

Supporting Information for

**Synthesis of blue light emitting heterocycles via cyclization
of 2-pyridine derived 4-azido-1,2,3-triazoles**

Biligma D. Tsyrenova^a, Victor N. Khrustalev^{b,c}, Valentine G. Nenajdenko^{a*}

^aM.V. Lomonosov Moscow State University, E-mail: nenajdenko@gmail.com

^bPeoples' Friendship University of Russia (RUDN University)

^cN.D. Zelinsky Institute of Organic Chemistry of Russian Academy of Sciences

Table of Contents

Photophysical Data	2
Copies of ¹H, ¹³C and ¹⁹F NMR Spectra	5

Photophysical Data

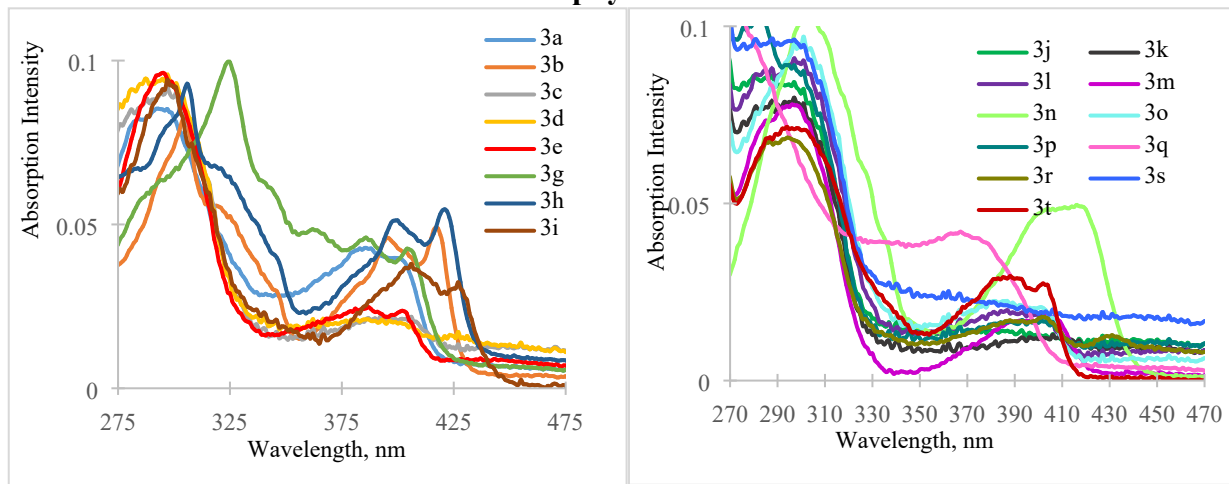


Figure 1. UV-Vis spectra of compounds **3**

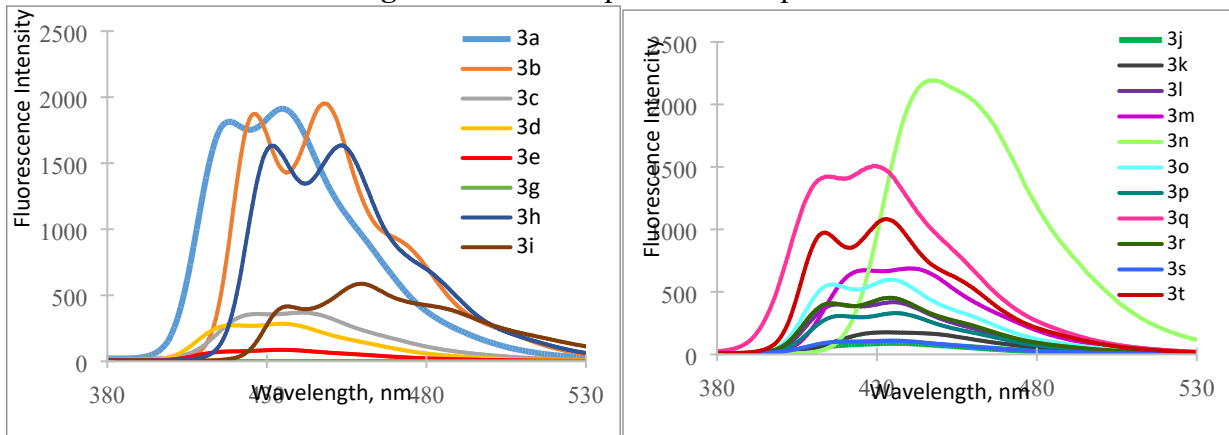


Figure 2. Emission Spectra for a series 2-aryl-2H-[1,2,3]triazolo[4',5':3,4]pyrazolo[1,5-a]pyridin-5-ium-4-ides **3a-3t**

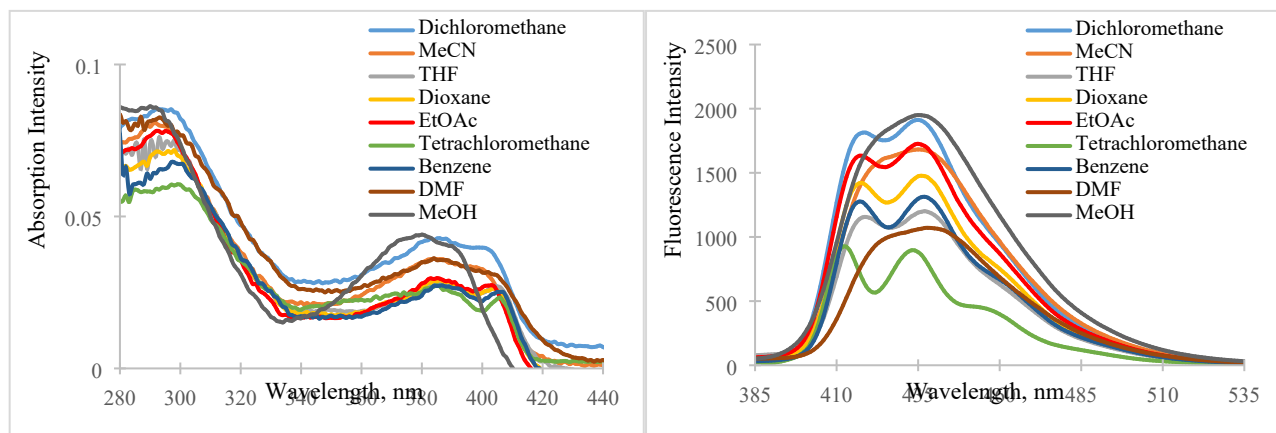


Figure 3. UV-Vis and Emission spectra for **3a** in different solvents

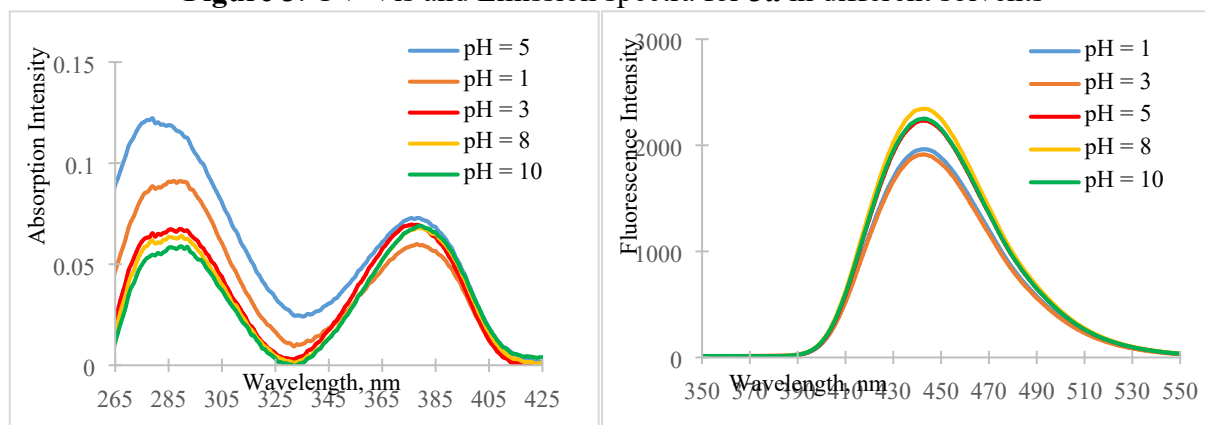


Figure 4. UV-Vis and Emission spectra for **3a** at different pH values

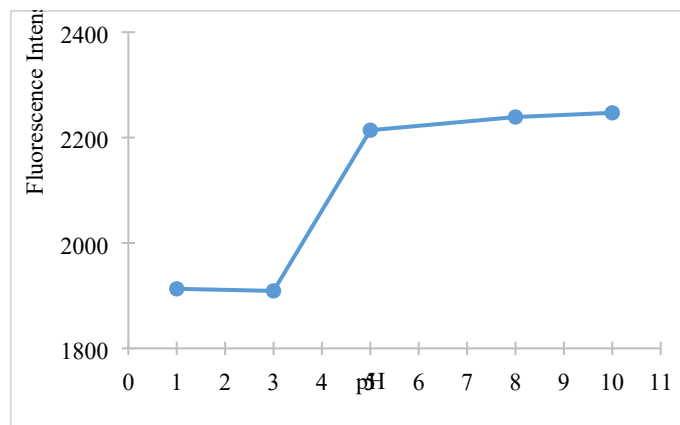


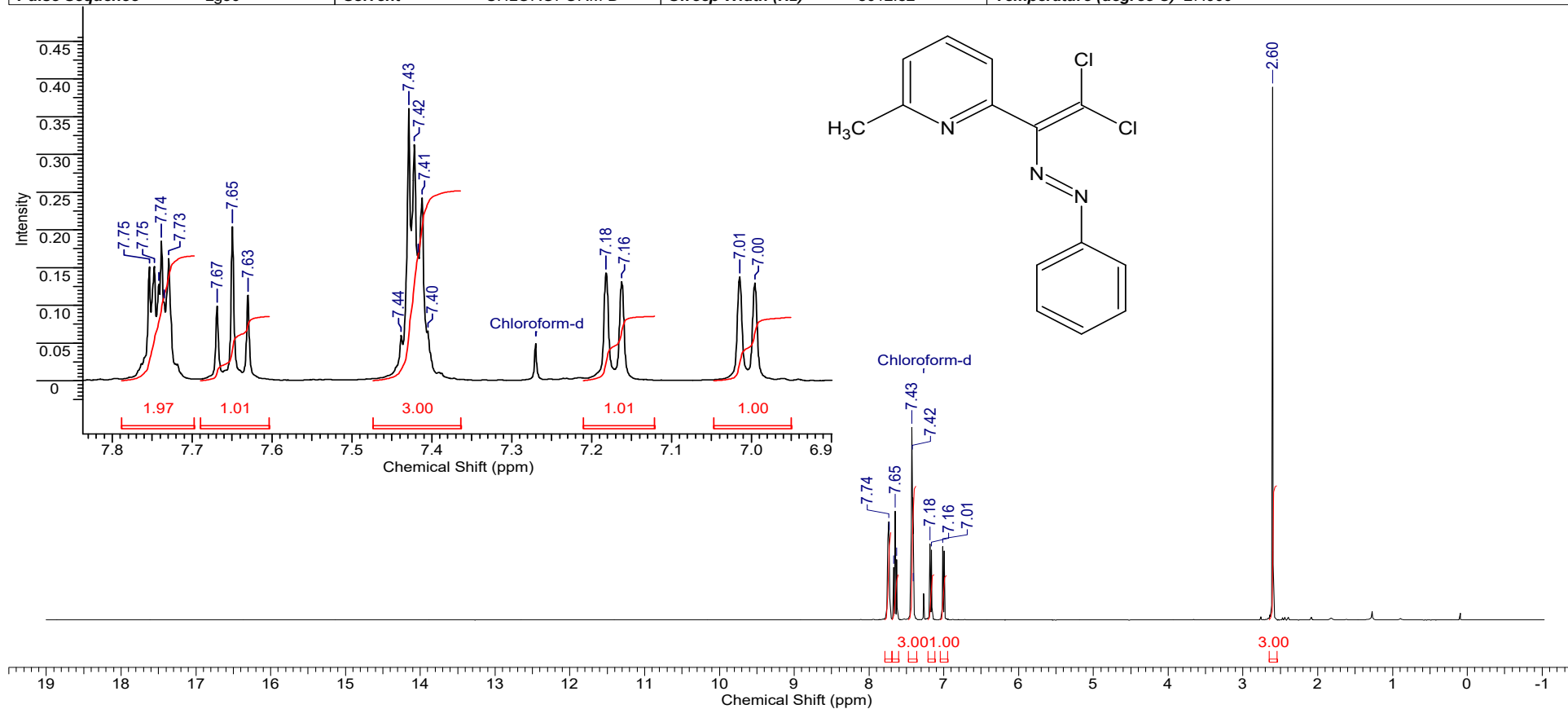
Figure 5. pH dependence of Fluorescence intensity for **3a**

Copies of ^1H , ^{13}C and ^{19}F NMR Spectra

^1H spectra of compounds **3c** (4.2%), **3e** (2.8%), **3j** (4.8%), **3o** (7.7%), **3q** (5.7%), **3s** (6.0%) contain 3-7.7% impurities.

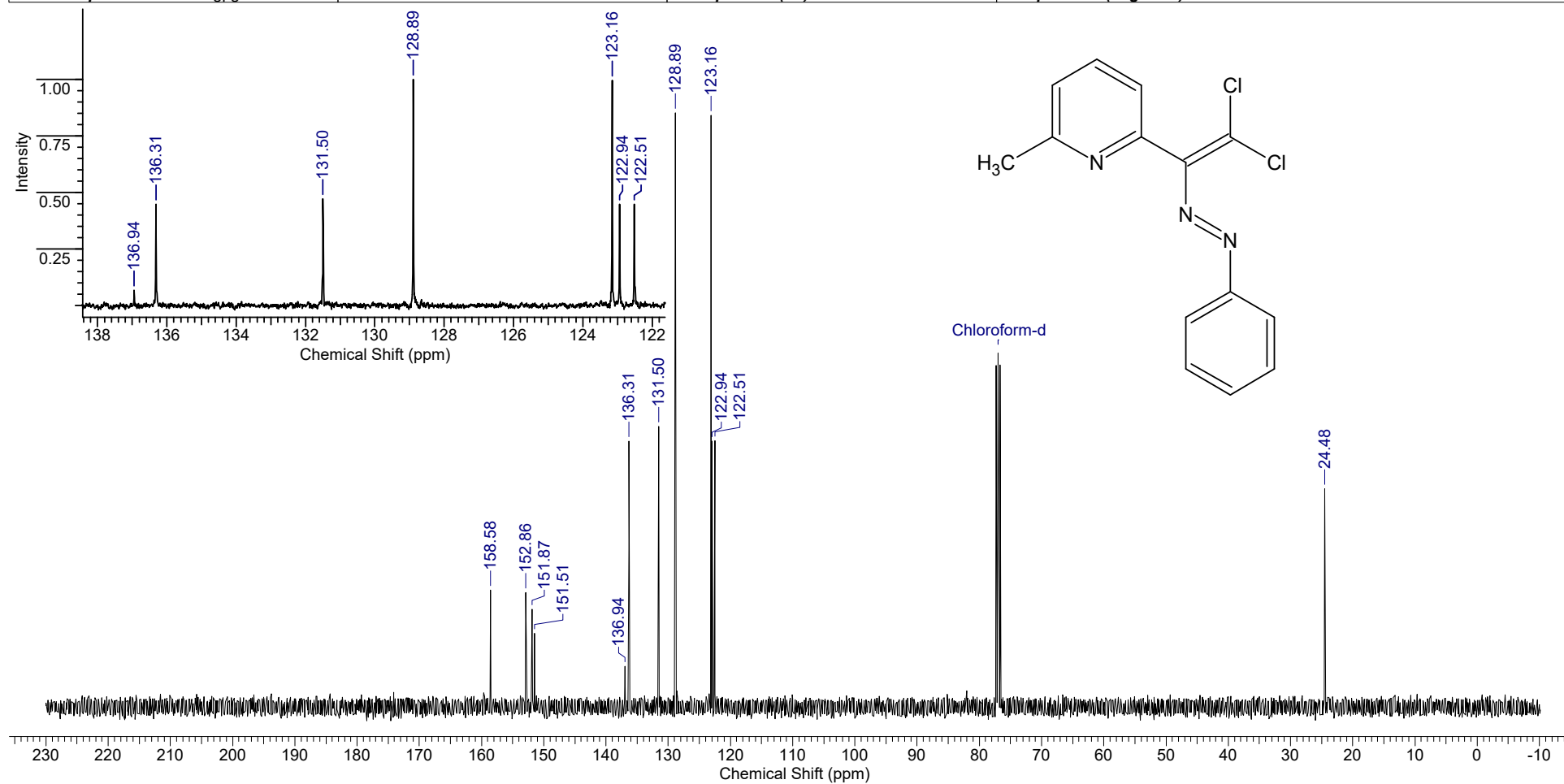
18 Mar 2021

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	24 Nov 2020 15:20:24	
File Name					Frequency (MHz)	400.13	
Nucleus	^1H	Number of Transients	4	Original Points Count	32768	Points Count	131072
Pulse Sequence	zg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	8012.82	Temperature (degree C)	27.000



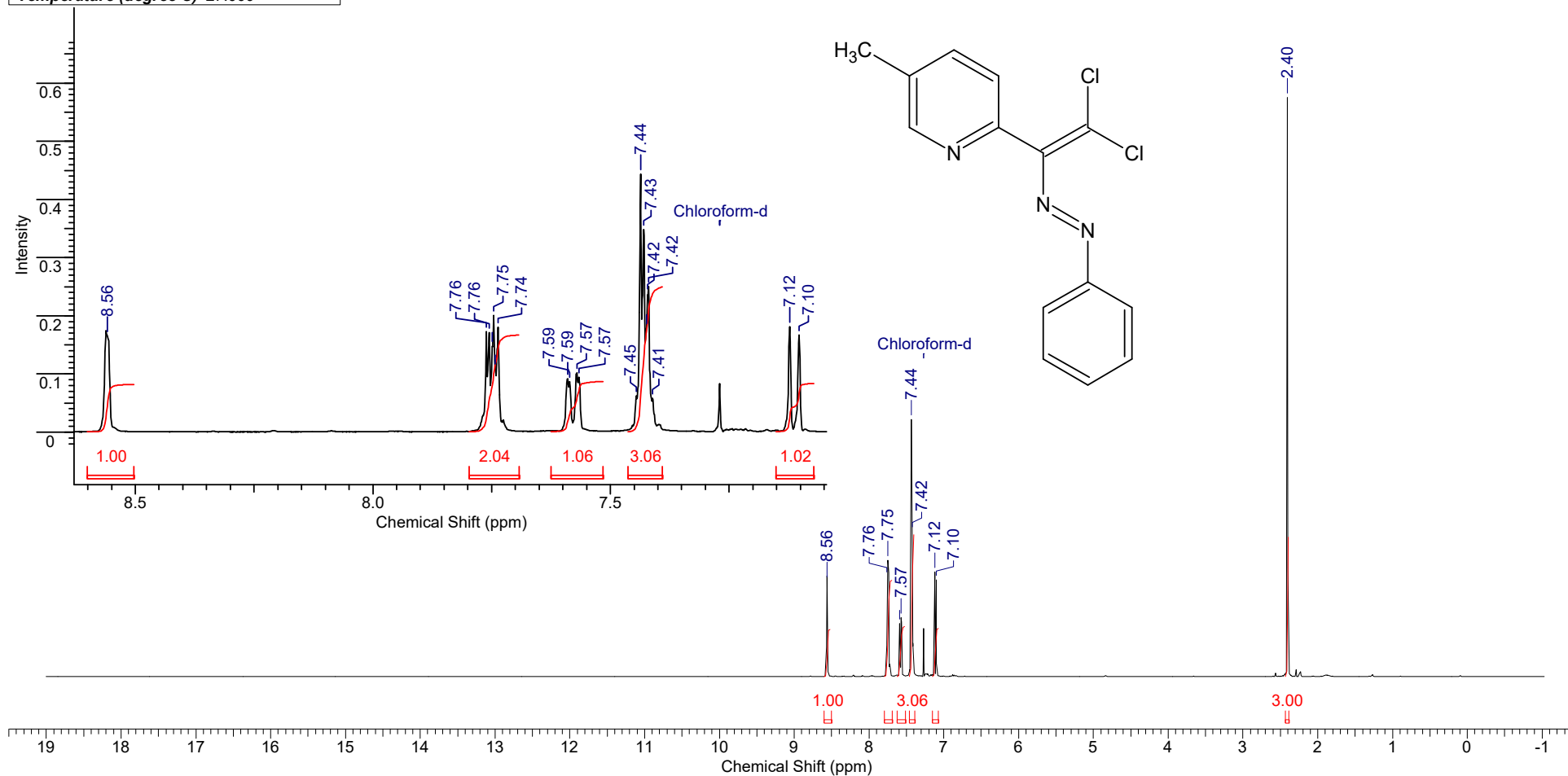
^1H NMR spectrum of **1c** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UJXNMR.		Date	24 Nov 2020 15:25:38	
File Name					Frequency (MHz)	100.61	
Nucleus	¹³ C	Number of Transients	82	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000



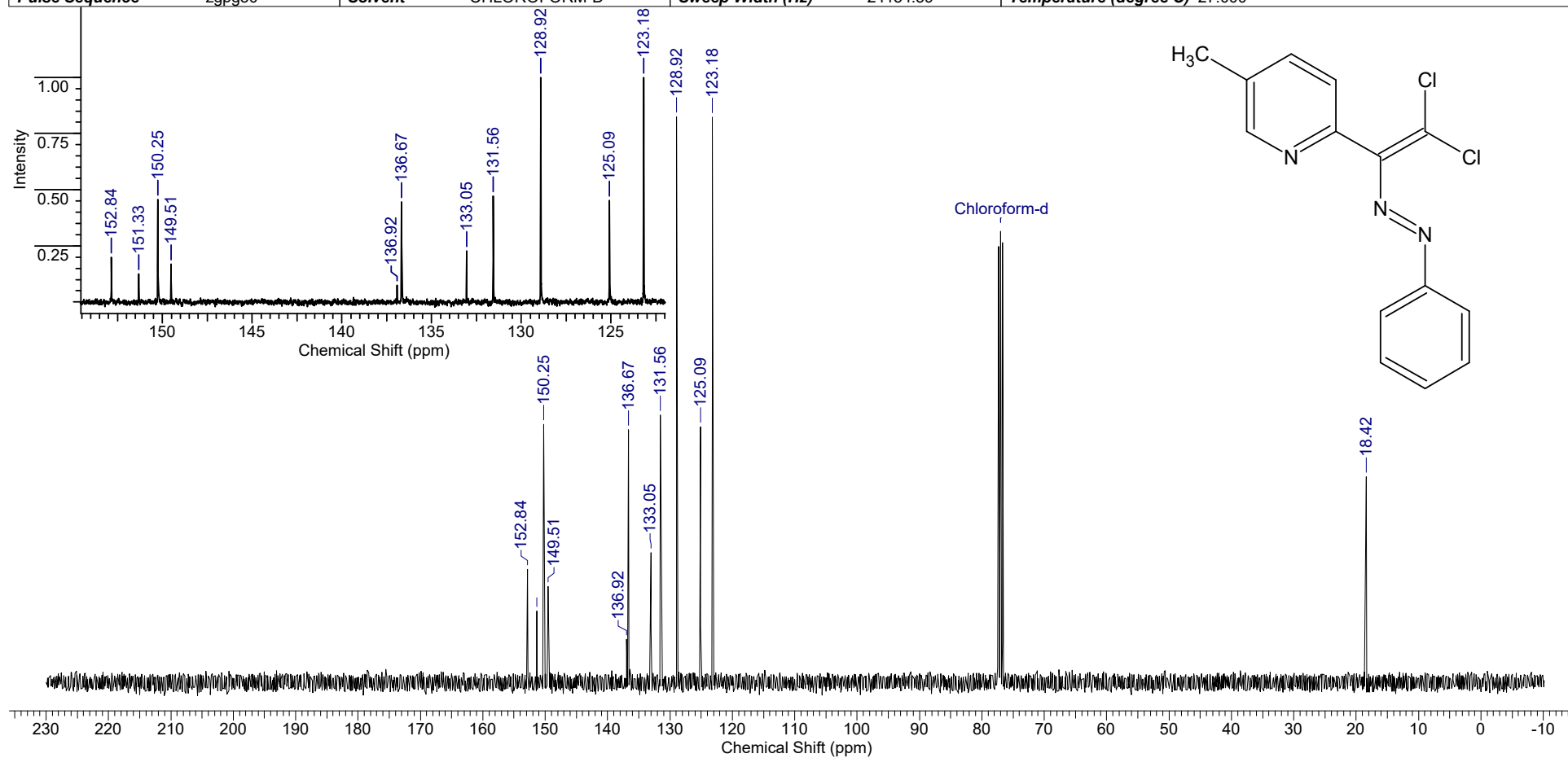
¹³C NMR spectrum of **1c** (100.6 MHz, CDCl₃)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	23 Jan 2021 14:05:48	
File Name					Frequency (MHz)	400.13	
Nucleus	¹ H	Number of Transients	4	Original Points Count	32768	Points Count	131072
Pulse Sequence	zg30	Solvent	CHLOROFORM-D		Sweep Width (Hz)	8012.82	
Temperature (degree C)	27.000						



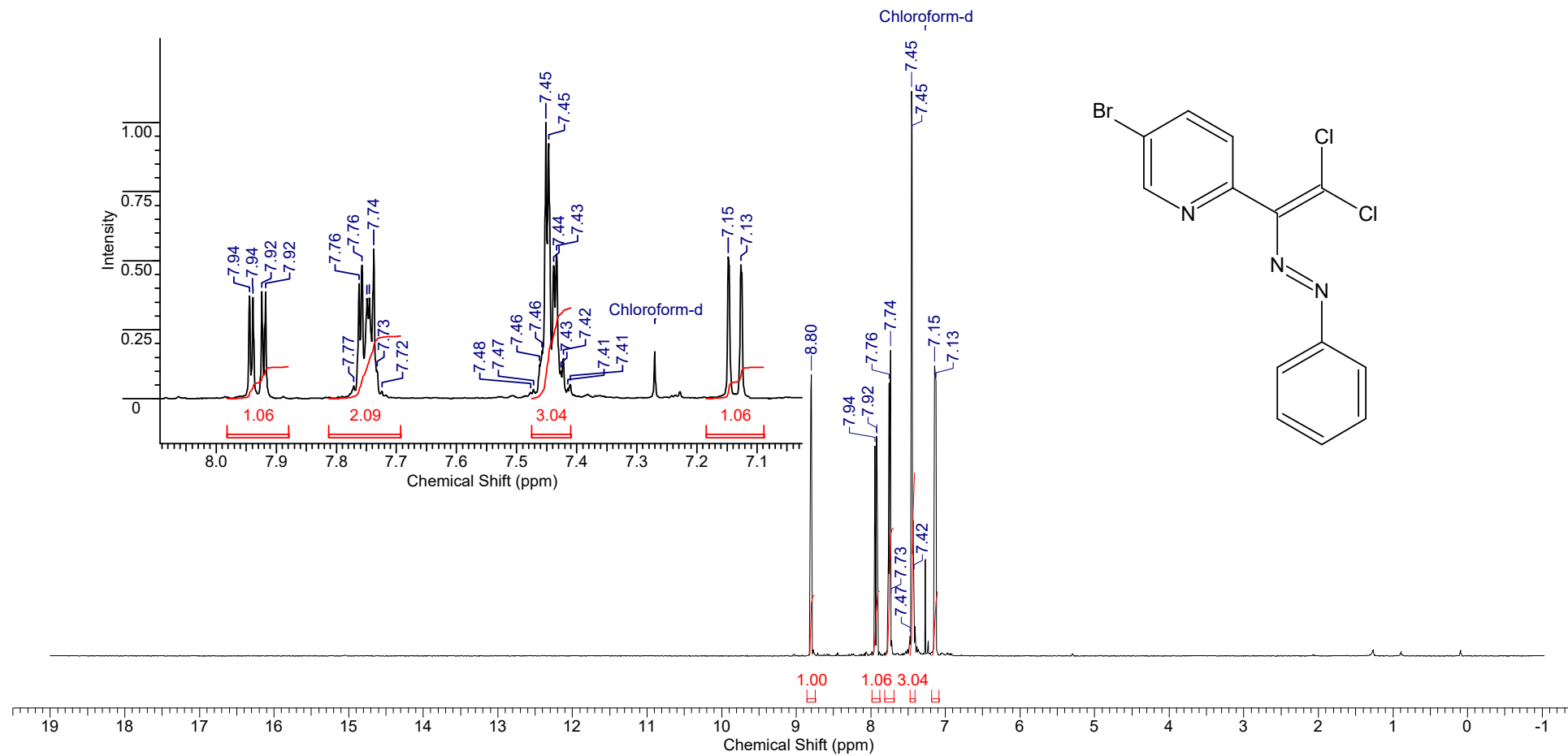
¹H NMR spectrum of **1d** (400.1 MHz, CDCl₃)

Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.		Date	23 Jan 2021 14:05:48	
File Name		Number of Transients	161	Original Points Count	16384	Frequency (MHz)	100.61
Nucleus	¹³ C	Number of Transients	161	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000



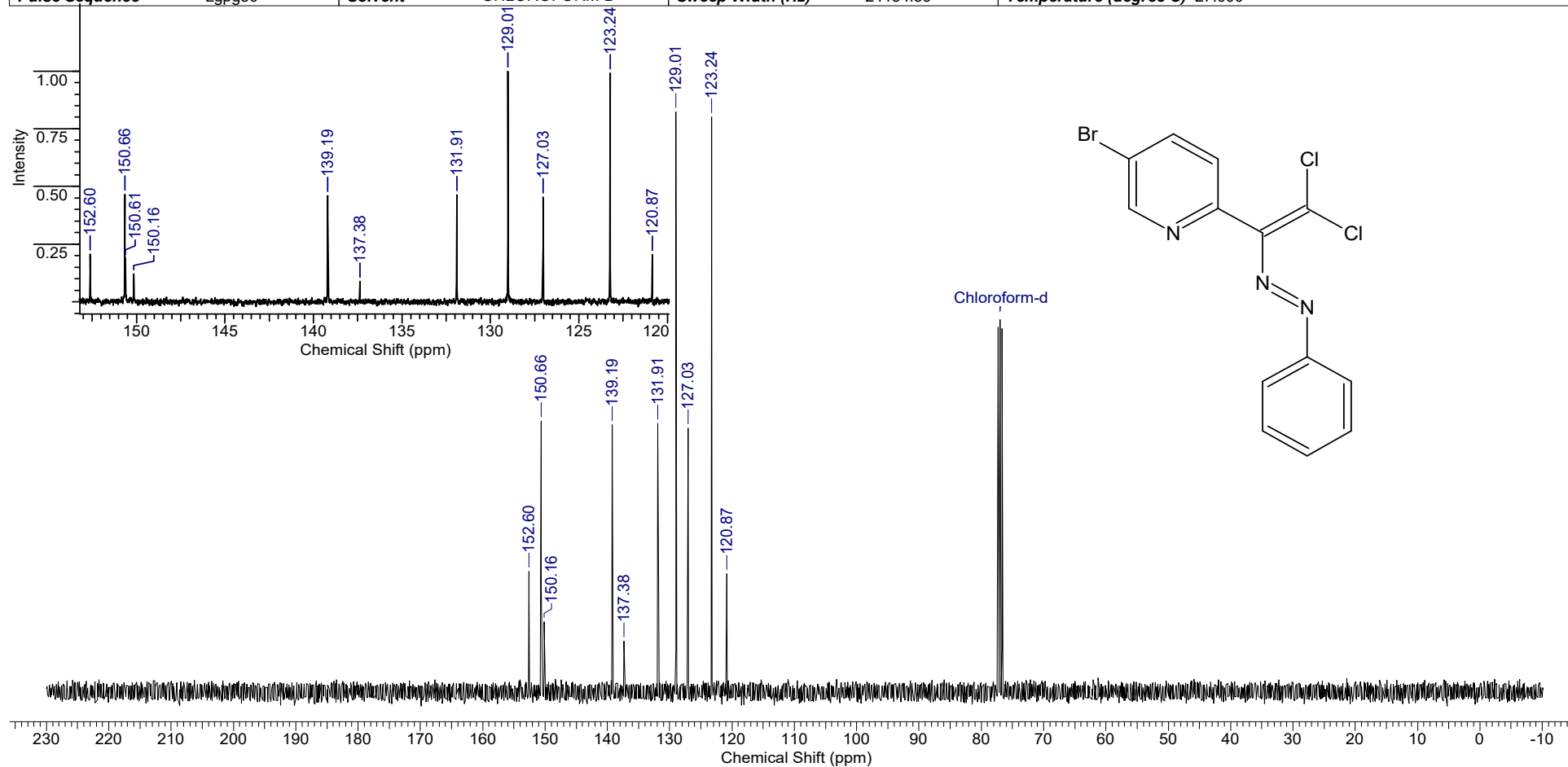
¹³C NMR spectrum of **1d** (100.6 MHz, CDCl₃)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	21 Jan 2021 11:29:20
File Name				Frequency (MHz)	400.13
Nucleus	¹ H	Number of Transients	4	Original Points Count	32768
Pulse Sequence	zg30	Solvent	CHLOROFORM-D	Points Count	131072
Temperature (degree C)	27.000			Sweep Width (Hz)	8012.82



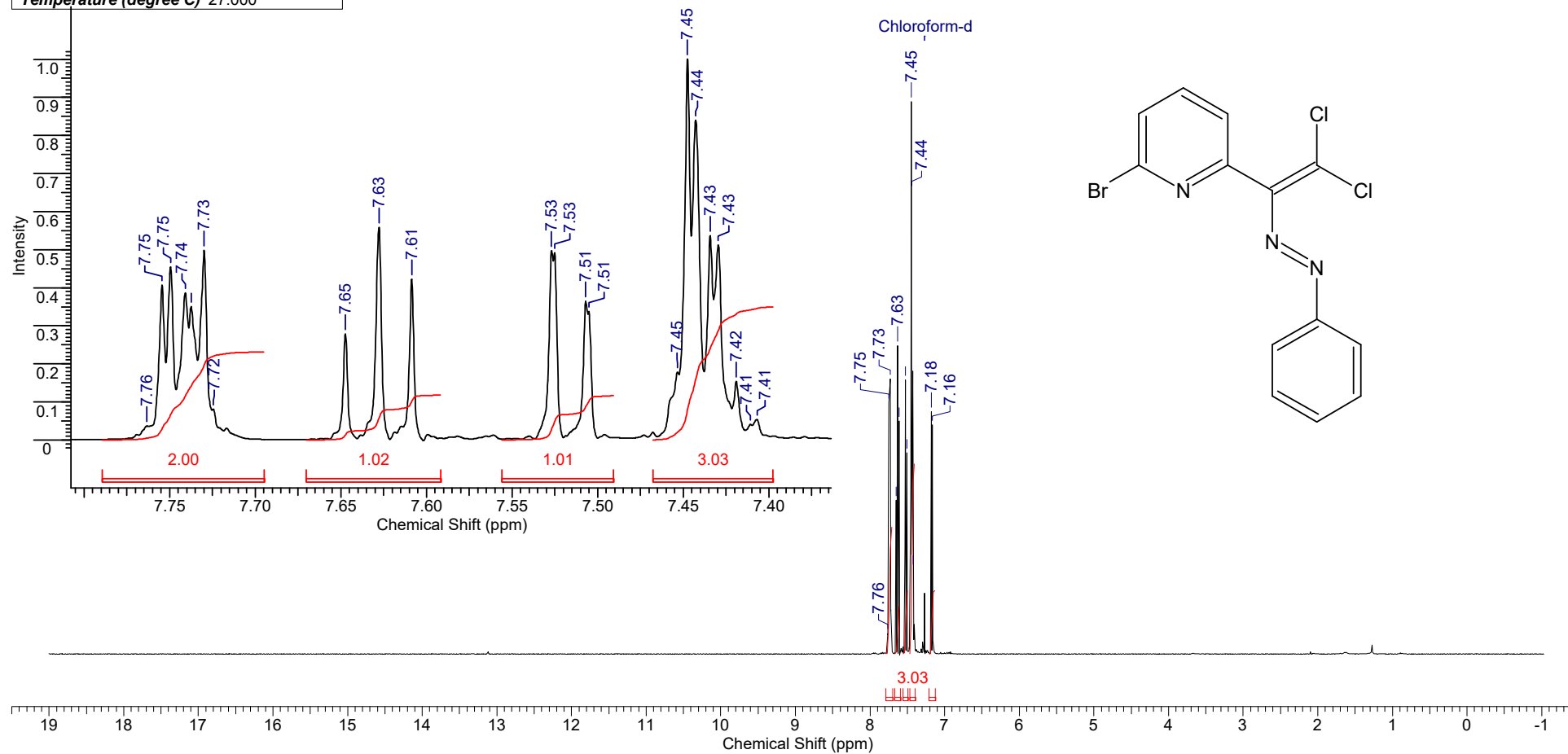
¹H NMR spectrum of **1e** (400.1 MHz, CDCl₃)

Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.	Date	21 Jan 2021 11:35:44
File Name				Frequency (MHz)	100.61
Nucleus	¹³ C	Number of Transients	81	Original Points Count	16384
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59
				Points Count	131072
				Temperature (degree C)	27.000



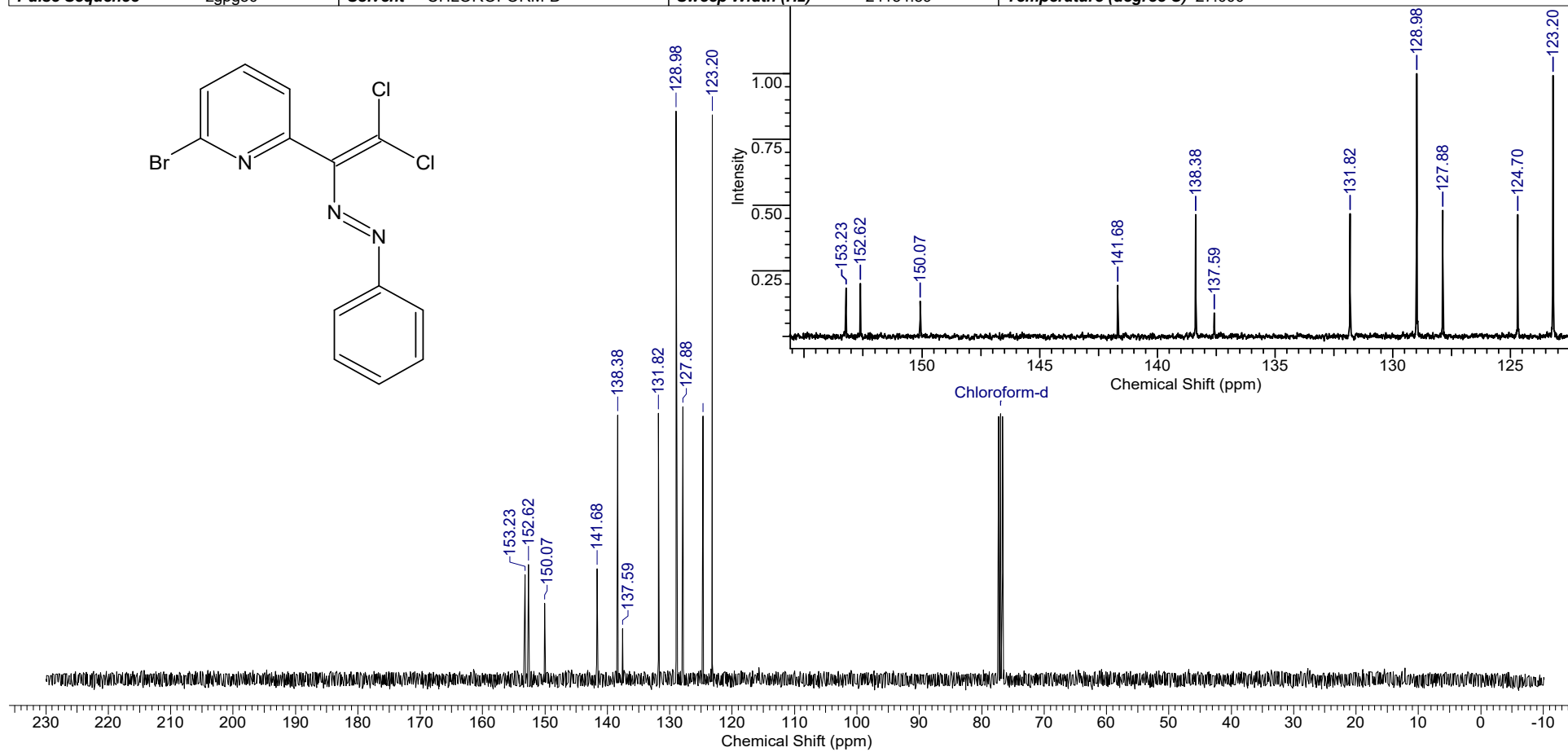
¹³C NMR spectrum of **1e** (100.6 MHz, CDCl₃)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	22 Jan 2021 15:28:24
File Name				Frequency (MHz)	400.13
Nucleus	1H	Number of Transients	4	Original Points Count	32768
Pulse Sequence	zg30	Solvent	CHLOROFORM-D	Points Count	131072
Temperature (degree C)	27.000			Sweep Width (Hz)	8012.82



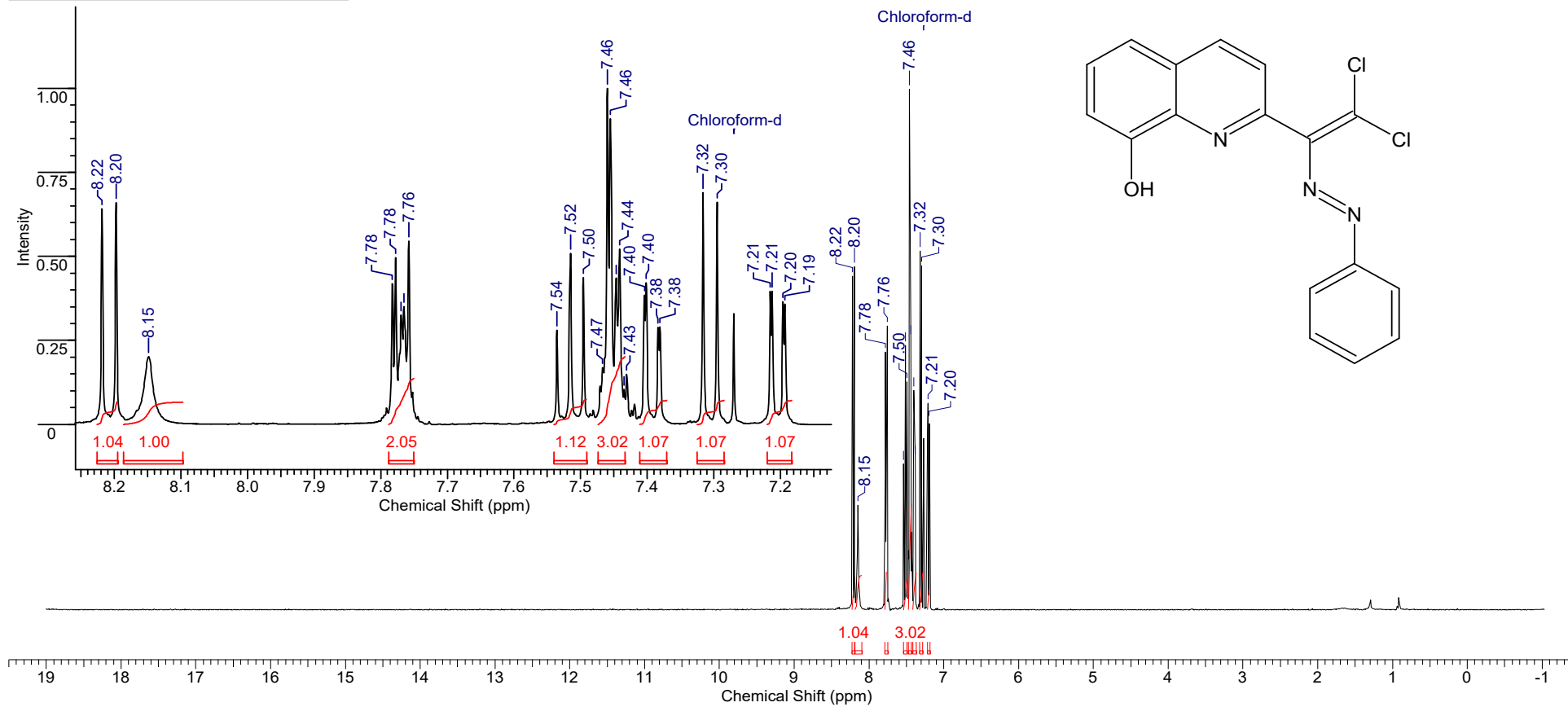
¹H NMR spectrum of **1f** (400.1 MHz, CDCl₃)

Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.	Date	22 Jan 2021 15:32:40
File Name				Frequency (MHz)	100.61
Nucleus	¹³ C	Number of Transients	65	Original Points Count	16384
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Points Count	131072
				Sweep Width (Hz)	24154.59
				Temperature (degree C)	27.000



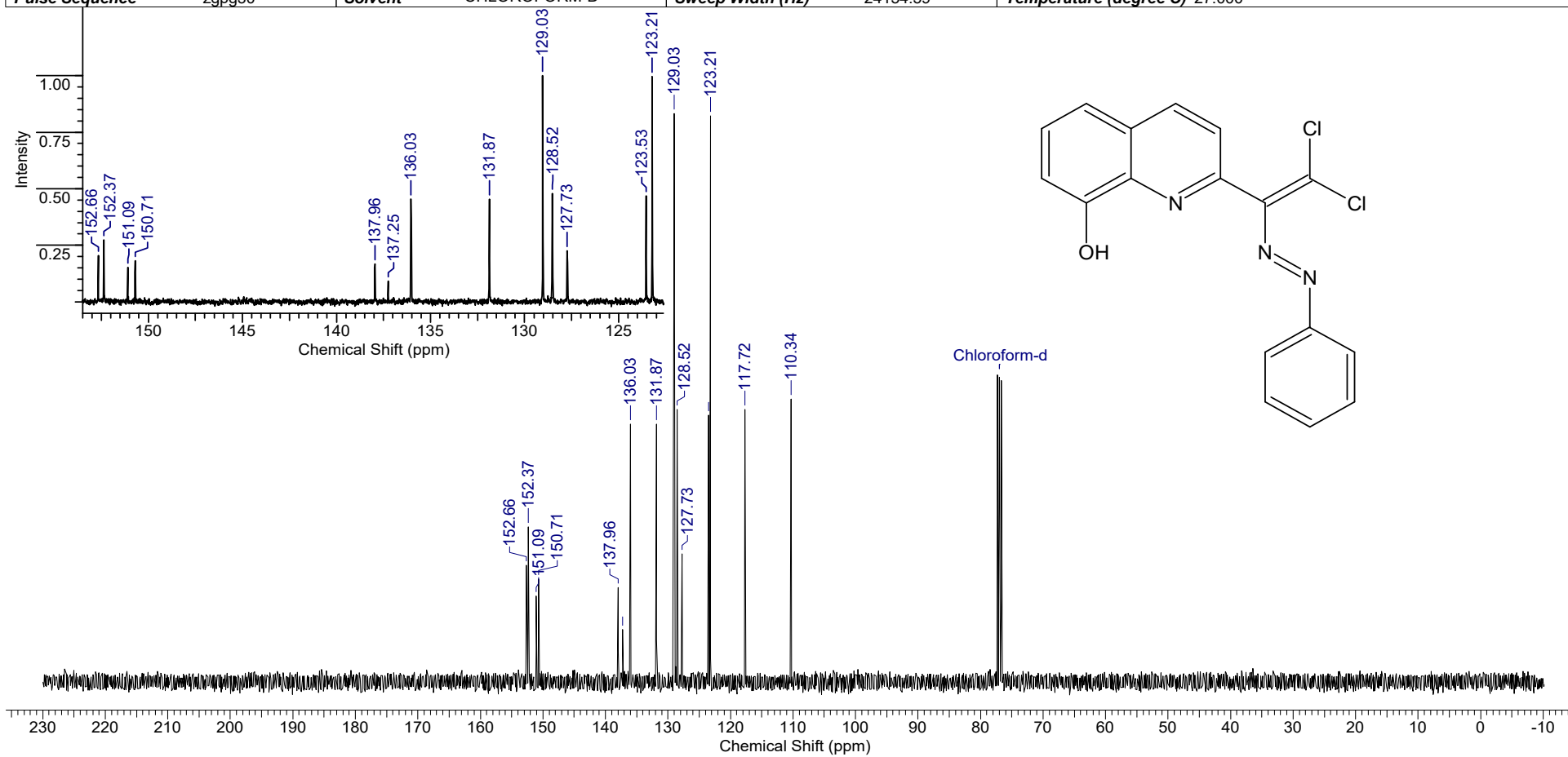
¹³C NMR spectrum of **1f** (100.6 MHz, CDCl₃)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	04 Mar 2020 14:28:16
File Name				Frequency (MHz)	400.13
Nucleus	¹ H	Number of Transients	4	Original Points Count	32768
Pulse Sequence	zg30	Solvent	CHLOROFORM-D	Points Count	32768
Temperature (degree C)	27.000			Sweep Width (Hz)	8012.82

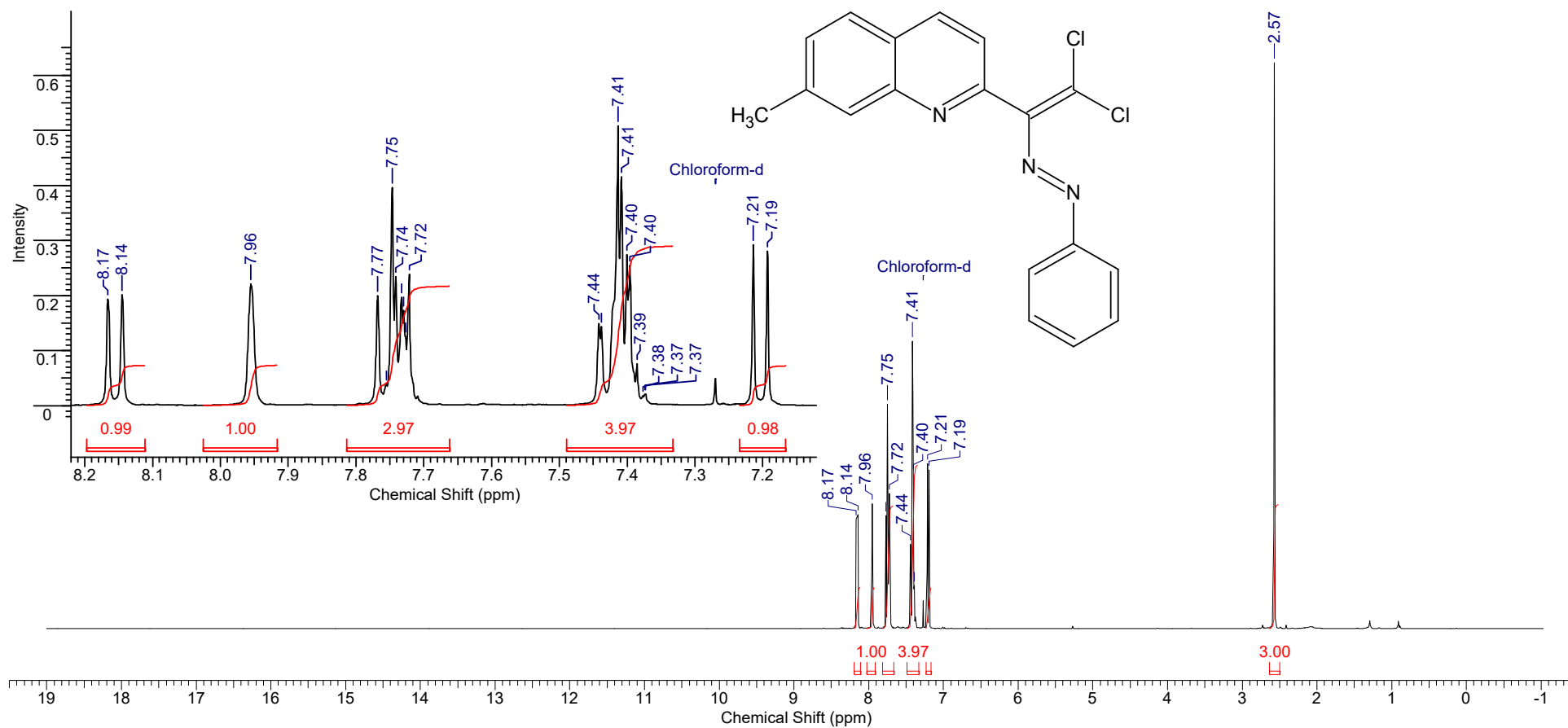


¹H NMR spectrum of **1g** (400.1 MHz, CDCl₃)

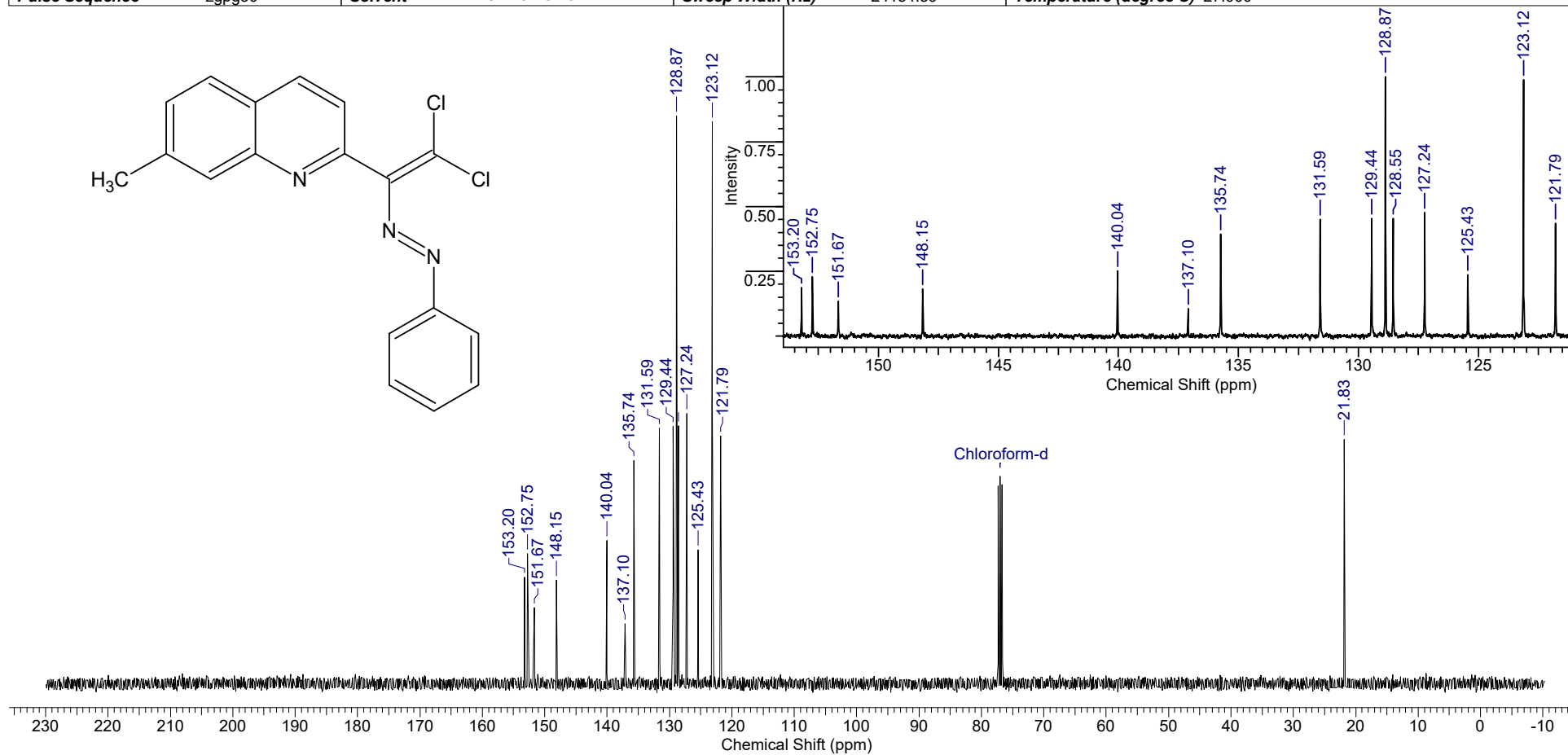
Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.	Date	04 Mar 2020 17:32:42
File Name				Frequency (MHz)	100.61
Nucleus	¹³ C	Number of Transients	65	Original Points Count	16384
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59
				Points Count	131072
				Temperature (degree C)	27.000

¹³C NMR spectrum of **1g** (100.6 MHz, CDCl₃)

Acquisition Time (sec)	4.0894	Comment	Imported from UXMNR.	Date	24 Sep 2020 12:25:56
File Name				Frequency (MHz)	400.13
Nucleus	1H	Number of Transients	4	Original Points Count	32768
Pulse Sequence	zg30	Solvent	CHLOROFORM-D	Points Count	131072
Temperature (degree C)	27.000			Sweep Width (Hz)	8012.82

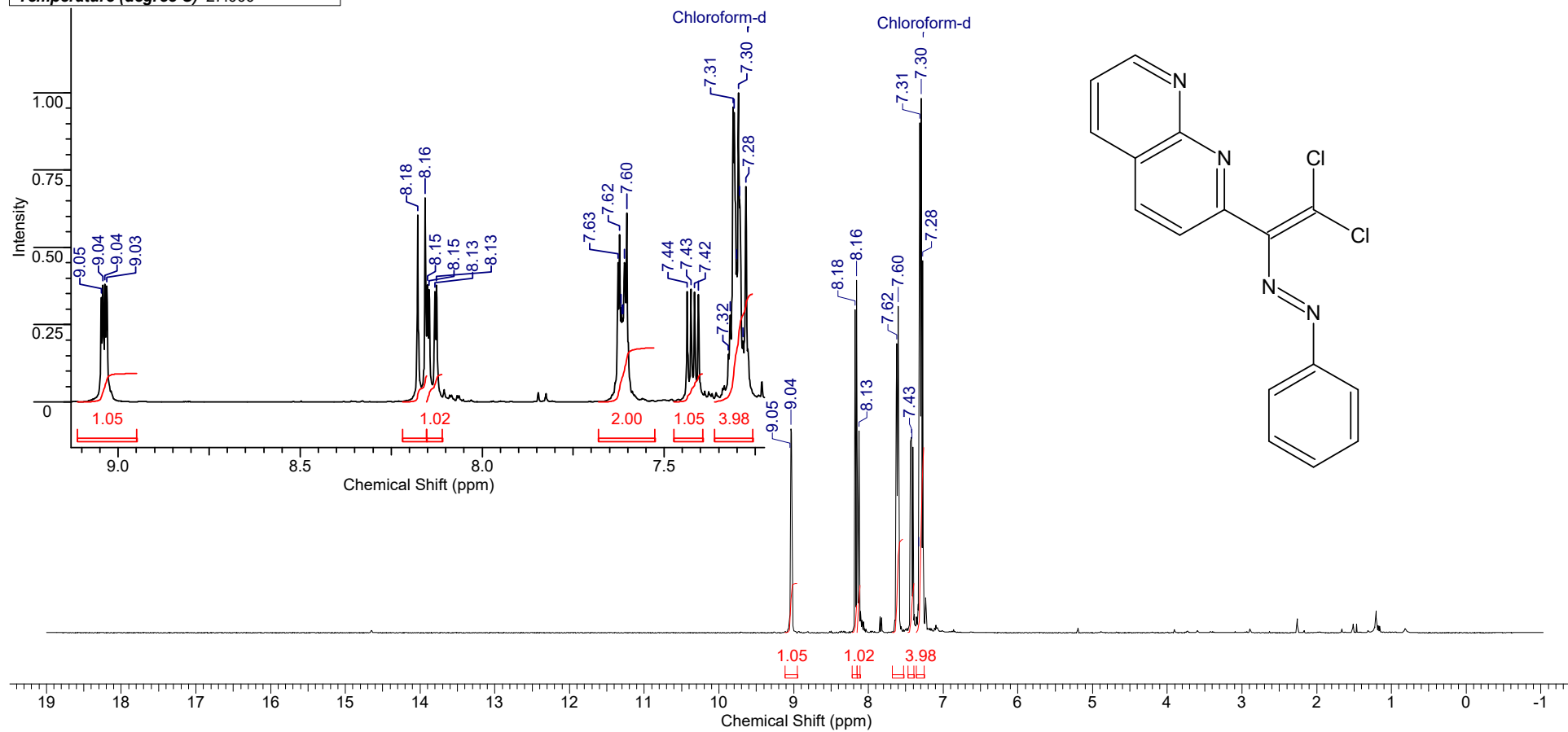
¹H NMR spectrum of **1h** (400.1 MHz, CDCl₃)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	24 Sep 2020 12:30:46	
File Name					Frequency (MHz)	100.61	
Nucleus	¹³ C	Number of Transients	65	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000



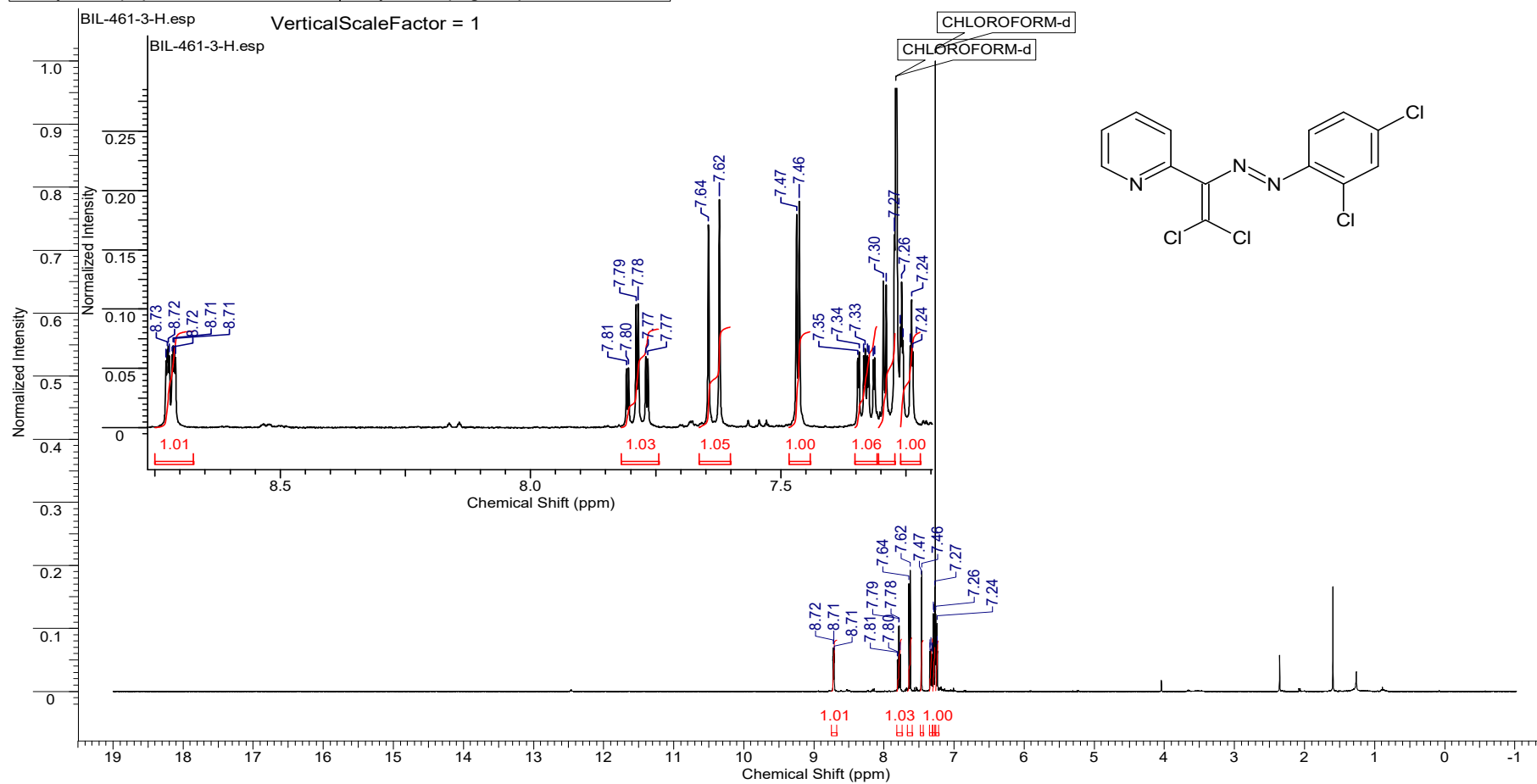
¹³C NMR spectrum of **1h** (100.6 MHz, CDCl₃)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	04 Dec 2020 13:25:48
File Name				Frequency (MHz)	400.13
Nucleus	1H	Number of Transients	4	Original Points Count	32768
Pulse Sequence	zg30	Solvent	CHLOROFORM-D	Points Count	131072
Temperature (degree C)	27.000			Sweep Width (Hz)	8012.82

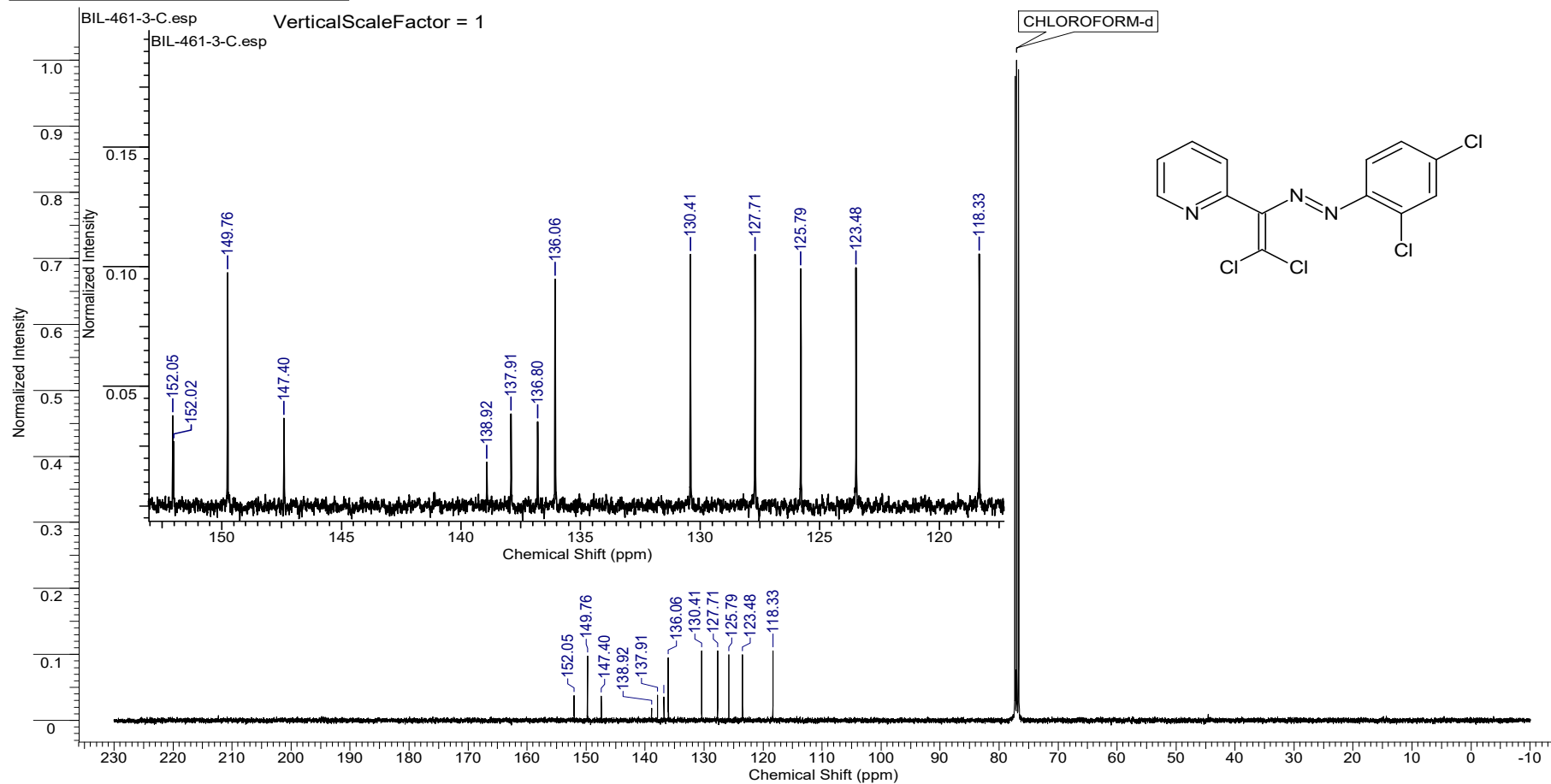


¹H NMR spectrum of **1i** (400.1 MHz, CDCl₃)

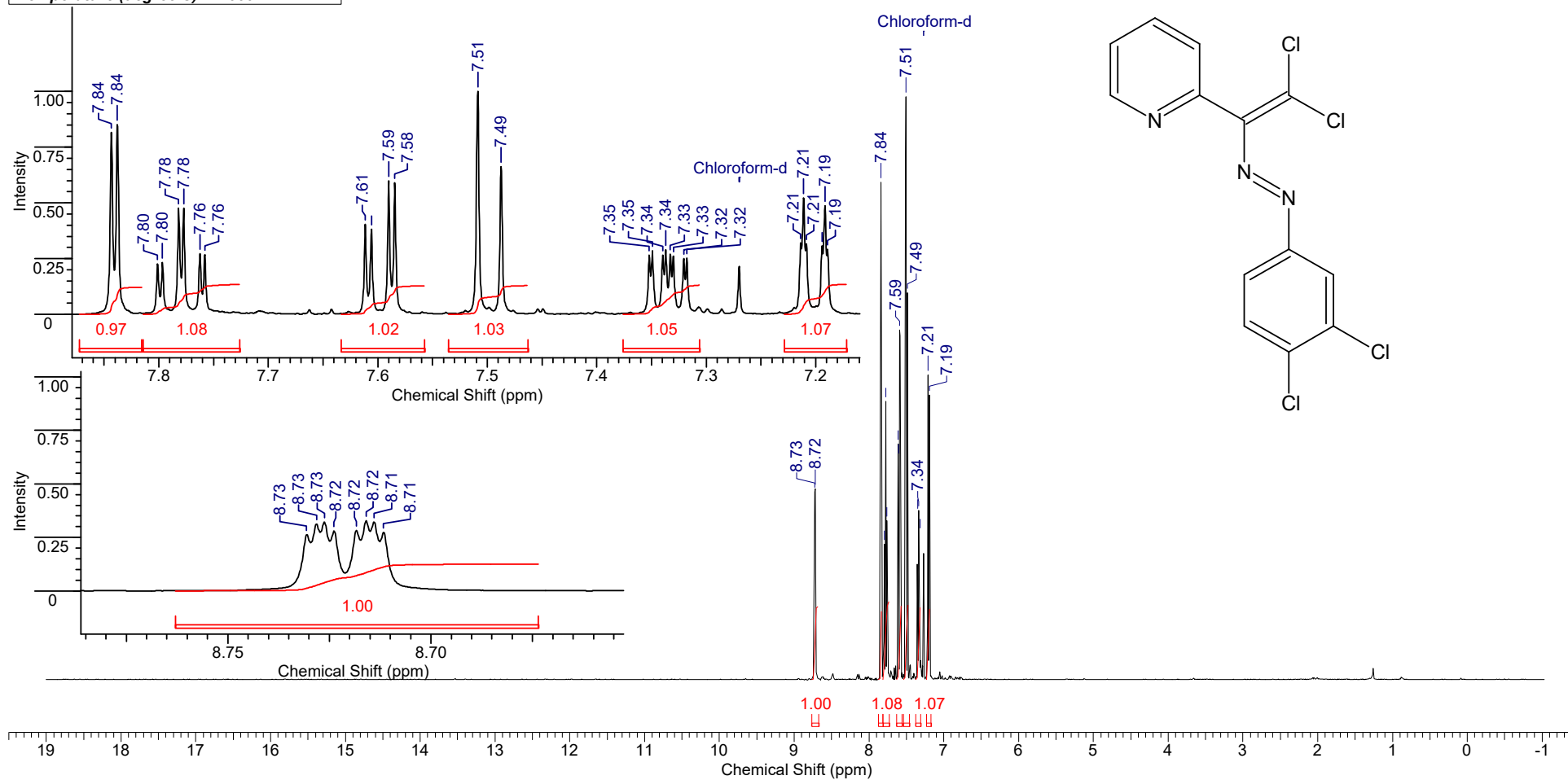
Acquisition Time (sec)	4.0894	Comment	5 mm QNP 1H/13C/31P/19F Z3182/0165	Date	25 Feb 2020 09:25:20
Date Stamp	25 Feb 2020 09:25:20				
File Name	BIL-461-3-H.esp			Frequency (MHz)	400.13
Nucleus	1H	Number of Transients	4	Origin	spect
Owner	root	Points Count	131072	Pulse Sequence	zg30
SW(cyclical) (Hz)	8012.82	Solvent	CHLOROFORM-d	Receiver Gain	812.70
Sweep Width (Hz)	8012.76	Temperature (degree C)	27.000	Spectrum Offset (Hz)	3595.9880

¹H NMR spectrum of **1j** (400.1 MHz, CDCl₃)

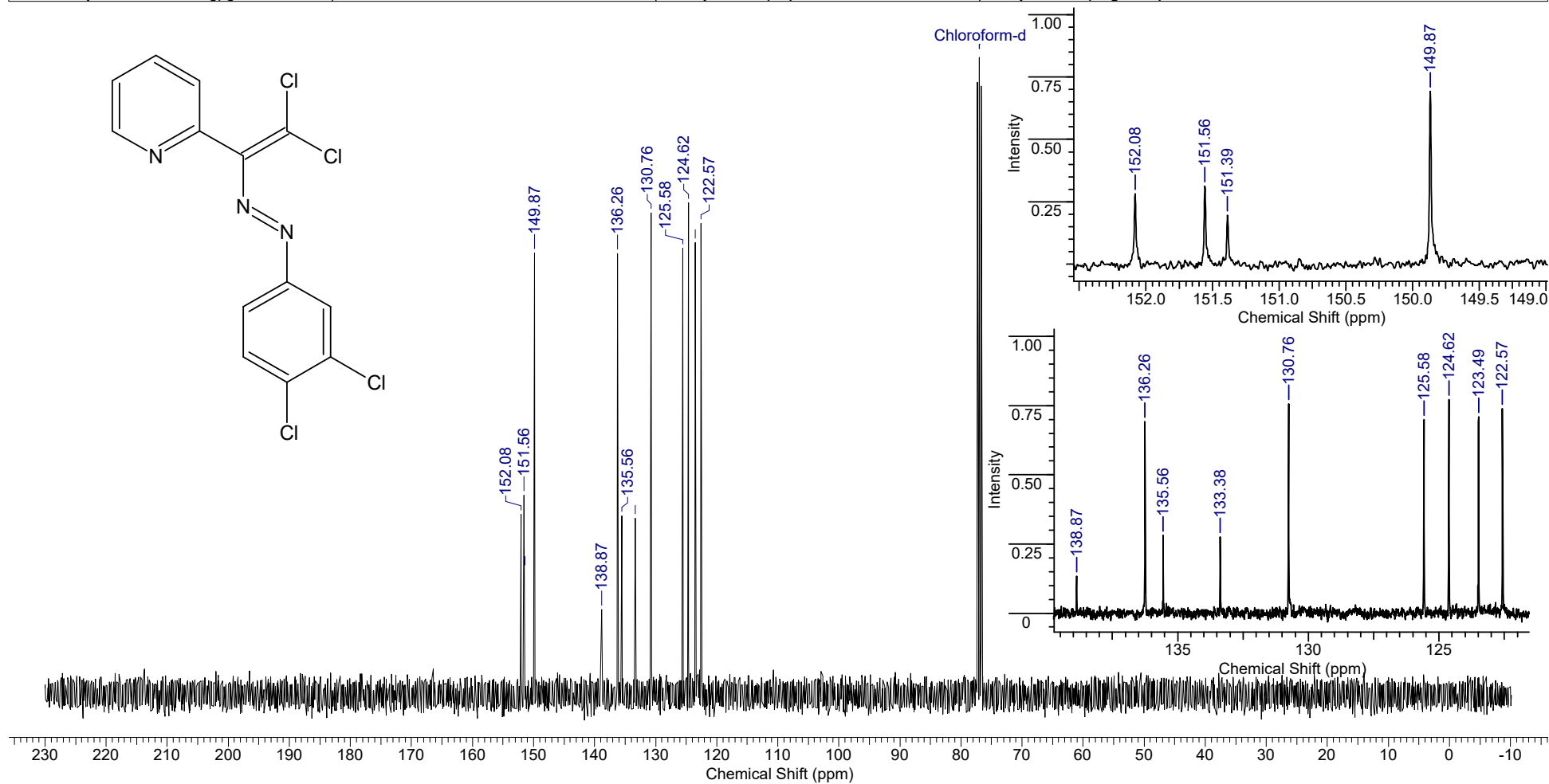
Acquisition Time (sec)	0.6783	Comment	5 mm QNP 1H/13C/31P/19F Z3182/0165	Date	25 Feb 2020 09:27:28		
Date Stamp	25 Feb 2020 09:27:28						
File Name					Frequency (MHz)	100.61	
Nucleus	13C	Number of Transients	3005	Origin	spect	Original Points Count	16384
Owner	root	Points Count	131072	Pulse Sequence	zgpg30	Receiver Gain	14596.50
SW(cyclical) (Hz)	24154.59	Solvent	CHLOROFORM-d	Spectrum Offset (Hz)	11064.7754	Sweep Width (Hz)	24154.41
Temperature (degree C)	27.000						

 ^{13}C NMR spectrum of **1j** (100.6 MHz, CDCl_3)

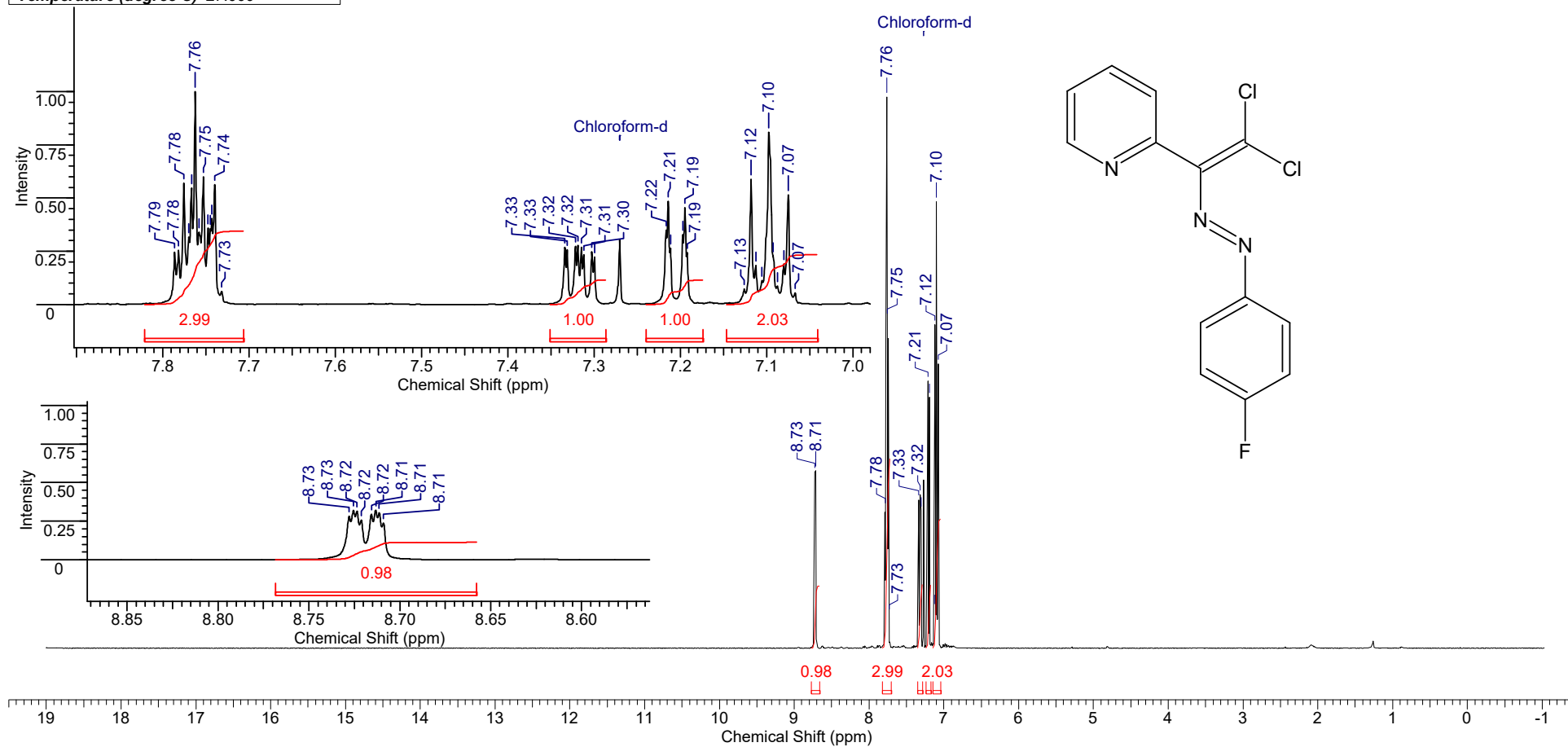
Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	06 Feb 2021 13:22:14	
File Name		Number of Transients	4	Original Points Count	32768	Frequency (MHz)	400.13
Nucleus	1H	Solvent	CHLOROFORM-D		Points Count	131072	
Pulse Sequence	zg30	Temperature (degree C)	27.000		Sweep Width (Hz)	8012.82	

¹H NMR spectrum of **1k** (400.1 MHz, CDCl₃)

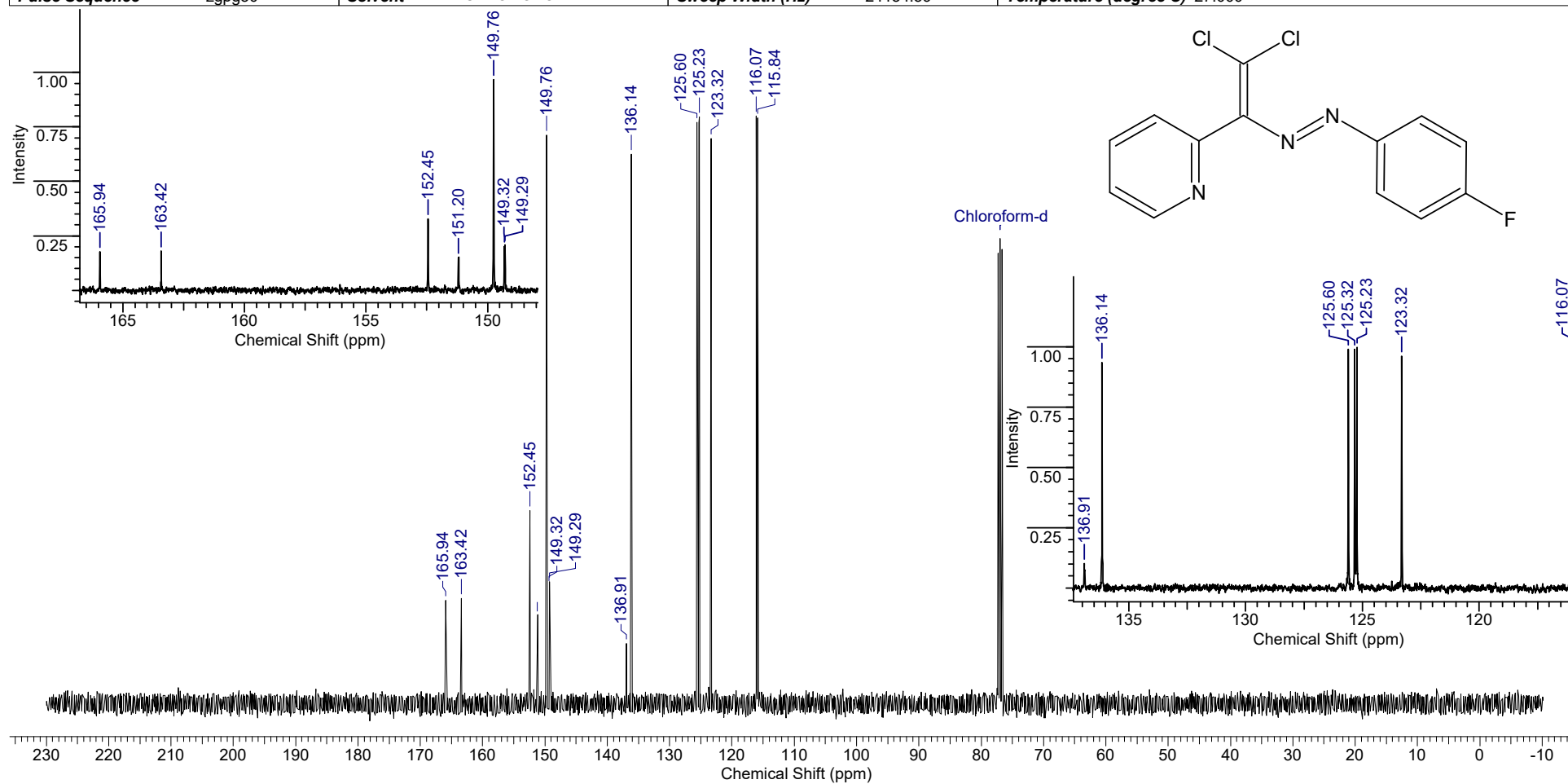
Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.		Date	06 Feb 2021 13:26:58	
File Name					Frequency (MHz)	100.61	
Nucleus	13C	Number of Transients	65	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000

¹³C NMR spectrum of **1k** (100.6 MHz, CDCl₃)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	19 Feb 2020 17:28:50
File Name				Frequency (MHz)	400.13
Nucleus	1H	Number of Transients	4	Original Points Count	32768
Pulse Sequence	zg30	Solvent	CHLOROFORM-D	Points Count	131072
Temperature (degree C)	27.000			Sweep Width (Hz)	8012.82

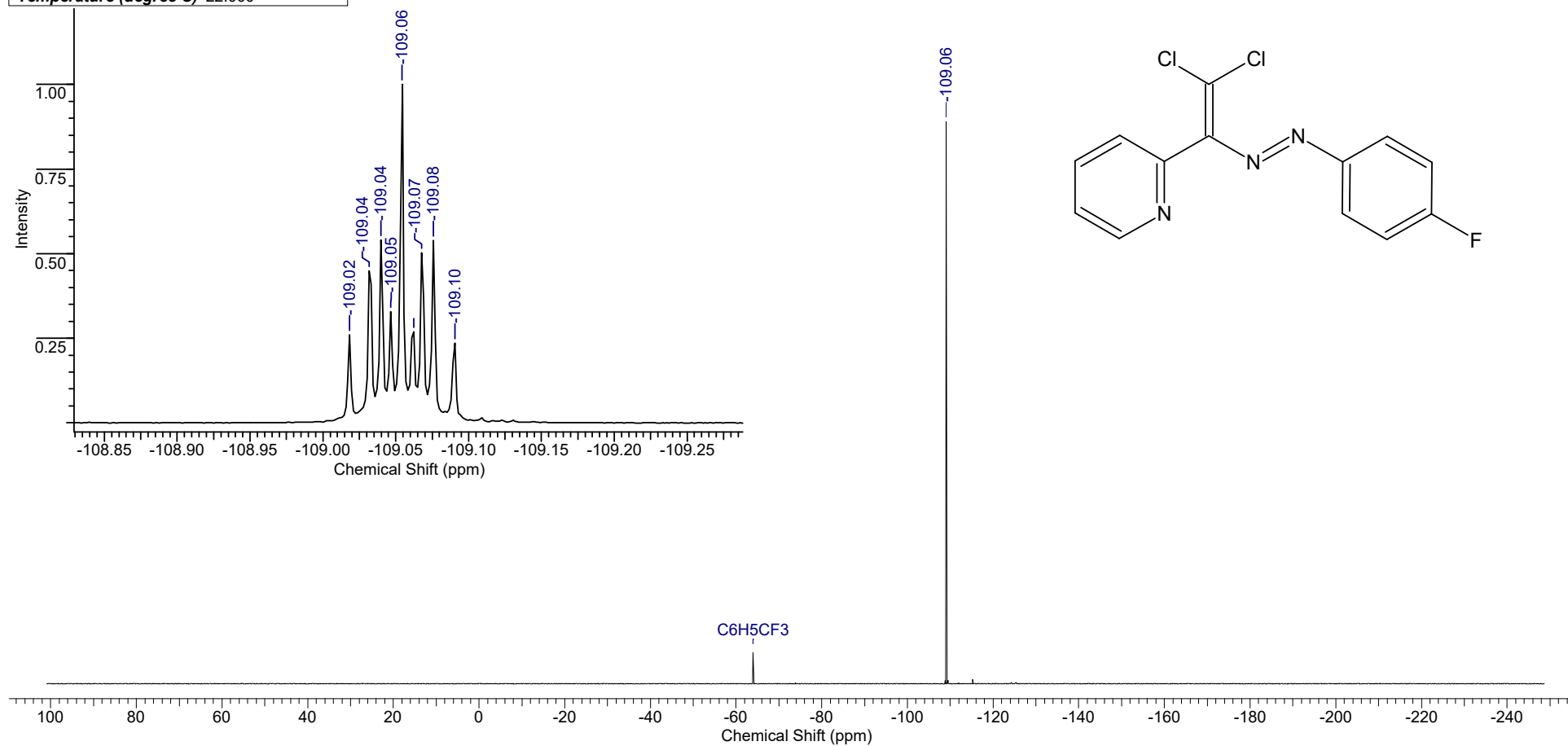
 ^1H NMR spectrum of **11** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.		Date	19 Feb 2020 17:33:06	
File Name					Frequency (MHz)	100.61	
Nucleus	¹³ C	Number of Transients	98	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000



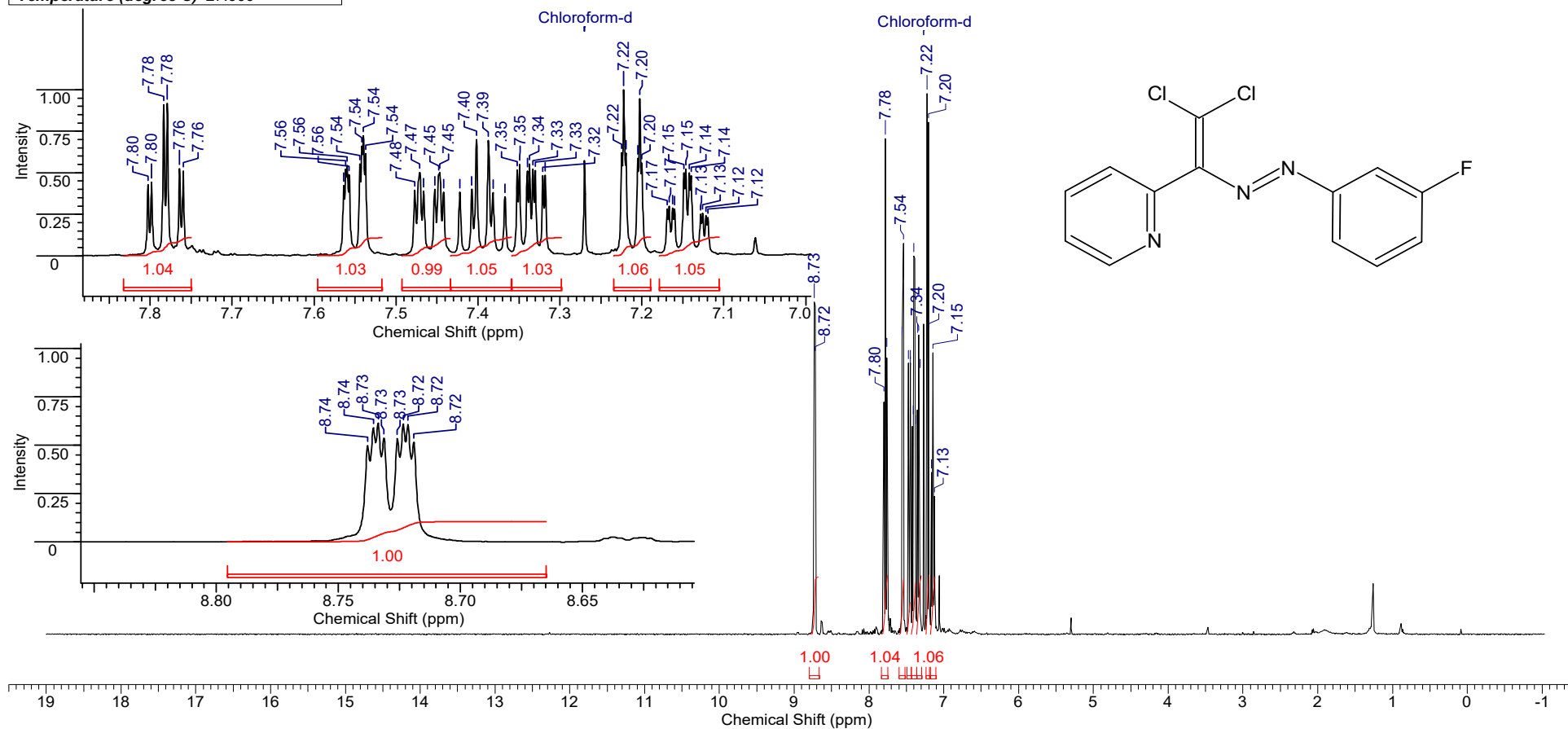
¹³C NMR spectrum of **11** (100.6 MHz, CDCl₃)

Acquisition Time (sec)	1.5729	Date	Feb 20 2020				
File Name		Frequency (MHz)	376.31				
Nucleus	19F	Number of Transients	8	Original Points Count	206956	Points Count	262144
Pulse Sequence	s2pul	Solvent	CHLOROFORM-D	Sweep Width (Hz)	131578.95		
Temperature (degree C)	22.000						

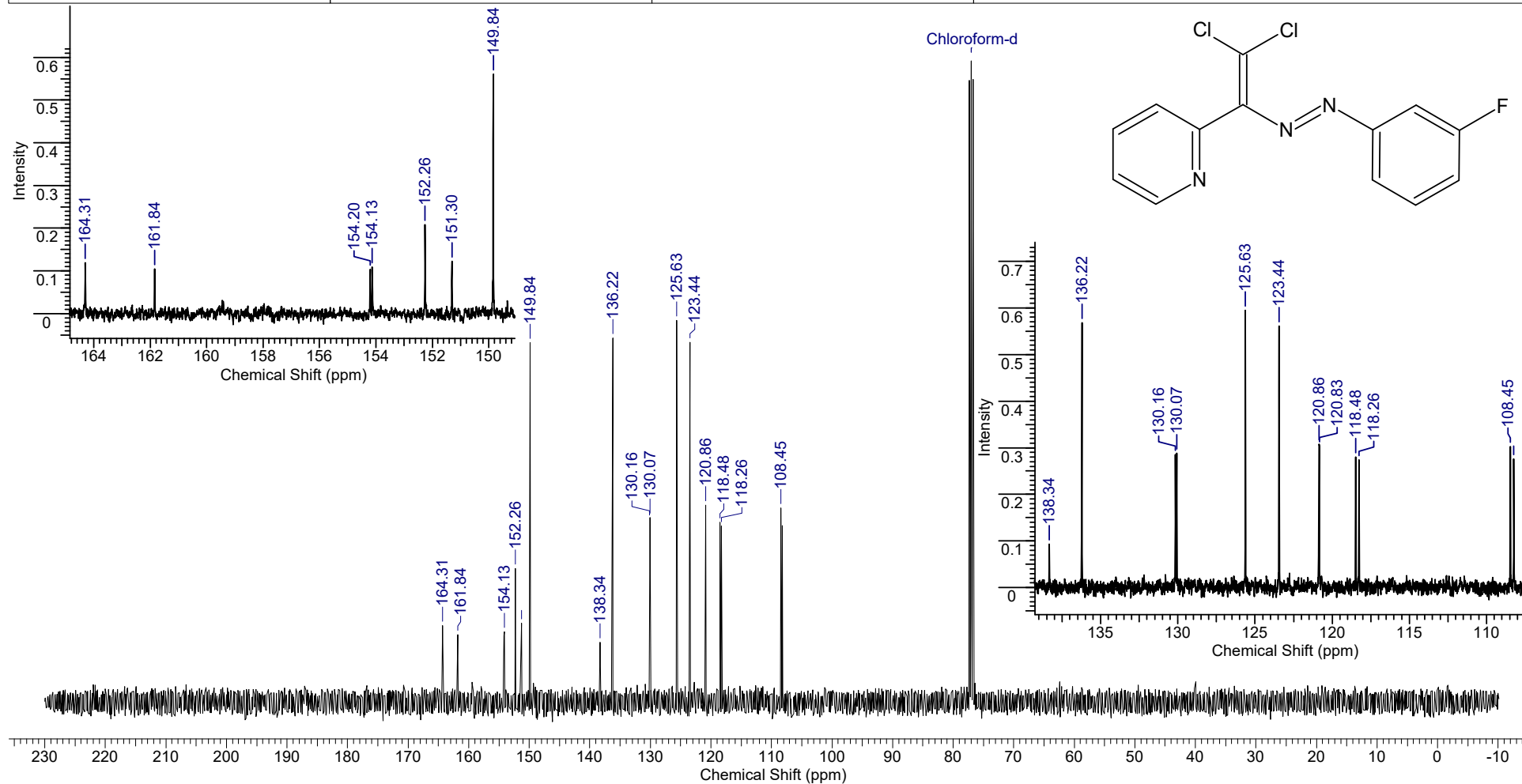


^{19}F NMR spectrum of **II** (376.5 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	28 Jan 2021 11:57:26	
File Name					Frequency (MHz)	400.13	
Nucleus	¹ H	Number of Transients	4	Original Points Count	32768	Points Count	131072
Pulse Sequence	zg30	Solvent	CHLOROFORM-D		Sweep Width (Hz)	8012.82	
Temperature (degree C)	27.000						

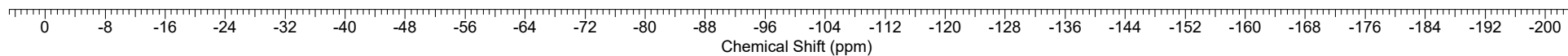
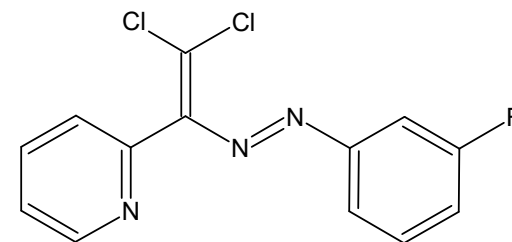
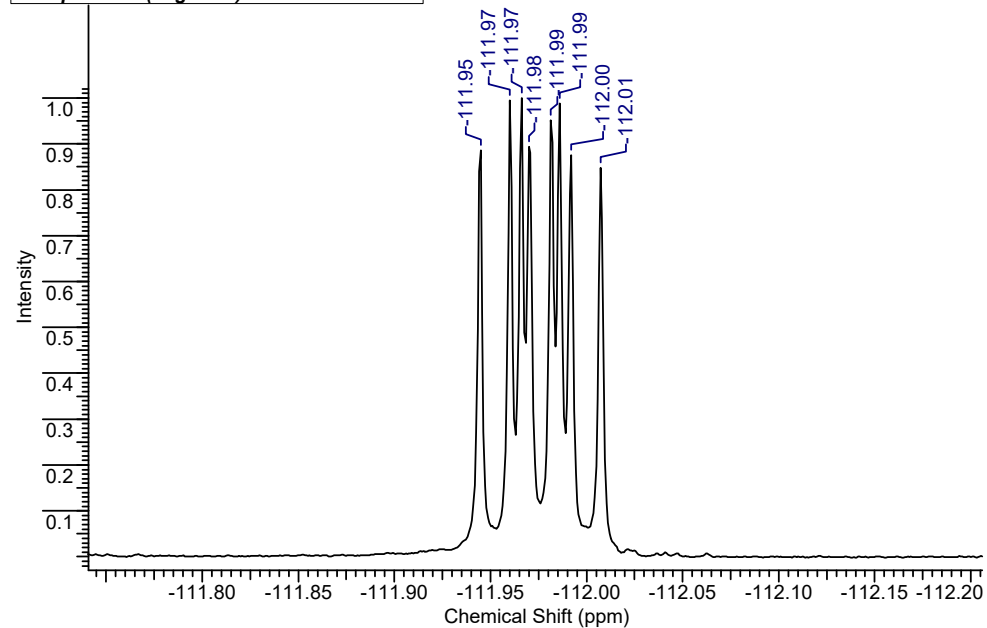
¹H NMR spectrum of **1m** (400.1 MHz, CDCl₃)

Acquisition Time (sec)	0.6783	Comment	Imported from UJXNMR.		Date	28 Jan 2021 12:03:34	
File Name					Frequency (MHz)	100.61	
Nucleus	13C	Number of Transients	137	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000



^{13}C NMR spectrum of **1m** (100.6 MHz, CDCl_3)

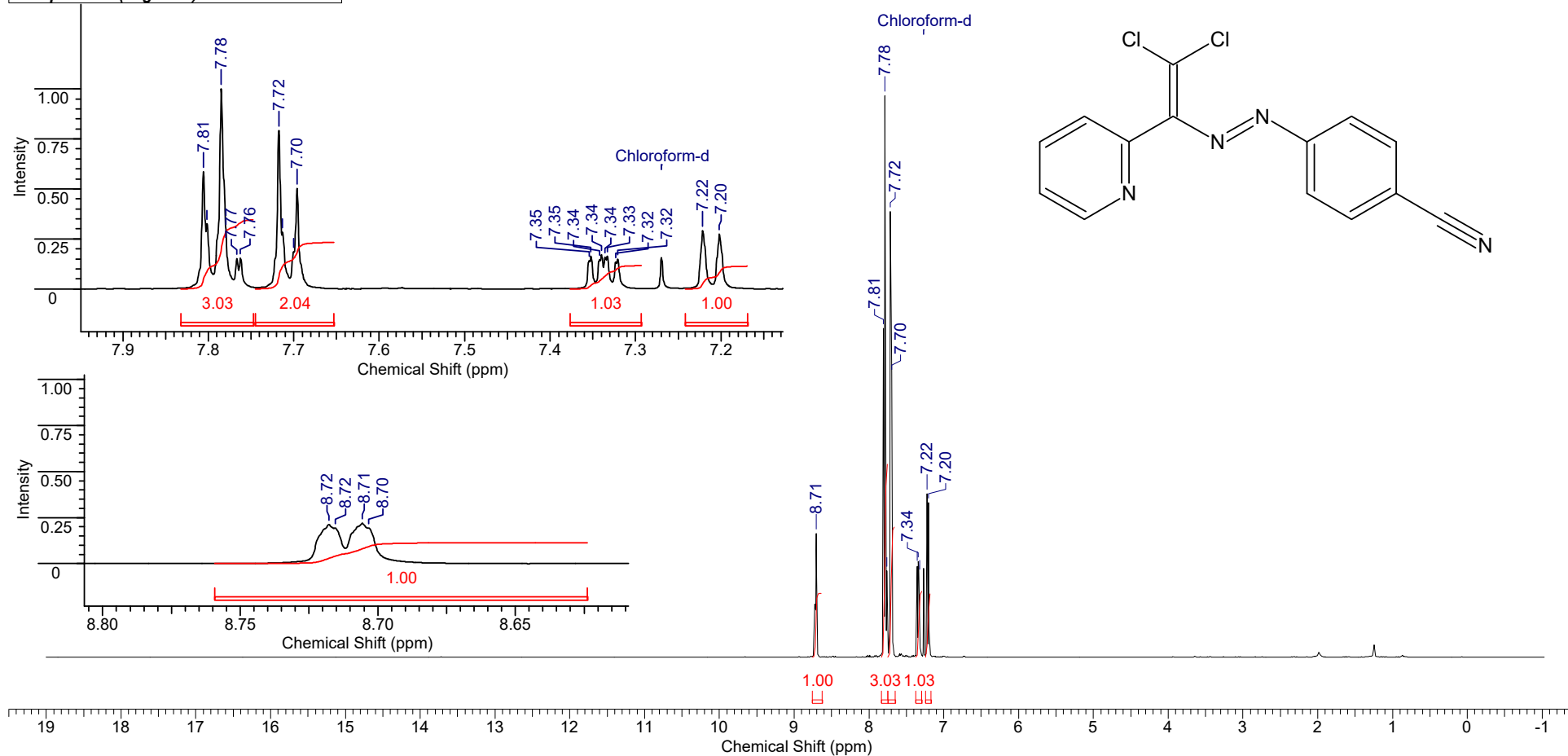
Acquisition Time (sec)	1.7433	Comment	Imported from UXMNR.		Date	28 Jan 2021 12:47:40	
File Name					Frequency (MHz)	376.50	
Nucleus	19F	Number of Transients	16	Original Points Count	131072	Points Count	262144
Pulse Sequence	zgfgn	Solvent	CHLOROFORM-D		Sweep Width (Hz)	75187.97	
Temperature (degree C)	27.000						



¹⁹F NMR spectrum of **1m** (376.5 MHz, CDCl₃)

25 Mar 2021

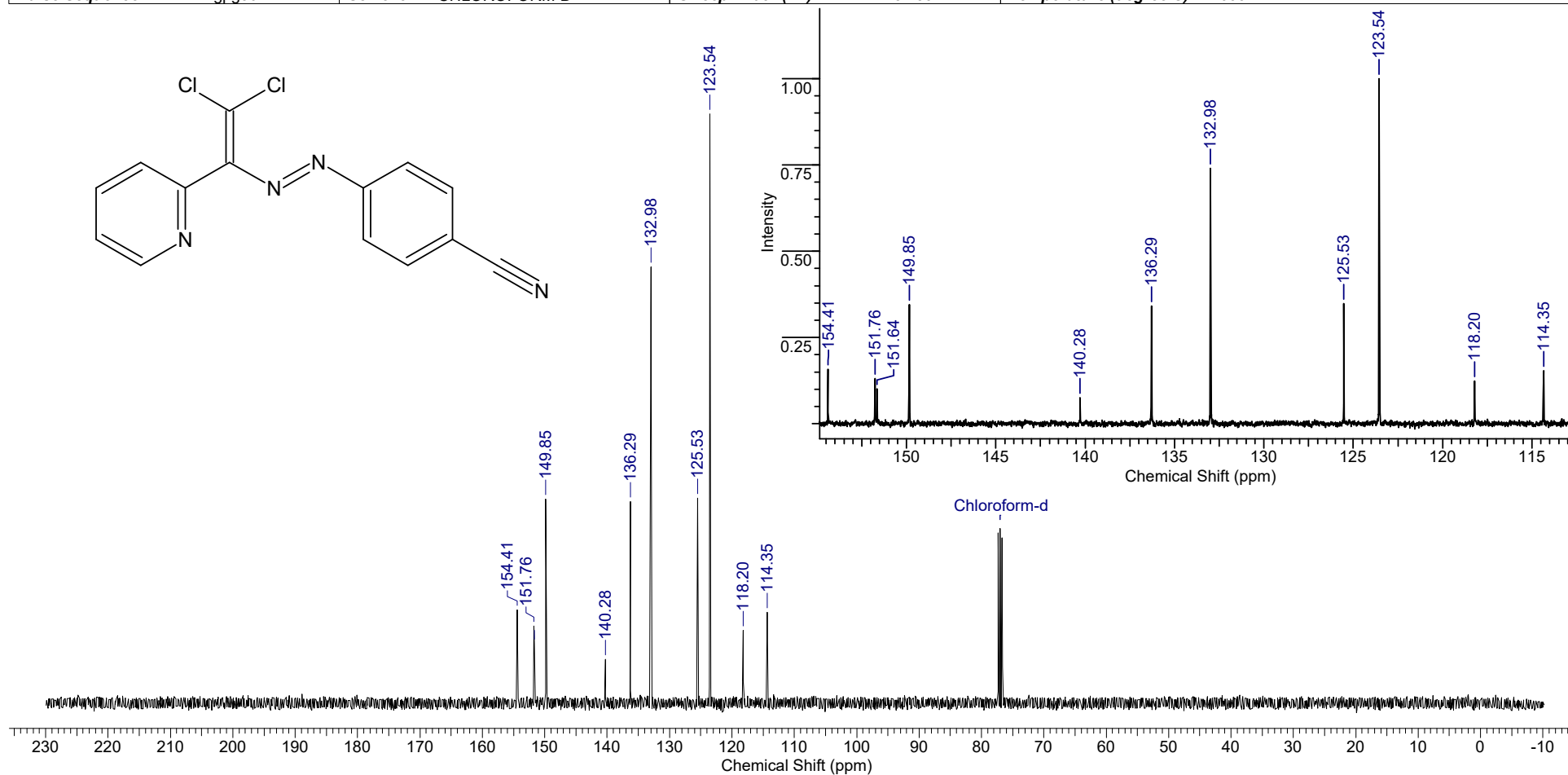
Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	04 Mar 2020 17:34:46	
File Name					Frequency (MHz)	400.13	
Nucleus	¹ H	Number of Transients	4	Original Points Count	32768	Points Count	131072
Pulse Sequence	zg30	Solvent	CHLOROFORM-D		Sweep Width (Hz)	8012.82	
Temperature (degree C)	27.000						



¹³C NMR spectrum of **1n** (400.1 MHz, CDCl₃)

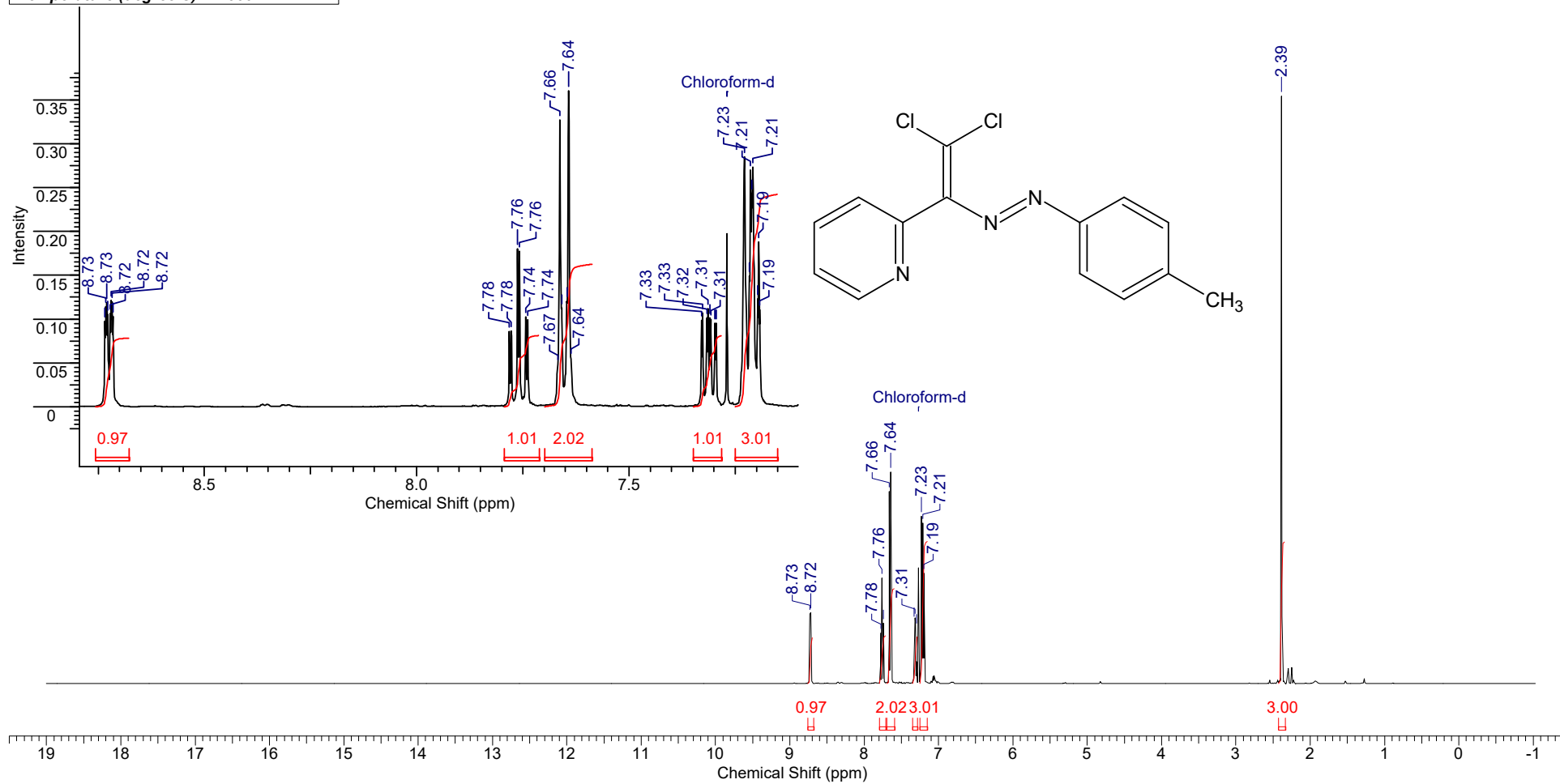
25 Mar 2021

Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.	Date	04 Mar 2020 17:37:16
File Name				Frequency (MHz)	100.61
Nucleus	¹³ C	Number of Transients	49	Original Points Count	16384
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Points Count	131072
				Sweep Width (Hz)	24154.59
				Temperature (degree C)	27.000



^{13}C NMR spectrum of **1n** (100.6 MHz, CDCl_3)

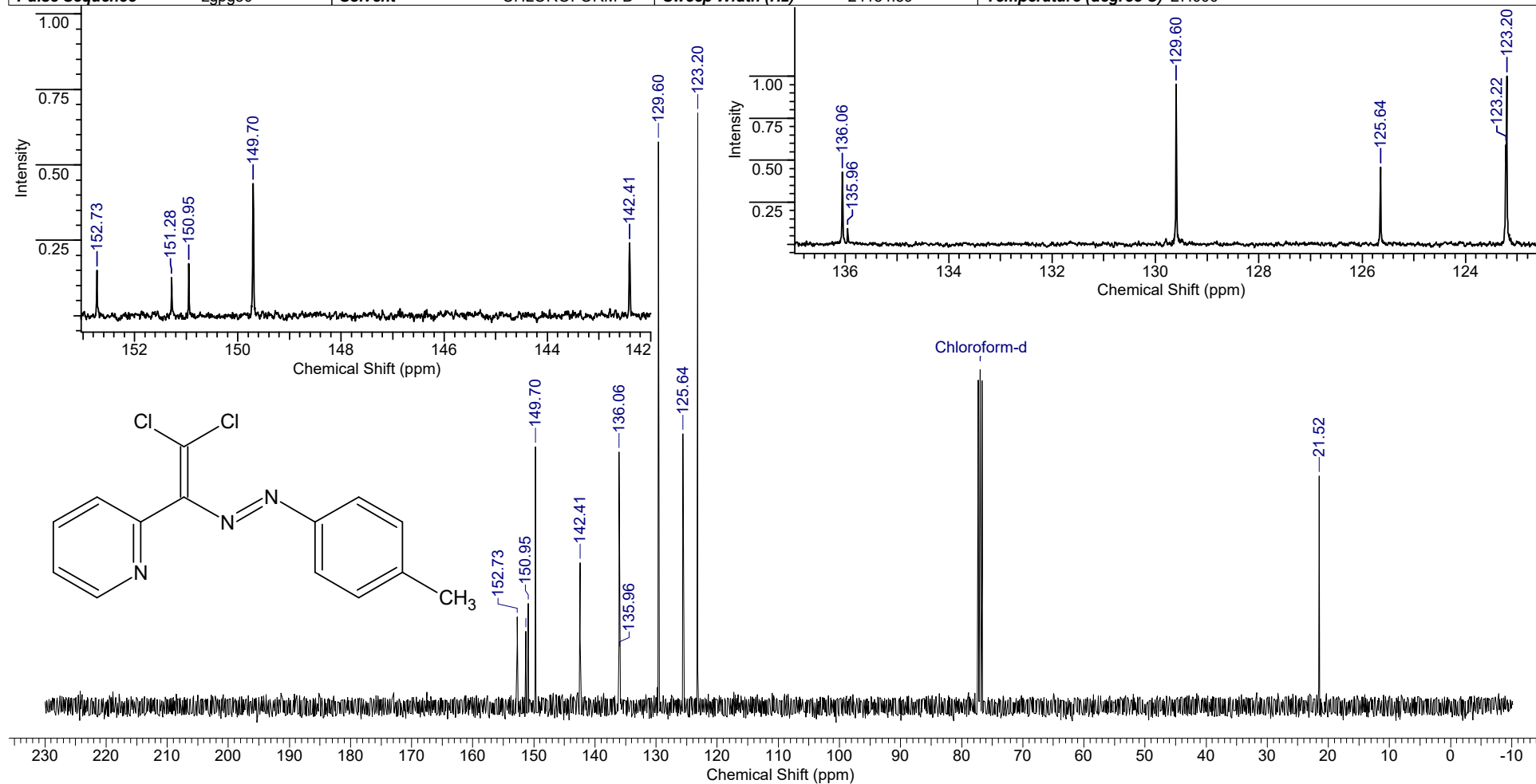
Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	28 Feb 2020 15:45:44	
File Name		Number of Transients	4	Original Points Count	32768	Frequency (MHz)	400.13
Nucleus	1H	Solvent	CHLOROFORM-D		Points Count	131072	
Pulse Sequence	zg30	Sweep Width (Hz)	8012.82				
Temperature (degree C)	27.000						



¹³C NMR spectrum of **1o** (400.1 MHz, CDCl₃)

25 Mar 2021

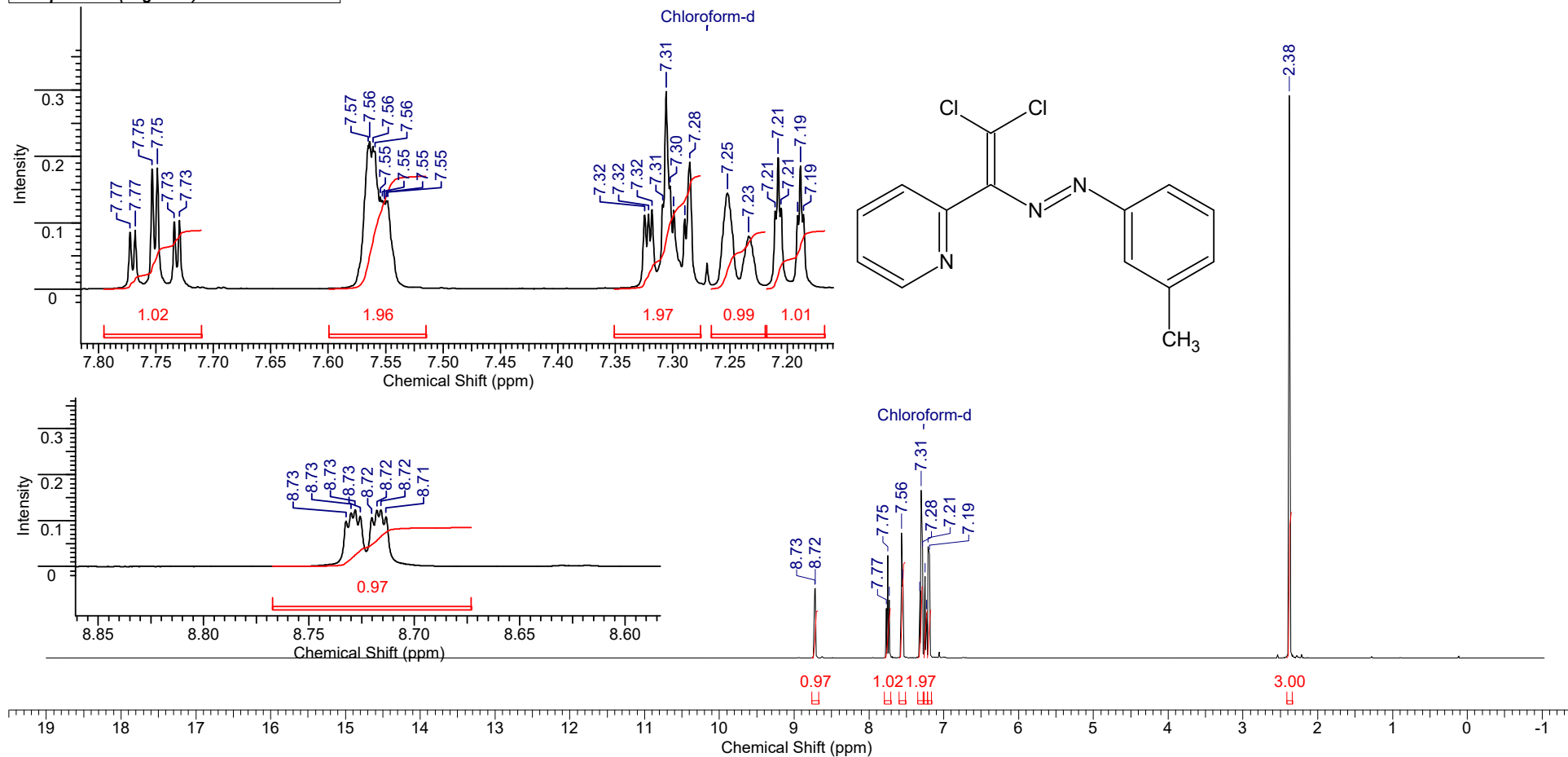
Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.	Date	28 Feb 2020 15:48:34
File Name				Frequency (MHz)	100.61
Nucleus	13C	Number of Transients	57	Original Points Count	16384
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59
				Points Count	131072
				Temperature (degree C)	27.000



¹³C NMR spectrum of **1o** (100.6 MHz, CDCl₃)

25 Mar 2021

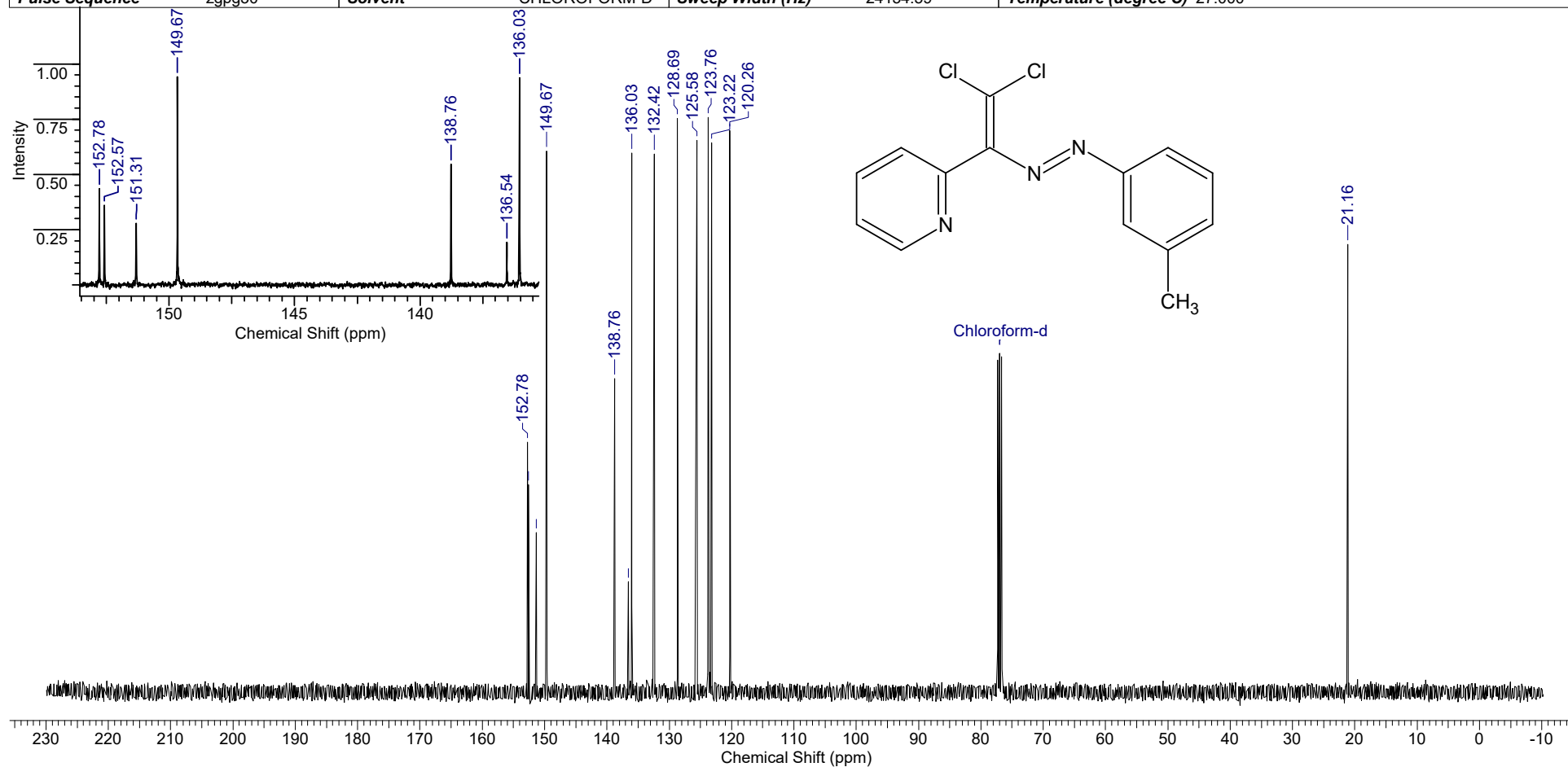
Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	15 Dec 2020 14:22:56	
File Name					Frequency (MHz)	400.13	
Nucleus	1H	Number of Transients	4	Original Points Count	32768	Points Count	131072
Pulse Sequence	zg30	Solvent	CHLOROFORM-D		Sweep Width (Hz)	8012.82	
Temperature (degree C)	27.000						



¹H NMR spectrum of **1p** (400.1 MHz, CDCl₃)

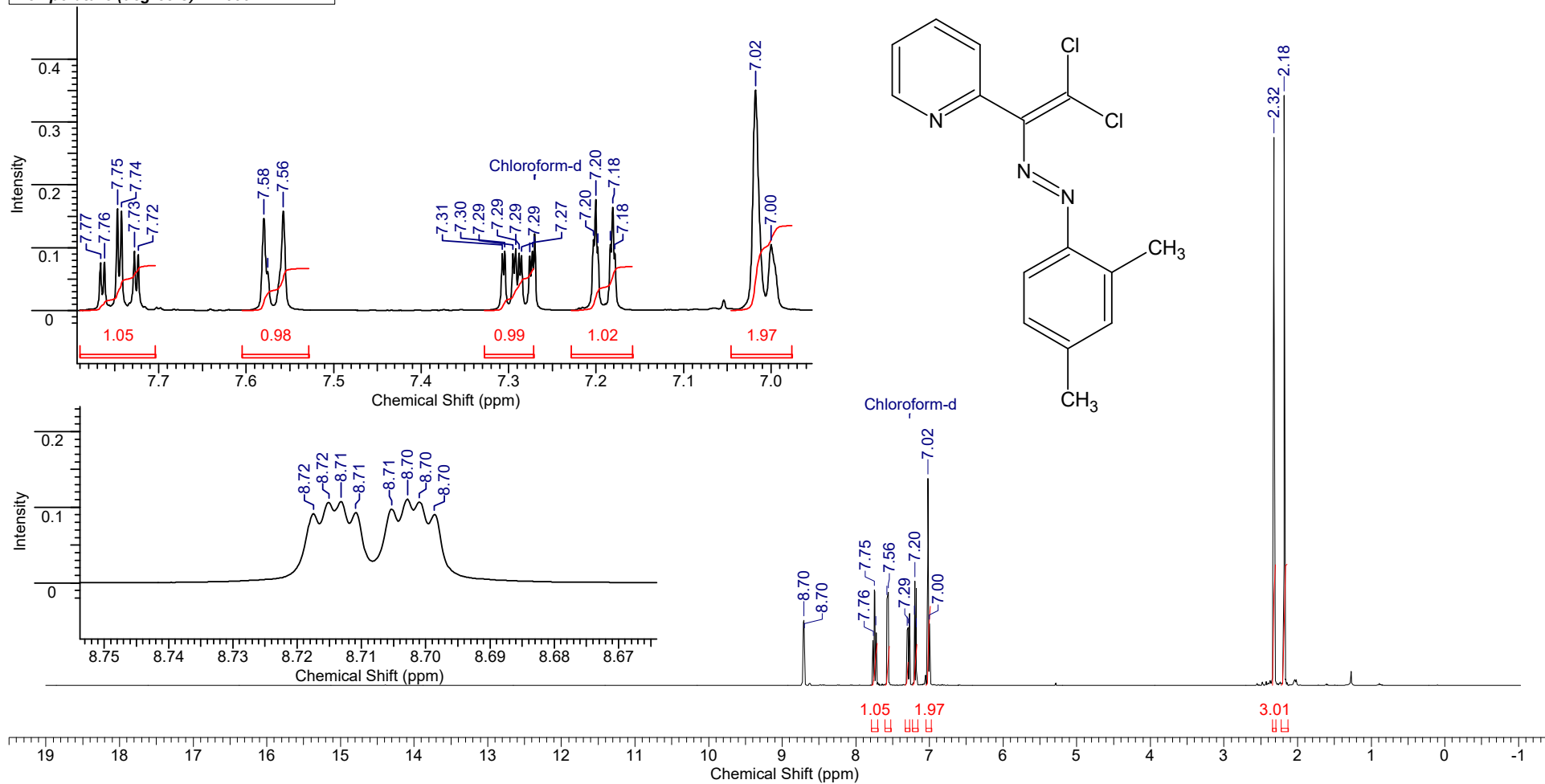
25 Mar 2021

Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.		Date	15 Dec 2020 14:26:38	
File Name					Frequency (MHz)	100.61	
Nucleus	13C	Number of Transients	81	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000



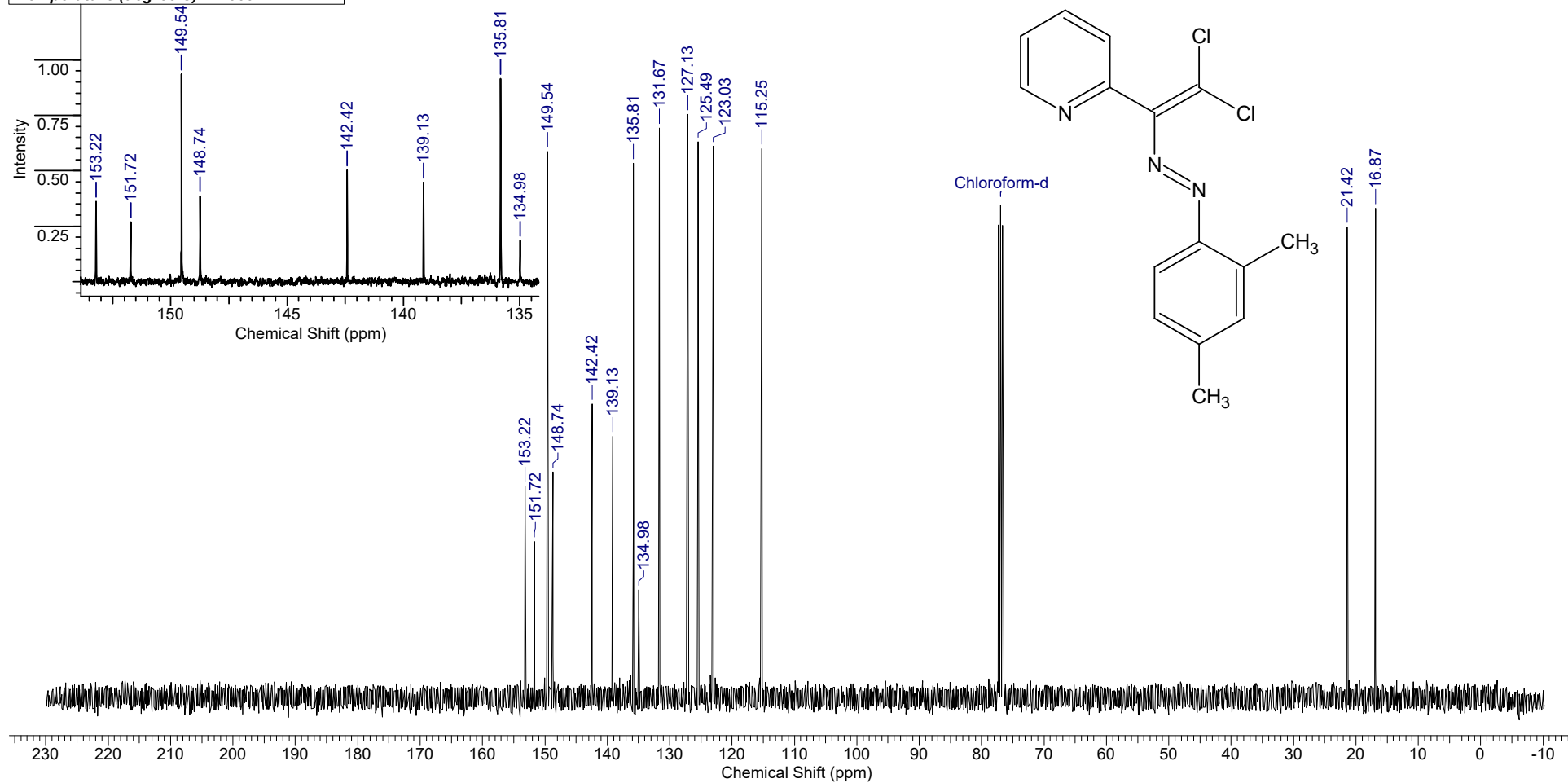
^{13}C NMR spectrum of **1p** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	30 Jun 2020 14:43:40
File Name				Frequency (MHz)	400.13
Nucleus	¹ H	Number of Transients	4	Original Points Count	32768
Pulse Sequence	zg30	Solvent	CHLOROFORM-D	Points Count	131072
Temperature (degree C)	27.000			Sweep Width (Hz)	8012.82



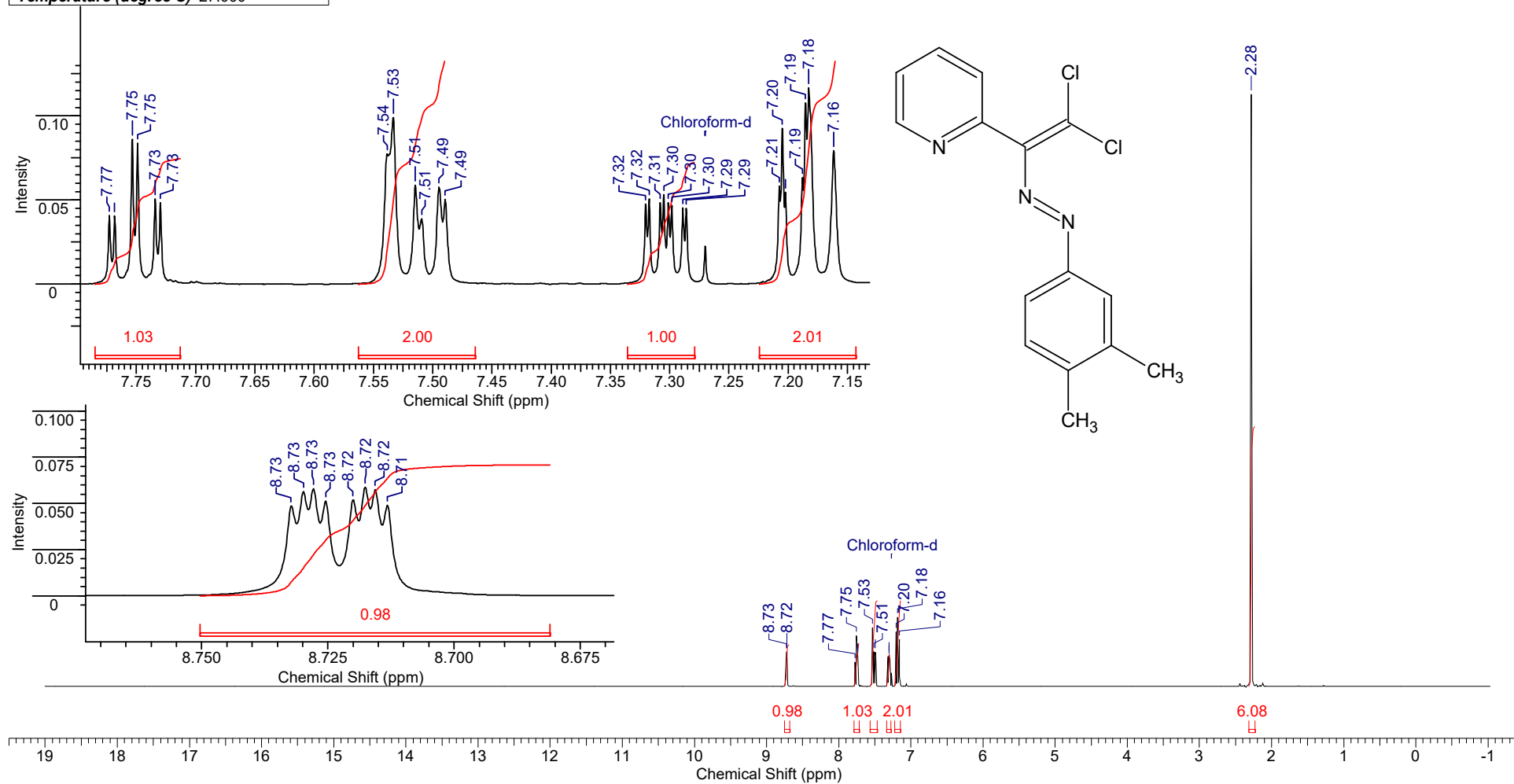
^1H NMR spectrum of **1q** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	30 Jun 2020 14:47:06	
File Name					Frequency (MHz)	100.61	
Nucleus	¹³ C	Number of Transients	65	Original Points Count	16384	Points Count	131072
Pulse Sequence	zpgpg30	Solvent	CHLOROFORM-D		Sweep Width (Hz)	24154.59	
Temperature (degree C)	27.000						



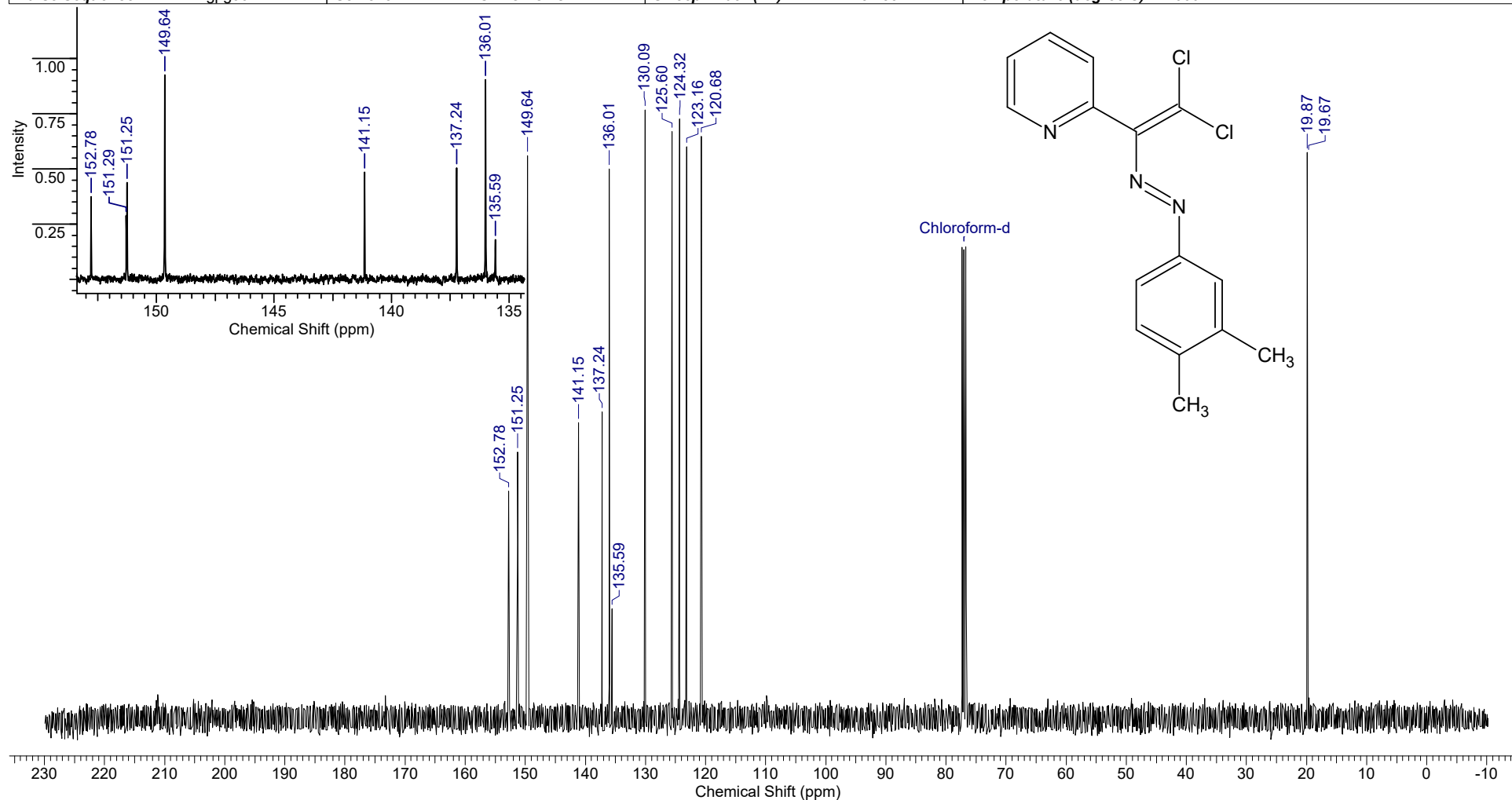
^{13}C NMR spectrum of **1q** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	21 Dec 2020 15:45:18
File Name		Number of Transients	4	Original Points Count	Frequency (MHz)	400.13
Nucleus	1H	Solvent	CHLOROFORM-D		Points Count	131072
Pulse Sequence	zg30	Temperature (degree C)	27.000		Sweep Width (Hz)	8012.82



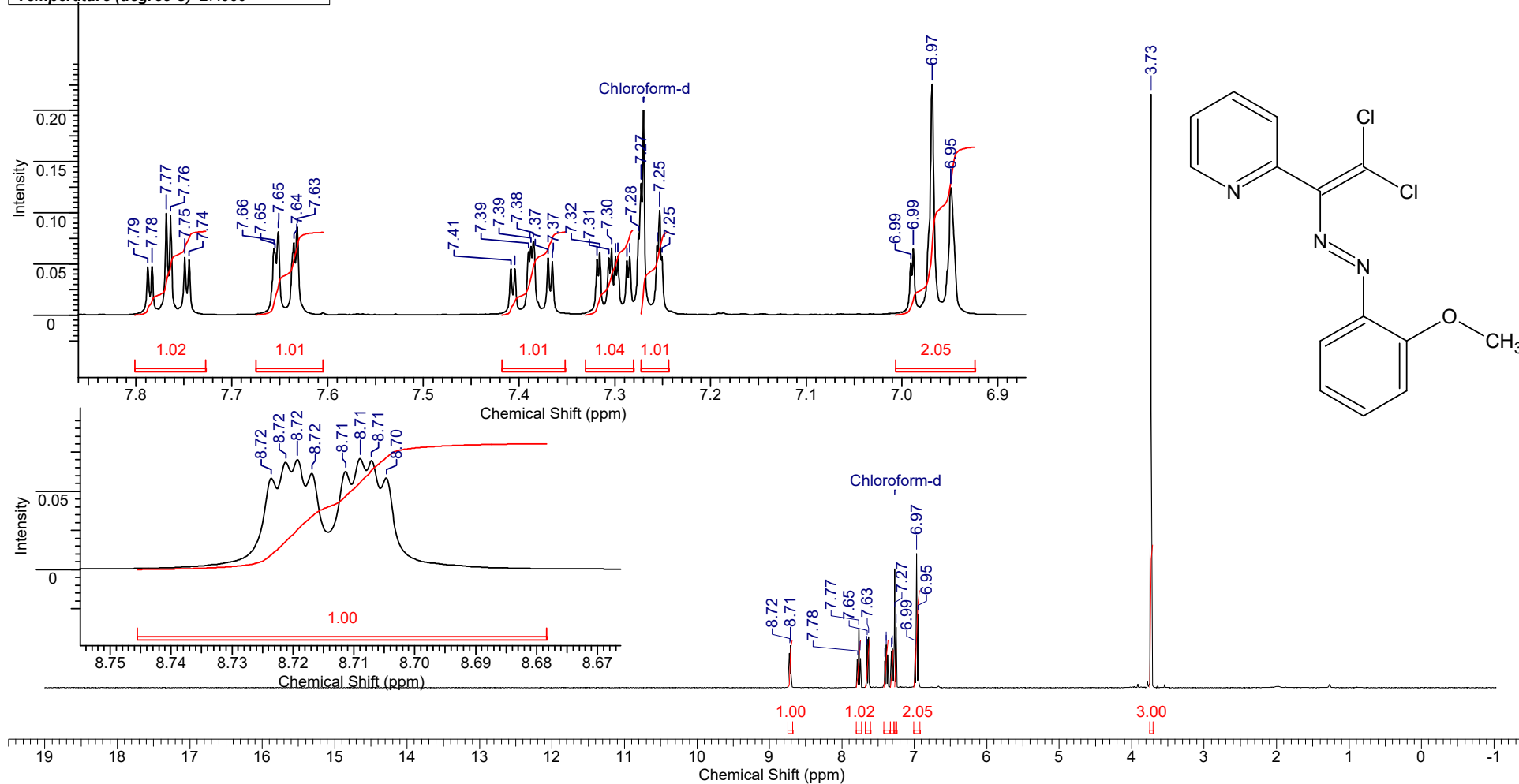
^1H NMR spectrum of **1r** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.		Date	21 Dec 2020 15:49:02	
File Name					Frequency (MHz)	100.61	
Nucleus	¹³ C	Number of Transients	50	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000



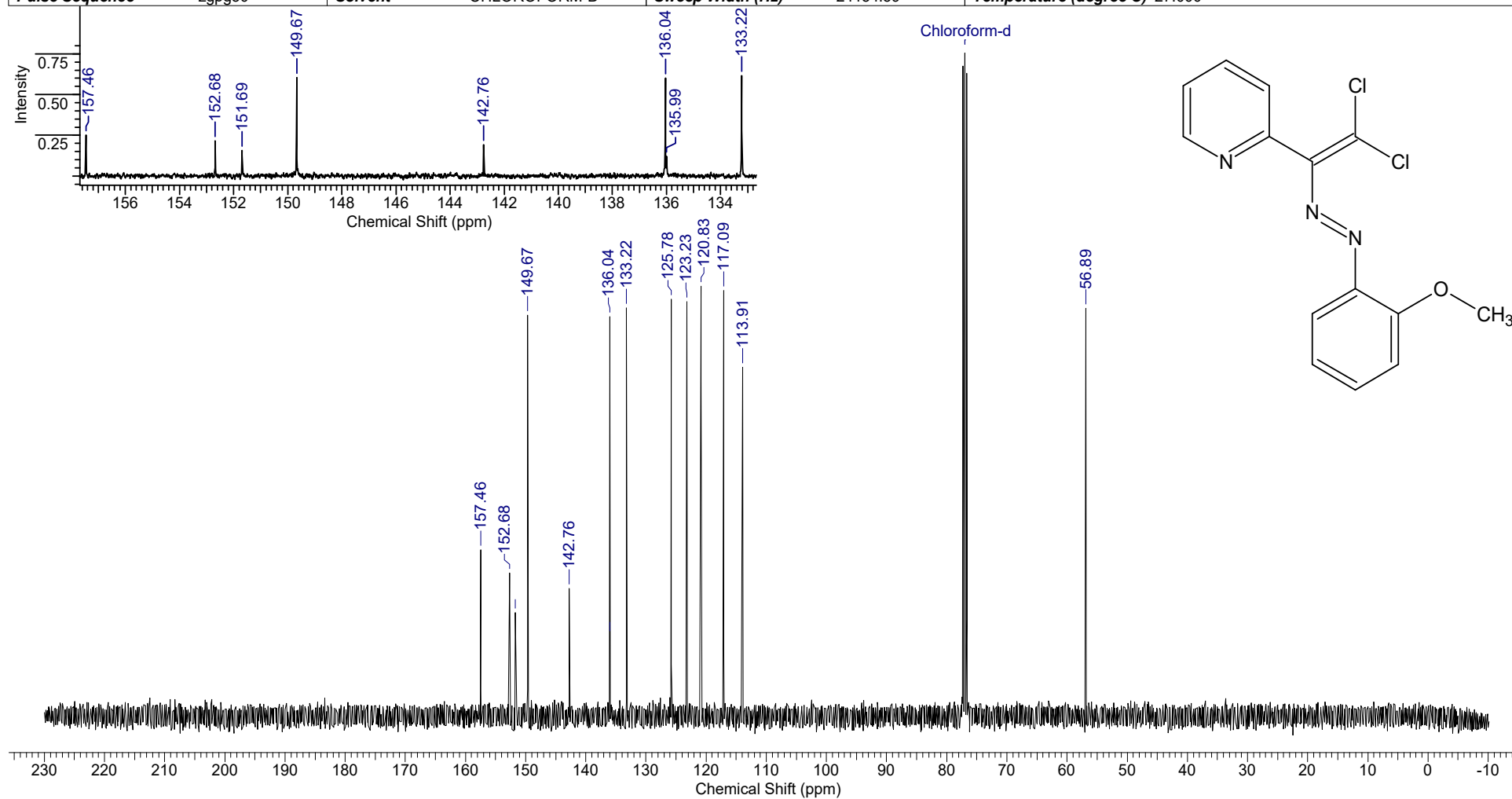
^{13}C NMR spectrum of **1r** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXMNR.		Date	18 Feb 2020 14:22:08	
File Name		Number of Transients	4	Original Points Count	32768	Frequency (MHz)	400.13
Nucleus	1H	Solvent	CHLOROFORM-D		Points Count	131072	
Pulse Sequence	zg30	Temperature (degree C)	27.000		Sweep Width (Hz)	8012.82	



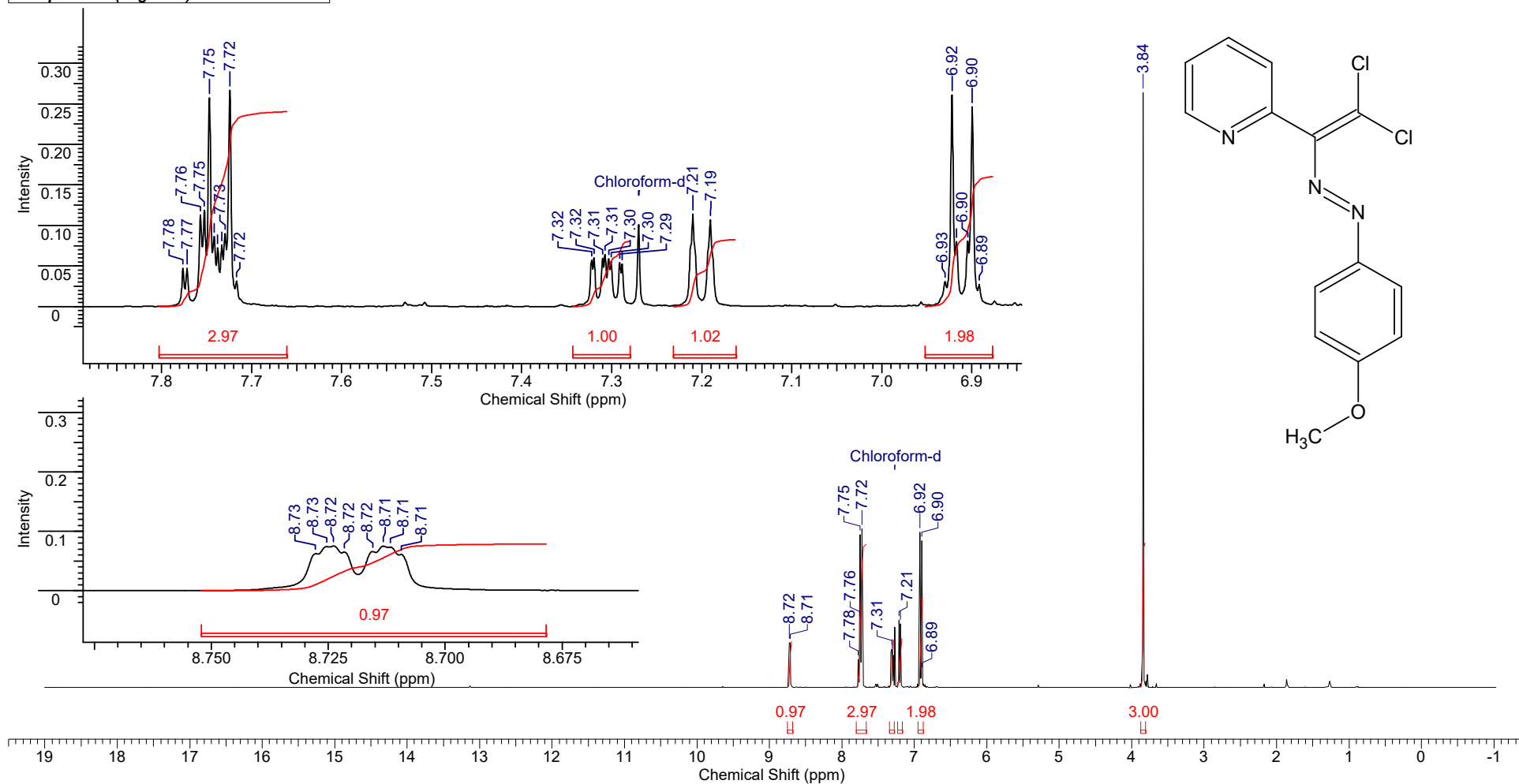
^1H NMR spectrum of **1s** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.		Date	18 Feb 2020 14:31:22	
File Name		Number of Transients	161	Original Points Count	16384	Frequency (MHz)	100.61
Nucleus	¹³ C	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Points Count	131072
Pulse Sequence	zgpg30					Temperature (degree C)	27.000



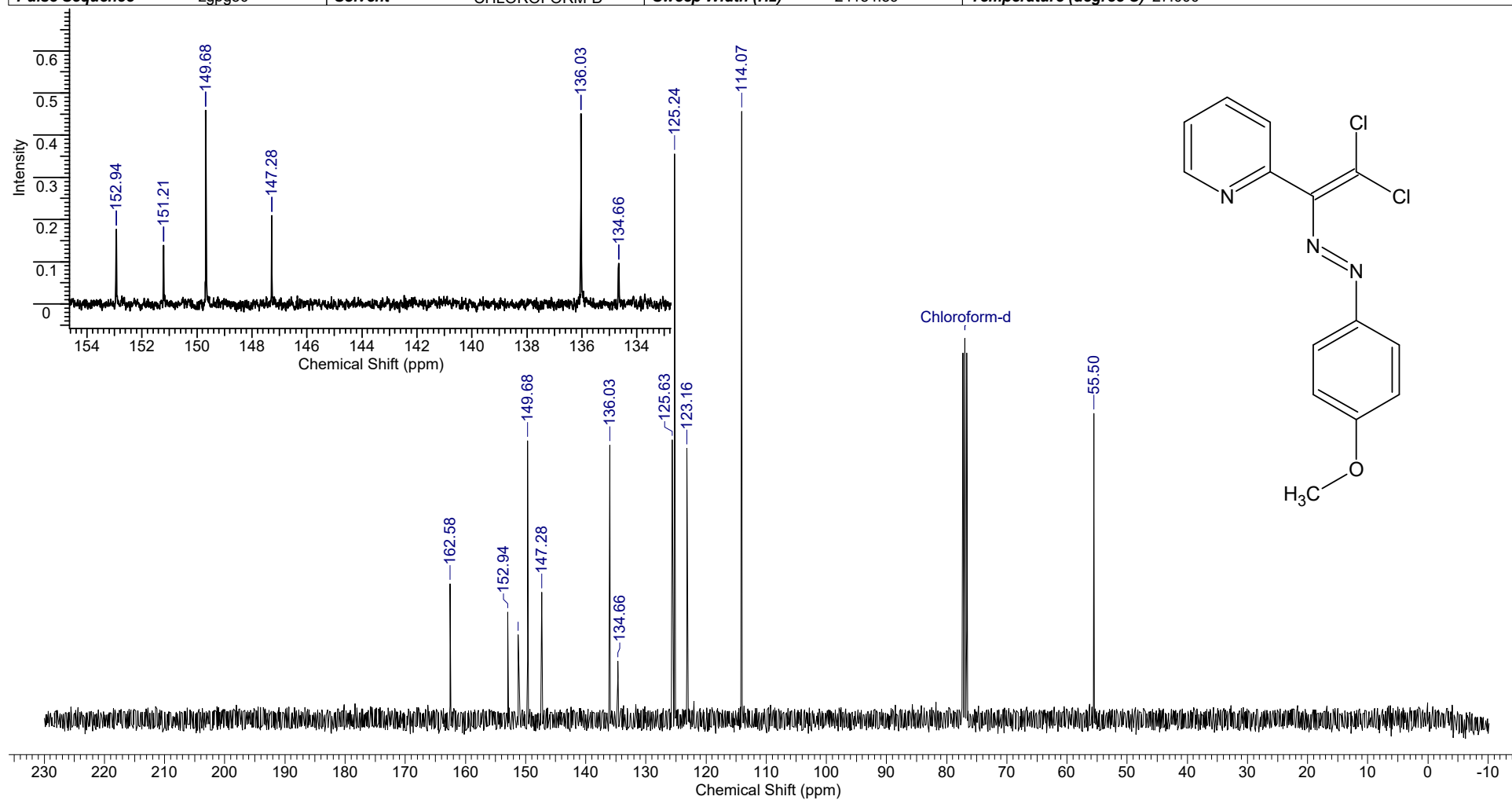
^{13}C NMR spectrum of **1s** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	21 Feb 2020 15:19:50	
File Name		Number of Transients	4	Original Points Count	32768	Frequency (MHz)	400.13
Nucleus	1H	Solvent	CHLOROFORM-D		Points Count	131072	
Pulse Sequence	zg30	Sweep Width (Hz)	8012.82				
Temperature (degree C)	27.000						



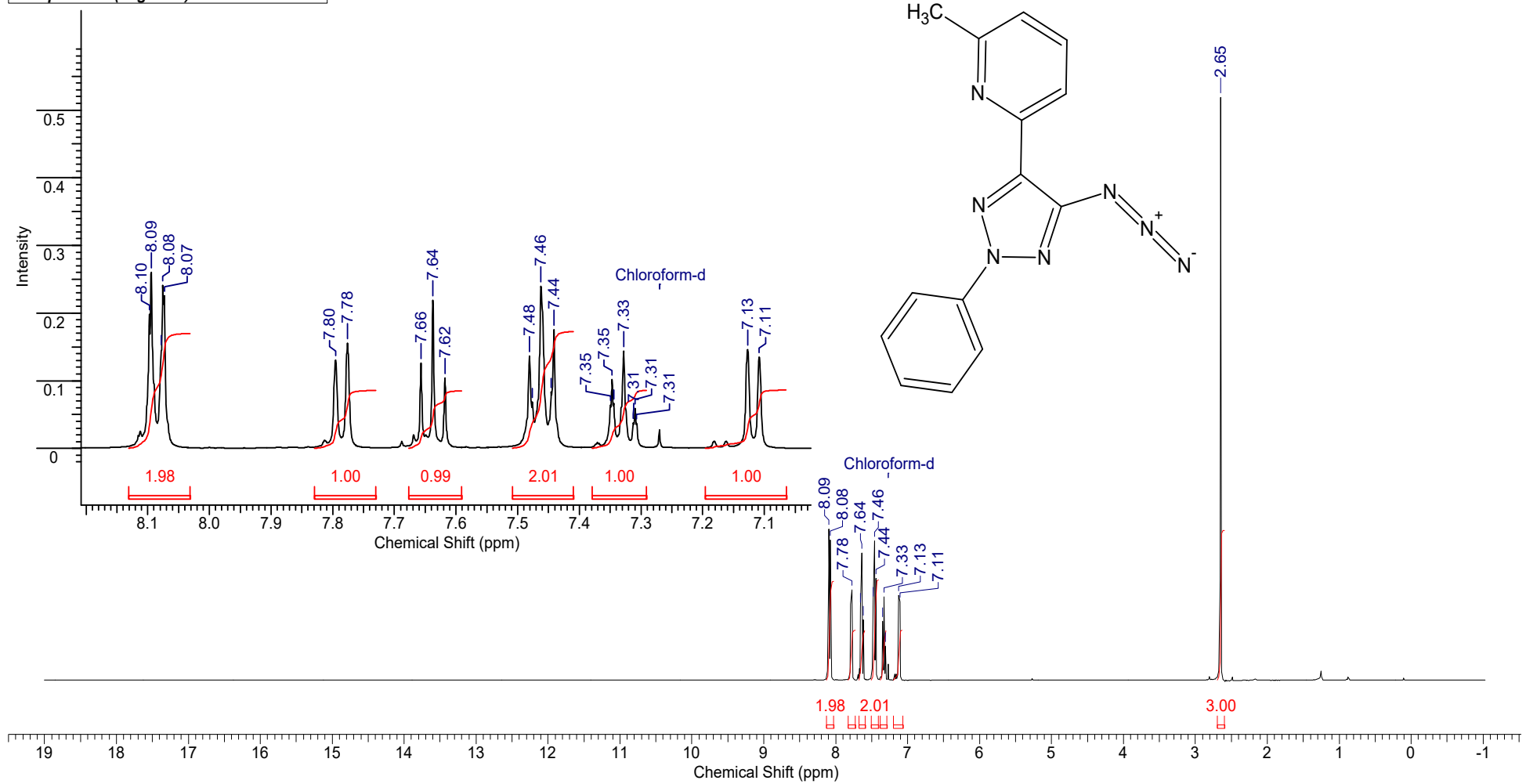
^1H NMR spectrum of **1t** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.		Date	21 Feb 2020 15:23:48	
File Name					Frequency (MHz)	100.61	
Nucleus	13C	Number of Transients	62	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000



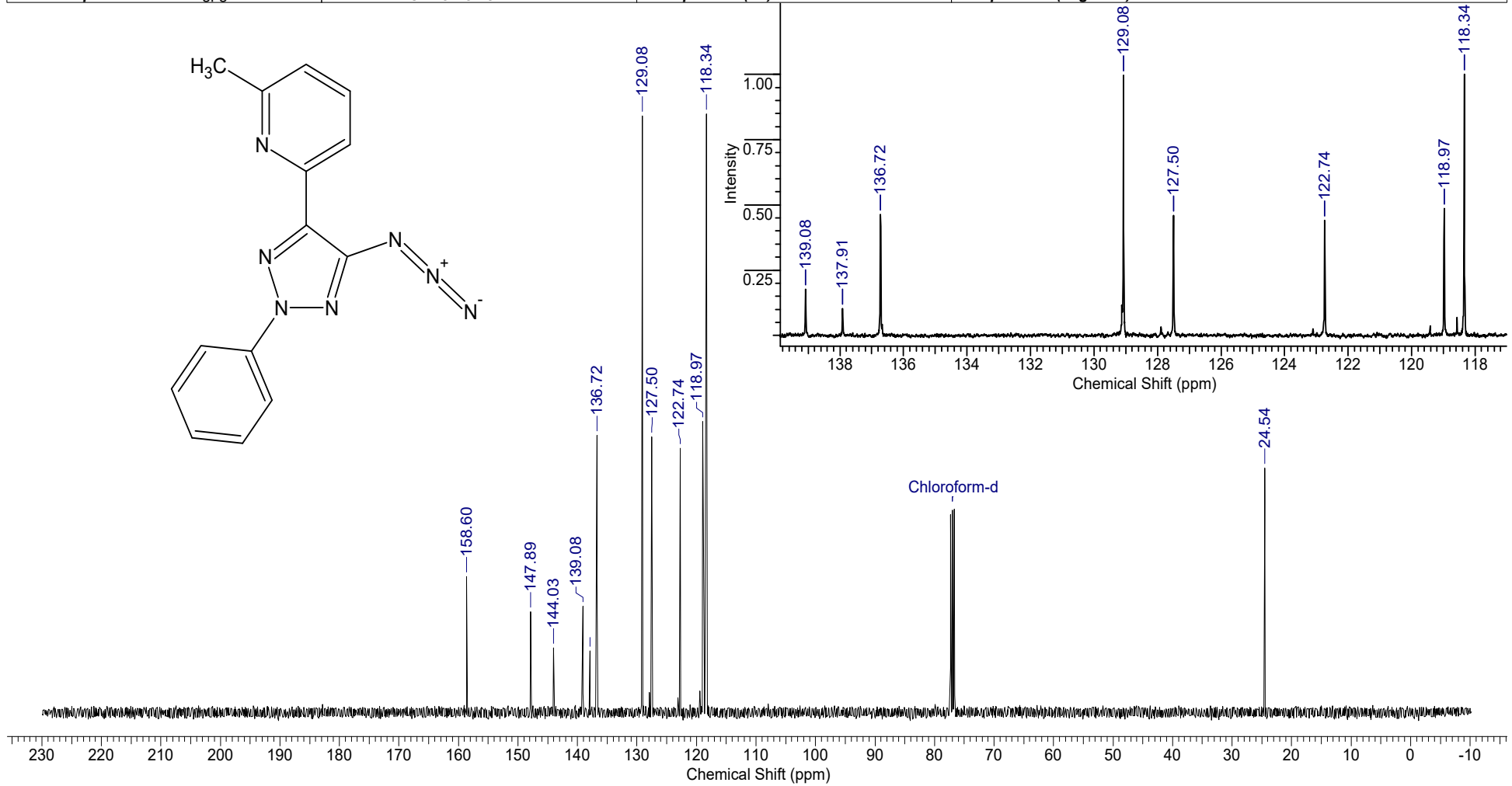
^{13}C NMR spectrum of **1t** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	04 Dec 2020 13:17:04
File Name		Number of Transients	4	Original Points Count	32768
Nucleus	¹ H	Solvent	CHLOROFORM-D	Frequency (MHz)	400.13
Pulse Sequence	zg30			Points Count	131072
Temperature (degree C)	27.000			Sweep Width (Hz)	8012.82



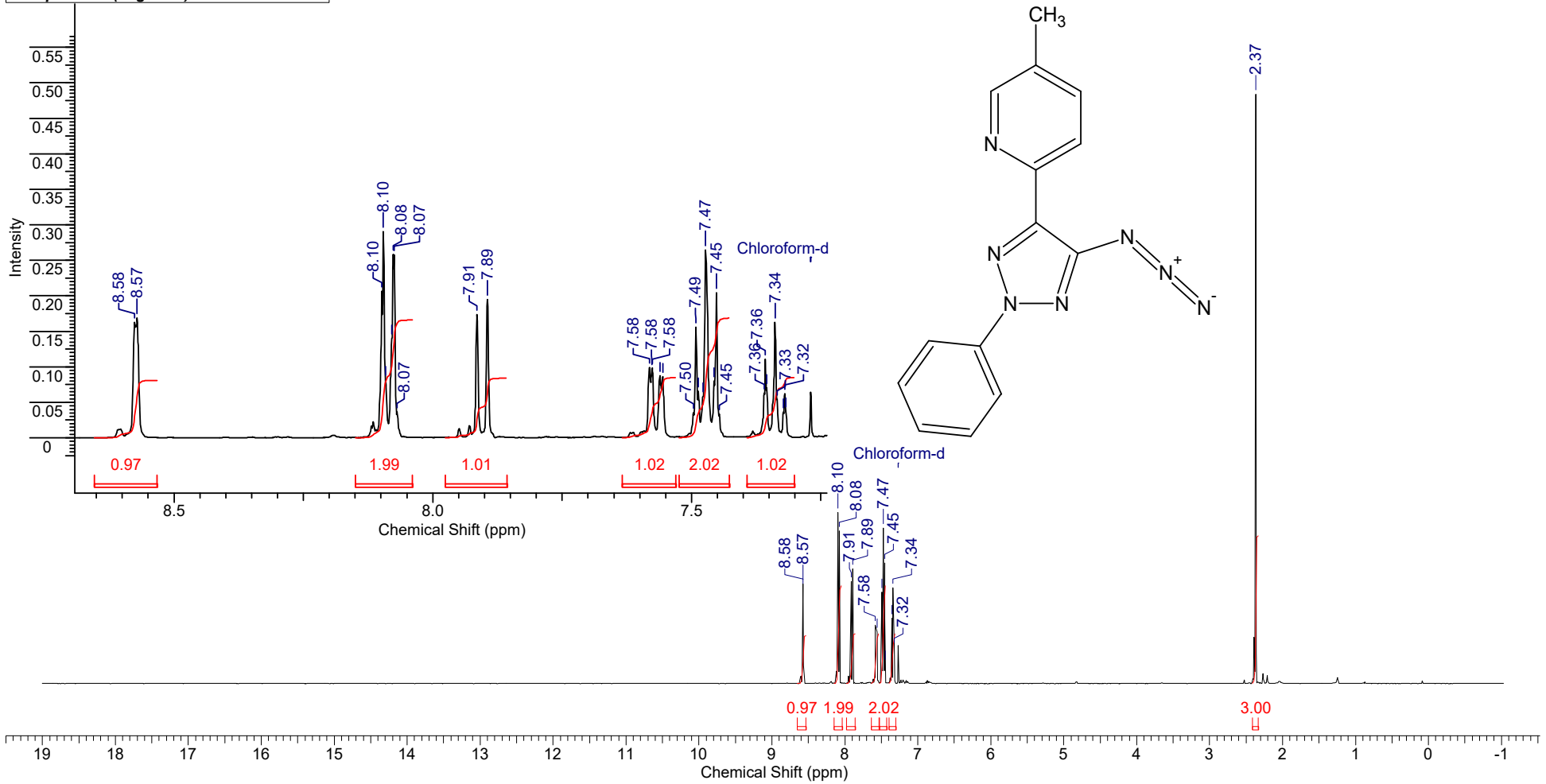
^1H NMR spectrum of **2c** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.	Date	04 Dec 2020 13:21:20
File Name		Number of Transients	65	Frequency (MHz)	100.61
Nucleus	¹³ C	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59
				Temperature (degree C)	27.000



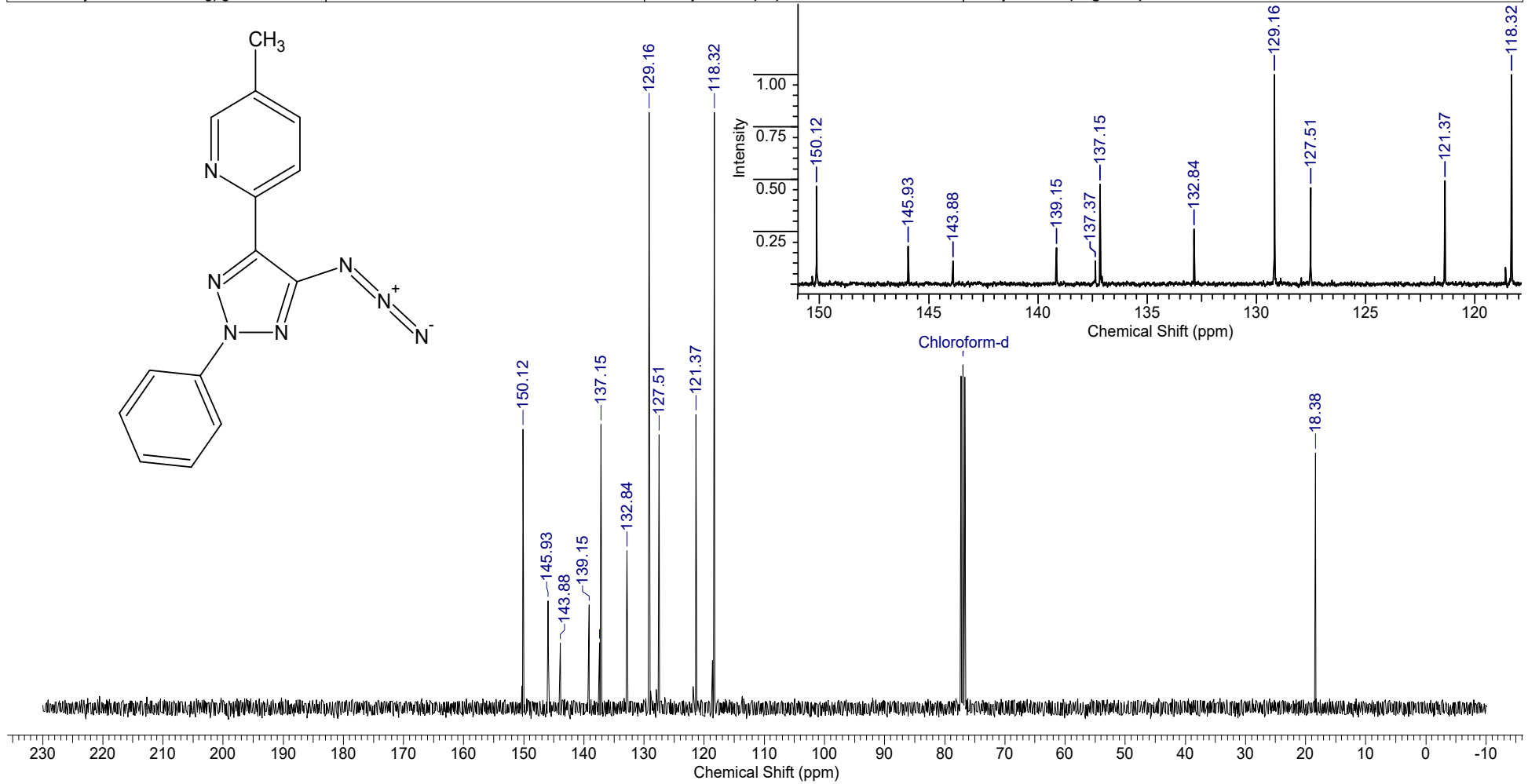
^{13}C NMR spectrum of **2c** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXMNR.		Date	30 Jan 2021 13:25:44	
File Name					Frequency (MHz)	400.13	
Nucleus	1H	Number of Transients	4	Original Points Count	32768	Points Count	131072
Pulse Sequence	zg30	Solvent	CHLOROFORM-D		Sweep Width (Hz)	8012.82	
Temperature (degree C)	27.000						



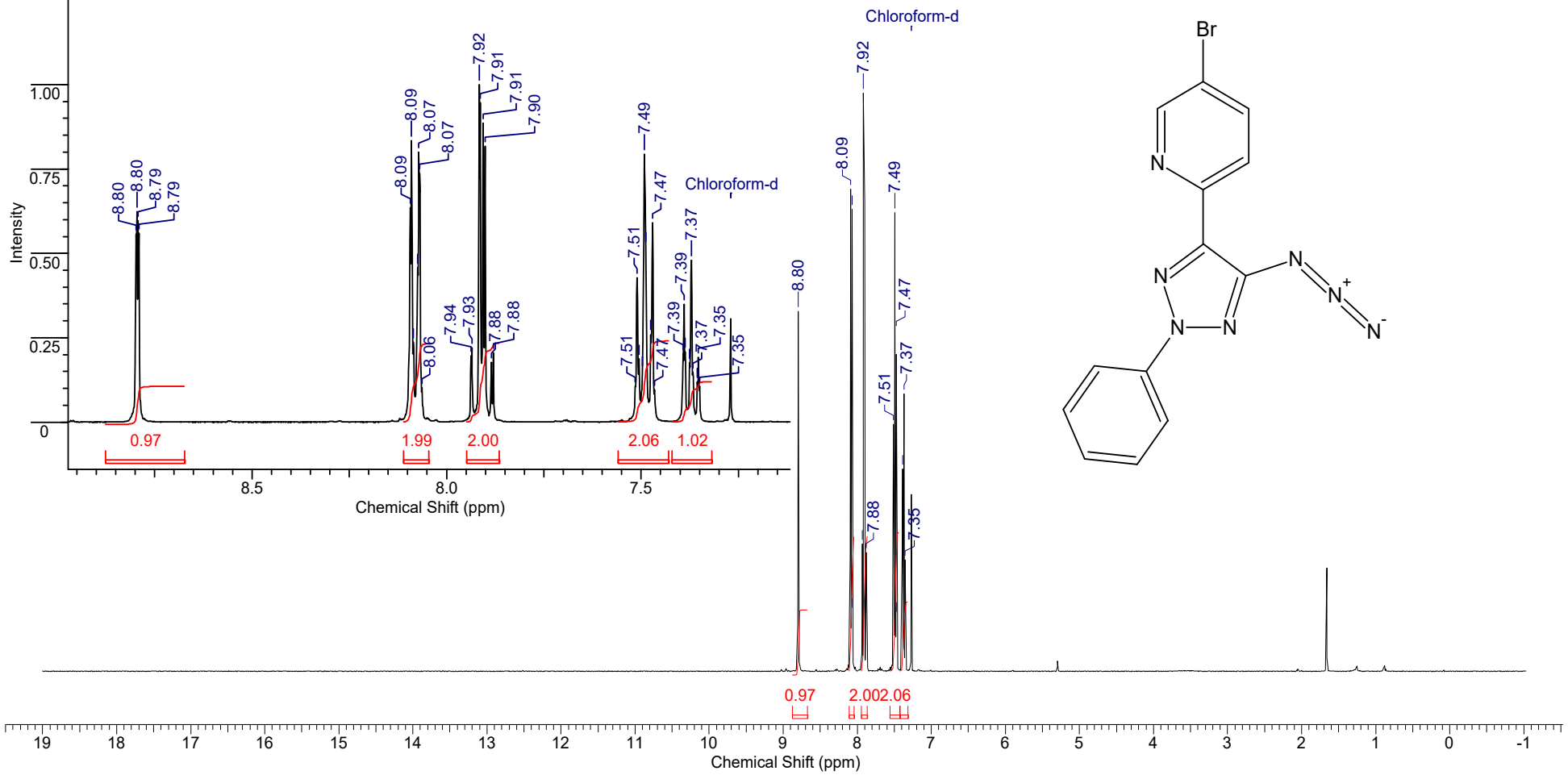
^1H NMR spectrum of **2d** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.		Date	30 Jan 2021 13:32:36	
File Name		Number of Transients	121	Original Points Count	16384	Frequency (MHz)	100.61
Nucleus	¹³ C	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Points Count	131072
Pulse Sequence	zgpg30					Temperature (degree C)	27.000



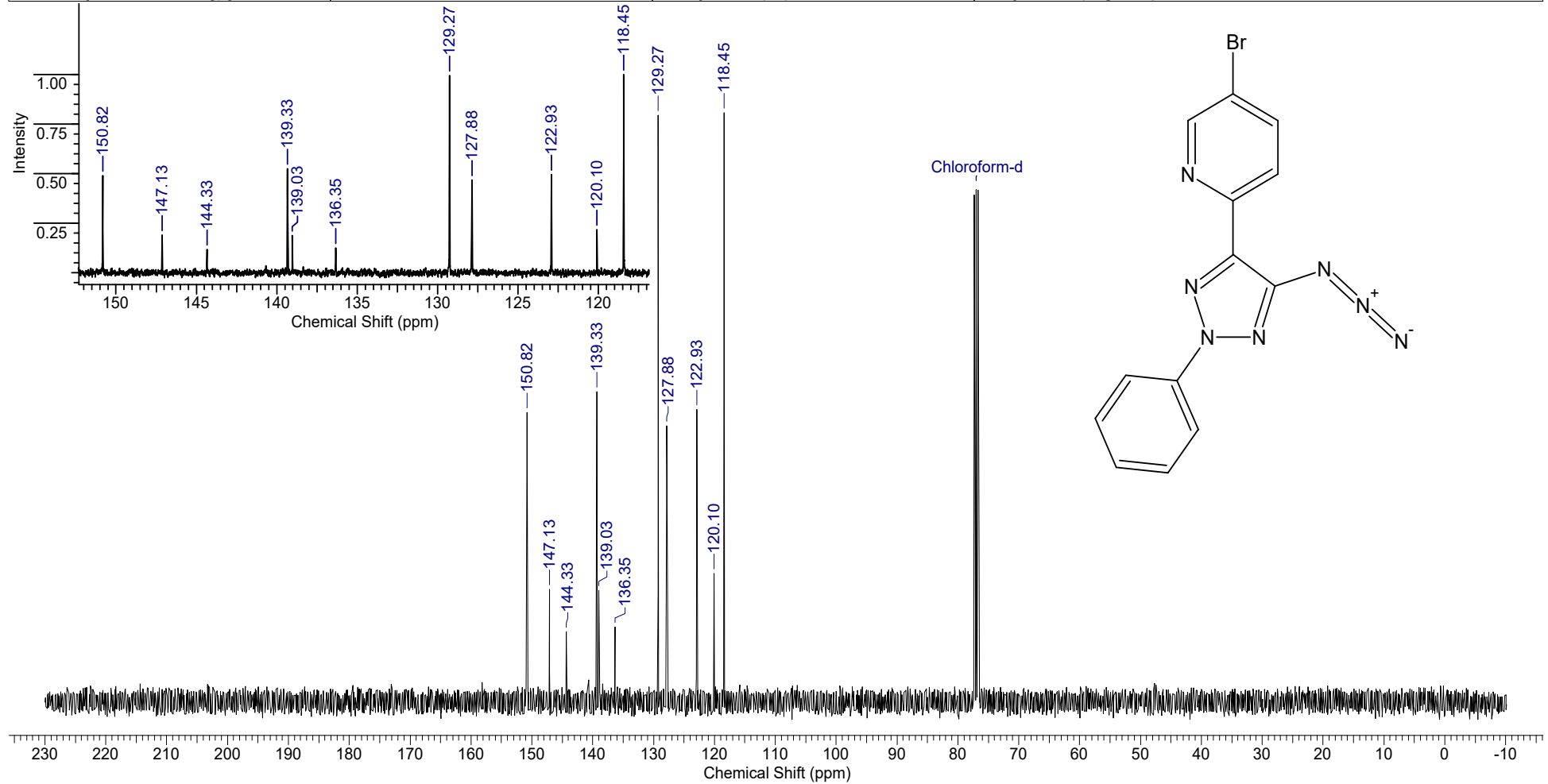
^{13}C NMR spectrum of **2d** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	27 Jan 2021 17:54:28
File Name		Number of Transients	4	Original Points Count	Frequency (MHz)	400.13
Nucleus	1H	Solvent	CHLOROFORM-D		Points Count	131072
Pulse Sequence	zg30				Sweep Width (Hz)	8012.82
Temperature (degree C)	27.000					



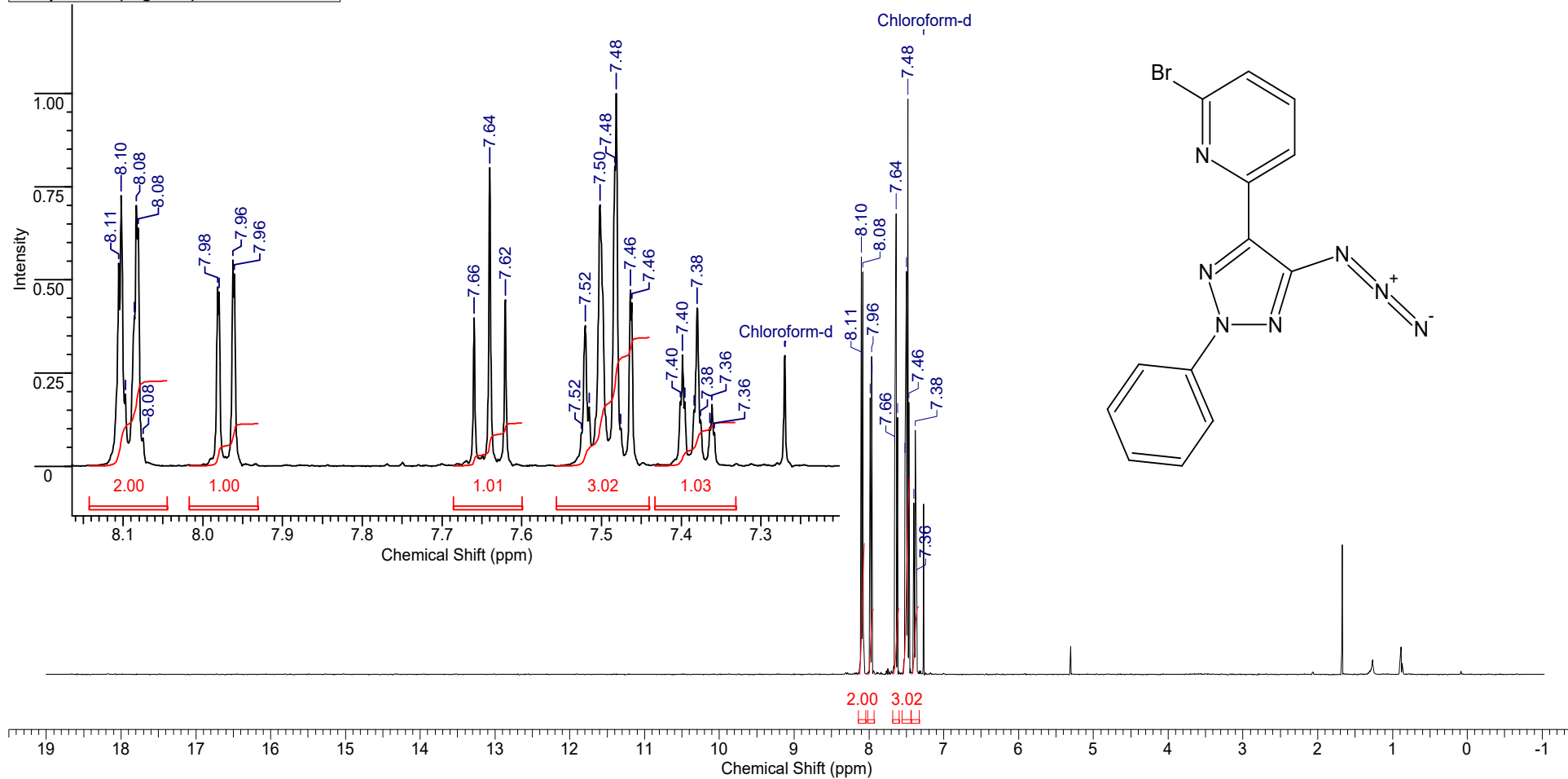
^1H NMR spectrum of **2e** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.		Date	27 Jan 2021 17:58:20	
File Name		Number of Transients	81	Original Points Count	16384	Frequency (MHz)	100.61
Nucleus	¹³ C	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Points Count	131072
Pulse Sequence	zgpg30					Temperature (degree C)	27.000



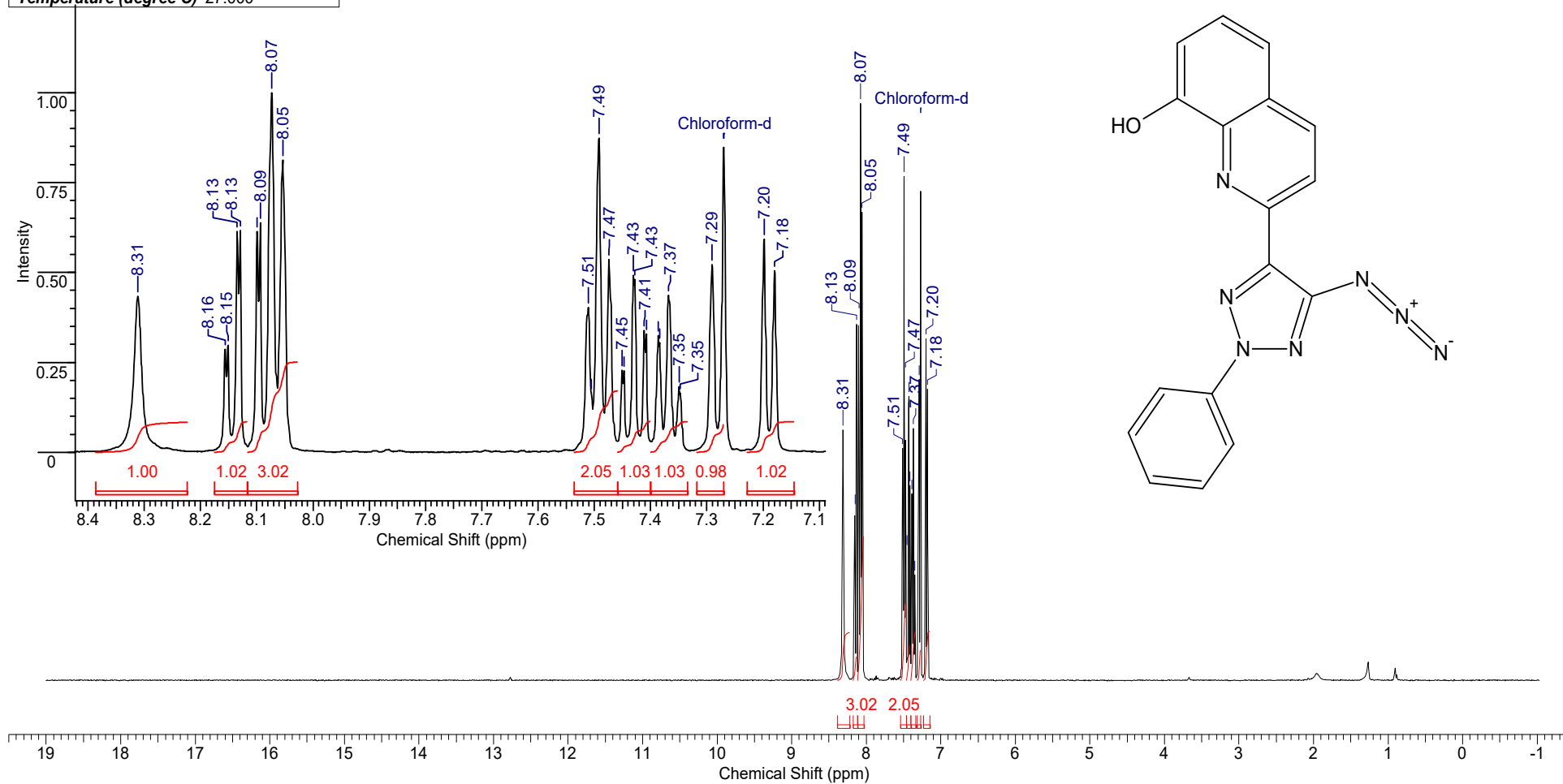
^{13}C NMR spectrum of **2e** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXMNR.		Date	27 Jan 2021 17:41:14	
File Name		Number of Transients	4	Original Points Count	32768	Frequency (MHz)	400.13
Nucleus	¹ H	Solvent	CHLOROFORM-D		Points Count	131072	
Pulse Sequence	zg30	Temperature (degree C)	27.000		Sweep Width (Hz)	8012.82	



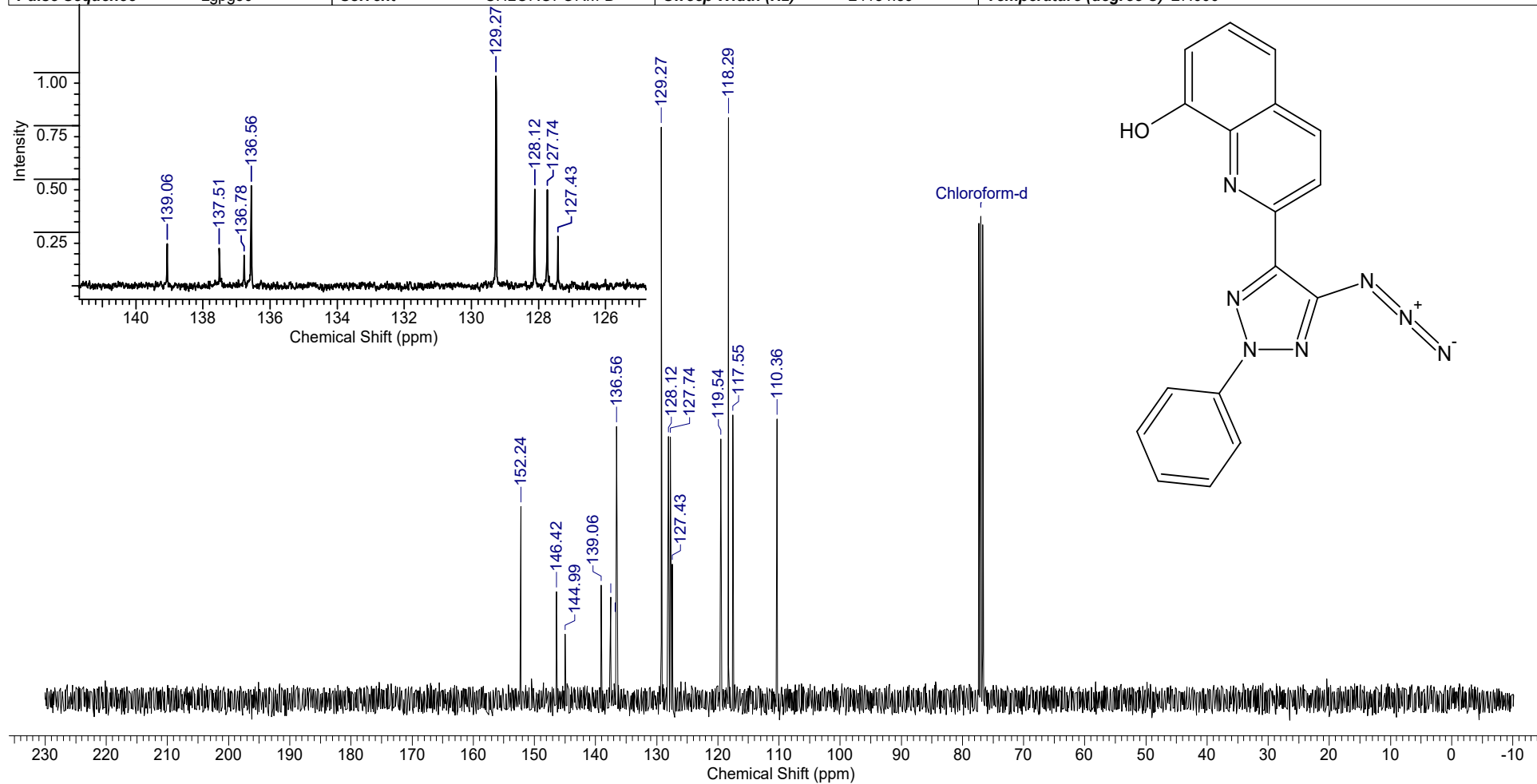
^{13}C NMR spectrum of **2f** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXMNR.		Date	06 Mar 2020 15:35:38
File Name		Number of Transients	4	Original Points Count	Frequency (MHz)	400.13
Nucleus	¹ H	Solvent	CHLOROFORM-D		Points Count	131072
Pulse Sequence	zg30	Temperature (degree C)	27.000		Sweep Width (Hz)	8012.82



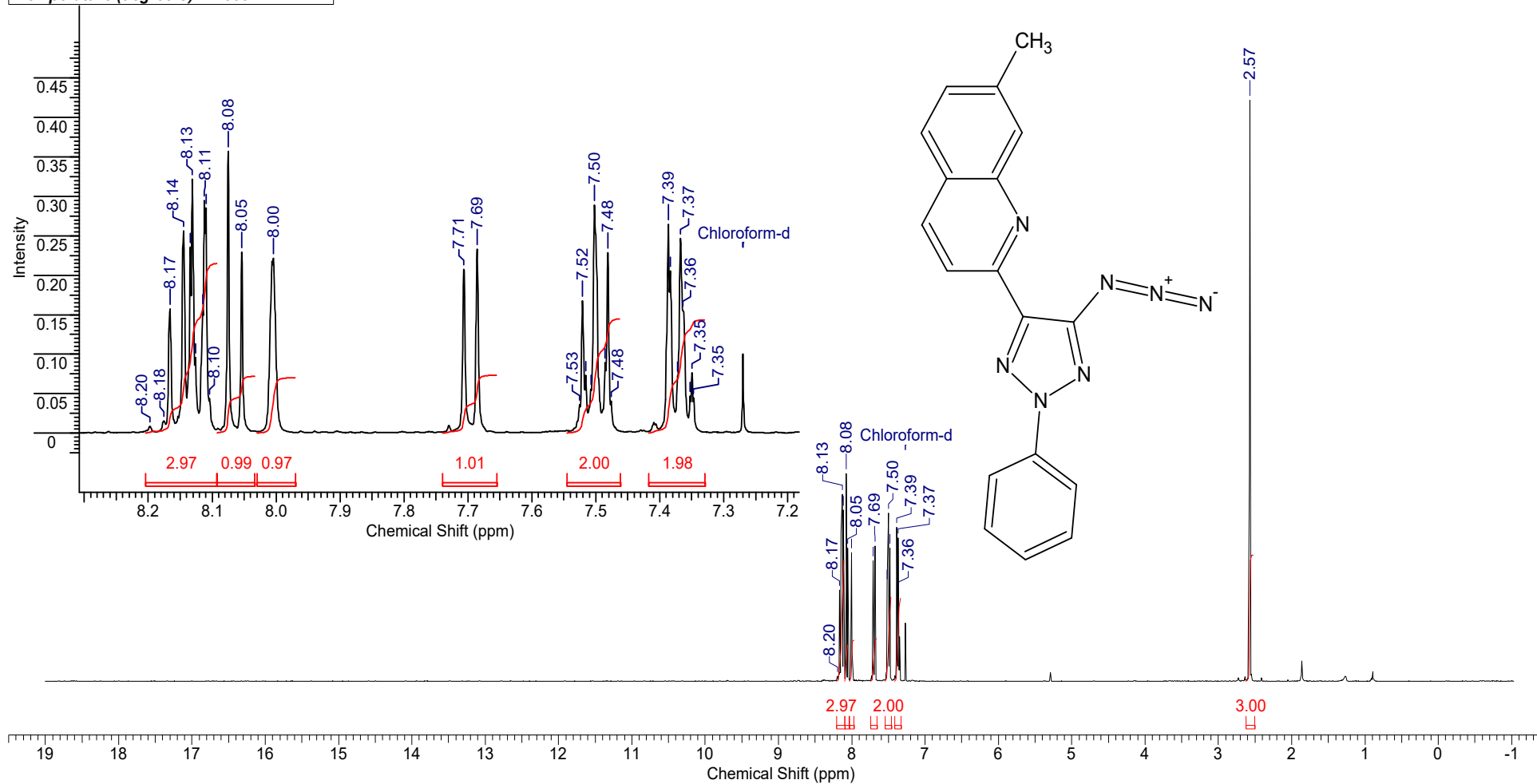
^1H NMR spectrum of **2g** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	06 Mar 2020 15:38:26	
File Name		Number of Transients	57	Original Points Count	16384	Frequency (MHz)	100.61
Nucleus	¹³ C	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Points Count	131072
Pulse Sequence	zgpg30					Temperature (degree C)	27.000



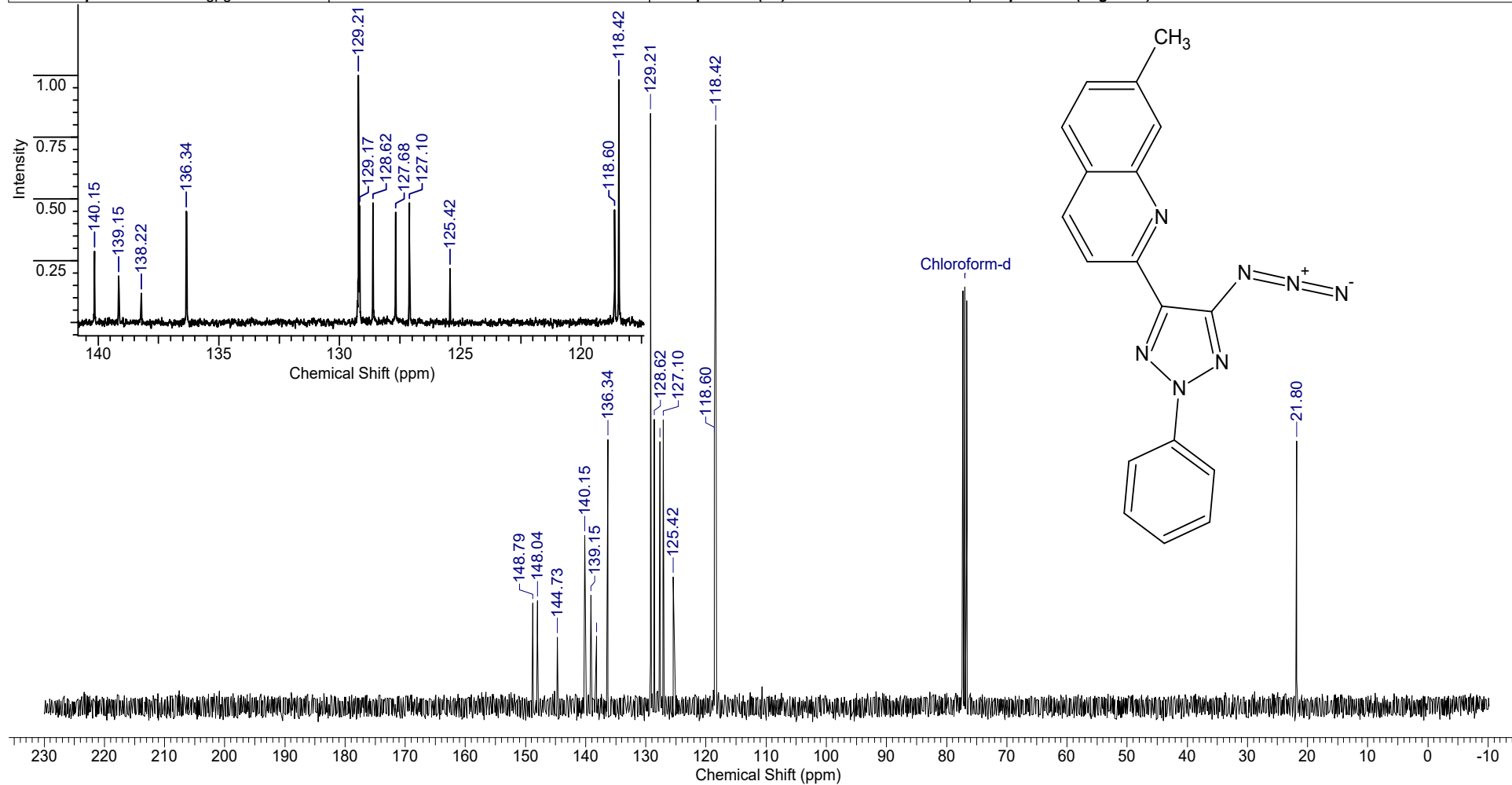
^{13}C NMR spectrum of **2g** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	25 Sep 2020 15:37:04
File Name		Number of Transients	4	Original Points Count	32768
Nucleus	1H	Solvent	CHLOROFORM-D	Frequency (MHz)	400.13
Pulse Sequence	zg30			Points Count	131072
Temperature (degree C)	27.000			Sweep Width (Hz)	8012.82



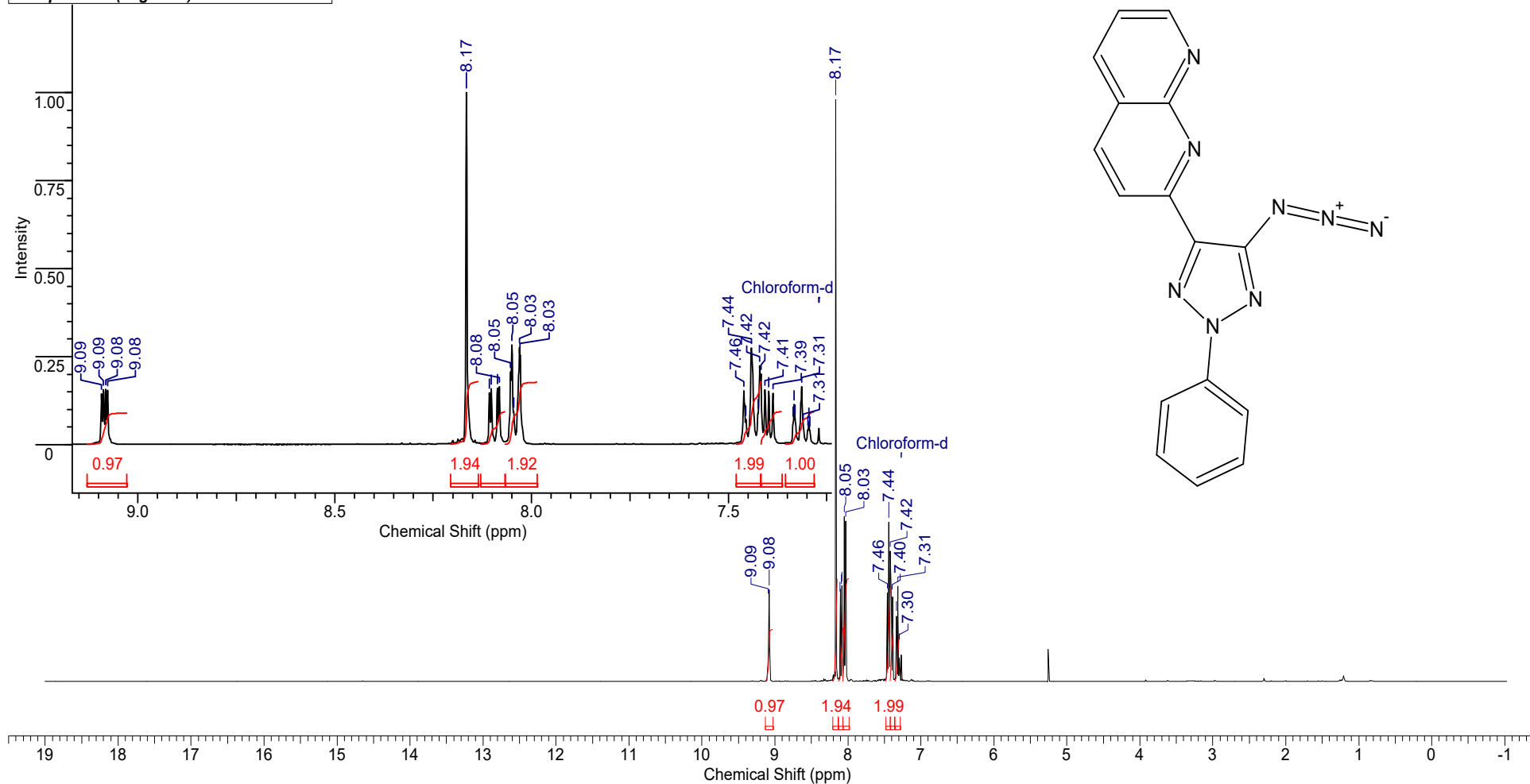
^1H NMR spectrum of **2h** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	25 Sep 2020 15:41:38	
File Name					Frequency (MHz)	100.61	
Nucleus	¹³ C	Number of Transients	65	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000



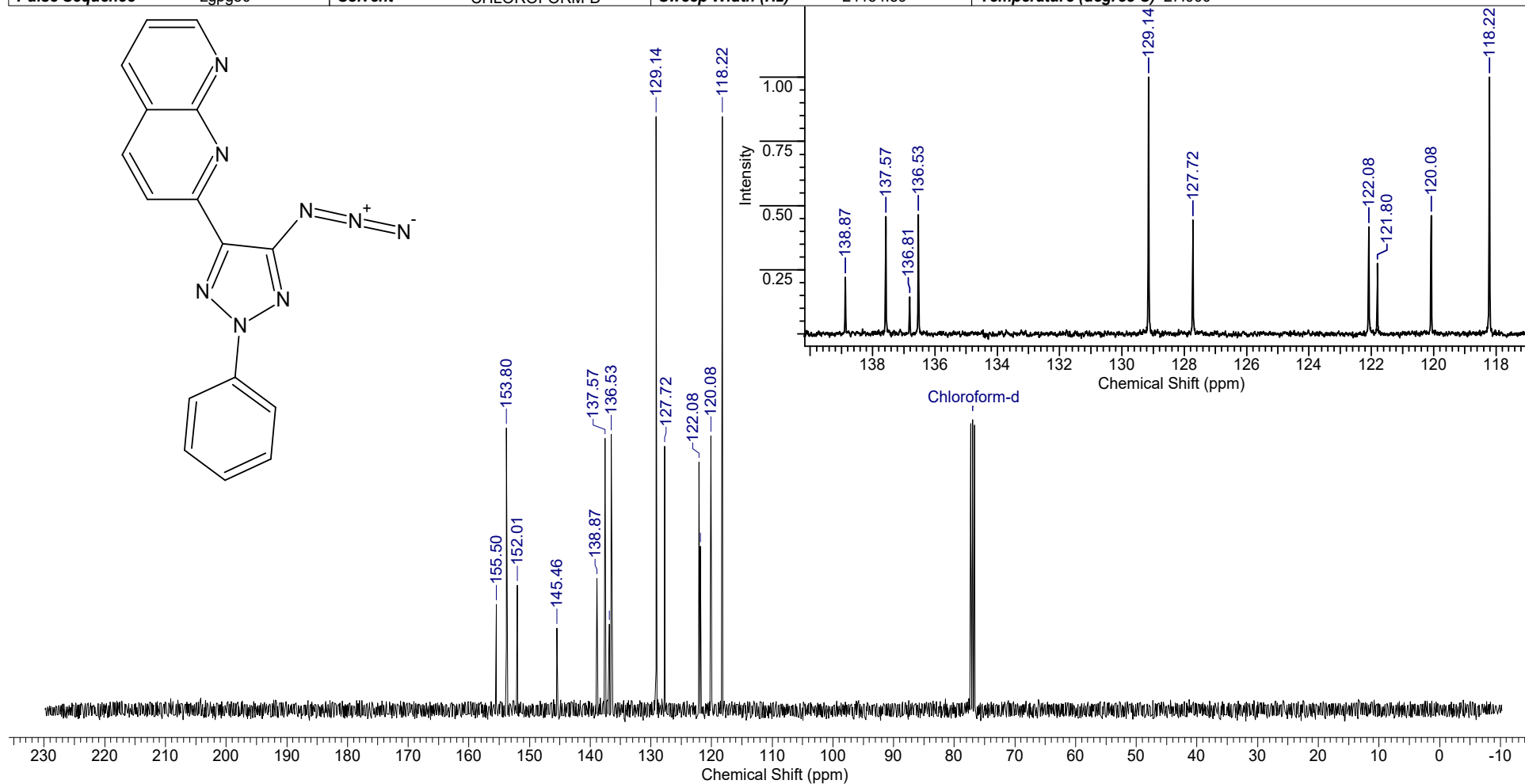
^{13}C NMR spectrum of **2h** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	14 Dec 2020 15:29:34
File Name		Number of Transients	4	Original Points Count	Frequency (MHz)	400.13
Nucleus	¹ H	Solvent	CHLOROFORM-D		Points Count	131072
Pulse Sequence	zg30	Temperature (degree C)	27.000		Sweep Width (Hz)	8012.82



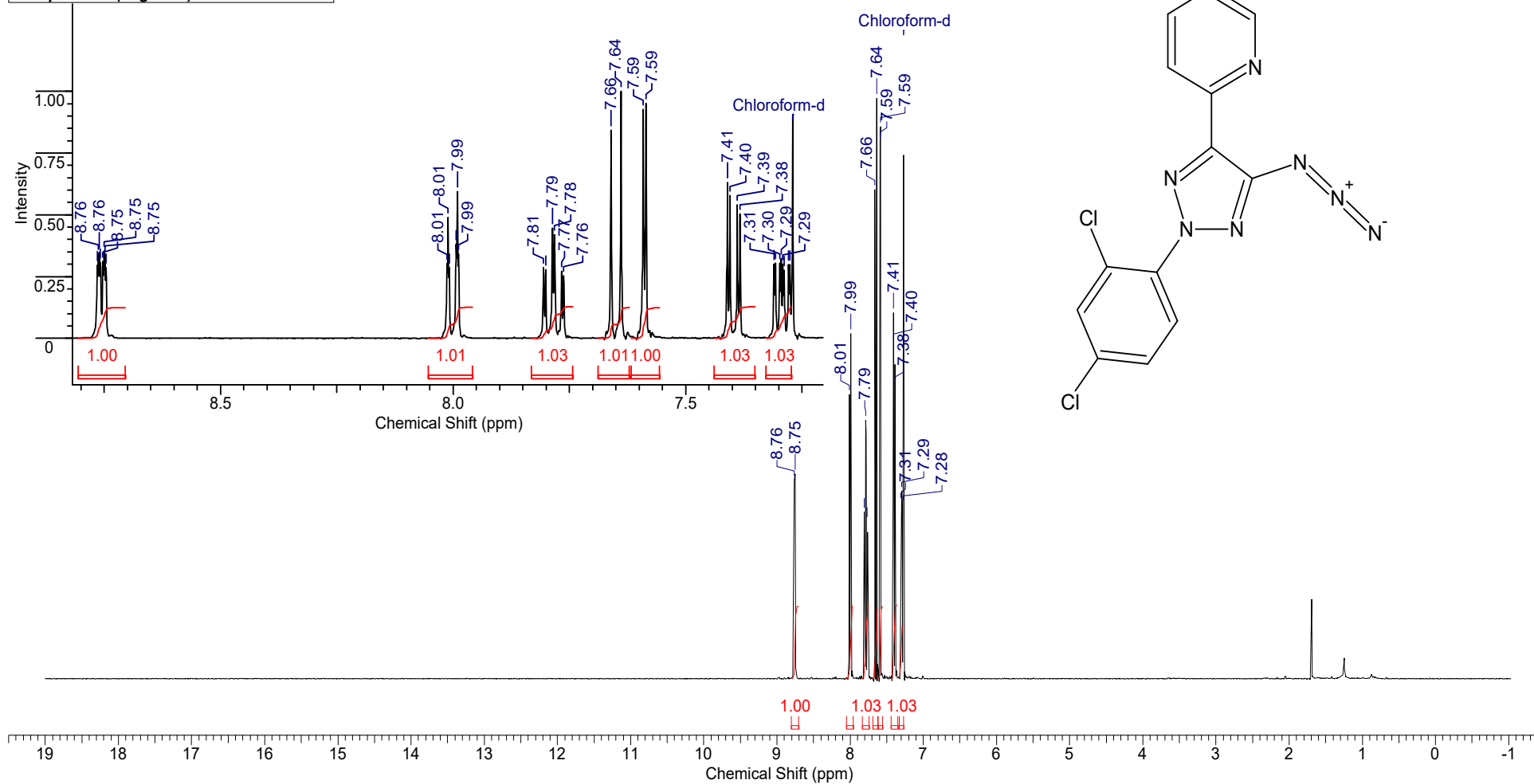
^1H NMR spectrum of **2i** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.		Date	14 Dec 2020 15:33:44	
File Name		Number of Transients	57	Original Points Count	16384	Frequency (MHz)	100.61
Nucleus	13C	Points Count		Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D				



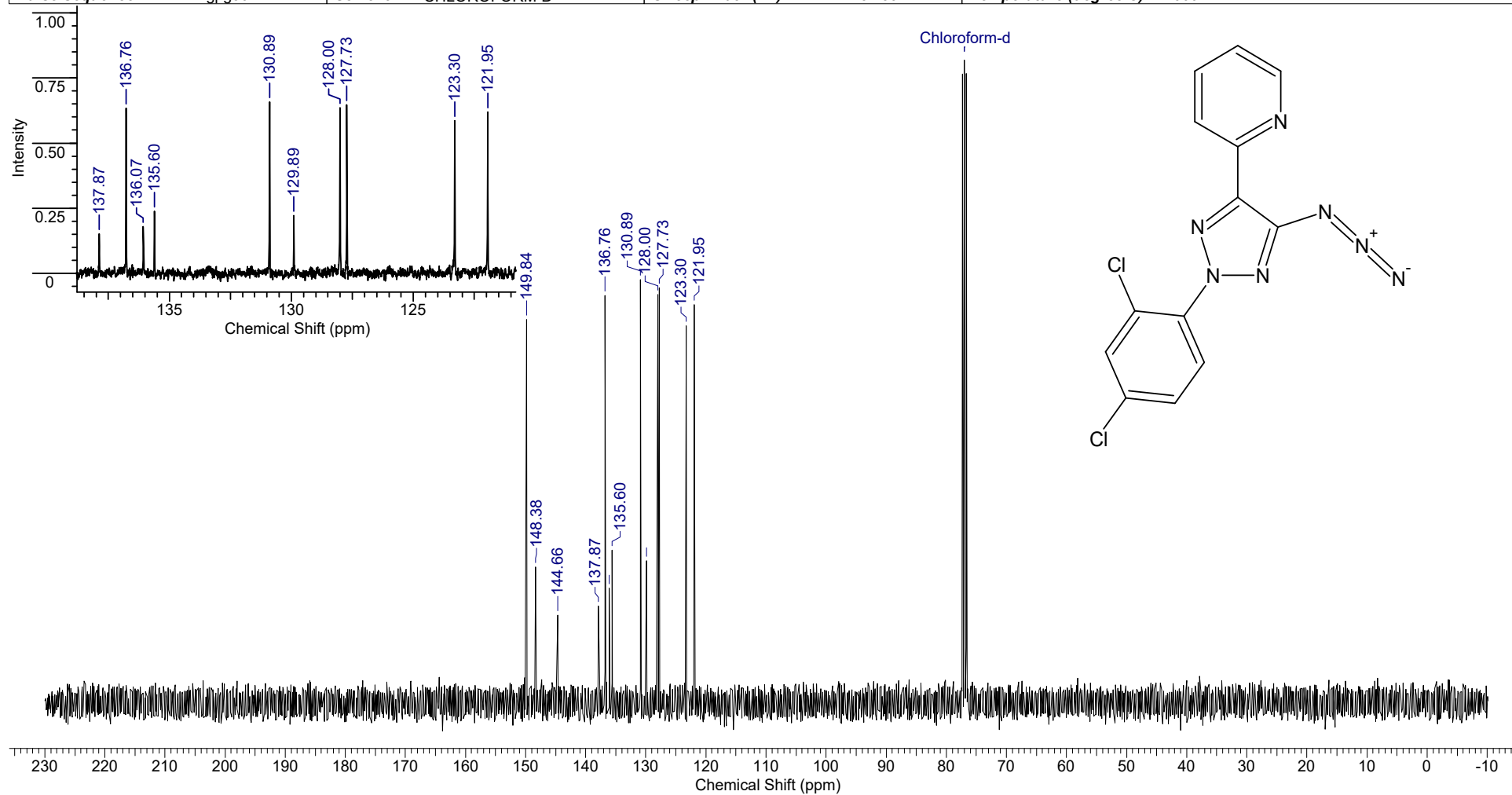
^{13}C NMR spectrum of **2i** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	02 Mar 2020 15:41:50
File Name		Number of Transients	4	Original Points Count	32768
Nucleus	¹ H	Solvent	CHLOROFORM-D	Frequency (MHz)	400.13
Pulse Sequence	zg30			Points Count	131072
Temperature (degree C)	27.000			Sweep Width (Hz)	8012.82



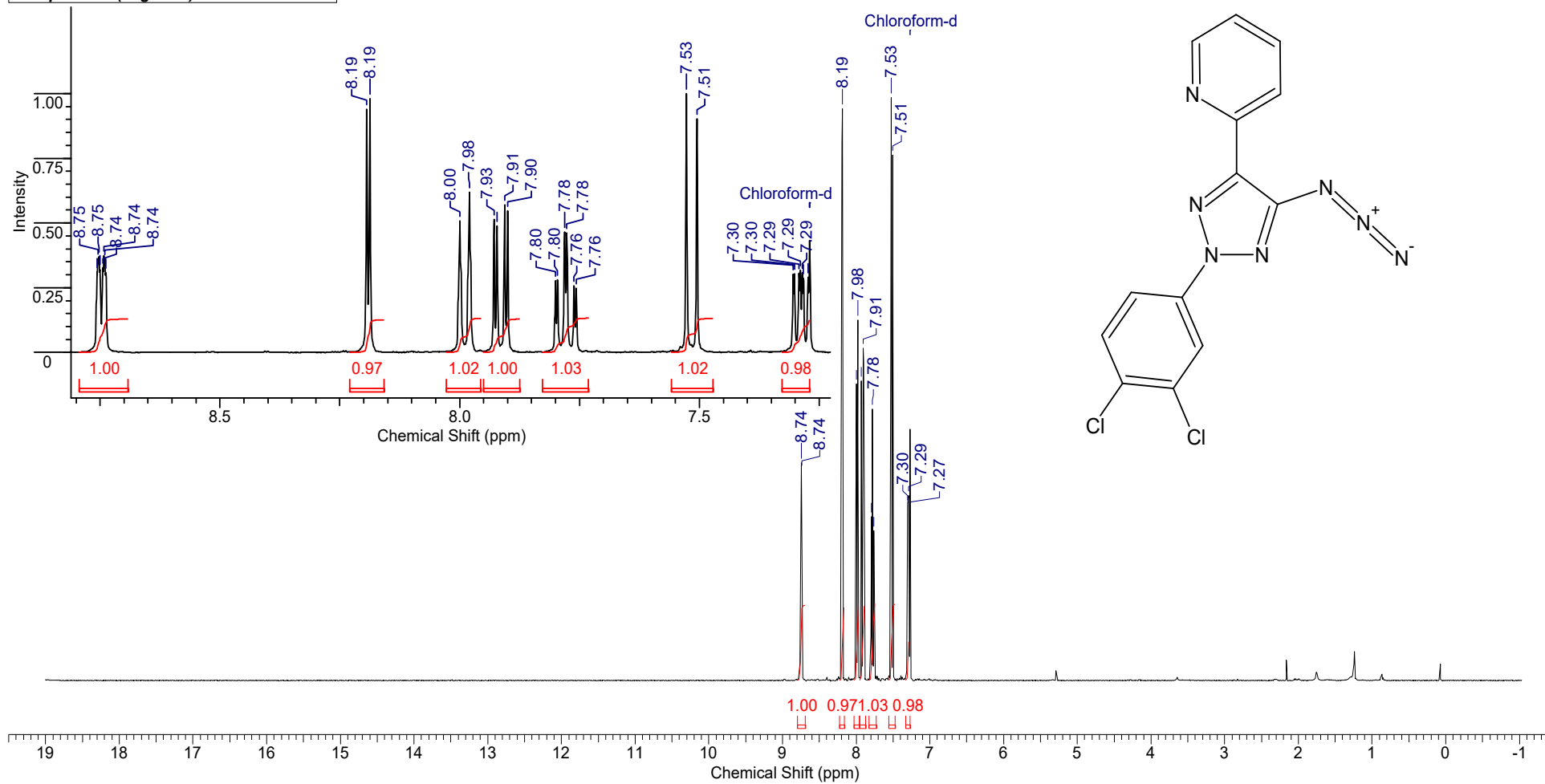
^1H NMR spectrum of **2j** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.		Date	28 Feb 2020 15:43:08	
File Name					Frequency (MHz)	100.61	
Nucleus	13C	Number of Transients	82	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000



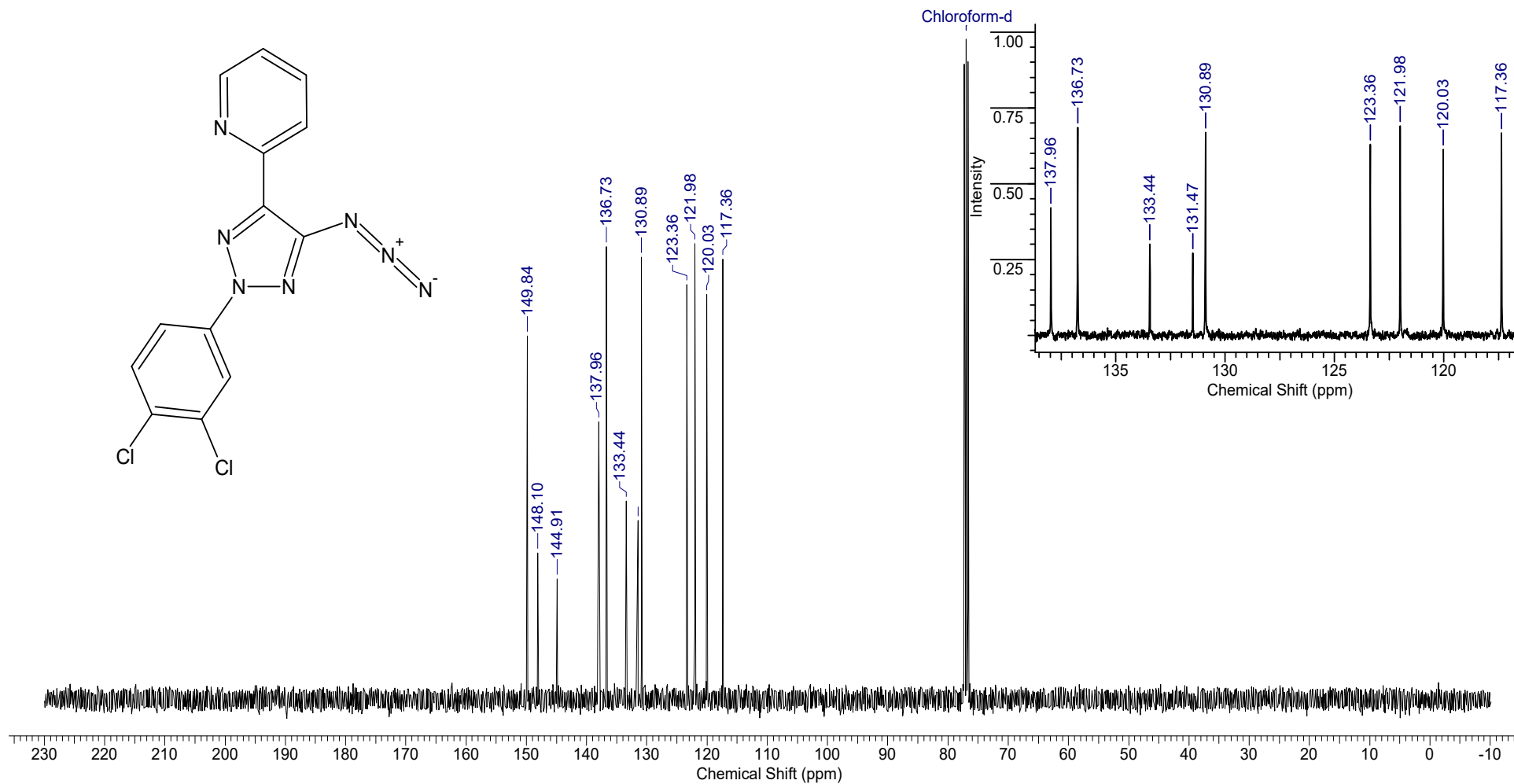
^{13}C NMR spectrum of **2j** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	11 Feb 2021 11:25:24
File Name				Frequency (MHz)	400.13
Nucleus	¹ H	Number of Transients	4	Original Points Count	32768
Pulse Sequence	zg30	Solvent	CHLOROFORM-D	Points Count	131072
Temperature (degree C)	27.000			Sweep Width (Hz)	8012.82



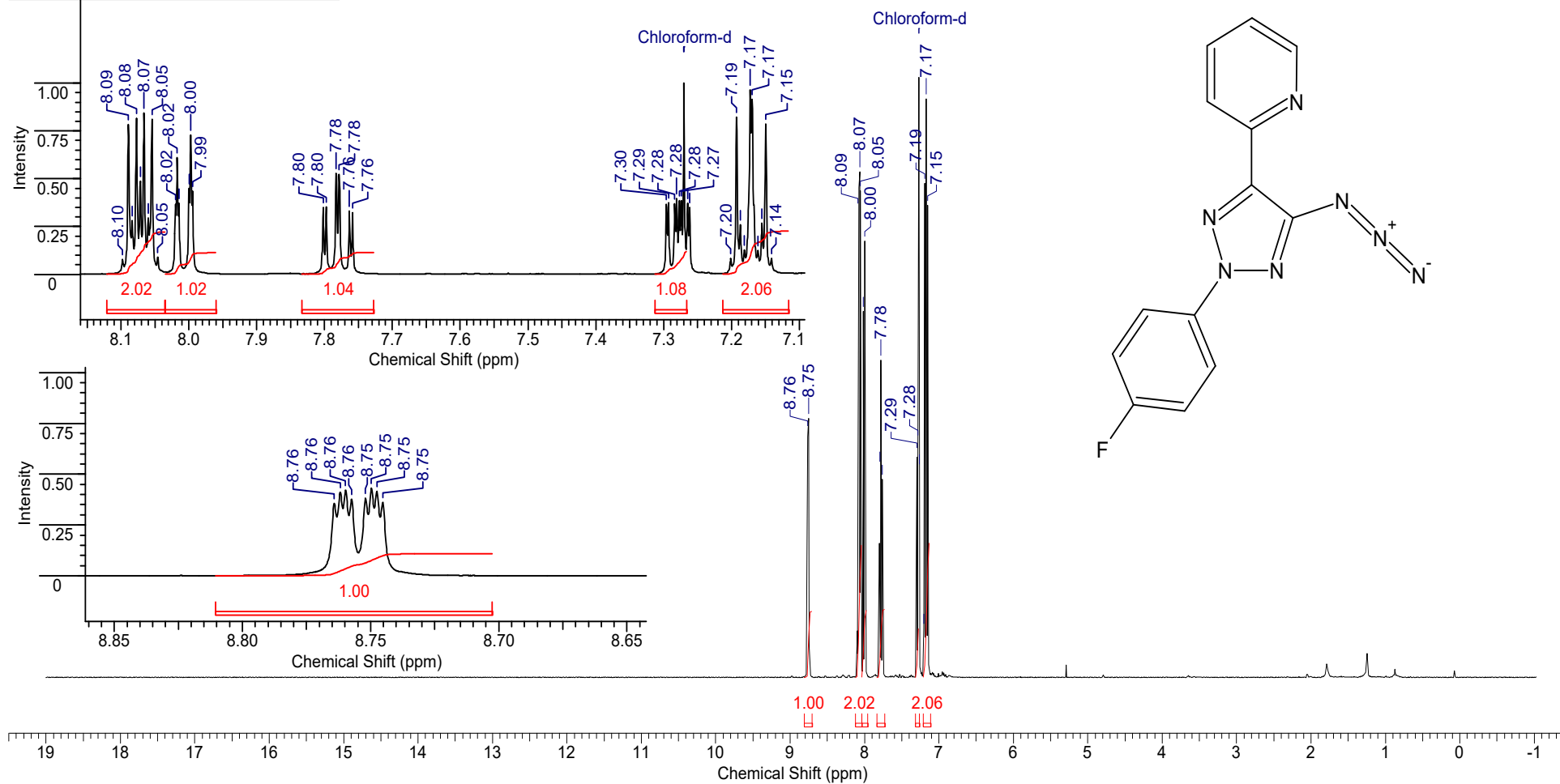
^1H NMR spectrum of **2k** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	12 Feb 2021 15:40:54	
File Name		Number of Transients	219	Original Points Count	16384	Frequency (MHz)	100.61
Nucleus	13C					Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000



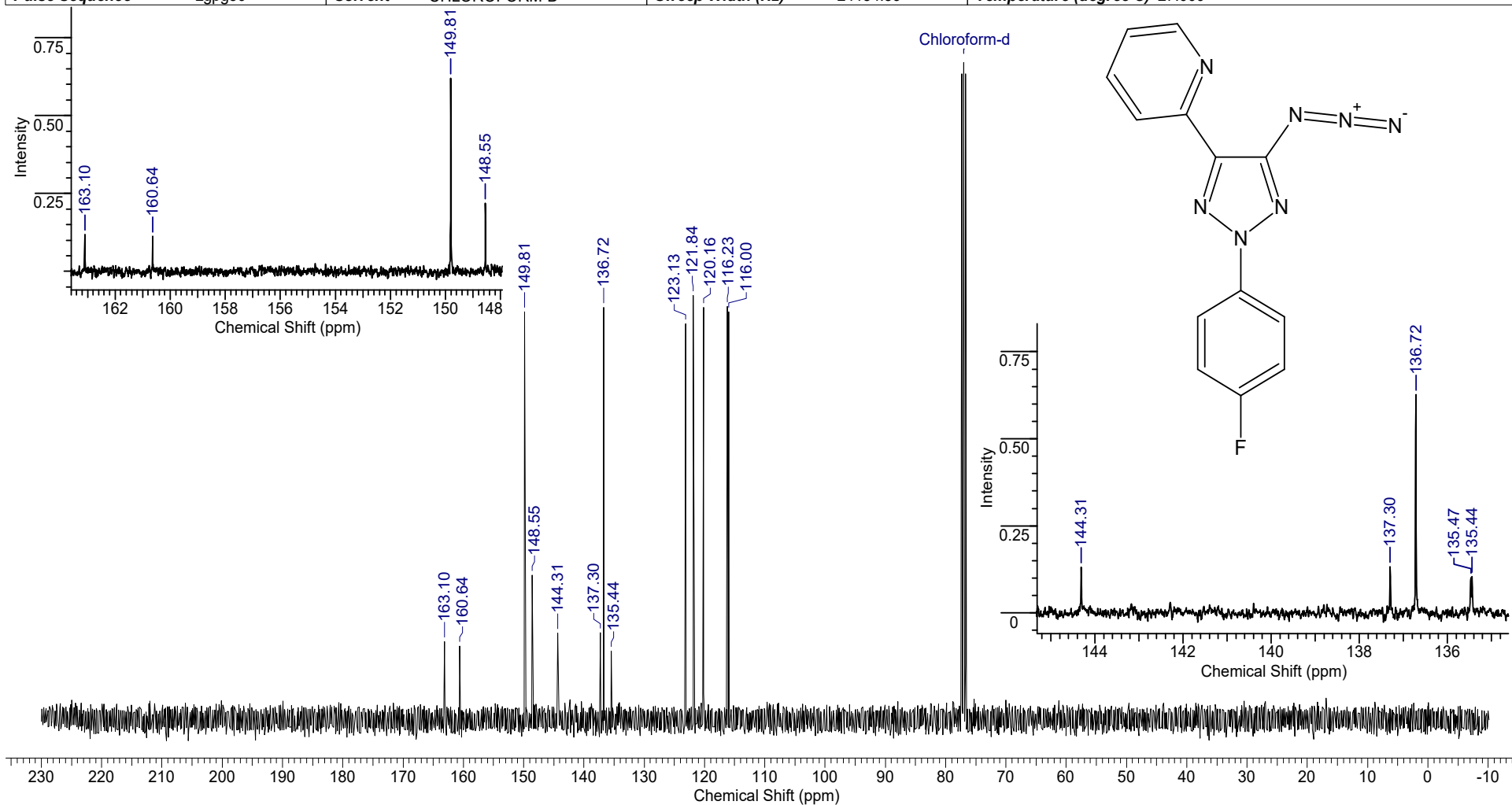
^{13}C NMR spectrum of **2k** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	26 Feb 2020 17:48:30
File Name				Frequency (MHz)	400.13
Nucleus	1H	Number of Transients	4	Original Points Count	32768
Pulse Sequence	zg30	Solvent	CHLOROFORM-D	Points Count	131072
Temperature (degree C)	27.000			Sweep Width (Hz)	8012.82



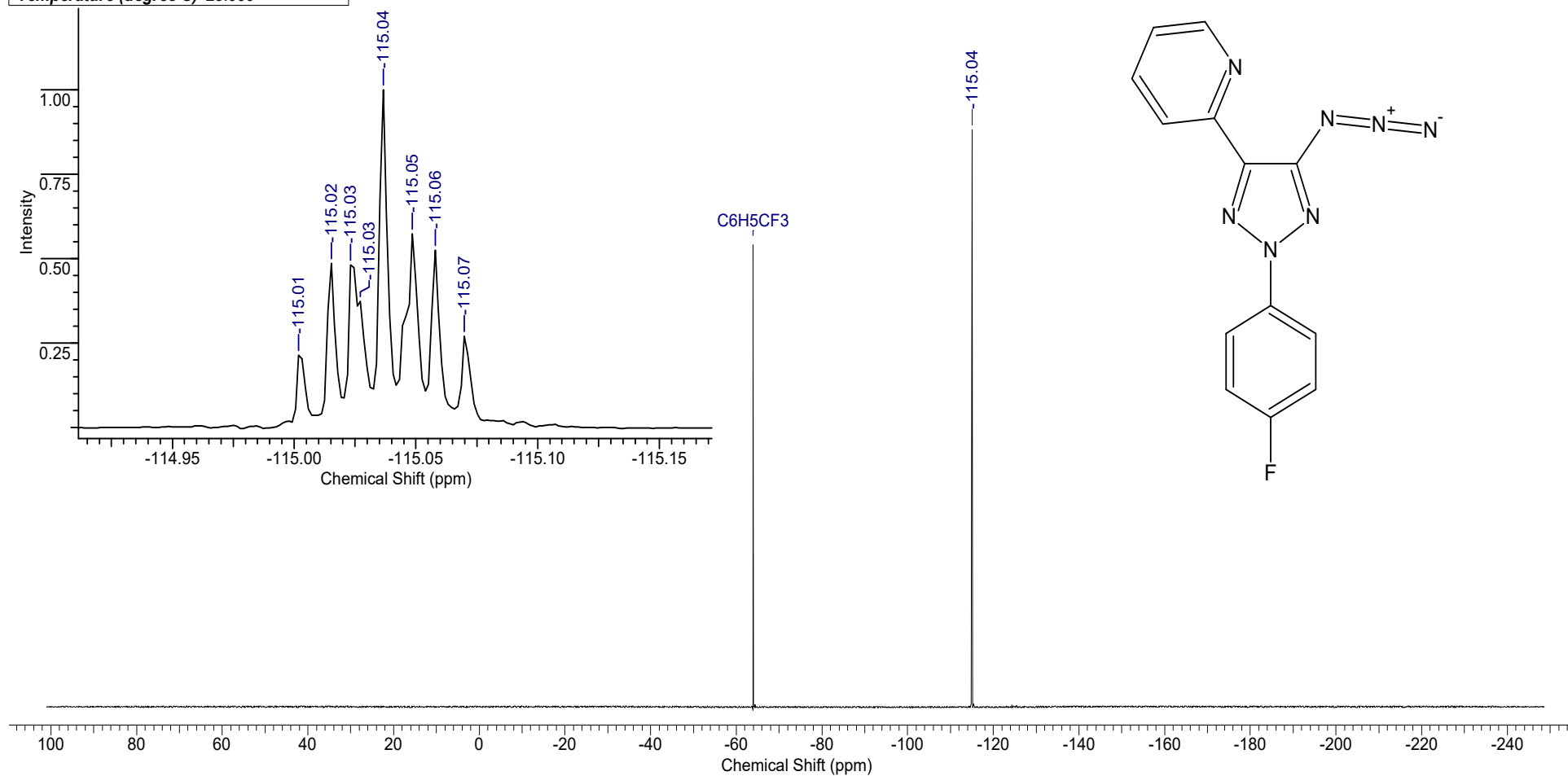
^1H NMR spectrum of **2I** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	26 Feb 2020 17:53:24	
File Name		Number of Transients	113	Original Points Count	16384	Frequency (MHz)	100.61
Nucleus	¹³ C	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Points Count	131072
Pulse Sequence	zgpg30					Temperature (degree C)	27.000



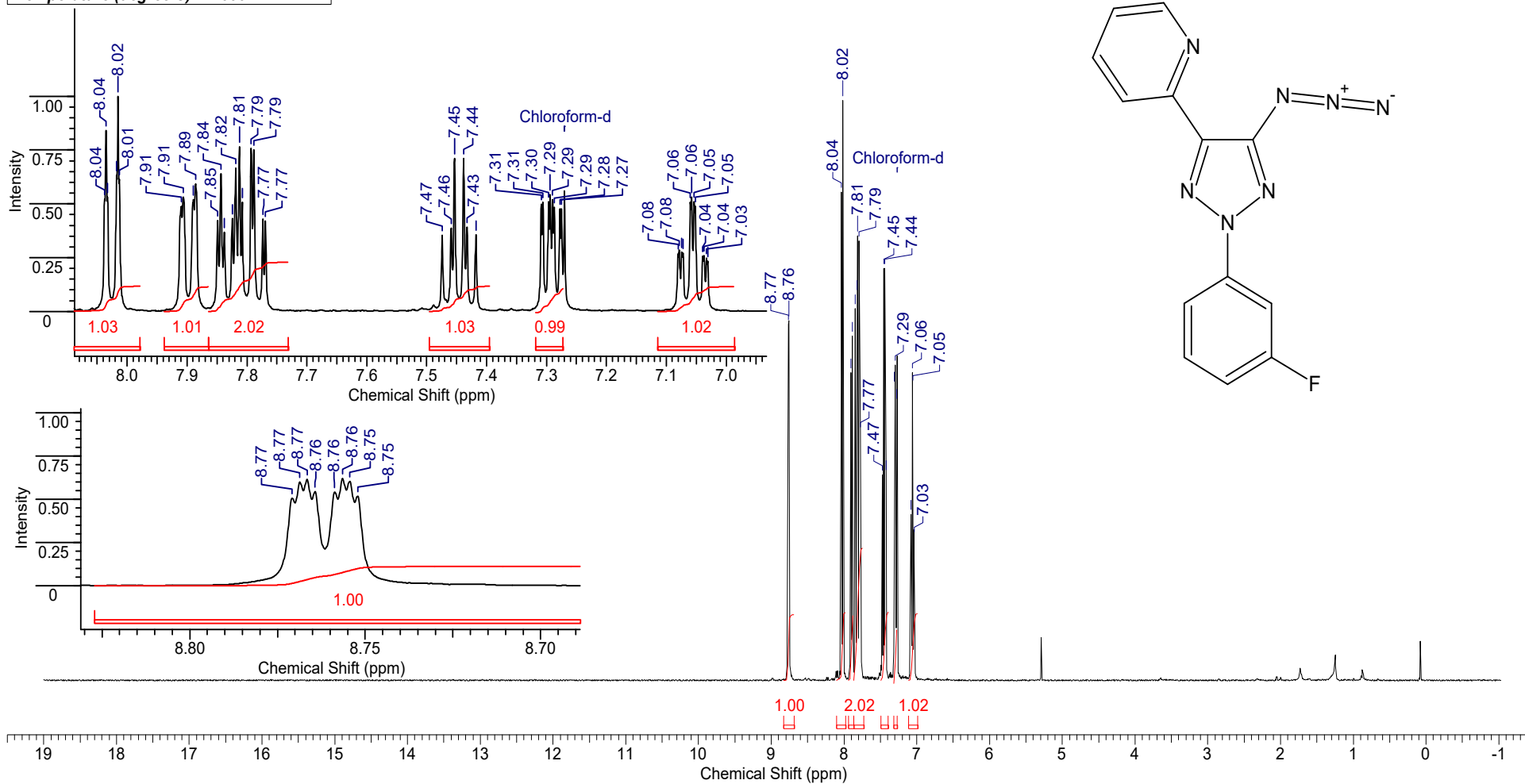
^{13}C NMR spectrum of **21** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	1.5729	Date	Feb 27 2020		
File Name				Frequency (MHz)	376.31
Nucleus	19F	Number of Transients	8	Original Points Count	206956
Pulse Sequence	s2pul	Solvent	CHLOROFORM-D	Points Count	262144
Temperature (degree C)	23.000			Sweep Width (Hz)	131578.95



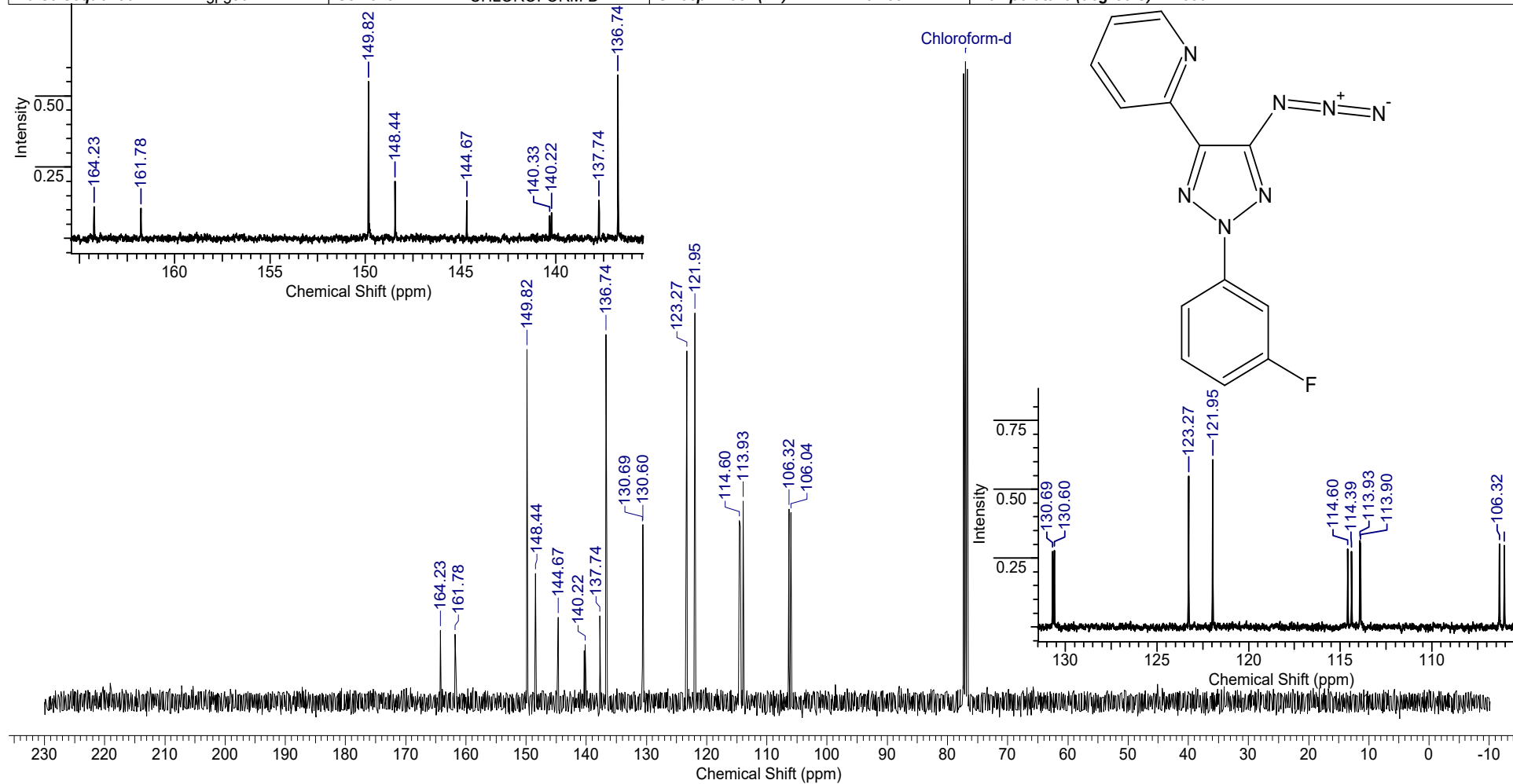
^{19}F NMR spectrum of **21** (376.5 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	09 Feb 2021 14:23:36
File Name		Number of Transients	4	Original Points Count	32768
Nucleus	1H	Solvent	CHLOROFORM-D	Frequency (MHz)	400.13
Pulse Sequence	zg30			Points Count	131072
Temperature (degree C)	27.000			Sweep Width (Hz)	8012.82



^1H NMR spectrum of **2m** (400.1 MHz, CDCl_3)

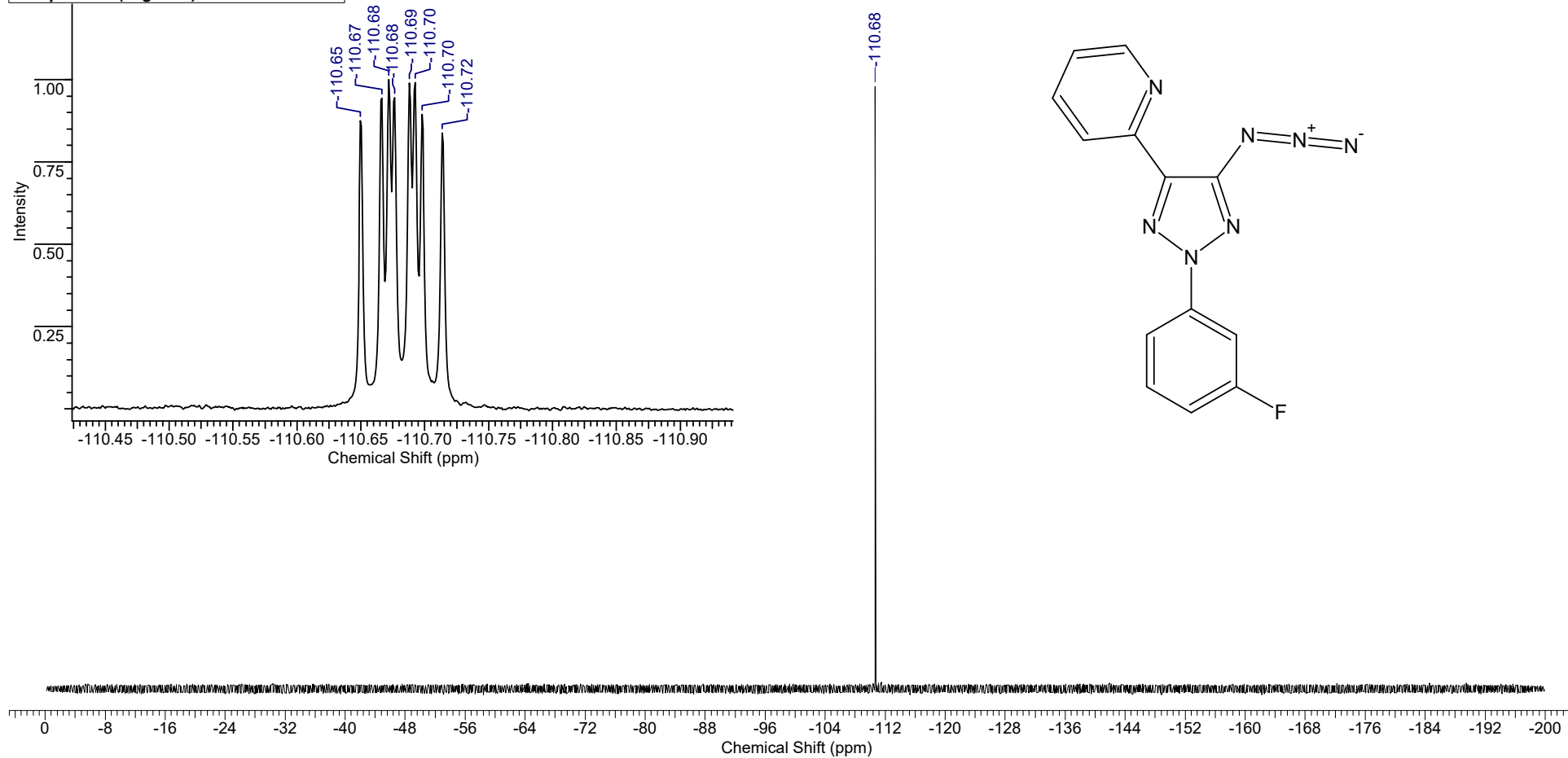
Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	09 Feb 2021 14:32:58	
File Name					Frequency (MHz)	100.61	
Nucleus	¹³ C	Number of Transients	201	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000



¹³C NMR spectrum of **2m** (100.6 MHz, CDCl₃)

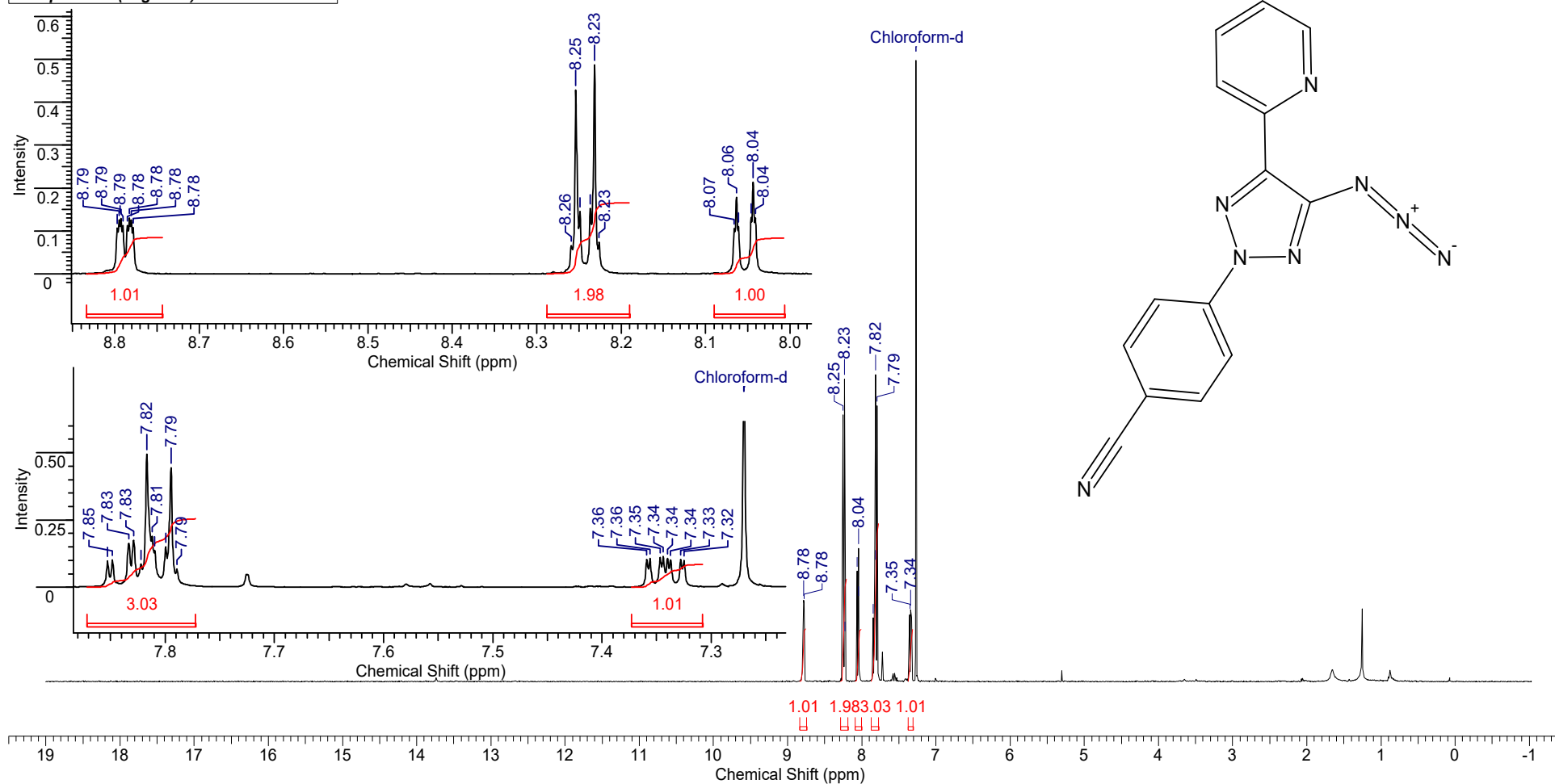
24 Mar 2021

Acquisition Time (sec)	1.7433	Comment	Imported from UXNMR.	Date	08 Feb 2021 15:58:52
File Name				Frequency (MHz)	376.50
Nucleus	19F	Number of Transients	16	Original Points Count	131072
Pulse Sequence	zgflqn	Solvent	CHLOROFORM-D	Points Count	262144
Temperature (degree C)	27.000			Sweep Width (Hz)	75187.97



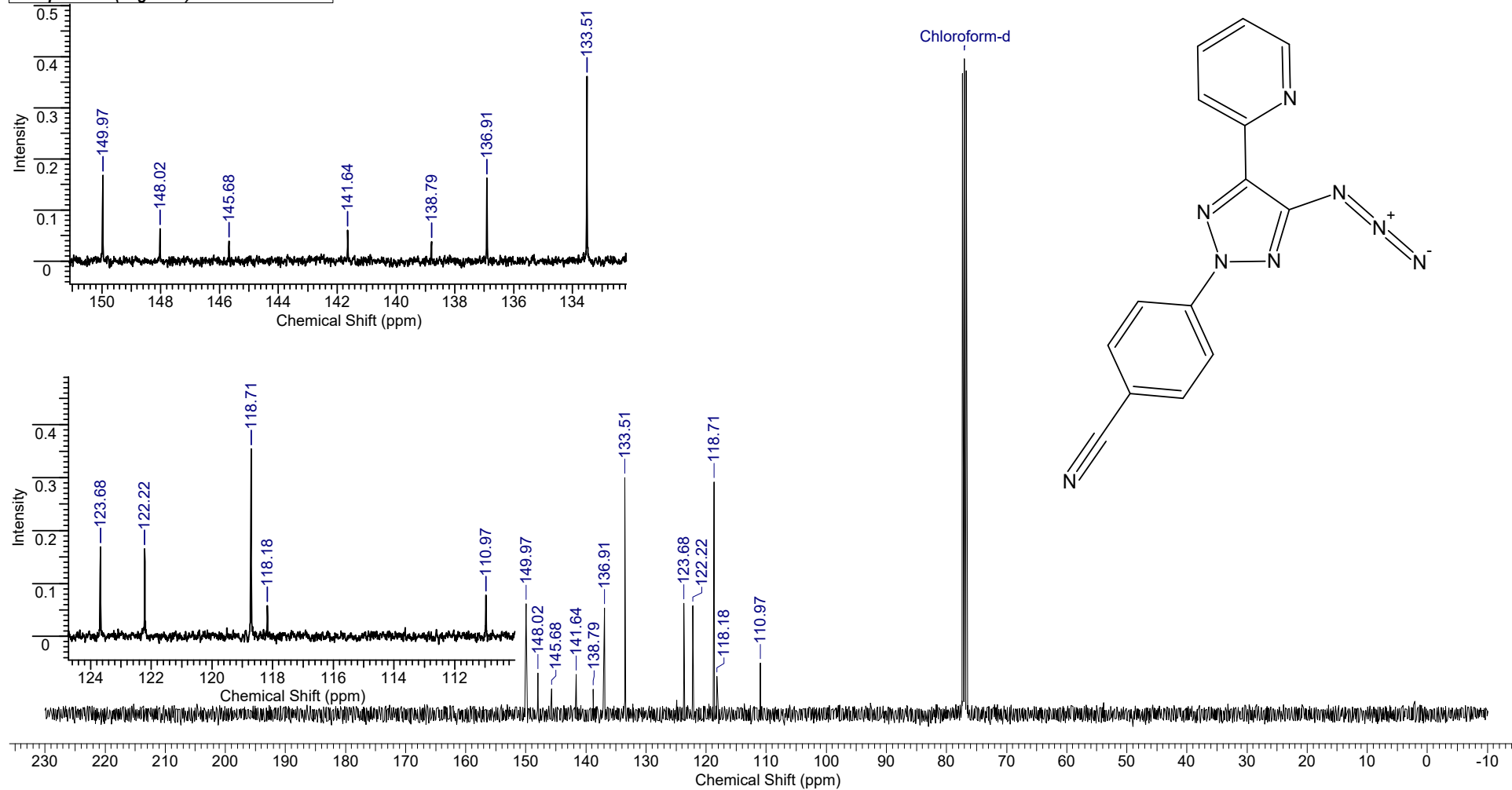
^{19}F NMR spectrum of **2m** (376.5 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	06 Mar 2020 15:51:48	
File Name					Frequency (MHz)	400.13	
Nucleus	1H	Number of Transients	4	Original Points Count	32768	Points Count	131072
Pulse Sequence	zg30	Solvent	CHLOROFORM-D		Sweep Width (Hz)	8012.82	
Temperature (degree C)	27.000						



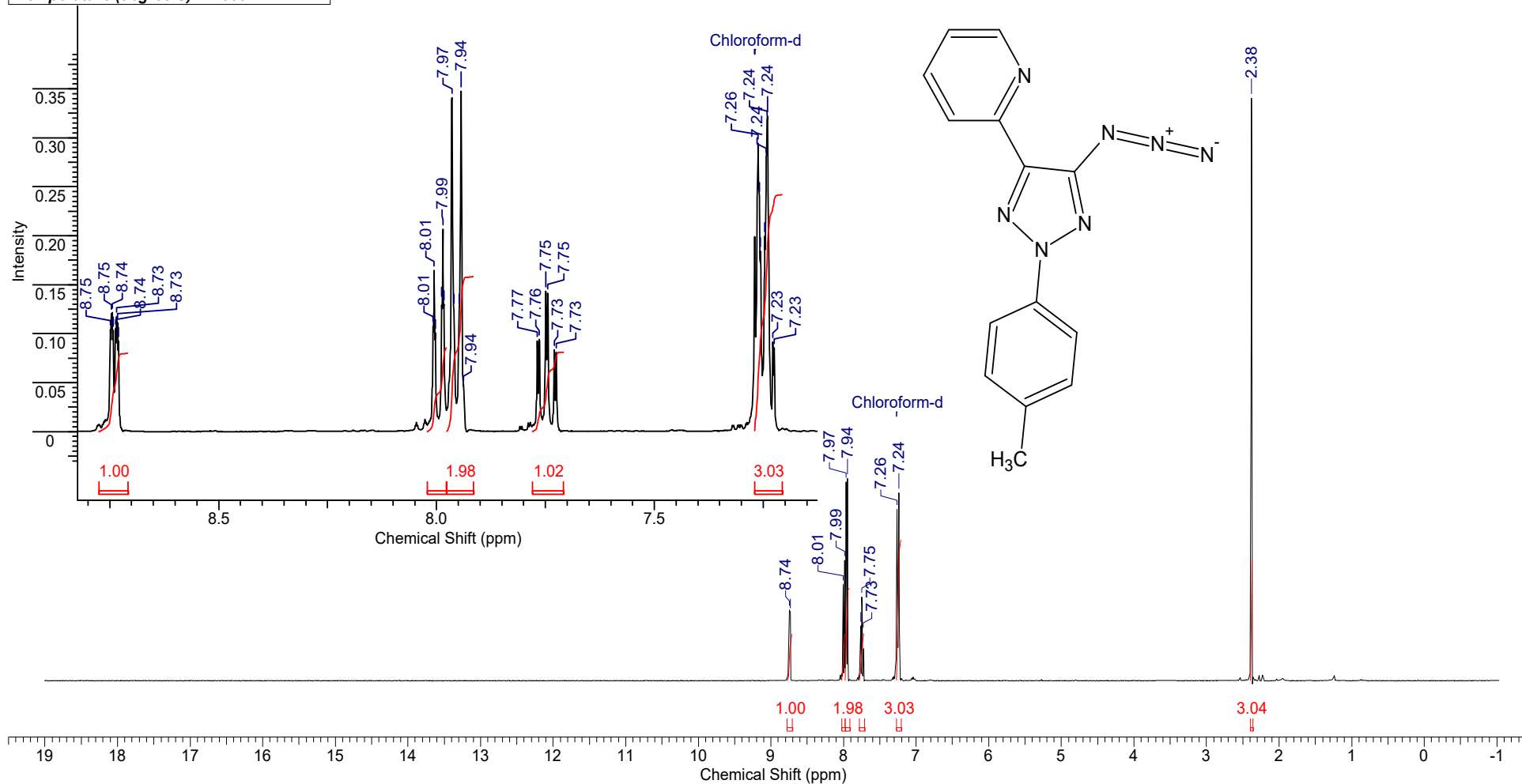
^1H NMR spectrum of **2n** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	06 Mar 2020 17:02:52	
File Name					Frequency (MHz)	100.61	
Nucleus	¹³ C	Number of Transients	409	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D		Sweep Width (Hz)	24154.59	
Temperature (degree C)	27.000						



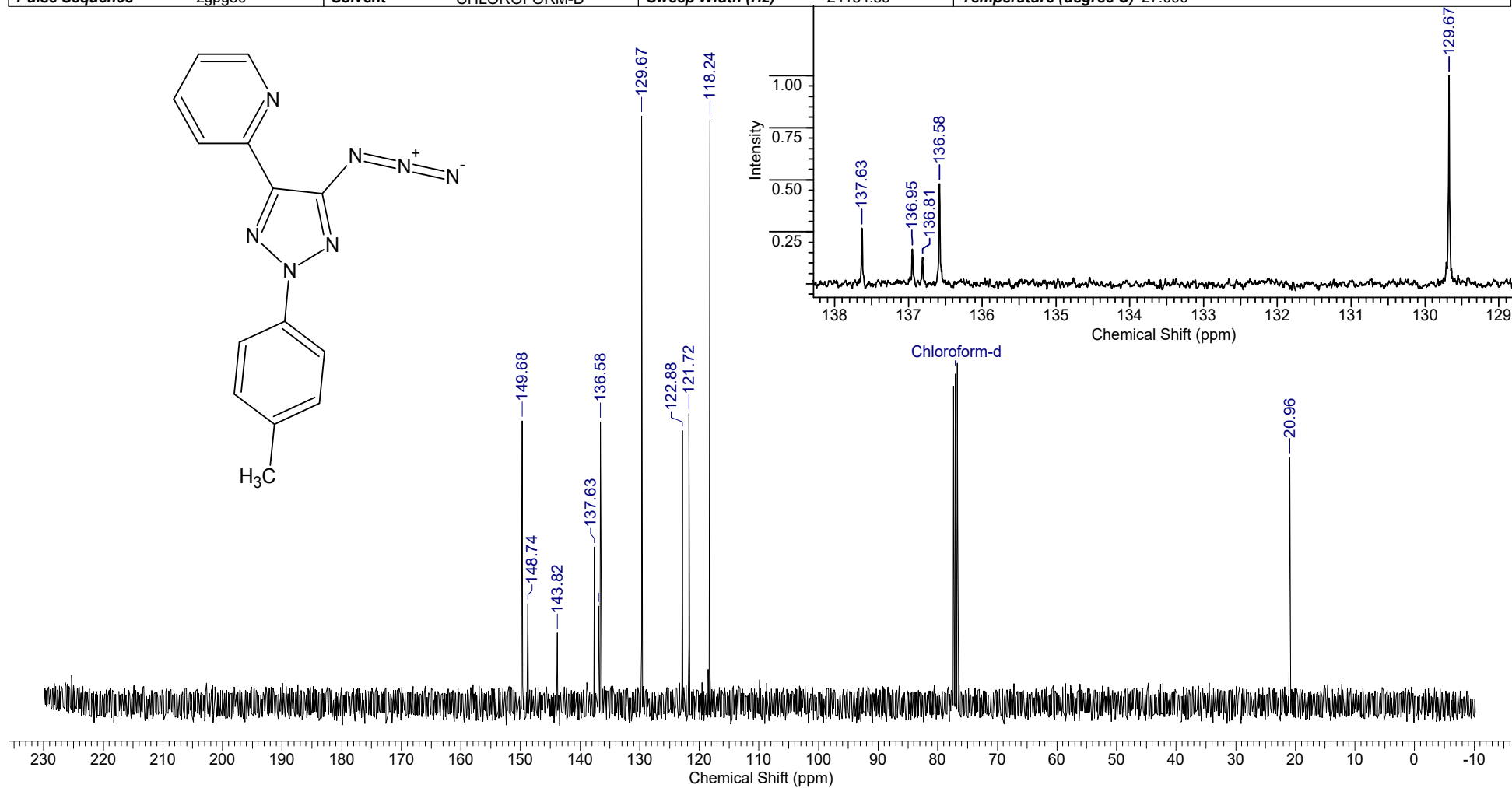
^{13}C NMR spectrum of **2n** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXMNR.	Date	02 Mar 2020 16:06:04
File Name		Number of Transients	4	Original Points Count	32768
Nucleus	1H	Solvent	CHLOROFORM-D	Frequency (MHz)	400.13
Pulse Sequence	zg30			Points Count	131072
Temperature (degree C)	27.000			Sweep Width (Hz)	8012.82



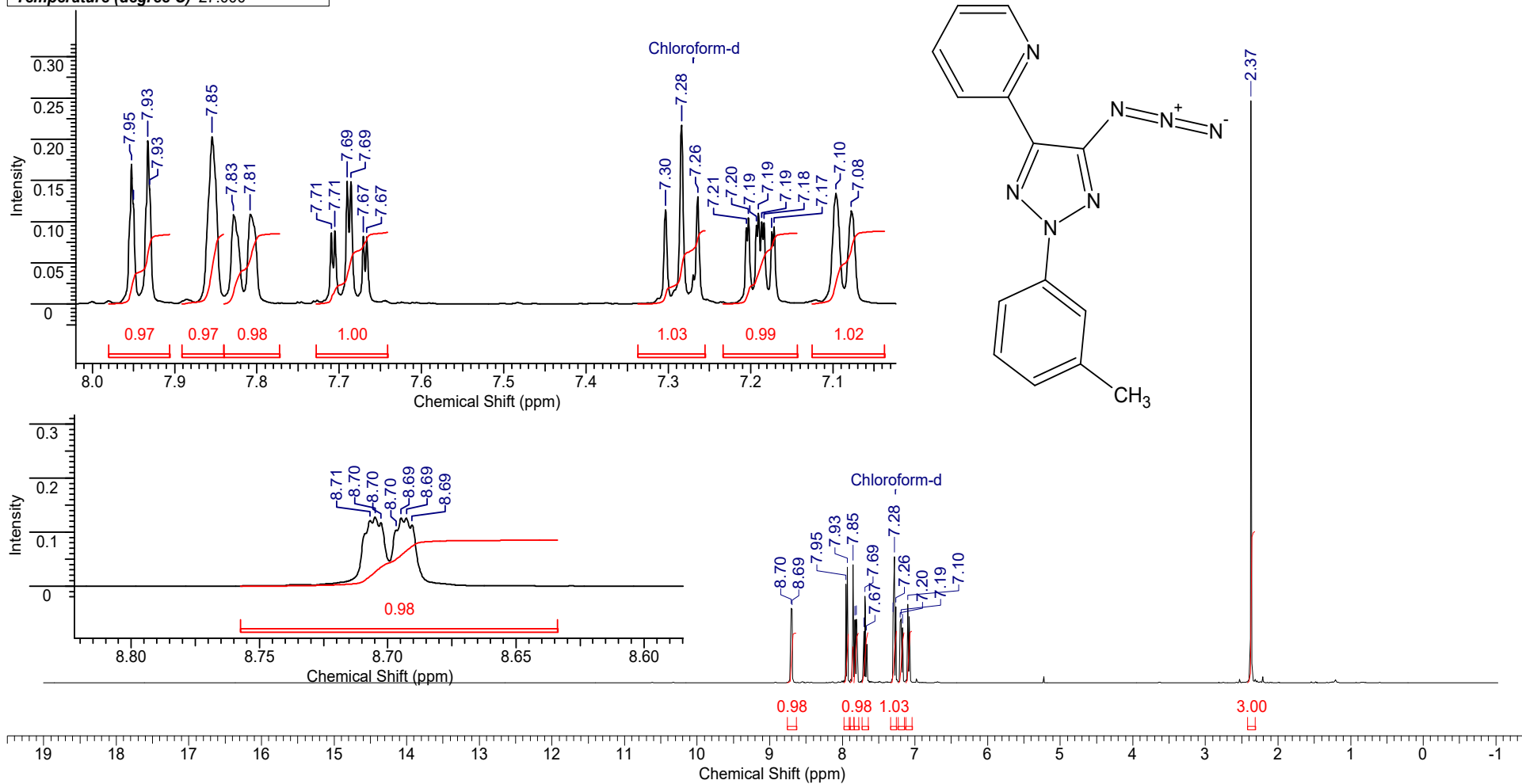
^1H NMR spectrum of **2o** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UJXNMR.		Date	02 Mar 2020 16:07:32	
File Name		Number of Transients	17	Original Points Count	16384	Frequency (MHz)	100.61
Nucleus	¹³ C	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Points Count	131072
Pulse Sequence	zgpg30					Temperature (degree C)	27.000



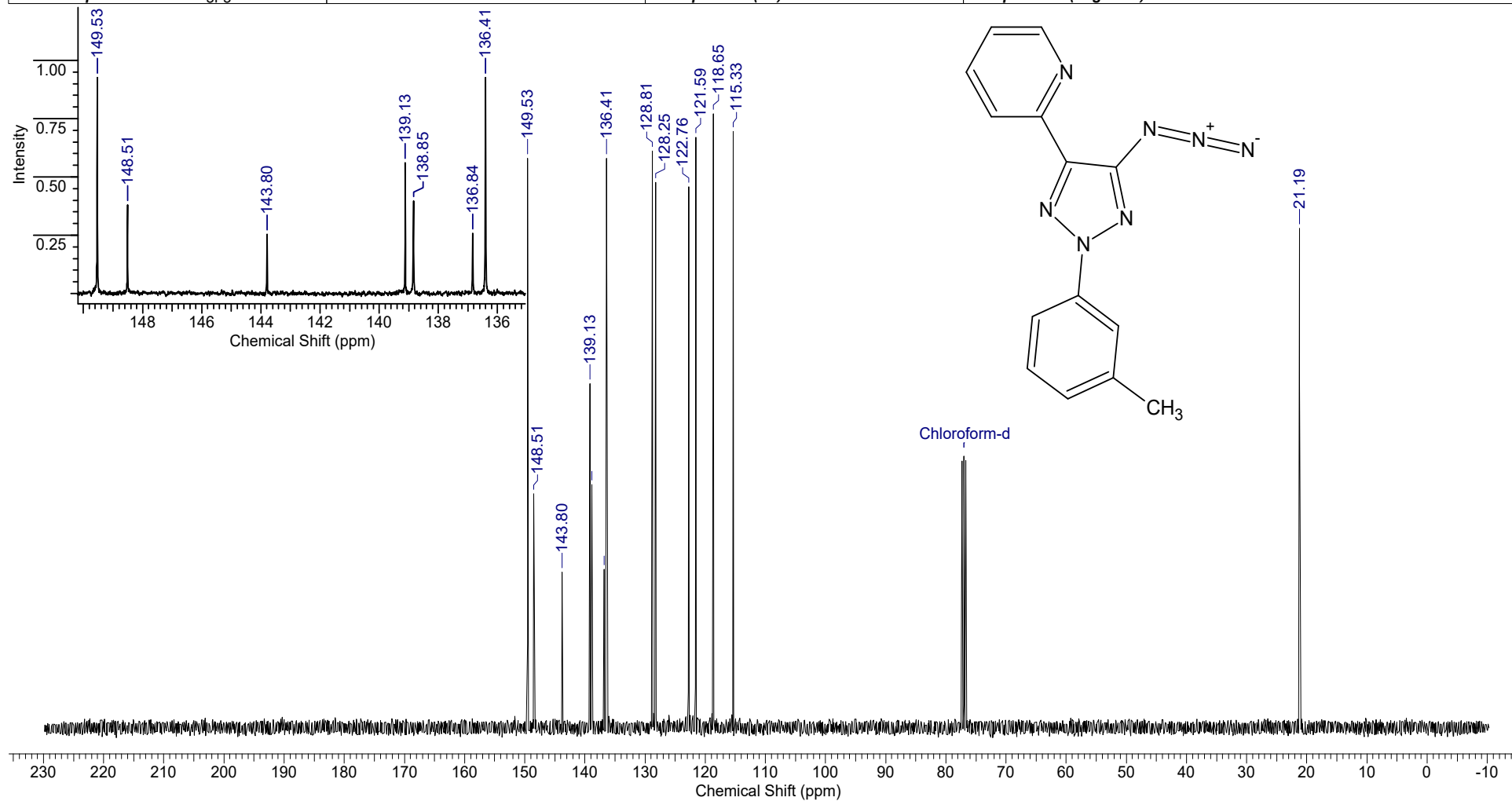
^{13}C NMR spectrum of **2o** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	25 Dec 2020 15:09:46
File Name		Number of Transients	4	Frequency (MHz)	400.13
Nucleus	¹ H	Original Points Count	32768	Points Count	131072
Pulse Sequence	zg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	8012.82
Temperature (degree C)	27.000				



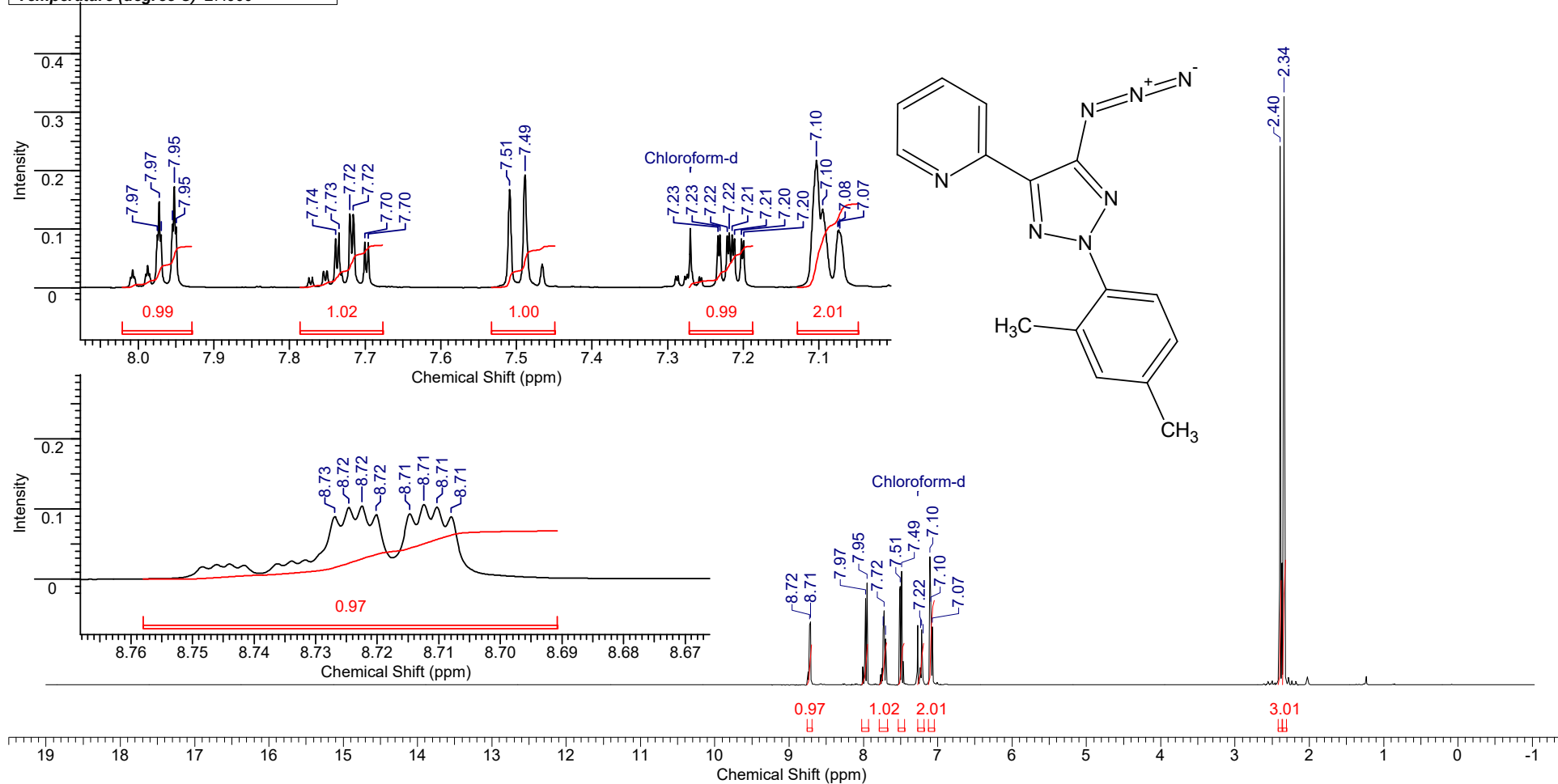
^1H NMR spectrum of **2p** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.		Date	25 Dec 2020 15:14:12	
File Name					Frequency (MHz)	100.61	
Nucleus	¹³ C	Number of Transients	70	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000



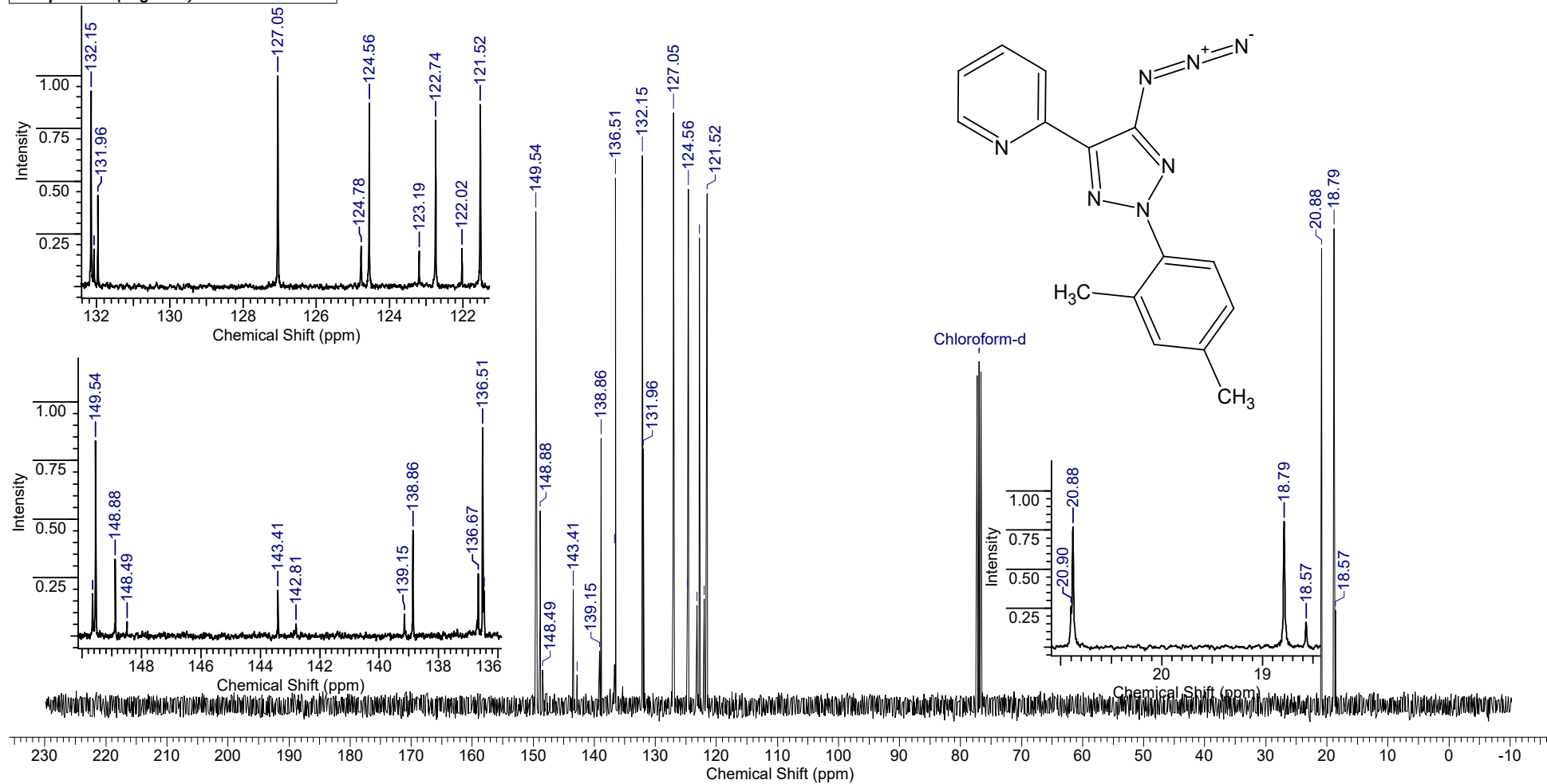
^{13}C NMR spectrum of **2p** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	03 Jul 2020 15:22:40	
File Name					Frequency (MHz)	400.13	
Nucleus	1H	Number of Transients	4	Original Points Count	32768	Points Count	131072
Pulse Sequence	zg30	Solvent	CHLOROFORM-D		Sweep Width (Hz)	8012.82	
Temperature (degree C)	27.000						



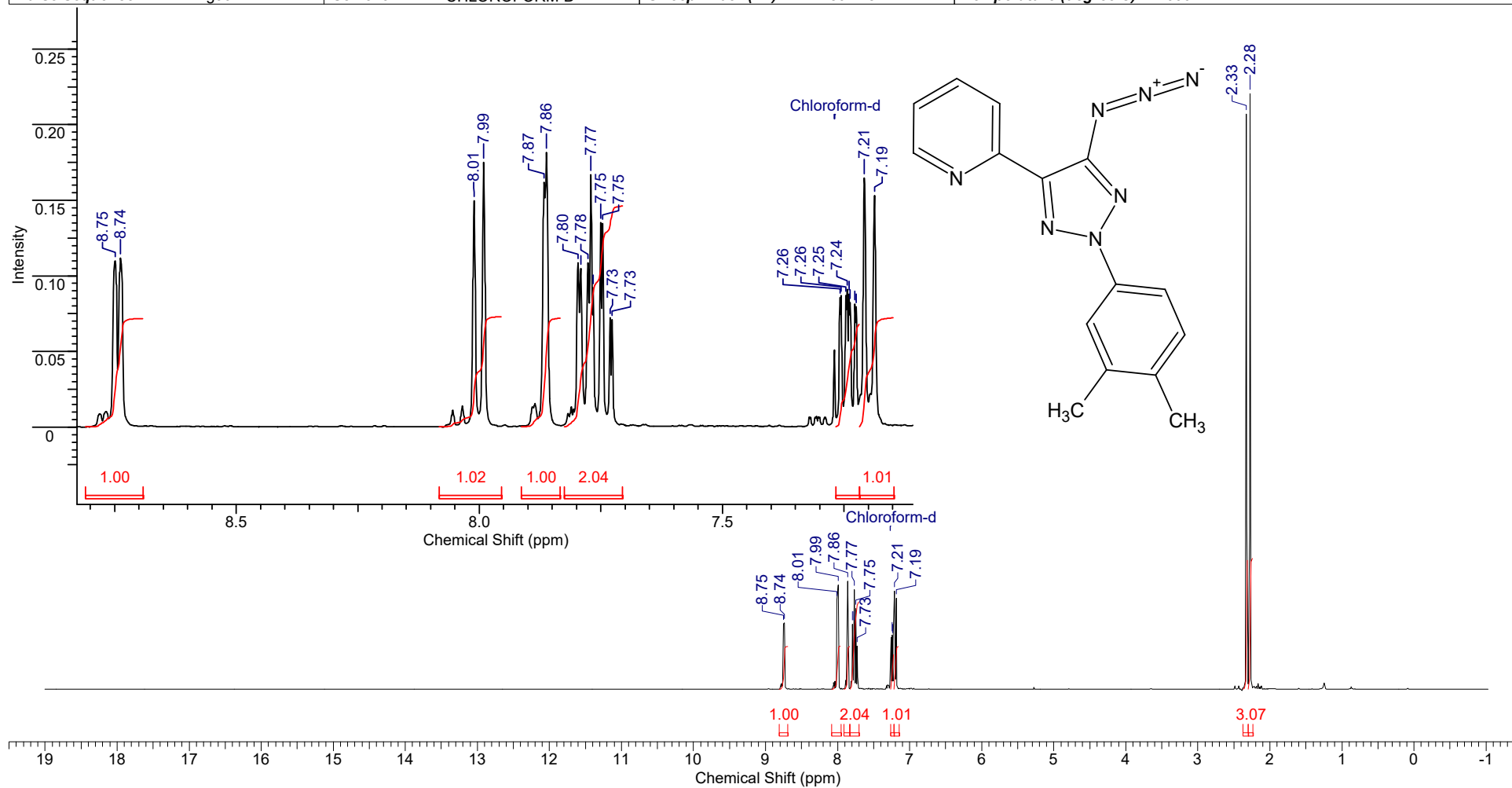
^1H NMR spectrum of **2q** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	03 Jul 2020 15:25:22	
File Name					Frequency (MHz)	100.61	
Nucleus	13C	Number of Transients	49	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D		Sweep Width (Hz)	24154.59	
Temperature (degree C)	27.000						



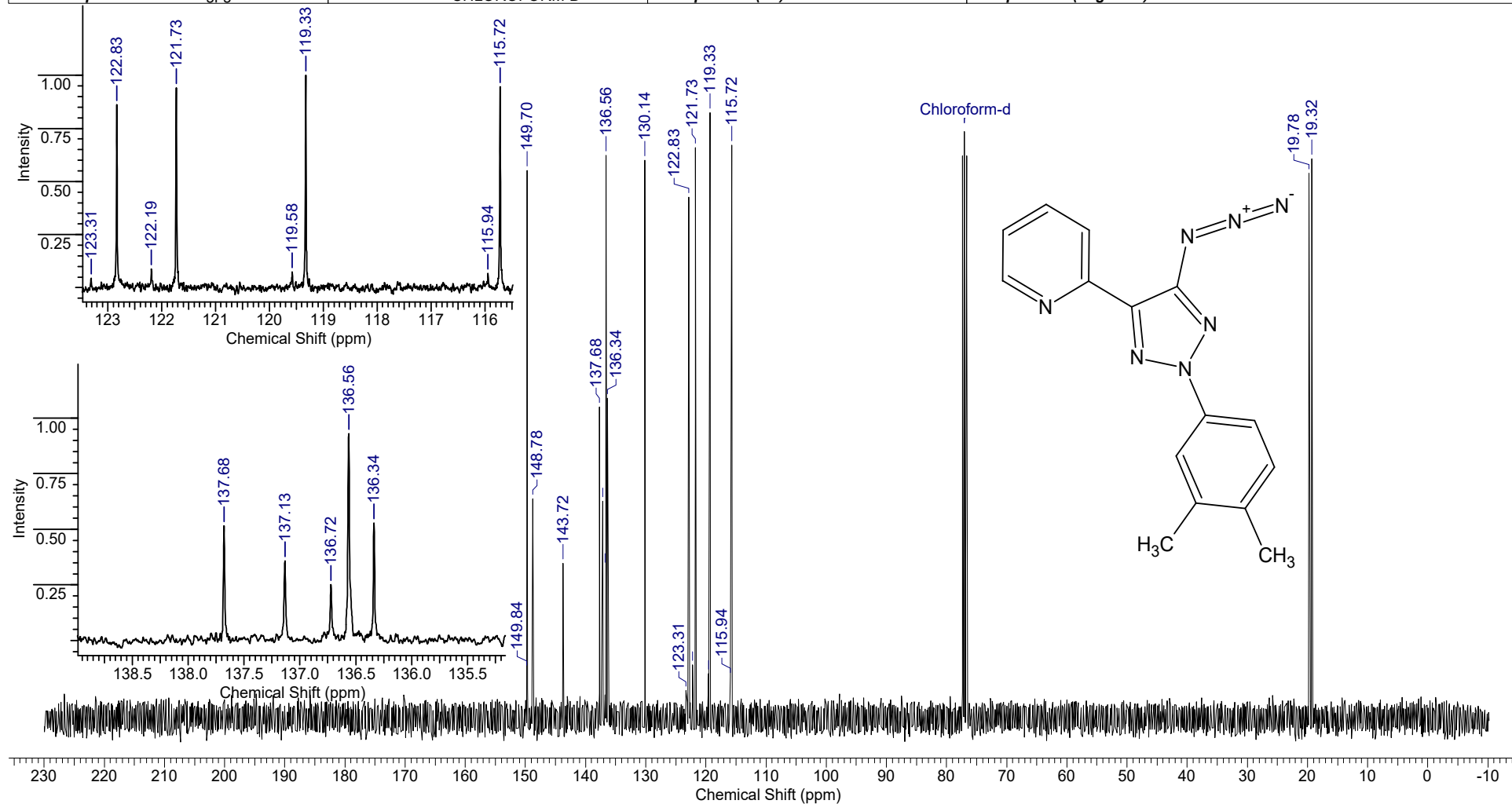
^{13}C NMR spectrum of **2q** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	06 Feb 2021 13:32:58	
File Name		Number of Transients	4	Original Points Count	32768	Frequency (MHz)	400.13
Nucleus	1H	Solvent	CHLOROFORM-D	Sweep Width (Hz)	8012.82	Points Count	131072
Pulse Sequence	zg30					Temperature (degree C)	27.000



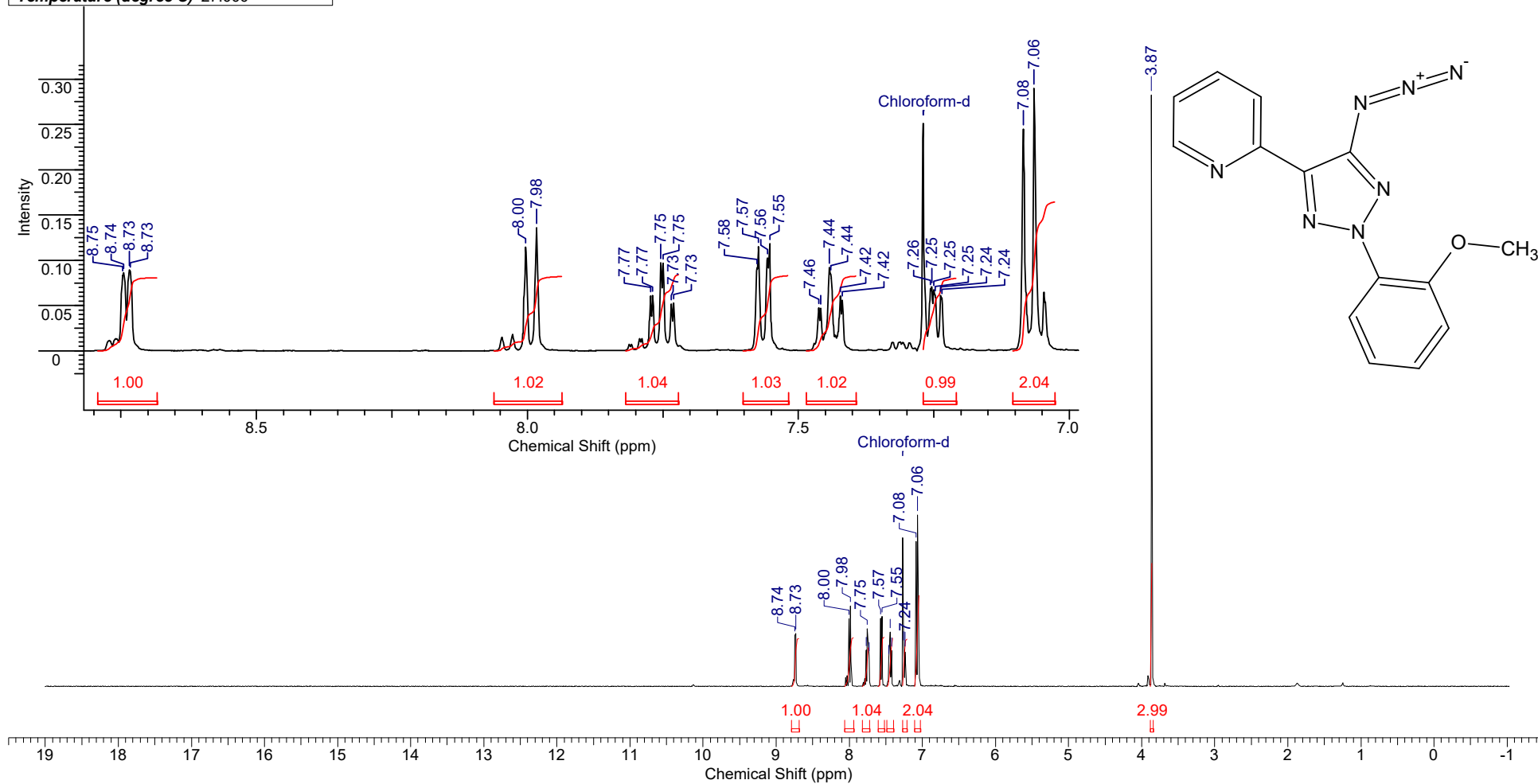
^1H NMR spectrum of **2r** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.		Date	06 Feb 2021 13:31:12	
File Name					Frequency (MHz)	100.61	
Nucleus	13C	Number of Transients	65	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000



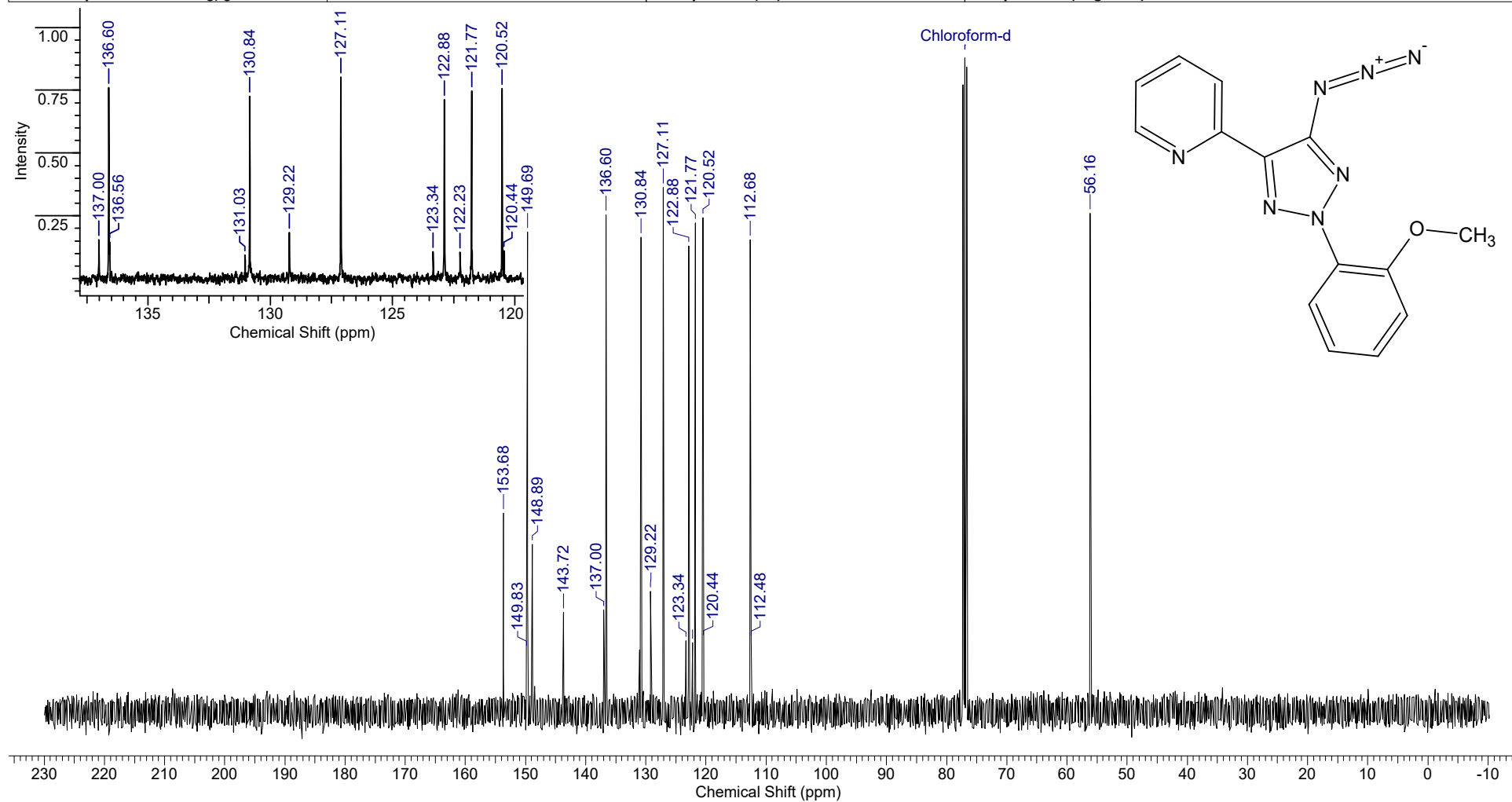
^{13}C NMR spectrum of **2r** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXMNR.	Date	19 Feb 2020 17:45:08
File Name		Number of Transients	4	Original Points Count	32768
Nucleus	1H	Solvent	CHLOROFORM-D	Points Count	131072
Pulse Sequence	zg30	Sweep Width (Hz)			8012.82
Temperature (degree C)	27.000				



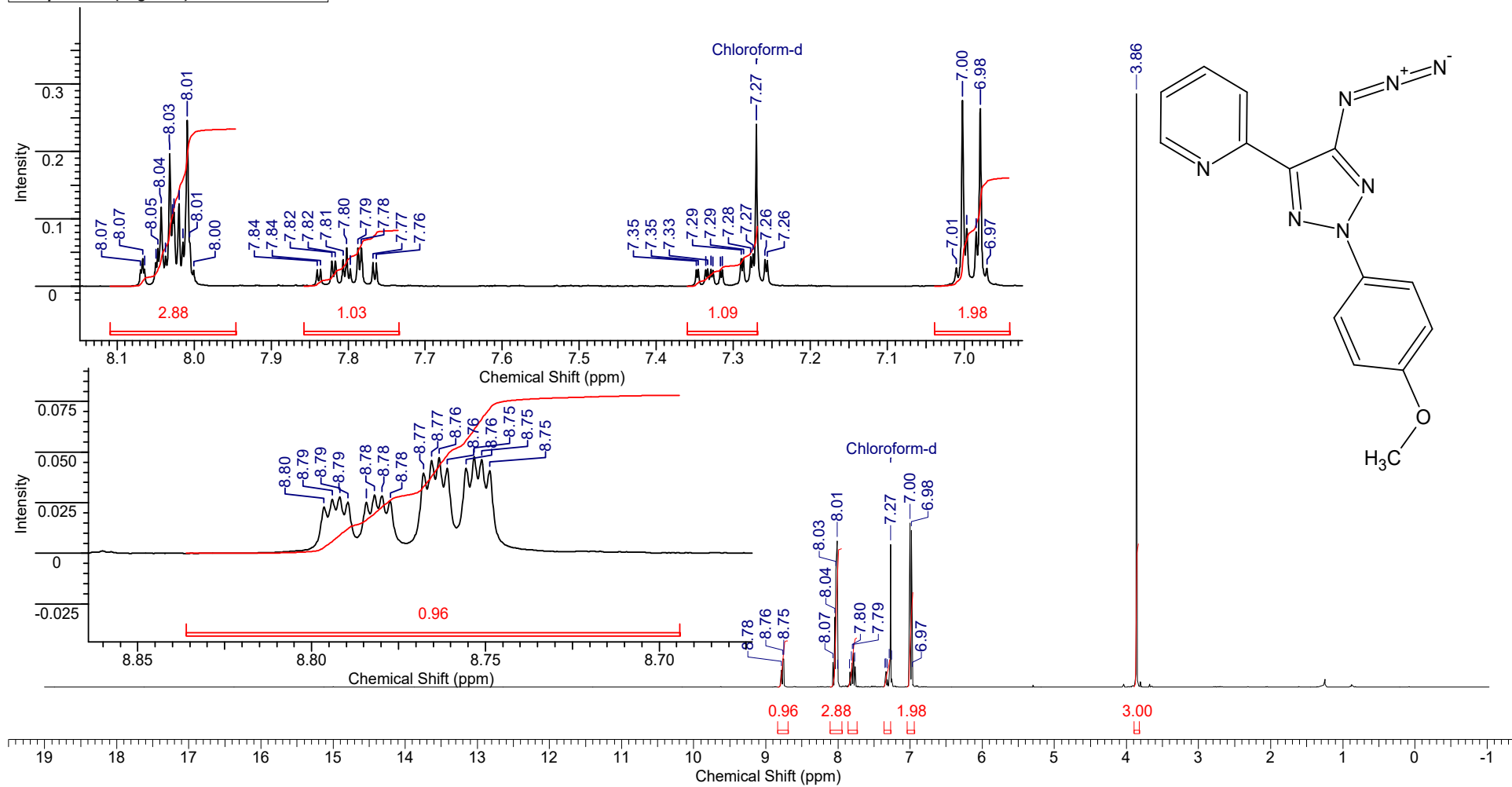
^1H NMR spectrum of **2s** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.		Date	19 Feb 2020 17:49:56	
File Name		Number of Transients	113	Original Points Count	16384	Frequency (MHz)	100.61
Nucleus	¹³ C	Solvent		Sweep Width (Hz)	24154.59	Points Count	131072
Pulse Sequence	zgpg30					Temperature (degree C)	27.000



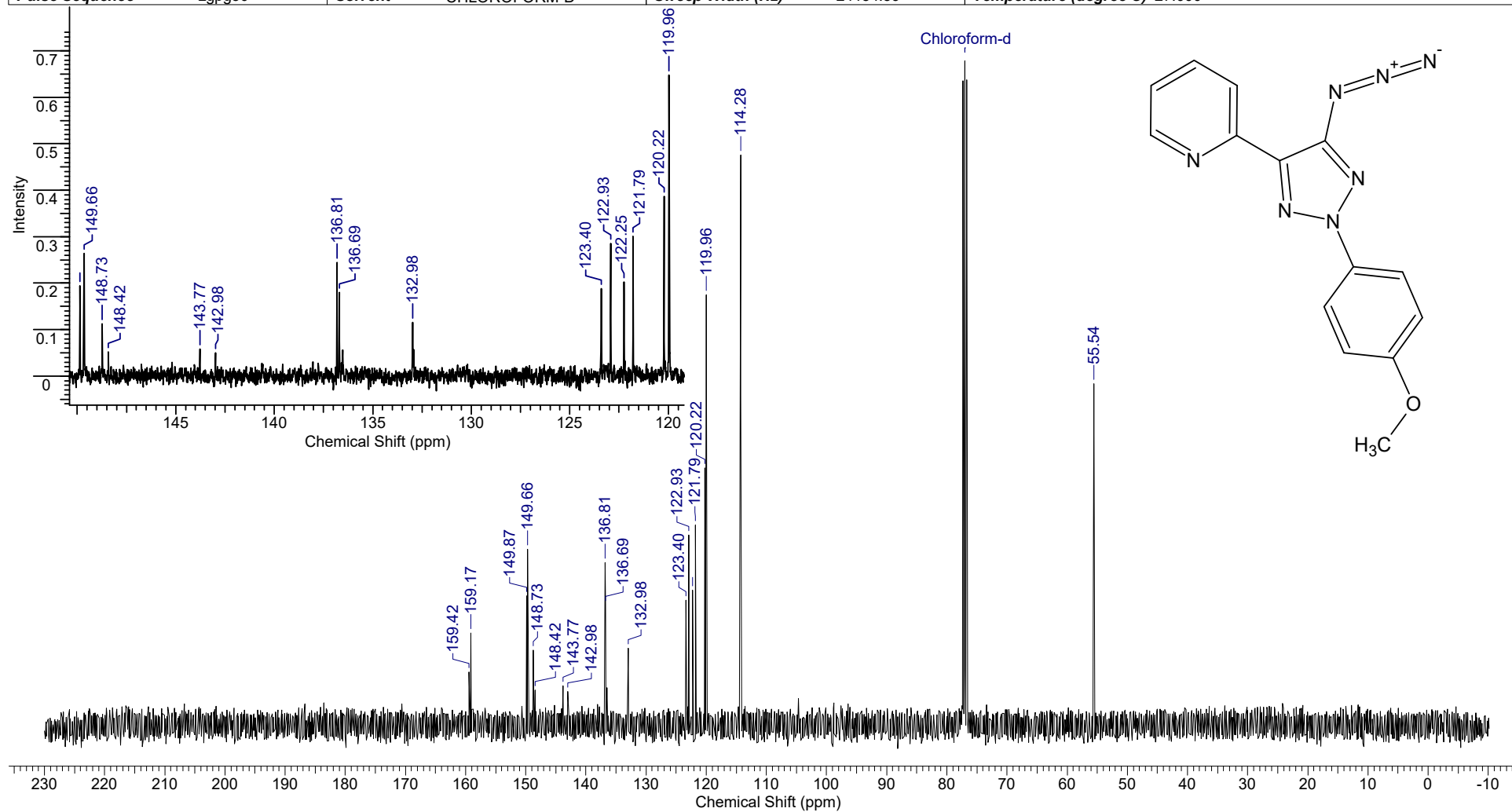
^{13}C NMR spectrum of **2s** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXMNR.		Date	26 Feb 2020 17:55:20	
File Name					Frequency (MHz)	400.13	
Nucleus	1H	Number of Transients	4	Original Points Count	32768	Points Count	131072
Pulse Sequence	zg30	Solvent	CHLOROFORM-D		Sweep Width (Hz)	8012.82	
Temperature (degree C)	27.000						



^1H NMR spectrum of **2t** (400.1 MHz, CDCl_3)

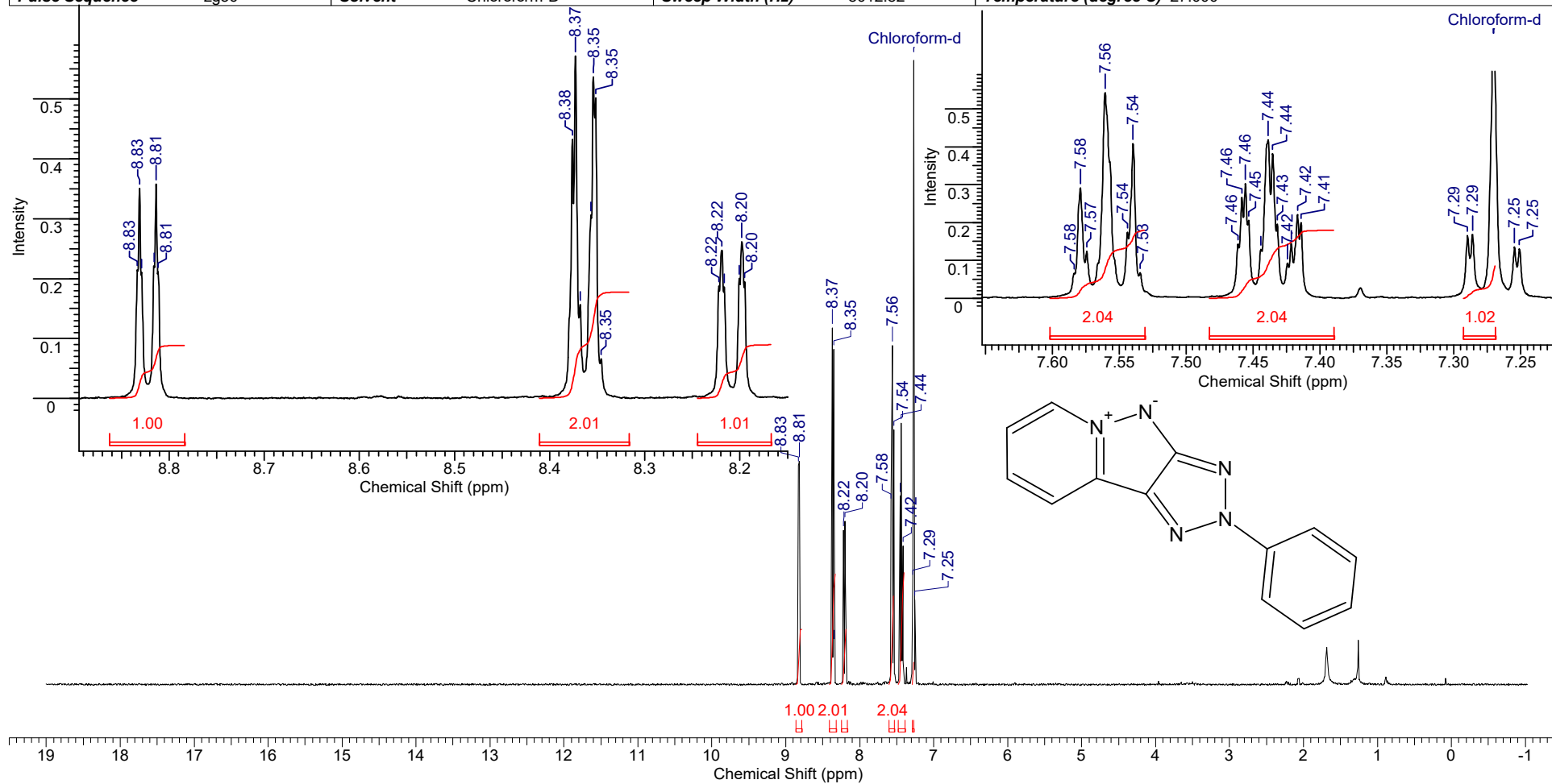
Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.		Date	26 Feb 2020 18:00:00	
File Name					Frequency (MHz)	100.61	
Nucleus	13C	Number of Transients	106	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000



¹³C NMR spectrum of **2t** (100.6 MHz, CDCl₃)

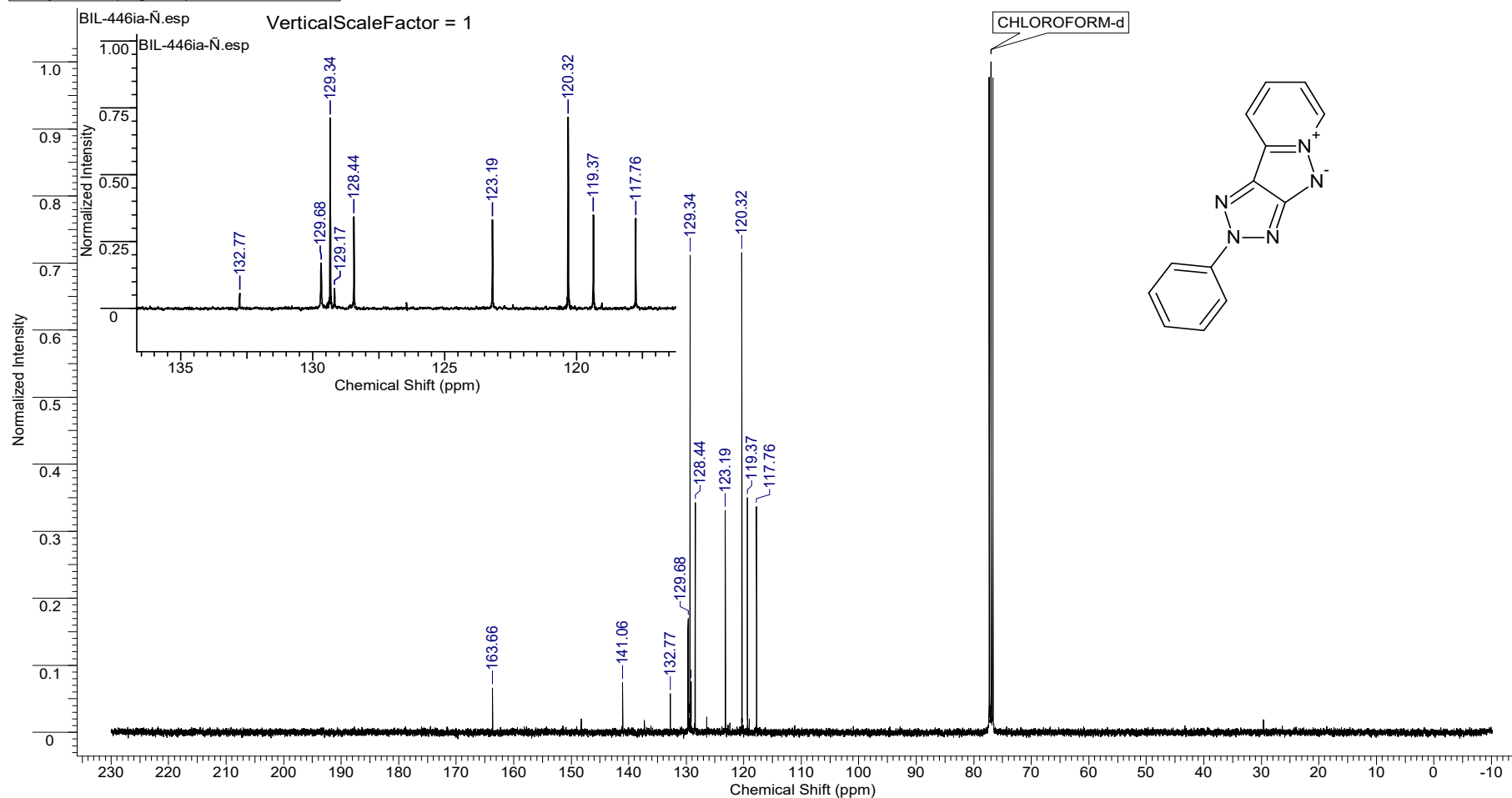
6 Apr 2021

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	06 Apr 2021 14:30:54
File Name				Frequency (MHz)	400.13
Nucleus	1H	Number of Transients	4	Original Points Count	32768
Pulse Sequence	zg30	Solvent	Chloroform-D	Sweep Width (Hz)	8012.82
				Points Count	131072
				Temperature (degree C)	27.000



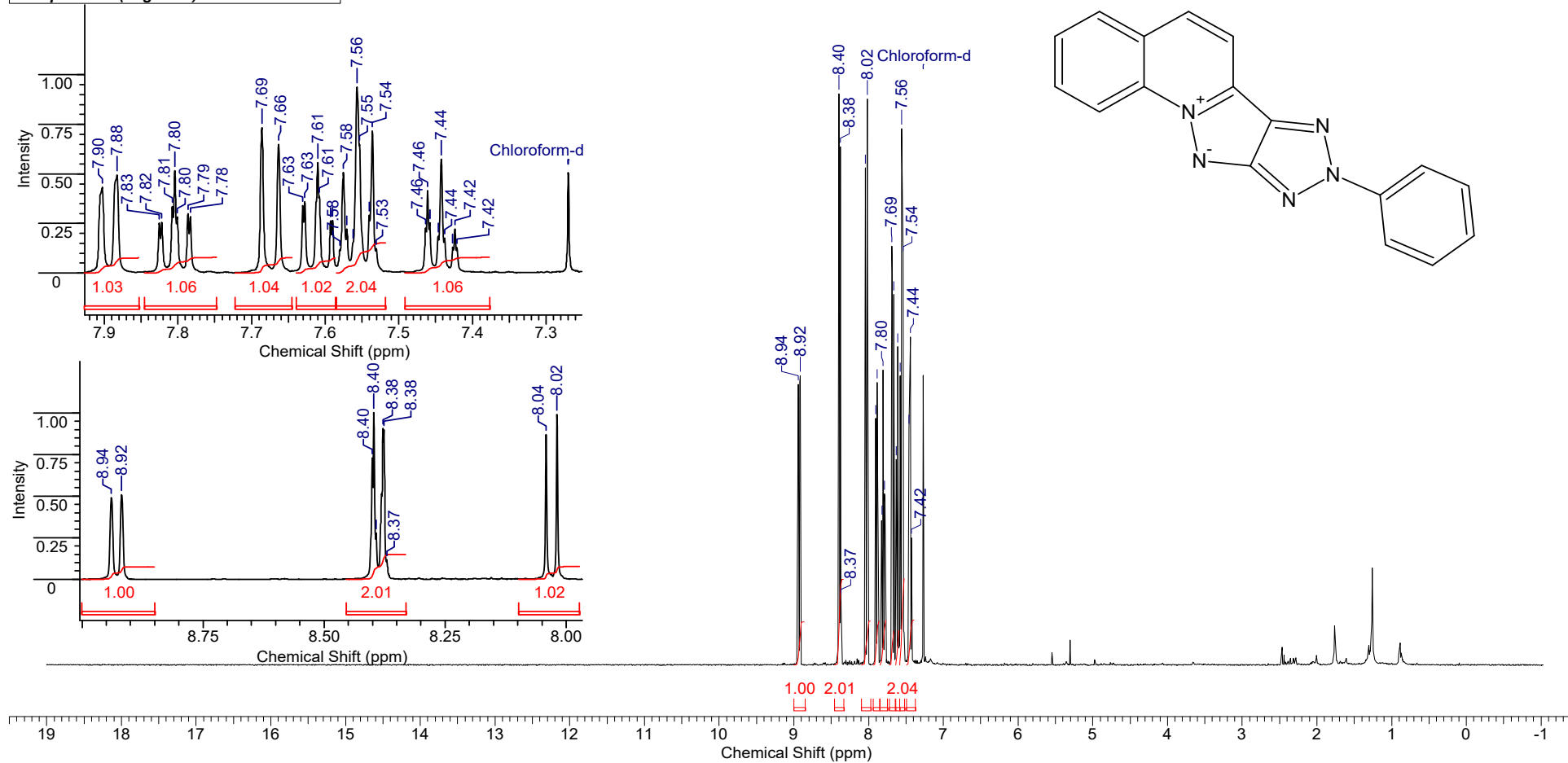
^1H NMR spectrum of **3a** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	5 mm QNP 1H/13C/31P/19F Z3182/0165	Date	03 Sep 2020 09:25:20
Date Stamp	03 Sep 2020 09:25:20				
File Name				Frequency (MHz)	100.61
Nucleus	13C	Number of Transients	1242	Origin	spect
Owner	root	Points Count	131072	Pulse Sequence	zgpg30
SW(cyclical) (Hz)	24154.59	Solvent	CHLOROFORM-d	Spectrum Offset (Hz)	11062.1953
Temperature (degree C)	27.000			Sweep Width (Hz)	24154.41



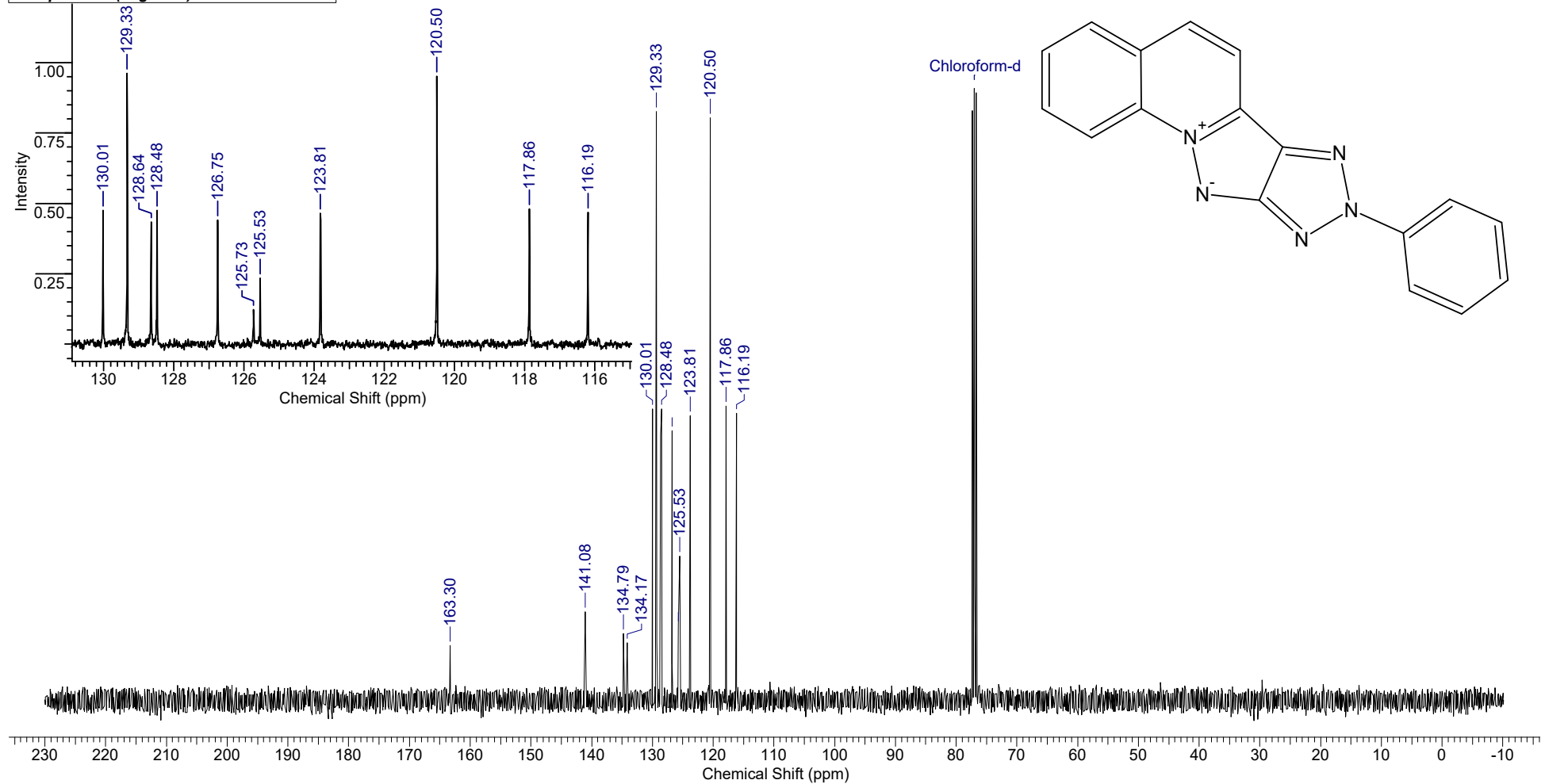
^{13}C NMR spectrum of **3a** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	28 Oct 2020 17:43:22
File Name				Frequency (MHz)	400.13
Nucleus	1H	Number of Transients	4	Original Points Count	32768
Pulse Sequence	zg30	Solvent	CHLOROFORM-D	Points Count	131072
Temperature (degree C)	27.000			Sweep Width (Hz)	8012.82



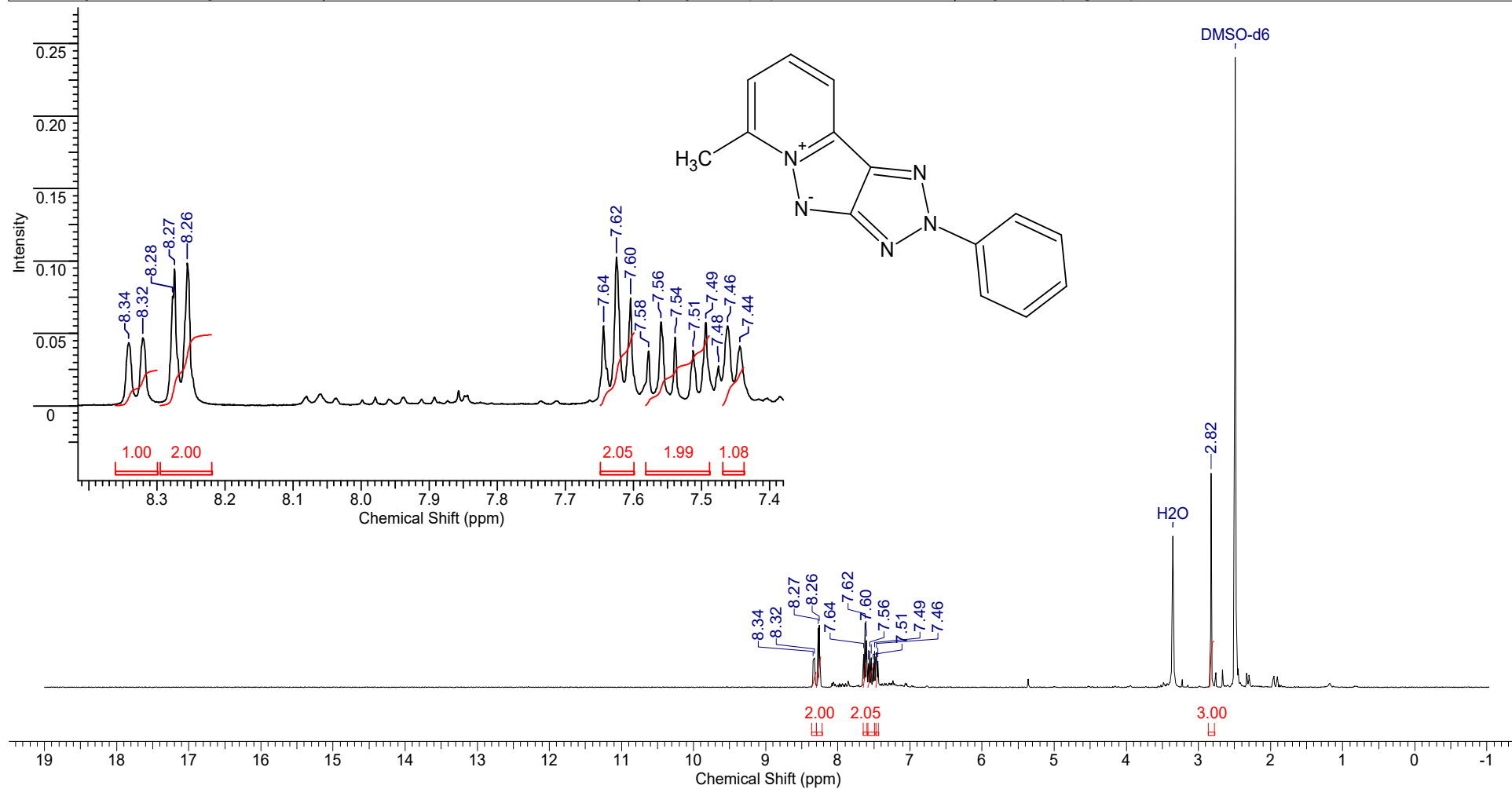
¹H NMR spectrum of **3b** (400.1 MHz, CDCl₃)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	28 Oct 2020 17:41:12	
File Name					Frequency (MHz)	100.61	
Nucleus	¹³ C	Number of Transients	164	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D		Sweep Width (Hz)	24154.59	
Temperature (degree C)	27.000						



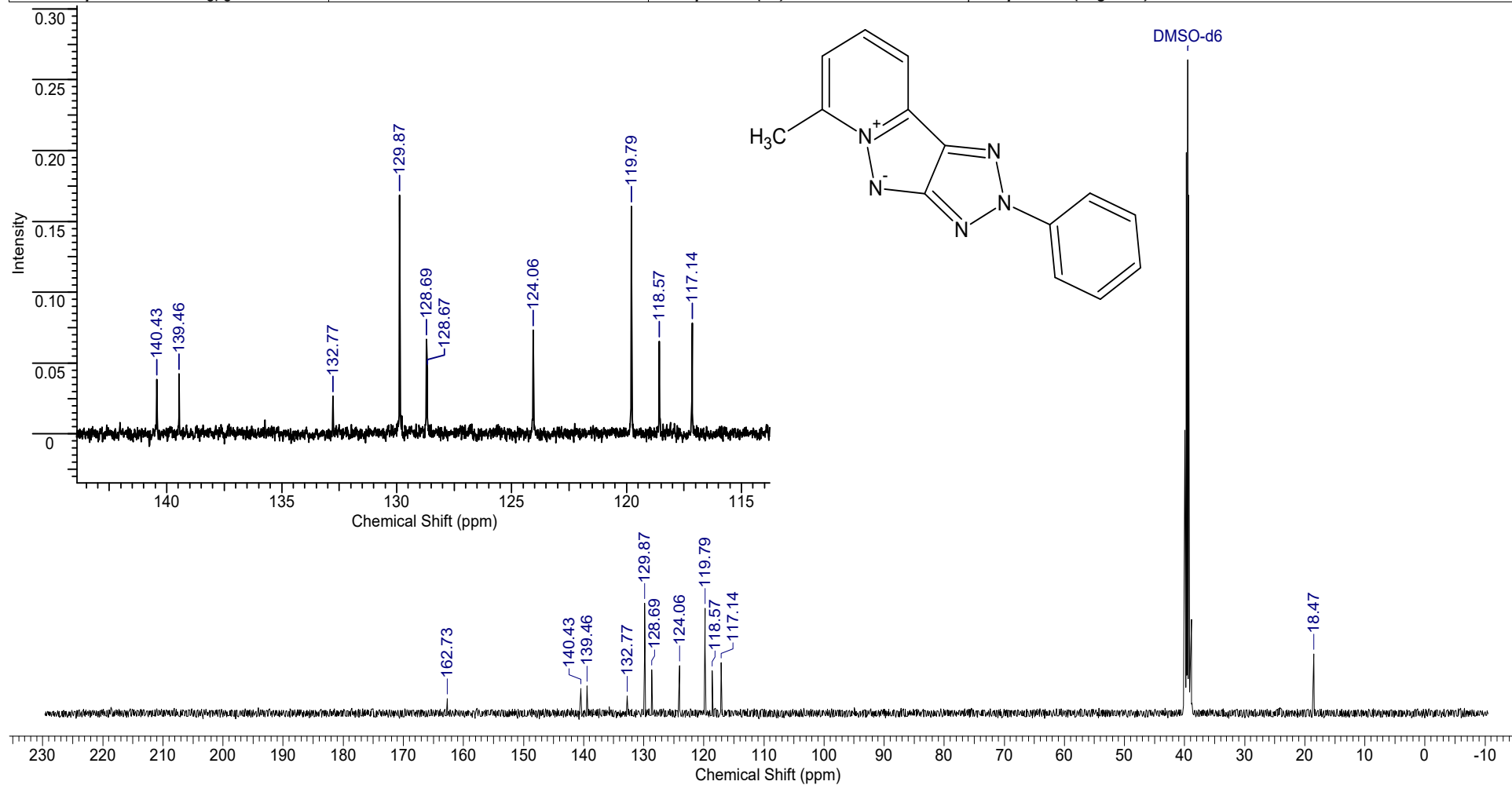
^{13}C NMR spectrum of **3b** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	14 Jan 2021 11:03:30	
File Name					Frequency (MHz)	400.13	
Nucleus	1H	Number of Transients	4	Original Points Count	32768	Points Count	131072
Pulse Sequence	zg30	Solvent	DMSO-D6	Sweep Width (Hz)	8012.82	Temperature (degree C)	27.000



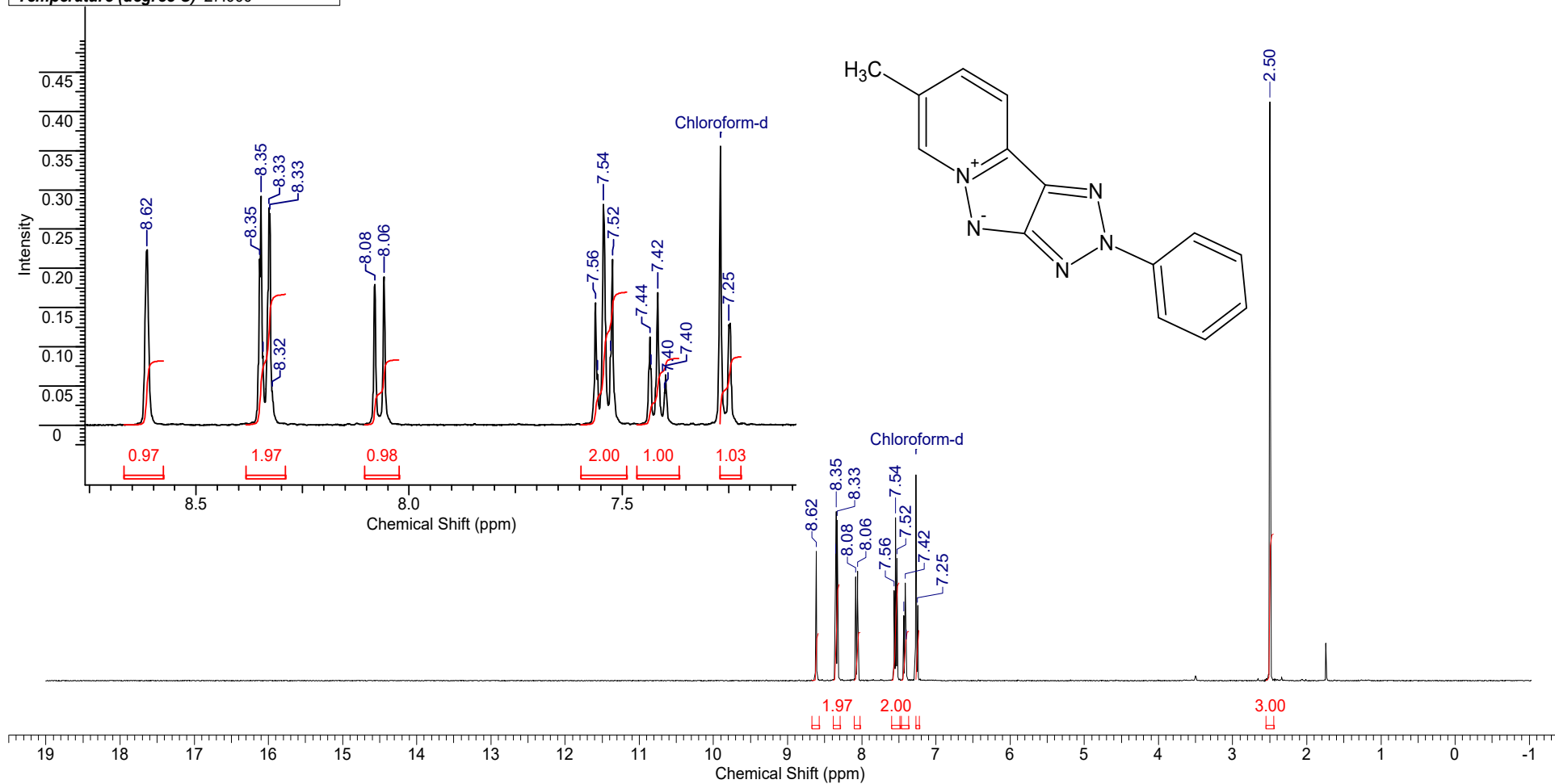
^1H NMR spectrum of **3c** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	14 Jan 2021 11:30:54	
File Name		Number of Transients	641	Original Points Count	16384	Frequency (MHz)	100.61
Nucleus	¹³ C	Solvent	DMSO-D6	Sweep Width (Hz)	24154.59	Points Count	131072
Pulse Sequence	zgpg30					Temperature (degree C)	27.000



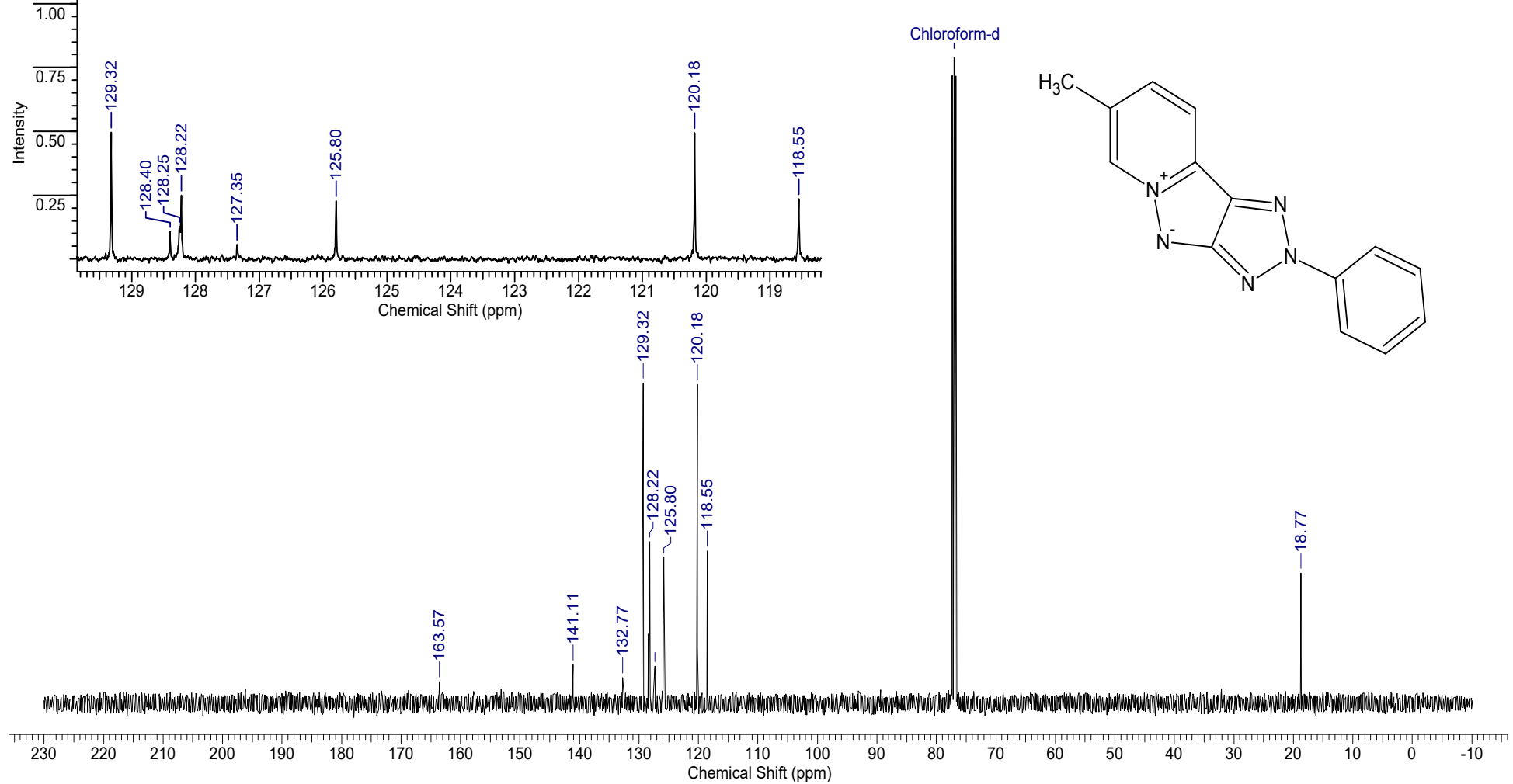
^{13}C NMR spectrum of **3c** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	09 Feb 2021 14:46:34
File Name		Number of Transients	4	Frequency (MHz)	400.13
Nucleus	¹ H	Original Points Count	32768	Points Count	131072
Pulse Sequence	zg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	8012.82
Temperature (degree C)	27.000				



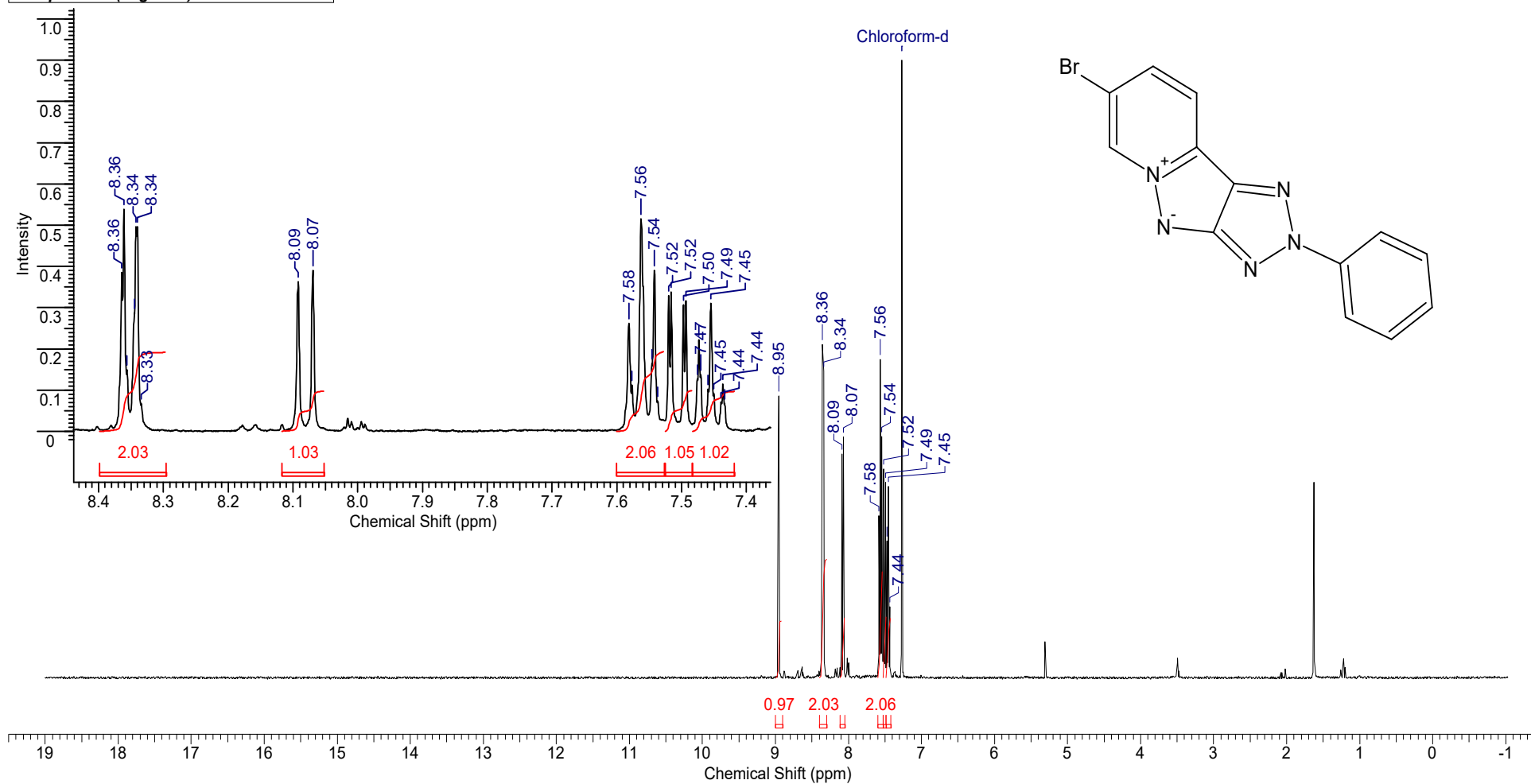
^1H NMR spectrum of **3d** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.	Date	09 Feb 2021 14:56:30
File Name		Number of Transients	241	Frequency (MHz)	100.61
Nucleus	¹³ C	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59
				Temperature (degree C)	27.000



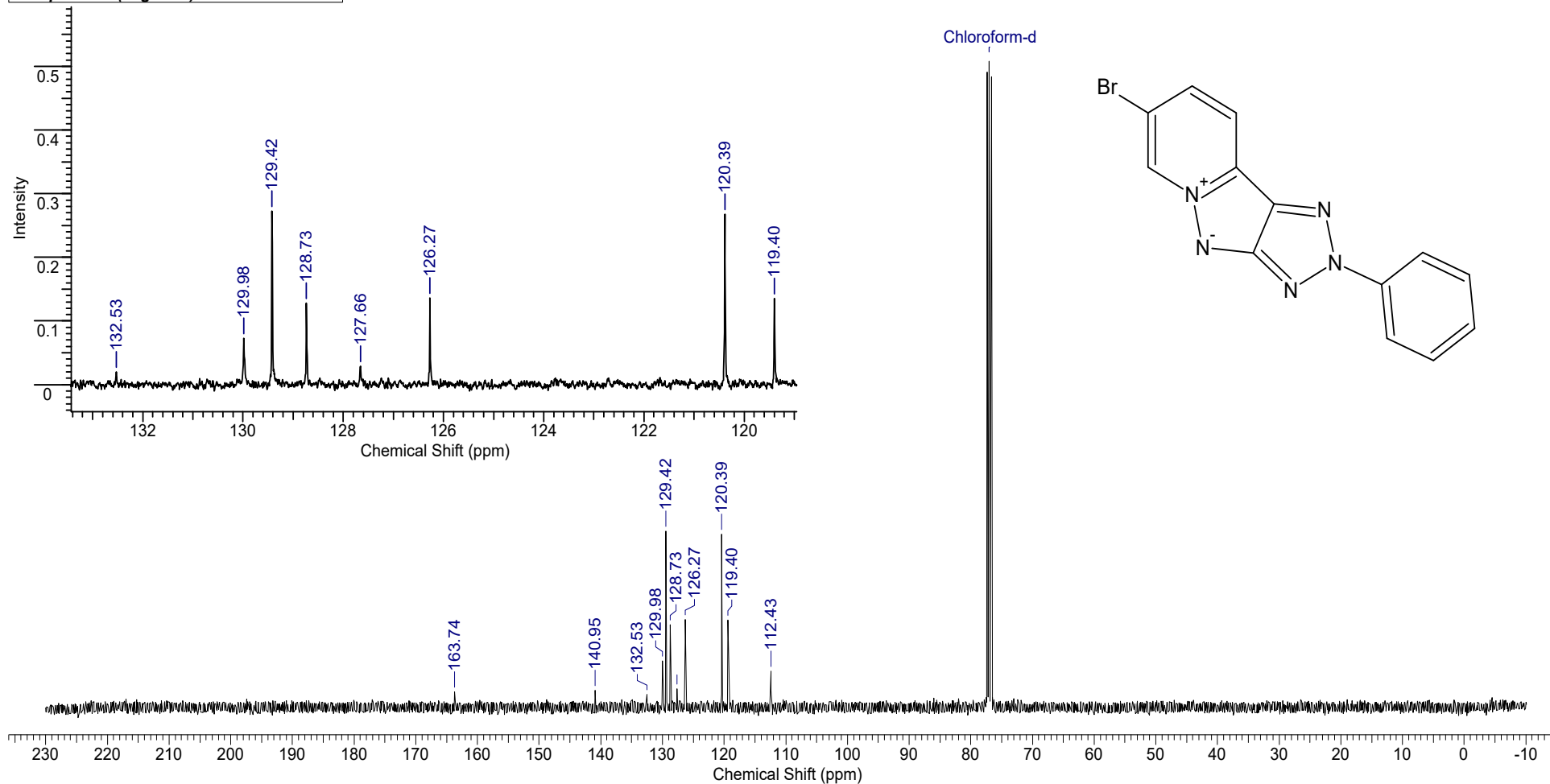
^{13}C NMR spectrum of **3d** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXMNR.		Date	24 Feb 2021 17:31:40
File Name		Number of Transients	4	Original Points Count	Frequency (MHz)	400.13
Nucleus	¹ H	Solvent	CHLOROFORM-D		Points Count	131072
Pulse Sequence	zg30	Temperature (degree C)	27.000		Sweep Width (Hz)	8012.82



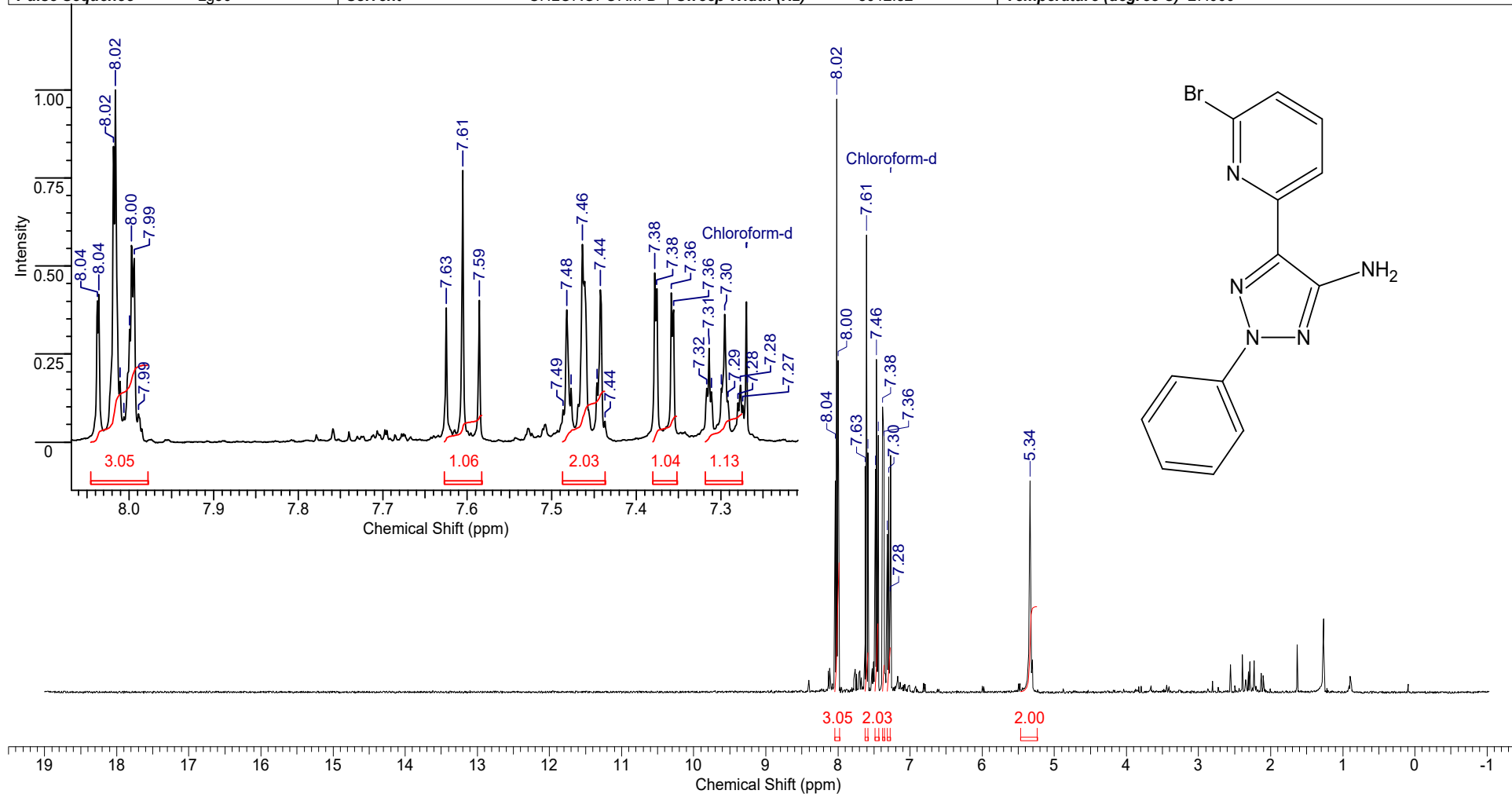
^1H NMR spectrum of **3e** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	25 Feb 2021 15:11:22
File Name		Number of Transients	620	Original Points Count	Frequency (MHz)	100.61
Nucleus	¹³ C	Solvent	CHLOROFORM-D		Points Count	131072
Pulse Sequence	zgpg30	Temperature (degree C)	27.000		Sweep Width (Hz)	24154.59



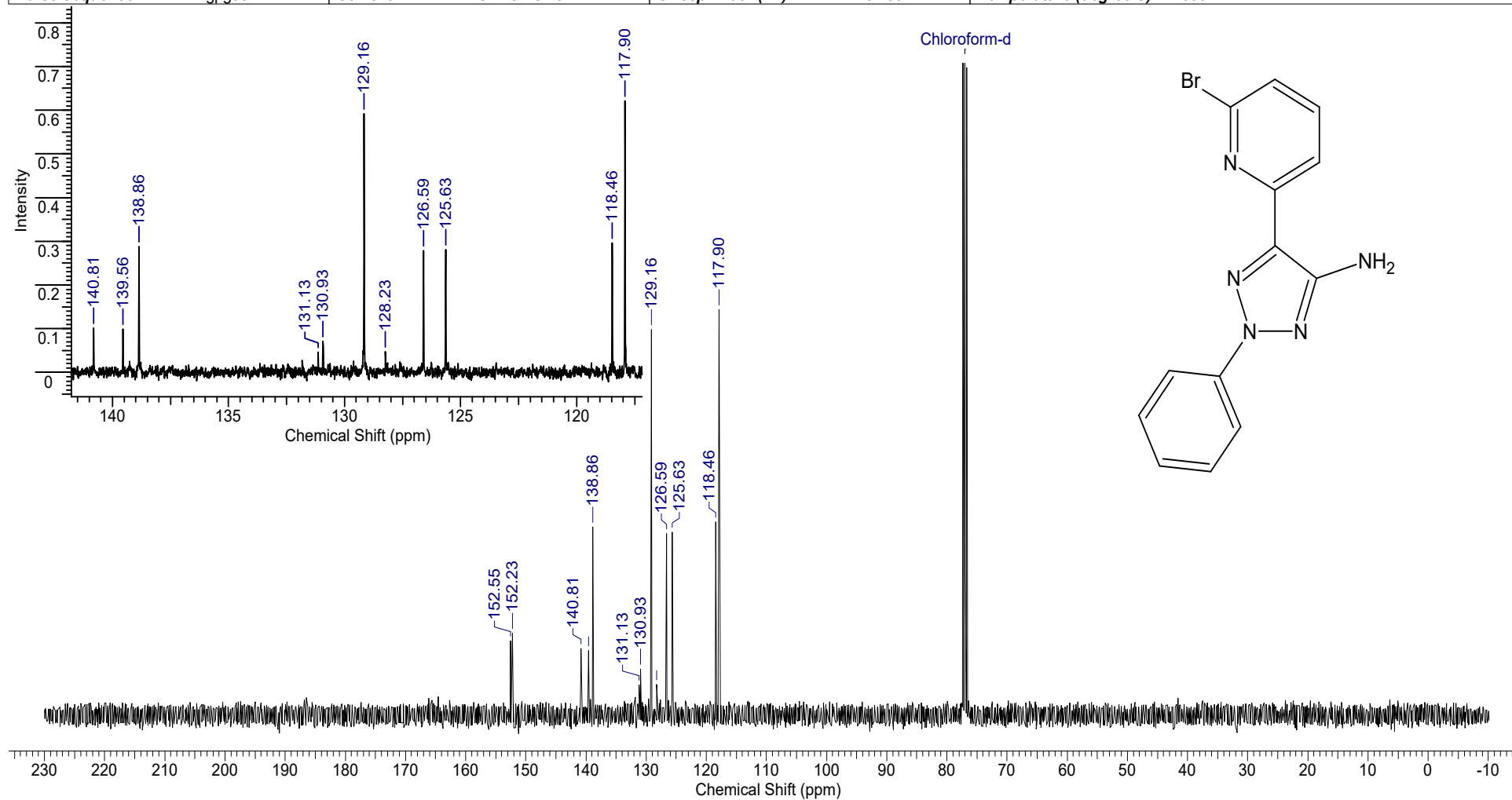
^{13}C NMR spectrum of **3e** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	19 Feb 2021 12:54:24
File Name		Number of Transients	4	Original Points Count	Frequency (MHz)	400.13
Nucleus	¹ H	Solvent	CHLOROFORM-D	Sweep Width (Hz)	Points Count	32768
Pulse Sequence	zg30				Temperature (degree C)	27.000



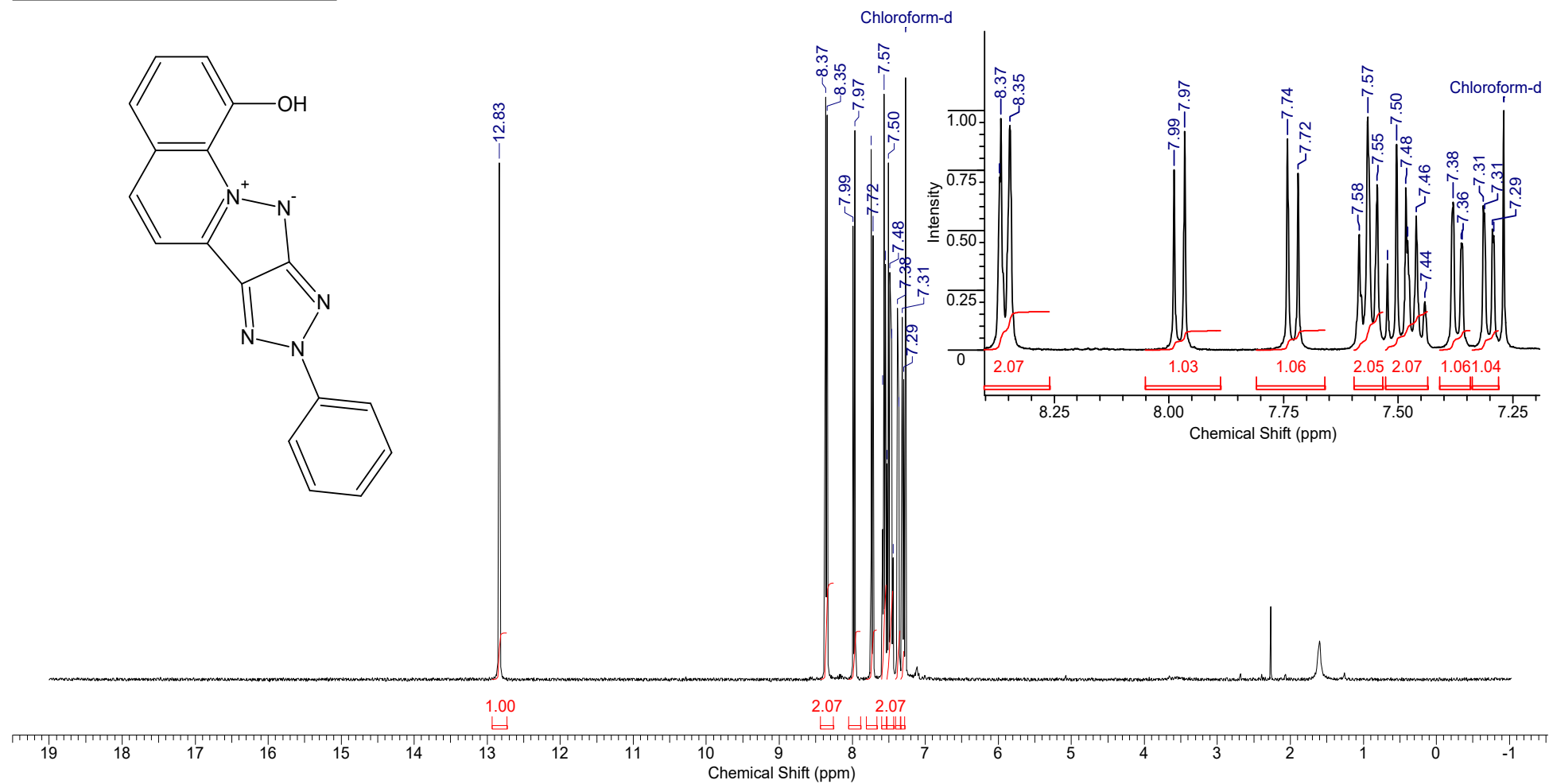
^1H NMR spectrum of **3f** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	25 Feb 2021 12:34:46
File Name		Number of Transients	193	Original Points Count	Frequency (MHz)	100.61
Nucleus	¹³ C	Solvent	CHLOROFORM-D	Sweep Width (Hz)	Points Count	131072
Pulse Sequence	zgpg30				Temperature (degree C)	27.000



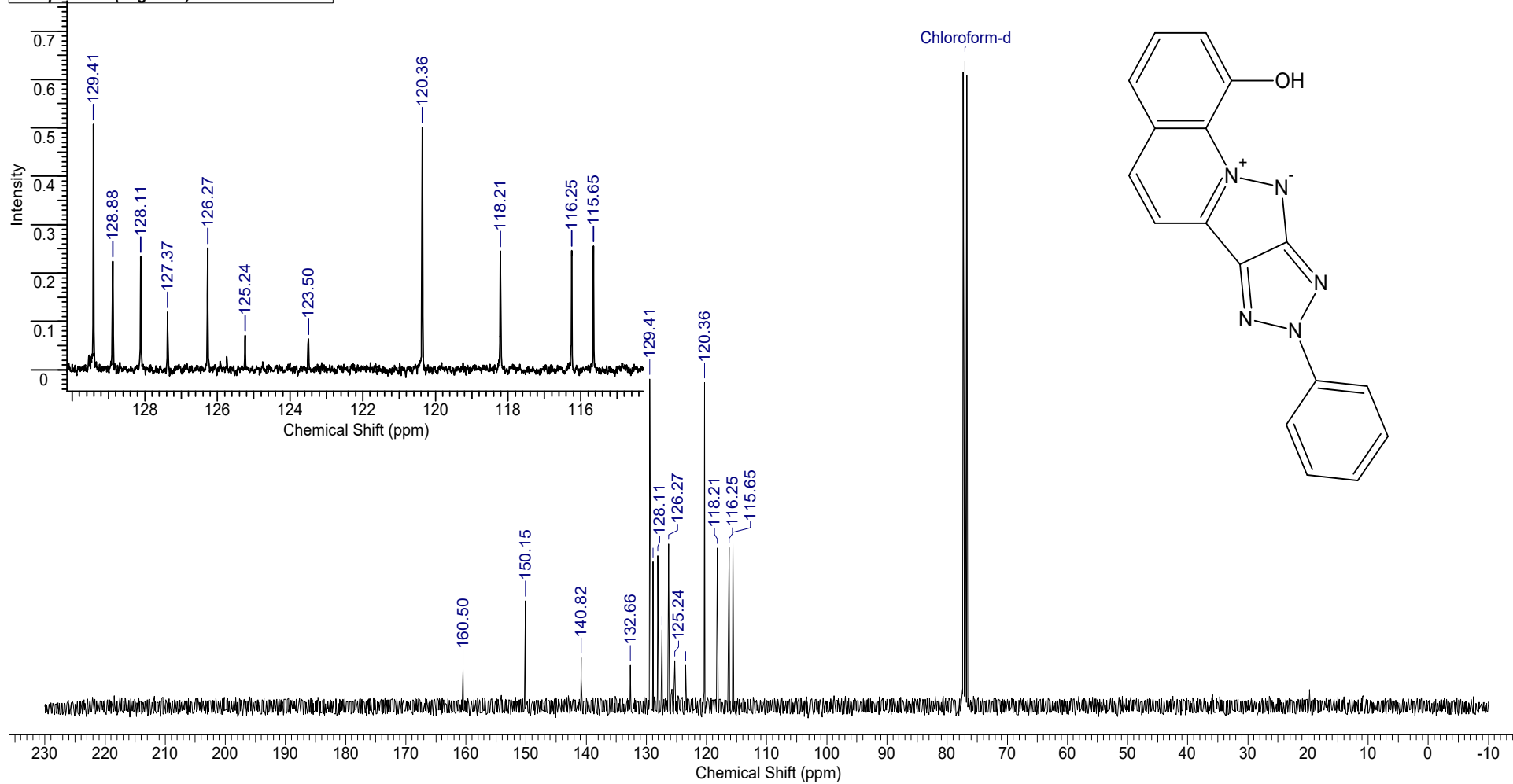
^{13}C NMR spectrum of **3f** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	28 Oct 2020 17:12:48
File Name		Number of Transients	4	Original Points Count	Frequency (MHz)	400.13
Nucleus	¹ H	Solvent	CHLOROFORM-D		Points Count	131072
Pulse Sequence	zg30				Sweep Width (Hz)	8012.82
Temperature (degree C)	27.000					



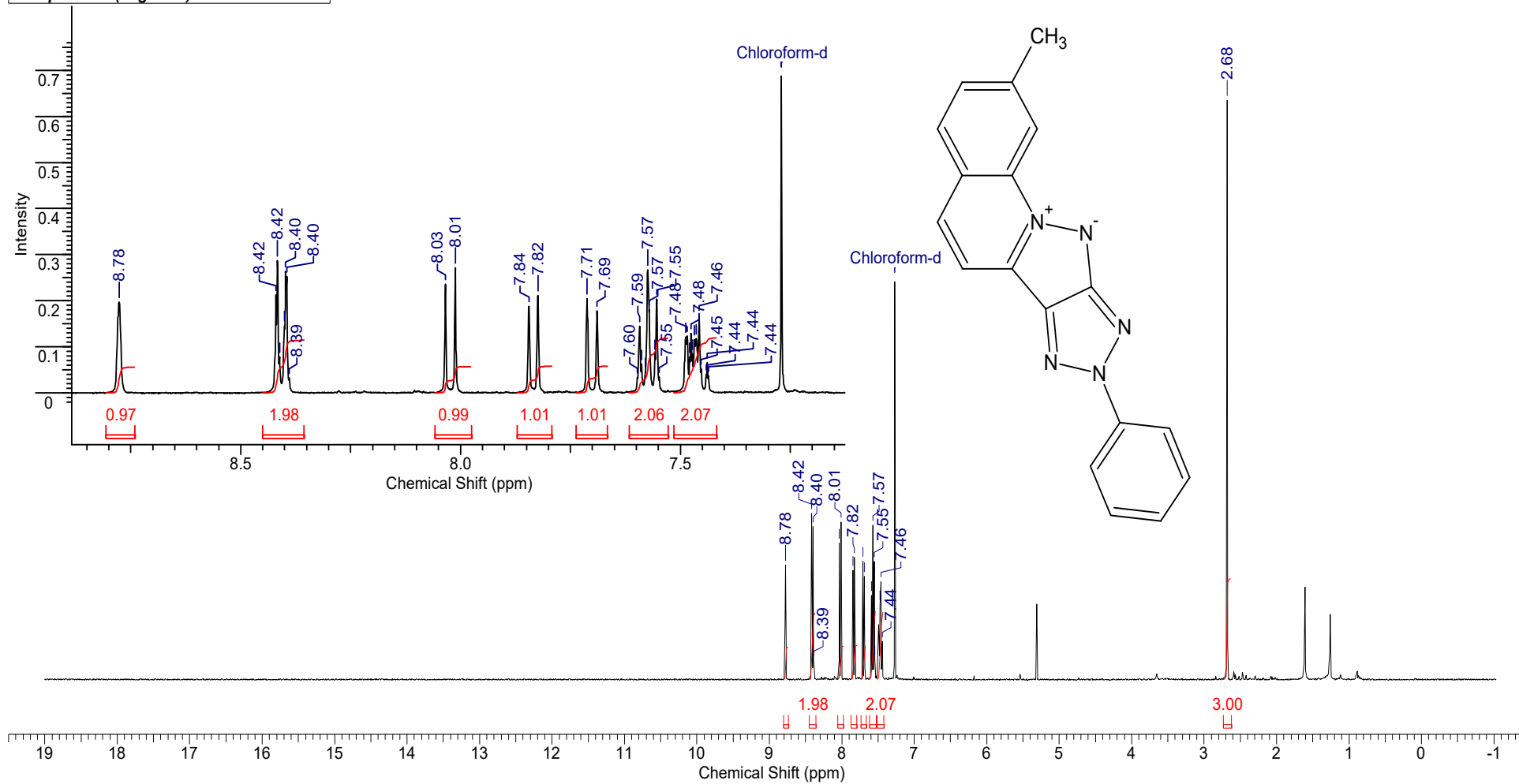
^1H NMR spectrum of **3g** (400.1 MHz, CDCl_3)

Acquisition Time (sec) 0.6783	Comment Imported from UXNMR.	Date 27 Oct 2020 14:54:42
File Name		Frequency (MHz) 100.61
Nucleus 13C	Number of Transients 329	Original Points Count 16384
Pulse Sequence zgpg30	Solvent CHLOROFORM-D	Points Count 131072
Temperature (degree C) 27.000		Sweep Width (Hz) 24154.59



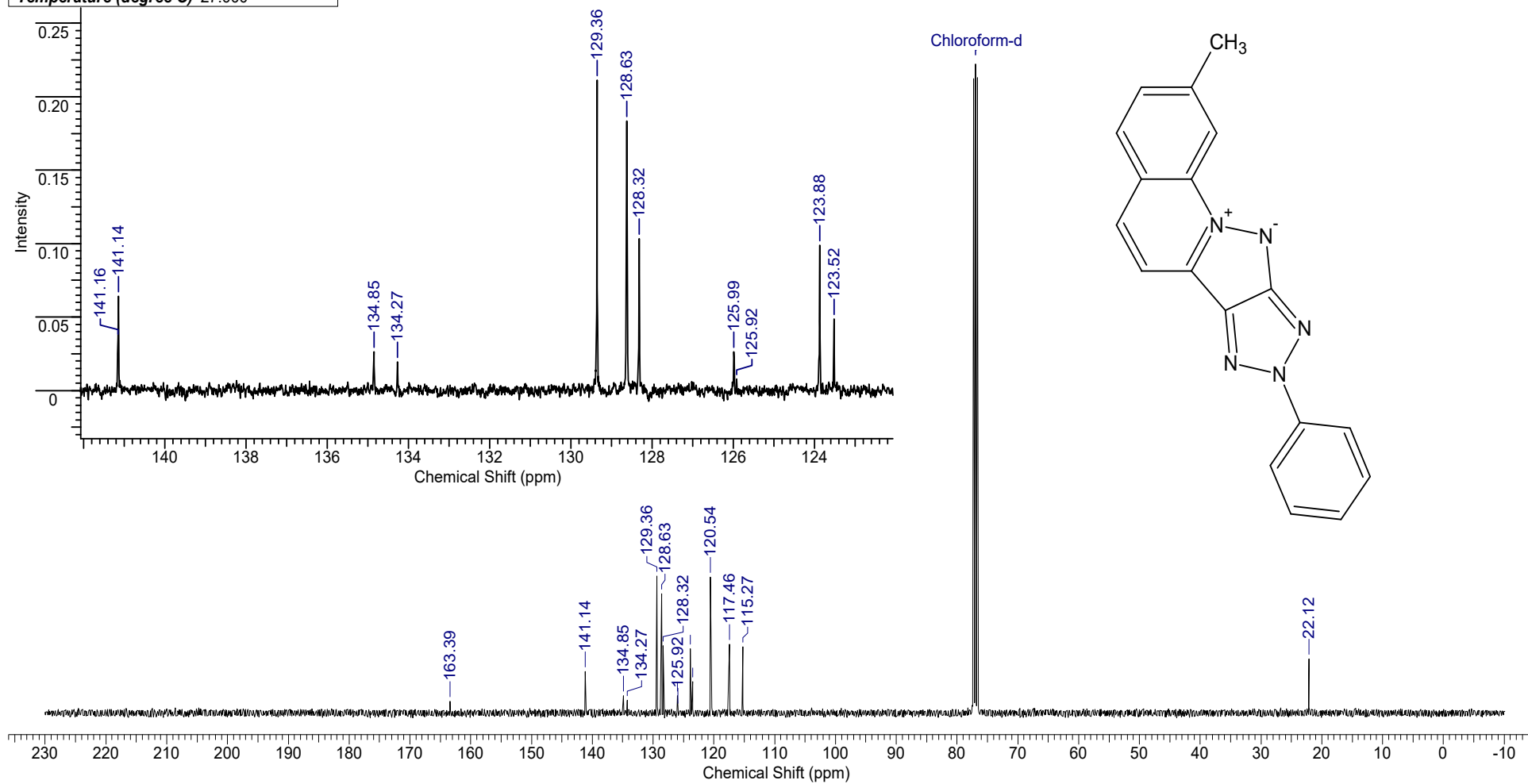
^{13}C NMR spectrum of **3g** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	30 Oct 2020 15:25:44
File Name		Number of Transients	4	Original Points Count	32768
Nucleus	1H	Solvent	CHLOROFORM-D	Points Count	131072
Pulse Sequence	zg30	Temperature (degree C)	27.000	Sweep Width (Hz)	8012.82



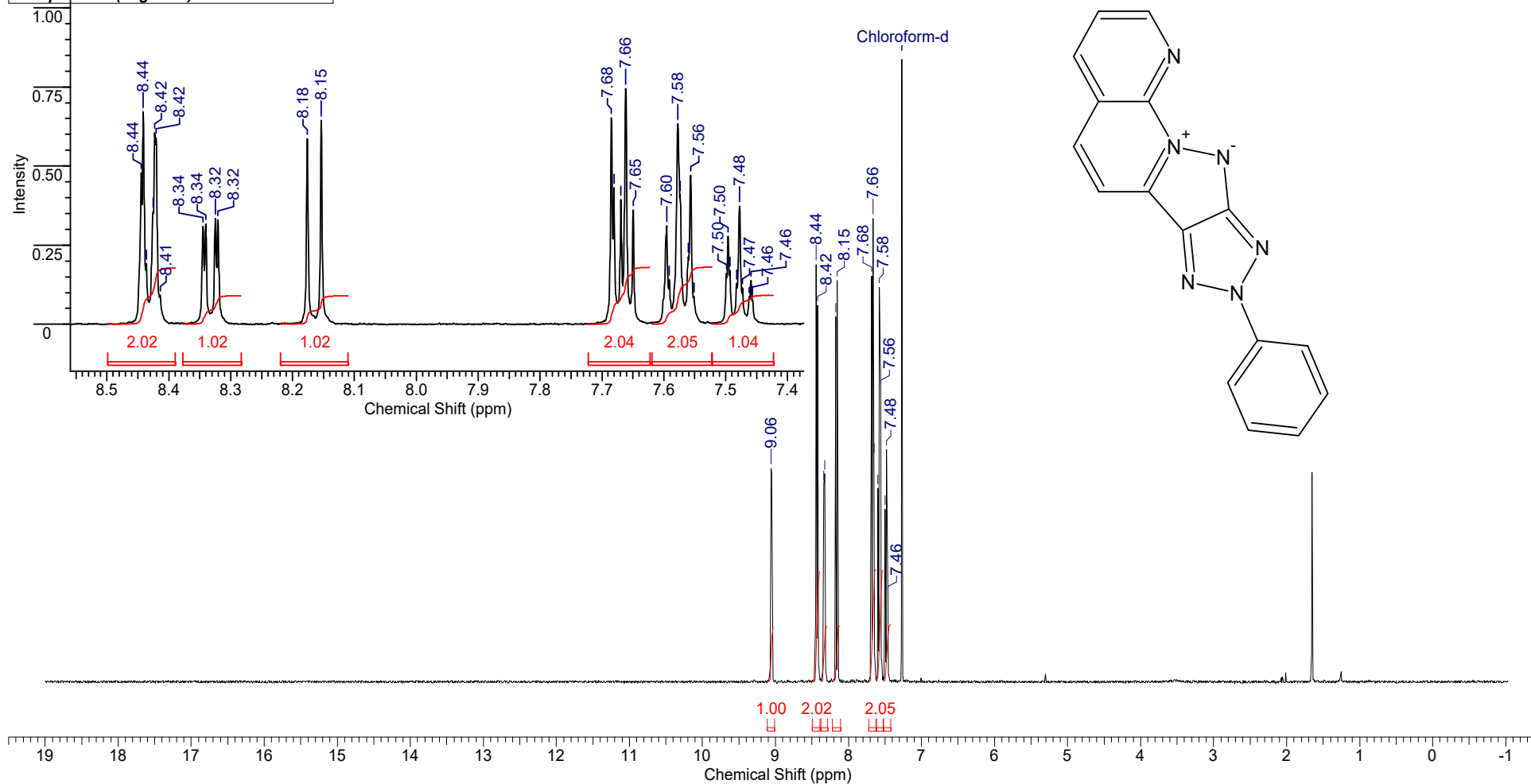
^1H NMR spectrum of **3h** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	27 Oct 2020 16:03:48	
File Name		Number of Transients	1665	Original Points Count	16384	Frequency (MHz)	100.61
Nucleus	13C	Solvent	CHLOROFORM-D		Points Count	131072	
Pulse Sequence	zgpg30	Temperature (degree C)	27.000		Sweep Width (Hz)	24154.59	



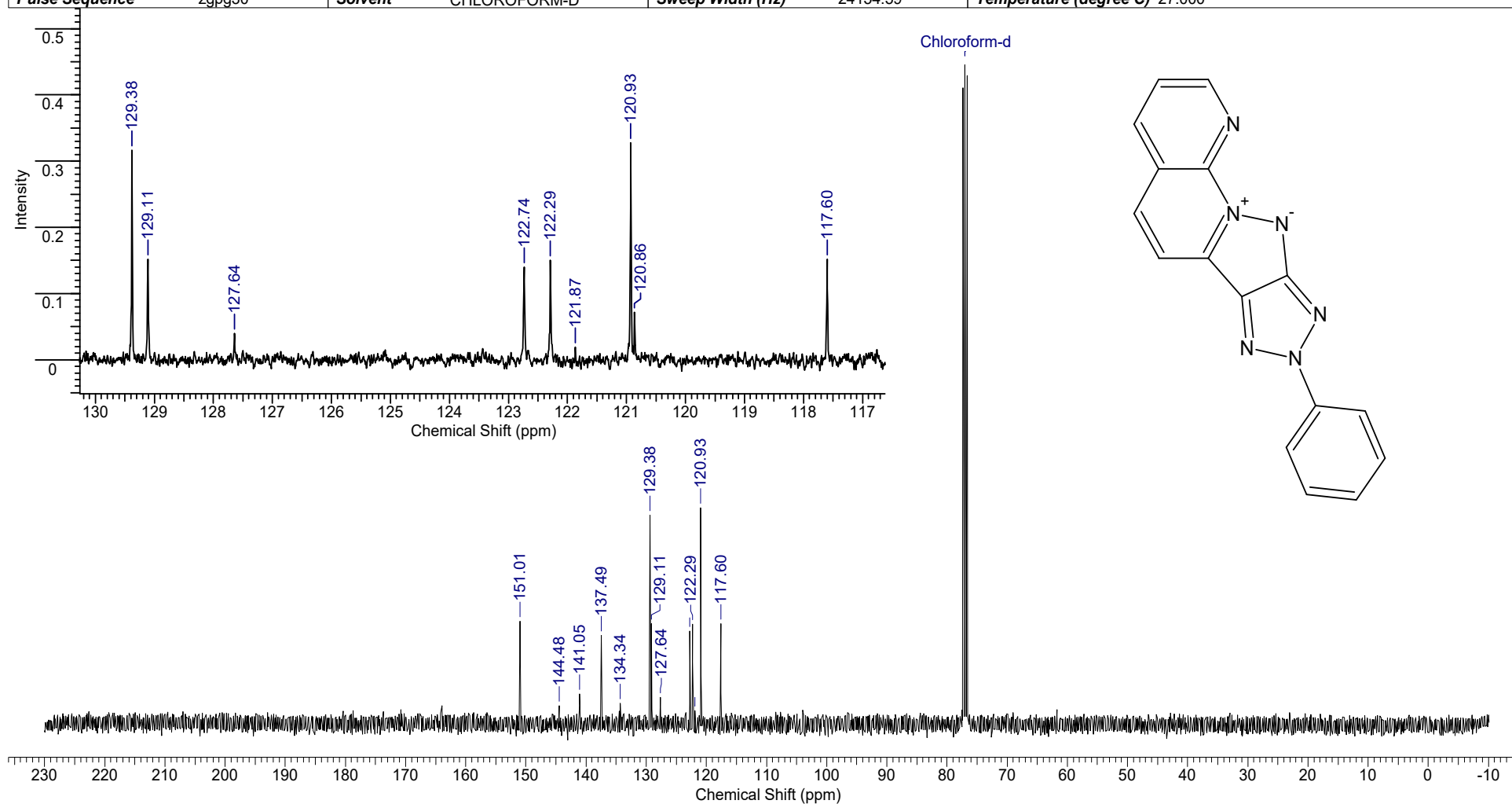
^{13}C NMR spectrum of **3h** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	18 Feb 2021 13:05:08	
File Name					Frequency (MHz)	400.13	
Nucleus	1H	Number of Transients	4	Original Points Count	32768	Points Count	131072
Pulse Sequence	zg30	Solvent	CHLOROFORM-D		Sweep Width (Hz)	8012.82	
Temperature (degree C)	27.000						



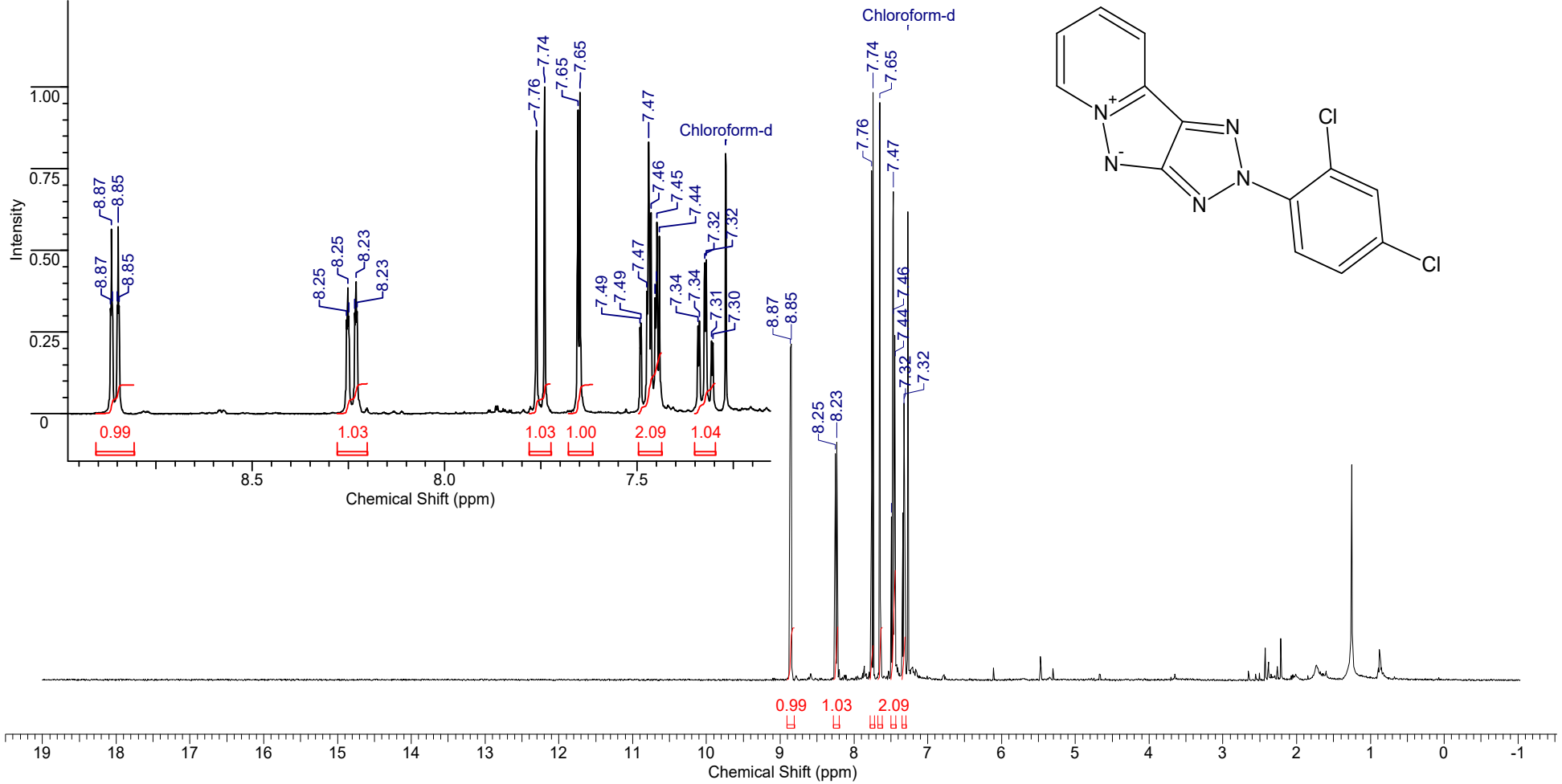
^1H NMR spectrum of **3i** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	18 Feb 2021 13:30:14	
File Name		Number of Transients	574	Original Points Count	16384	Frequency (MHz)	100.61
Nucleus	¹³ C	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Points Count	131072
Pulse Sequence	zgpg30					Temperature (degree C)	27.000



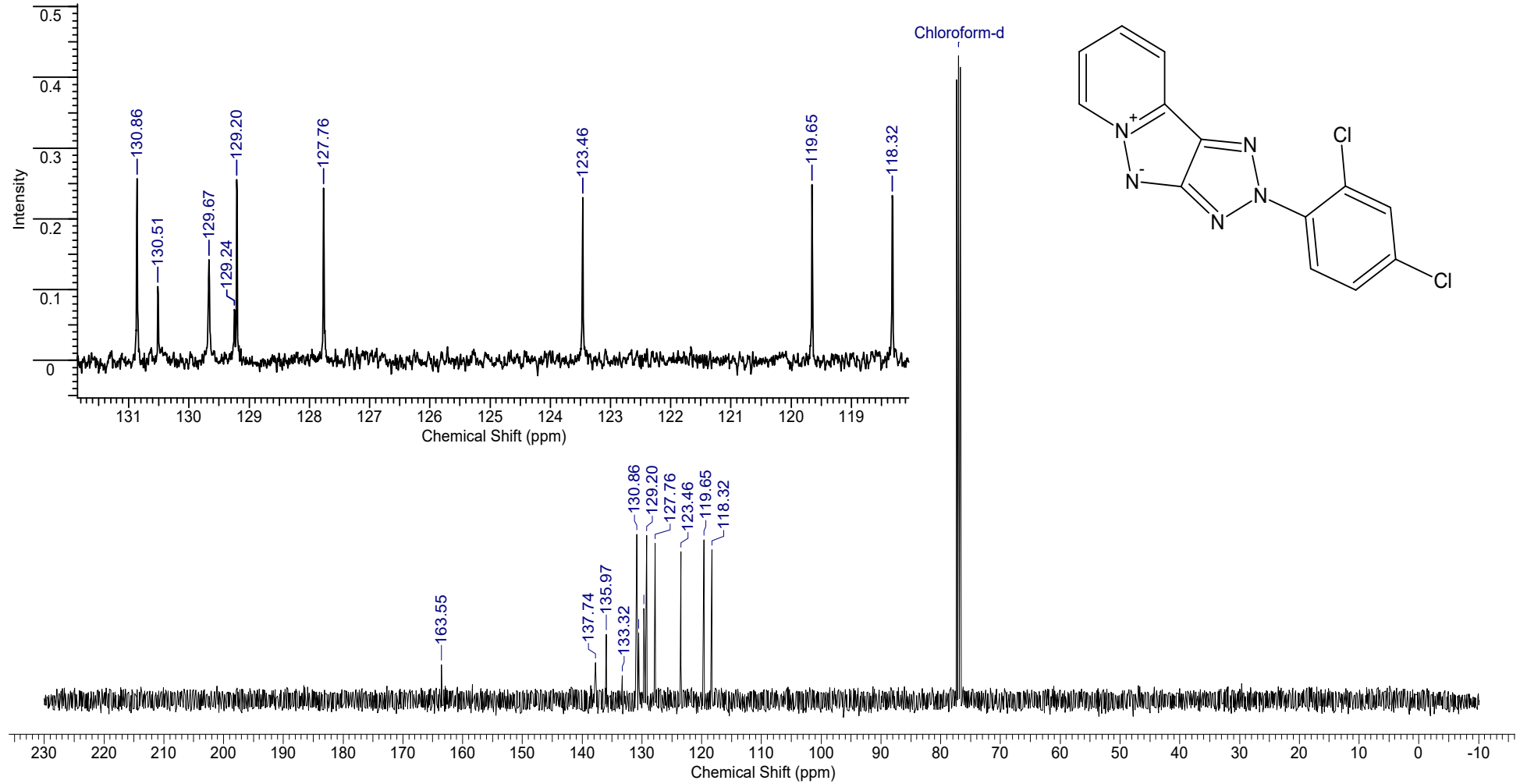
^{13}C NMR spectrum of **3i** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXMNR.		Date	13 Nov 2020 14:54:42	
File Name					Frequency (MHz)	400.13	
Nucleus	1H	Number of Transients	4	Original Points Count	32768	Points Count	131072
Pulse Sequence	zg30	Solvent	CHLOROFORM-D		Sweep Width (Hz)	8012.82	
Temperature (degree C)	27.000						



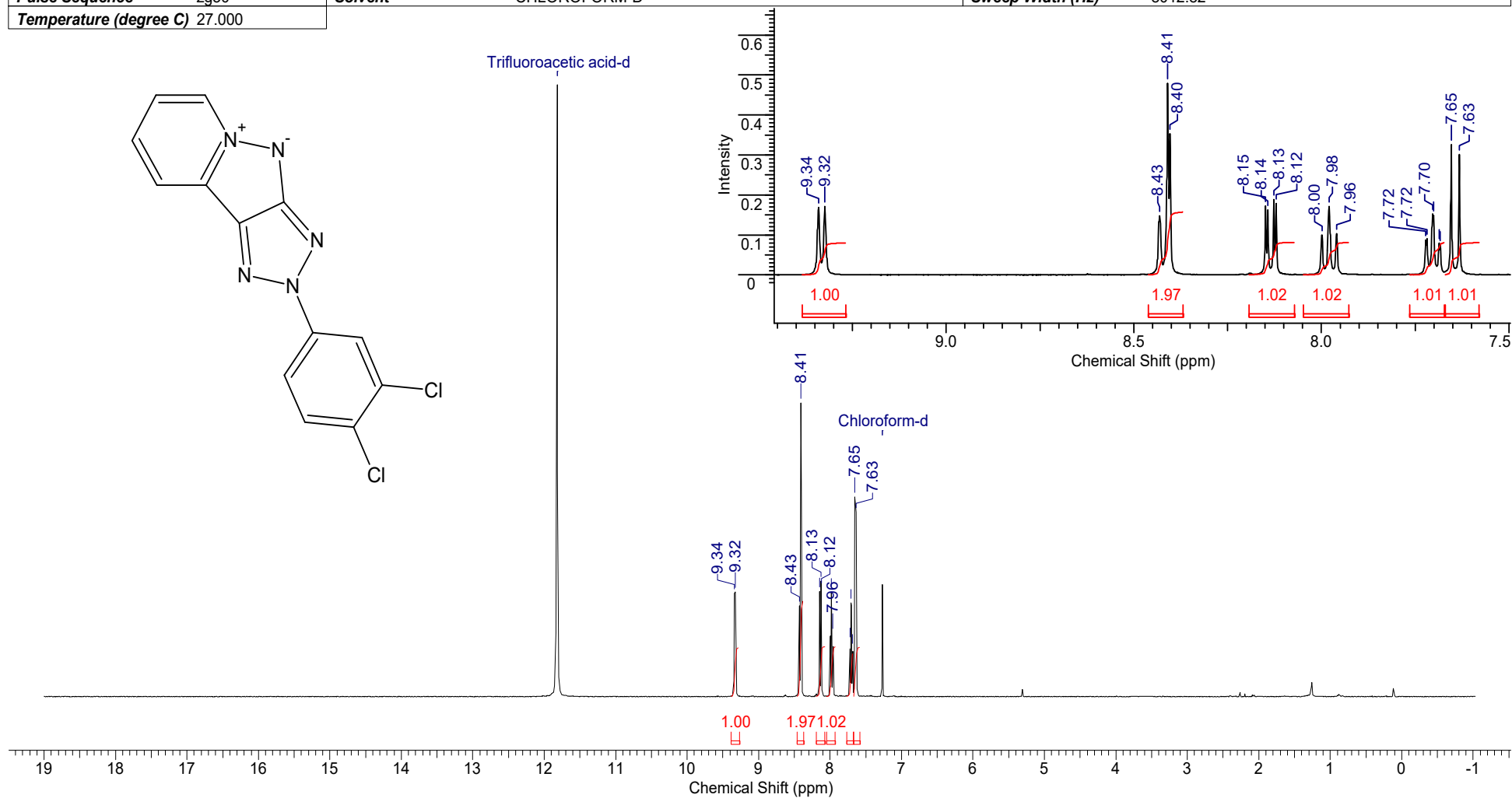
^1H NMR spectrum of **3j** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.	Date	13 Nov 2020 15:05:20
File Name				Frequency (MHz)	100.61
Nucleus	13C	Number of Transients	241	Original Points Count	16384
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59
				Temperature (degree C)	27.000



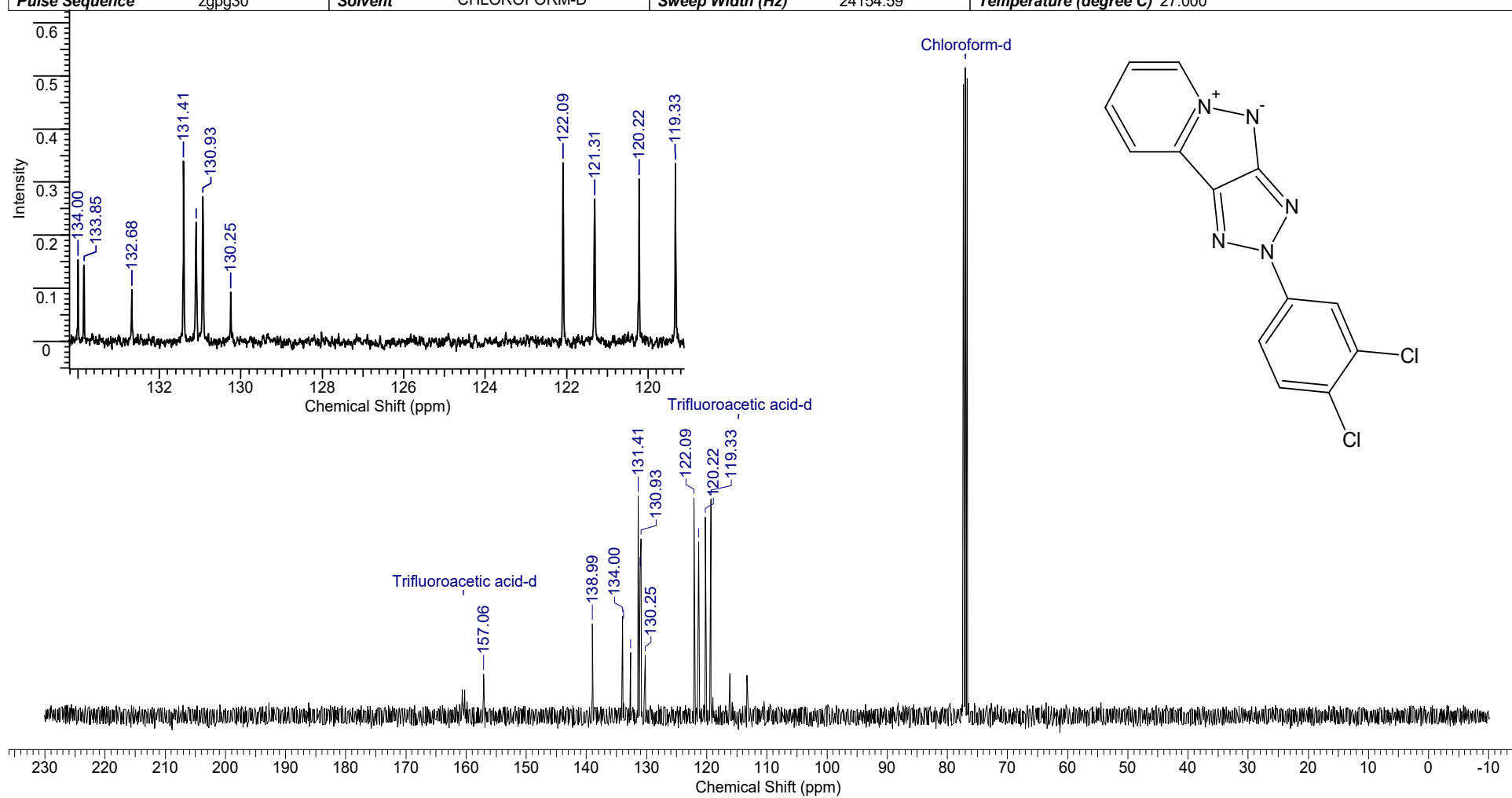
^{13}C NMR spectrum of **3j** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	24 Feb 2021 17:33:56
File Name		Number of Transients	4	Frequency (MHz)	400.13
Nucleus	¹ H	Original Points Count	32768	Points Count	131072
Pulse Sequence	zg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	8012.82
Temperature (degree C)	27.000				



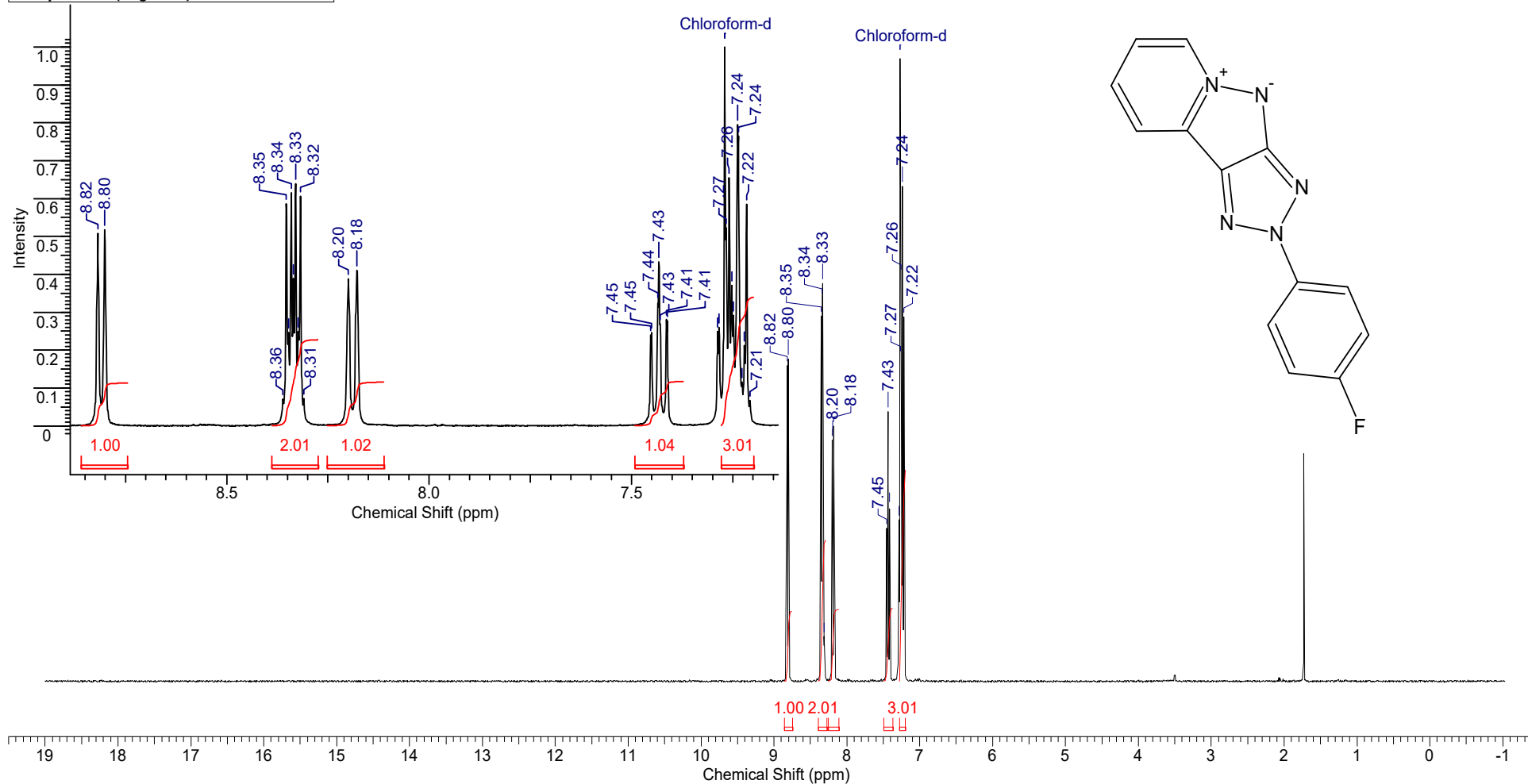
^1H NMR spectrum of **3k** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.		Date	25 Feb 2021 12:24:56	
File Name					Frequency (MHz)	100.61	
Nucleus	13C	Number of Transients	326	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000



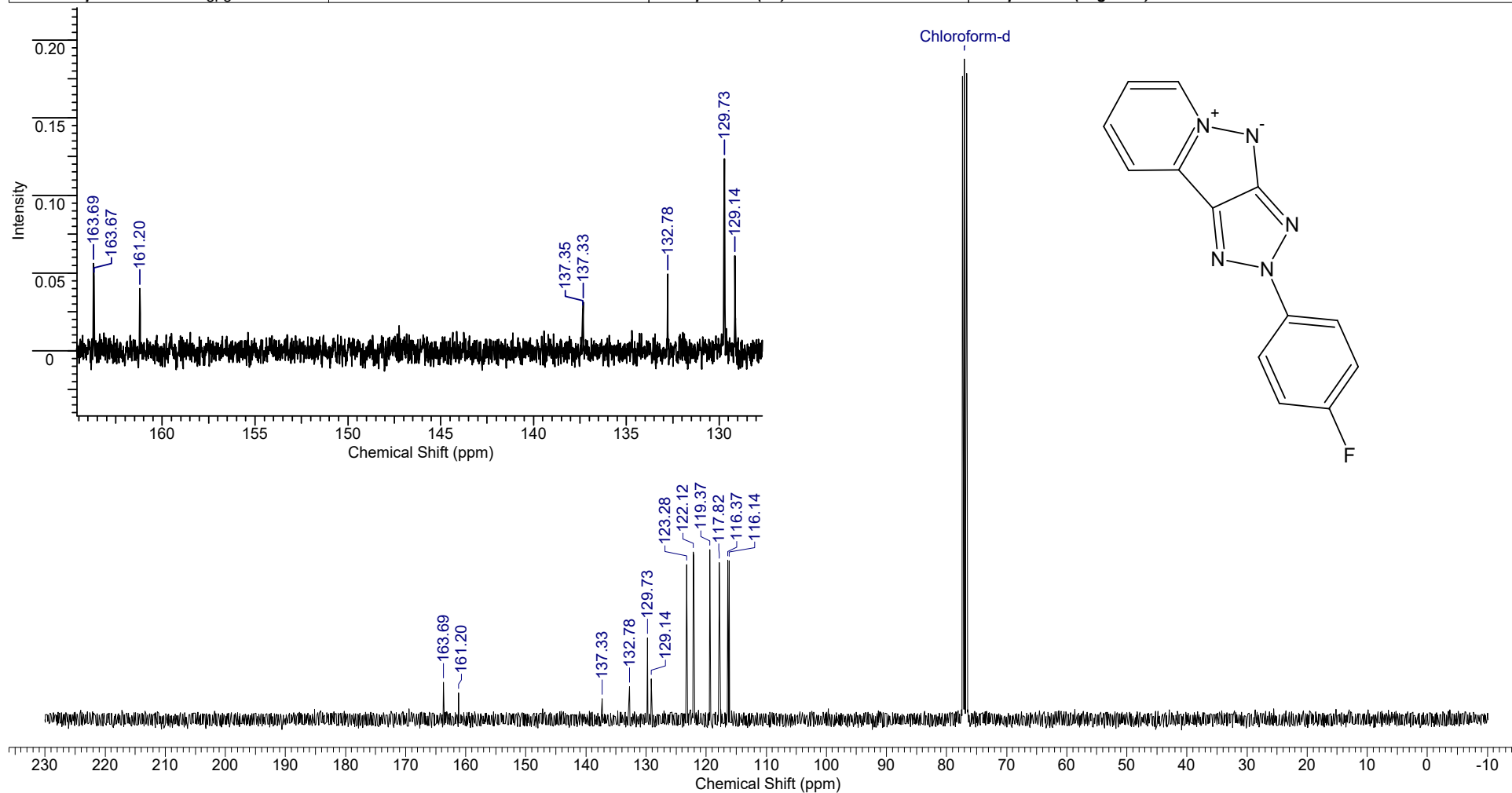
^{13}C NMR spectrum of **3k** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	04 Feb 2021 11:40:42
File Name		Number of Transients	4	Frequency (MHz)	400.13
Nucleus	¹ H	Original Points Count	32768	Points Count	131072
Pulse Sequence	zg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	8012.82
Temperature (degree C)	27.000				



^1H NMR spectrum of **31** (400.1 MHz, CDCl_3)

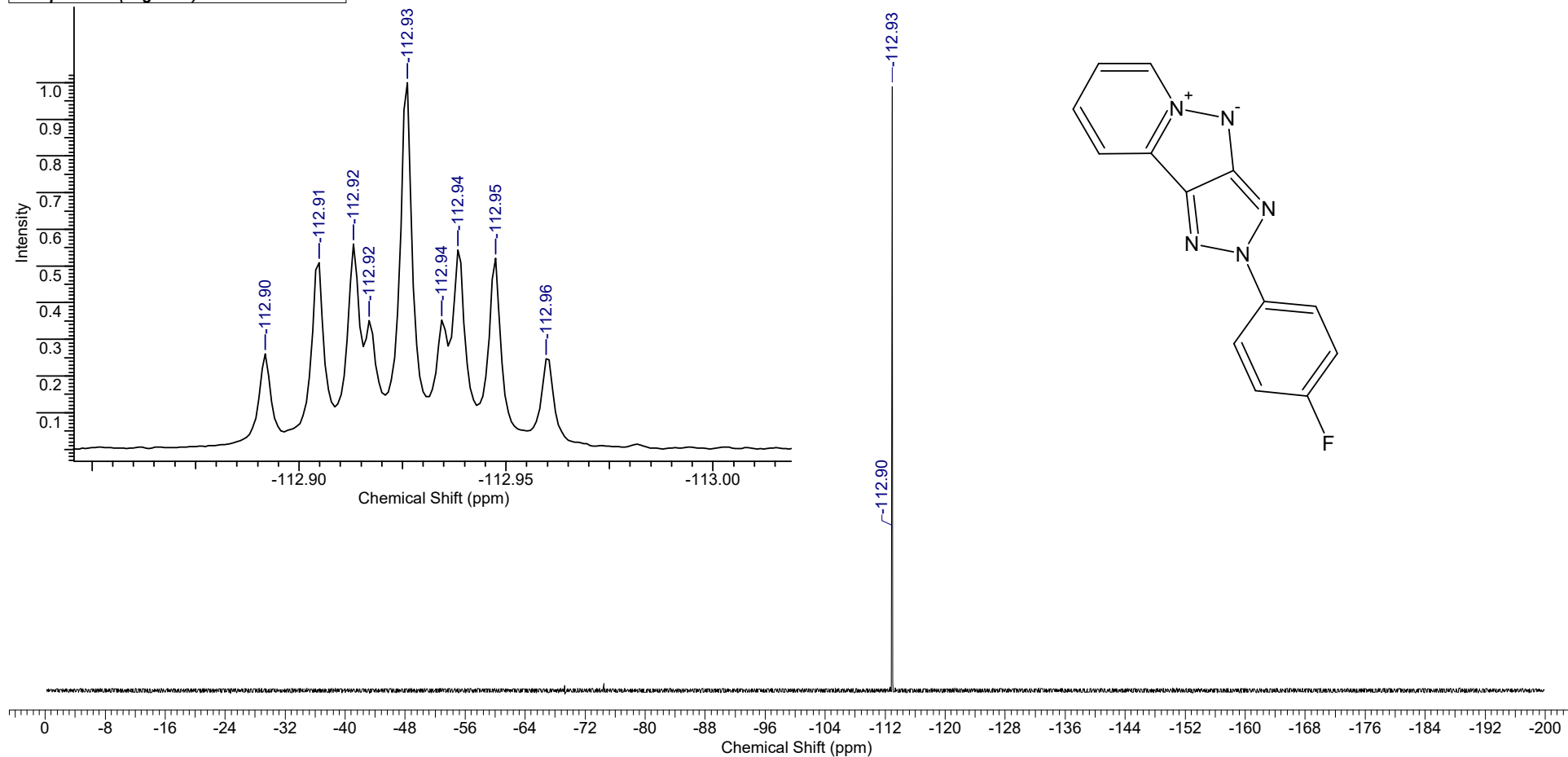
Acquisition Time (sec)	0.6783	Comment	Imported from UXMNR.		Date	04 Feb 2021 11:59:10	
File Name					Frequency (MHz)	100.61	
Nucleus	13C	Number of Transients	474	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000



¹³C NMR spectrum of **31** (100.6 MHz, CDCl₃)

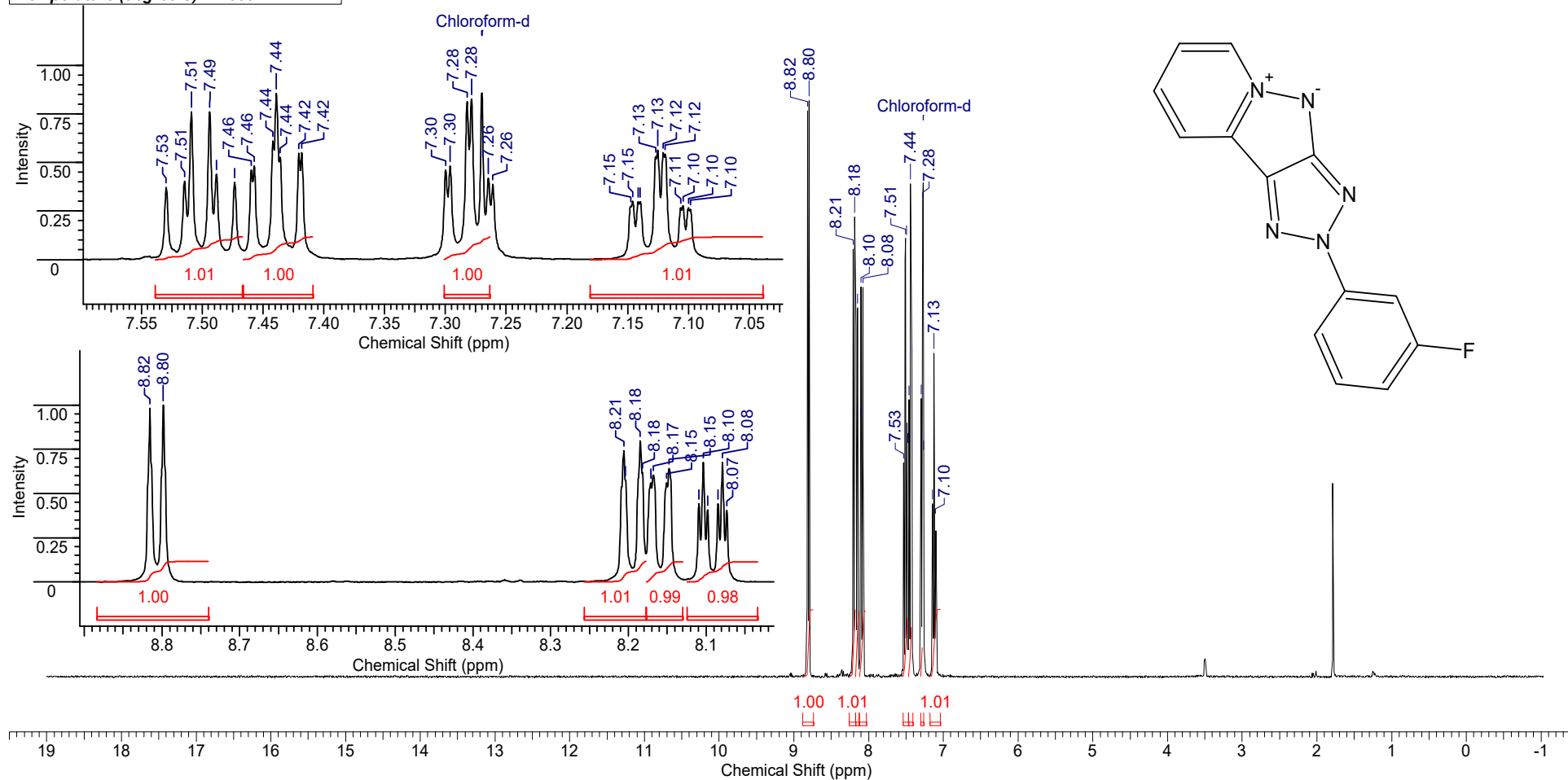
23 Mar 2021

Acquisition Time (sec)	1.7433	Comment	Imported from UXNMR.	Date	08 Feb 2021 15:53:24
File Name				Frequency (MHz)	376.50
Nucleus	19F	Number of Transients	16	Original Points Count	131072
Pulse Sequence	zgflqn	Solvent	CHLOROFORM-D	Points Count	262144
Temperature (degree C)	27.000			Sweep Width (Hz)	75187.97



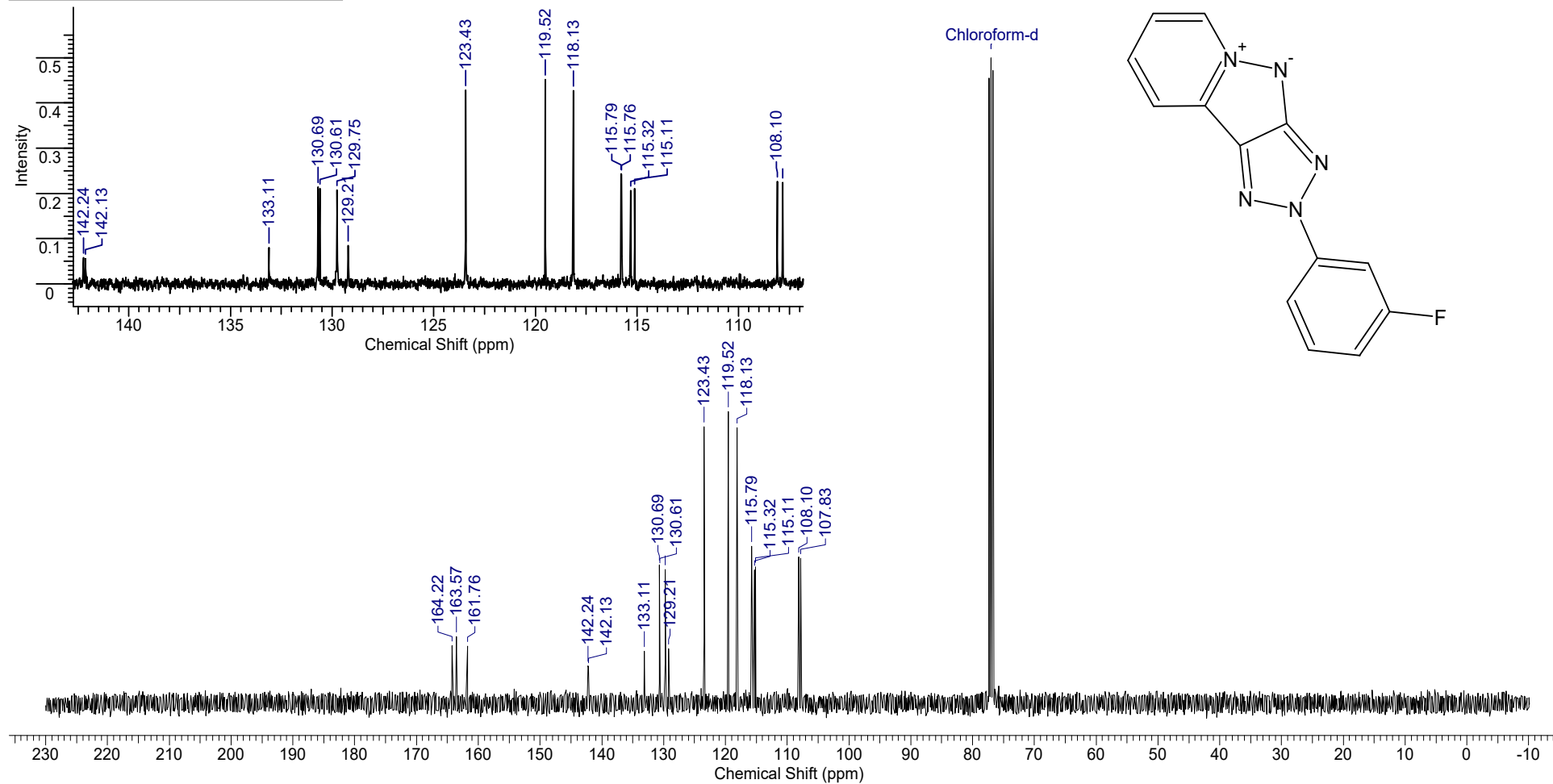
^{19}F NMR spectrum of **31** (376.5 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	17 Feb 2021 17:48:14
File Name		Number of Transients	4	Original Points Count	32768
Nucleus	1H	Solvent	CHLOROFORM-D	Frequency (MHz)	400.13
Pulse Sequence	zg30			Points Count	131072
Temperature (degree C)	27.000			Sweep Width (Hz)	8012.82



^1H NMR spectrum of **3m** (400.1 MHz, CDCl_3)

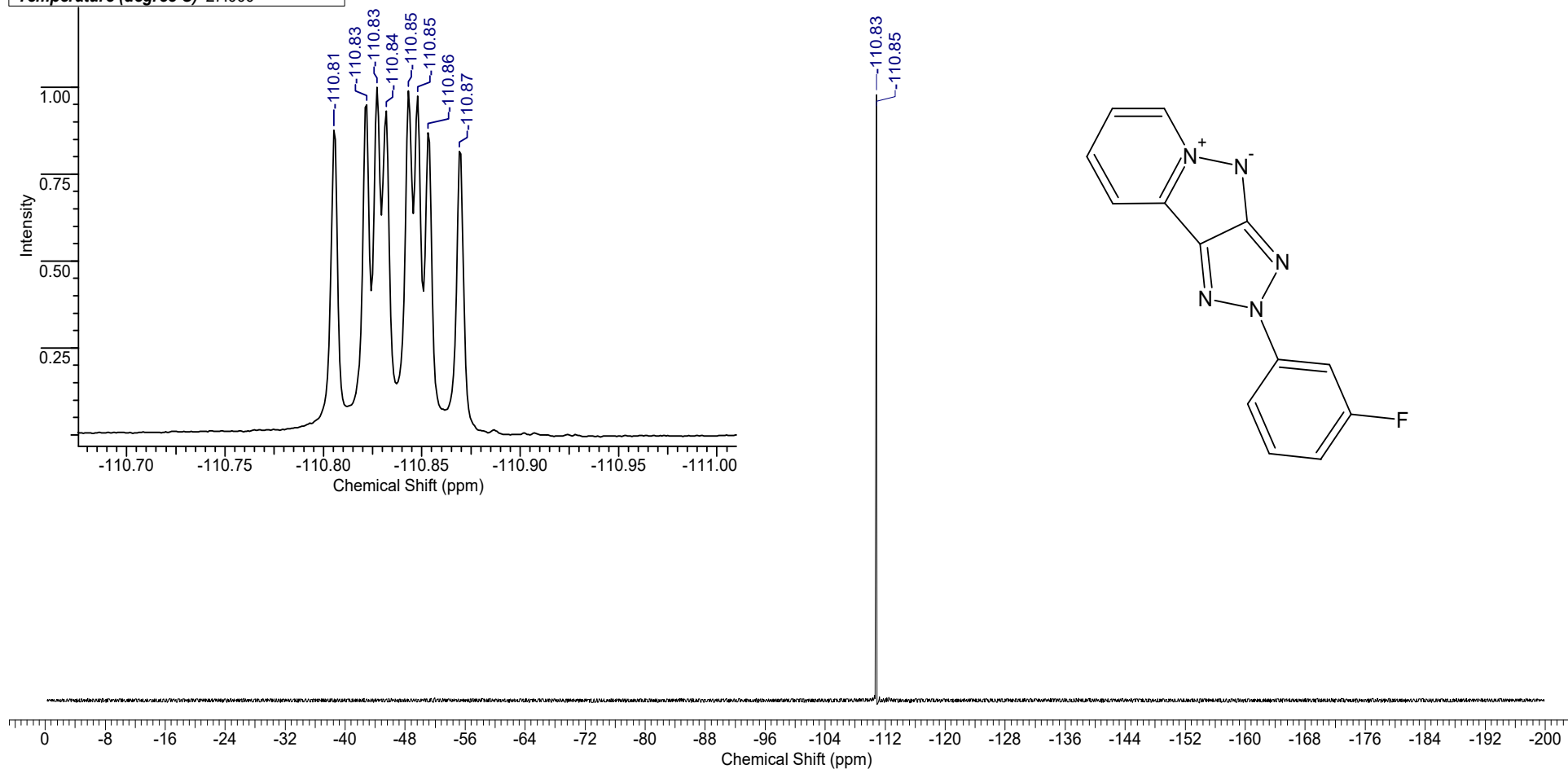
Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	25 Feb 2021 15:21:28	
File Name					Frequency (MHz)	100.61	
Nucleus	13C	Number of Transients	217	Original Points Count	16384	Points Count	131072
Pulse Sequence	zpgpg30	Solvent	CHLOROFORM-D		Sweep Width (Hz)	24154.59	
Temperature (degree C)	27.000						



¹³C NMR spectrum of **3m** (100.6 MHz, CDCl₃)

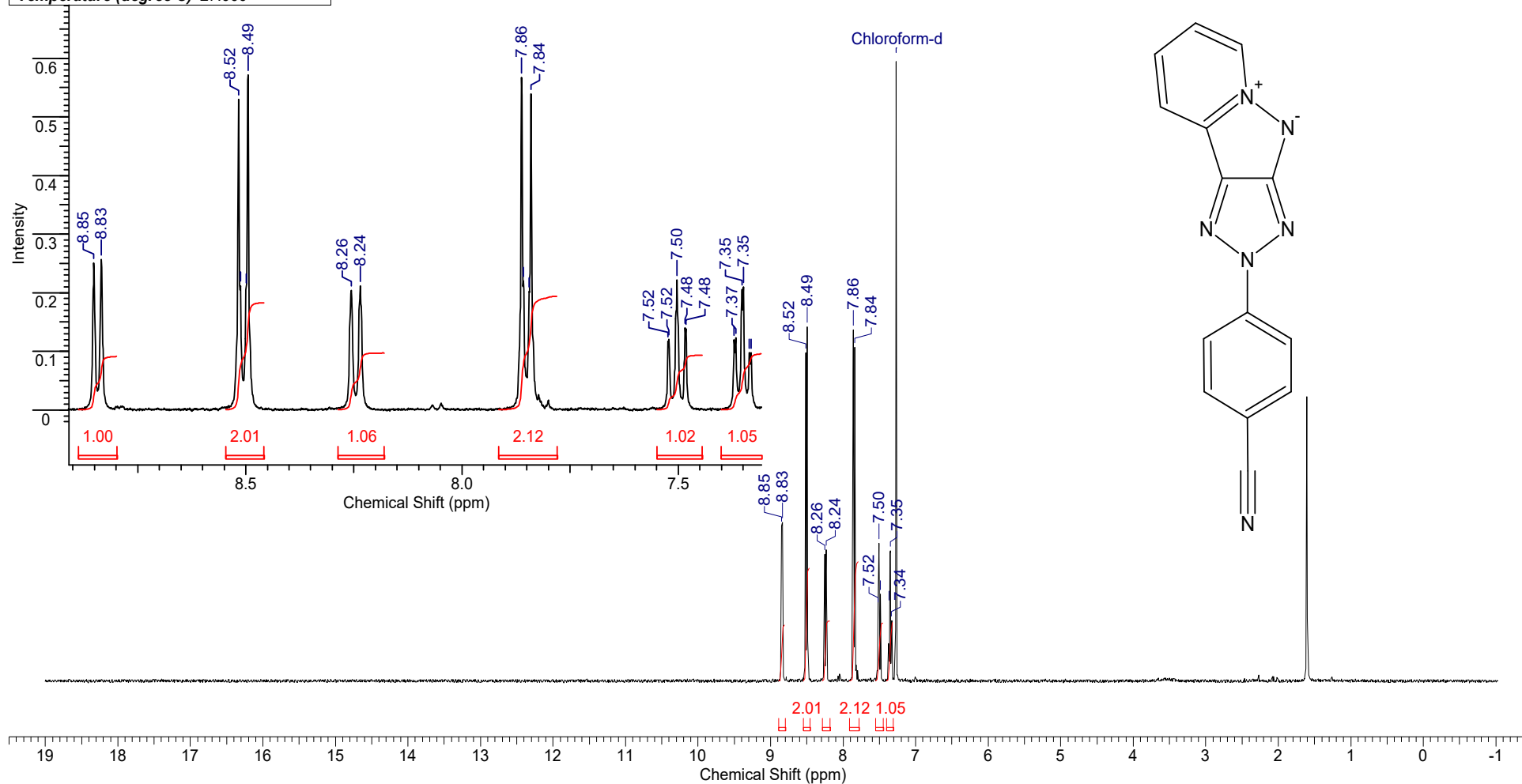
24 Mar 2021

Acquisition Time (sec)	1.7433	Comment	Imported from UXNMR.	Date	15 Feb 2021 15:38:30
File Name				Frequency (MHz)	376.50
Nucleus	19F	Number of Transients	16	Original Points Count	131072
Pulse Sequence	zgflqn	Solvent	CHLOROFORM-D	Points Count	262144
Temperature (degree C)	27.000			Sweep Width (Hz)	75187.97



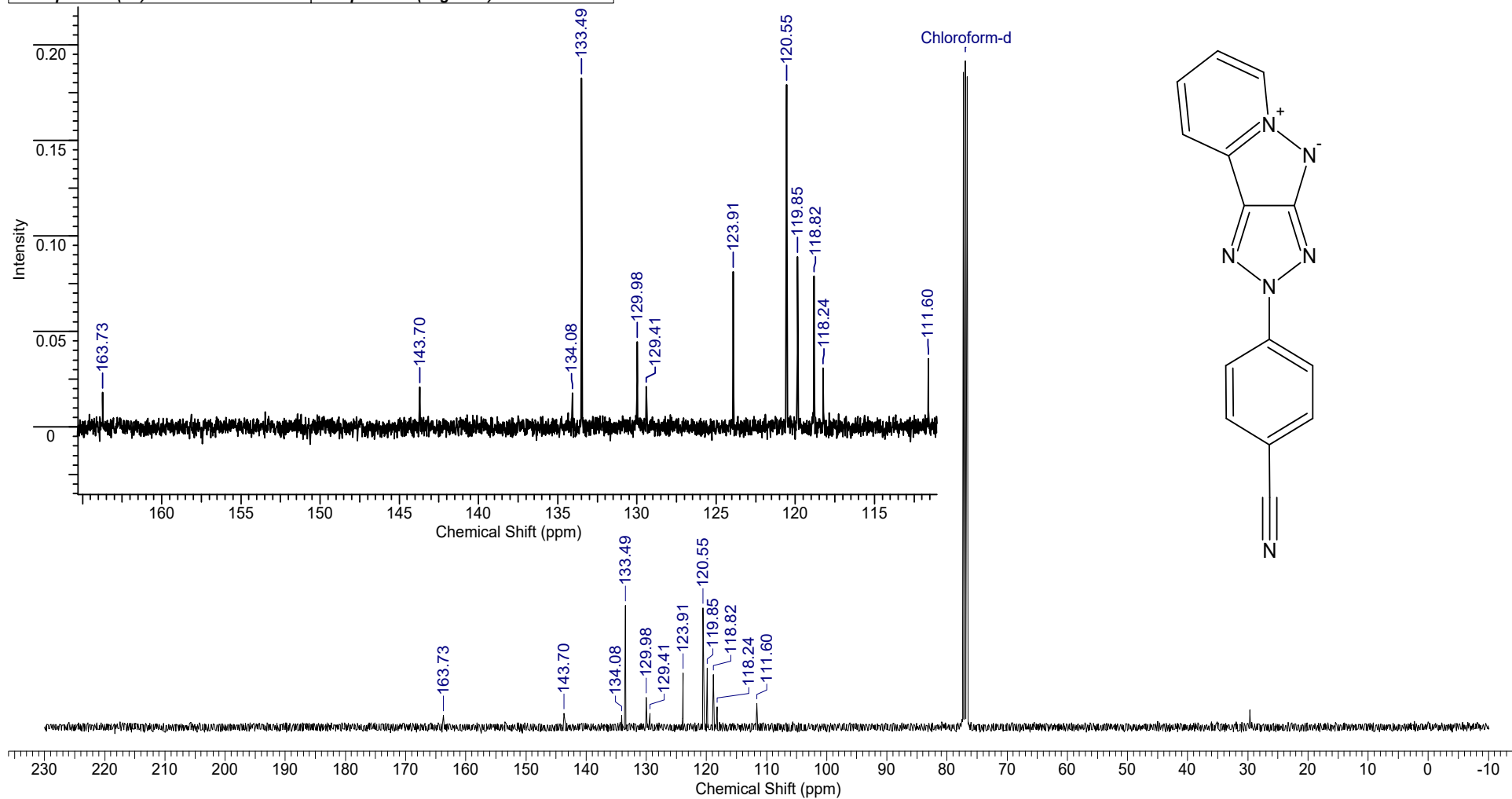
^{19}F NMR spectrum of **3m** (376.5 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.	Date	30 Oct 2020 15:28:22
File Name		Number of Transients	4	Frequency (MHz)	400.13
Nucleus	¹ H	Original Points Count	32768	Points Count	131072
Pulse Sequence	zg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	8012.82
Temperature (degree C)	27.000				



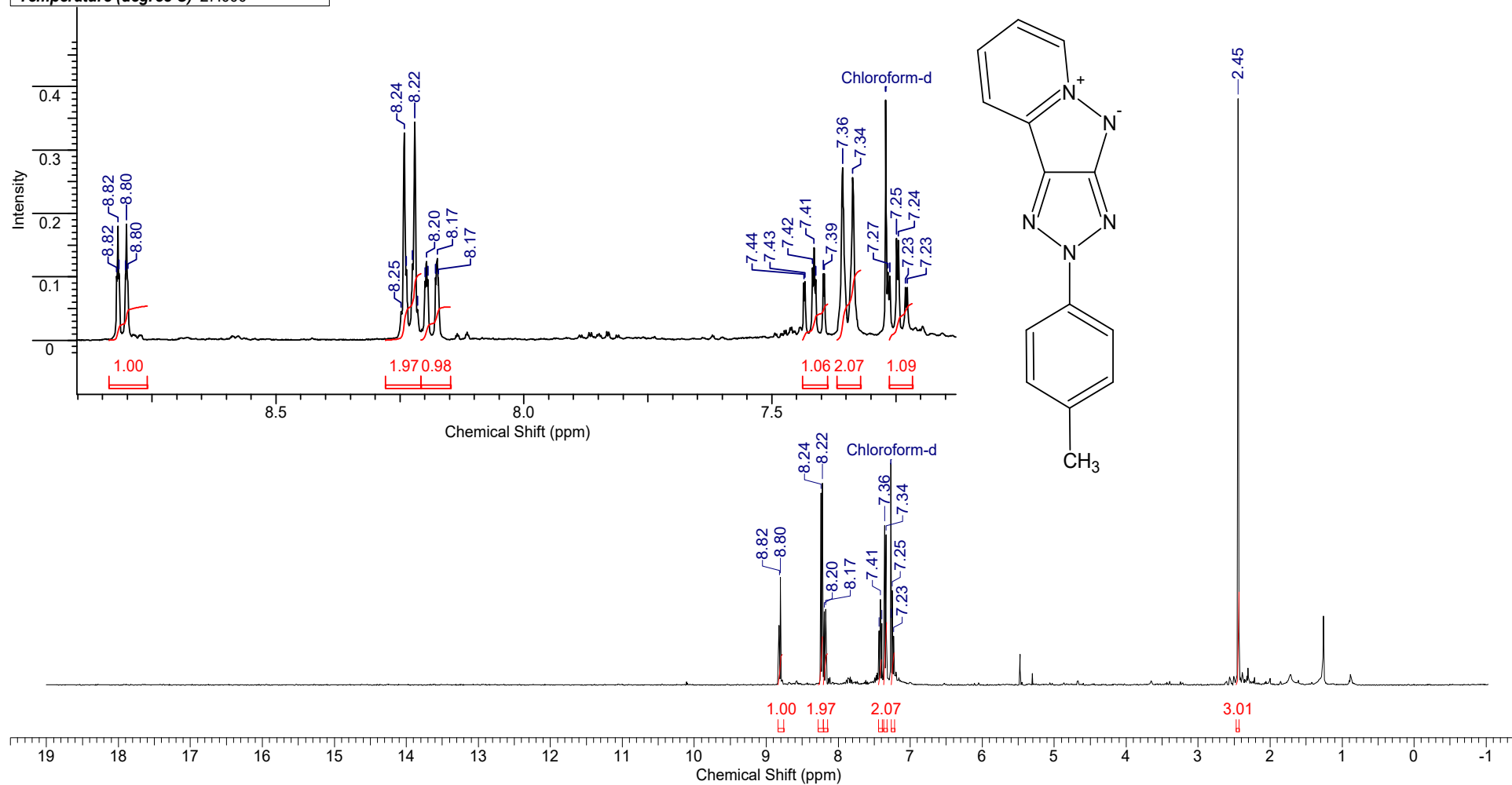
^1H NMR spectrum of **3n** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	05 Nov 2020 11:29:46		
File Name			Frequency (MHz)	100.61	Nucleus	13C	Number of Transients	1513
Original Points Count	16384	Points Count	131072	Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	
Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000					



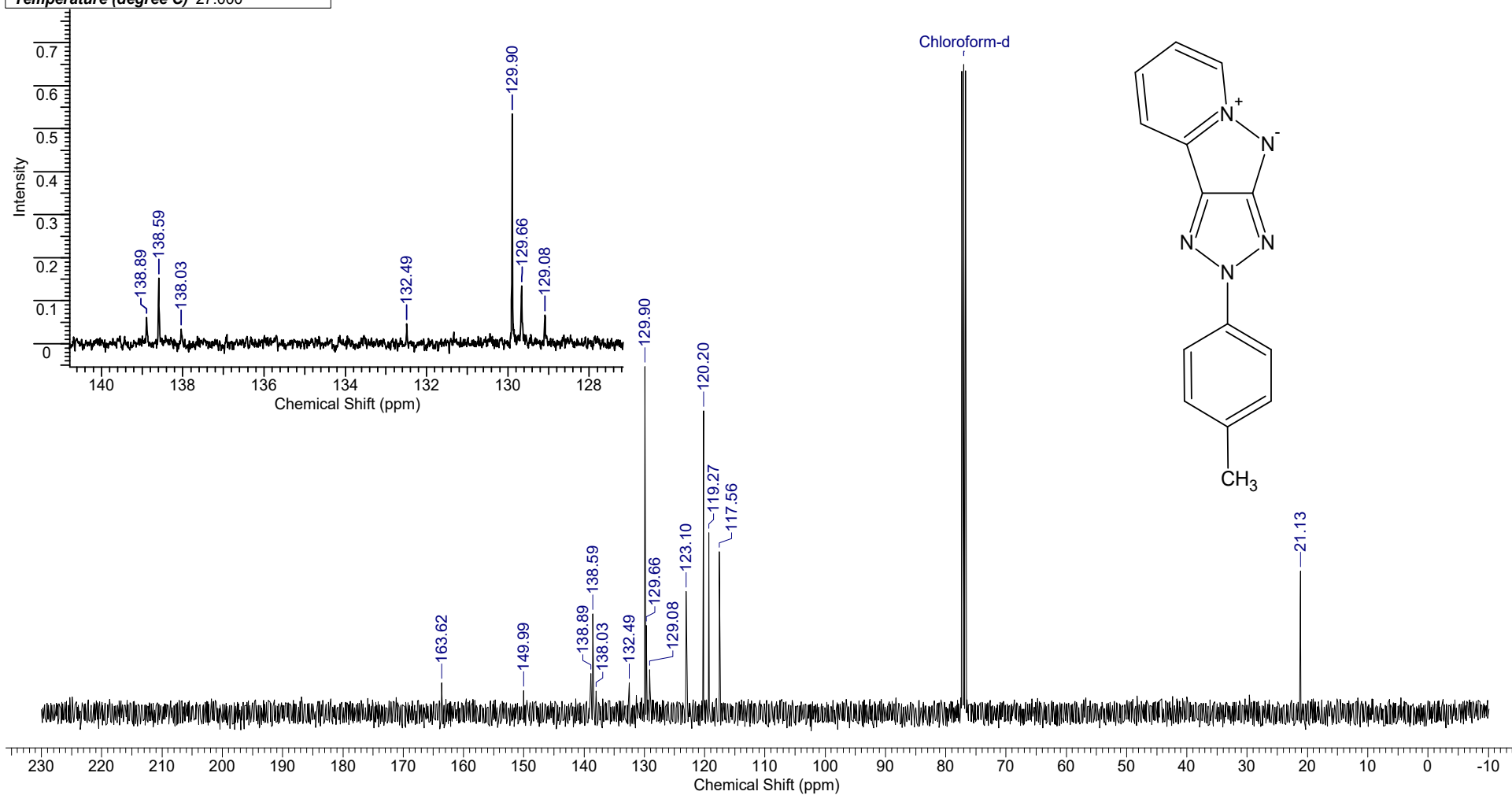
^{13}C NMR spectrum of **3n** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXMNR.	Date	06 Nov 2020 15:58:04
File Name				Frequency (MHz)	400.13
Nucleus	1H	Number of Transients	4	Original Points Count	32768
Pulse Sequence	zg30	Solvent	CHLOROFORM-D	Points Count	131072
Temperature (degree C)	27.000			Sweep Width (Hz)	8012.82



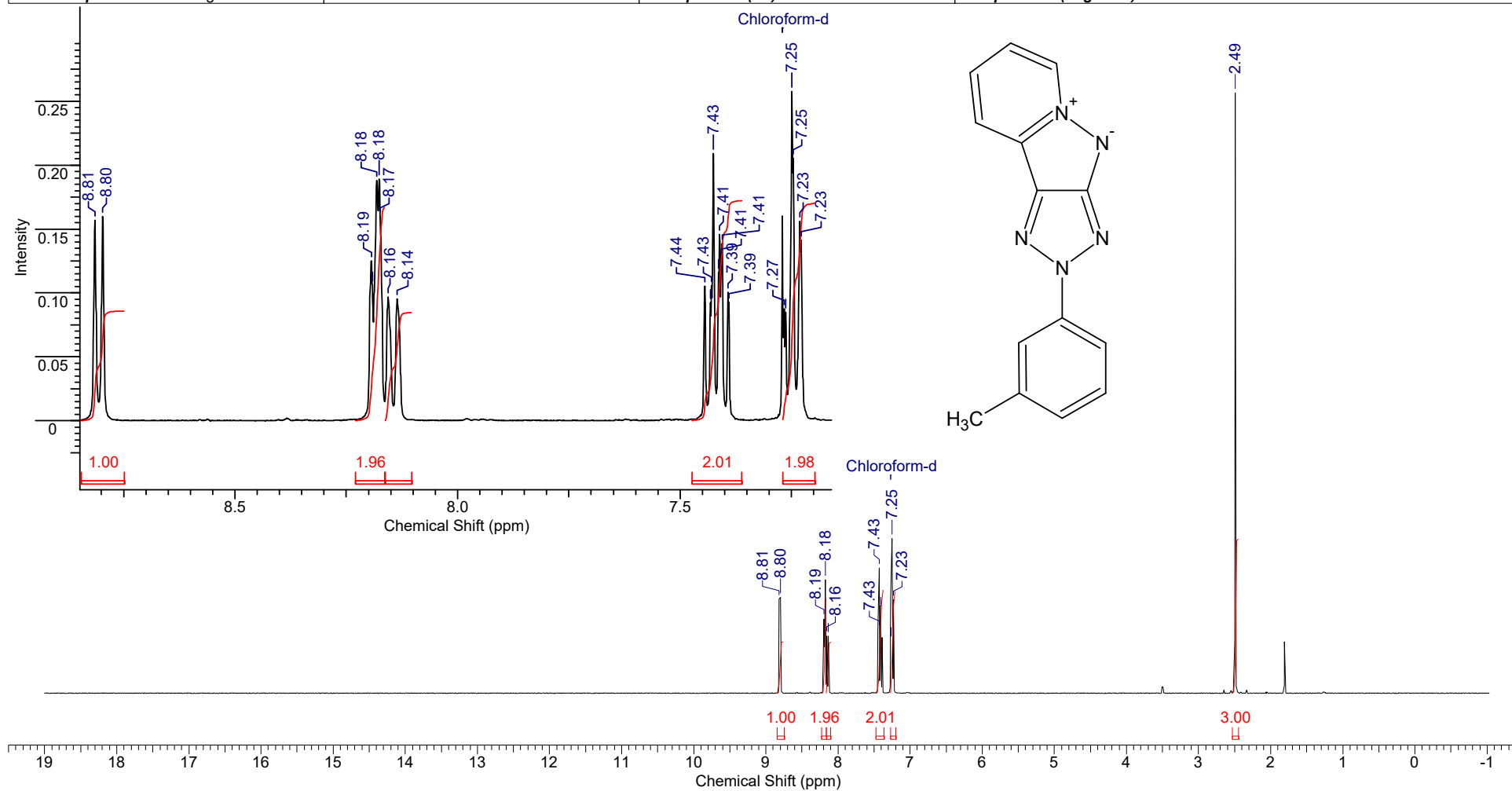
^1H NMR spectrum of **3o** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	13 Nov 2020 16:13:14	
File Name					Frequency (MHz)	100.61	
Nucleus	13C	Number of Transients	219	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D		Sweep Width (Hz)	24154.59	
Temperature (degree C)	27.000						



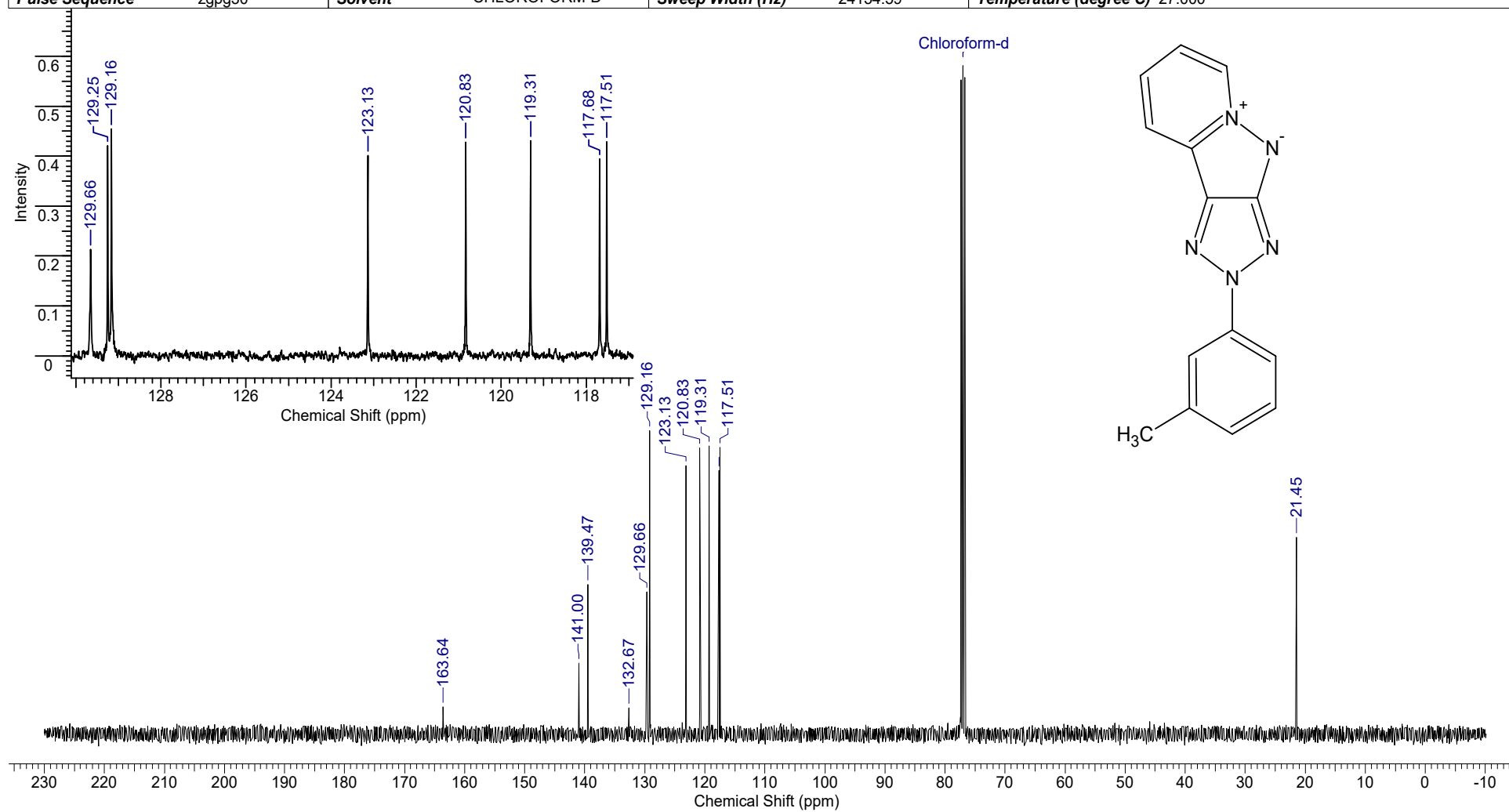
^{13}C NMR spectrum of **3o** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	29 Jan 2021 15:38:26	
File Name		Number of Transients	4	Original Points Count	32768	Frequency (MHz)	400.13
Nucleus	1H	Solvent	CHLOROFORM-D	Sweep Width (Hz)	8012.82	Points Count	131072
Pulse Sequence	zg30					Temperature (degree C)	27.000



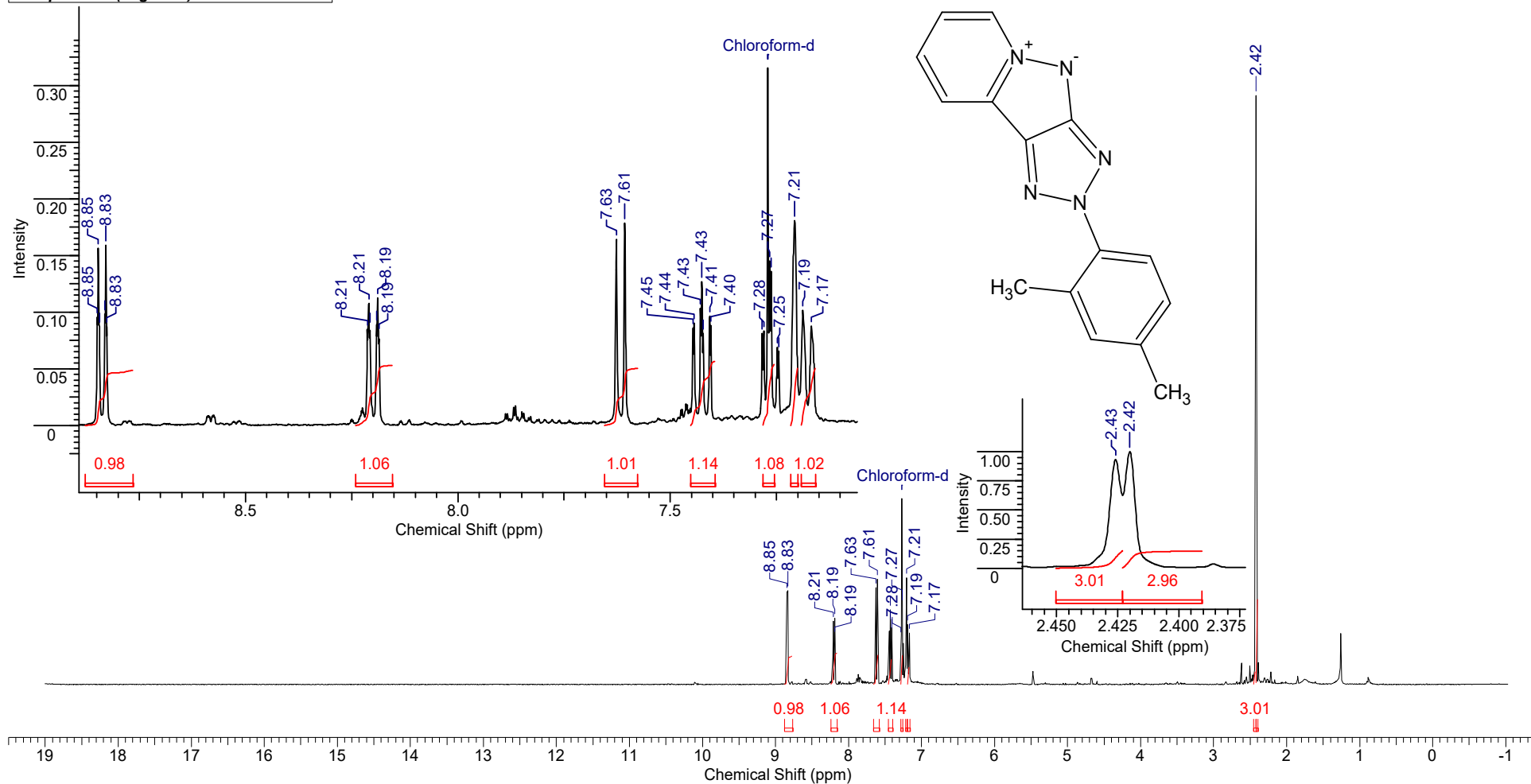
^1H NMR spectrum of **3p** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	04 Feb 2021 12:17:44	
File Name					Frequency (MHz)	100.61	
Nucleus	¹³ C	Number of Transients	513	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D	Sweep Width (Hz)	24154.59	Temperature (degree C)	27.000



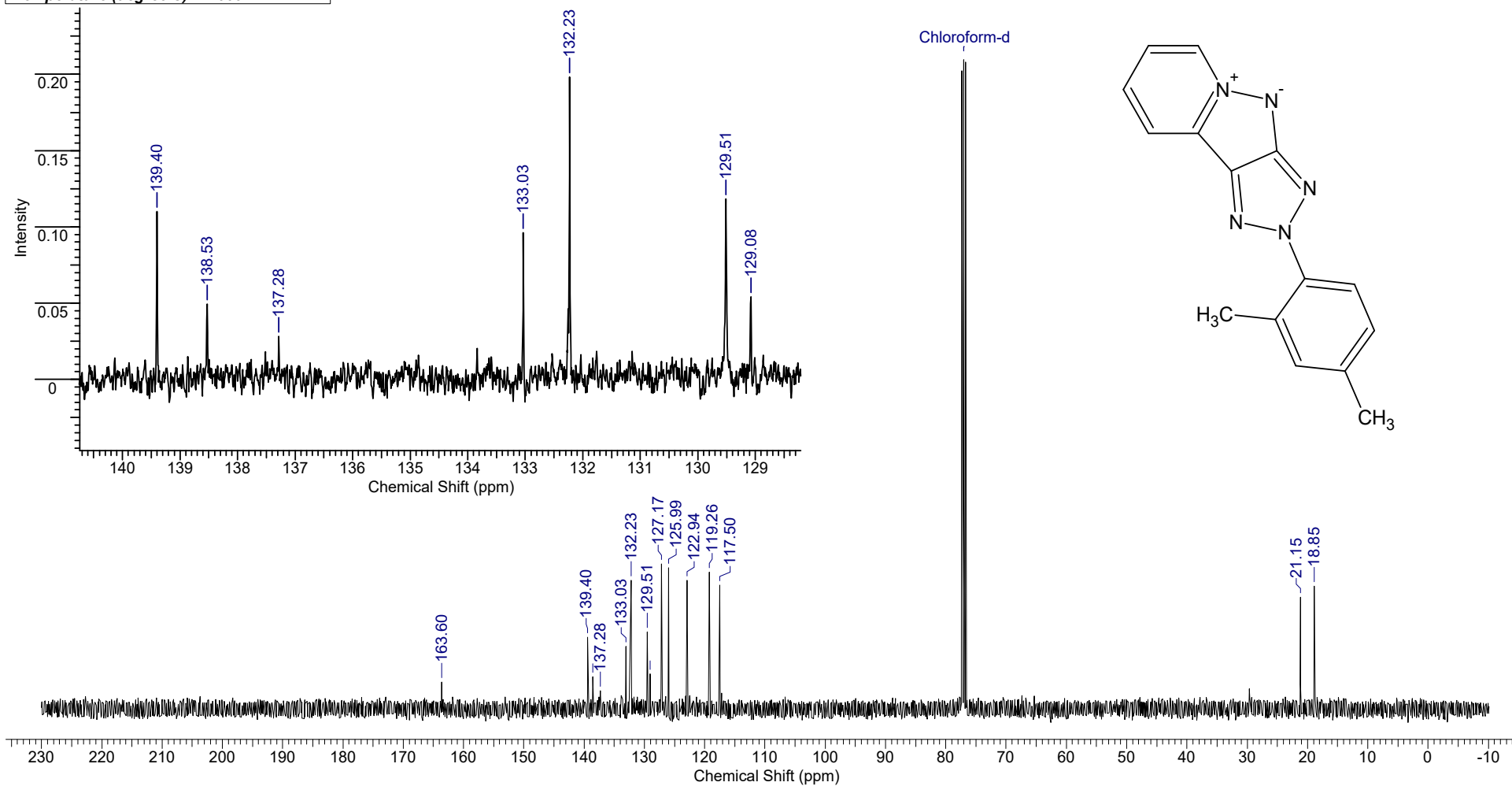
^{13}C NMR spectrum of **3p** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	30 Oct 2020 15:09:06
File Name		Number of Transients	4	Original Points Count	Frequency (MHz)	400.13
Nucleus	¹ H	Solvent	CHLOROFORM-D		Points Count	131072
Pulse Sequence	zg30	Temperature (degree C)	27.000		Sweep Width (Hz)	8012.82



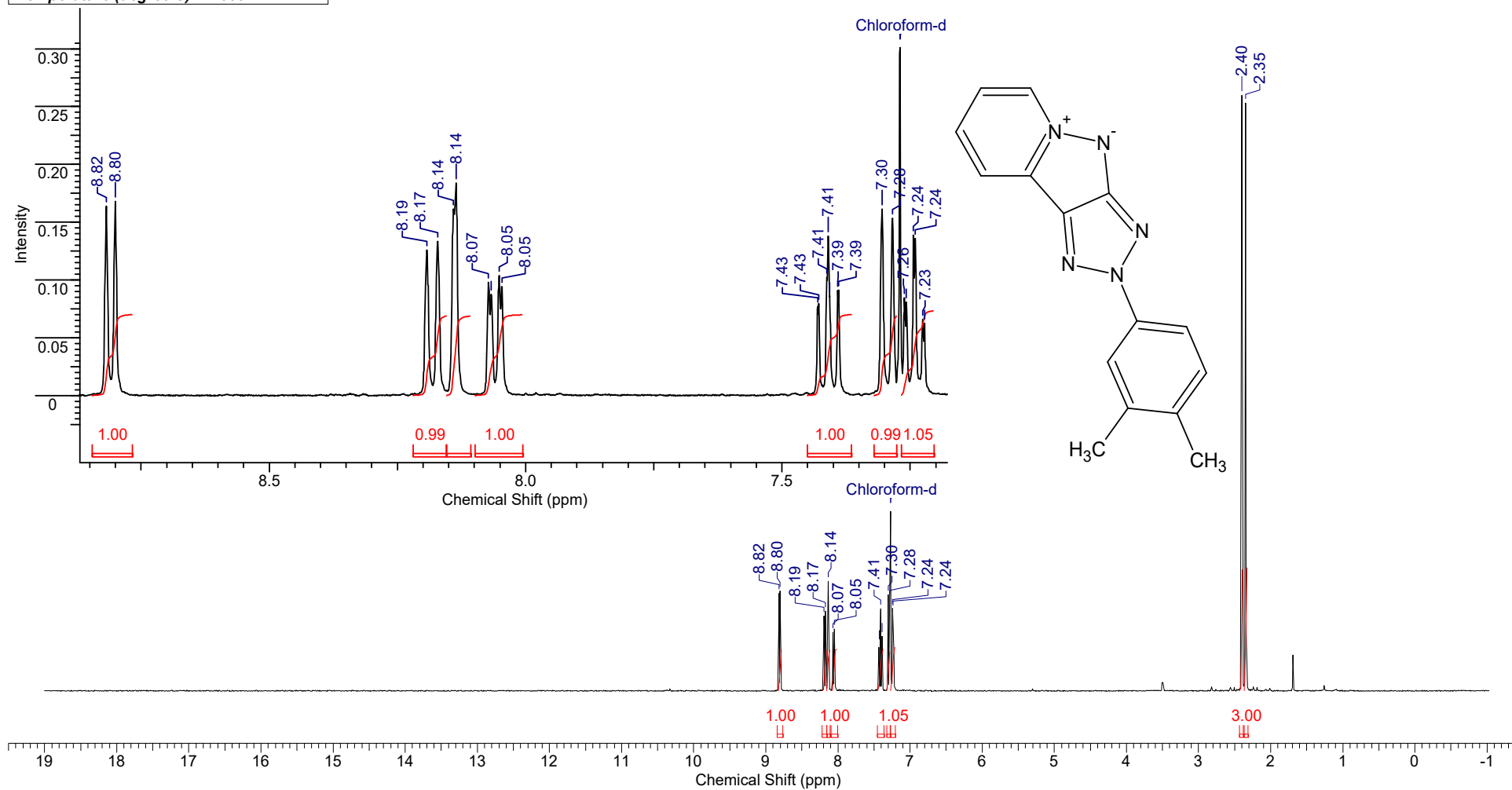
^1H NMR spectrum of **3q** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.		Date	30 Oct 2020 15:21:08	
File Name					Frequency (MHz)	100.61	
Nucleus	¹³ C	Number of Transients	305	Original Points Count	16384	Points Count	131072
Pulse Sequence	zgpg30	Solvent	CHLOROFORM-D		Sweep Width (Hz)	24154.59	
Temperature (degree C)	27.000						



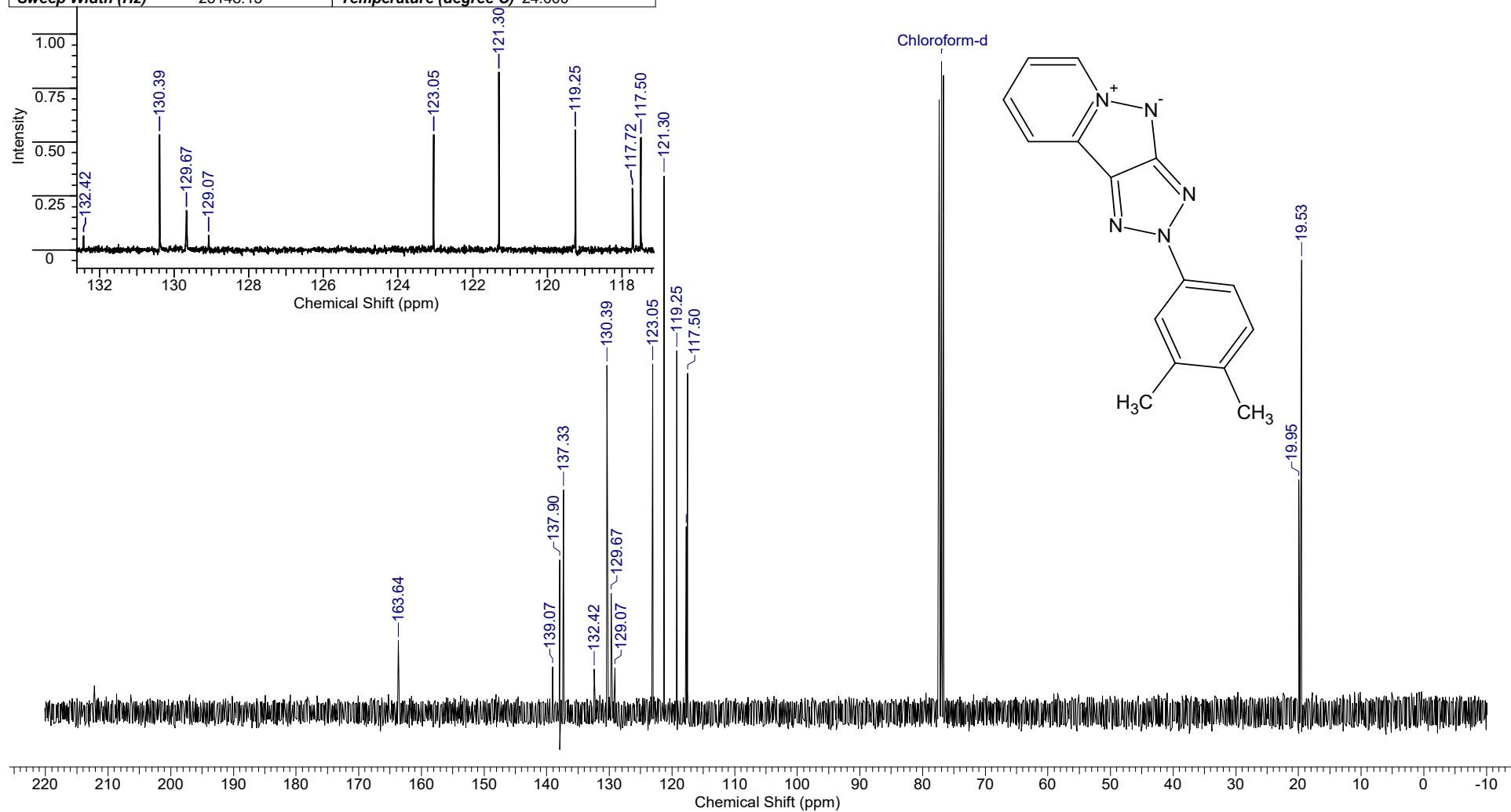
^{13}C NMR spectrum of **3q** (100.6 MHz, CDCl_3)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	16 Feb 2021 15:55:00
File Name		Number of Transients	4	Original Points Count	Frequency (MHz)	400.13
Nucleus	¹ H				Points Count	131072
Pulse Sequence	zg30	Solvent	CHLOROFORM-D		Sweep Width (Hz)	8012.82
Temperature (degree C)	27.000					



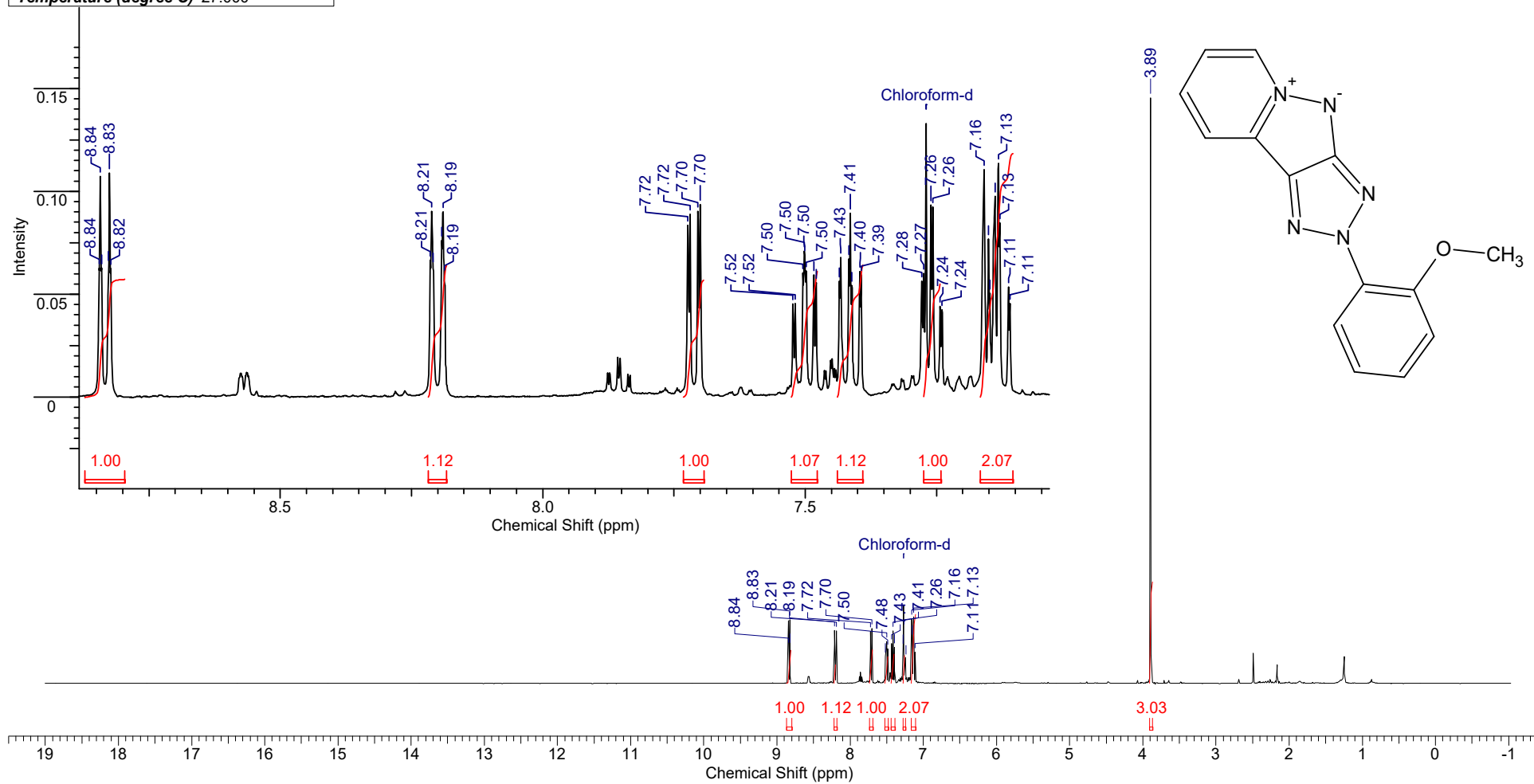
^1H NMR spectrum of **3r** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	1.4156	Date	Feb 24 2021	File Name			
Frequency (MHz)	100.58	Nucleus	13C	Number of Transients	10000	Original Points Count	32768
Points Count	32768	Pulse Sequence	s2pul	Solvent	CHLOROFORM-D		
Sweep Width (Hz)	23148.15	Temperature (degree C)	24.000				



^{13}C NMR spectrum of **3r** (100.6 MHz, CDCl_3)

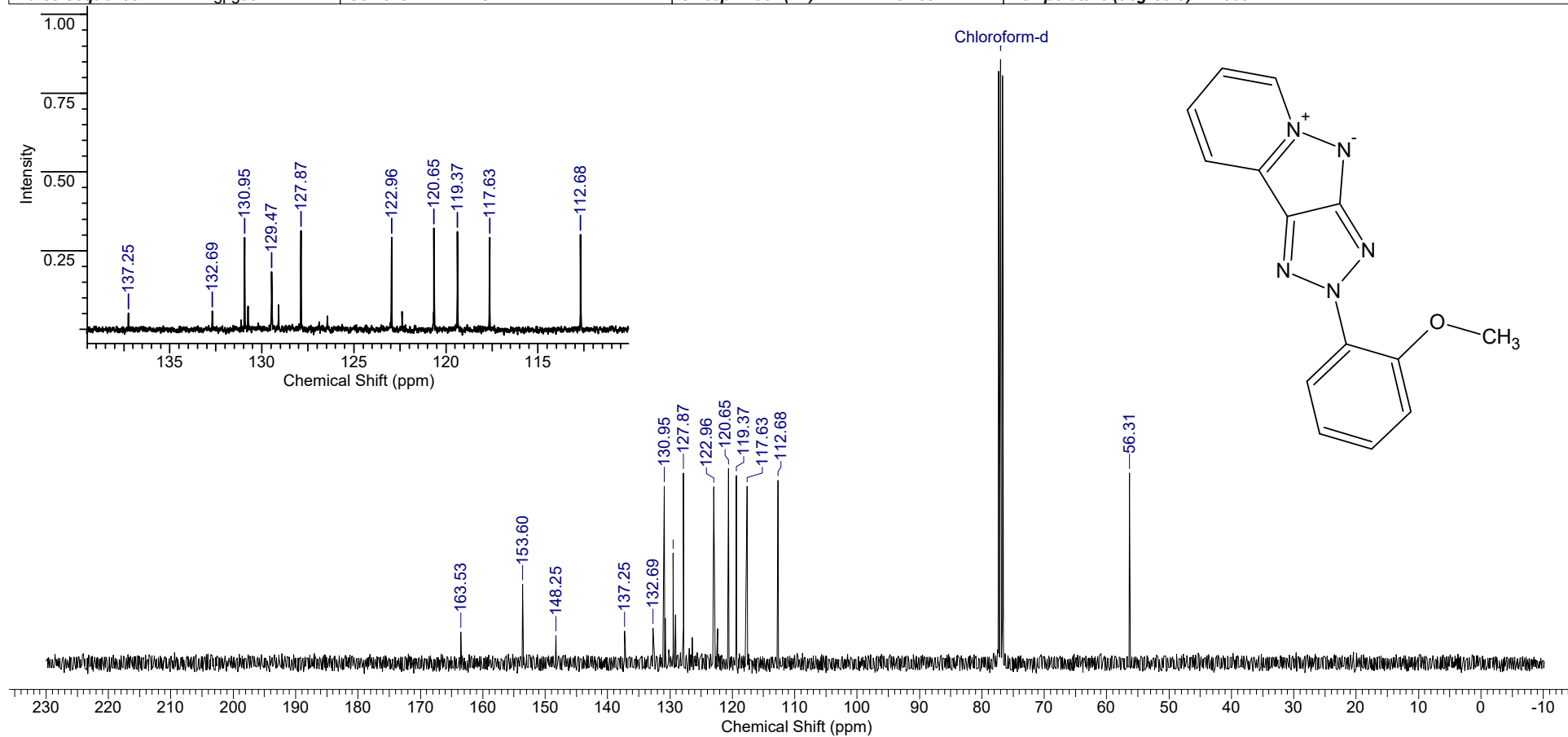
Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	24 Feb 2021 17:19:56	
File Name		Number of Transients	4	Original Points Count	32768	Frequency (MHz)	400.13
Nucleus	1H	Solvent	CHLOROFORM-D		Points Count	131072	
Pulse Sequence	zg30	Temperature (degree C)	27.000		Sweep Width (Hz)	8012.82	



¹H NMR spectrum of **3s** (400.1 MHz, CDCl₃)

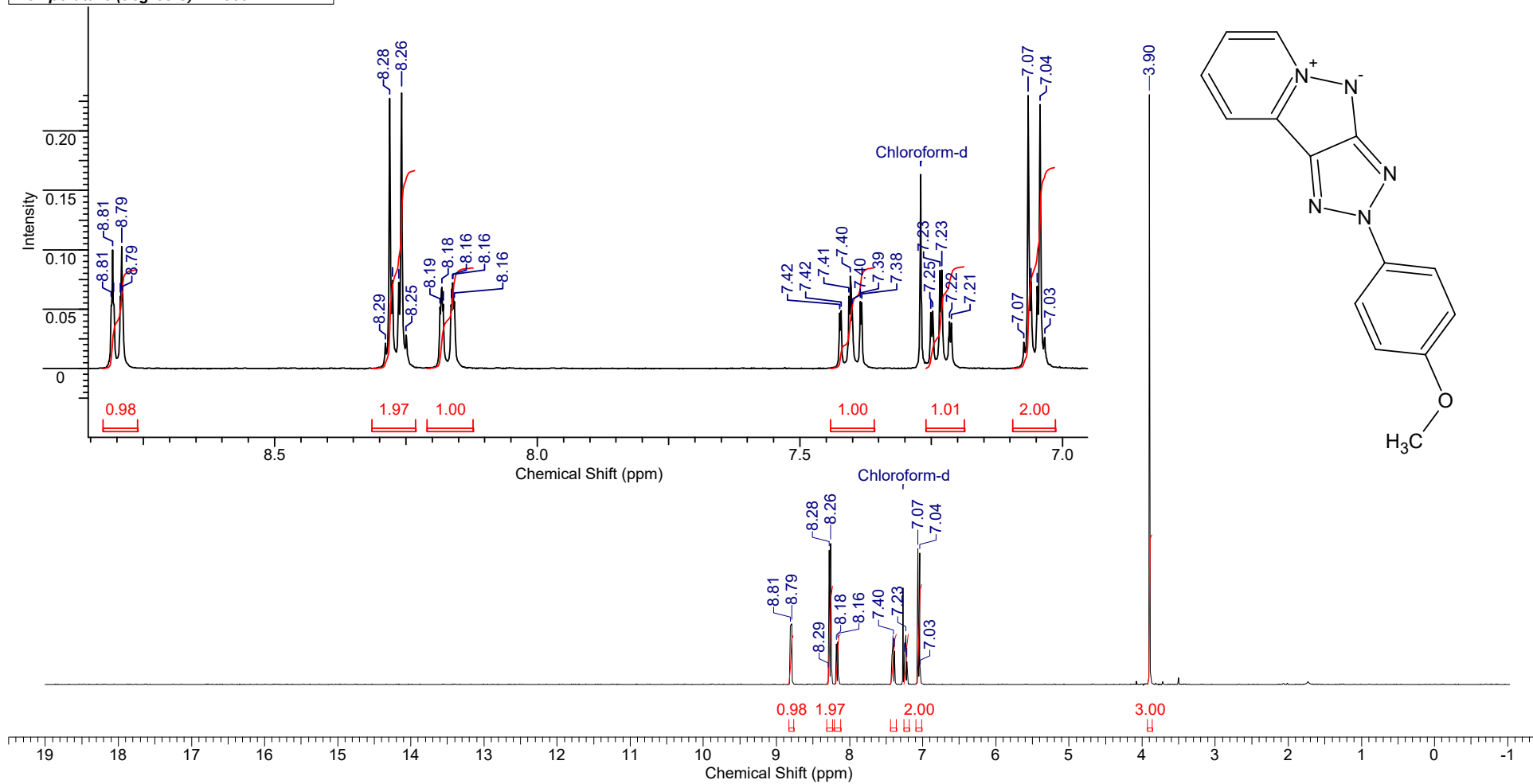
25 Jul 2021

Acquisition Time (sec)	0.6783	Comment	Imported from UXNMR.	Date	25 Feb 2021 12:10:30
File Name				Frequency (MHz)	100.61
Nucleus	13C	Number of Transients	337	Original Points Count	16384
Pulse Sequence	zgpg30	Solvent	Chloroform-d	Points Count	131072
				Sweep Width (Hz)	24154.59
				Temperature (degree C)	27.000



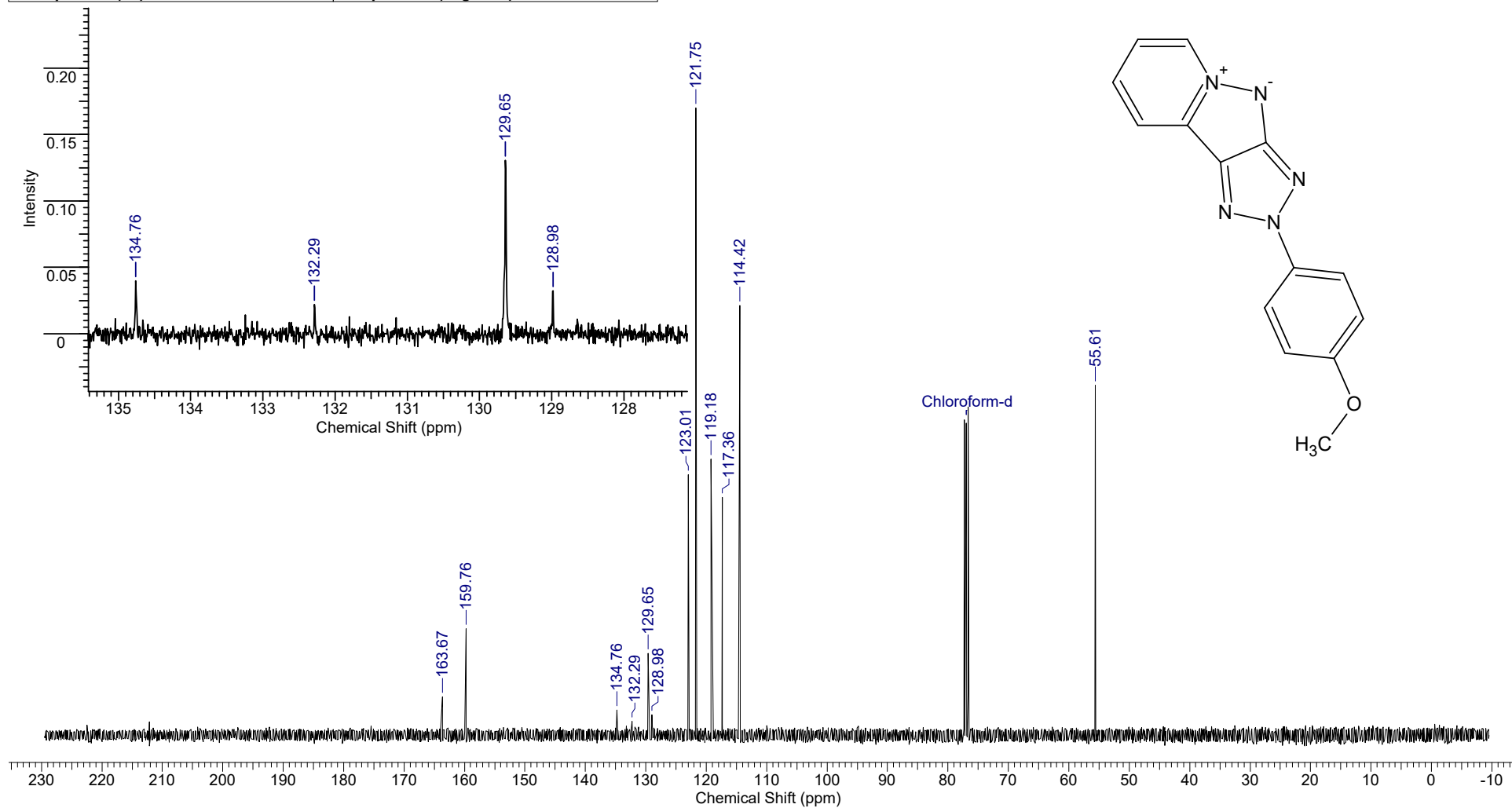
¹³C NMR spectrum of **3s** (100.6 MHz, CDCl₃)

Acquisition Time (sec)	4.0894	Comment	Imported from UXNMR.		Date	17 Feb 2021 17:50:16	
File Name					Frequency (MHz)	400.13	
Nucleus	1H	Number of Transients	4	Original Points Count	32768	Points Count	131072
Pulse Sequence	zg30	Solvent	CHLOROFORM-D		Sweep Width (Hz)	8012.82	
Temperature (degree C)	27.000						



^1H NMR spectrum of **3t** (400.1 MHz, CDCl_3)

Acquisition Time (sec)	1.3631	Date	Feb 24 2021	File Name			
Frequency (MHz)	100.58	Nucleus	13C	Number of Transients	10000	Original Points Count	32768
Points Count	32768	Pulse Sequence	s2pul	Solvent	CHLOROFORM-D		
Sweep Width (Hz)	24038.46	Temperature (degree C)	24.000				



^{13}C NMR spectrum of **3t** (100.6 MHz, CDCl_3)