

Supplementary Information

A Multicomponent Quadruple/Double Quadruple Domino Reaction: Highly Efficient Synthesis of Polyheterocyclic Architectures

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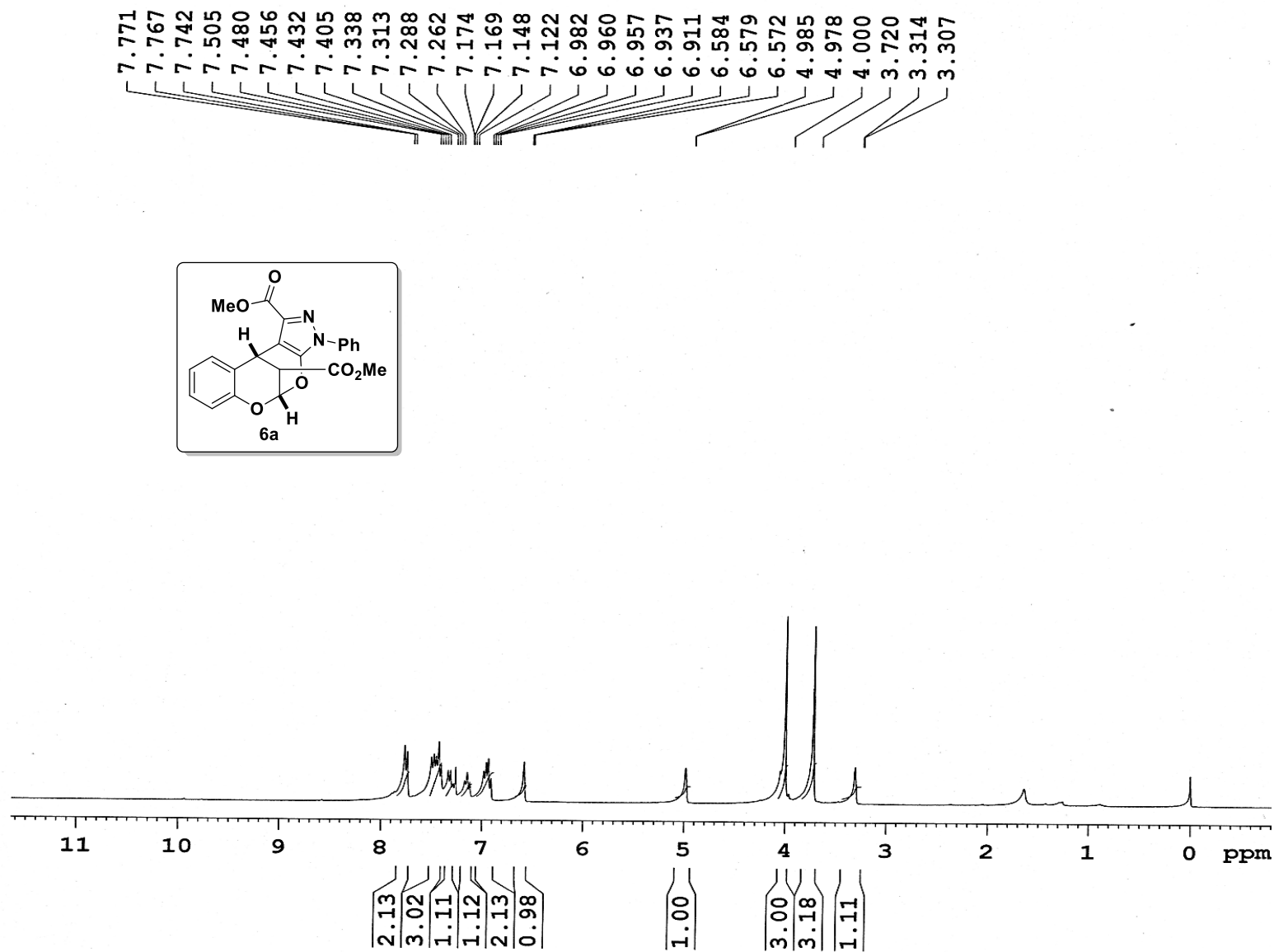
^b*Department of Chemistry, Indian Institute of Technology, Hyderabad, Kandi, Telangana-502285, India.*

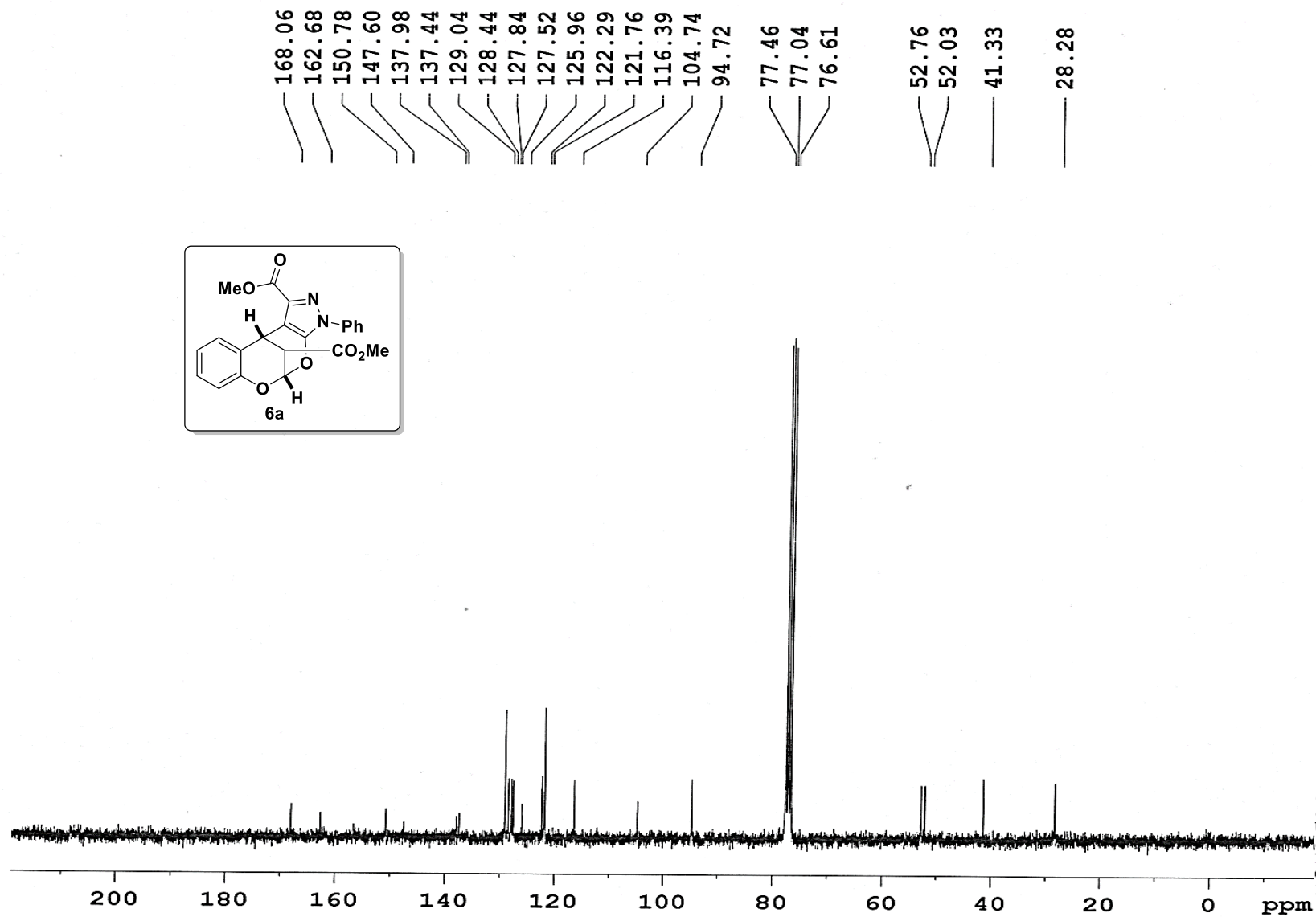
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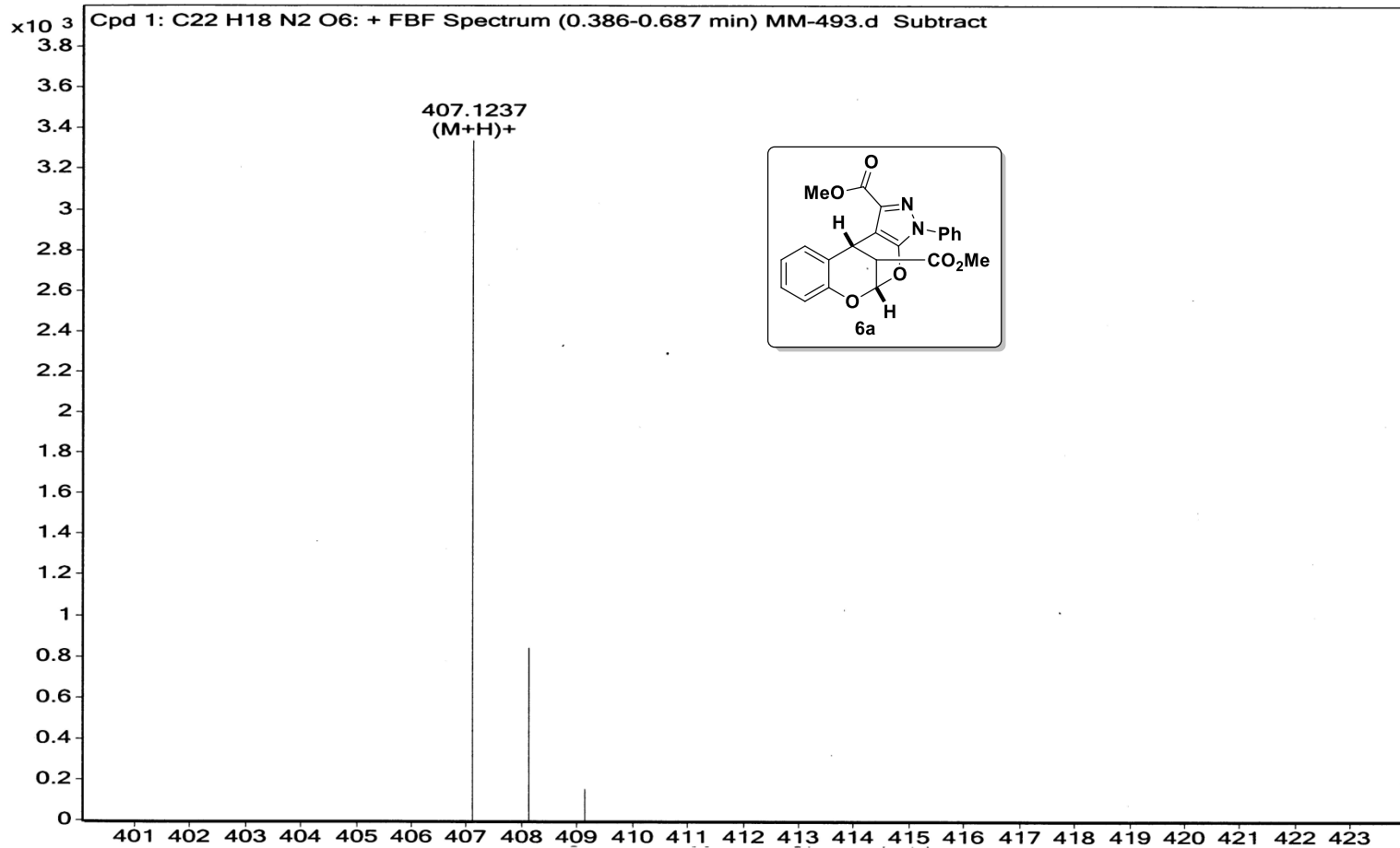
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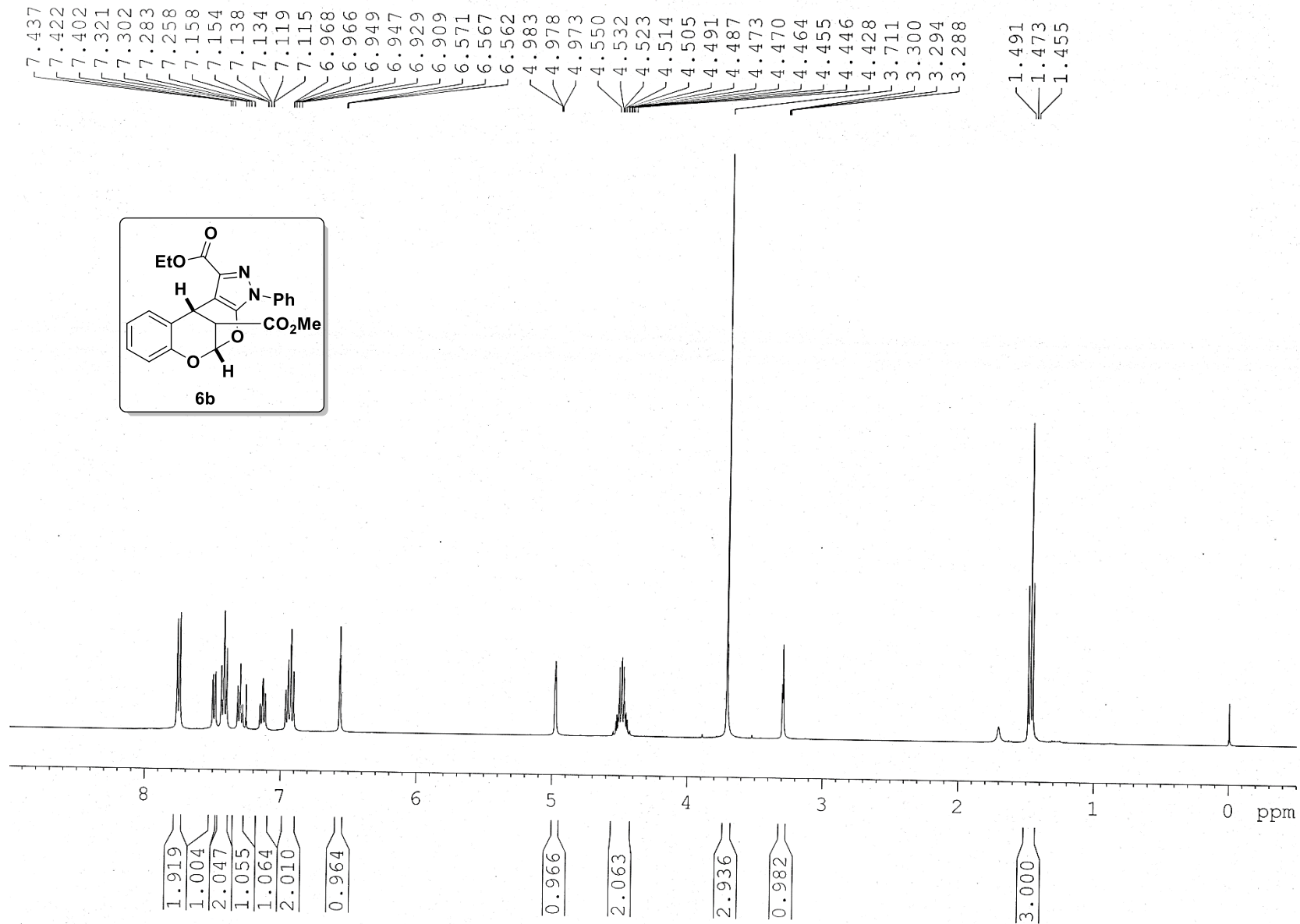
1) ¹ H, ¹³ C NMR and mass spectra for compounds 6a-x , 8a-f and 9a-e	S2-S106
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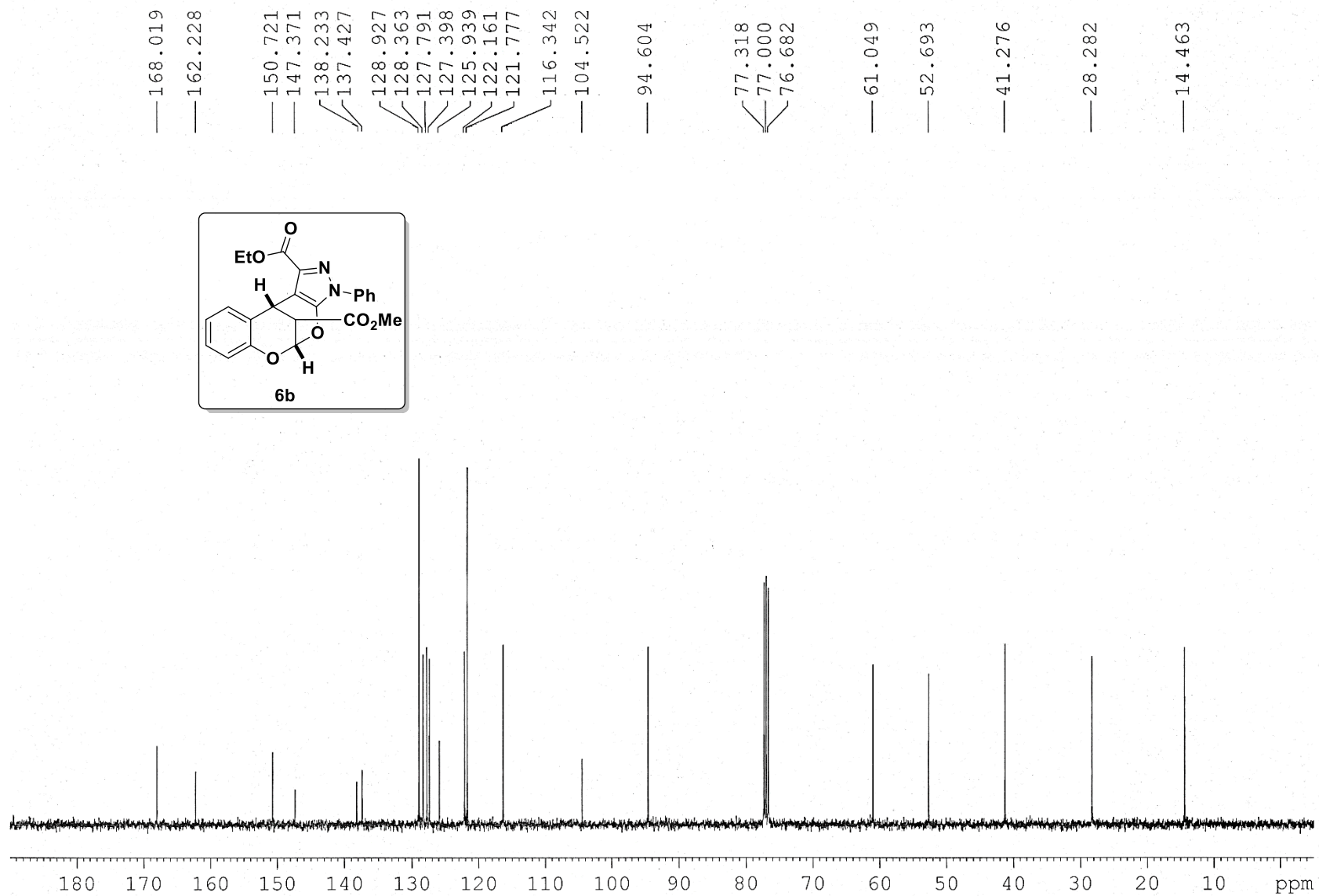




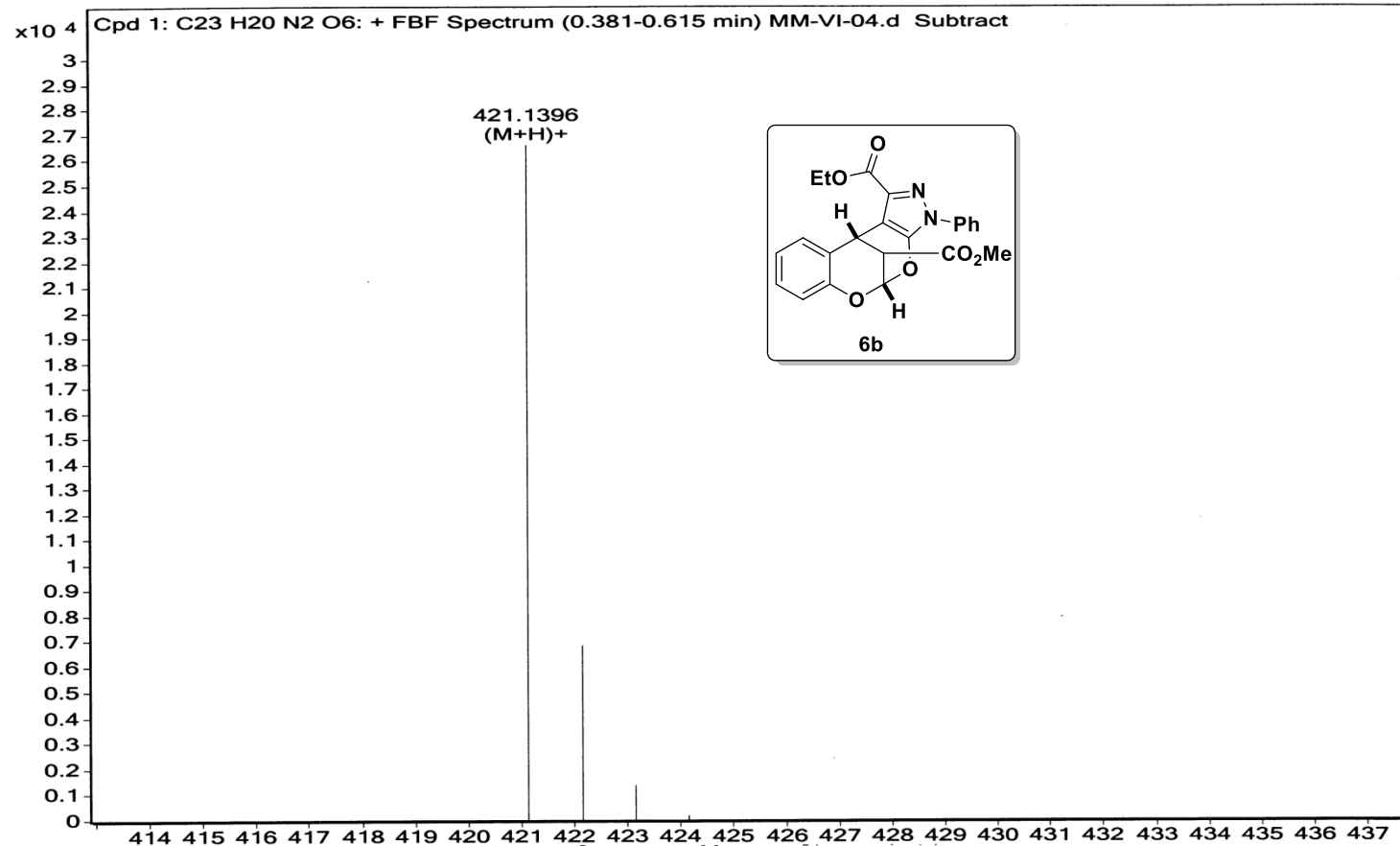
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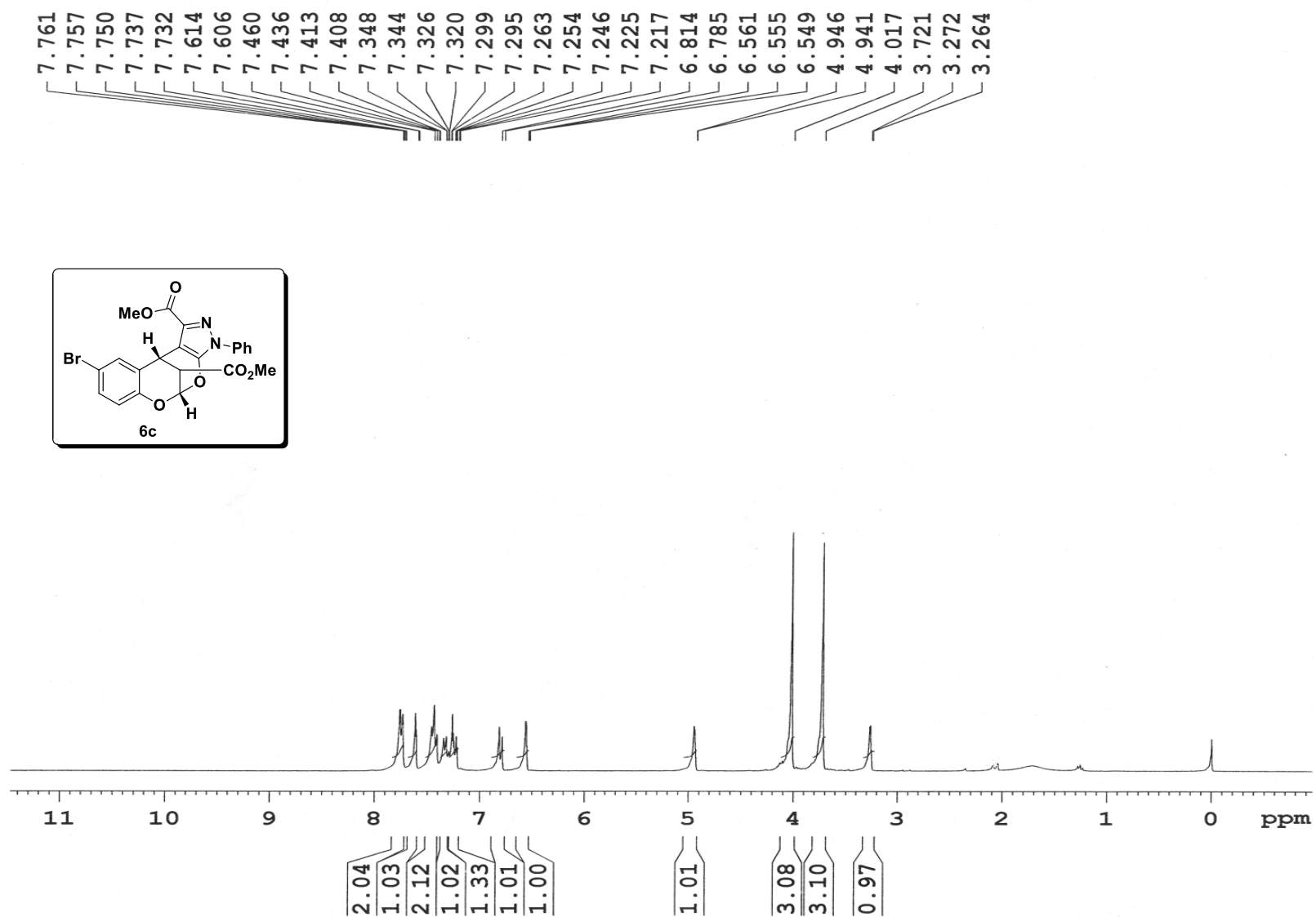


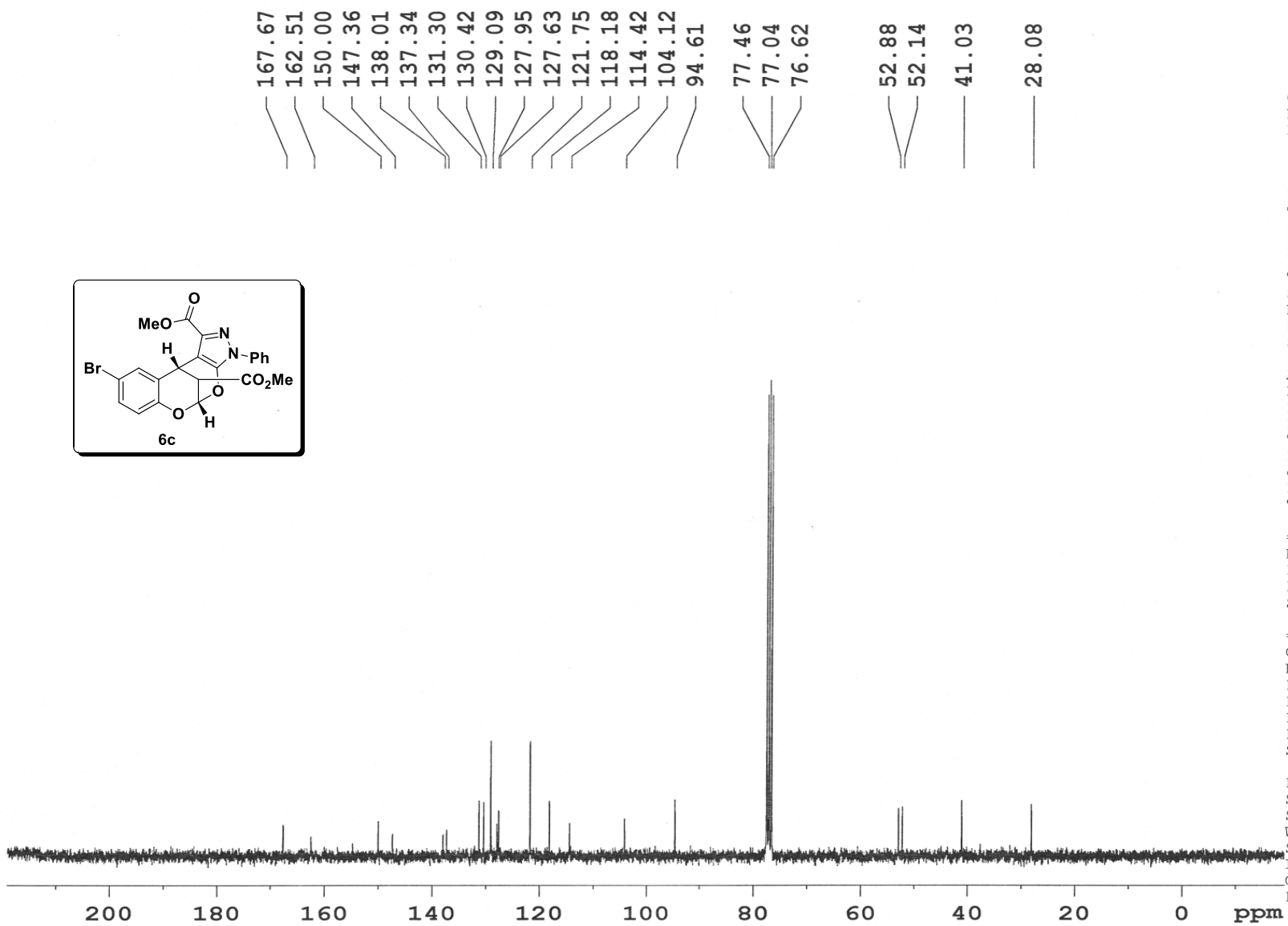




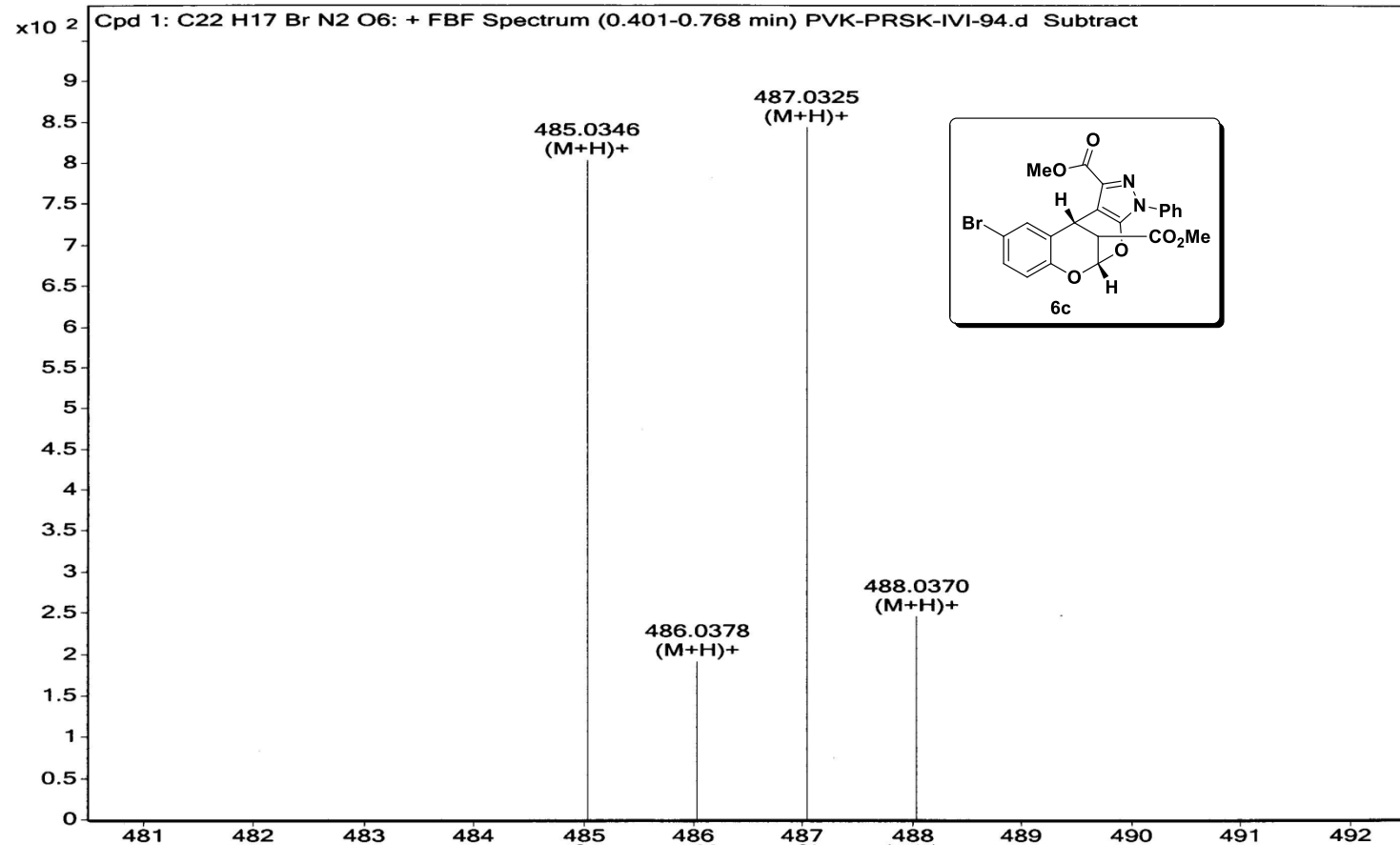
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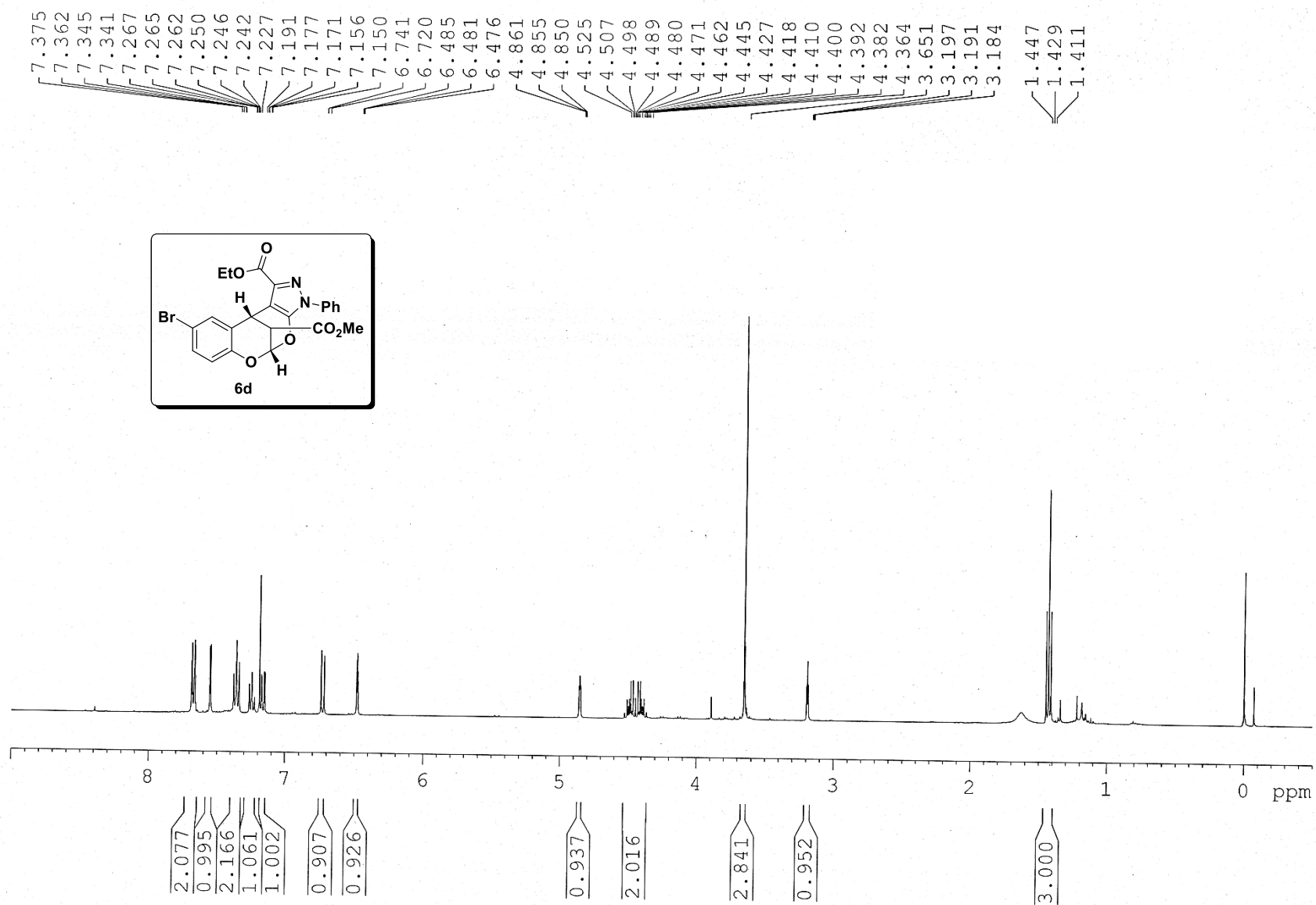


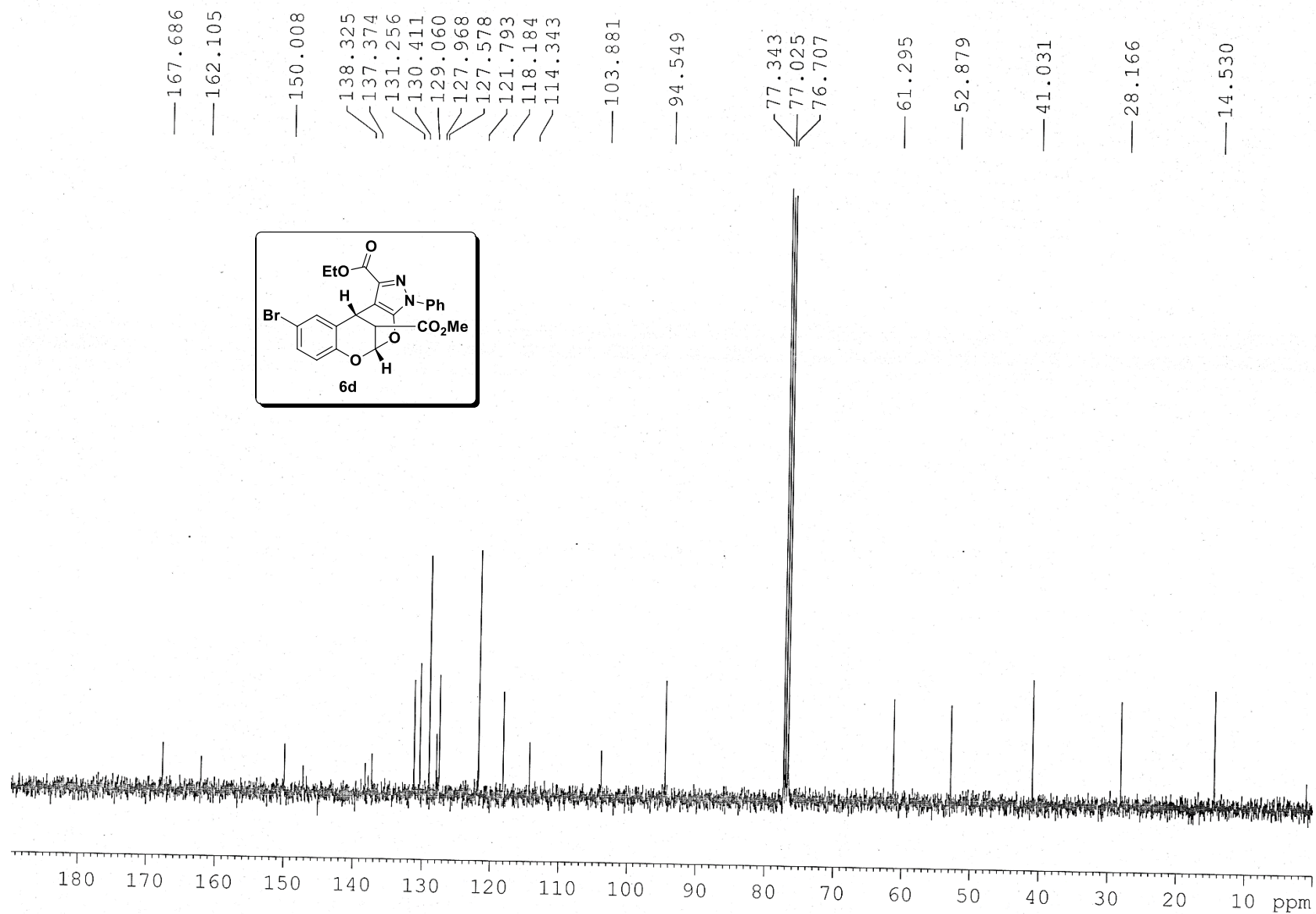




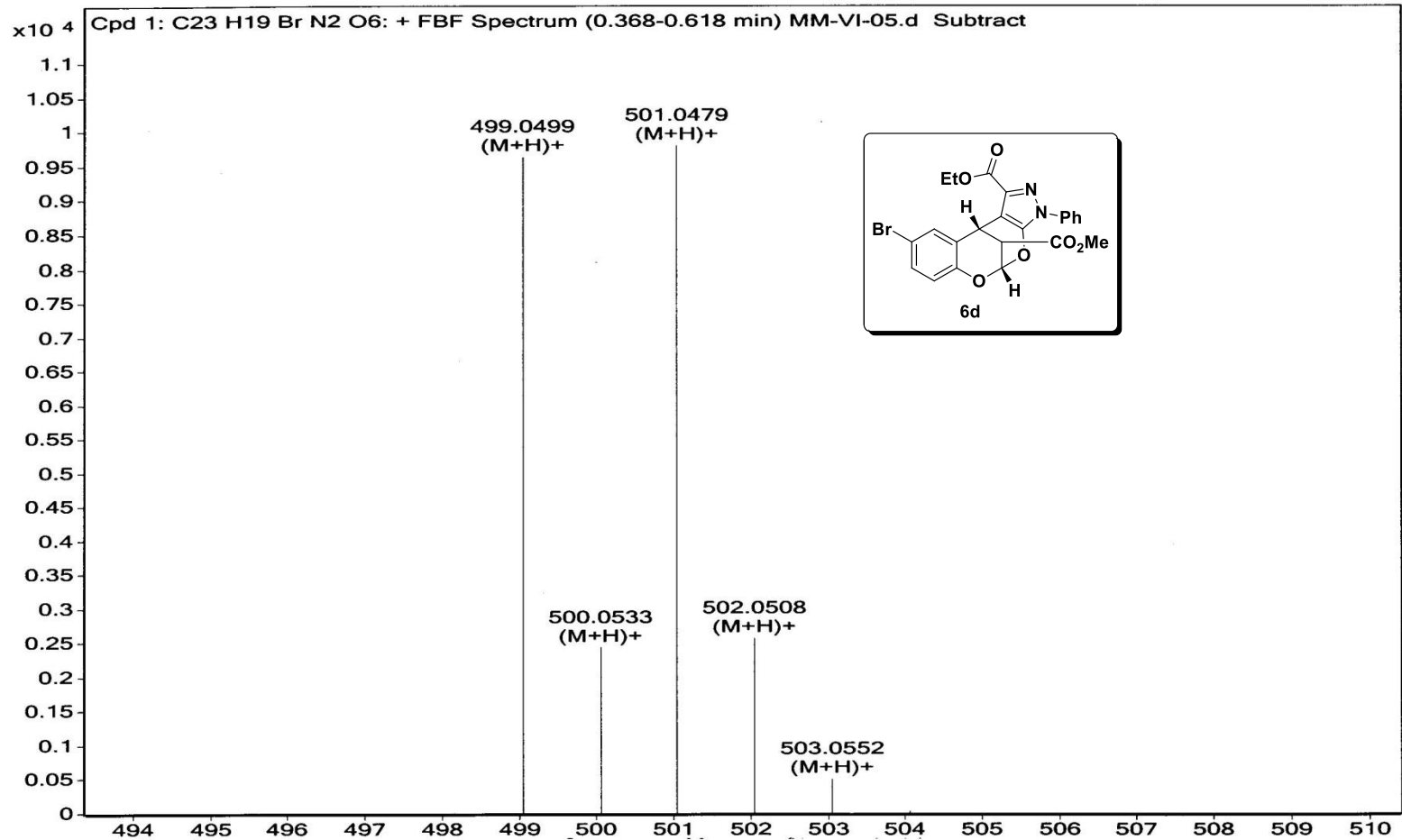
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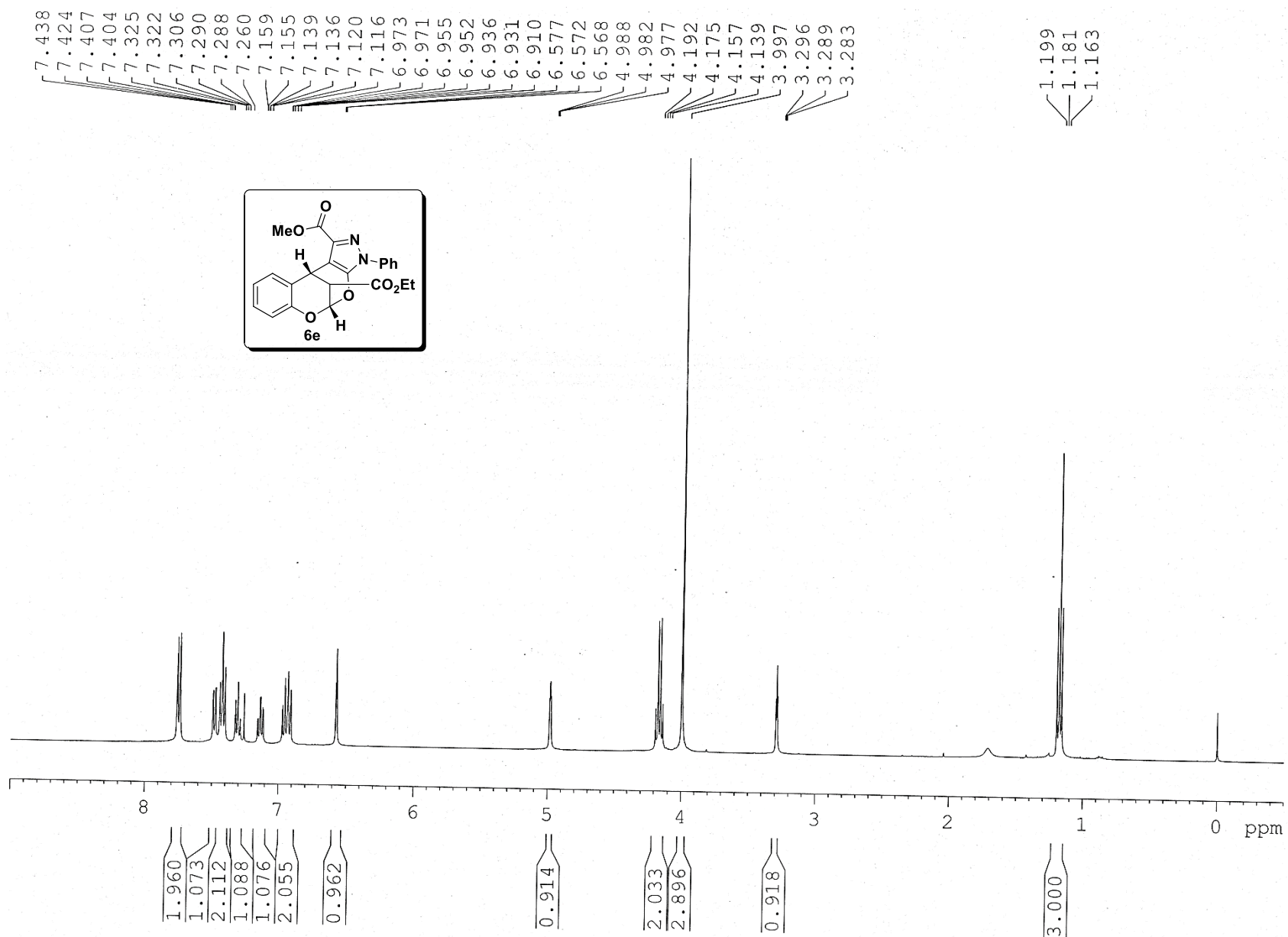


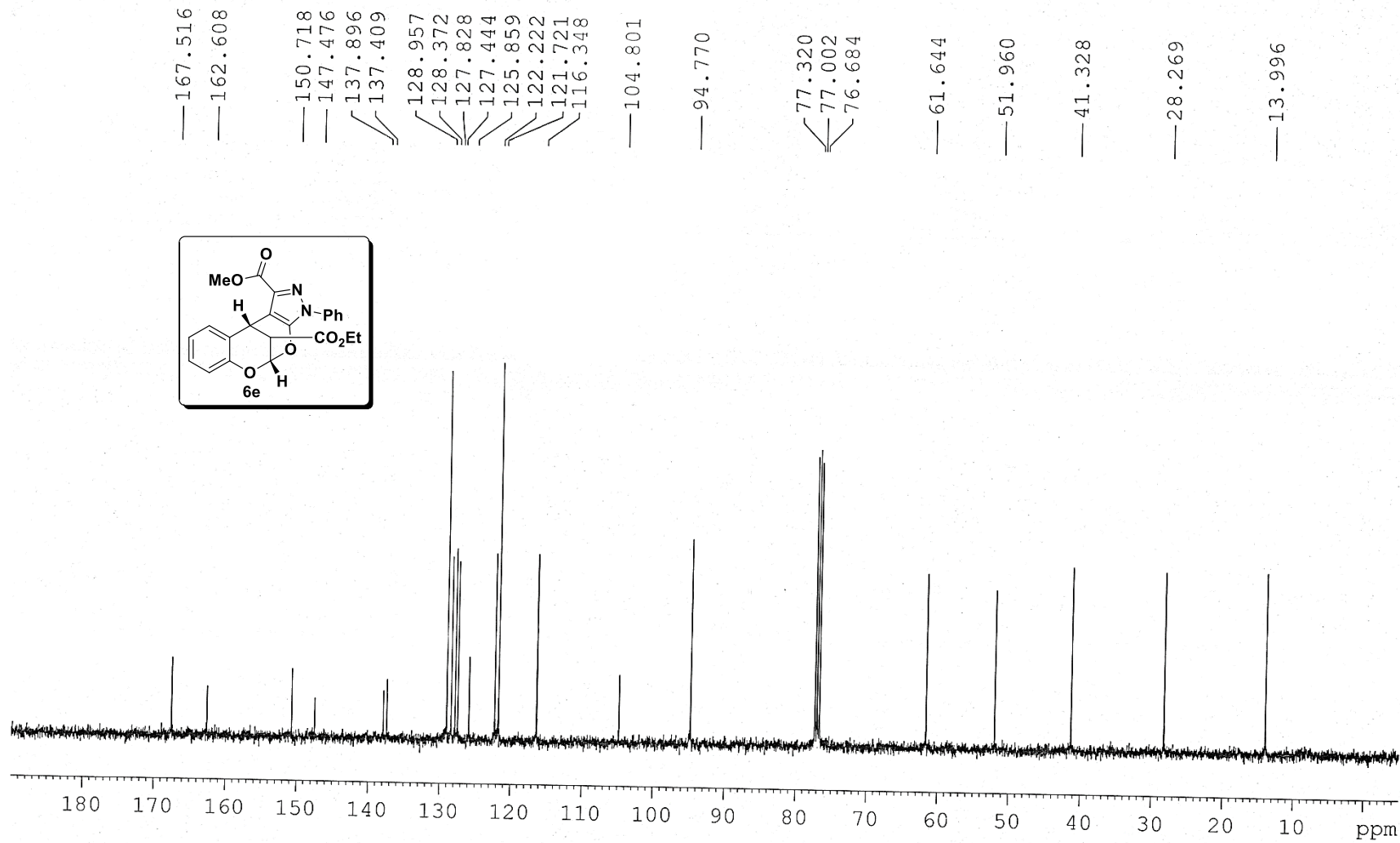




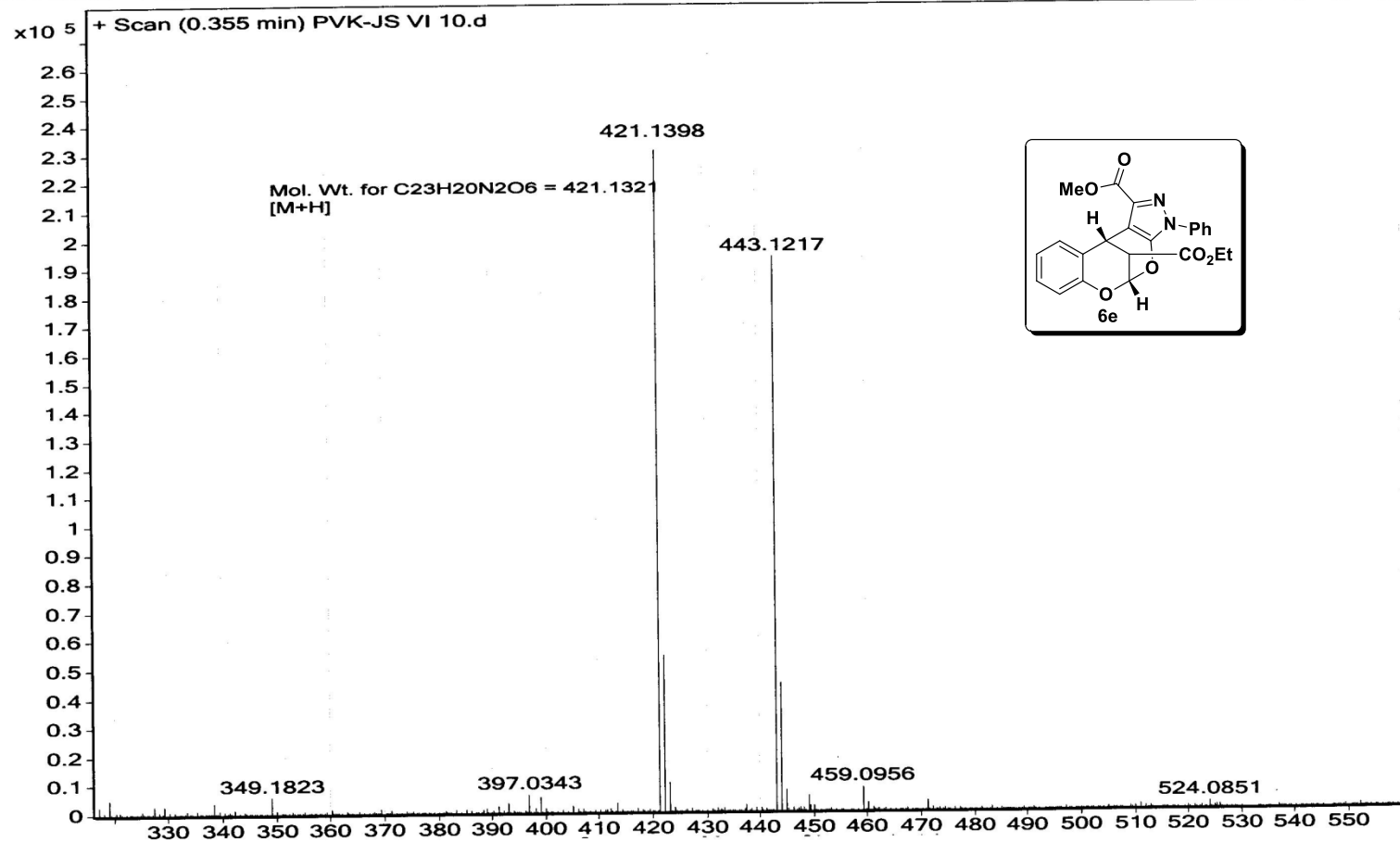
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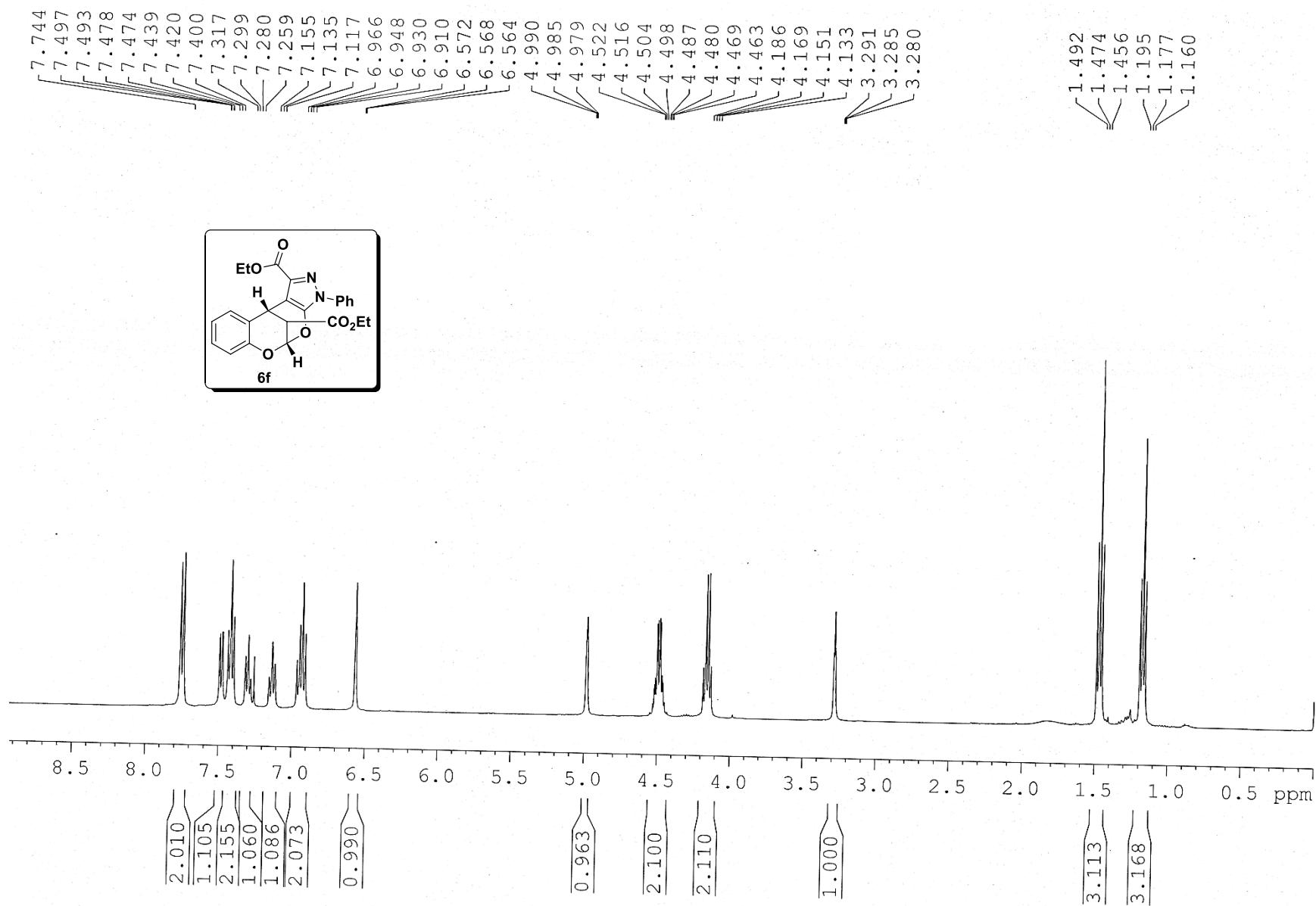


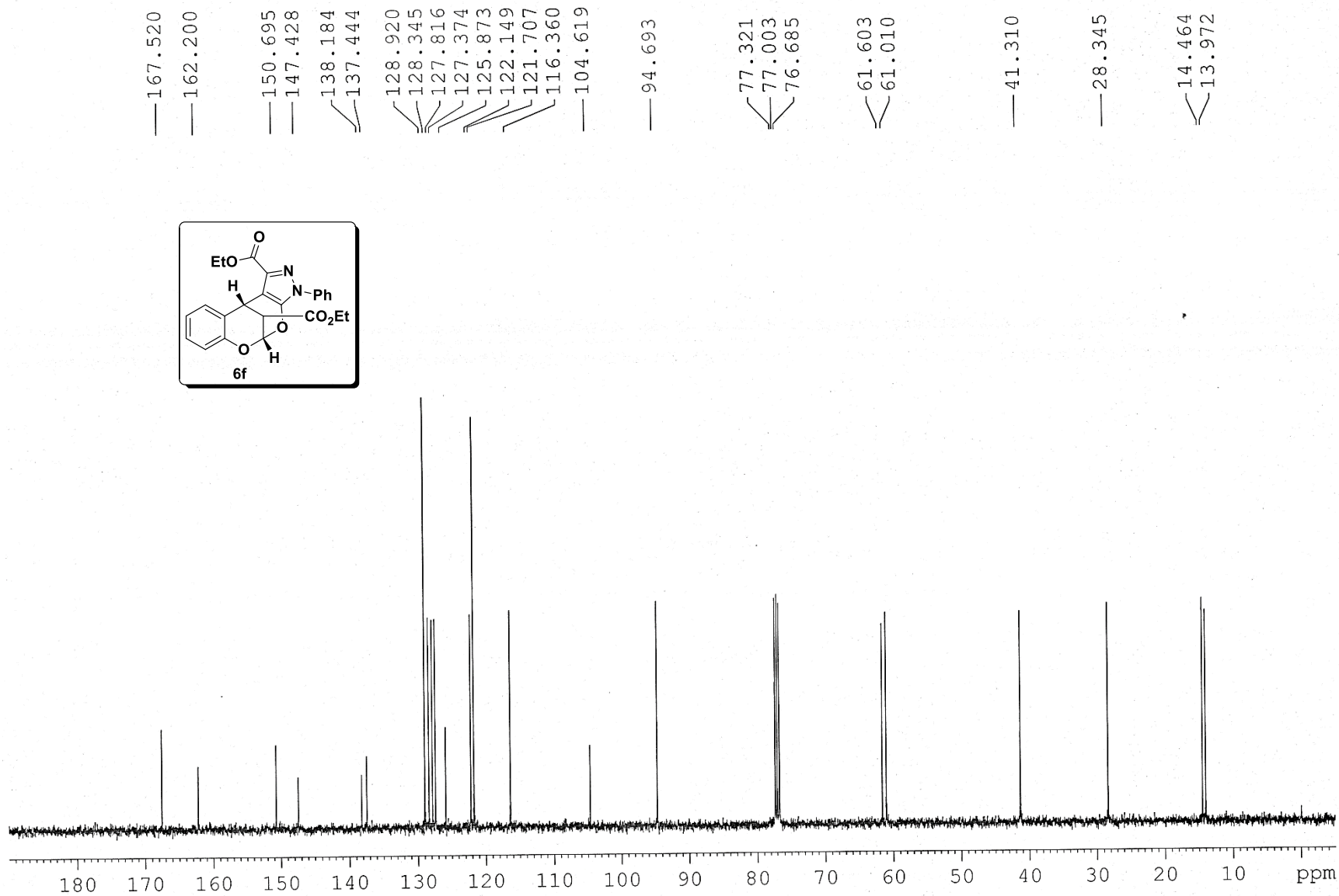




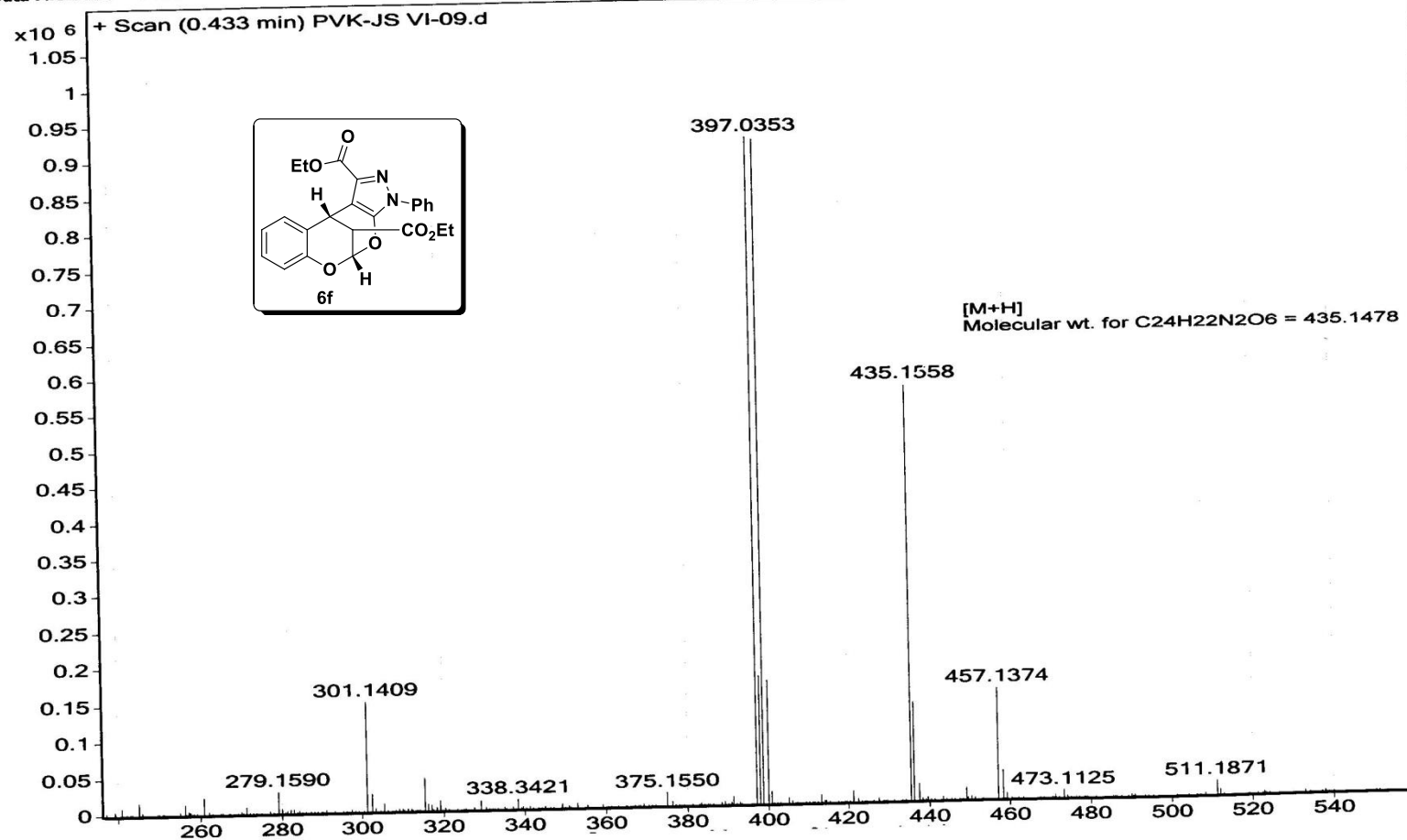
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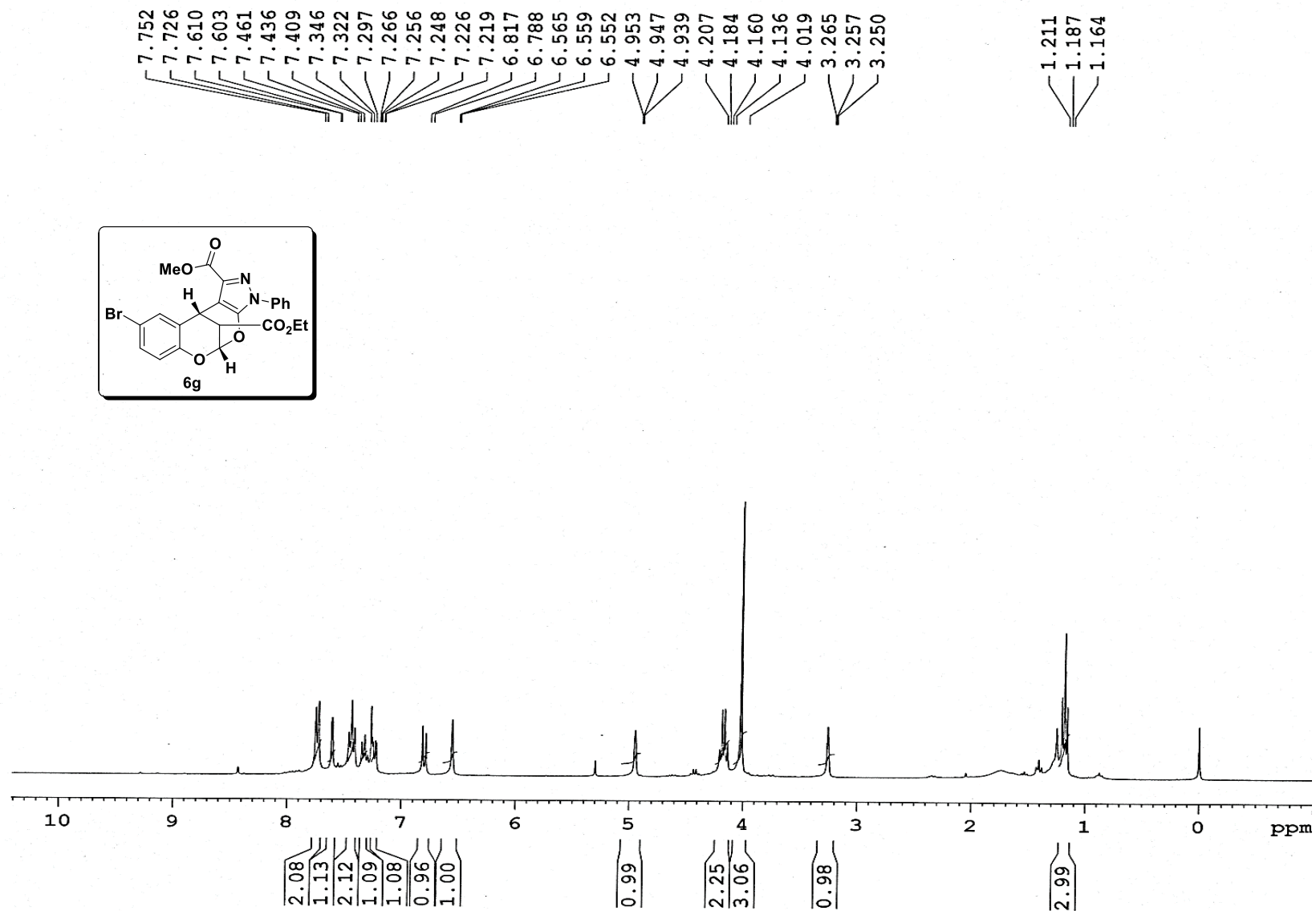


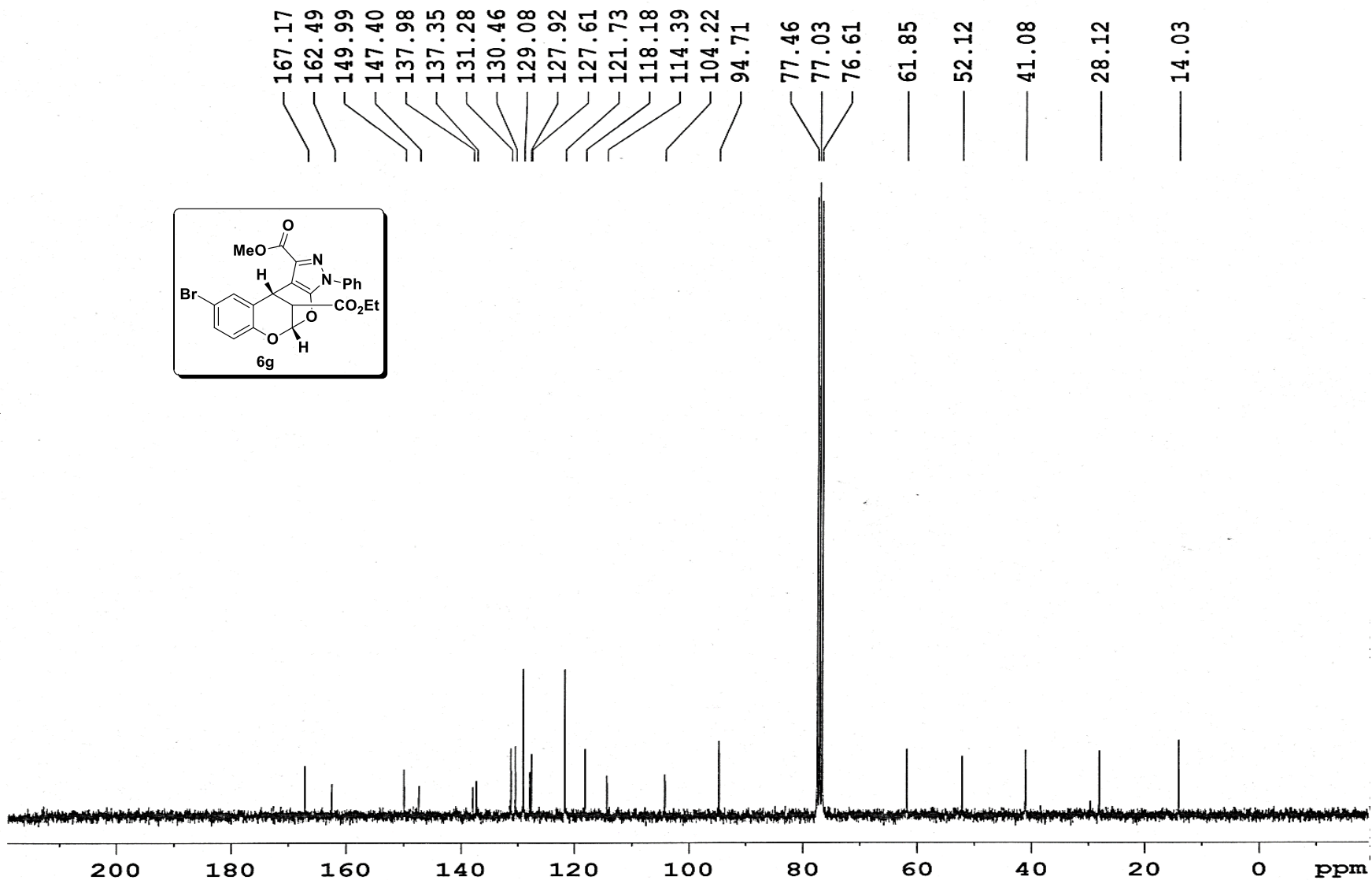




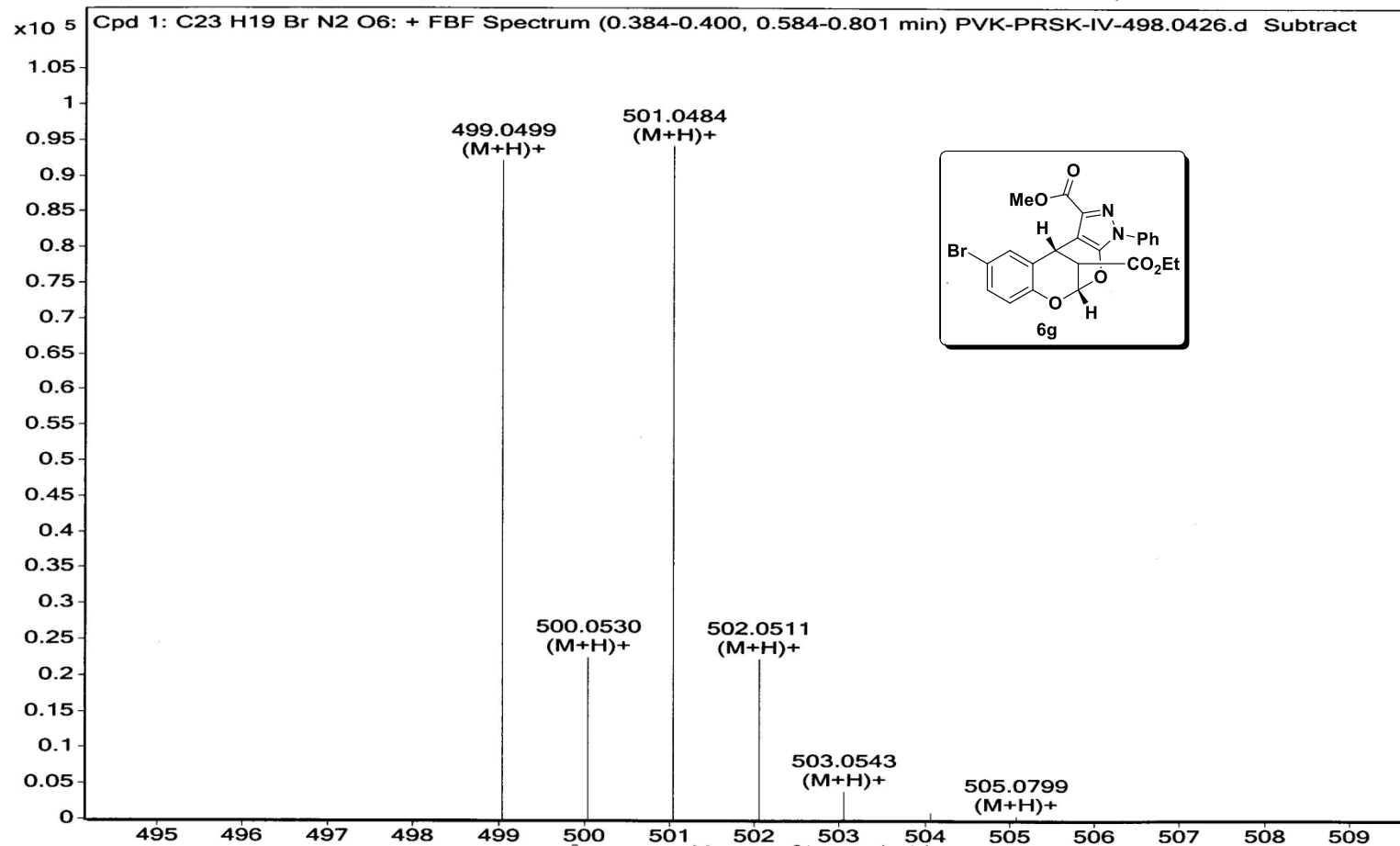
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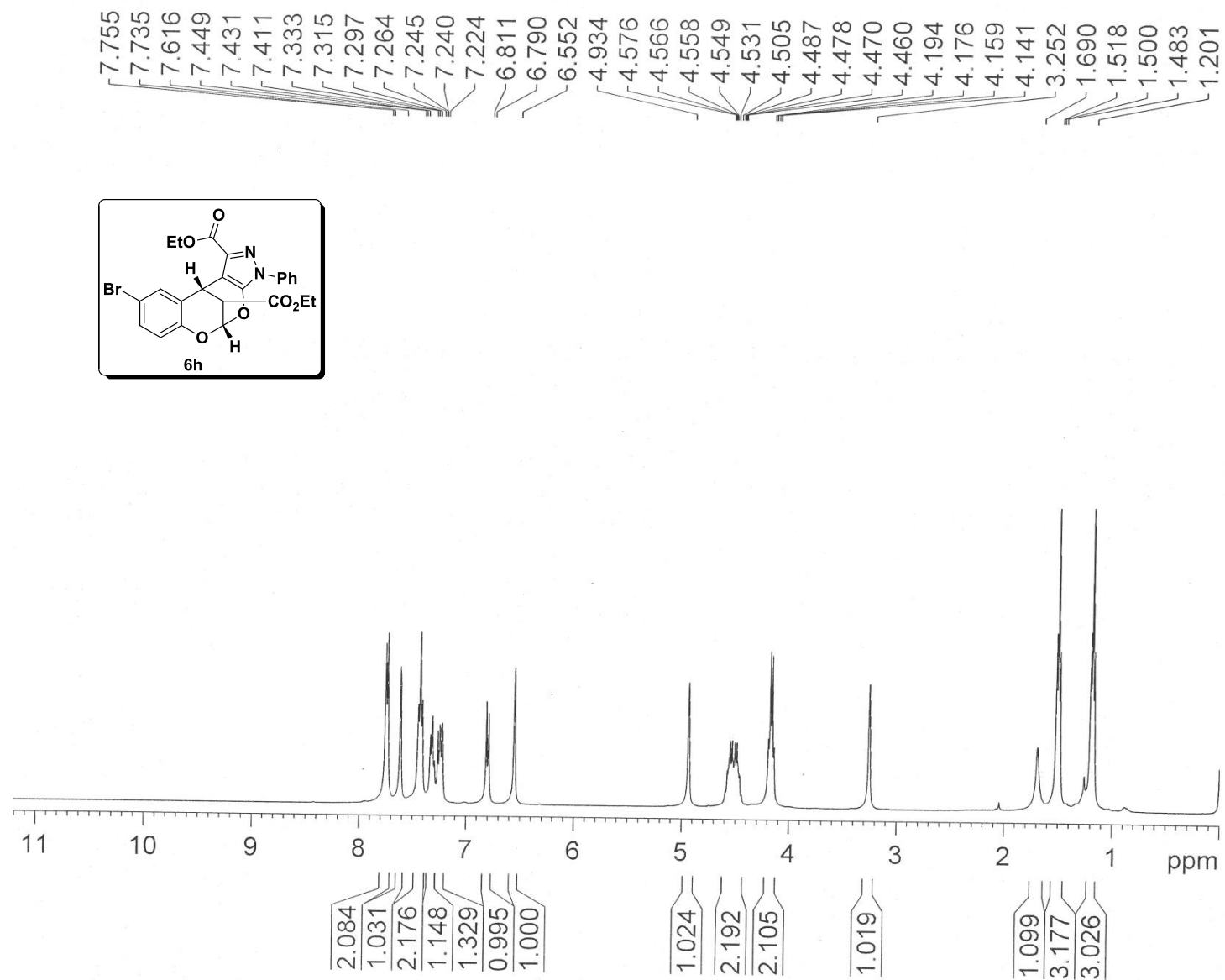


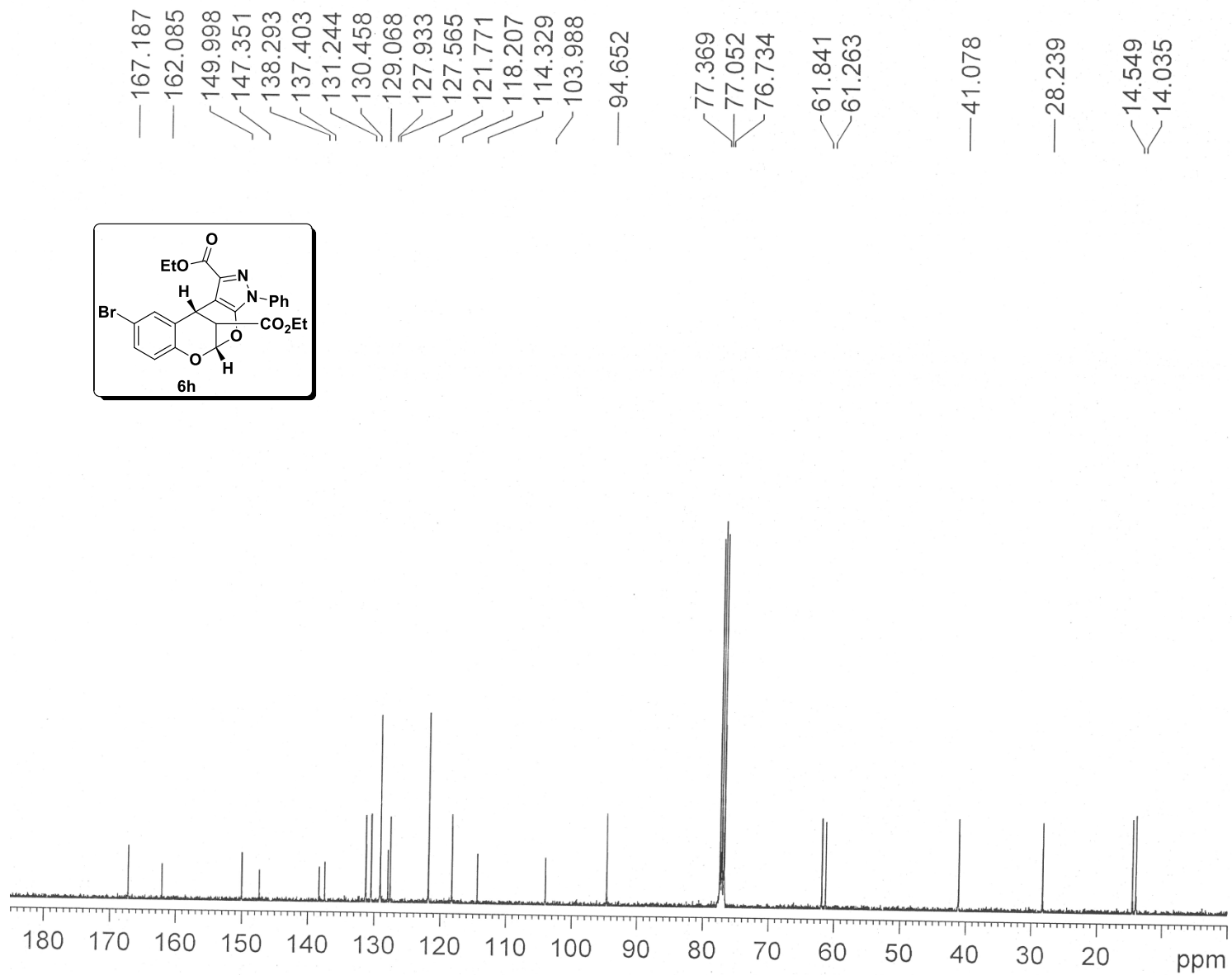
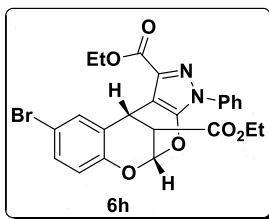




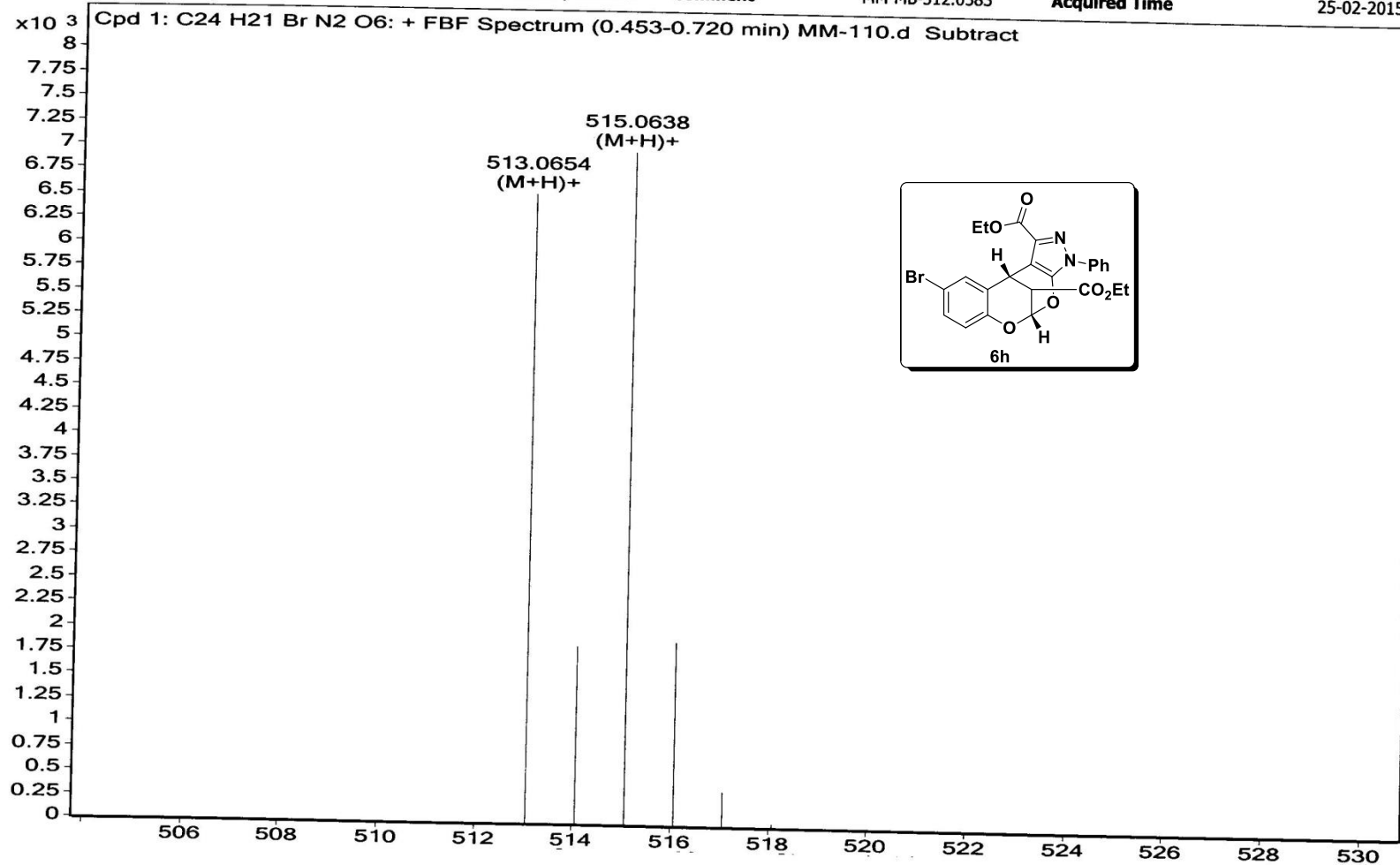
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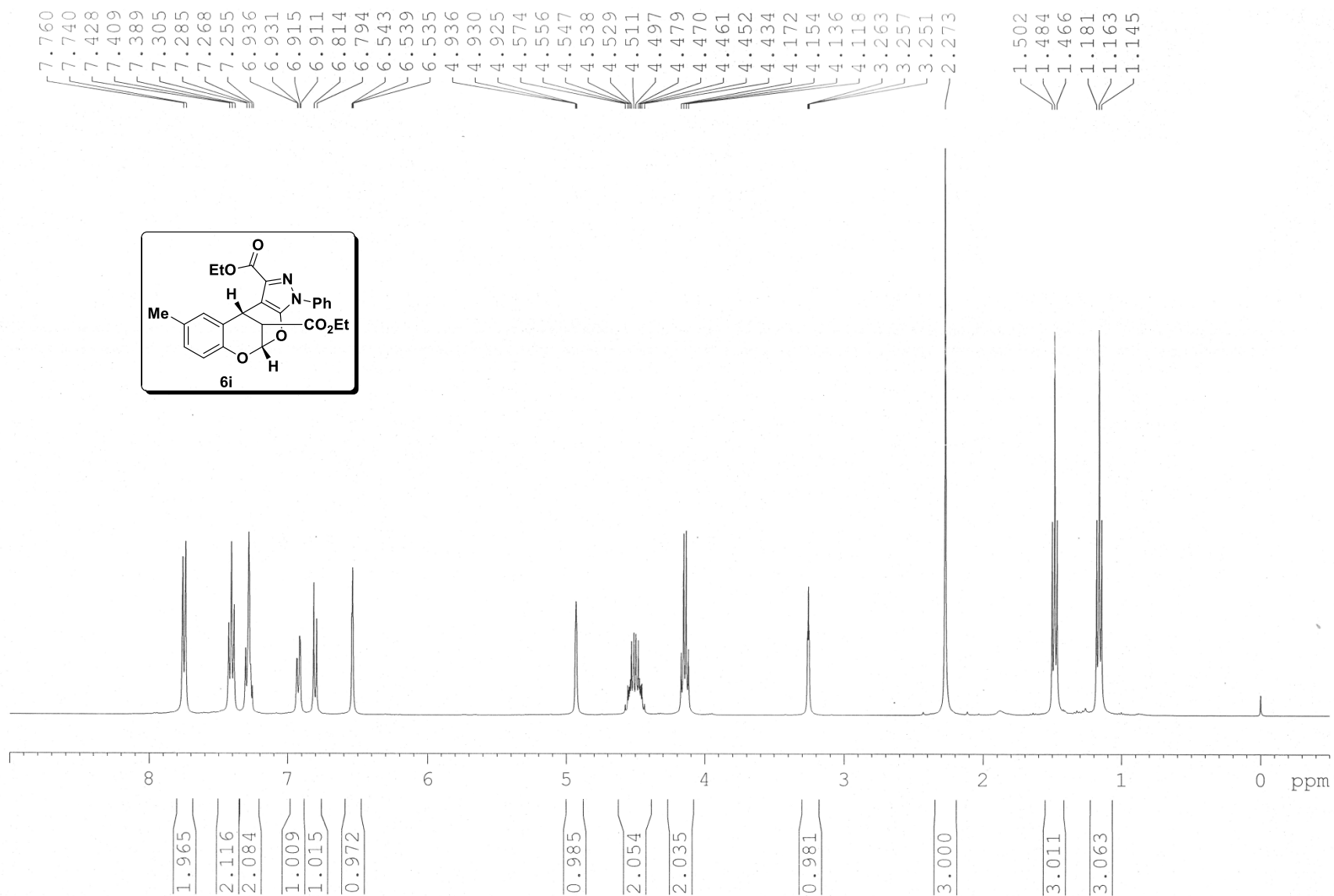


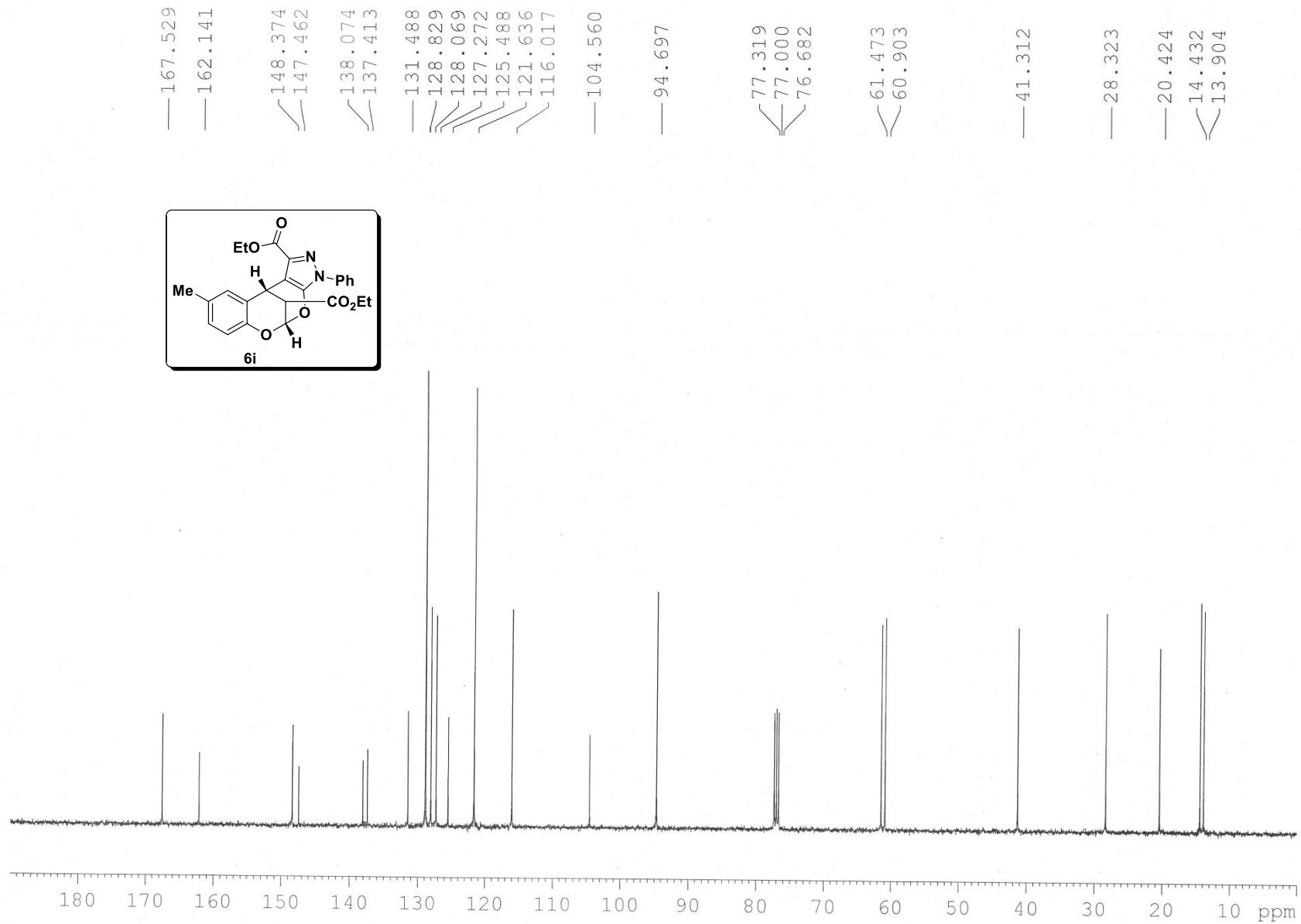




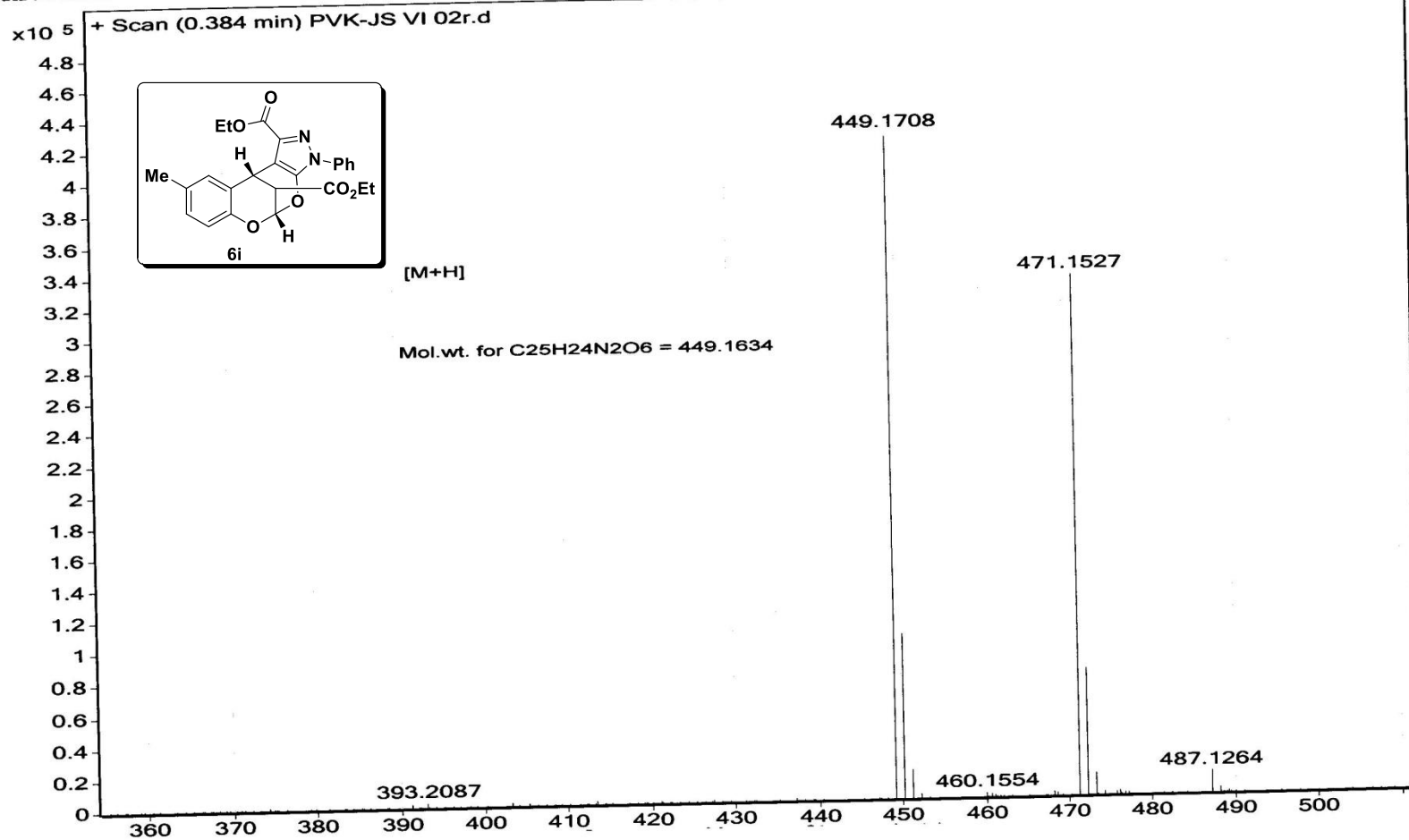
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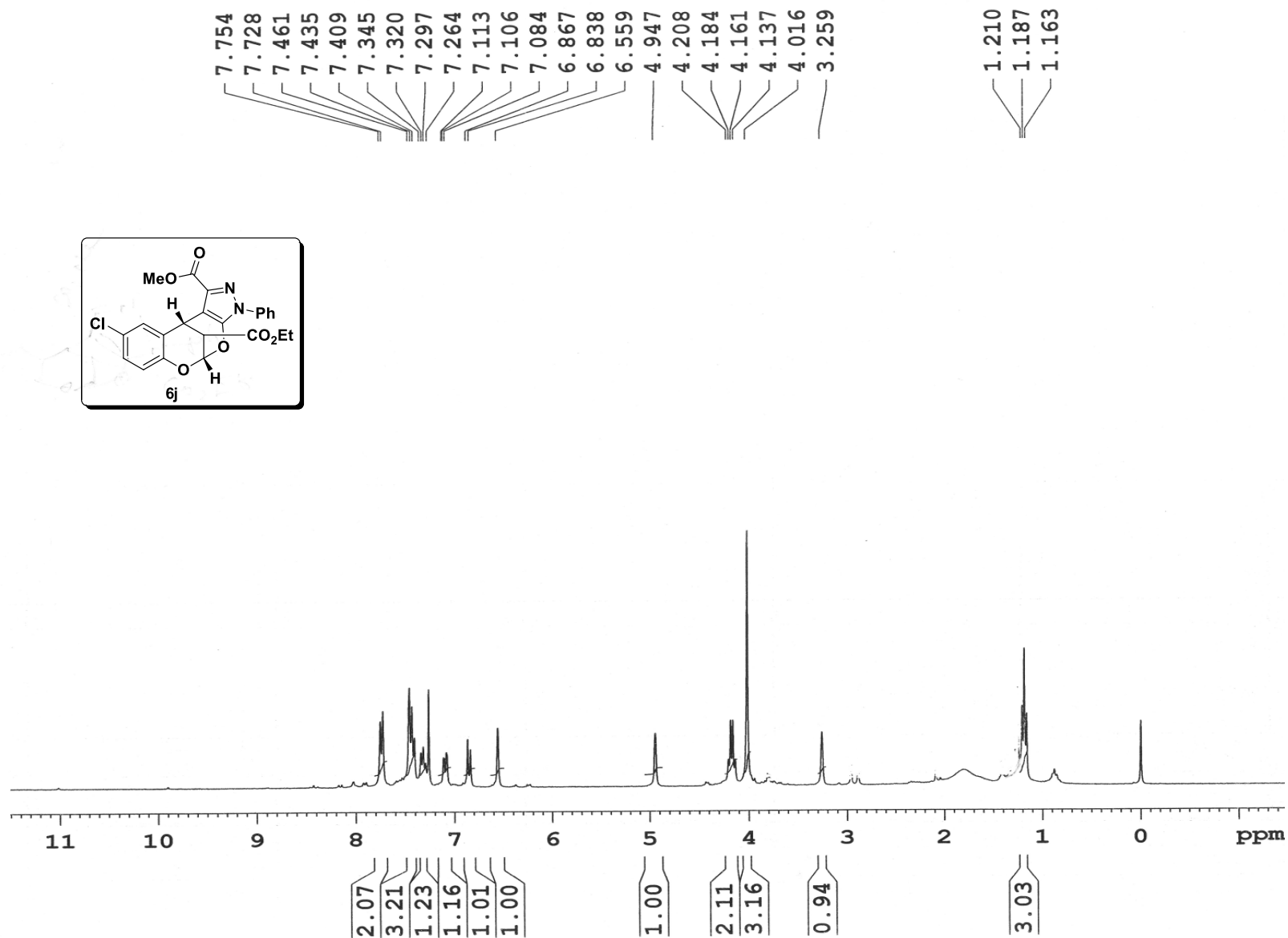


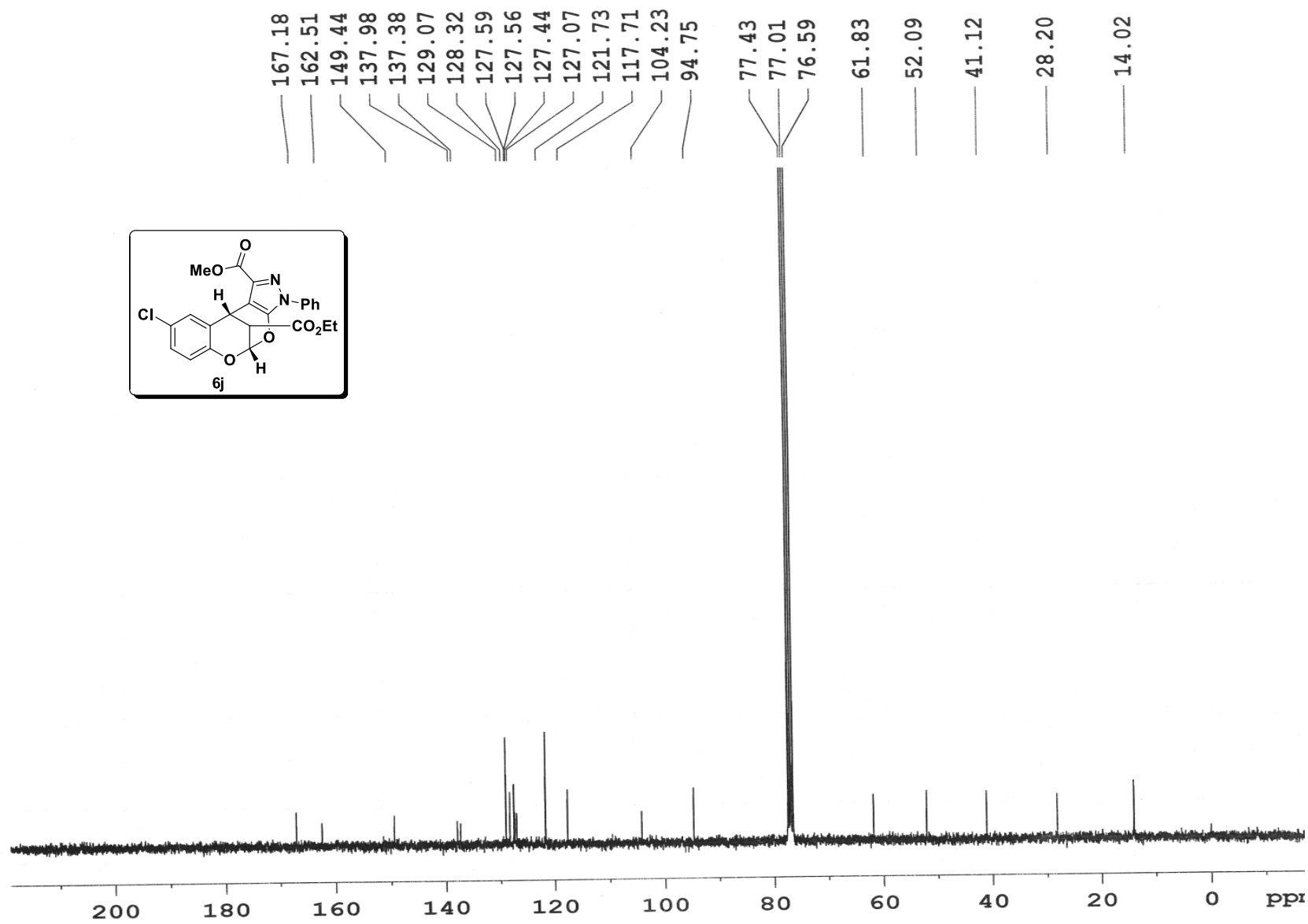




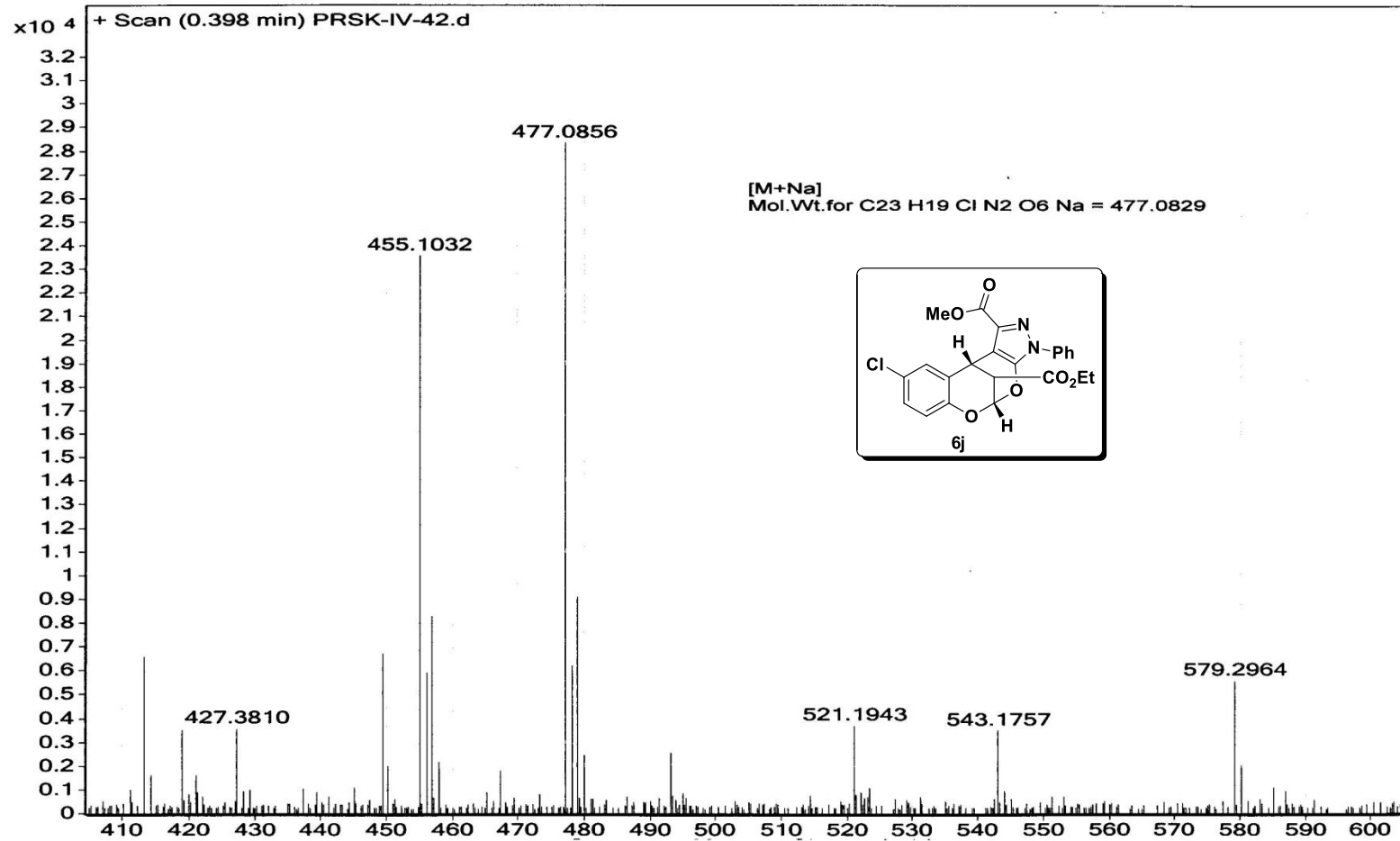
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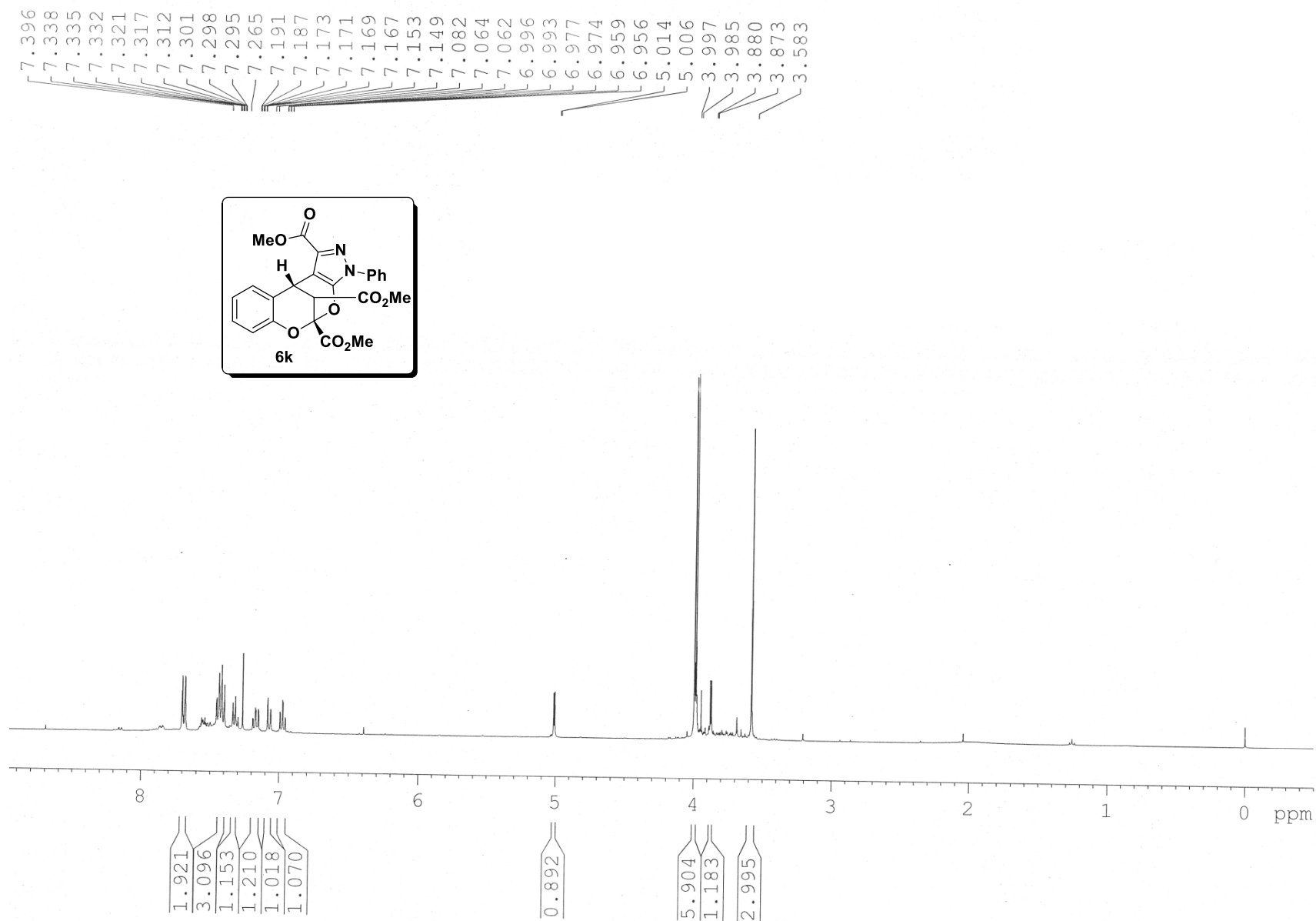


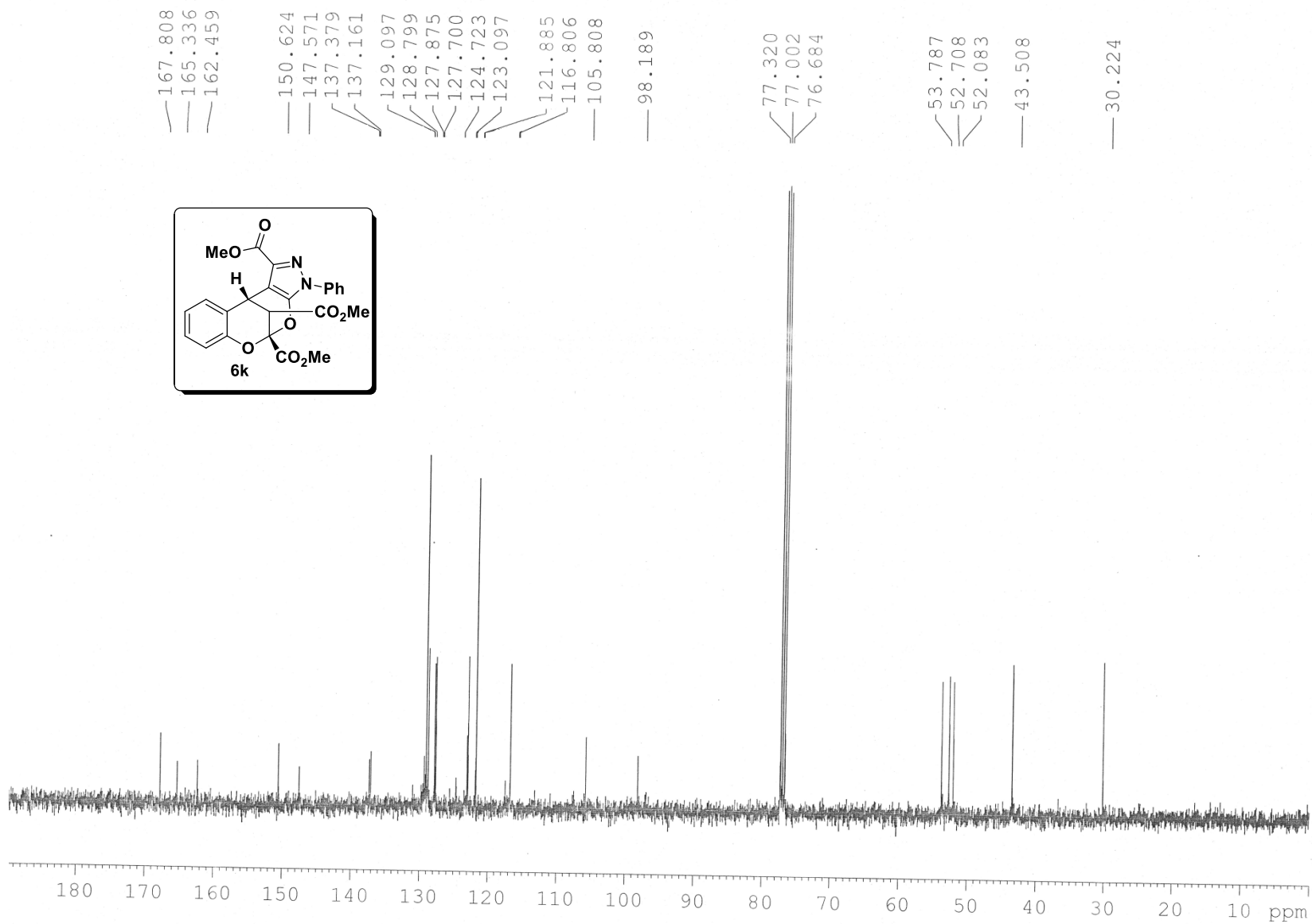


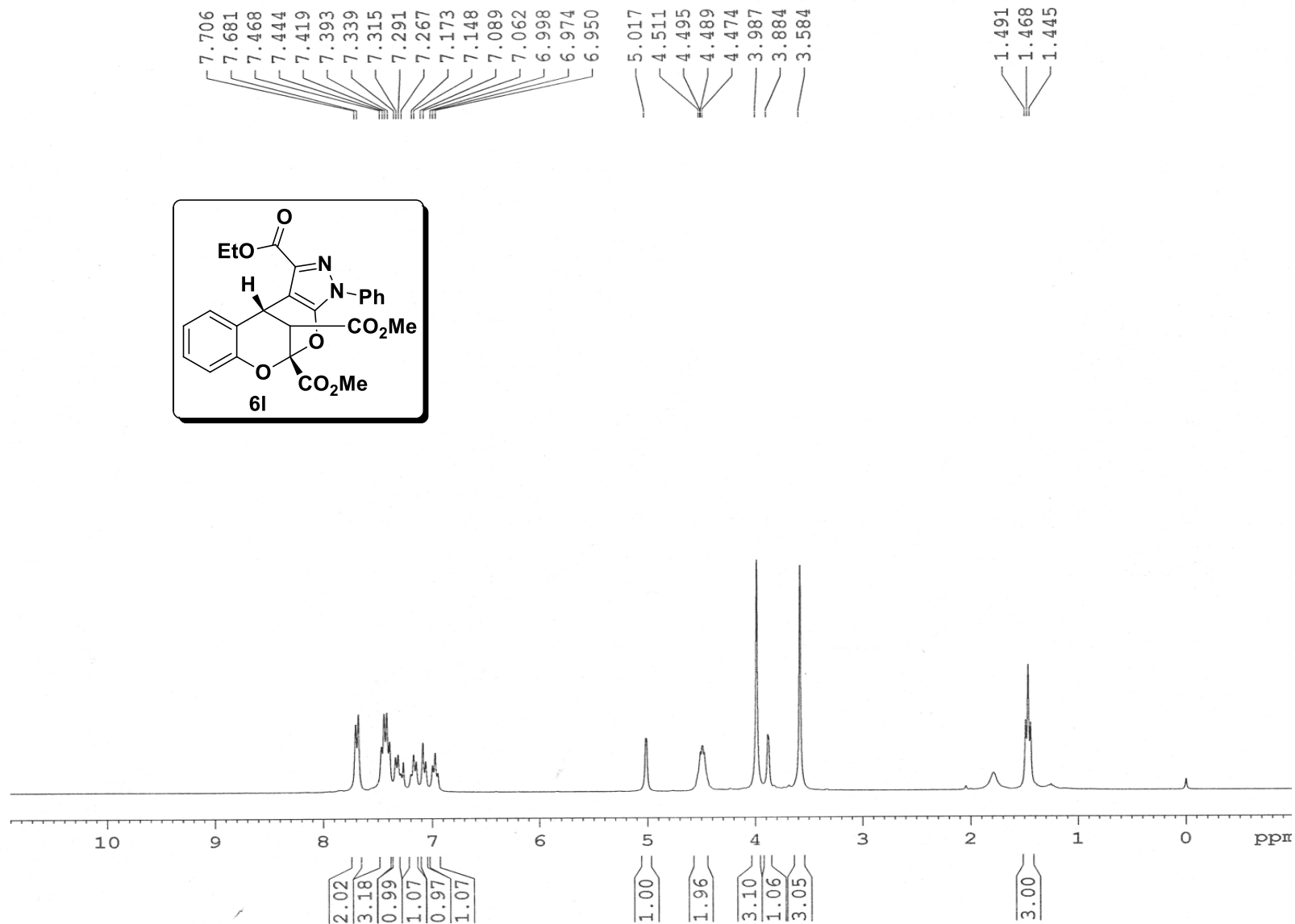


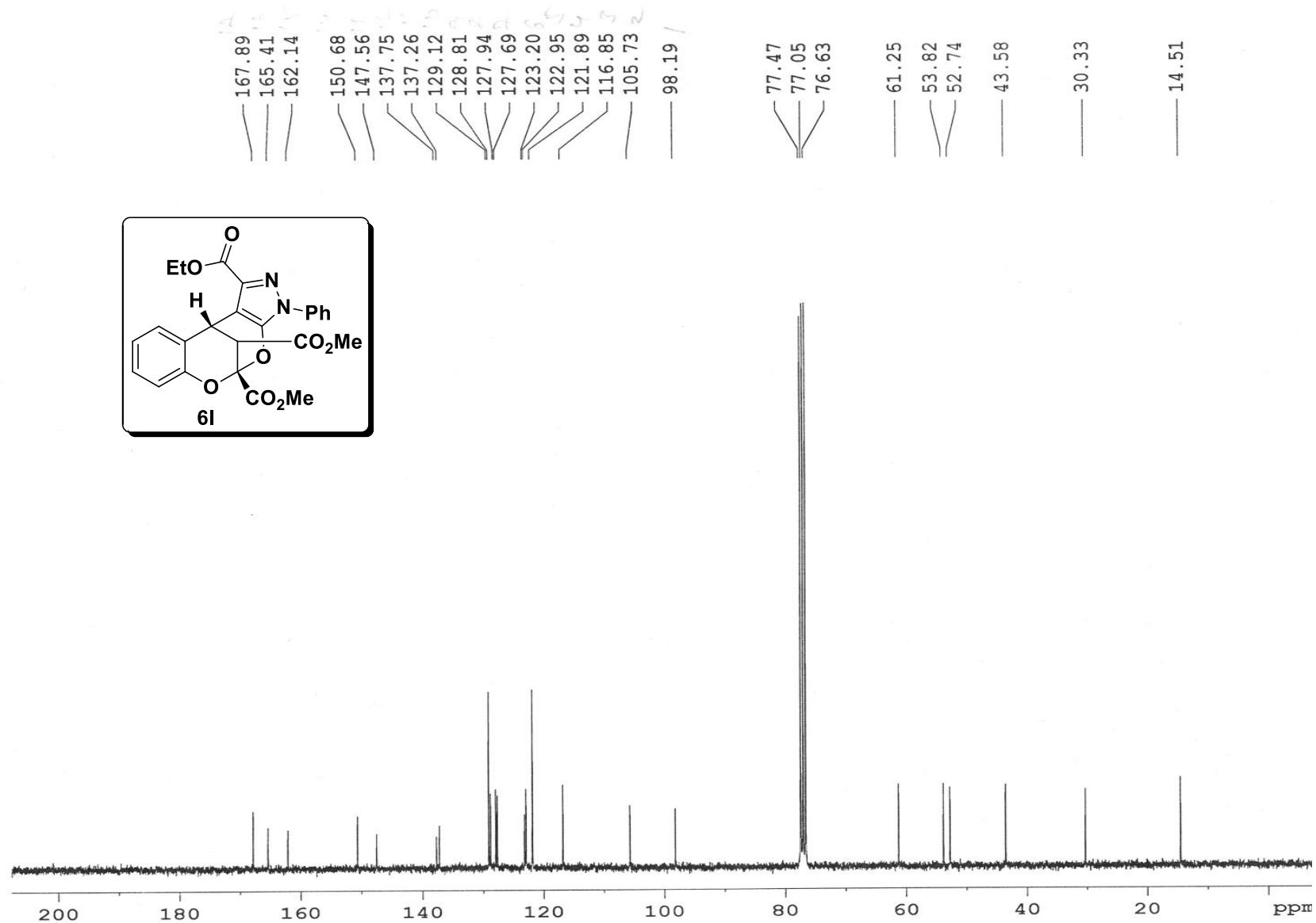
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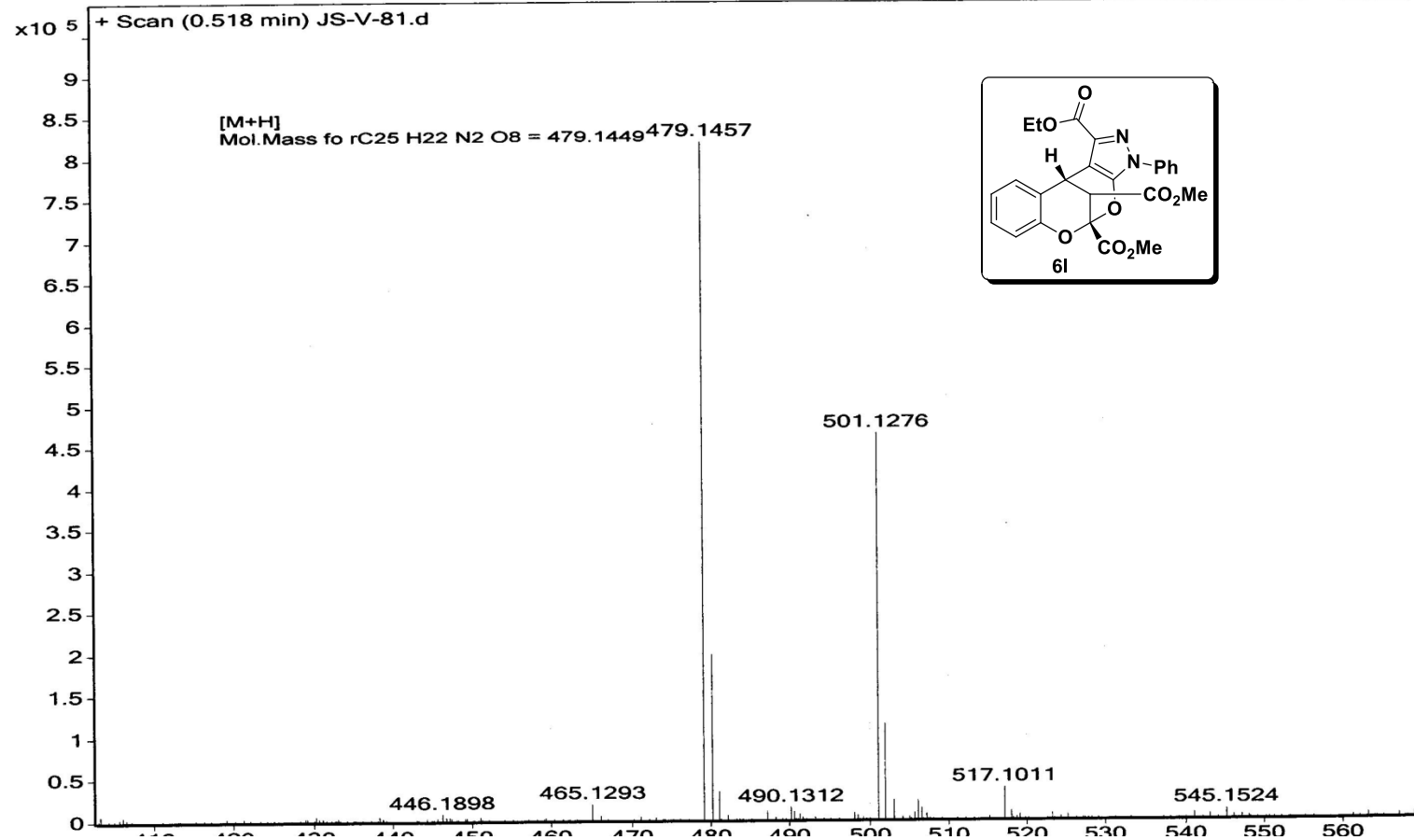


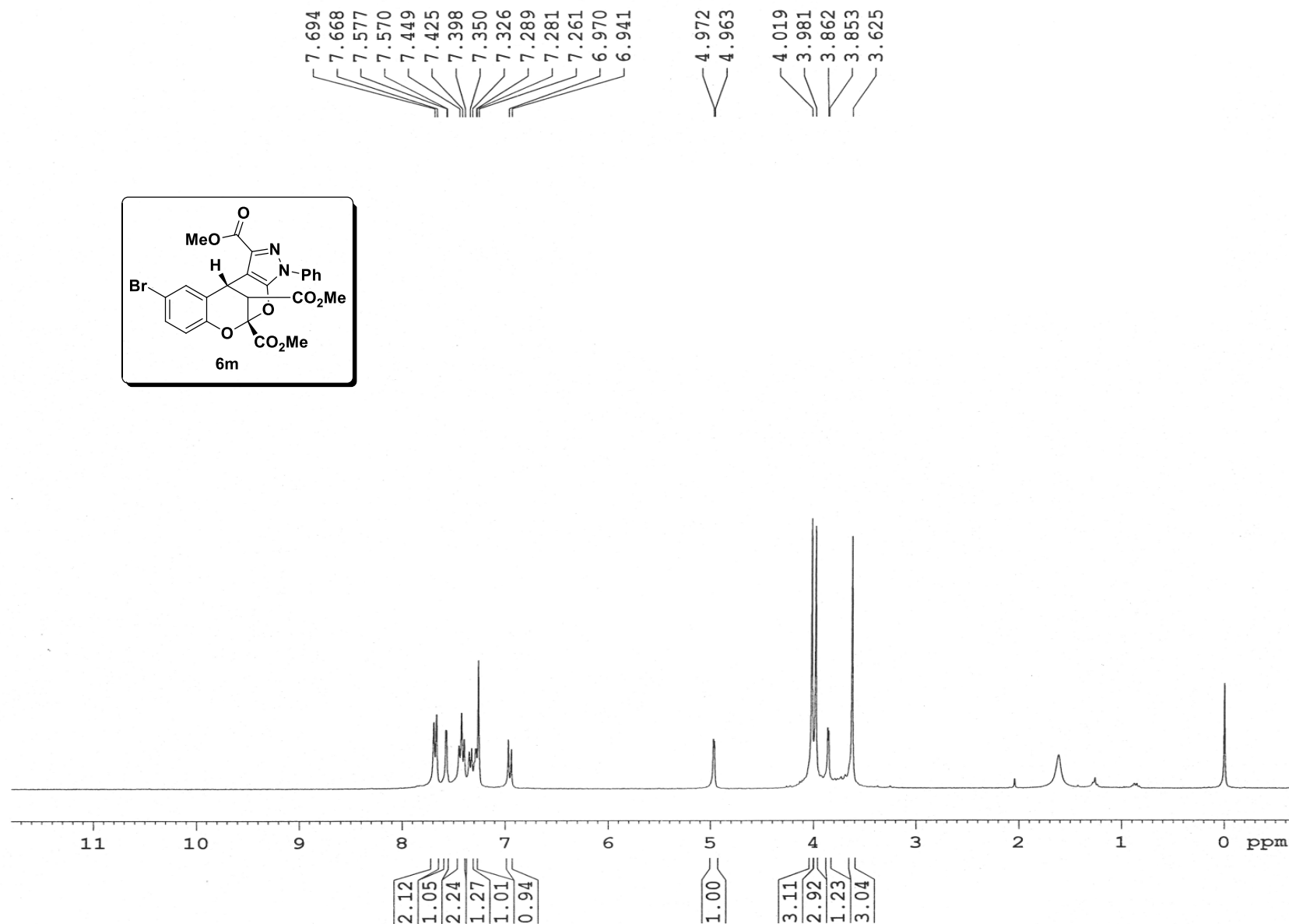


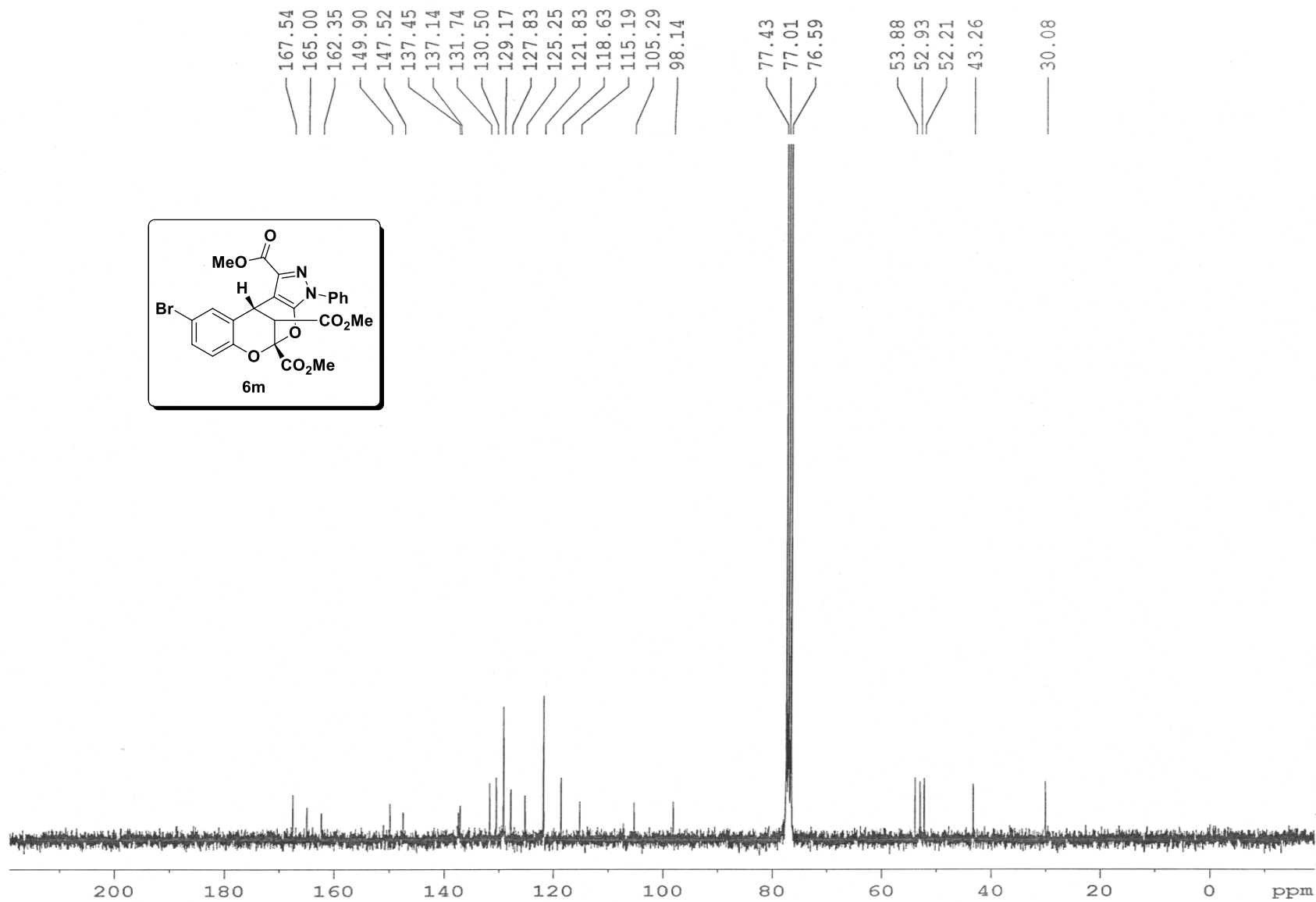




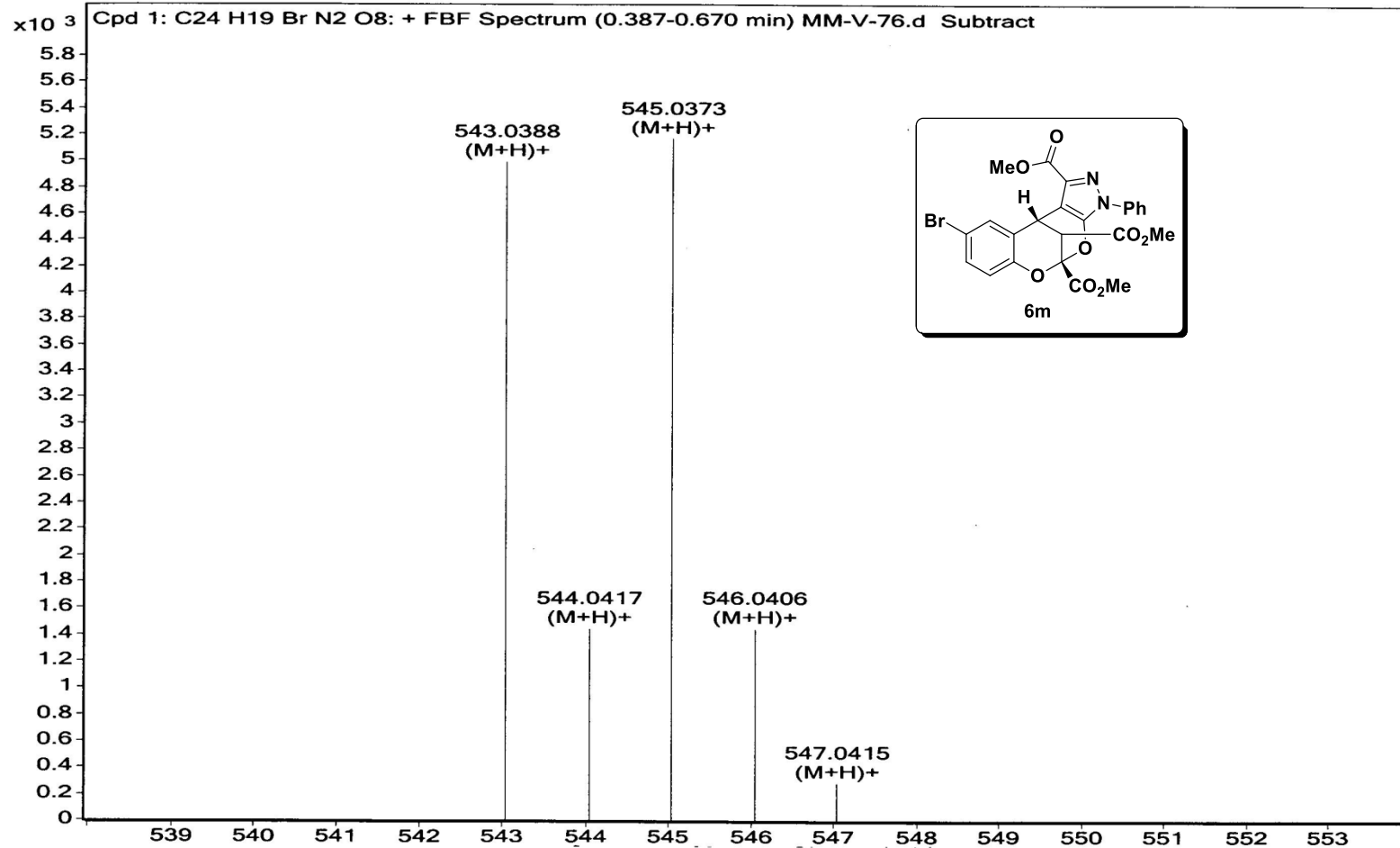
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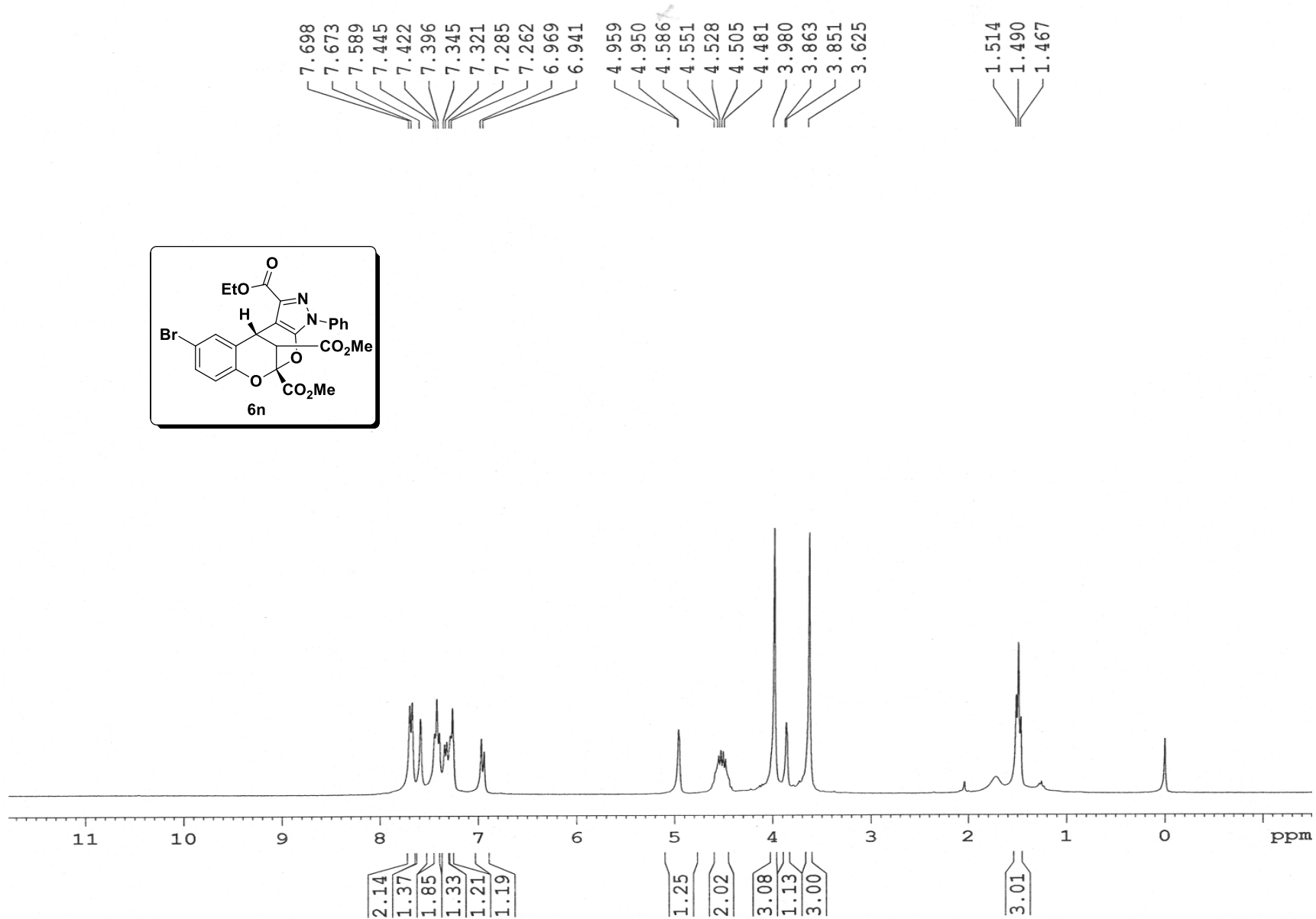
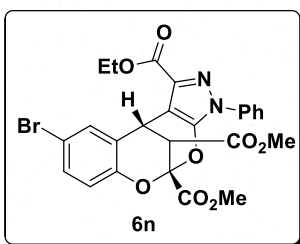


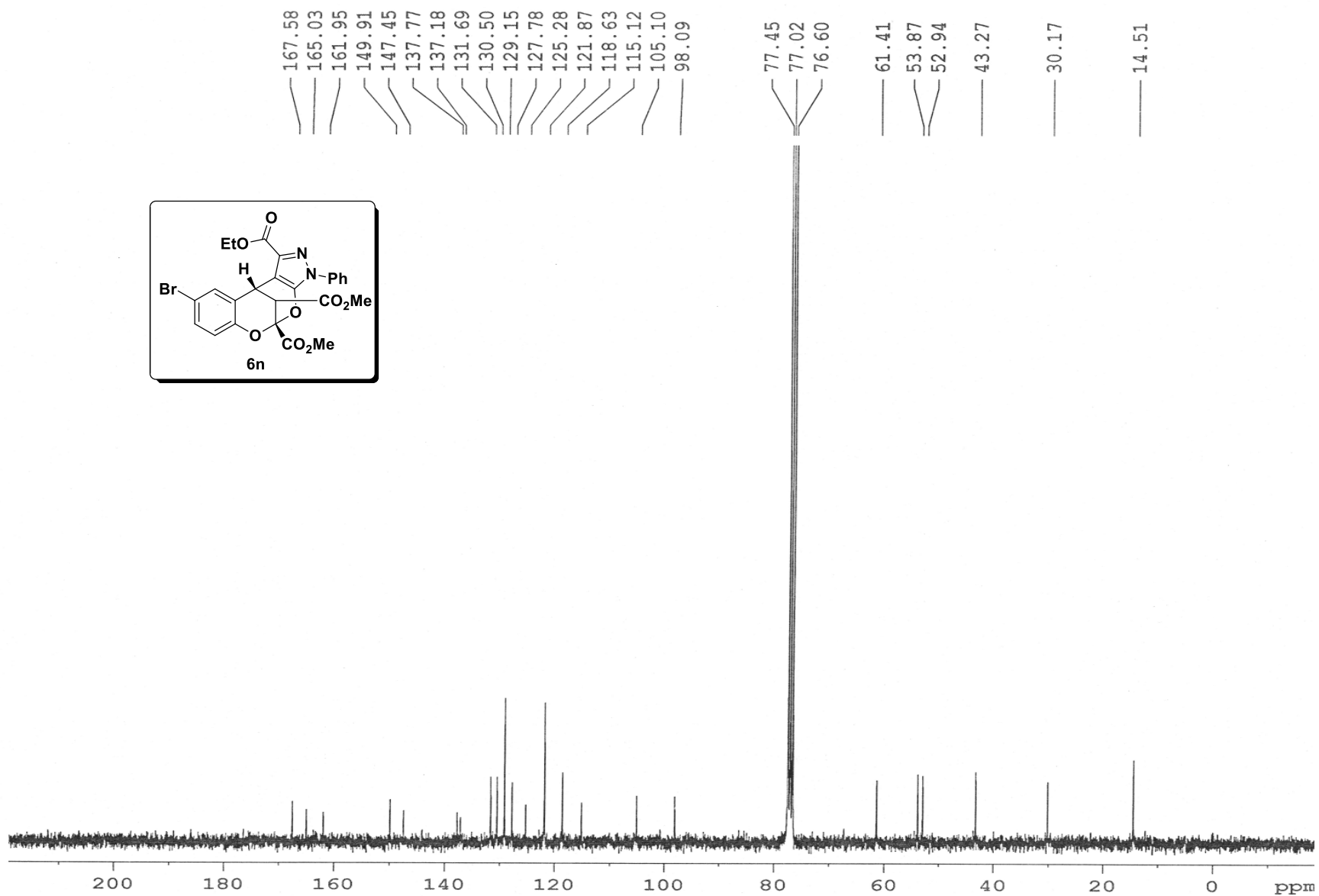




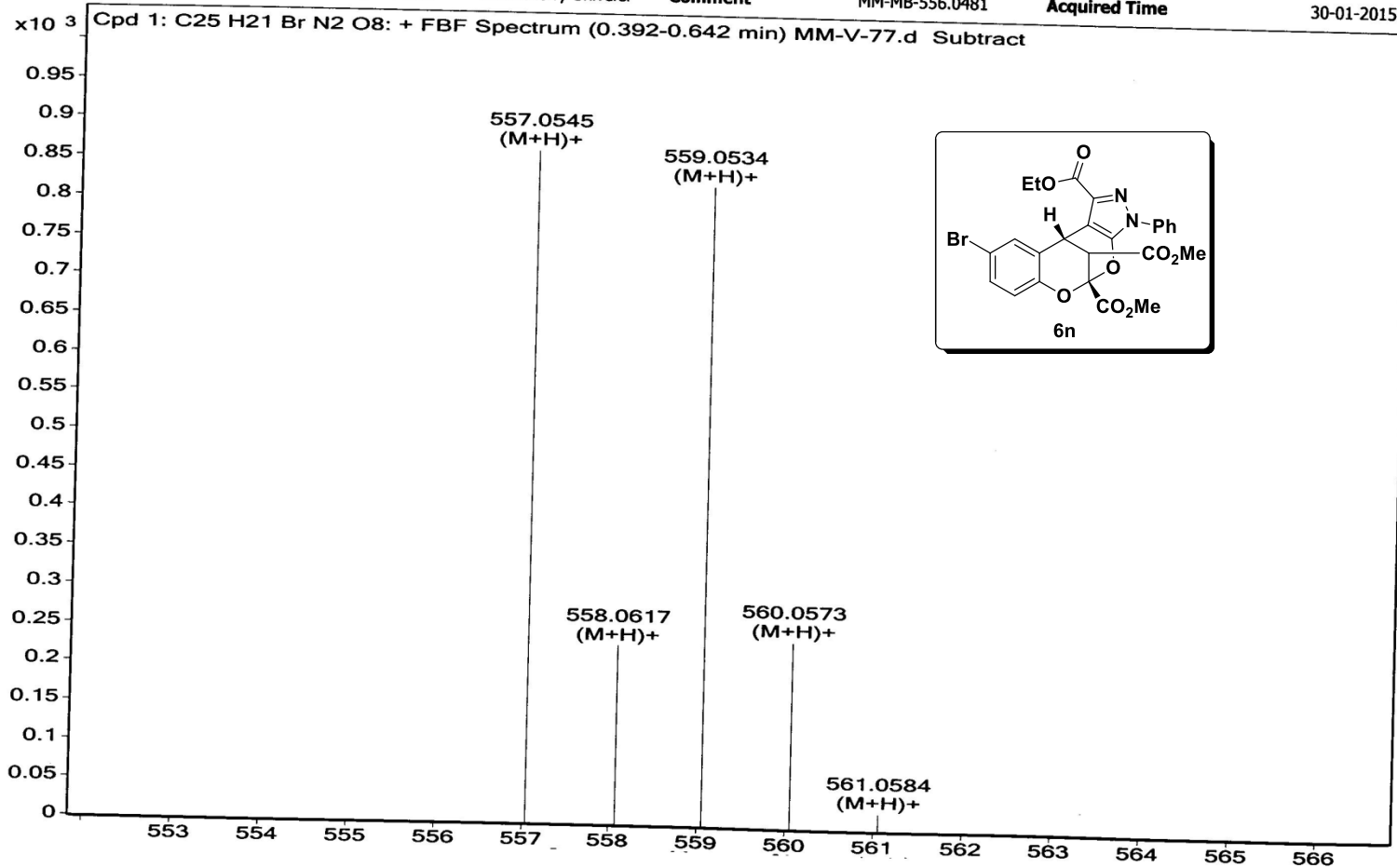
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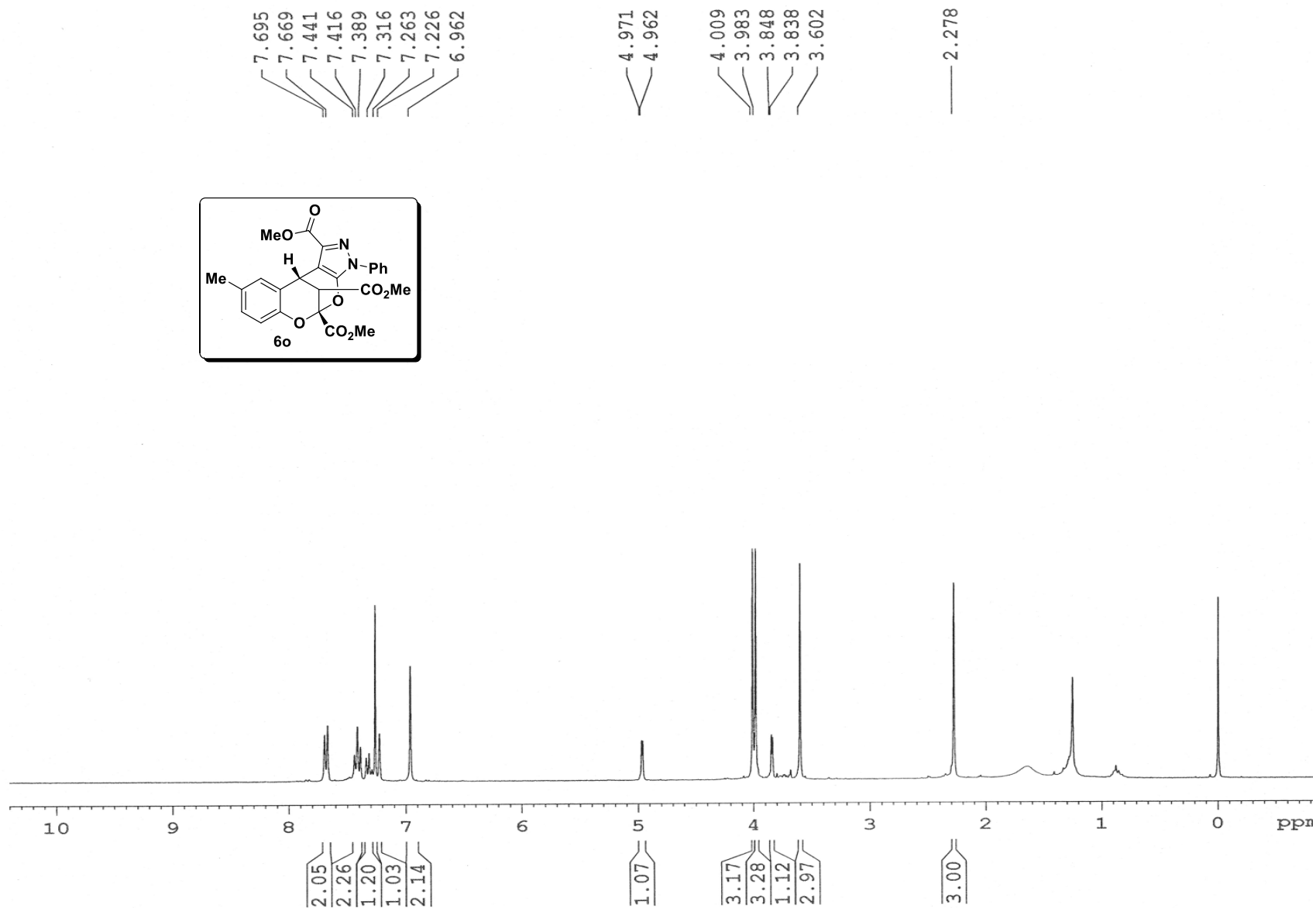
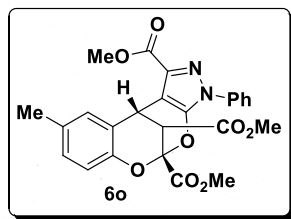


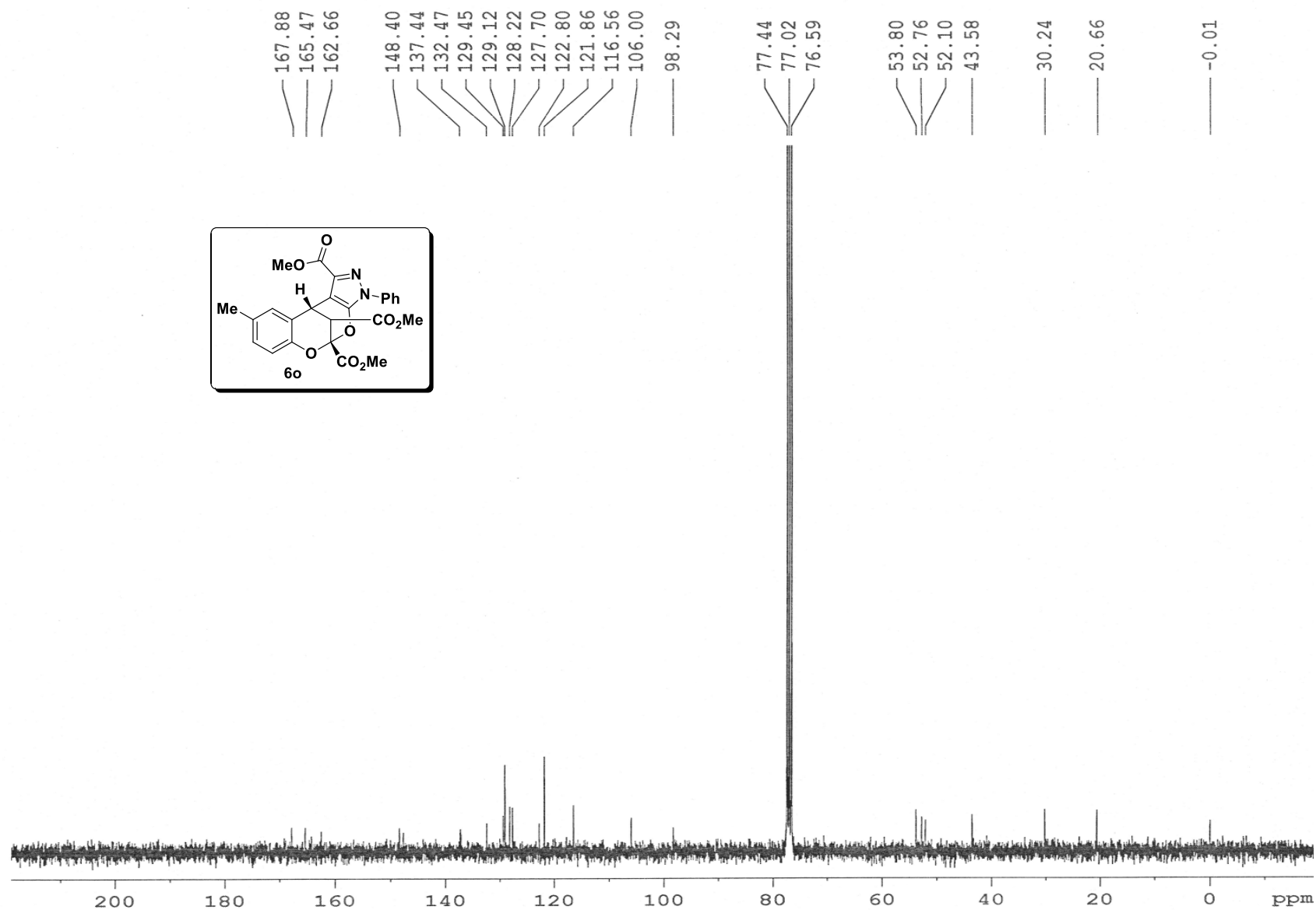




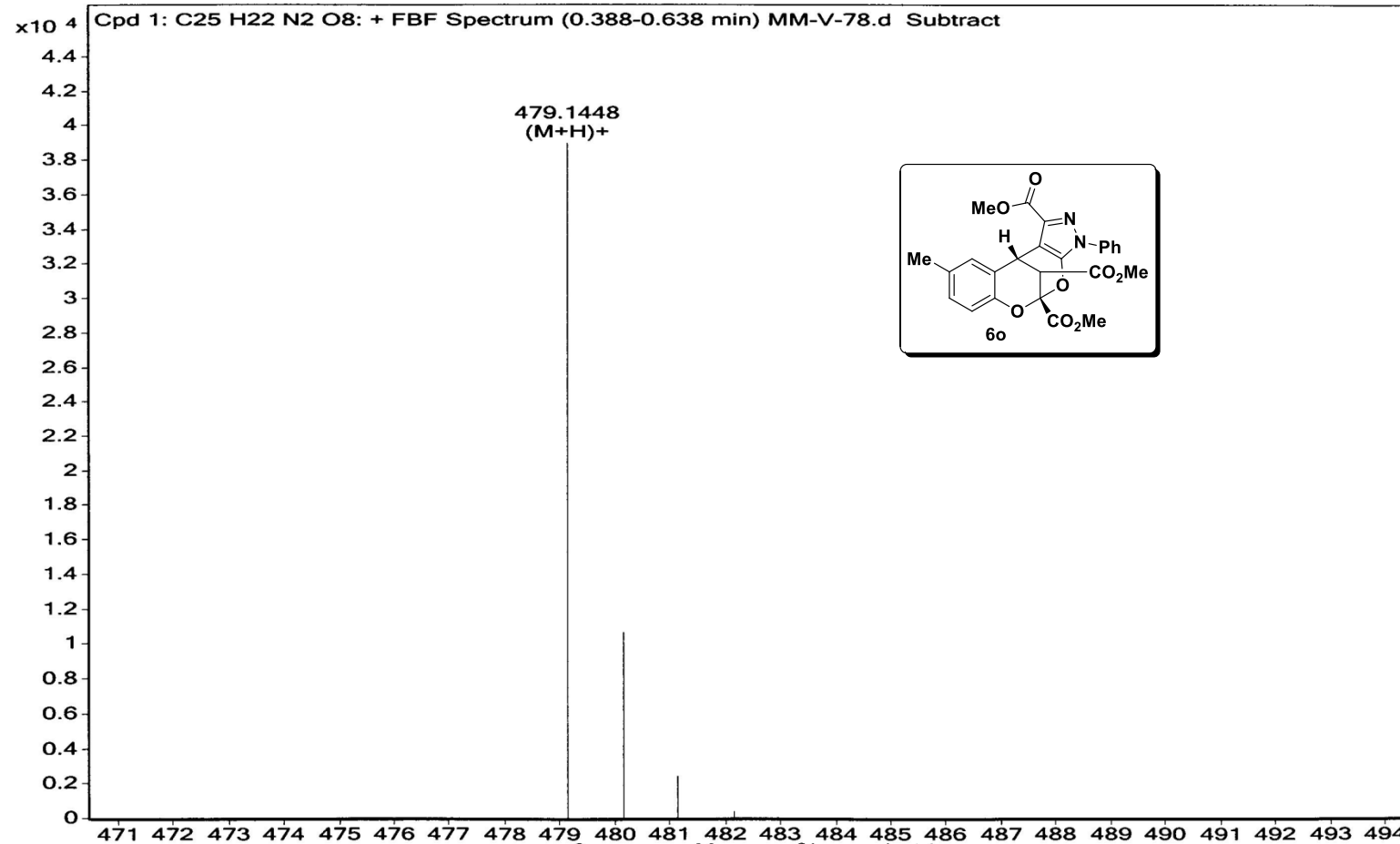
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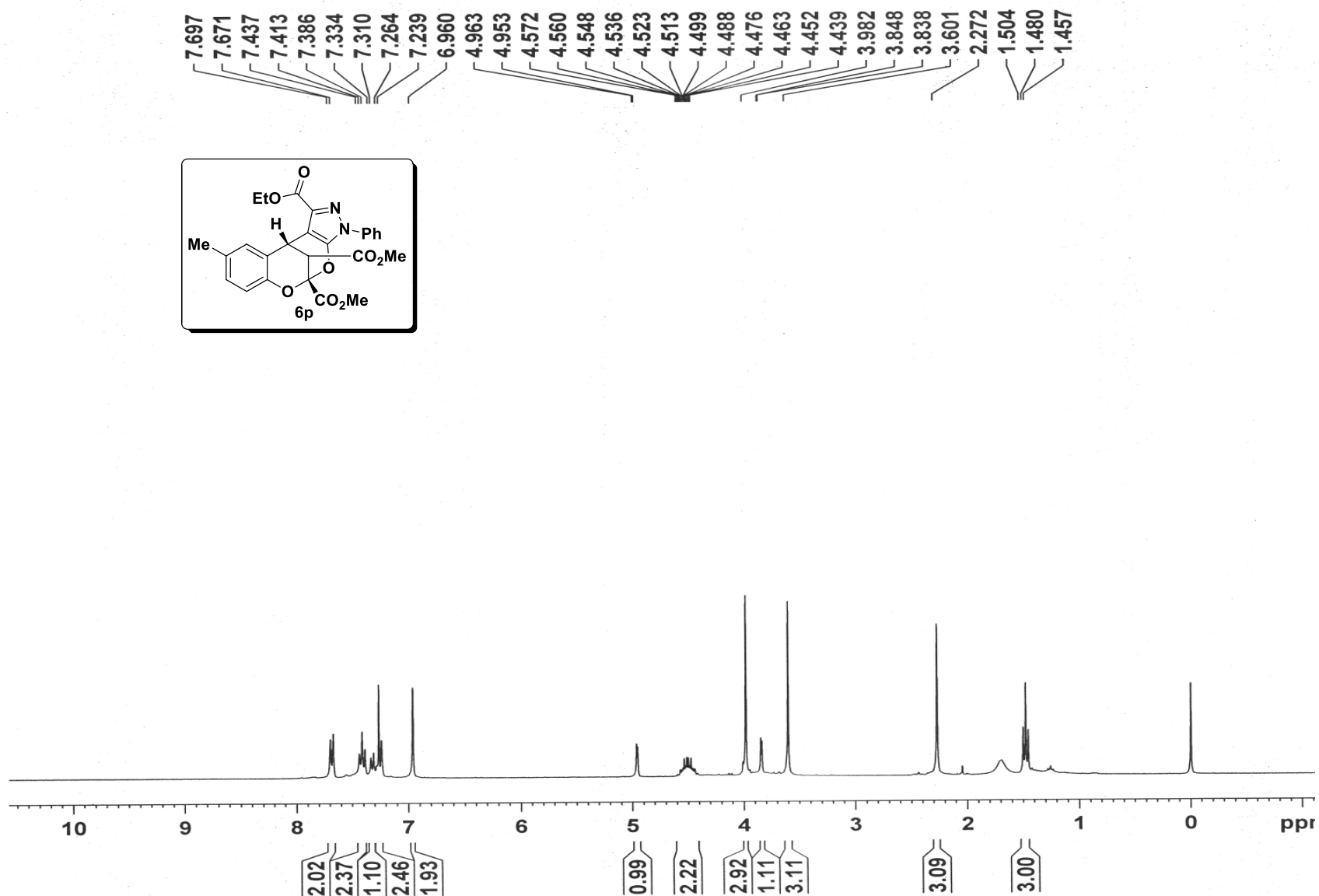


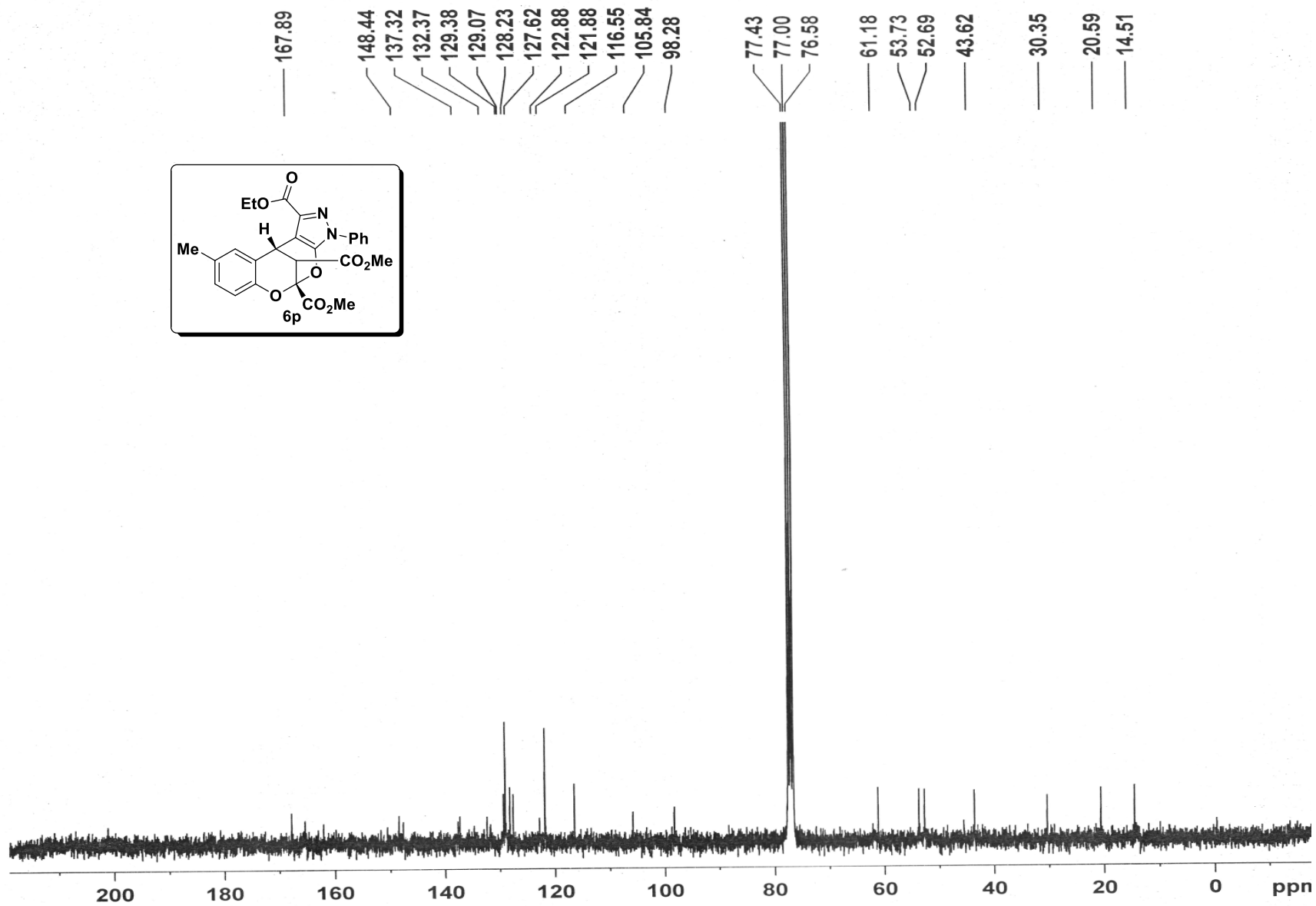




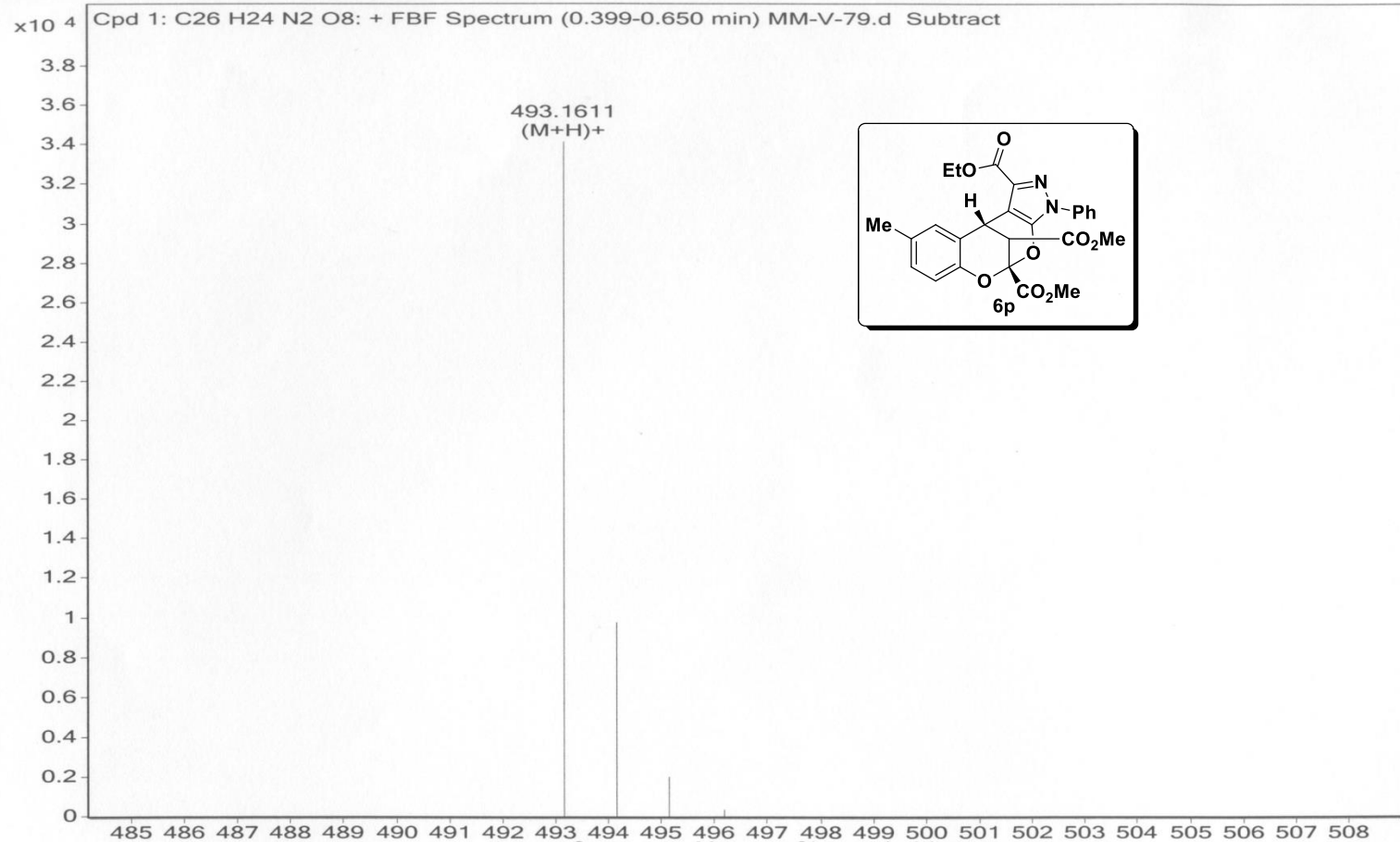
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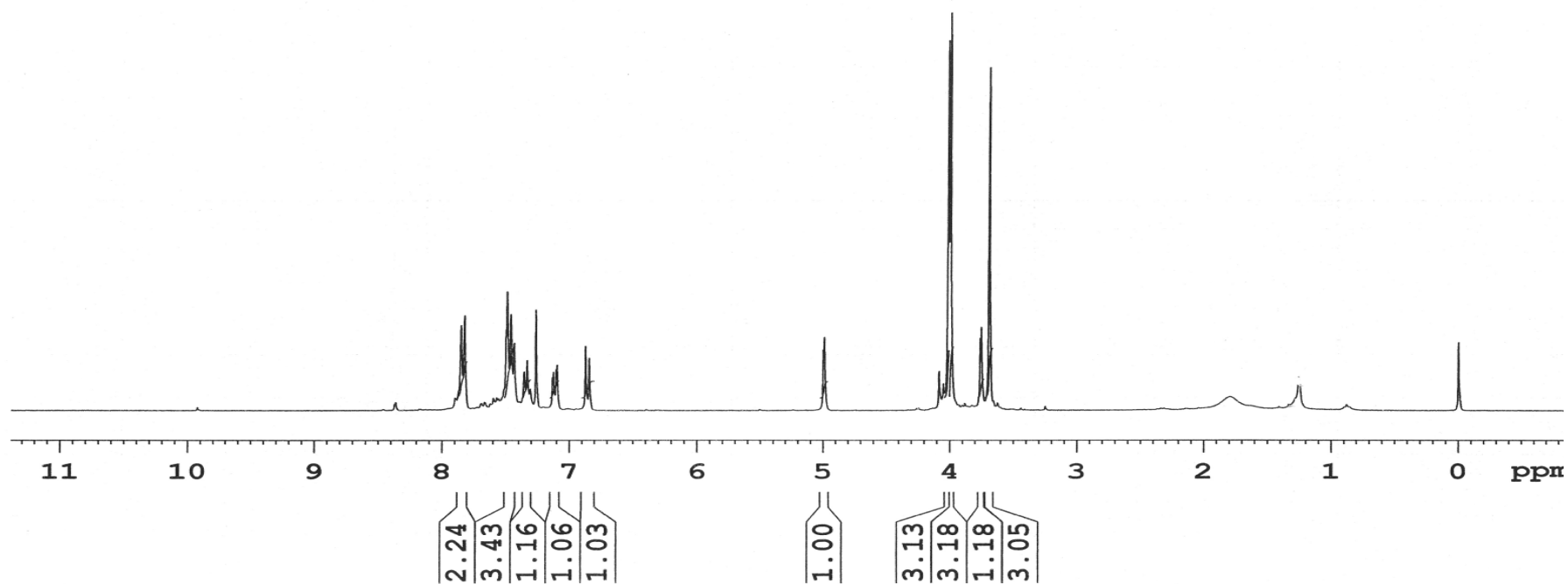
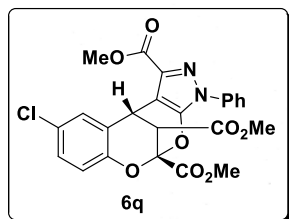


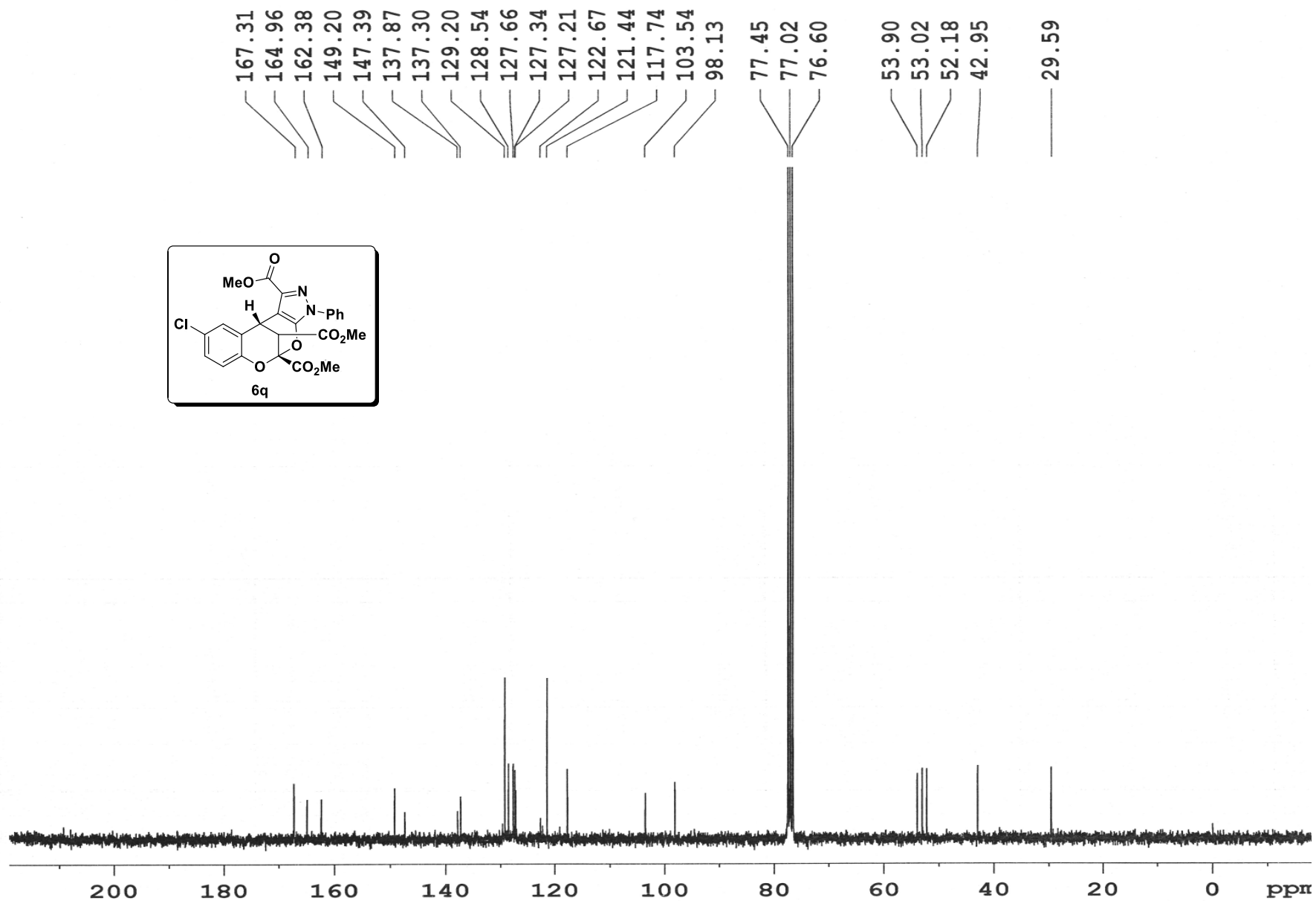


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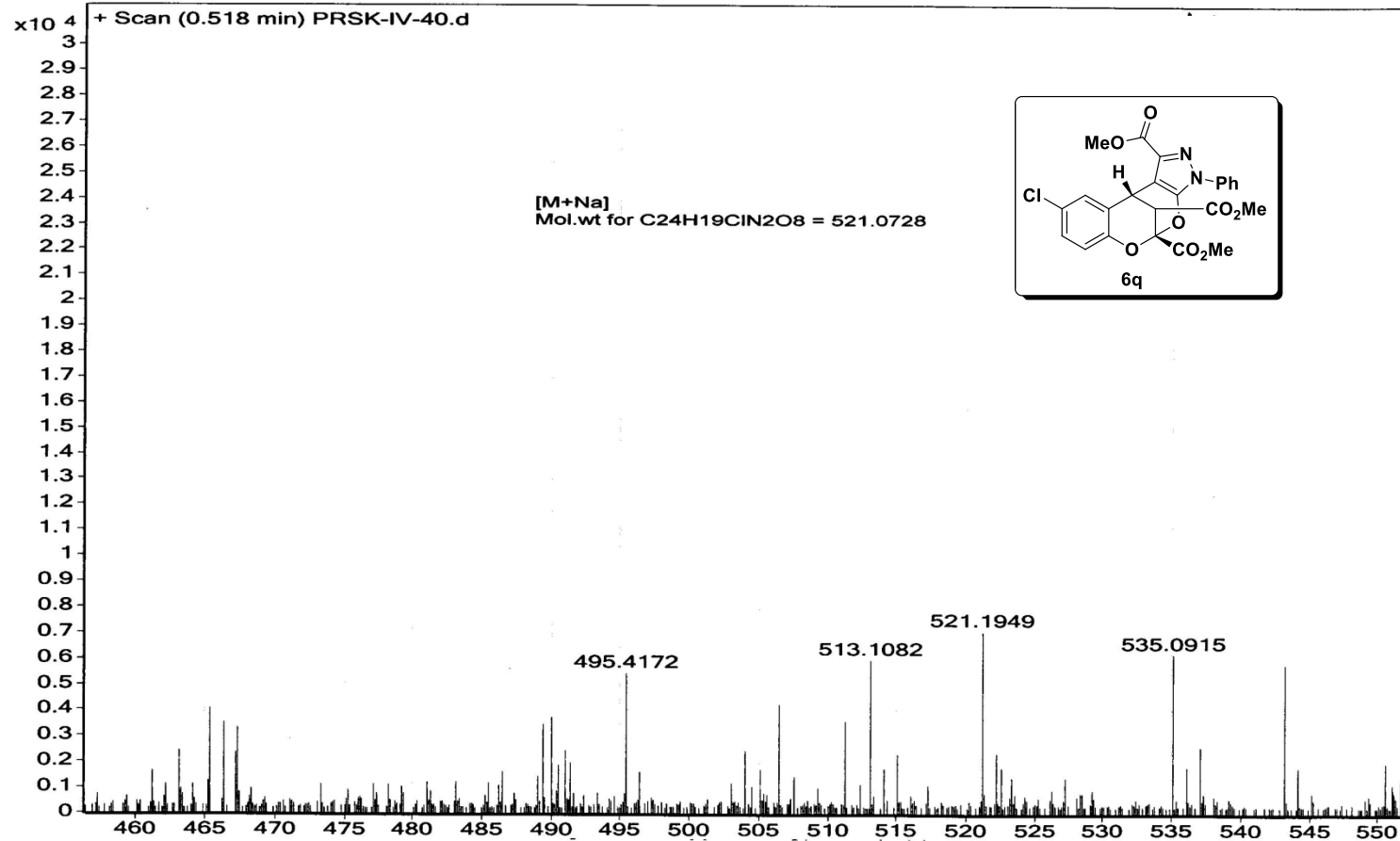


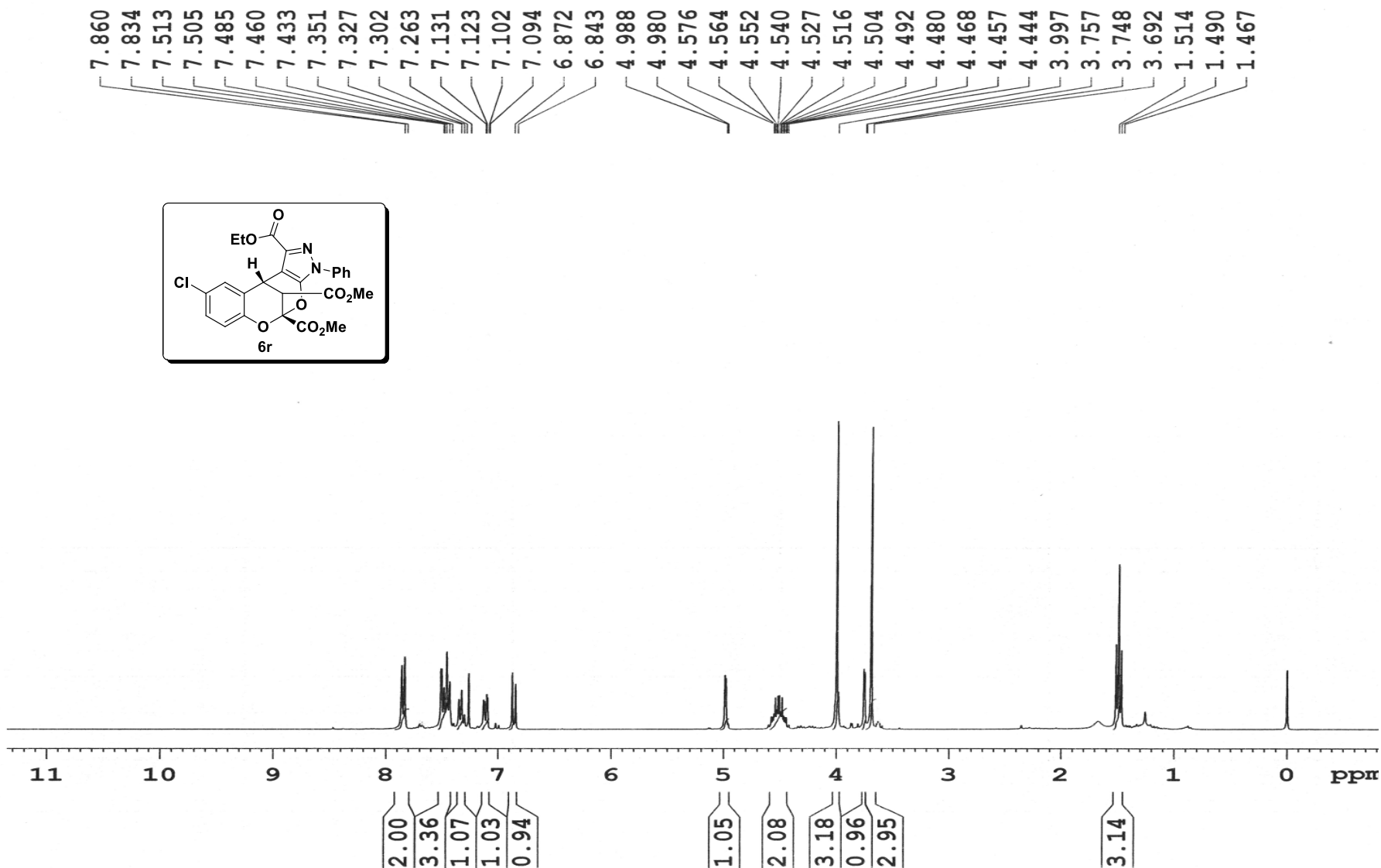
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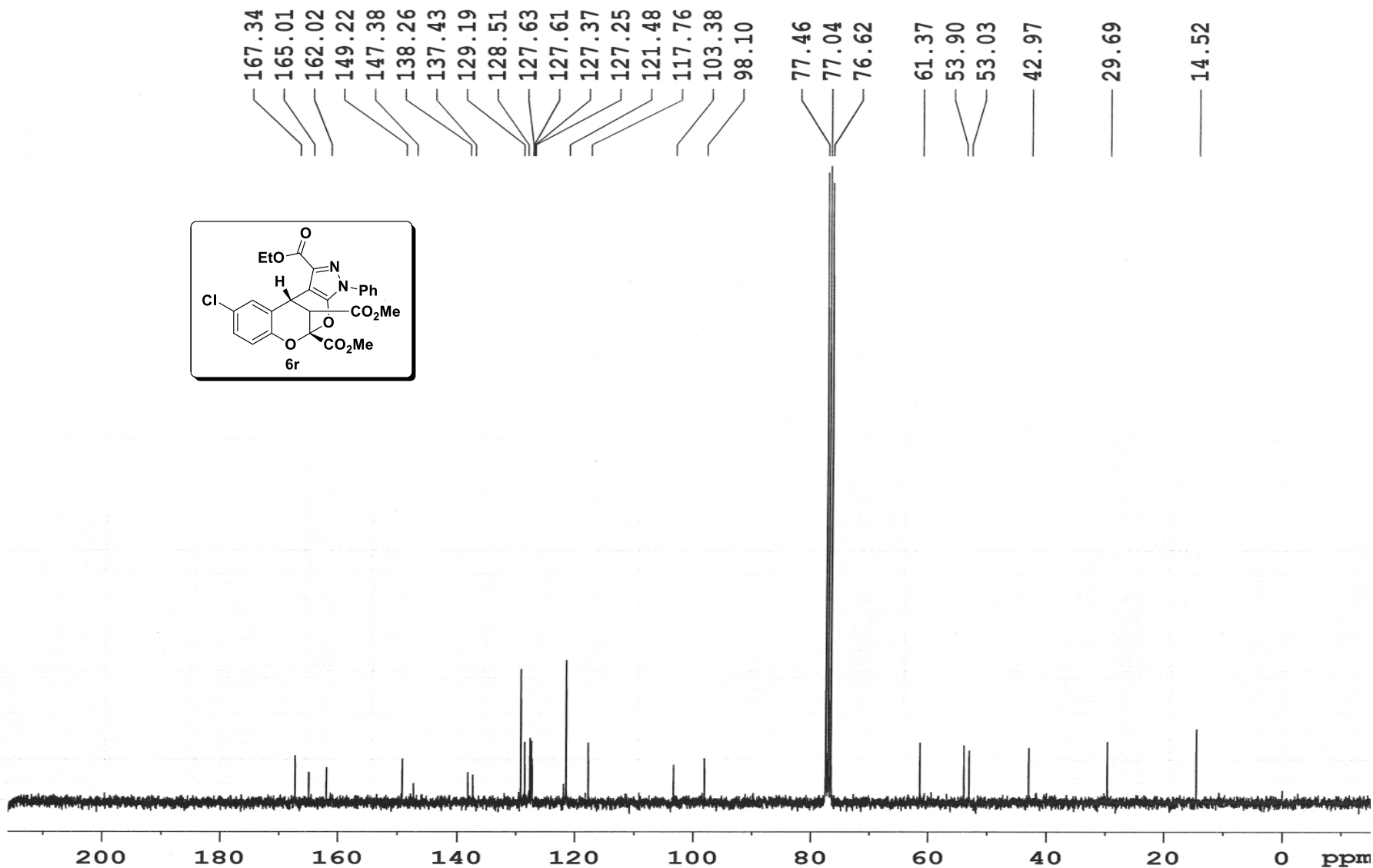




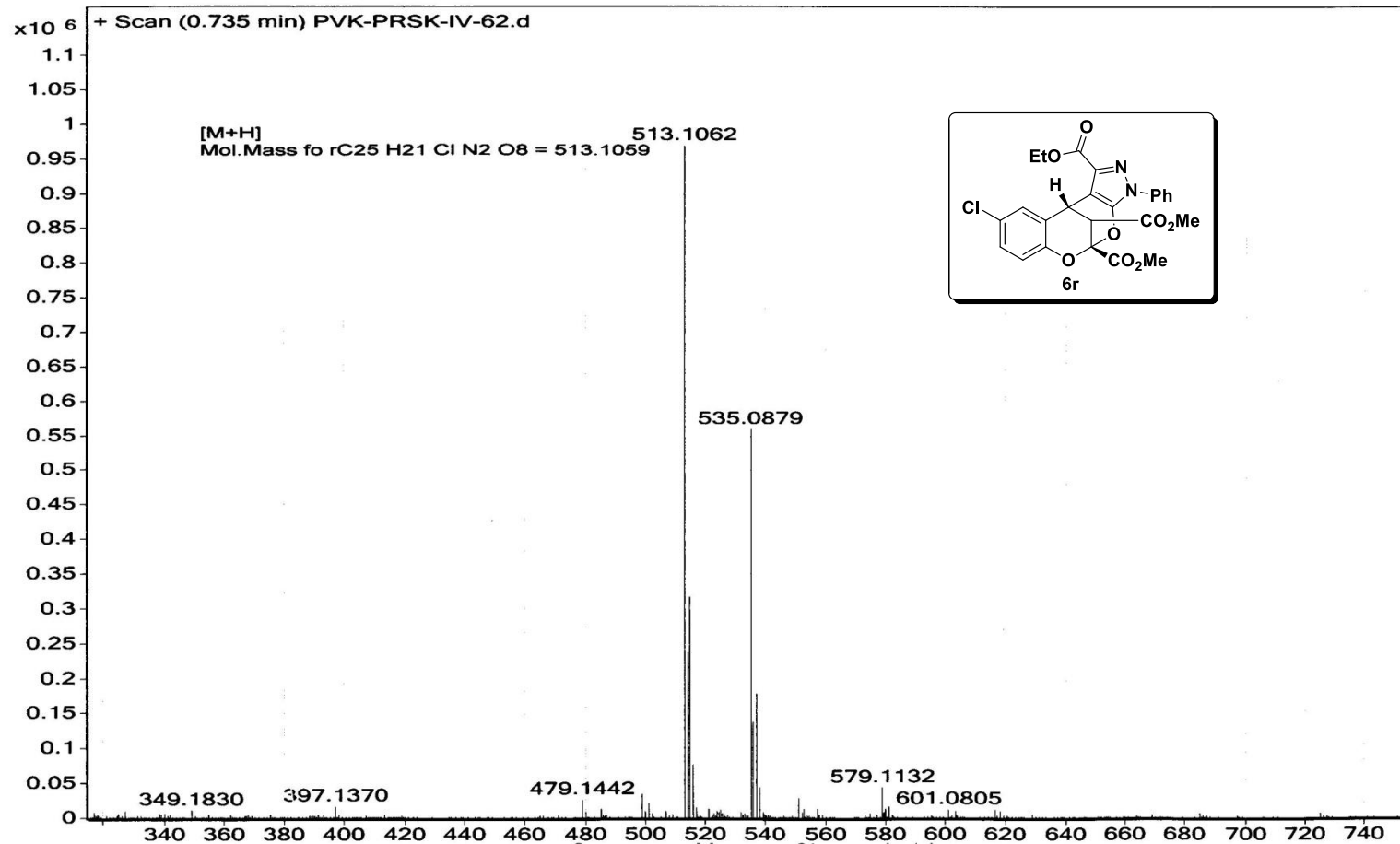
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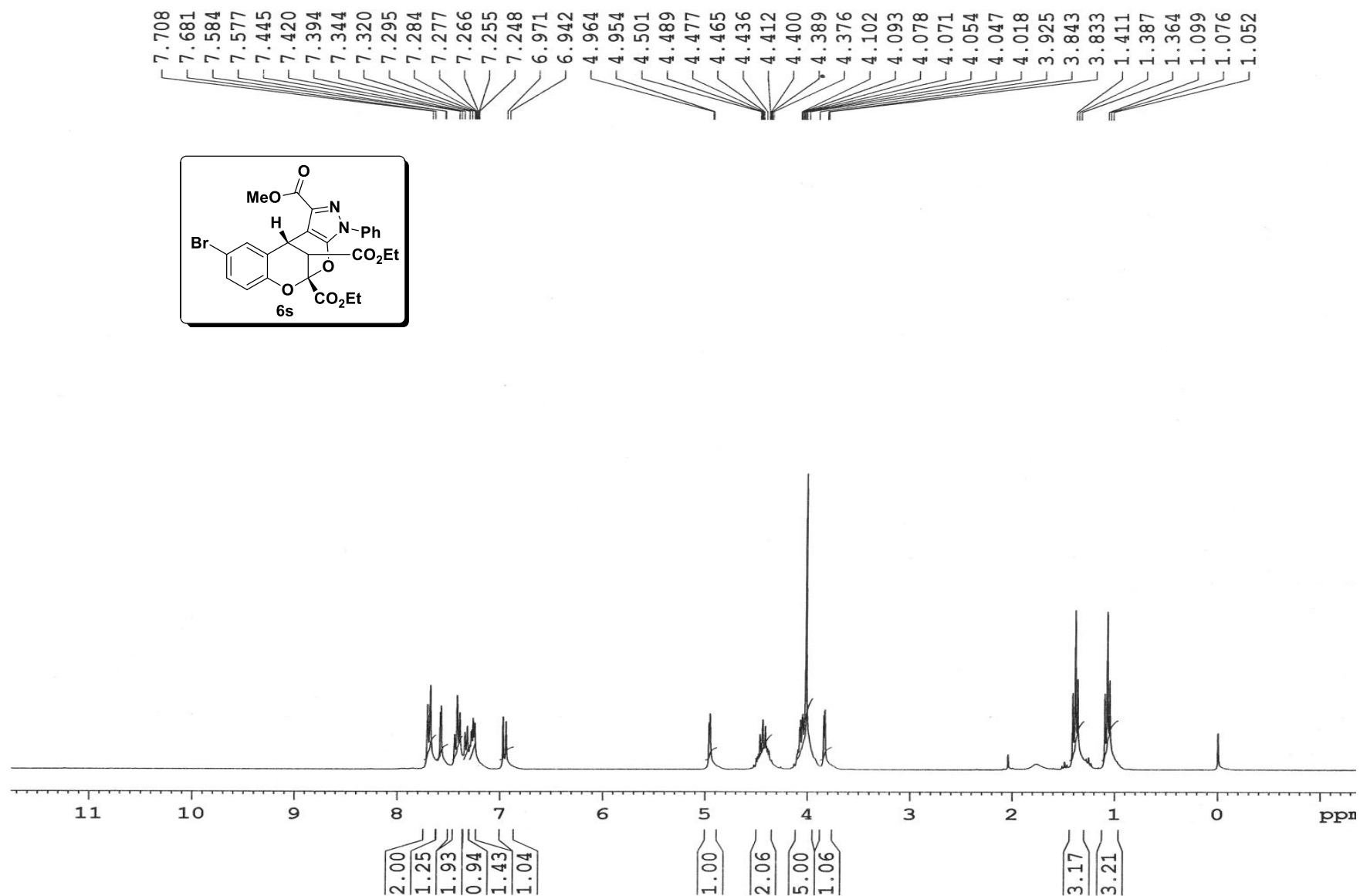


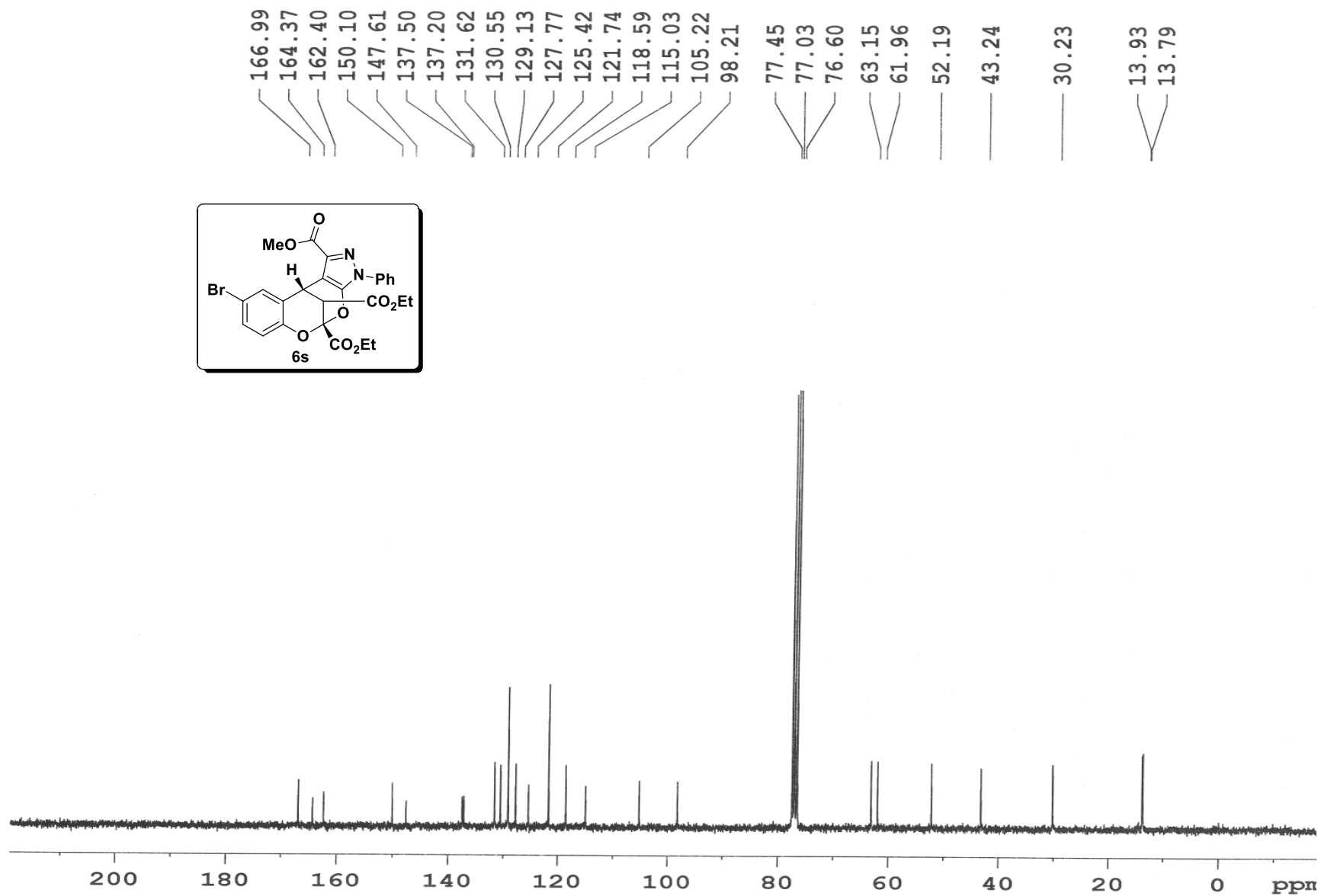




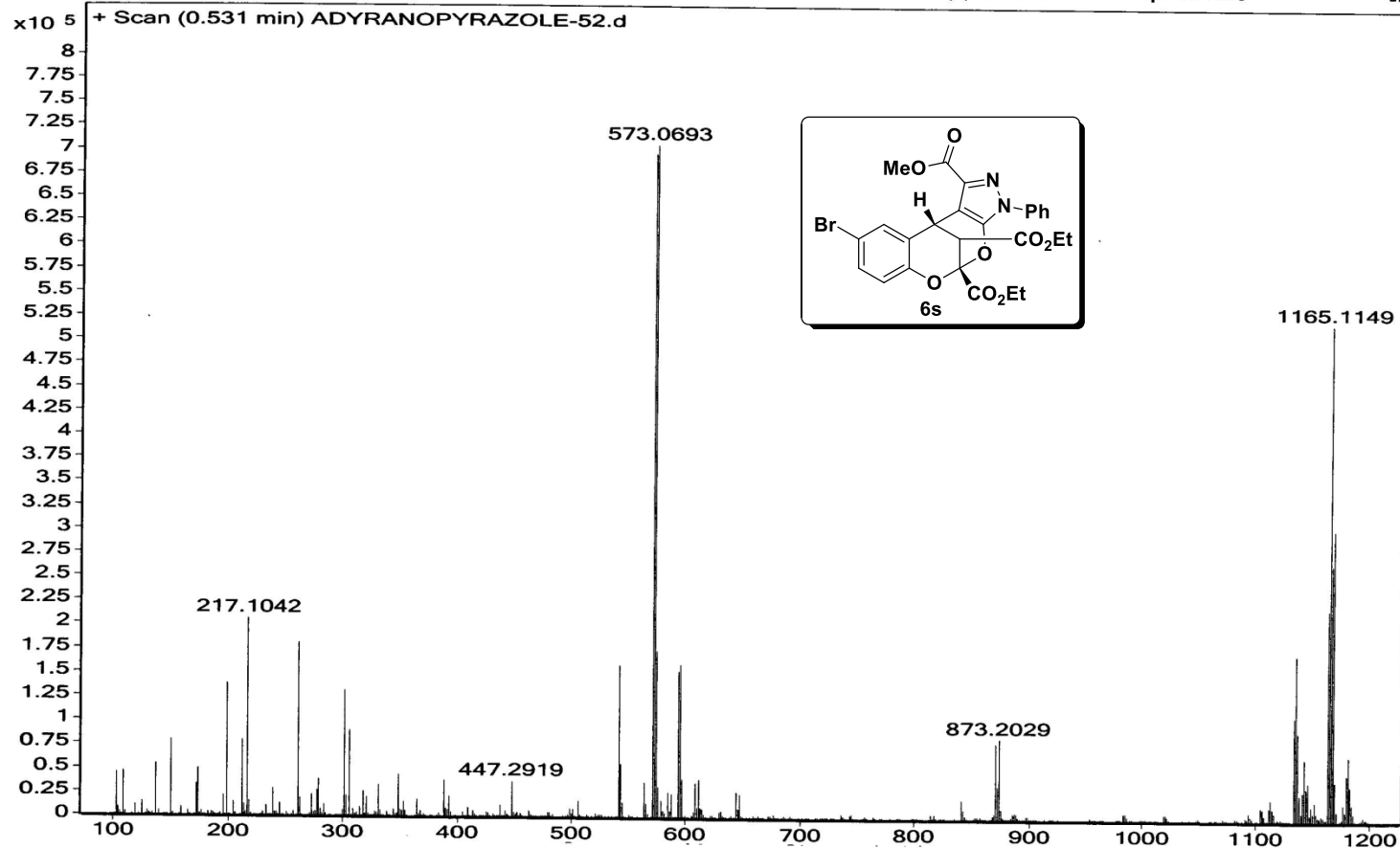
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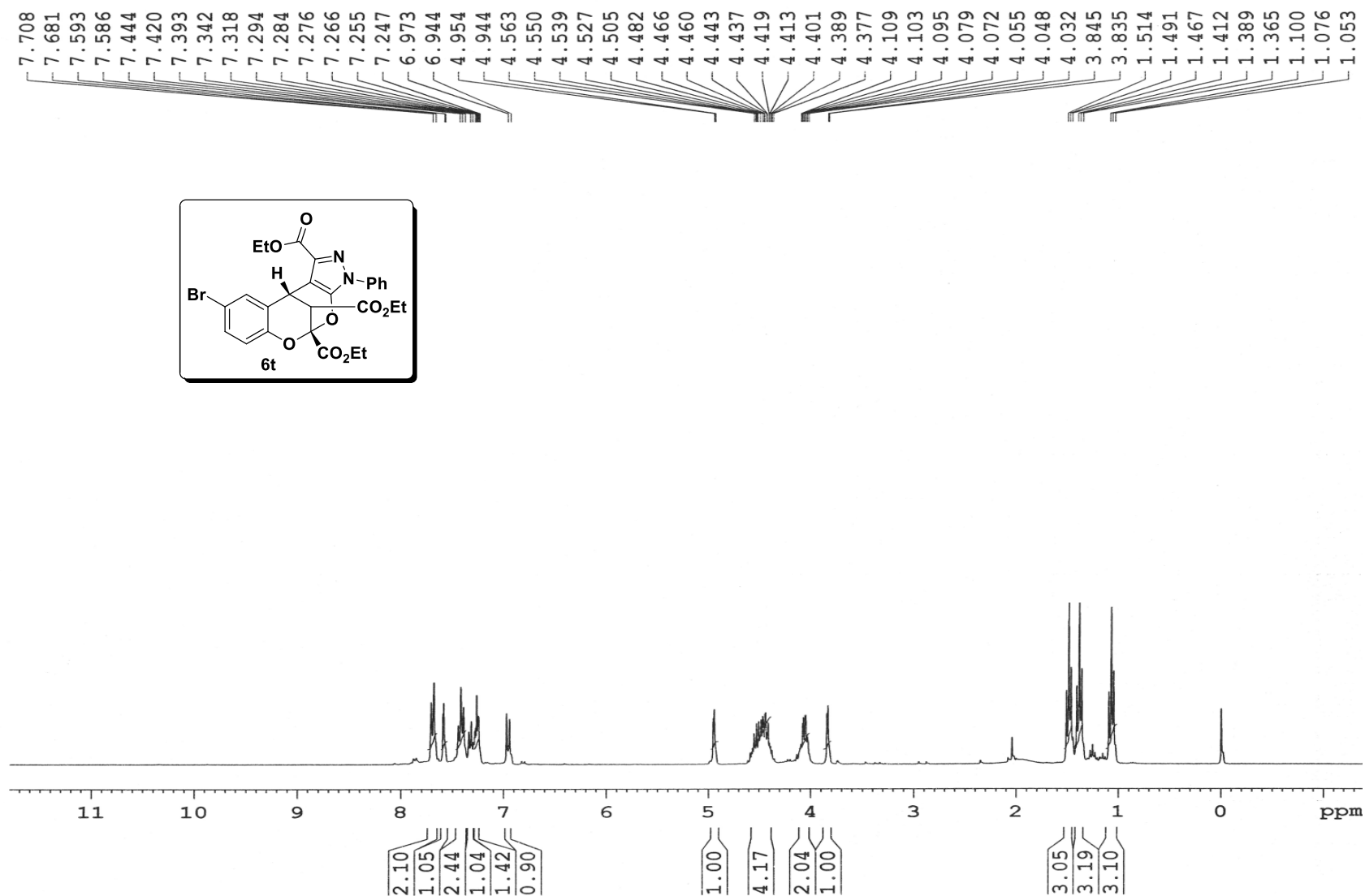


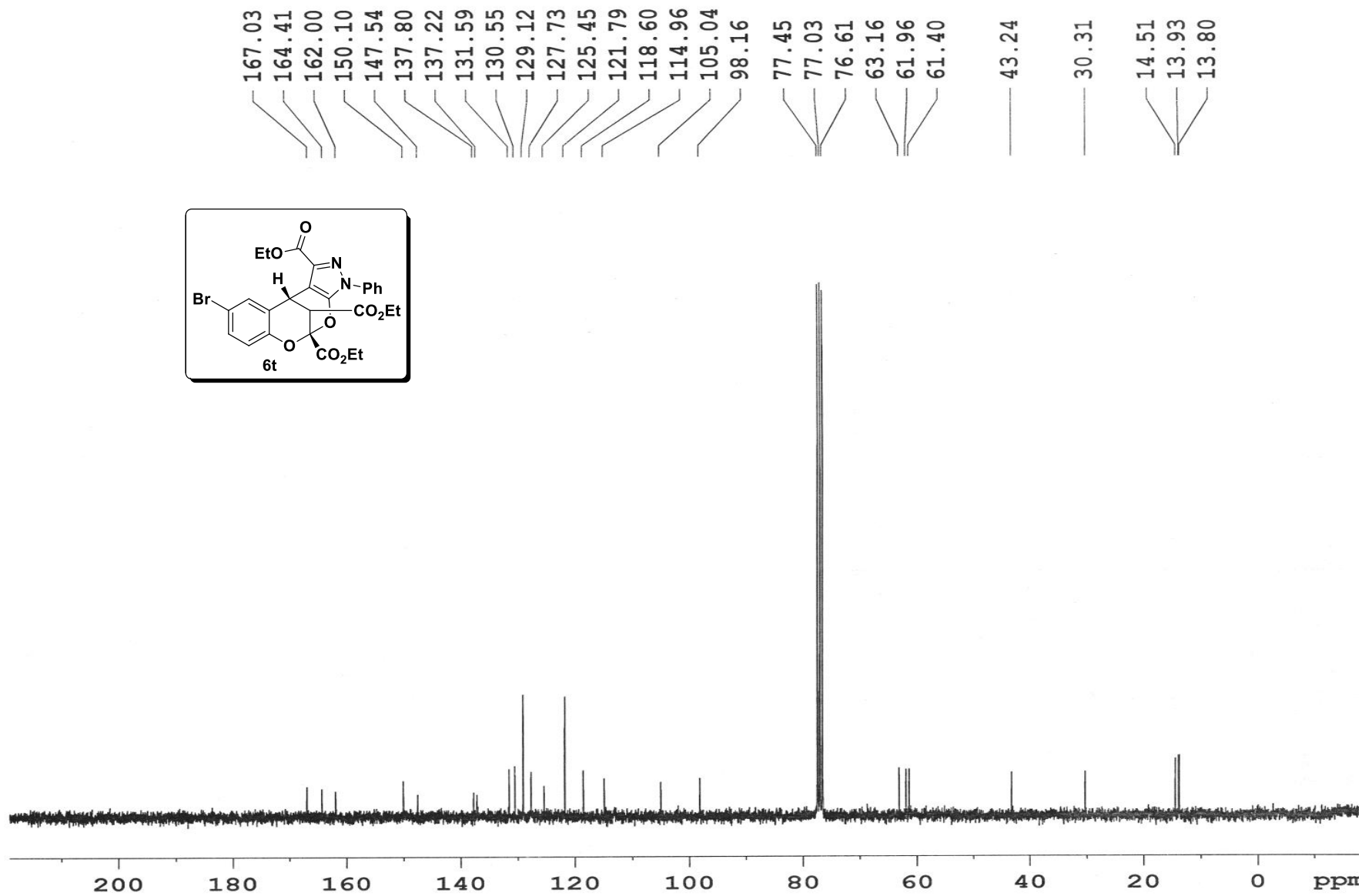




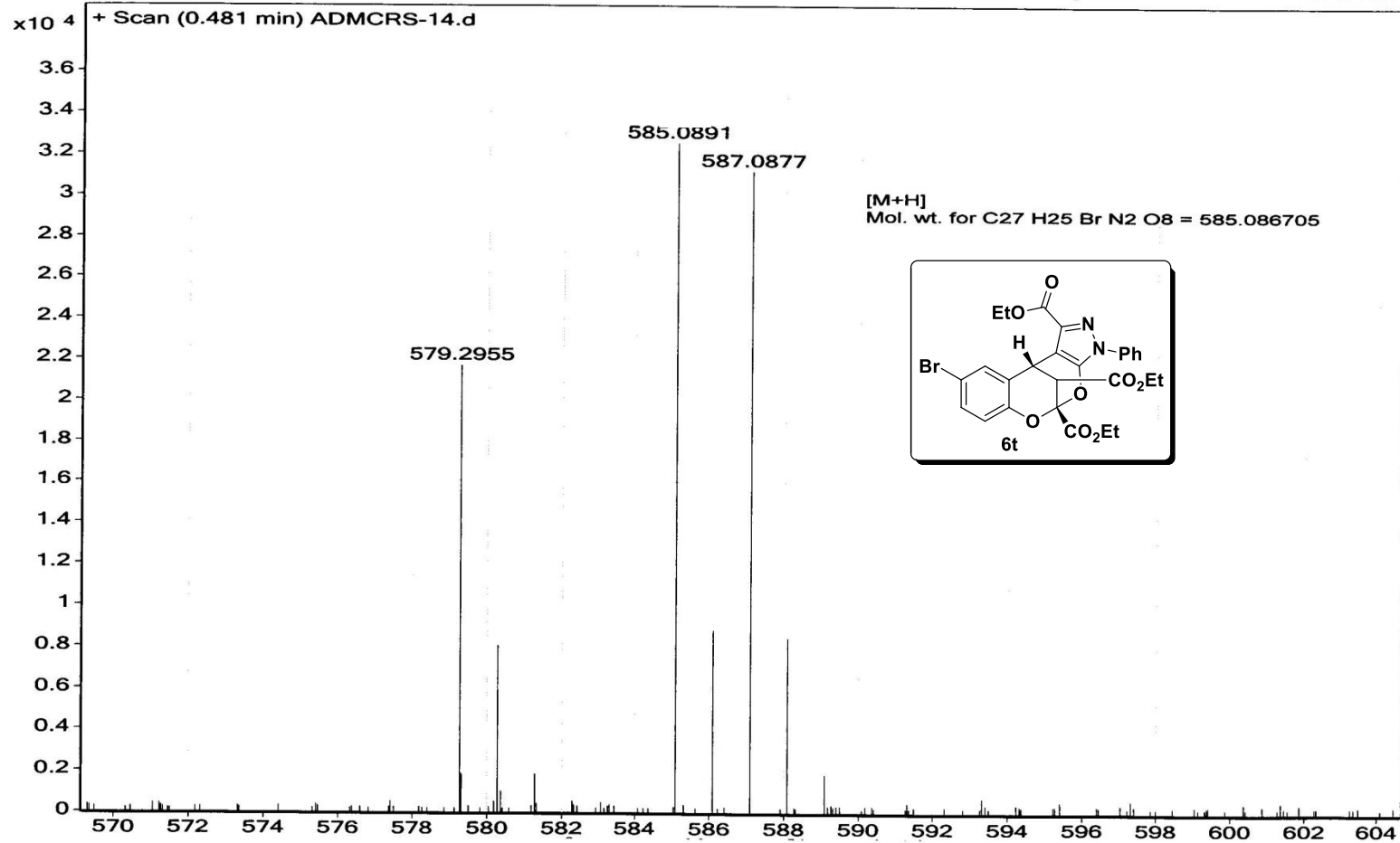
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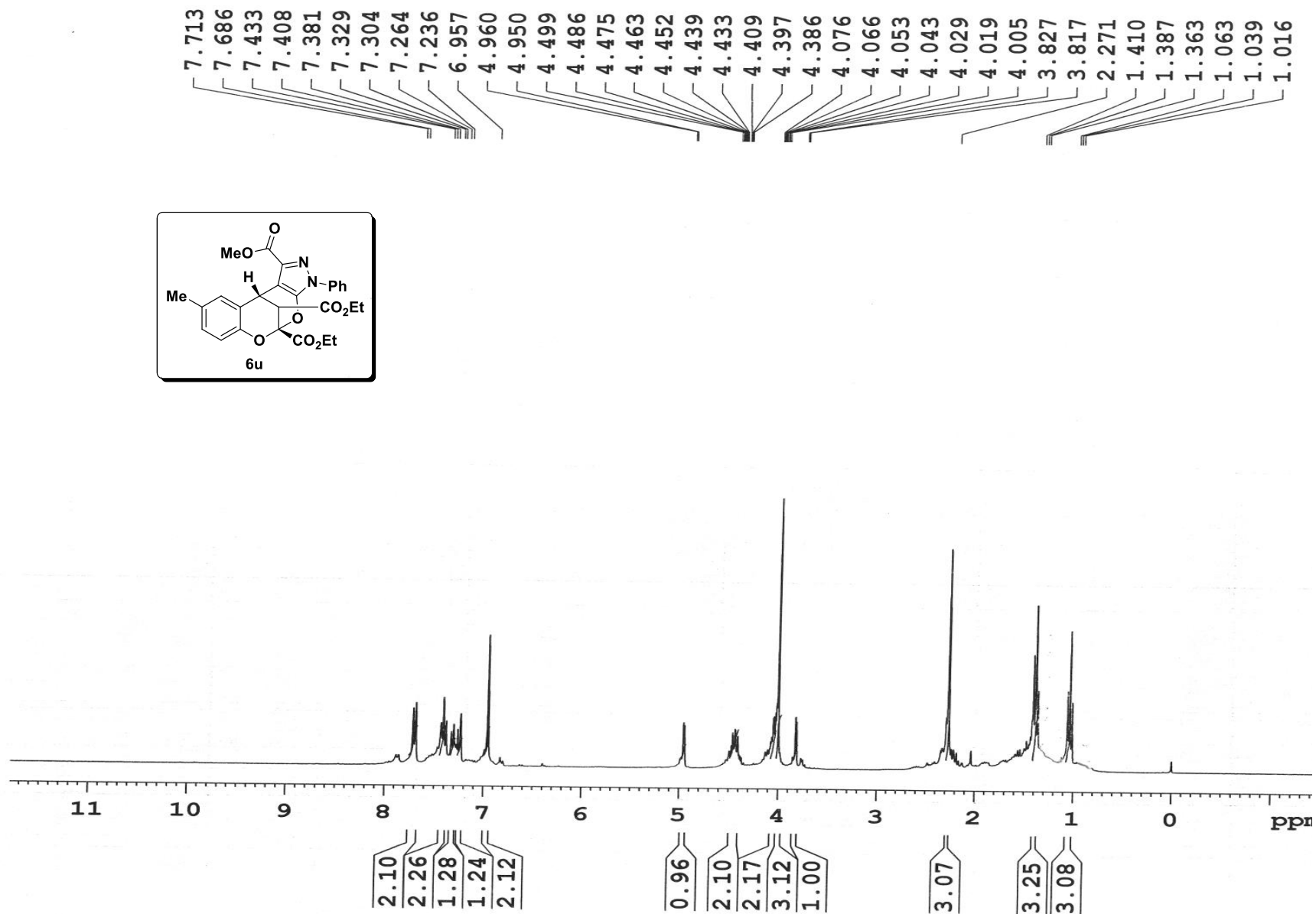


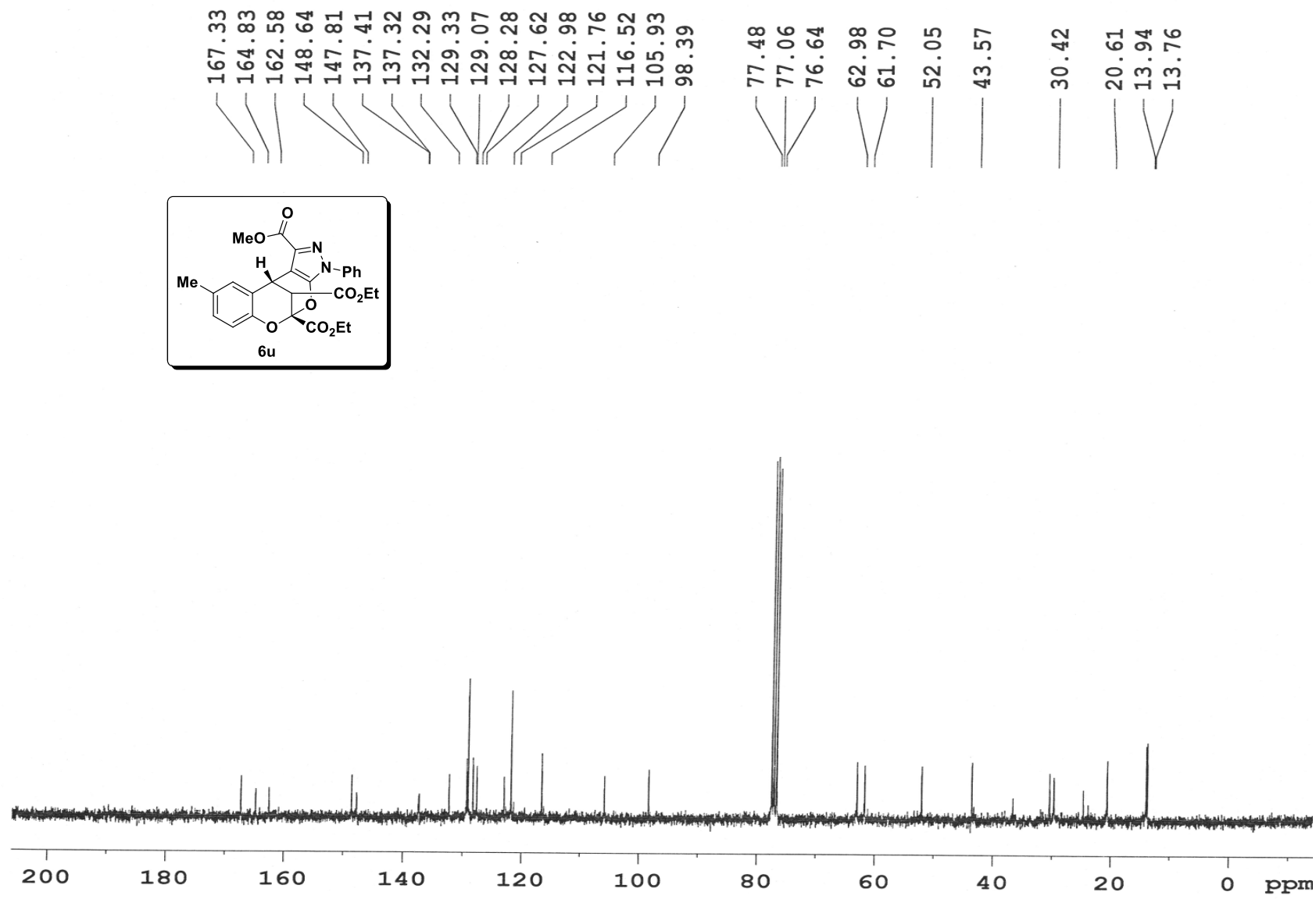




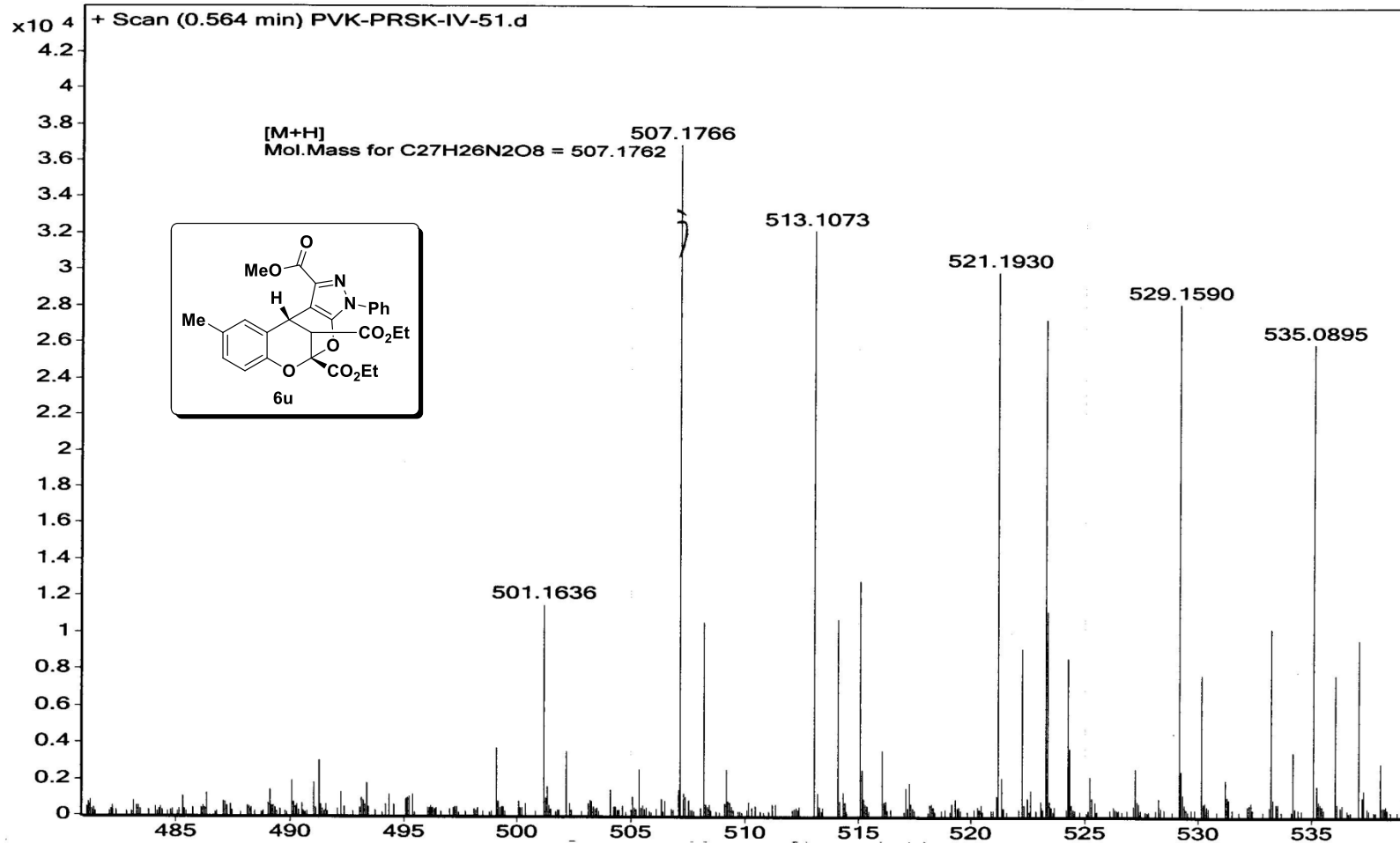
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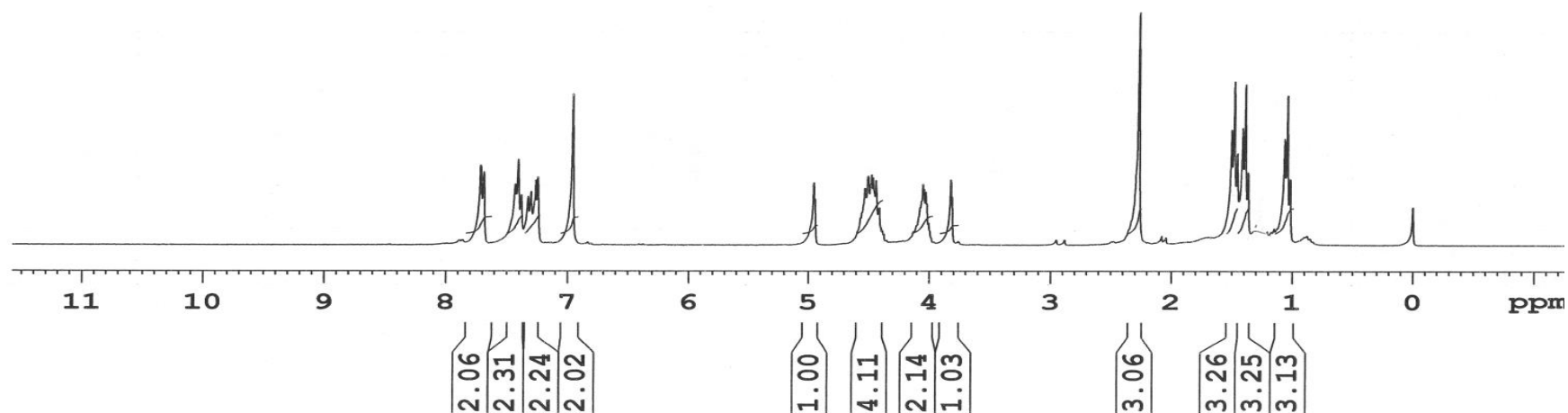
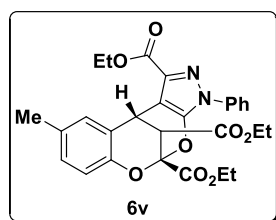
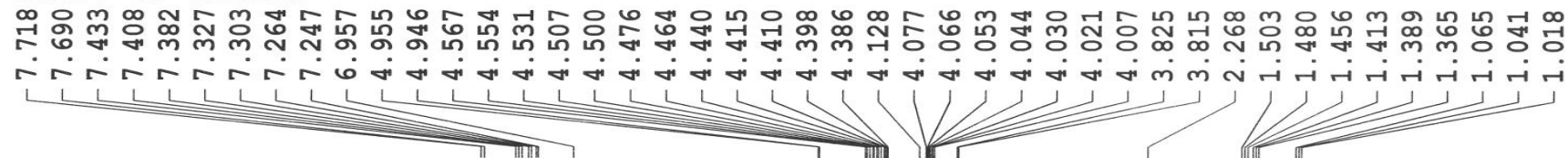


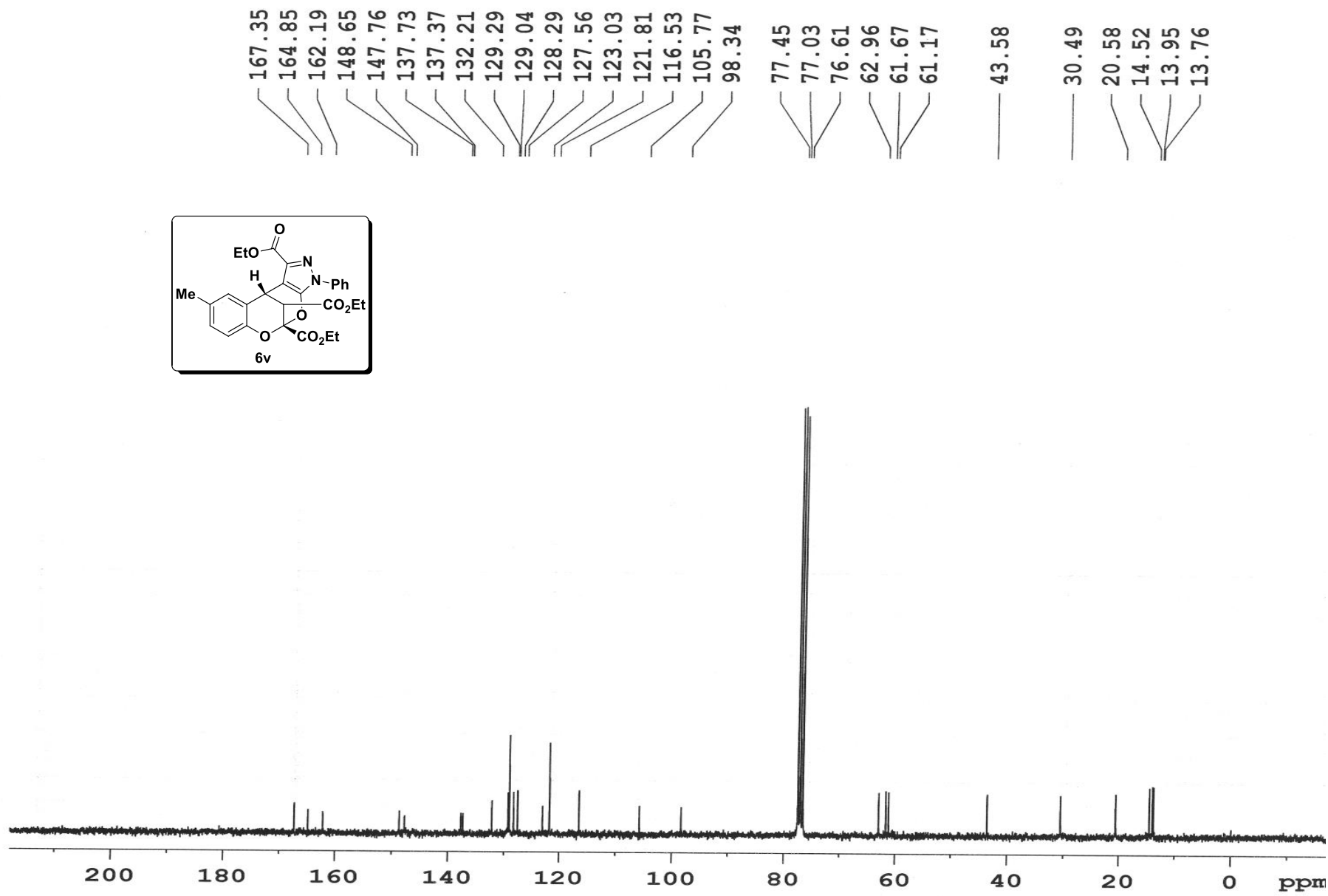
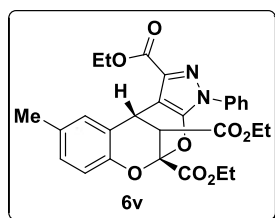


Sample Name	PVK-PRSK-IV-51	Position		Instrument Name	Q-TOF	User Name	QTOF-PU\admin
Inj Vol	-1	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	PVK-PRSK-IV-51.d	ACQ Method	Pondicherry Universi	Comment	PV-MB-506.1689	Acquired Time	15-09-2014 10:59:02

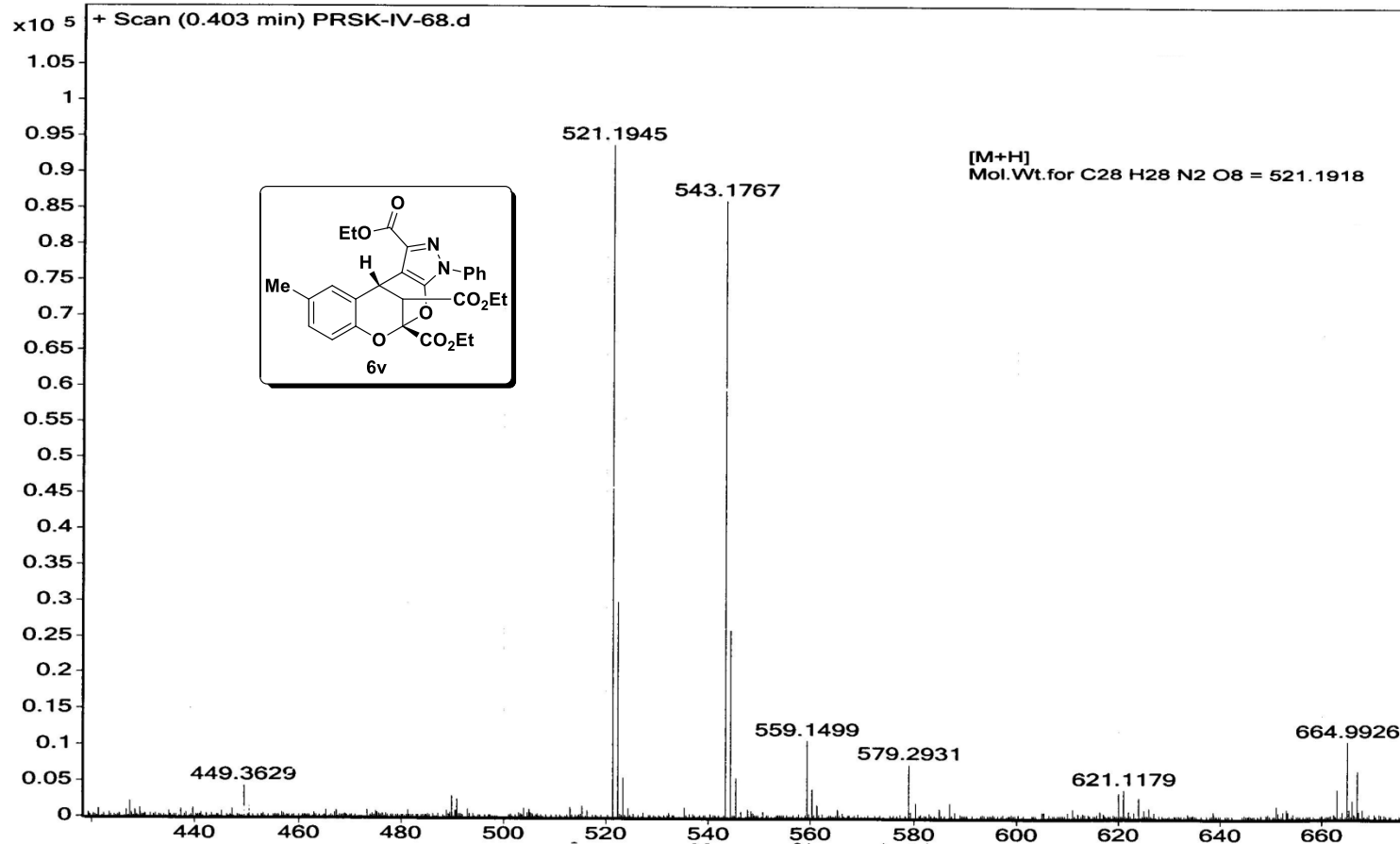


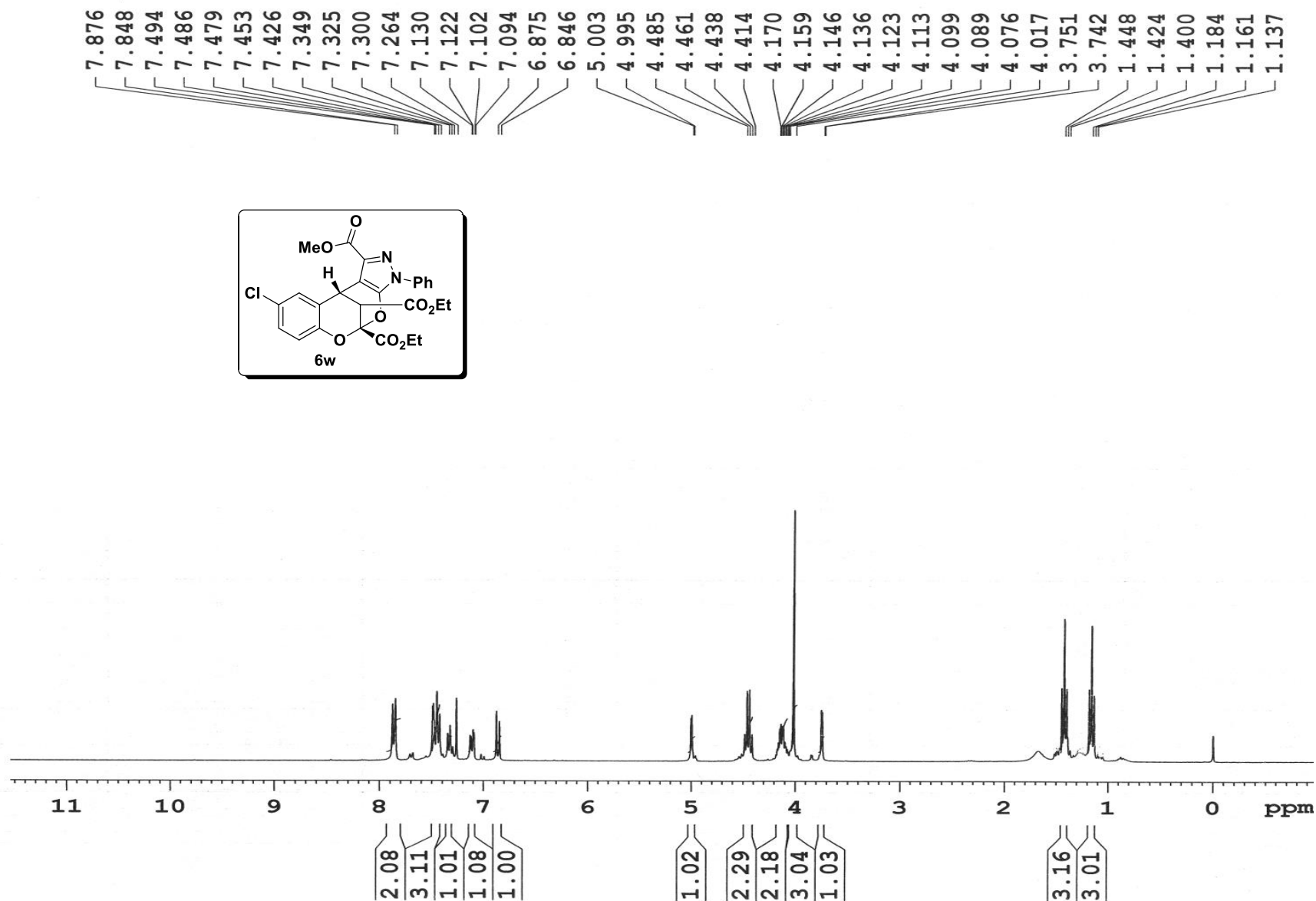
UNIV. OF MADRAS

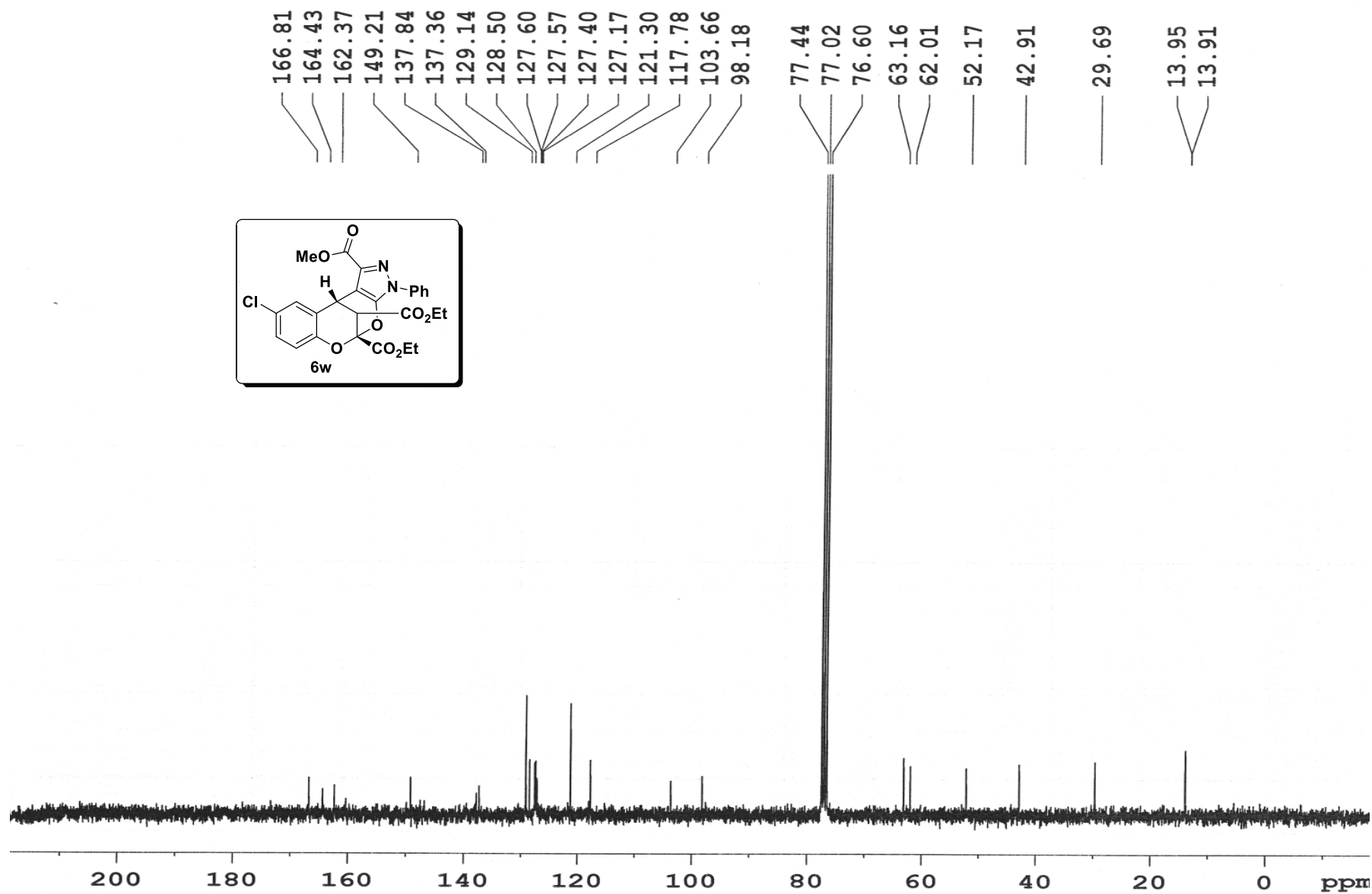




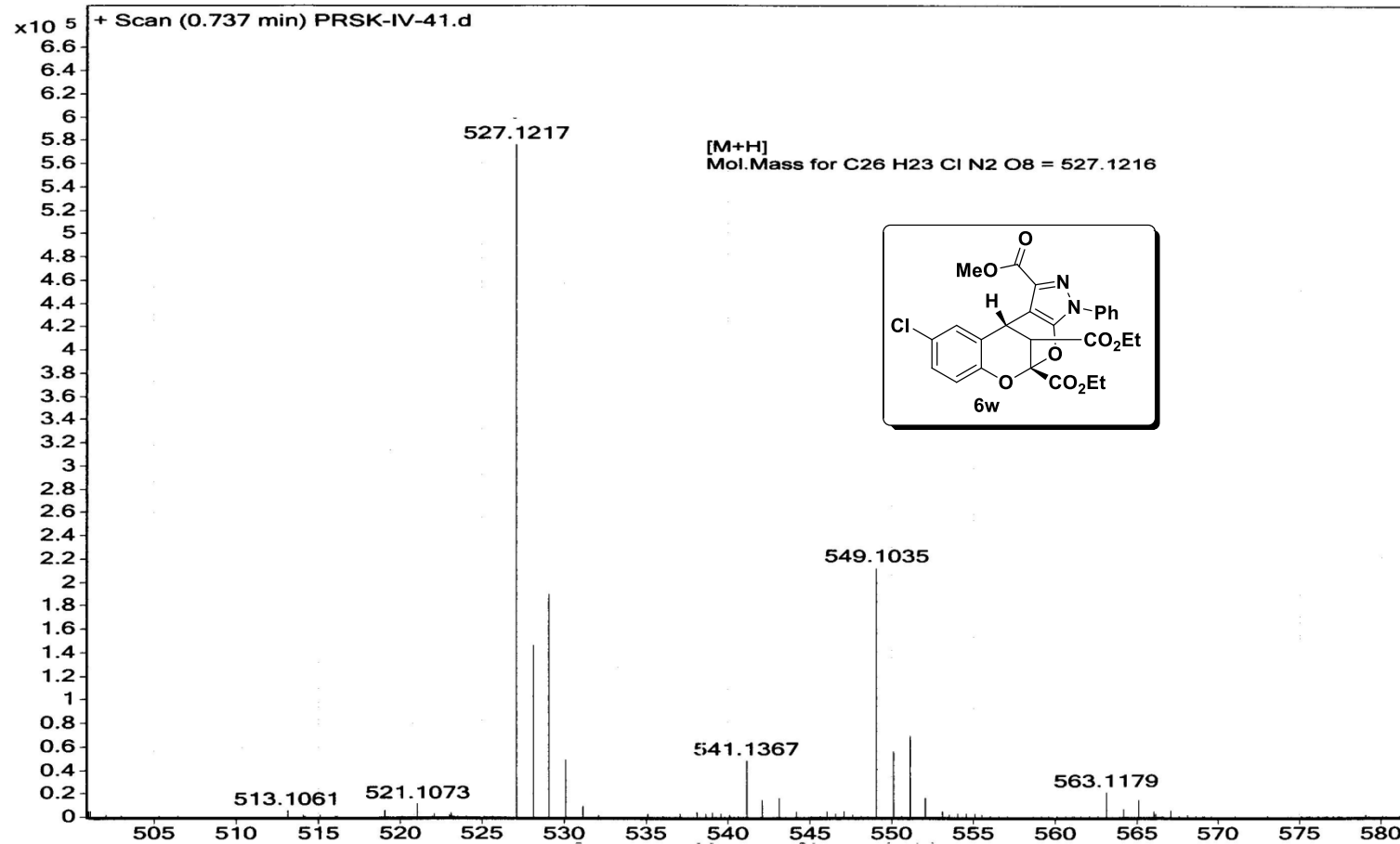
Sample Name	PRSK-IV-68	Position		Instrument Name	Q-TOF	User Name	QTOF-PU\admin
Inj Vol	-1	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	PRSK-IV-68.d	ACQ Method	Pondicherry Universi	Comment	Vijay-MB-520.1846	Acquired Time	16-09-2014 11:08:59

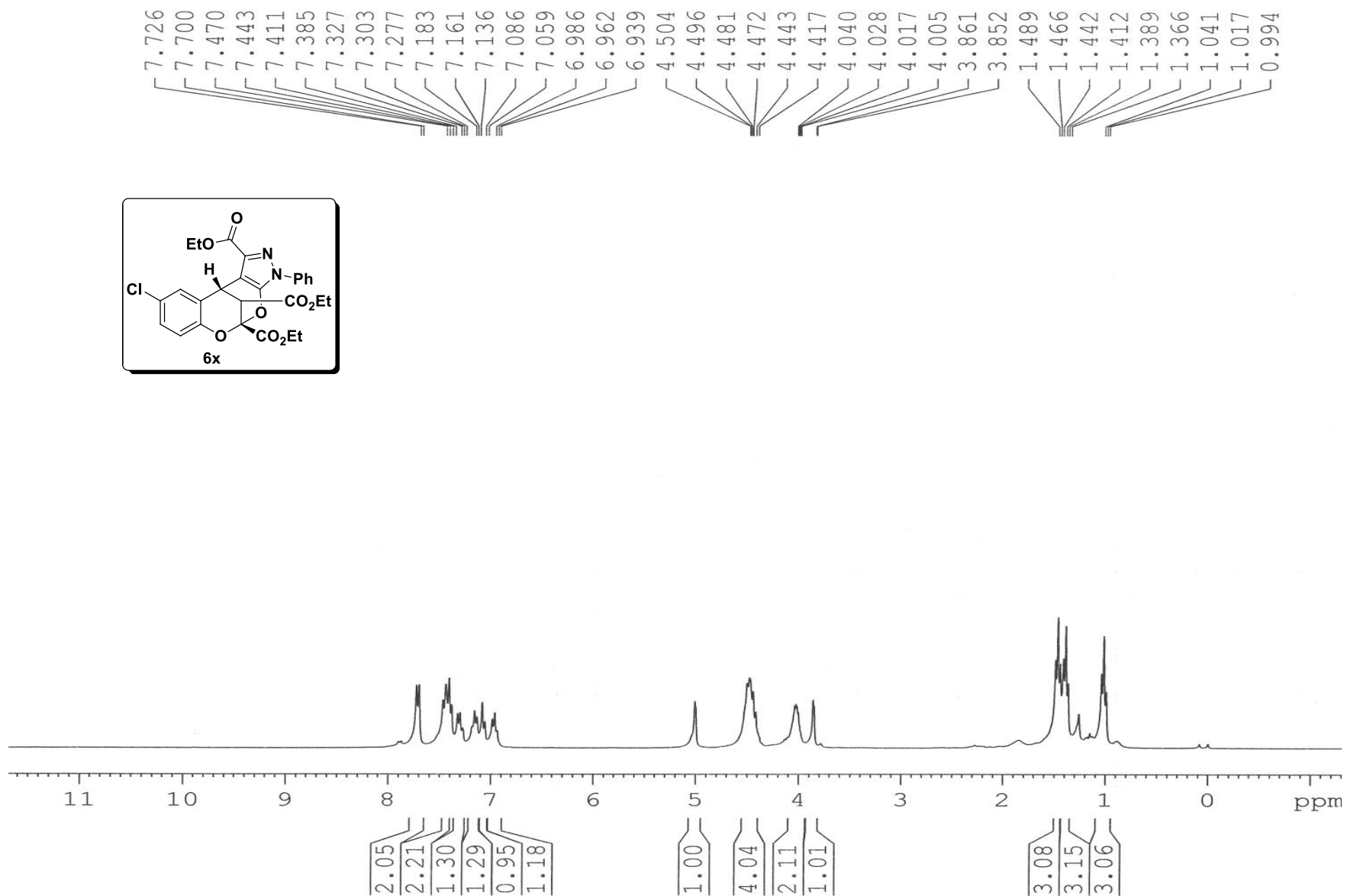


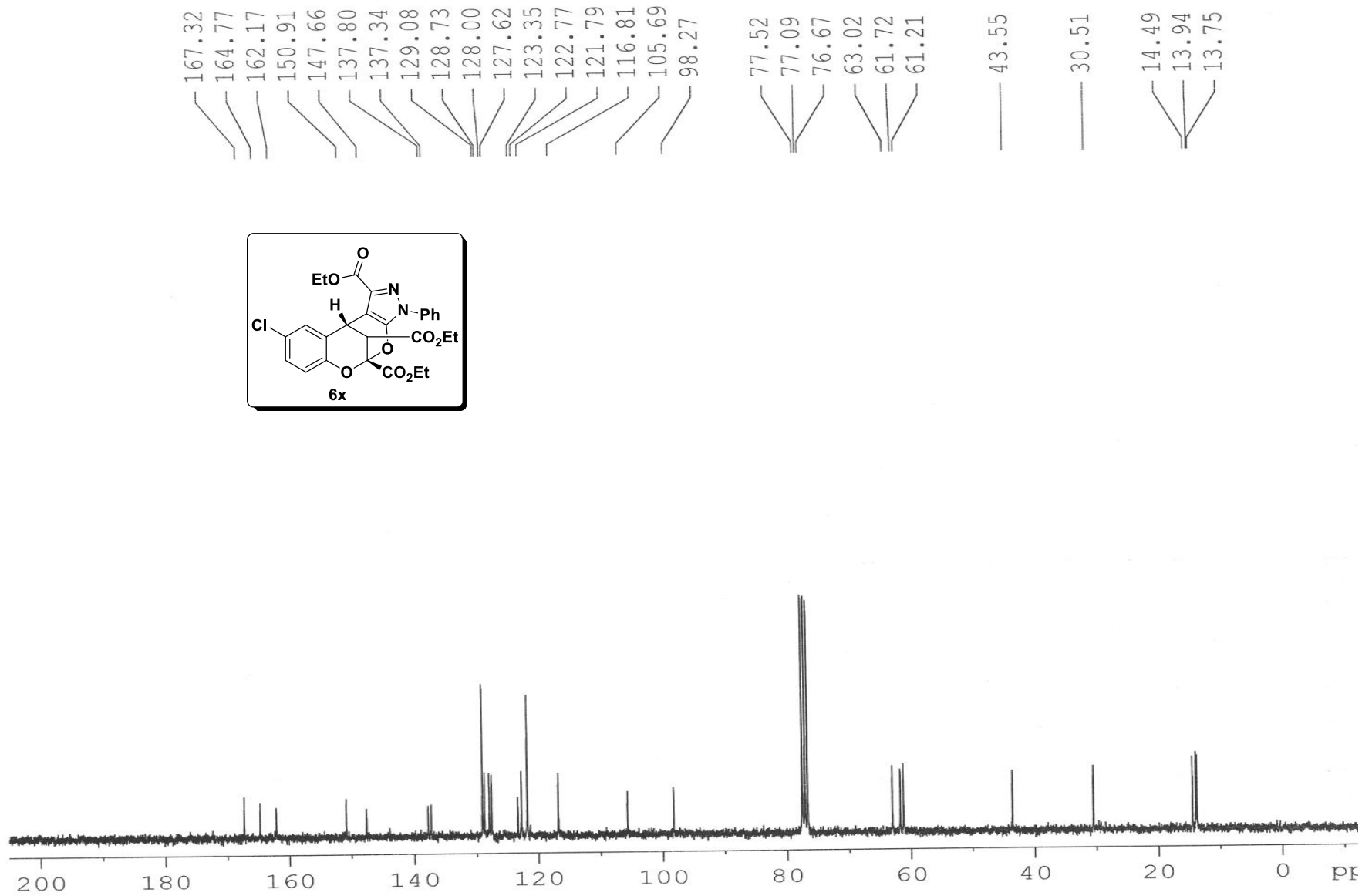
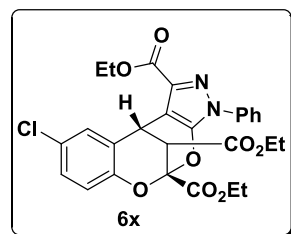




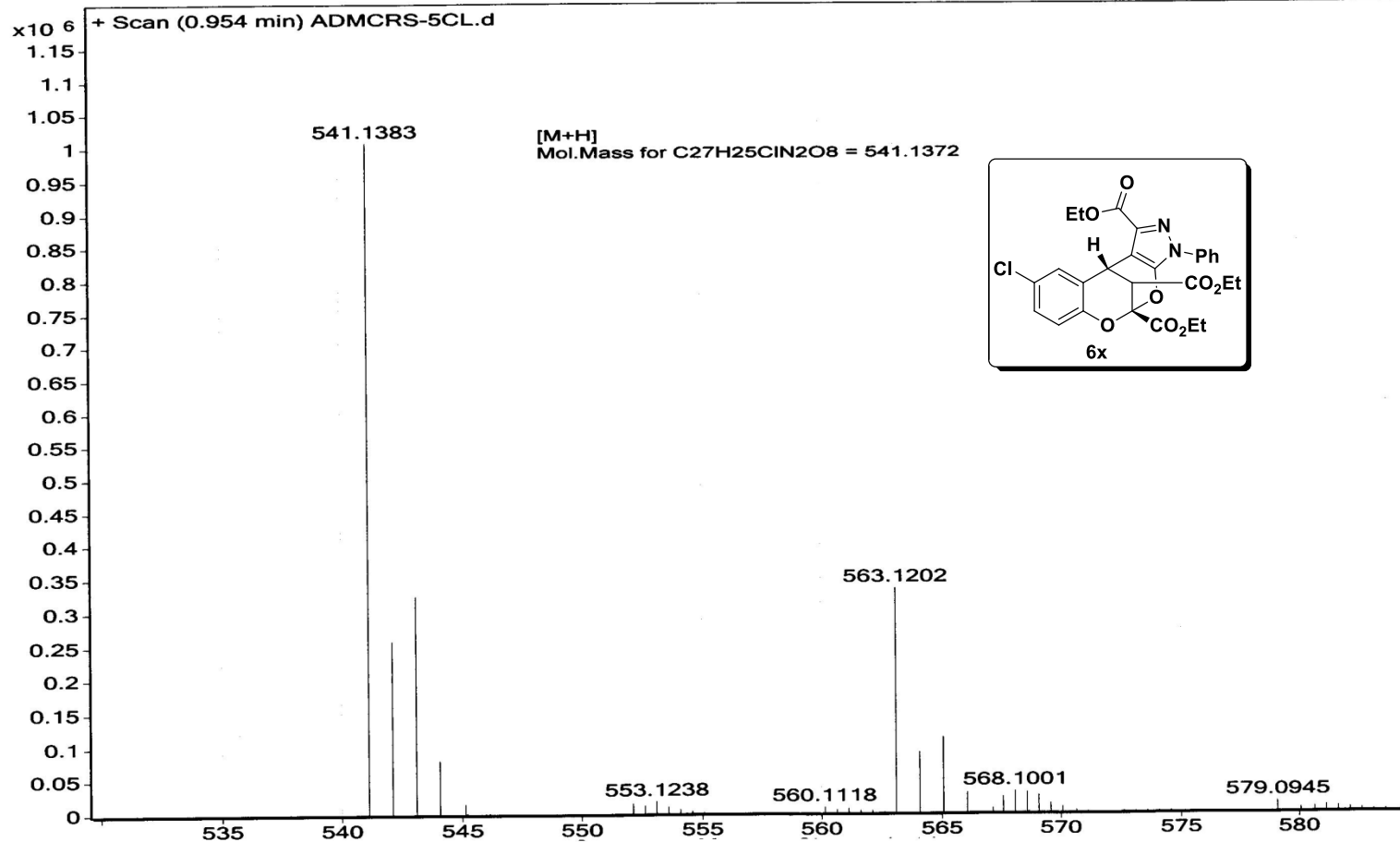
Sample Name	PRSK-IV-41	Position		Instrument Name	Q-TOF	User Name	QTOF-PU\admin
Inj Vol	-1	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	PRSK-IV-41.d	ACQ Method	Pondicherry Universi	Comment	Vijay-MB-526.1143	Acquired Time	19-09-2014 11:05:08

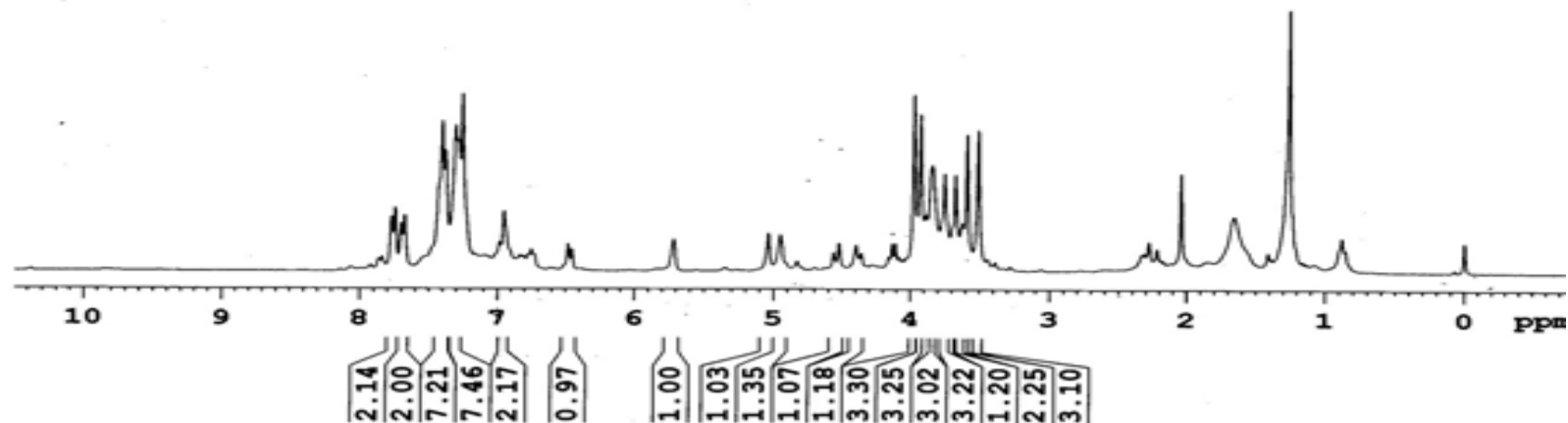
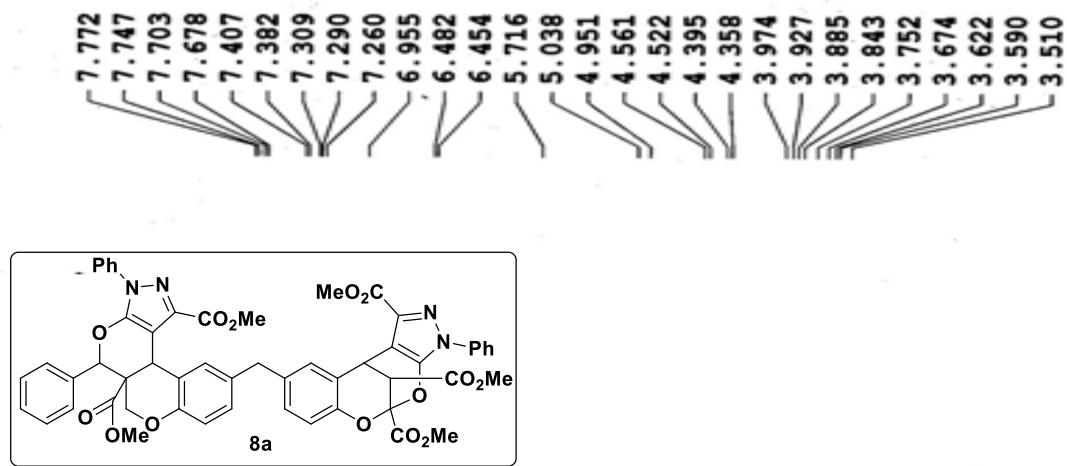


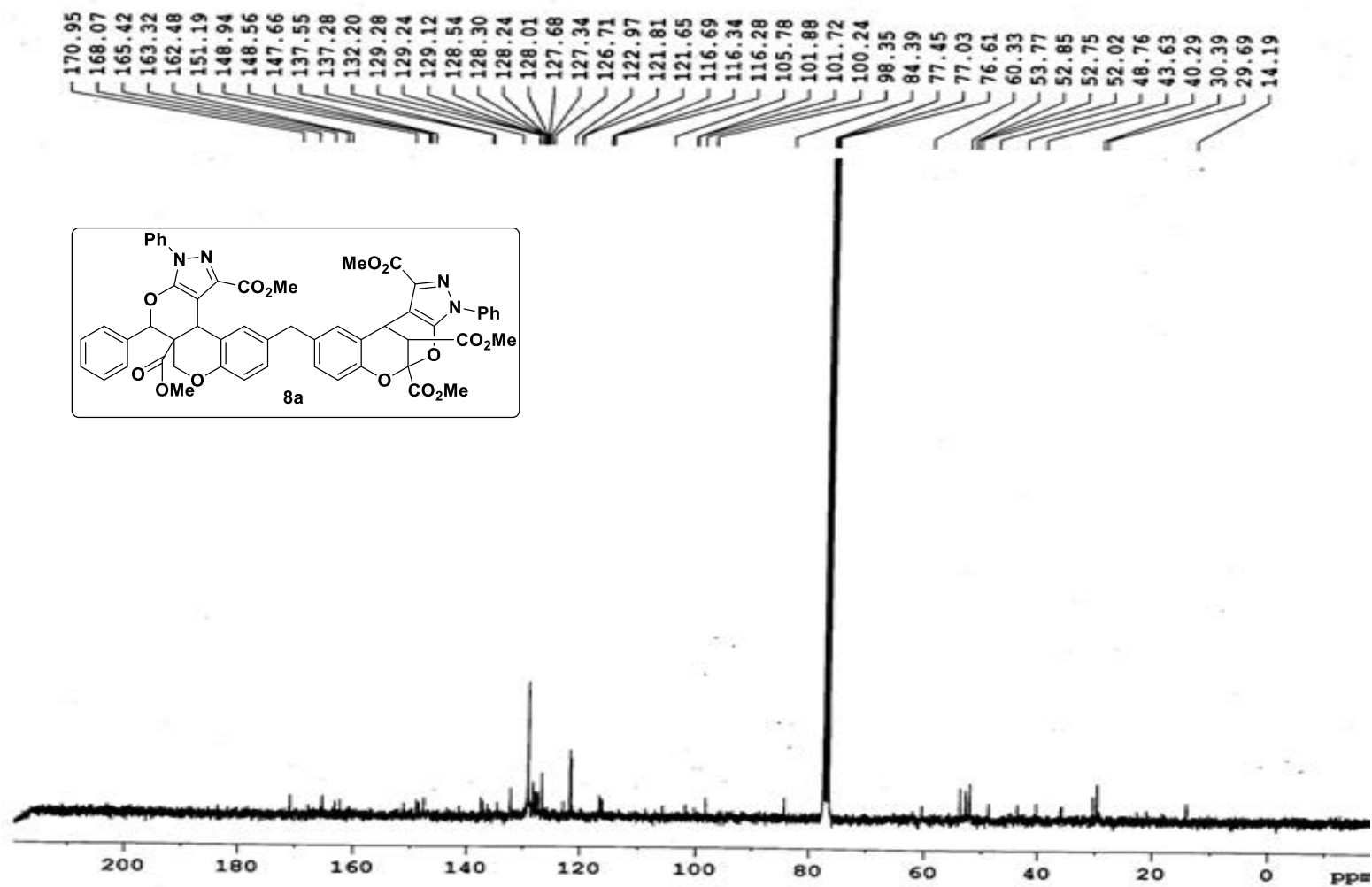




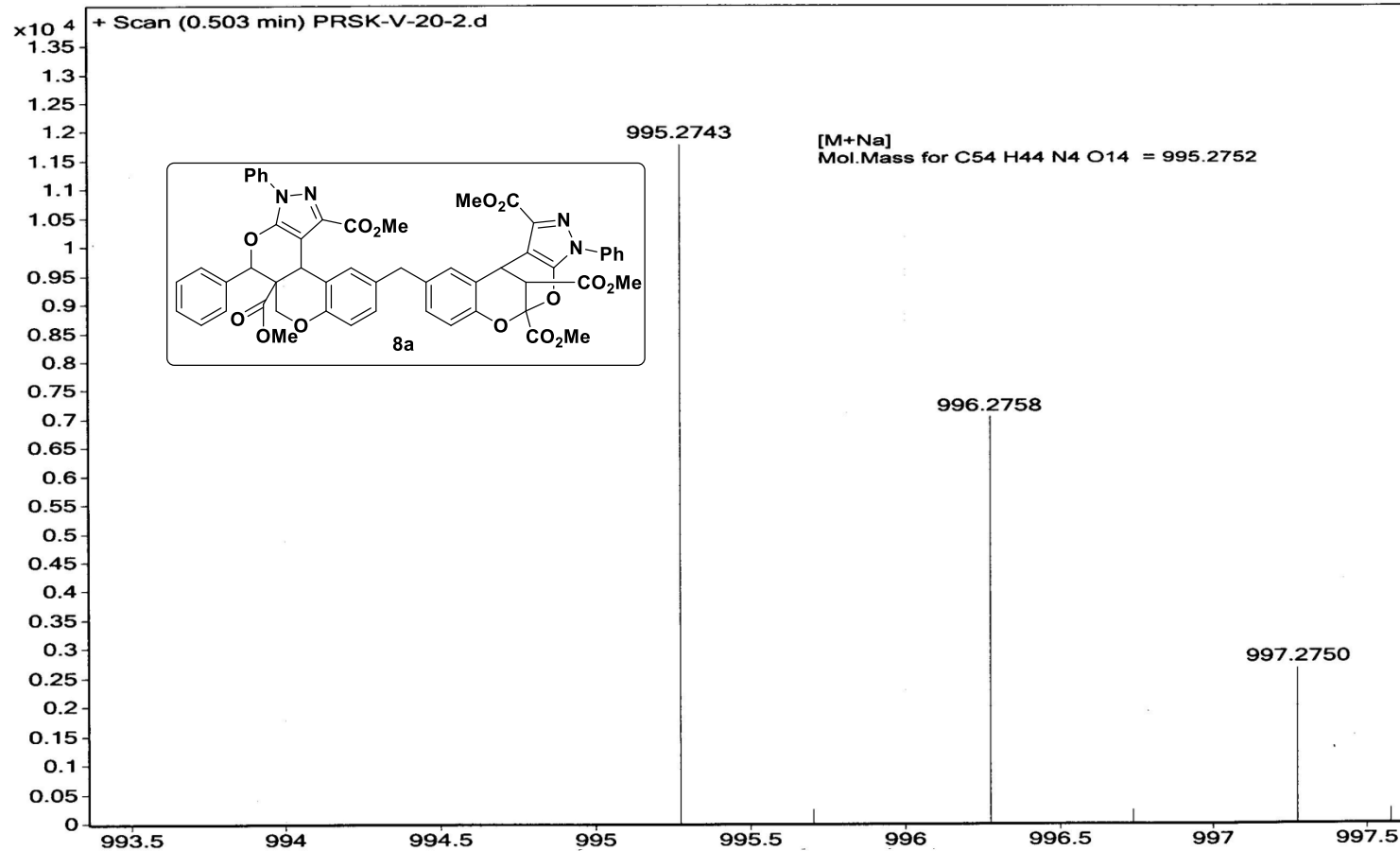
Sample Name	ADMCRS-5CL	Position	Instrument Name	Q-TOF	User Name	QTOF-PU\admin
Inj Vol	-1	InjPosition	SampleType	Sample	IRM Calibration Status	Success
Data Filename	ADMCRS-5CL.d	ACQ Method	Comment	Vijay-MB-540.1299	Acquired Time	19-09-2014 10:55:10

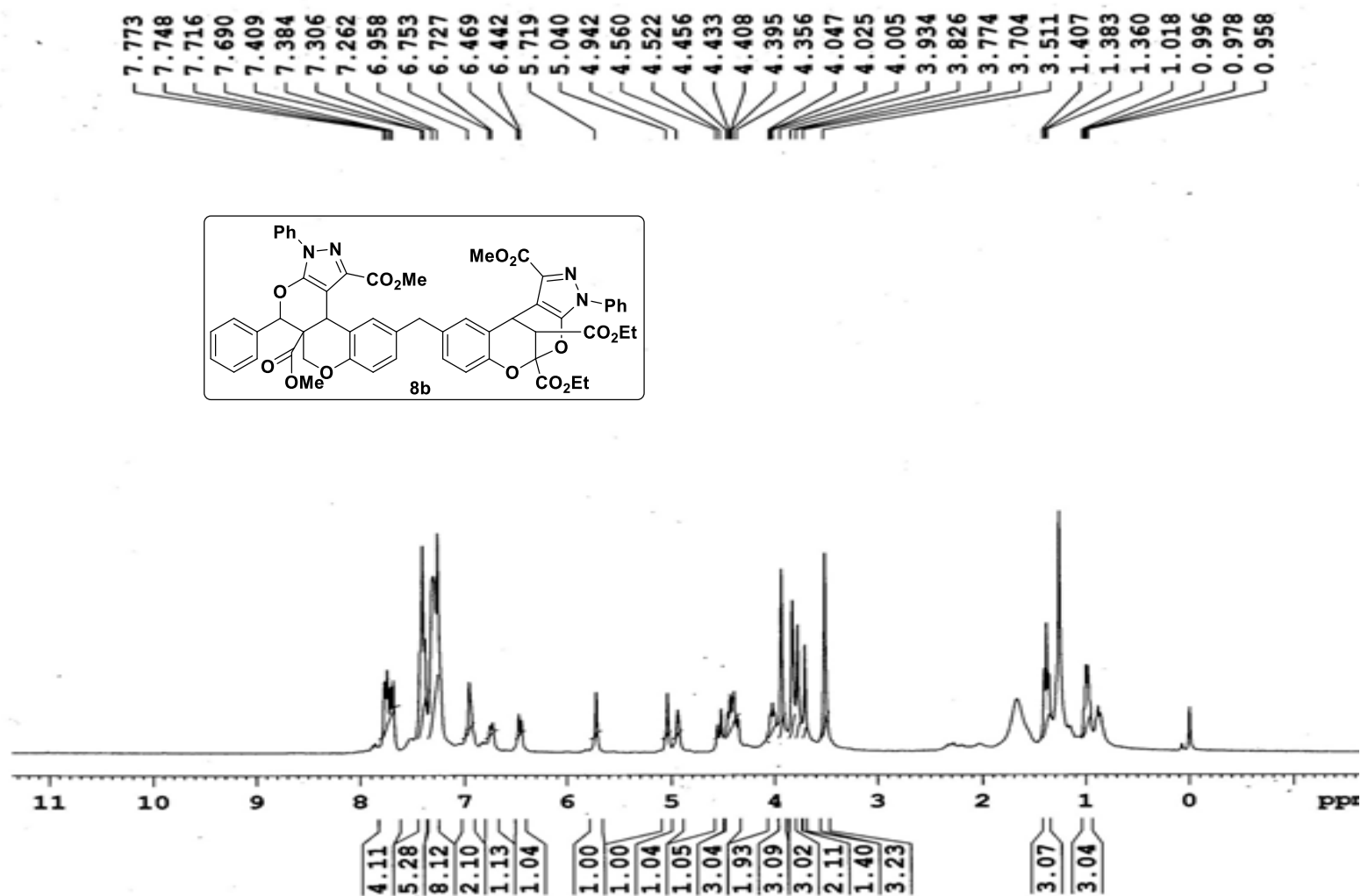


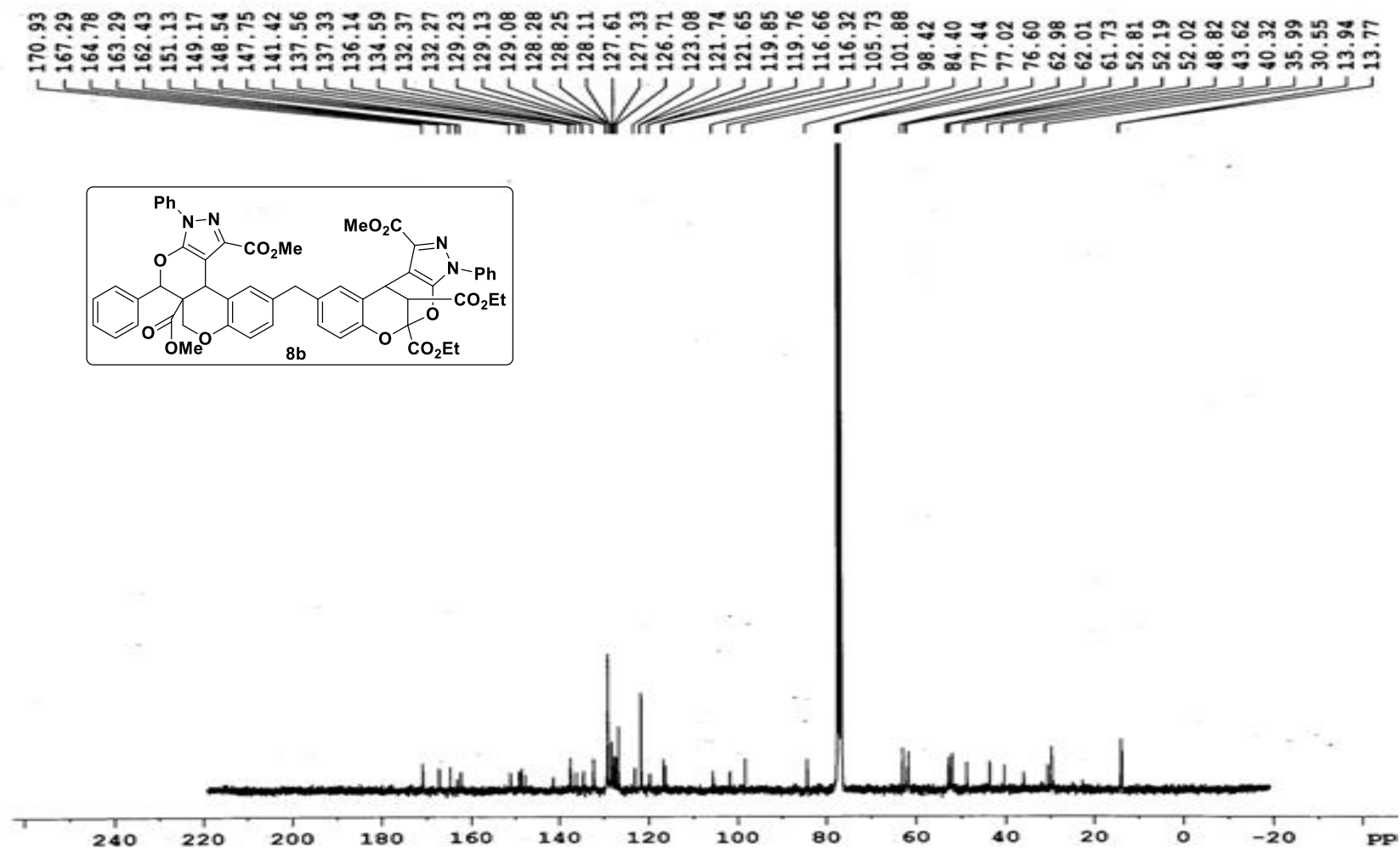




Sample Name	PRSK-V-20-2	Position		Instrument Name	Q-TOF	User Name	QTOF-PU\admin
Inj Vol	-1	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	PRSK-V-20-2.d	ACQ Method	victo 3.9.2014.m	Comment	MB-ACN	Acquired Time	05-09-2014 12:40:57







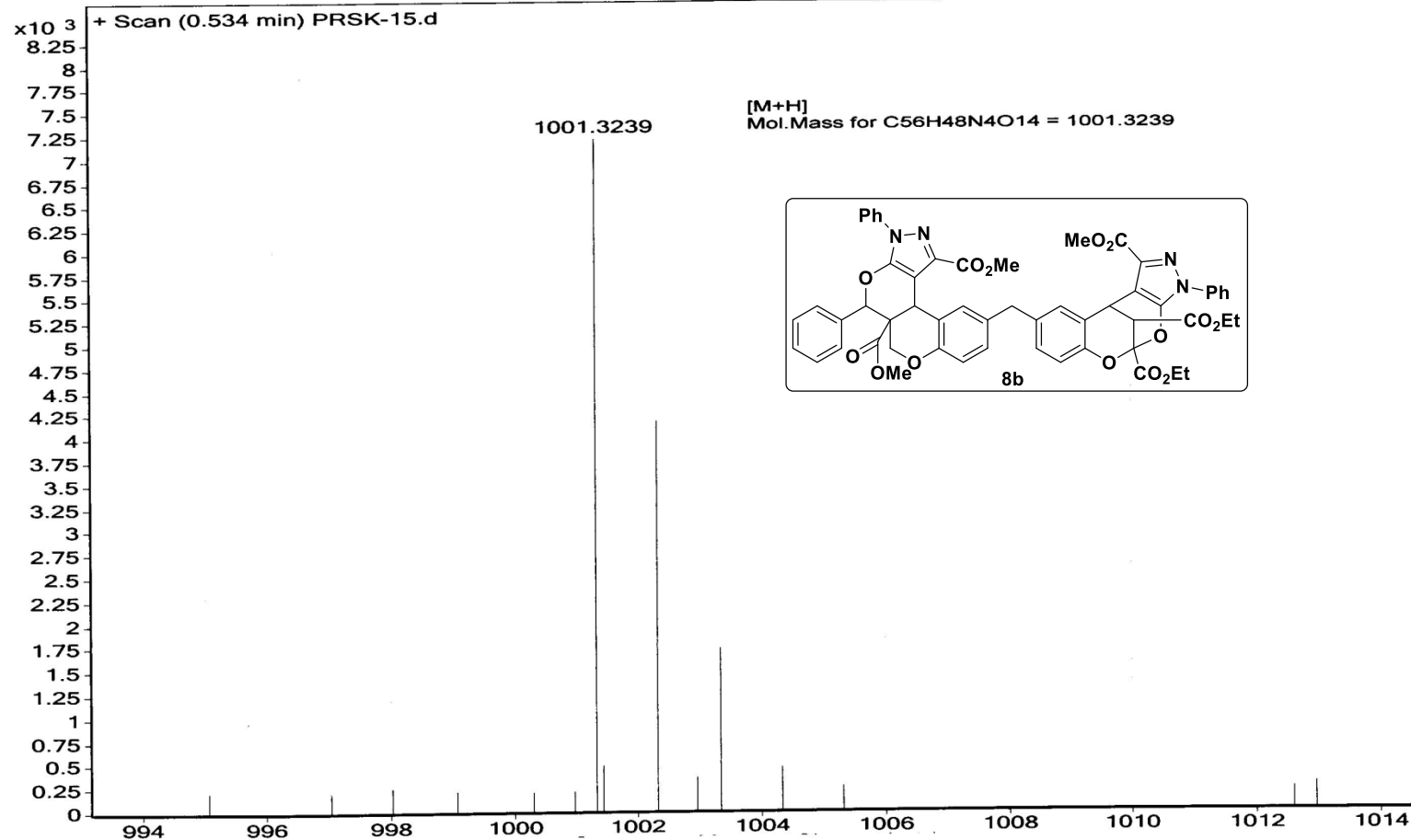
Sample Name PRSK-15
Inj Vol -1
Data Filename PRSK-15.d

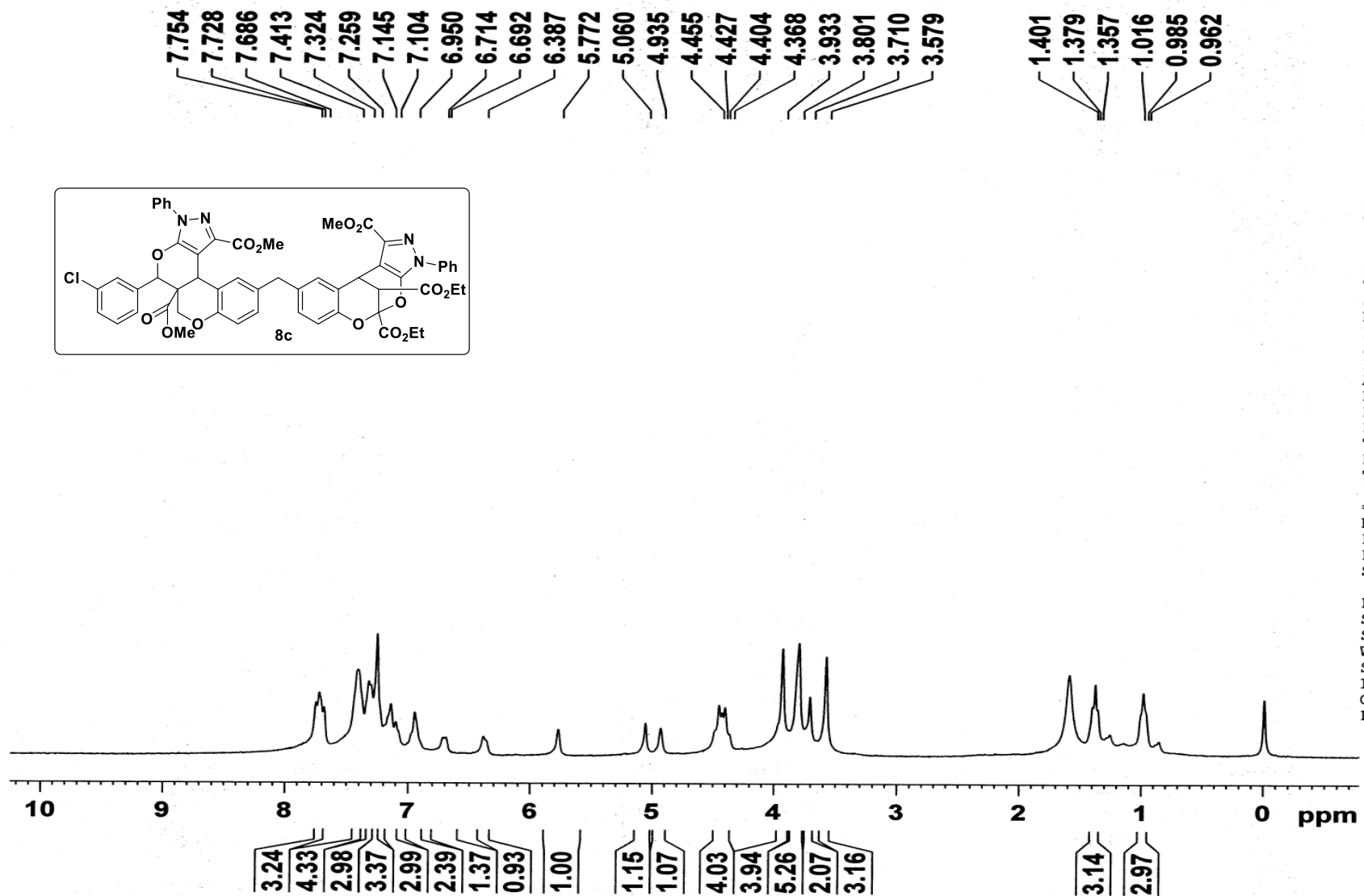
Position
InjPosition
ACQ Method victo 3.9.2014.m

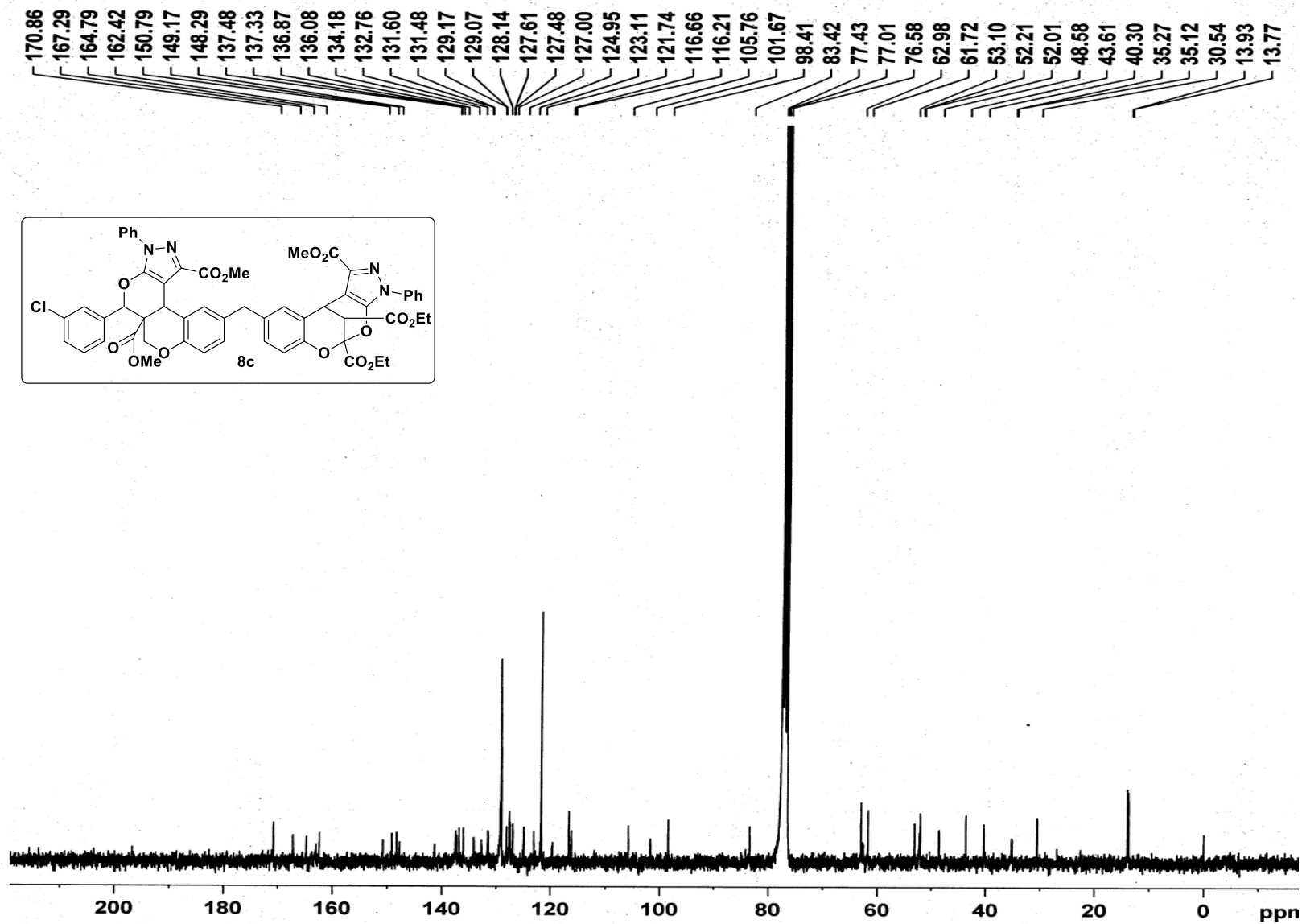
Instrument Name Q-TOF
SampleType Sample
Comment HSP-

User Name
IRM Calibration Status
Acquired Time

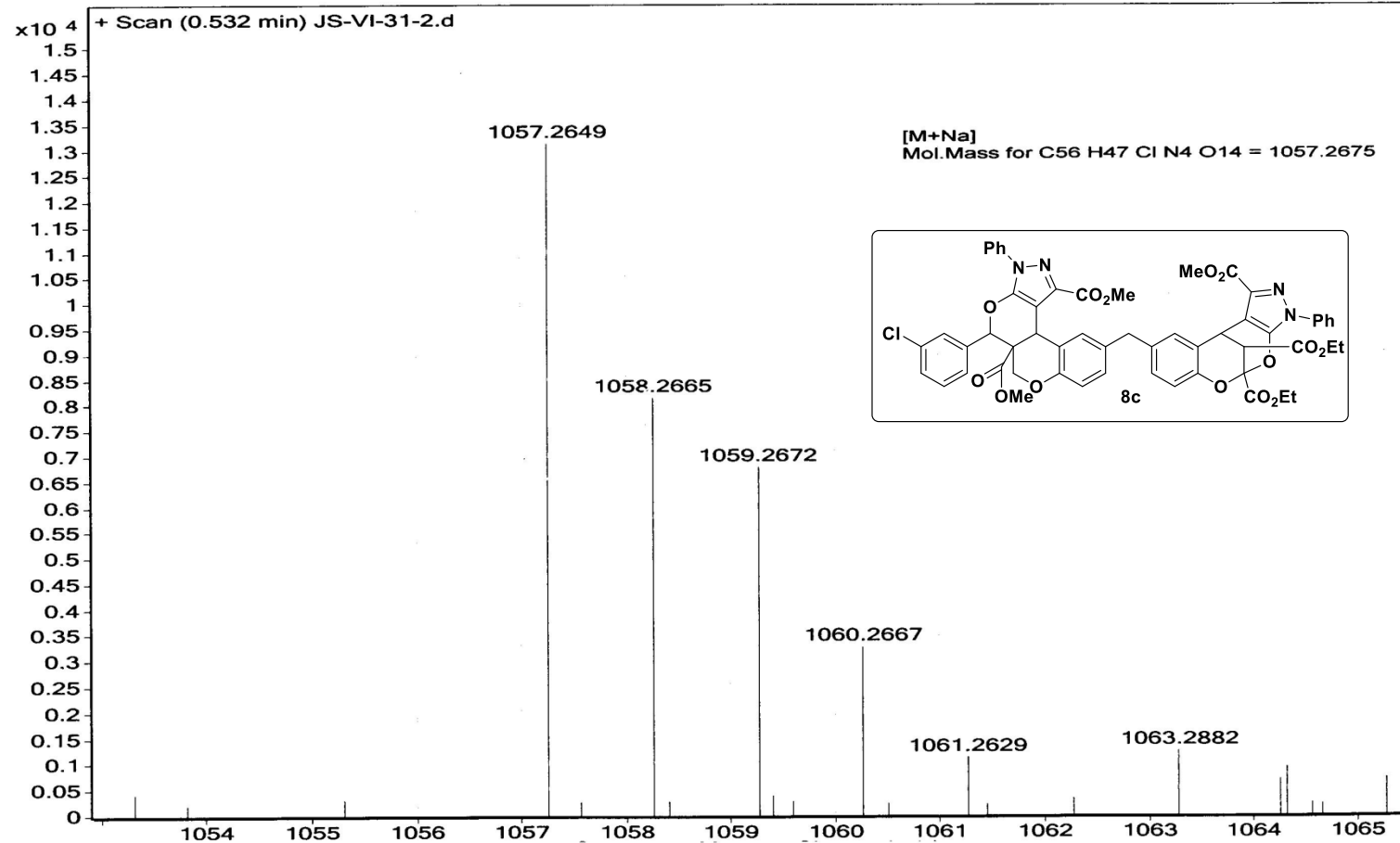
QTOF-PU\admin
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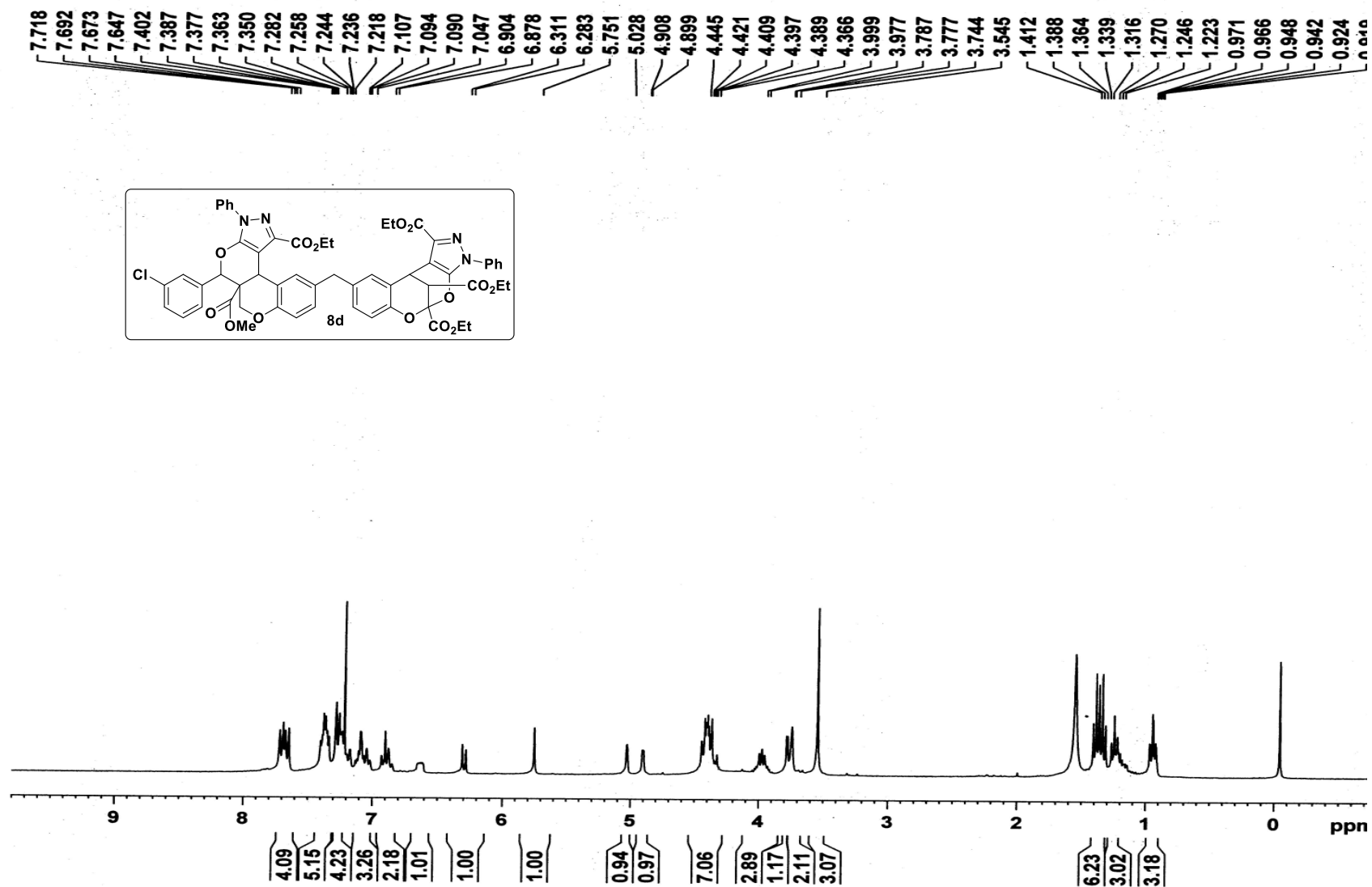


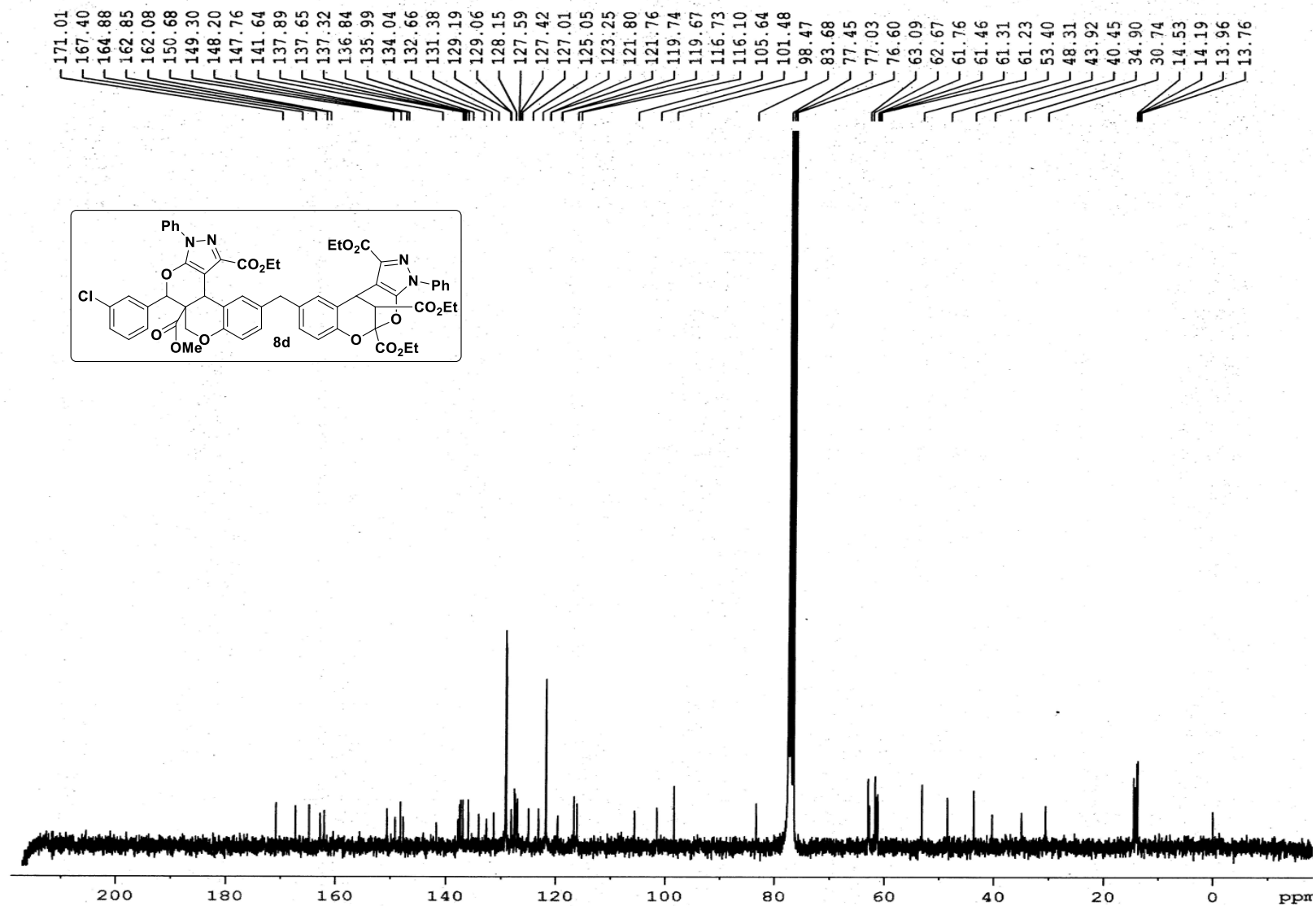


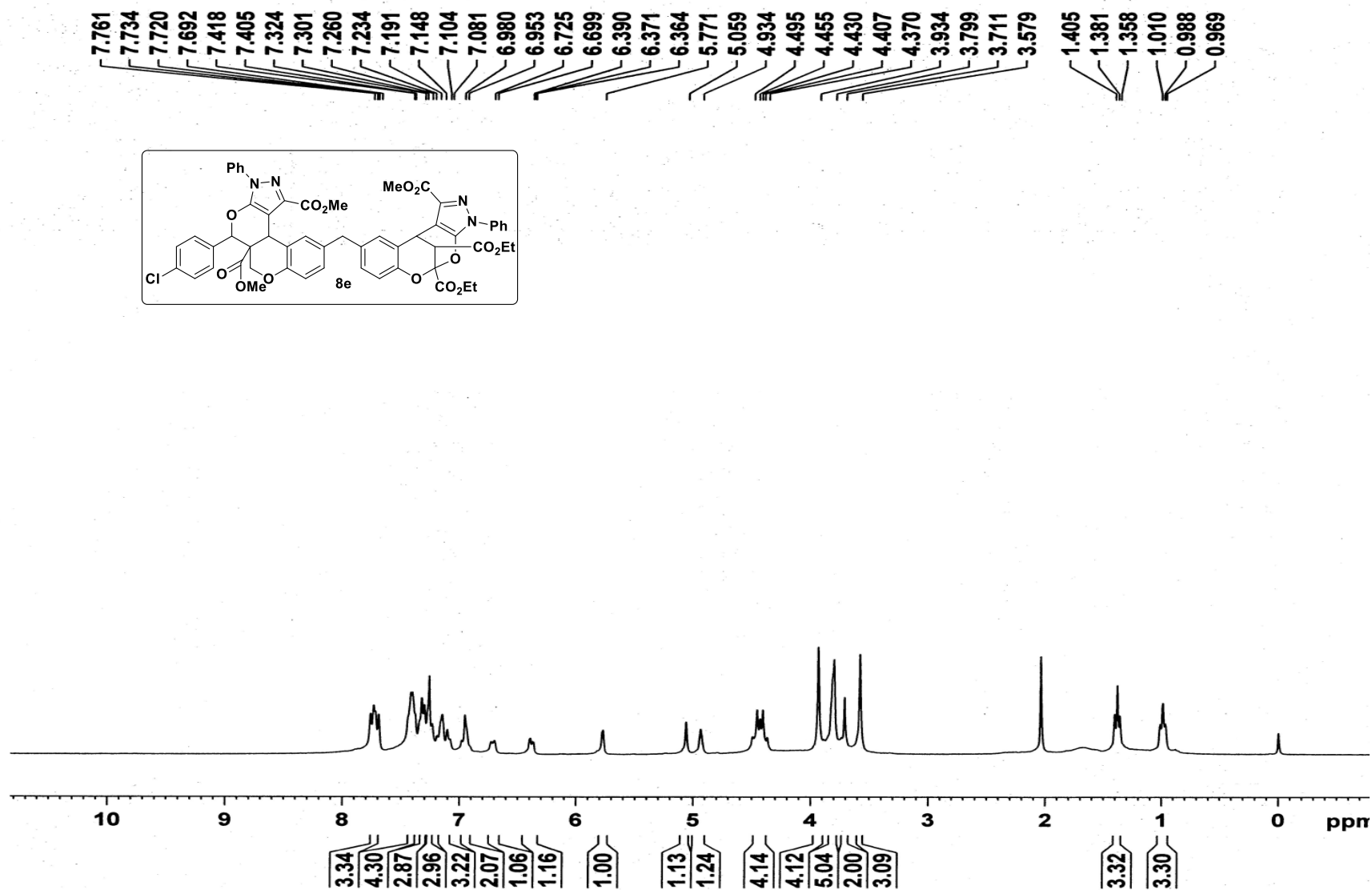


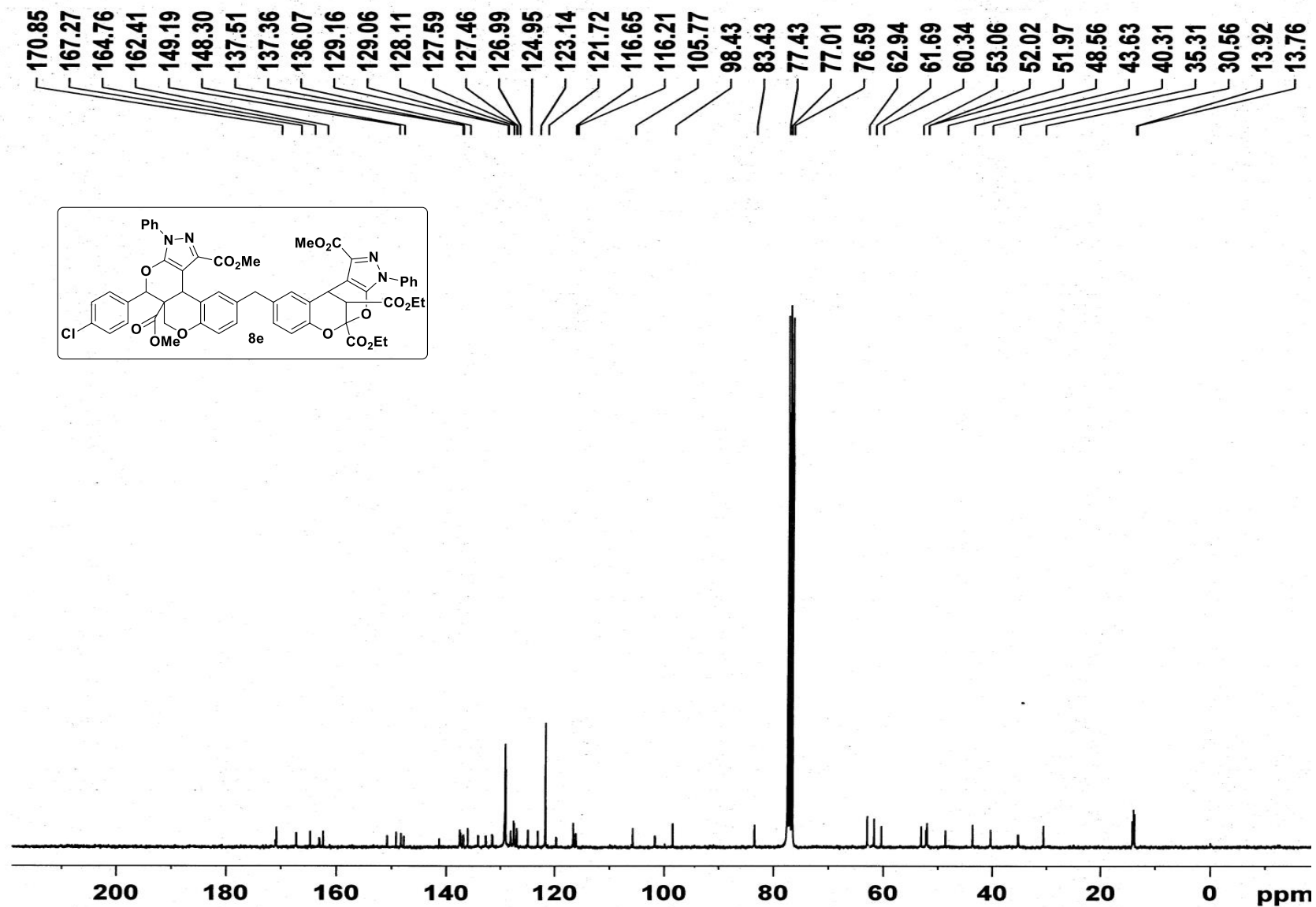
Sample Name	JS-VI-31-2	Position		Instrument Name	Q-TOF	User Name	QTOF-PU\admin
Inj Vol	-1	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	JS-VI-31-2.d	ACQ Method	victo 3.9.2014.m	Comment	MB-ACN	Acquired Time	05-09-2014 12:18:57



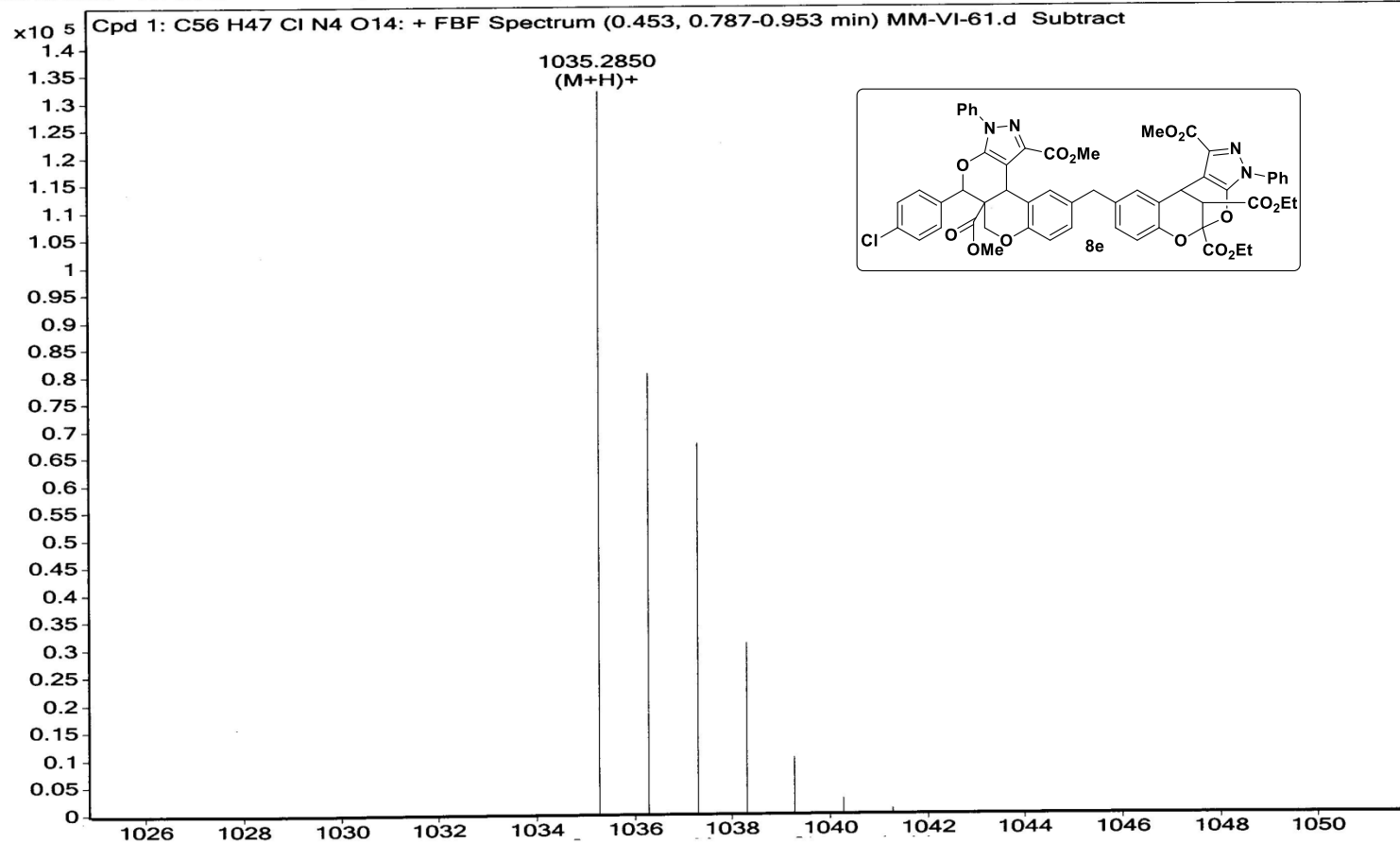


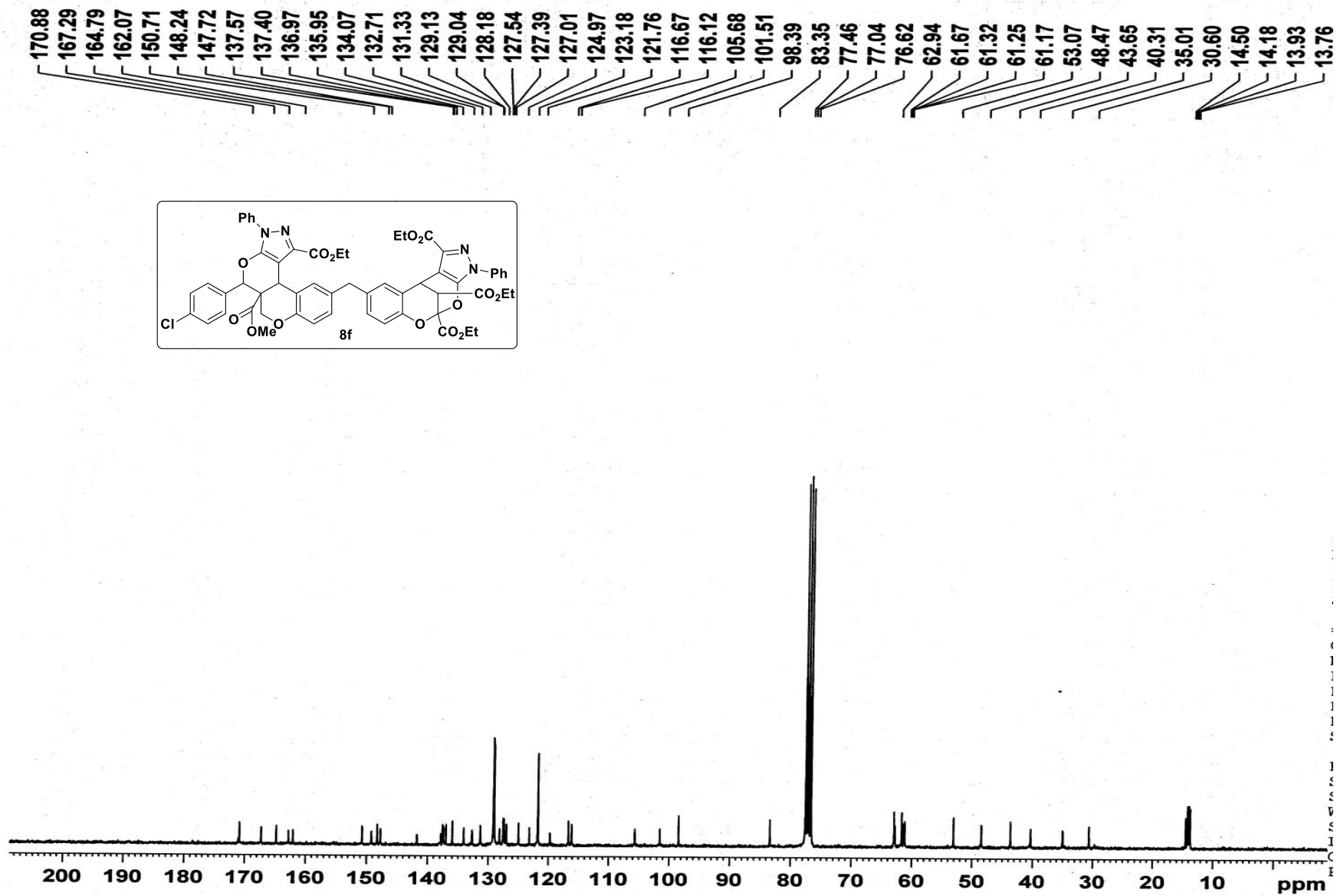




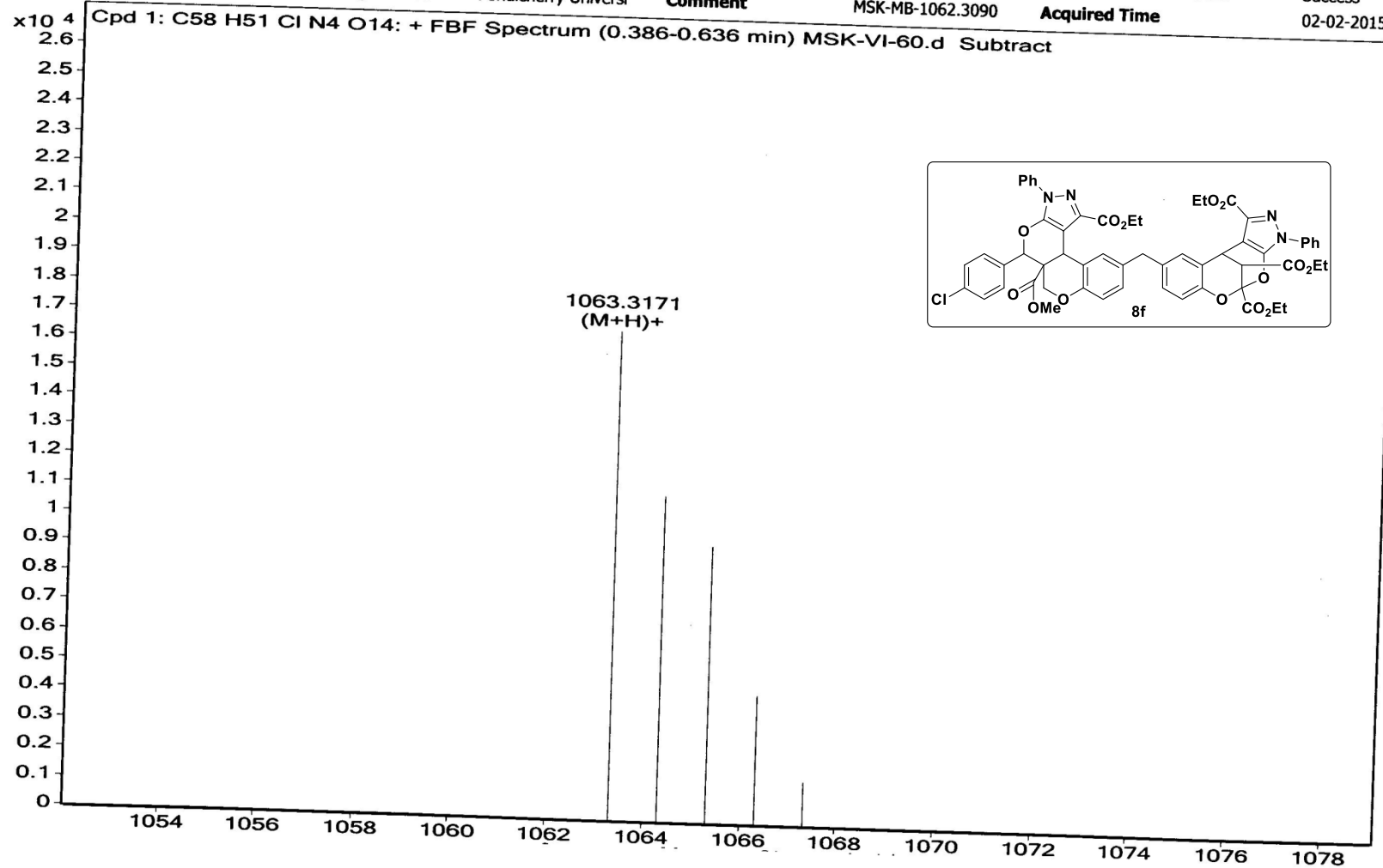


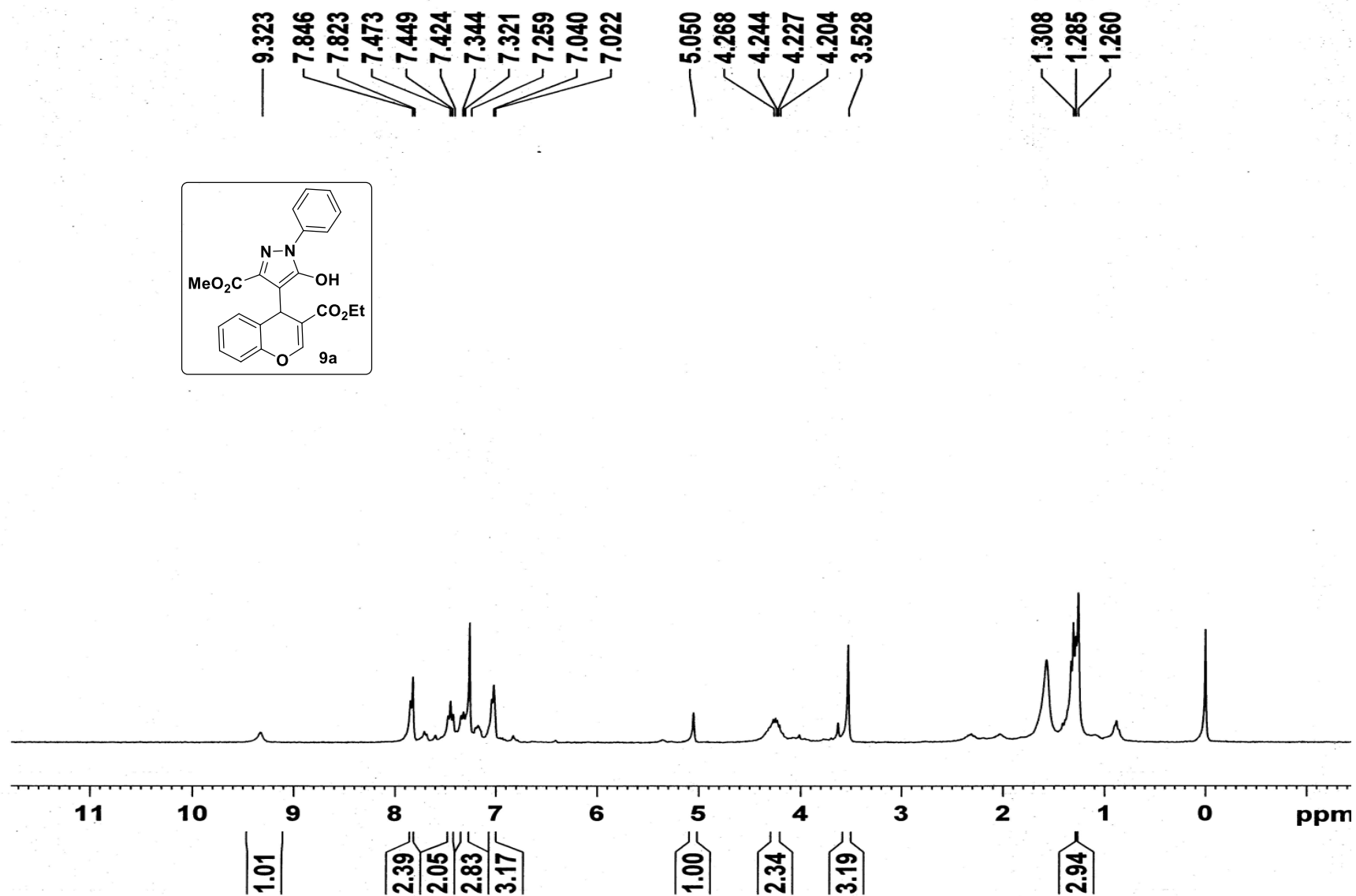
Sample Name	MM-VI-61	Position		Instrument Name	Q-TOF	User Name	QTOF-PU\admin
Inj Vol	-1	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	MM-VI-61.d	ACQ Method	Pondicherry Universi	Comment	MM-MB-1034.2777	Acquired Time	05-03-2015 10:57:09

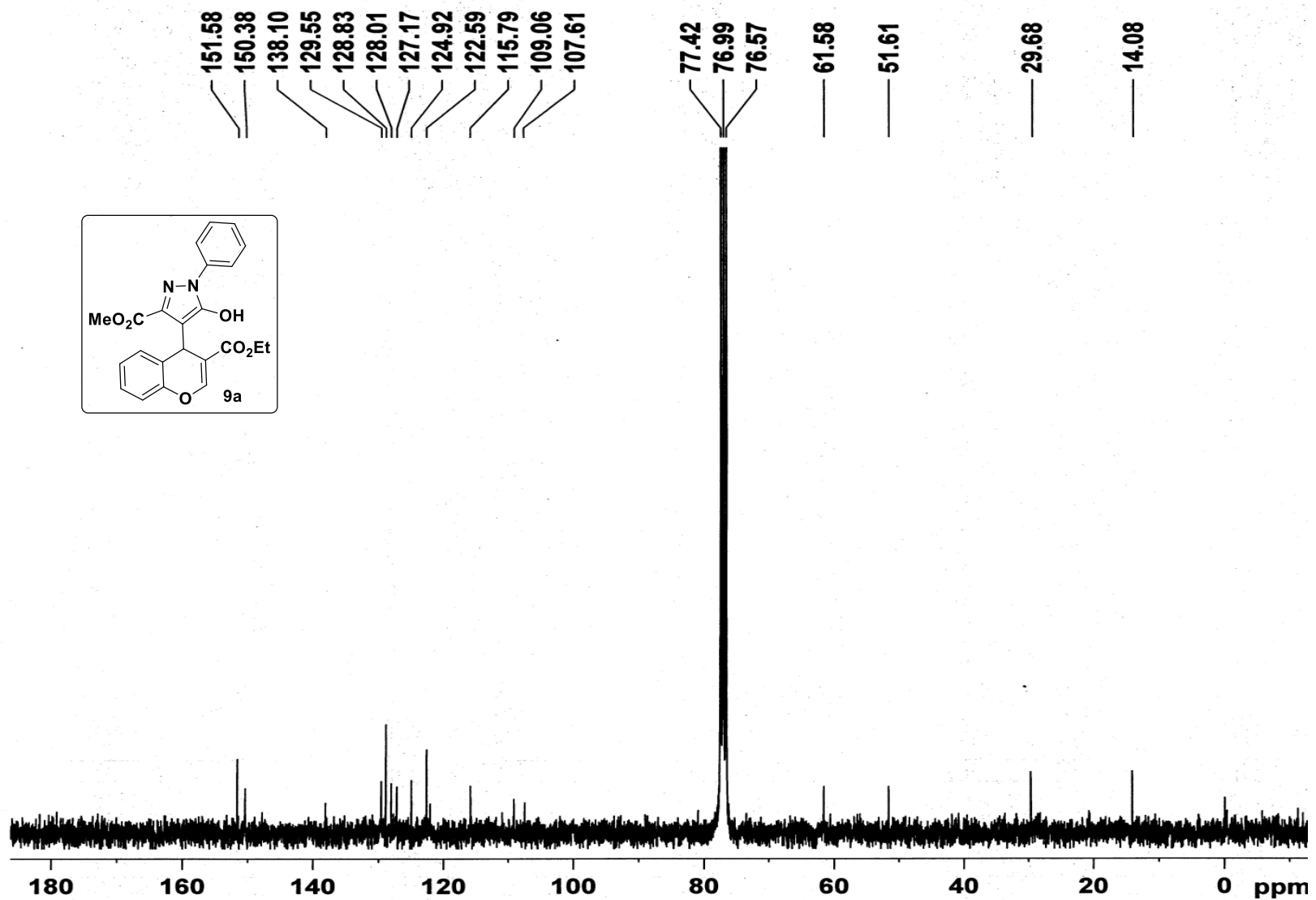




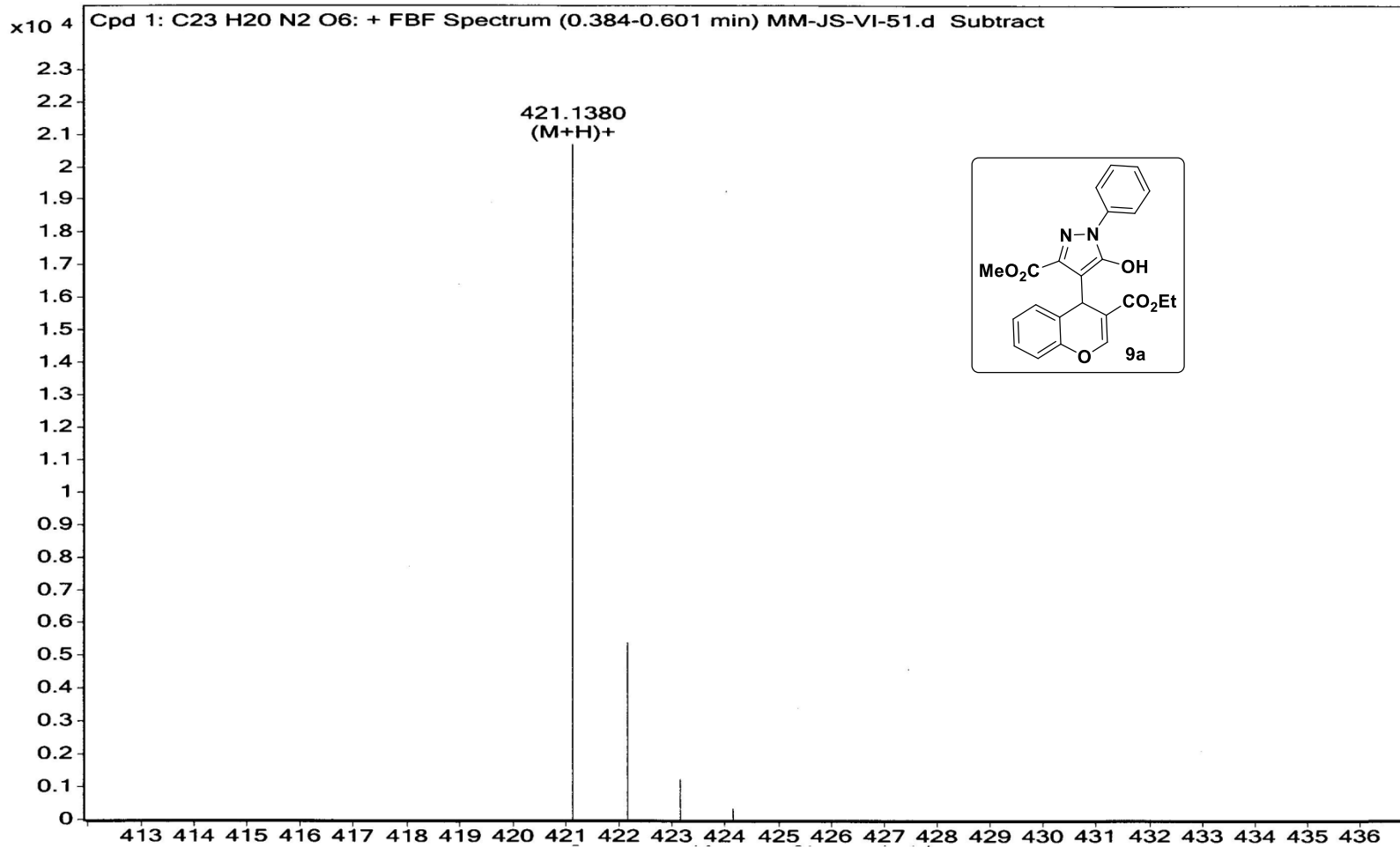
Sample Name	MSK-VI-60	Position		Instrument Name	Q-TOF	User Name	QTOF-PU\admin
Inj Vol	-1	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	MSK-VI-60.d	ACQ Method	Pondicherry Universi	Comment	MSK-MB-1062.3090	Acquired Time	02-02-2015 12:29:49

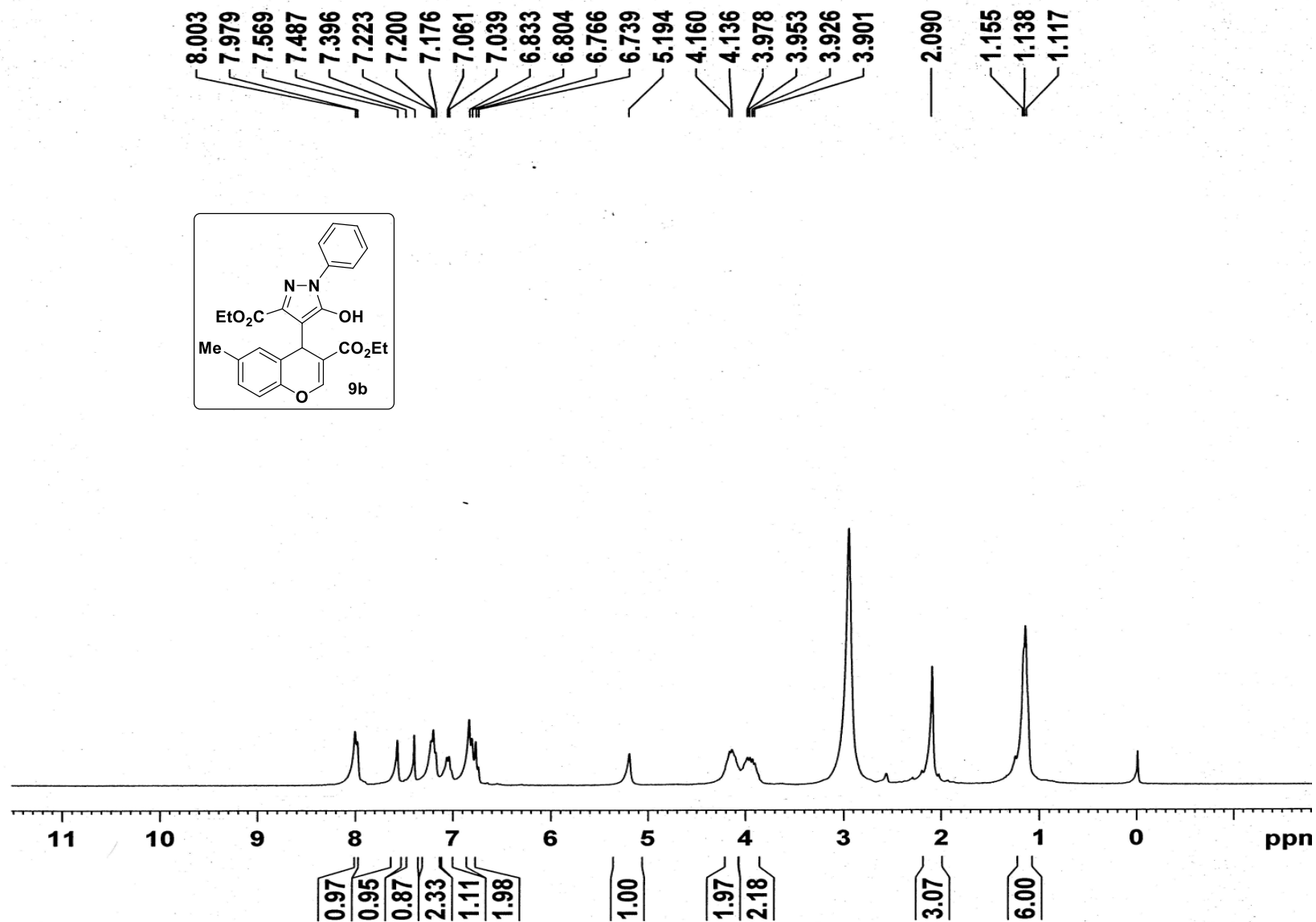


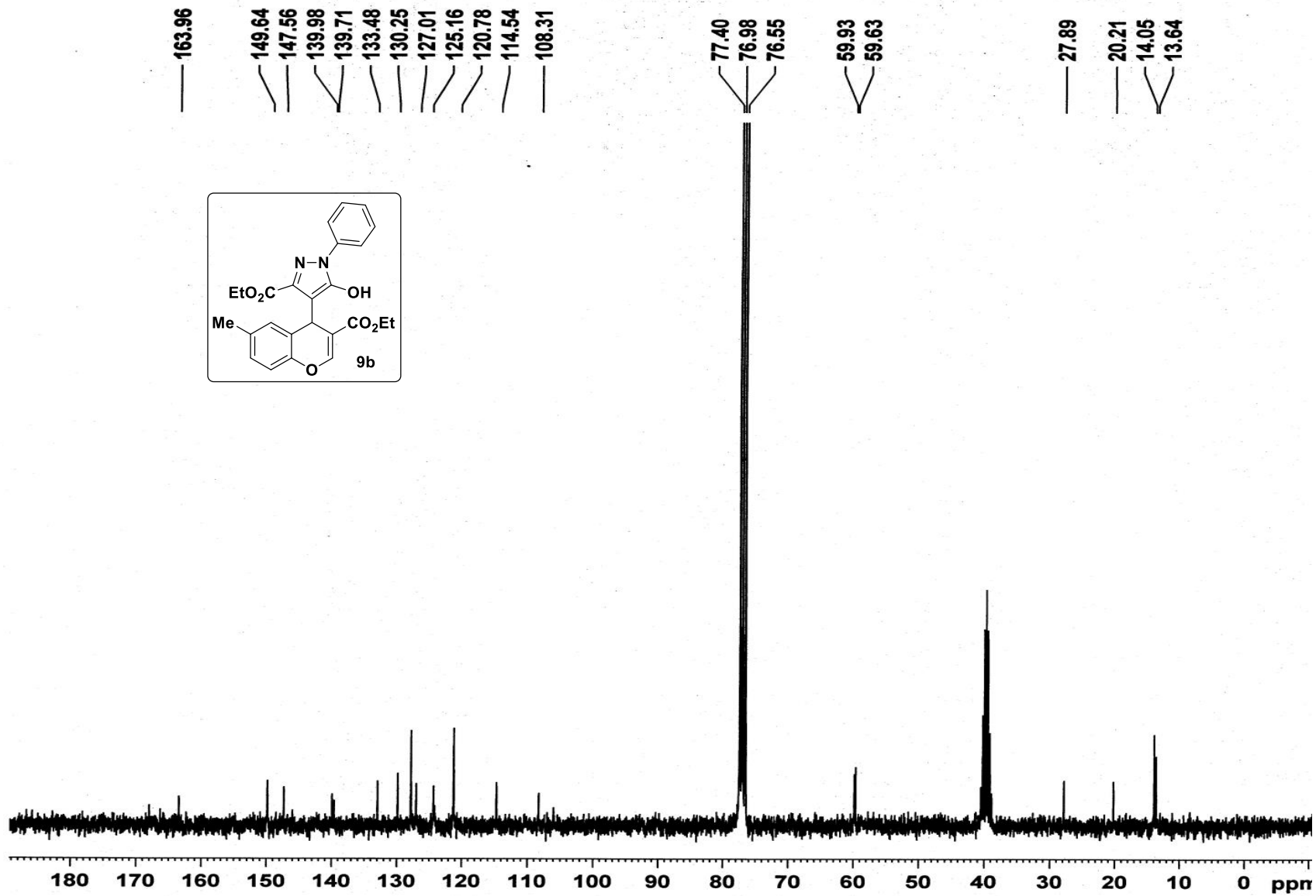




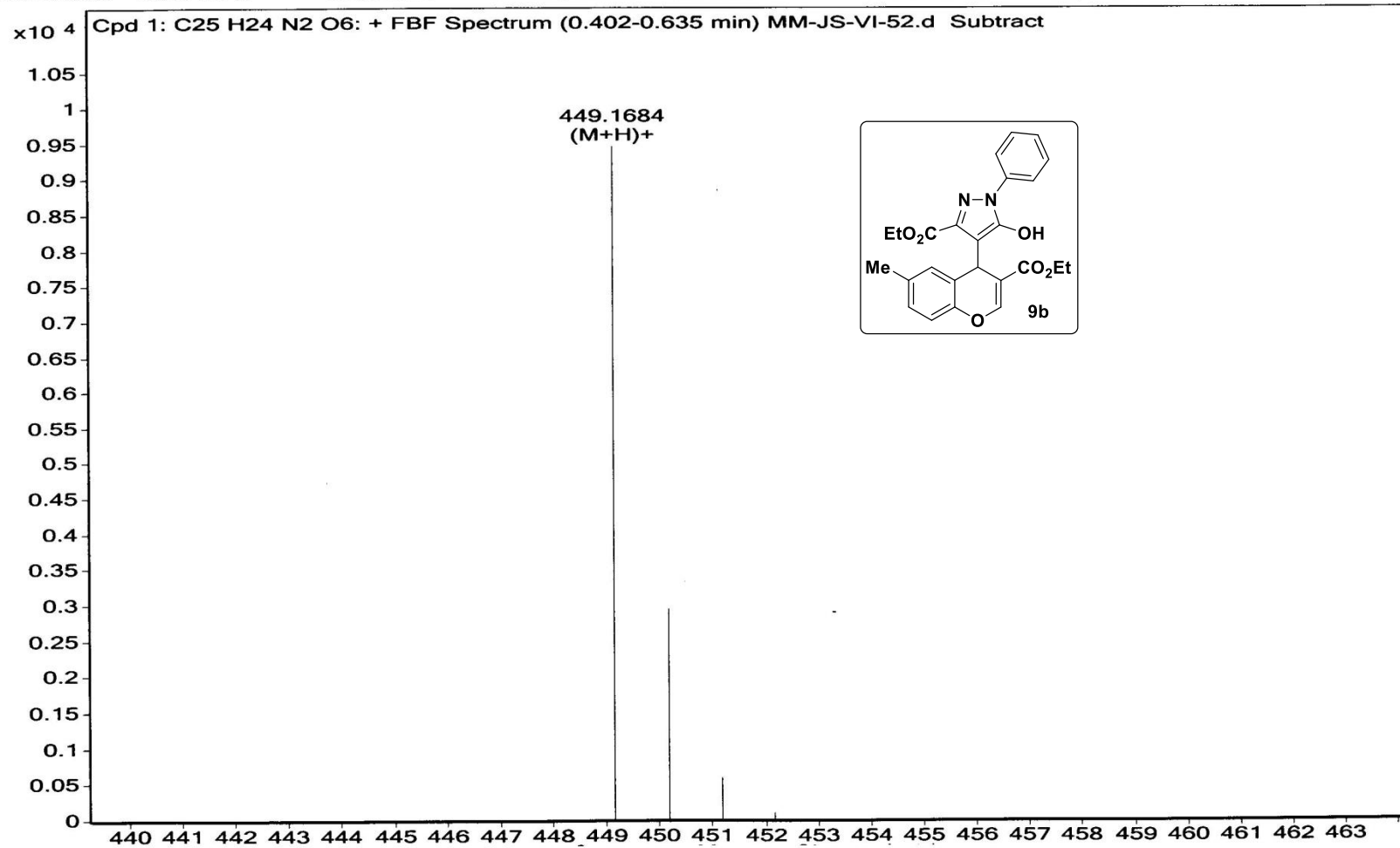
Sample Name	MM-JS-VI-51	Position		Instrument Name	Q-TOF	User Name	QTOF-PU\admin
Inj Vol	-1	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	MM-JS-VI-51.d	ACQ Method	Pondicherry Universi	Comment	MM-MB-420.1321	Acquired Time	26-02-2015 10:36:31

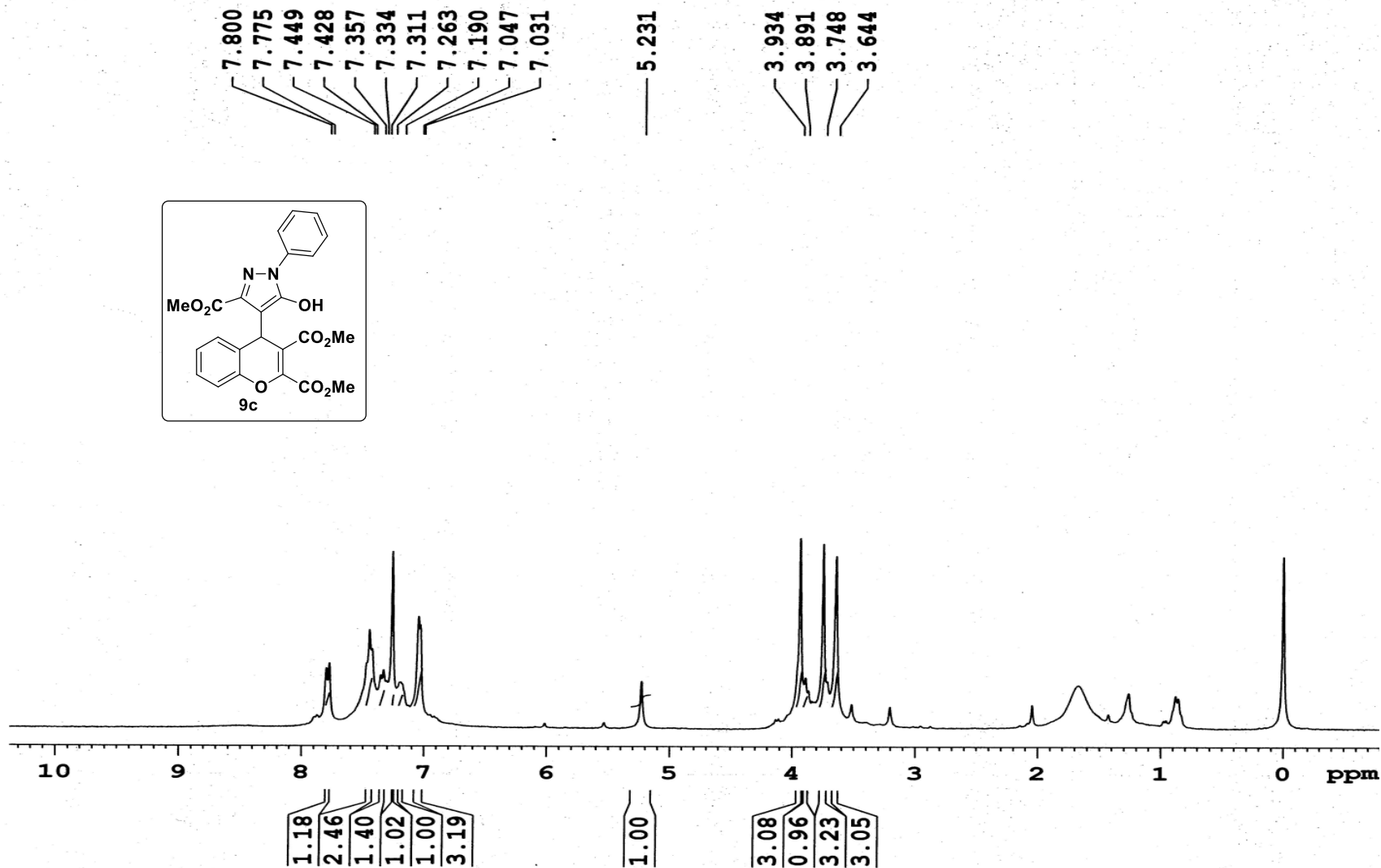


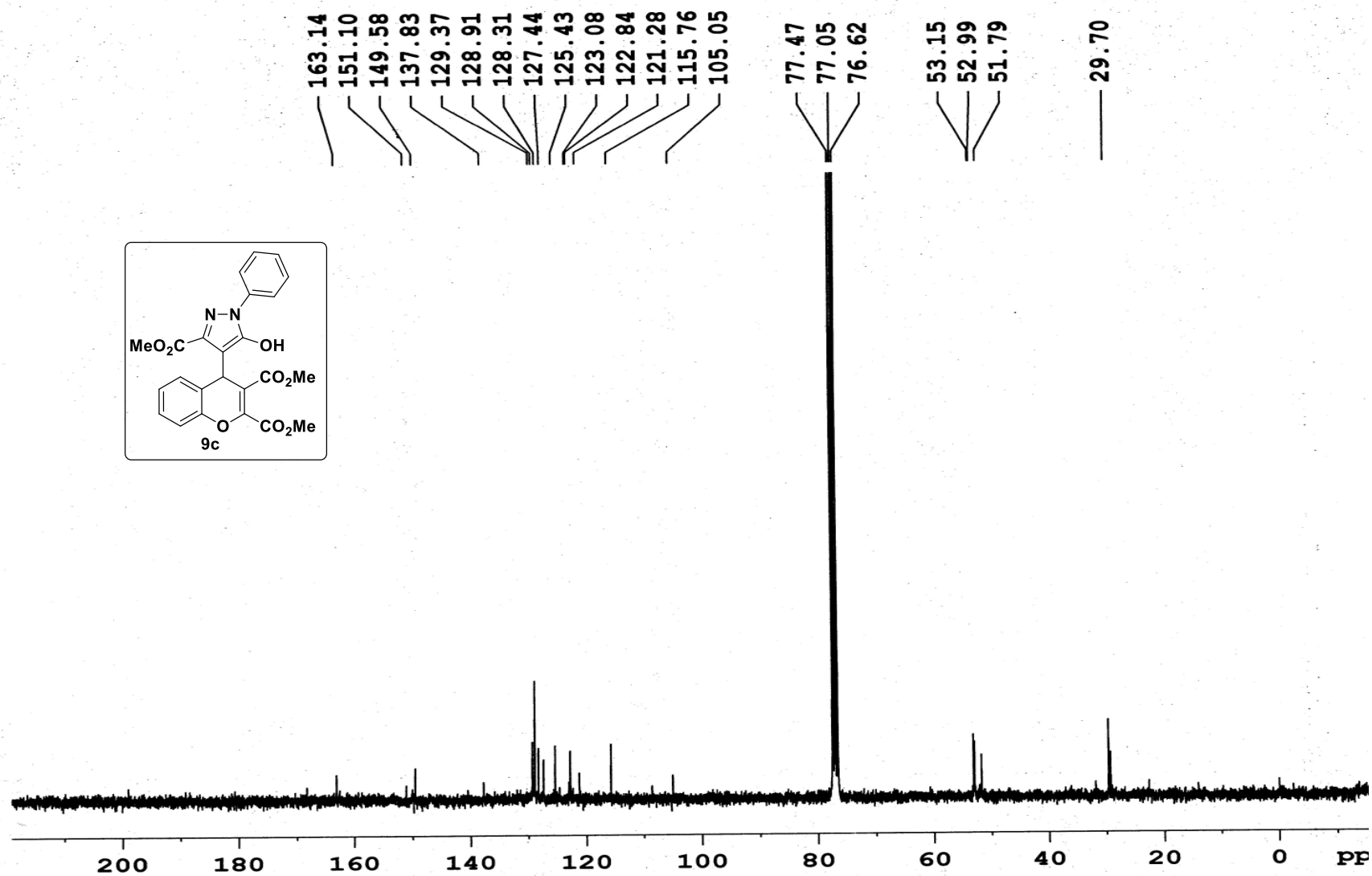




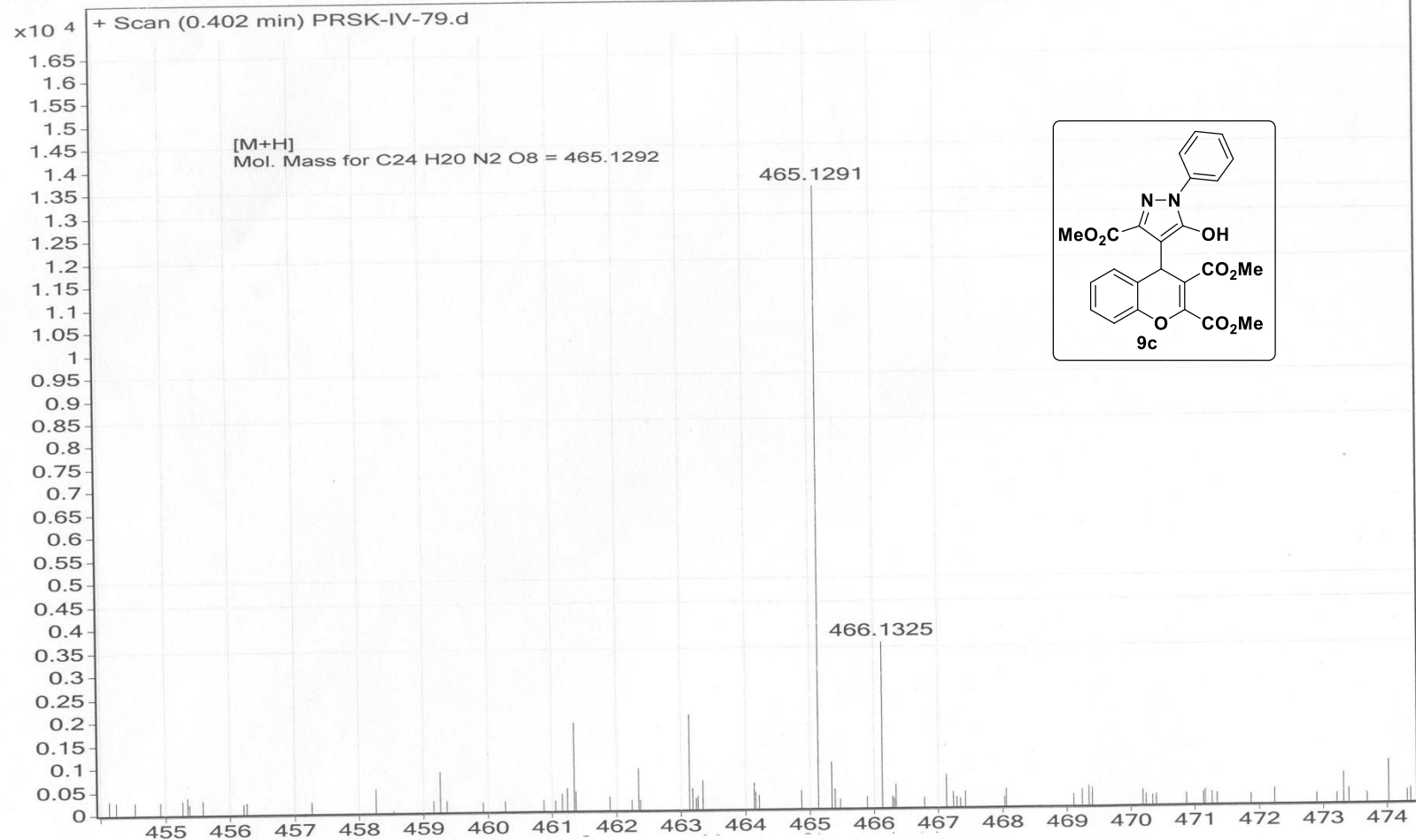
Sample Name	MM-JS-VI-52	Position		Instrument Name	Q-TOF	User Name	QTOF-PU\admin
Inj Vol	-1	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	MM-JS-VI-52.d	ACQ Method	Pondicherry Universi	Comment	MM-MB-448.1634	Acquired Time	26-02-2015 10:59:13

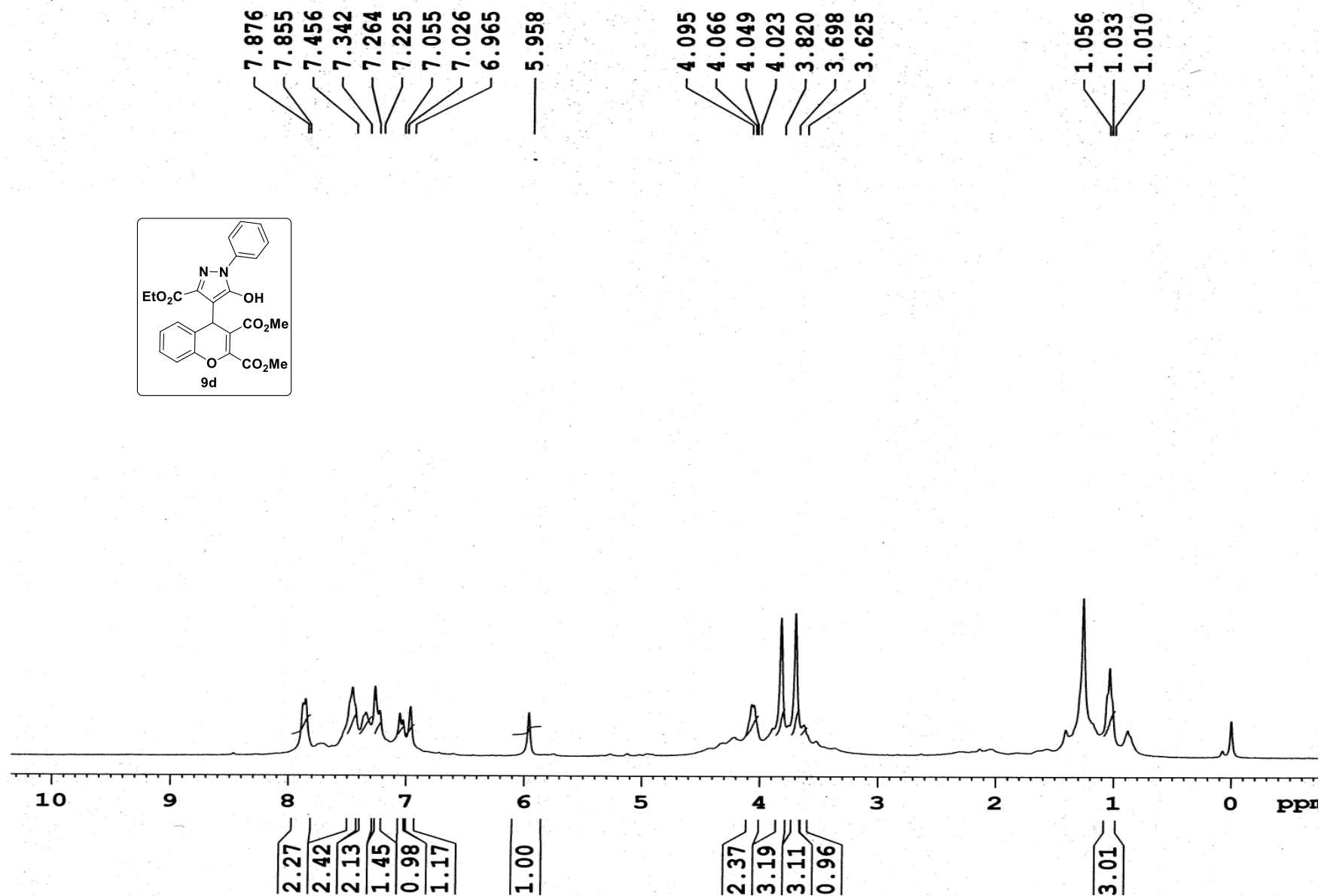


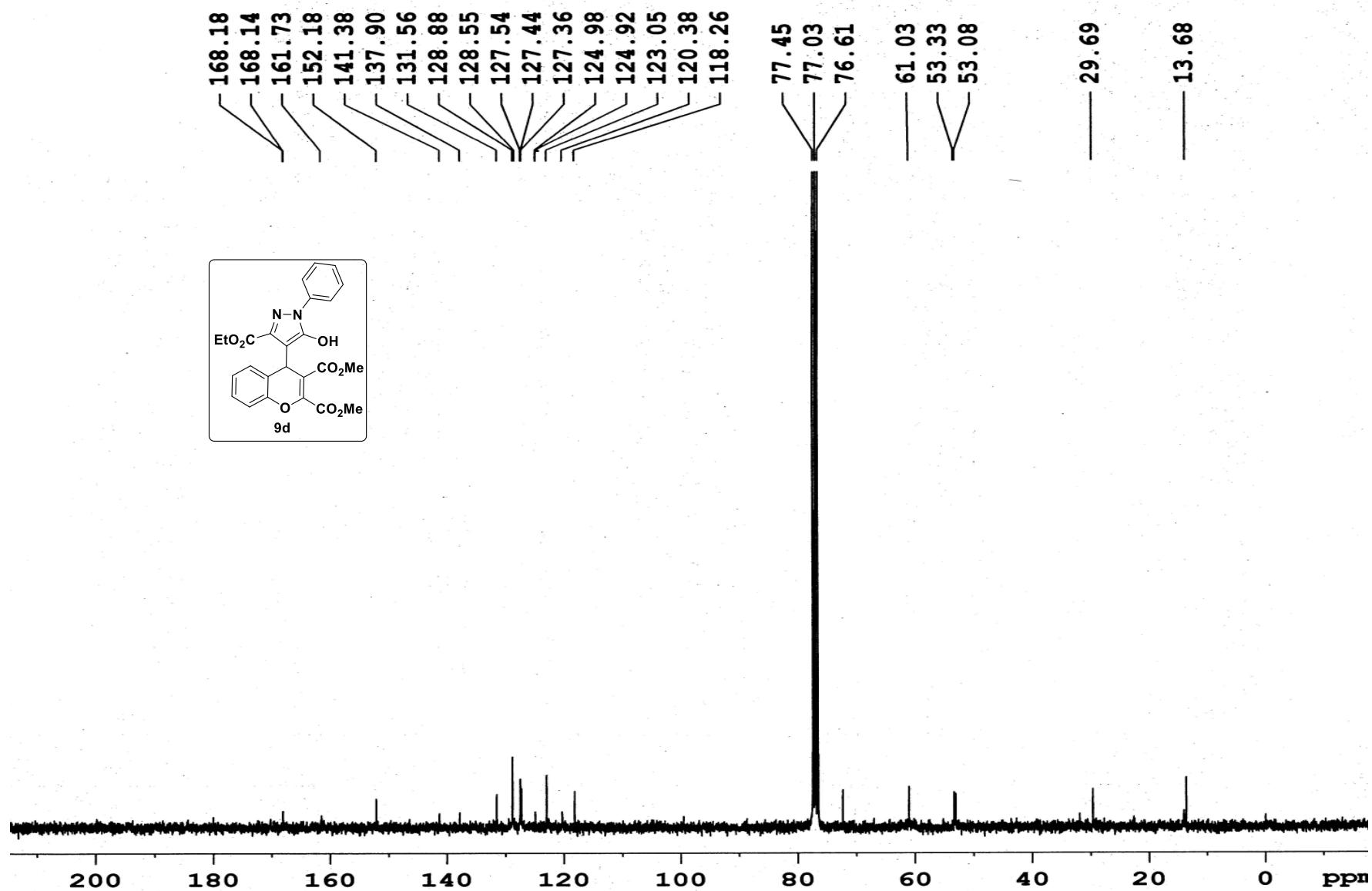




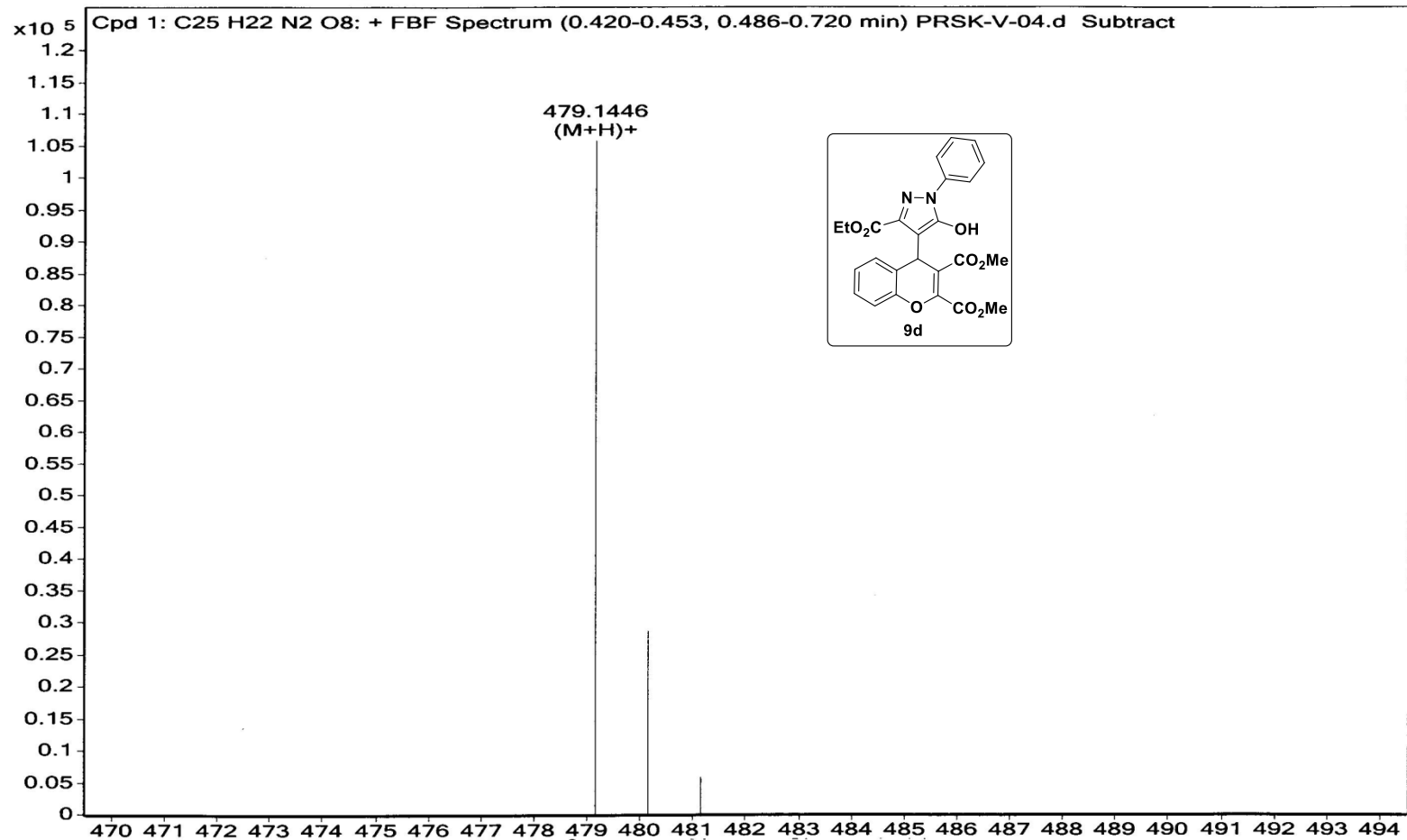
Sample Name	PRSK-IV-79	Position		Instrument Name	Q-TOF	User Name	QTOF-PU\admin
Inj Vol	-1	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	PRSK-IV-79.d	ACQ Method	Pondicherry Universi	Comment	vijay-MB-464.1220	Acquired Time	24-09-2014 16:05:12

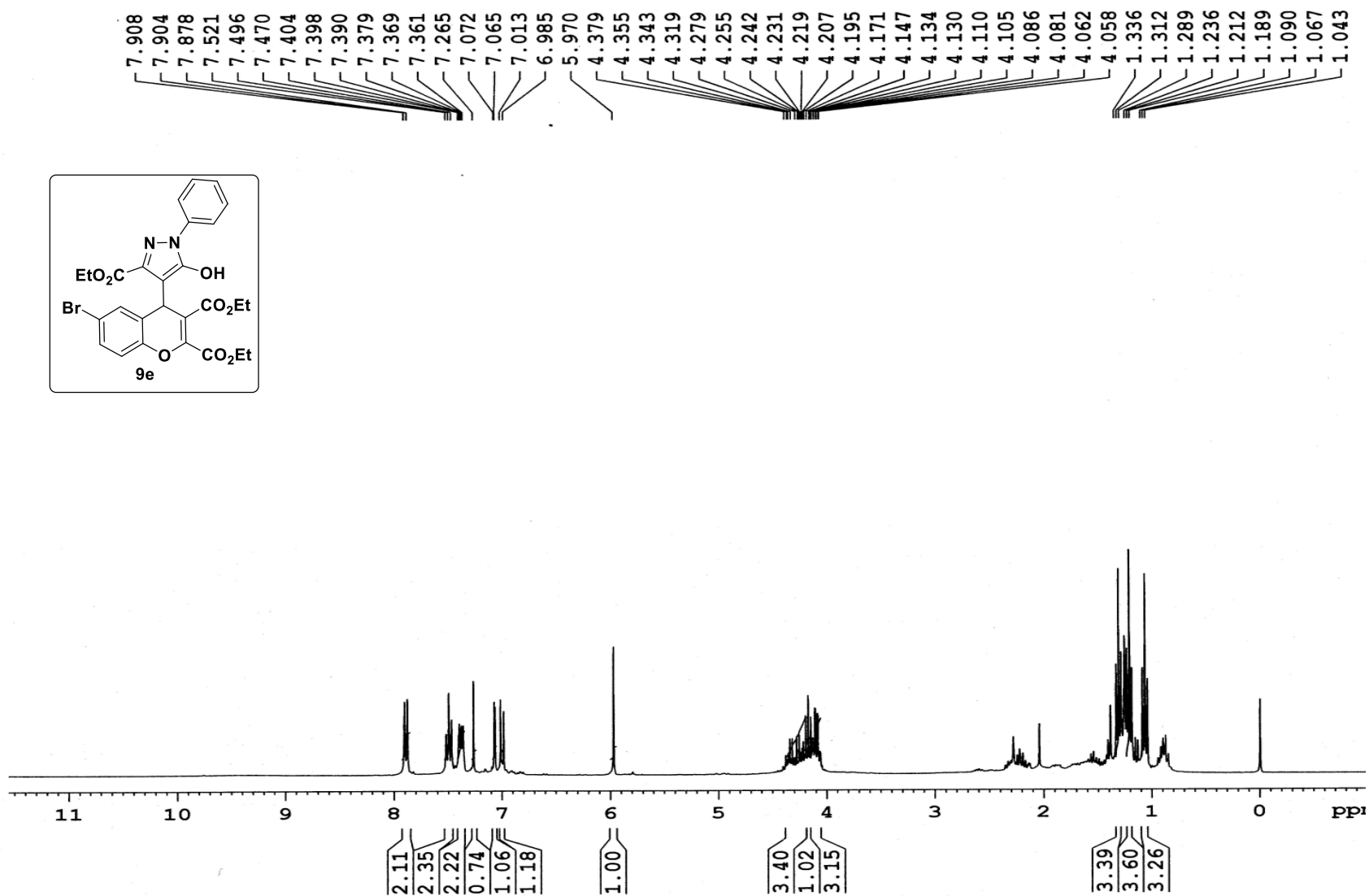


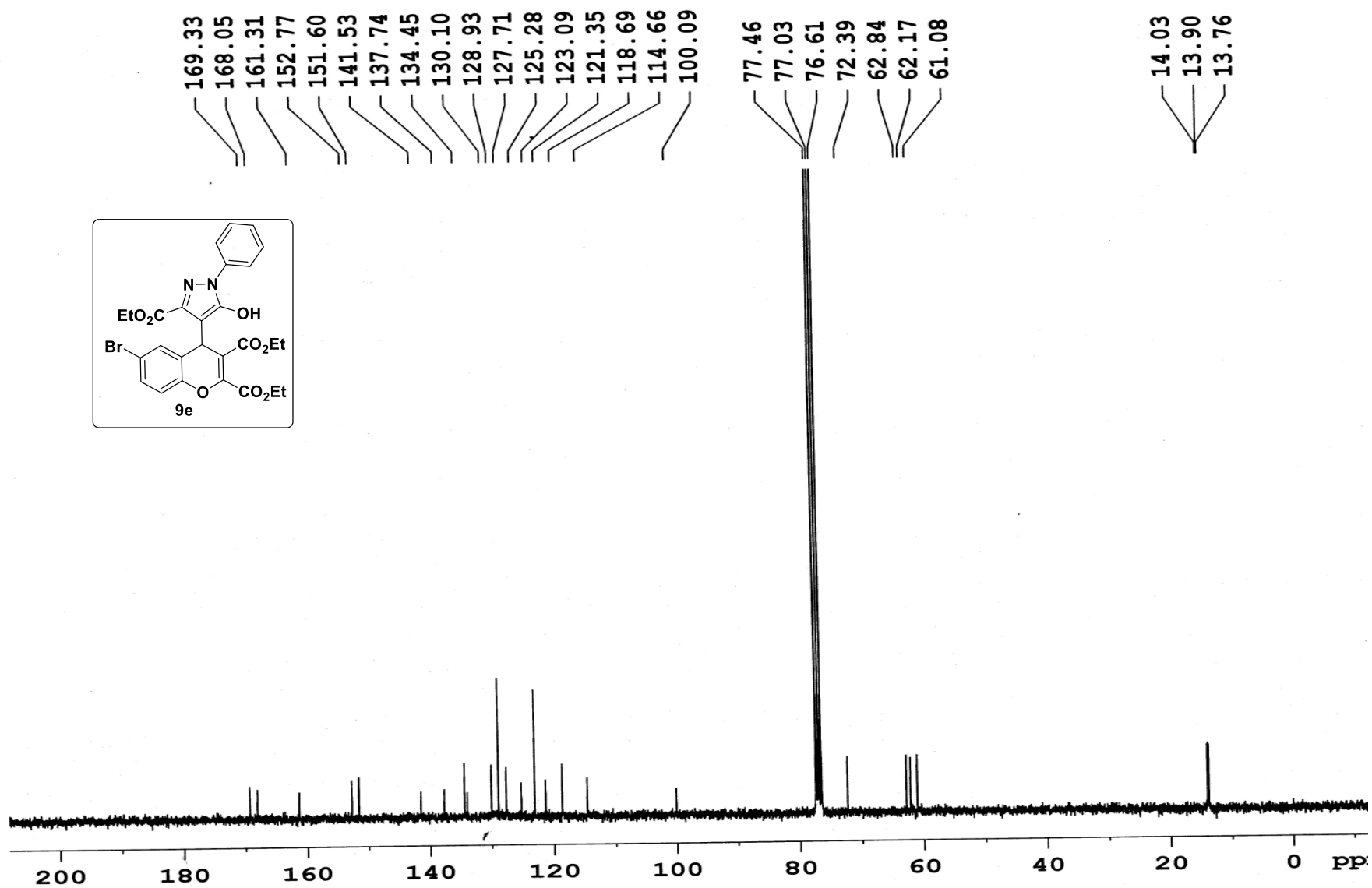




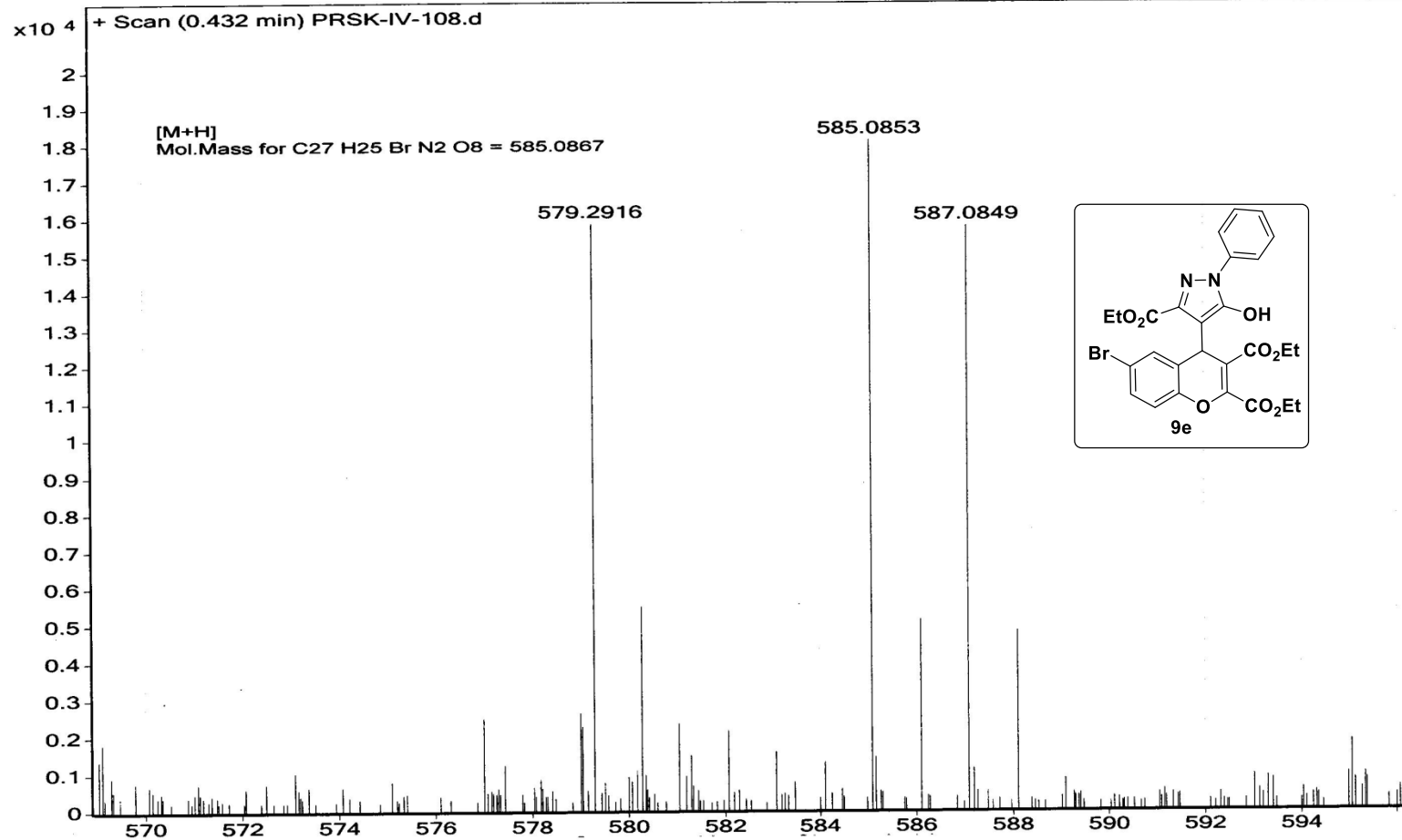
Sample Name	PRSK-V-04	Position		Instrument Name	Q-TOF	User Name	QTOF-PU\admin
Inj Vol	-1	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	PRSK-V-04.d	ACQ Method	Pondicherry Universi	Comment	PV-MB-478.1376	Acquired Time	13-04-2015 11:33:08







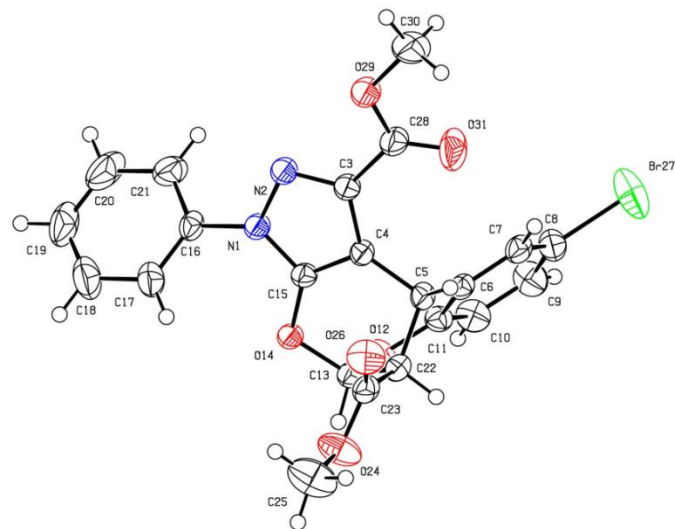
Sample Name	PRSK-IV-108	Position		Instrument Name	Q-TOF	User Name	QTOF-PU\admin
Inj Vol	-1	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	PRSK-IV-108.d	ACQ Method	Pondicherry Universi	Comment	vijay-MB-584.0794	Acquired Time	24-09-2014 16:12:21



Compound 6c

Table 1 Crystal data and structure refinement for Compound 6c.

Identification code	Compound 6c
Empirical formula	C ₂₂ H ₁₇ BrN ₂ O ₆
Formula weight	485.29
Temperature/K	293(2)
Crystal system	triclinic
Space group	P-1
a/Å	8.0079(7)
b/Å	10.6912(11)
c/Å	12.9965(11)
α/°	79.773(8)
β/°	82.666(7)
γ/°	69.817(8)
Volume/Å ³	1025.11(16)
Z	2
ρ _{calc} /g/cm ³	1.572
μ/mm ⁻¹	2.048
F(000)	492.0
Crystal size/mm ³	0.35 × 0.24 × 0.22
Radiation	MoKα (λ = 0.71073)
2θ range for data collection/°	8.08 to 58.28
Index ranges	-10 ≤ h ≤ 10, -14 ≤ k ≤ 14, -17 ≤ l ≤ 16
Reflections collected	9637
Independent reflections	4659 [R _{int} = 0.0427, R _{sigma} = 0.0741]
Data/restraints/parameters	4659/0/282
Goodness-of-fit on F ²	0.995
Final R indexes [I ≥ 2σ (I)]	R ₁ = 0.0491, wR ₂ = 0.0872

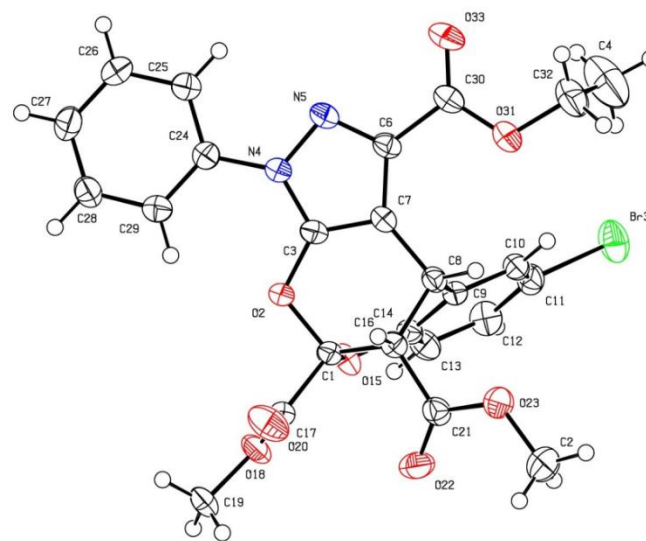


Final R indexes [all data] $R_1 = 0.1010$, $wR_2 = 0.1046$
 Largest diff. peak/hole / e $\text{\AA}^{-3}$ 0.36/-0.39

Compound 6n

Table 1 Crystal data and structure refinement for Compound 6n.

Identification code	Compound 6n
Empirical formula	$\text{C}_{25}\text{H}_{21}\text{BrN}_2\text{O}_8$
Formula weight	557.35
Temperature/K	298.0
Crystal system	monoclinic
Space group	$P2_1/a$
$a/\text{\AA}$	8.5538(5)
$b/\text{\AA}$	28.5184(14)
$c/\text{\AA}$	9.9217(5)
$\alpha/^\circ$	90.00
$\beta/^\circ$	104.085(5)
$\gamma/^\circ$	90.00
Volume/ $\text{\AA}^3$	2347.5(2)
Z	4
$\rho_{\text{calc}}/\text{cm}^3$	1.577
μ/mm^{-1}	1.806
$F(000)$	1136.0
Crystal size/ mm^3	$0.5 \times 0.4 \times 0.25$
Radiation	$\text{MoK}\alpha$ ($\lambda = 0.71073$)
2θ range for data collection/ $^\circ$	8.4 to 58.42
Index ranges	$-10 \leq h \leq 10$, $-37 \leq k \leq 32$, $-13 \leq l \leq 12$
Reflections collected	12825
Independent reflections	5425 [$R_{\text{int}} = 0.0357$, $R_{\text{sigma}} = 0.0546$]



Data/restraints/parameters	5425/0/328
Goodness-of-fit on F^2	1.050
Final R indexes [$I \geq 2\sigma(I)$]	$R_1 = 0.0463$, $wR_2 = 0.0808$
Final R indexes [all data]	$R_1 = 0.0835$, $wR_2 = 0.0930$
Largest diff. peak/hole / $e \text{ \AA}^{-3}$	0.32/-0.48