

## Supplementary Material

### Fused thieno[2,3-*b*]pyridines: Synthesis and characterization of new condensed pyridothienopyrimidines

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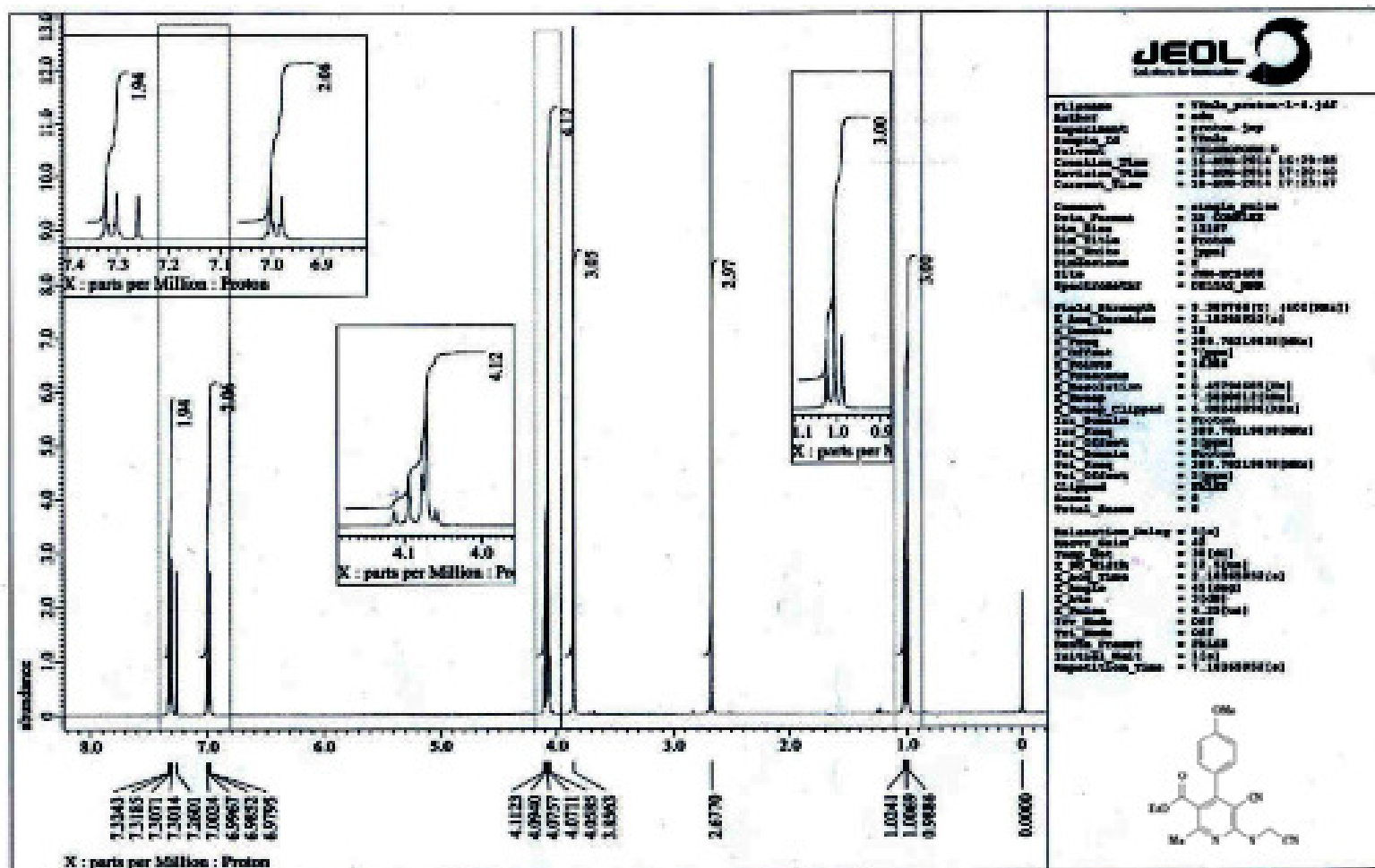
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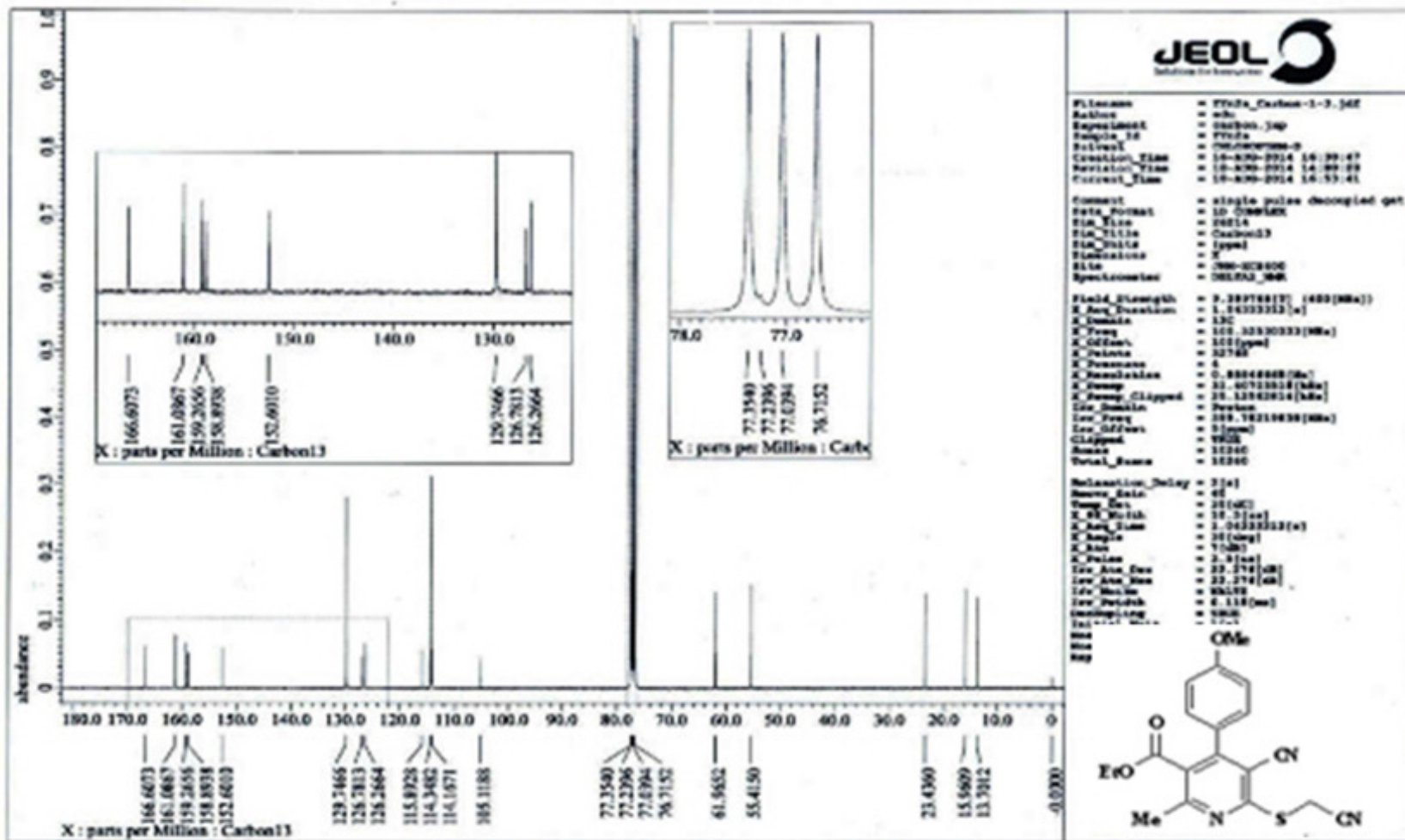
General Information

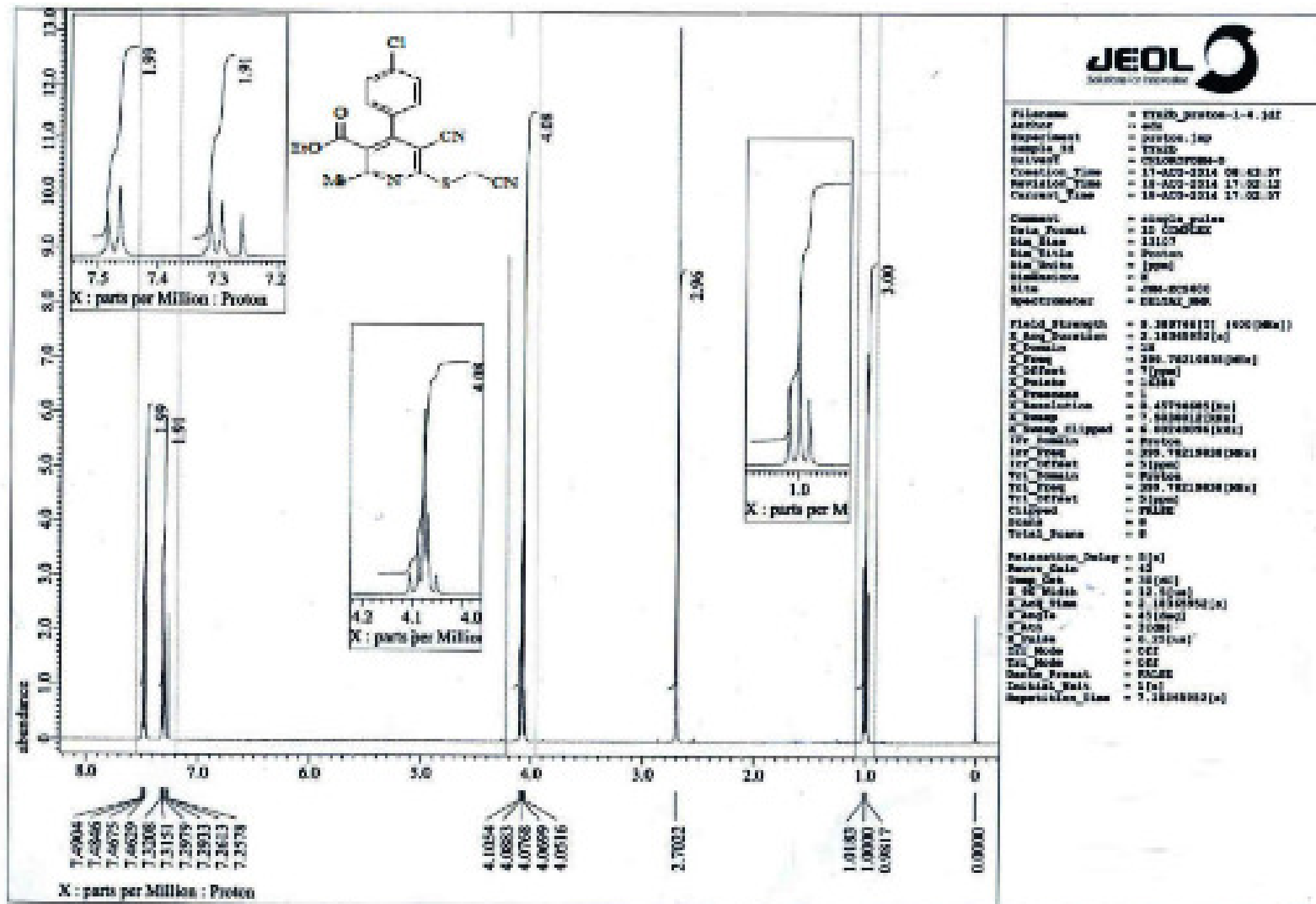
S2

## General information

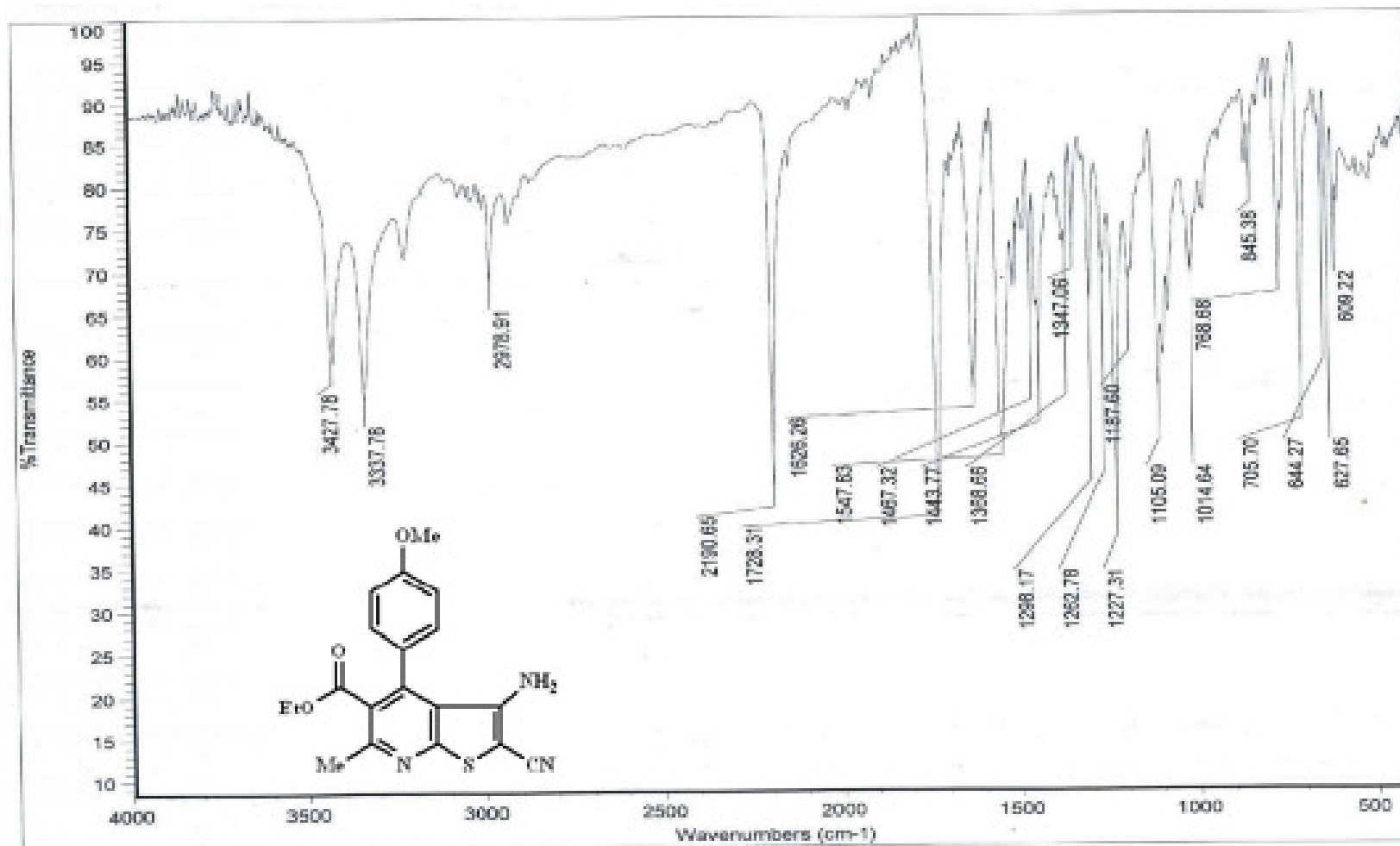
The IR spectra were recorded on a Shimadzu 470 IR-spectrophotometer (KBr;  $\nu_{\max}$  in  $\text{cm}^{-1}$ ). The NMR spectra were taken on a Varian EM-390, 90 MHz spectrometer or on a JEOL LA 400 MHz FT-NMR spectrometer using TMS as an internal standard. Chemical shifts are given in  $\delta$  ppm and coupling constant ( $J$ ) is given in Hz. Electron impact (EI) MS spectra were carried out on a JEOL JMS-600 spectrometer. Elemental analyses (C, H, N and S) were performed on an Elemental Analysis system GmbH vario EL V2.3 1998 CHNS Mode (Assiut University).



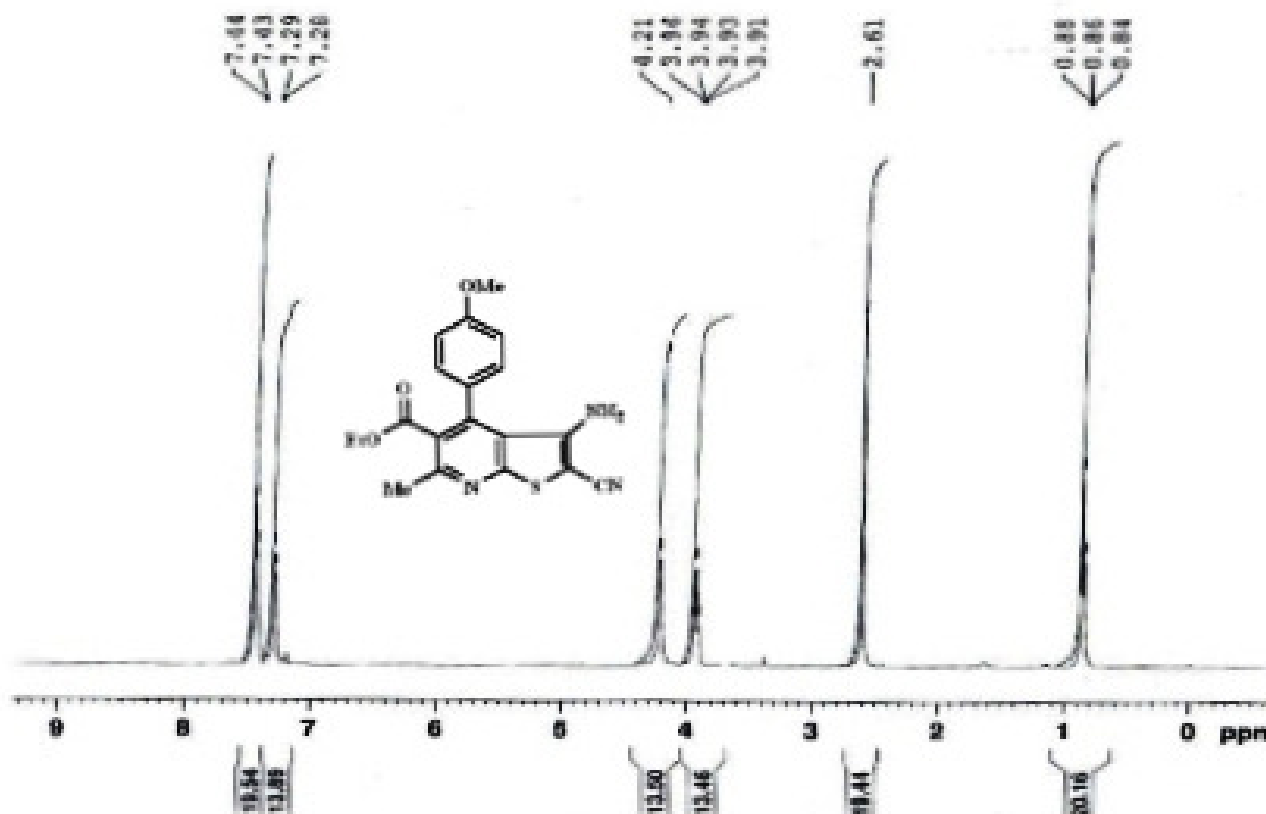








O-11  
 proton\_nu CDCl3 (C:\nmr-data) Student 17



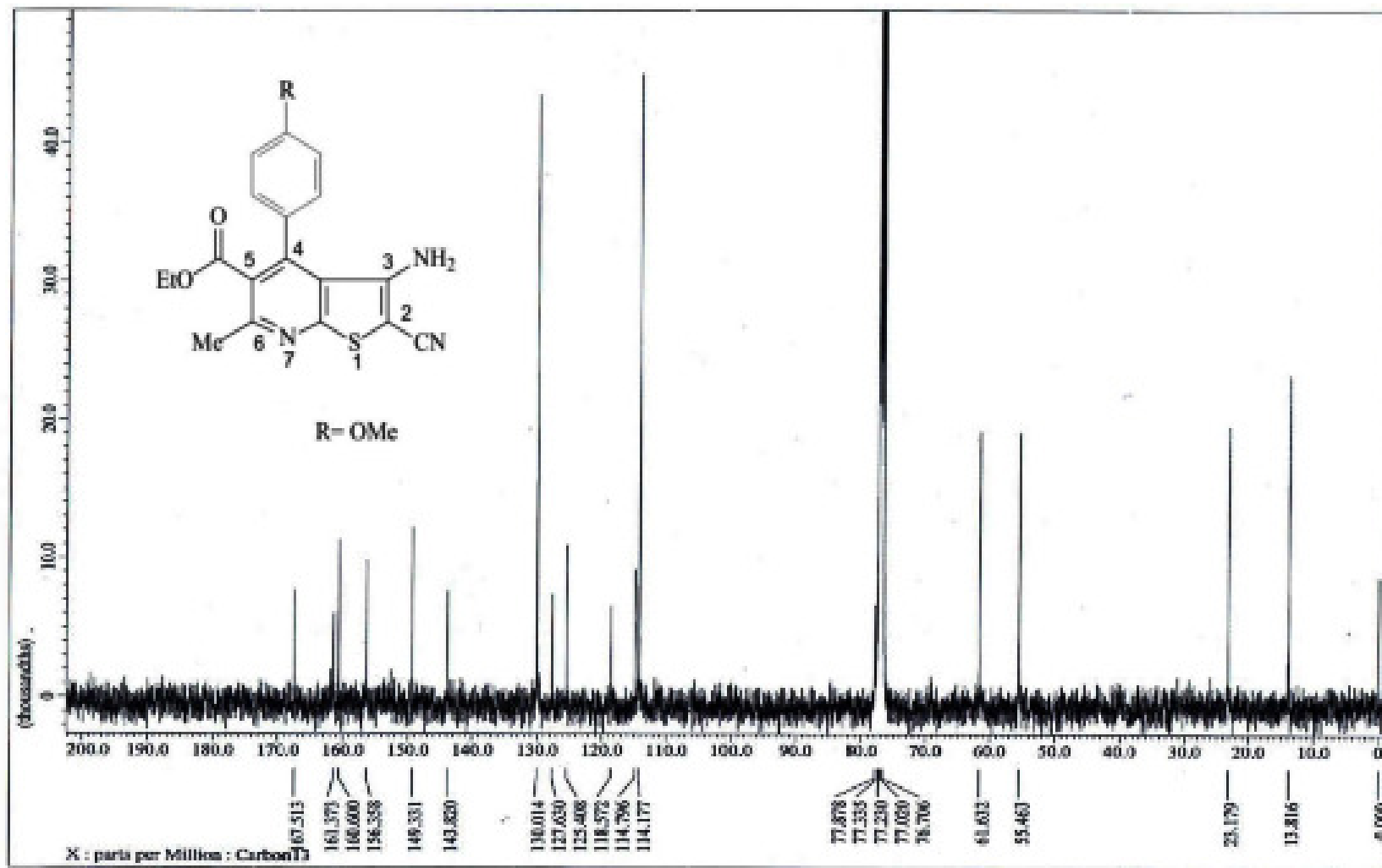
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PROCNO   1

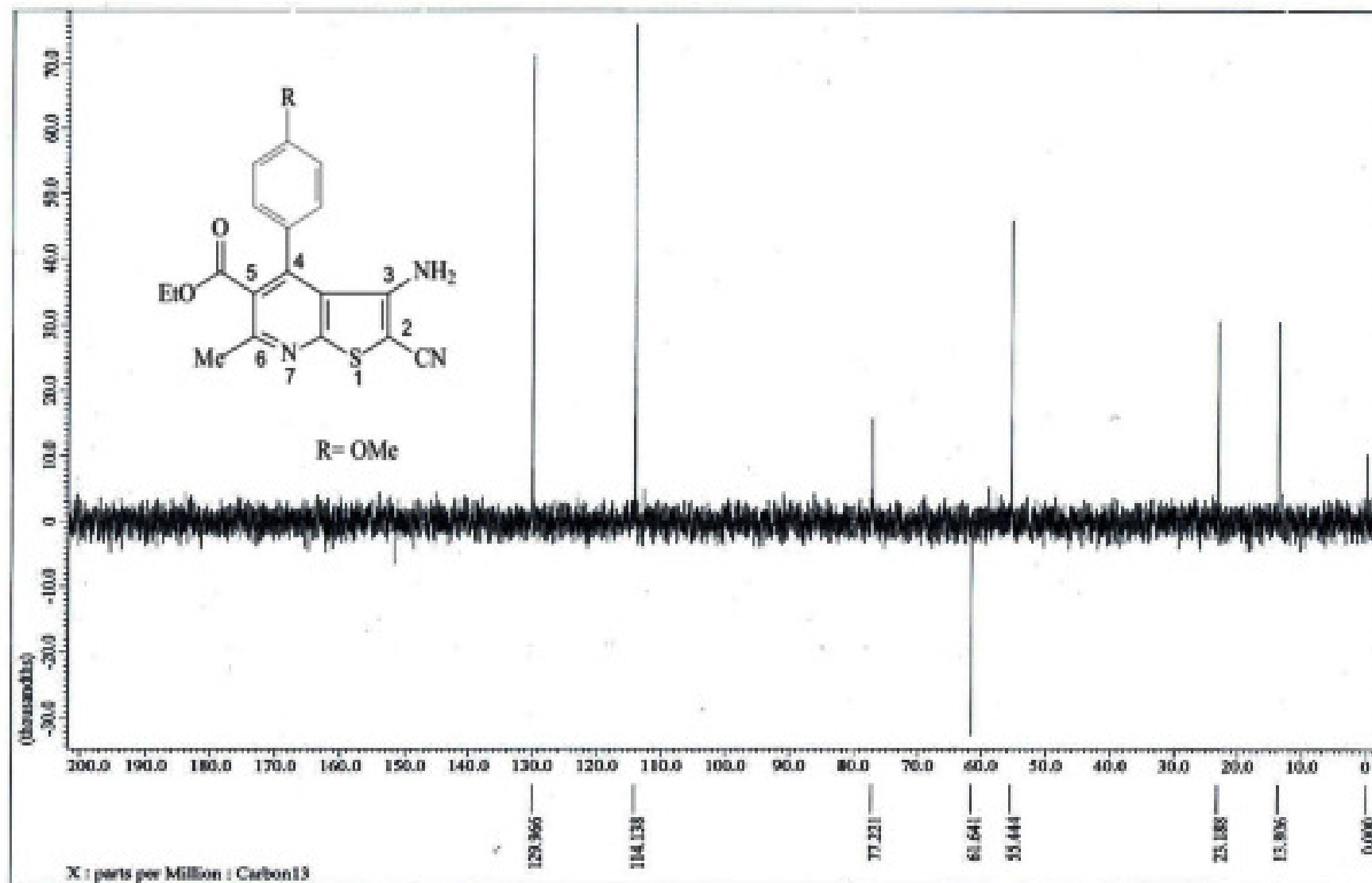
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PULPROG  zgpg30
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SOLVENT  CDCl3
NS       20
DS       2
SWH      8012.800 Hz
FIDRES   0.122288 Hz
AQ       4.8894455 sec
RG        64.00
OR       60.0000000
DE       4.0000000
TE       300.2 K
D1       1.50000000 sec
TD       1

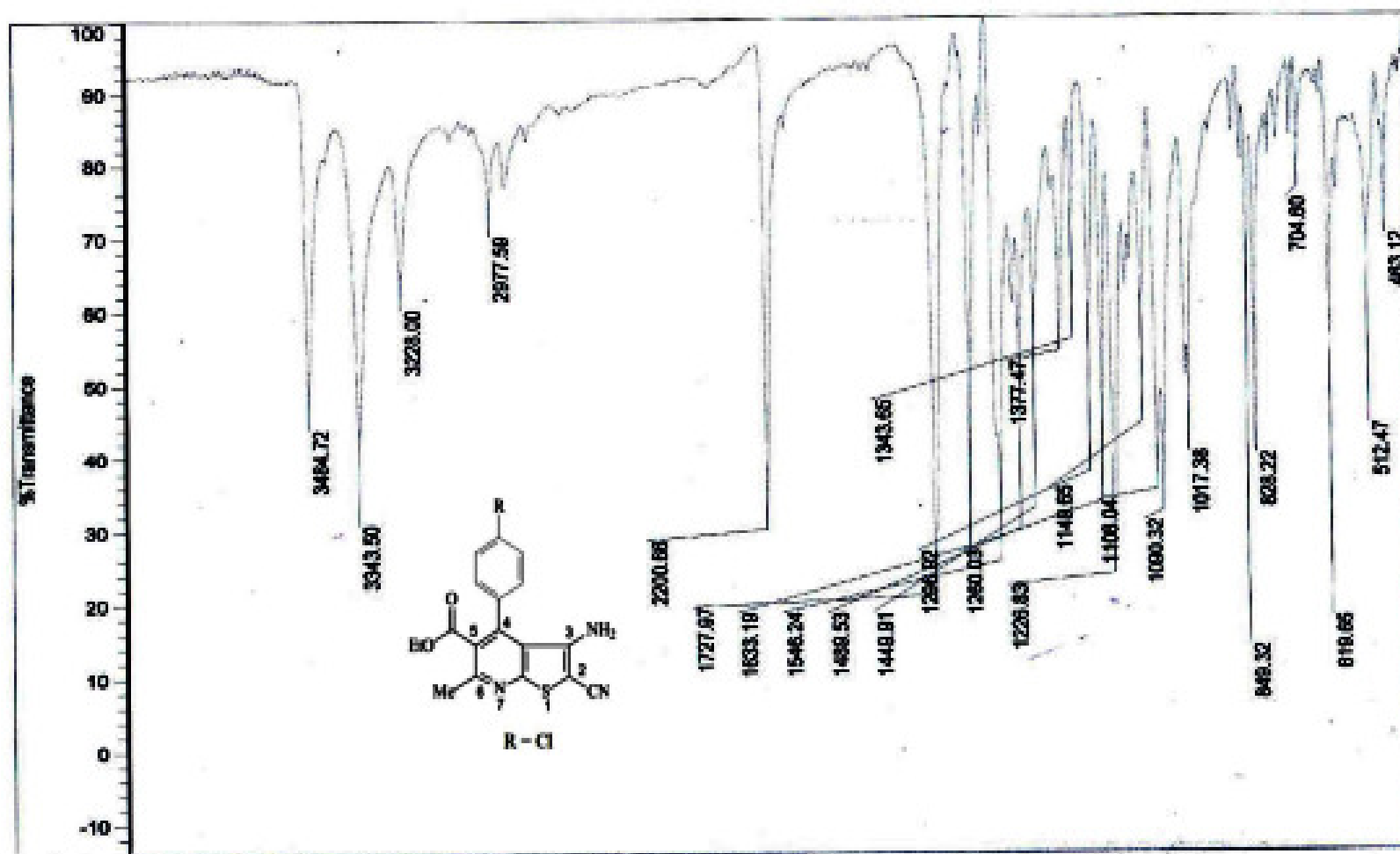
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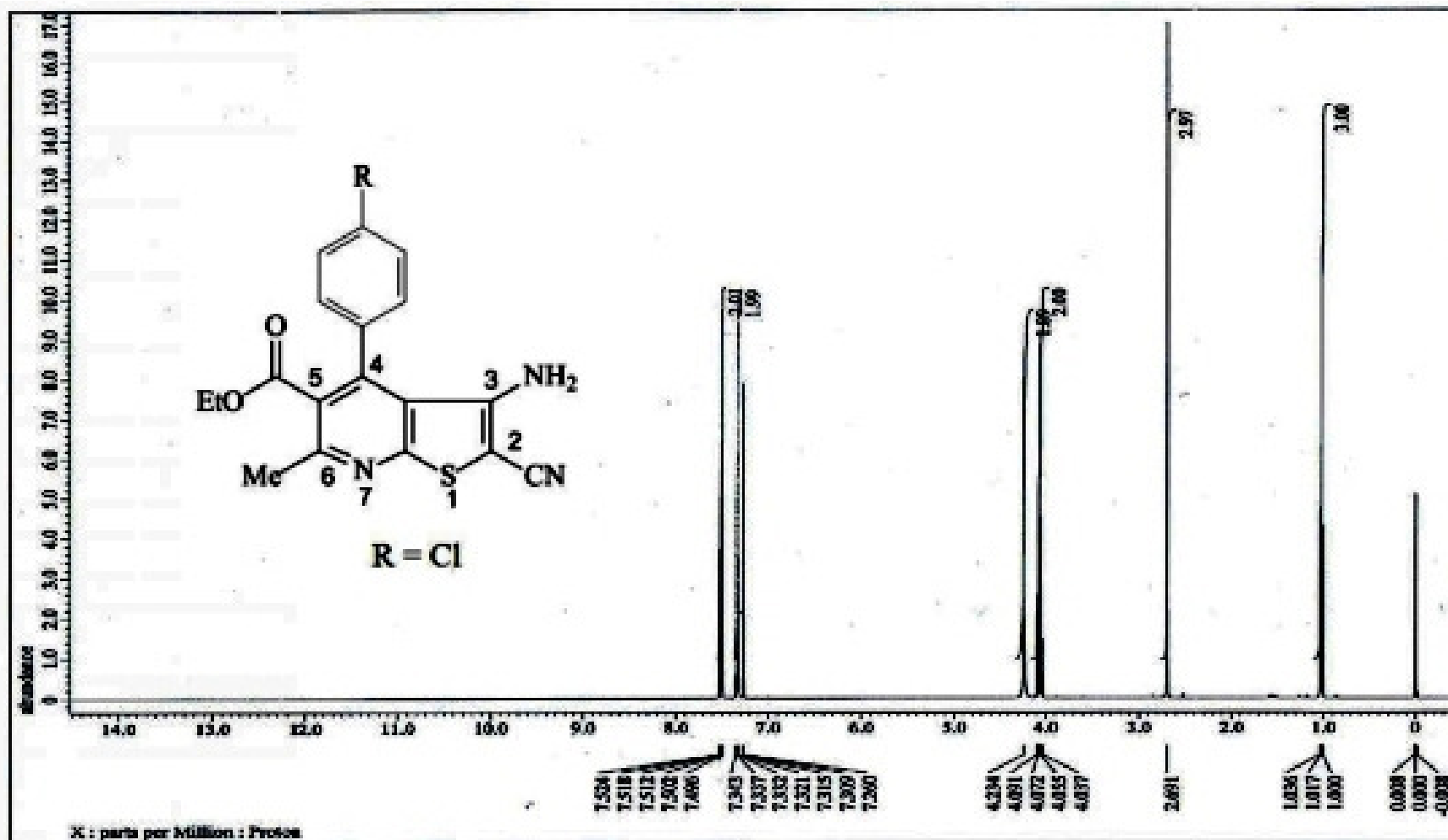
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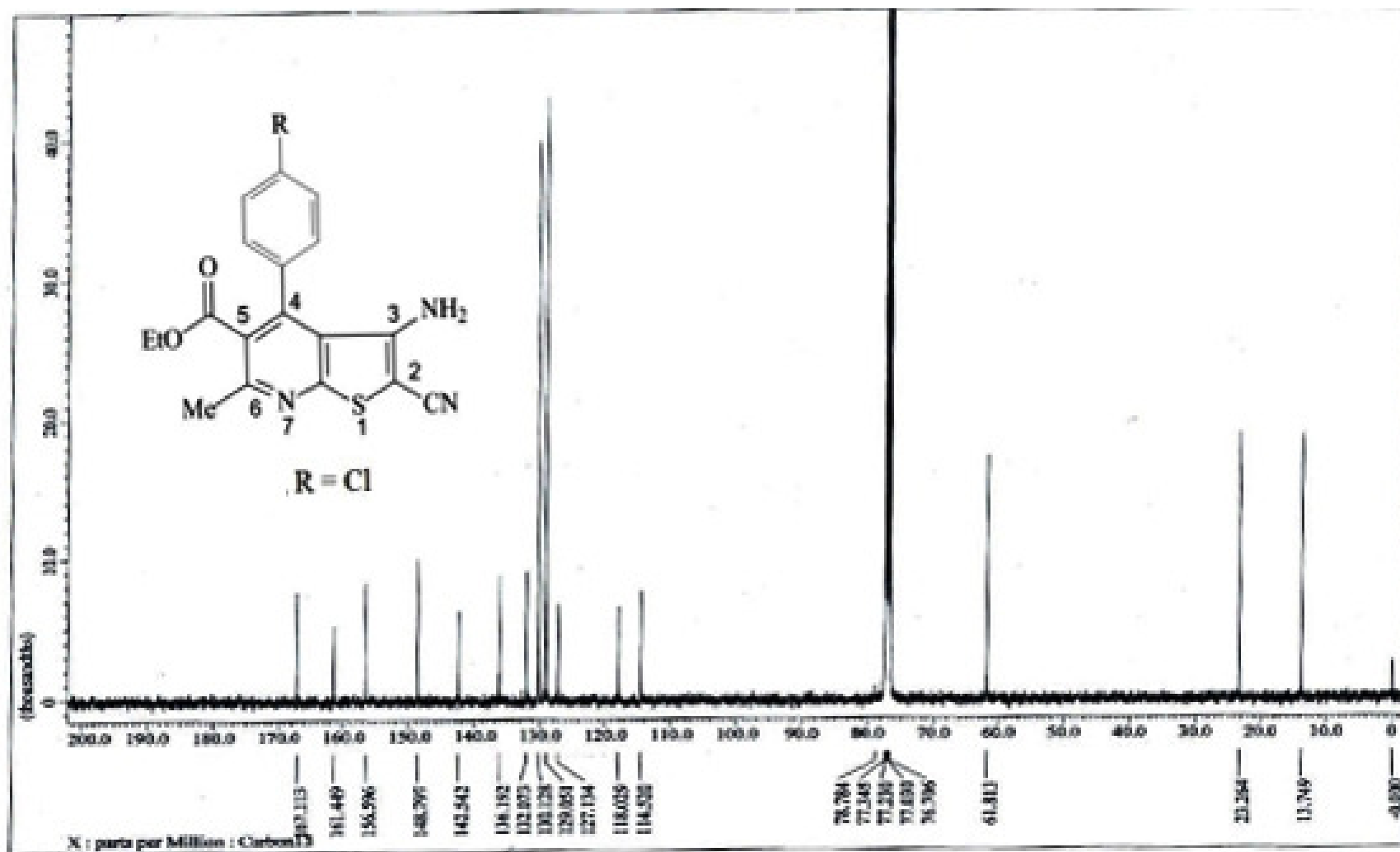


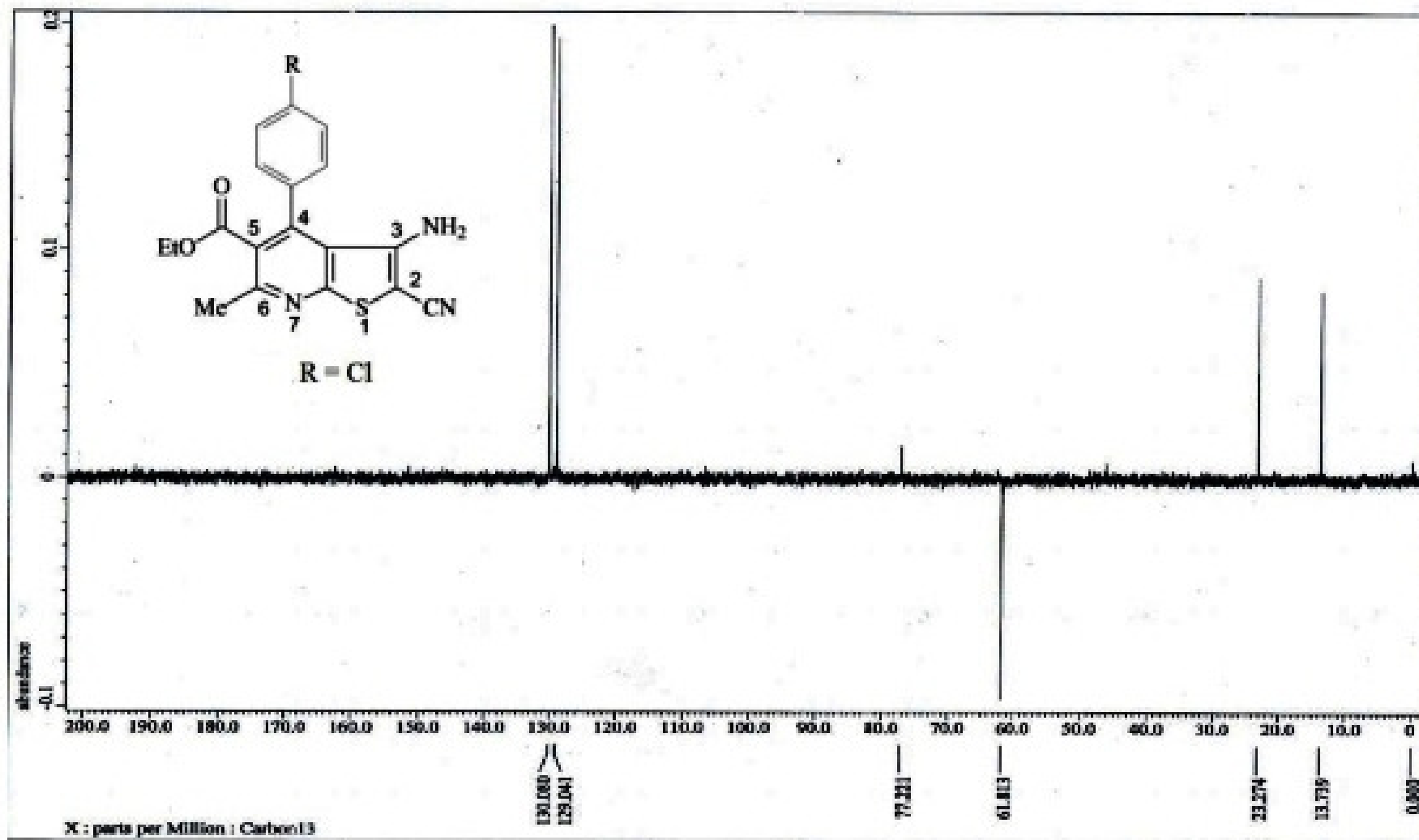


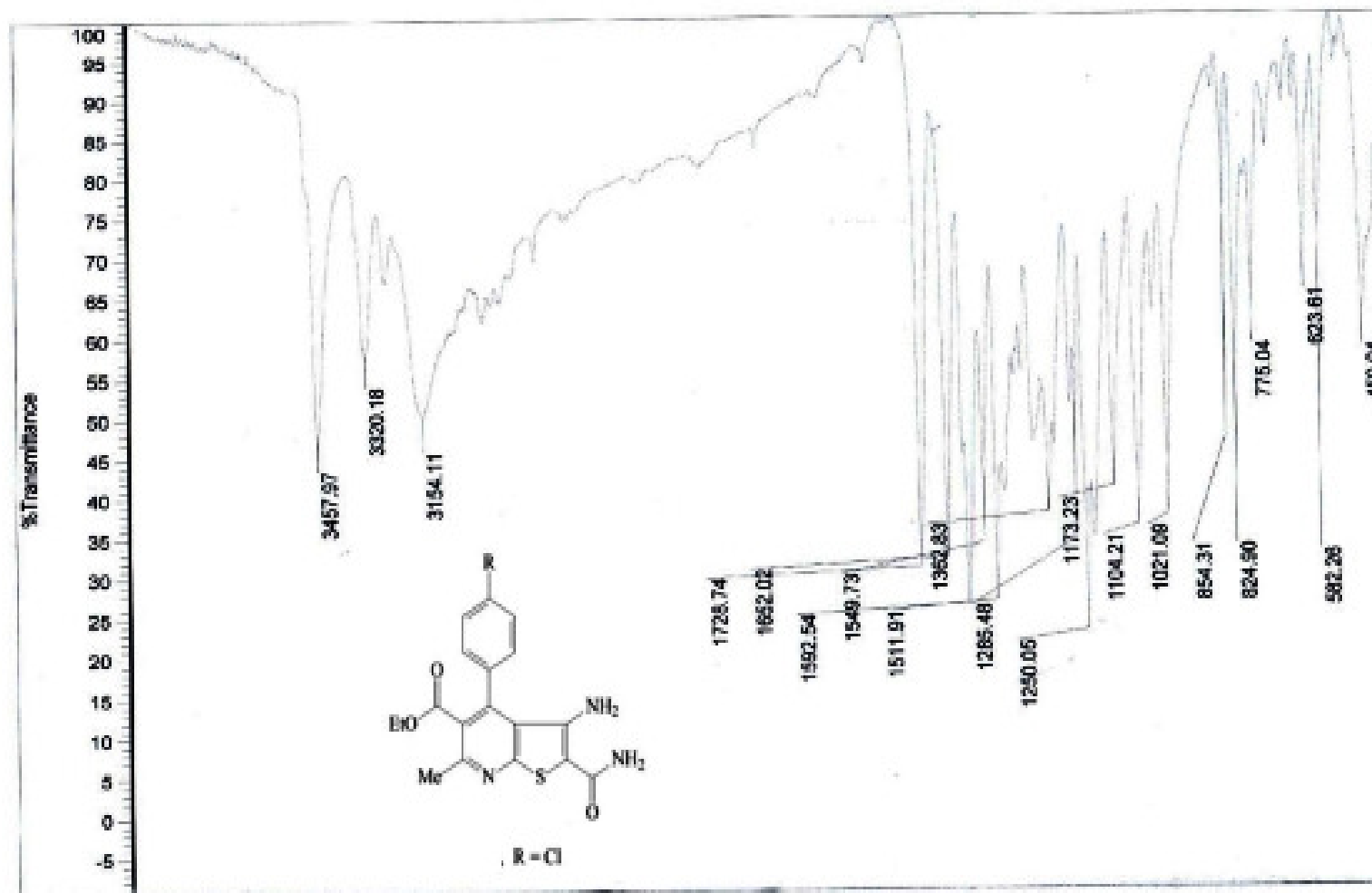












Date: Wed Feb 8, 2017

42007901  
STANDARD IN OBSERVE

Pulse Sequence: zgpg30

solvent: cdcl3  
Subst. Temp: 25.00

Sample #31

File: 42007901

NAME: 4-CHLORO-N-(2-AMINO-5-ETHOXY-1-METHYL-1H-INDOL-3-YL)BENZAMIDE

Pulse program:

Pulse delay 3.000 sec

Pulse 90.0 degree

Acq. time 1.500 sec

Width 6500.0 Hz

16 repetitions

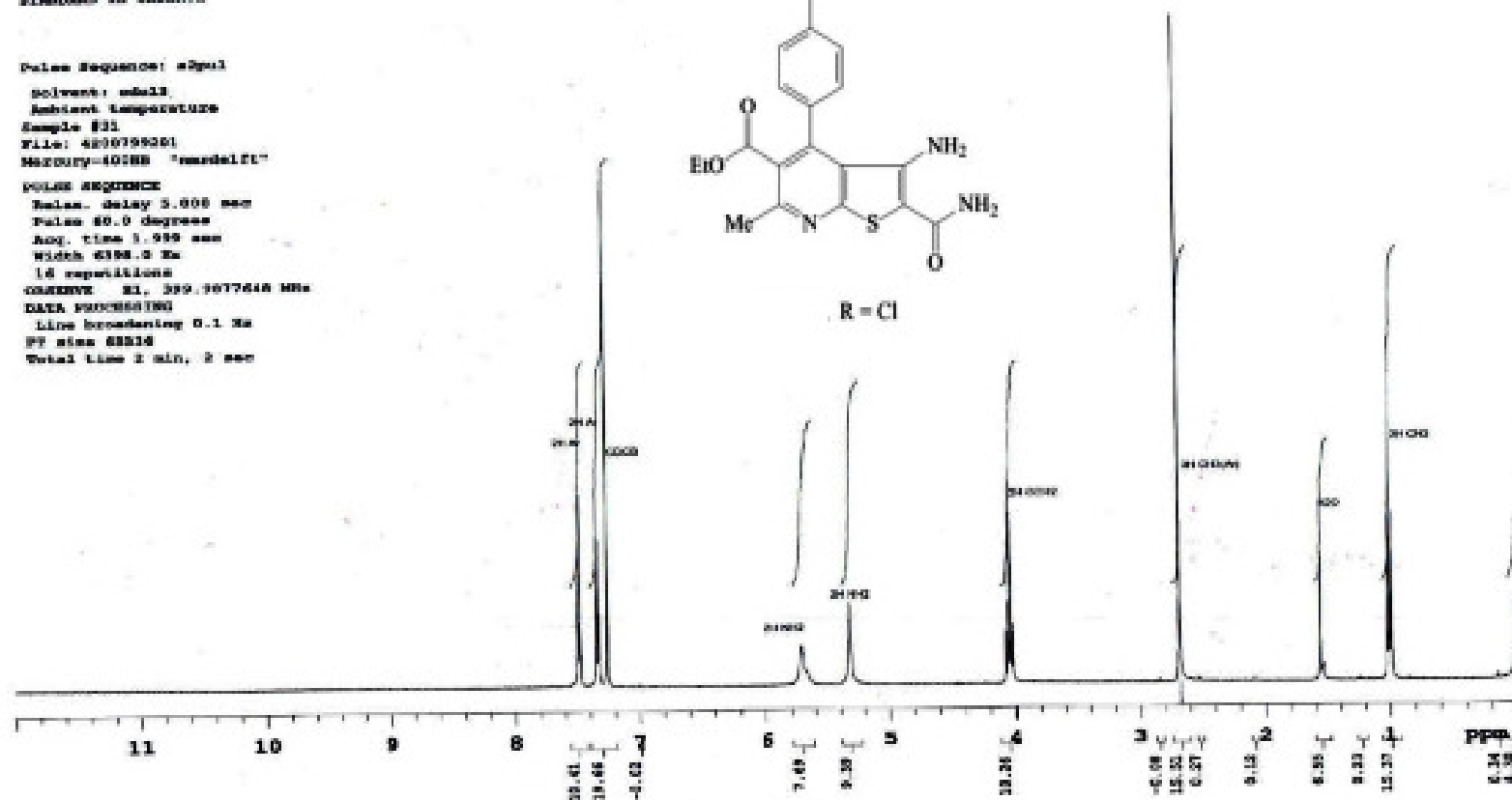
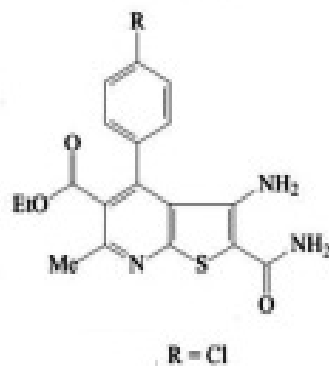
Observed F1: 299.9077648 MHz

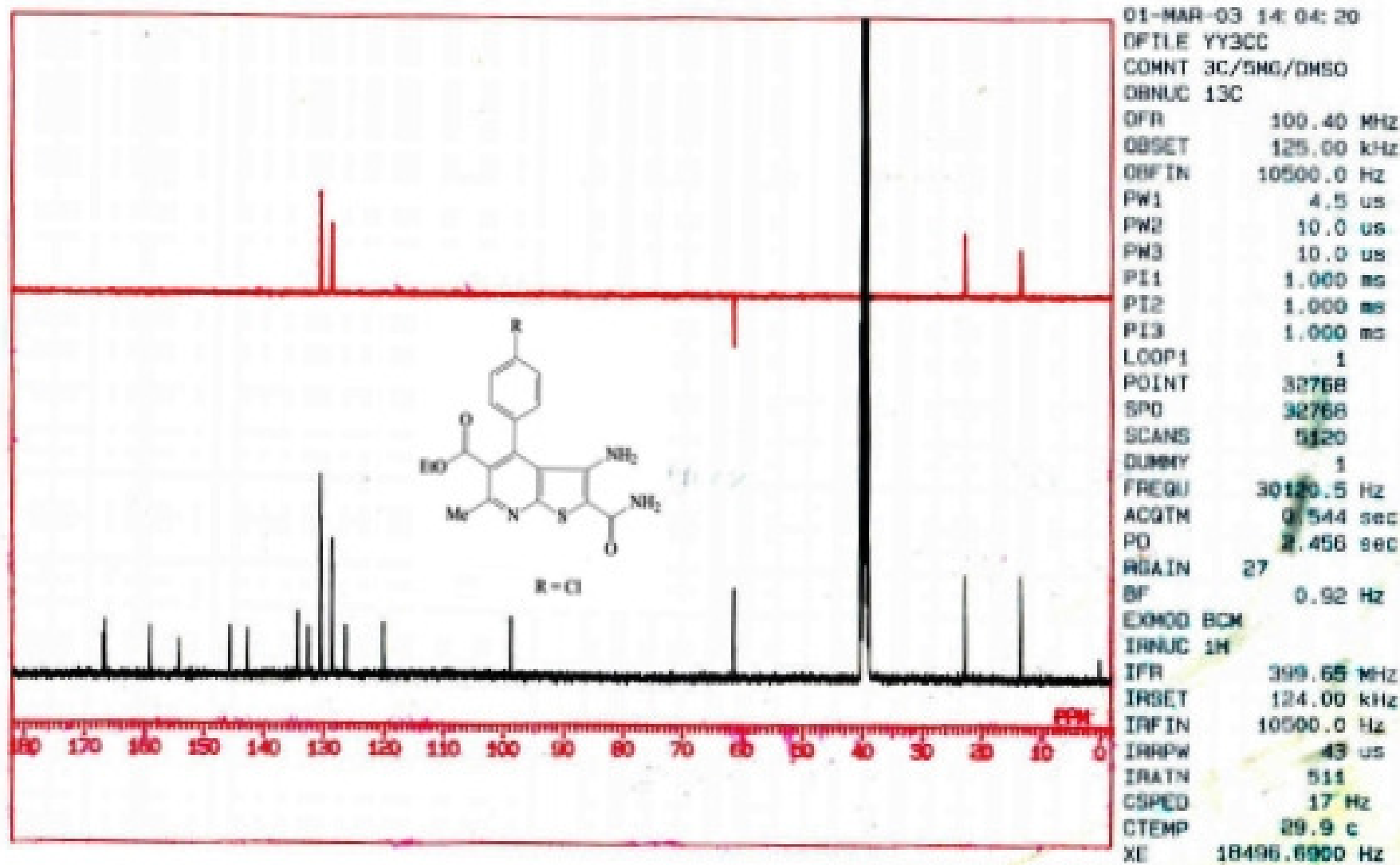
DATA PROCESSING

Line broadening 0.1 Hz

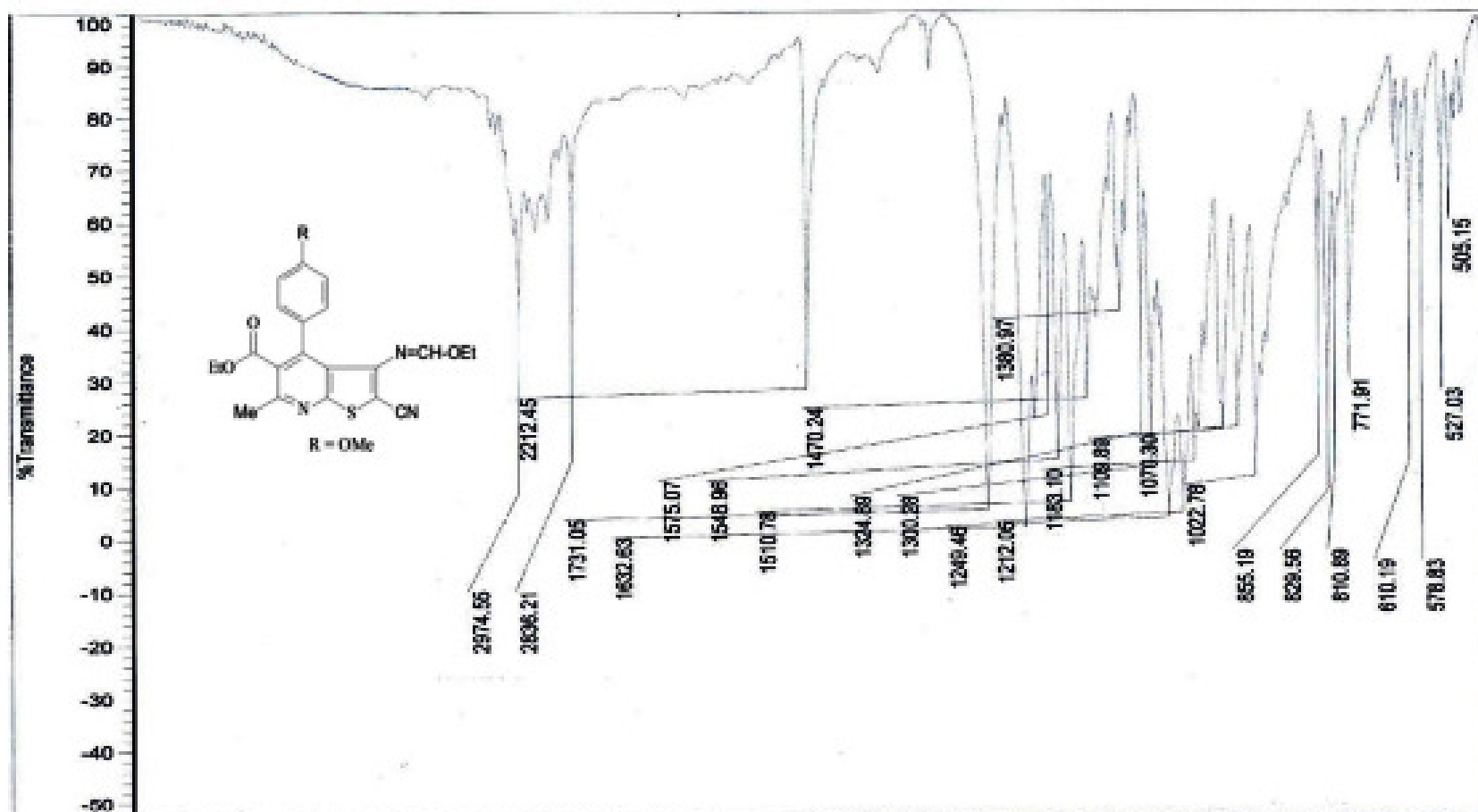
FF size 65536

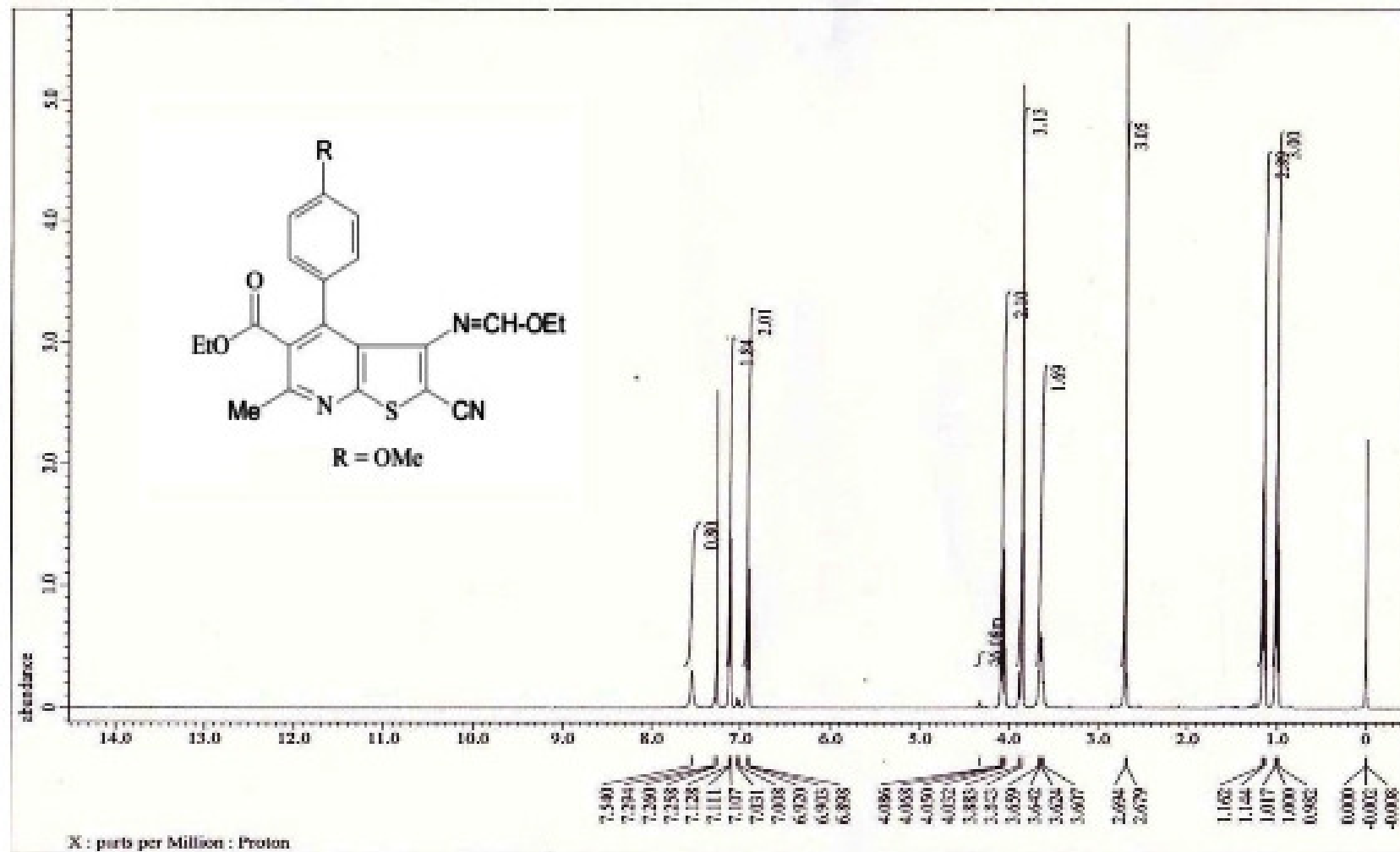
Total time 2 min, 2 sec

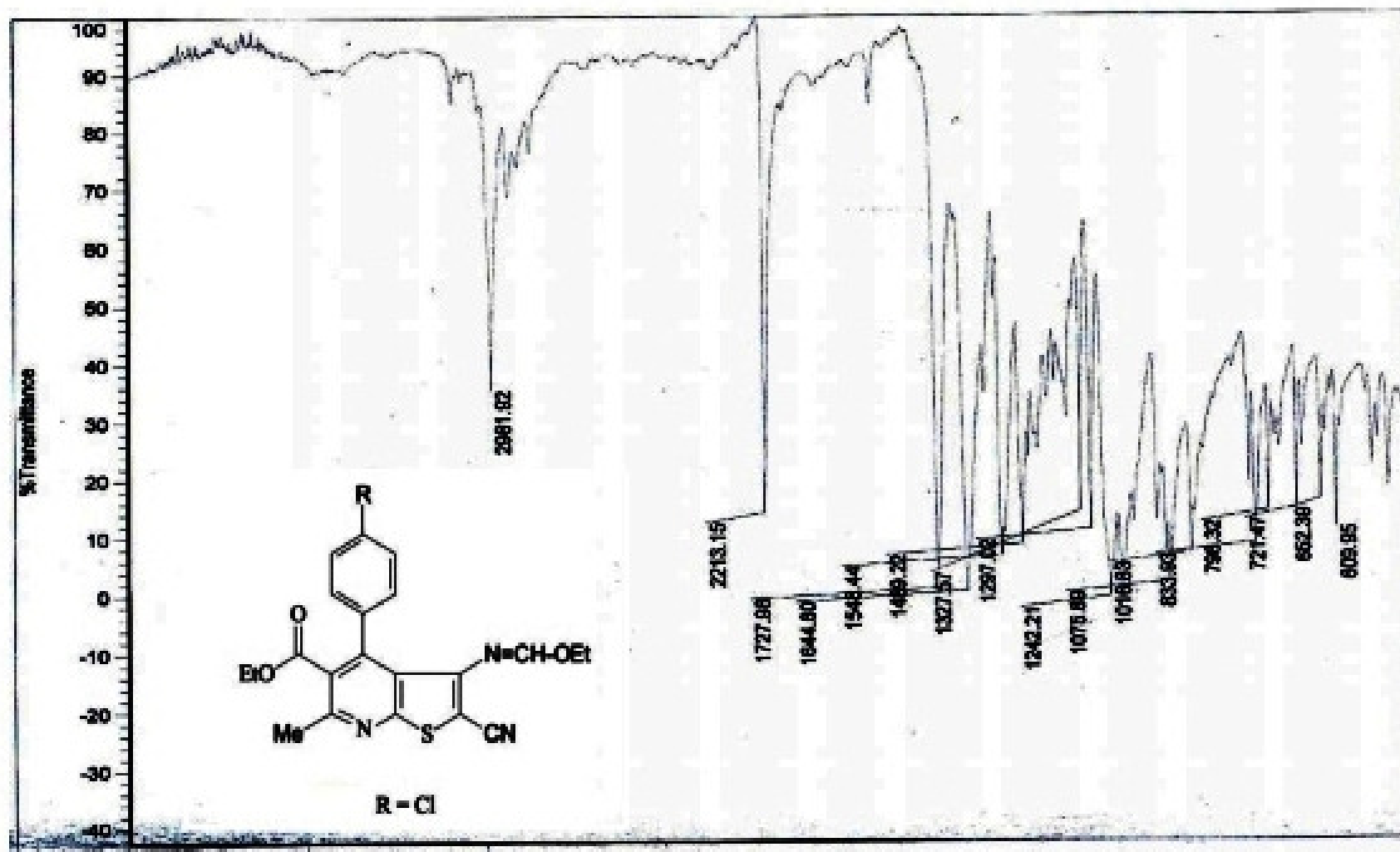


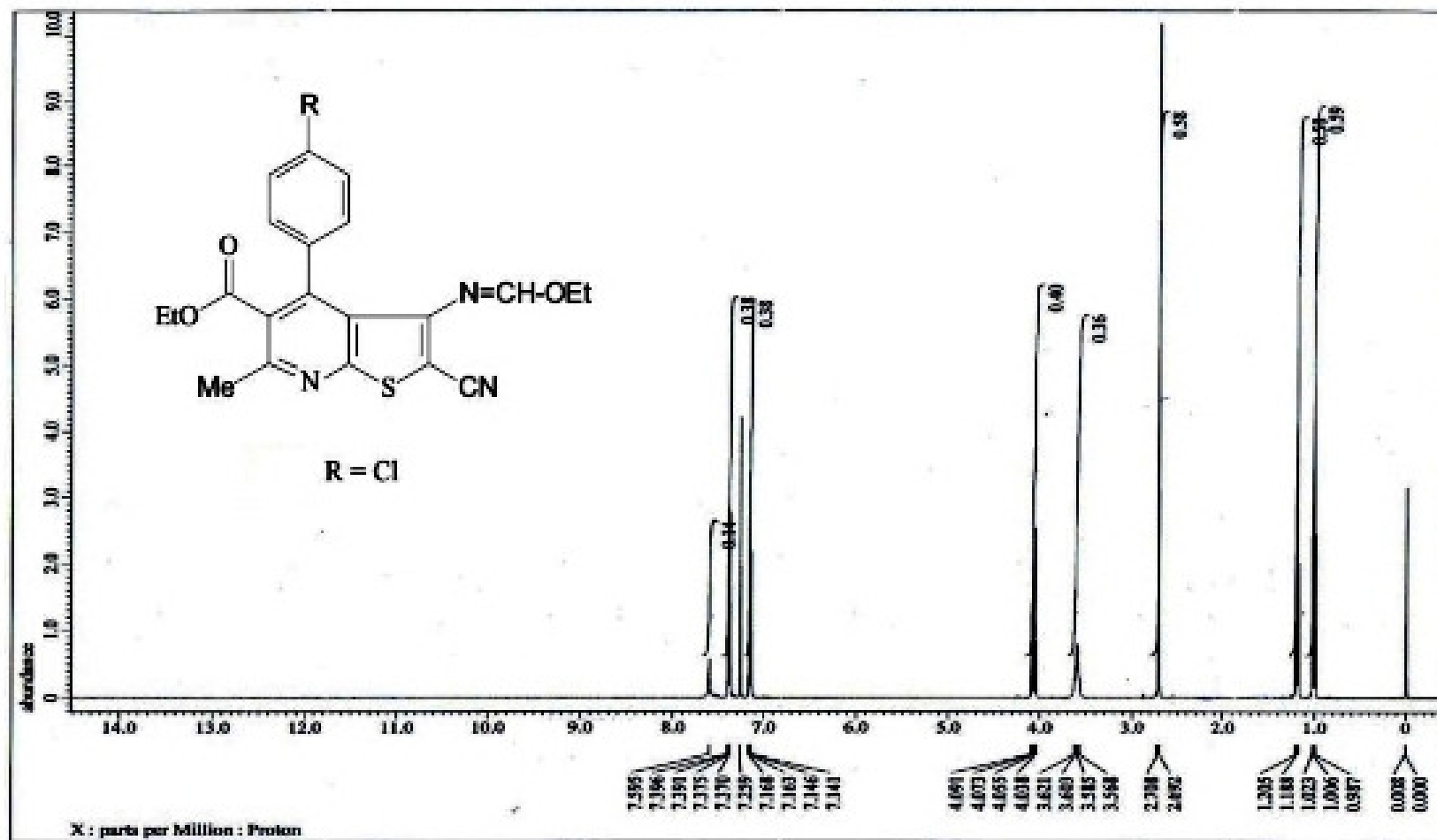


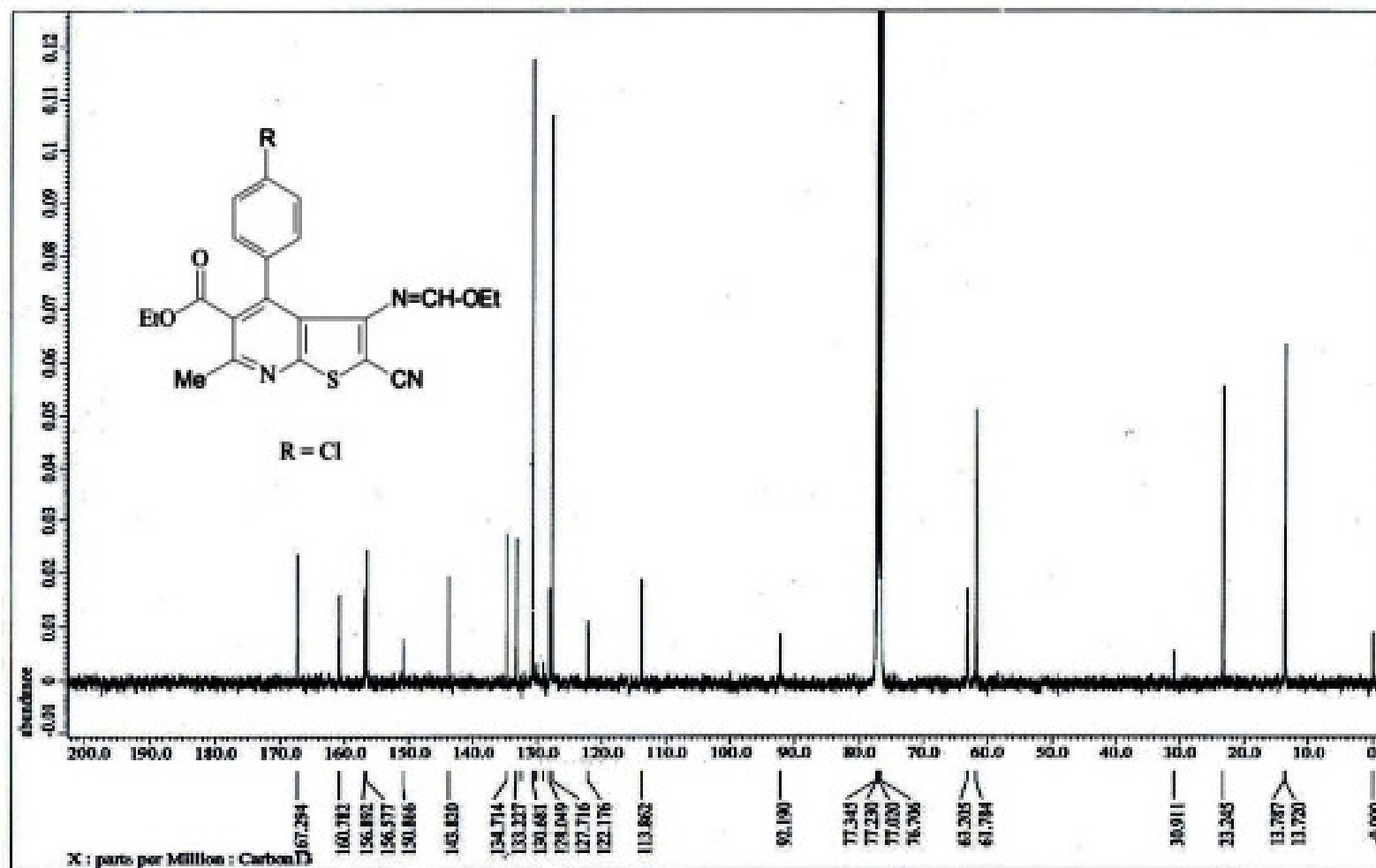


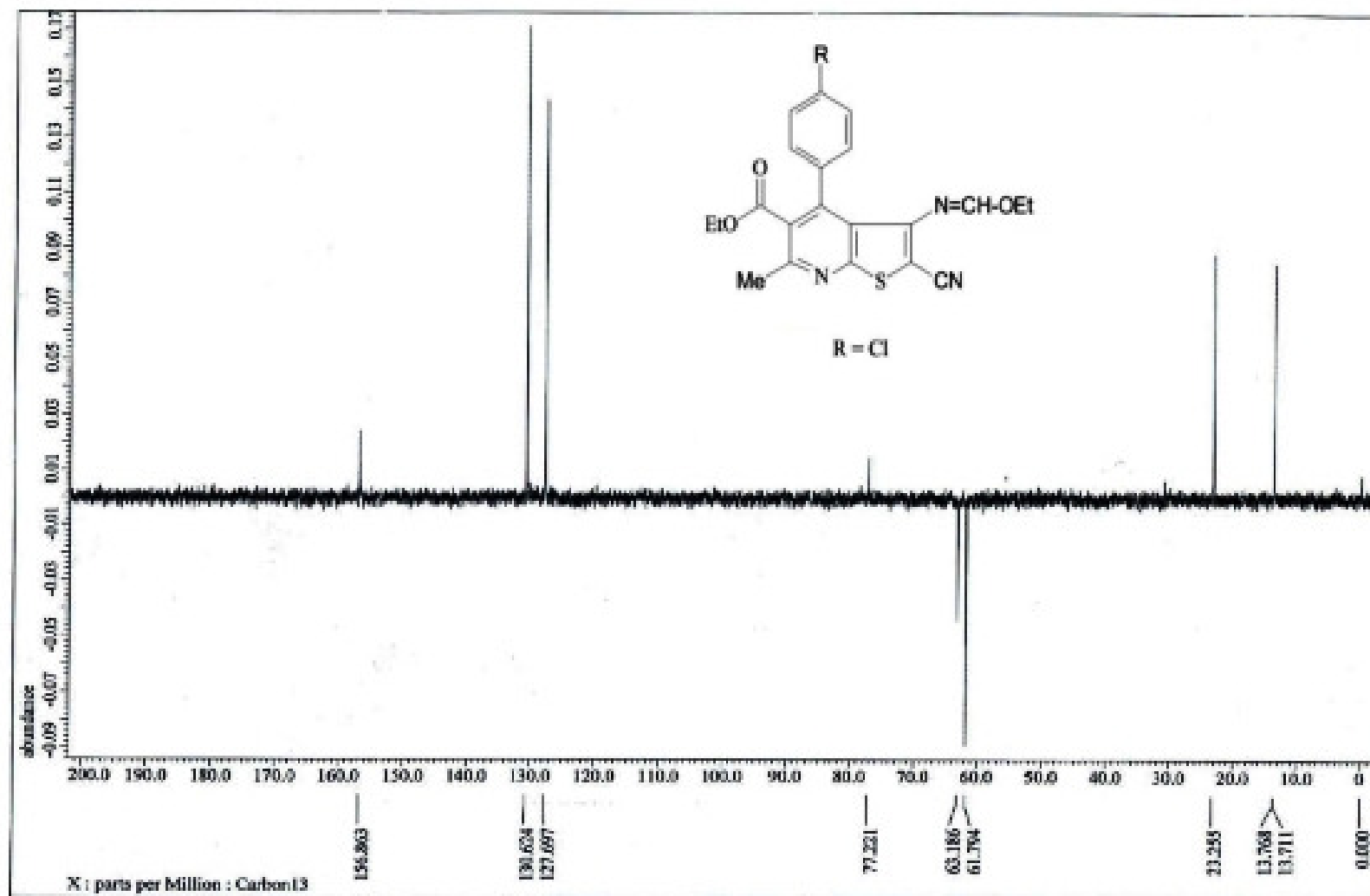


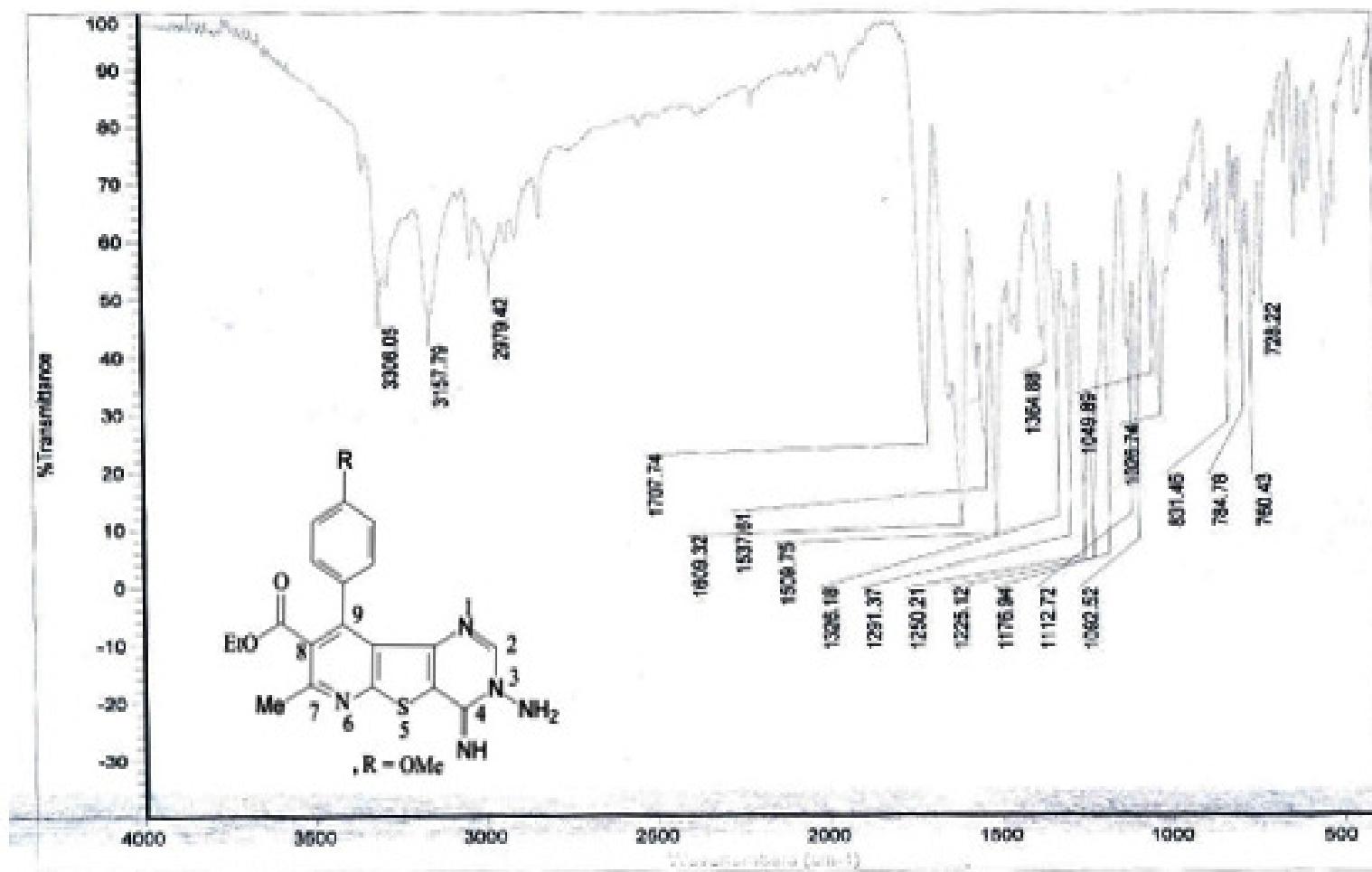


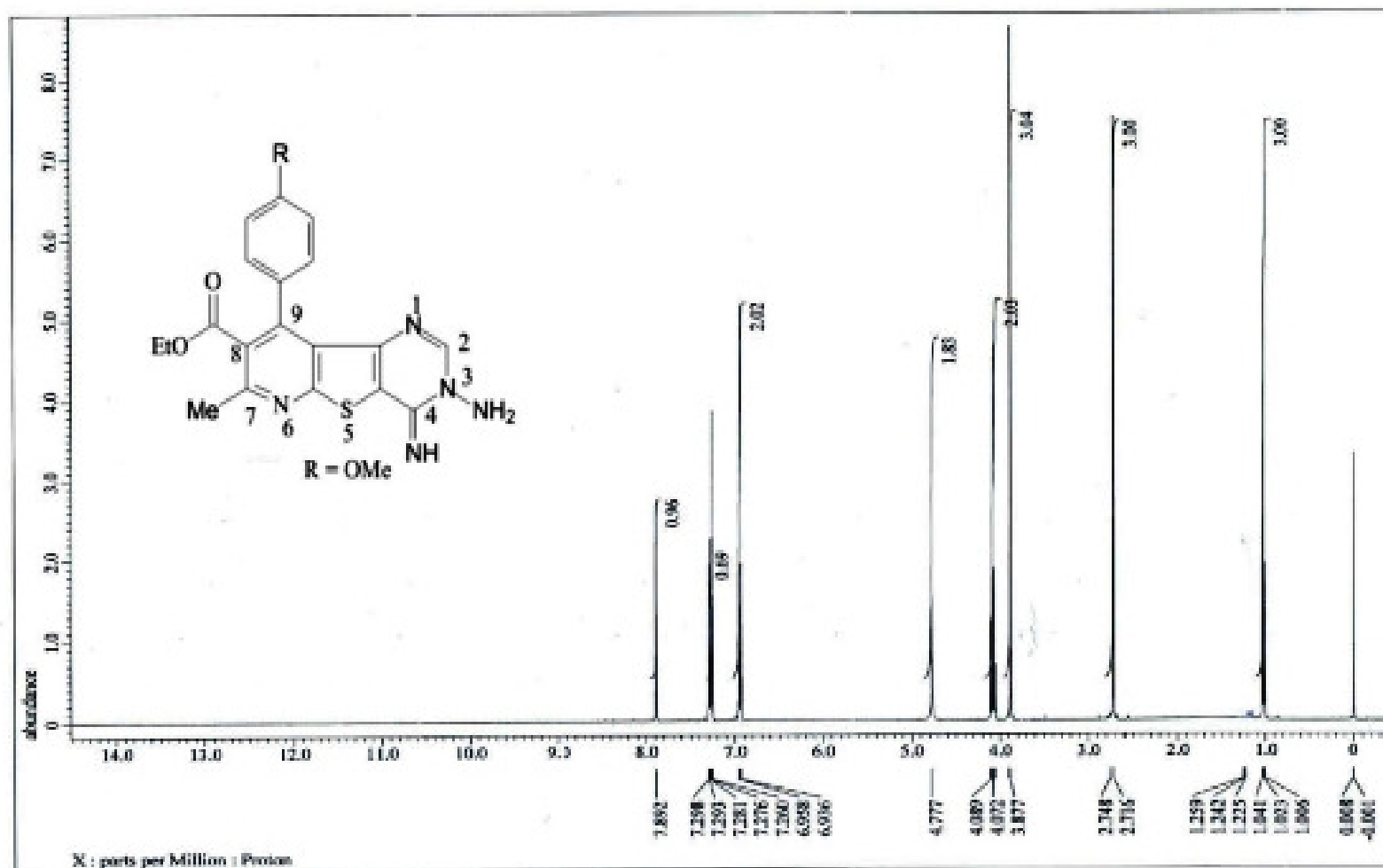




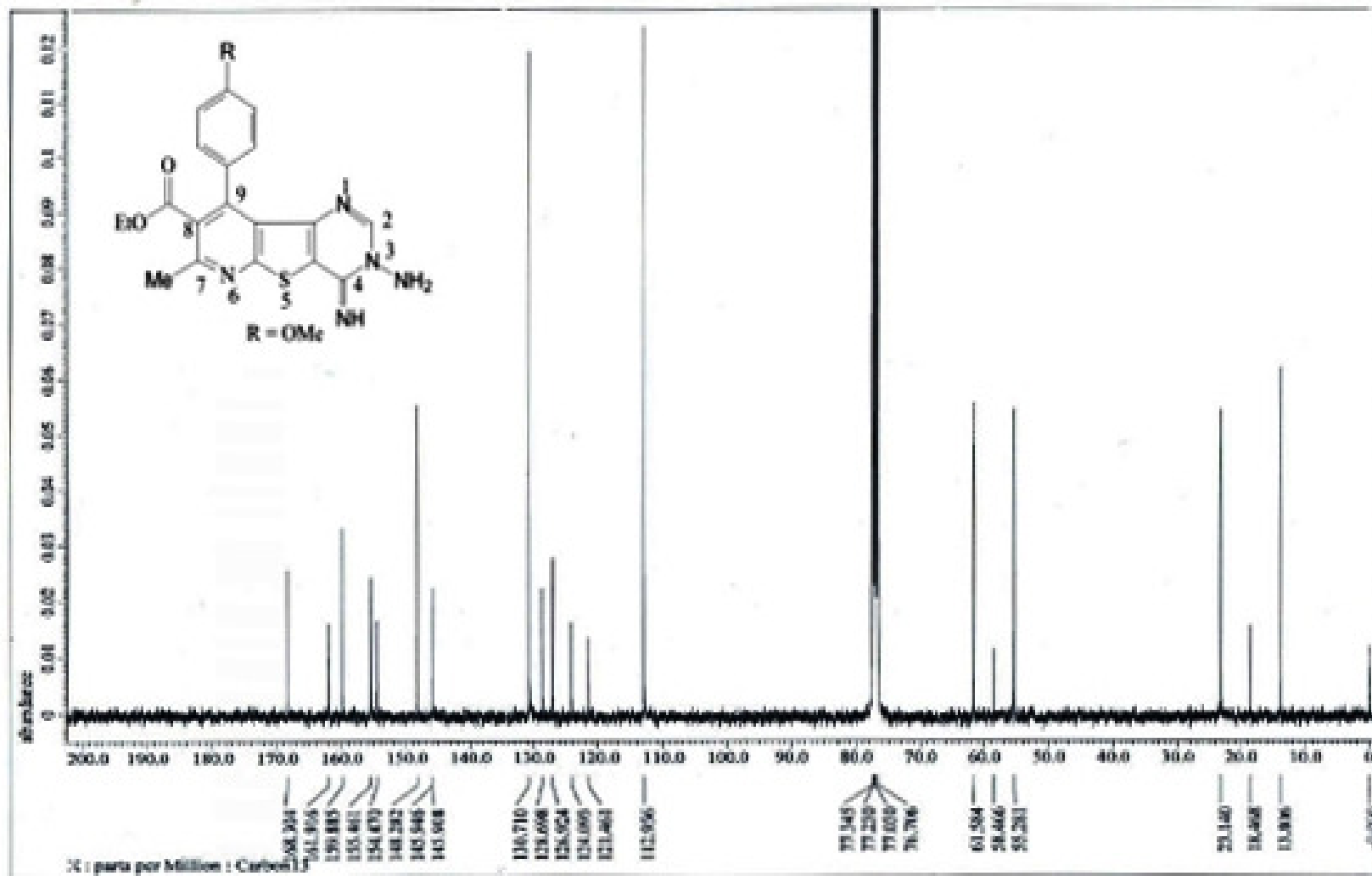


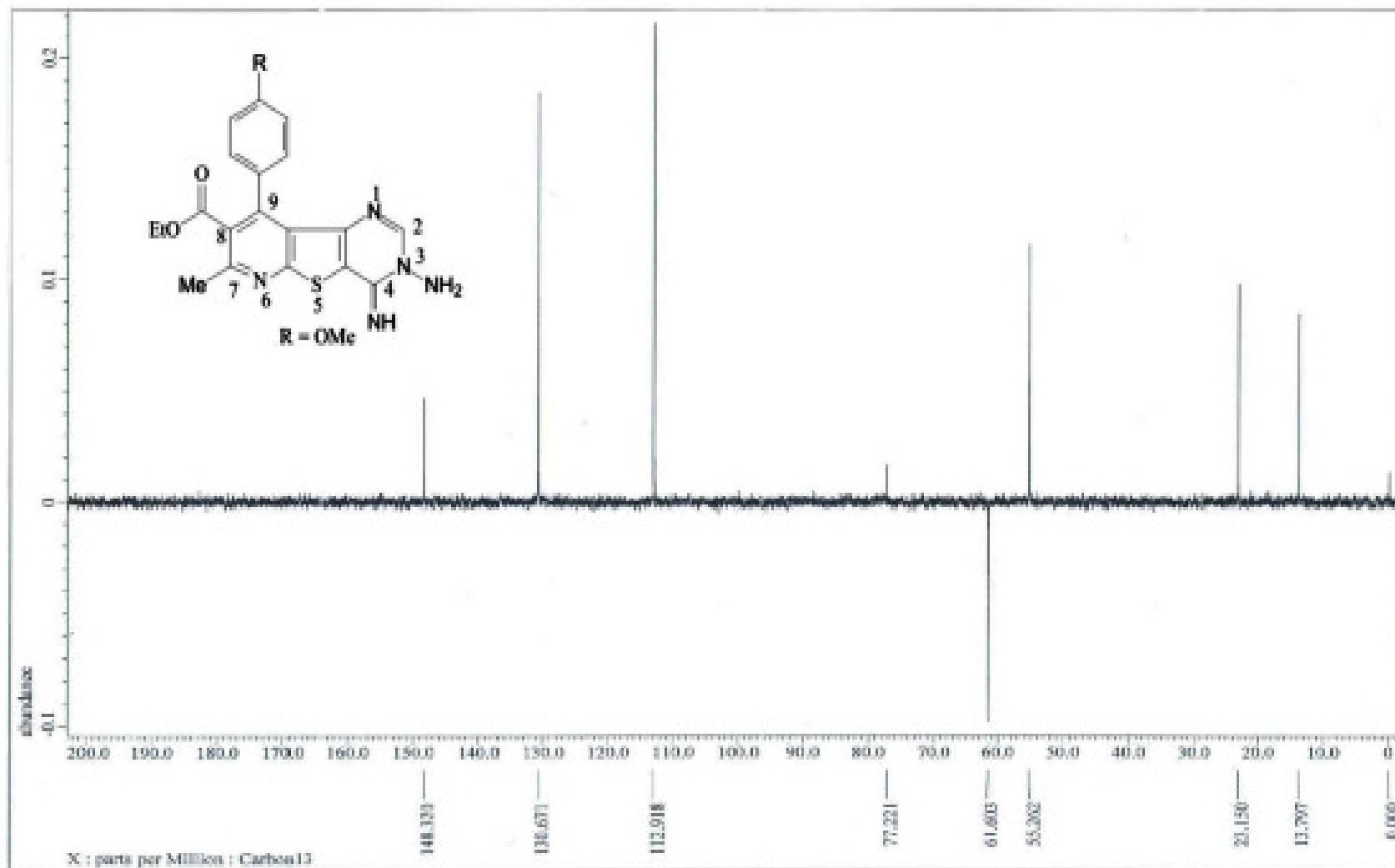


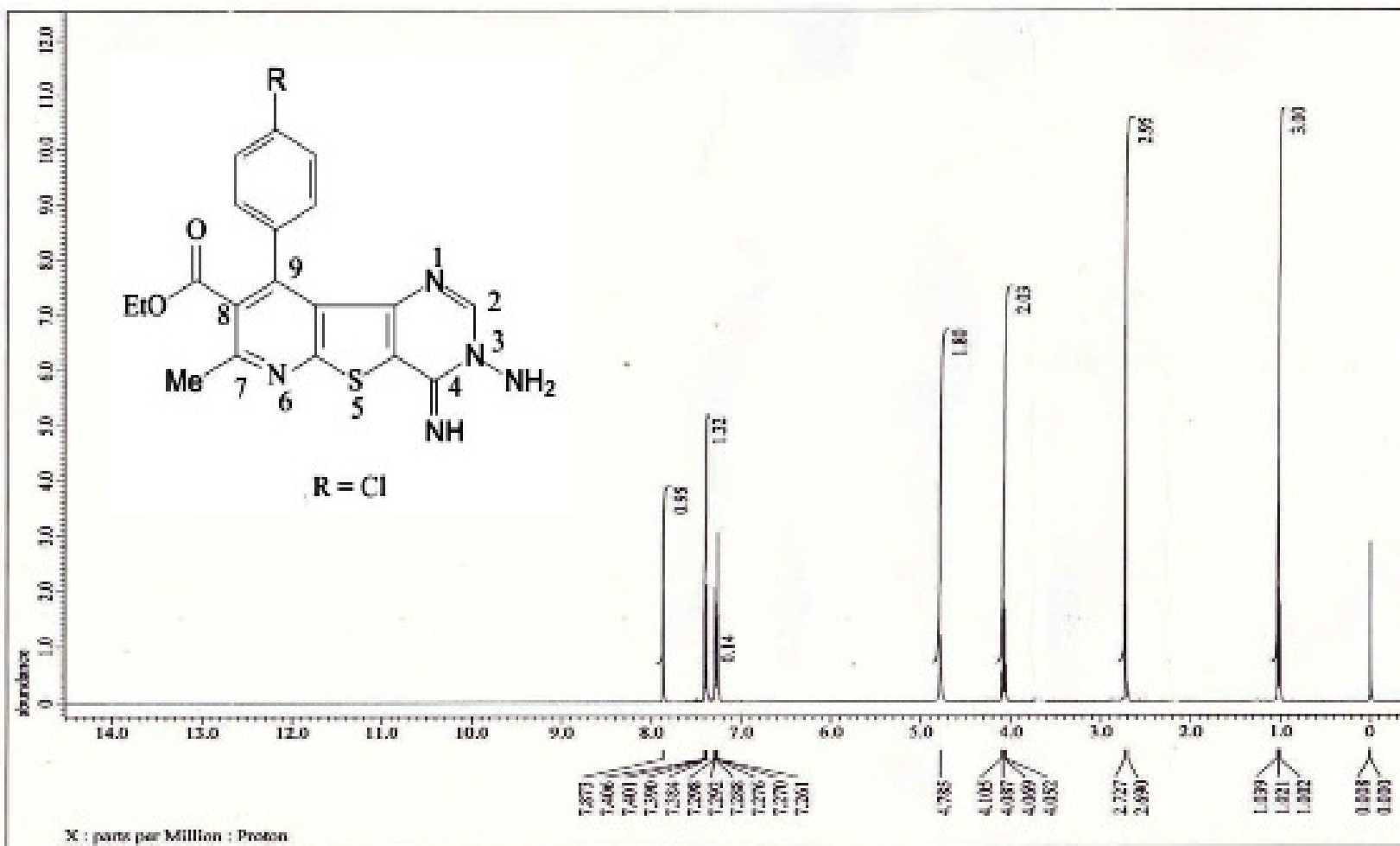


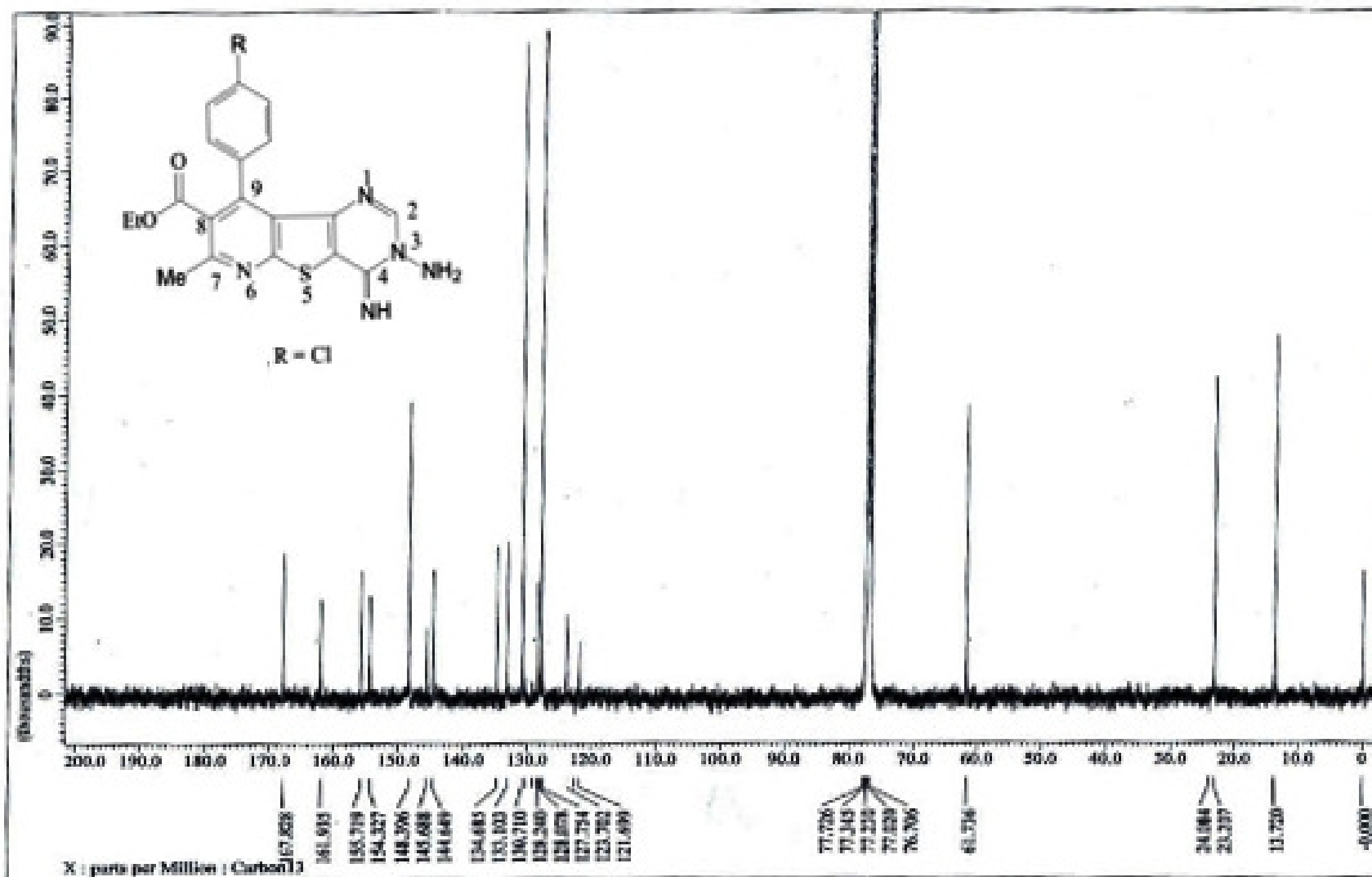


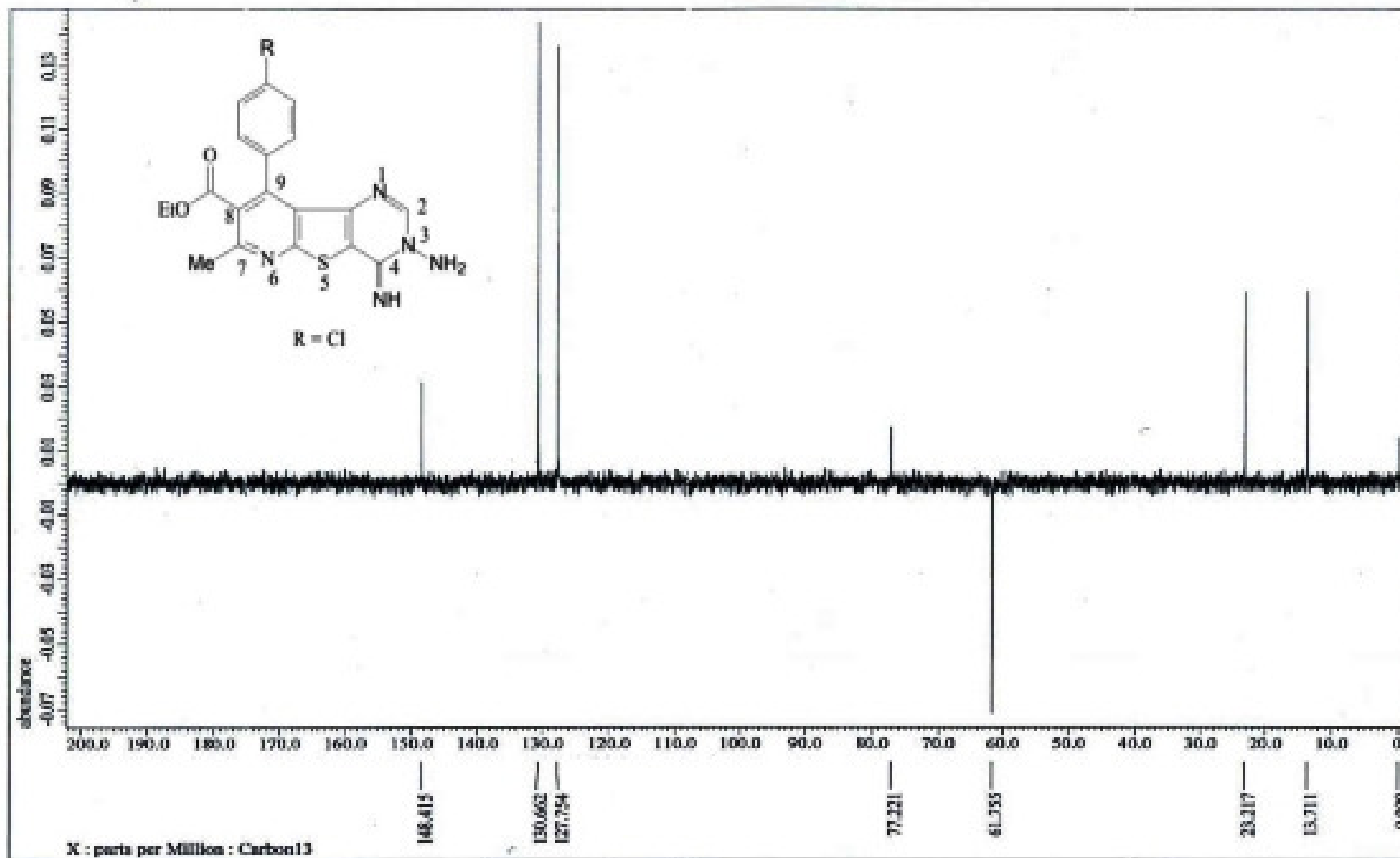


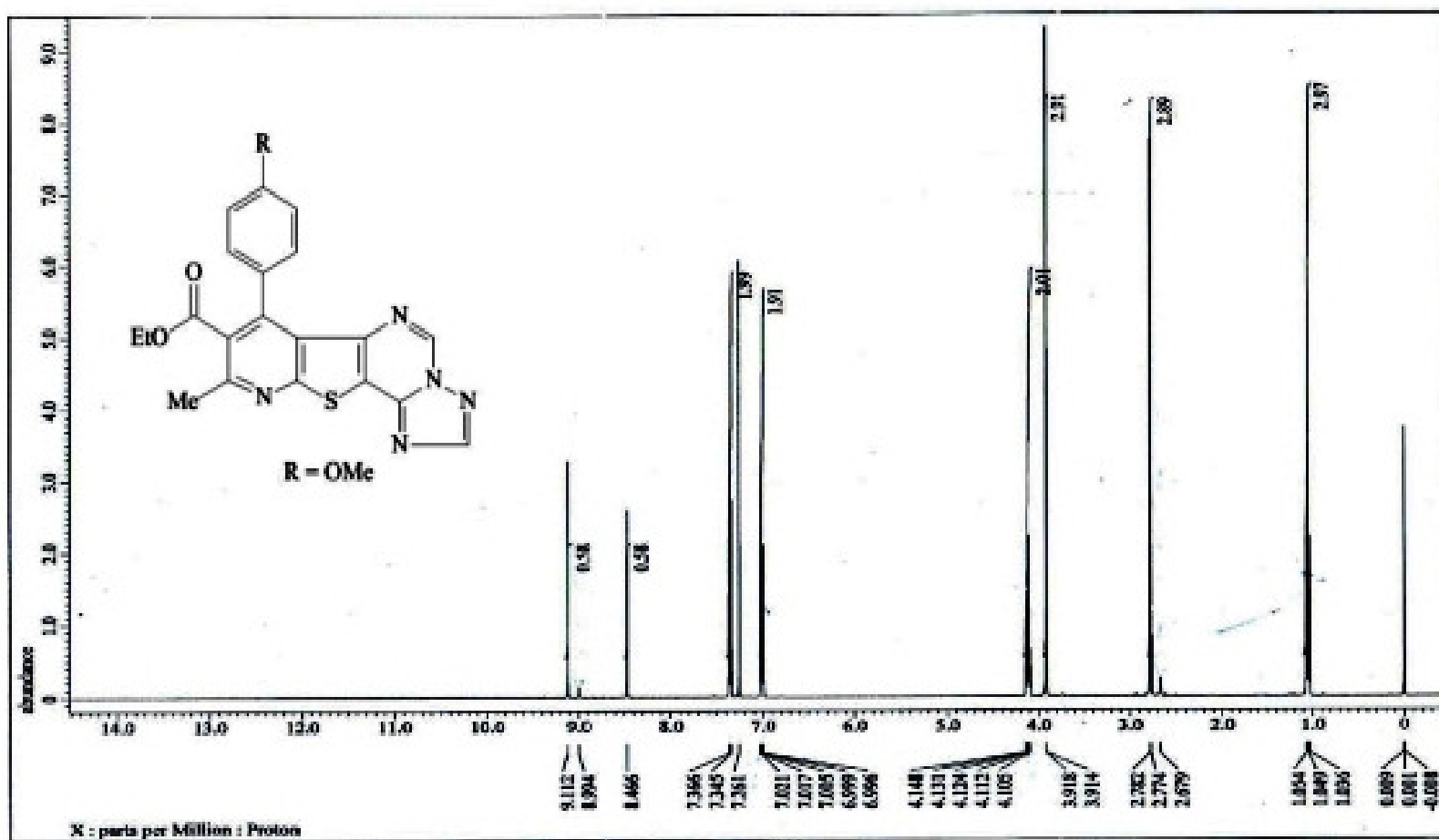


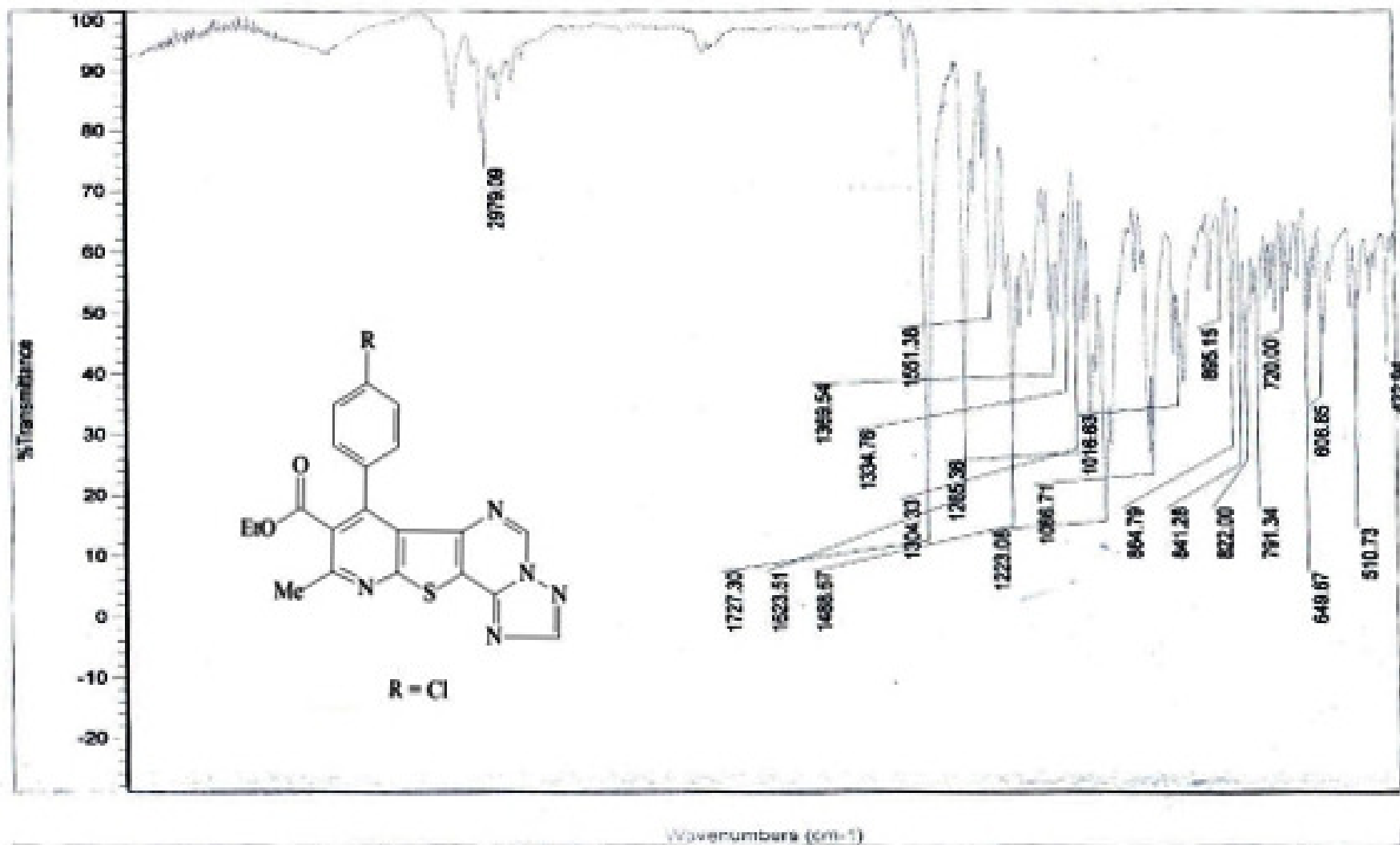


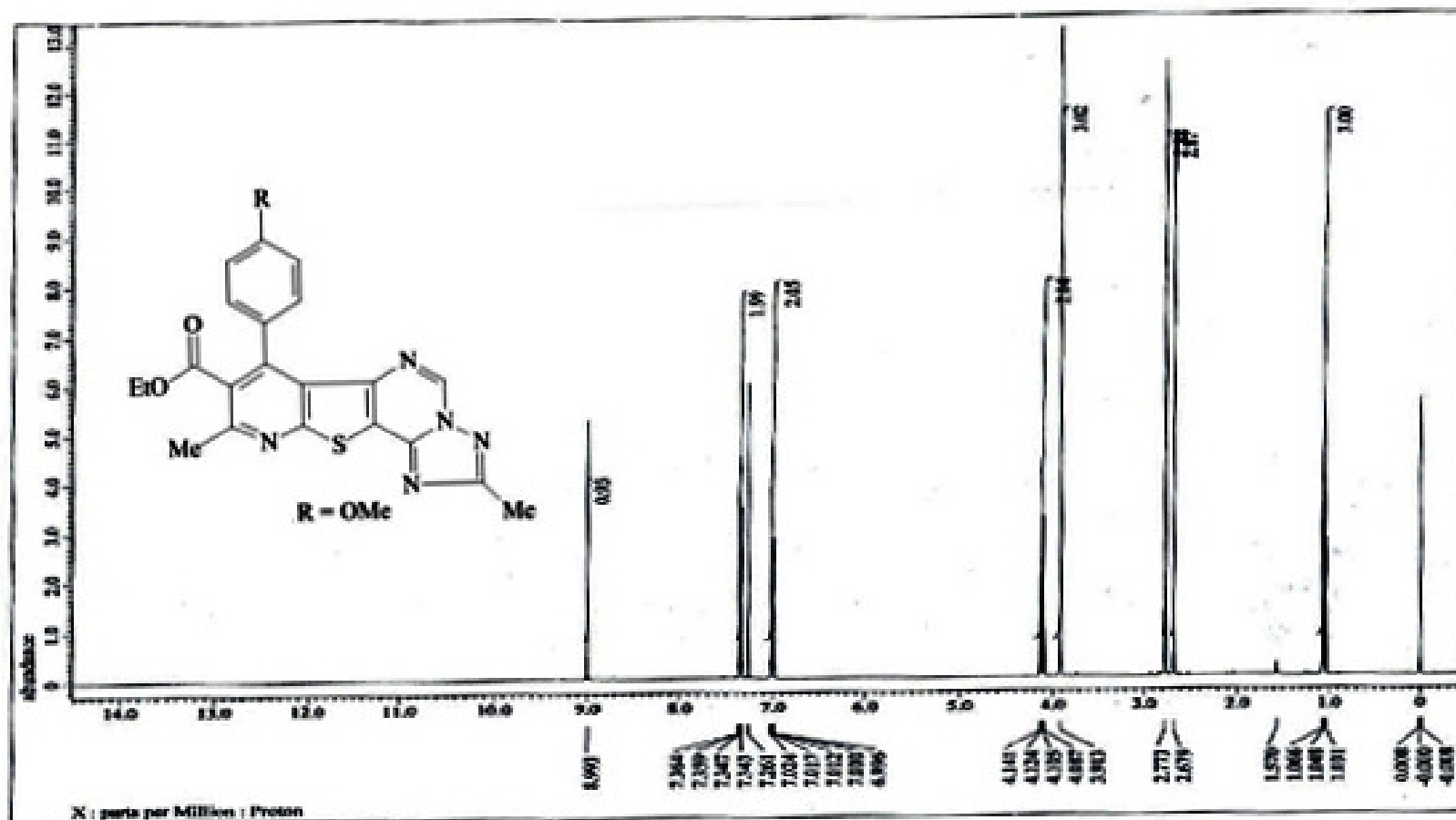




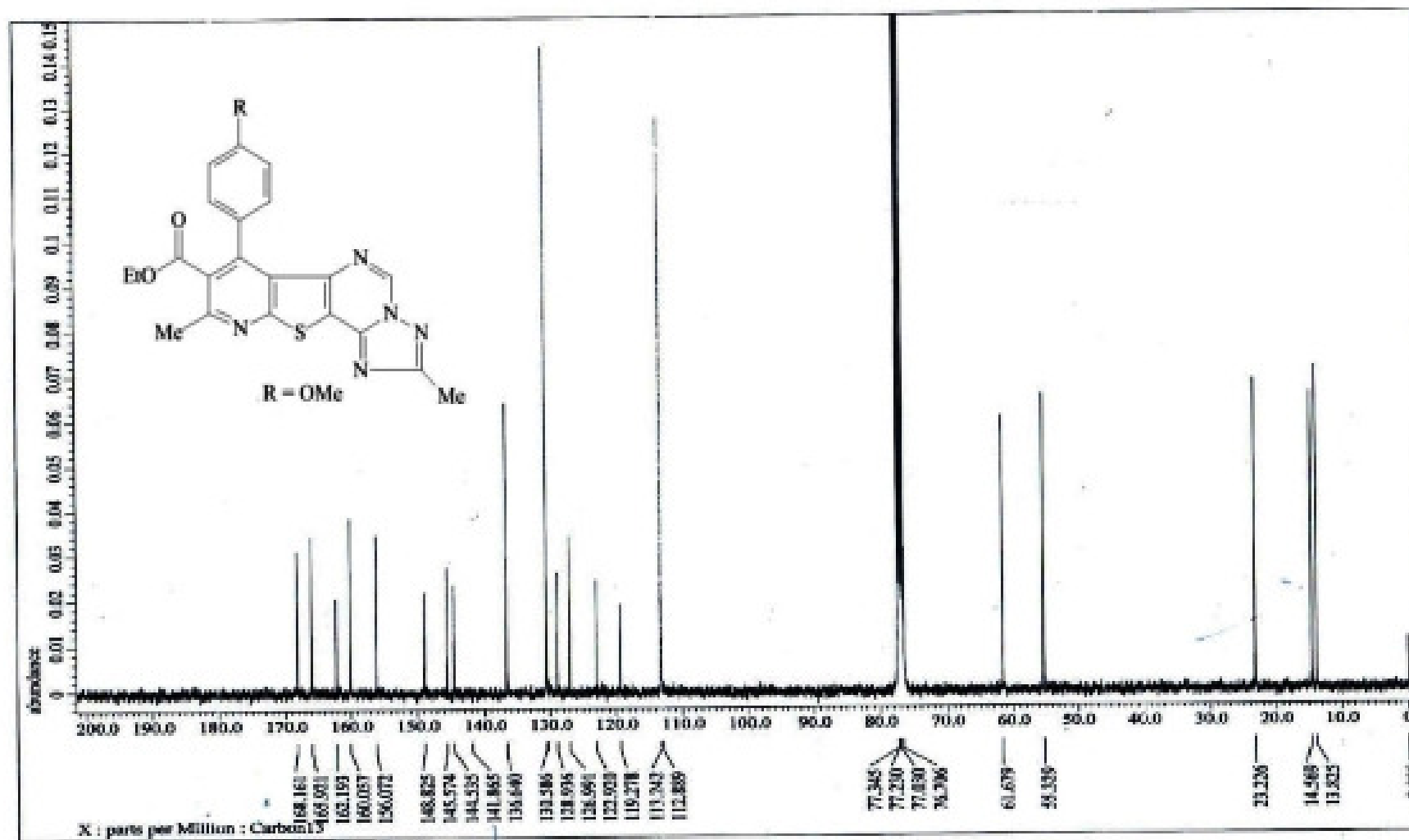


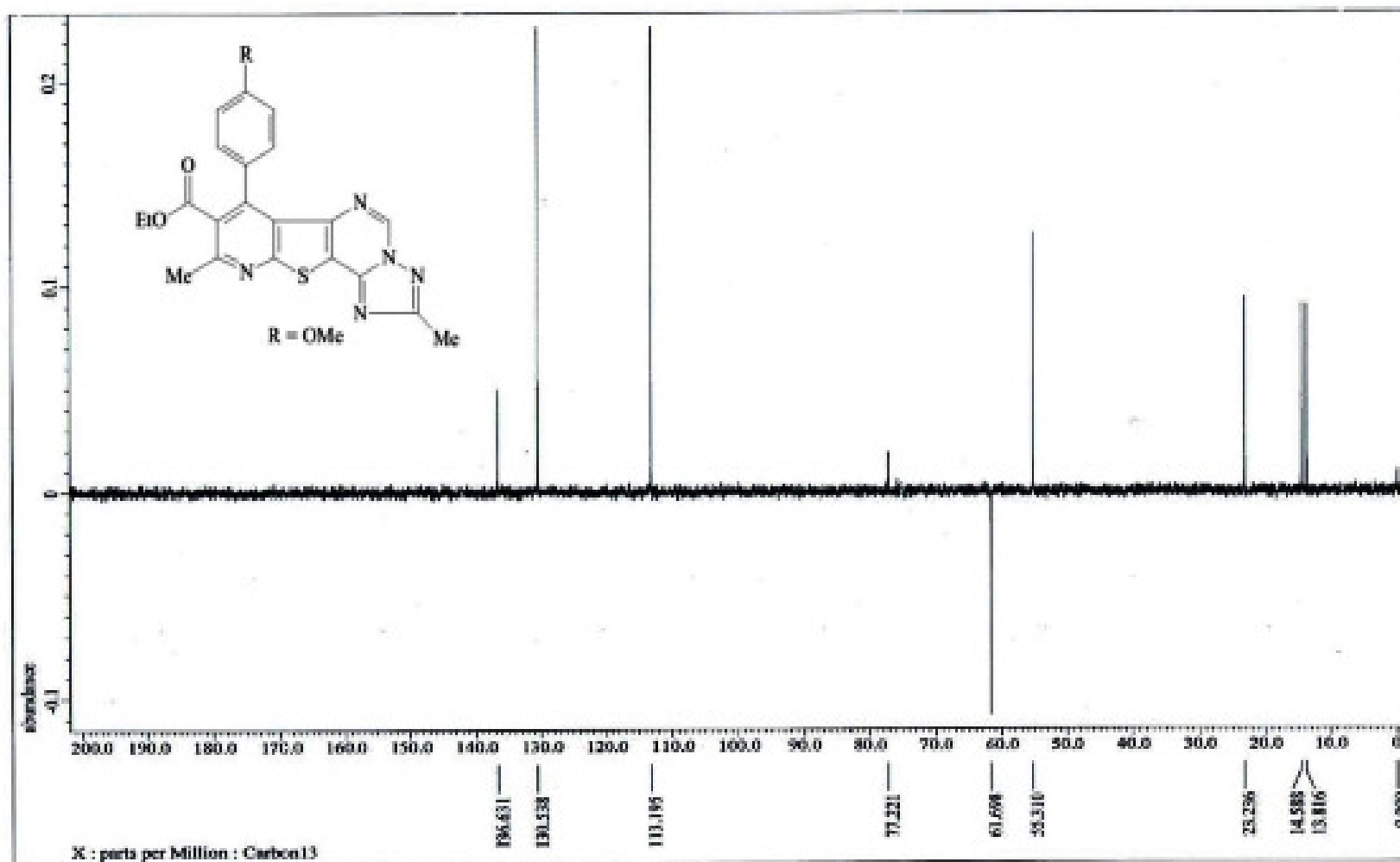


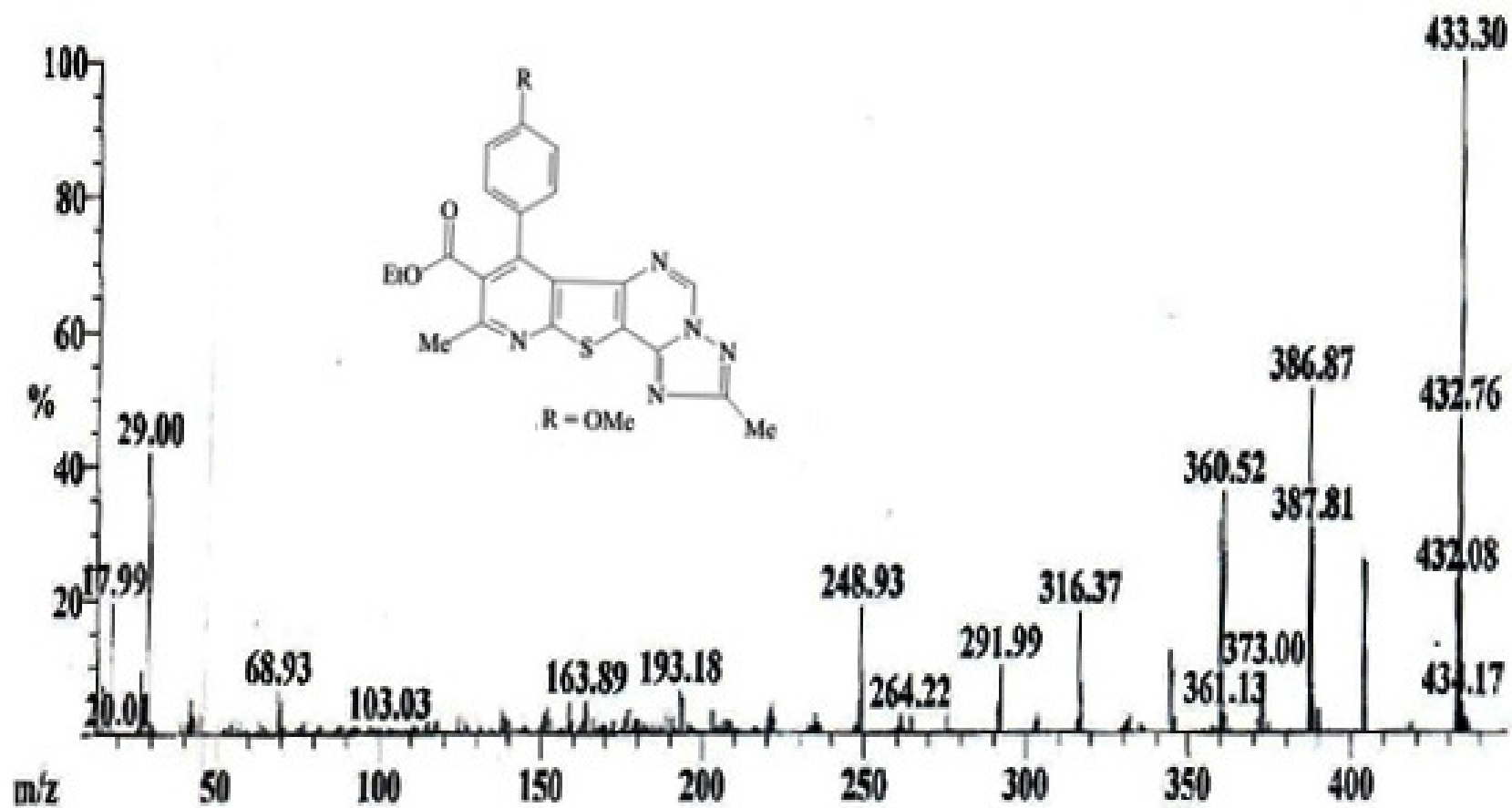


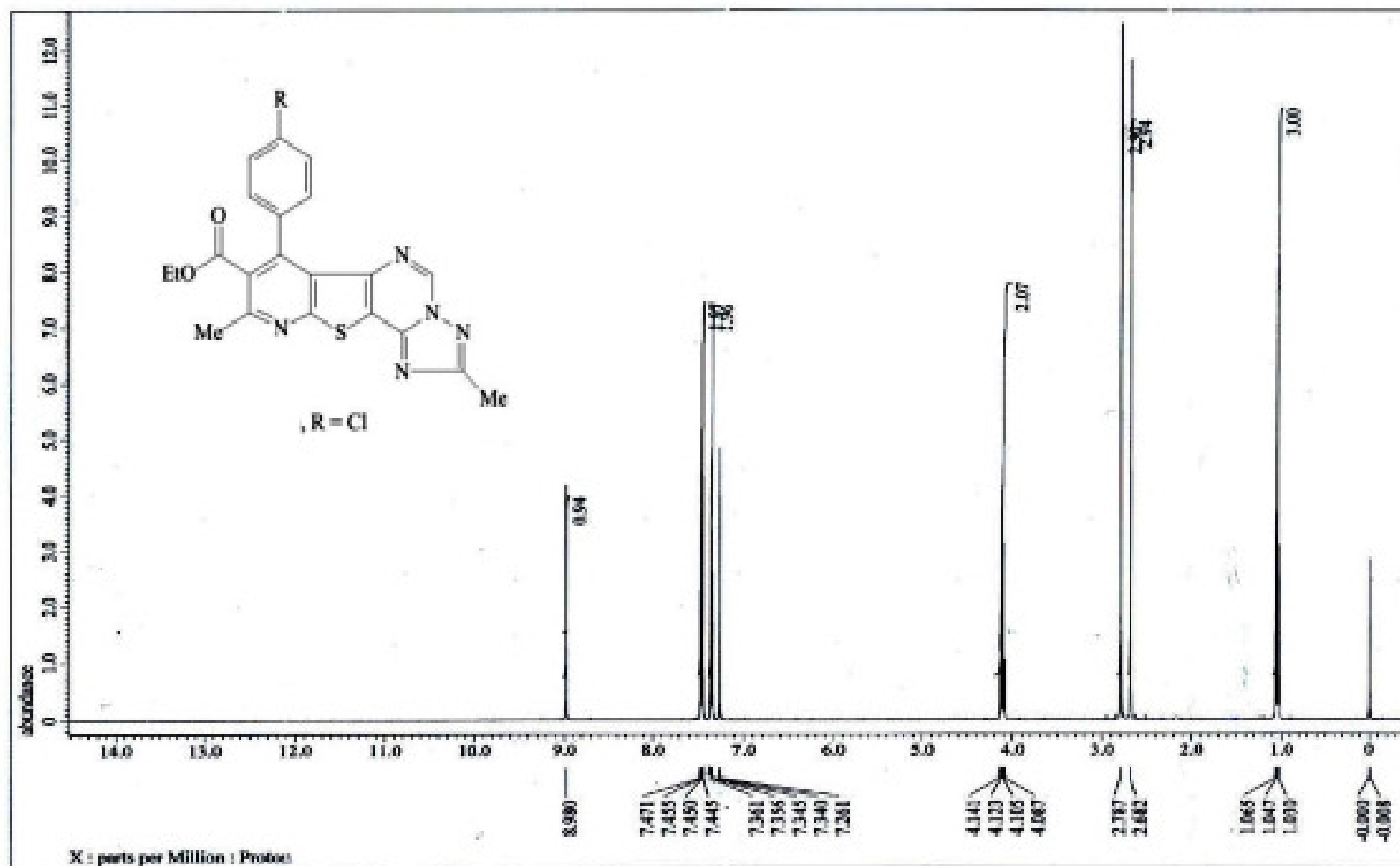


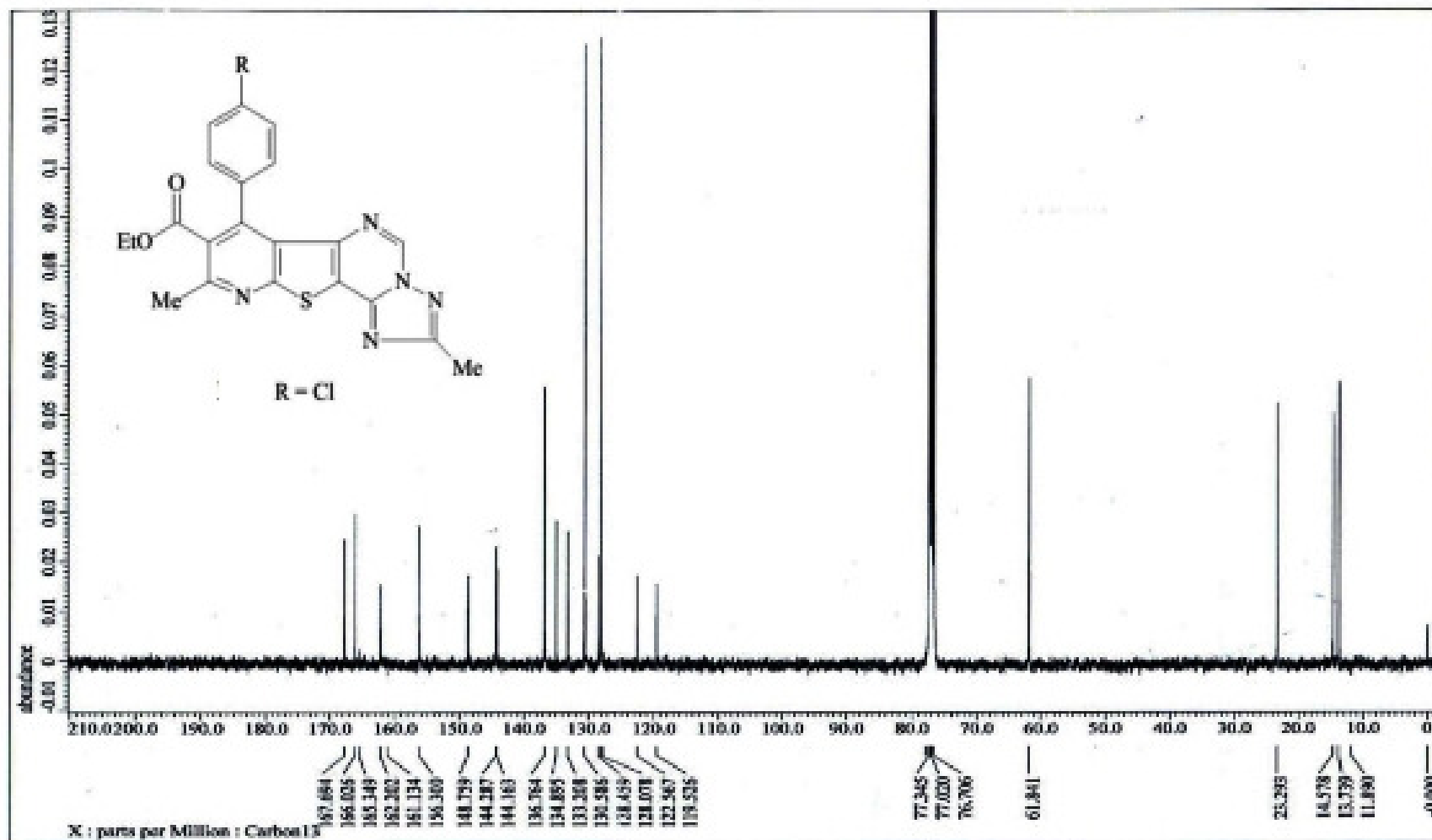


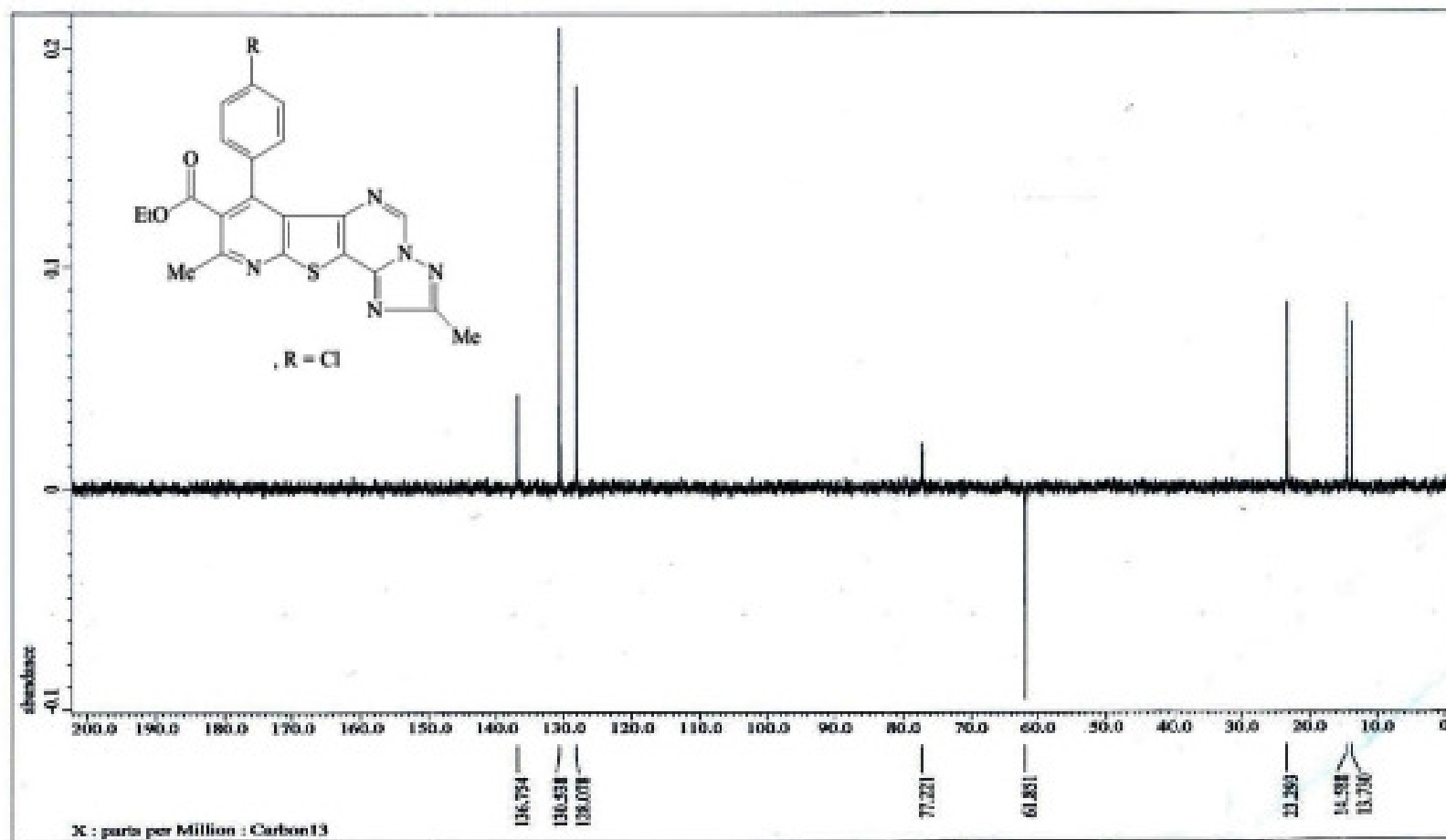


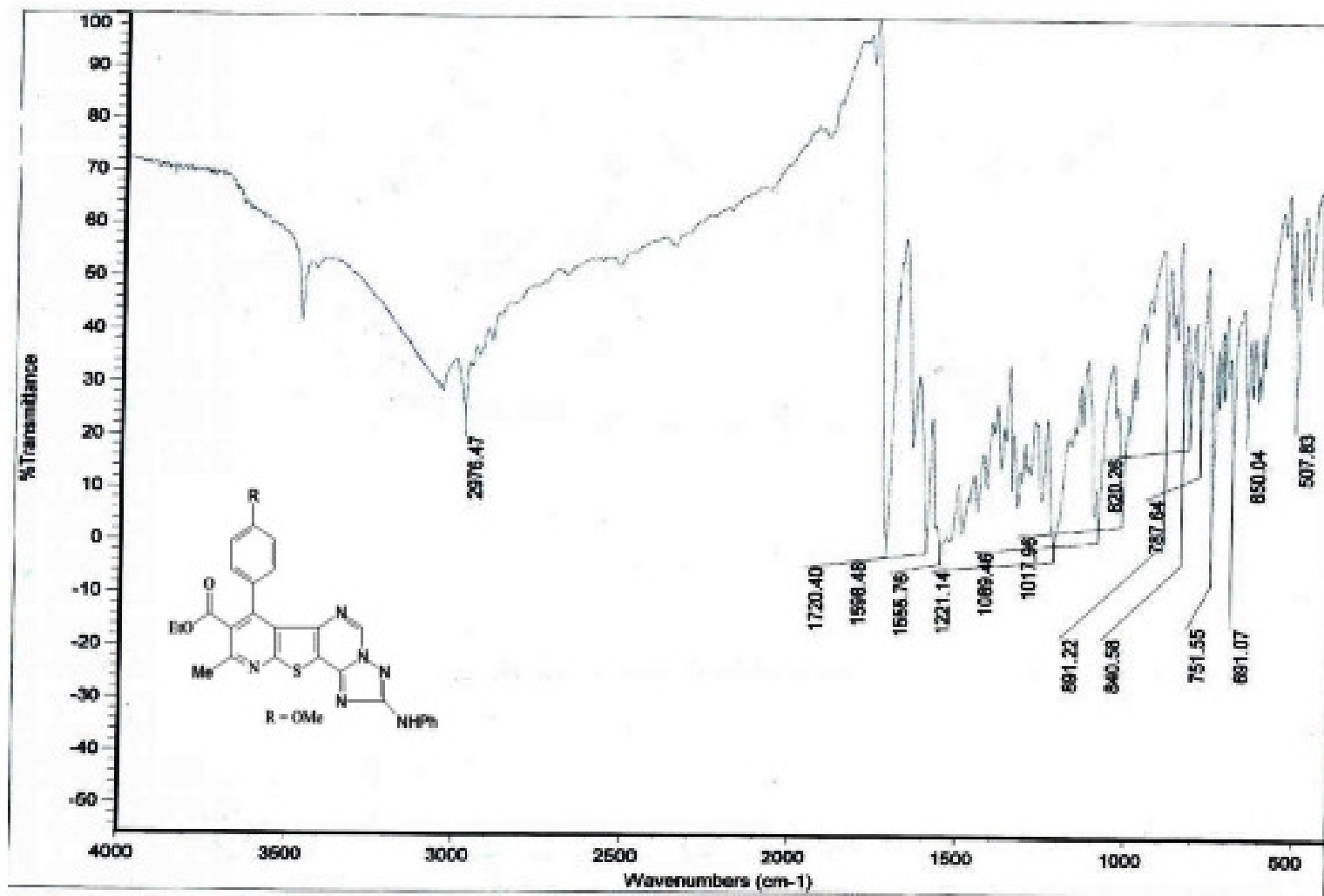




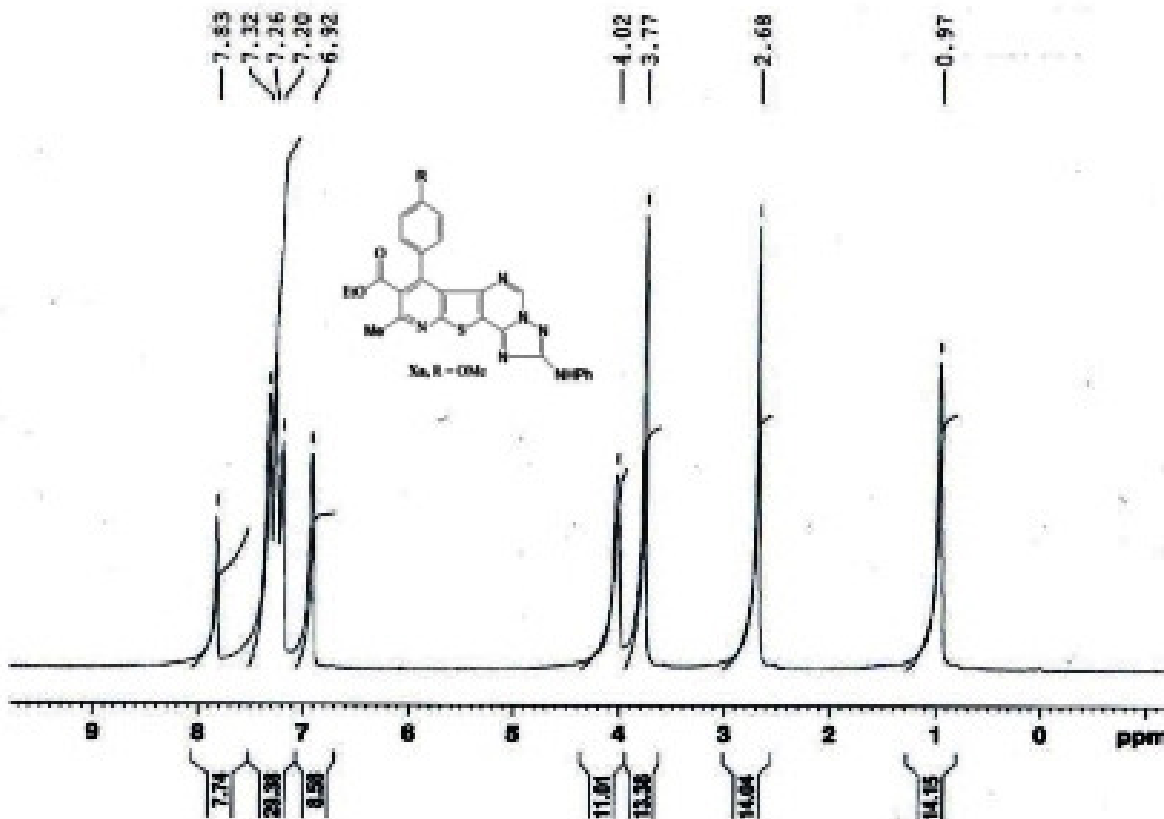








0-2  
proton\_au CDCl3 (C:\nmr-data) Student 11



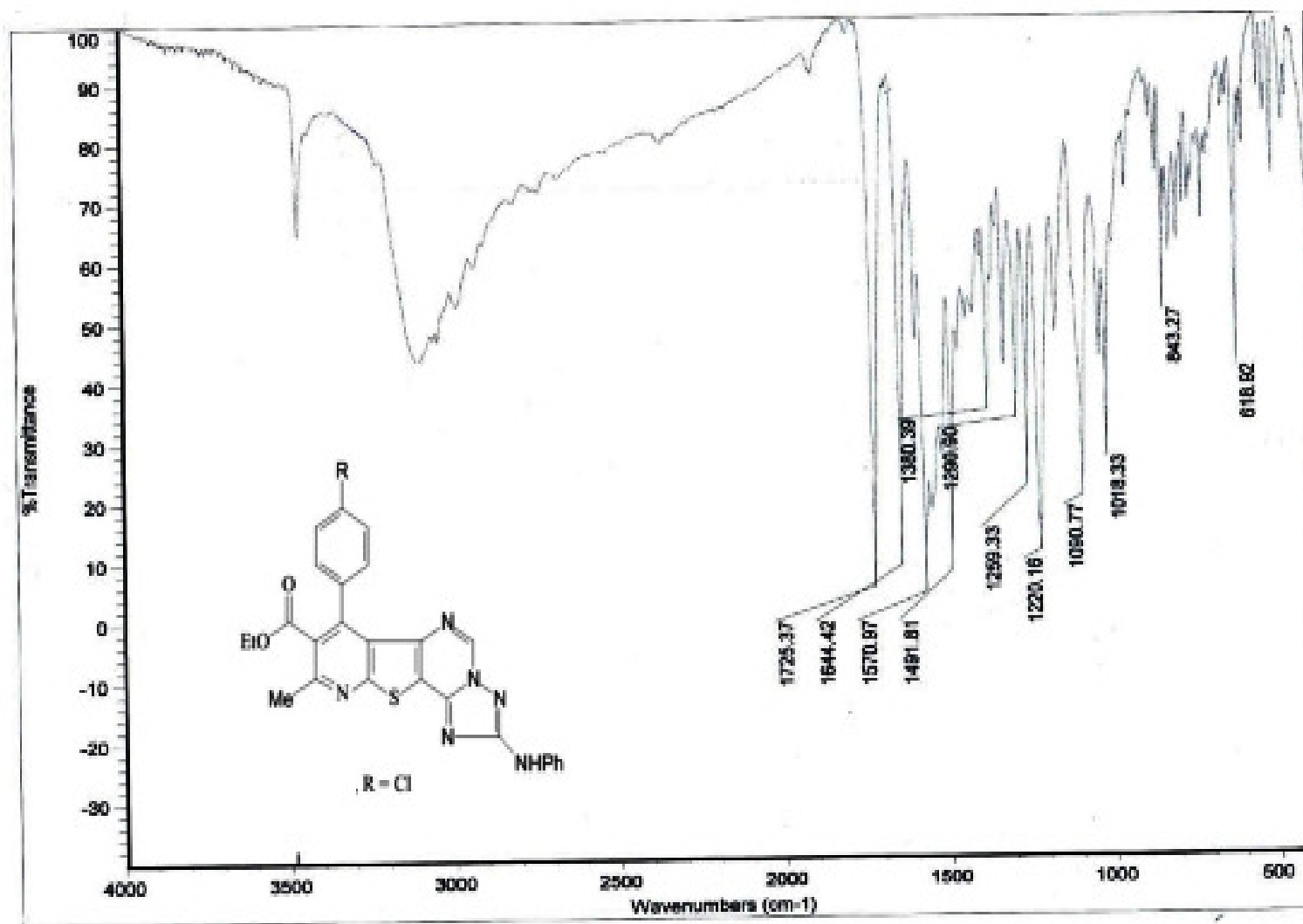
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EXPNO: 323  
PROCNO: 1

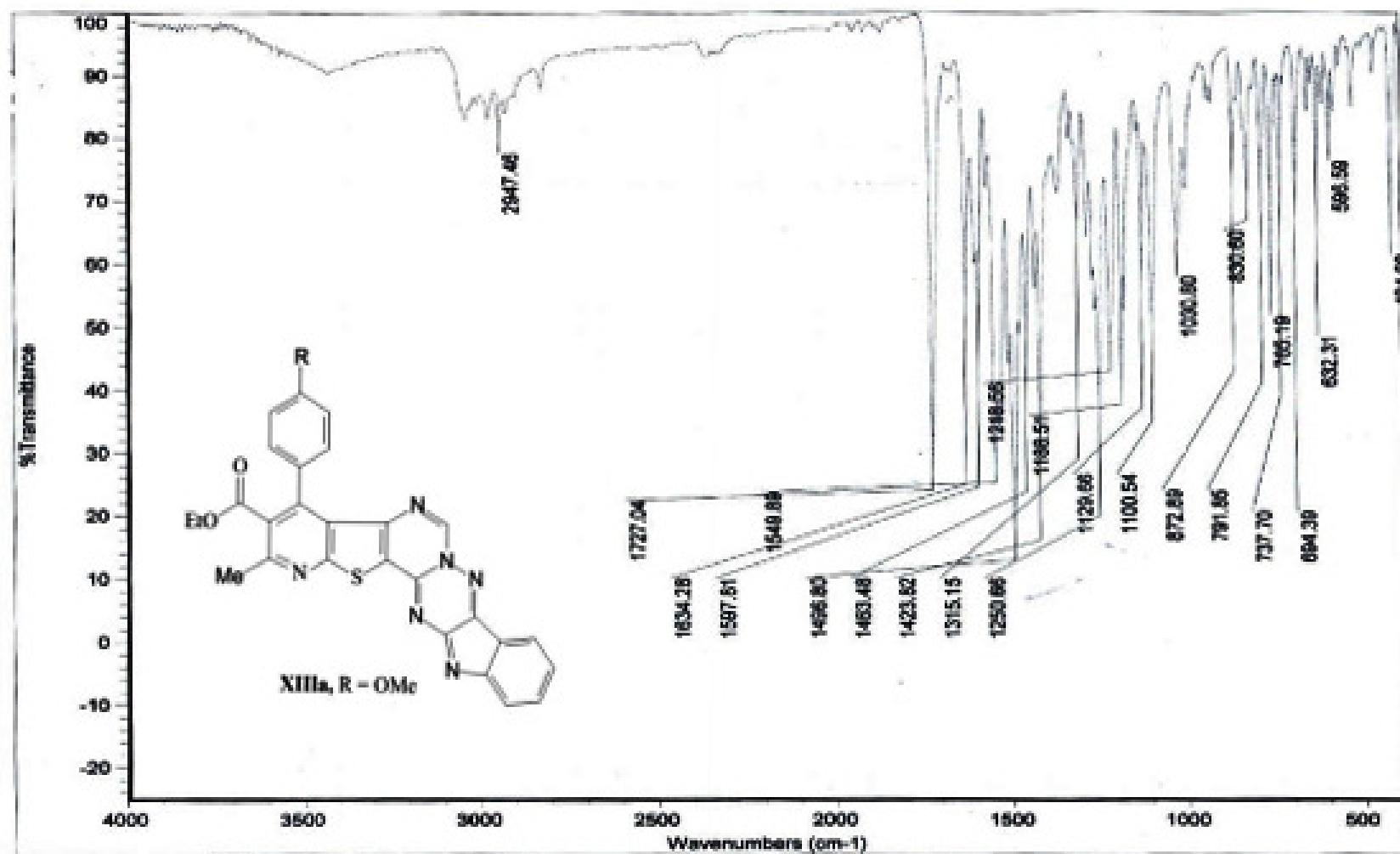
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Time: 13.24  
INSTRUM: spect  
PROBHD: 5 mm PABBO 1H/1  
PULPROG: zgpg30  
TD: 65536  
SOLVENT: CDCl3  
NS: 50  
DS: 2  
SWH: 8012.420 Hz  
FIDRES: 0.122266 Hz  
AQ: 4.0825485 sec  
RG: 135  
SR: 42.480 MHz  
WDW: 9.50 uSinc  
SSB: 323.2 Hz  
GB: 1.00000000 sec  
TB: 1

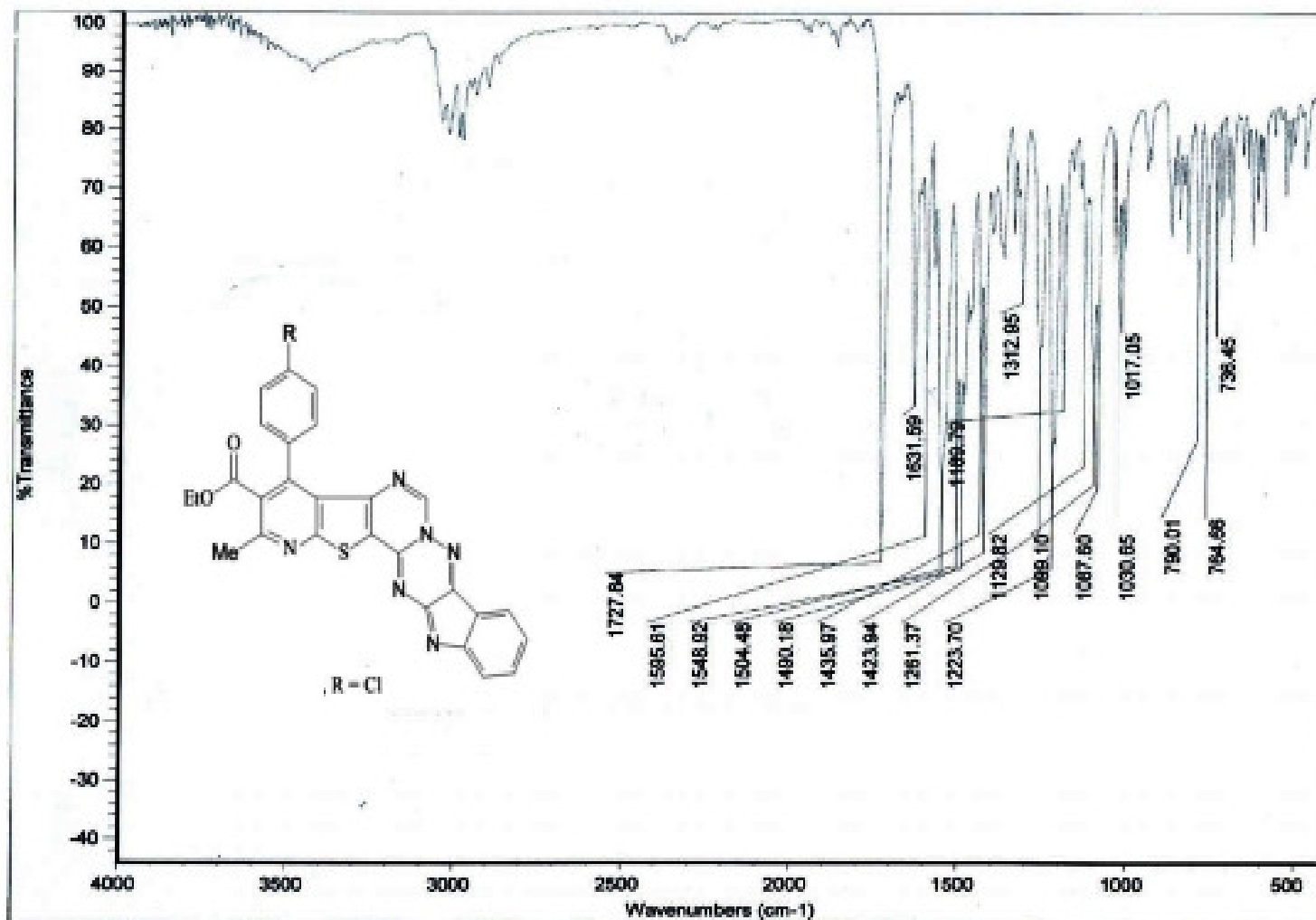
===== CHANNEL f2 =====  
NUC1: 13C 101.324710 MHz  
P1: 18  
PL1: 12.00 uSinc  
PCPL1: 27.40000000 Hz

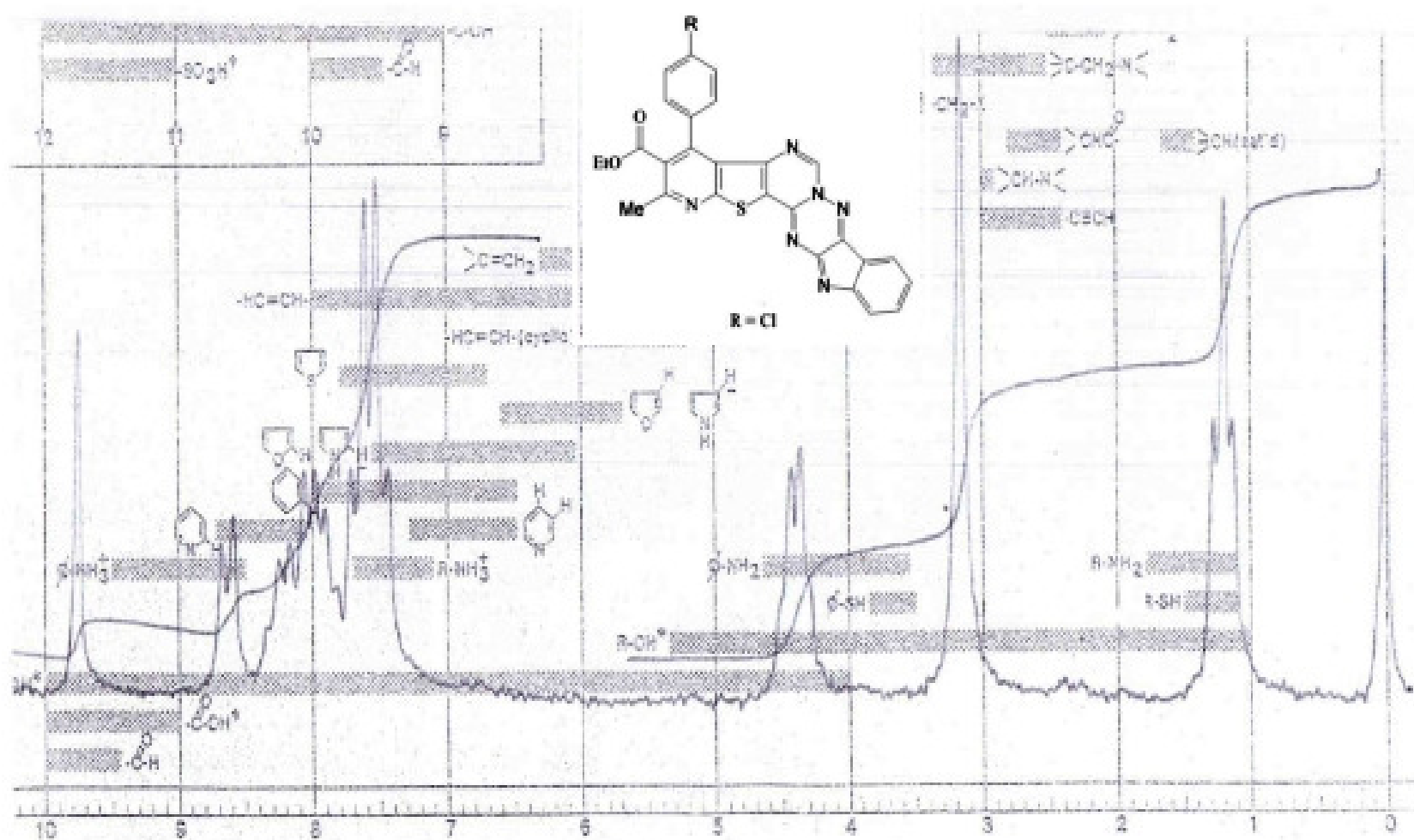
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SI: 32768  
SF: 400.1304501 MHz  
WDW: EM  
SSB: 0  
LB: 0.30 Hz  
GB: 0  
PC: 1.00

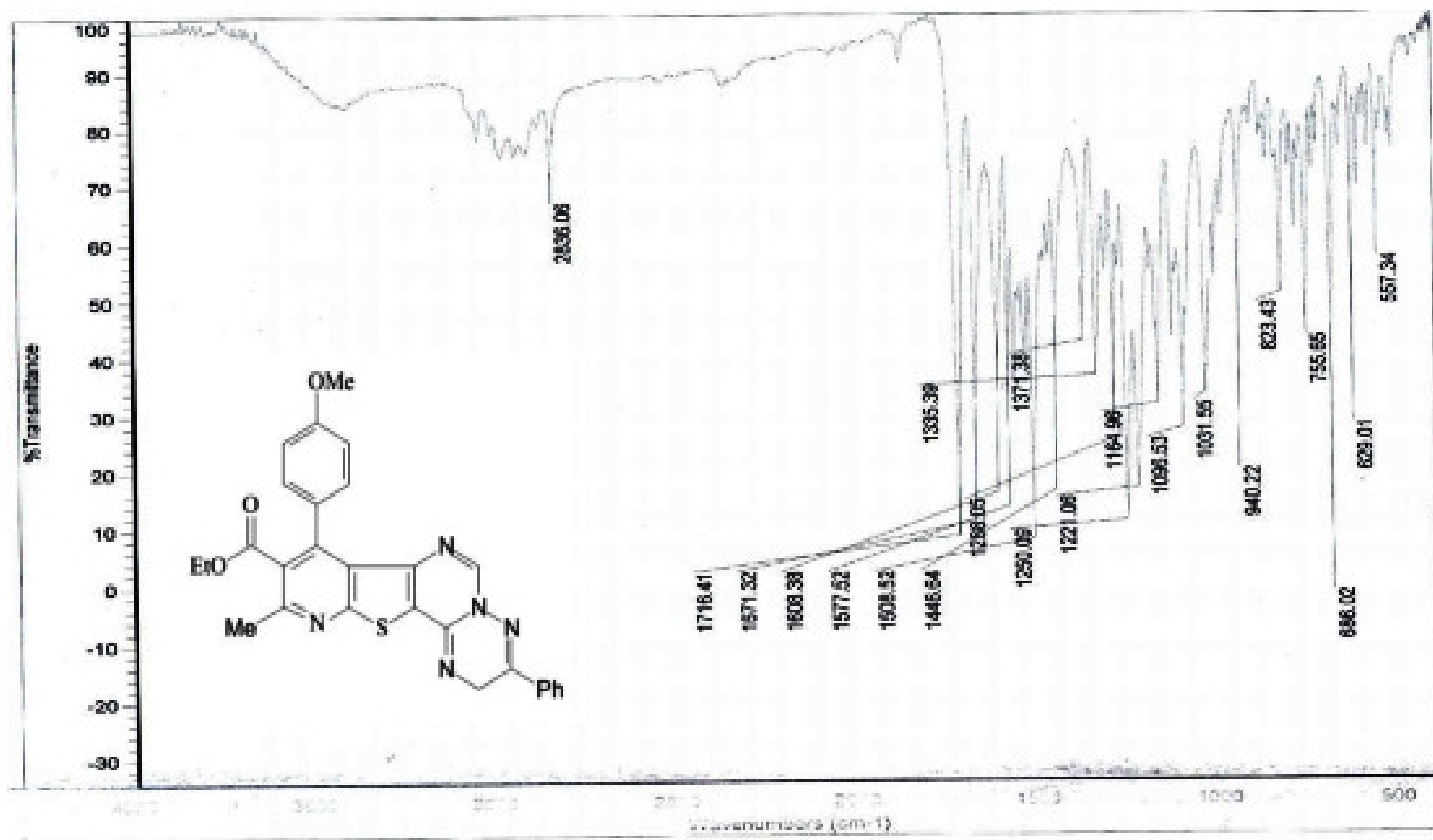




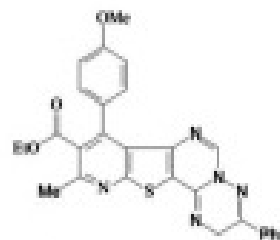
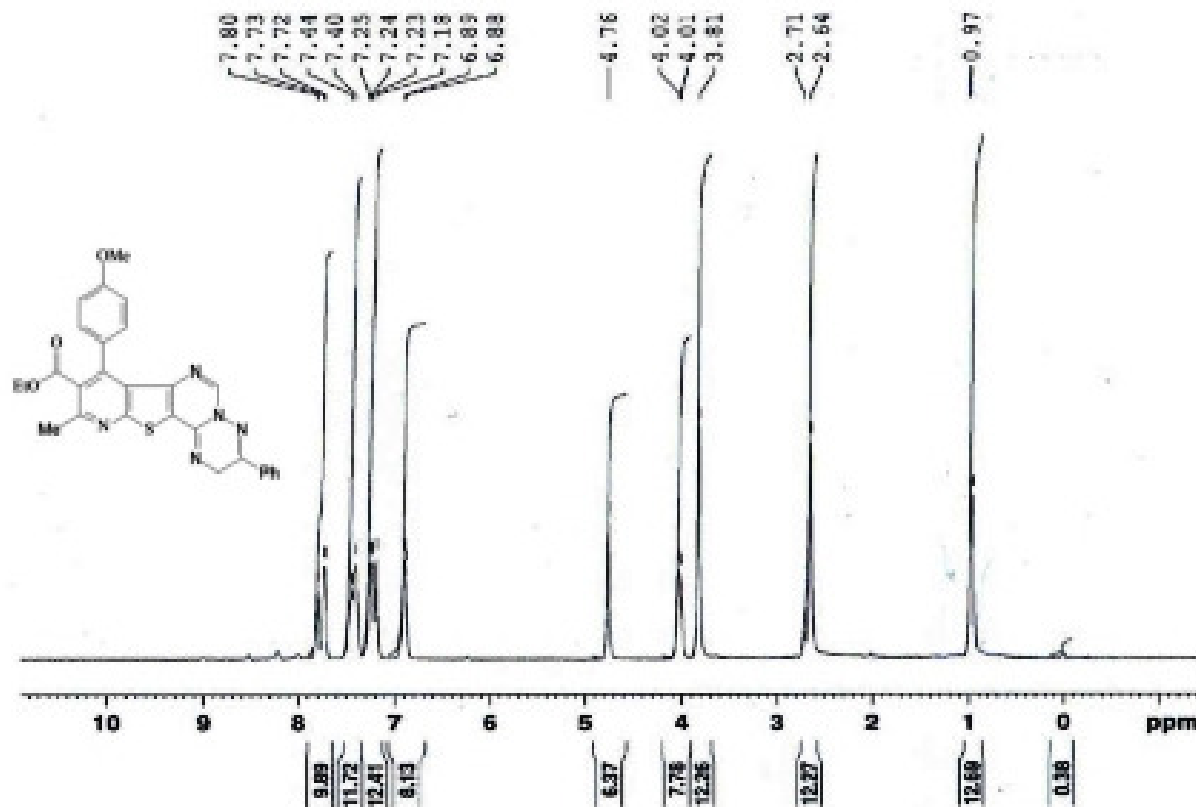








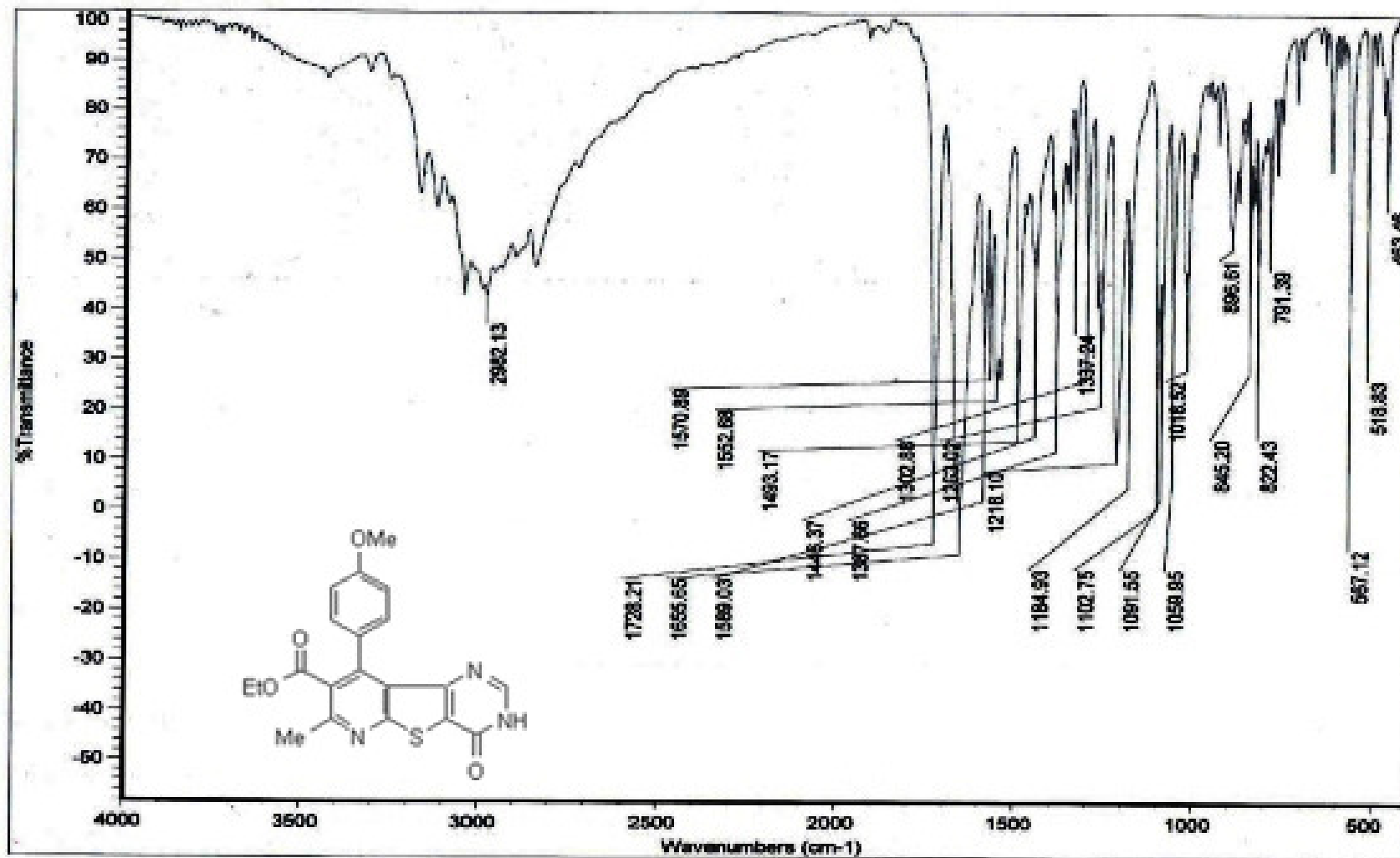
0-6  
 proton\_eu CDCl3 (C:\nmr-data) Student 8



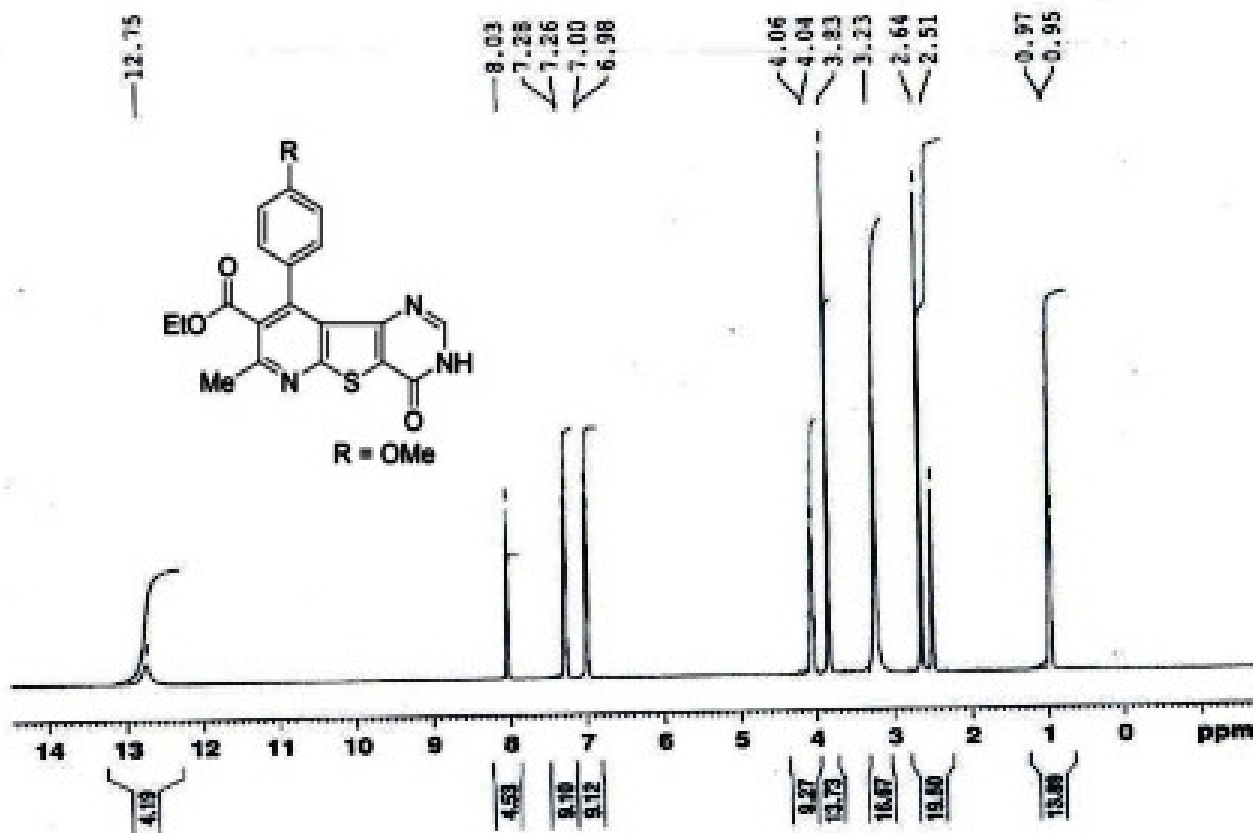
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 NAME Feb02-2018  
 EXPNO 500  
 PROCNO 1  
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 Time 8.24  
 INSTRUM spect  
 PROCESS 3 ms FAREO 607  
 PULPROG zgpg  
 TO 68868  
 SOLVENT cdcl3  
 NS 10  
 DS 2  
 SWH 8012.800 Hz  
 FIDRES 0.122204 Hz  
 AQ 4.088445 sec  
 RG 109.04  
 DN 83.400 sec  
 DE 4.50 sec  
 TE 318.1 K  
 D1 1.00000000 sec  
 TD 1

===== CHANNEL f1 =====  
 NUC1 400.1304710 MHz  
 P1 18  
 PL 12.00 sec  
 FWH 10.00000000 Hz

F2 - Processing parameters  
 SI 65536  
 SF 400.1304710 MHz  
 DS 2  
 LB 0 0.00 Hz  
 GB 0  
 PC 1.00



0-11  
proton\_su DMSO (C:\nmr-data) student 13



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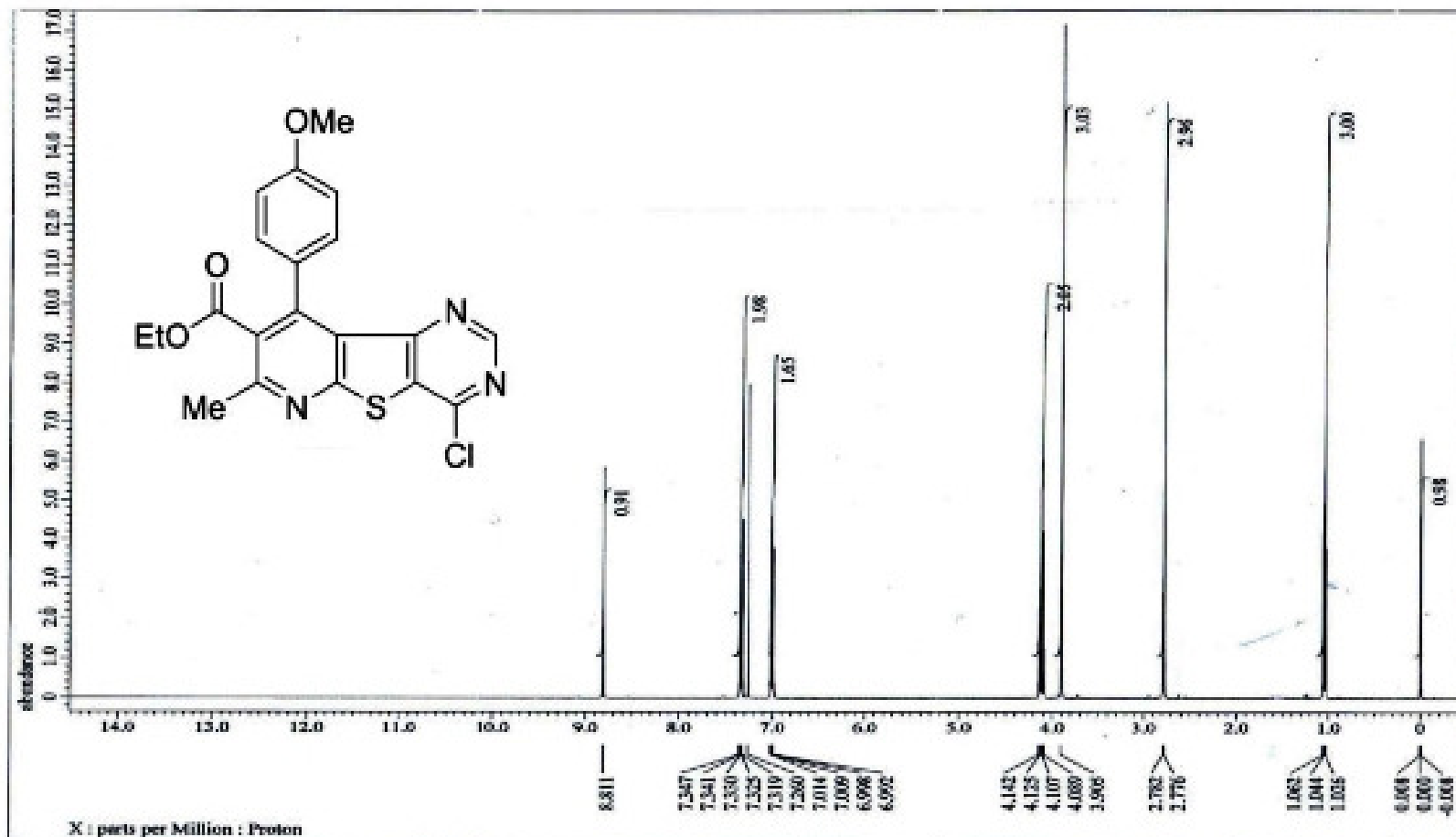
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PROCNO   1

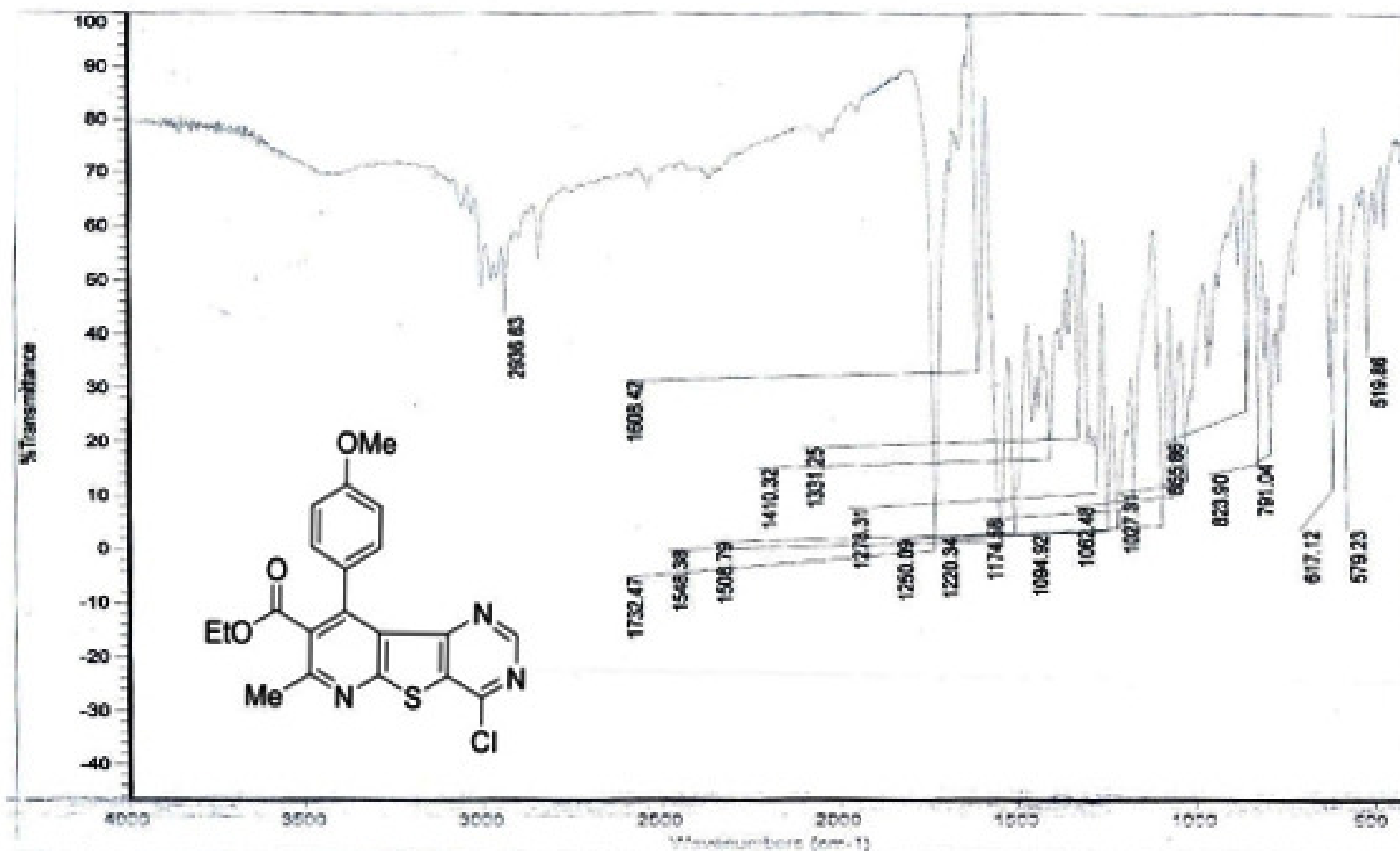
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Time     10.18
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PROBHD   5 mm QNP5B
PULPROG  zgpg30
TD       65536
SOLVENT  DMSO
NS       20
DS       4
SWH      9915.830 Hz
FIDRES   0.122500 Hz
AQ       4.084415 sec
RG        175.84
SQ       22.400 cm
GB       4.50 dB
PC       318.3 K
DI       1.0000000 sec
TD0      1

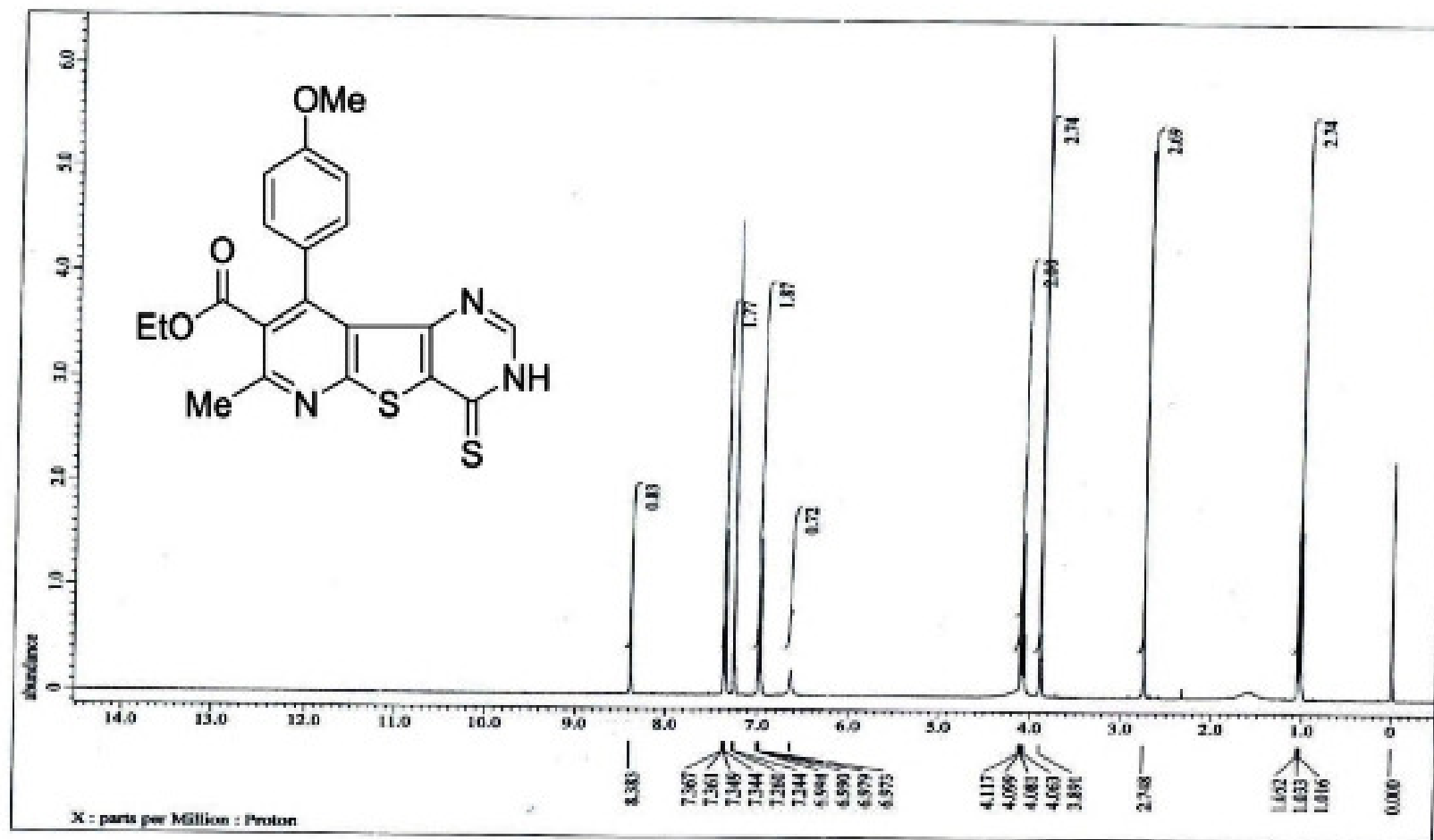
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NUC1     13C
P1       12.00 usec
PL1      22.0000000 dB

F2 - Processing parameters
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SF       400.1109000 MHz
WDW      EM
SSB      0
GB       0.30 Hz
CB       0
PC       1.00
    
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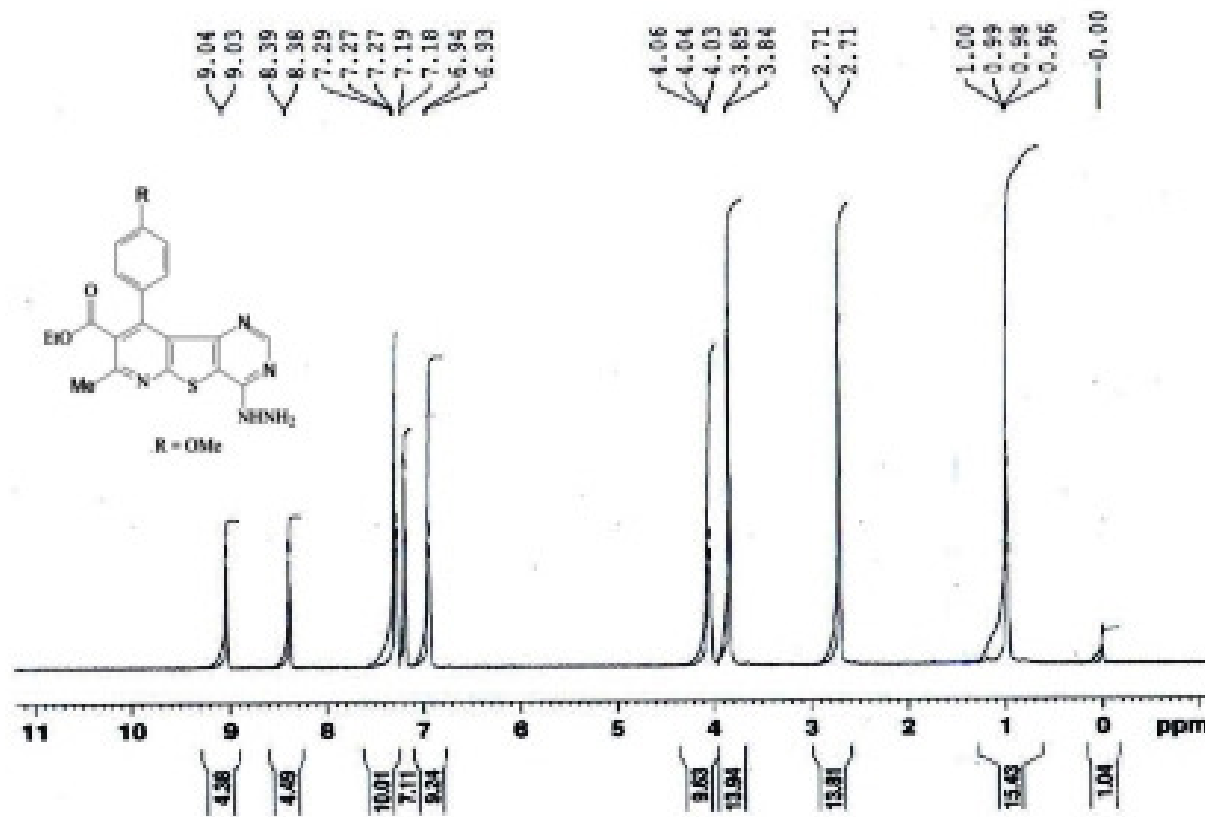








0-9  
 proton\_ru CDC13 (C:\nmr-data) Student 15



Current Data Parameters  
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 EXPNO 04  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20160521  
 Time 13.21  
 INSTRUM spect  
 PROCES 2 in 20000 200  
 PULPROG zgpg30  
 TD 65536  
 TO ACQTIME 00013  
 NS 20  
 DS 3  
 SWH 8012.000 Hz  
 FIDRES 0.122284 Hz  
 AQ 4.0000000 sec  
 RG 129.04  
 DR 92.400 cmec  
 DE 0.50 umec  
 TE 300.1 K  
 D1 1.00000000 sec  
 D11 1

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 NUC1 100.1304710 MHz  
 P1 18.00 umec  
 PL 0.00 dB  
 PCW 22.00000000 Hz

F2 - Processing parameters  
 SI 65536  
 SF 400.1300000 MHz  
 SWH 0 Hz  
 DS 0  
 DE 0.20 sec  
 PC 1.00

