

Supporting information

**Chemoselective synthesis of *m*-teraryls through ring transformation
of 2*H*-pyran-2-ones by 2-(1-arylethylidene) malononitriles**

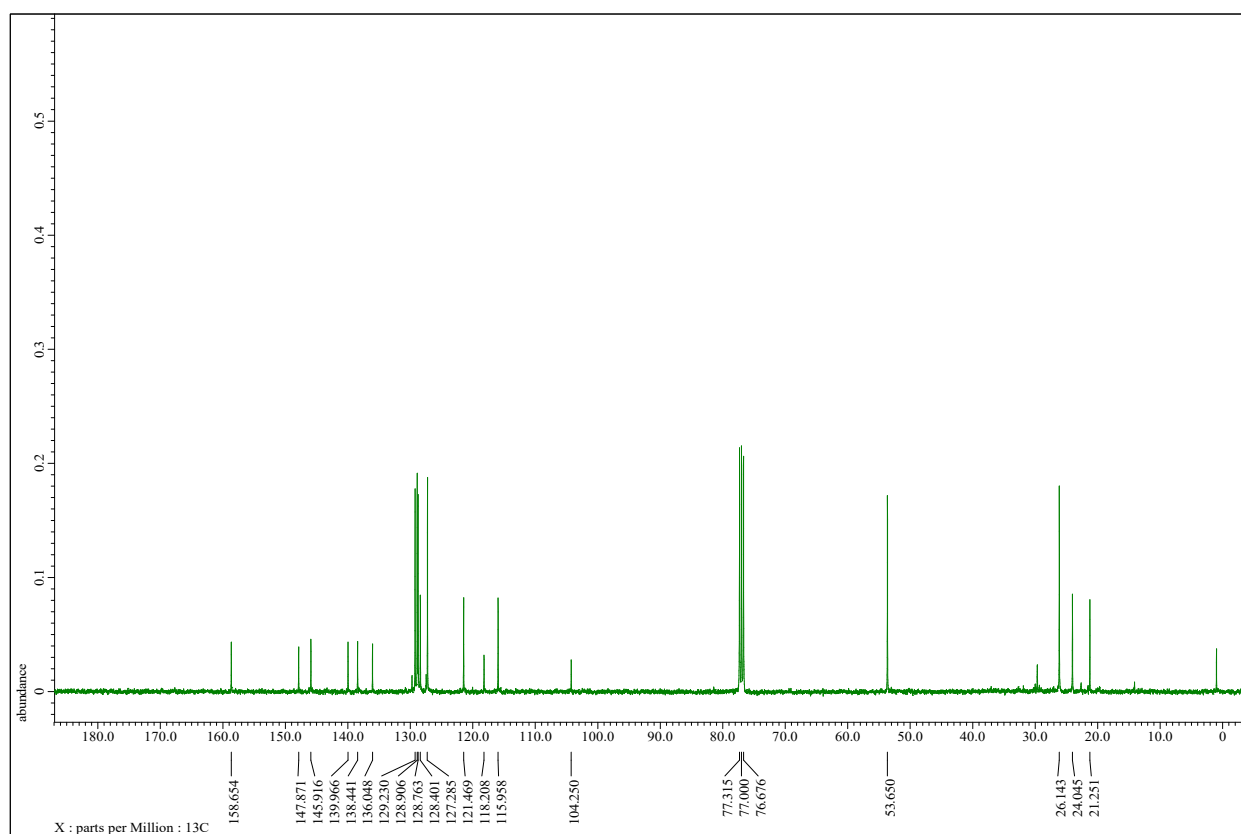
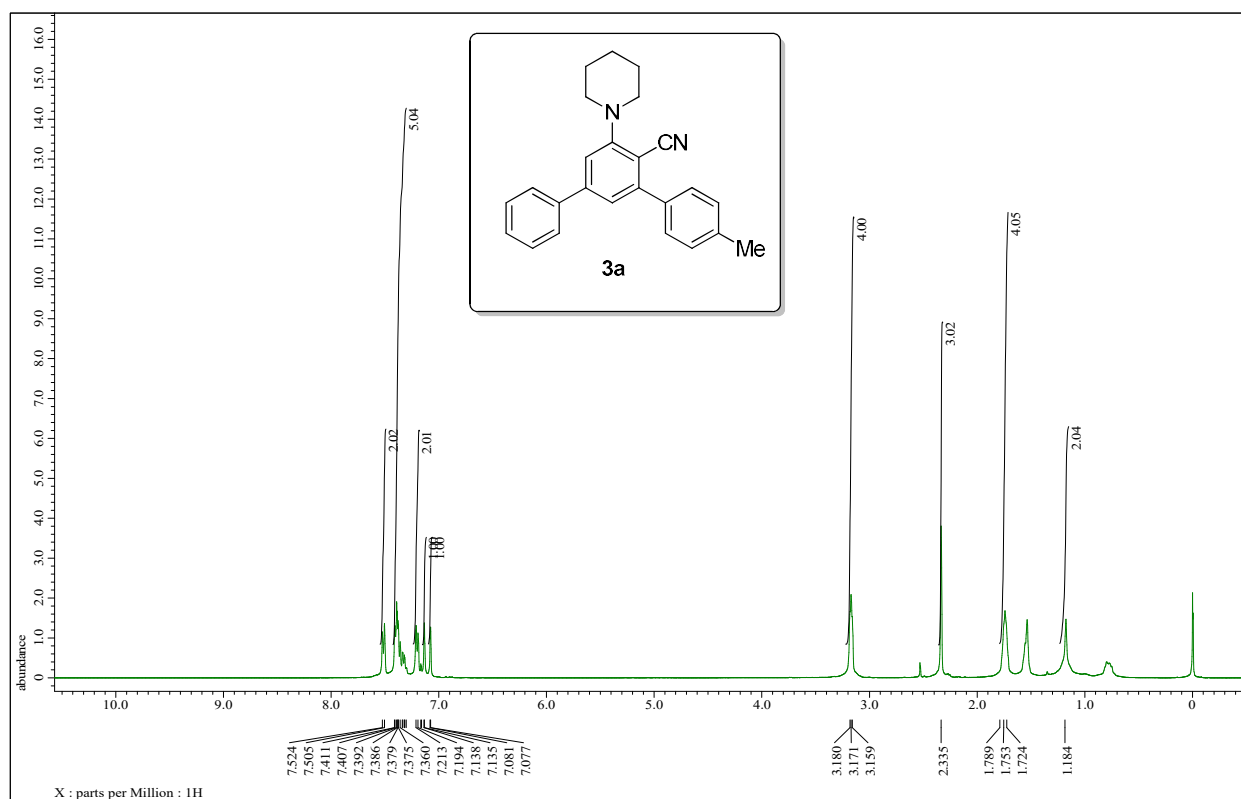
Rahul Panwar, Shally, Ranjay Shaw, Amr Elagamy and Ramendra Pratap*

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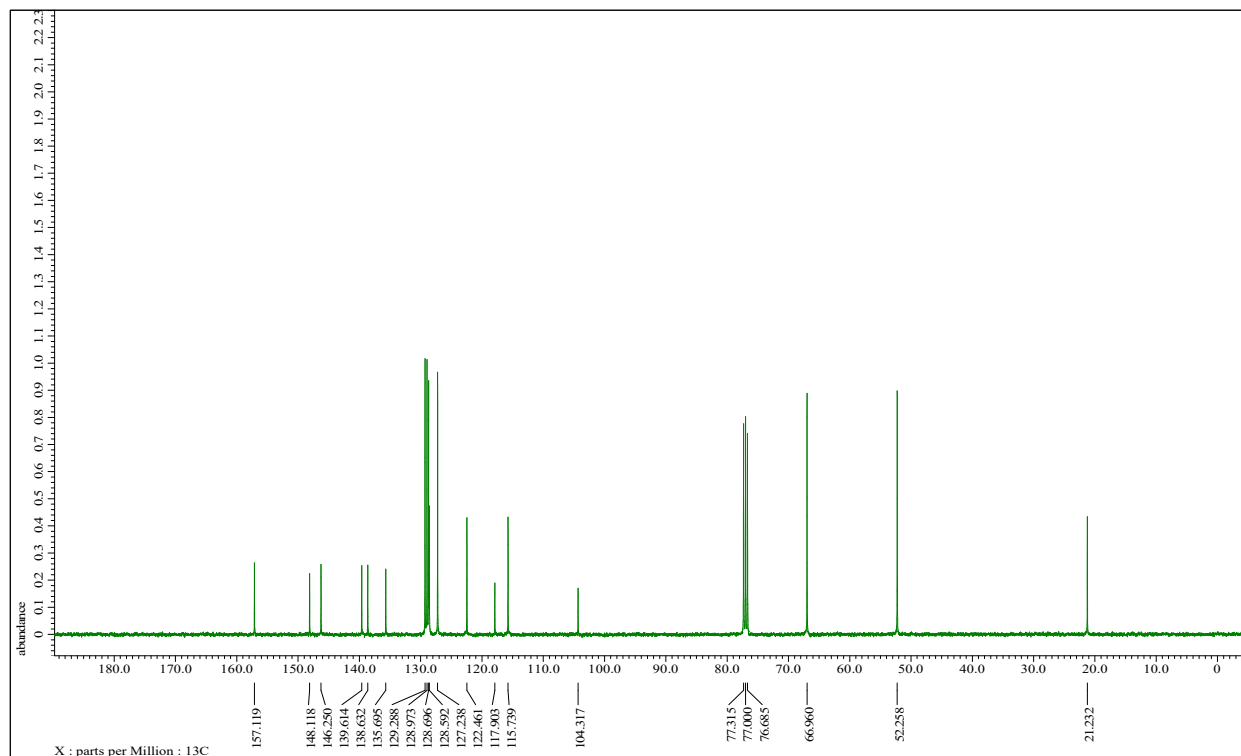
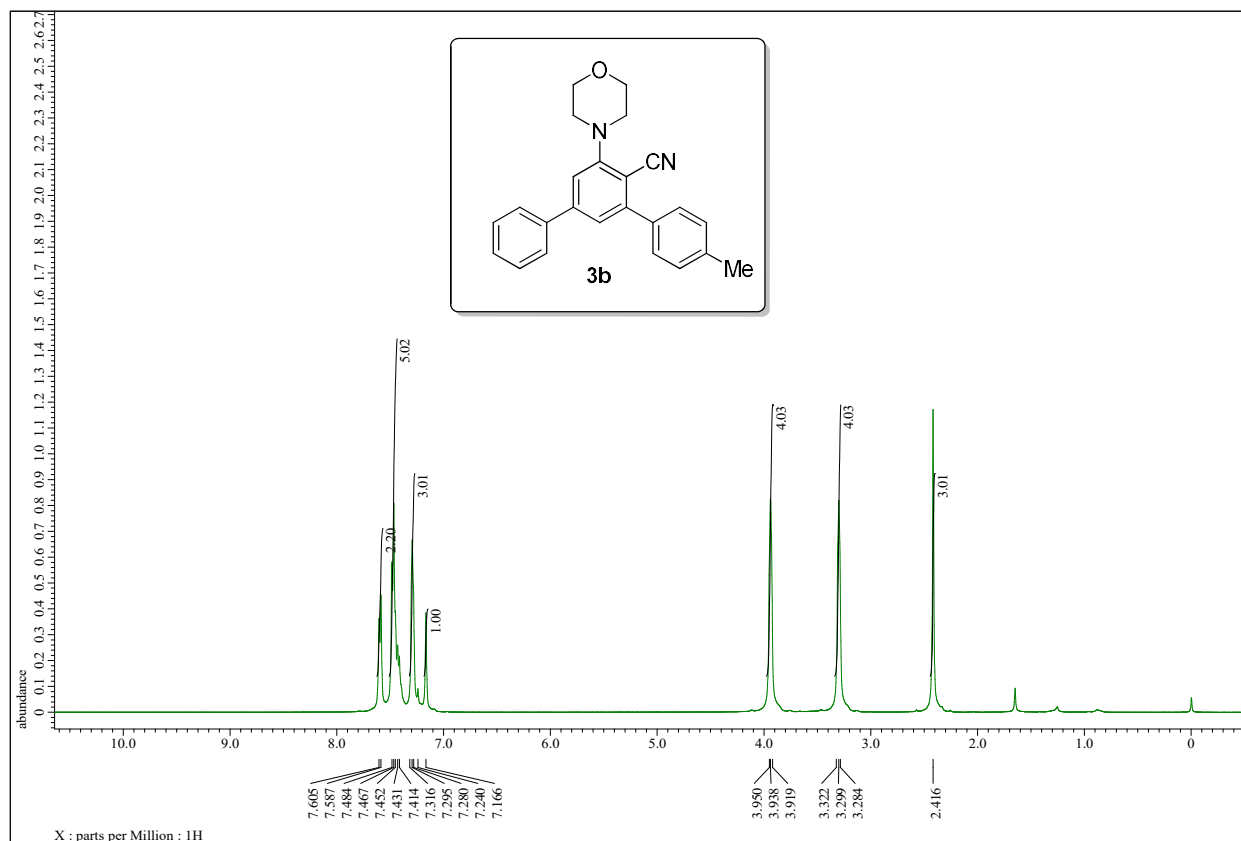
Table of Contents:

1	Crystal data for 3i	2
2	¹ H and ¹³ C Spectra	3-26

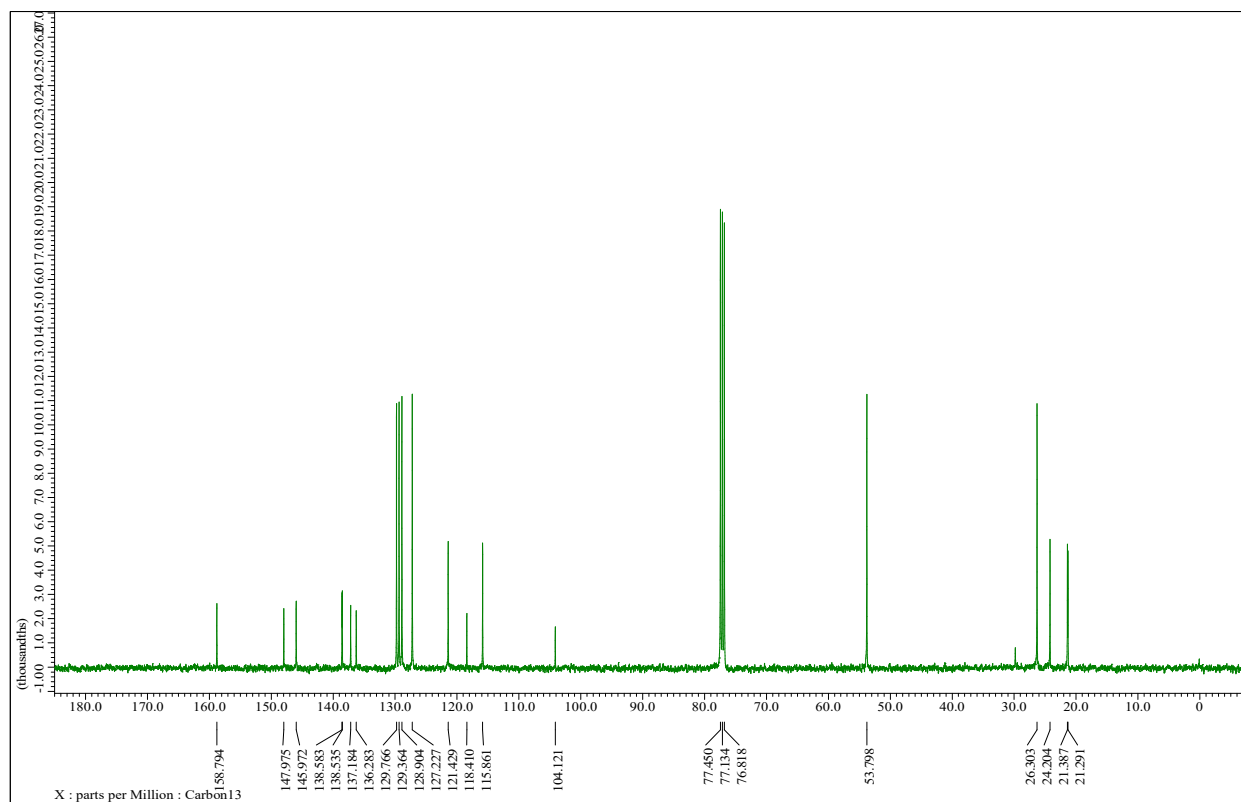
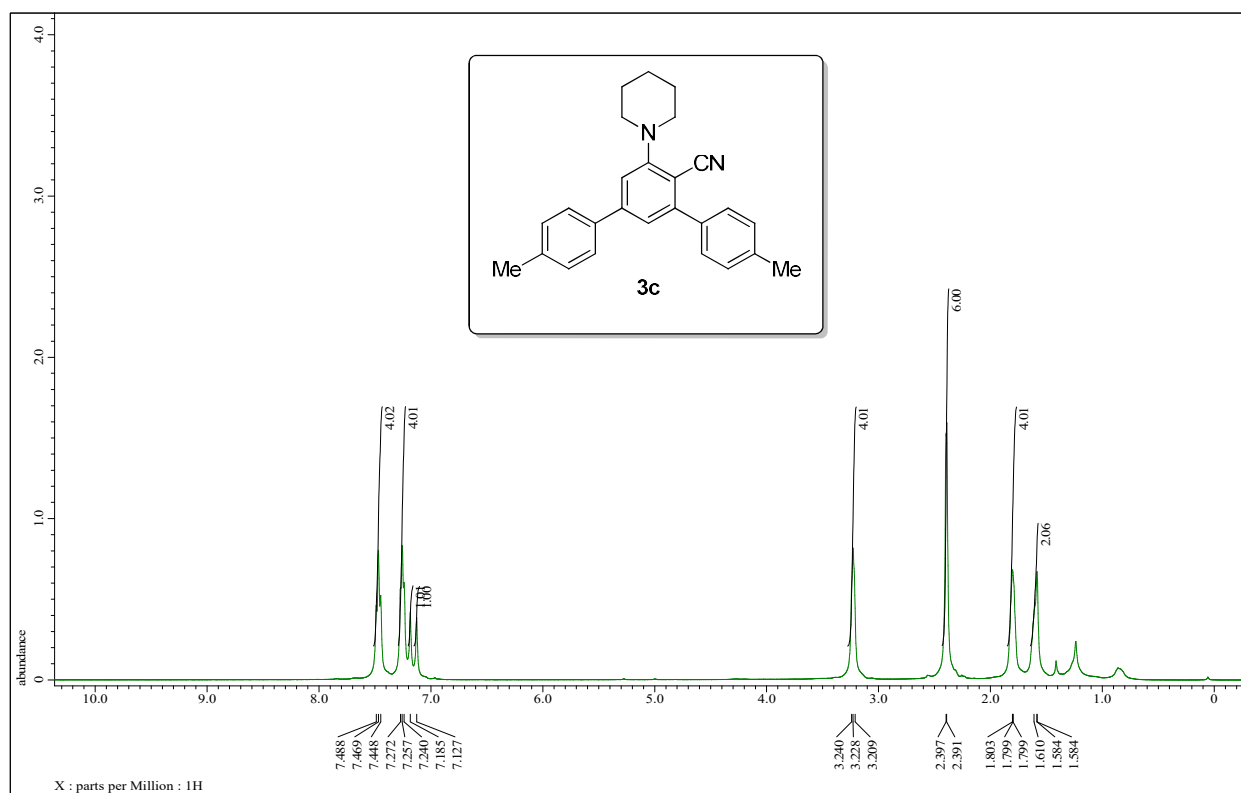
Crystal Data for 3i: Crystal data for $C_{25}H_{23}BrN_2$: A white crystal ($0.240 \times 0.200 \times 0.200 \text{ mm}^3$) was mounted on a capillary tube for indexing and intensity data collection at 298K on an Oxford Xcalibur Sapphire3 CCD single-crystal diffractometer (MoK α radiation, $\lambda = 0.71073 \text{ \AA}$). Routine Lorentz and polarization corrections were applied, and an absorption correction was performed using the ABSCALE 3 program [CrysAlis Pro software system, Version 171.34; Oxford Diffraction Ltd., Oxford, U.K., 2011]. Patterson methods were used to locate the heavy metal atoms (SHELXS-86), and the remaining atoms were located from successive Fourier maps (SHELXL-97). All the non-hydrogen atoms were refined anisotropically; hydrogen atoms were located at calculated position using a riding model. All hydrogen atoms were calculated after each cycle of refinement using a riding model, with C–H = $0.93 \text{ \AA} + U_{iso}(H) = 1.2U_{eq}(C)$ for aromatic H atoms, and with C–H = $0.97 \text{ \AA} + U_{iso}(H) = 1.2U_{eq}(C)$ for methylene H atoms. Crystal data (CCDC No. 1869248): $C_{25}H_{23}BrN_2$; Mr = 431.35, crystal system: monoclinic; space group P 21/c, a = $13.2298(3) \text{ \AA}$, b = $10.1625(3) \text{ \AA}$, c = $15.5329(5) \text{ \AA}$, $\alpha = 90$, $\beta = 98.015(2)$, $\gamma = 90$, V = $2067.97(10)$, Z = 4, $\rho_{calcd} = 1.386 \text{ Mg/m}^3$ g cm $^{-3}$, $\mu = 2.000 \text{ mm}^{-1}$, F(000) = 888.0, R1 = 0.0421 (3031) and wR2 = 0.1059 for $I > 2\sigma(I)$ and 226 parameters, R1 = 0.0545 and wR2 = 0.1131, gof = 0.904 for all data.



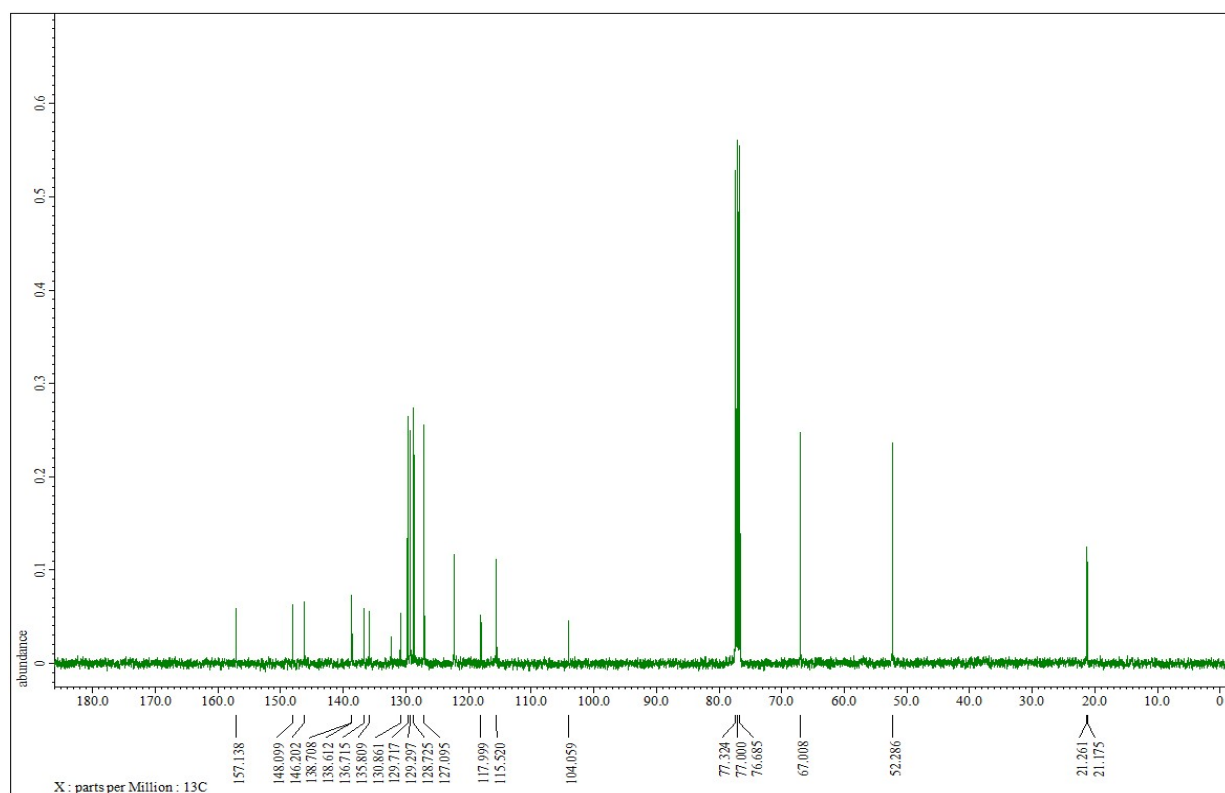
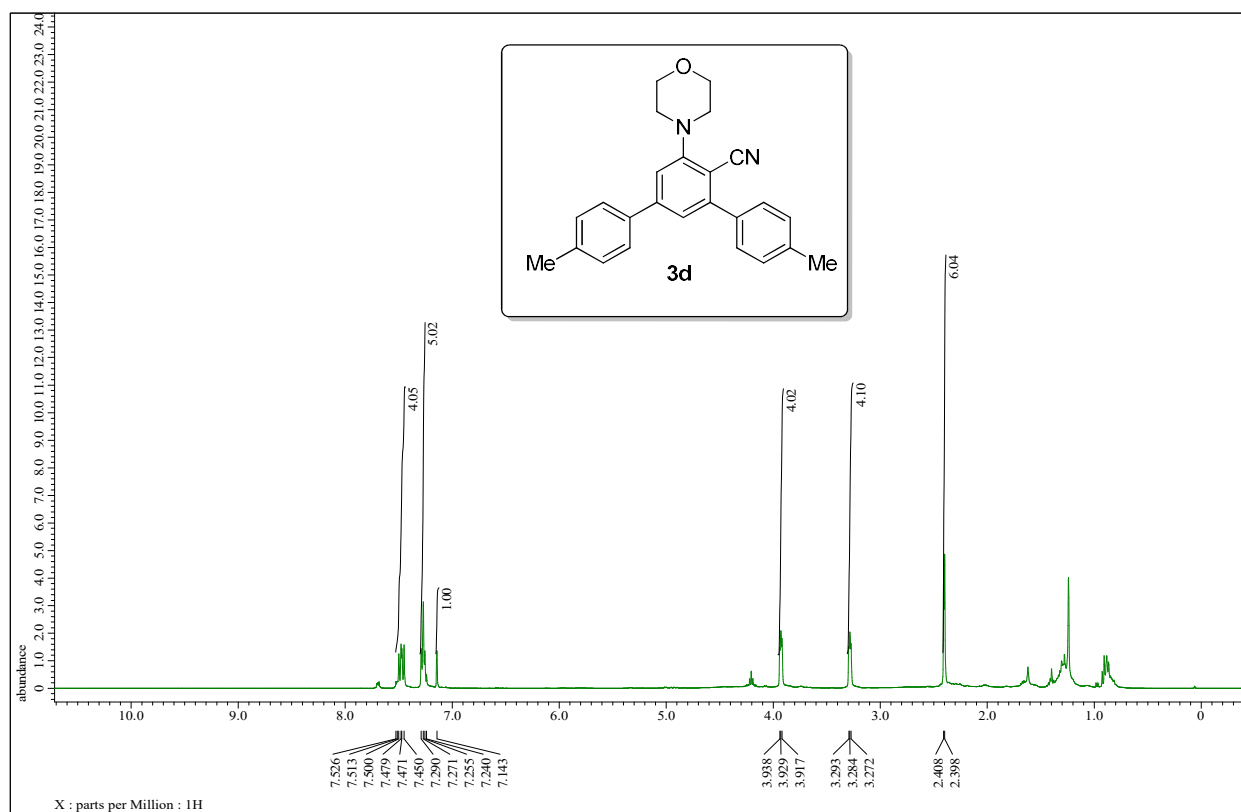
¹H NMR and ¹³C NMR 4''-methyl-5'-(piperidin-1-yl)-[1,1':3',1''-terphenyl]-4'-carbonitrile



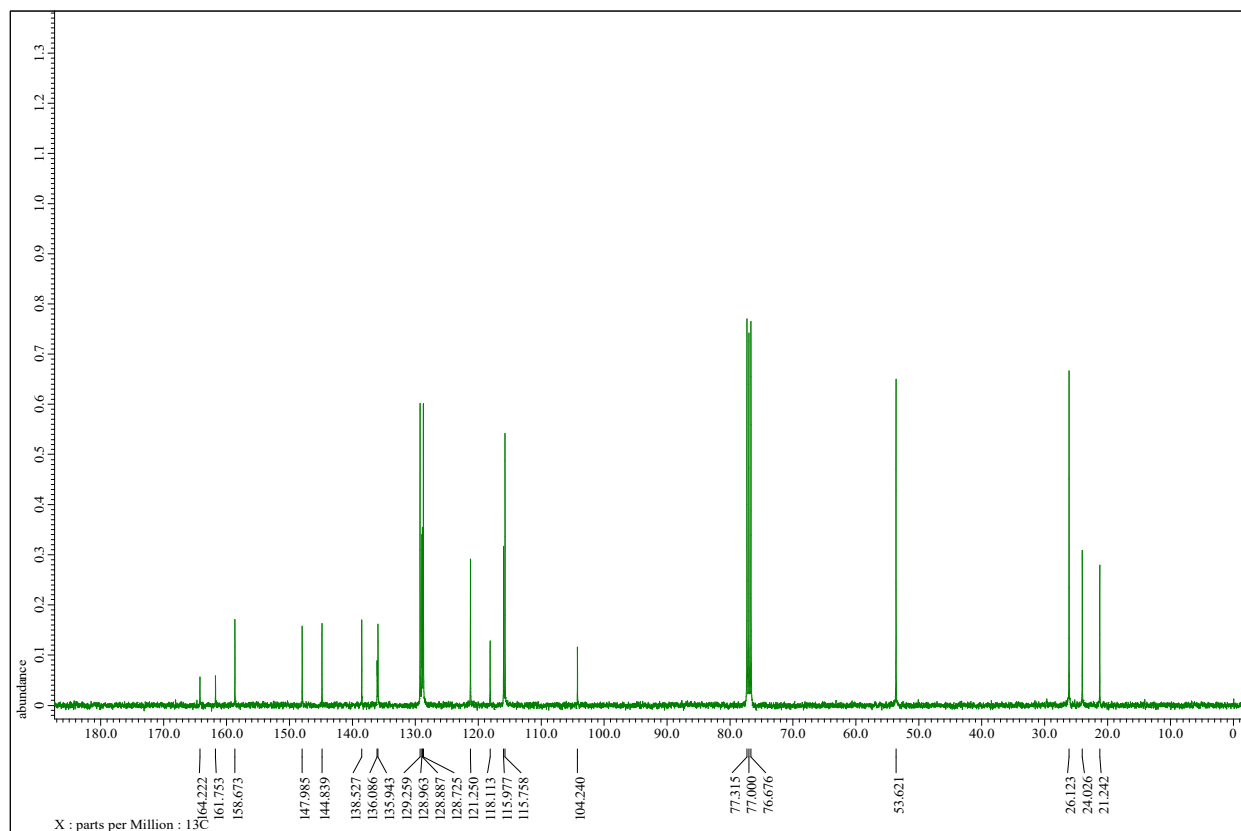
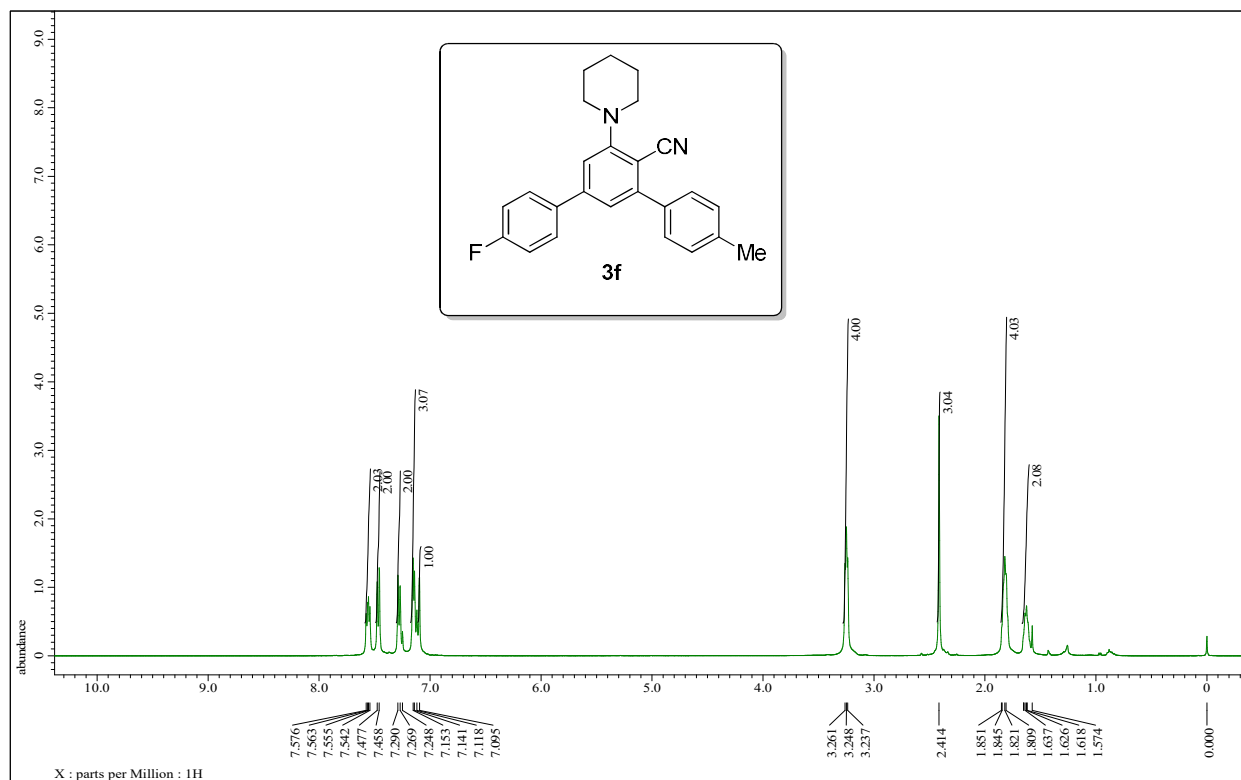
¹H NMR and ¹³C NMR 4'-methyl-5'-morpholino-[1,1':3,1''-terphenyl]-4'-carbonitrile



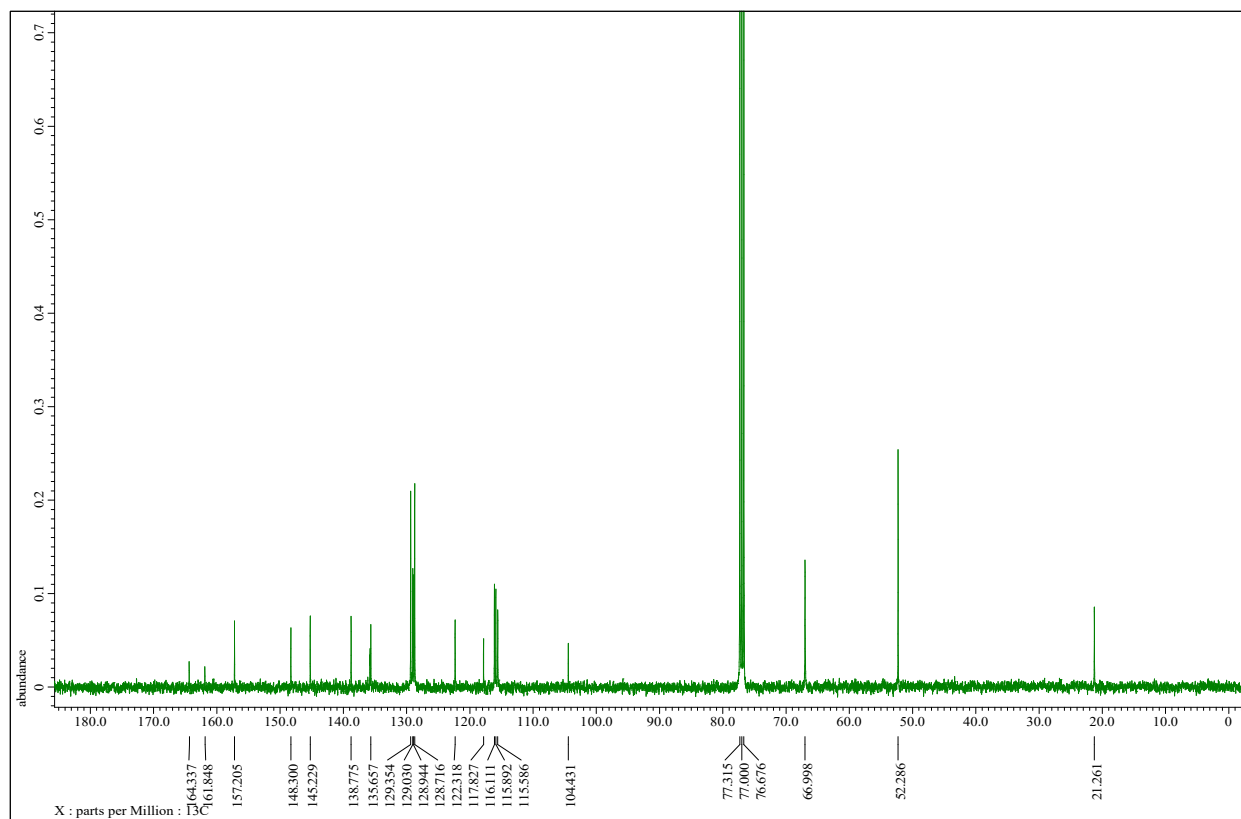
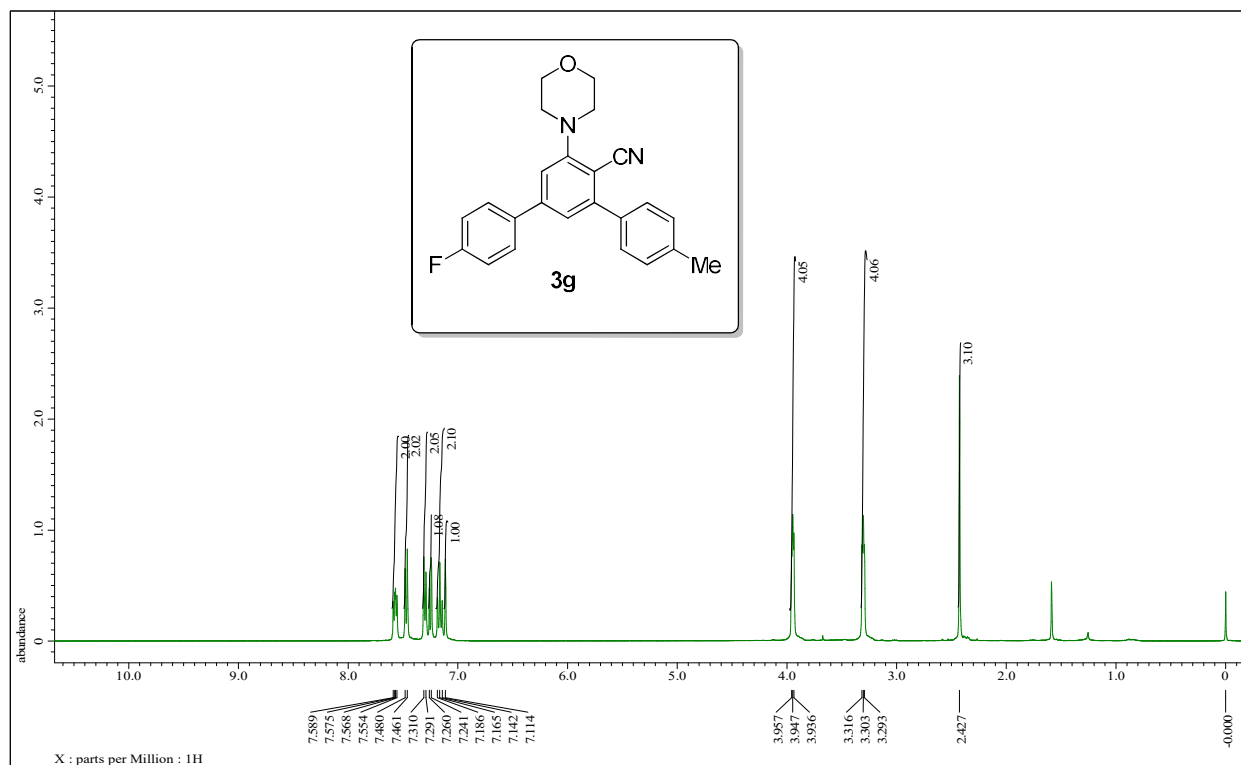
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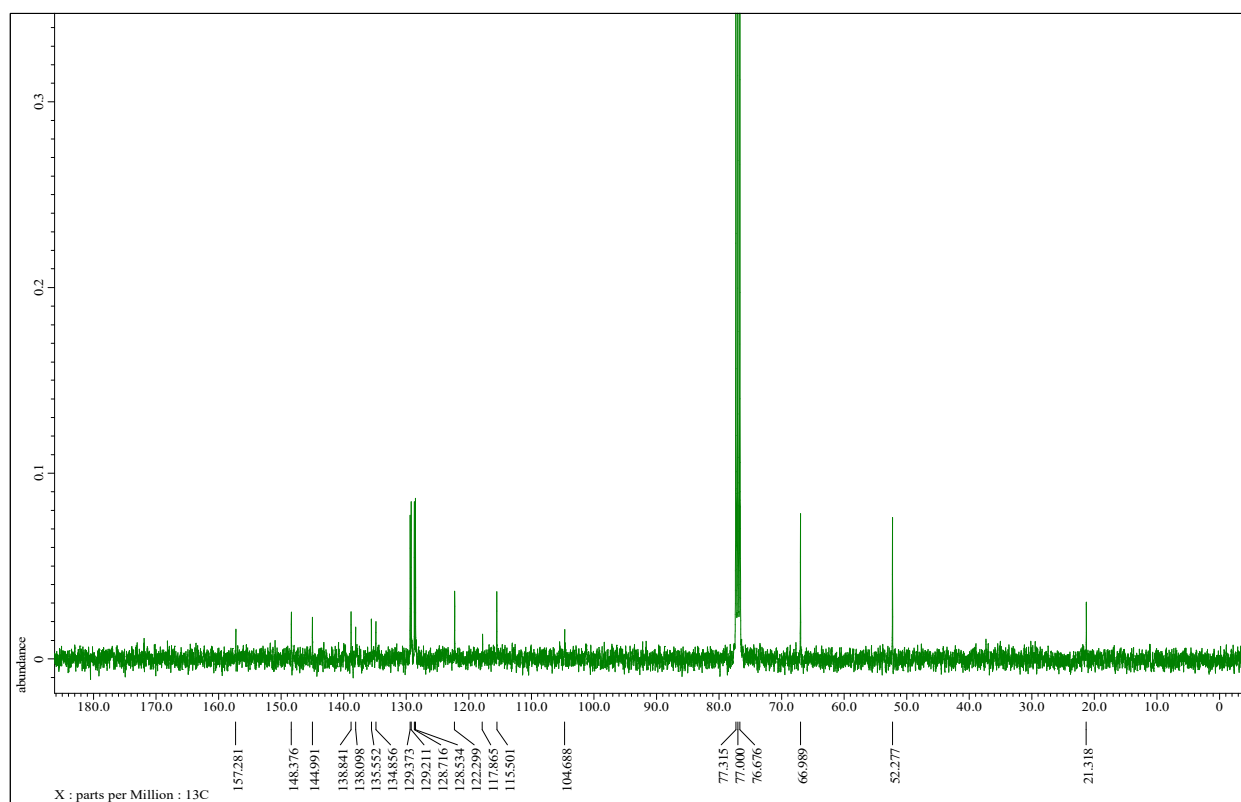
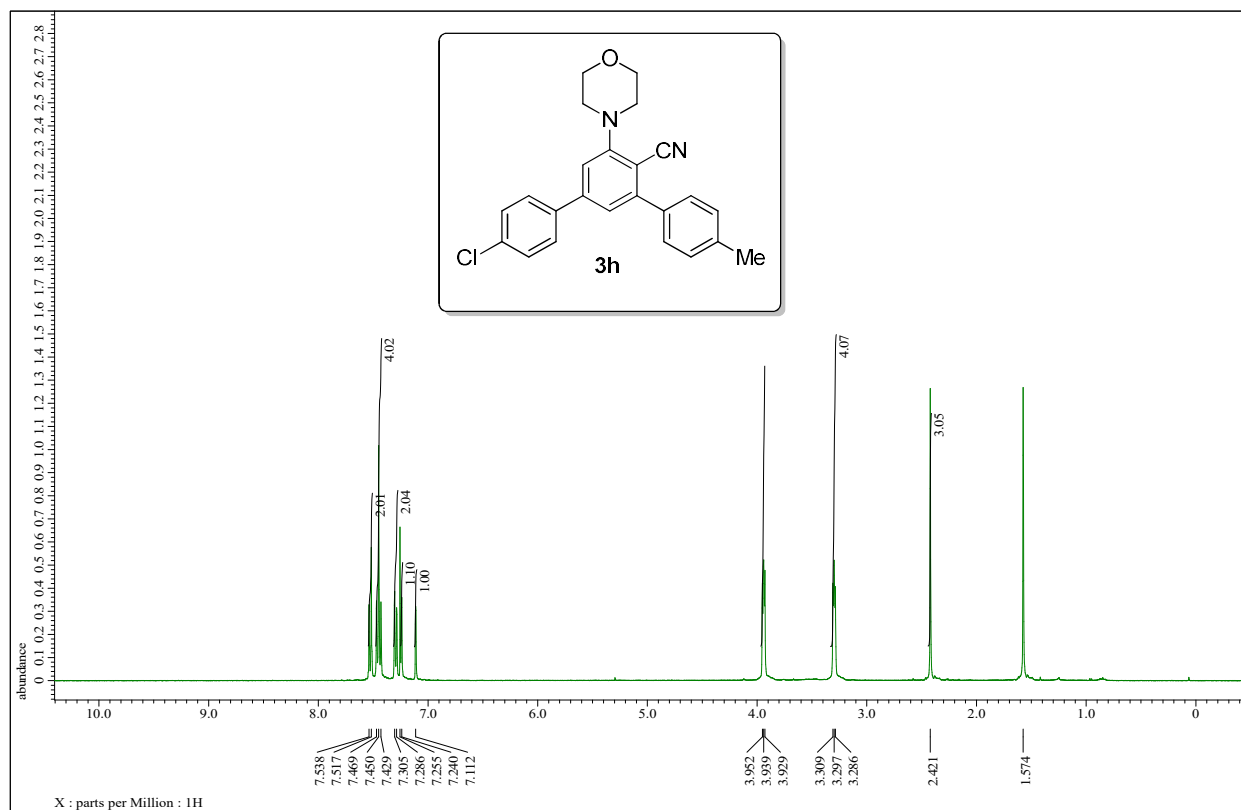
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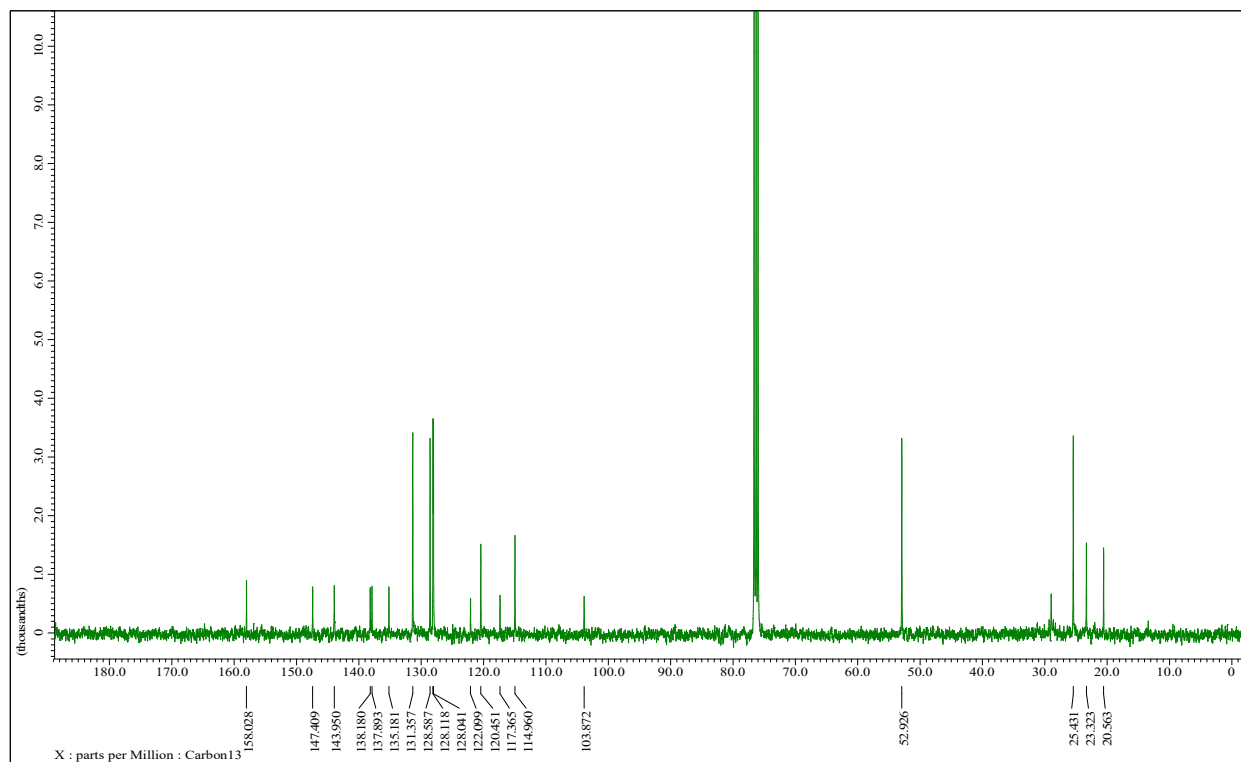
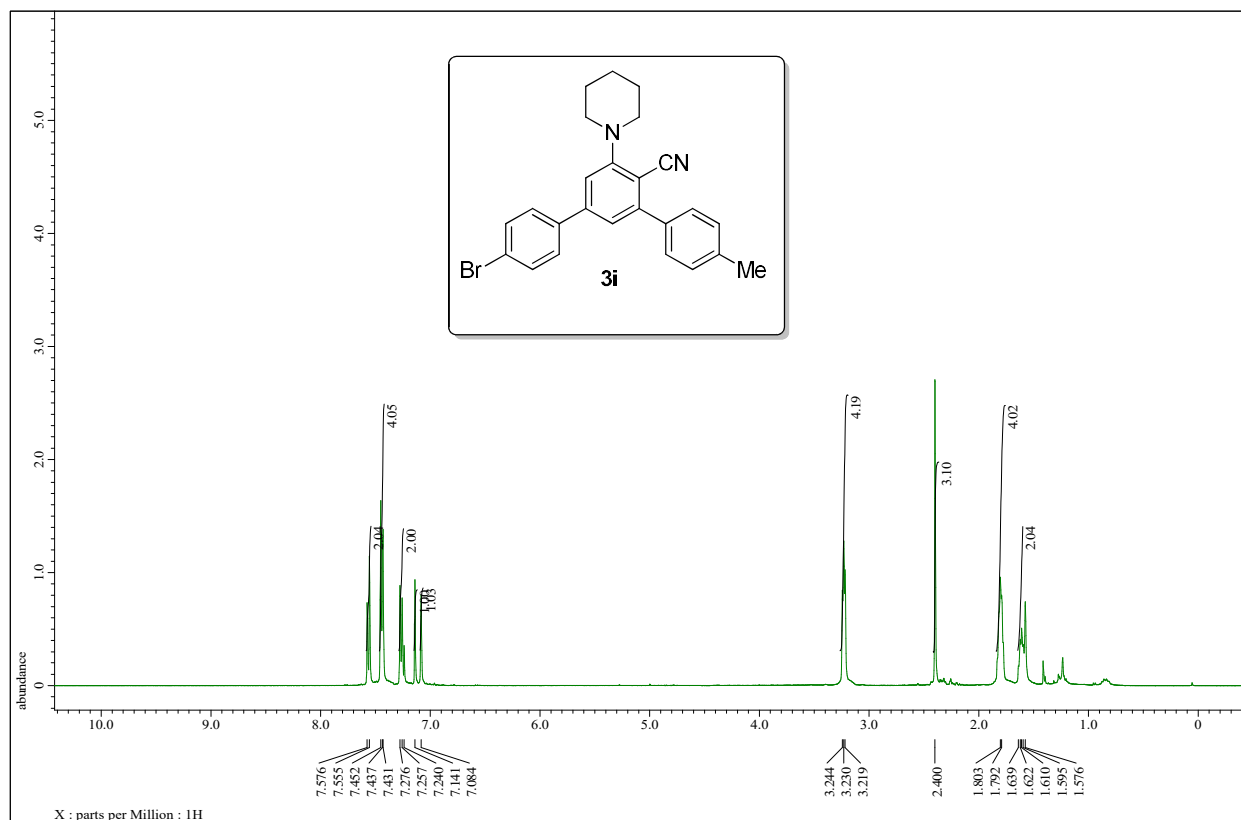
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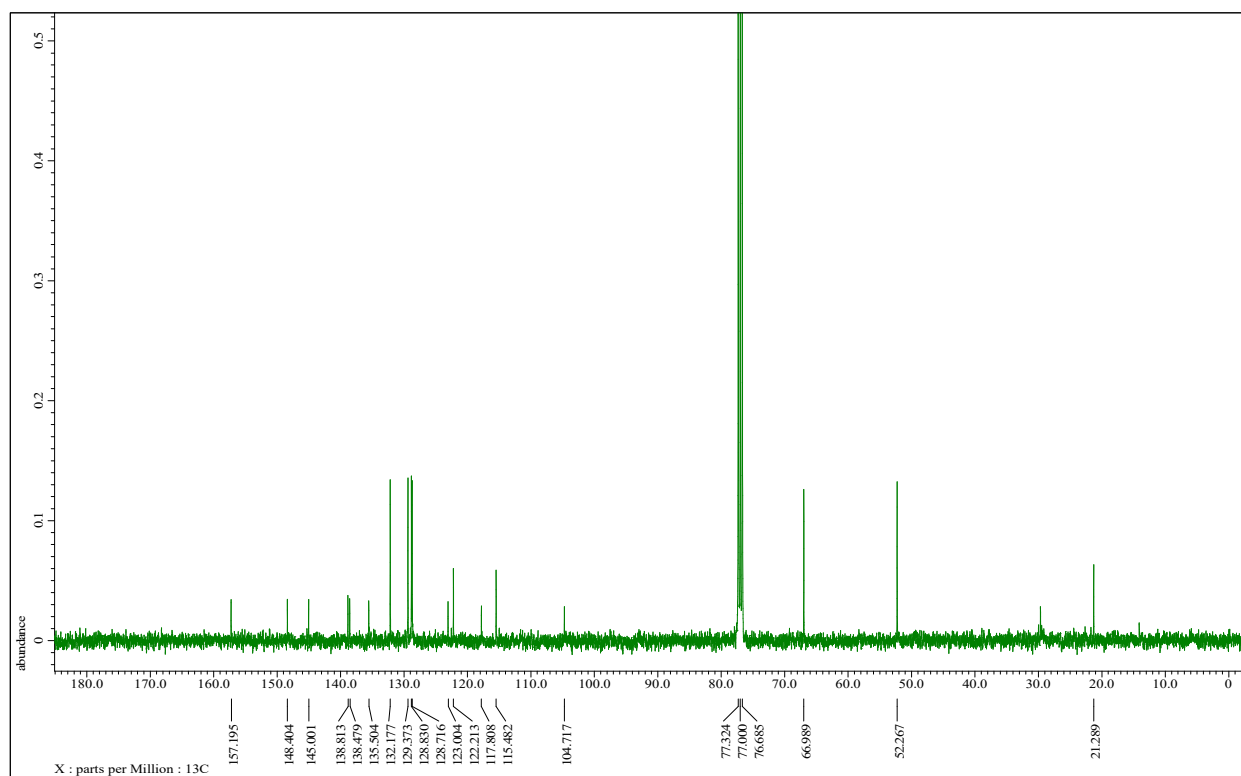
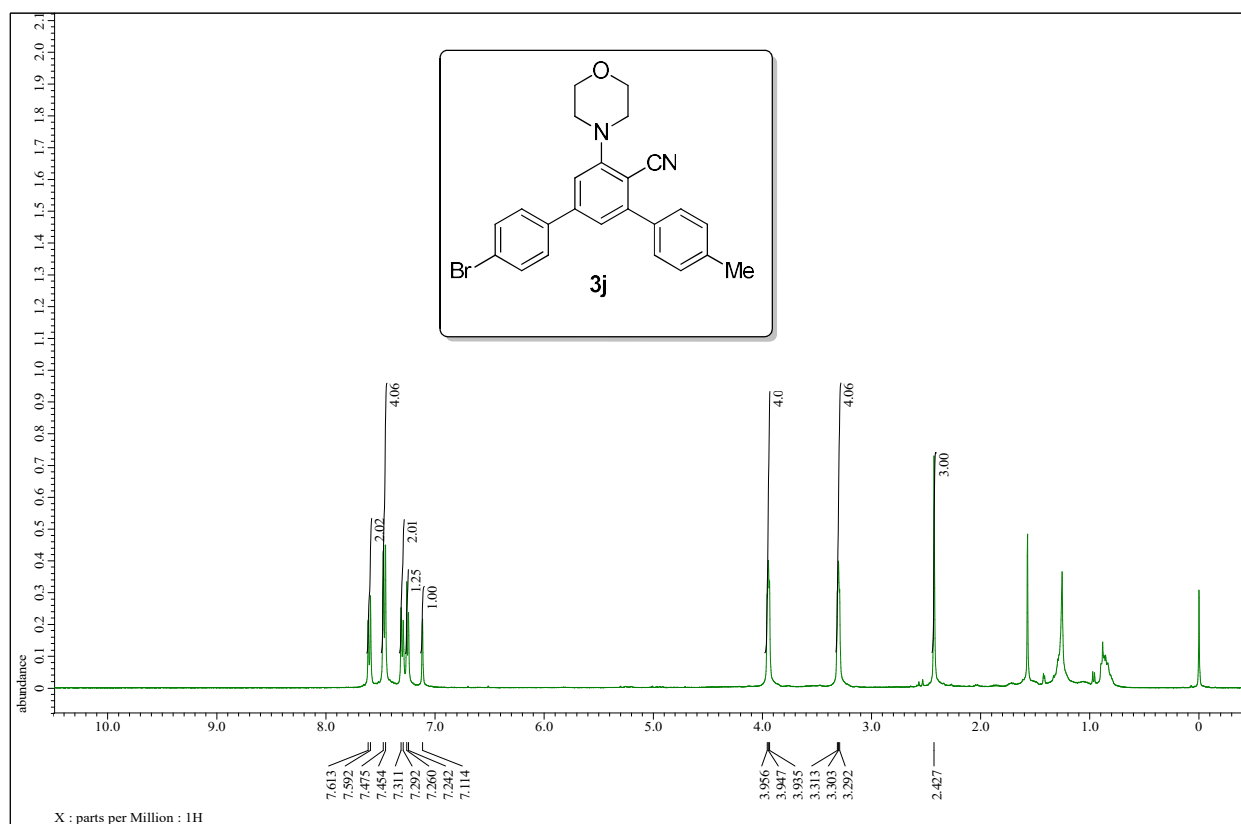
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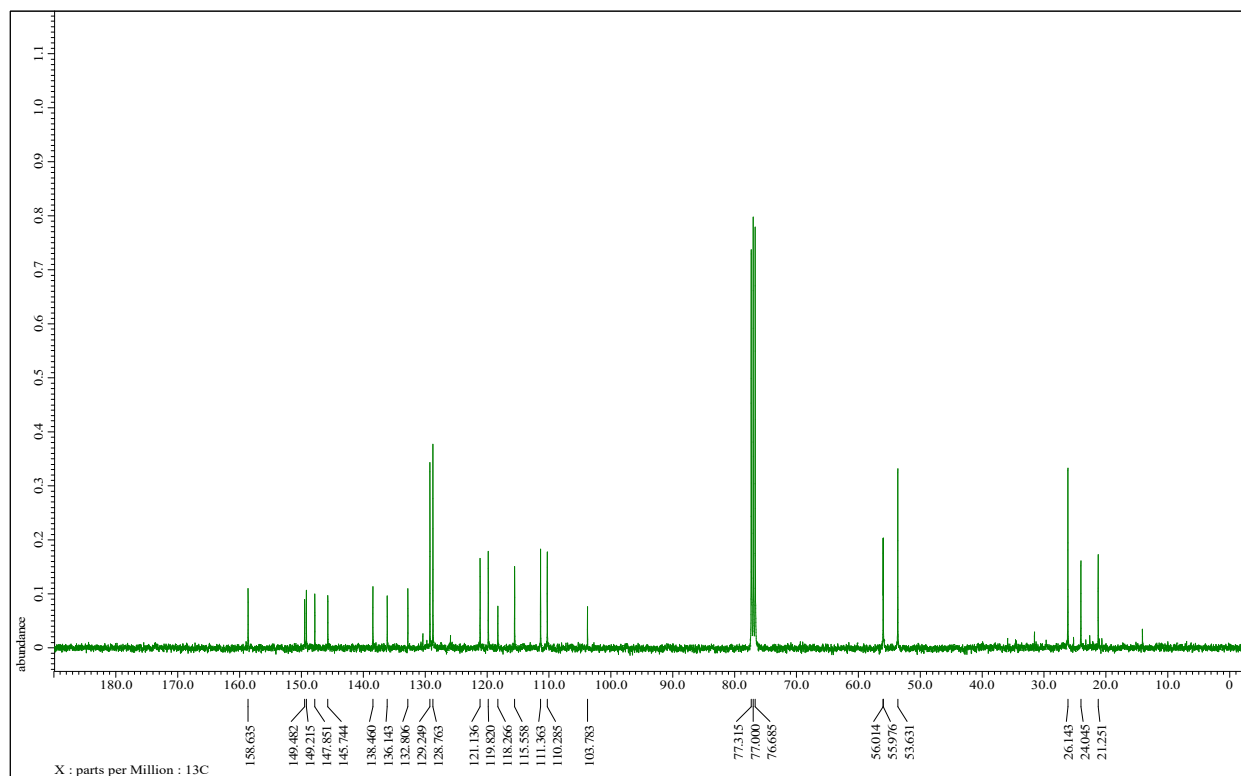
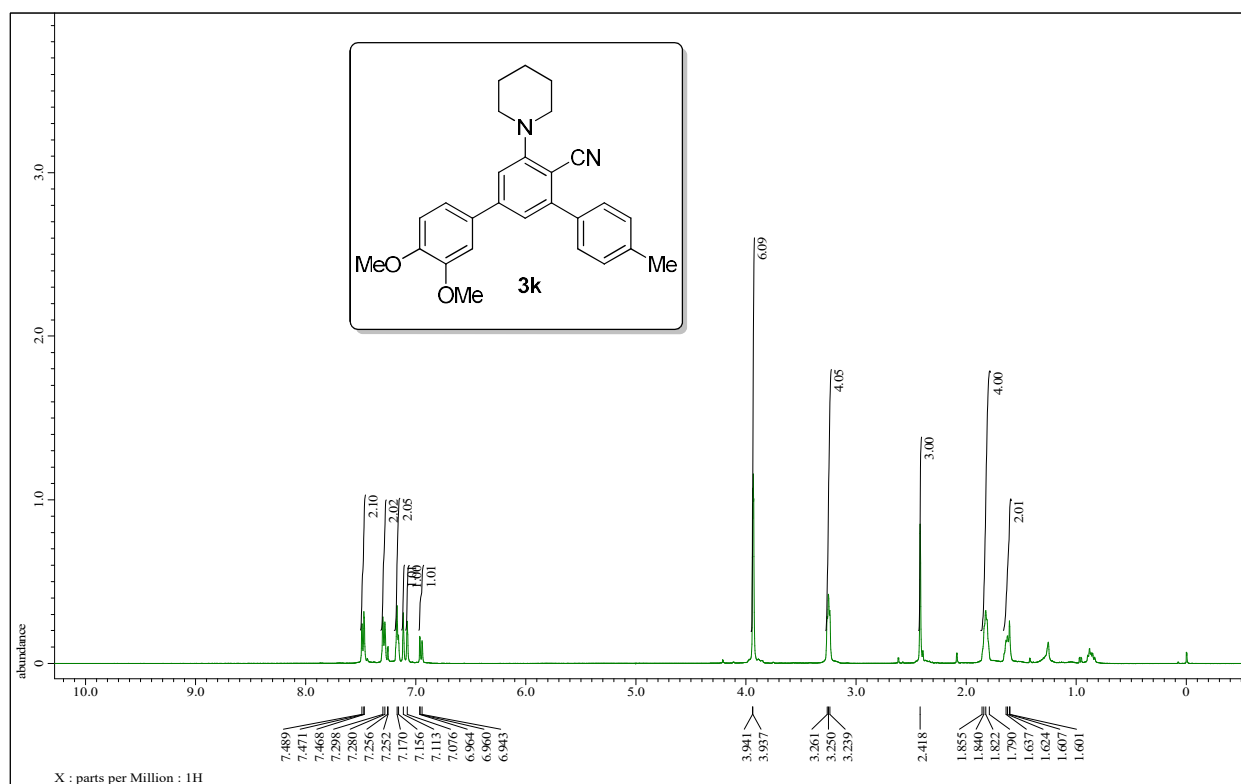
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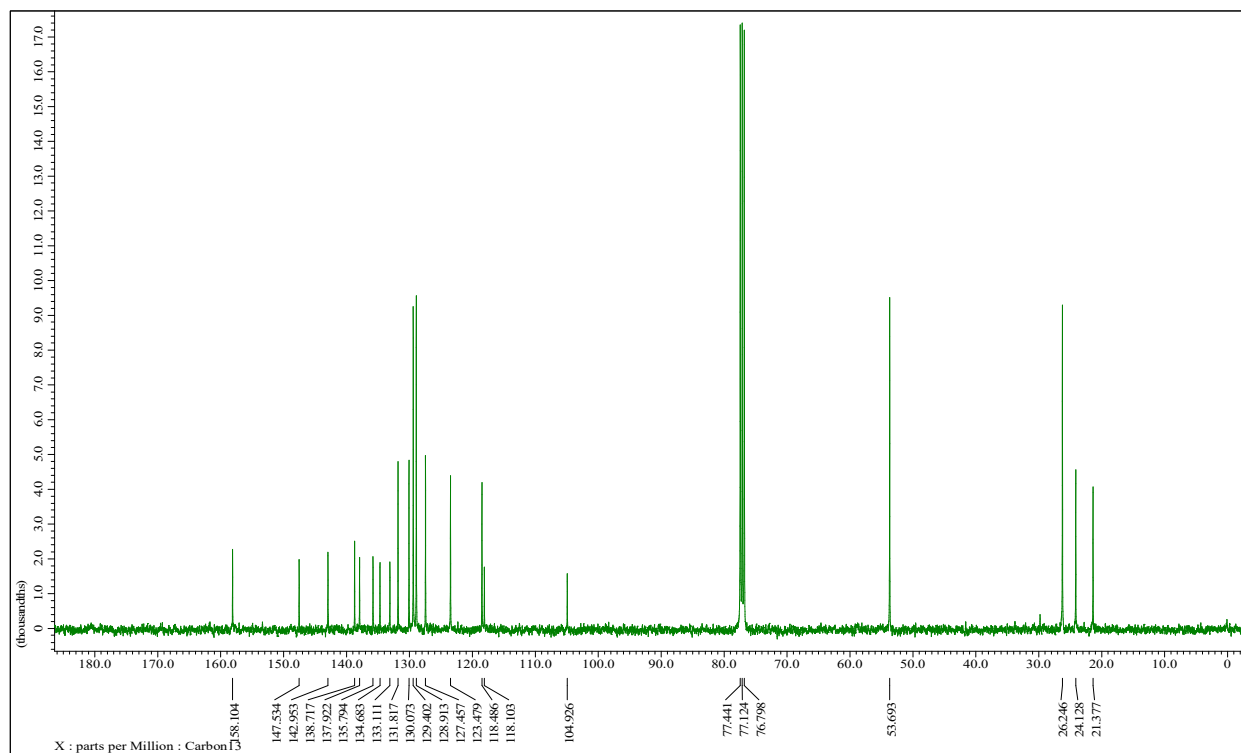
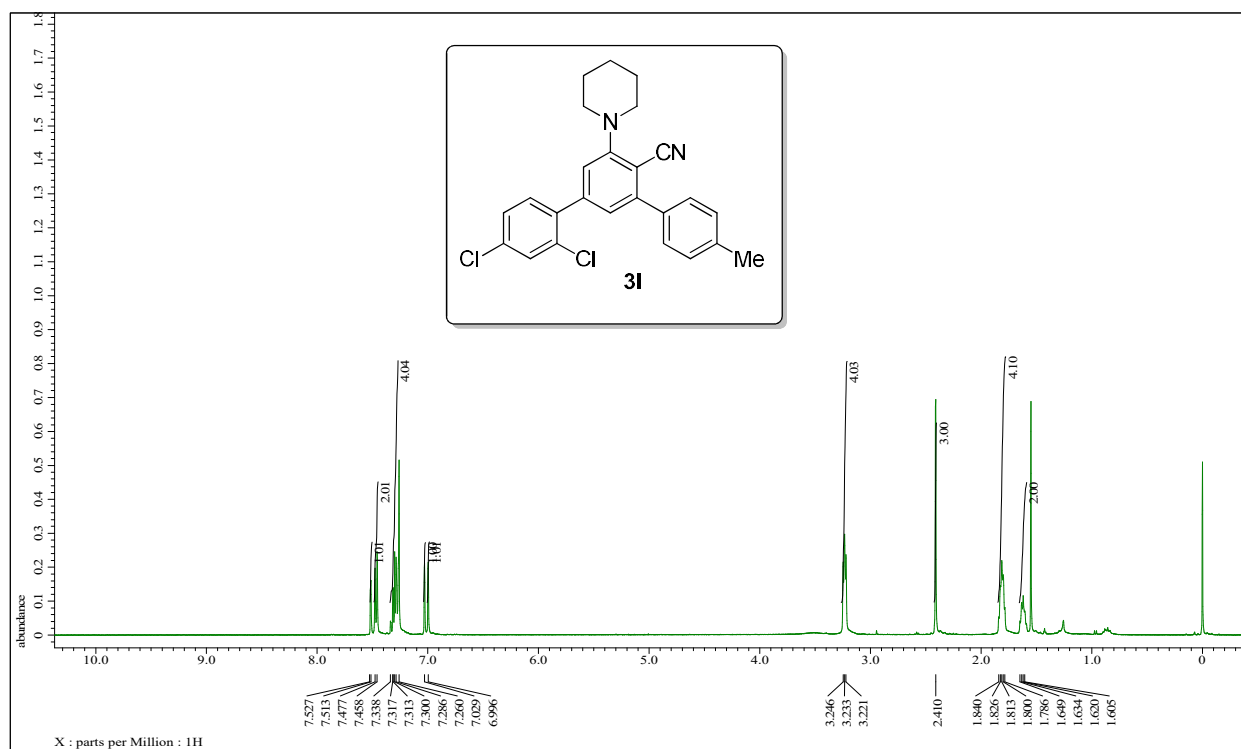
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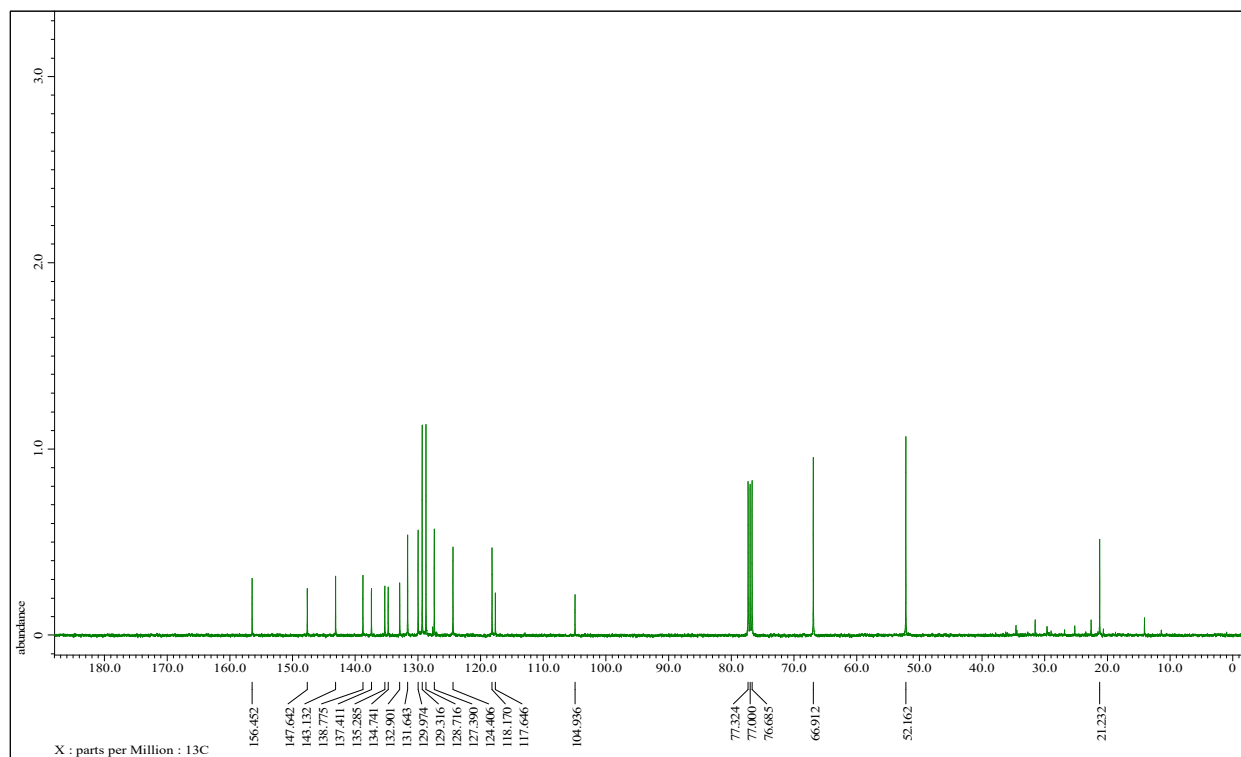
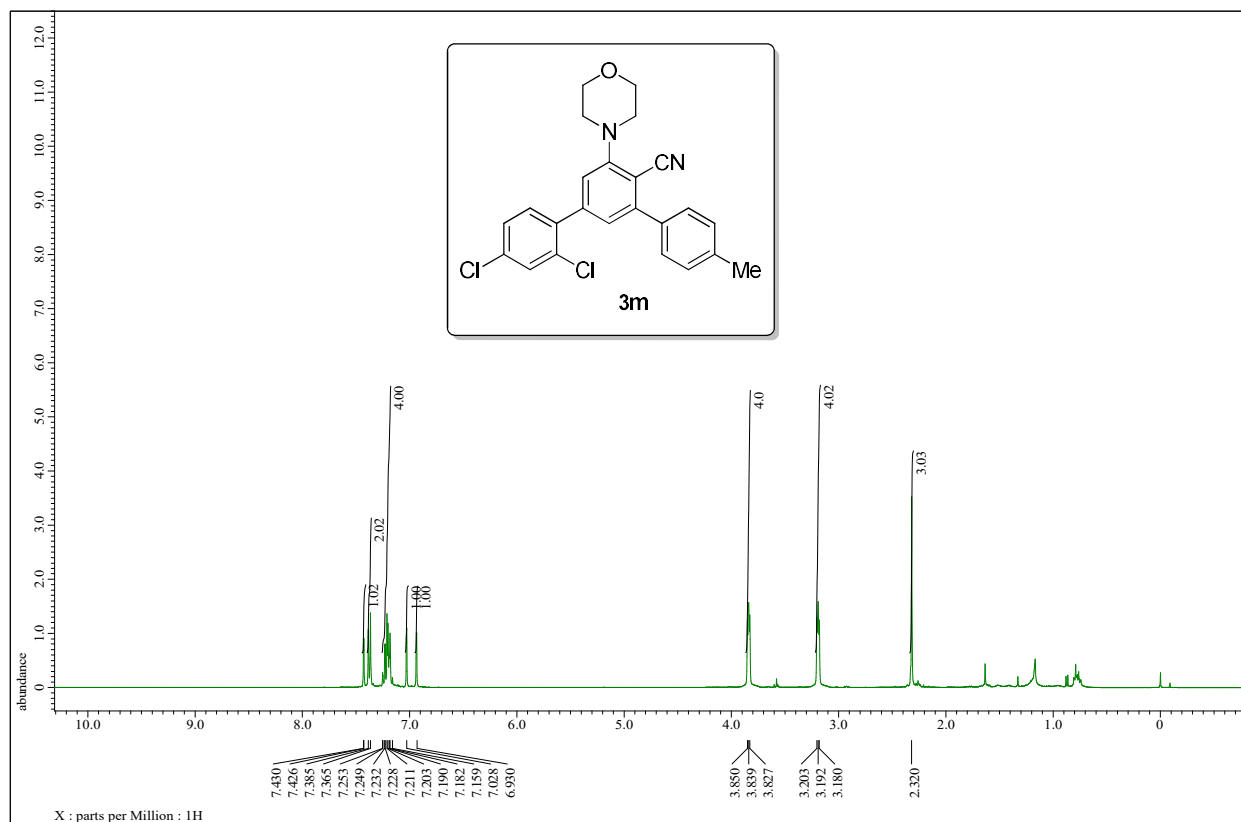
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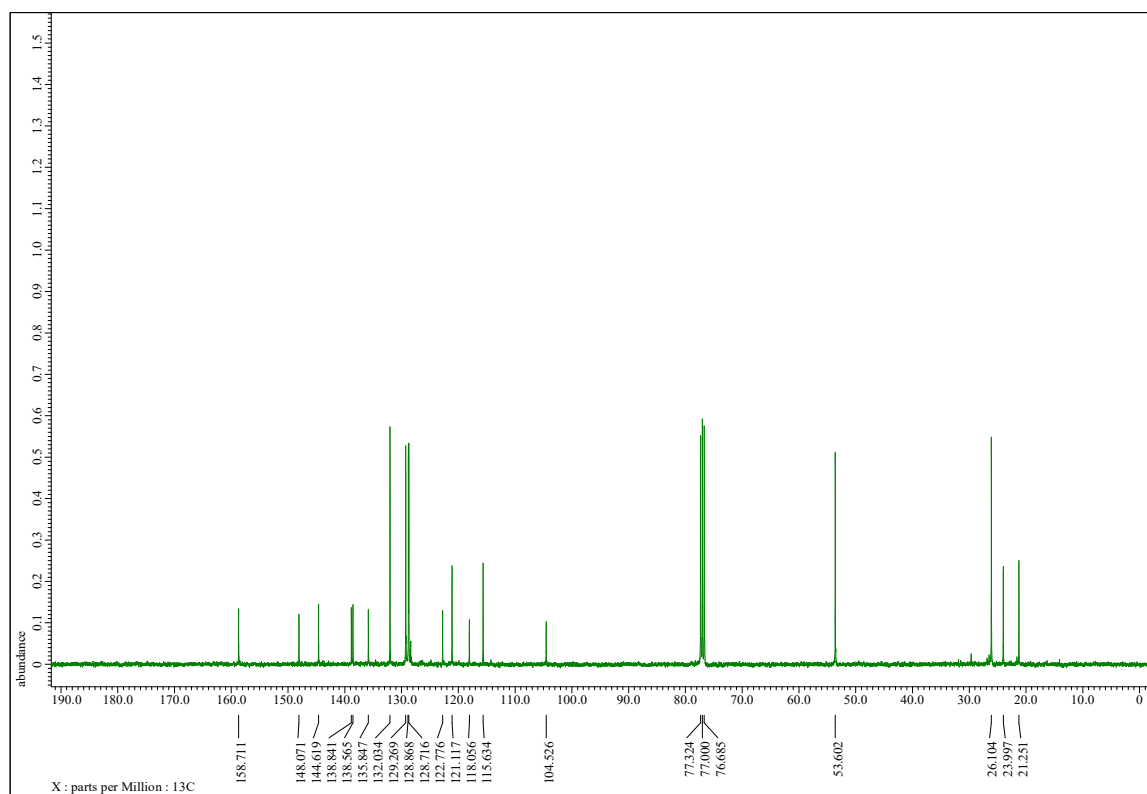
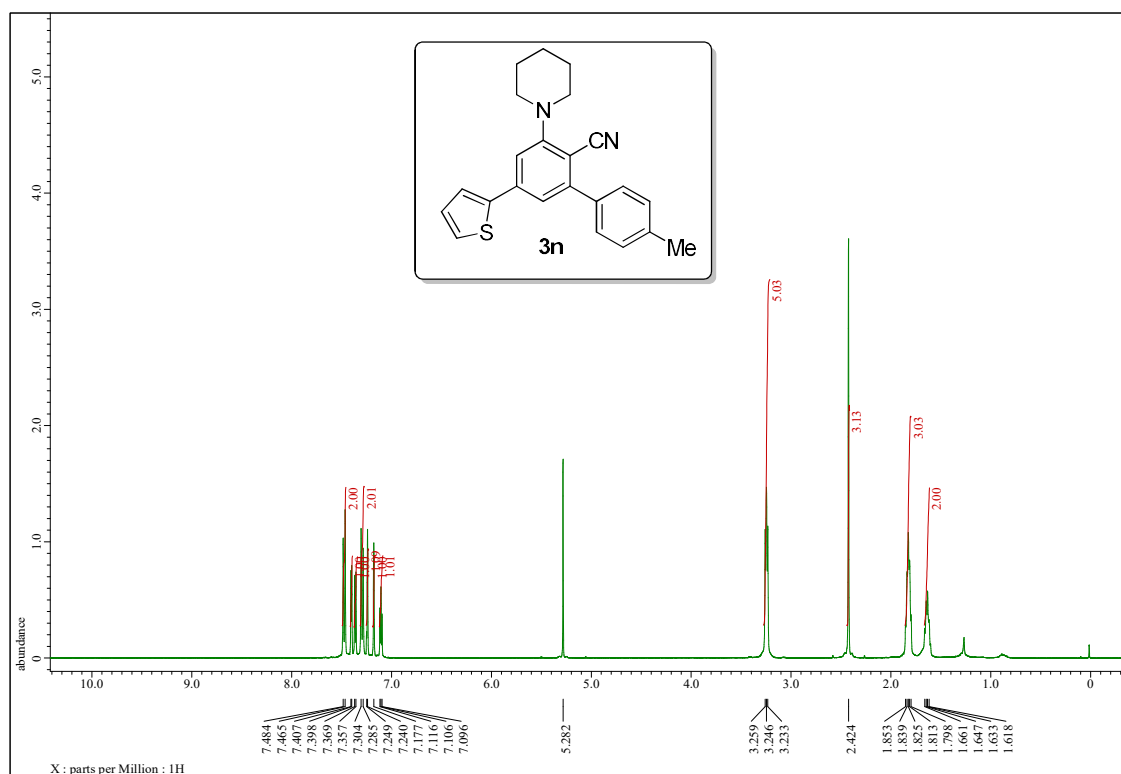
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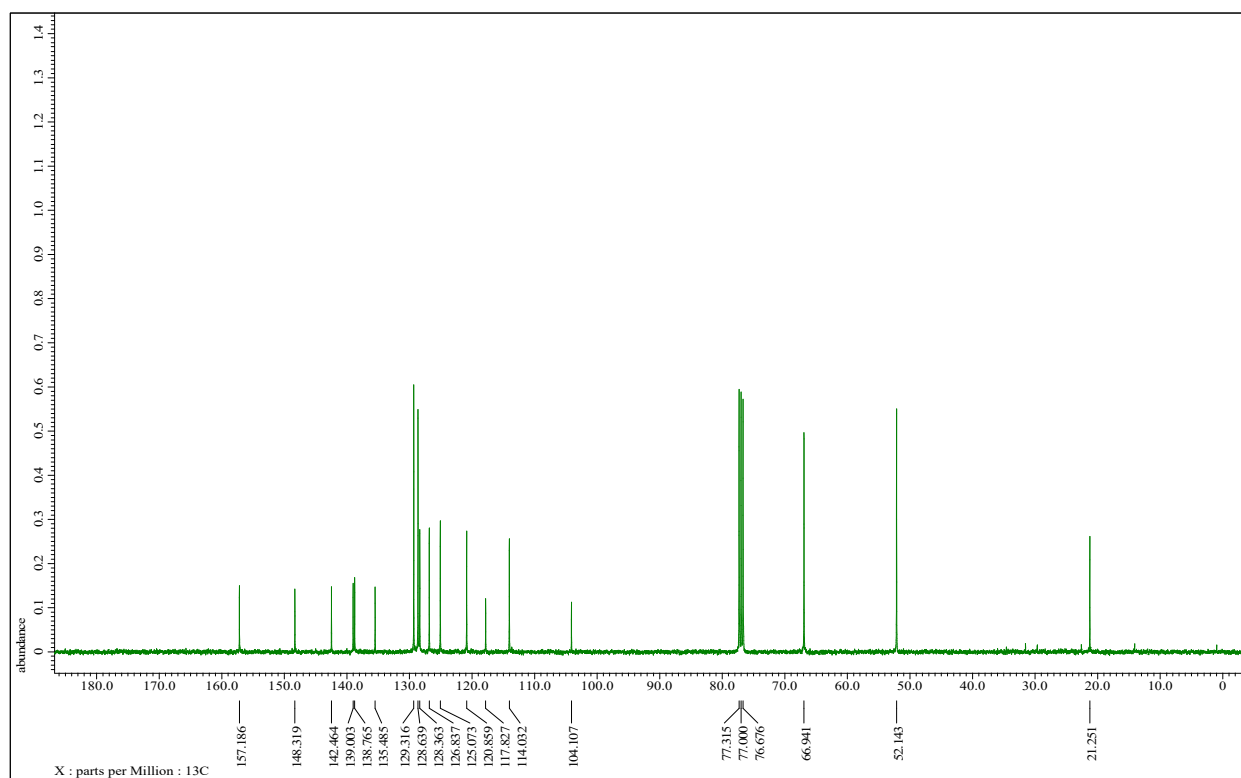
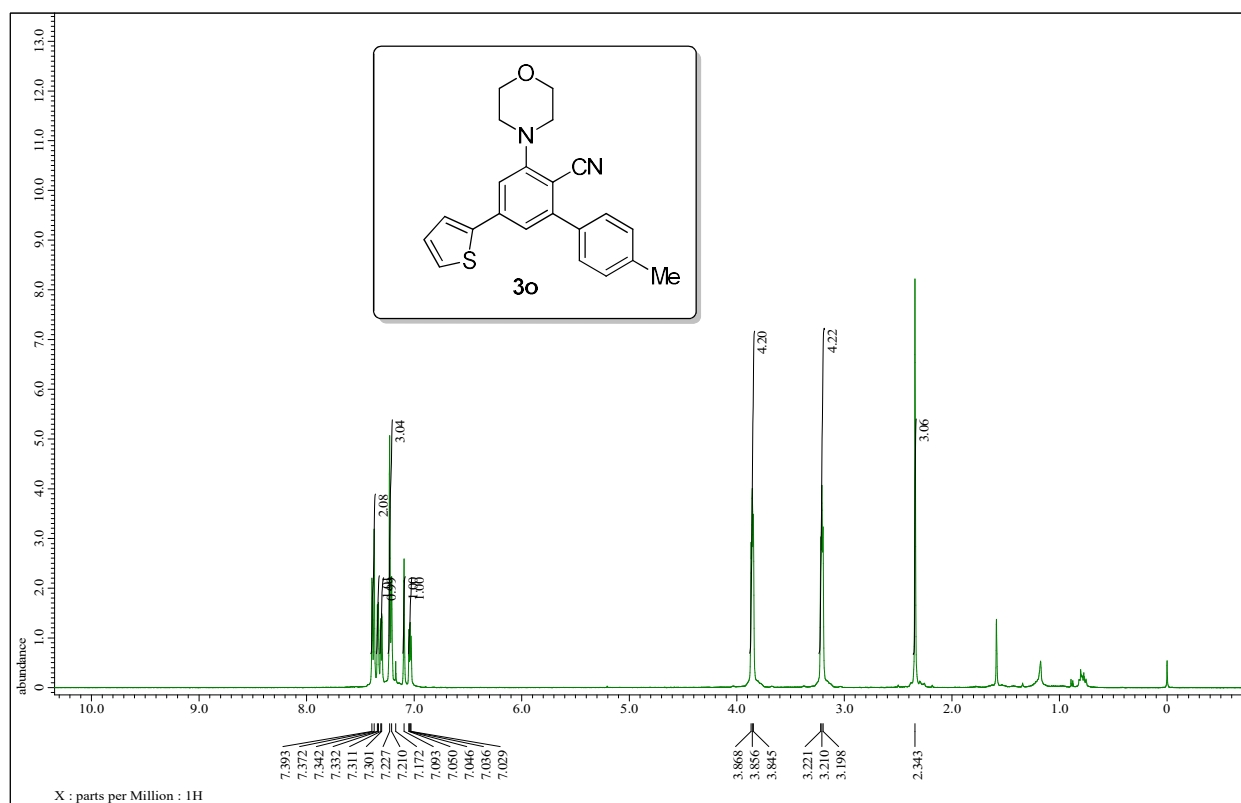
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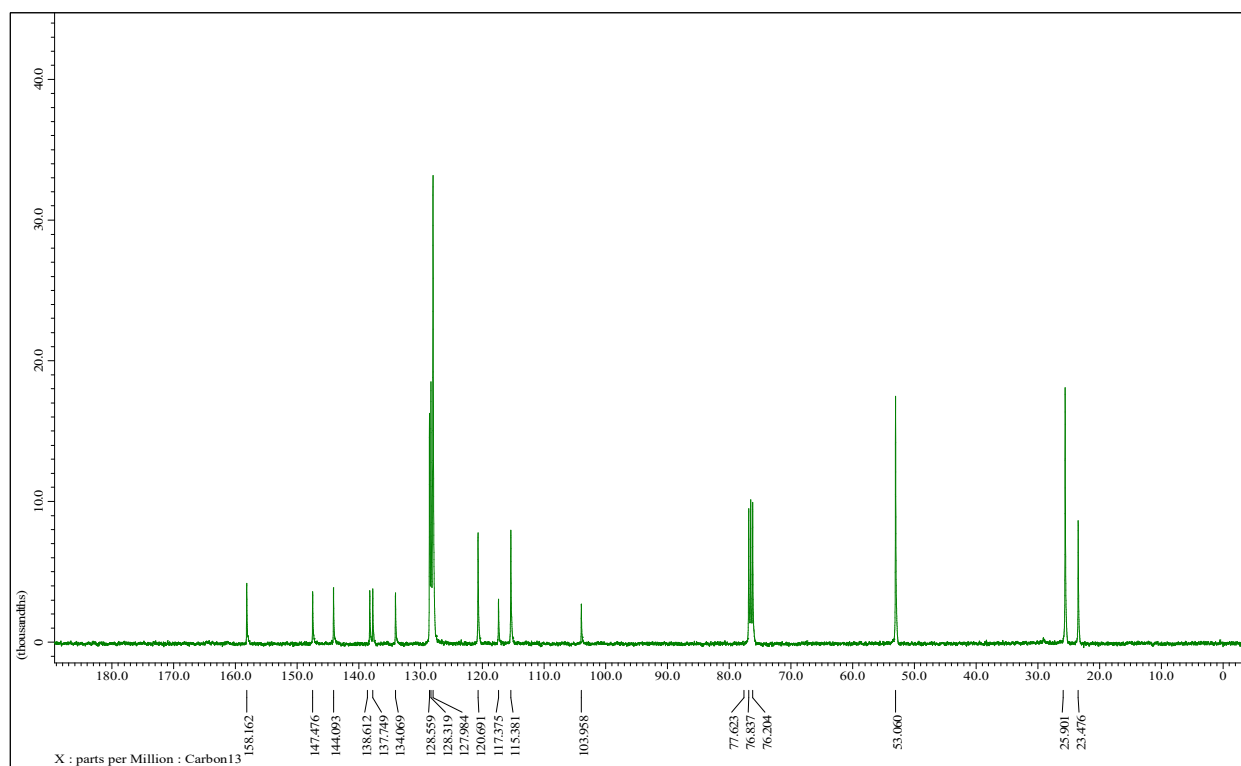
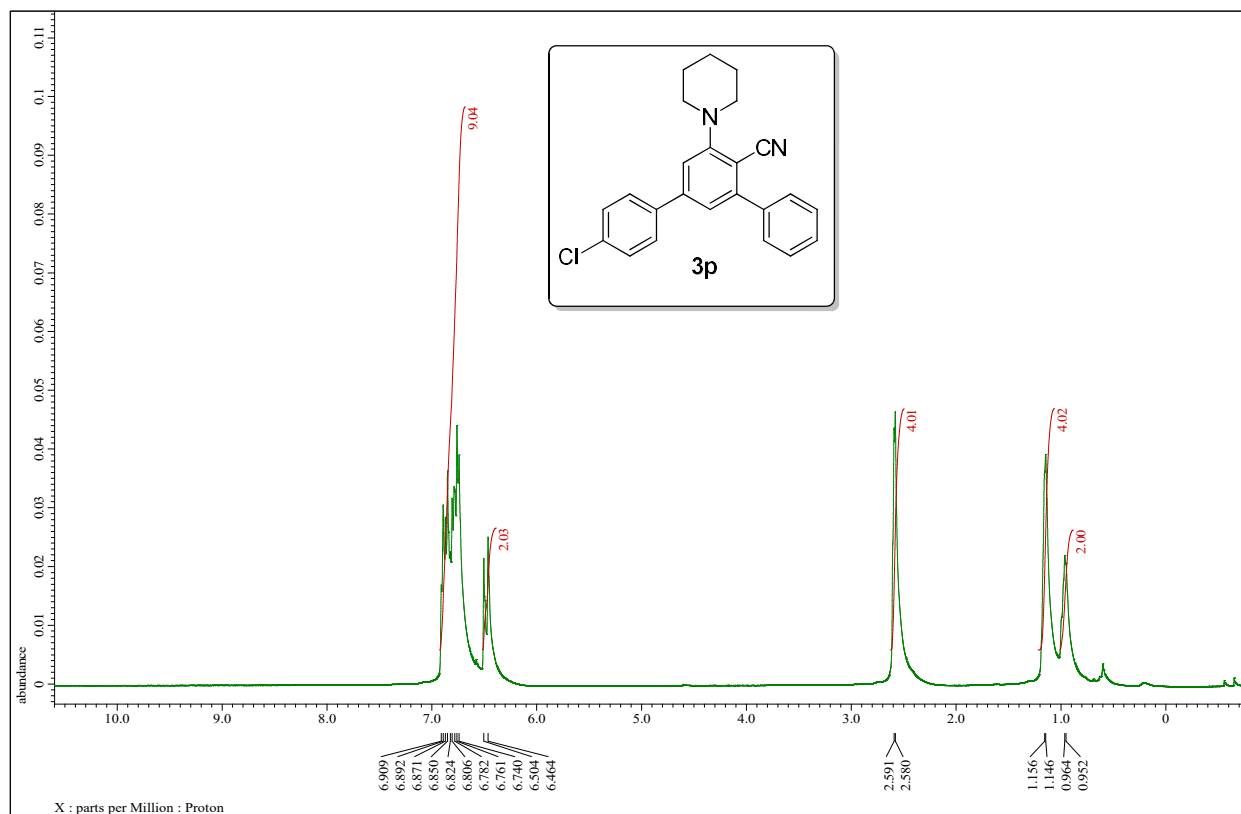
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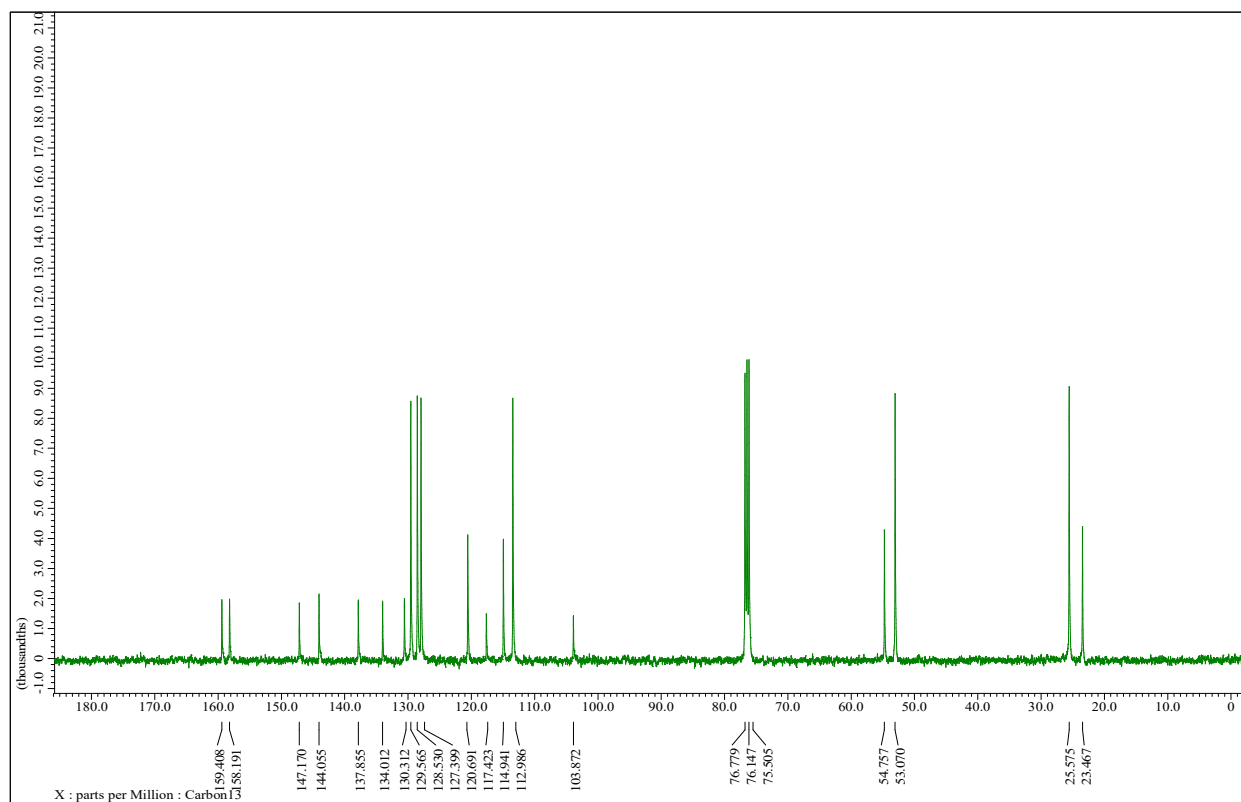
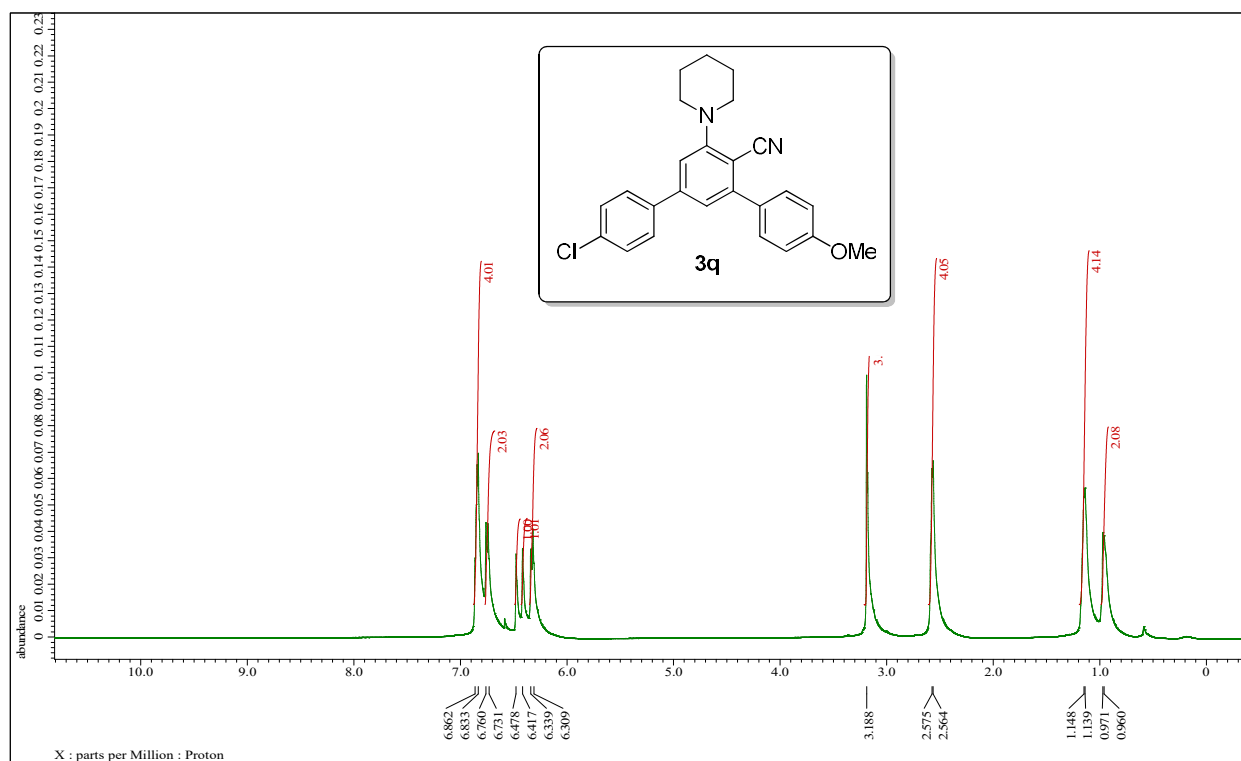
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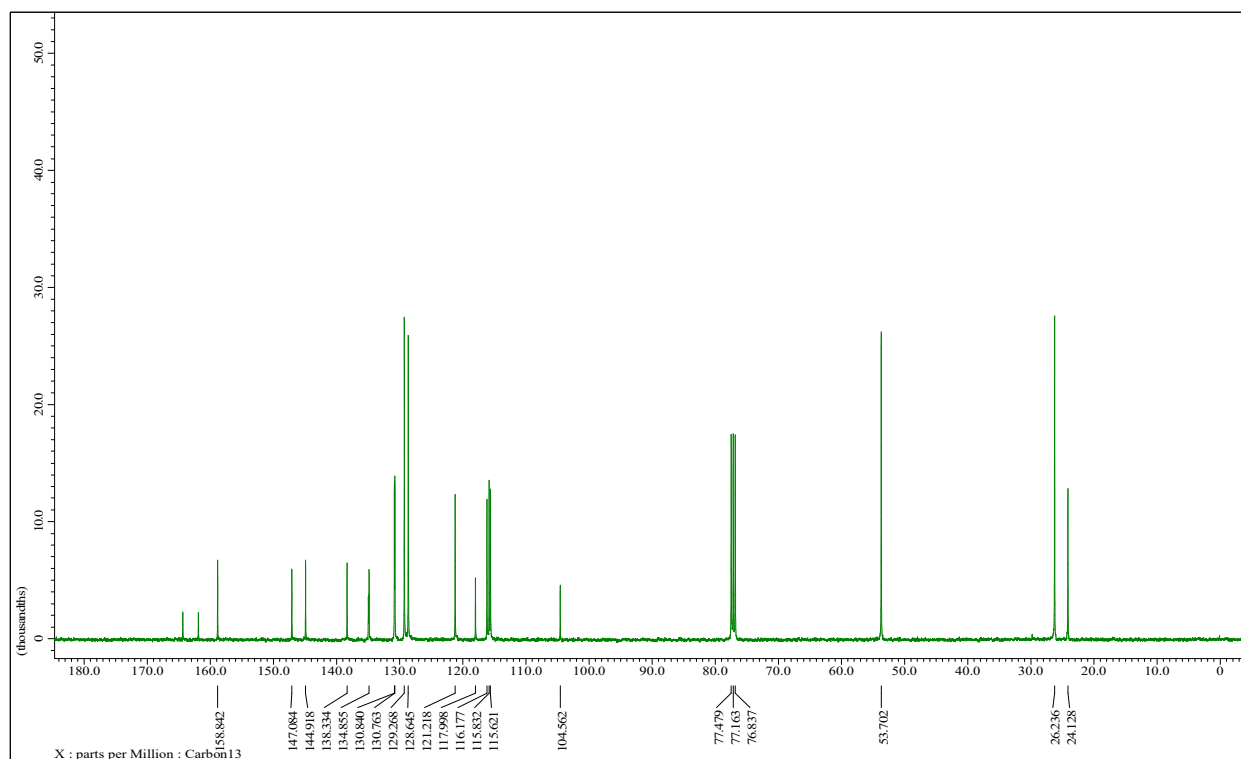
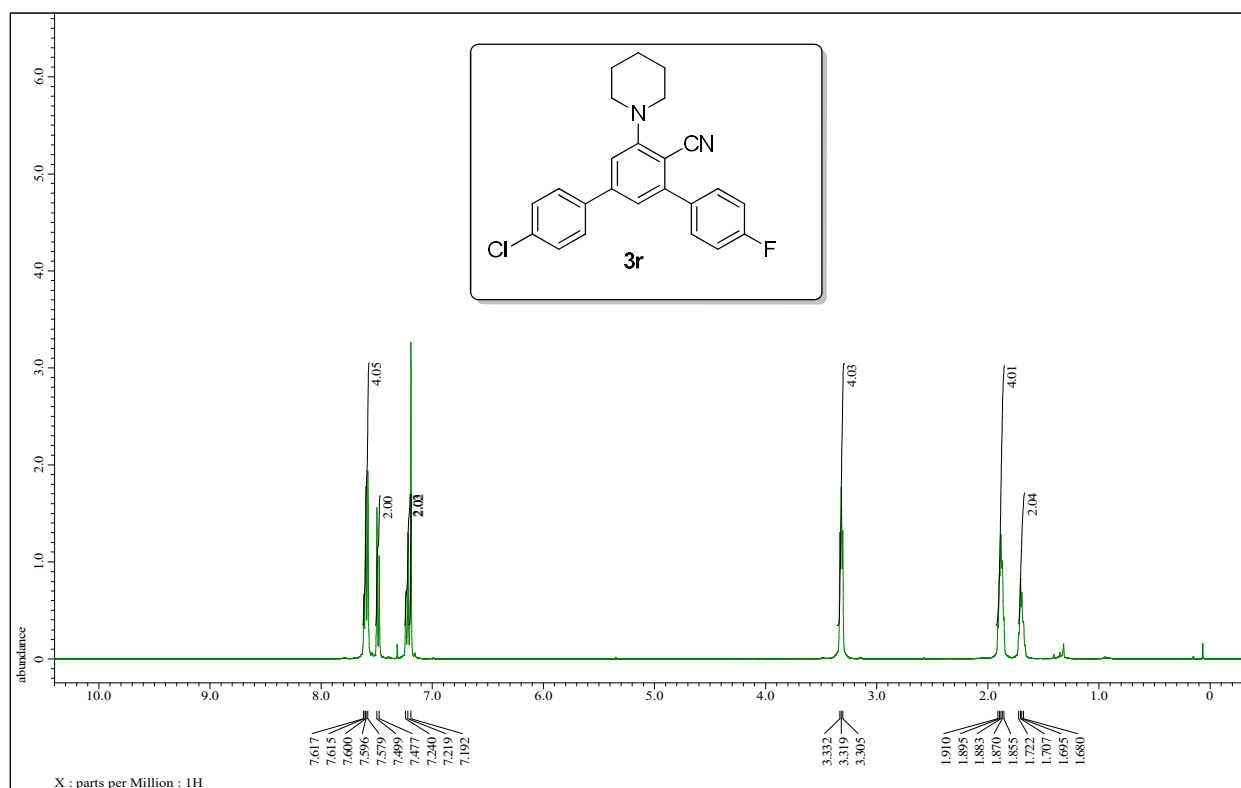
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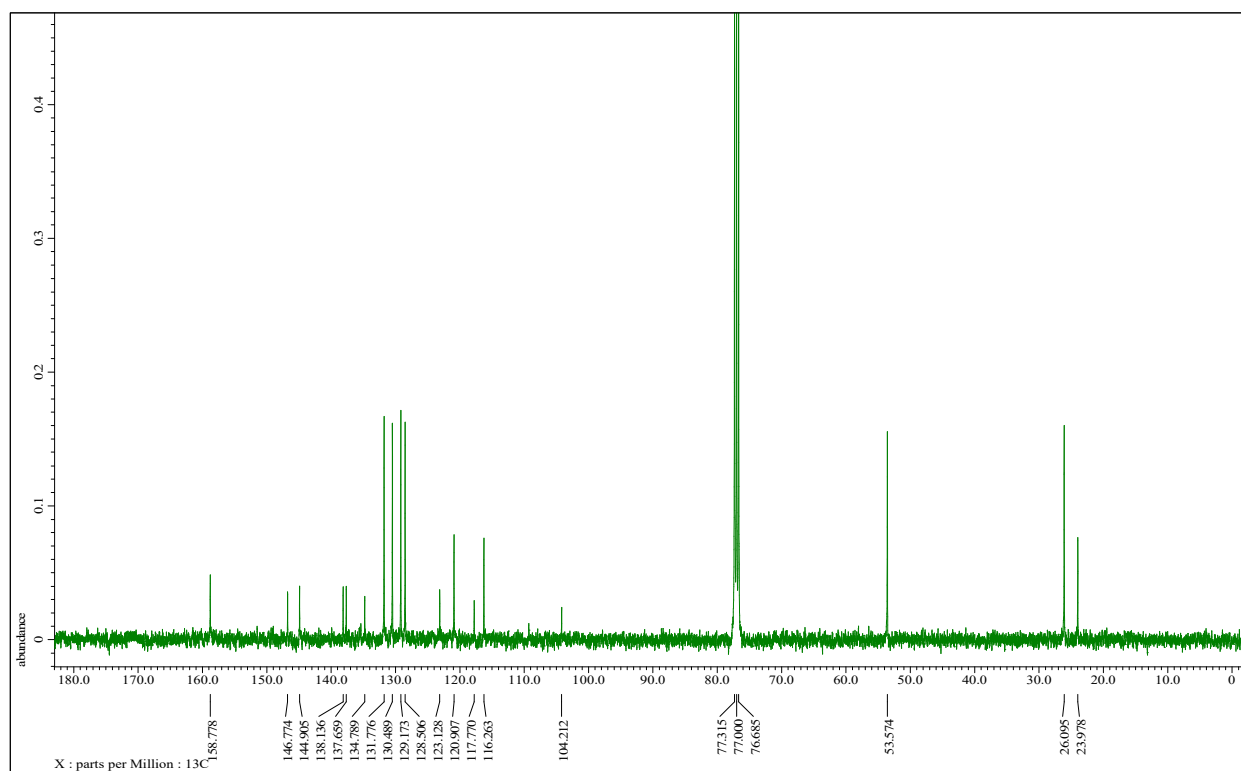
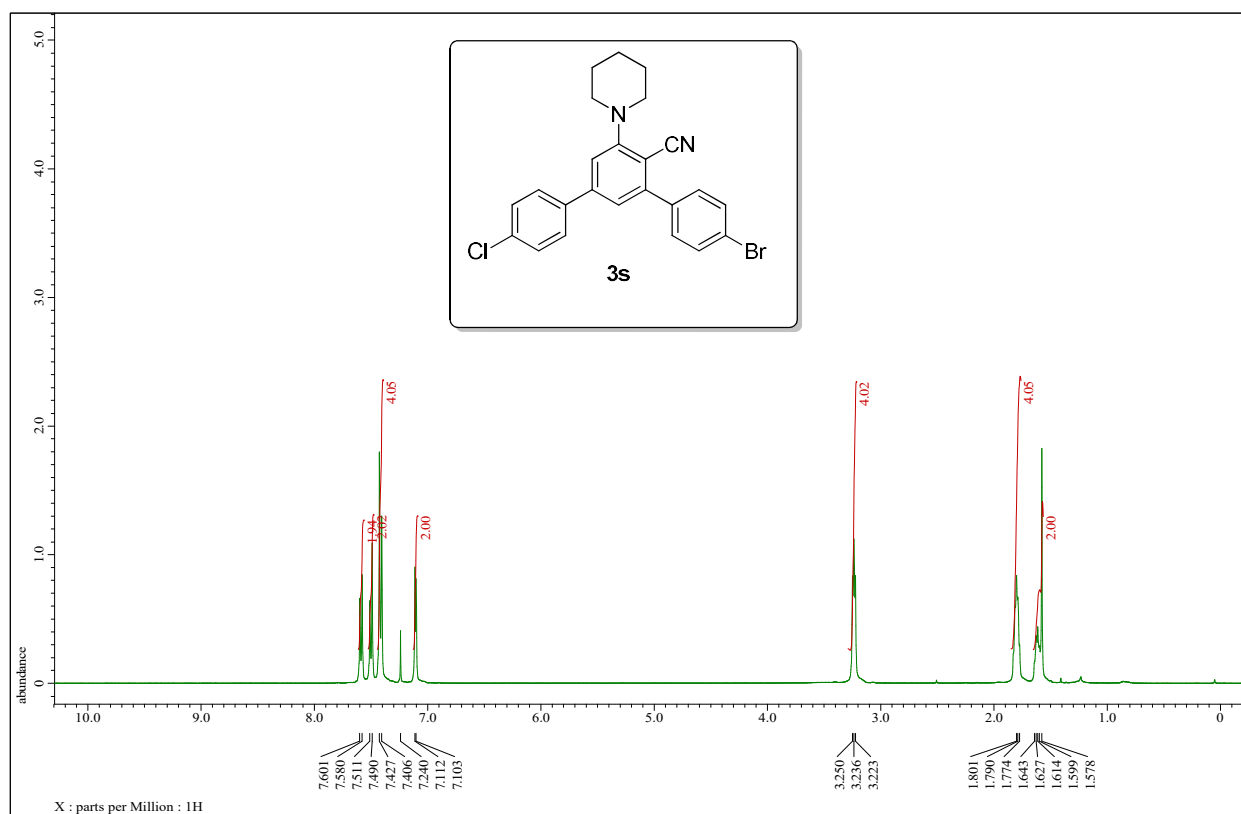
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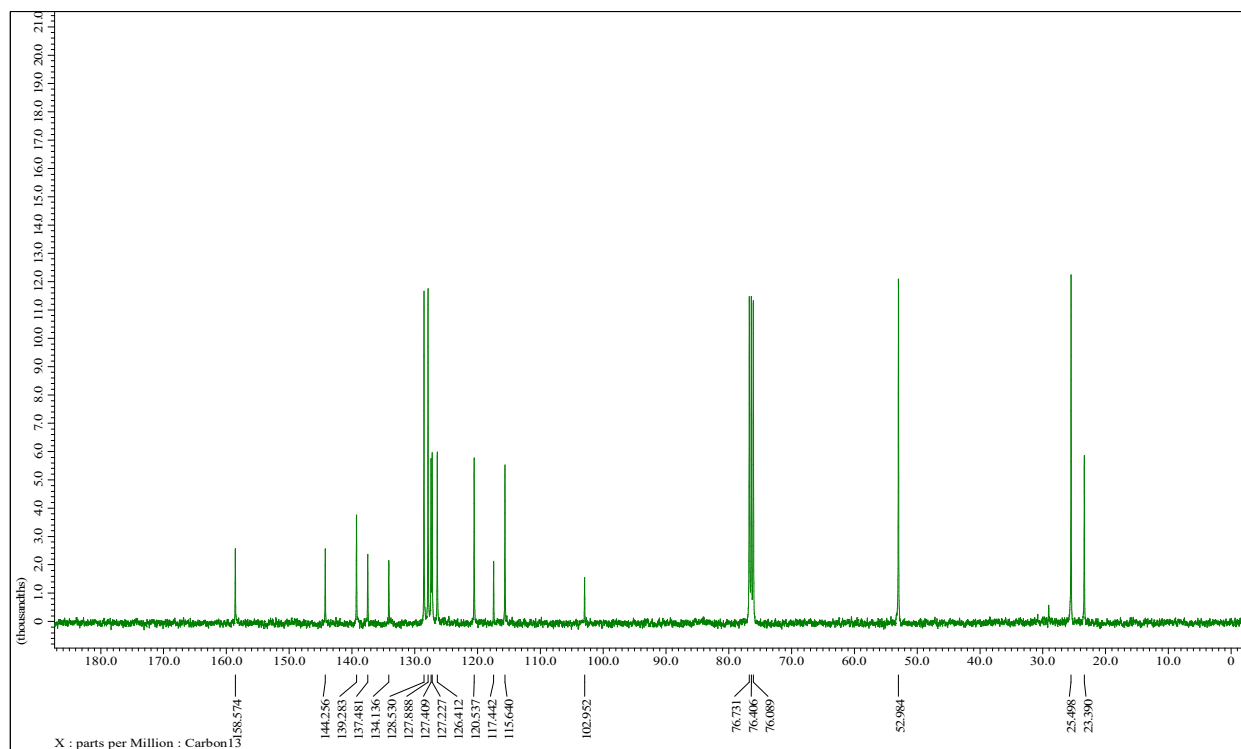
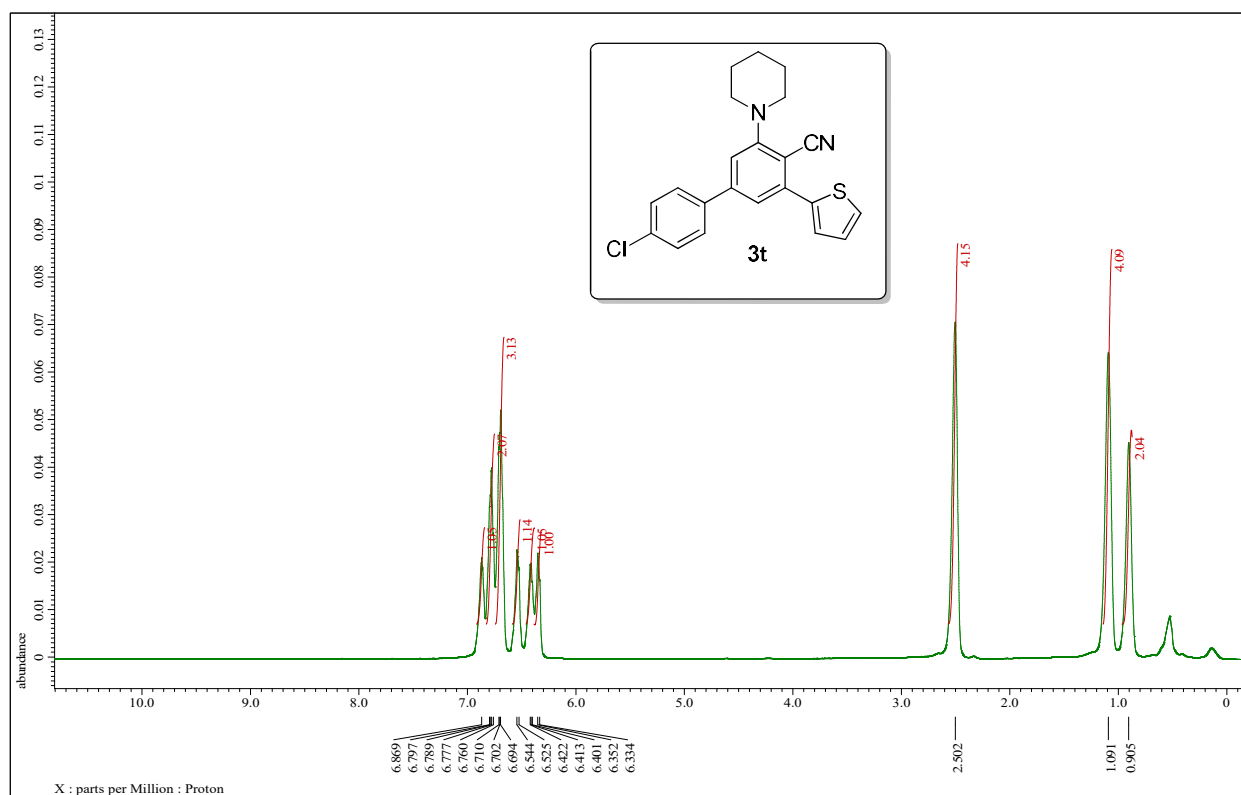
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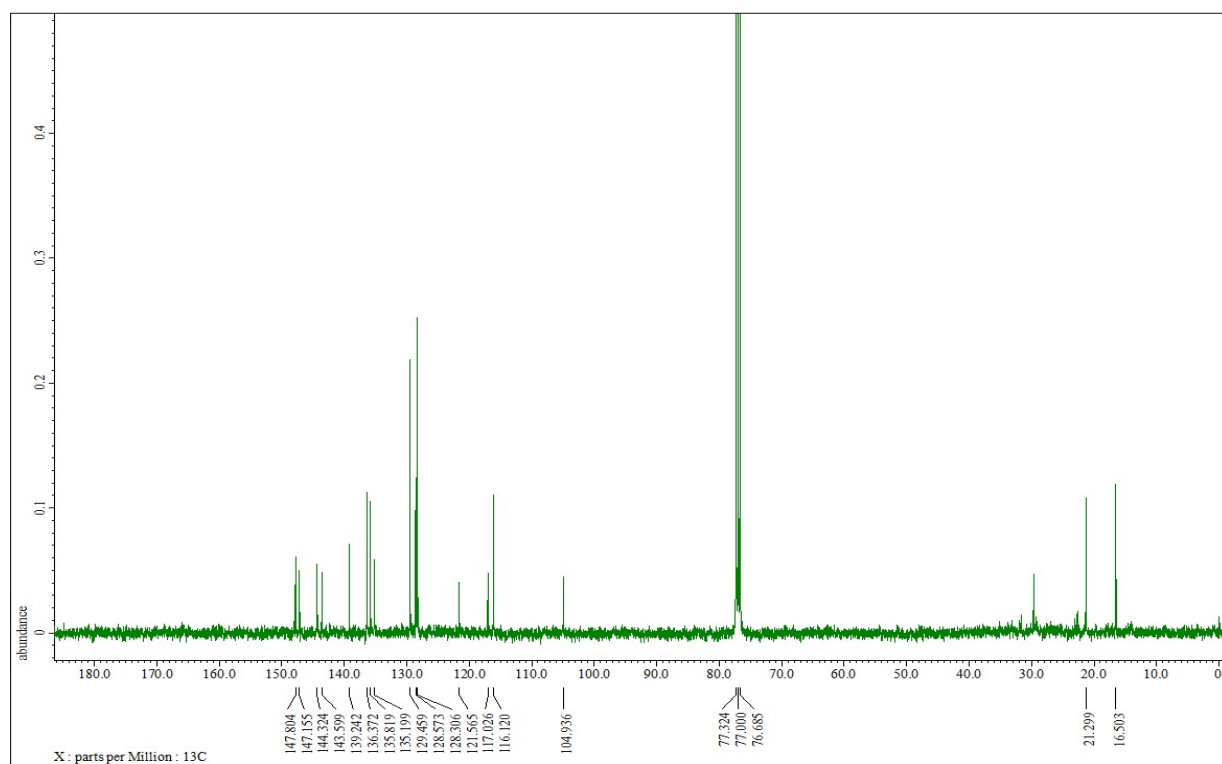
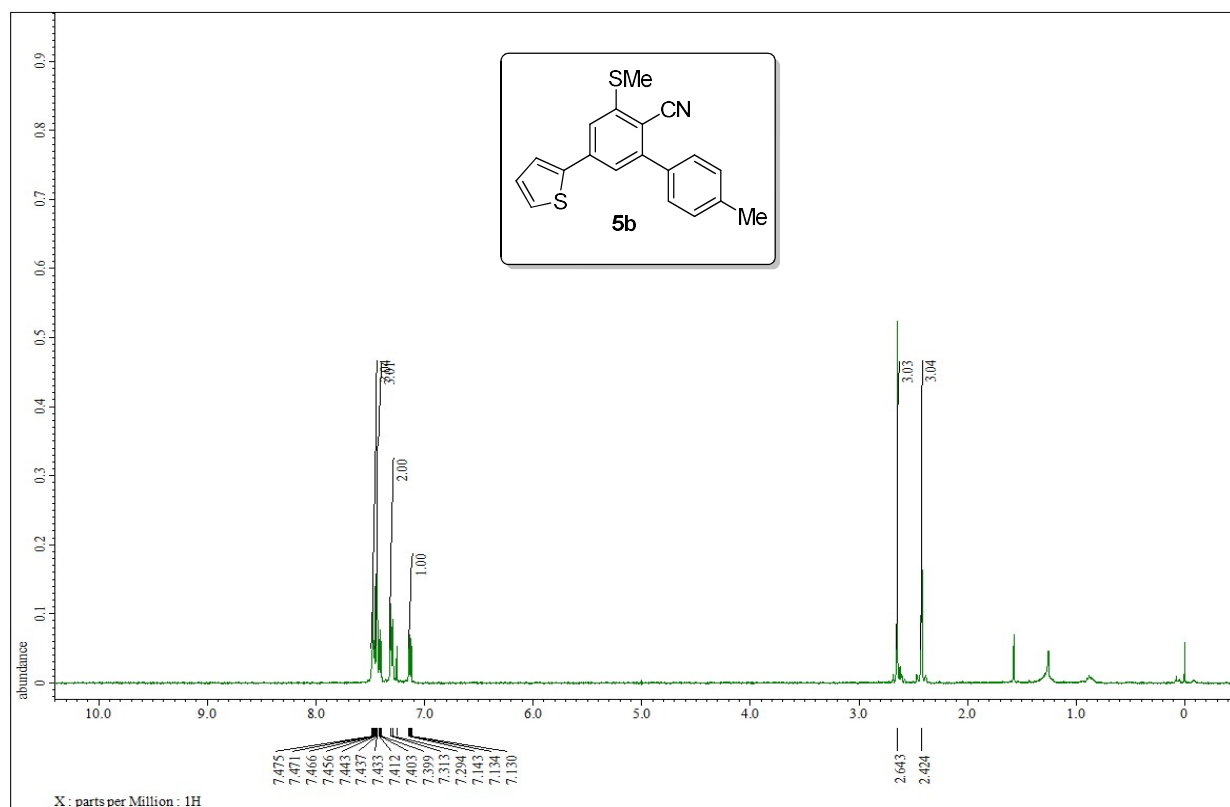
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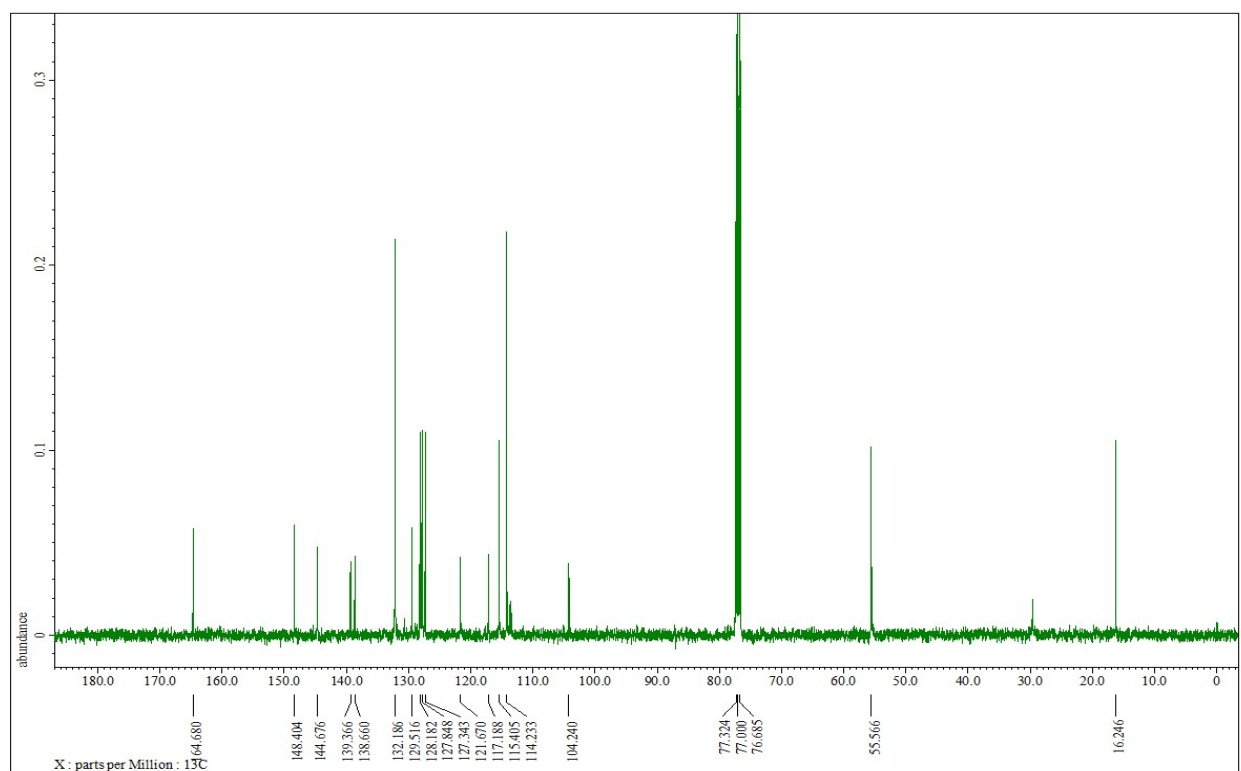
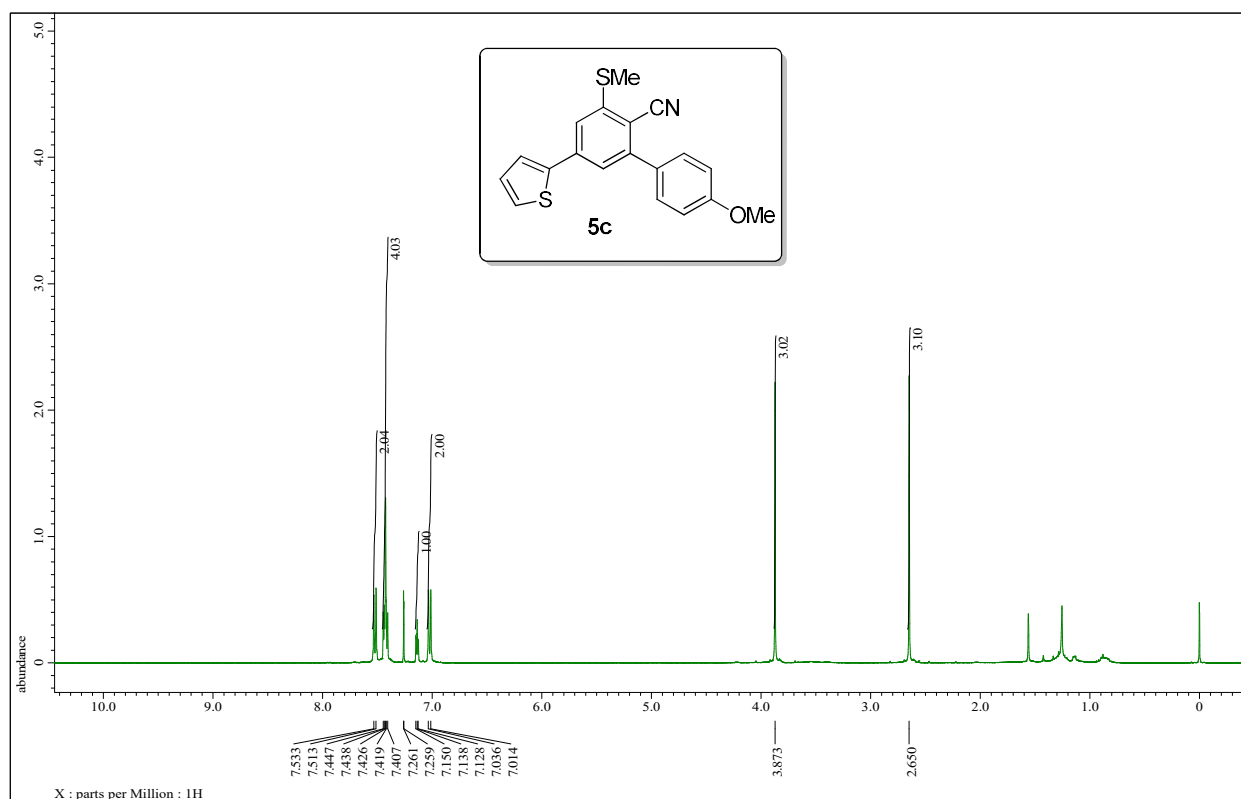
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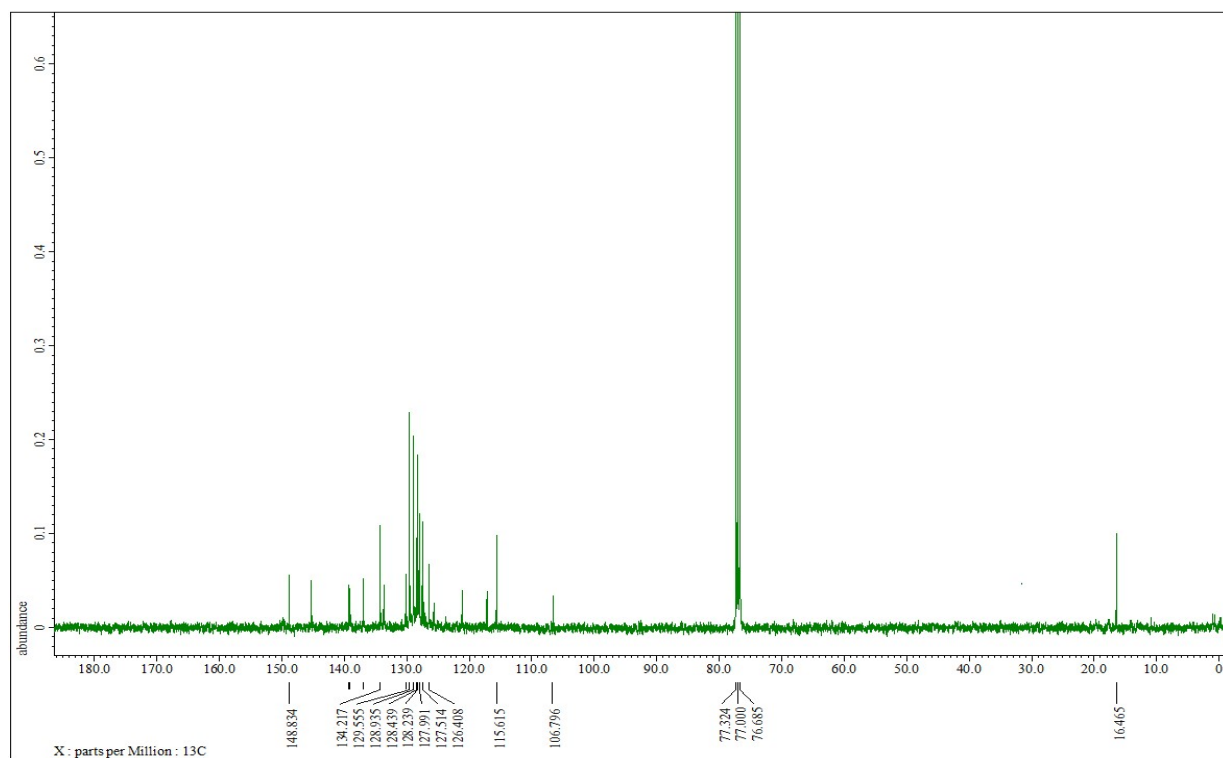
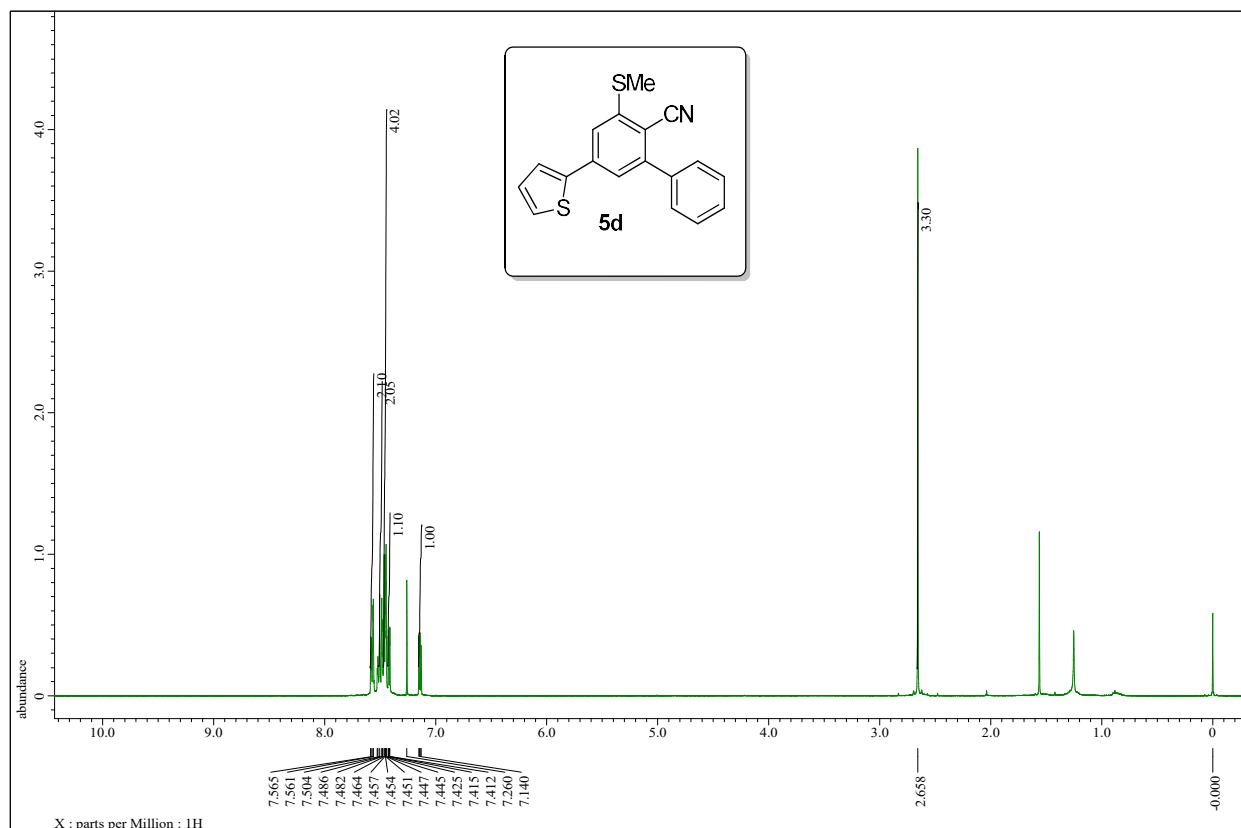
¹H NMR and ¹³C NMR 4'-chloro-3-(piperidin-1-yl)-5-(thiophen-2-yl)-[1,1'-biphenyl]-4-carbonitrile



¹H NMR and ¹³C NMR 4'-methyl-3-(methylthio)-5-(thiophen-2-yl)-[1,1'-biphenyl]-2-carbonitrile



¹H NMR and ¹³C NMR 4'-methoxy-3-(methylthio)-5-(thiophen-2-yl)-[1,1'-biphenyl]-2-carbonitrile



¹H NMR and ¹³C NMR 3-(methylthio)-5-(thiophen-2-yl)-[1,1'-biphenyl]-2-carbonitrile