

Supporting Information

An Efficient and Ecofriendly Synthesis of Highly Functionalized Pyridones via a One-pot Three-Component Reaction

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Experimental Section

General remarks:

All commercially available reagents and other solvents were purchased and used without further purification. The NMR spectra were recorded with a Bruker DRX-300 Avance instrument (300 MHz for ¹H and 75.4 MHz for ¹³C) with DMSO-*d*₆ as solvent. Chemical shifts are given in ppm (δ), and coupling constant (*J*) are reported in hertz (Hz). Melting points were measured with an electrothermal 9100 apparatus. Mass spectra were recorded with an Agilent 5975C VL MSD with Triple-Axis Detector operating at an ionization potential of 70 eV. IR spectra were measured with Bruker Tensor 27 spectrometer ($\bar{\nu}$ in cm⁻¹). Elemental analyses for C, H and N were performed using a PerkinElmer 2004 series [II] CHN elemental analyzer. All NMR spectra at room temperature were determined in DMSO-*d*₆. Chemical shifts are reported in parts per million (δ). Coupling constants (*J* values) are reported in hertz (Hz), and spin multiplicities are indicated by the following symbols: s (singlet), d (doublet), t (triplet), q (quartet), m (multiplet). All chemicals were purchased and were used without further purification.

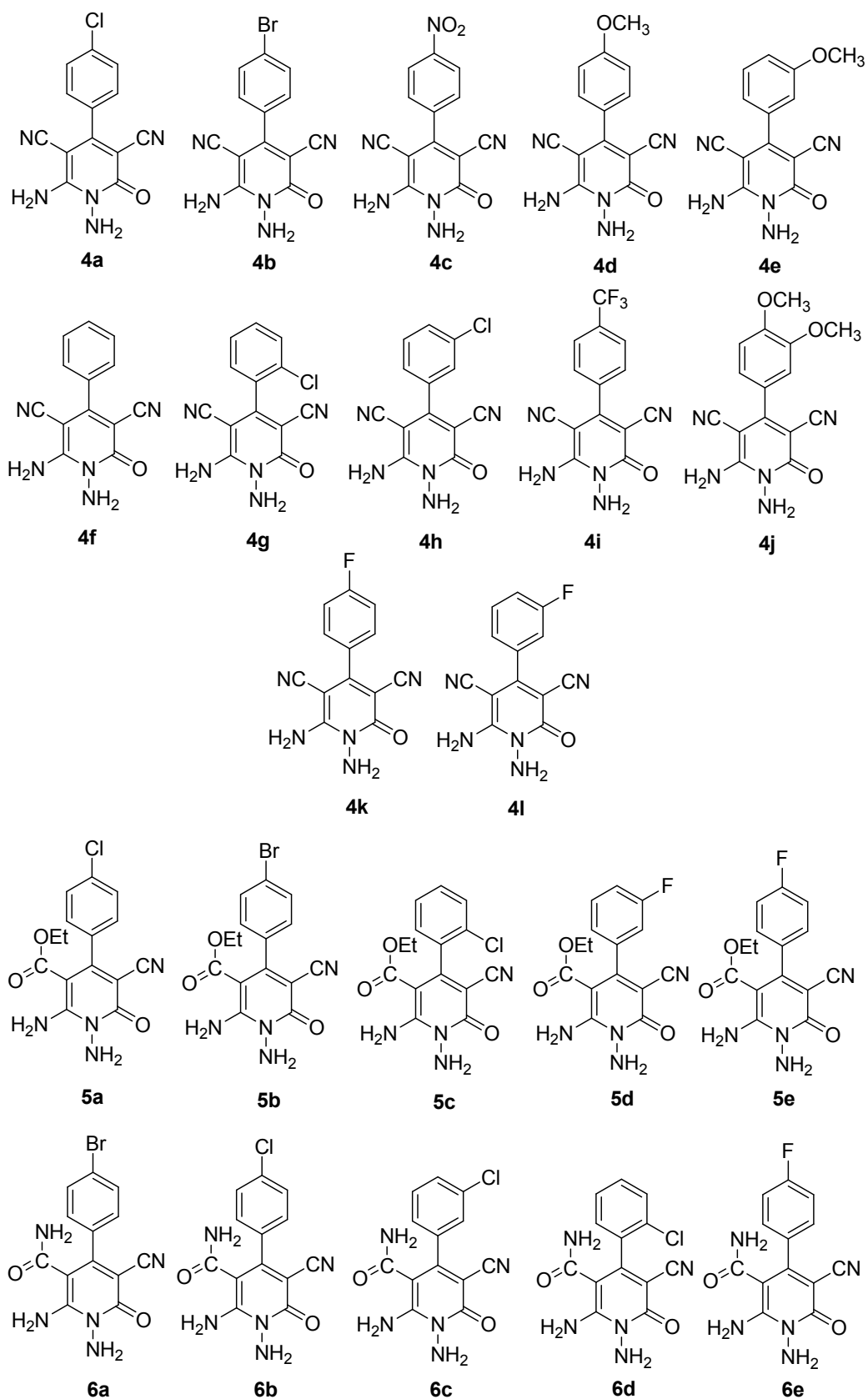
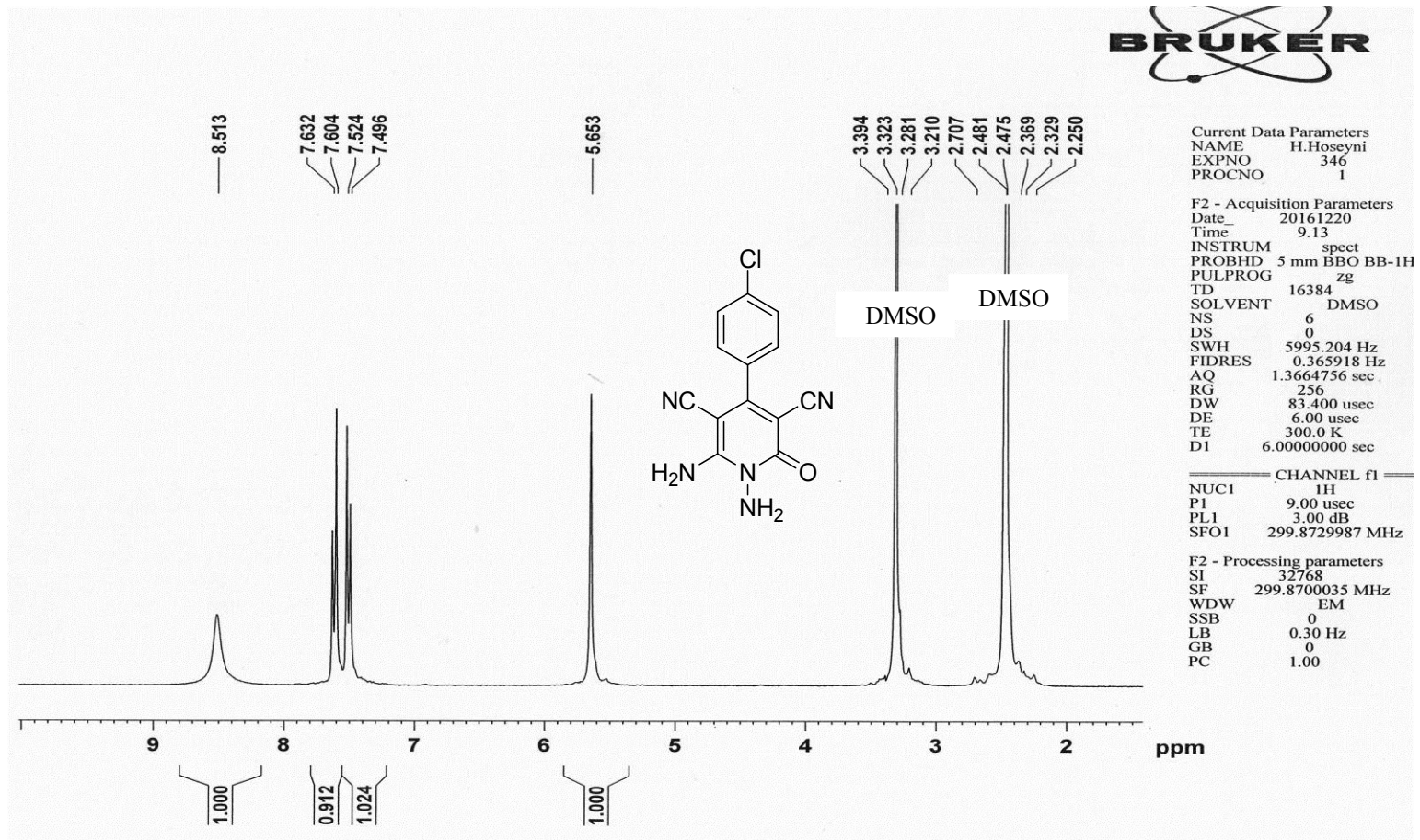
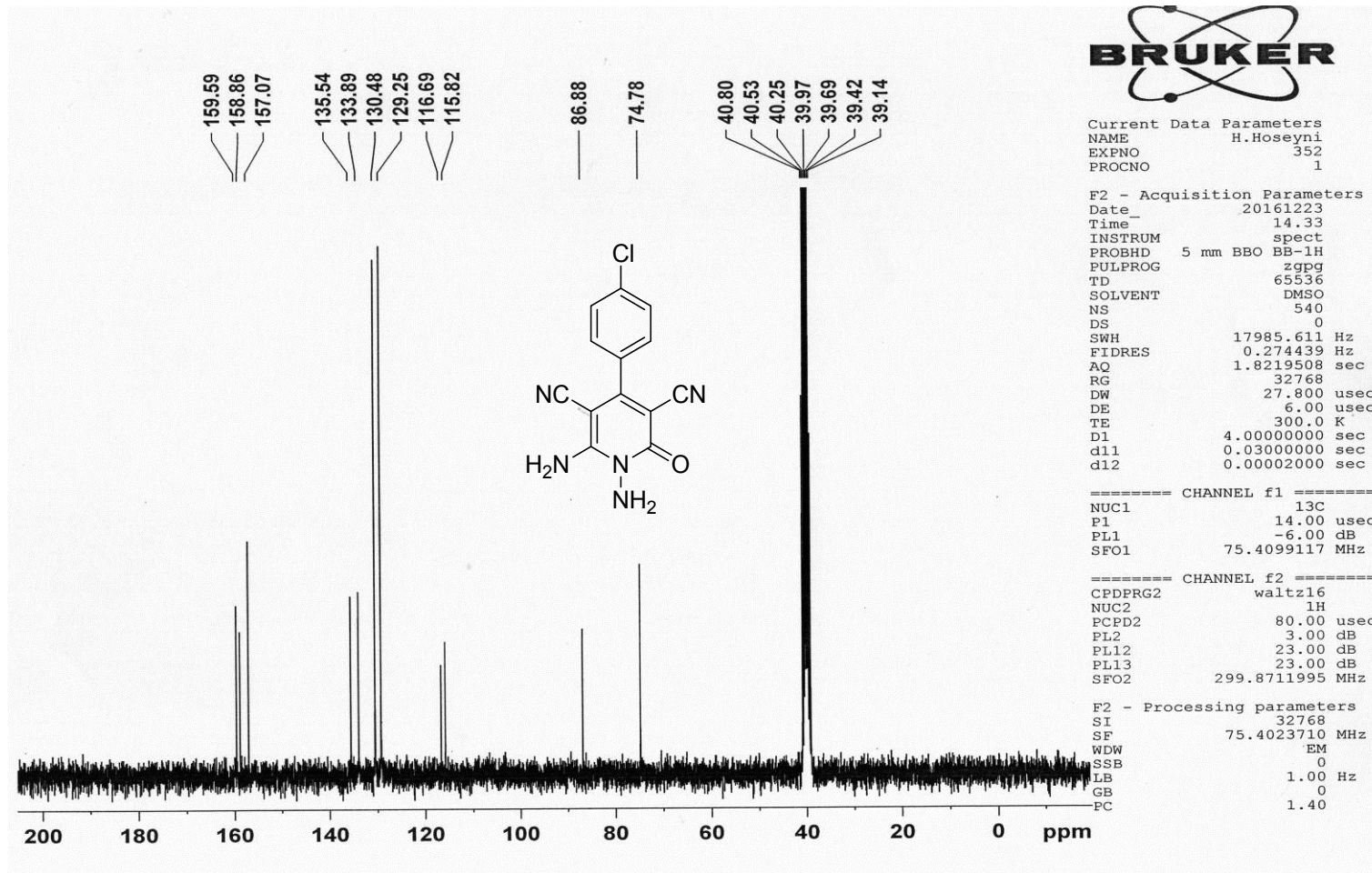
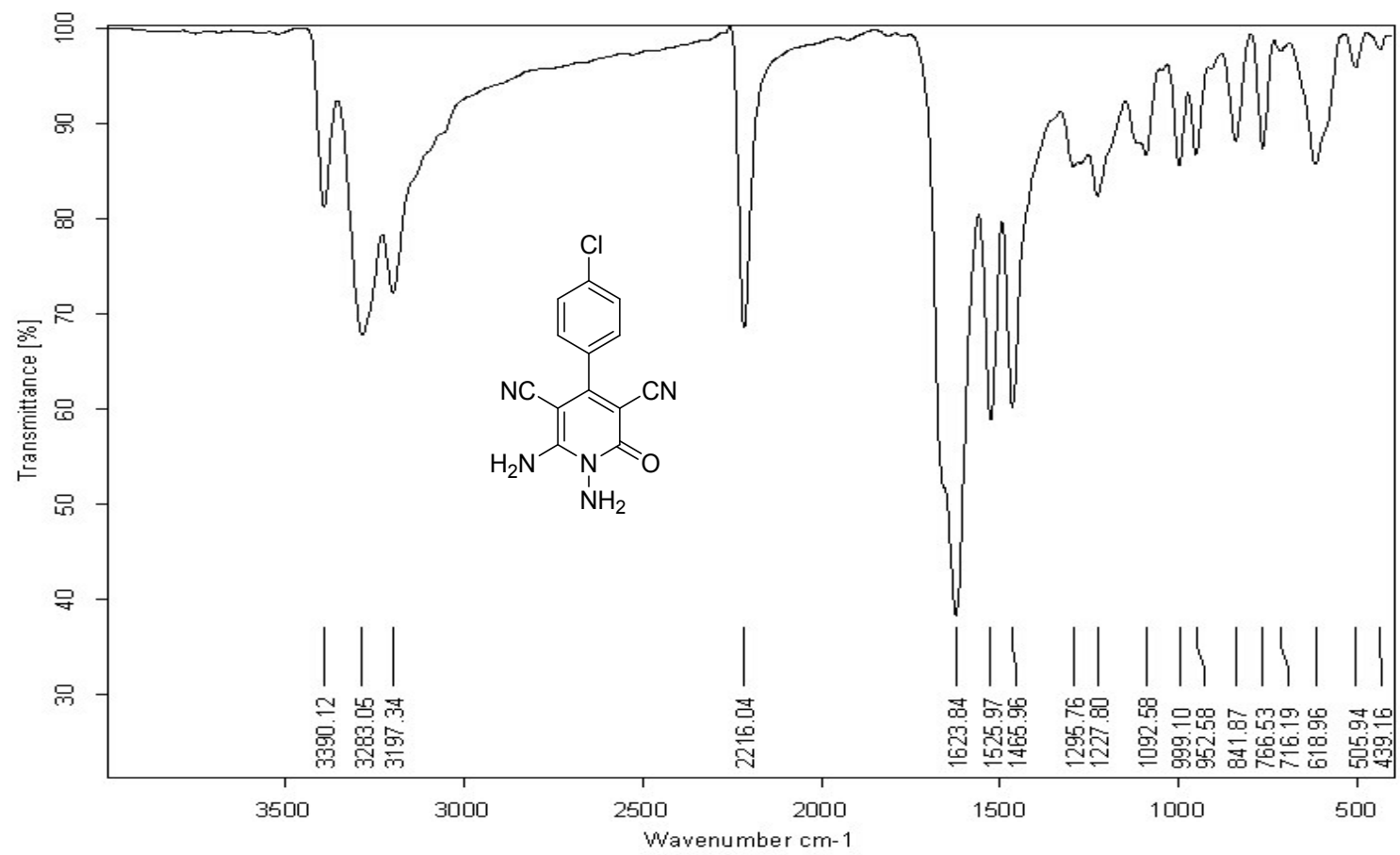


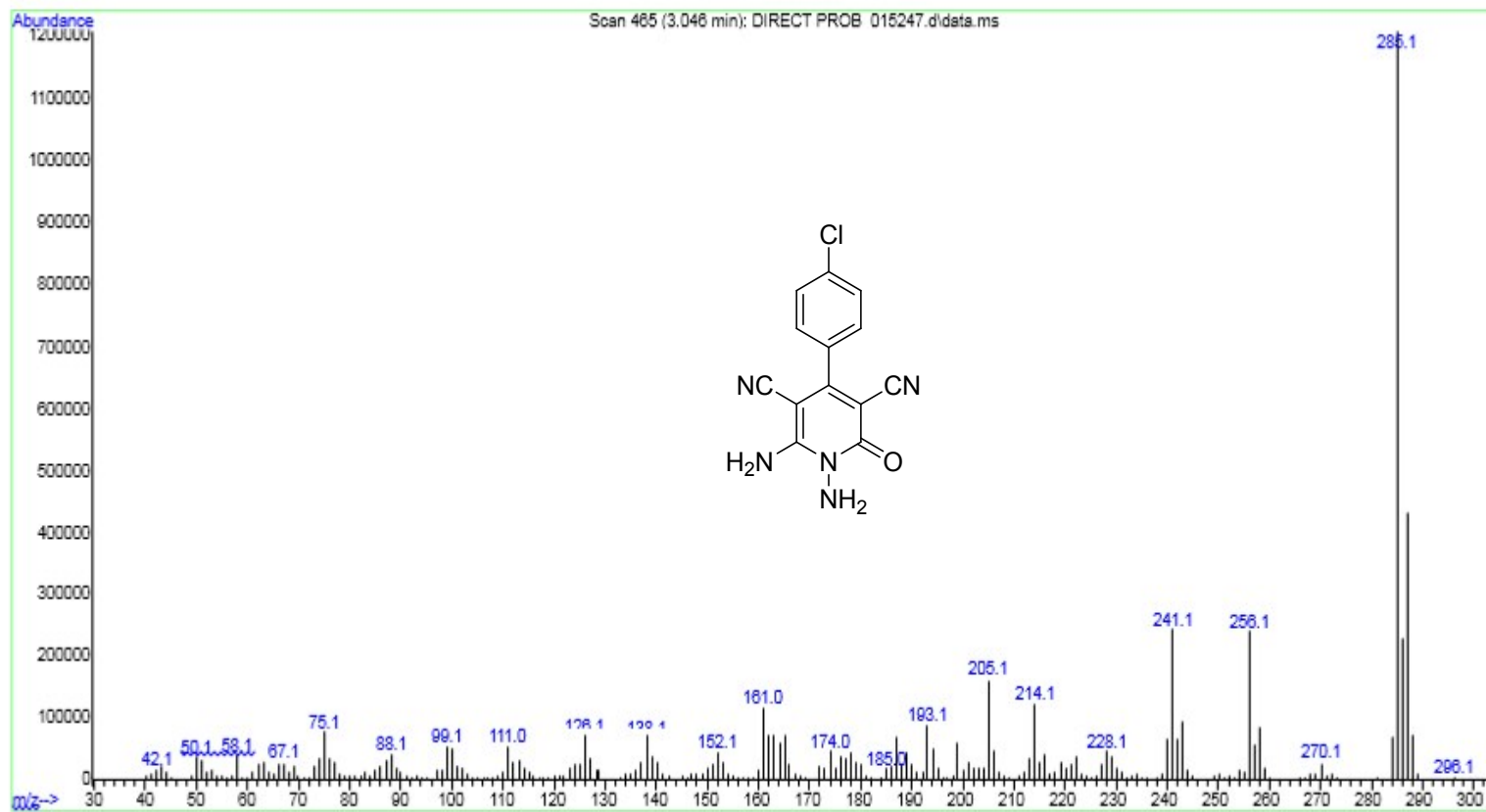
Figure 1. Structure of all products **4a-l**, **5a-e**, **6a-e**.



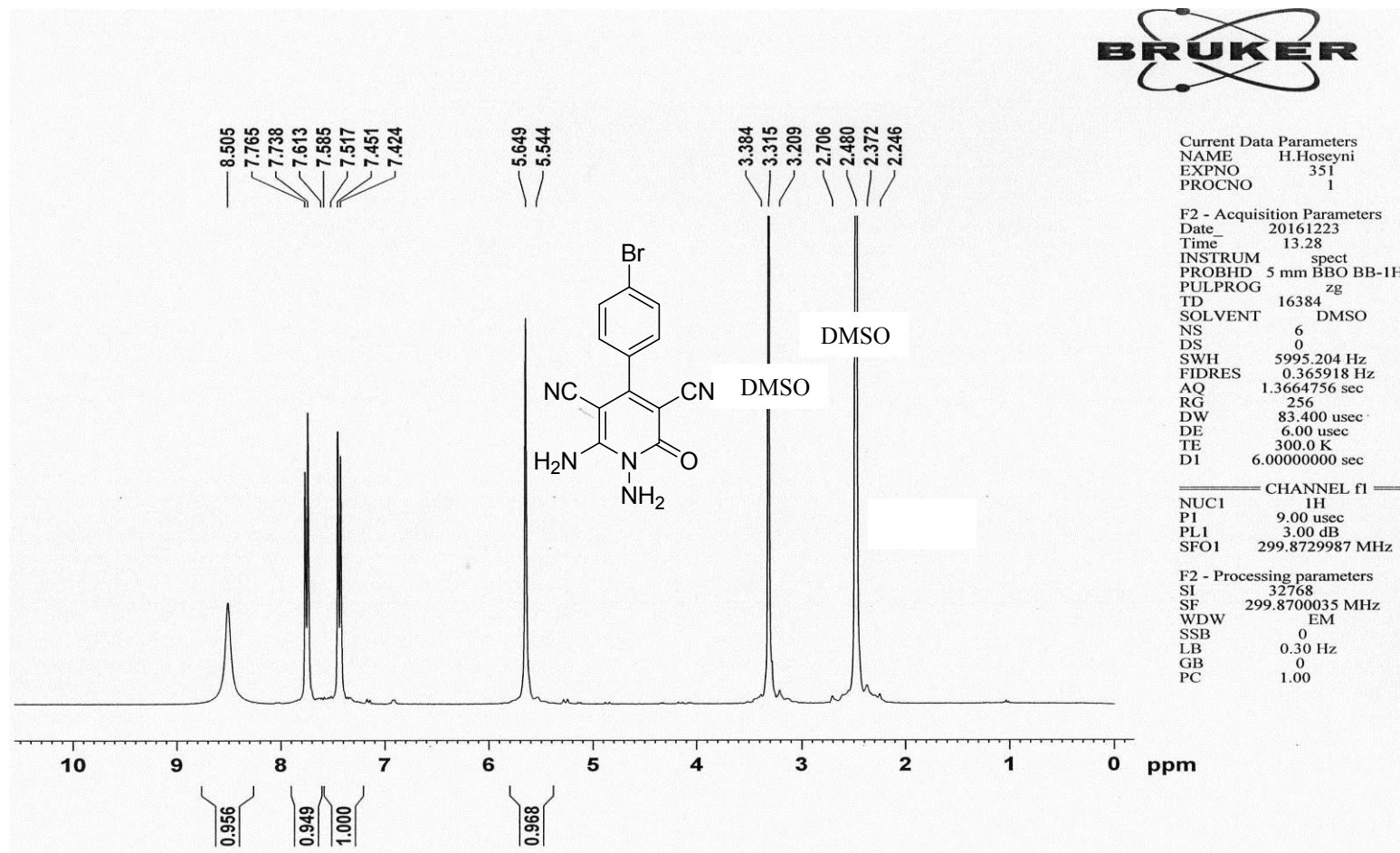


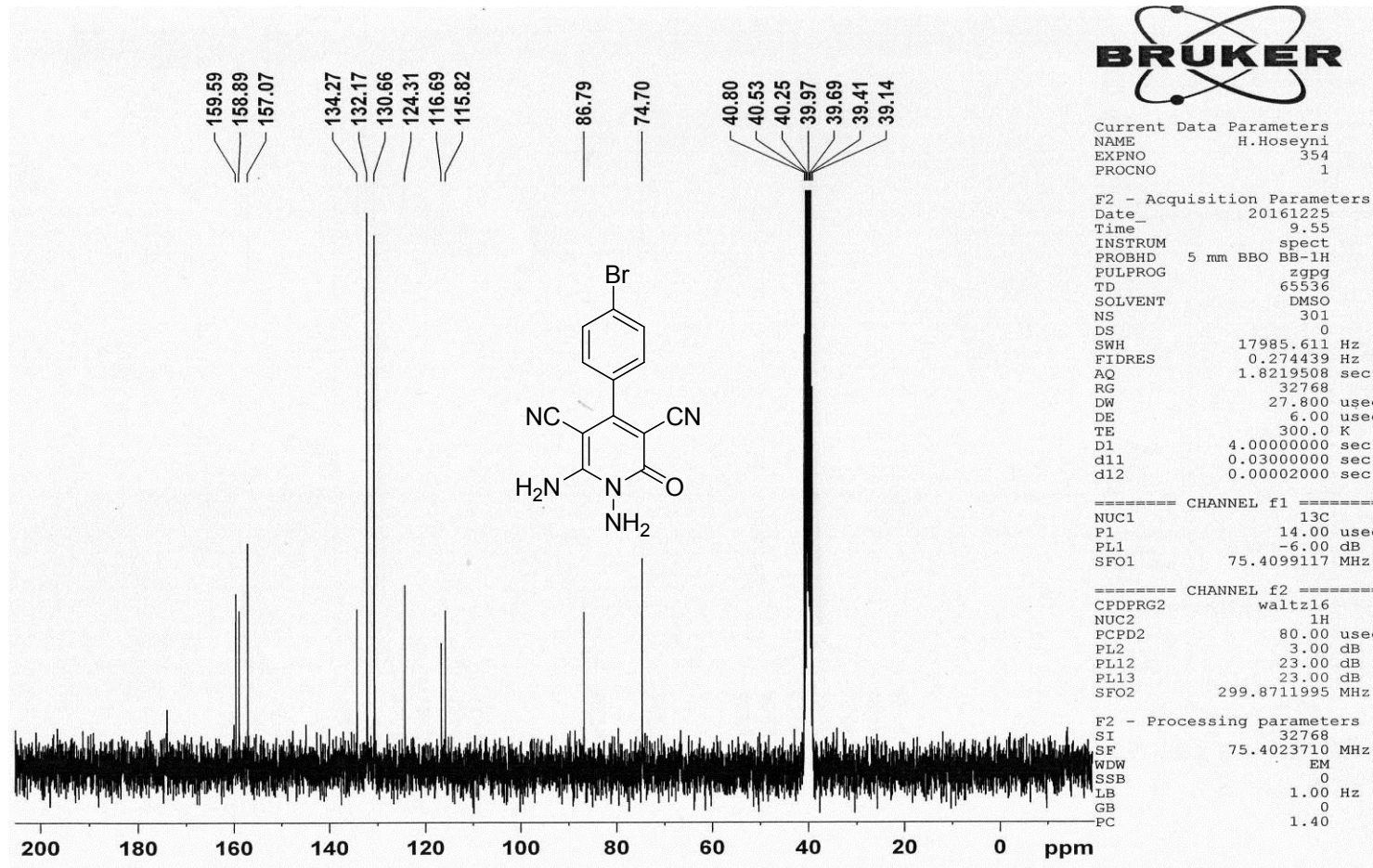
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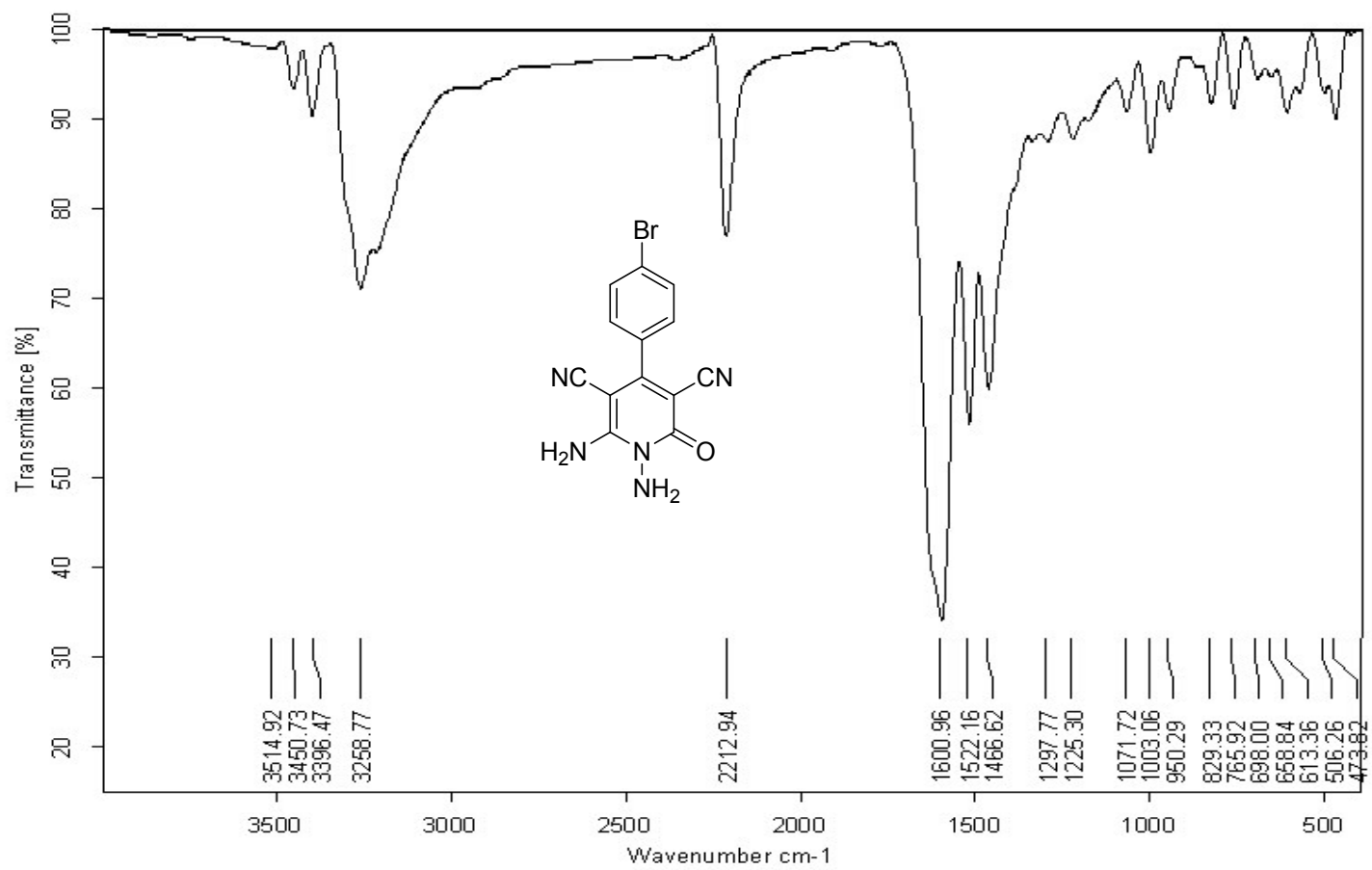
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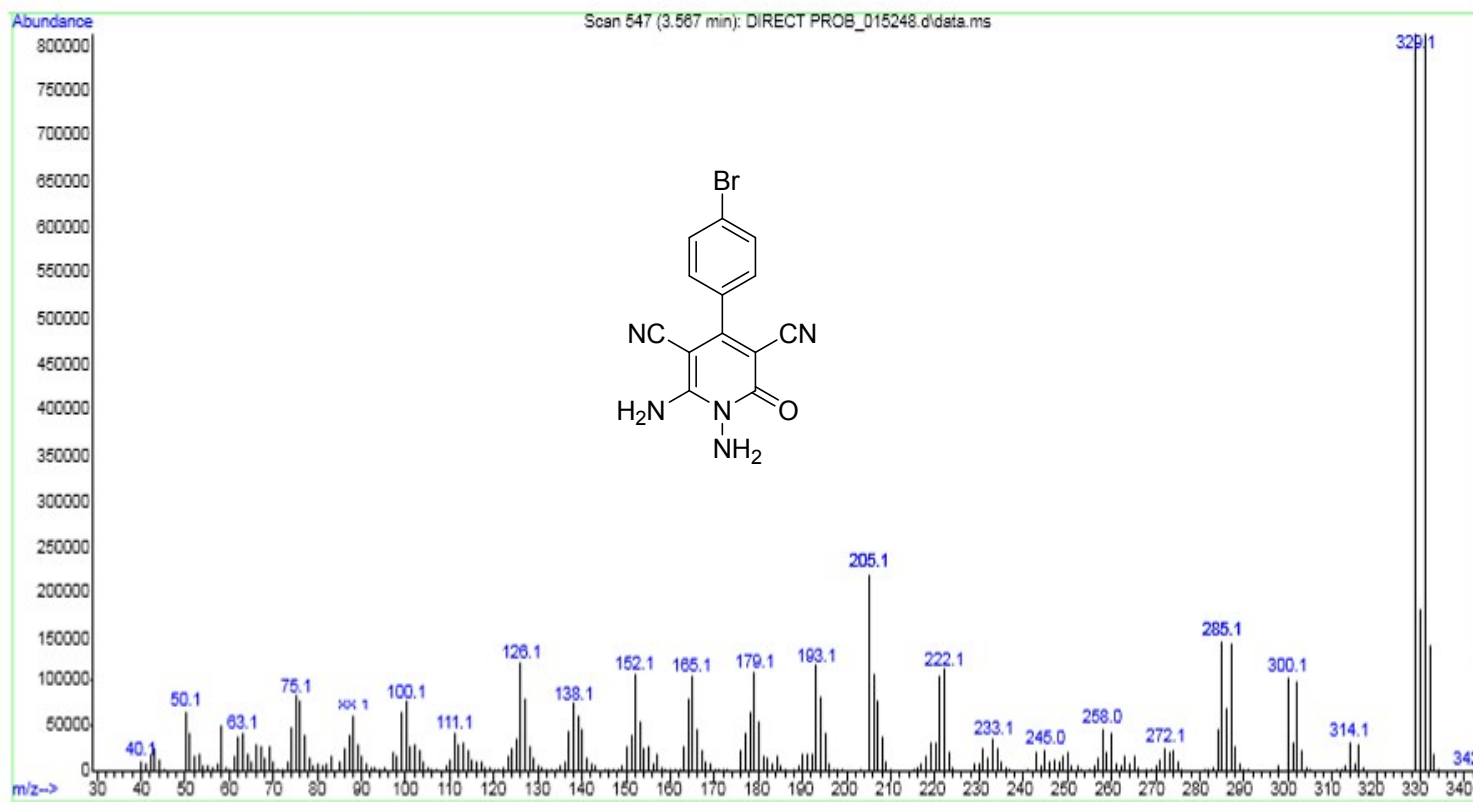
MS of 4a

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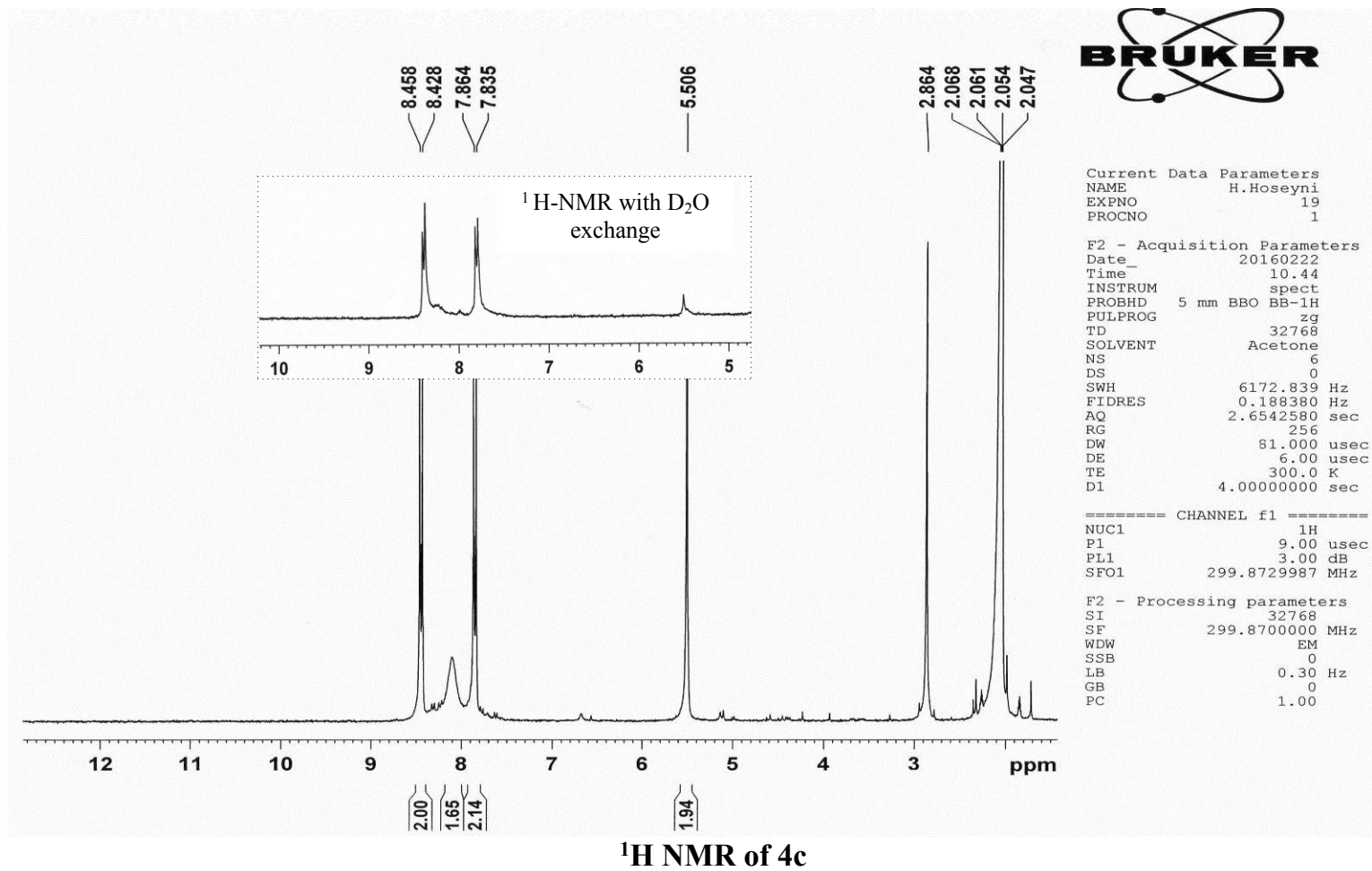
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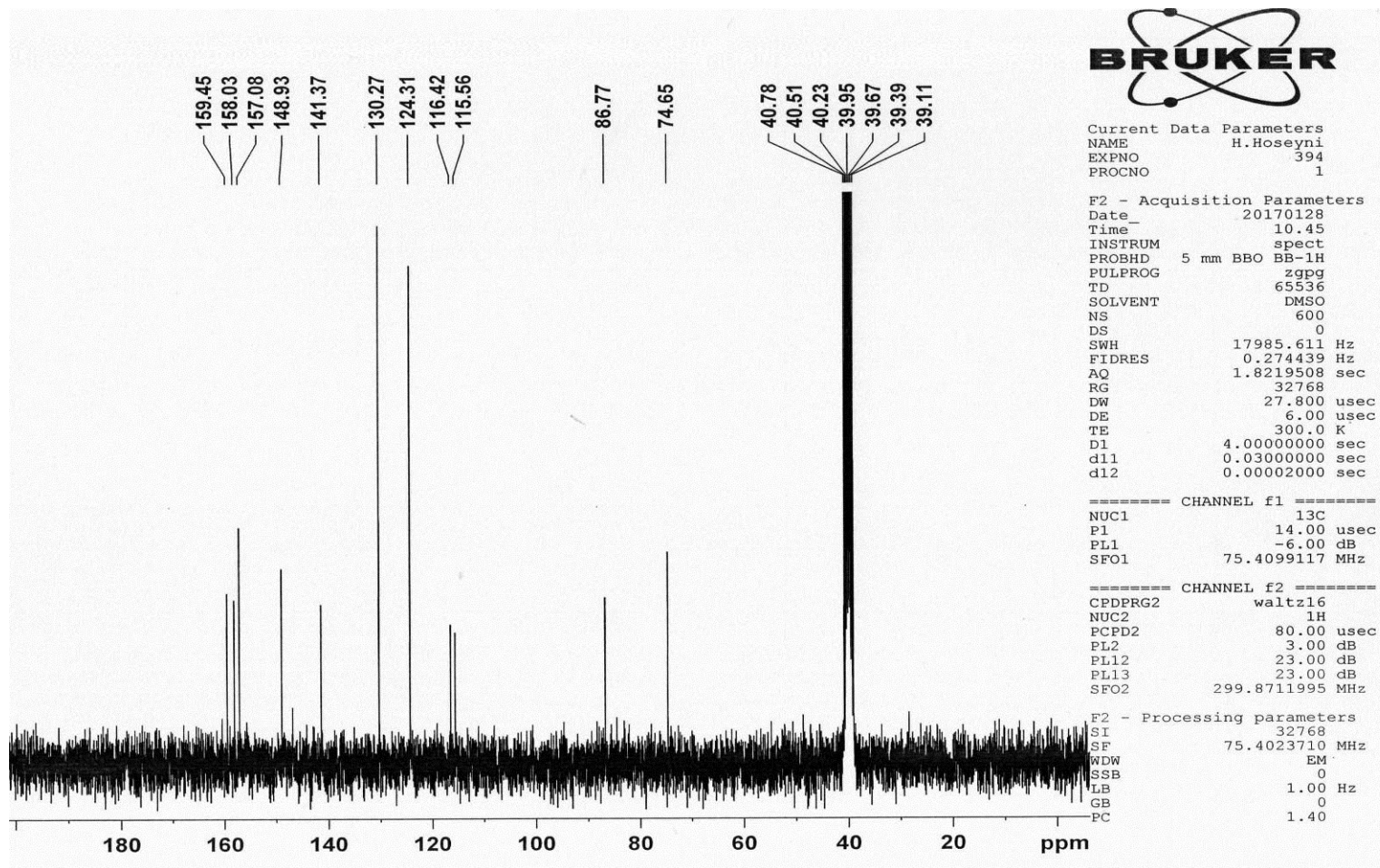


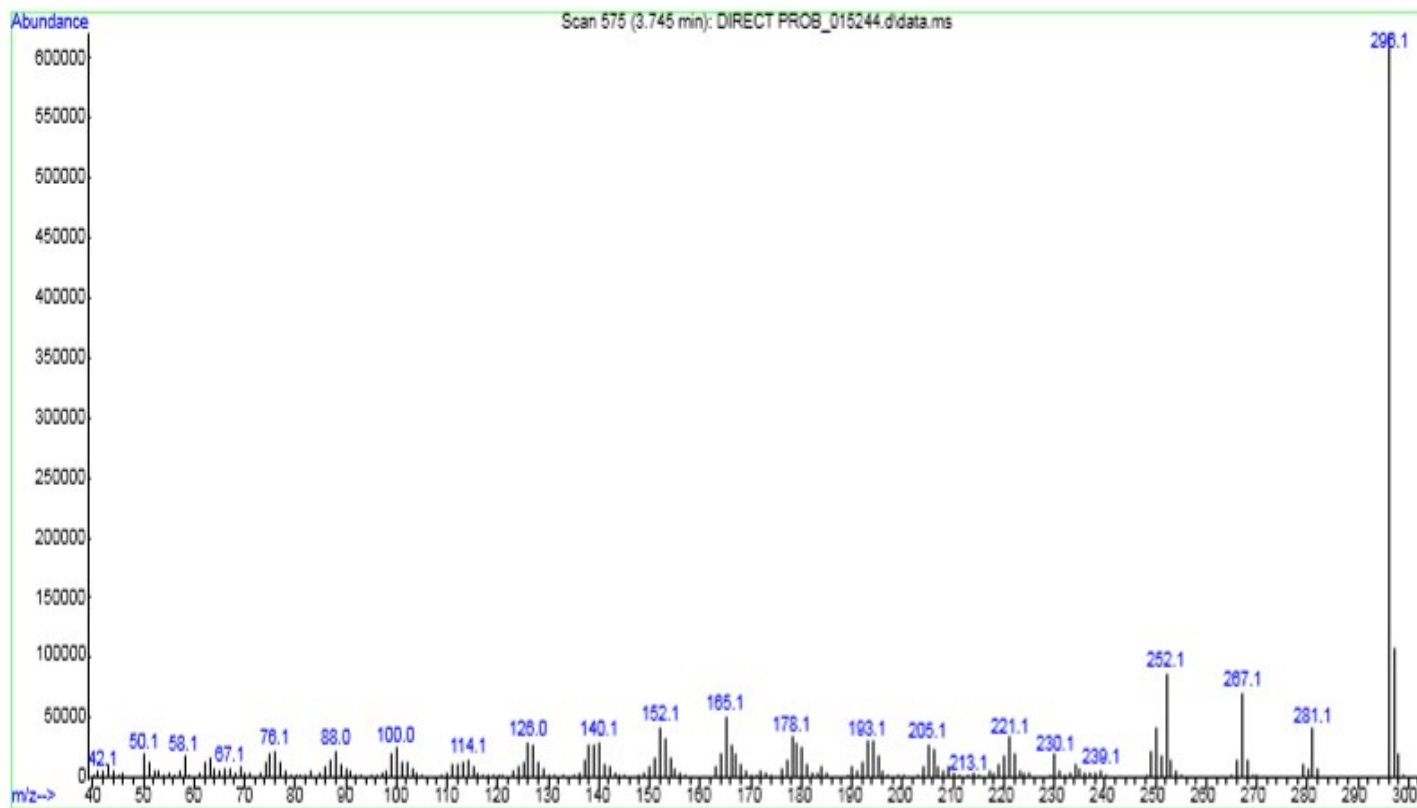
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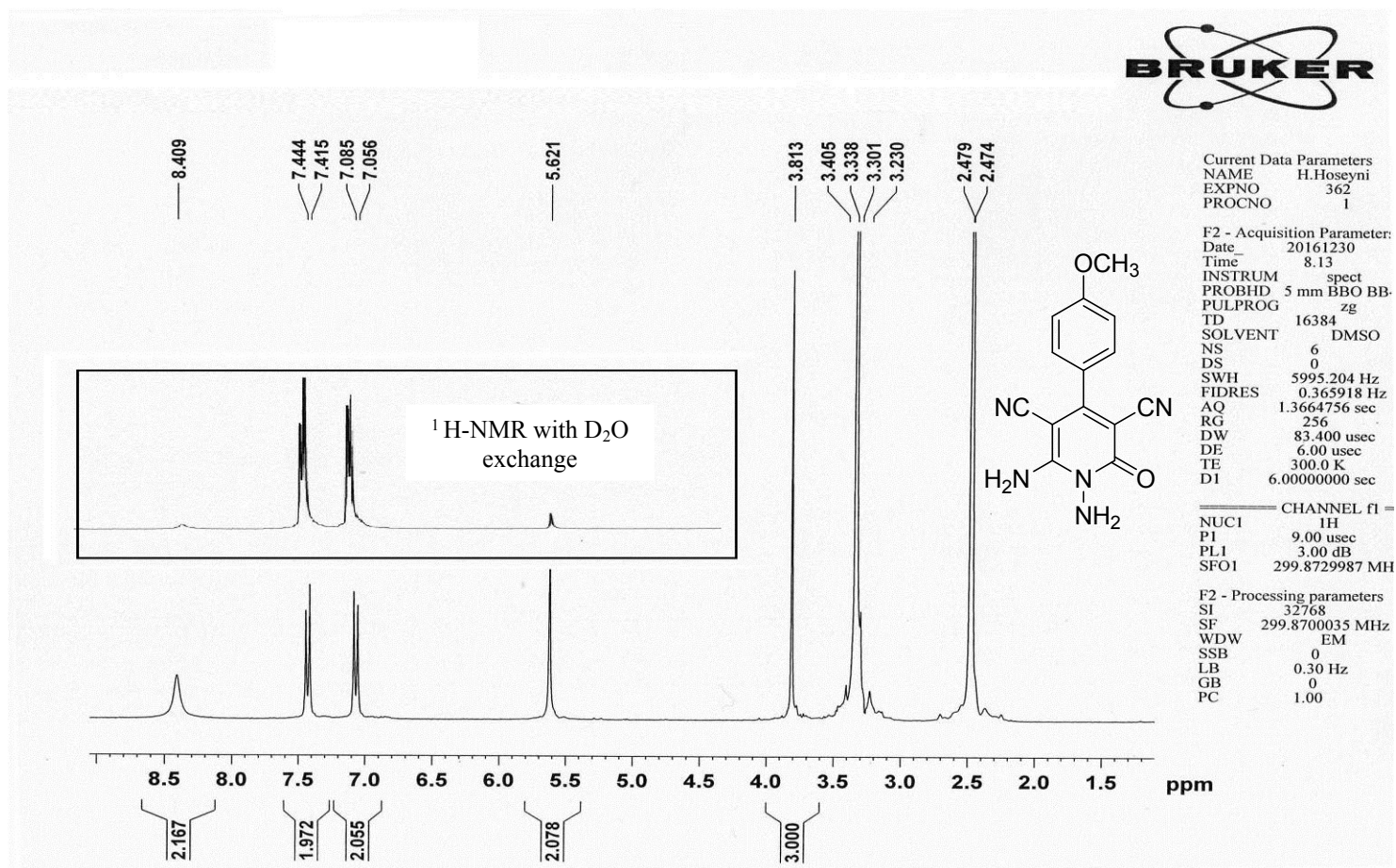
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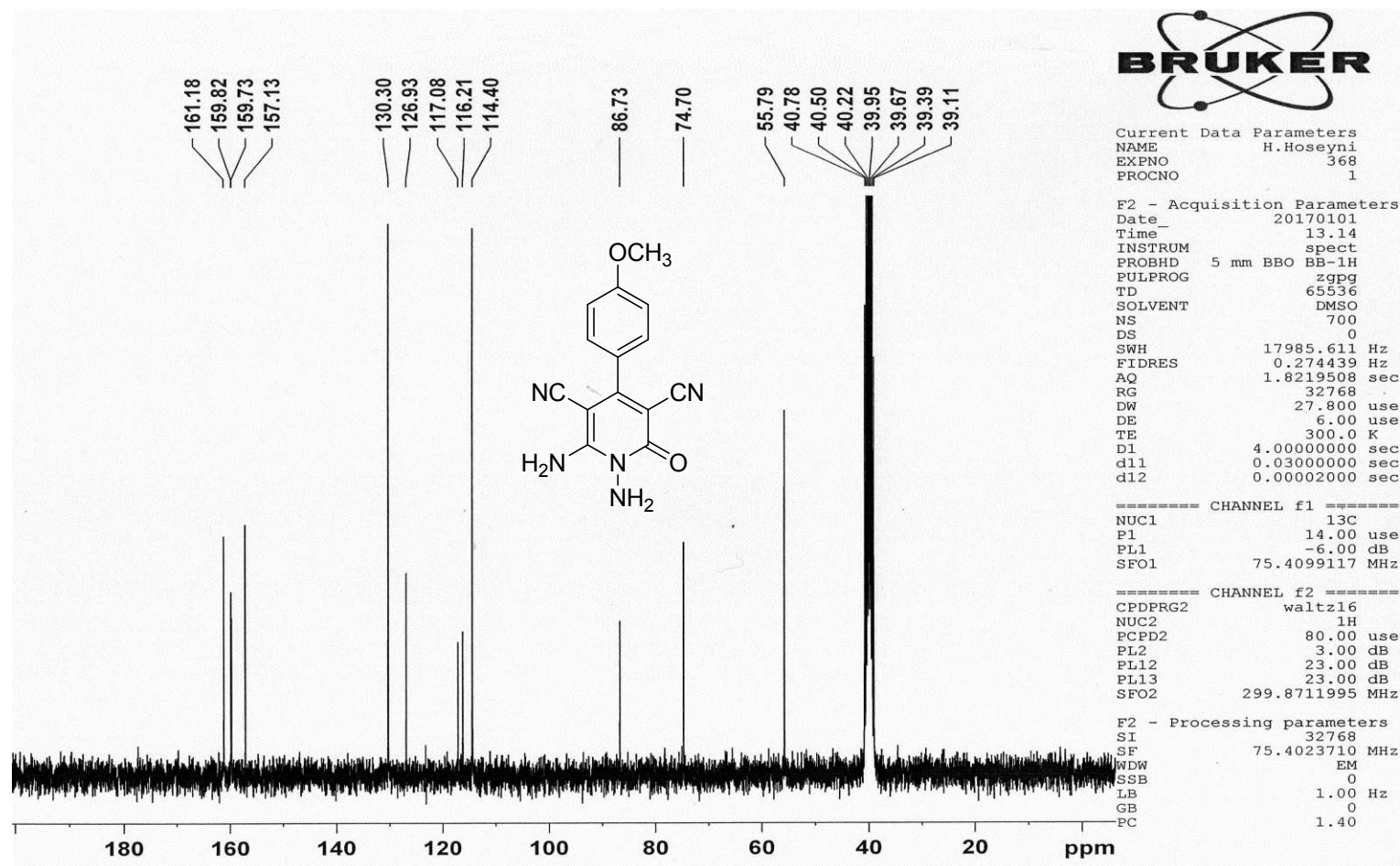


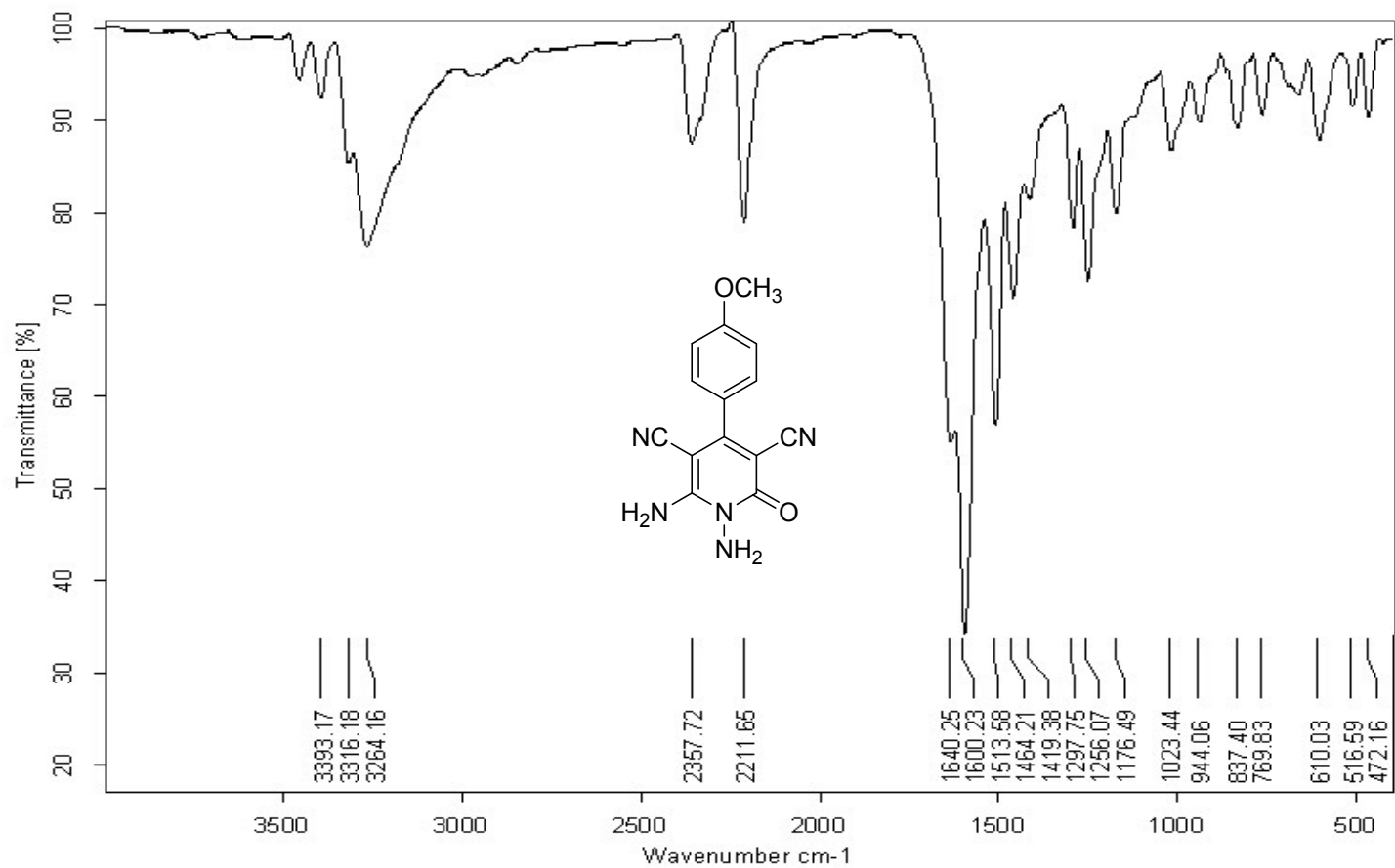
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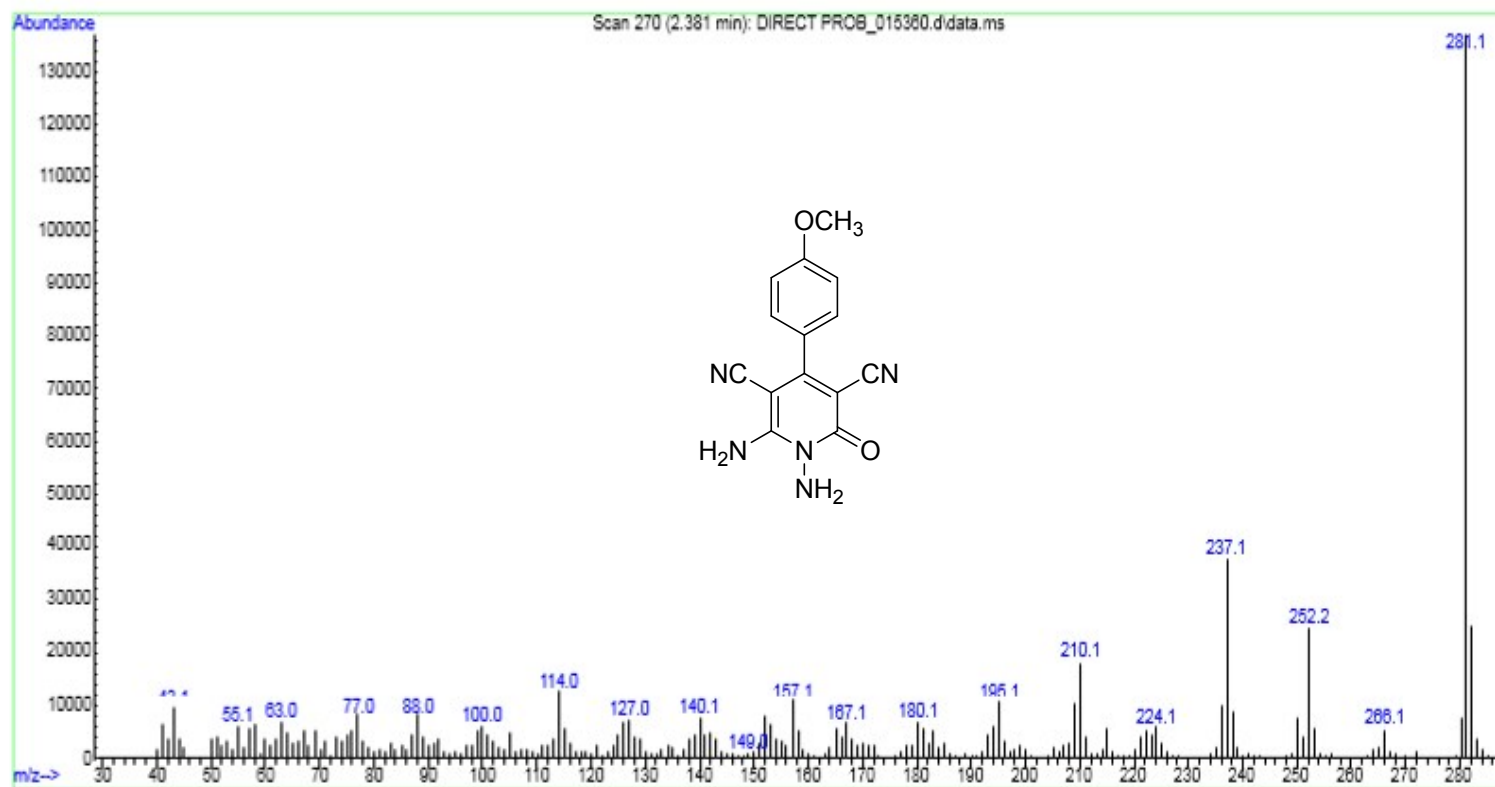


MS of 4c

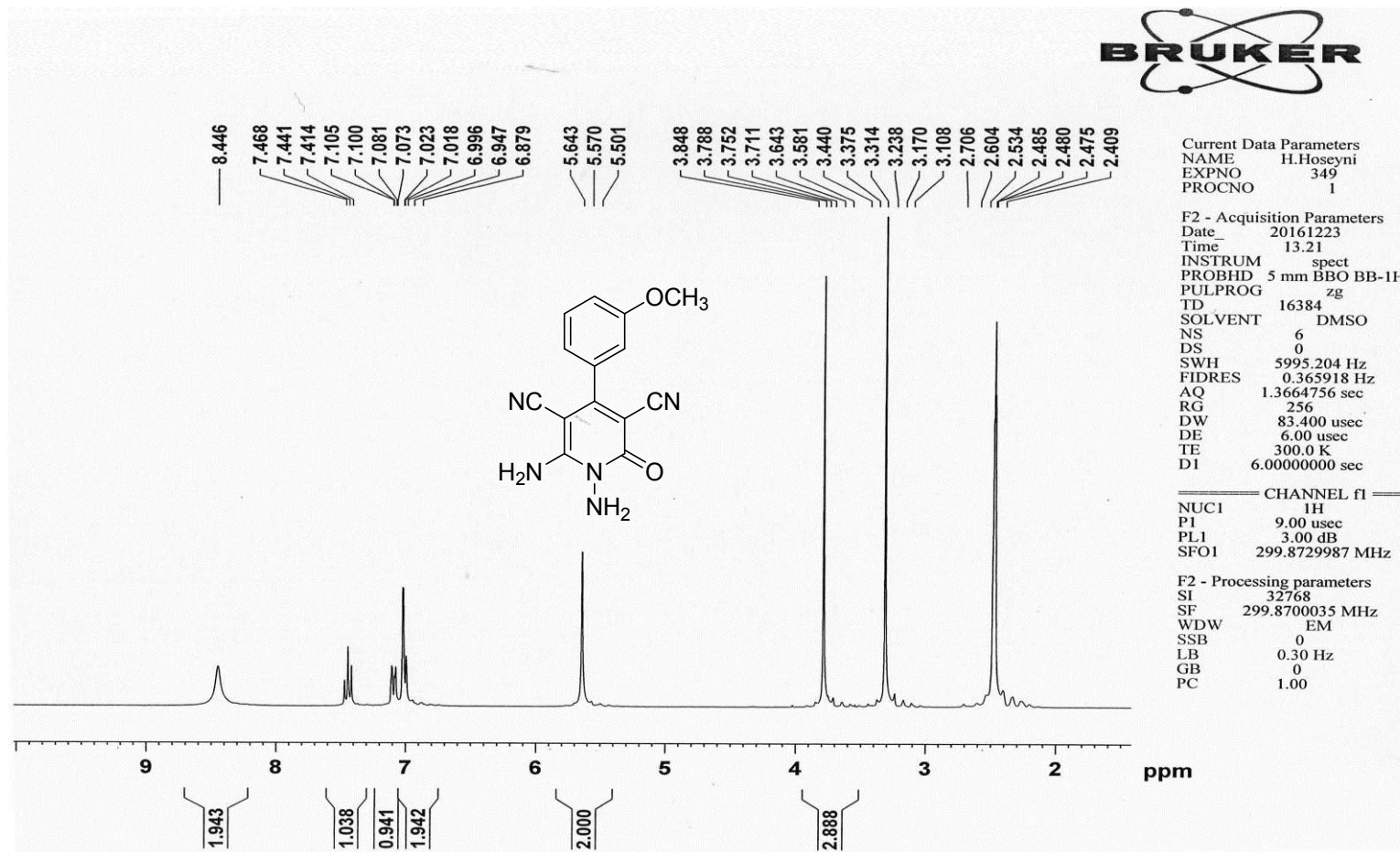
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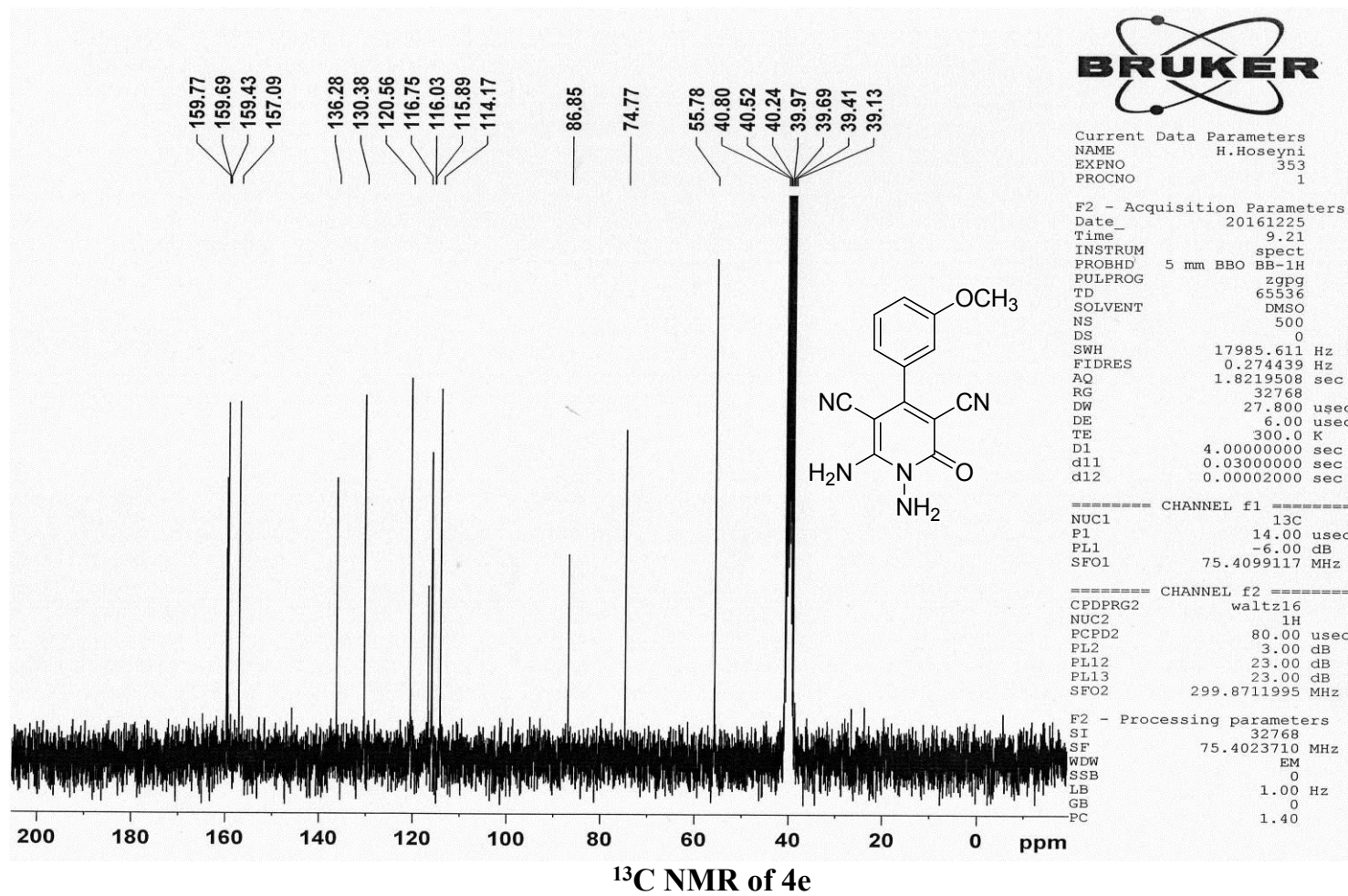
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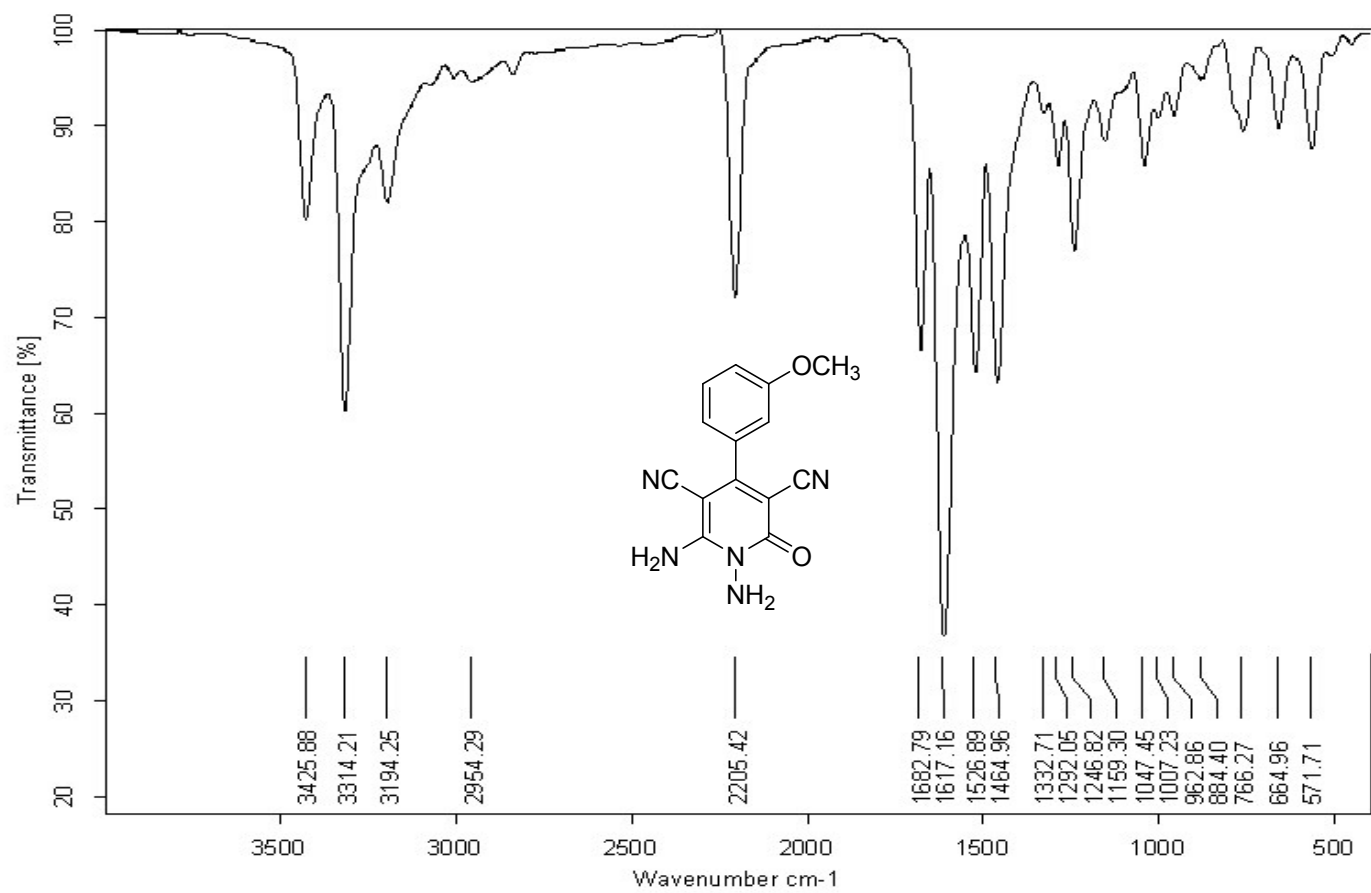
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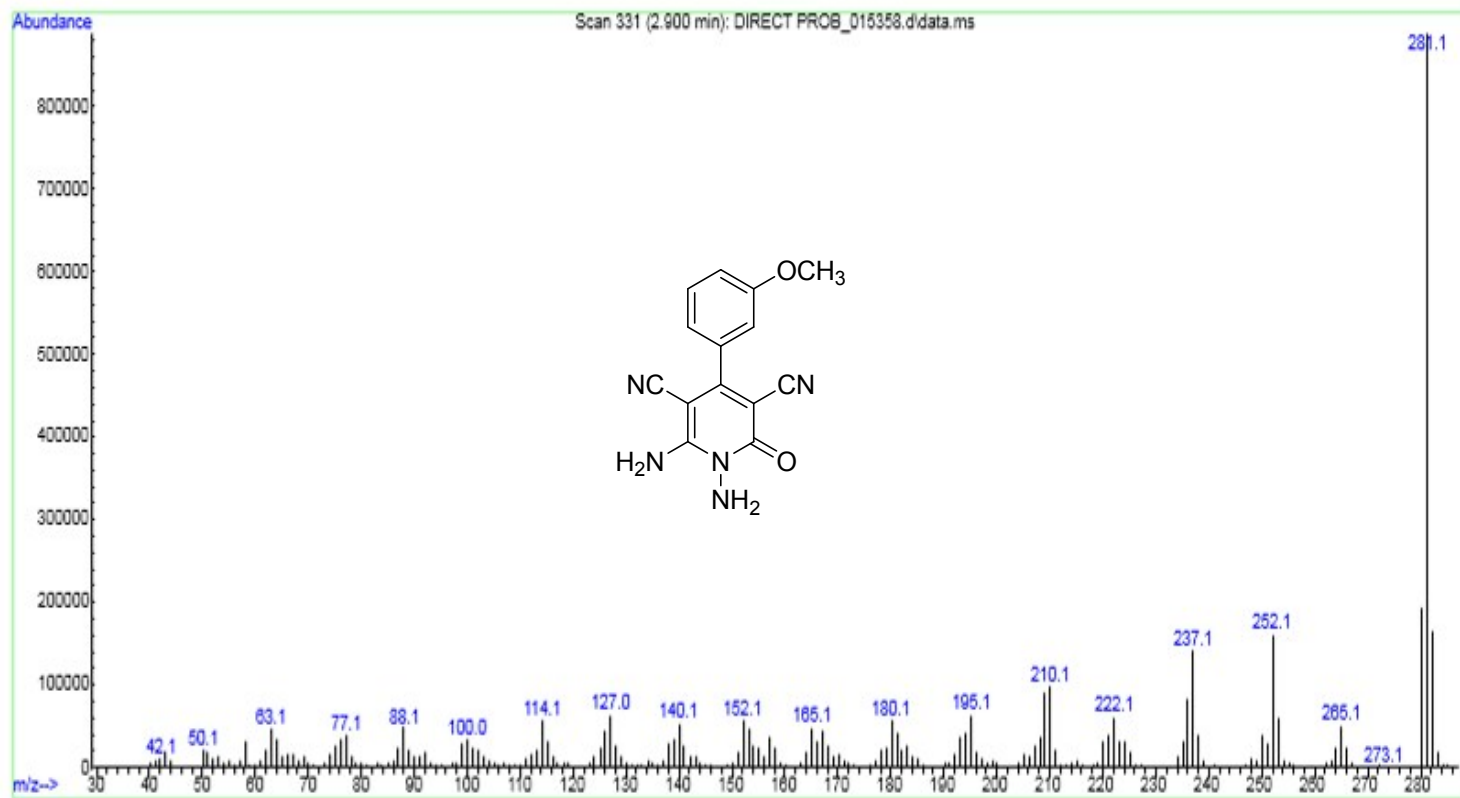


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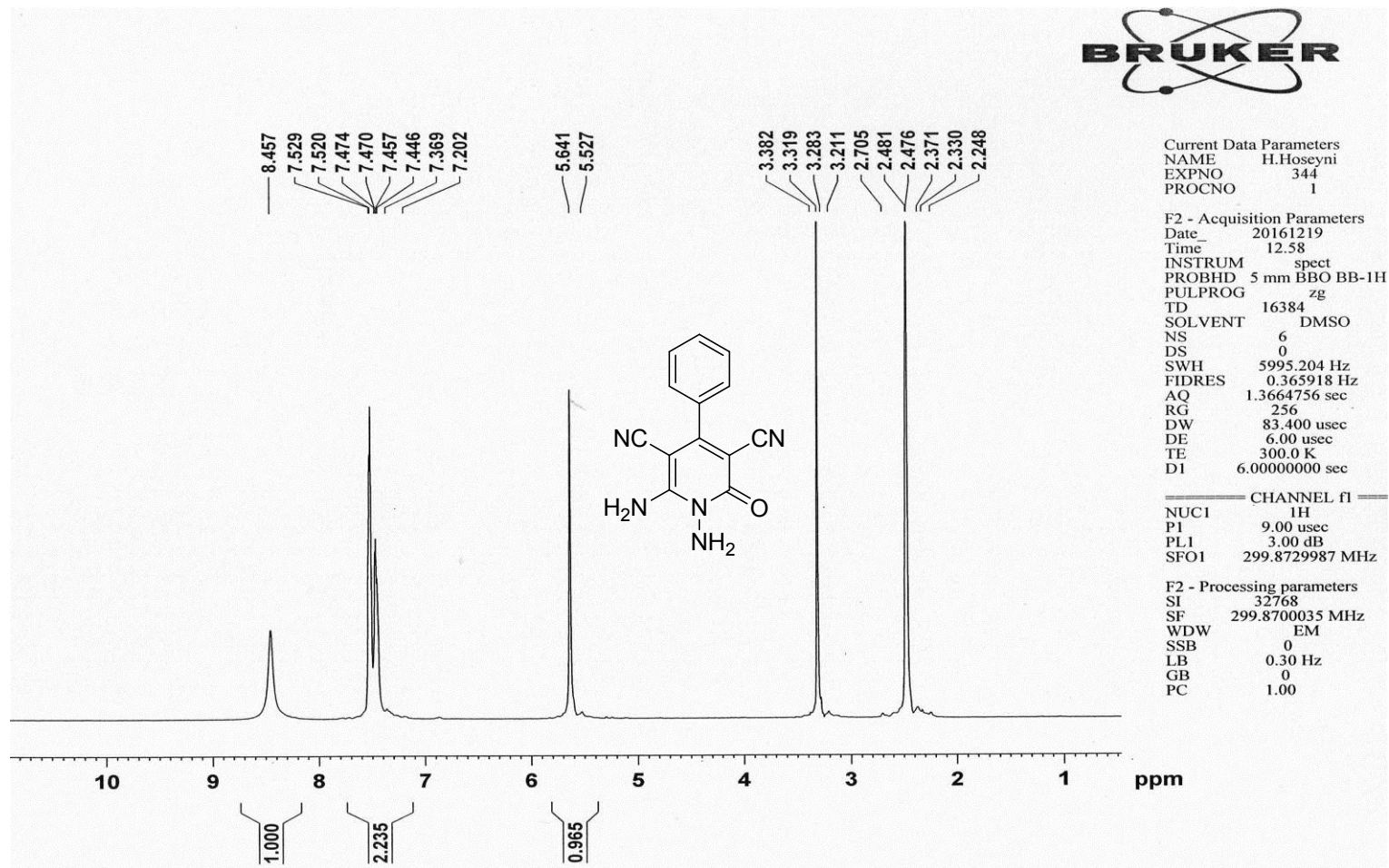


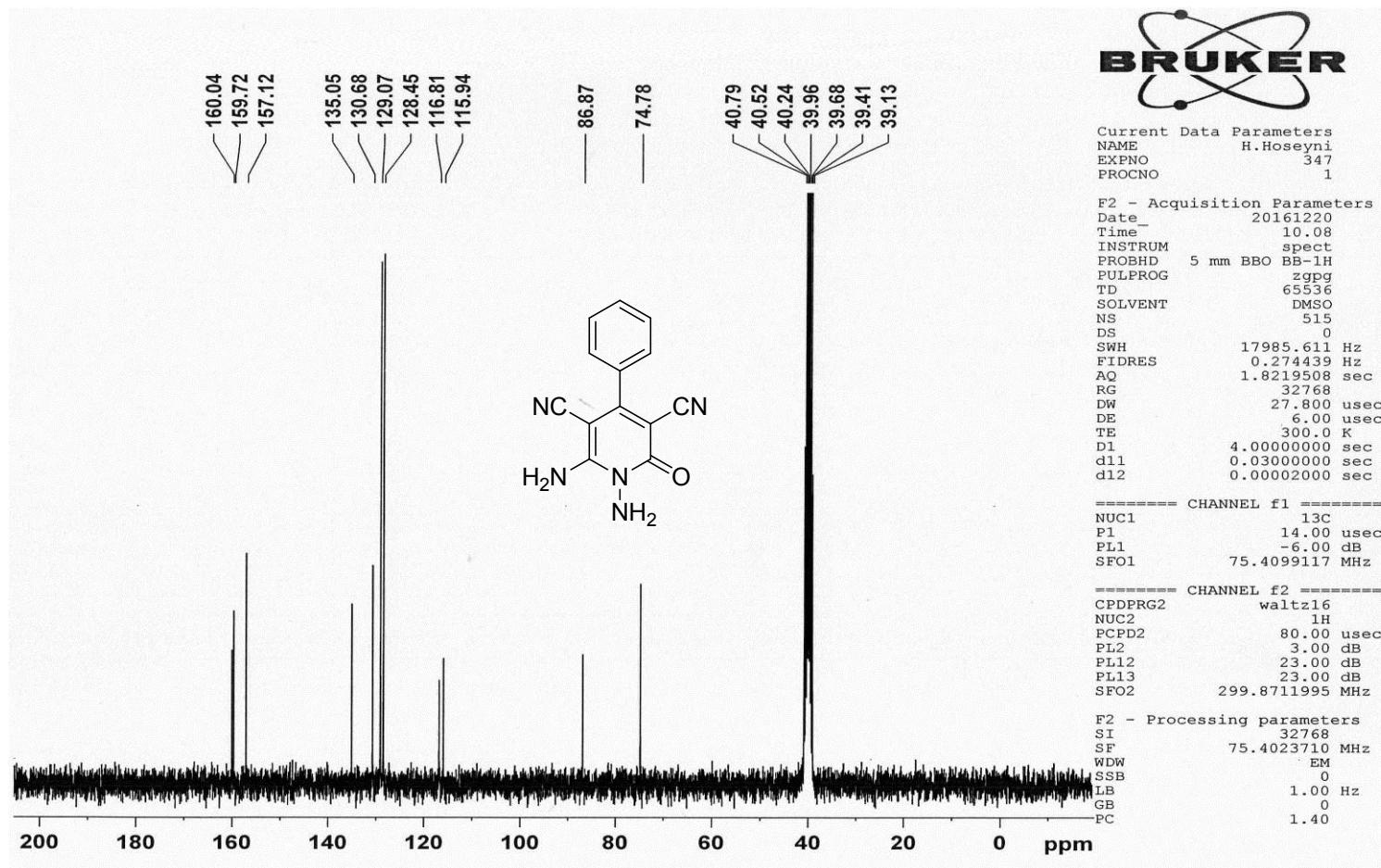


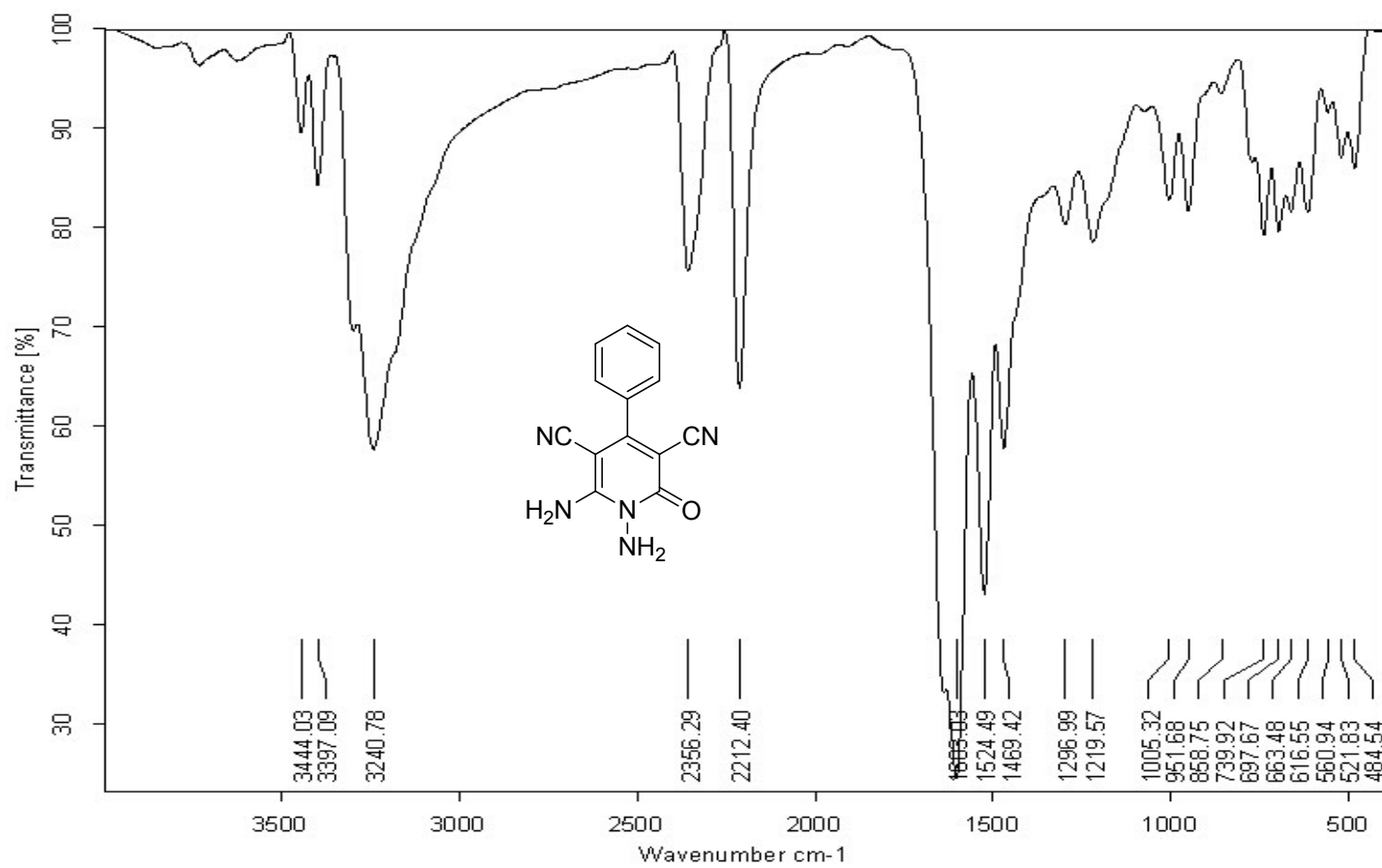
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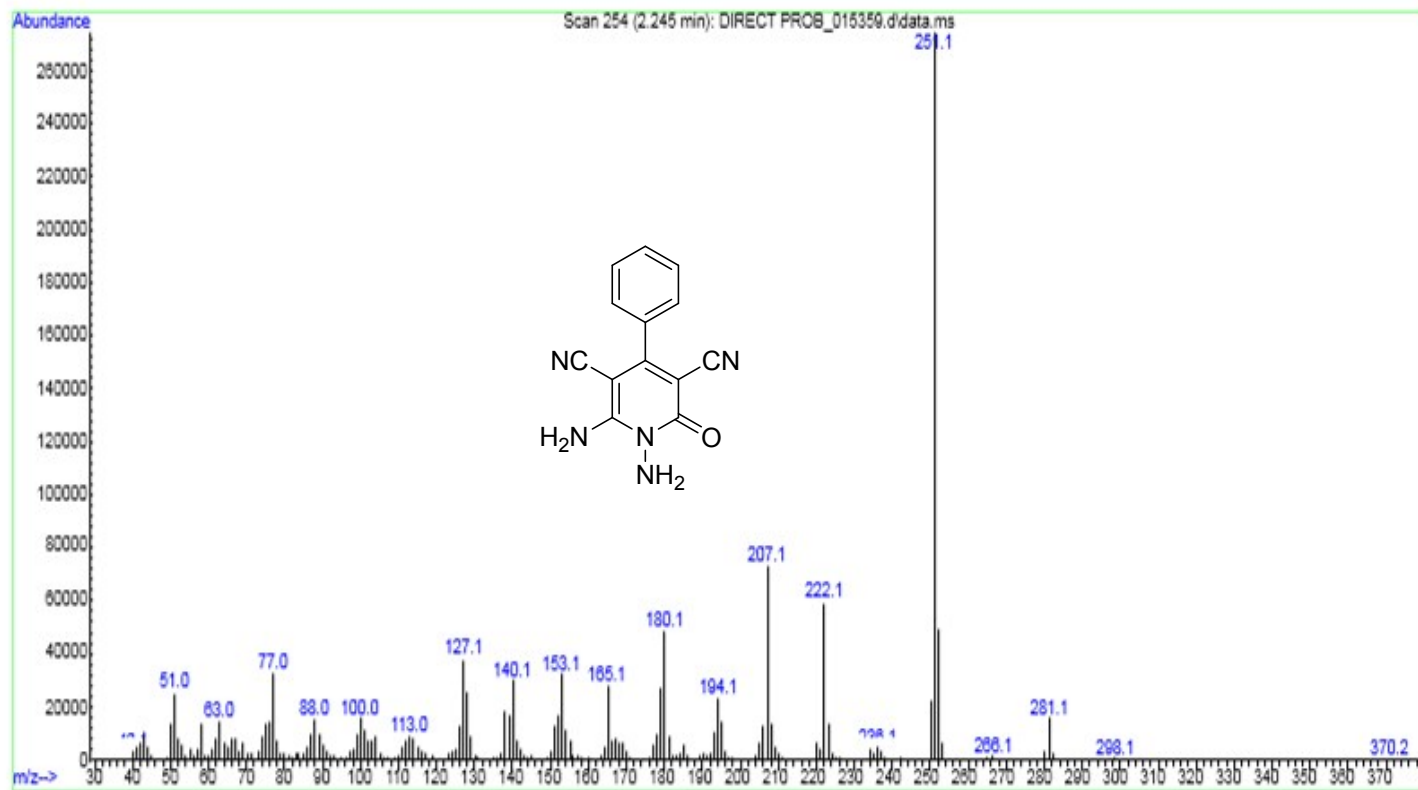
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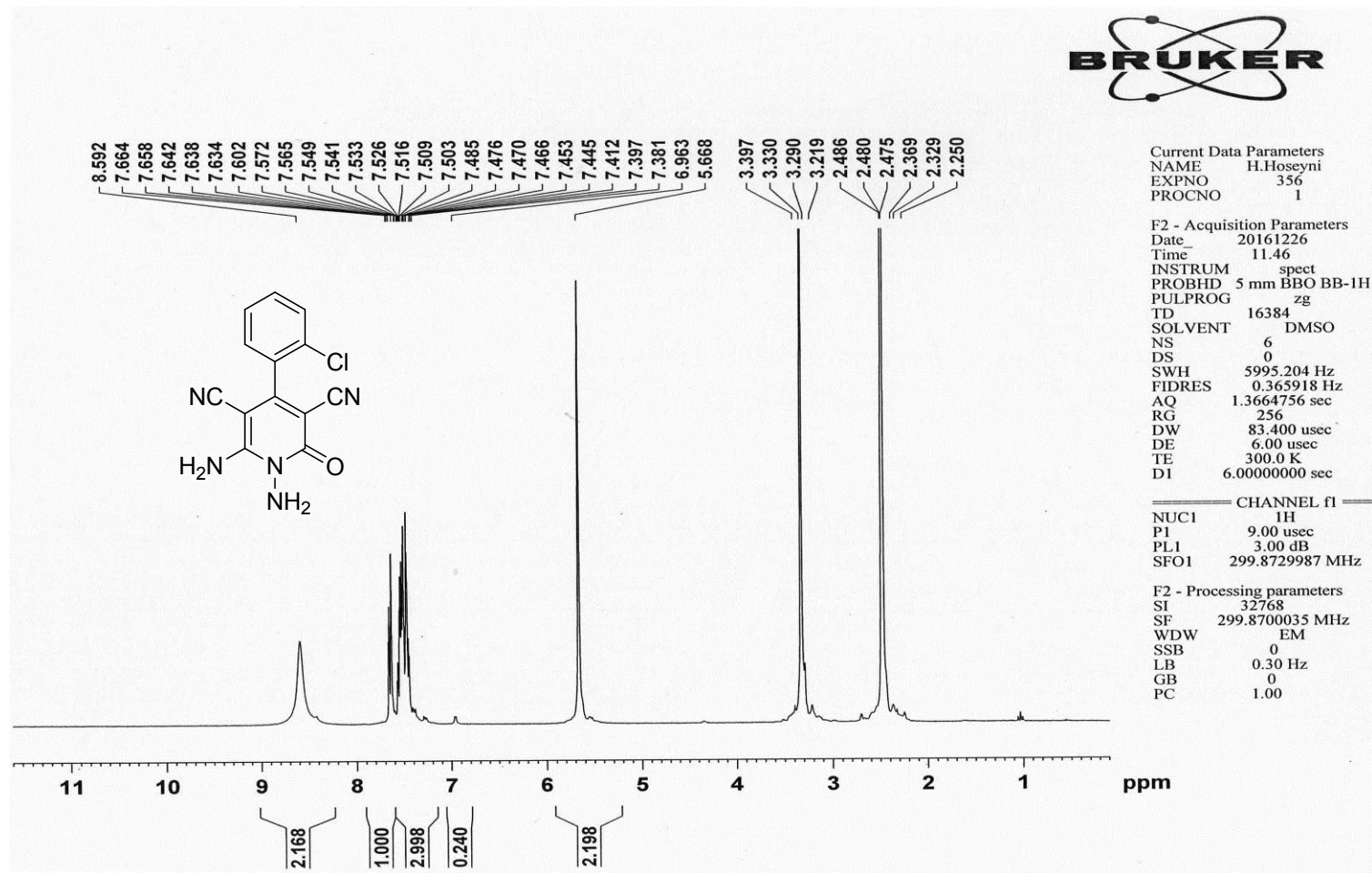
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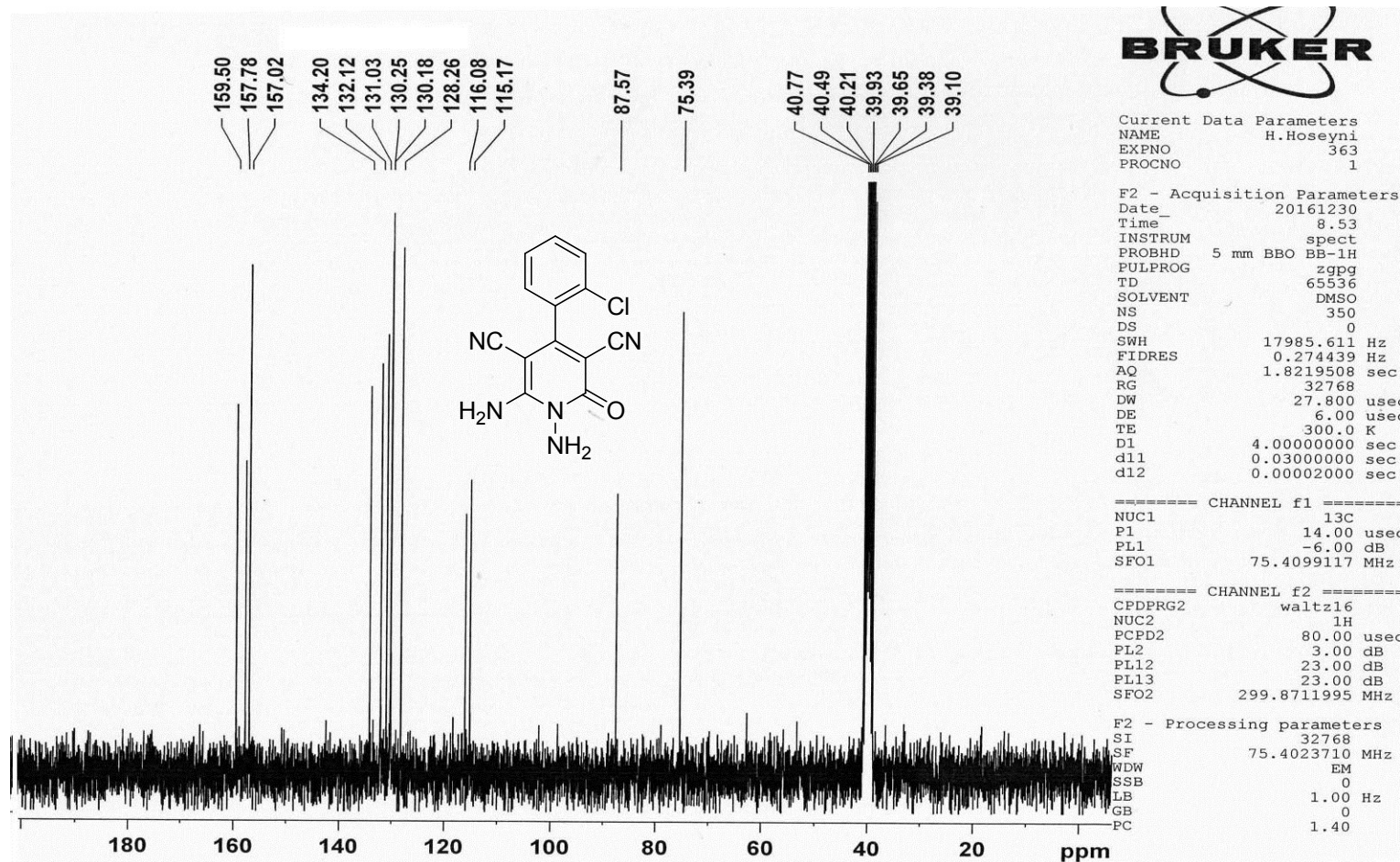


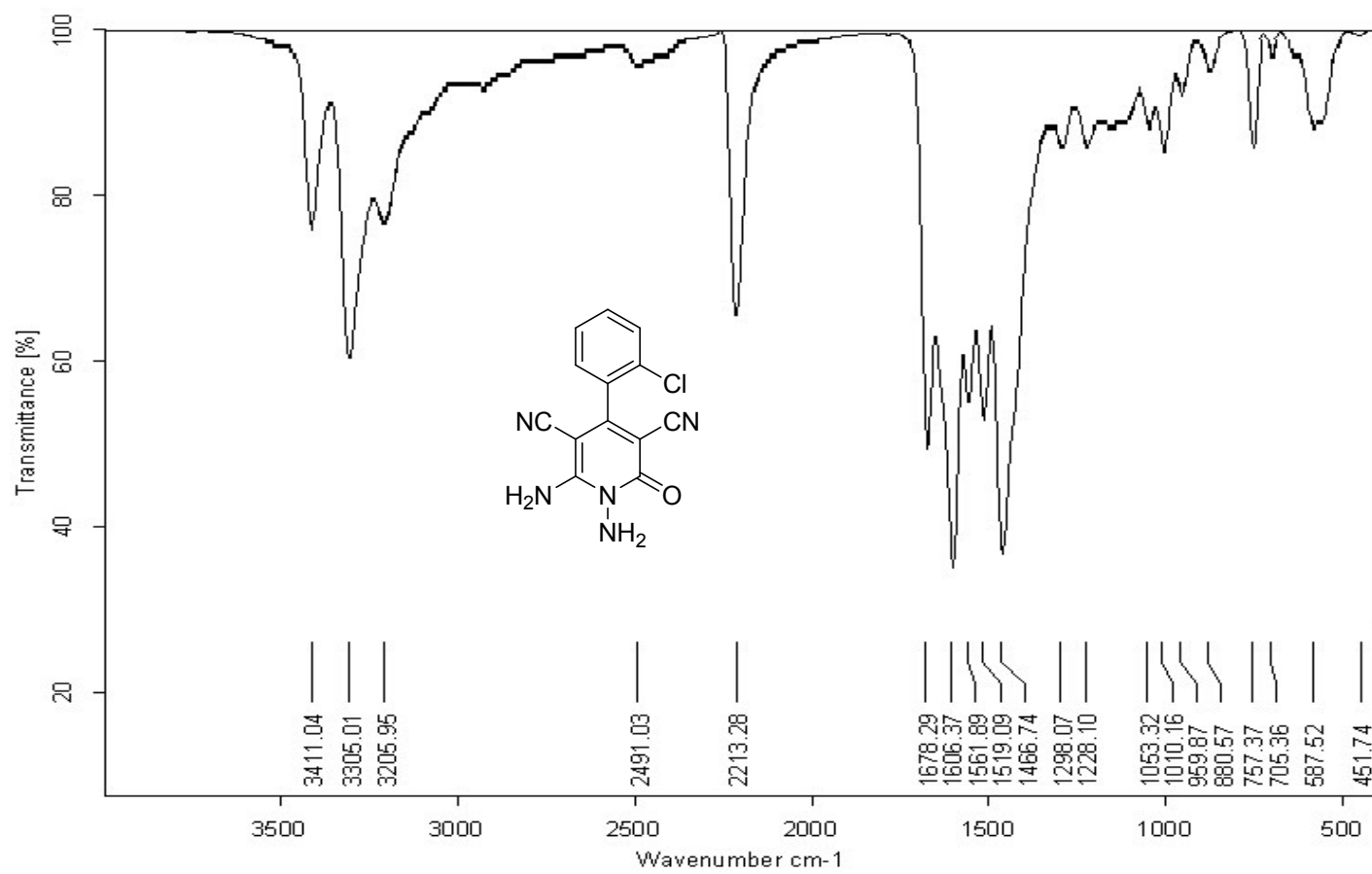
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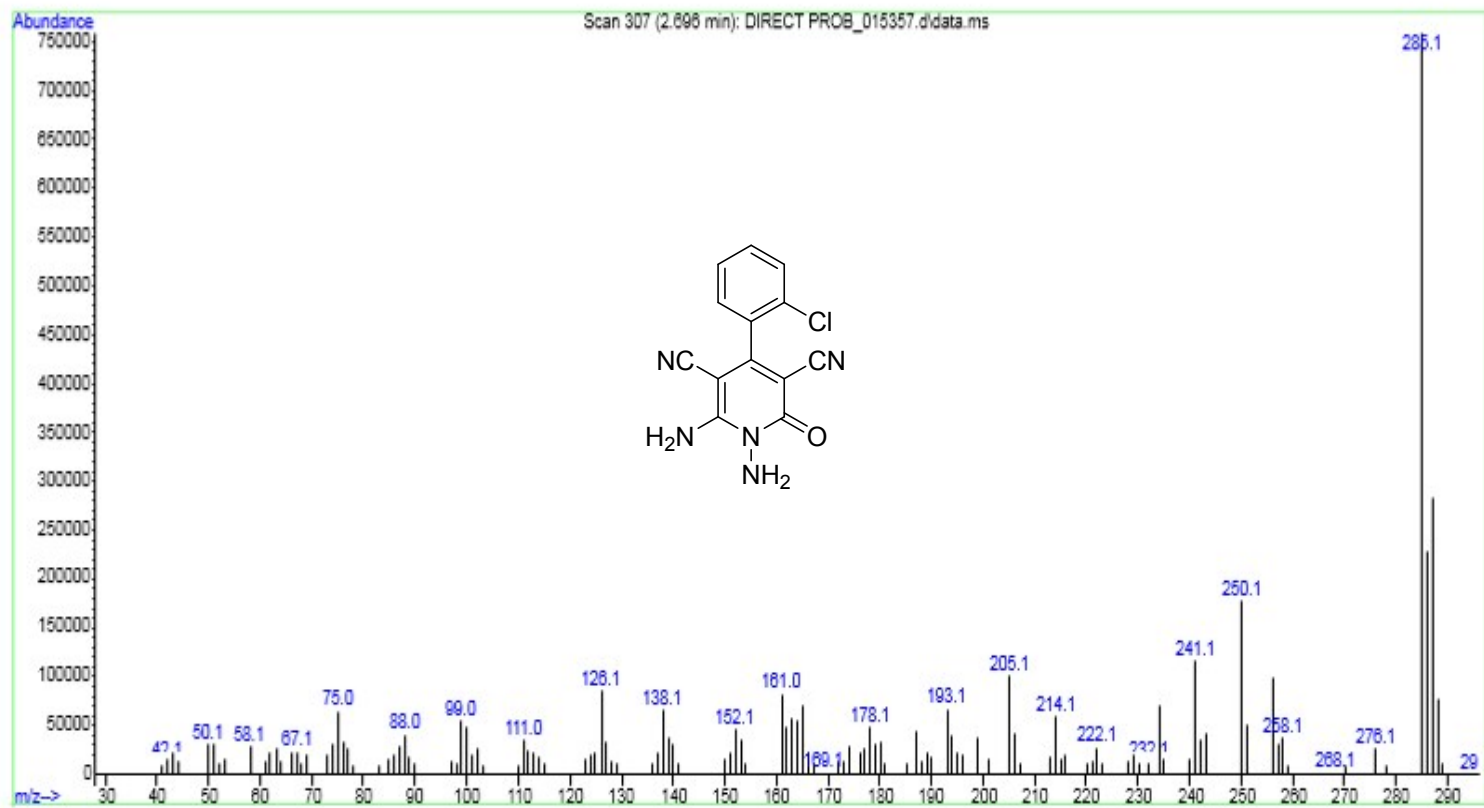
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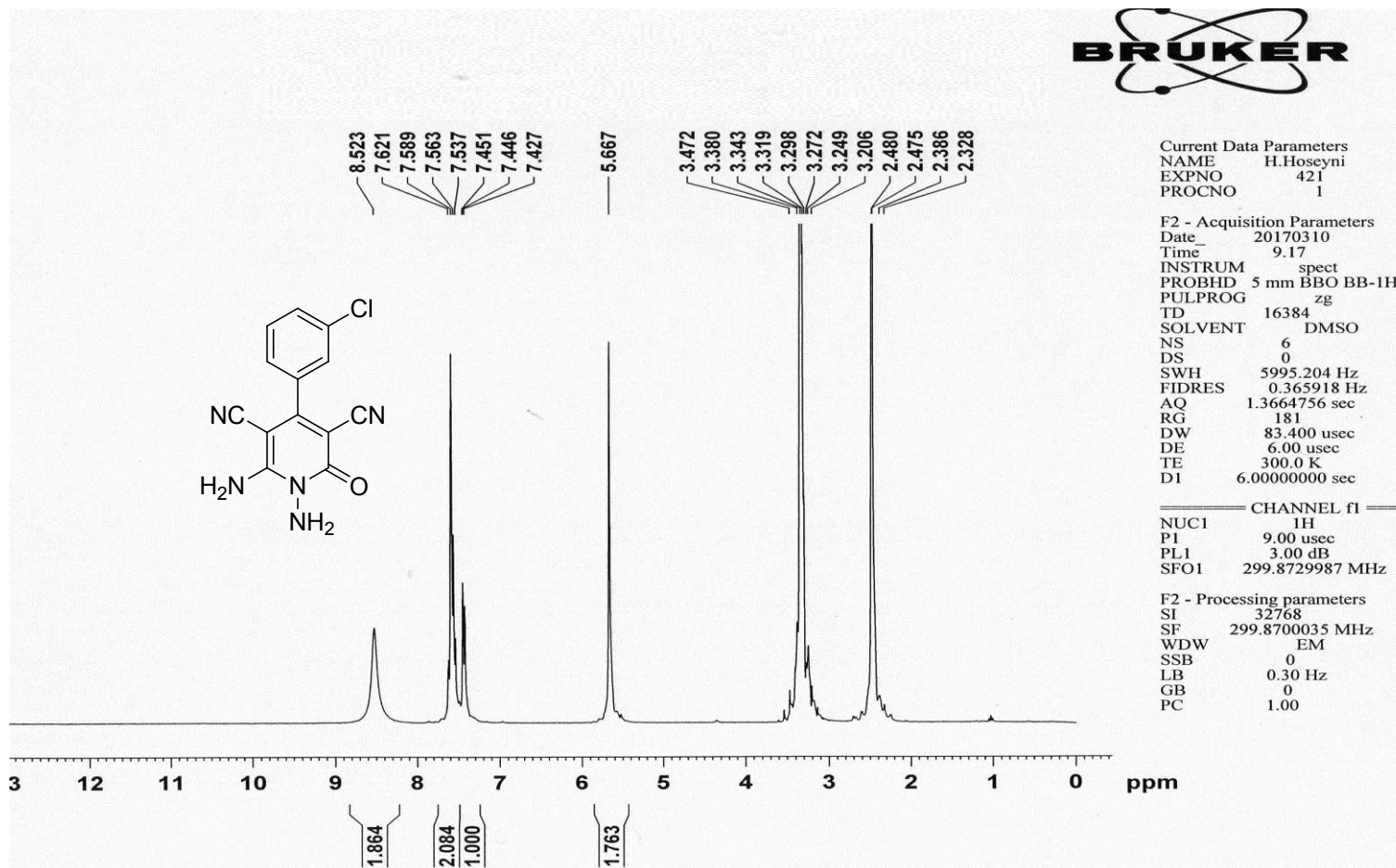
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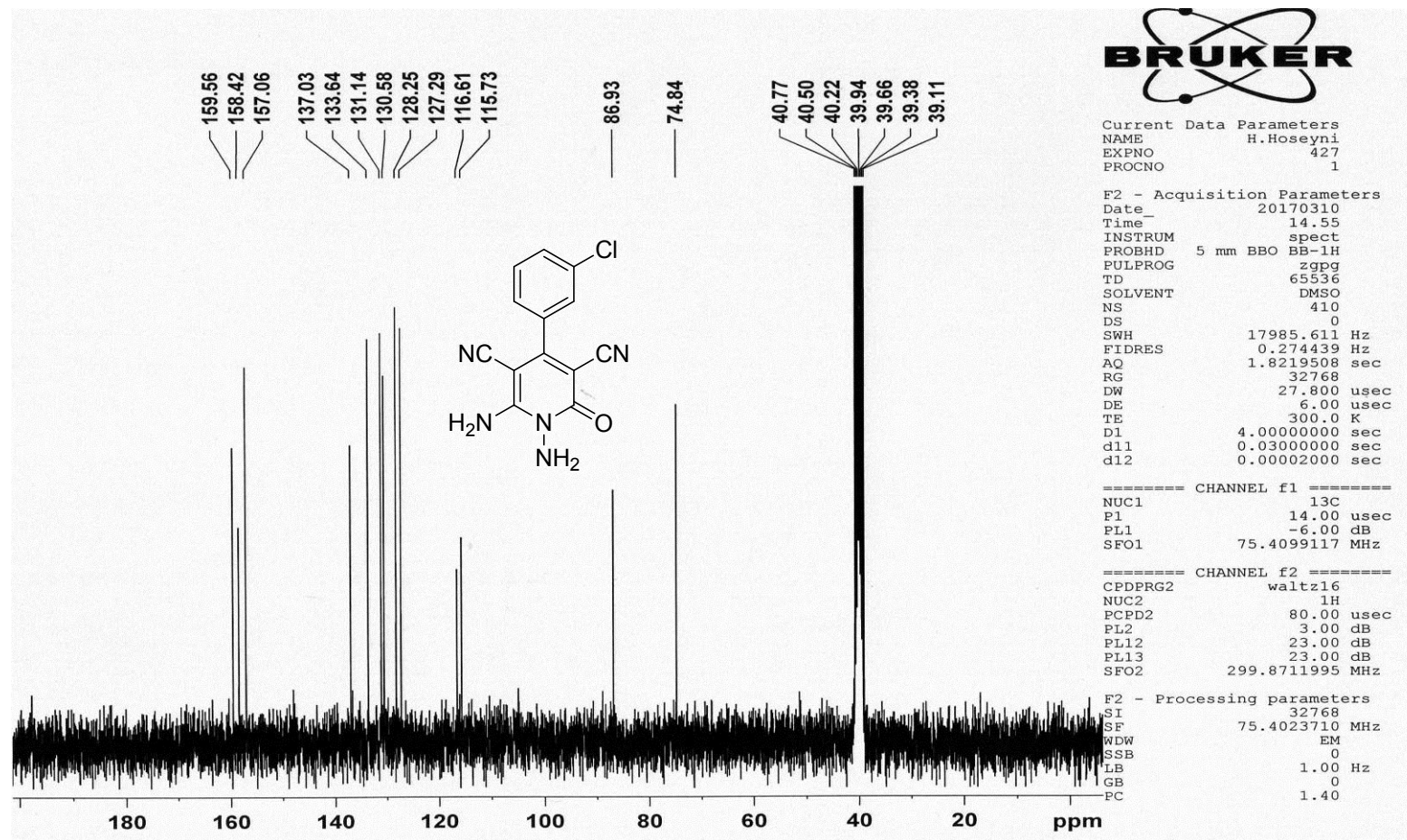


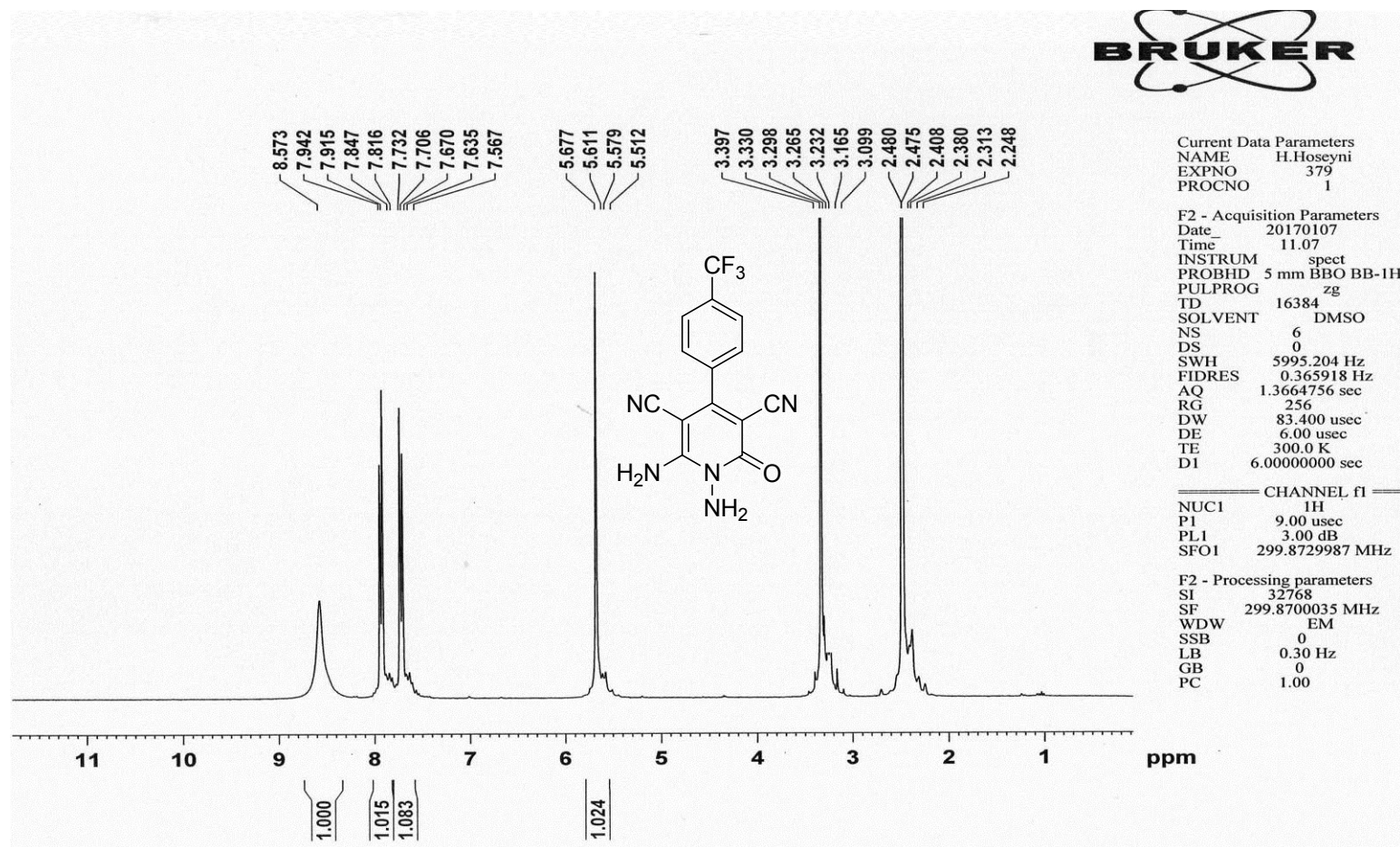
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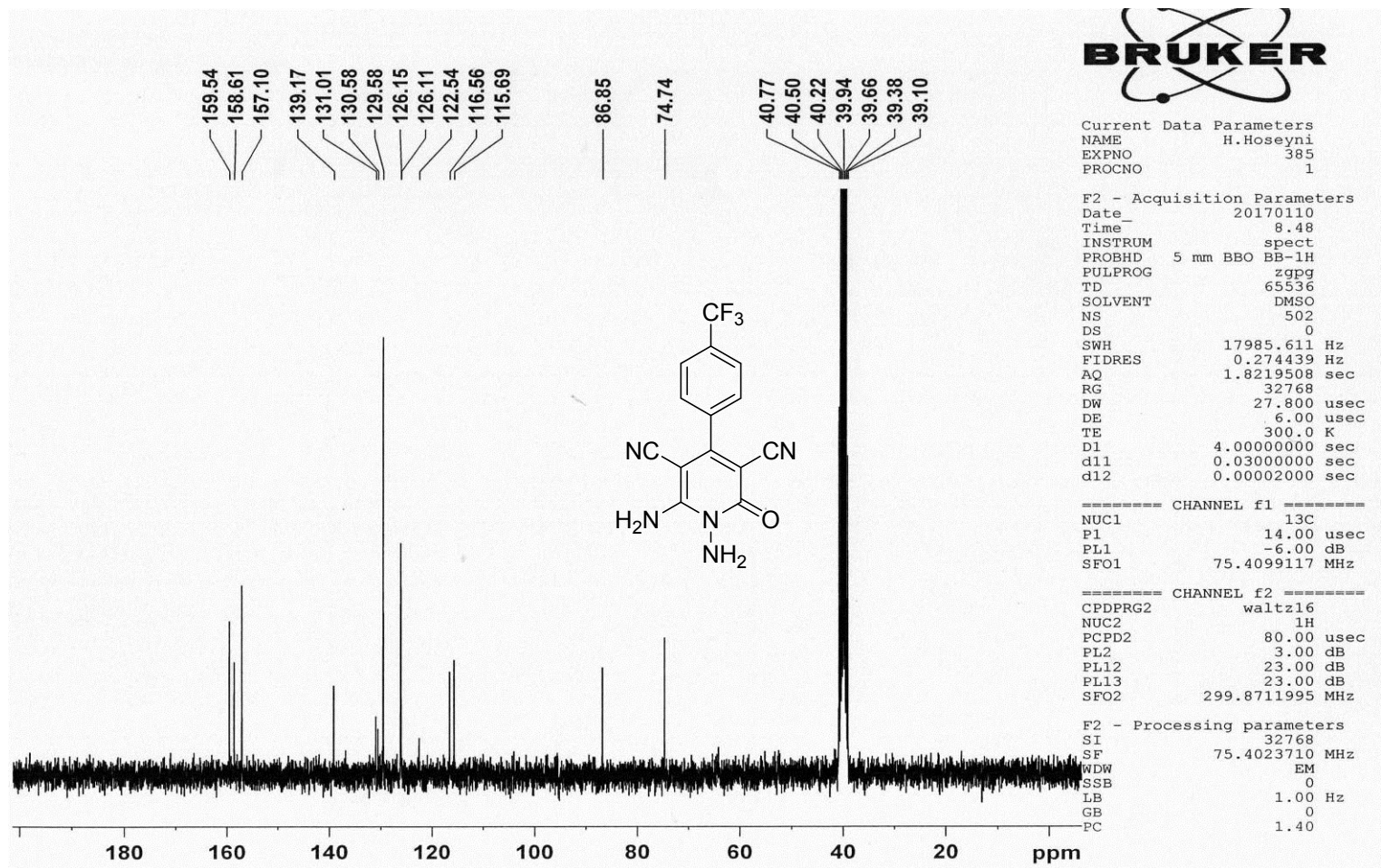


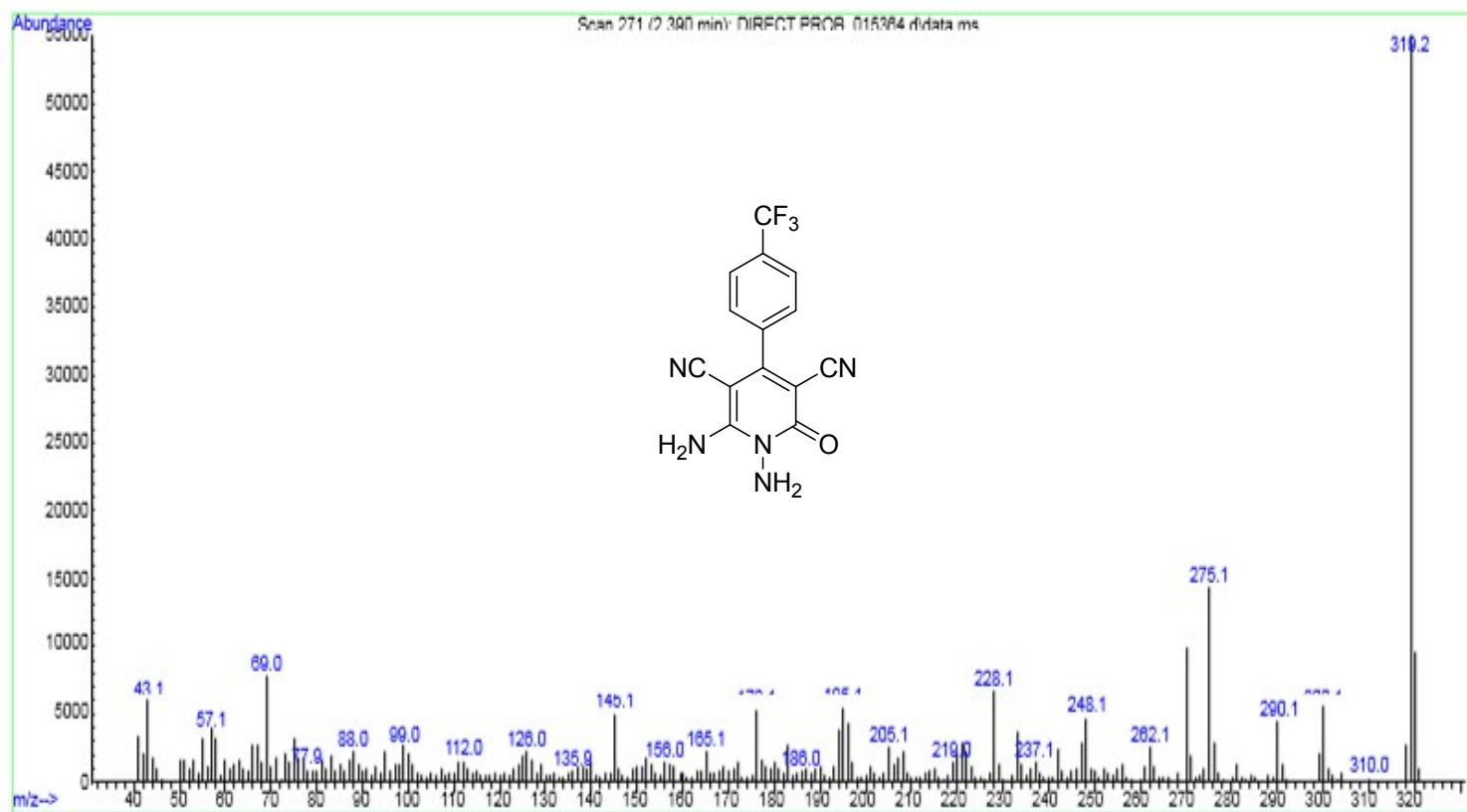
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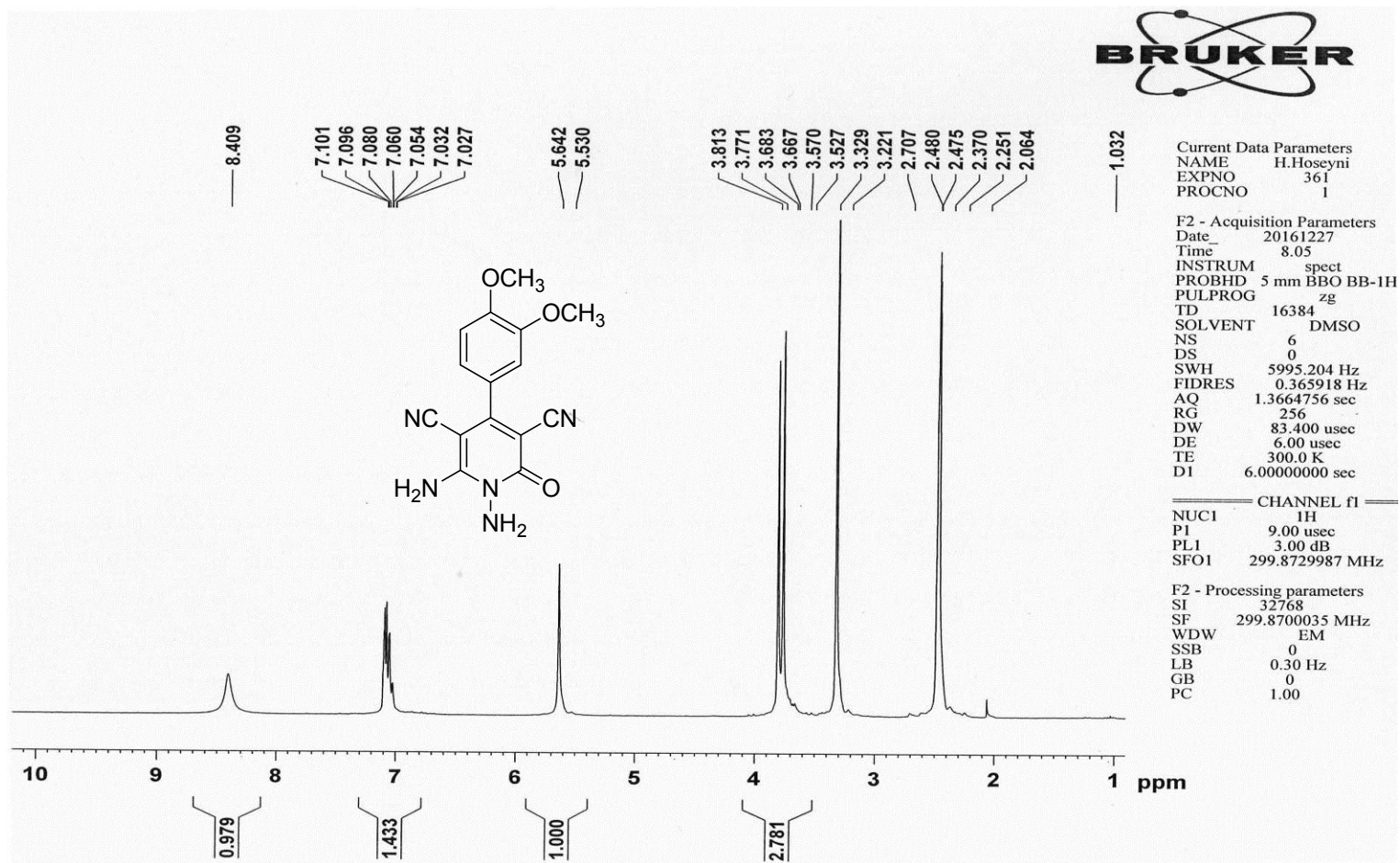
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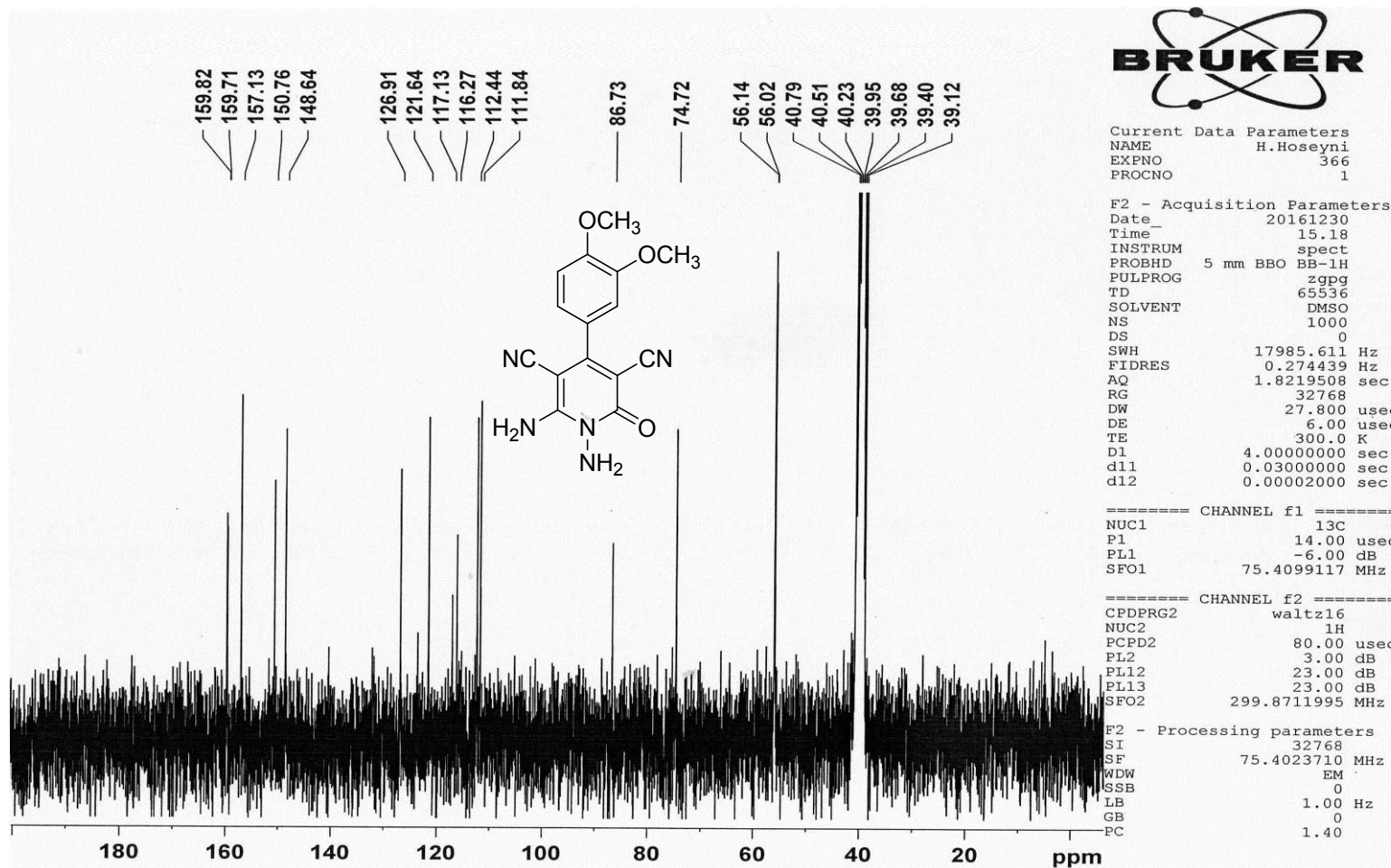
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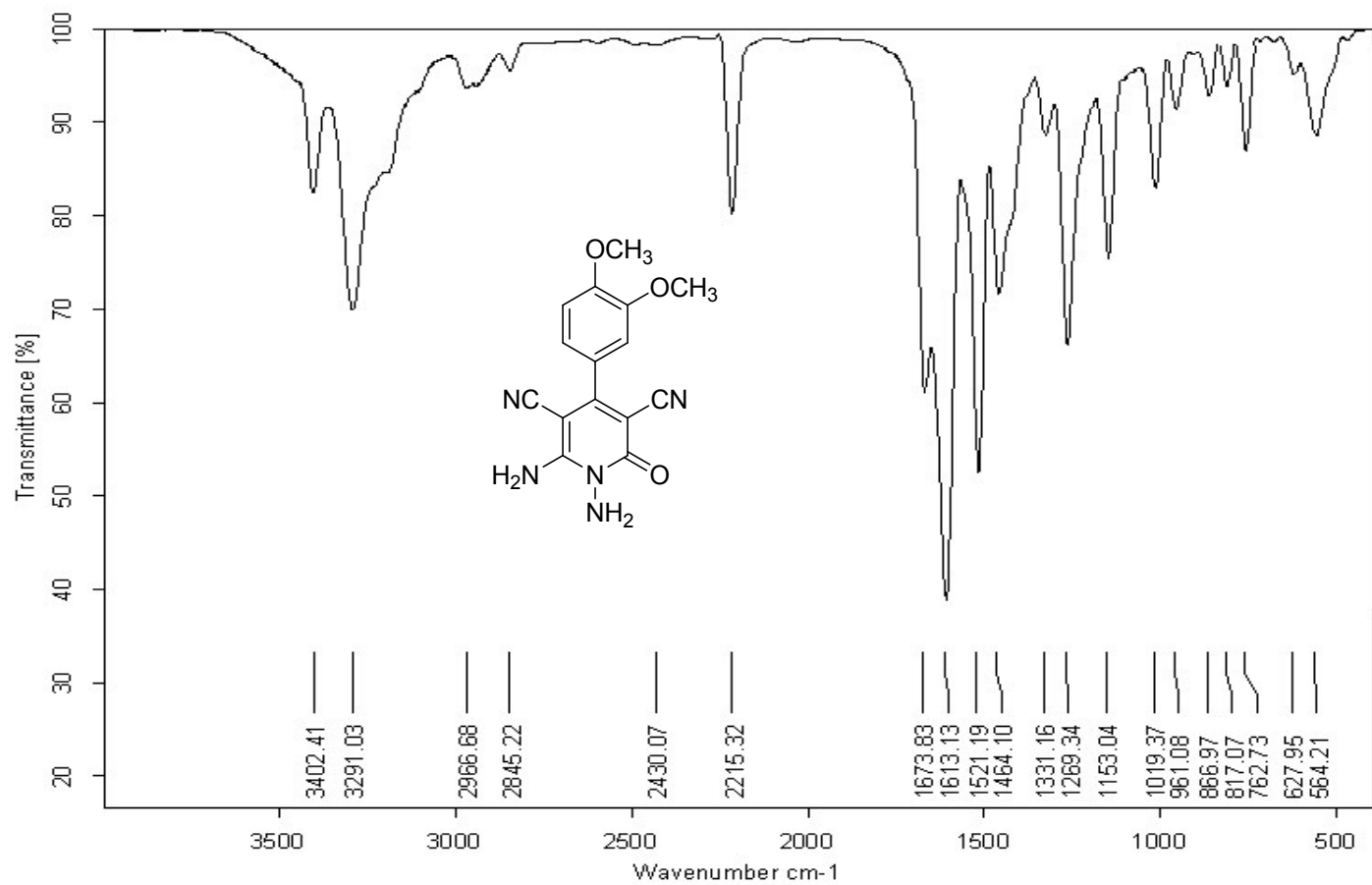
**¹³C NMR of 4i**



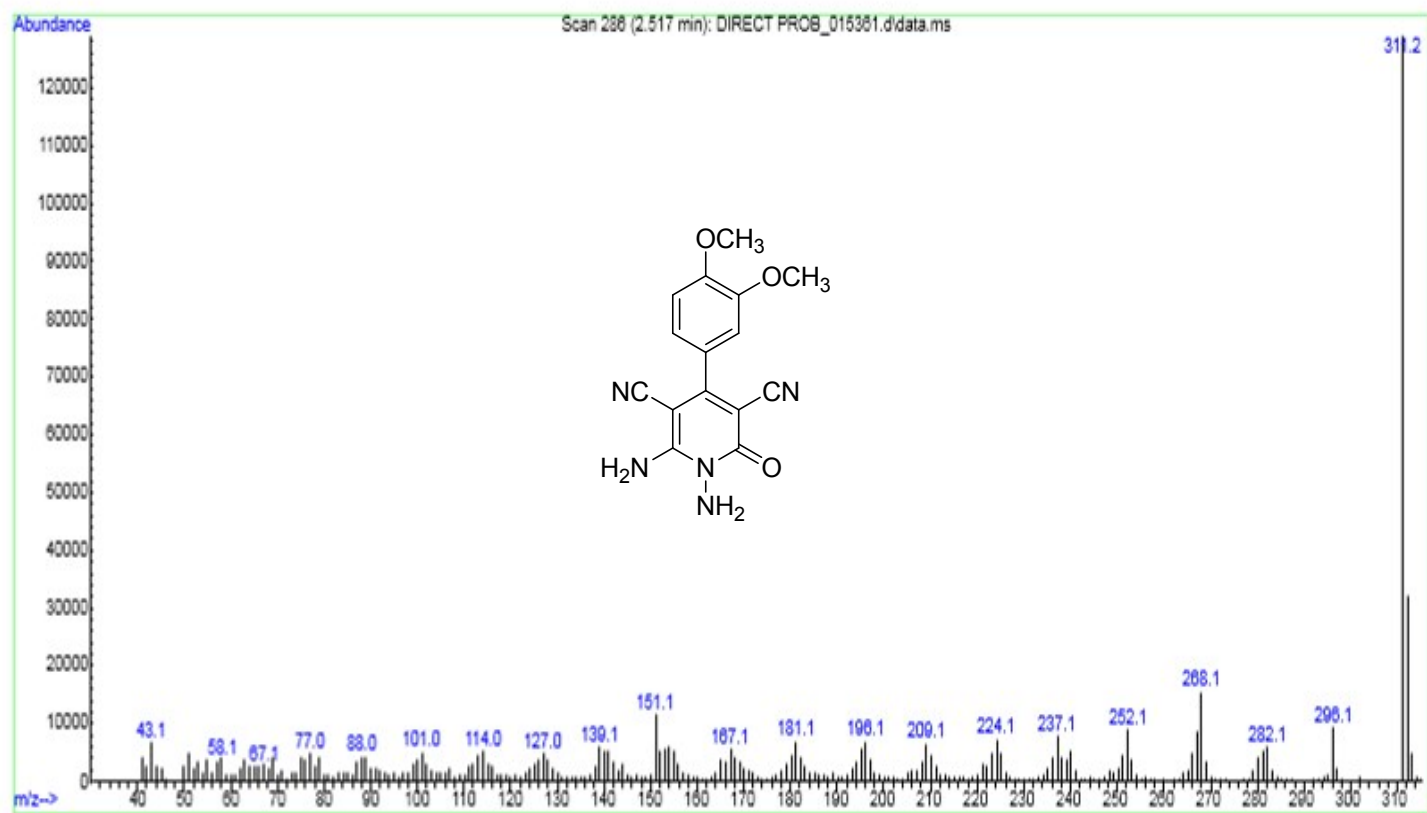
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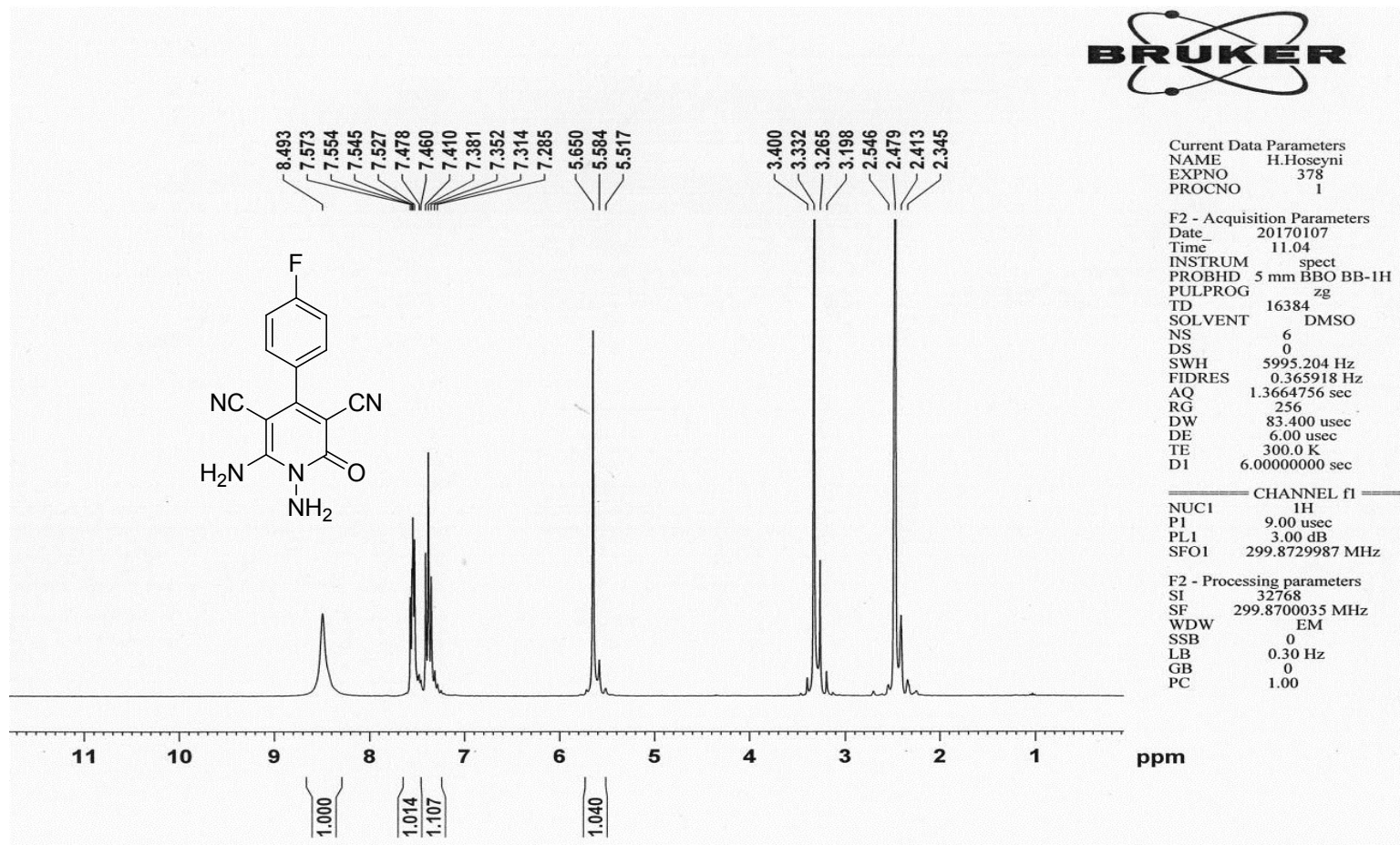
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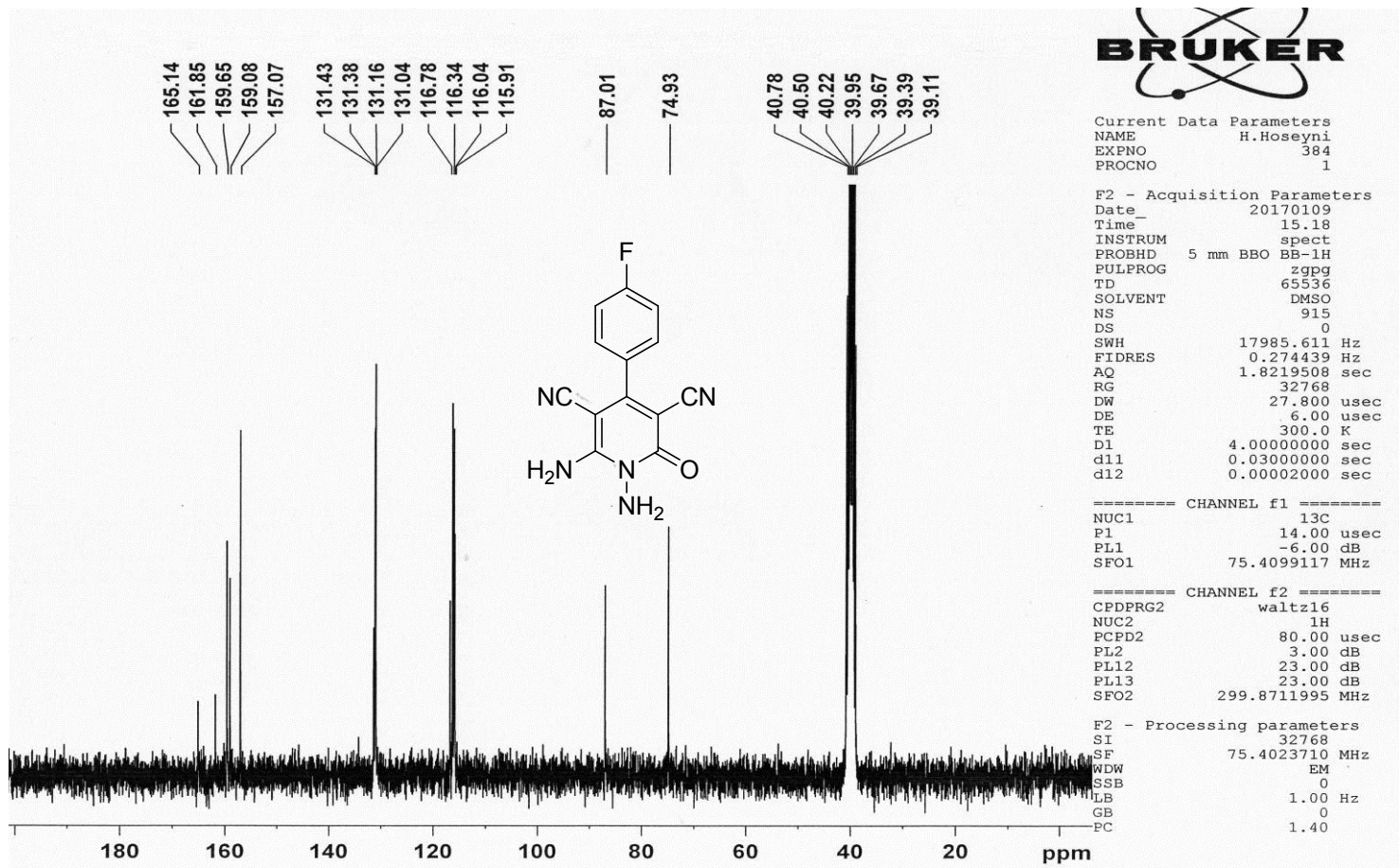


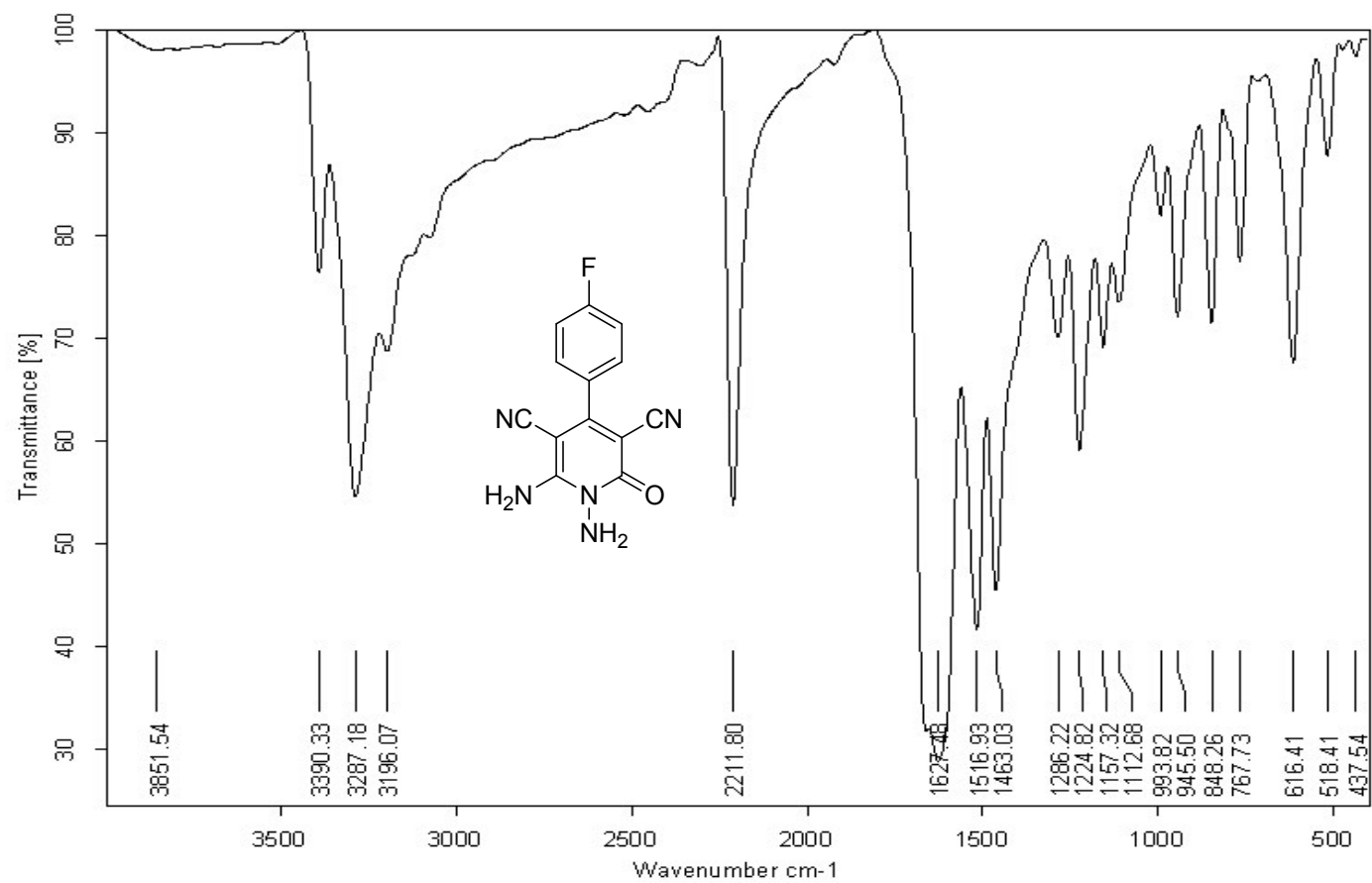
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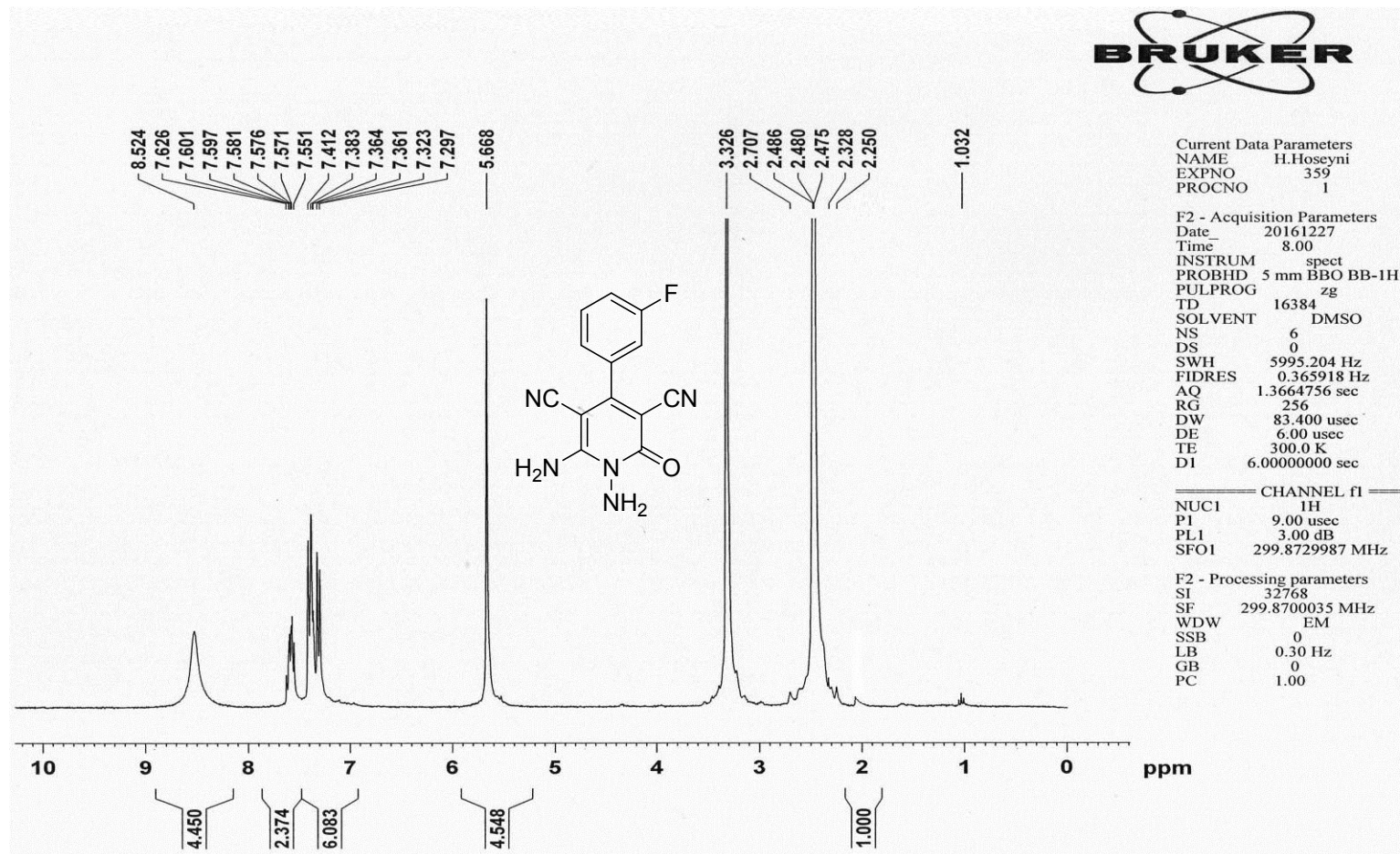
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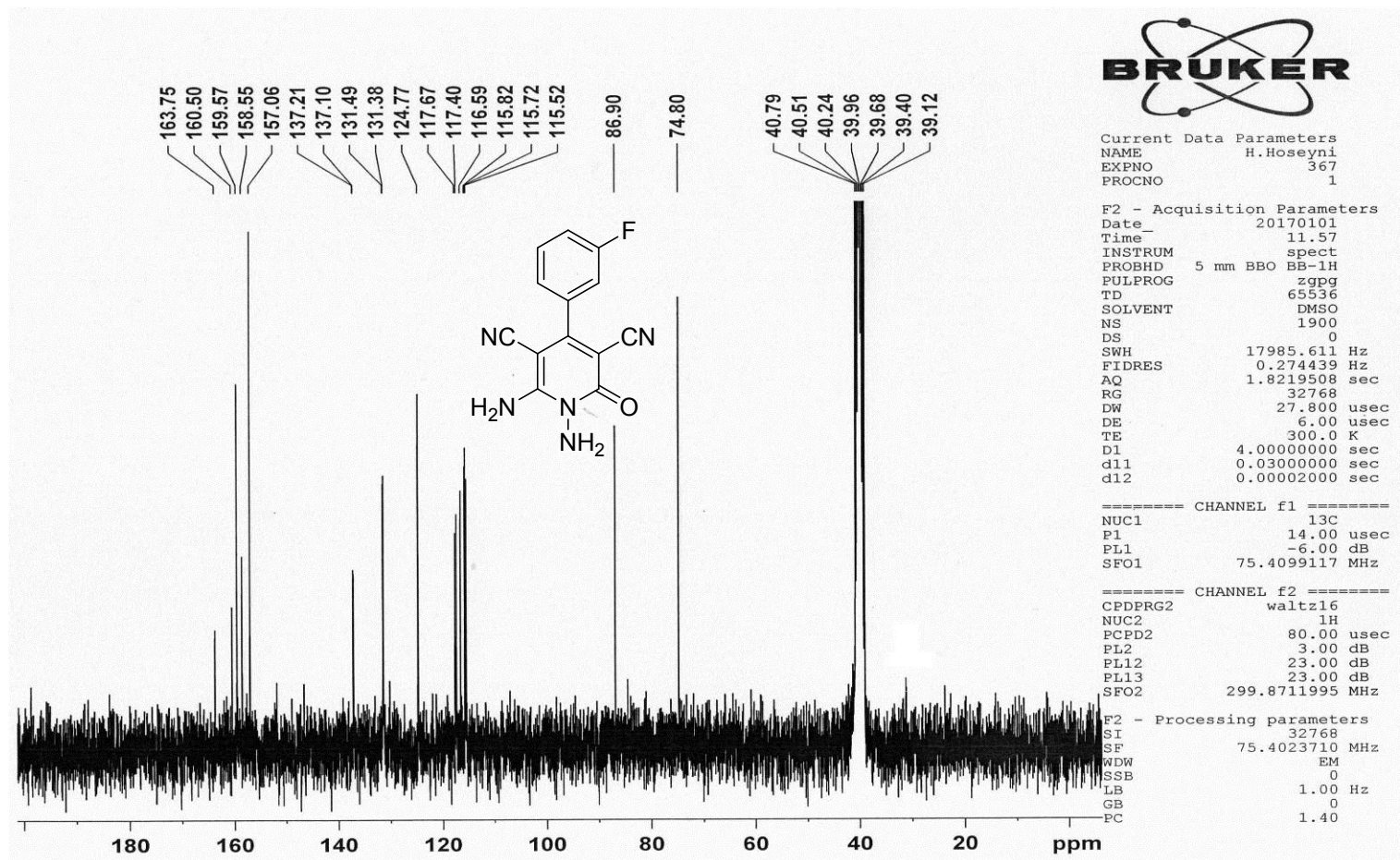
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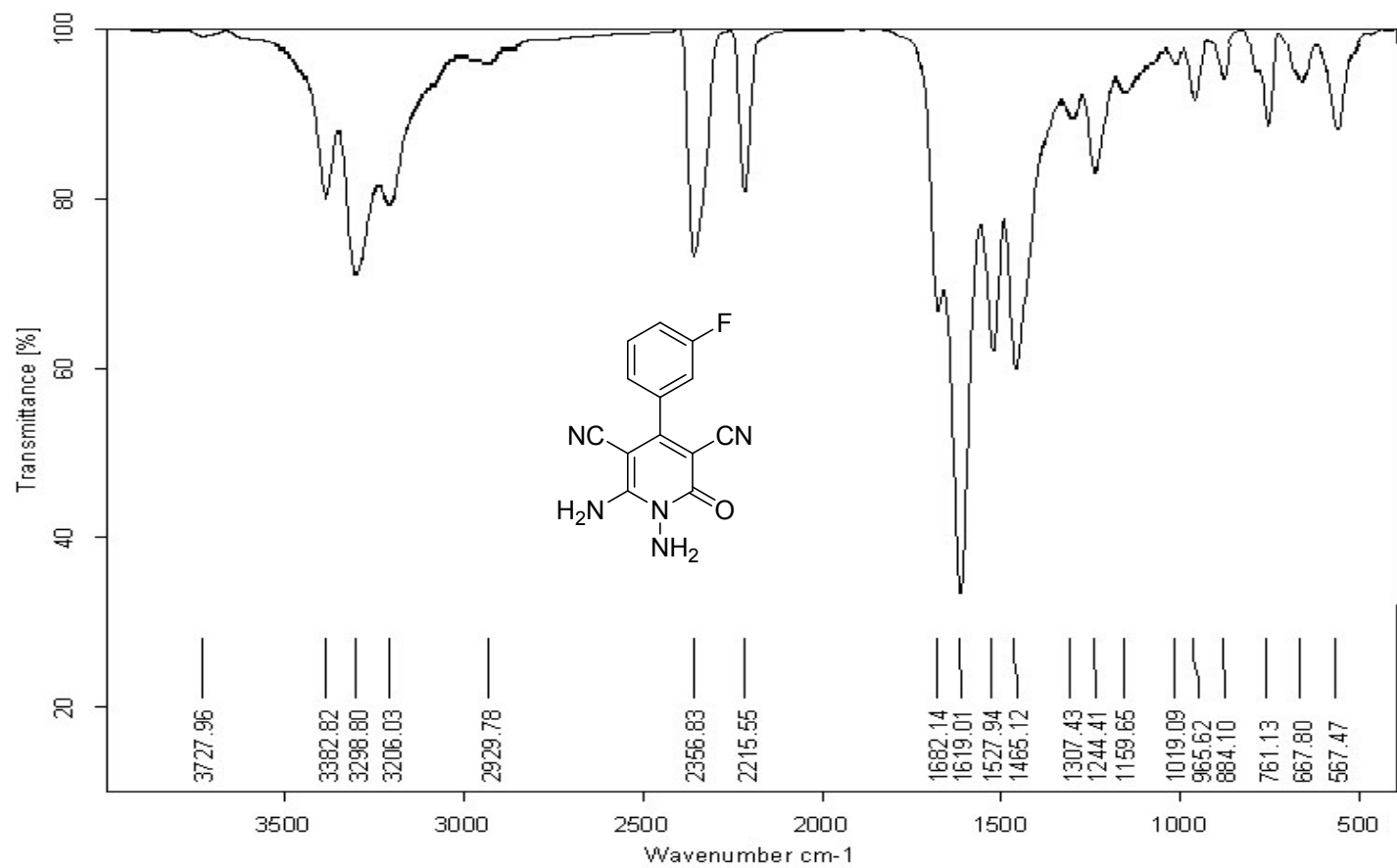
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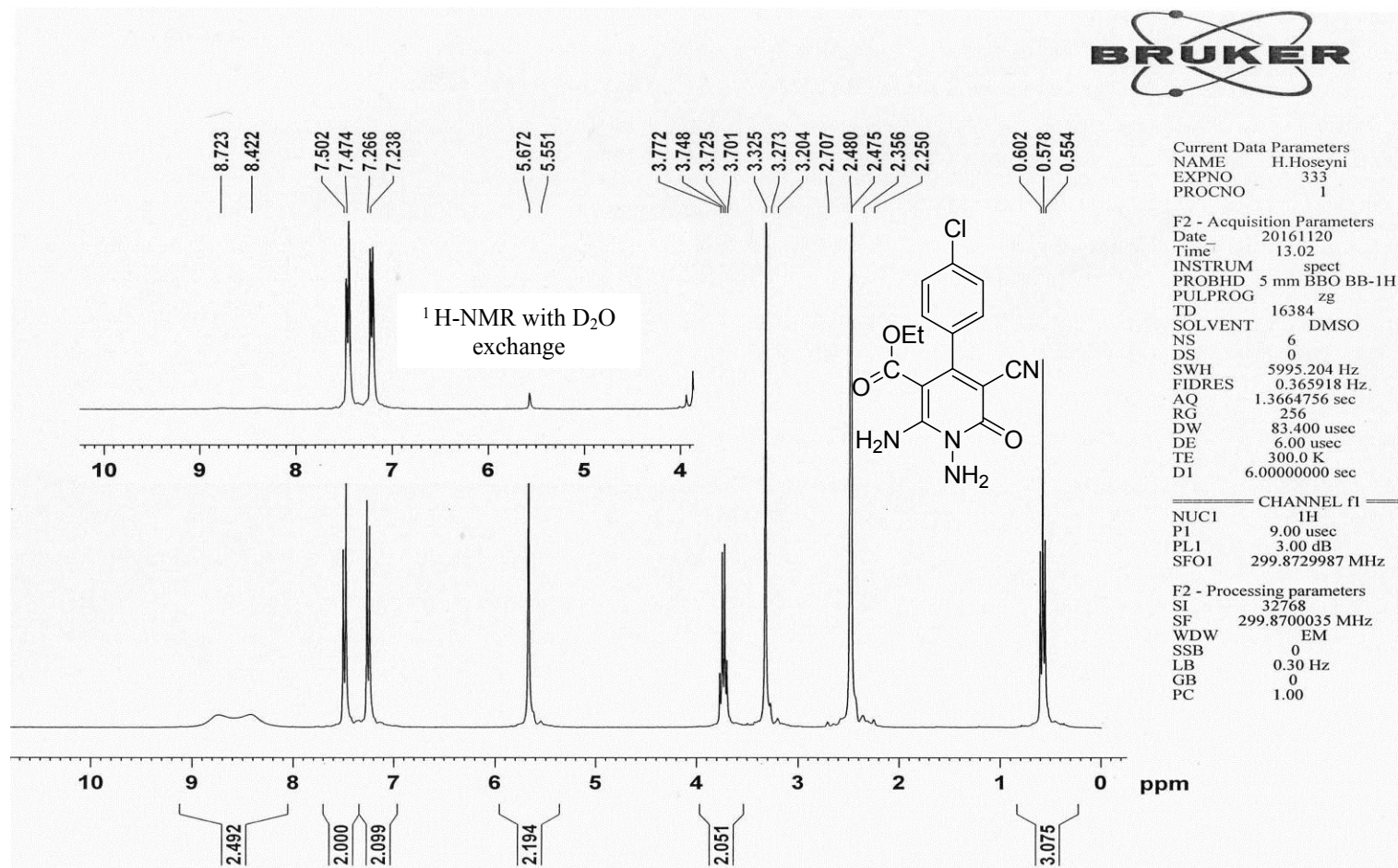


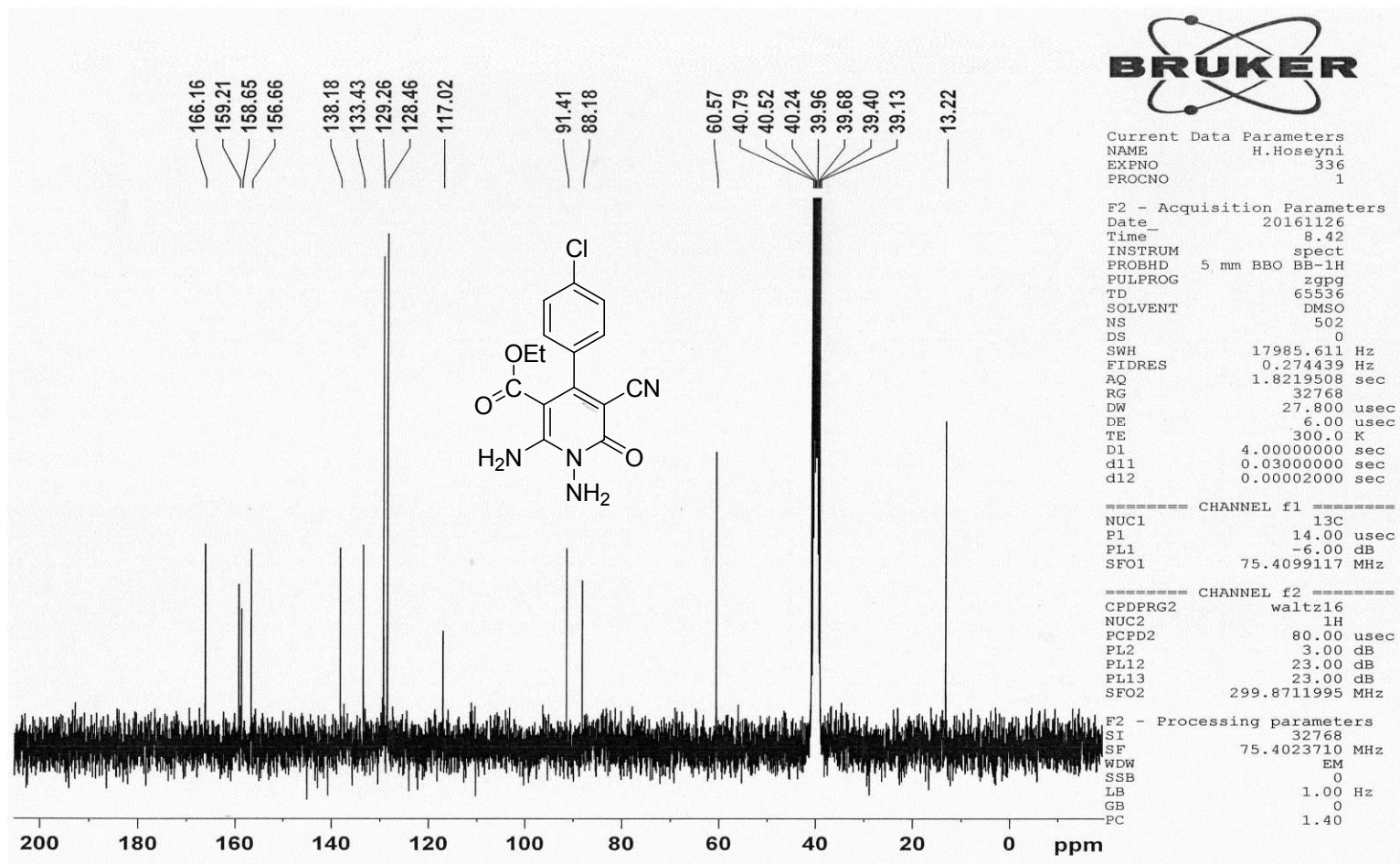
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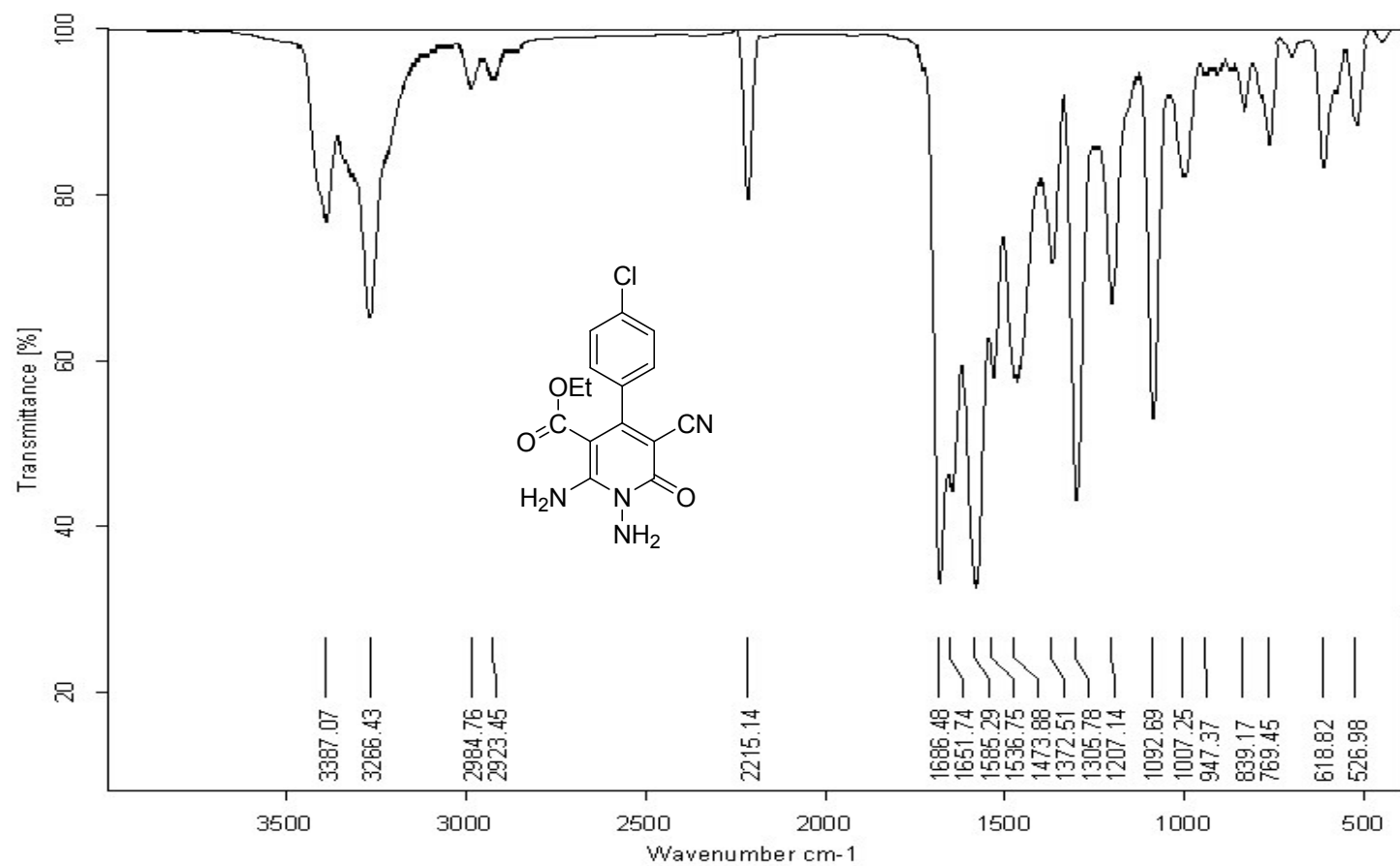




**IR of 4l**

¹H NMR of 5a

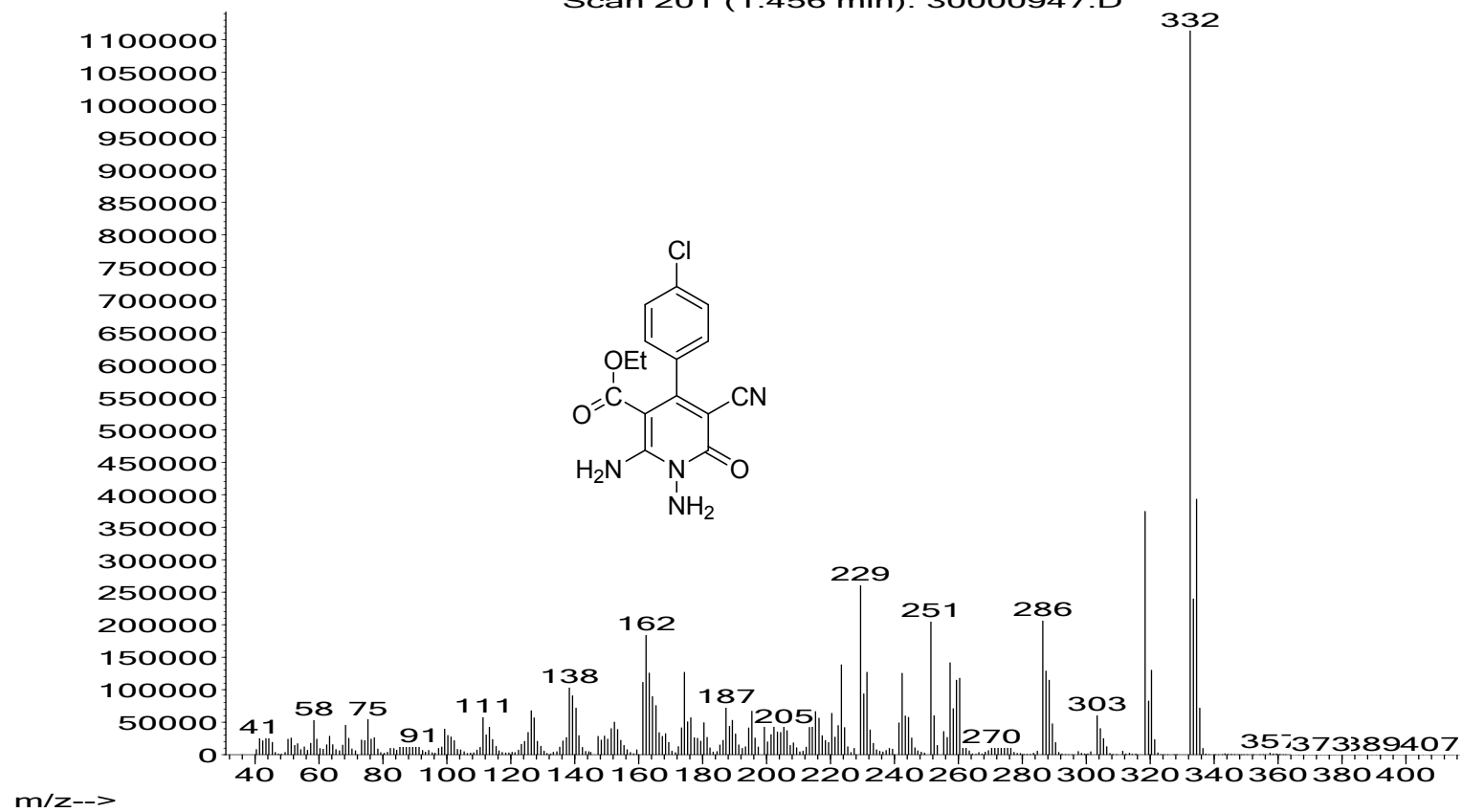
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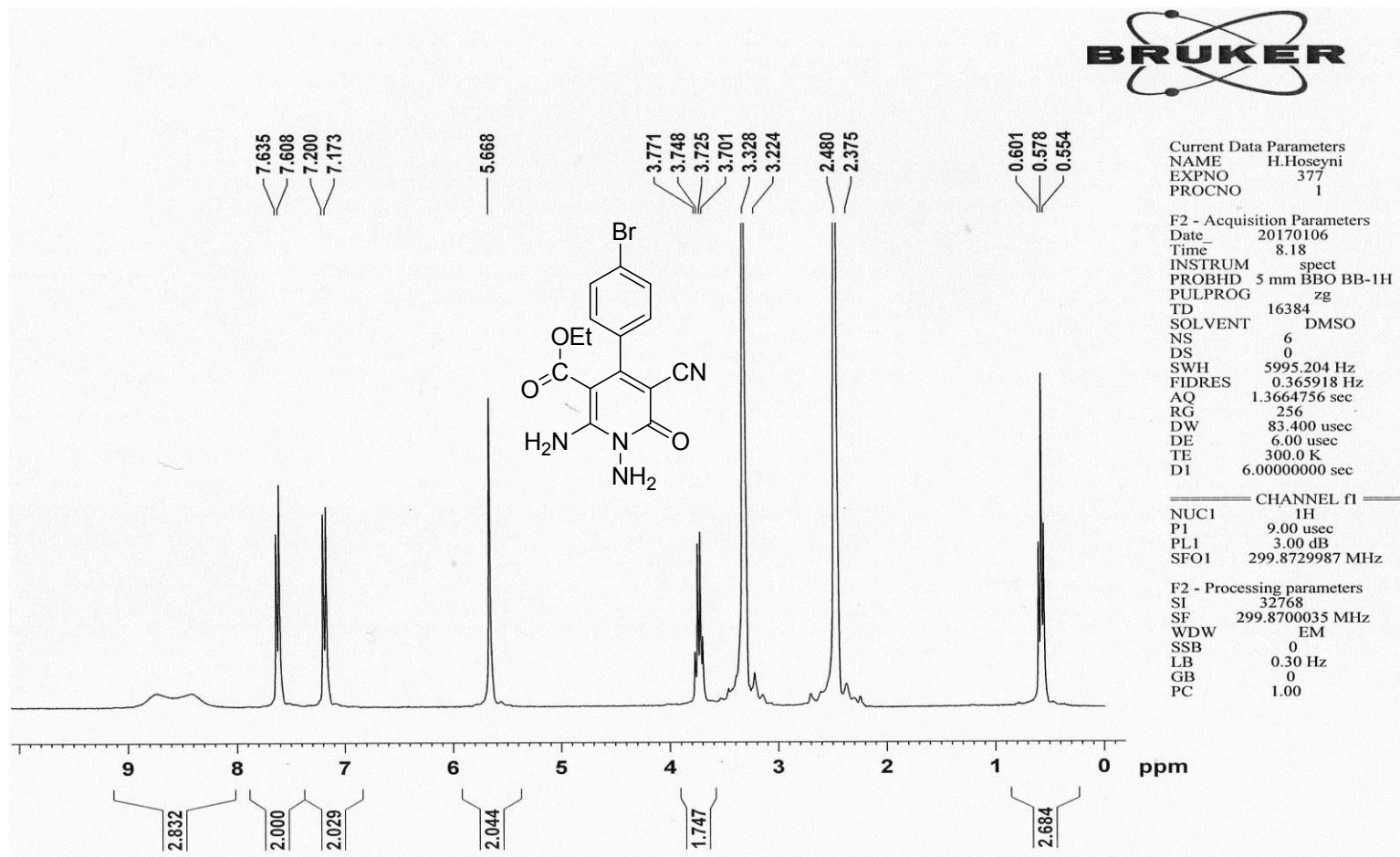
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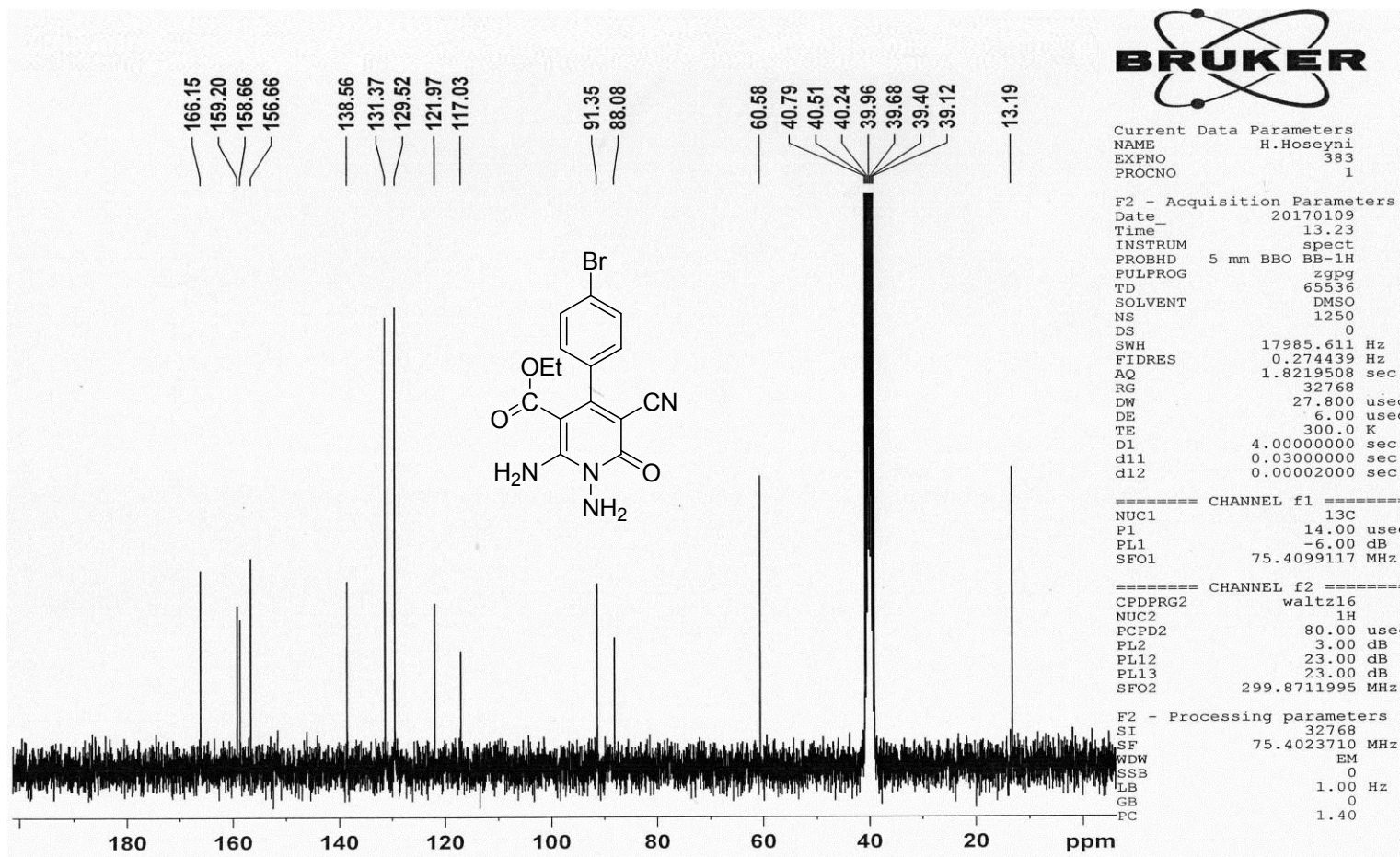
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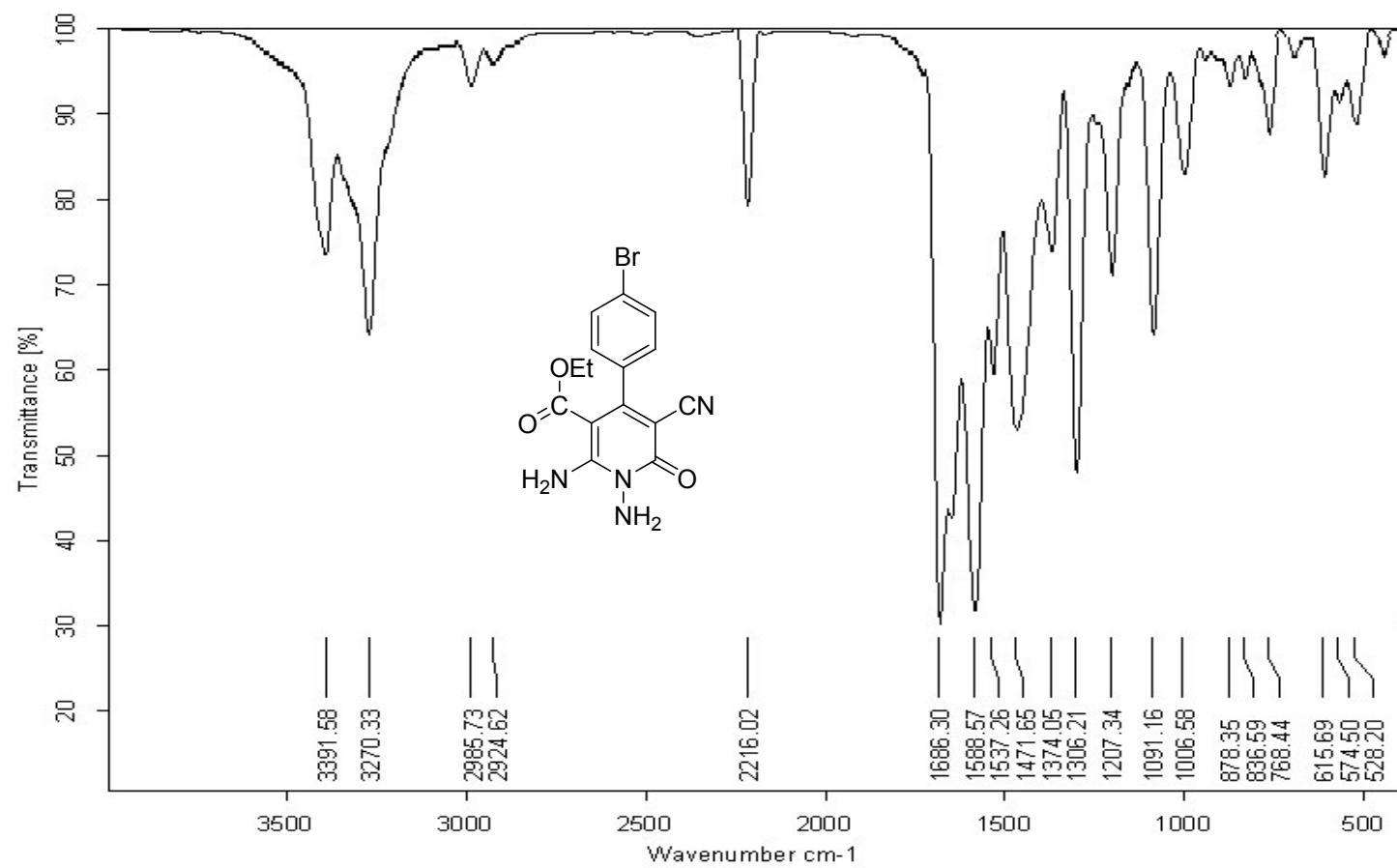
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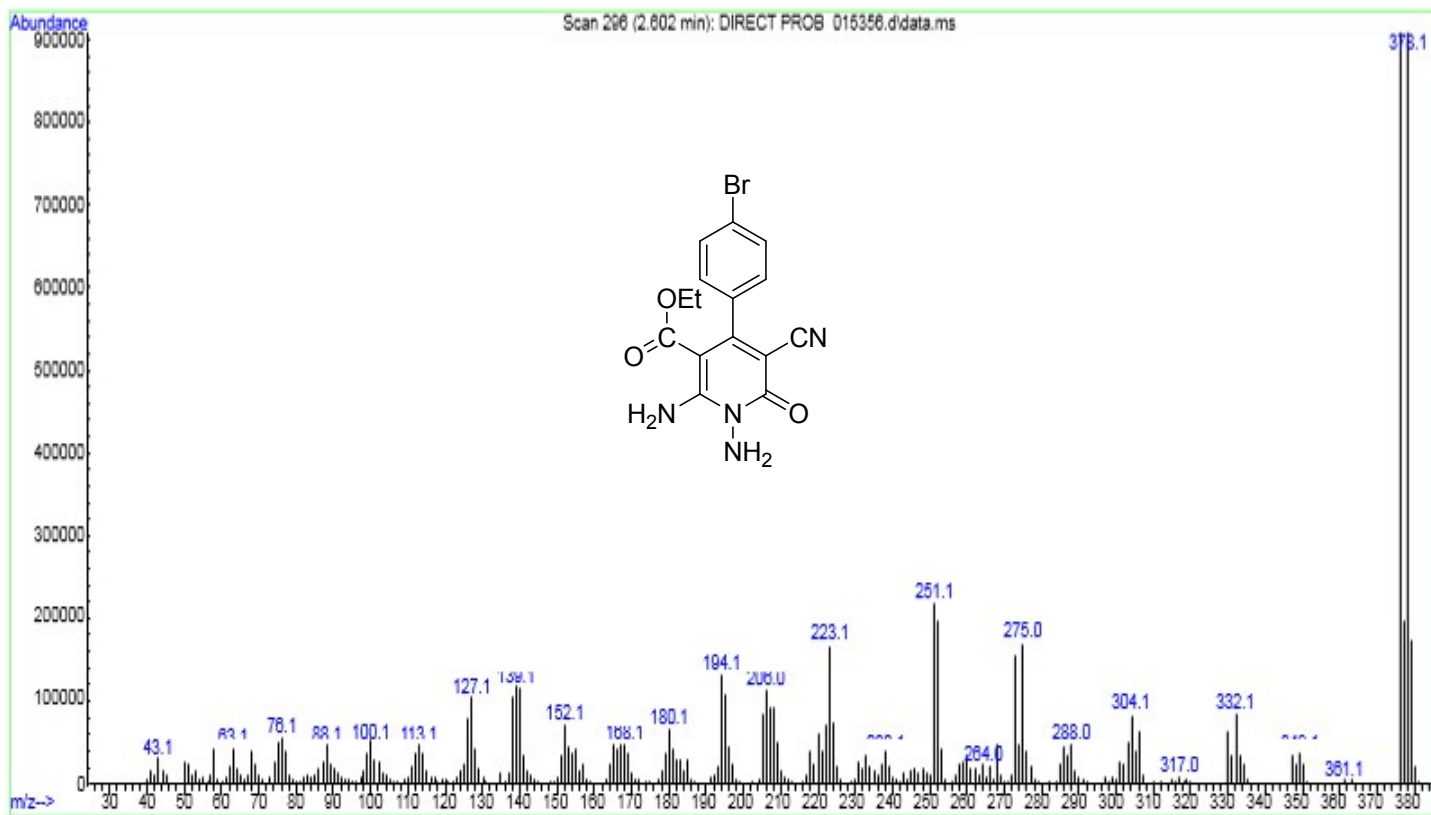


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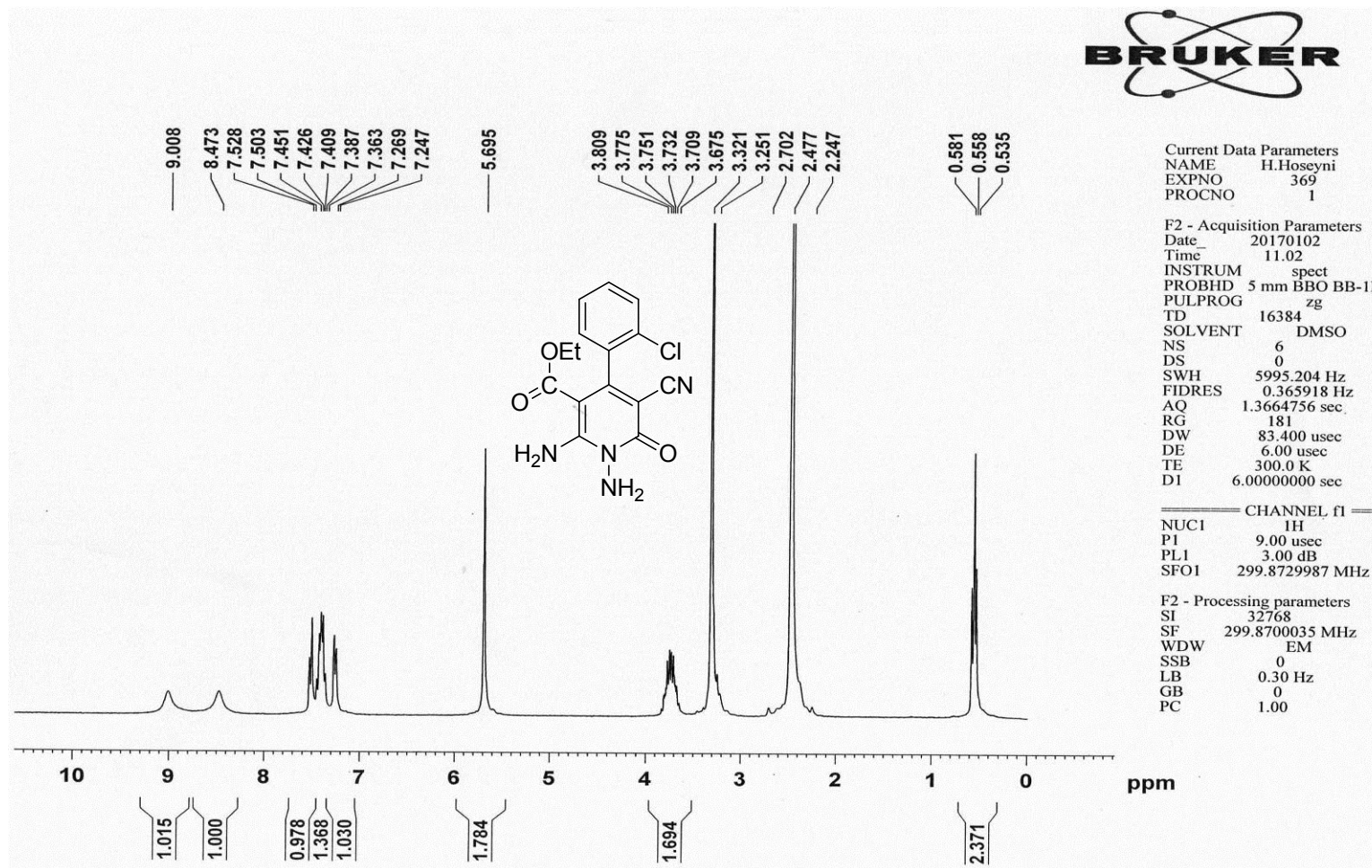
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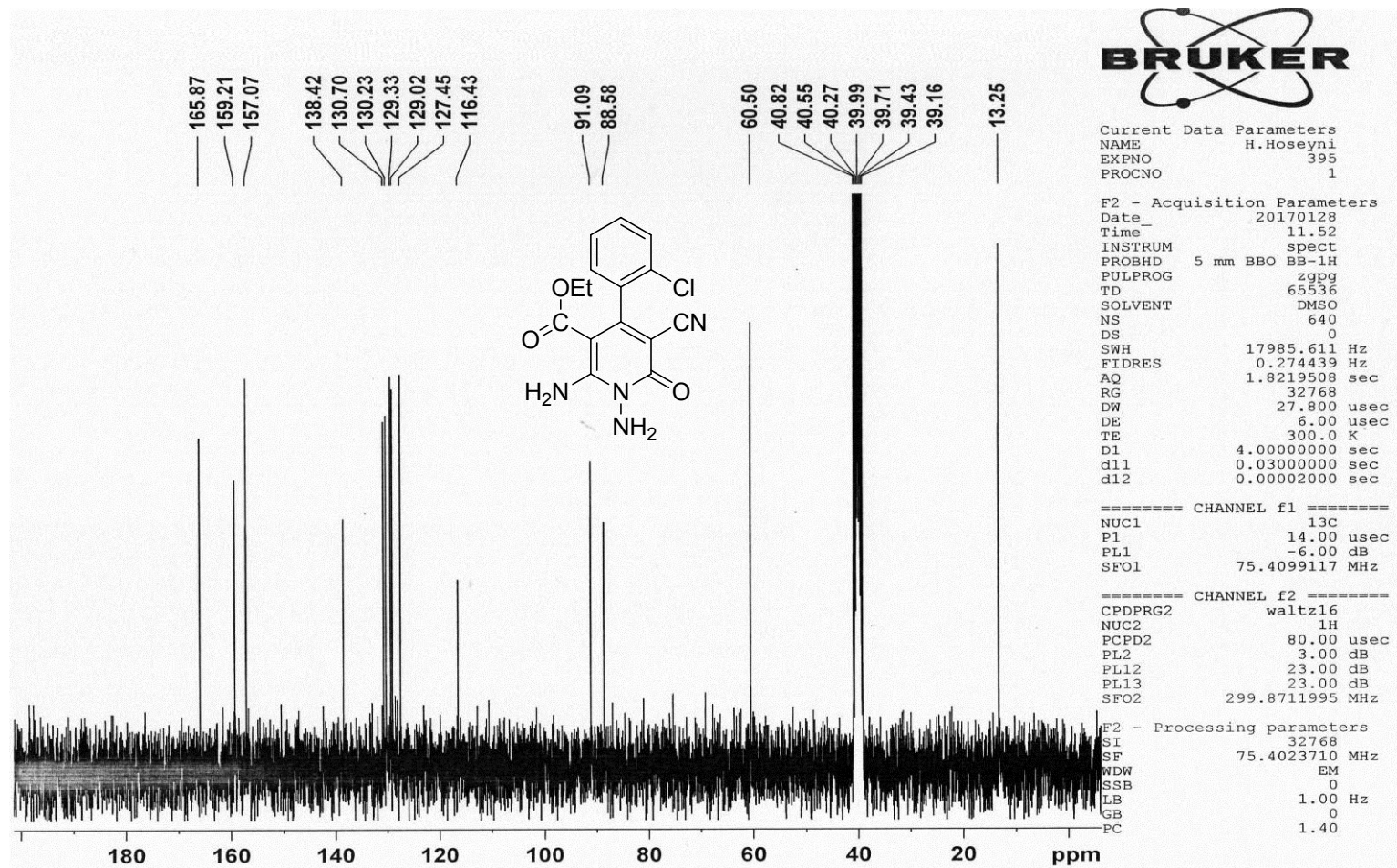
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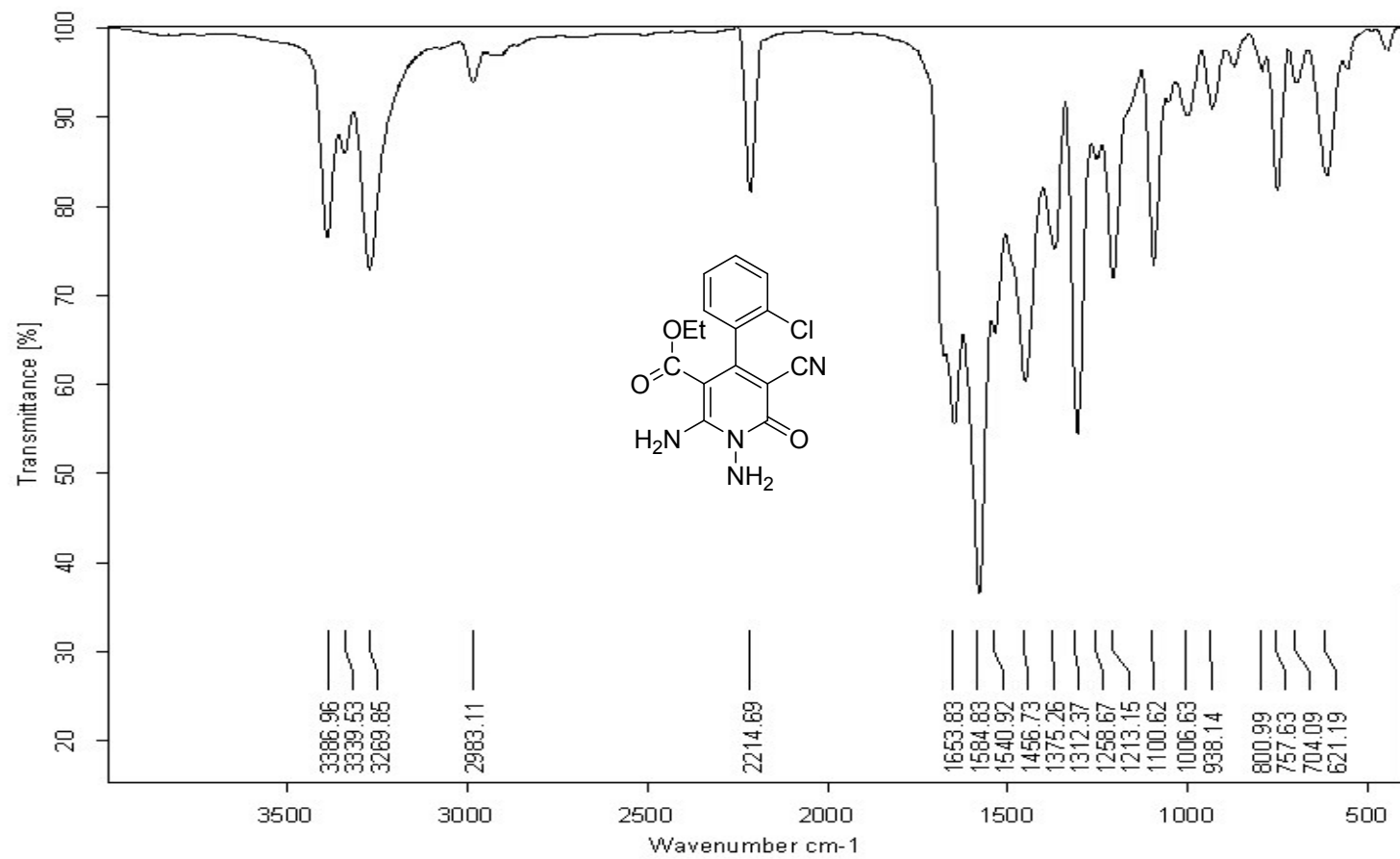
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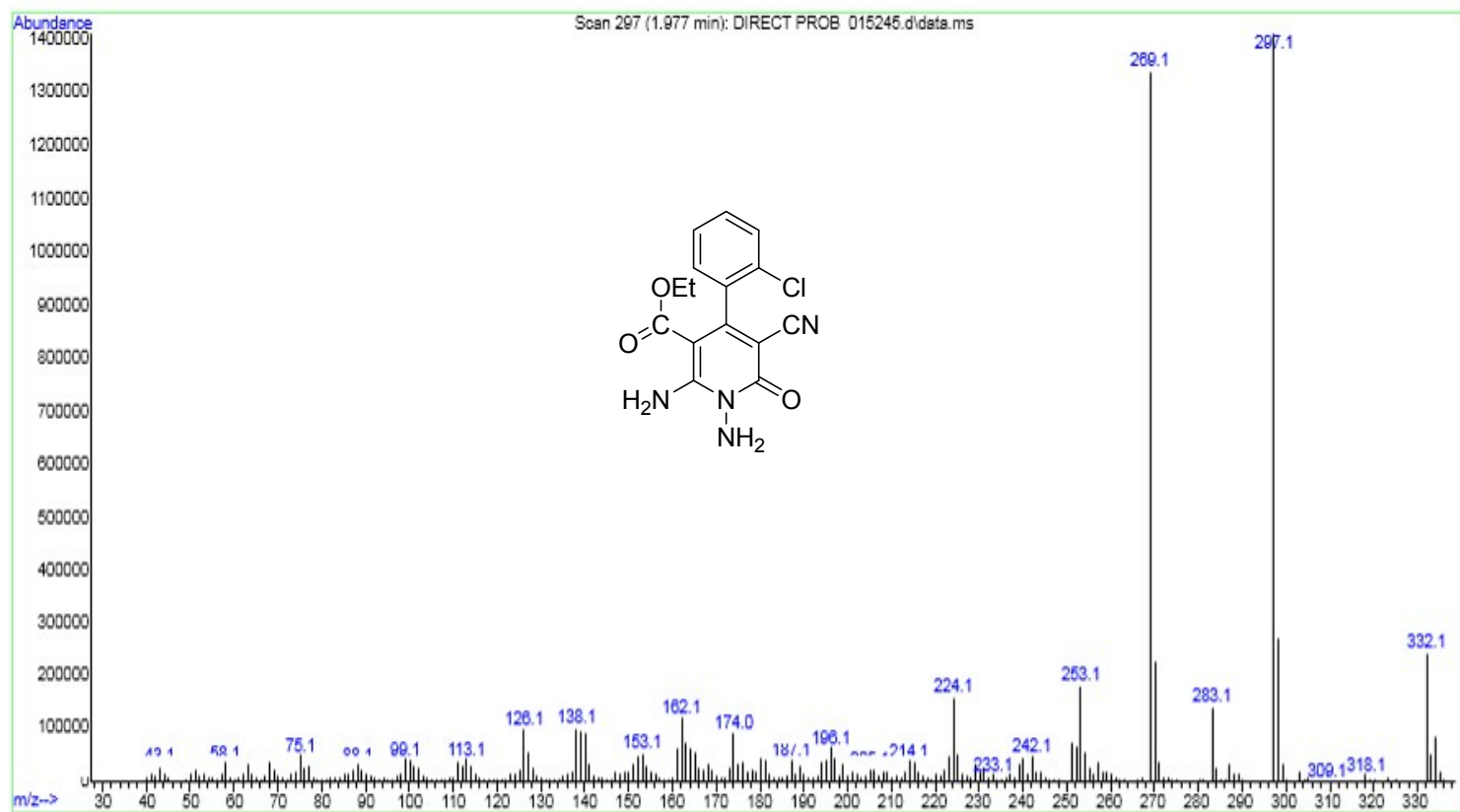
MS of 5b

 ^1H NMR of 5c

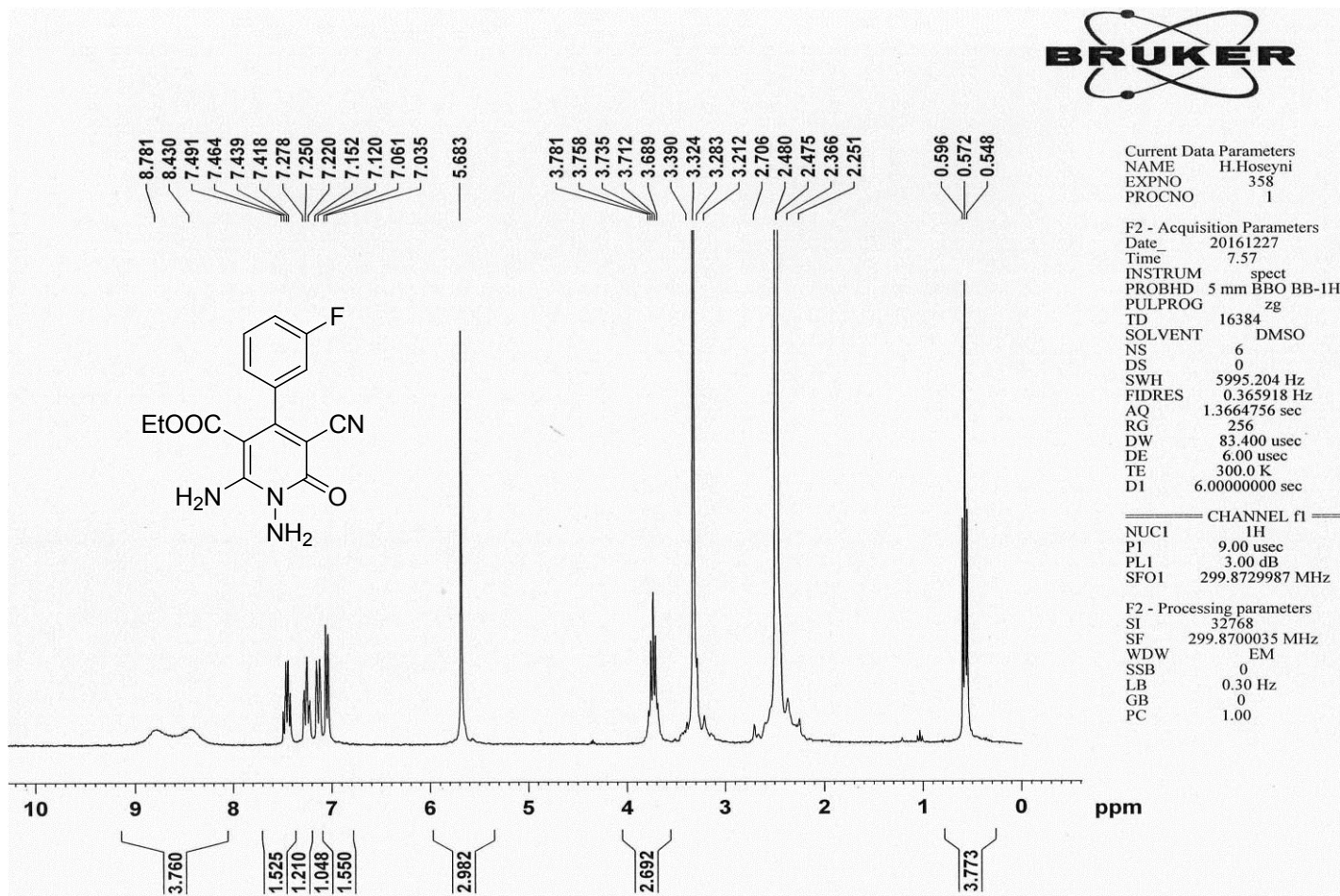
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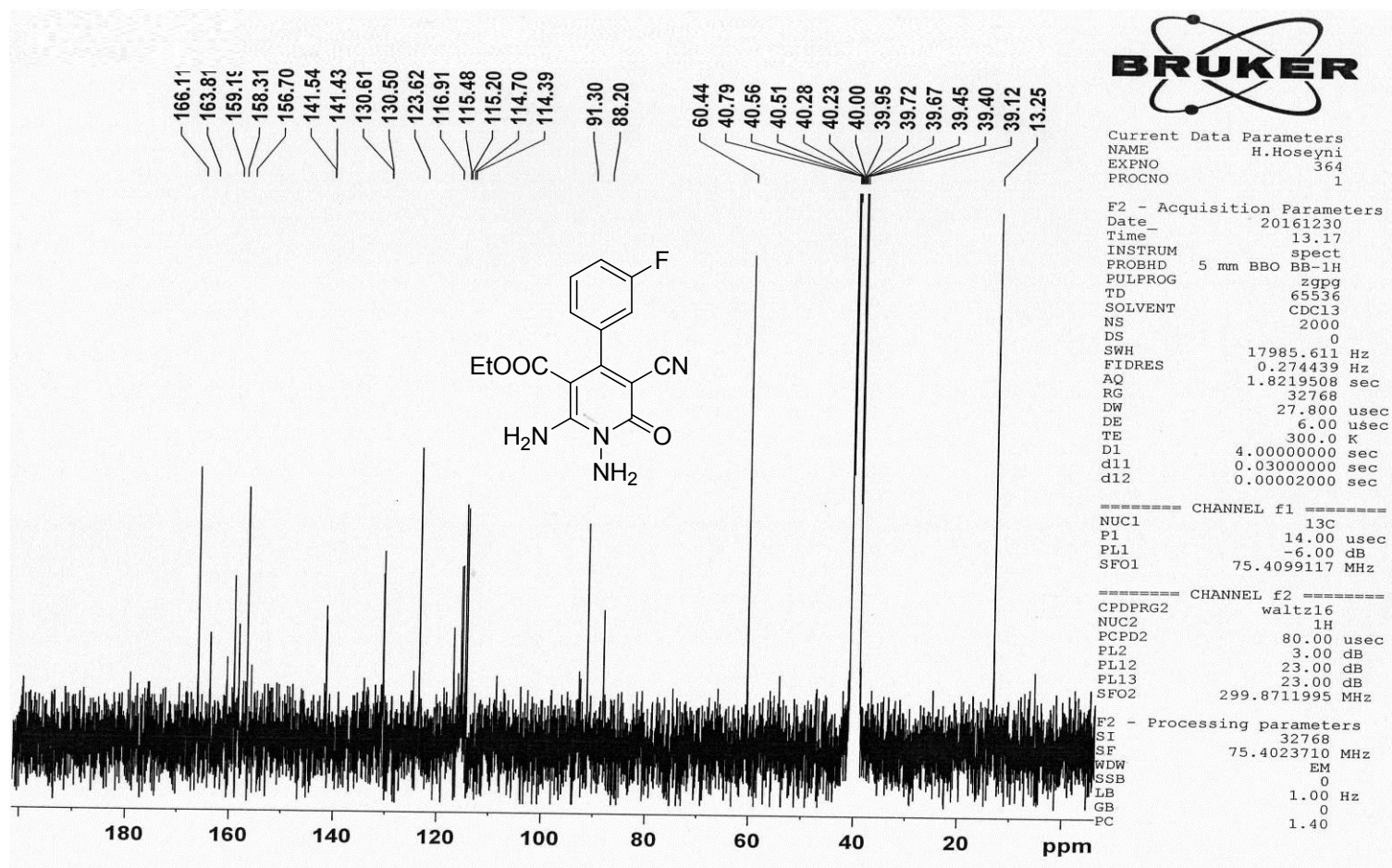


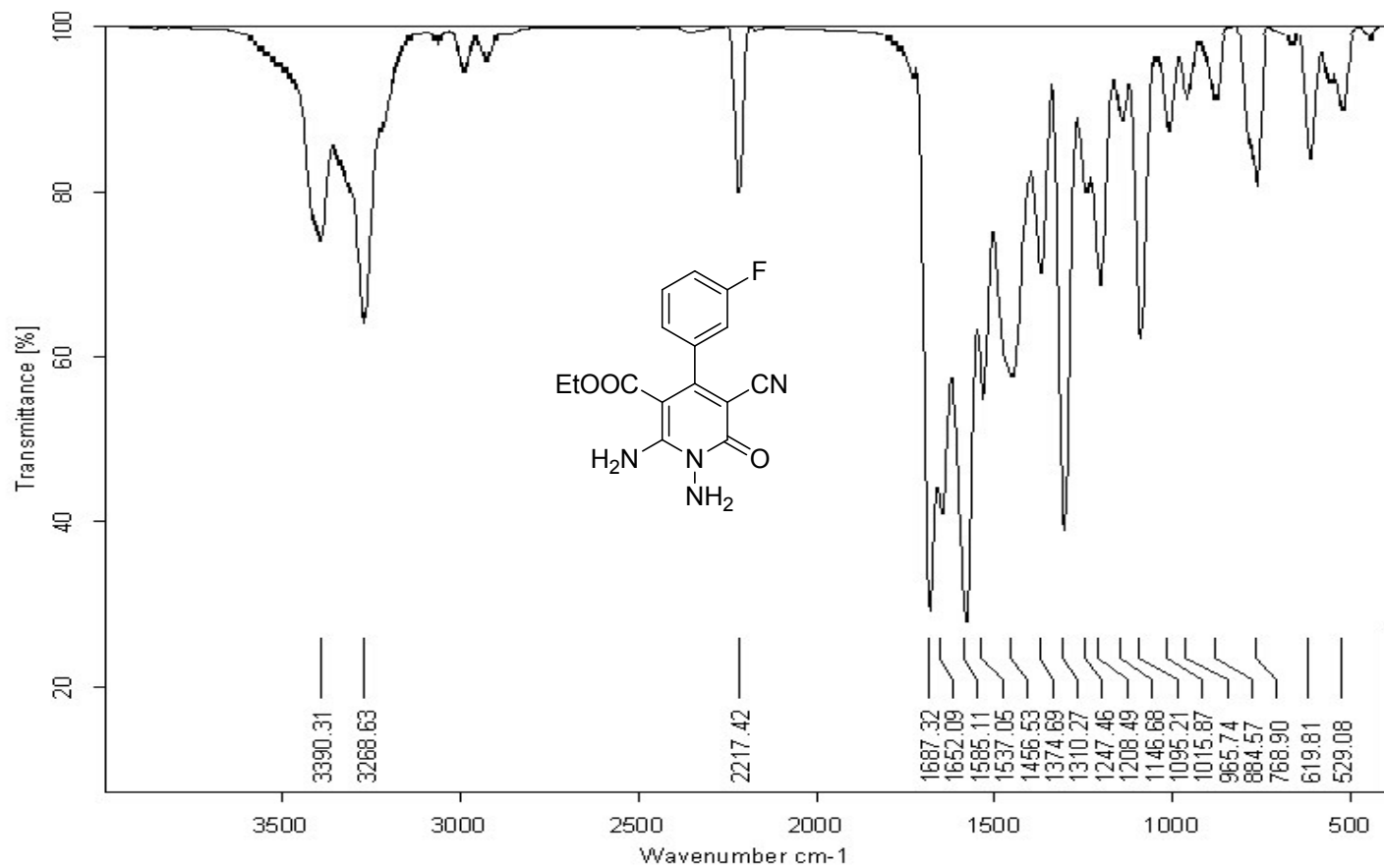
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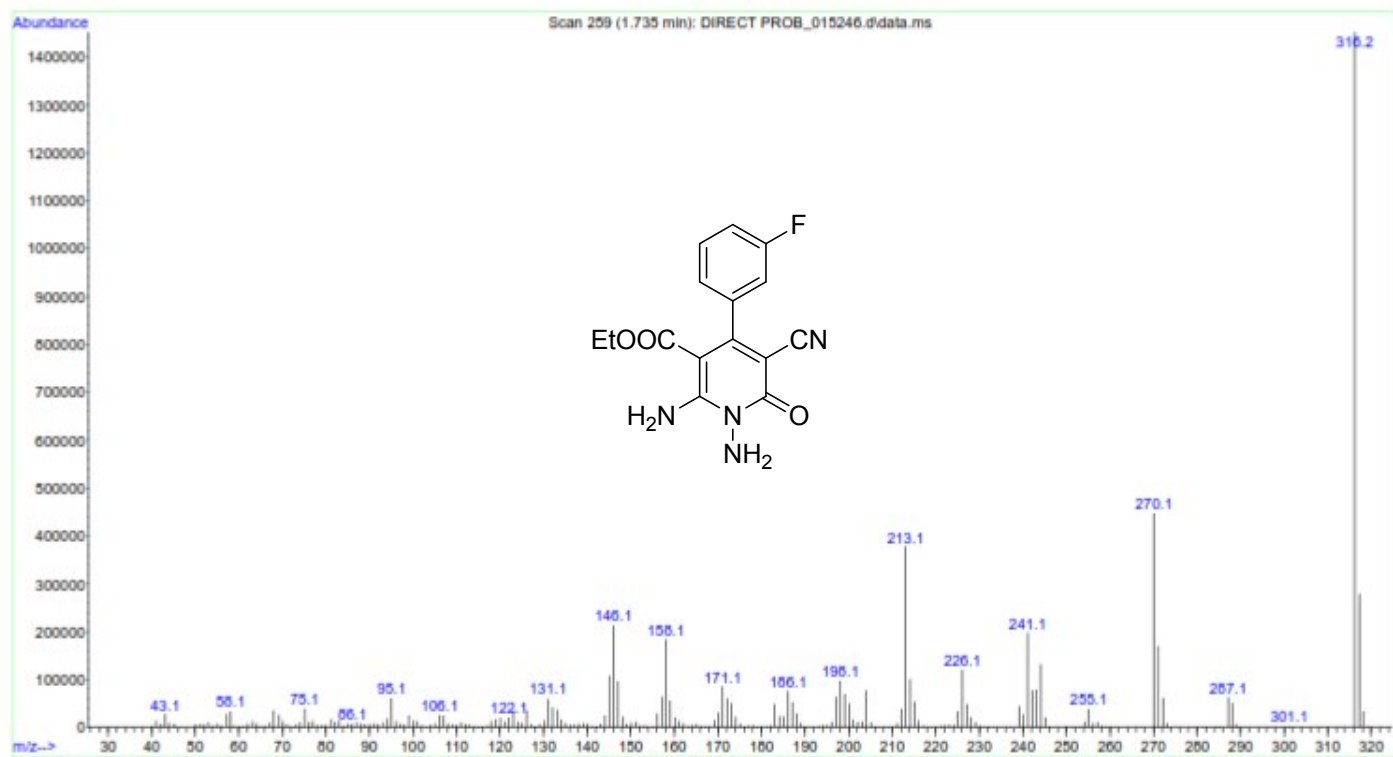
MS of 5c

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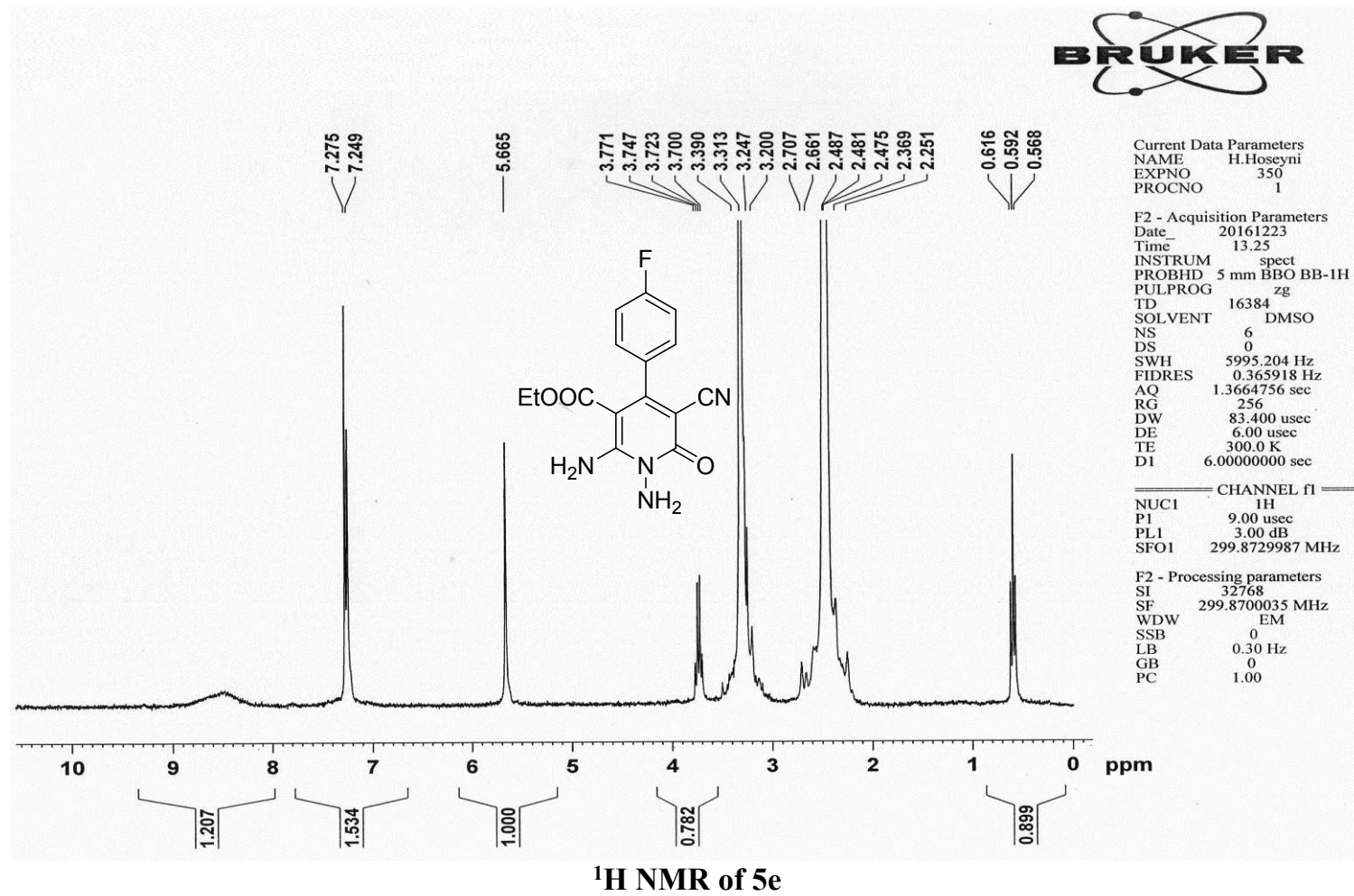
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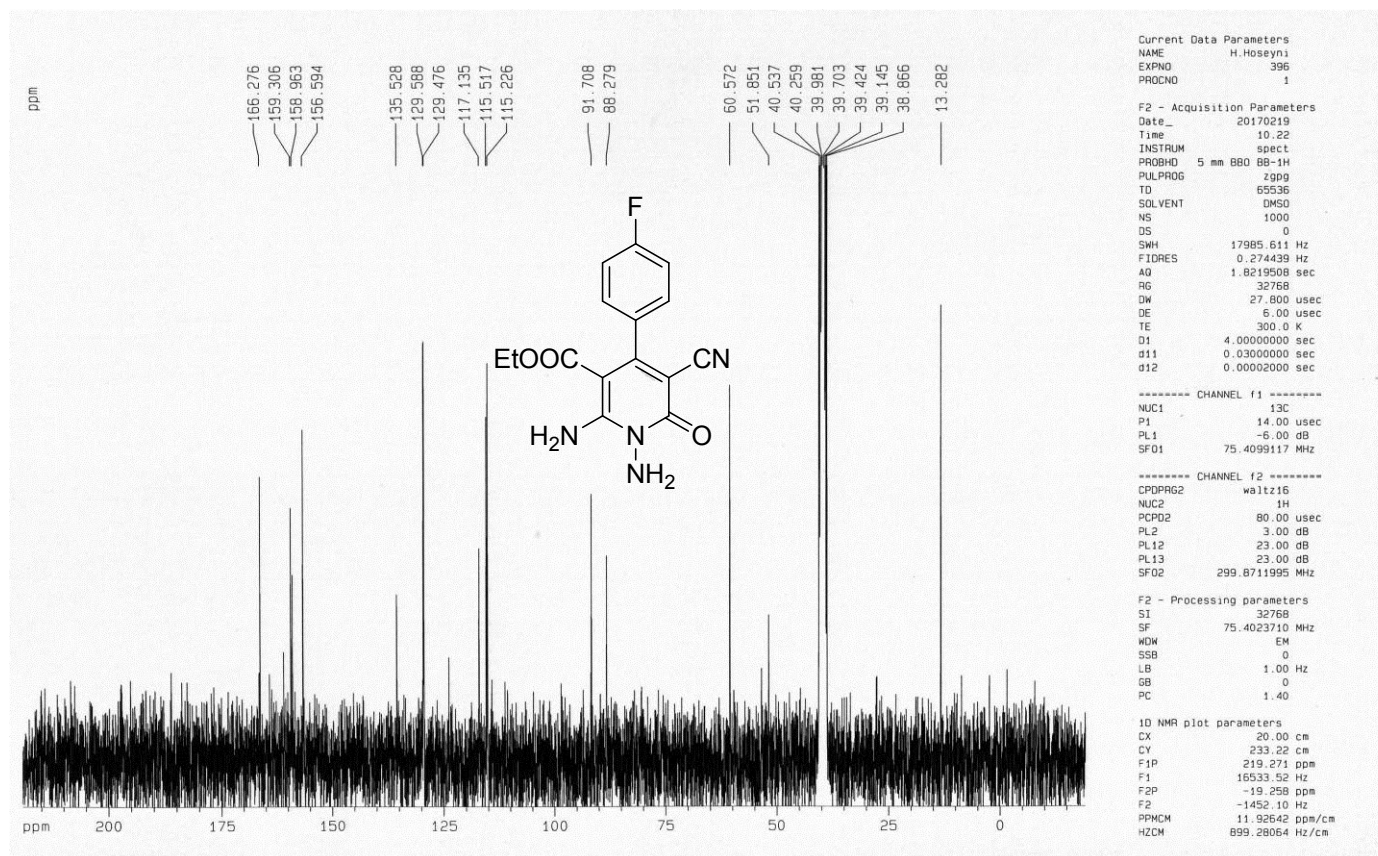


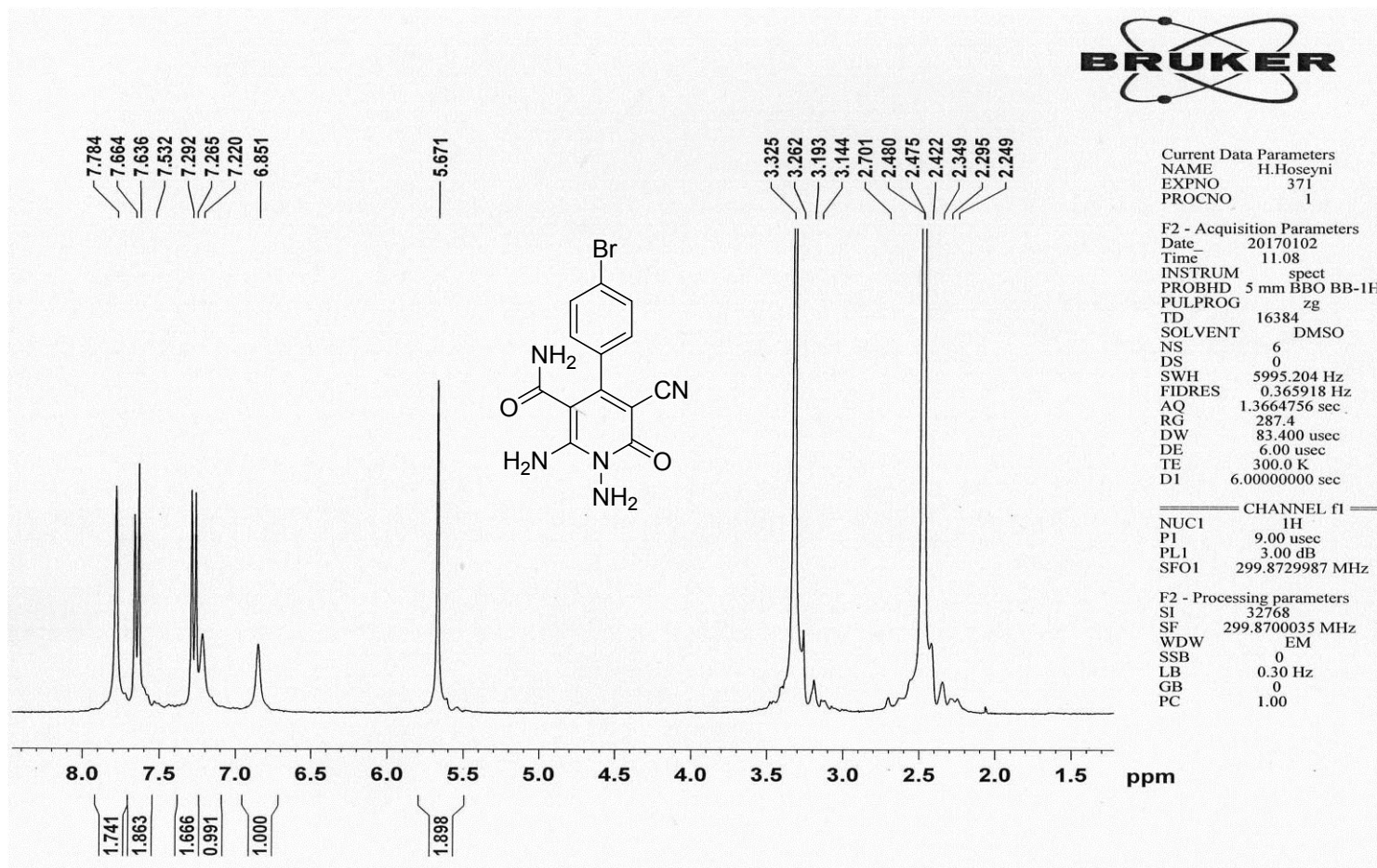
IR of 5d

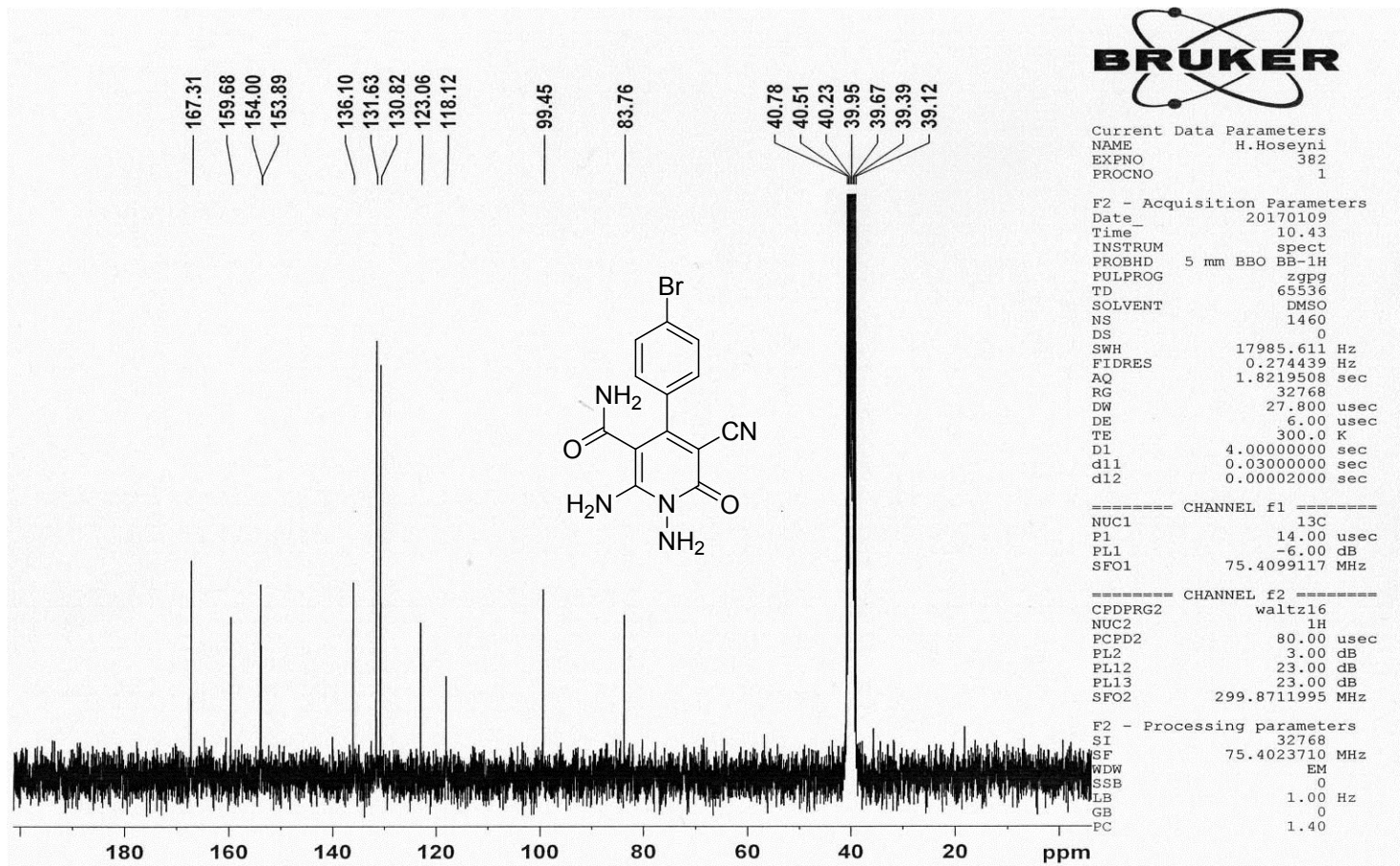


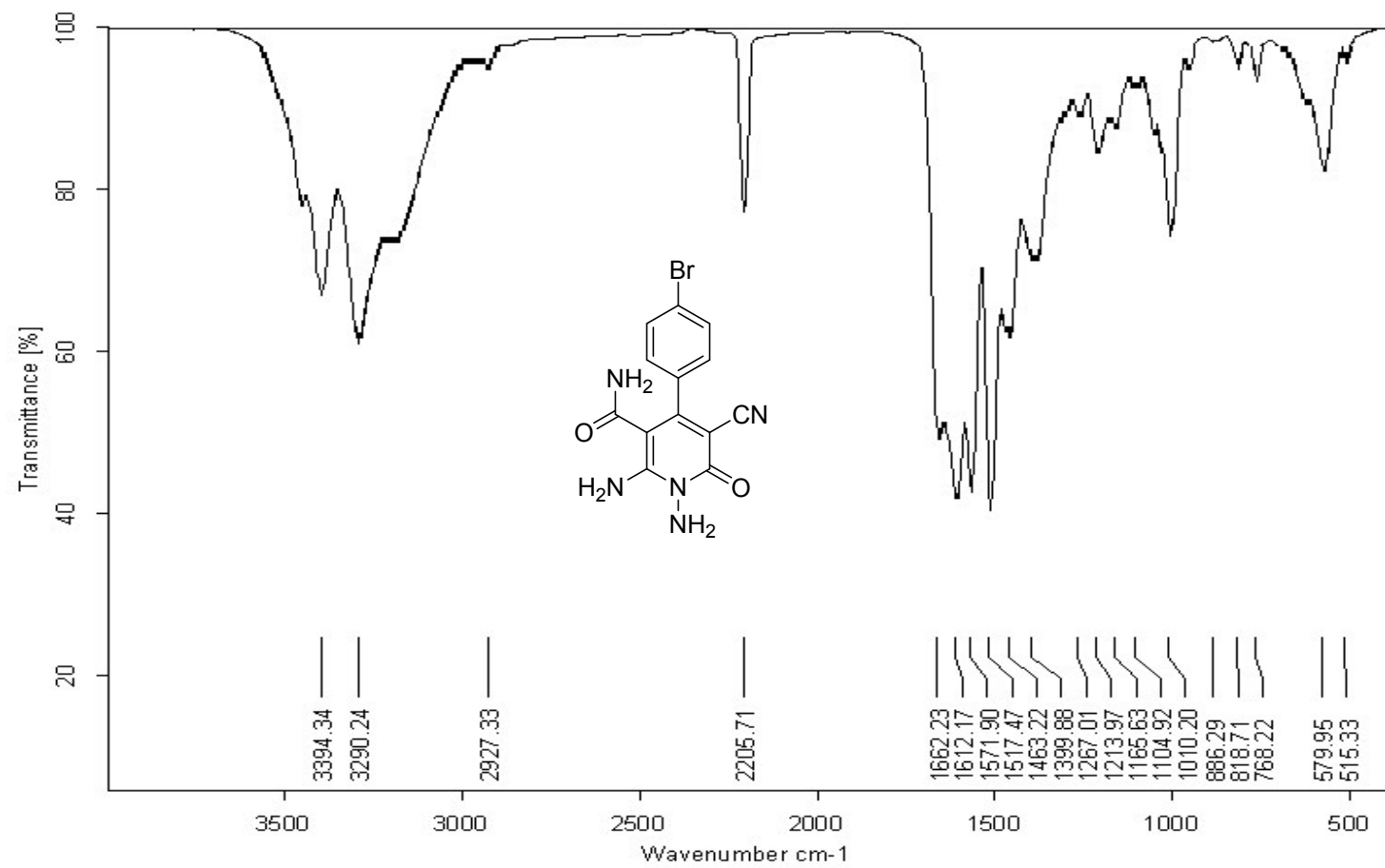
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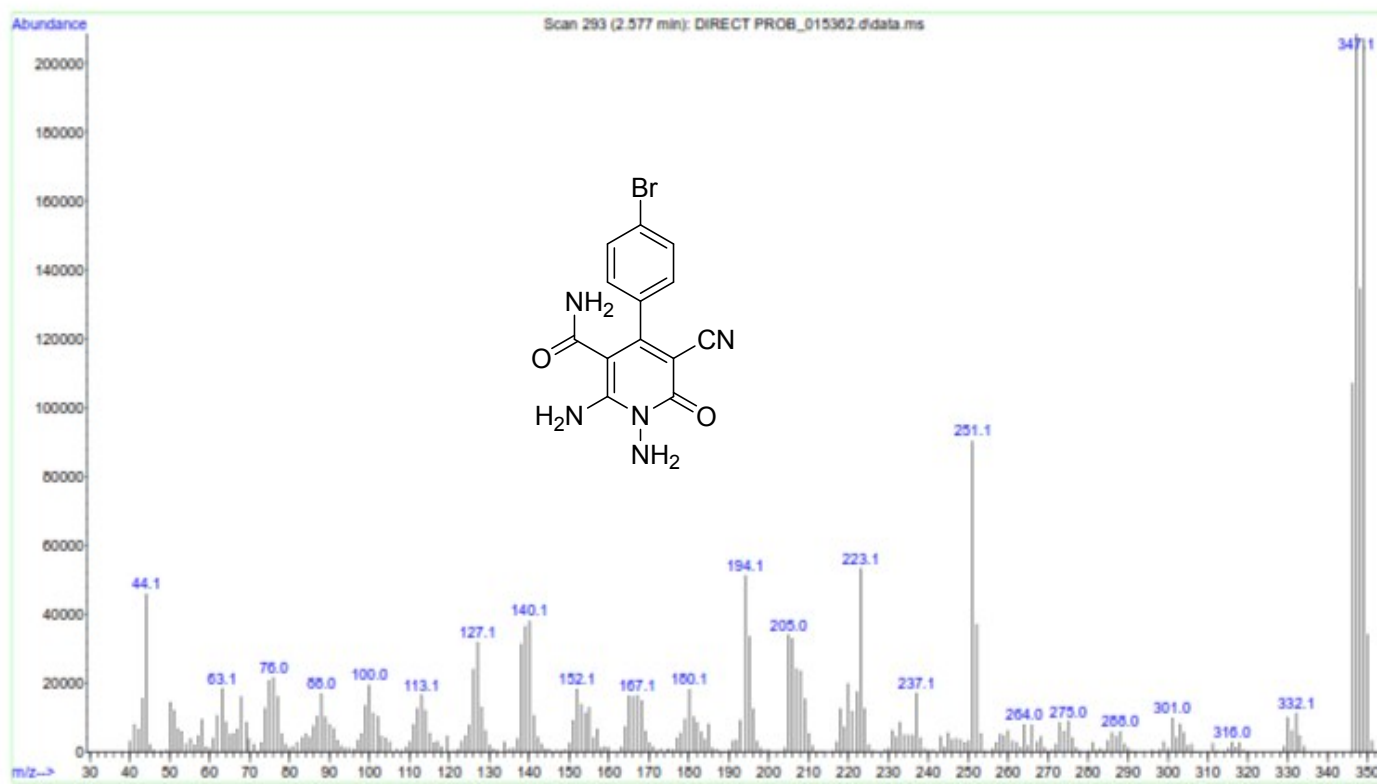
¹³C NMR of 5e

¹H NMR of 6a

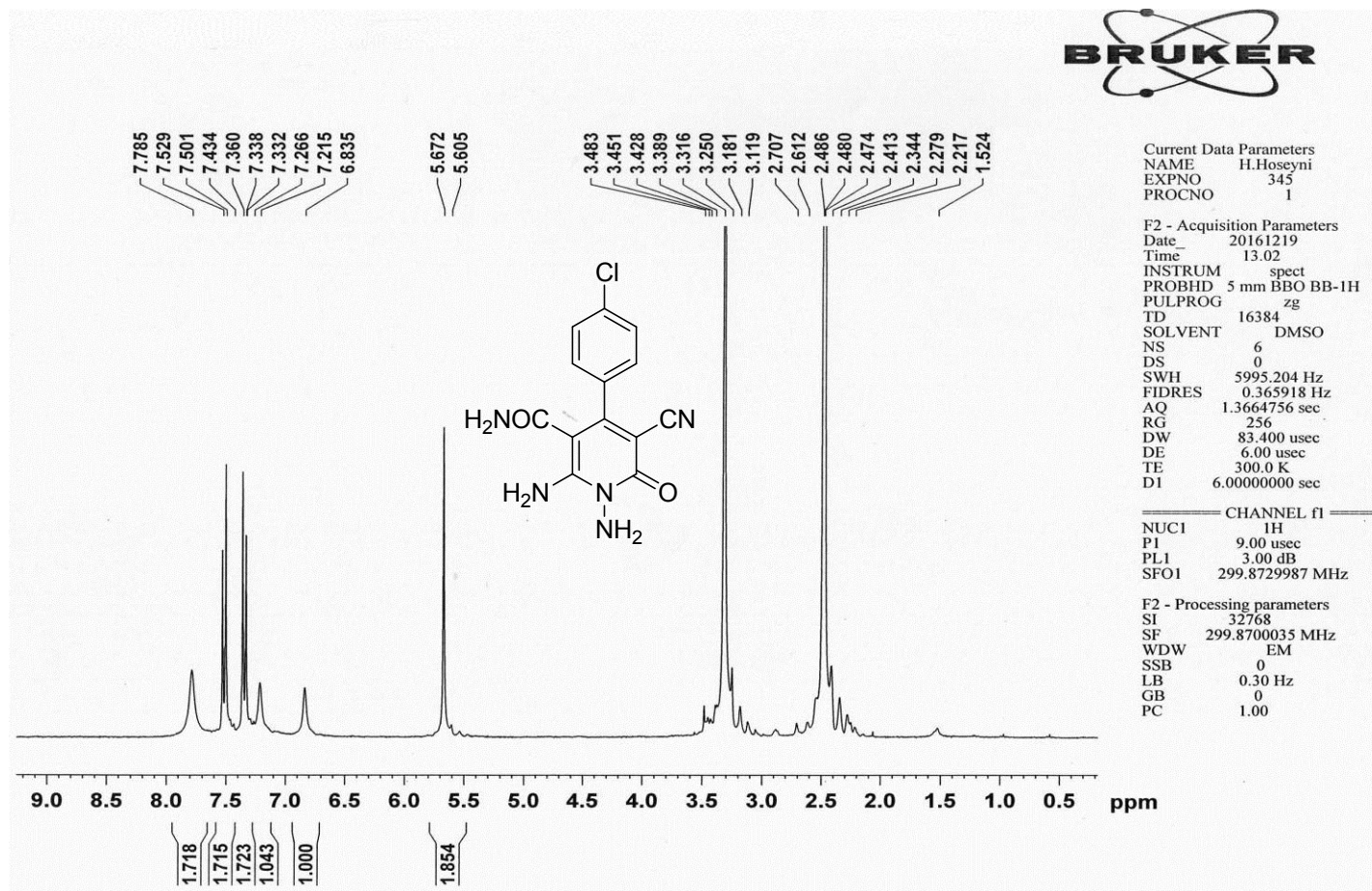


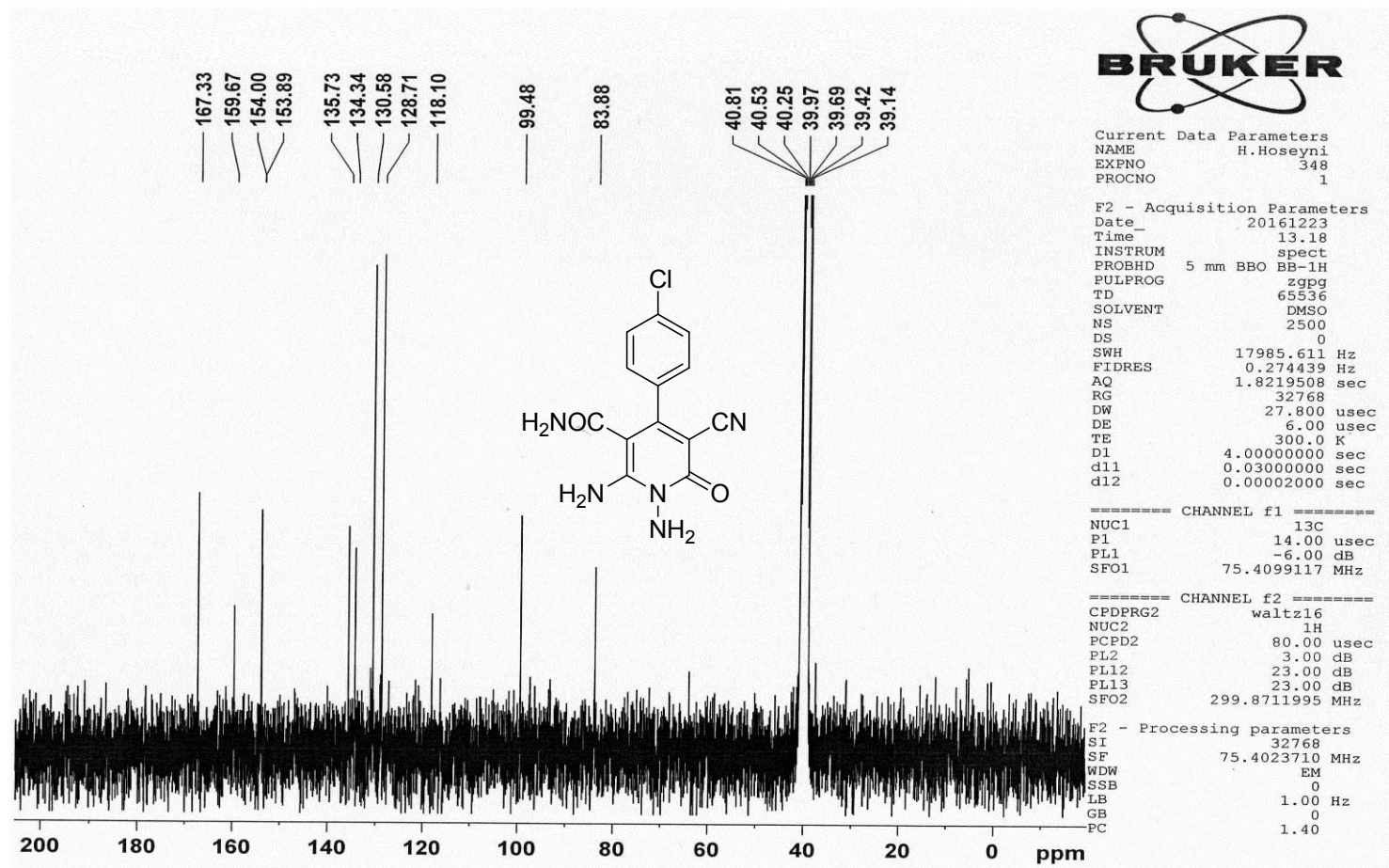


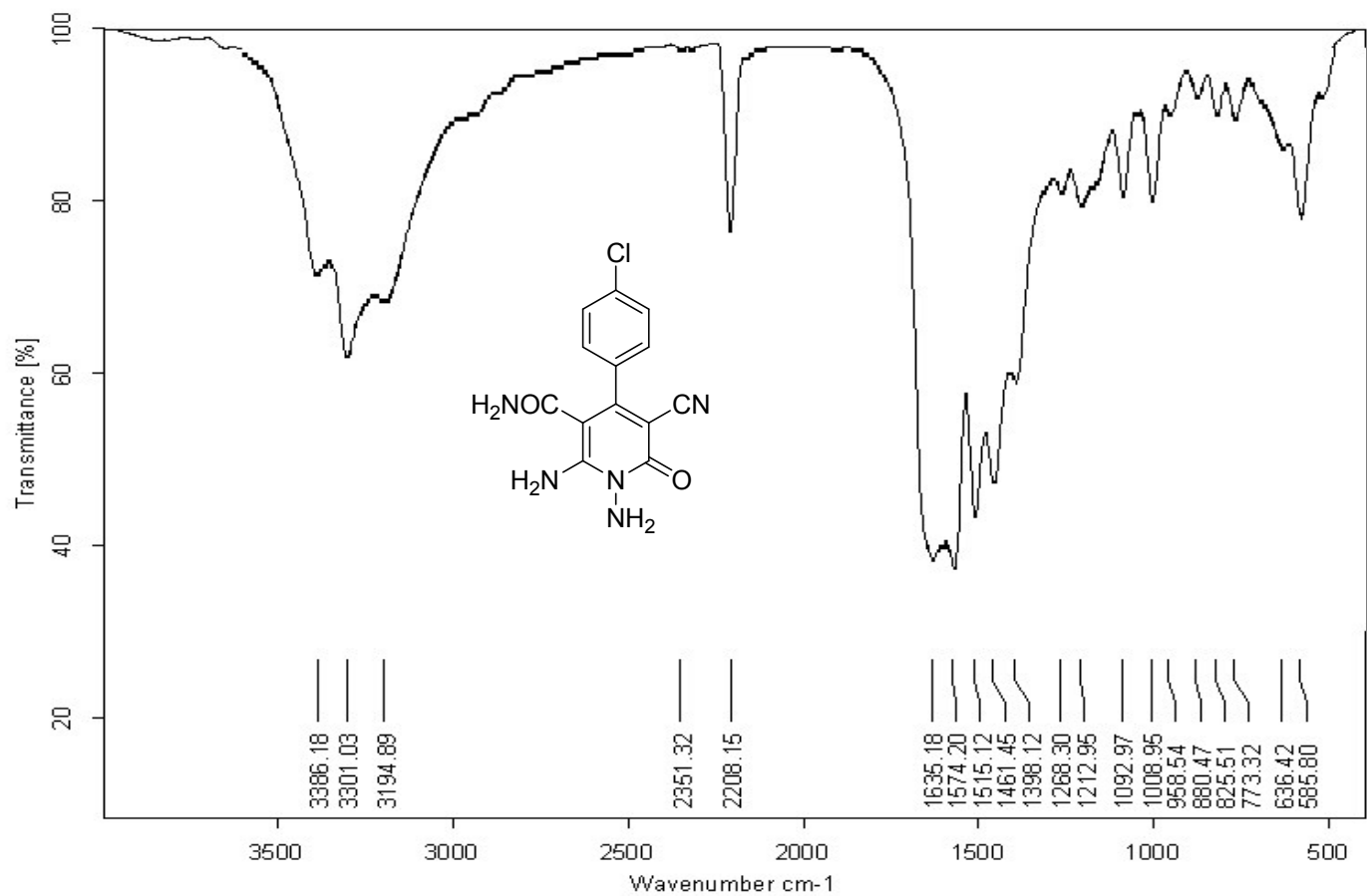
IR of 6a

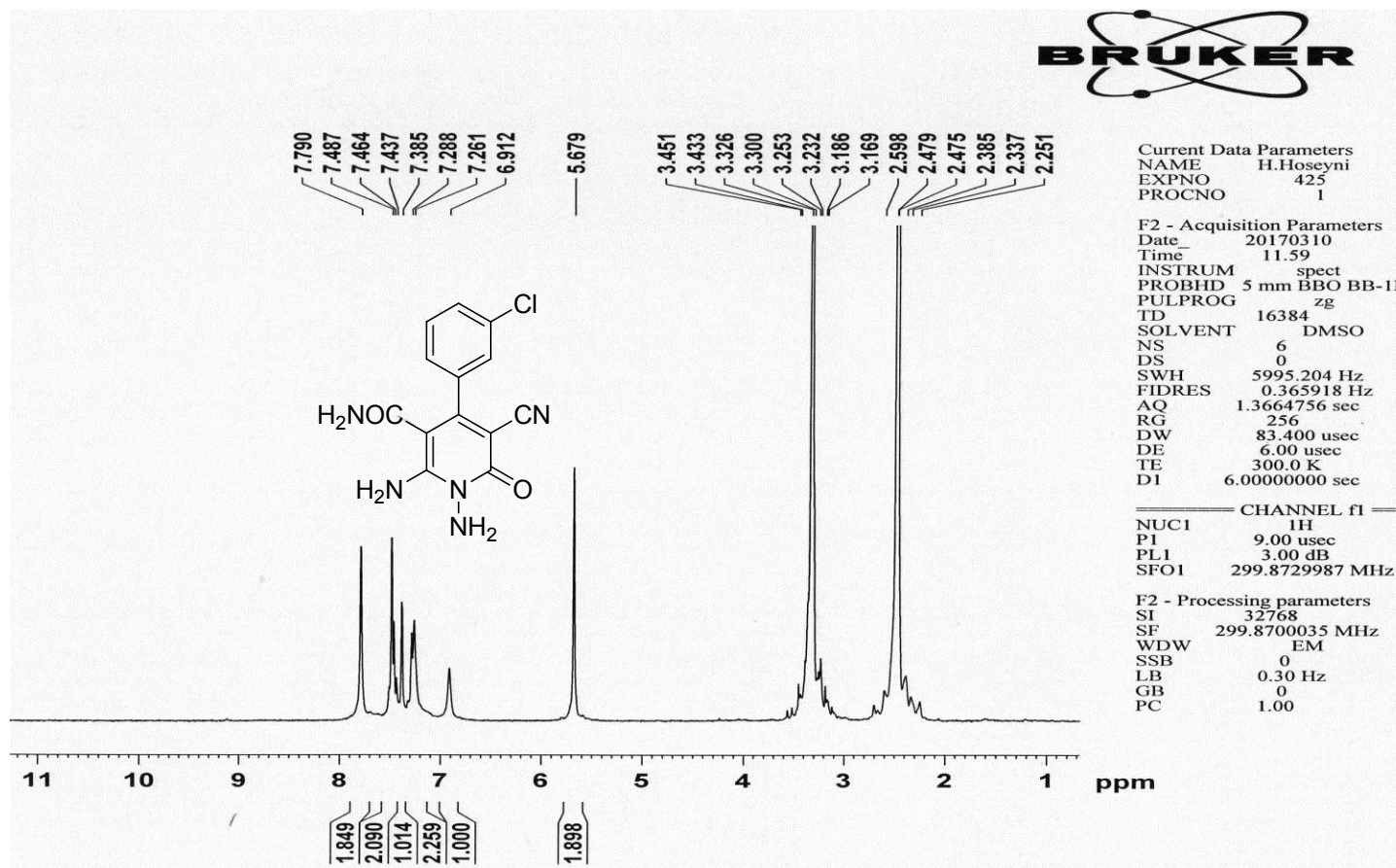


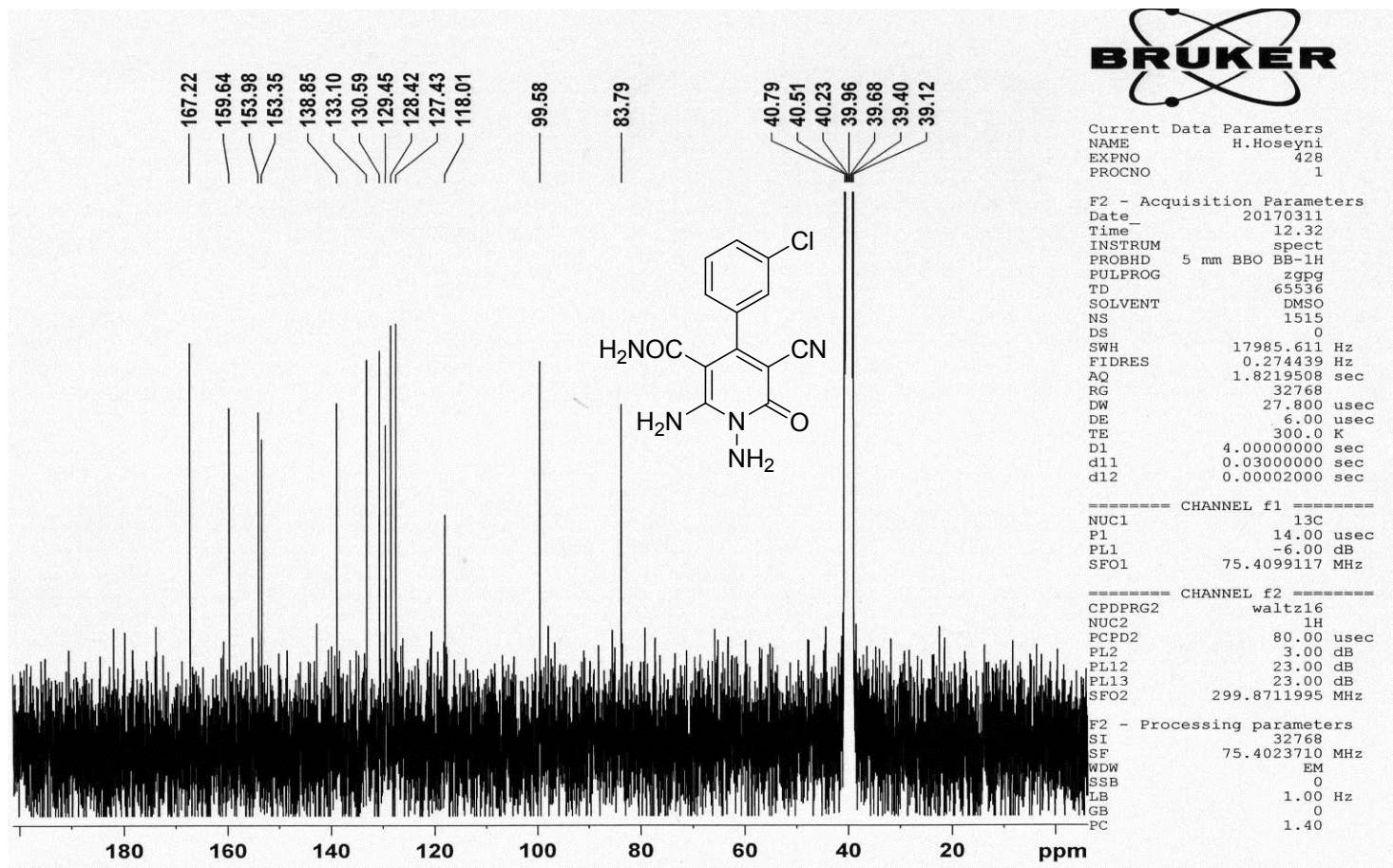
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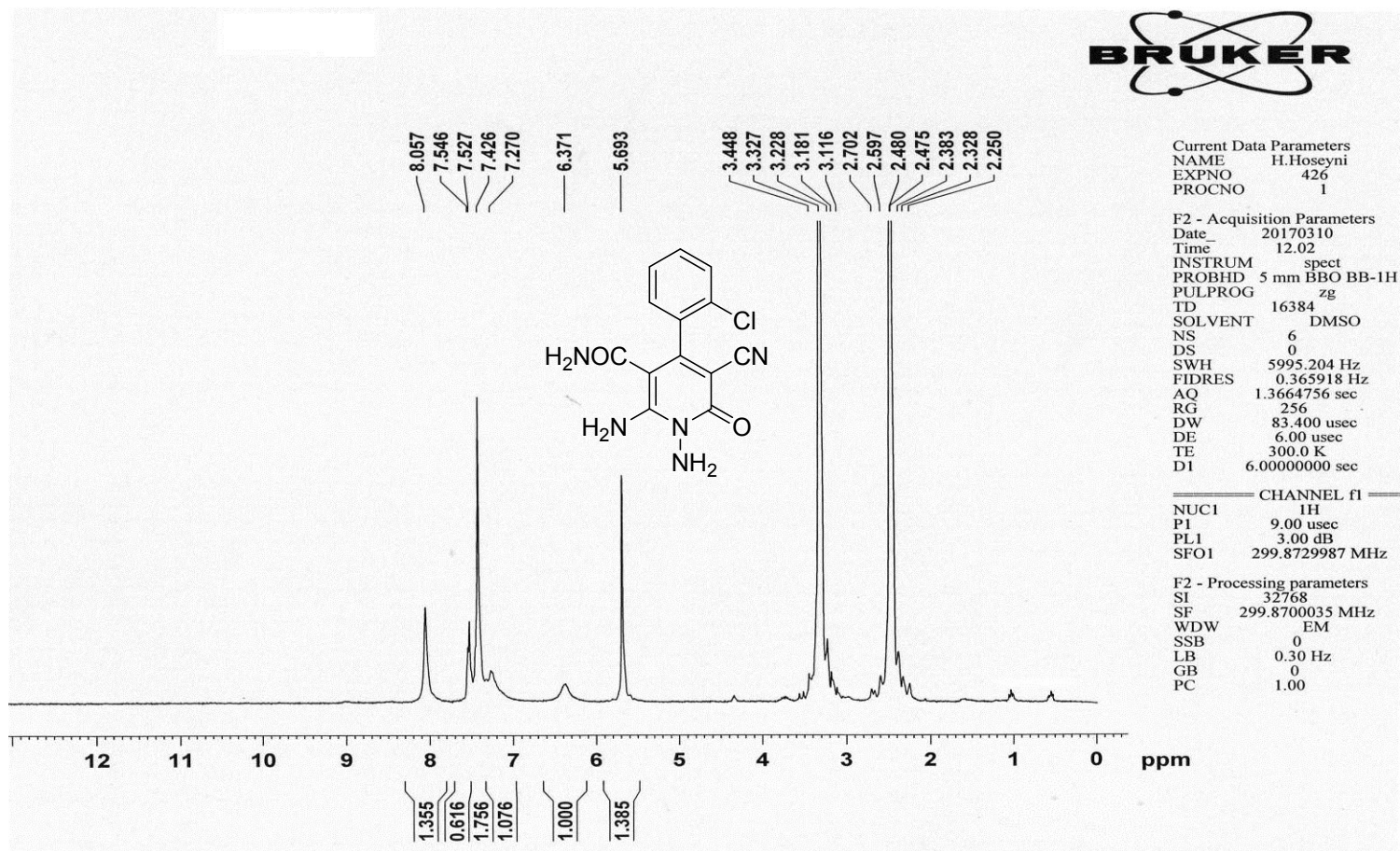


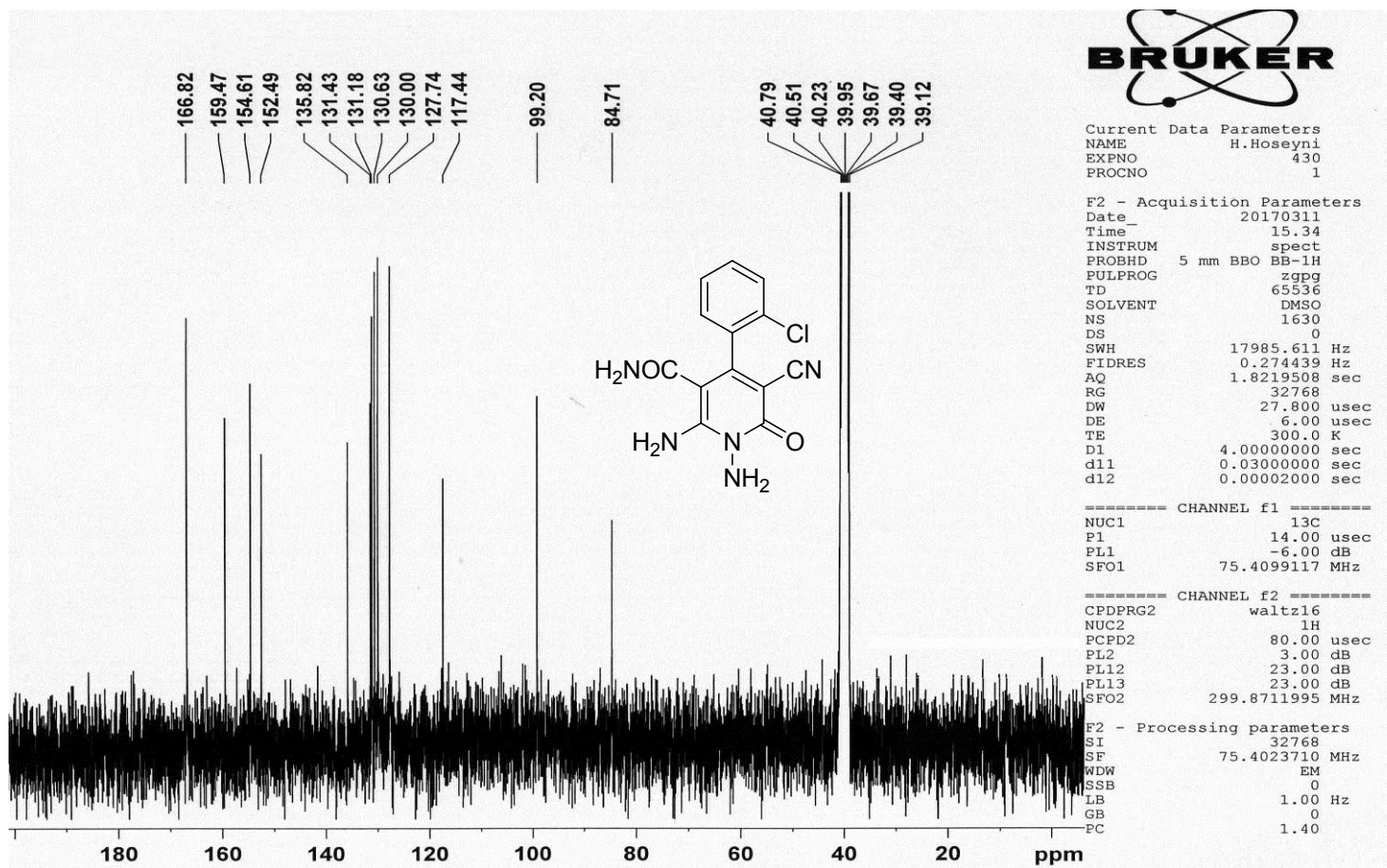
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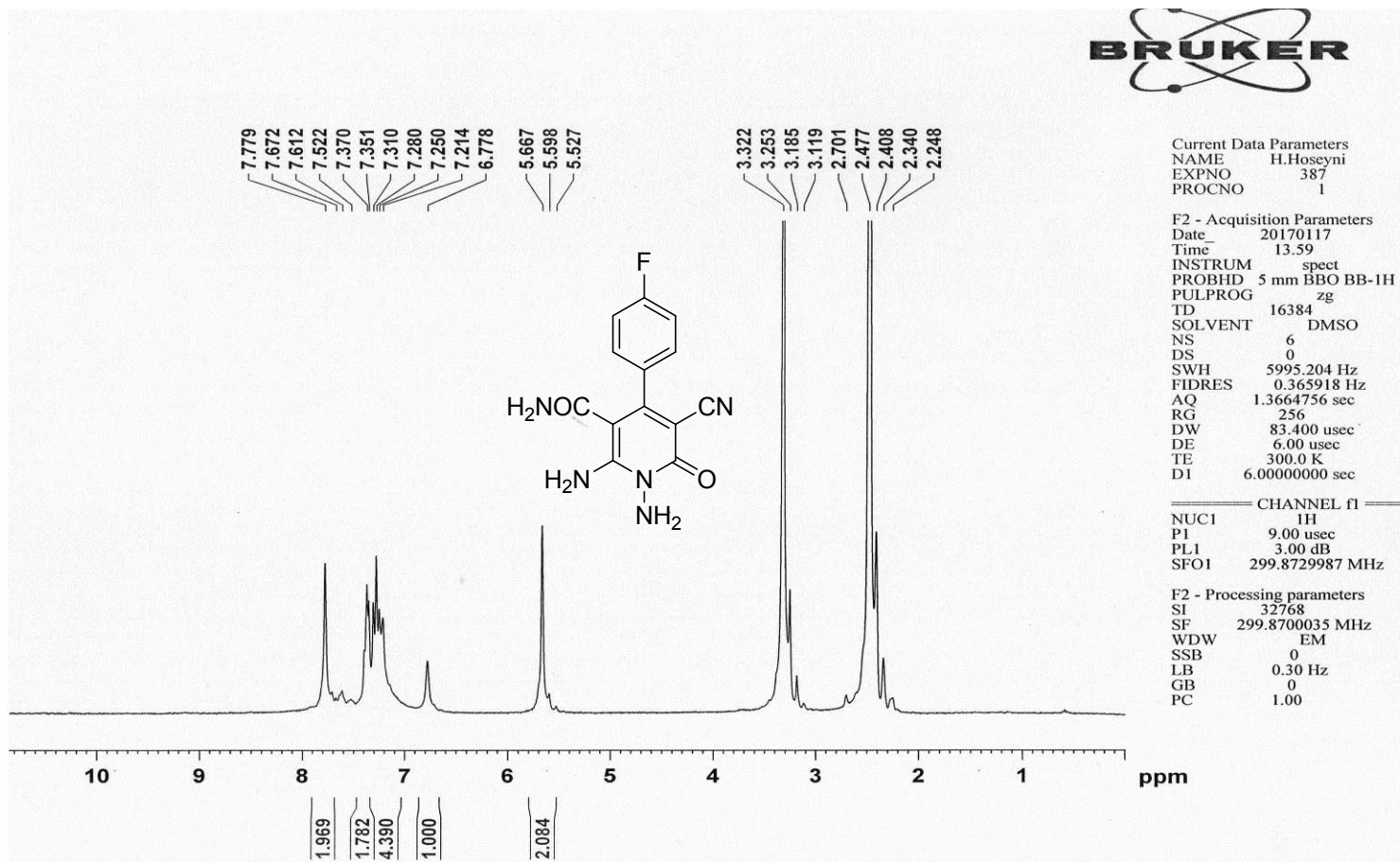
**IR of 6b**

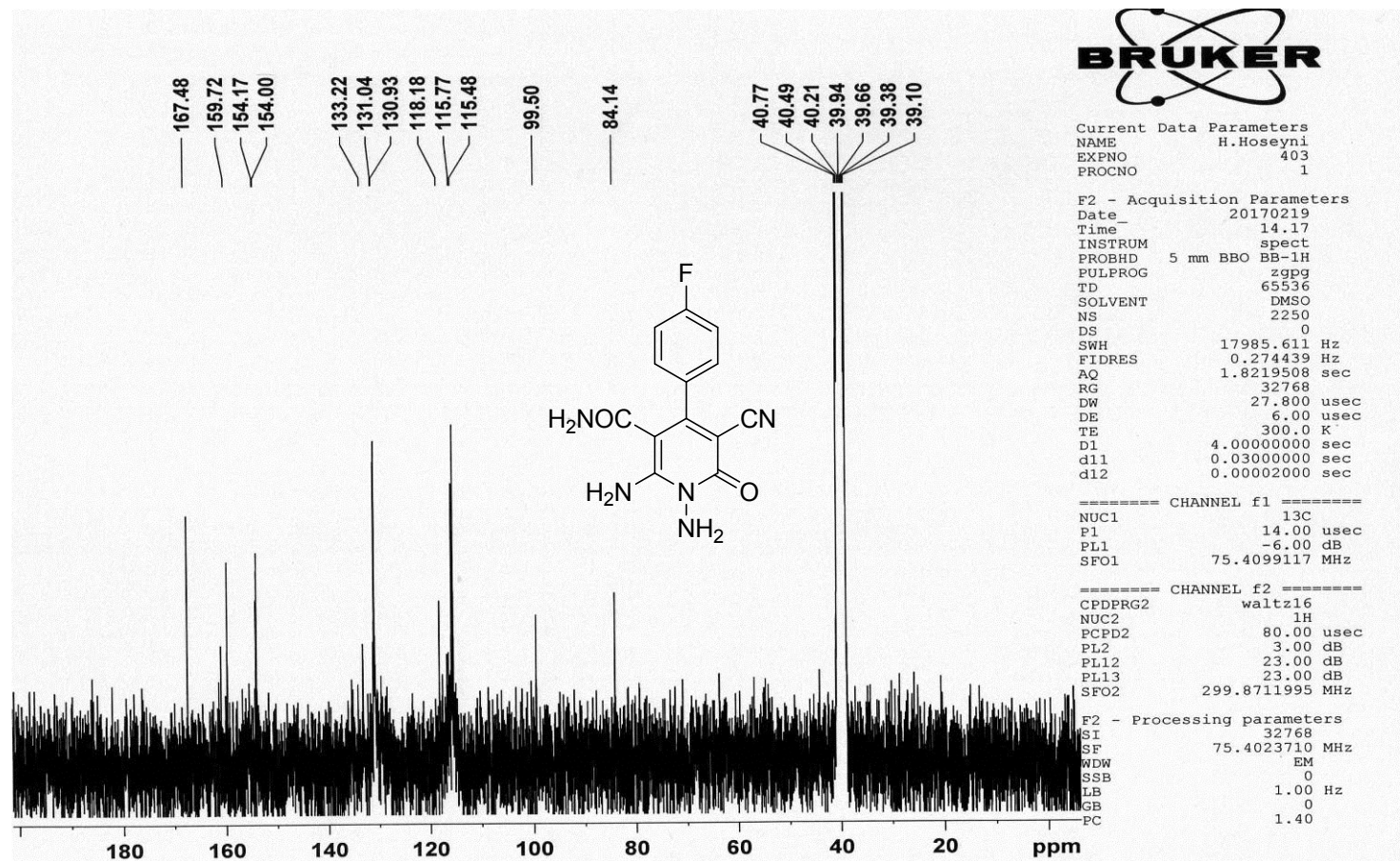
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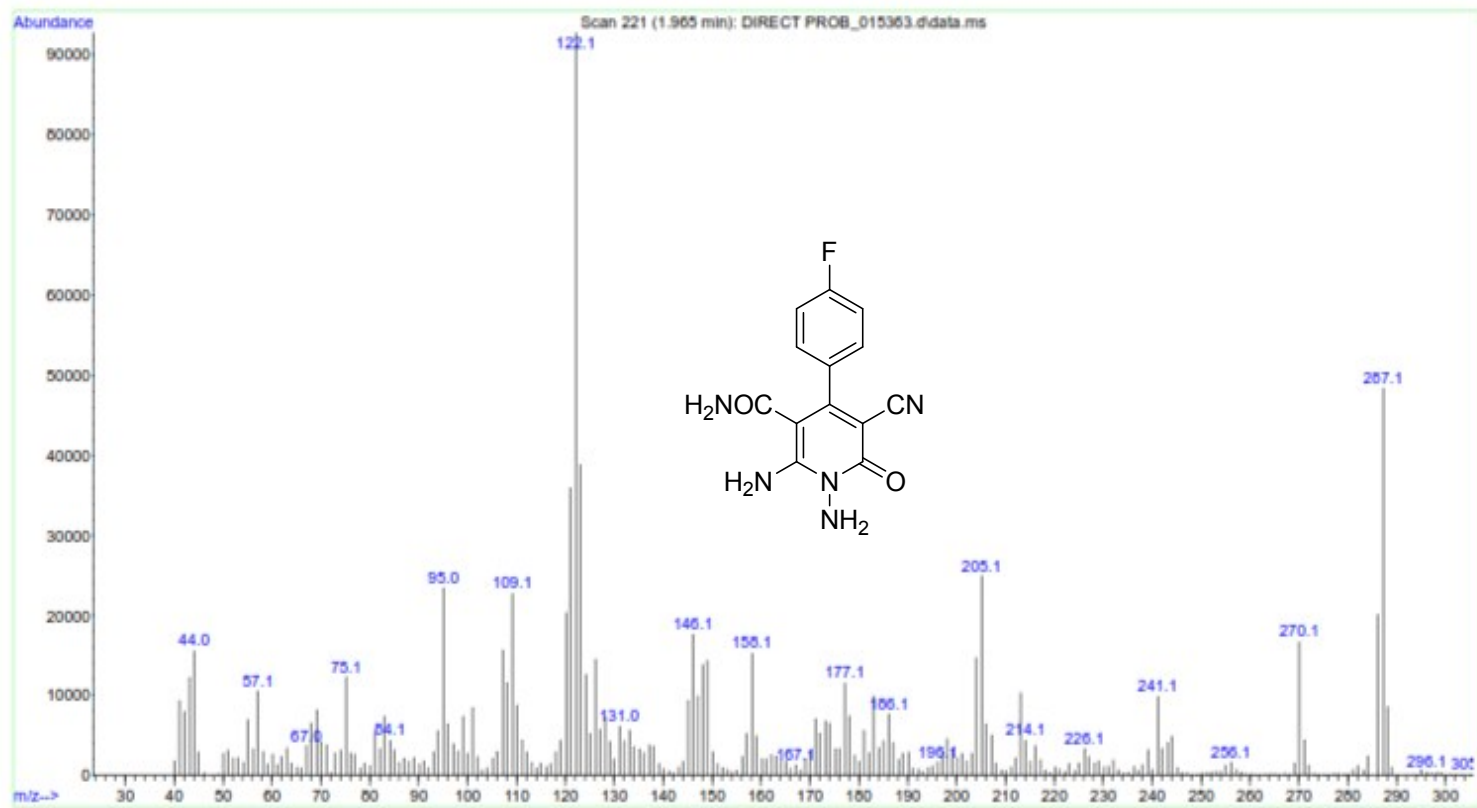
 ^{13}C NMR of 6c





¹H NMR of 6e

¹³C NMR of 6e



MS of 6e