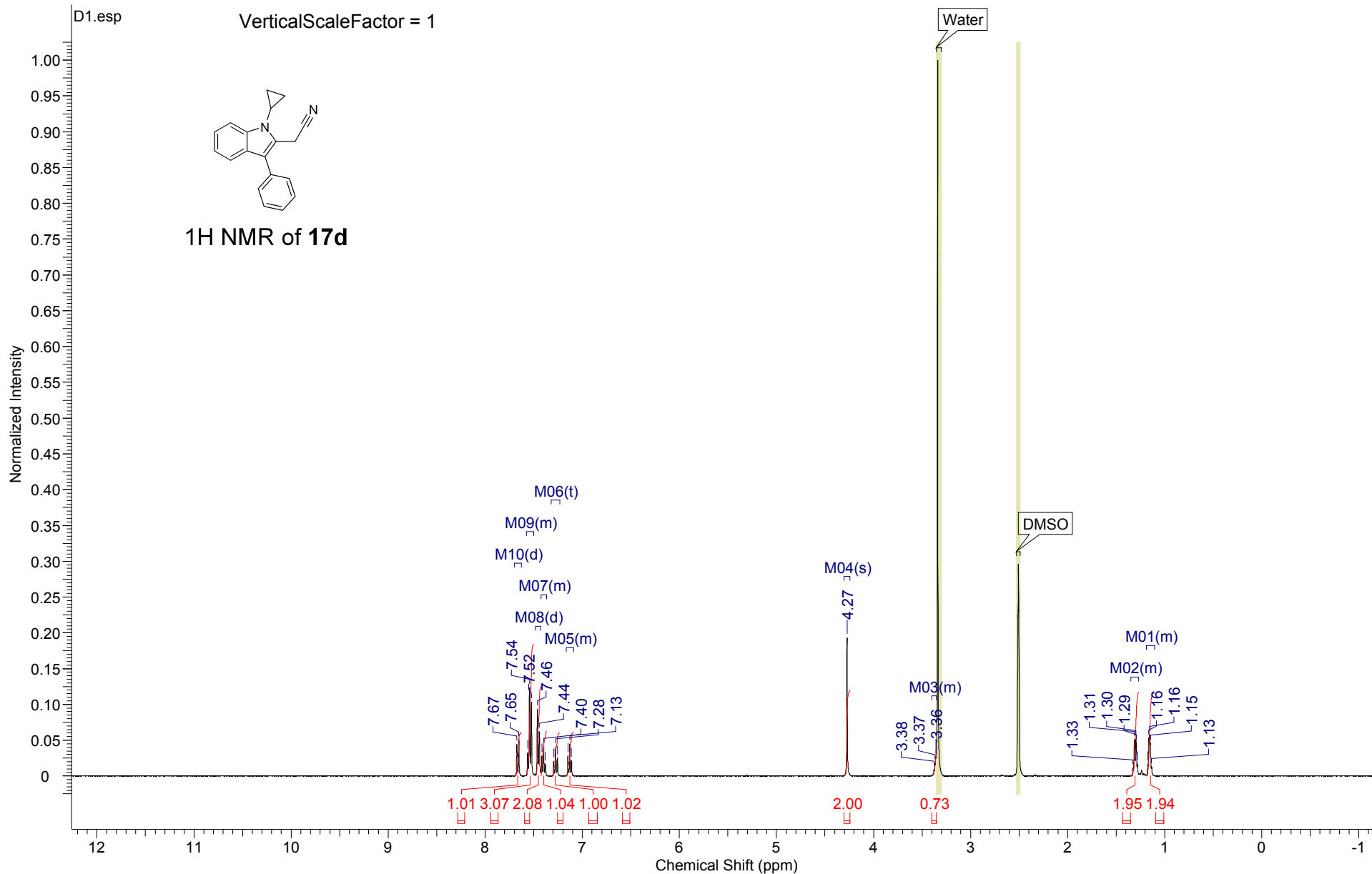
Acquisition Time (sec)	4.0894	Date	05 Aug 2017 13:28:48	Date Stamp	05 Aug 2017 13:28:48
File Name	D:\NMR\CJO\CJO-U1\1\fid	Frequency (MHz)	400.15	Nucleus	1H
Origin	spect	Original Points Count	32768	Owner	IND-NMR
Receiver Gain	56.60	SW(cyclical) (Hz)	8012.82	Points Count	32768
Sweep Width (Hz)	8012.58	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260
		Temperature (degree C)	22.742	Pulse Sequence	zg30
				Spectrum Type	STANDARD



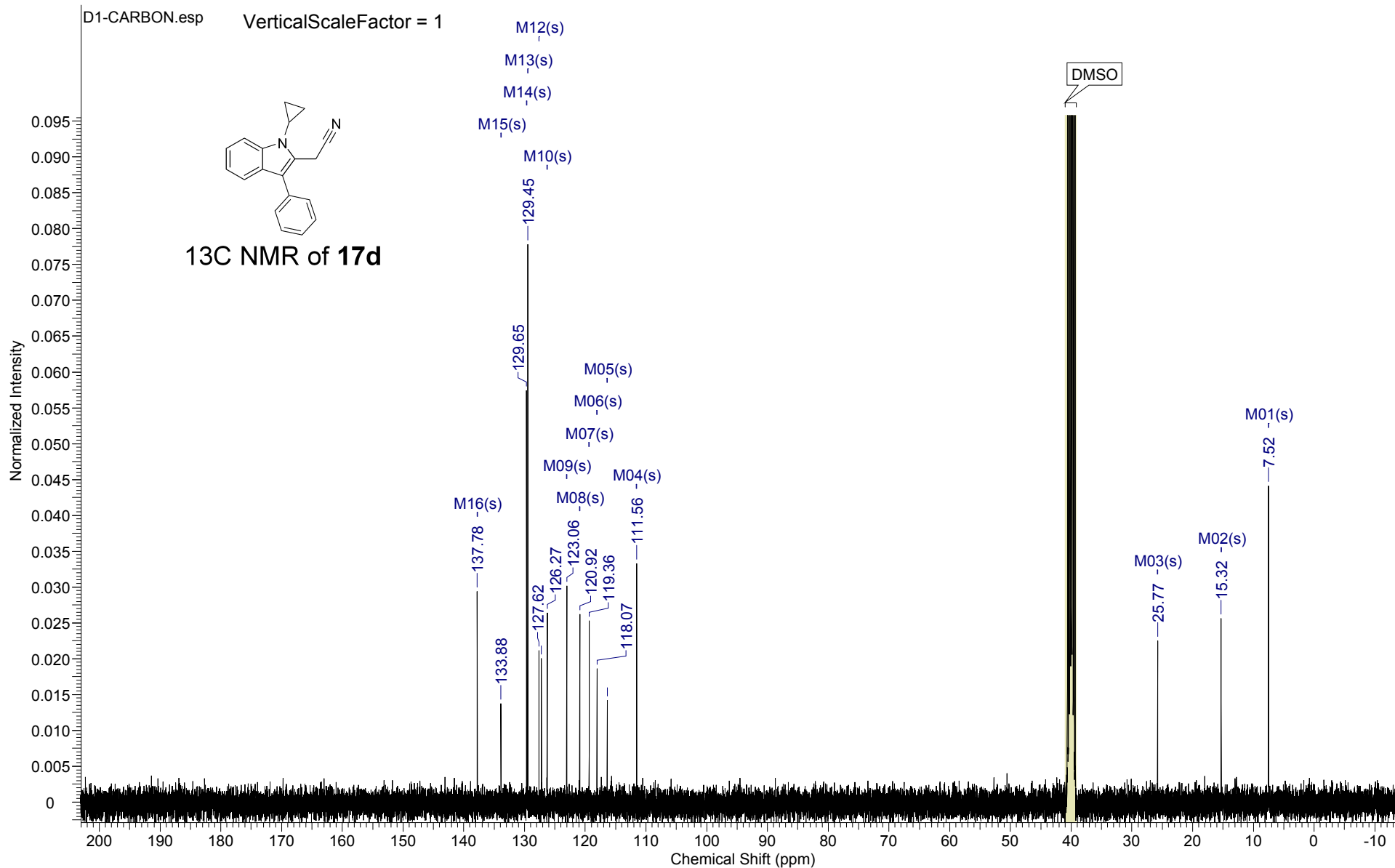
Acquisition Time (sec)	1.3631	Date	05 Aug 2017 22:13:36	Date Stamp	05 Aug 2017 22:13:36
File Name	D:\NMR\CJO\CJO-U1\2\fid	Frequency (MHz)	100.63	Nucleus	13C
Origin	spect	Original Points Count	32768	Owner	IND-NMR
Receiver Gain	196.40	SW(cyclical) (Hz)	24038.46	Points Count	32768
Sweep Width (Hz)	24037.73	Temperature (degree C)	23.286	Solvent	DMSO-d6
				Spectrum Offset (Hz)	10061.7803
				Spectrum Type	STANDARD



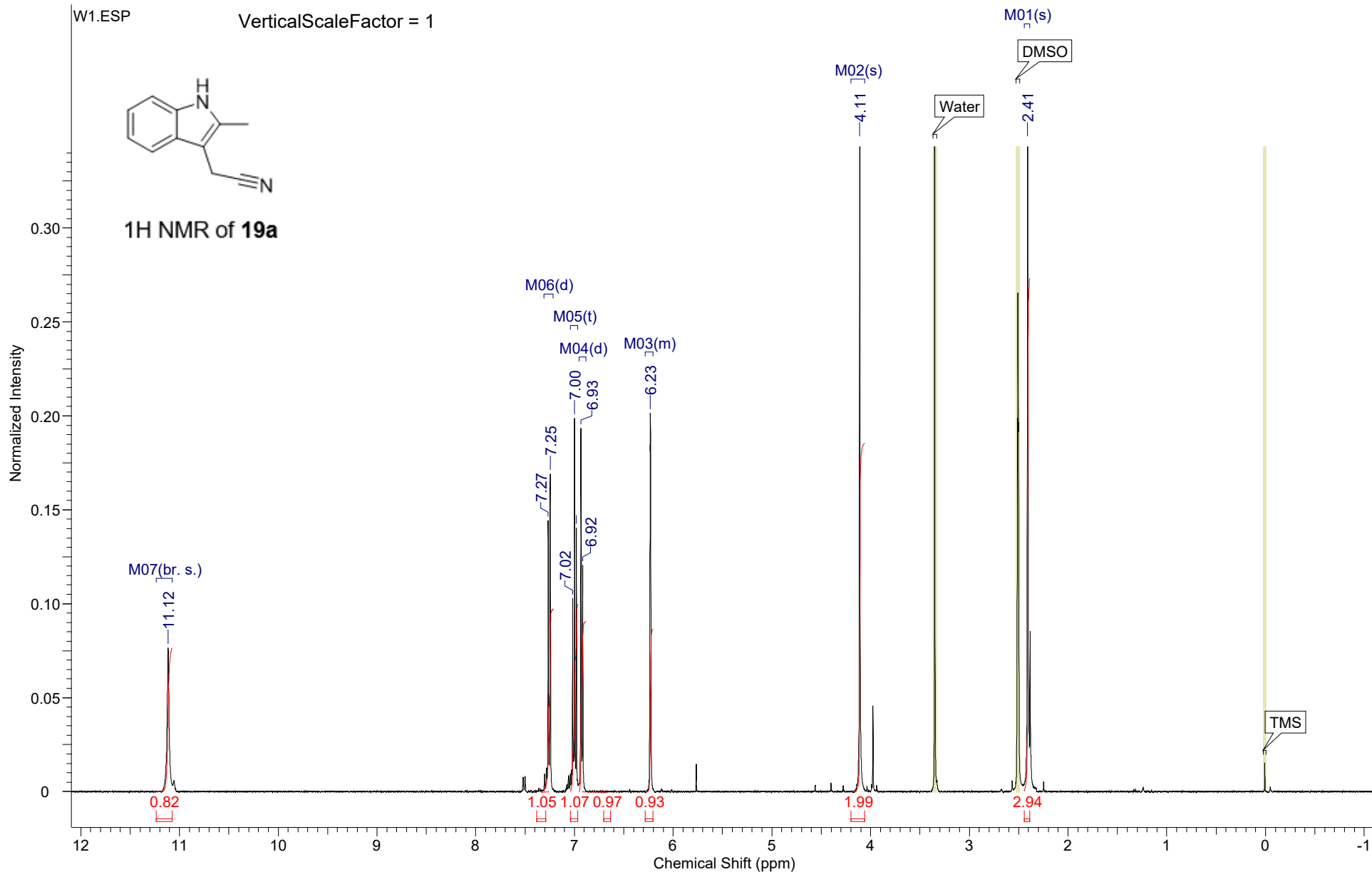
Acquisition Time (sec)	4.0894	Date	31 Aug 2017 11:25:04		Date Stamp	31 Aug 2017 11:25:04	
File Name	D:\CJO-UCSF\NMR\CJO-D1\1\fid	Frequency (MHz)	400.15	Nucleus	1H	Number of Transients	64
Origin	spect	Original Points Count	32768	Owner	IND-NMR	Pulse Sequence	zg30
Receiver Gain	125.72	SW(cyclical) (Hz)	8012.82	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.748			Spectrum Type	STANDARD



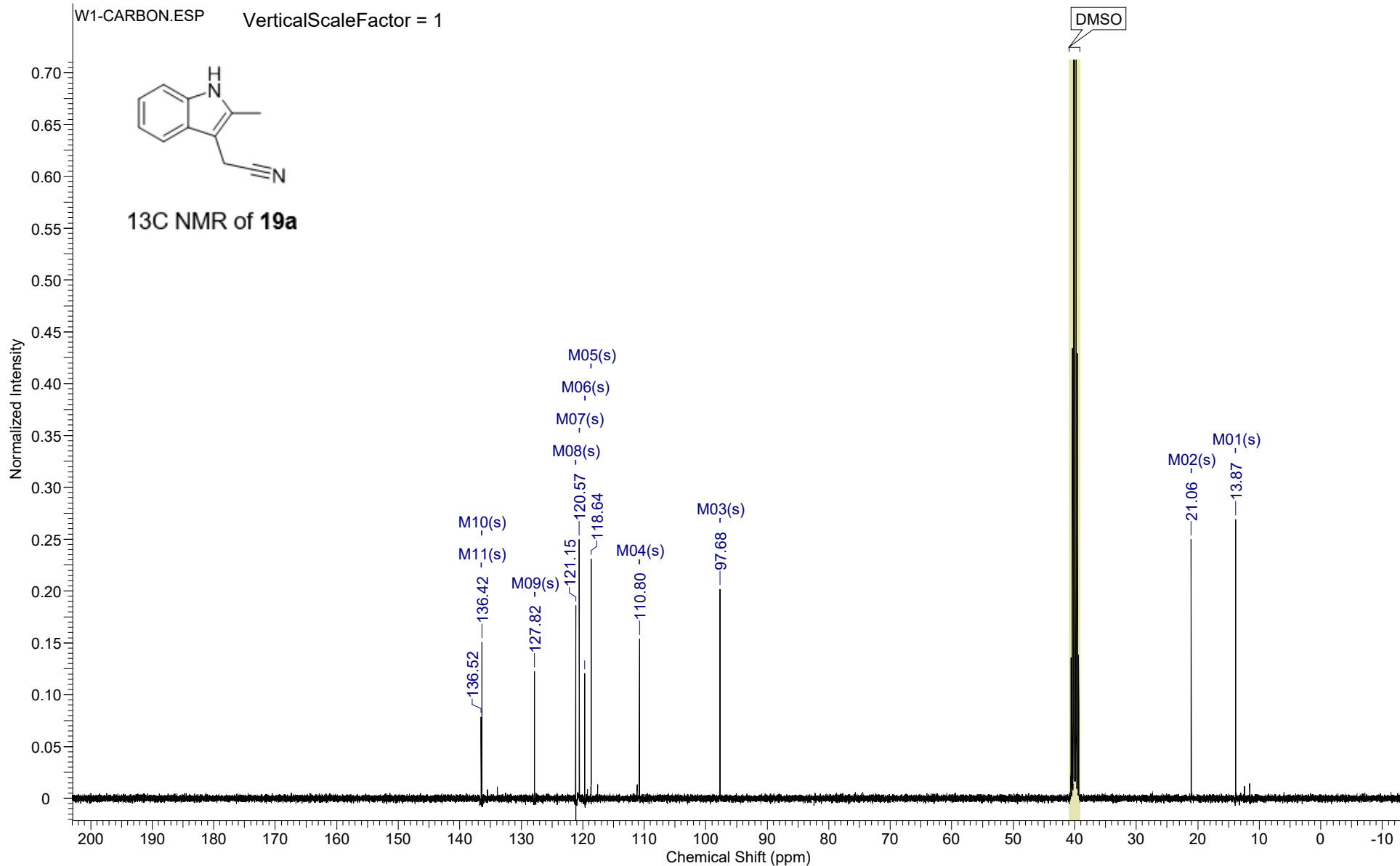
Acquisition Time (sec)	1.3631	Date	02 Sep 2017 01:53:20	Date Stamp	02 Sep 2017 01:53:20
File Name	E:\CJO-Indole Project\NMR\CJO-D1\CARBON\fid	Frequency (MHz)	100.63	Nucleus	¹³ C
Number of Transients	4000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zpgg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.352			Sweep Width (Hz)	24037.73



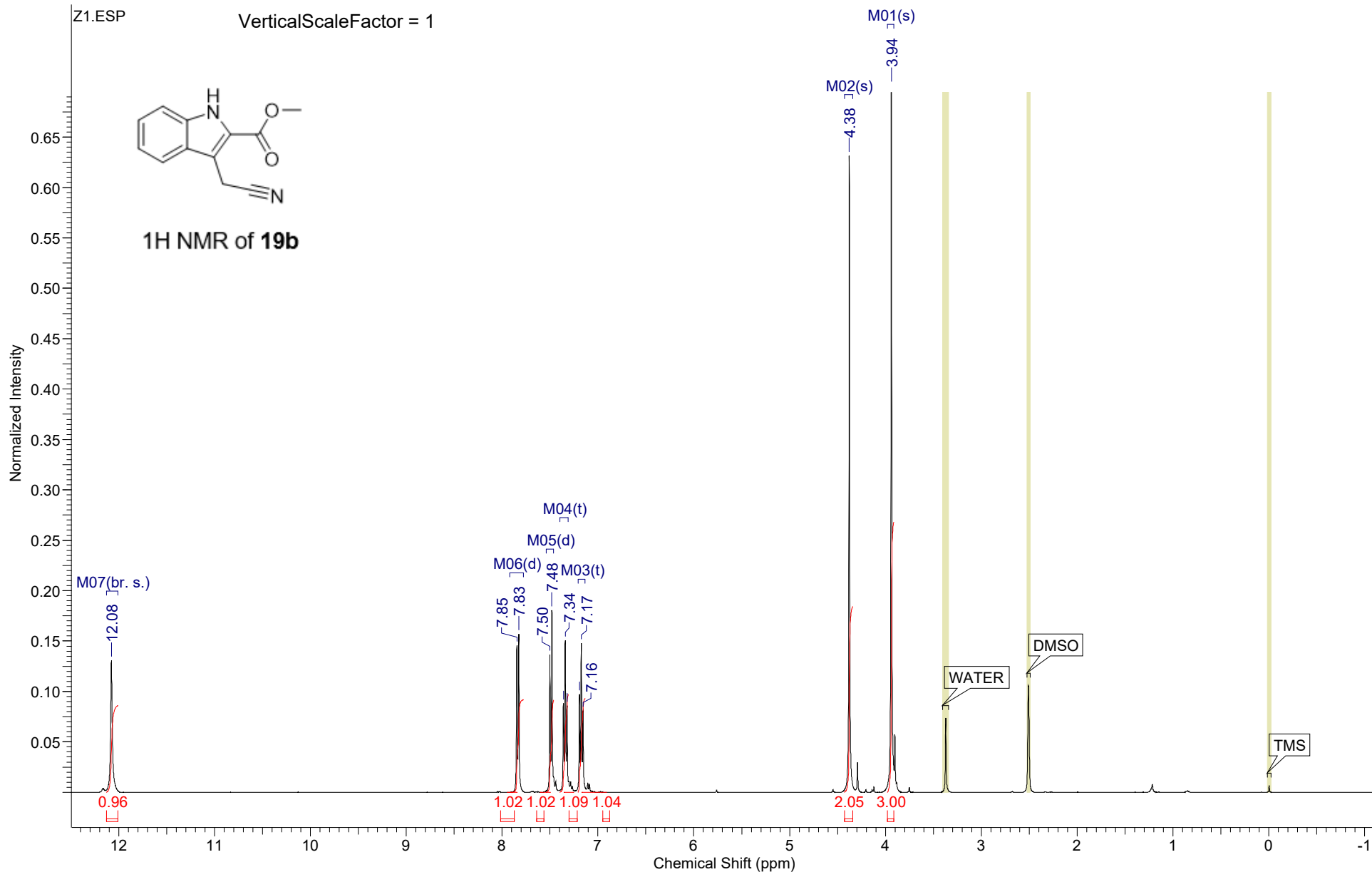
Acquisition Time (sec)	4.0894	Date	19 Sep 2017 08:32:16	Date Stamp	19 Sep 2017 08:32:16
File Name	D:\CJO-UCSF\NMR\CJO-W1\1\fid	Frequency (MHz)	400.15	Nucleus	1H
Origin	spect	Original Points Count	32768	Owner	IND-NMR
Receiver Gain	97.12	SW(cyclical) (Hz)	8012.82	Points Count	32768
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.650	Solvent	DMSO-d6
				Spectrum Offset (Hz)	2470.9260
				Spectrum Type	STANDARD



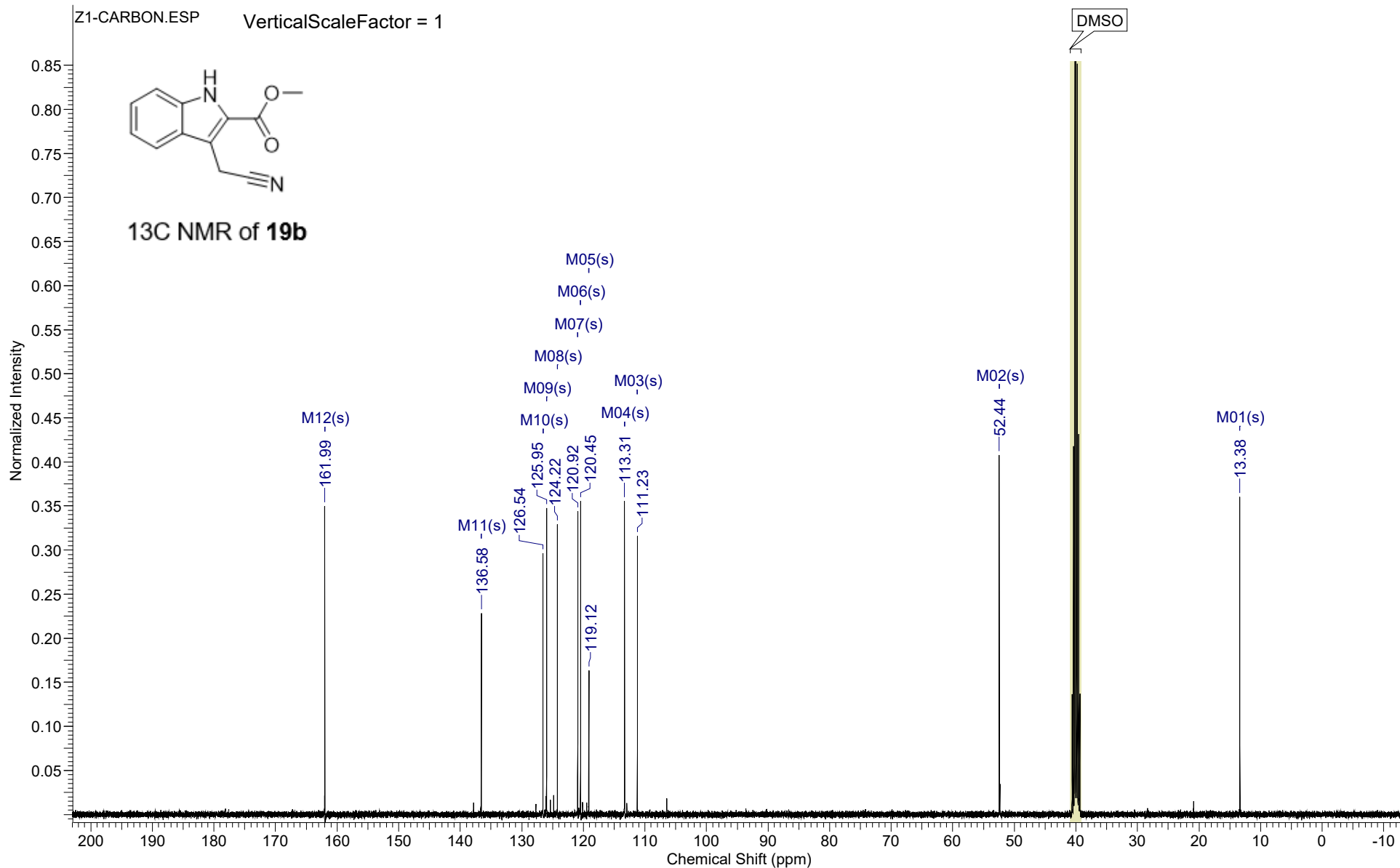
Acquisition Time (sec)	1.3631	Date	19 Sep 2017 23:58:08	Date Stamp	19 Sep 2017 23:58:08
File Name	D:\CJO-UCSF\NMR\CJO-W1\CARBON\fid	Frequency (MHz)	100.63	Nucleus	¹³ C
Number of Transients	2000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.164	SW(cyclical) (Hz)		Sweep Width (Hz)	24037.73



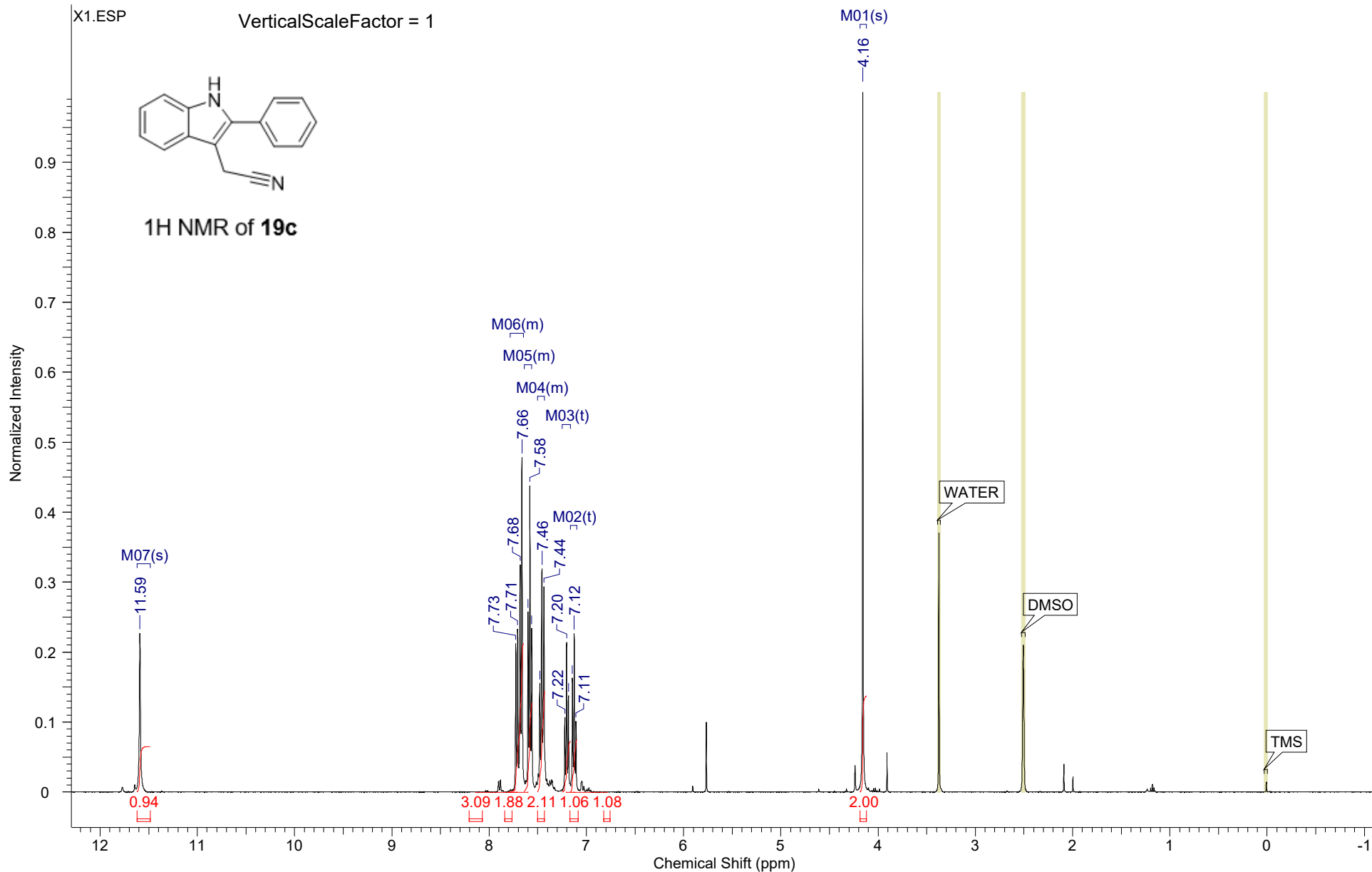
Acquisition Time (sec)	4.0894	Date	23 Sep 2017 10:36:00	Date Stamp	23 Sep 2017 10:36:00
File Name	D:\CJO-UCSF\NMR\CJO-Z1\1\fid	Frequency (MHz)	400.15	Nucleus	¹ H
Origin	spect	Original Points Count	32768	Owner	IND-NMR
Receiver Gain	62.81	SW(cyclical) (Hz)	8012.82	Points Count	32768
Sweep Width (Hz)	8012.58	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260
		Temperature (degree C)	22.674	Number of Transients	32
				Pulse Sequence	zg30
				Spectrum Type	STANDARD



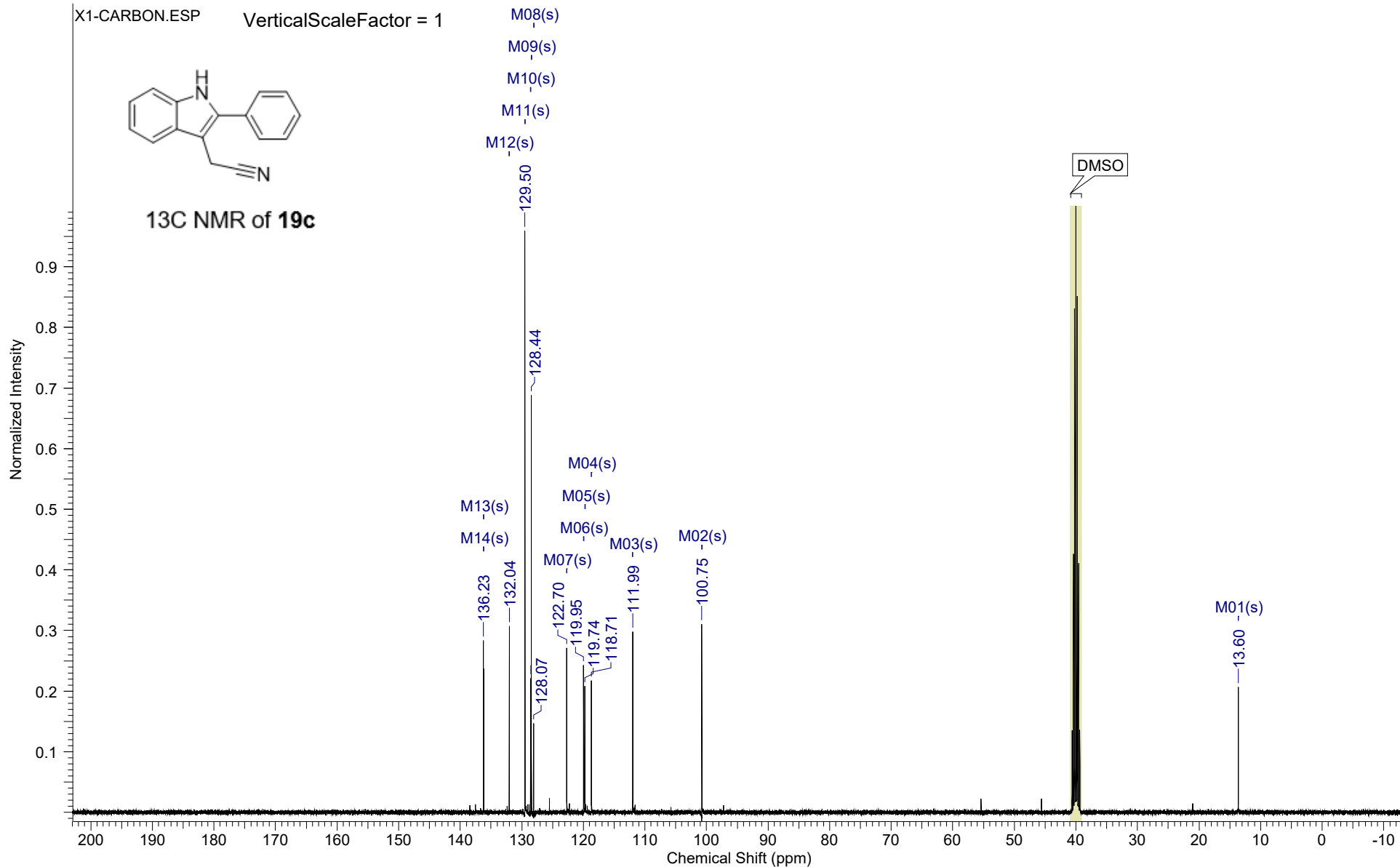
Acquisition Time (sec)	1.3631	Date	23 Sep 2017 12:31:12	Date Stamp	23 Sep 2017 12:31:12
File Name	D:\CJO-UCSF\NMR\CJO-Z1\CARBON\fid	Frequency (MHz)	100.63	Nucleus	13C
Number of Transients	2000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.130	SW(cyclical) (Hz)		Sweep Width (Hz)	24037.73



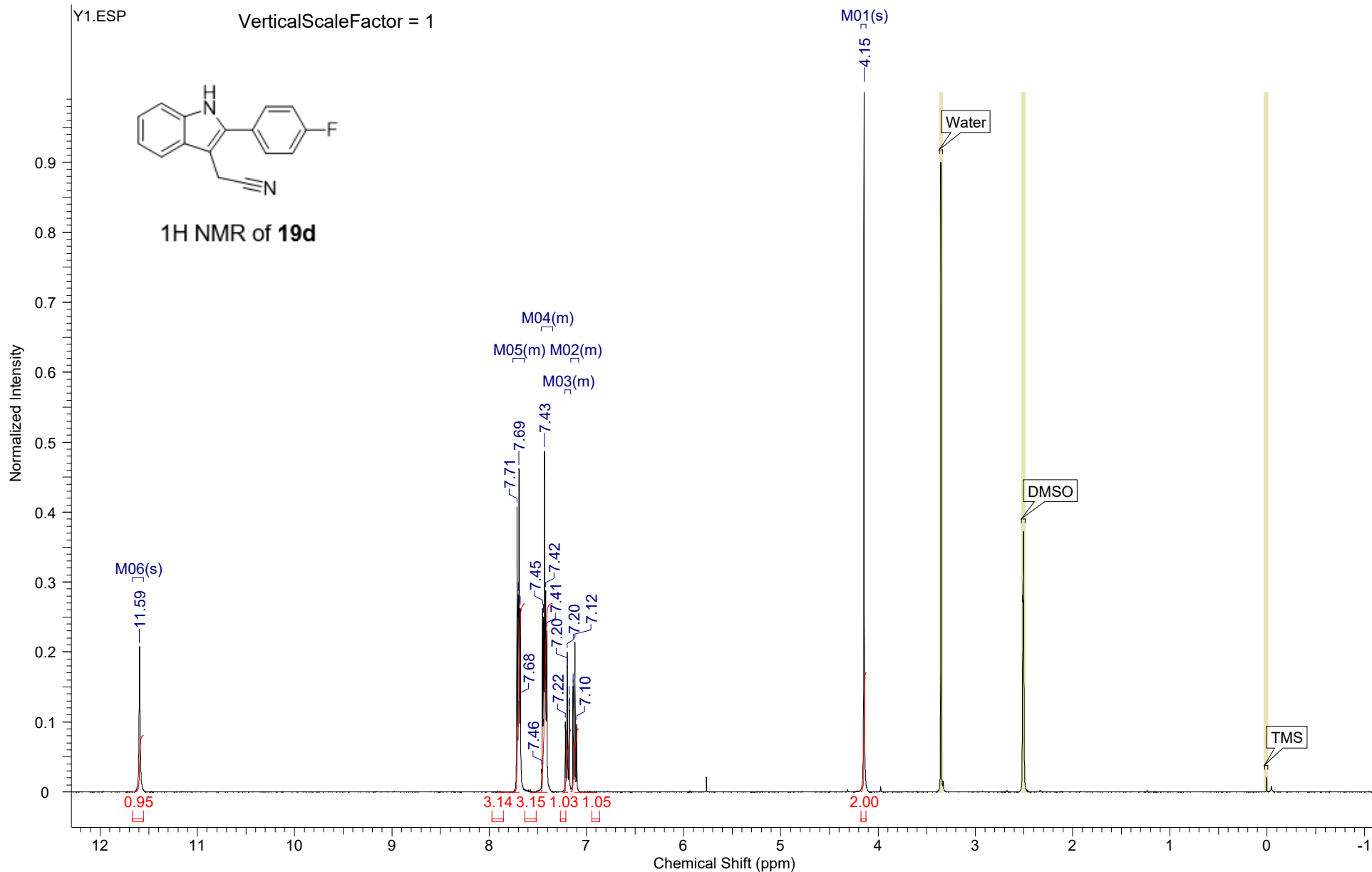
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Receiver Gain	70.44	SW(cyclical) (Hz)	8012.82	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9260
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.639	Spectrum Type	STANDARD		



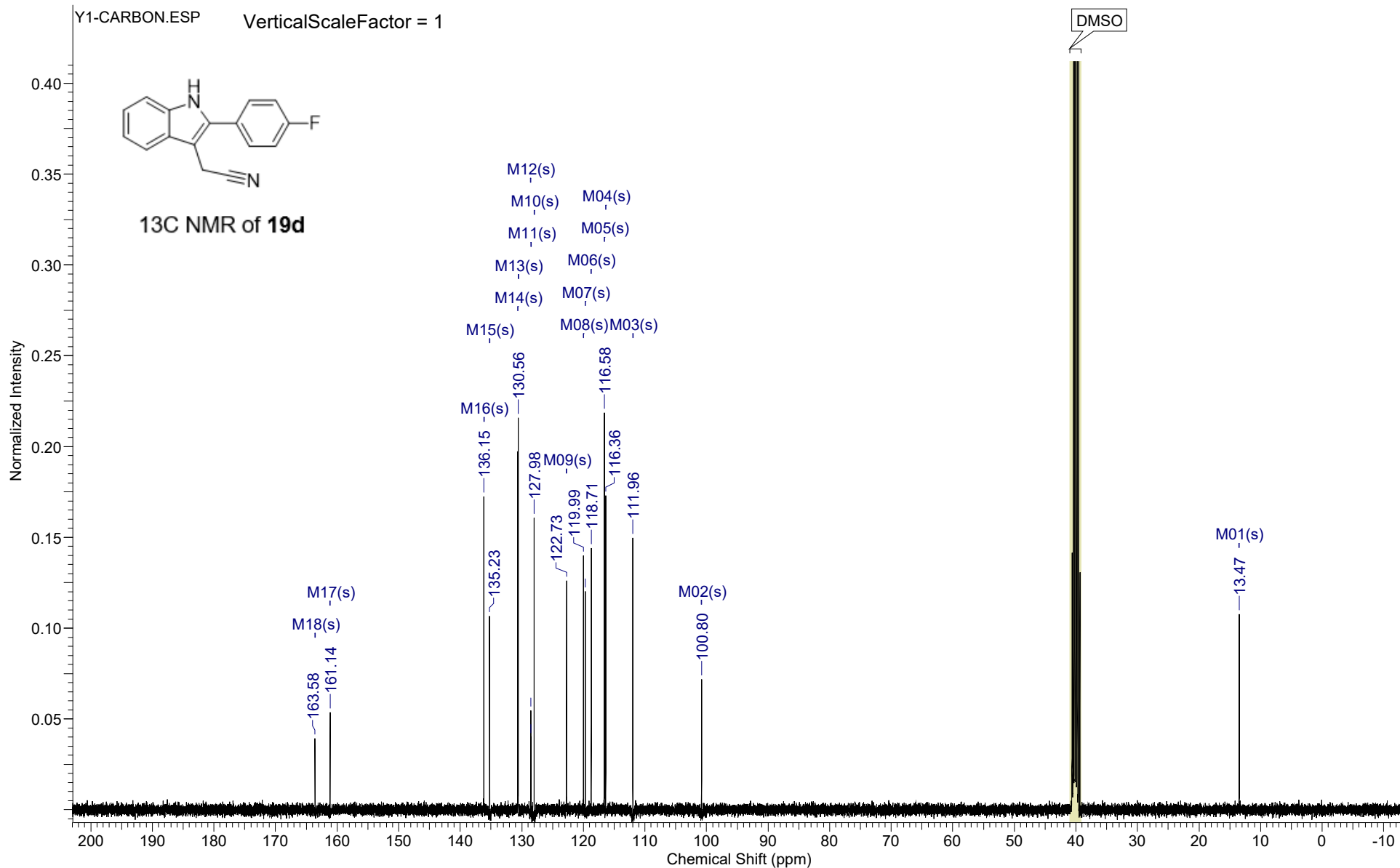
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Number of Transients	2000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	22.973			Sweep Width (Hz)	24037.73



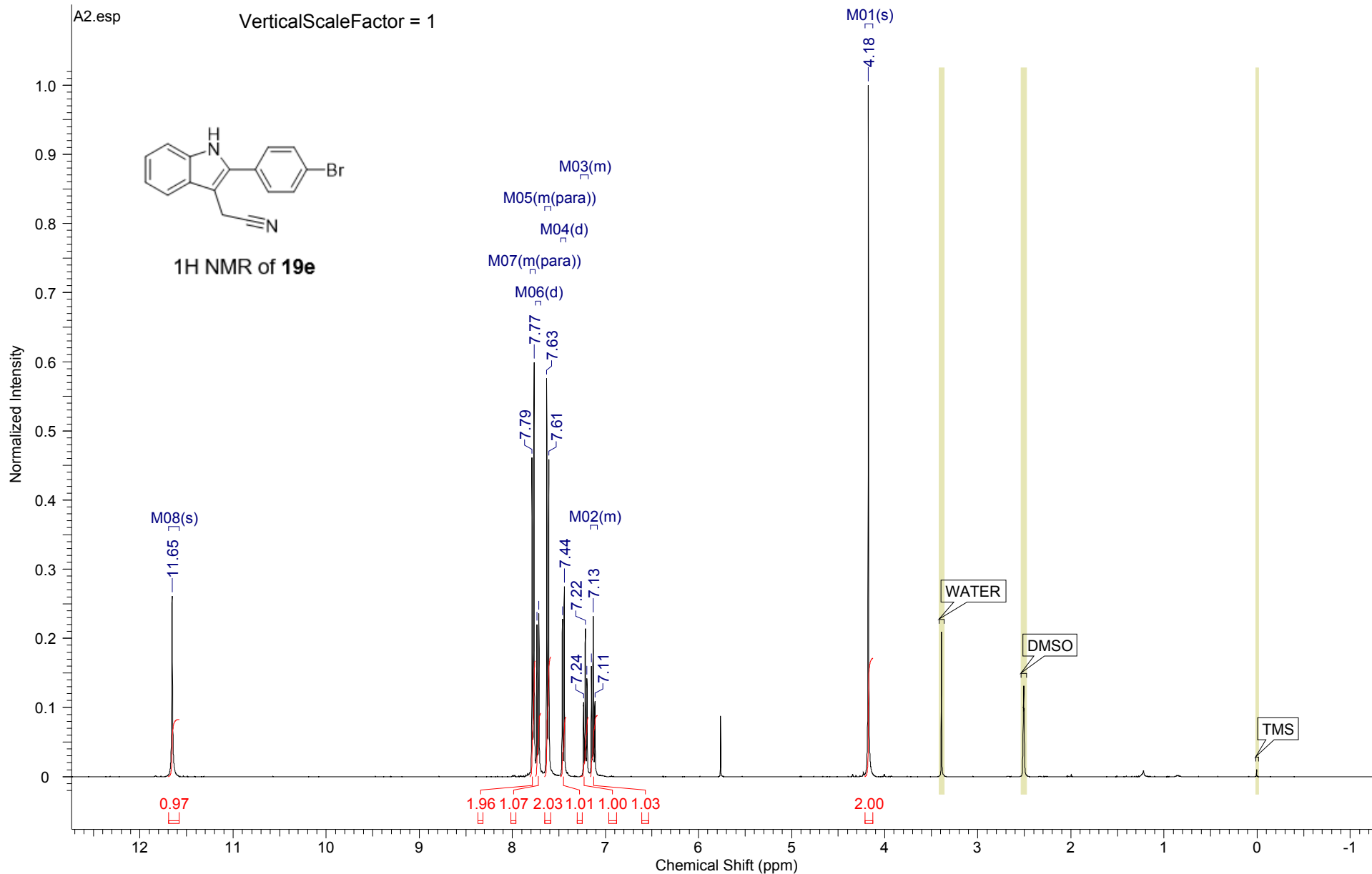
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File Name	D:\CJO-UCSF\NMR\CJO-Y1\1\fid	Frequency (MHz)	400.15	Nucleus	¹ H
Origin	spect	Original Points Count	32768	Owner	IND-NMR
Receiver Gain	97.12	SW(cyclical) (Hz)	8012.82	Points Count	32768
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.630	Spectrum Offset (Hz)	2470.9260
				Spectrum Type	STANDARD



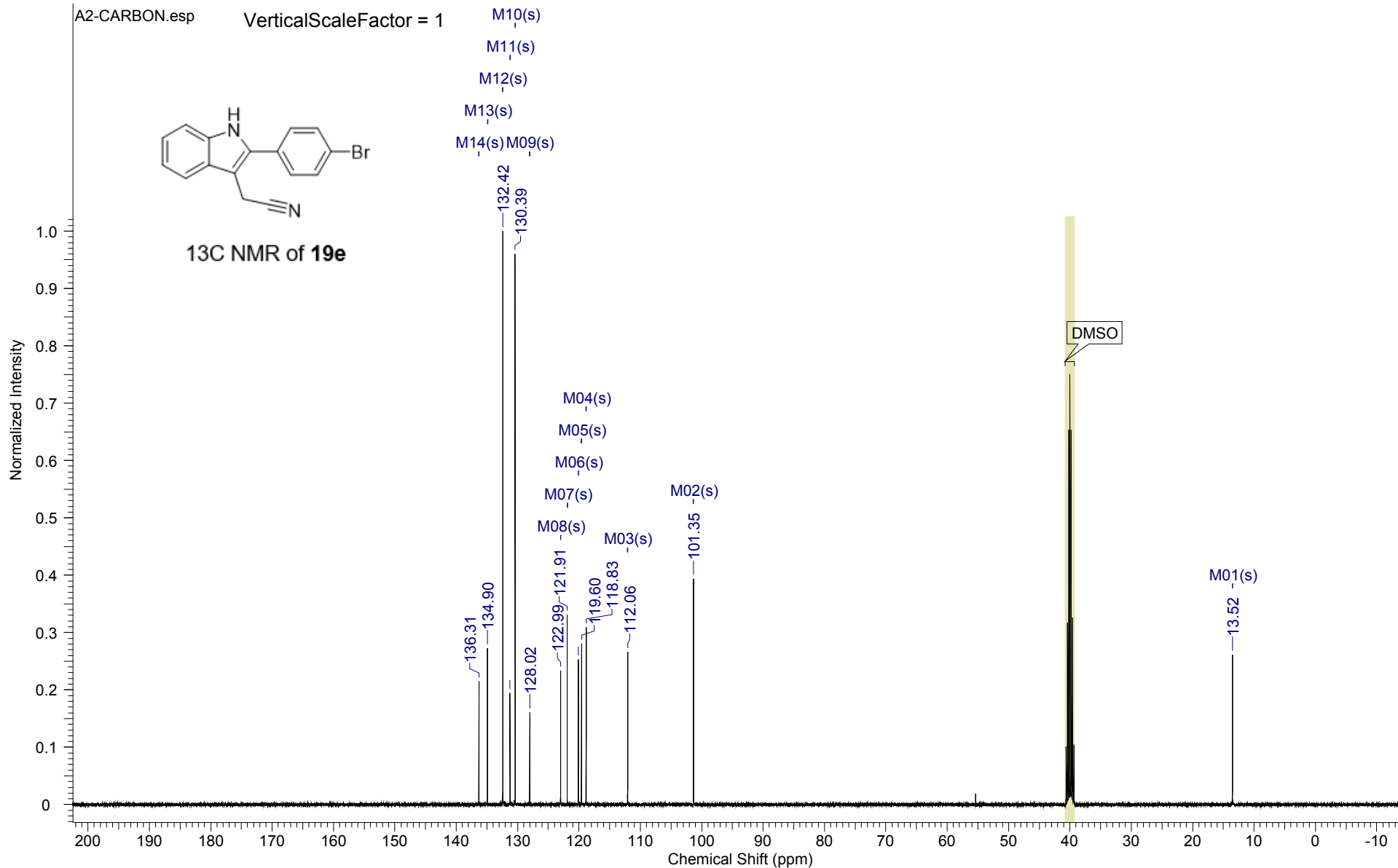
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Number of Transients	2000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.037	SW(cyclical) (Hz)		Sweep Width (Hz)	24037.73



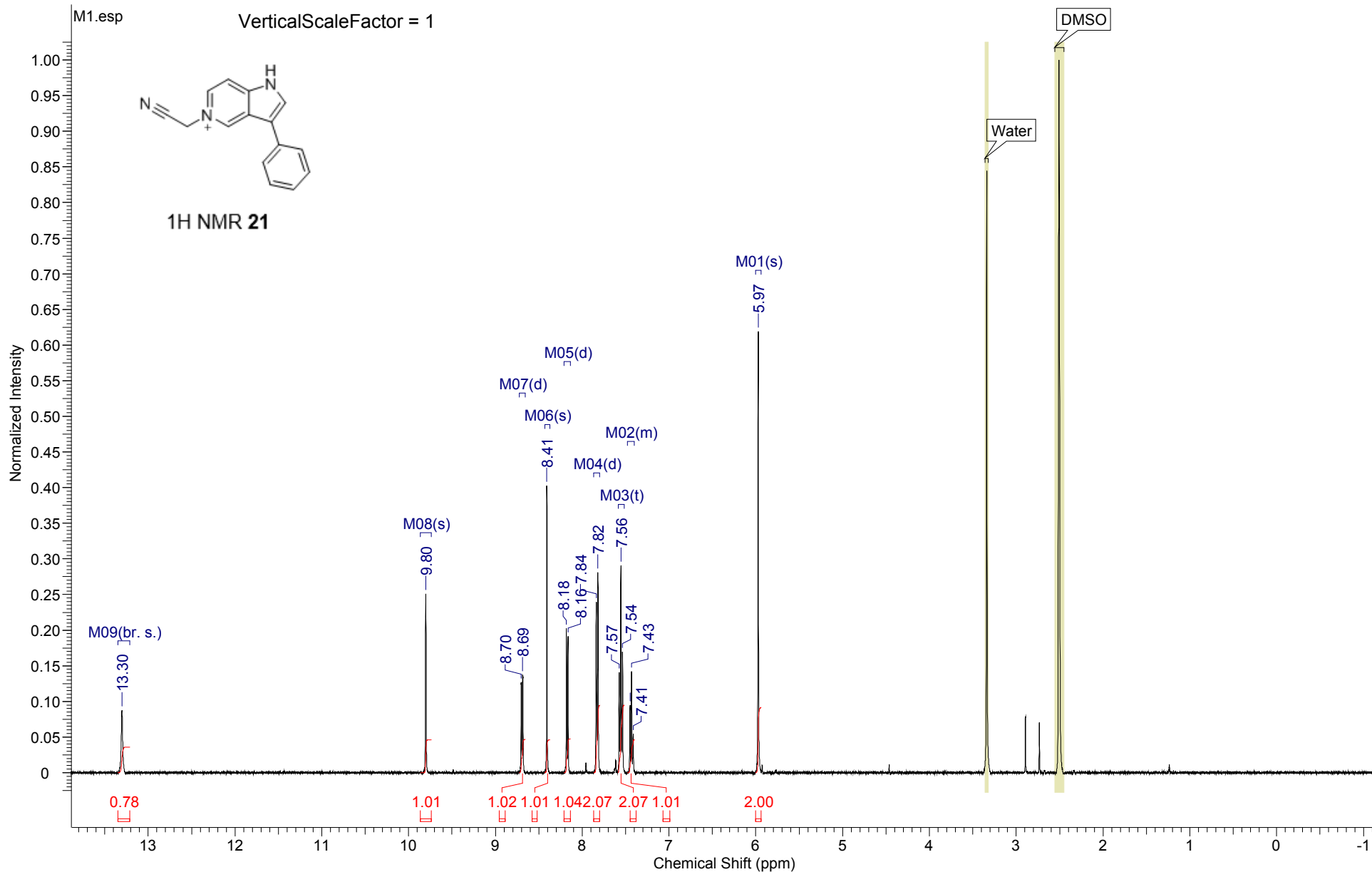
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Origin	spect	Original Points Count	32768	Owner	IND-NMR
Receiver Gain	56.60	SW(cyclical) (Hz)	8012.82	Points Count	32768
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.636	Spectrum Offset (Hz)	2470.9260
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				Solvent	DMSO-d6
				Spectrum Type	STANDARD



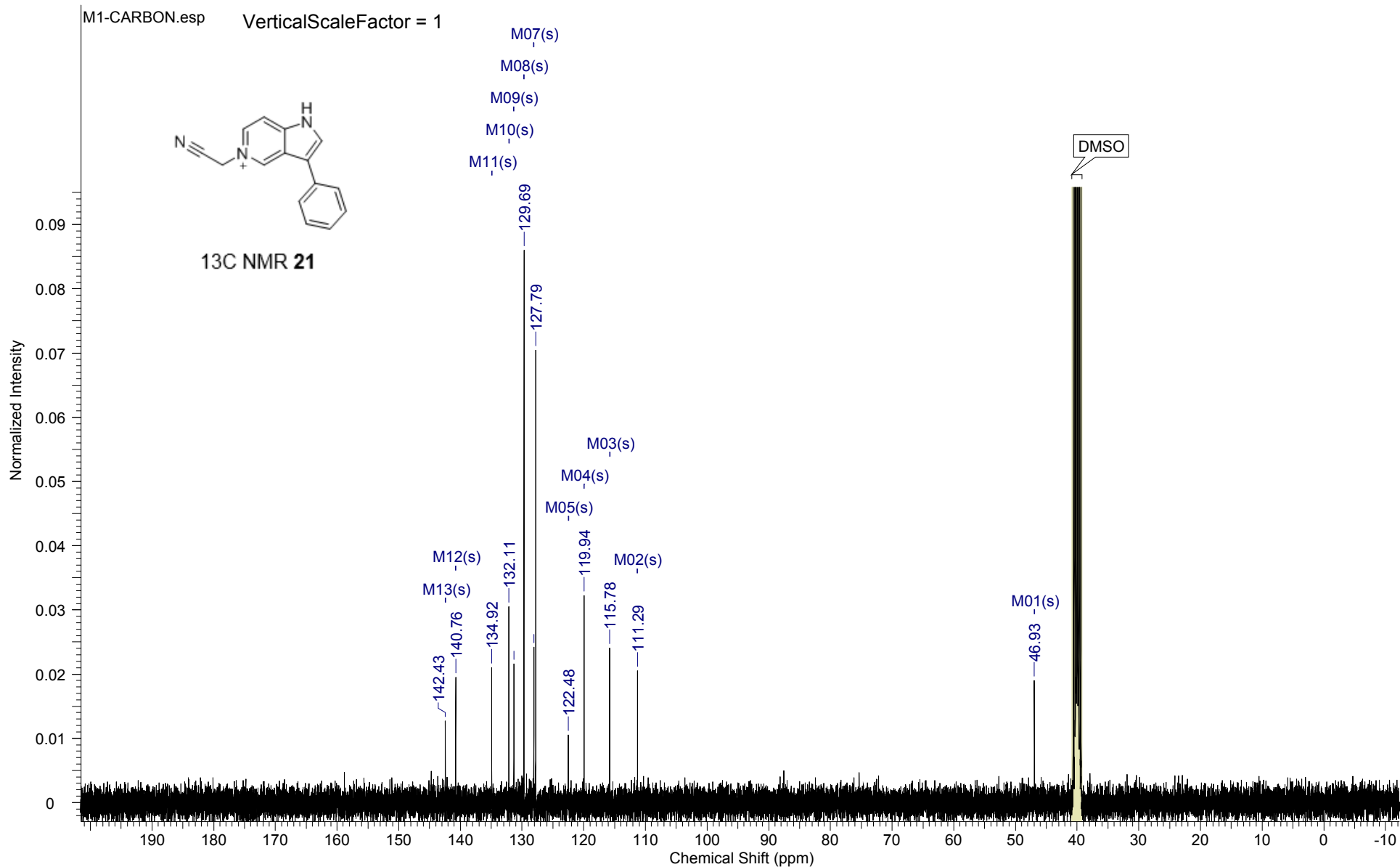
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Number of Transients	2000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.354	SW(cyclical) (Hz)		Sweep Width (Hz)	24037.73



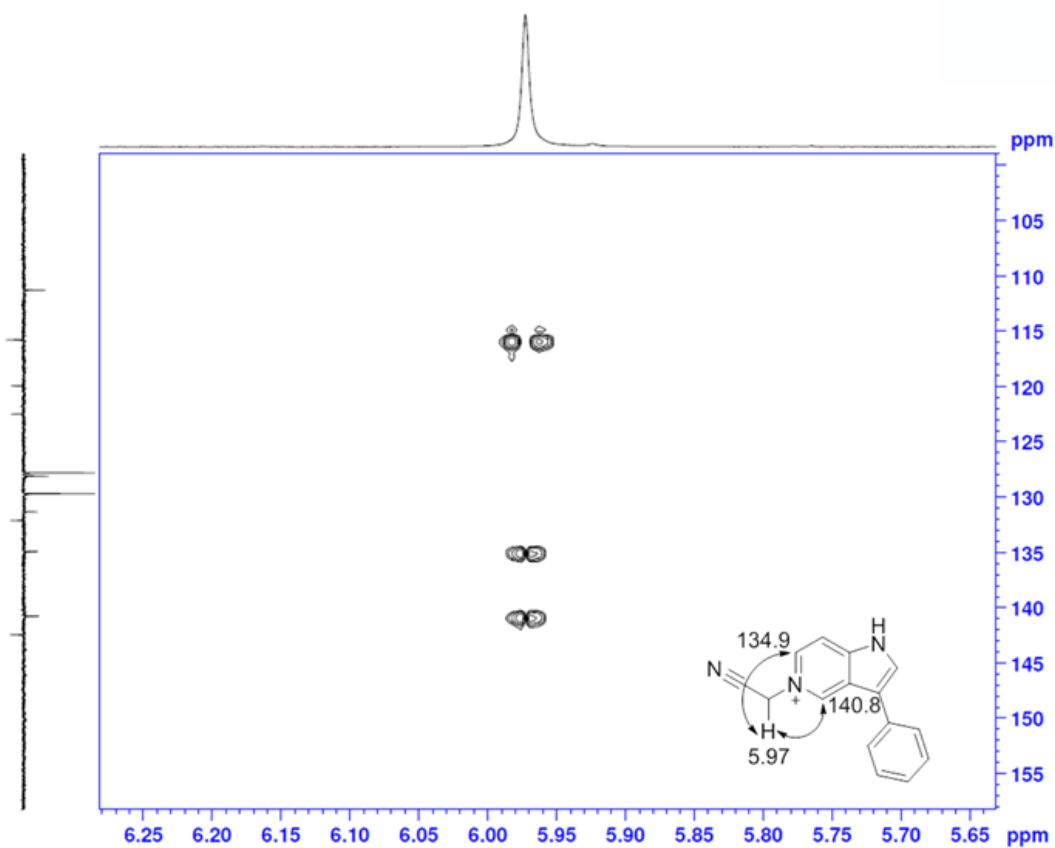
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Origin	spect	Original Points Count	32768	Owner	IND-NMR
Receiver Gain	141.25	SW(cyclical) (Hz)	8012.82	Points Count	32768
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.583	Solvent	DMSO-d6
				Spectrum Offset (Hz)	2470.9260
				Spectrum Type	STANDARD



Acquisition Time (sec)	1.3631	Date	06 Sep 2017 00:57:52	Date Stamp	06 Sep 2017 00:57:52
File Name	D:\CJO-UCSF\NMR\CJO-M1\CARBON.fid	Frequency (MHz)	100.63	Nucleus	¹³ C
Number of Transients	3000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.364			Sweep Width (Hz)	24037.73



HMBC (1H-13C) NMR spectrum of 21, peak of interest, in DMSO-d6



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Current Data Parameters
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EXPNO        1
PROCNO       1

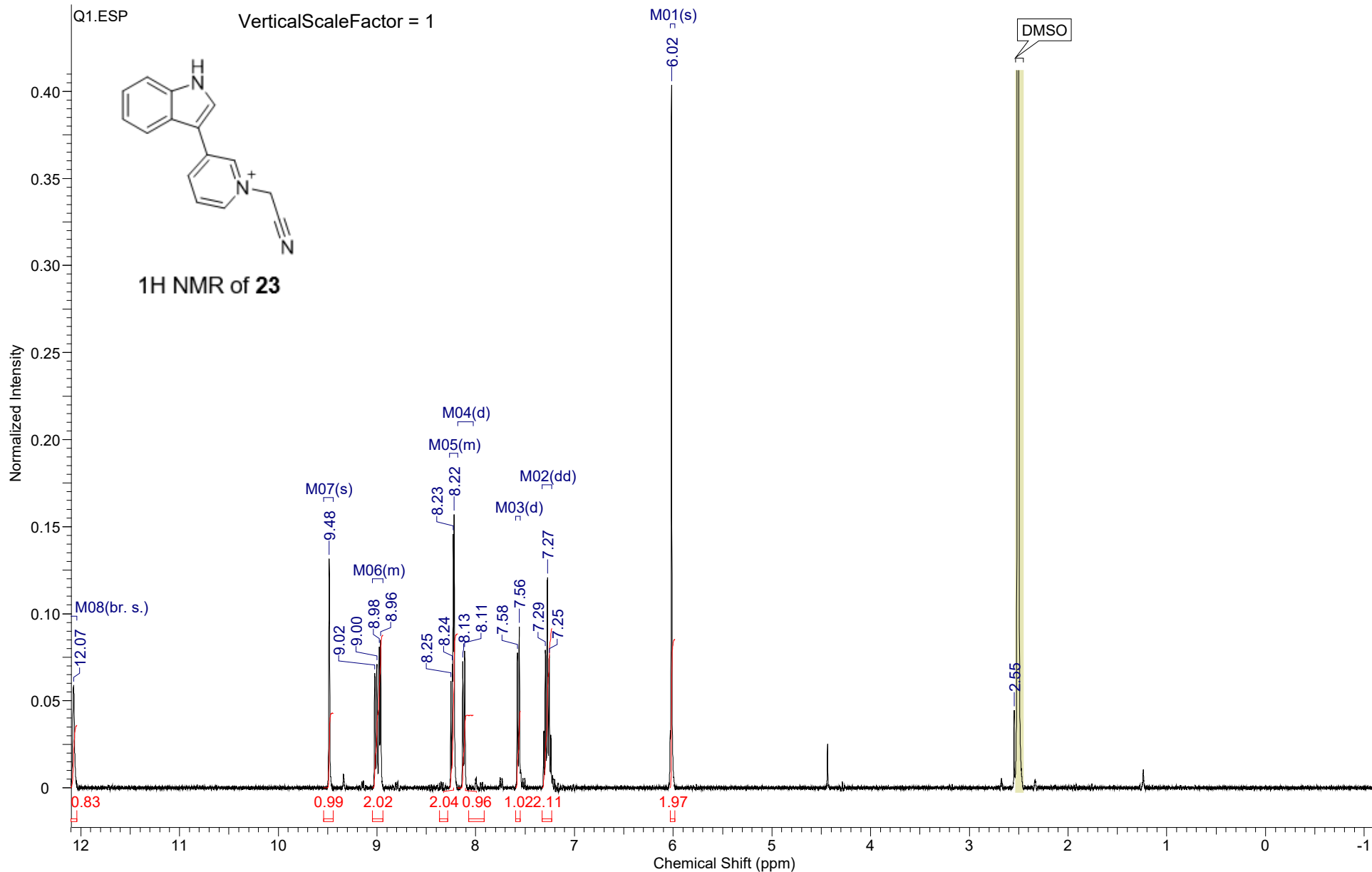
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PULPROG     hmcwetpl1ed
TD           4874
SOLVENT     DMSO
NS           14
DS           14
SWH          5197.505 Hz
FIDRES      2.537844 Hz
AQ           0.3940332 sec
RG           194.4
CW           94.200 usec
DE           6.50 usec
TE           298.4 K
CNS16       120.000000
CNS17       170.000000
CNS13       0.000000
D0           0.0000000 sec
D1           2.0000000 sec
D4           0.04210000 sec
D14         0.00020000 sec
D16         0.00020000 sec
TDev        1
SF01        400.1523008 MHz
NUC1        13C
P1          10.00 usec
P2          20.00 usec
PAM1       14.74199943 W
SF02        100.6278593 MHz
NUC2        13C
P3          10.00 usec
P4          2000.00 usec
PAM2       72.84900330 W
SFOCAL1    Cys60name.4
SFOCAL1    0.500
SFOFFS7    0 Hz
SFW        11.13399982 W
CPHASE1    80.00 %
CPHASE3    80.00 %
CPHASE4    8.00 %
CPHASE5    -8.00 %
CPHASE6    -4.00 %
CPHASE4    80.00 %
CPHASE4    80.00 %
P16        1000.00 usec

F1 - Acquisition parameters
TD         214
SF01       100.6279 MHz
FIDRES     172.842924 Hz
SW         239.359 ppm
FAMODE     Echo-Antiecho

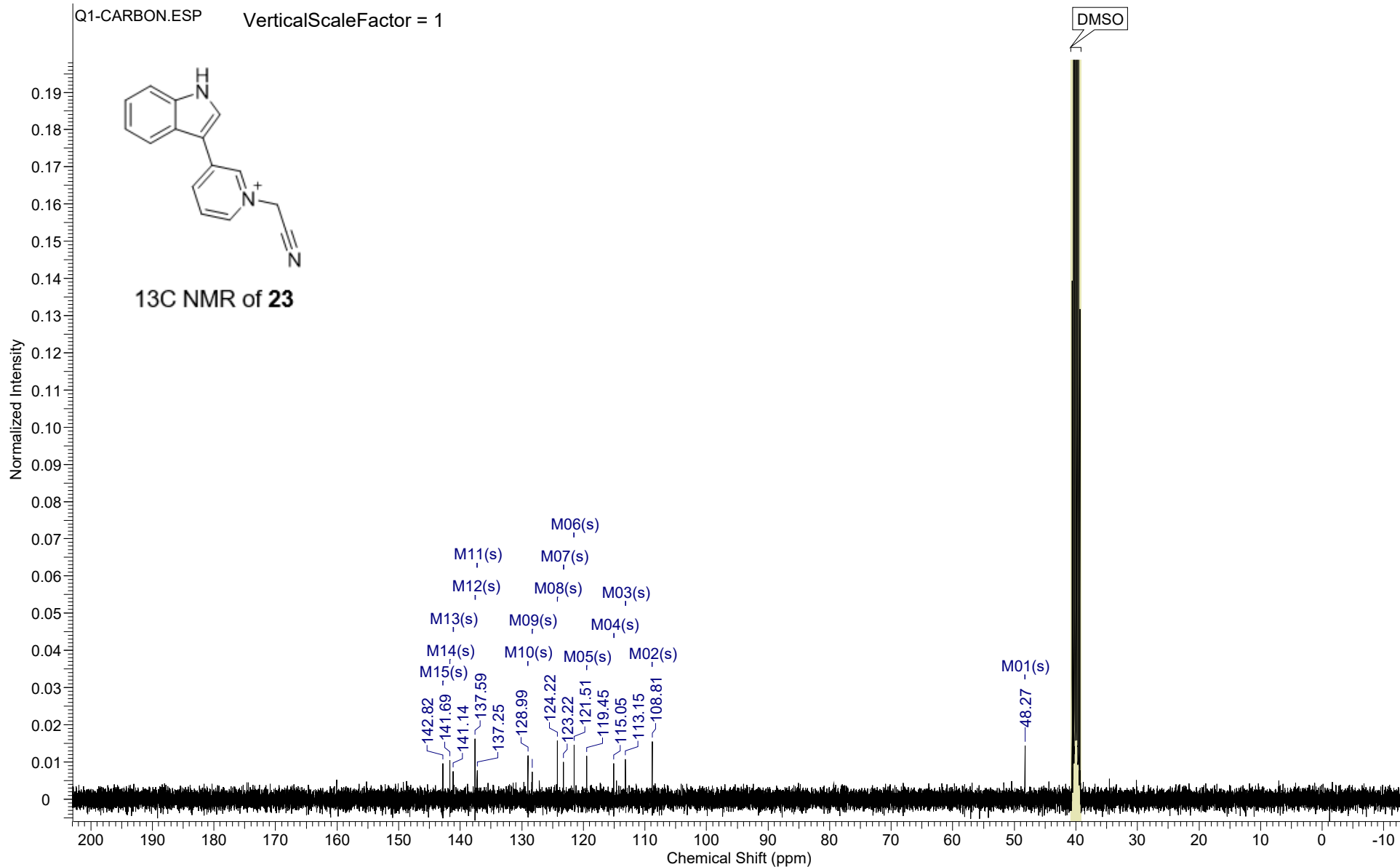
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PC         1.40

F1 - Processing parameters
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SF         100.61777915 MHz
WDW        GRINE
SSB         2
GB         0 Hz
CB         0
    
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Acquisition Time (sec)	4.0894	Date	06 Sep 2017 10:14:40	Date Stamp	06 Sep 2017 10:14:40		
File Name	D:\CJO-UCSF\NMR\CJO-Q1\5\fid	Frequency (MHz)	400.15	Nucleus	1H	Number of Transients	30
Origin	spect	Original Points Count	32768	Owner	IND-NMR	Points Count	32768
Receiver Gain	141.25	SW(cyclical) (Hz)	8012.82	Solvent	DMSO-d6	Spectrum Offset (Hz)	2470.9255
Sweep Width (Hz)	8012.58	Temperature (degree C)	22.624	Spectrum Type	STANDARD		



Acquisition Time (sec)	1.3631	Date	04 Oct 2017 23:56:00	Date Stamp	04 Oct 2017 23:56:00
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Number of Transients	2000	Origin	spect	Original Points Count	32768
Points Count	32768	Pulse Sequence	zgpg30	Receiver Gain	196.40
Solvent	DMSO-d6	Spectrum Offset (Hz)	10061.7803	Spectrum Type	STANDARD
Temperature (degree C)	23.313			Sweep Width (Hz)	24037.73



Organic LETTERS

RECOMMENDED COMPOUND CHARACTERIZATION CHECKLIST

NOTE: CHECKLIST IS RECOMMENDED BUT NOT REQUIRED

Corresponding Author		ol-
		Dr. Jay Conrad
Title	Rapid Access to Cyanomethyl Indoles via Photoredox Catalysis	

TO DISPLAY INSTRUCTIONS: Double-click HERE (Formula Bar must be visible: Select View>Formula Bar) TO CLOSE: Enter/Return

COMPOUND	IDENTITY											PURITY				COMPUTATIONAL DATA in SI*					
Compound, structure, or table-entry number	New	Known	Melting point range	IR	UV-Vis	¹ H NMR	¹³ C NMR	NMR	MS	HRMS	Optical rotation/ORD/CD	Enantiomeric/Diastereomeric ratio	X-ray IORTEP and CIF in SI*[1]	Copy of ¹ H/ ¹³ C NMR spectrum in SI*	Copy of chromatogram in SI*	Quant. GC, HPLC, or electrophoresis	Elemental analysis	Cartesian coordinates or Z-matrix	# of imaginary frequencies	Total energy	Supporting Information
3	X					X	X			X				X							
13a		X				X	X			X				X							
13b		X				X	X			X				X							
13c	X					X	X			X				X							
13d	X					X	X			X				X							
13e	X					X	X			X				X							
13f	X					X	X			X				X							
13g	X					X	X			X				X							
15a	X					X	X			X				X							
15b	X					X	X			X				X							
15c	X					X	X			X				X							
15d	X					X	X			X				X							
15e	X					X	X			X				X							

COMPOUND	IDENTITY											PURITY				COMPUTATIONAL DATA in SI*							
Compound, structure, or table-entry number	New	Known	Melting point range	IR	UV-Vis	1H NMR	13C NMR	NMR	MS	HRMS	Optical rotation/ORD/CD	Enantiomeric/Diastereomeric ratio	X-ray [ORTEP and CIF in SI*]	↔	Copy of 1H/13C NMR spectrum in SI*	Copy of chromatogram in SI*	Quant. GC, HPLC, or electrophoresis	↔	Elemental analysis	↔	Cartesian coordinates or Z-matrix	# of imaginary frequencies	Total energy

* SI =
Supporting
Information