

Synthetic application of gold nano particles and auric chloride for the synthesis of 5-substituted 1-*H* tetrazoles.

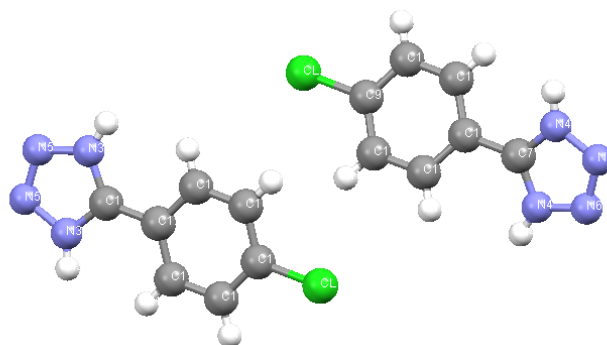
Satyanand Kumar^a, Arvind Kumar^a, Alka Agarwal^{*b} and Satish Kumar Awasthi^{*a}

^aChemical Biology Laboratory, Department of Chemistry, University of Delhi, Delhi-110007 India. Tel: +911127666646, ext. 121, 134. E- mail: satishpna@hmail.com,

^bDepartment of Medicinal Chemistry, IMS, BHU, Varanasi-221005, India. Tel: +919453048577, E-mail: alka_ag_2000@yahoo.com, dralka@bhu.ac.in

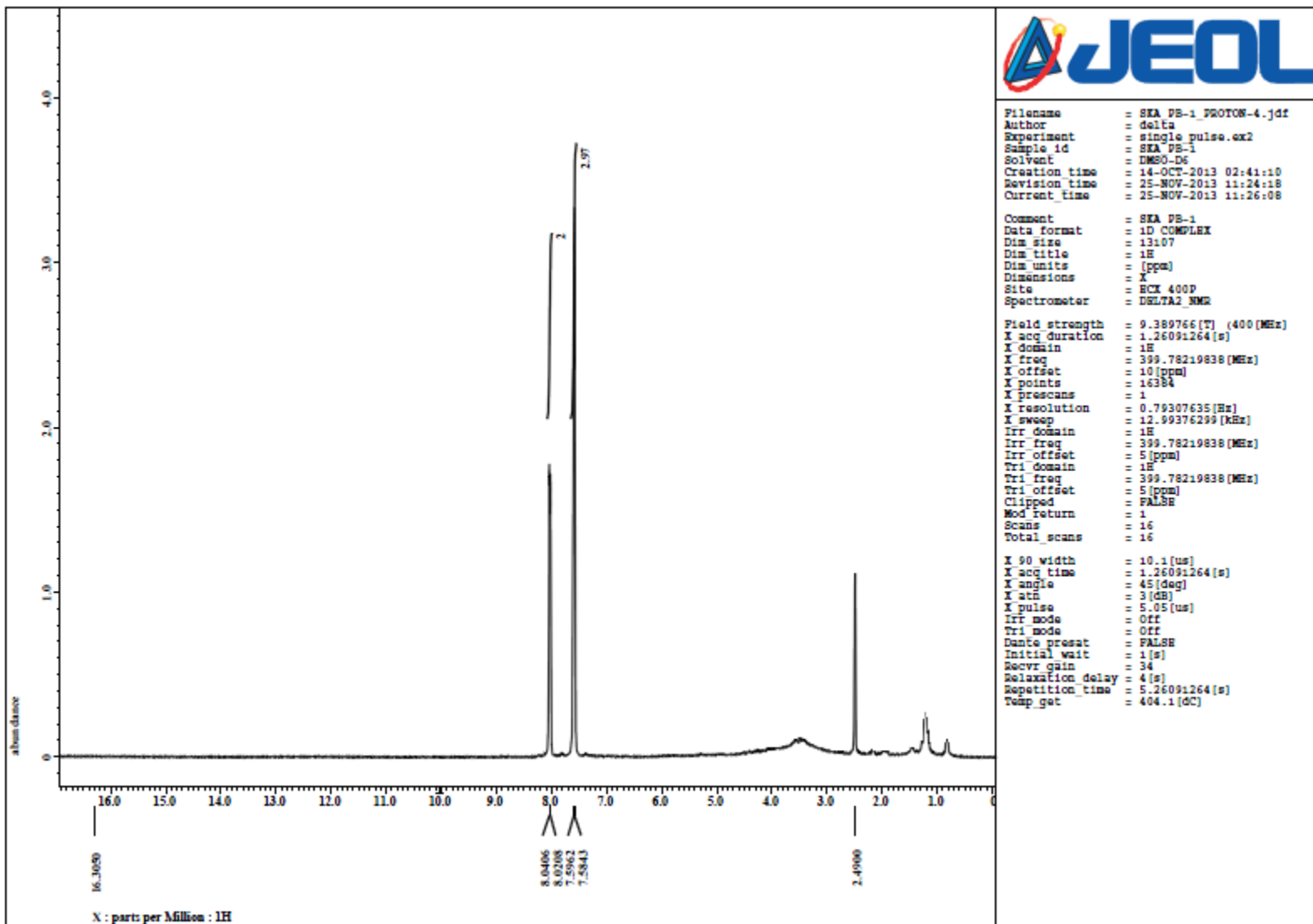
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Crystal Structure of Compound 2b	
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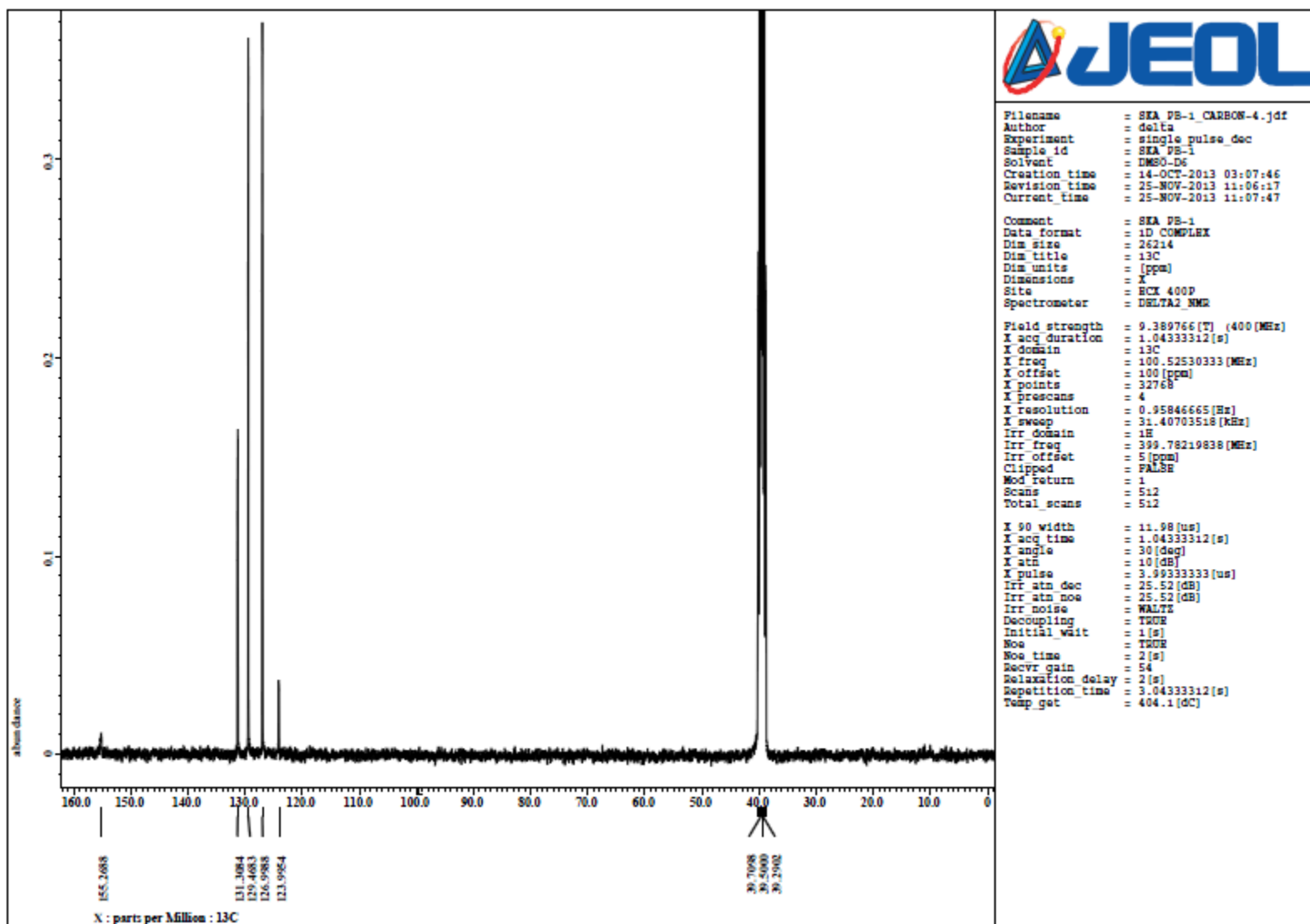


ORTEP diagram for compound 2b

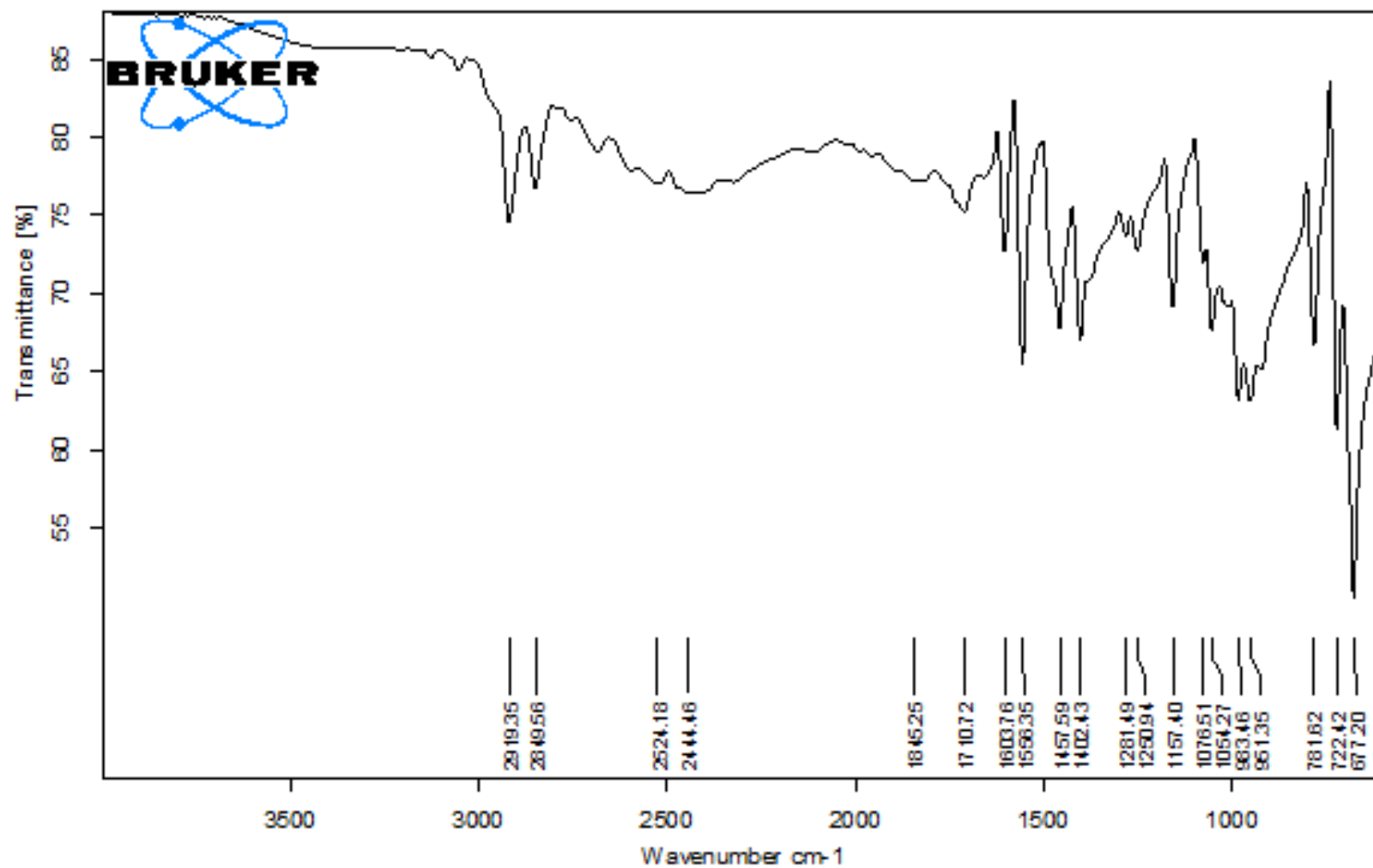
¹H NMR of 1b



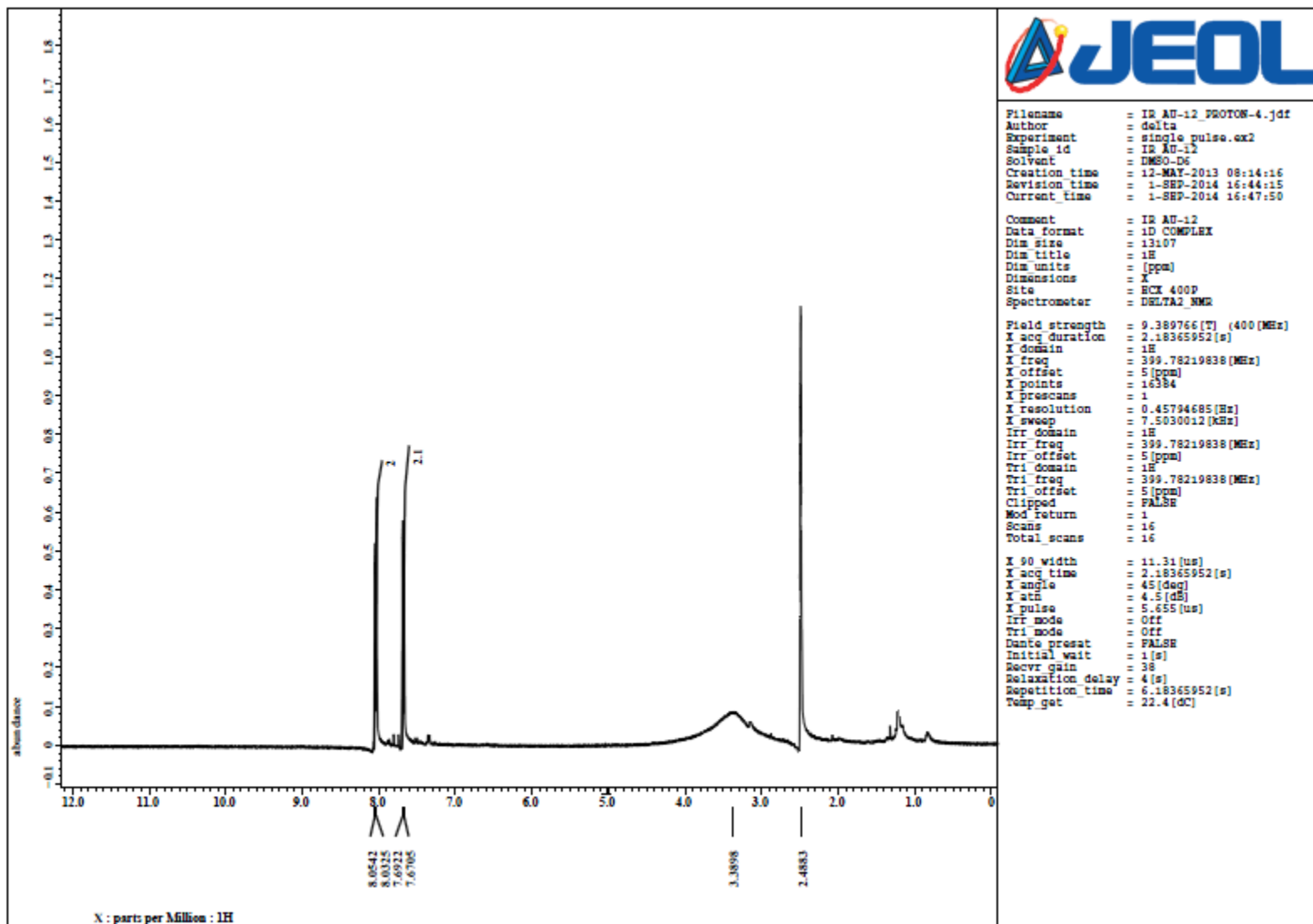
¹³C NMR of 1b



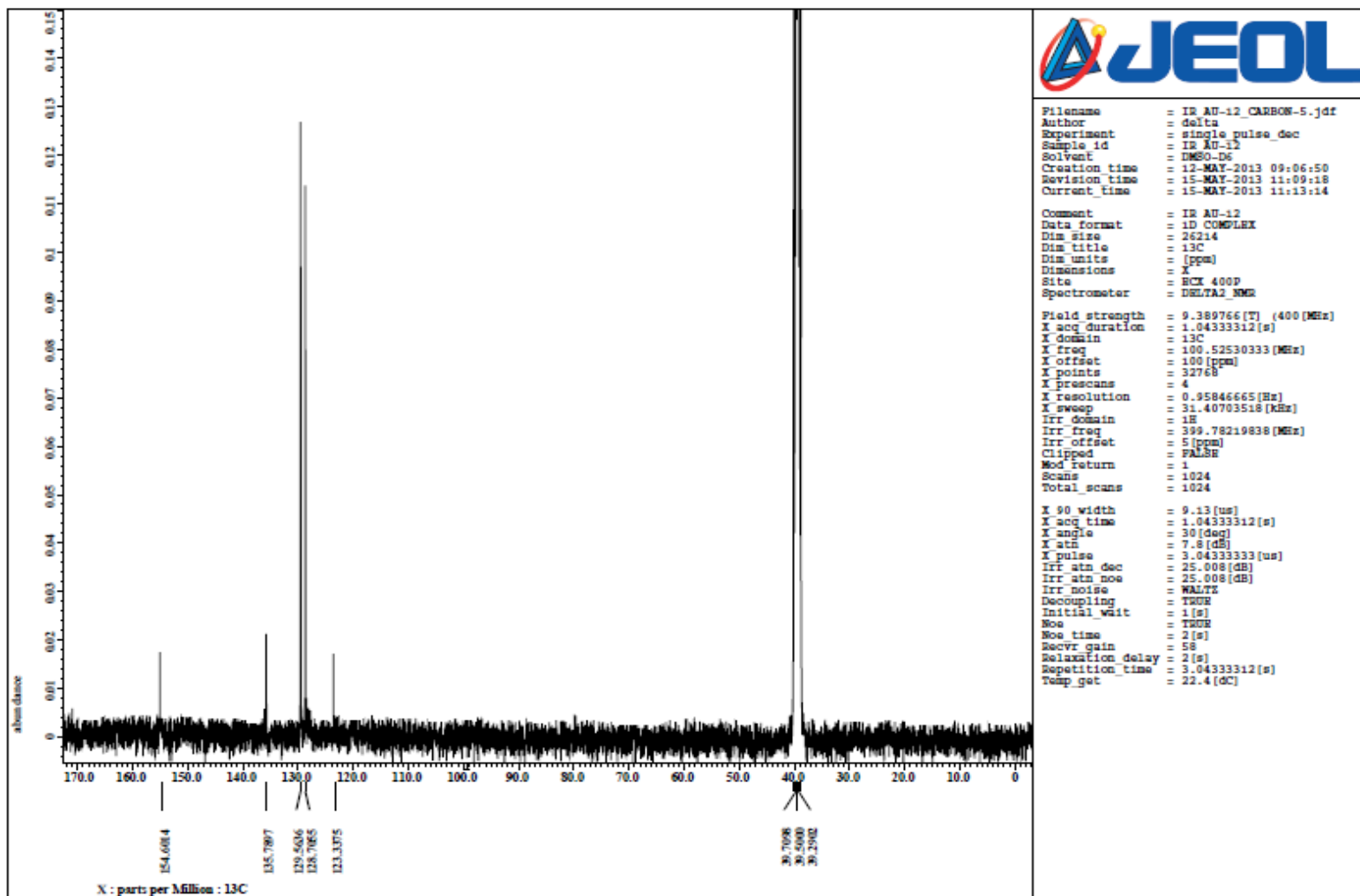
IR Spectra of 1b



¹H NMR of 2b



¹³C NMR of 2b



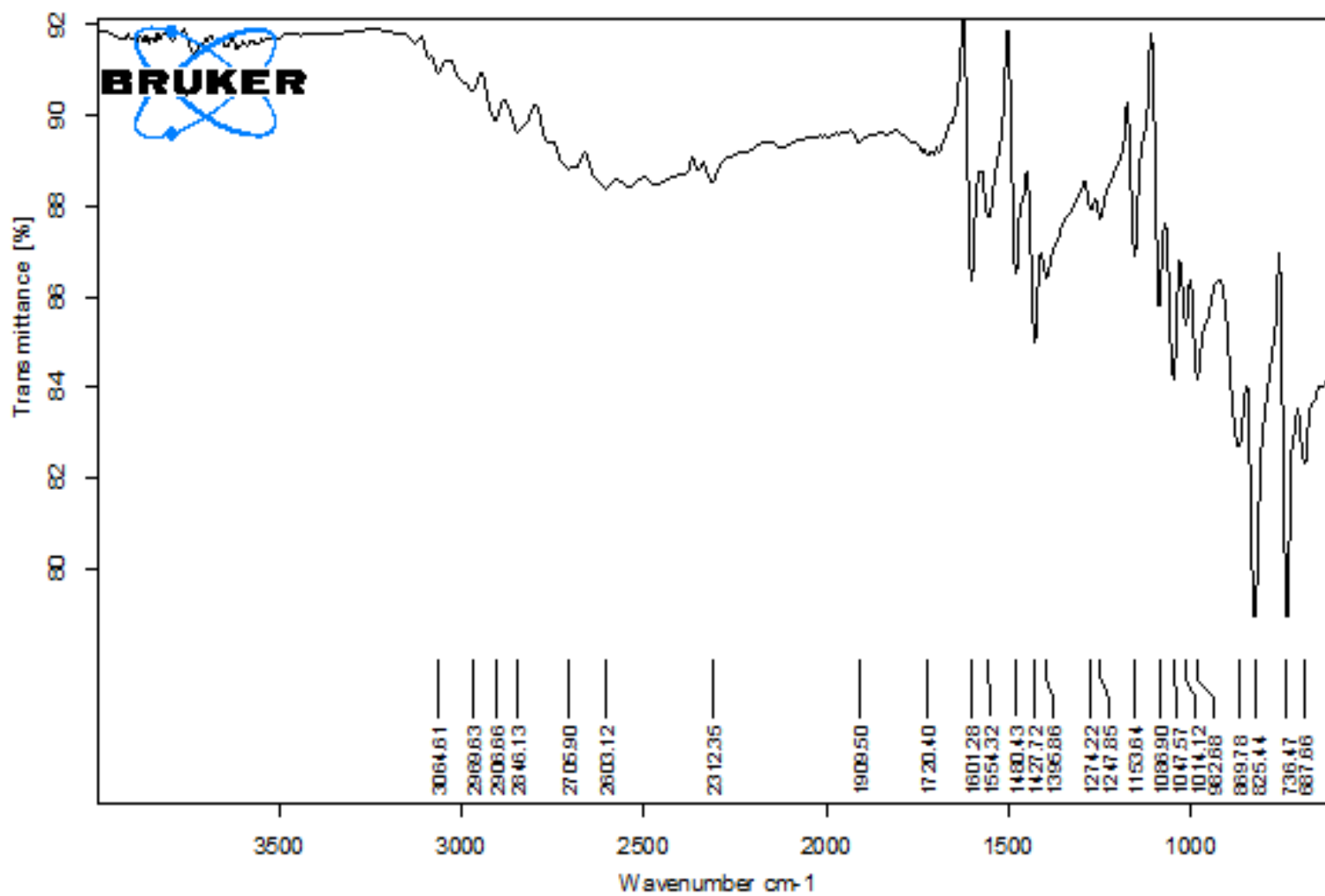
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Author       = delta
Experiment    = single pulse_dec
Sample id    = IR AU-12
Solvent      = DMSO-D6
Creation time = 12-MAY-2013 09:06:50
Revision time = 15-MAY-2013 11:09:18
Current time  = 15-MAY-2013 11:13:14

Comment      = IR AU-12
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Dim title    = 13C
Dim units    = [ppm]
Dimensions   = X
Site         = ECK 400P
Spectrometer = DELTA2 NMR

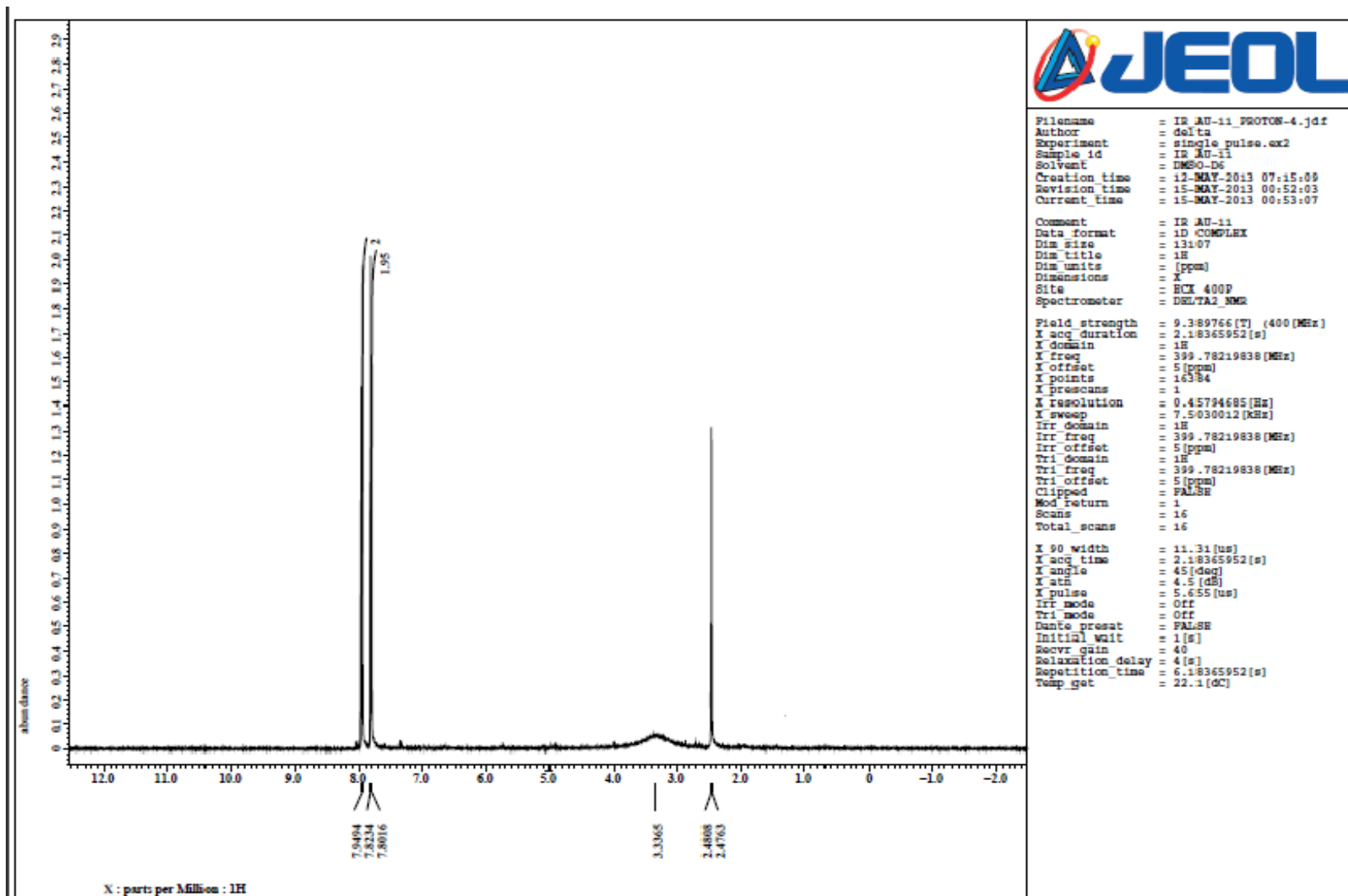
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X domain      = 13C
X freq        = 100.52530333 [MHz]
X offset      = 100 [ppm]
X points      = 32768
X prescans    = 4
X resolution  = 0.95846665 [Hz]
X sweep       = 31.40703518 [kHz]
Irr domain    = 1H
Irr freq      = 399.78219838 [MHz]
Irr offset    = 5 [ppm]
Clipped      = FALSE
Mod return    = 1
Scans         = 1024
Total scans   = 1024

X 90 width    = 9.13 [us]
X acq time    = 1.04333312 [s]
X angle       = 30 [deg]
X atm        = 7.8 [dB]
X pulse       = 3.04333333 [us]
Irr atm dec  = 25.008 [dB]
Irr atm noe  = 25.008 [dB]
Irr noise    = WALTE
Decoupling    = TWDR
Initial wait  = 1 [s]
Noe           = TWDR
Noe time     = 2 [s]
Recvr gain    = 58
Relaxation delay = 2 [s]
Repetition time = 3.04333312 [s]
Temp_get     = 22.4 [dC]
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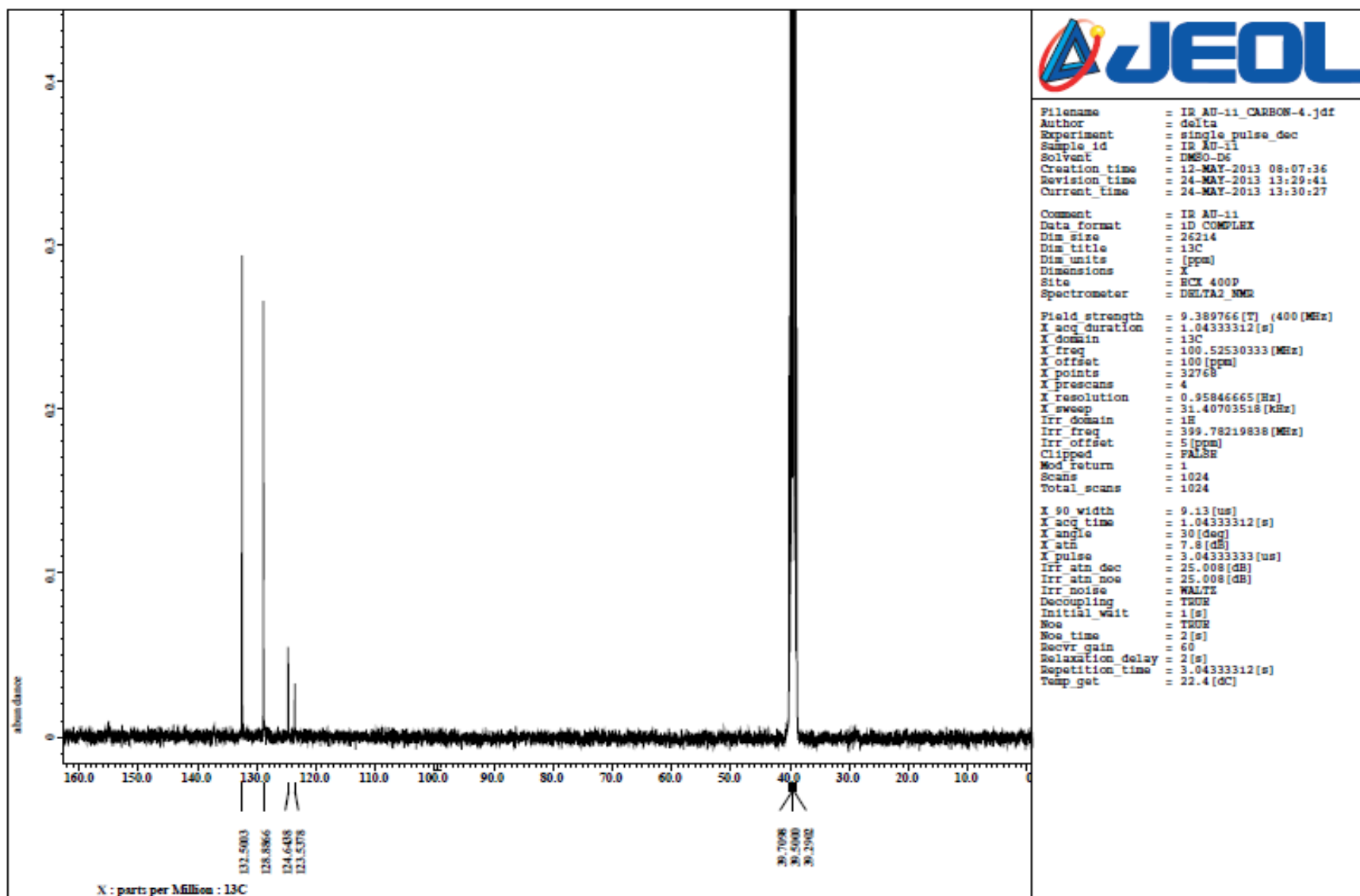
IR spectra of 2b



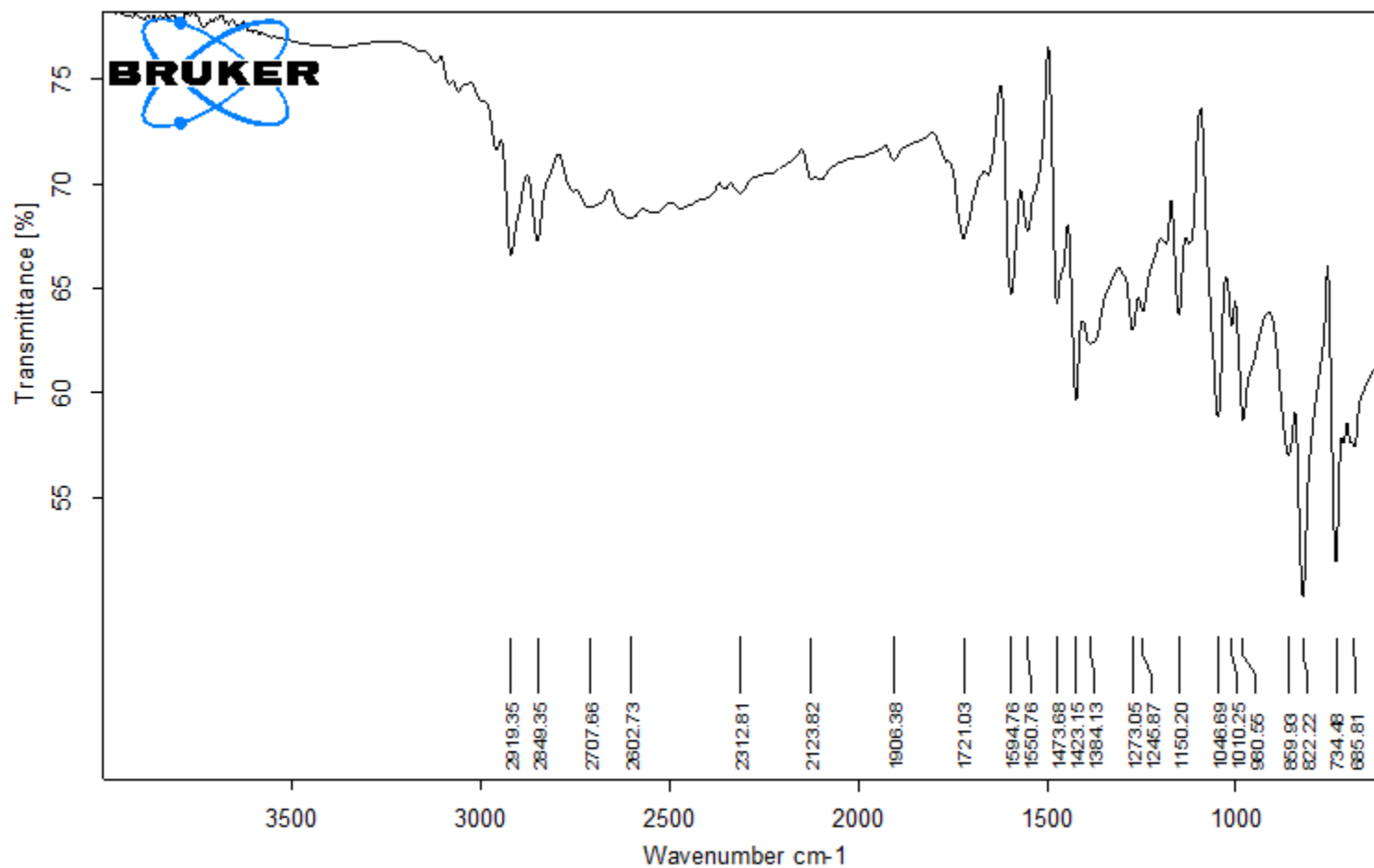
¹H NMR of 3b



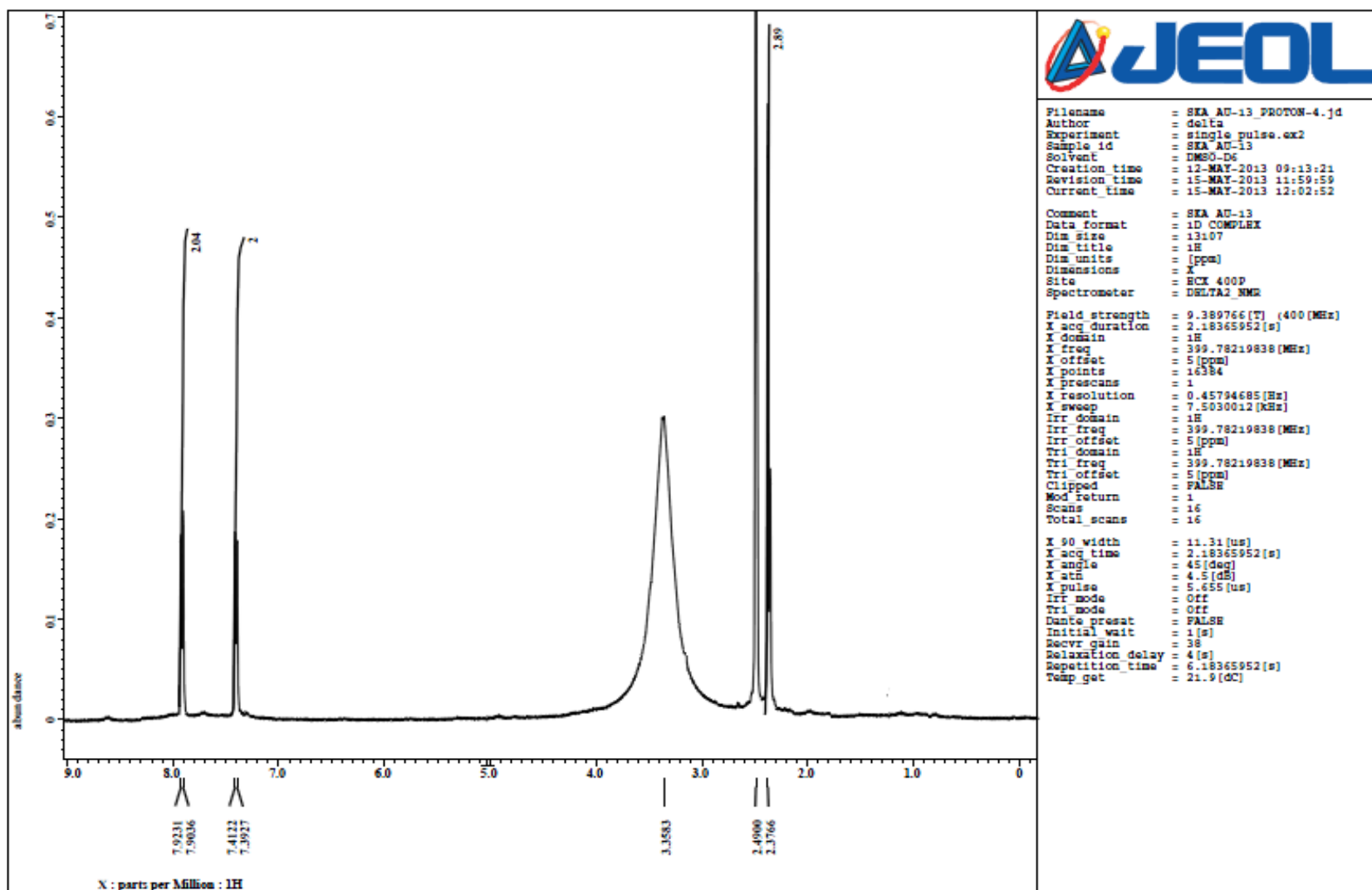
¹³C NMR of 3b



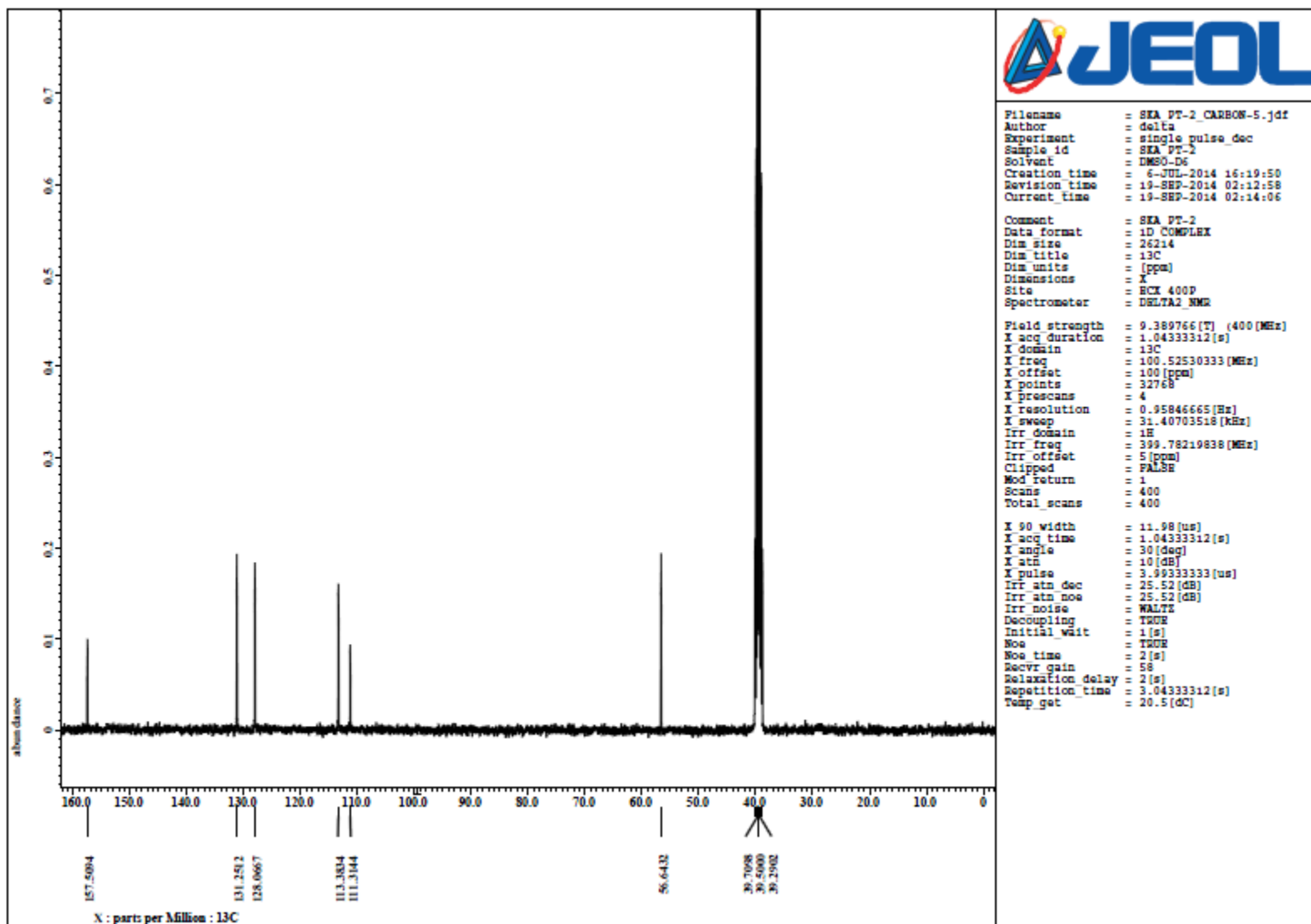
IR spectra of 3b



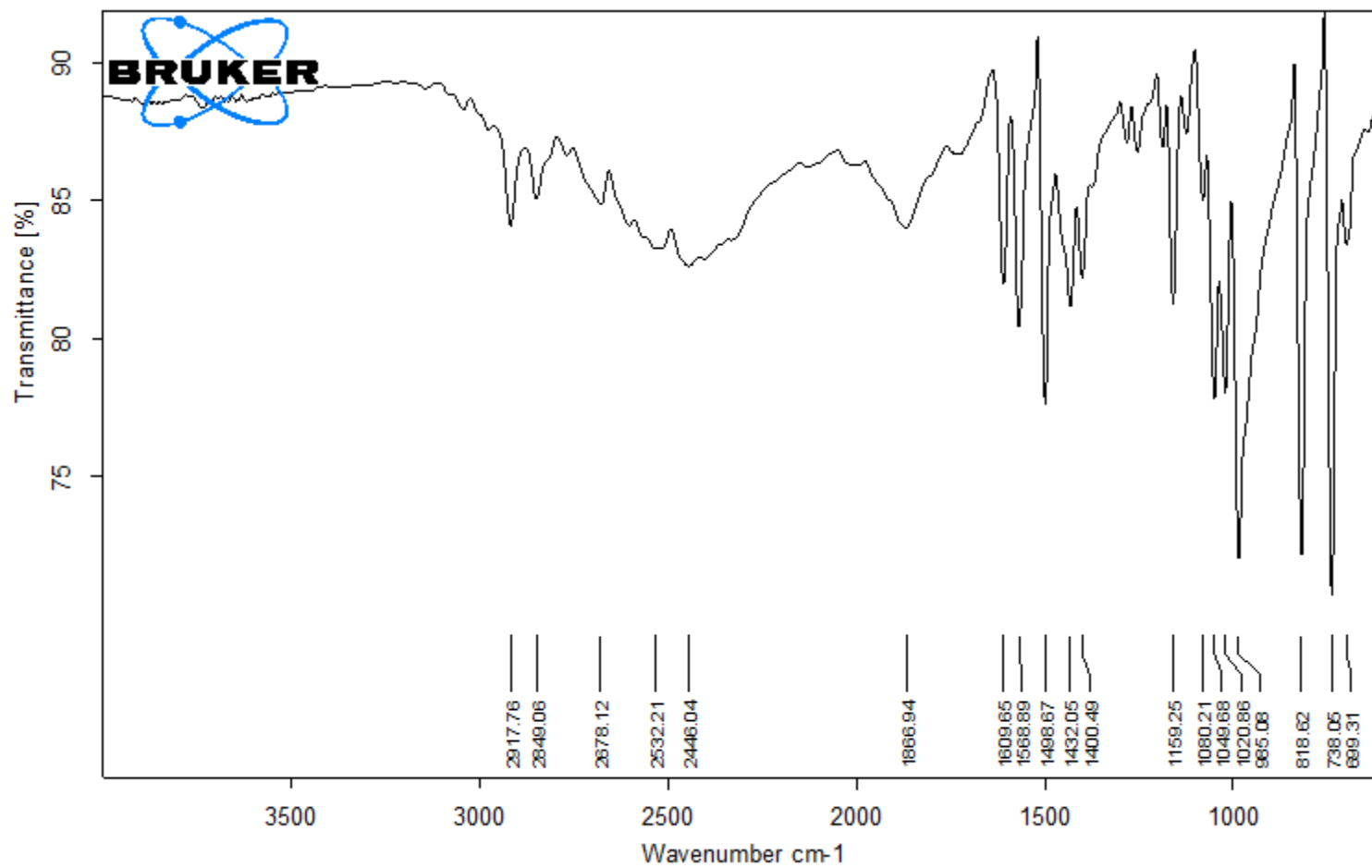
¹H NMR of 4b



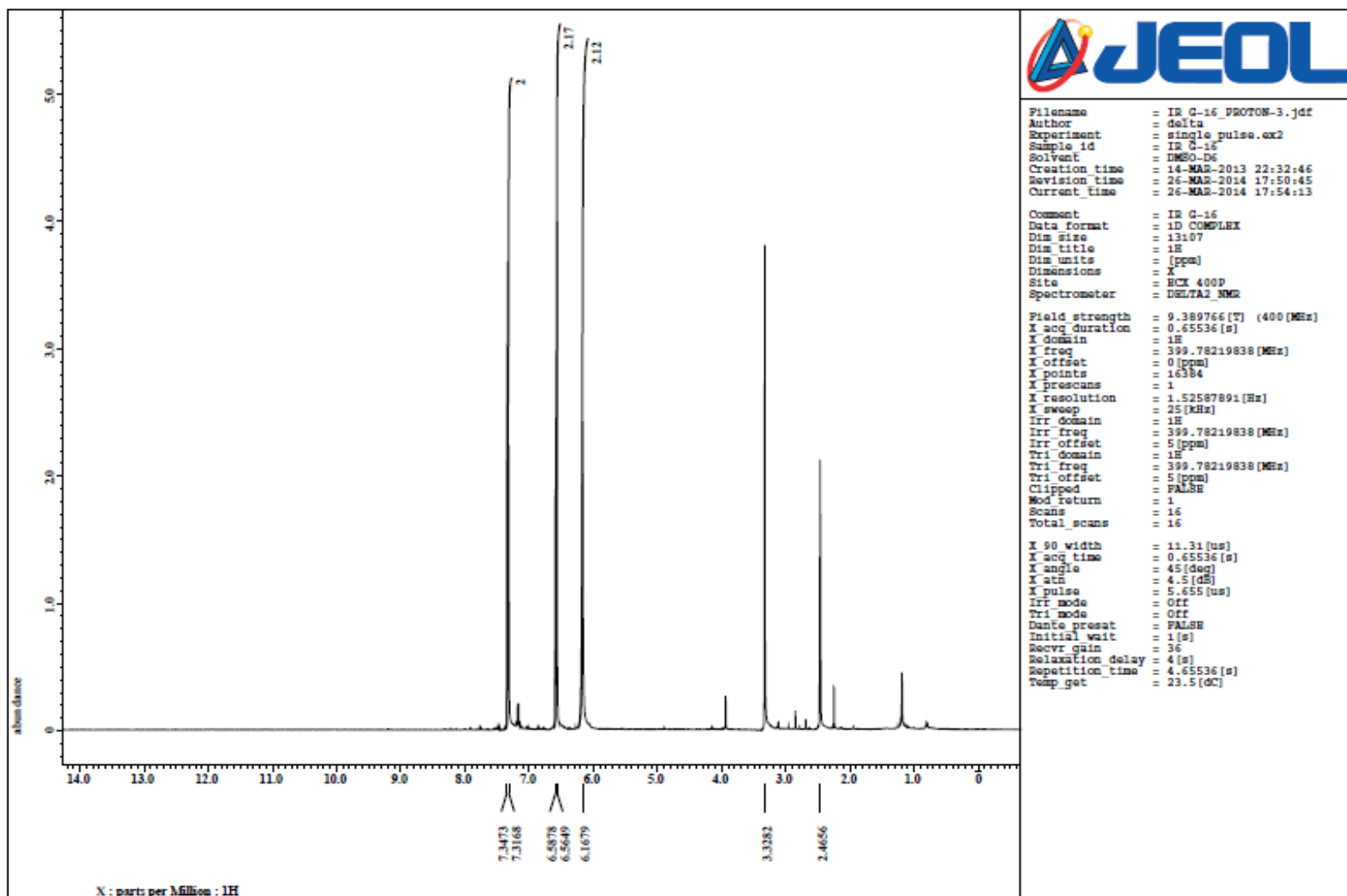
¹³C NMR of 4B



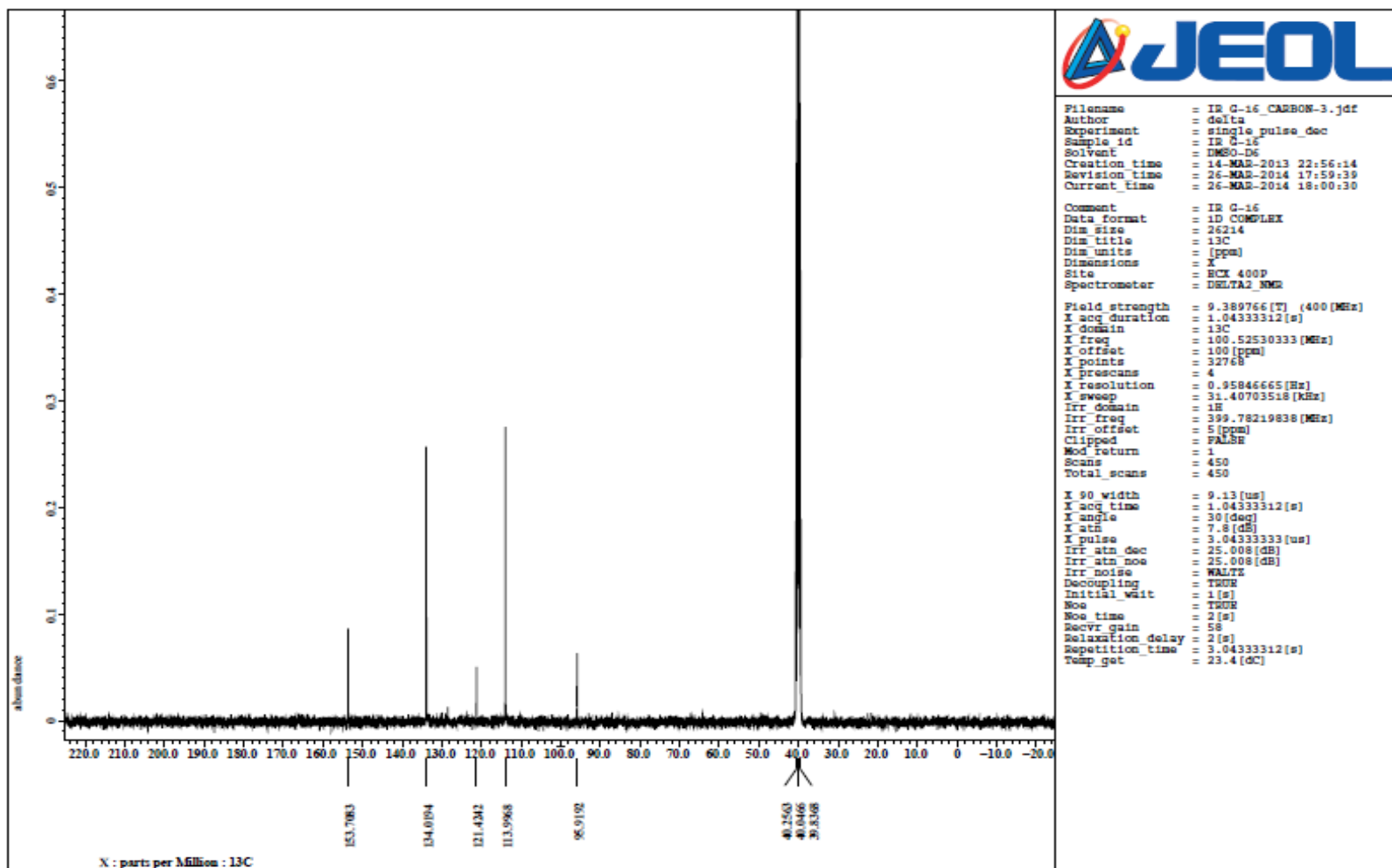
IR spectra of 4b



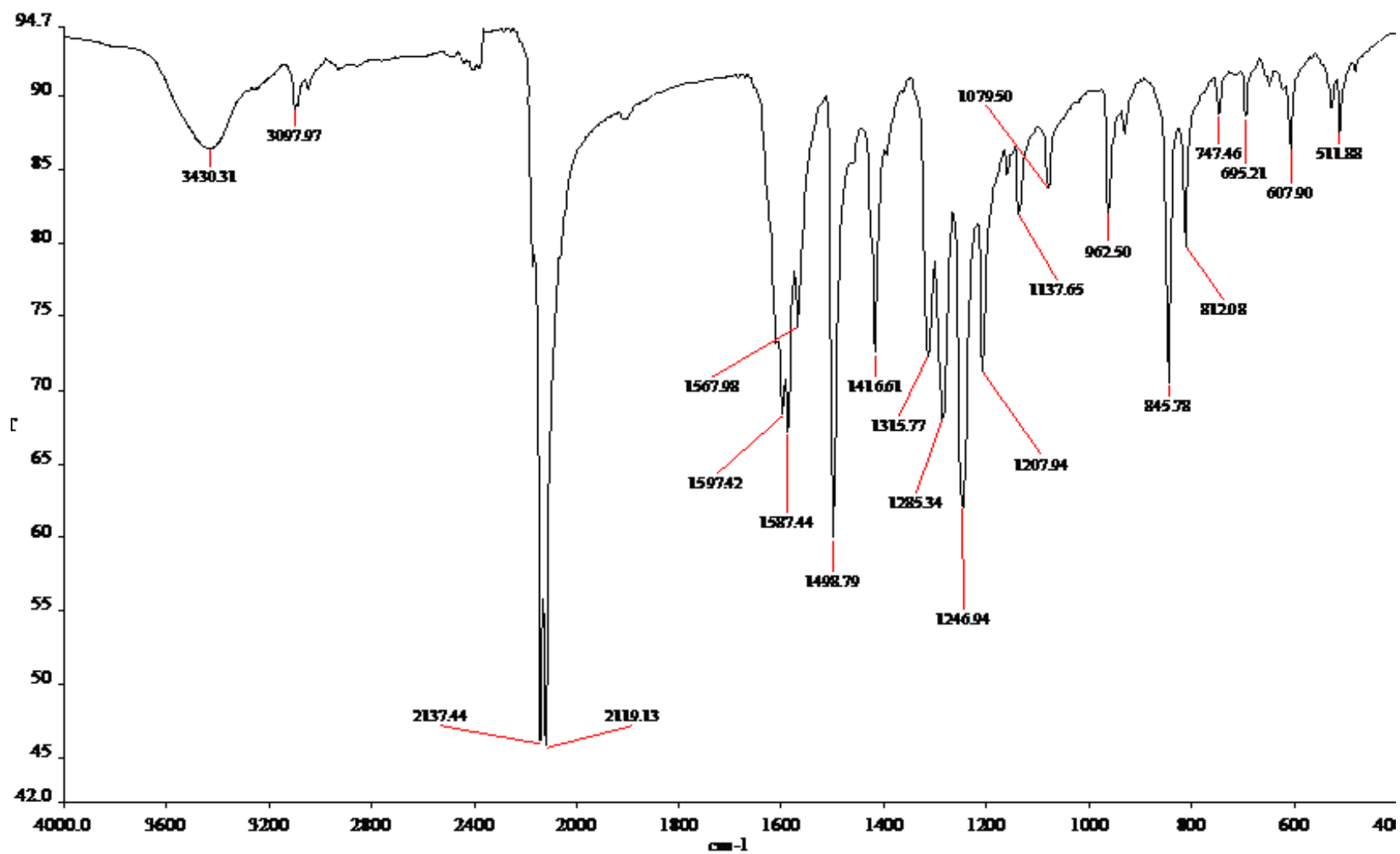
¹H NMR of 5b



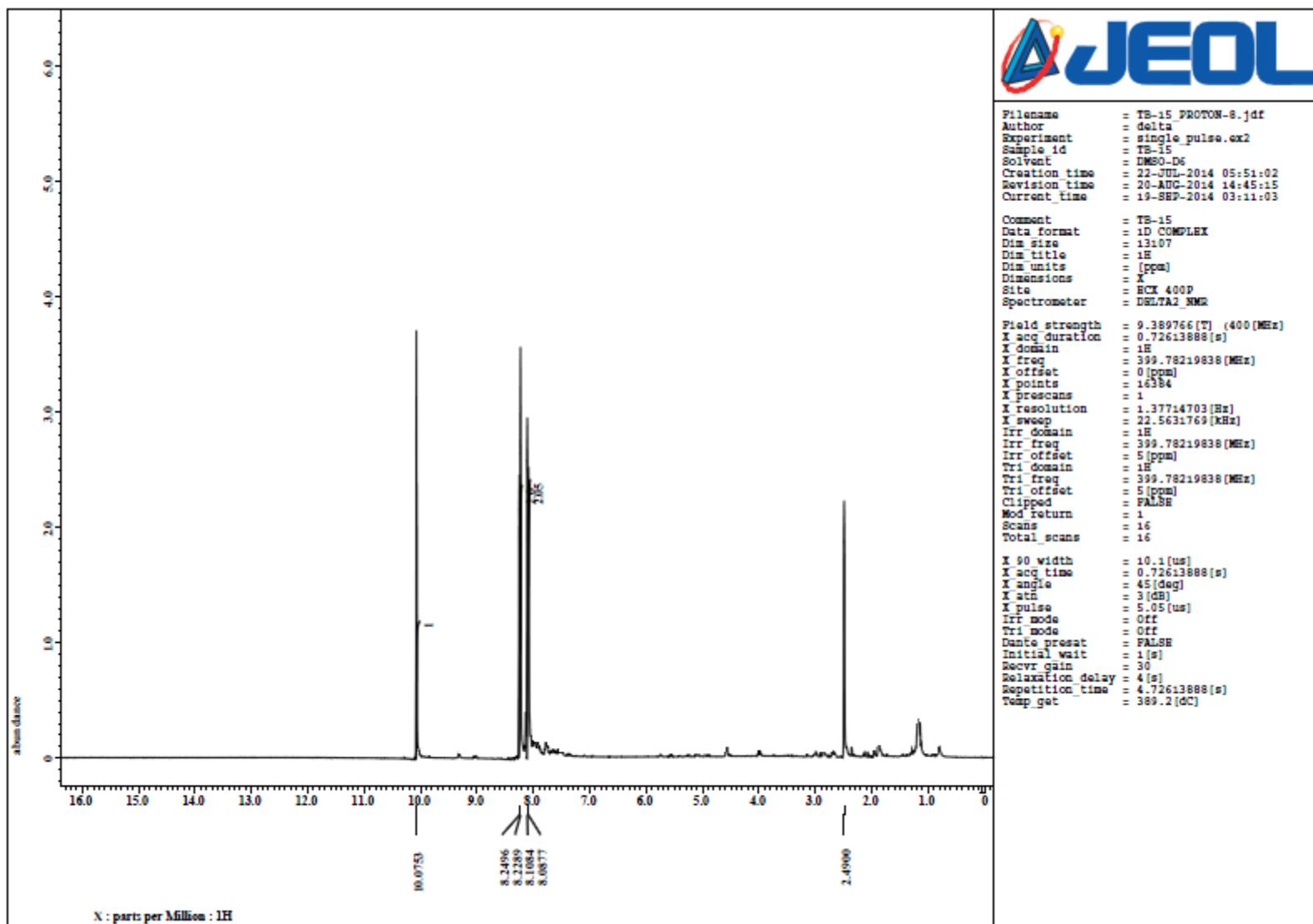
¹³C NMR of 5b



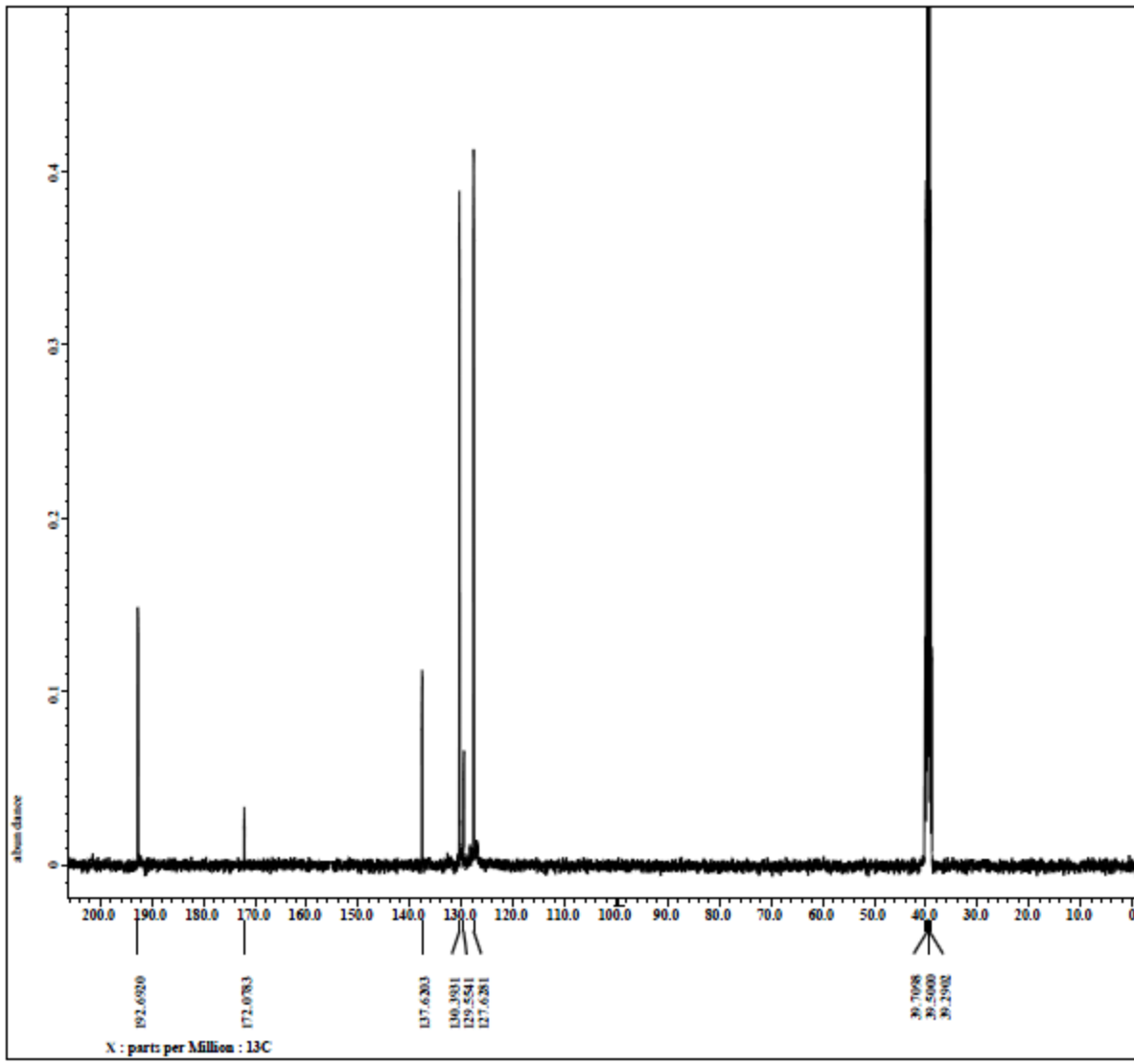
IR spectra of 5b



^1H NMR of 6b



¹³C NMR of 6b



```

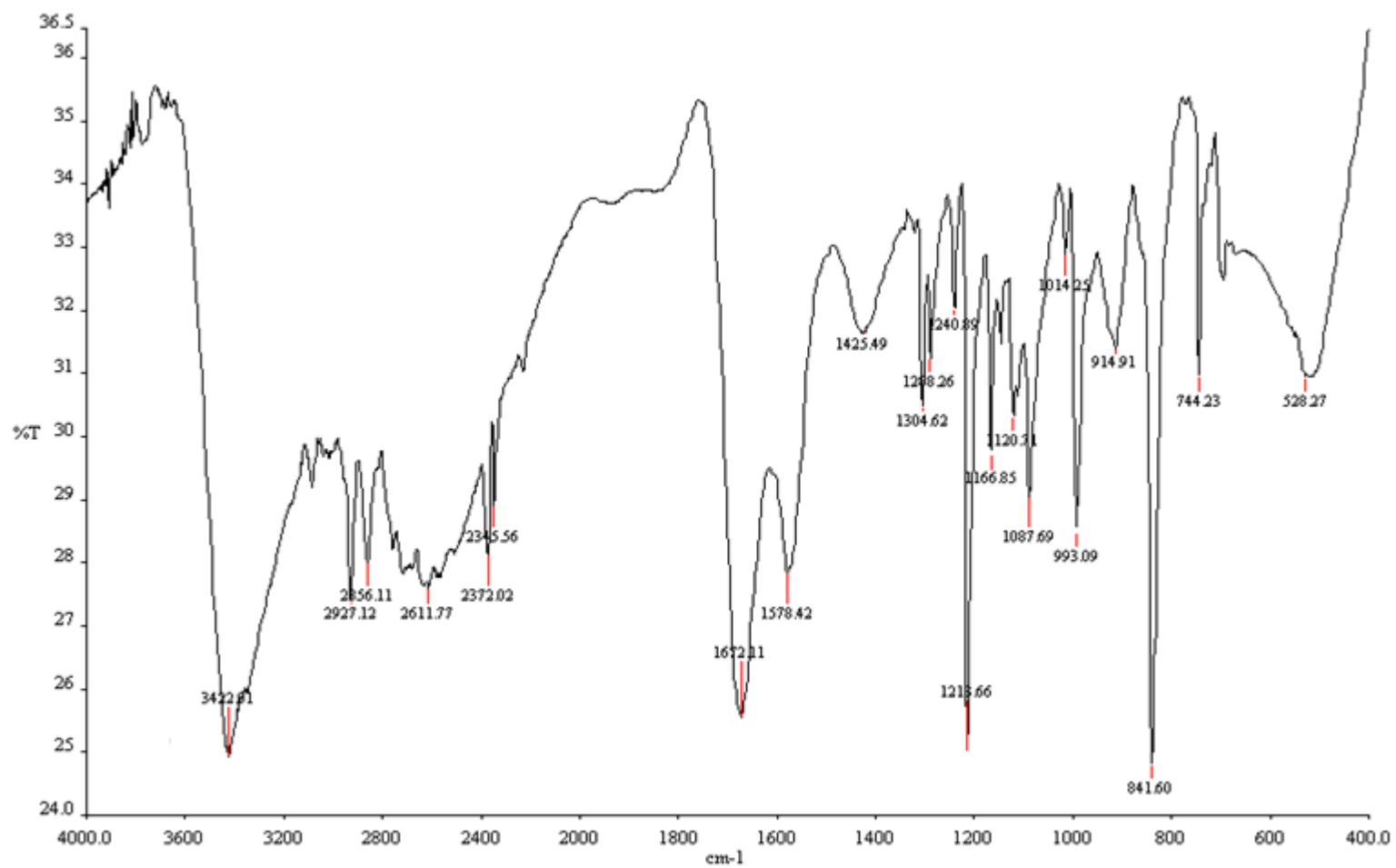
Filename      = TB-15 CARBON-4.jdf
Author       = delta
Experiment   = single pulse_dec
Sample id    = TB-15
Solvent      = DMSO-D6
Creation time = 22-JUL-2014 06:11:58
Revision time = 20-AUG-2014 14:39:52
Current time  = 19-SEP-2014 03:23:57

Comment      = TB-15
Data format  = 1D COMPLEX
Dim size     = 26214
Dim title    = 13C
Dim units    = [ppm]
Dimensions   = X
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Spectrometer = DELTA2 NMR

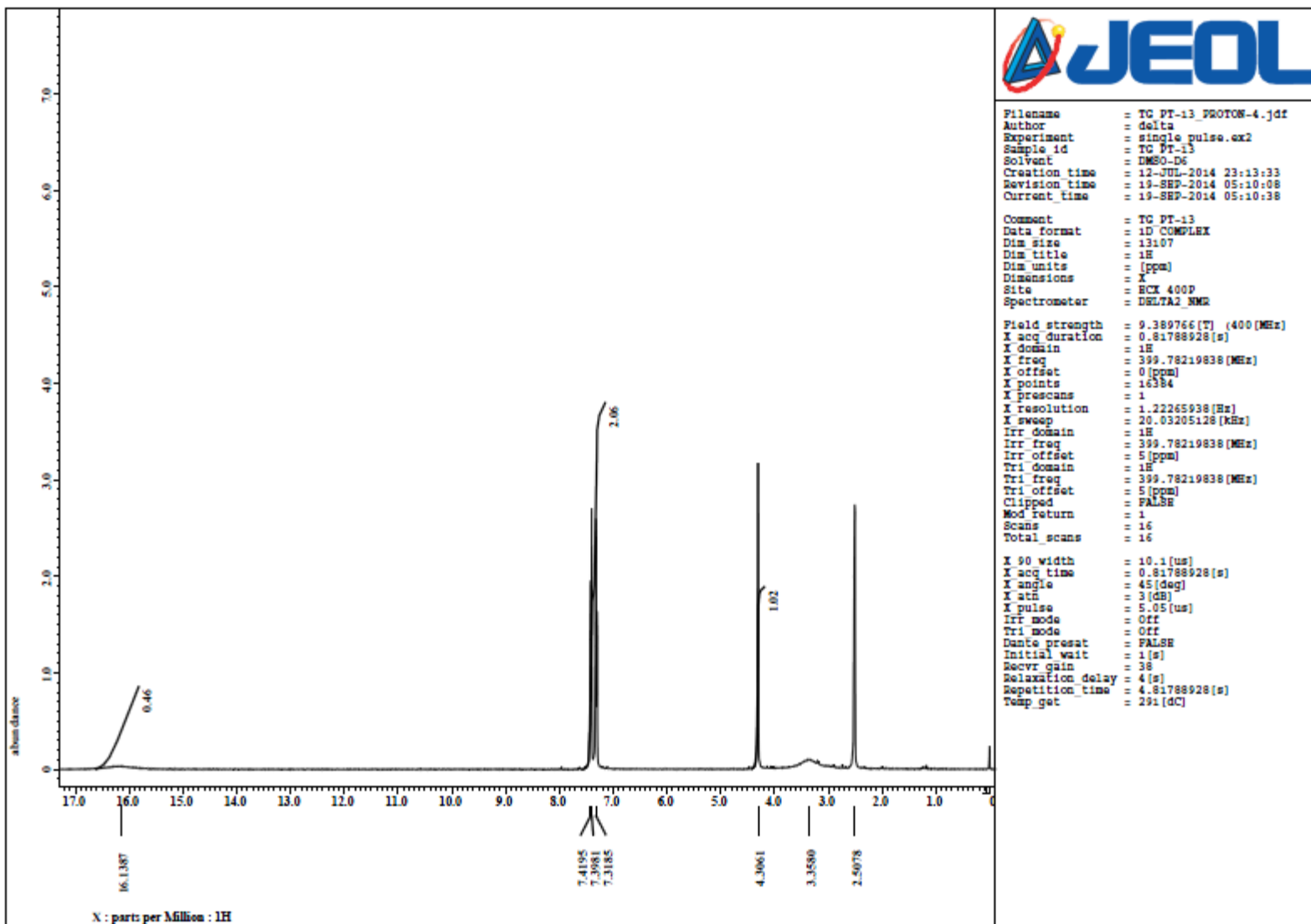
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X freq        = 100.52530333(MHz)
X offset      = 100(ppm)
X points      = 32768
X prescans    = 4
X resolution  = 0.95846665(Hz)
X sweep       = 31.40703518(KHz)
Irr domain    = 1H
Irr freq      = 399.78219838(MHz)
Irr offset    = 5(ppm)
Clipped       = FALSE
Mod return    = 1
Scans         = 400
Total_scans   = 400

X 90 width    = 11.98(us)
X acq time    = 1.04333312(s)
X angle       = 30(deg)
X atm         = 10(dB)
X pulse       = 3.99333333(us)
Irr atm_dec   = 25.52(dB)
Irr atm_noe   = 25.52(dB)
Irr noise     = WALTZ
Decoupling    = TROR
Initial_wait  = 1(s)
Noe           = TROR
Noe time      = 2(s)
Recvr gain    = 54
Relaxation_delay = 2(s)
Repetition_time = 3.04333312(s)
Temp_get      = 388.5(dC)
  
```

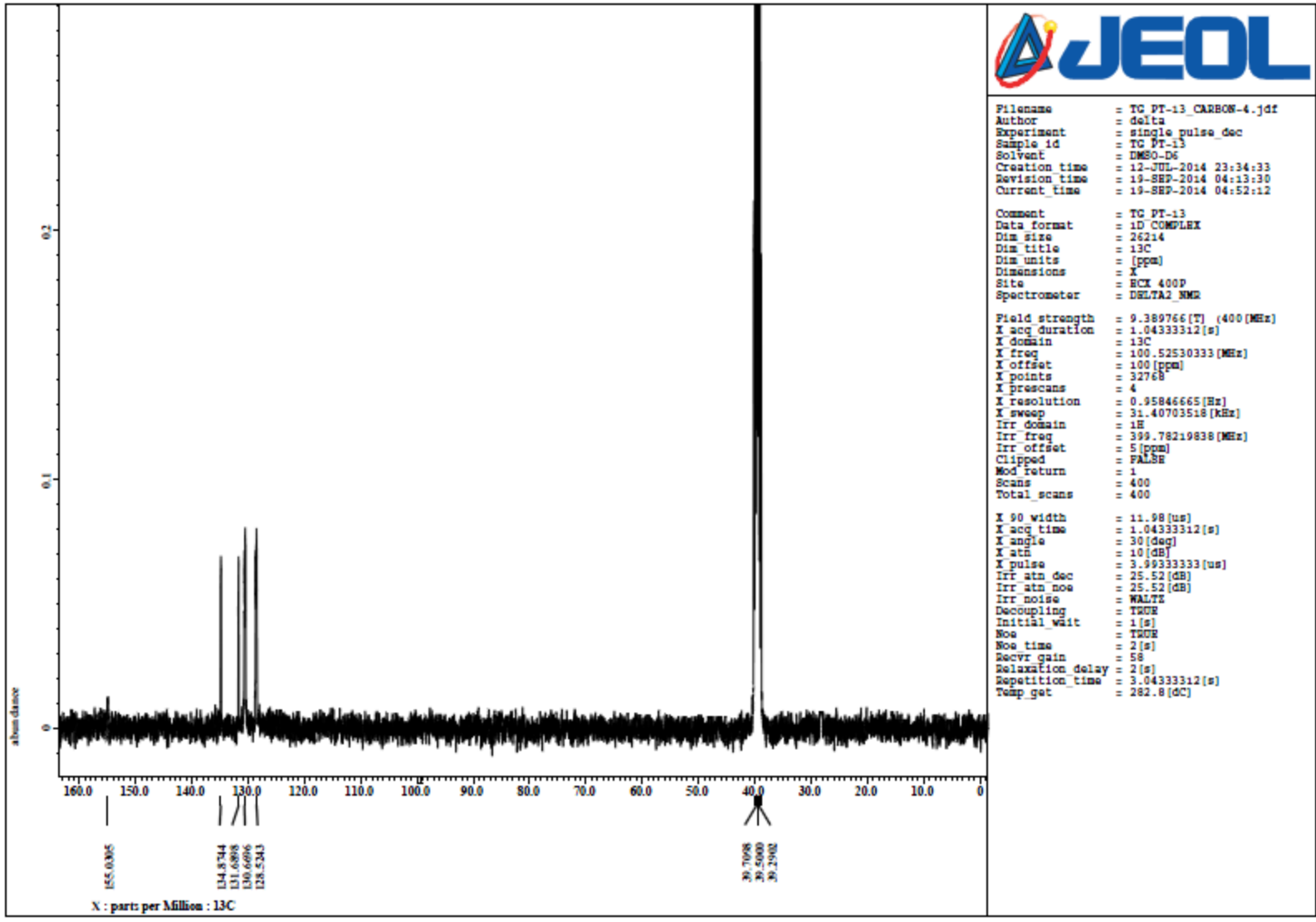
IR spectra of 6b



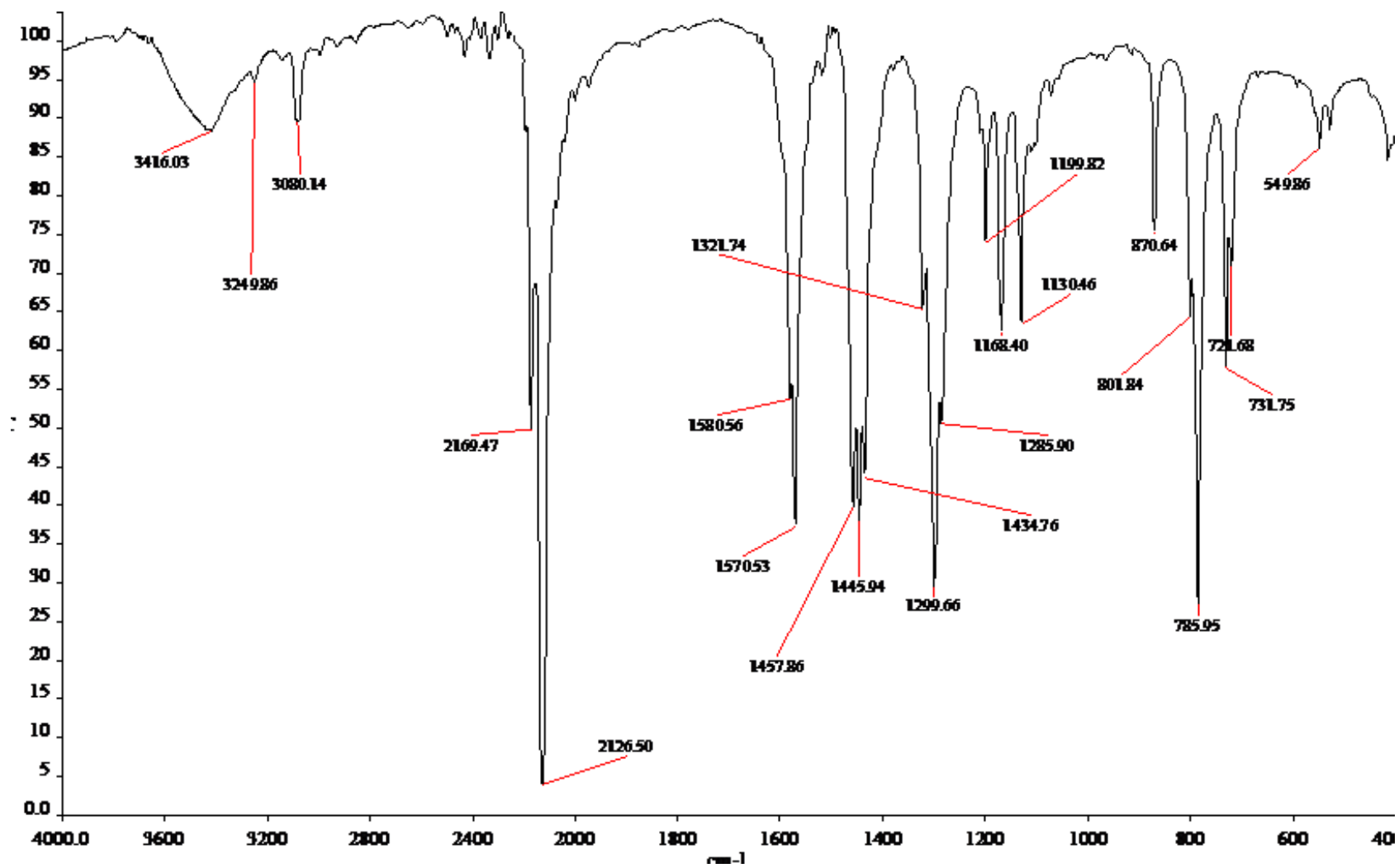
¹H NMR of 7b



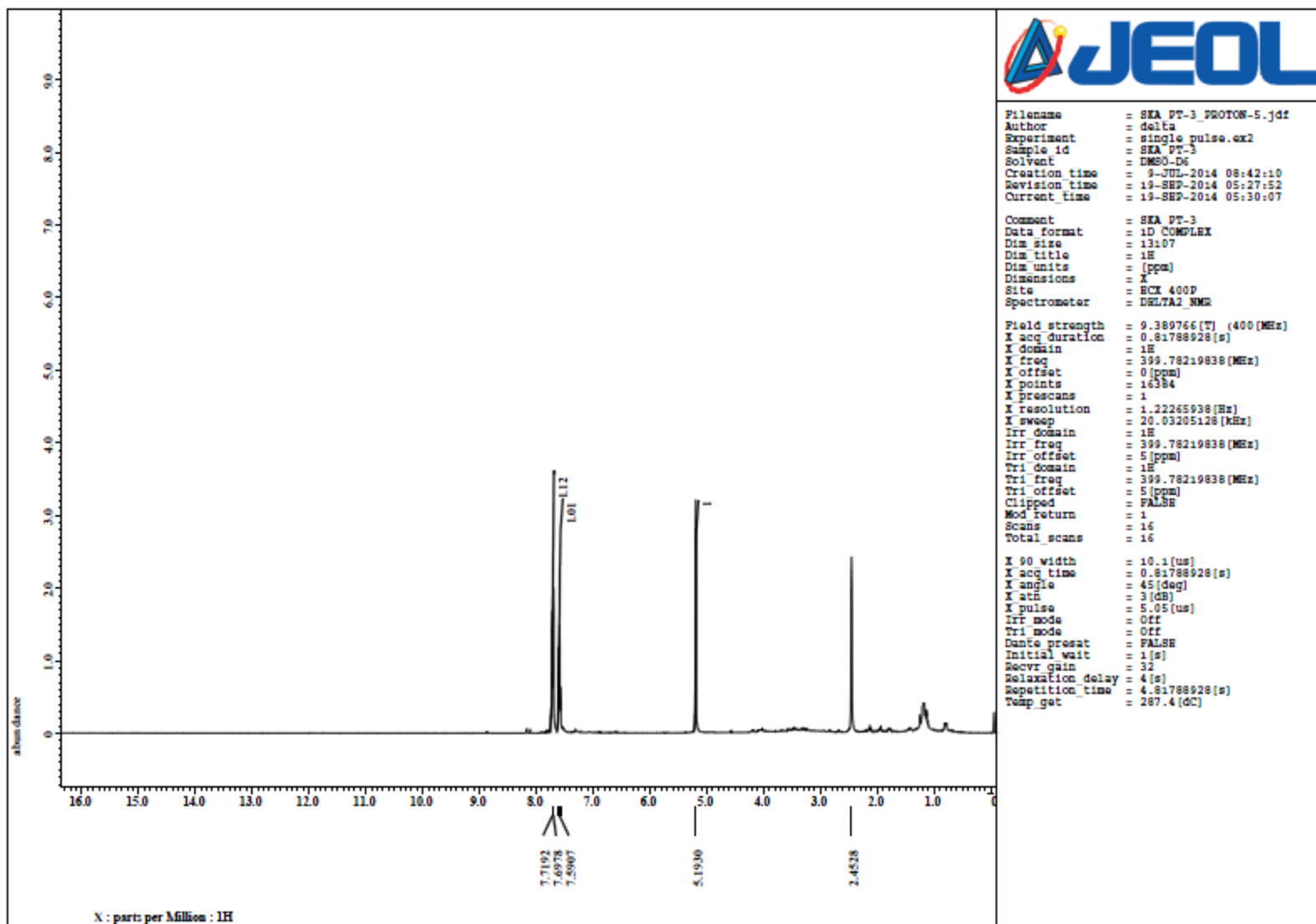
¹³C NMR of 7b



IR spectra of 7b



¹H NMR of 8b



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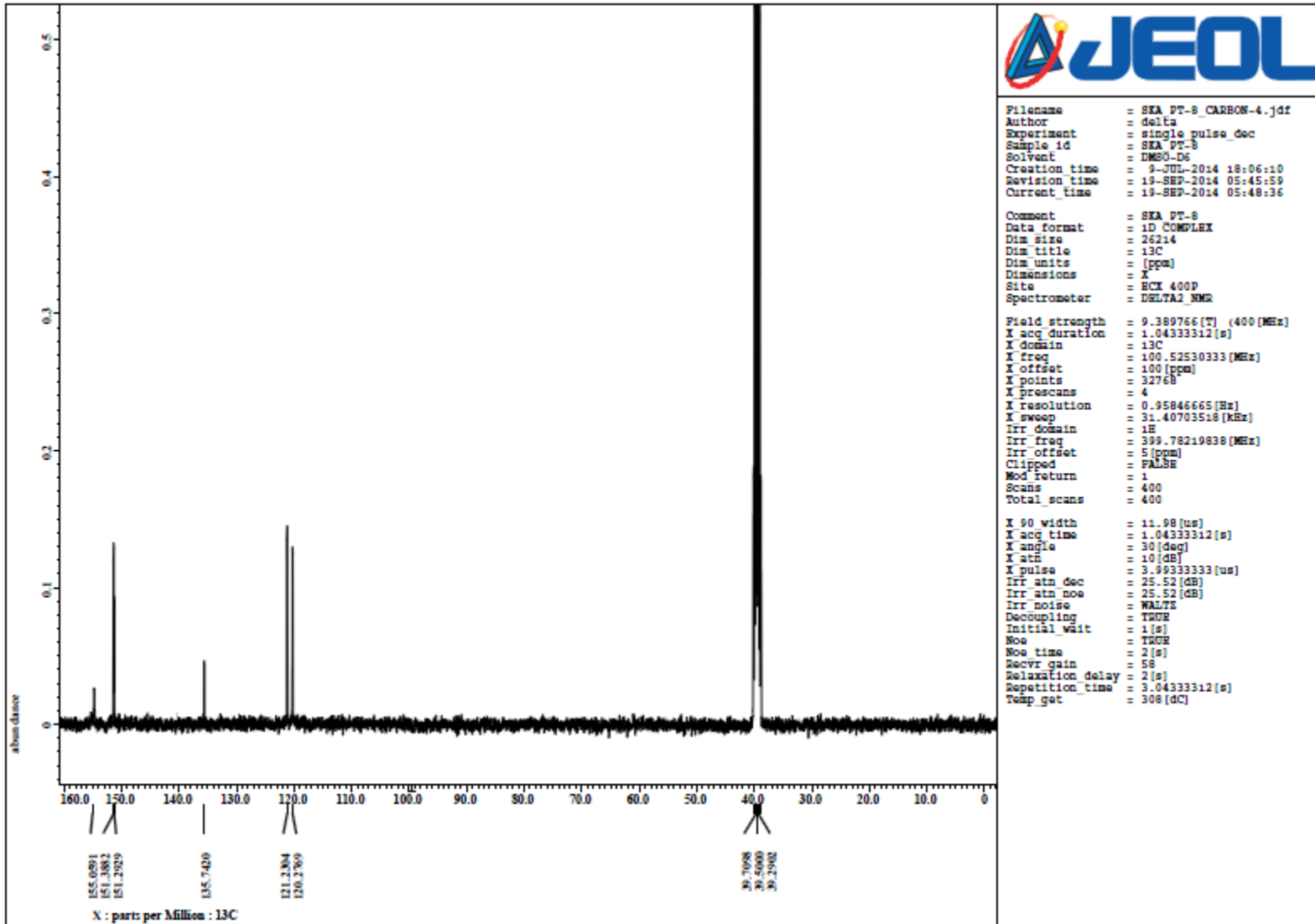
Filename      = SKA PT-3 PROTON-5.jdr
Author       = delta
Experiment   = single pulse.ex2
Sample id    = SKA PT-3
Solvent      = DMSO-D6
Creation time = 9-JUL-2014 08:42:10
Revision time = 19-SEP-2014 05:27:52
Current time  = 19-SEP-2014 05:30:07

Comment      = SKA PT-3
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Dim title    = 1H
Dim units    = [ppm]
Dimensions   = X
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Spectrometer = DELTA2 NMR

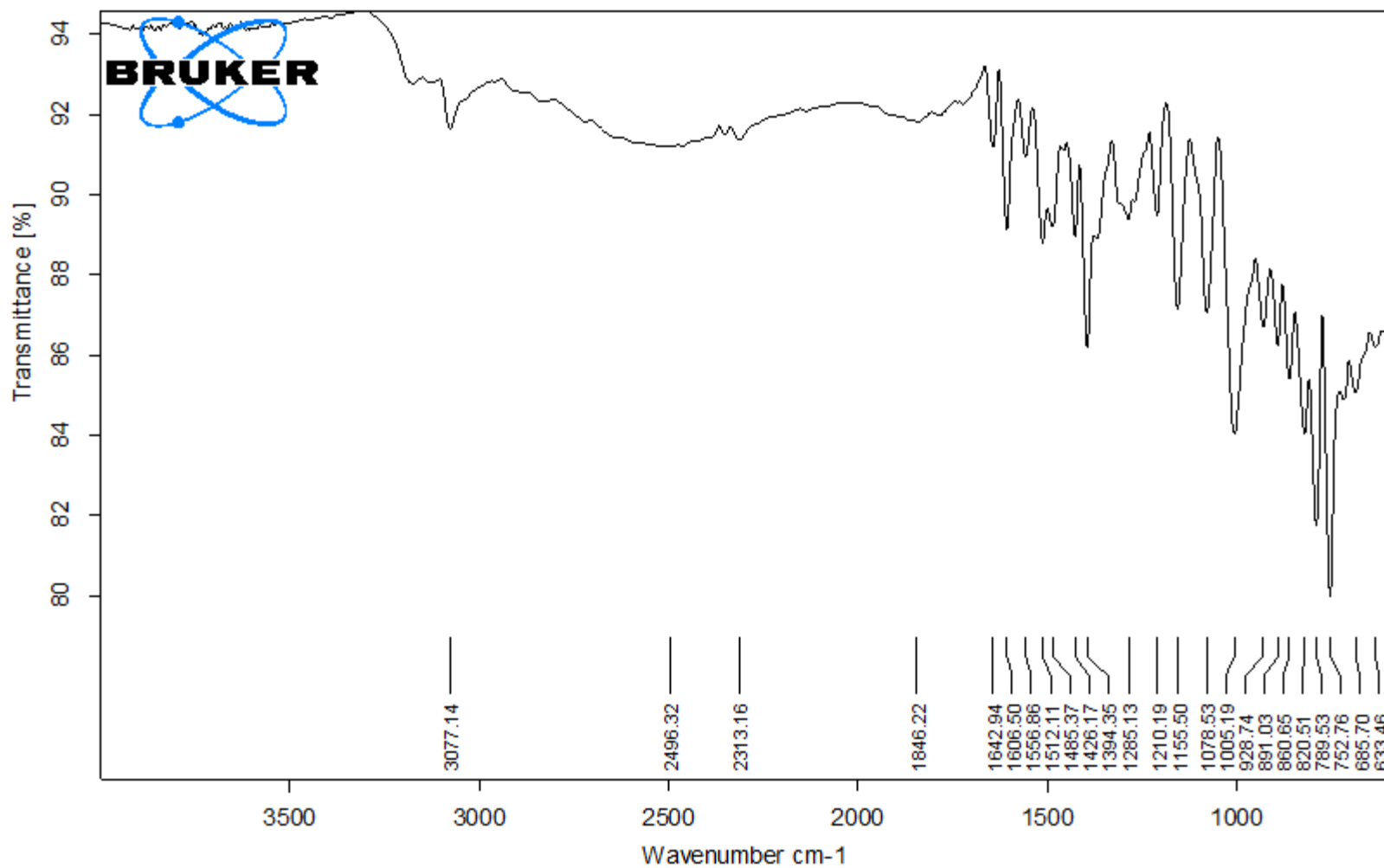
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X offset      = 0 [ppm]
X points      = 16384
X prescans    = 1
X resolution  = 1.22265938 [Hz]
X sweep       = 20.03205128 [kHz]
Irr domain    = 1H
Irr freq      = 399.78219838 [MHz]
Irr offset    = 5 [ppm]
Tri domain    = 1H
Tri freq      = 399.78219838 [MHz]
Tri offset    = 5 [ppm]
Clipped       = FALSE
Mod return    = 1
Scans         = 16
Total scans   = 16

X 90 width    = 10.1 [us]
X acq time    = 0.81788928 [s]
X angle       = 45 [deg]
X attn        = 3 [dB]
X pulse       = 5.05 [us]
Irr mode      = Off
Tri mode      = Off
Dante preset  = FALSE
Initial wait  = 1 [s]
Recvr gain    = 32
Relaxation delay = 4 [s]
Repetition time = 4.81788928 [s]
Temp_get      = 287.4 [C]
  
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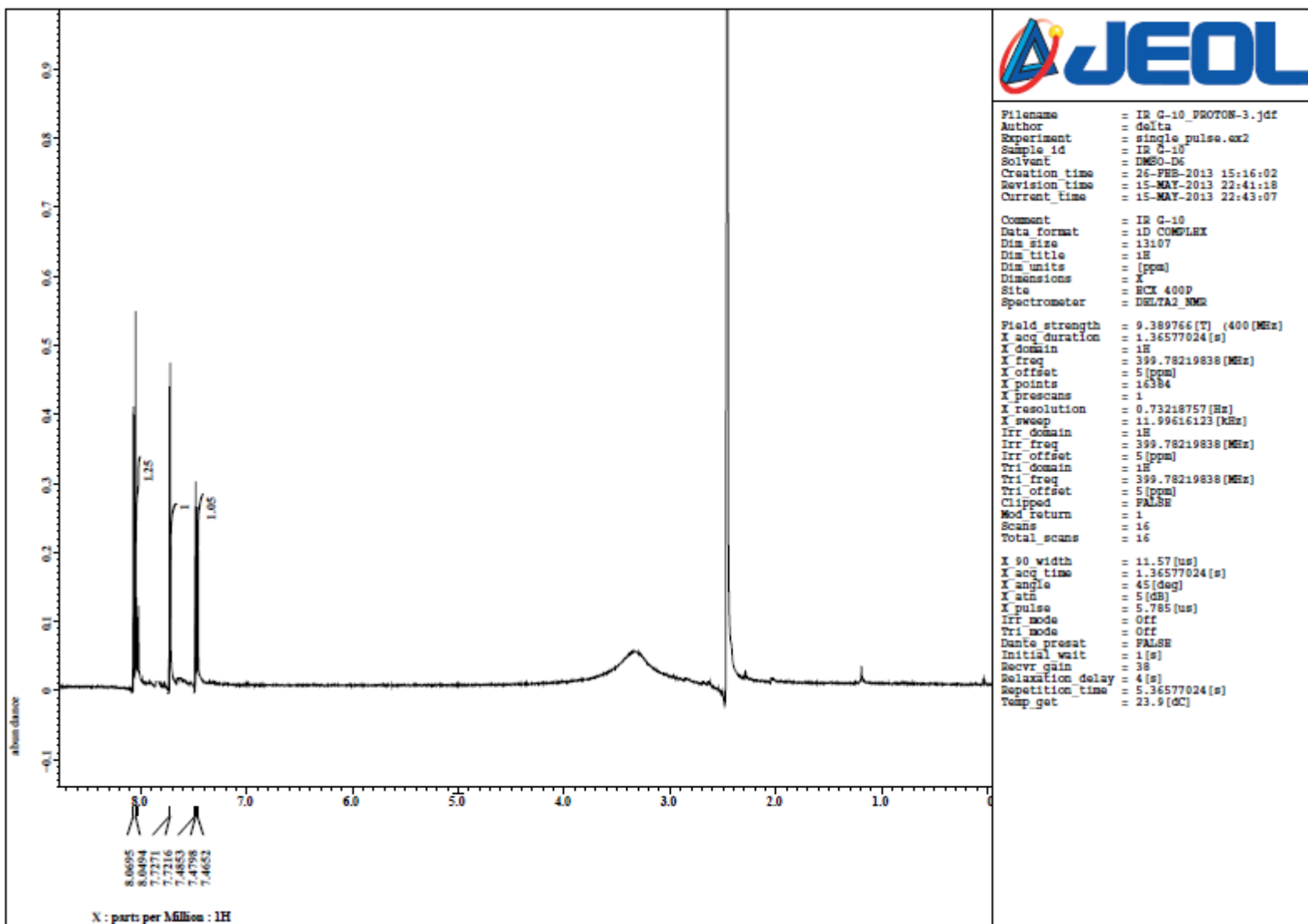
¹³C NMR of 8b



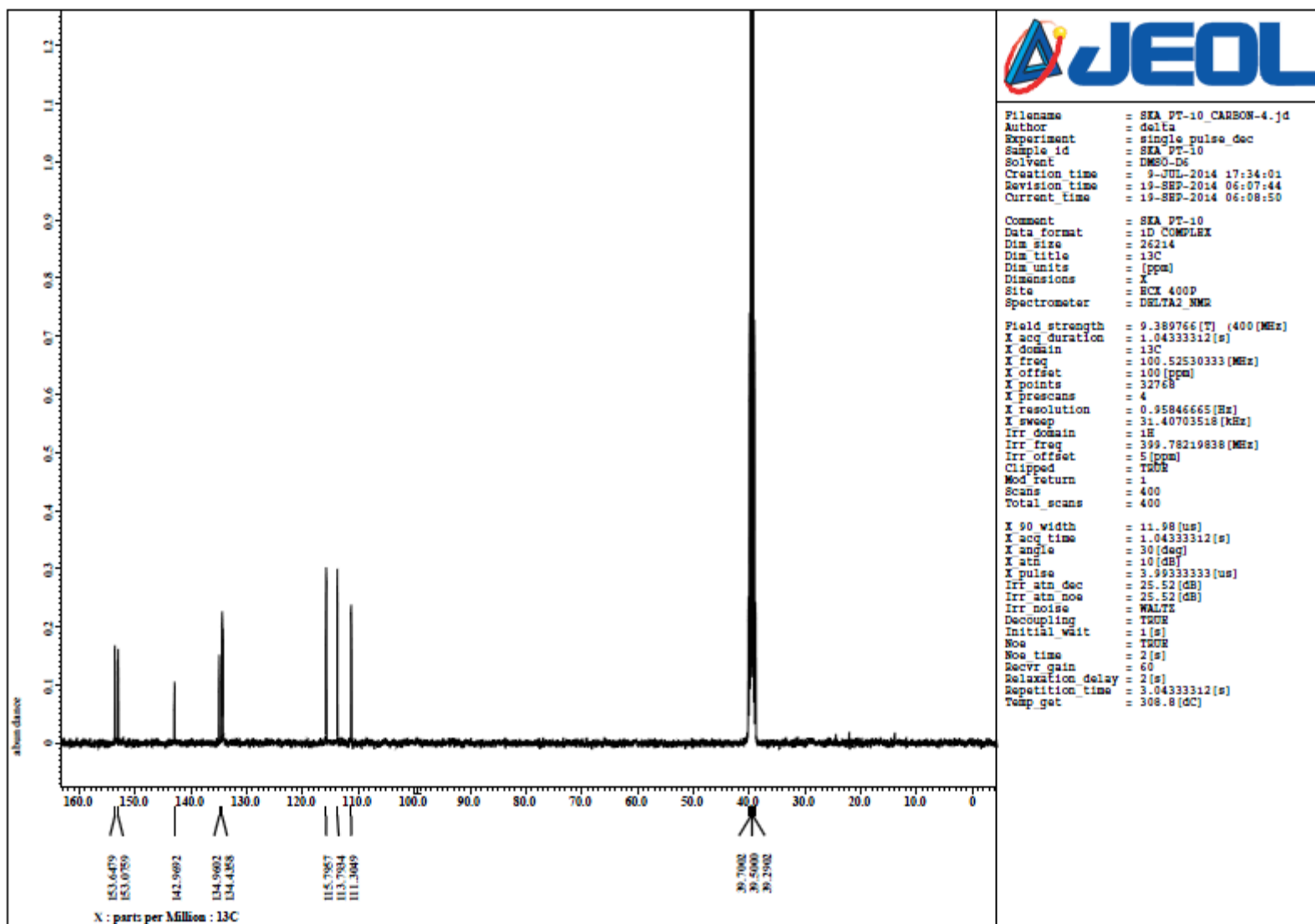
IR spectra of 8b



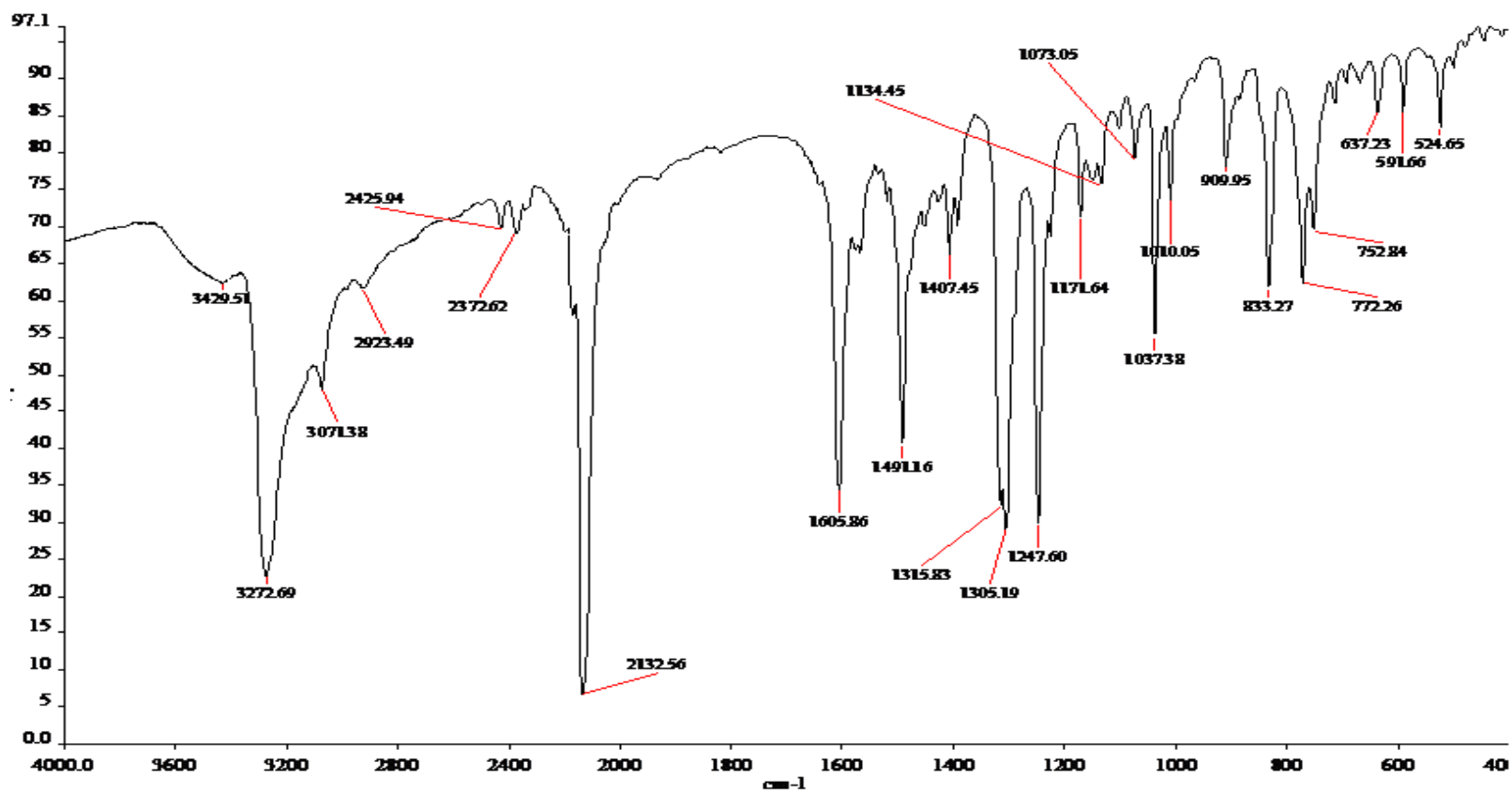
^1H NMR of 9b



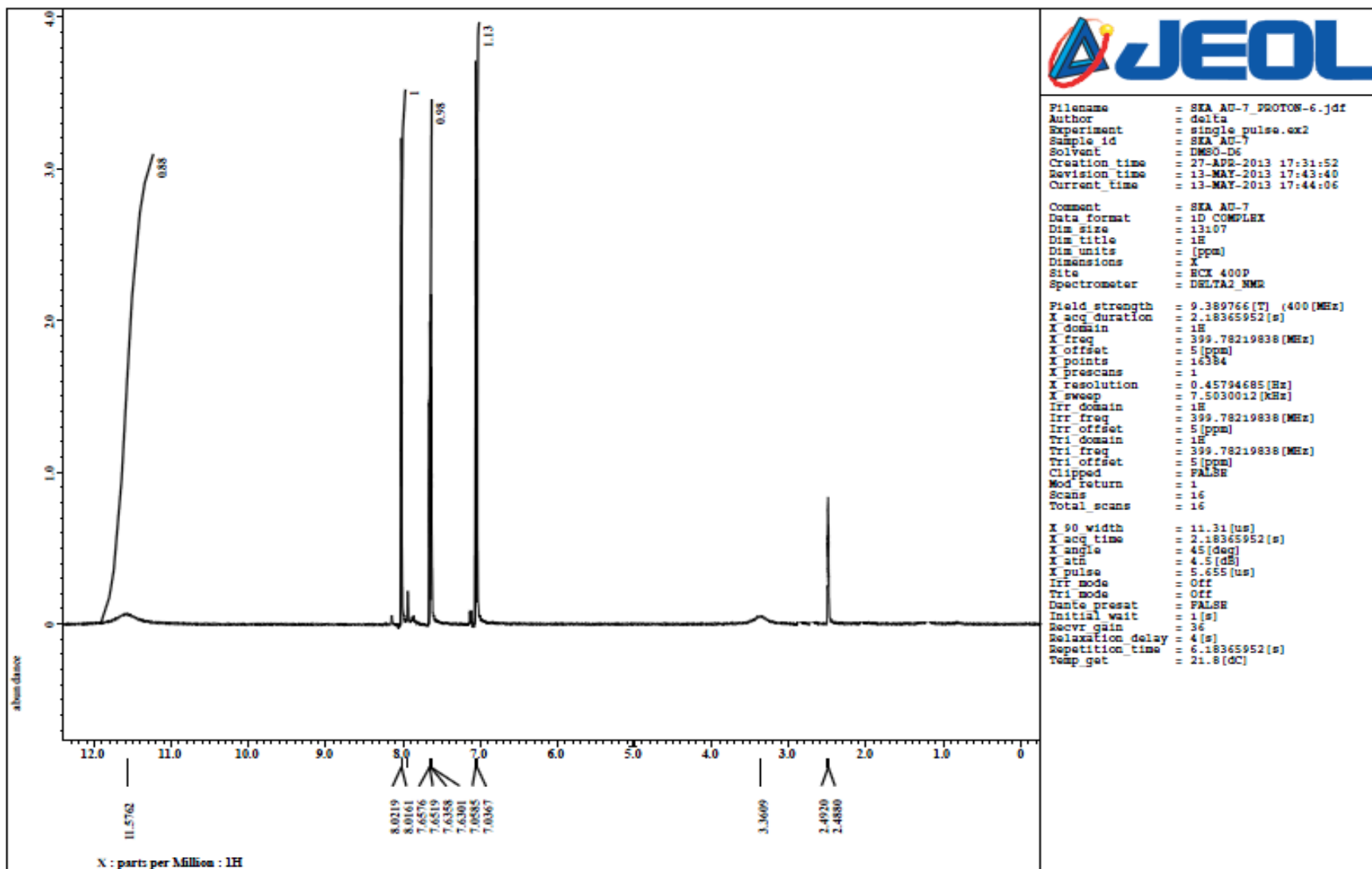
¹H NMR of 9b



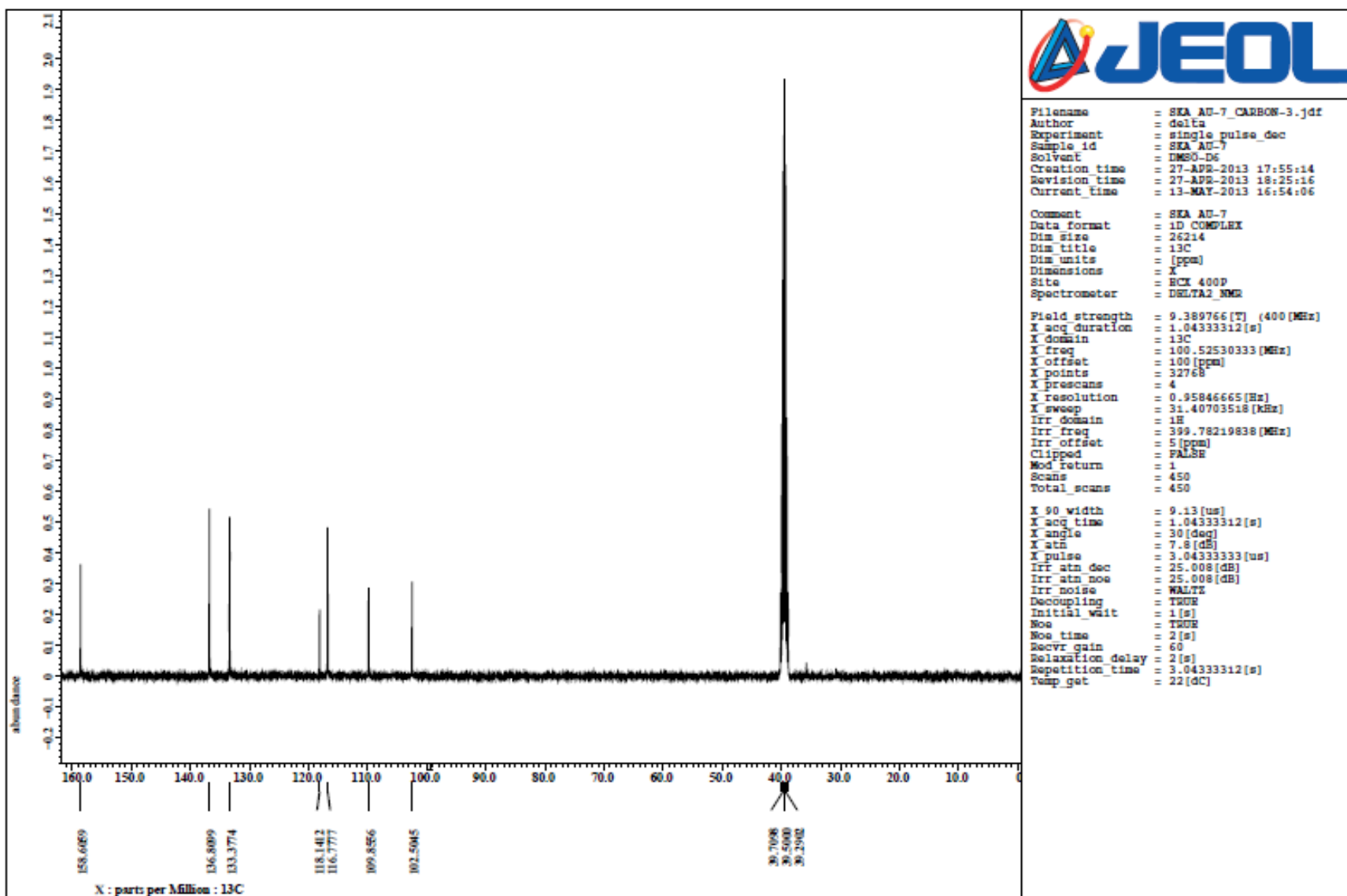
IR spectra of 9b



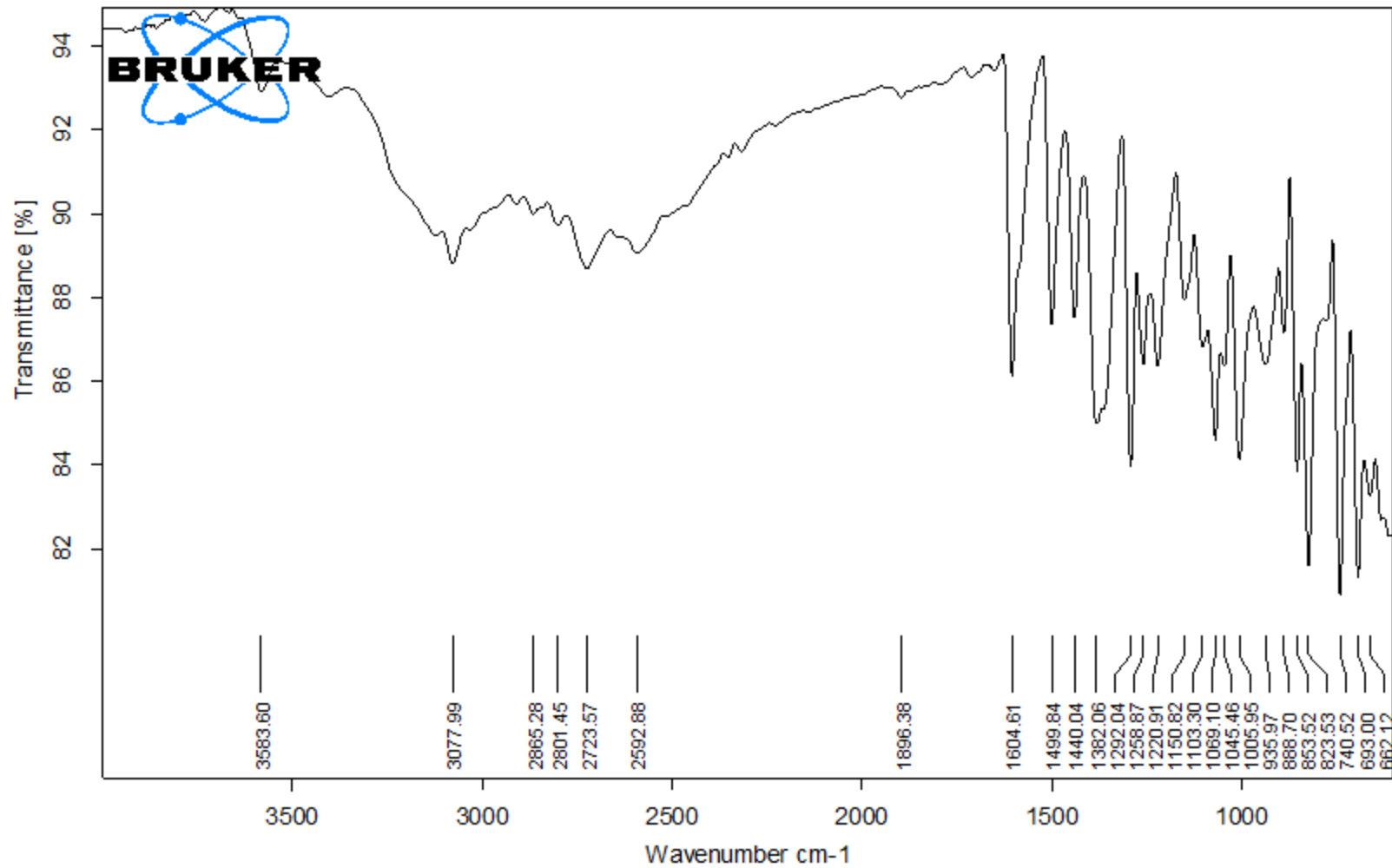
¹H NMR of 10b



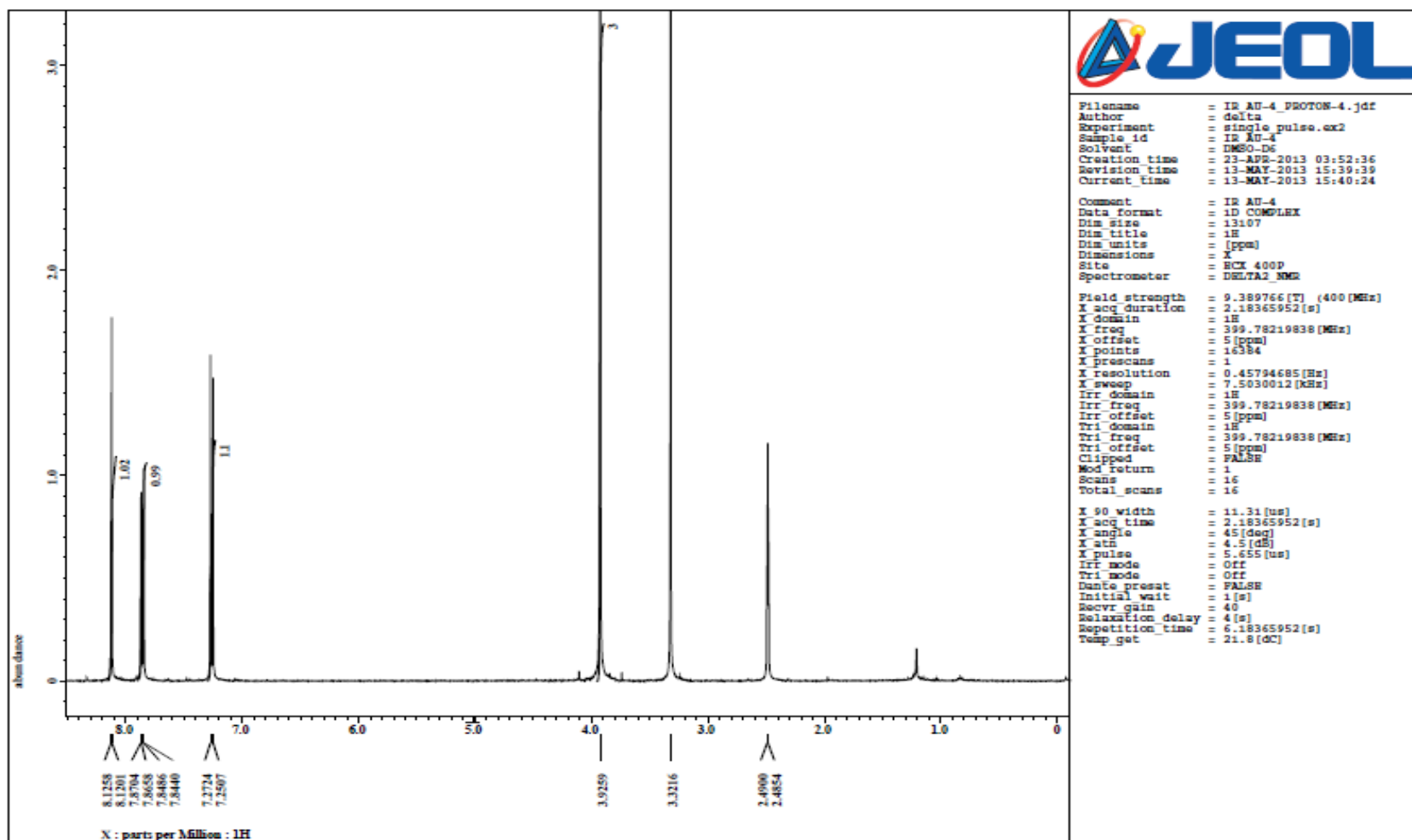
¹³C NMR of 10b



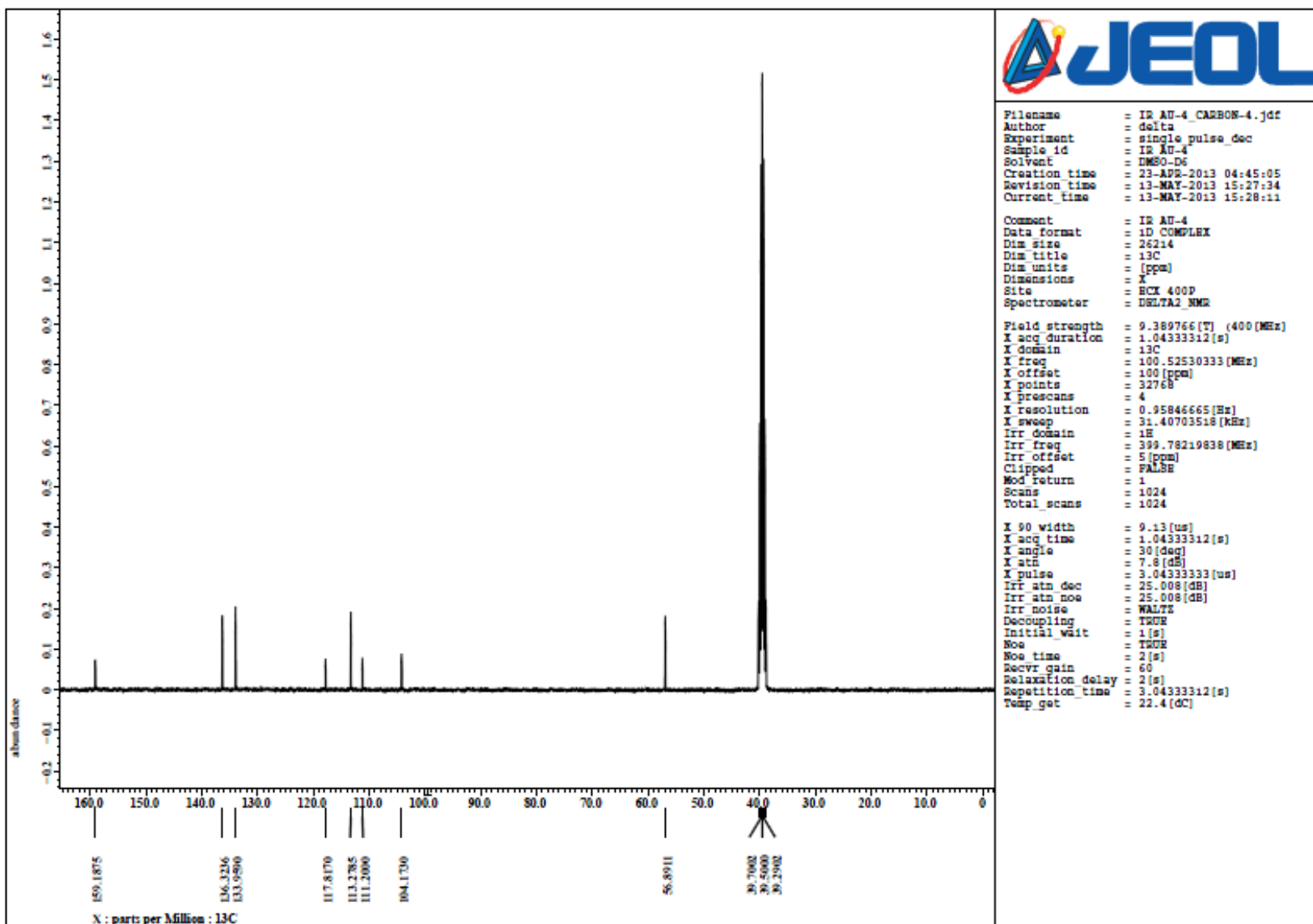
IR spectra of 10b



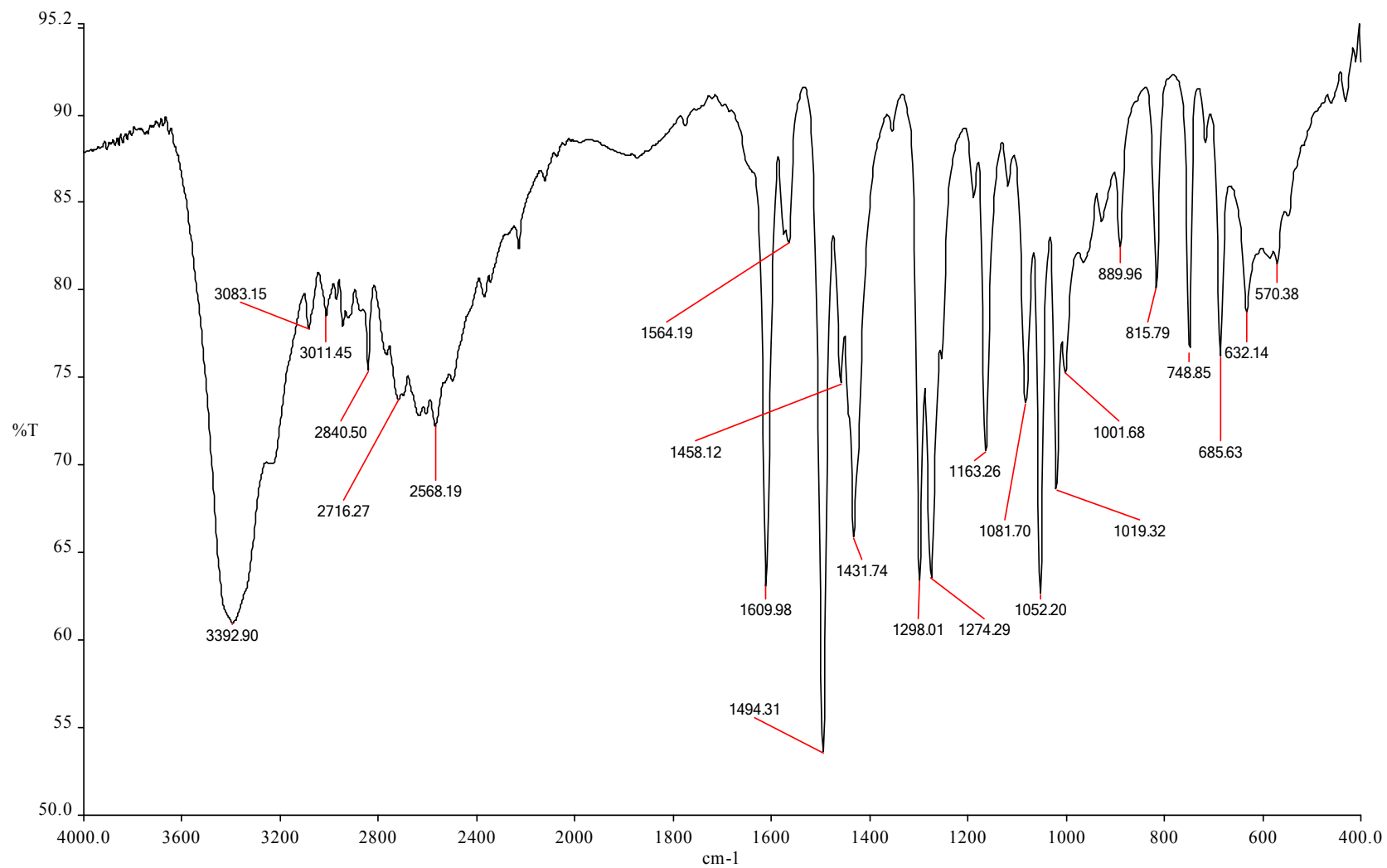
^1H NMR of 11b



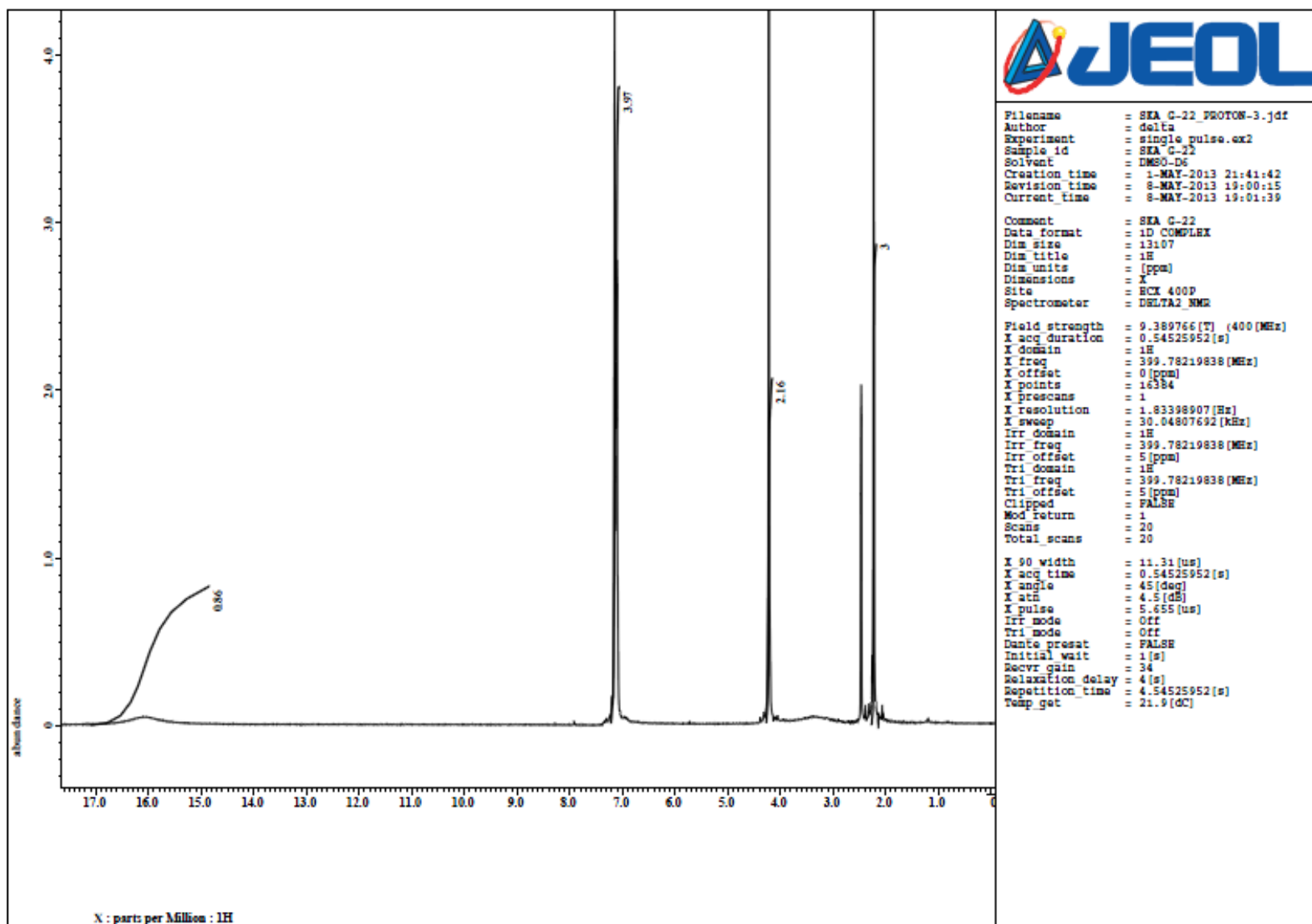
¹³C NMR of 11b



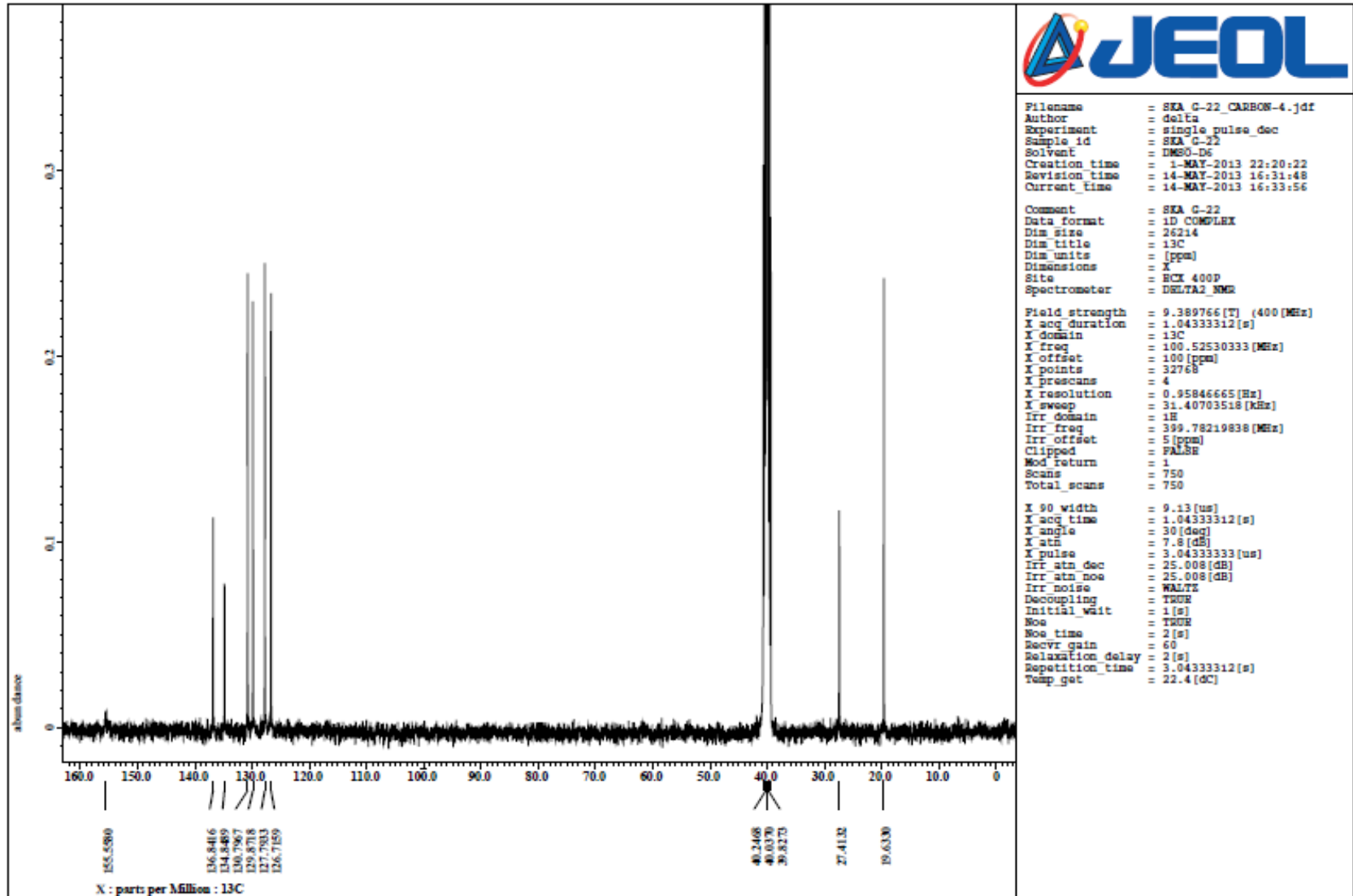
IR spectra of 11b



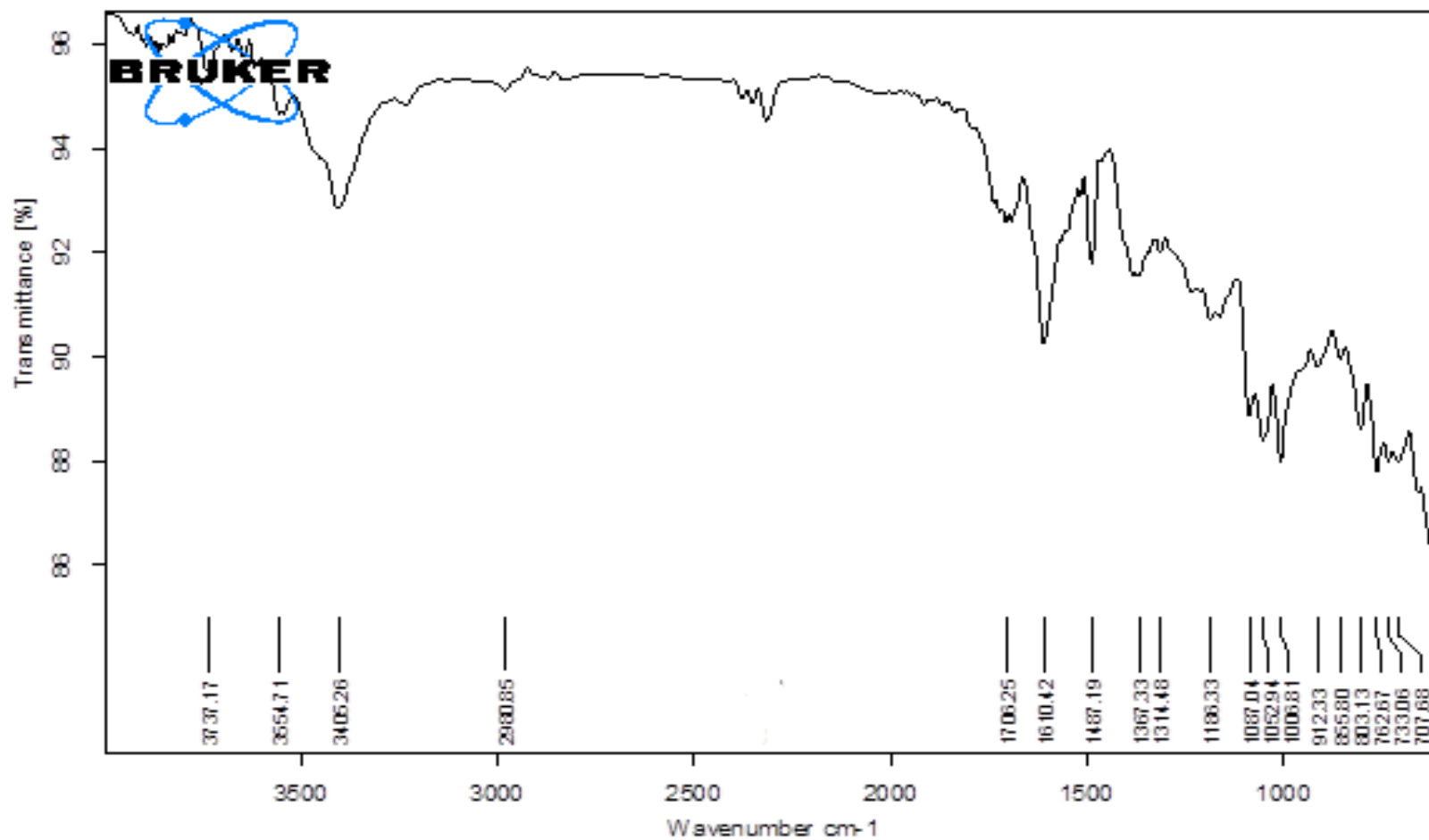
¹H NMR of 12b



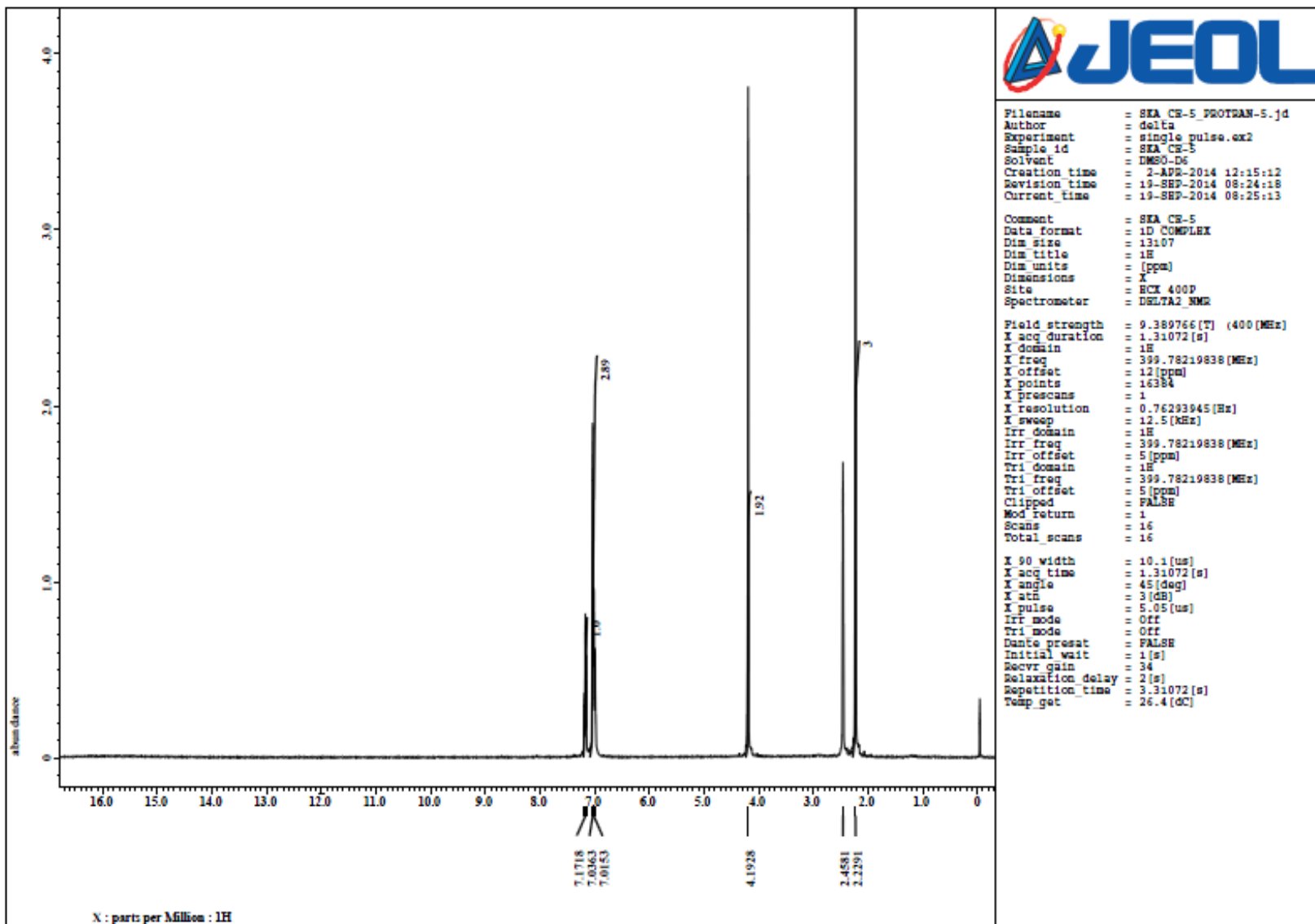
¹³C NMR of 12b



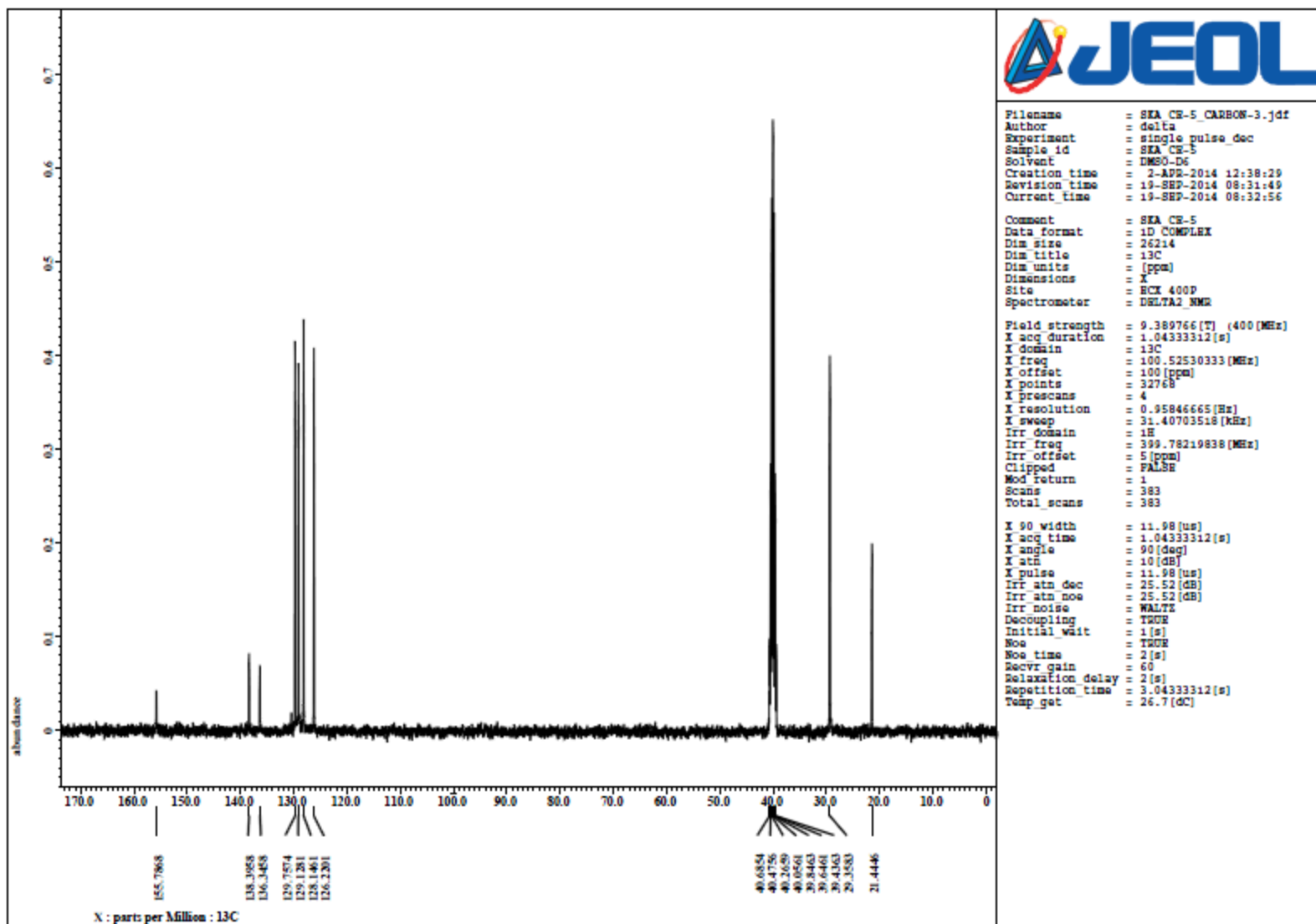
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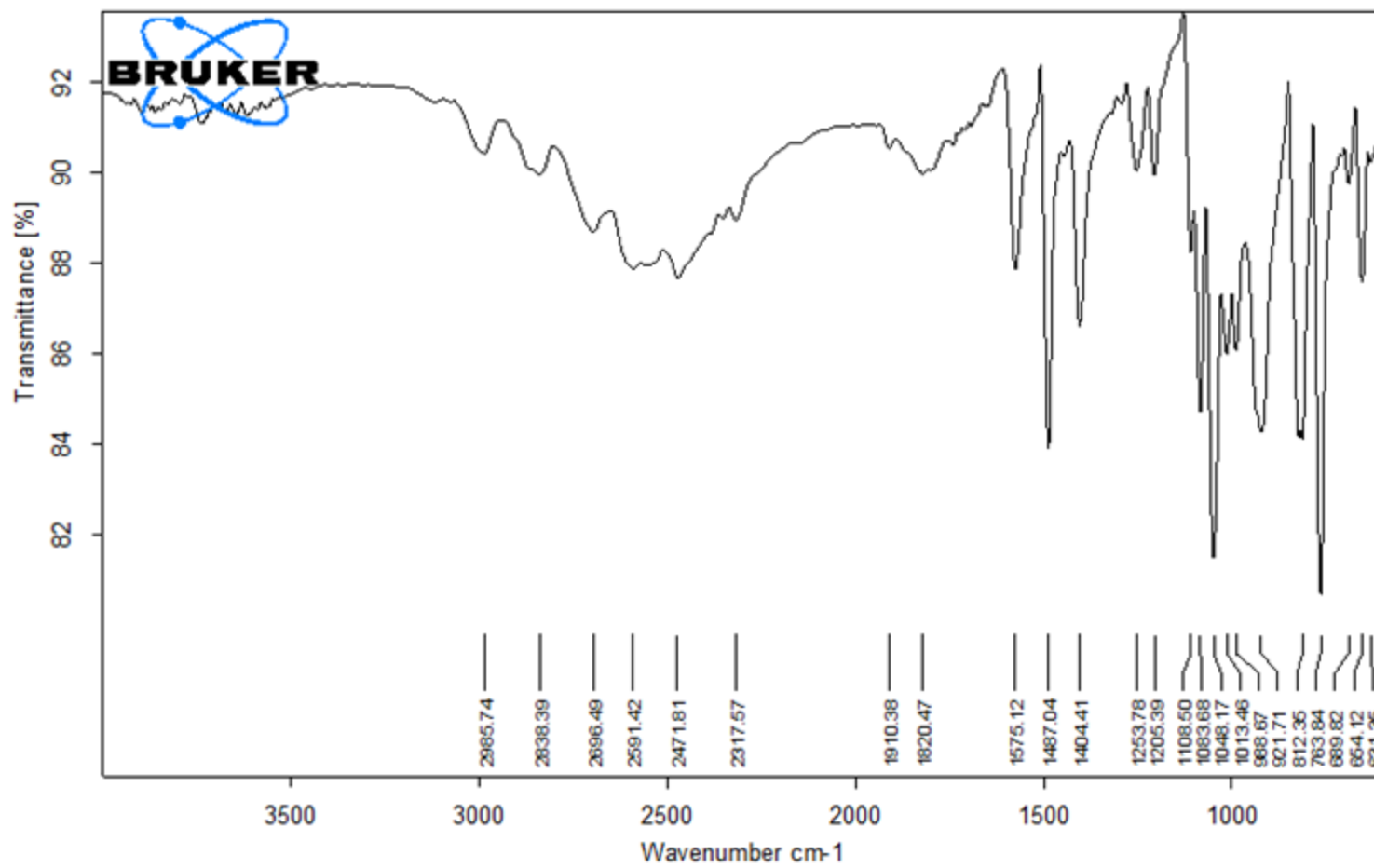
^1H NMR of 13b



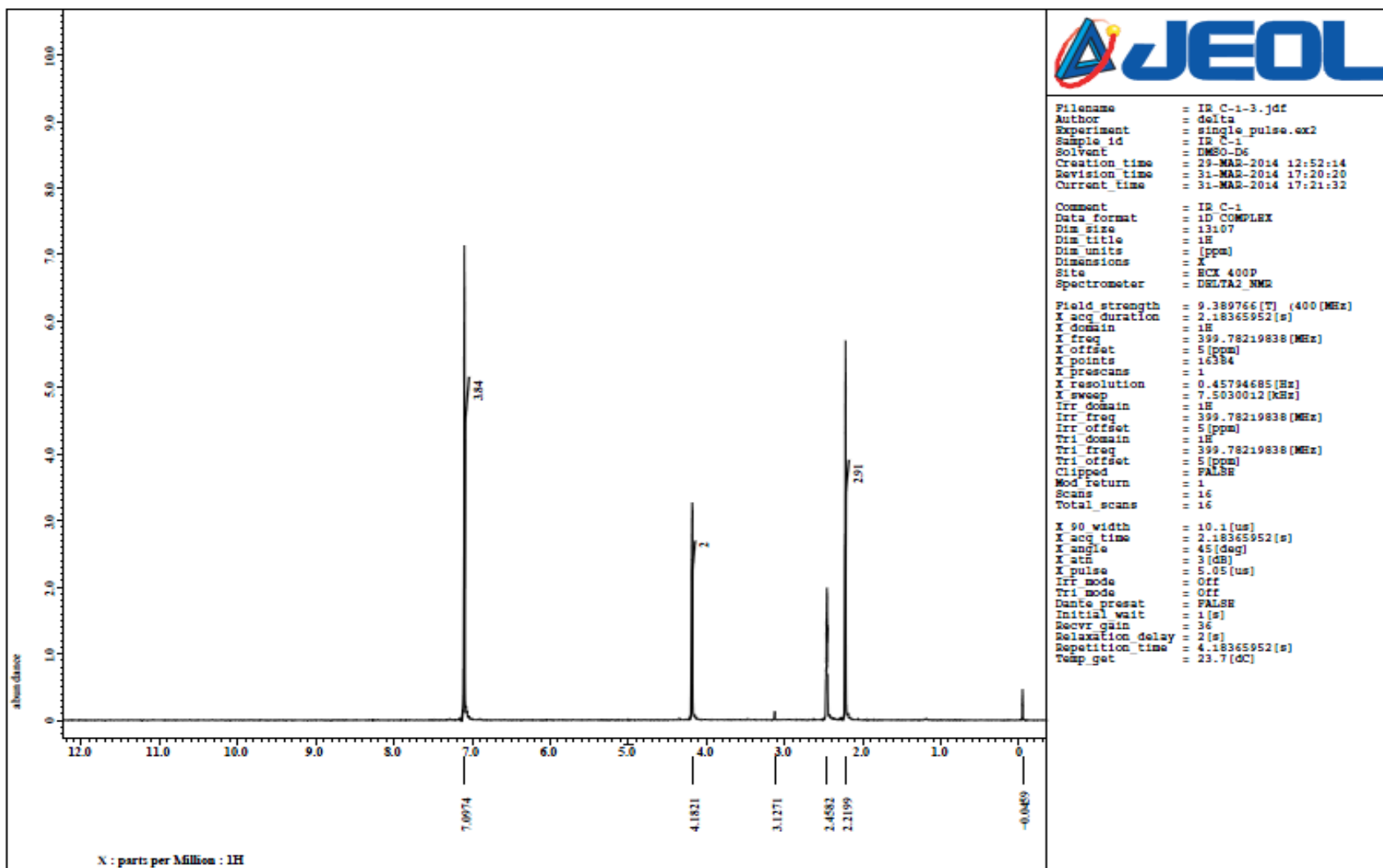
¹³C NMR of 13b



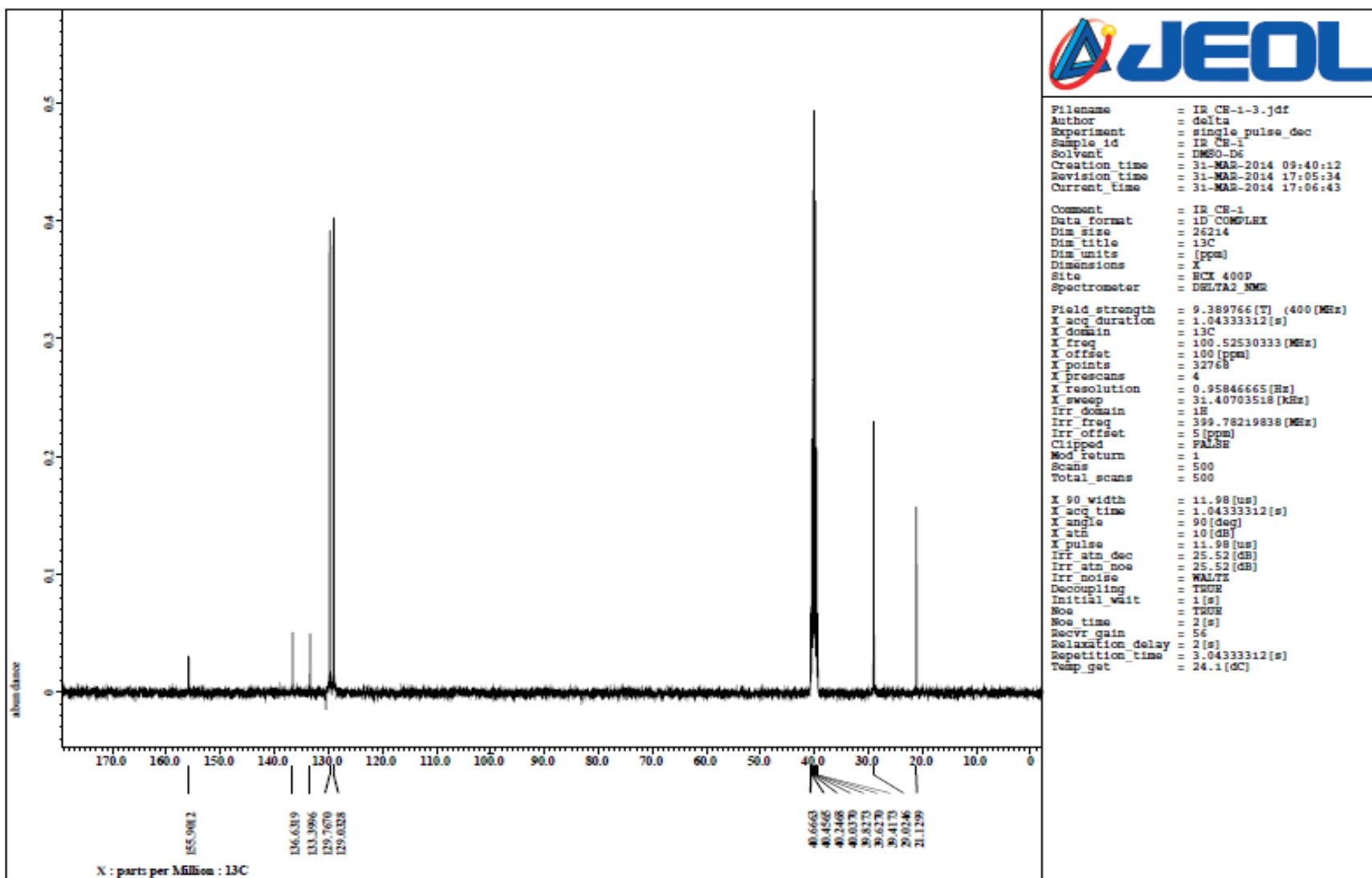
IR spectra of 13b



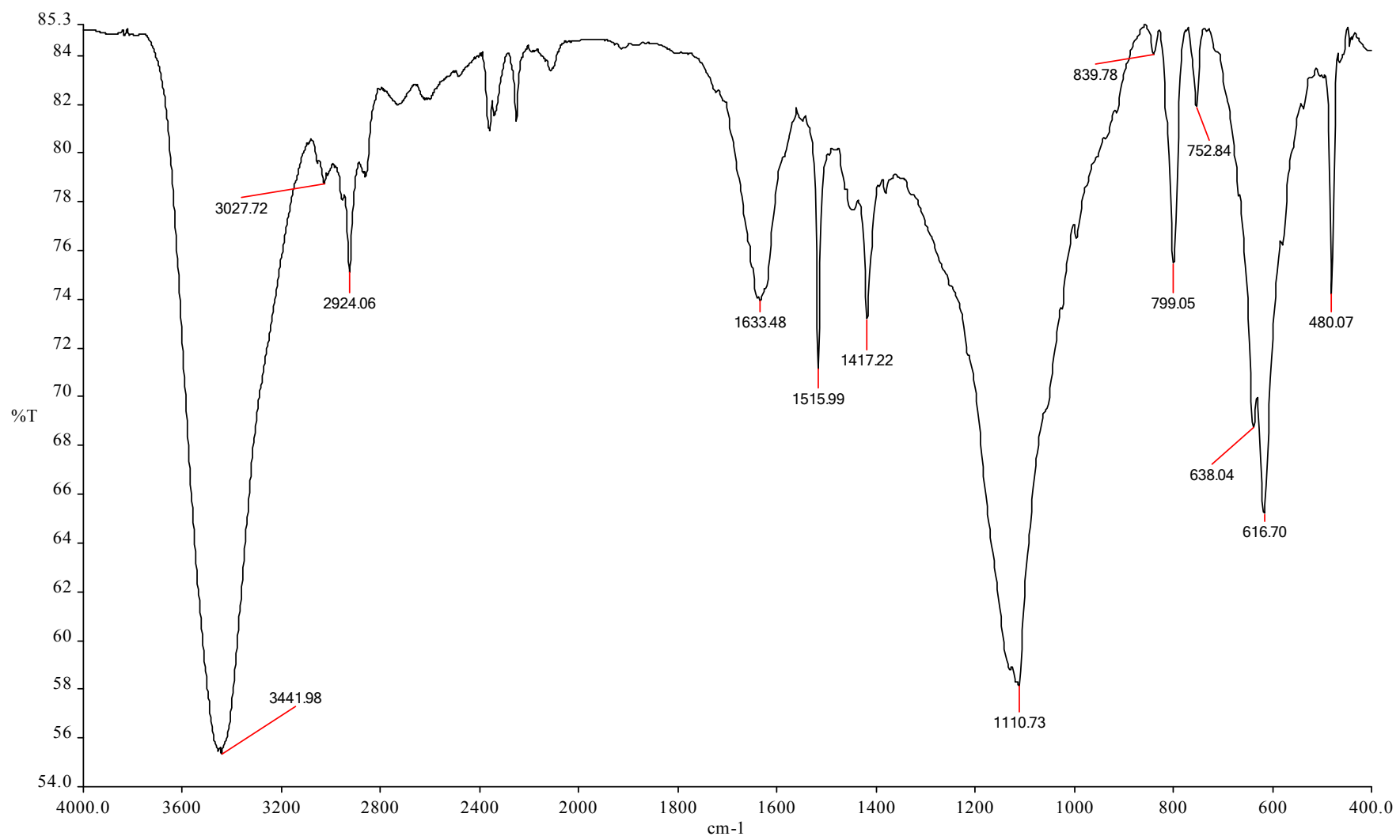
^1H NMR of 14b



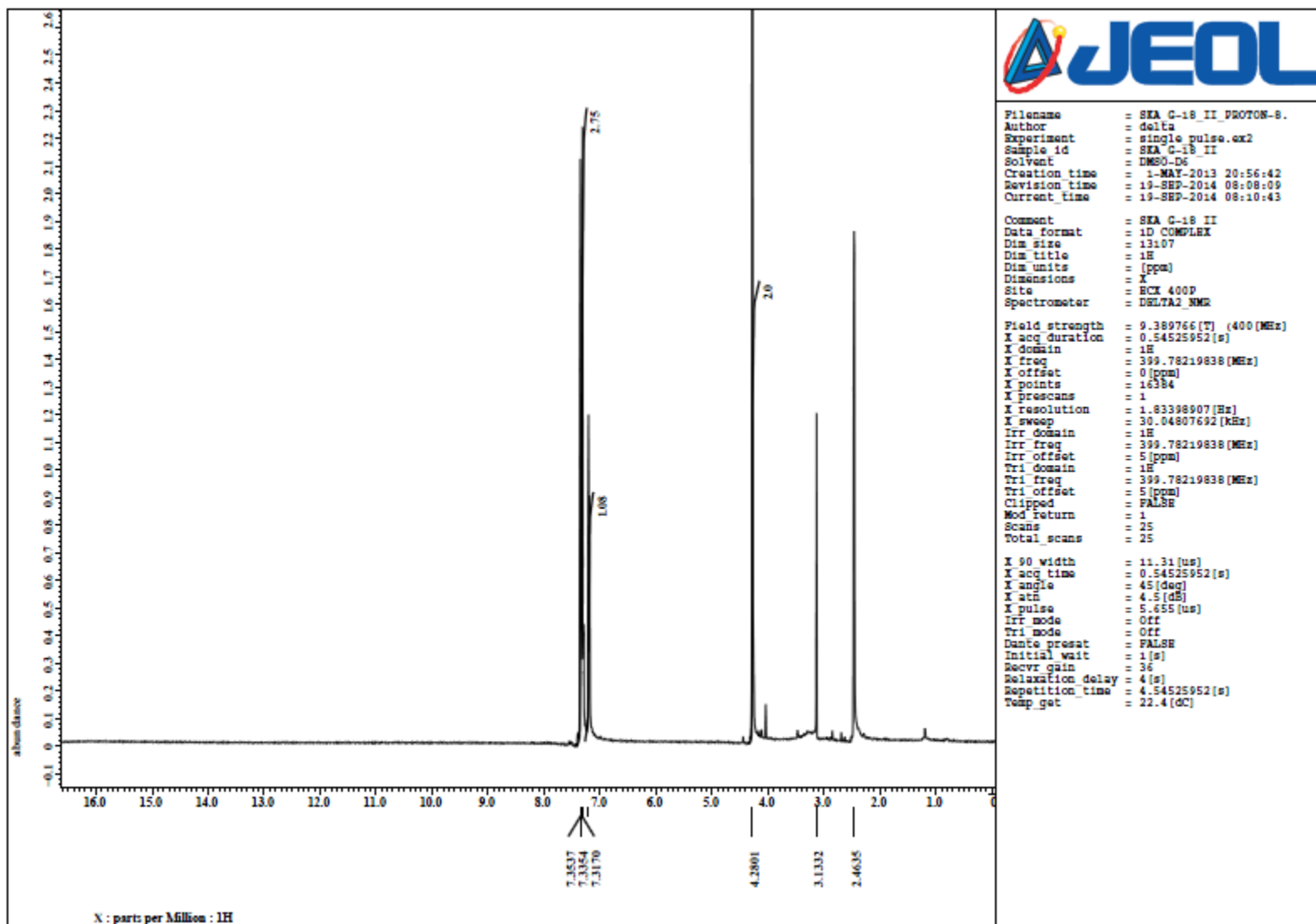
¹³C NMR of 14b



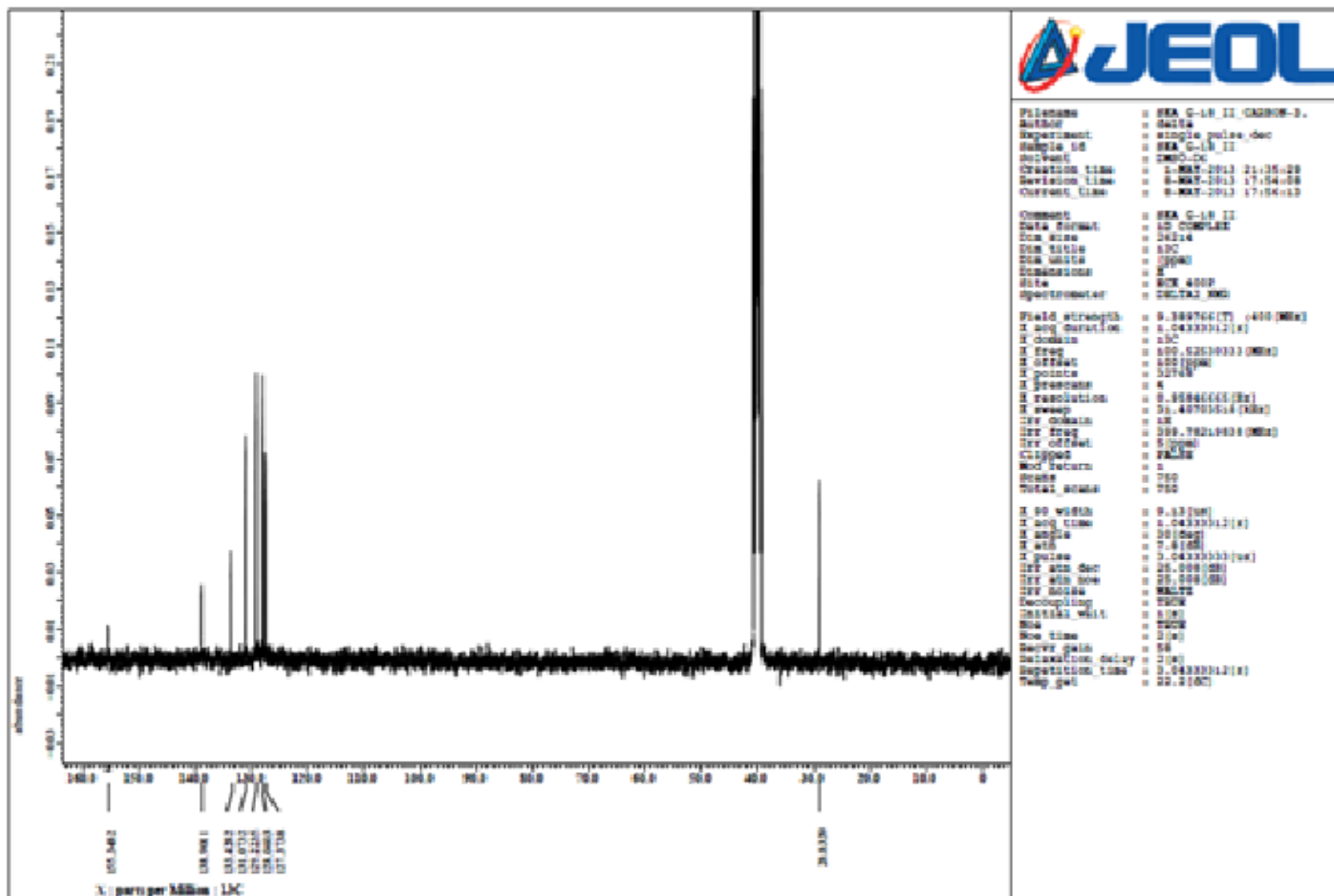
IR spectra of 14b



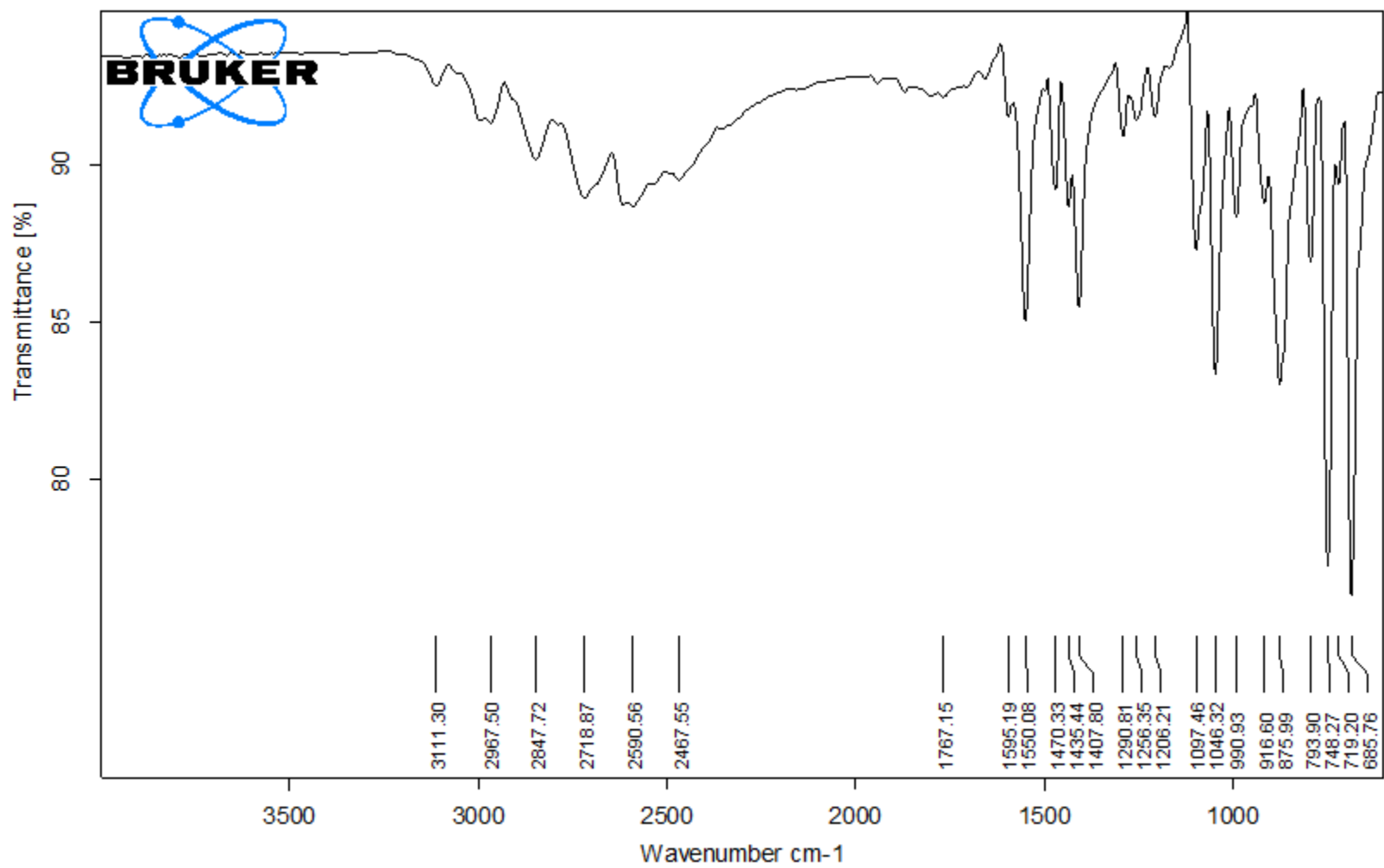
¹H NMR of 15b



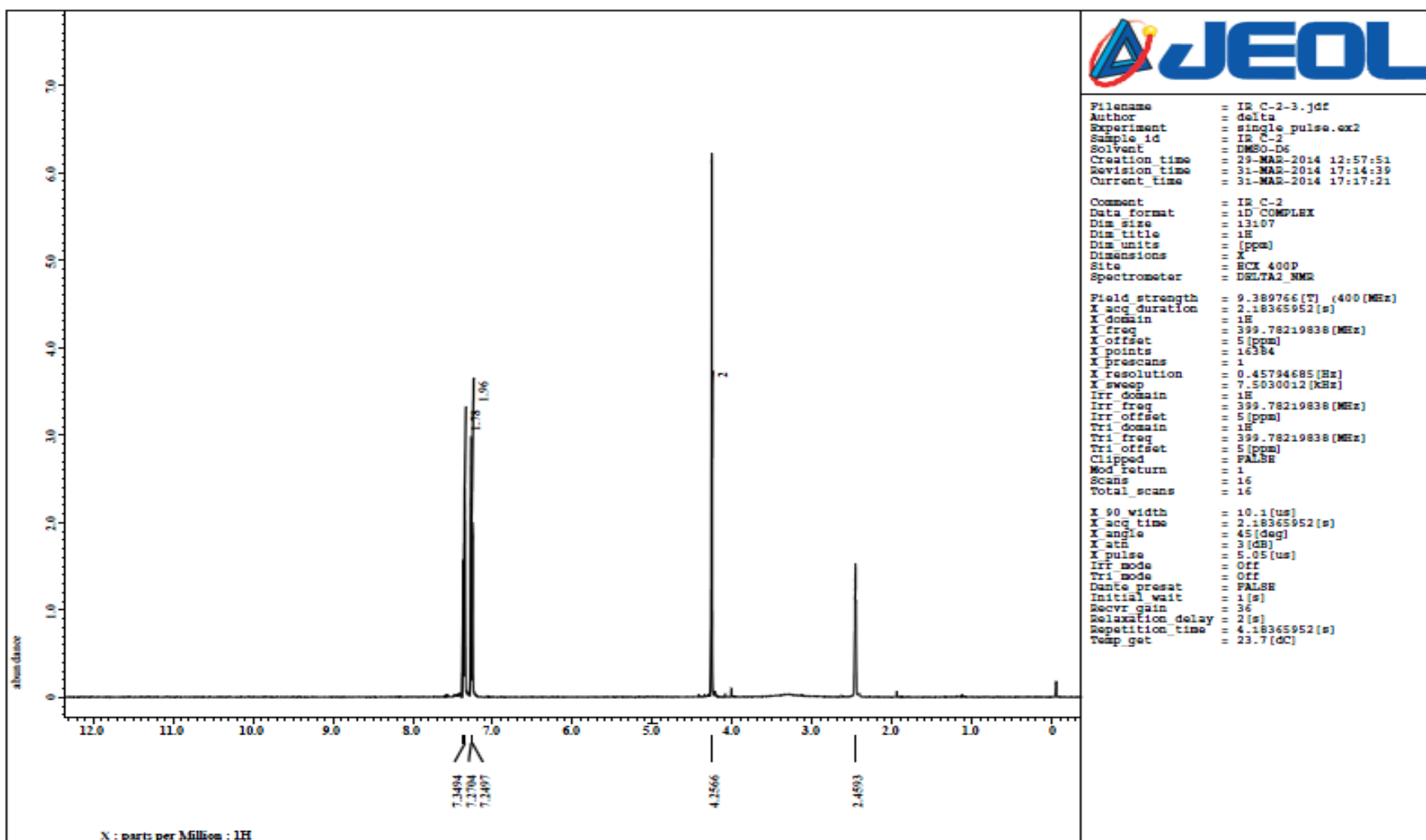
¹³C NMR of 15b



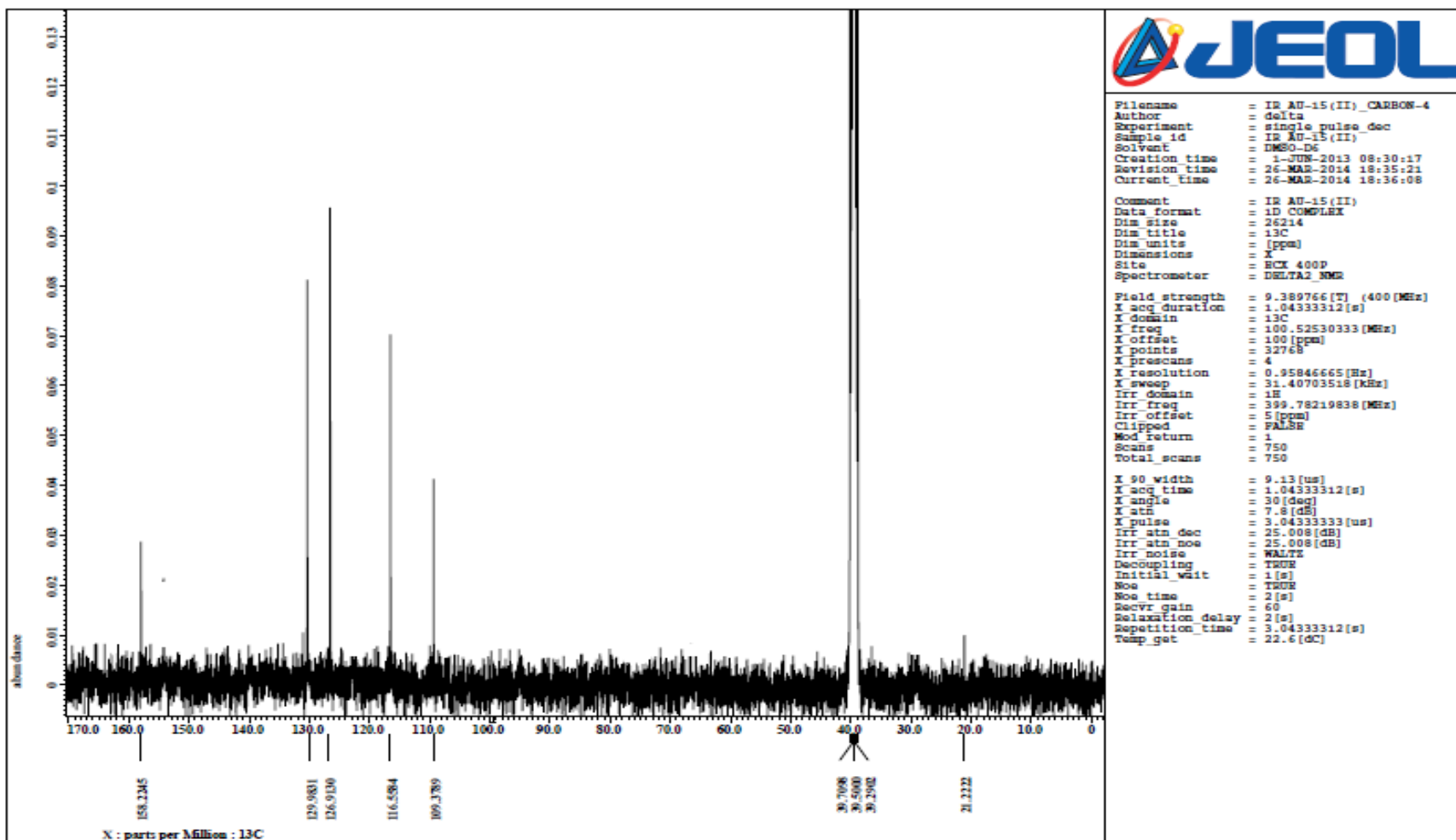
IR spectra of 15b



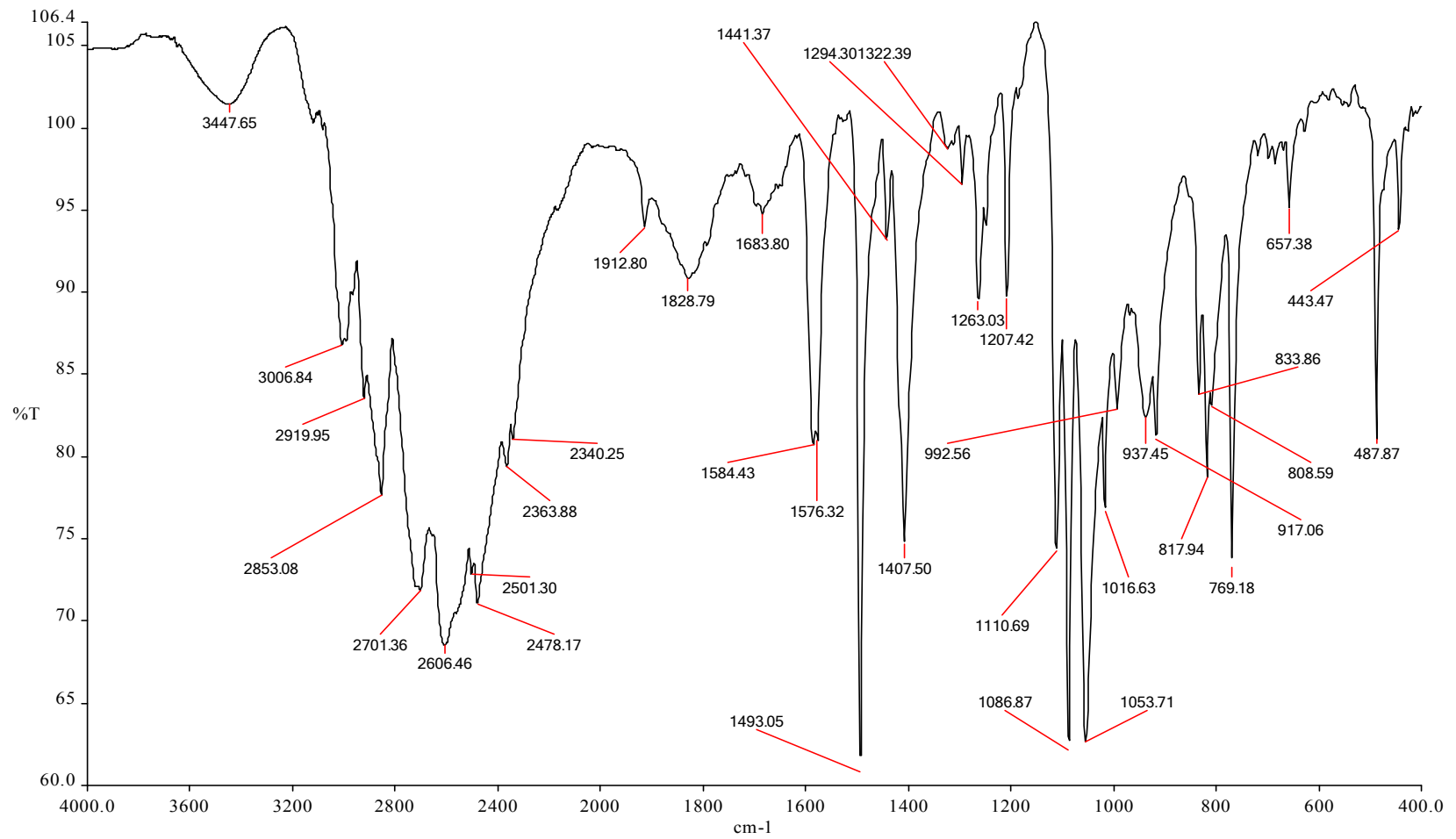
¹H NMR of 16b



¹³C NMR of 16b



IR spectra of 16b



PCP analysis data

Sample Name: SA-1				Sample Type: Unknown Sample					
Measure Date: 2015-01-19 15:28:06		Calc. Date:		State: Measured		Quality: Drifted		Total Dilution: 1.000000	
Sample Identification									
Sample Name									
SA-1									
	Ar 430.010	Ar 404.442	Au	Pd	Rh				
Conc 1	381381	214509	<-0.173[mg/l]	<-0.071[mg/l]	<-0.089[mg/l]				
Conc MinRange	---	---	0.001[mg/l]	0.001[mg/l]	0.005[mg/l]				
Conc Mean	381381	214509	<-0.173[mg/l]	<-0.071[mg/l]	<-0.089[mg/l]				
Conc MaxRange	---	---	12.000[mg/l]	12.000[mg/l]	12.000[mg/l]				
Conc RSD	---	---	0.000	0.000	0.000				
Conc SD	0.000	0.000	<0.000[mg/l]	<0.000[mg/l]	<0.000[mg/l]				
Reported	---	---	<-0.173[mg/l]	<-0.071[mg/l]	<-0.089[mg/l]				
	Ar 430.010	Ar 404.442	Au 242.795	Au 267.595	Pd 340.458	Pd 229.651	Rh 343.489		
Conc 1	381381	214509	<-0.173[mg/l]	<-0.217[mg/l]	<-0.071[mg/l]	<-0.095[mg/l]	<-0.089[mg/l]		
Conc MinRange	---	---	0.001[mg/l]	0.003[mg/l]	0.001[mg/l]	0.007[mg/l]	0.010[mg/l]		
Conc Mean	381381	214509	<-0.173[mg/l]	<-0.217[mg/l]	<-0.071[mg/l]	<-0.095[mg/l]	<-0.089[mg/l]		
Conc MaxRange	---	---	12.000[mg/l]	12.000[mg/l]	12.000[mg/l]	12.000[mg/l]	12.000[mg/l]		
Conc RSD	---	---	0.000	0.000	0.000	0.000	0.000		
Conc SD	0.000	0.000	<0.000[mg/l]	<0.000[mg/l]	<0.000[mg/l]	<0.000[mg/l]	<0.000[mg/l]		
Reported	---	---	---	---	---	---	---		
	Rh 233.477								
Conc 1	<-0.123[mg/l]								
Conc MinRange	0.005[mg/l]								
Conc Mean	<-0.123[mg/l]								
Conc MaxRange	12.000[mg/l]								
Conc RSD	0.000								
Conc SD	<0.000[mg/l]								
Reported	---								

Table 5. ICP analysis data