Electronic Supplementary Material (ESI) for RSC Advances.

SUPPLEMENTARY INFORMATION

A Microwave-Assisted Highly Practical Chemoselective Esterification and Amidation of Carboxylic Acids

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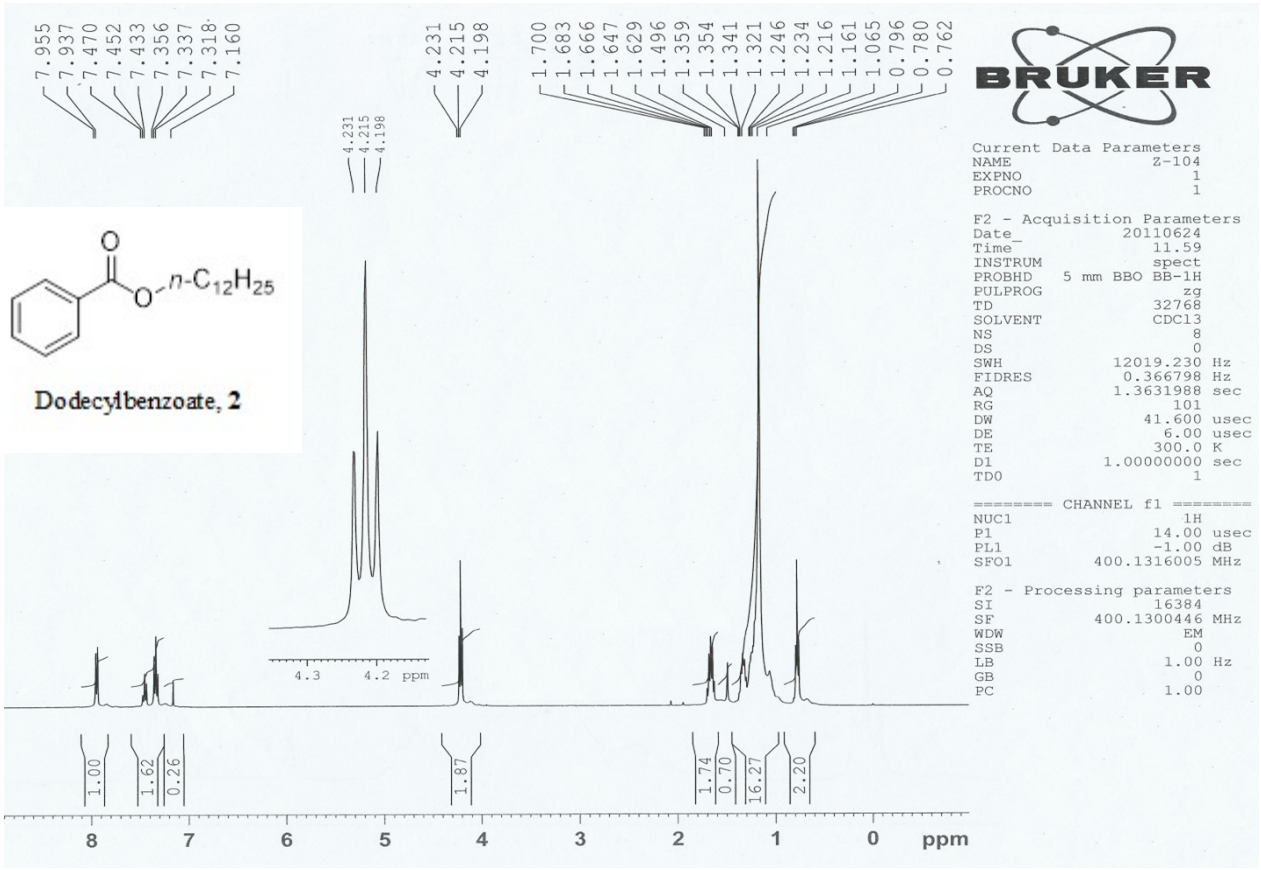
General Remarks

IR spectra were recorded on a Perkin–Elmer Spectrum One FTIR spectrometer. ^{1}H and ^{13}C NMR spectra were recorded on a Bruker (500 MHz, 400 MHz and 300 MHz) spectrometer using TMS as internal reference. Chemical shifts for 1H NMR spectra are reported (in parts per million) relative to internal tetramethylsilane (Me_4Si δ= 0.0 ppm) with $CDCl_3$ as solvents. ^{13}C NMR spectra were recorded at 125 MHz and 100 MHz. Chemical shifts for ^{13}C NMR spectra are reported (in parts per million) relative to internal tetramethylsilane (Me_4Si δ = 0.0 ppm) with $CDCl_3$ as solvent. ^{1}H NMR data are reported in the order of chemical shift, multiplicity (s = singlet, d = doublet, t = triplet, dd = doublet of doublet, and m = multiplet), number of protons, and coupling constant in hertz (Hz). Mass spectra were obtained from Waters ZQ 4000 mass spectrometer by the ESI method, while the elemental analyses of the complexes were performed on a Perkin–Elmer-2400 CHN/S analyzer. TLC plates were visualized by exposing in iodine chamber, UV-lamp or spraying with $KMnO_4$ and heating.



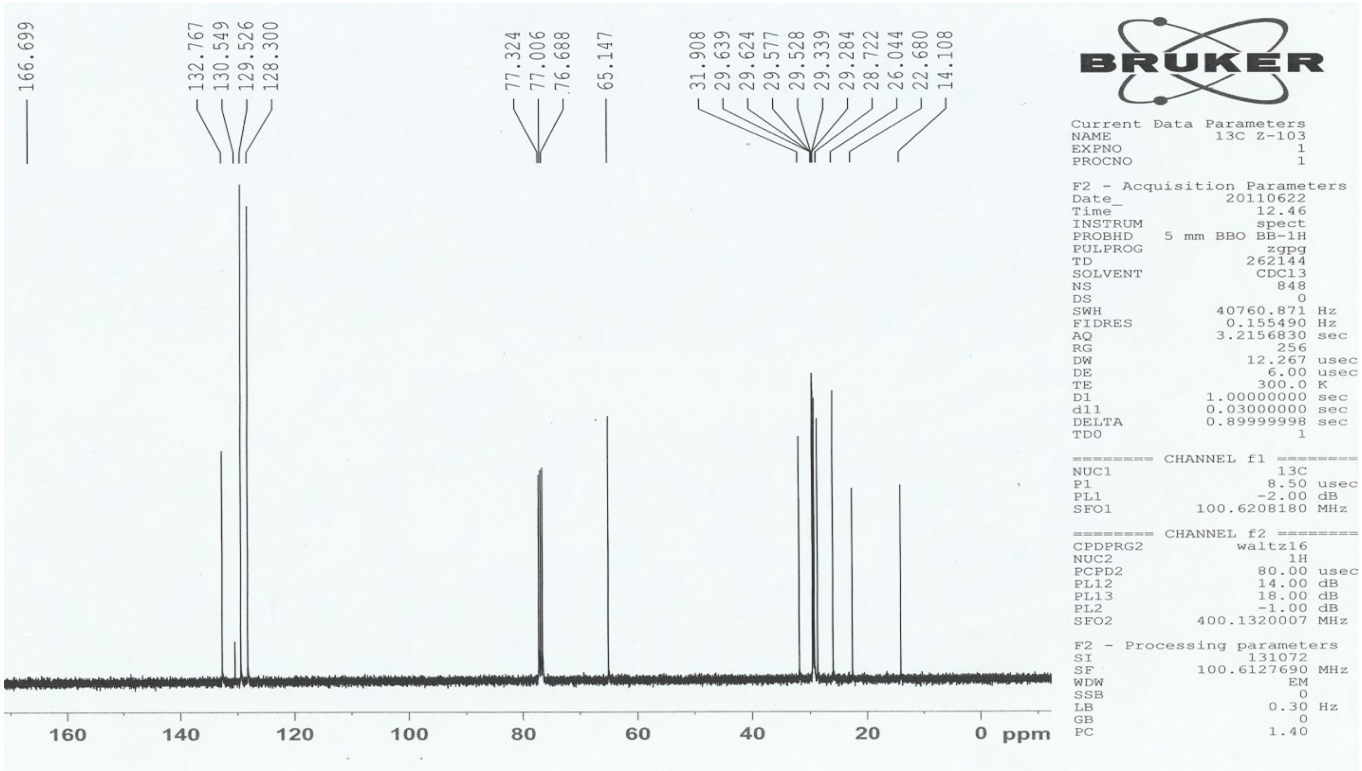


Fig: ^{1}H &^{13}C NMR of Dodecylbenzoate, **2**

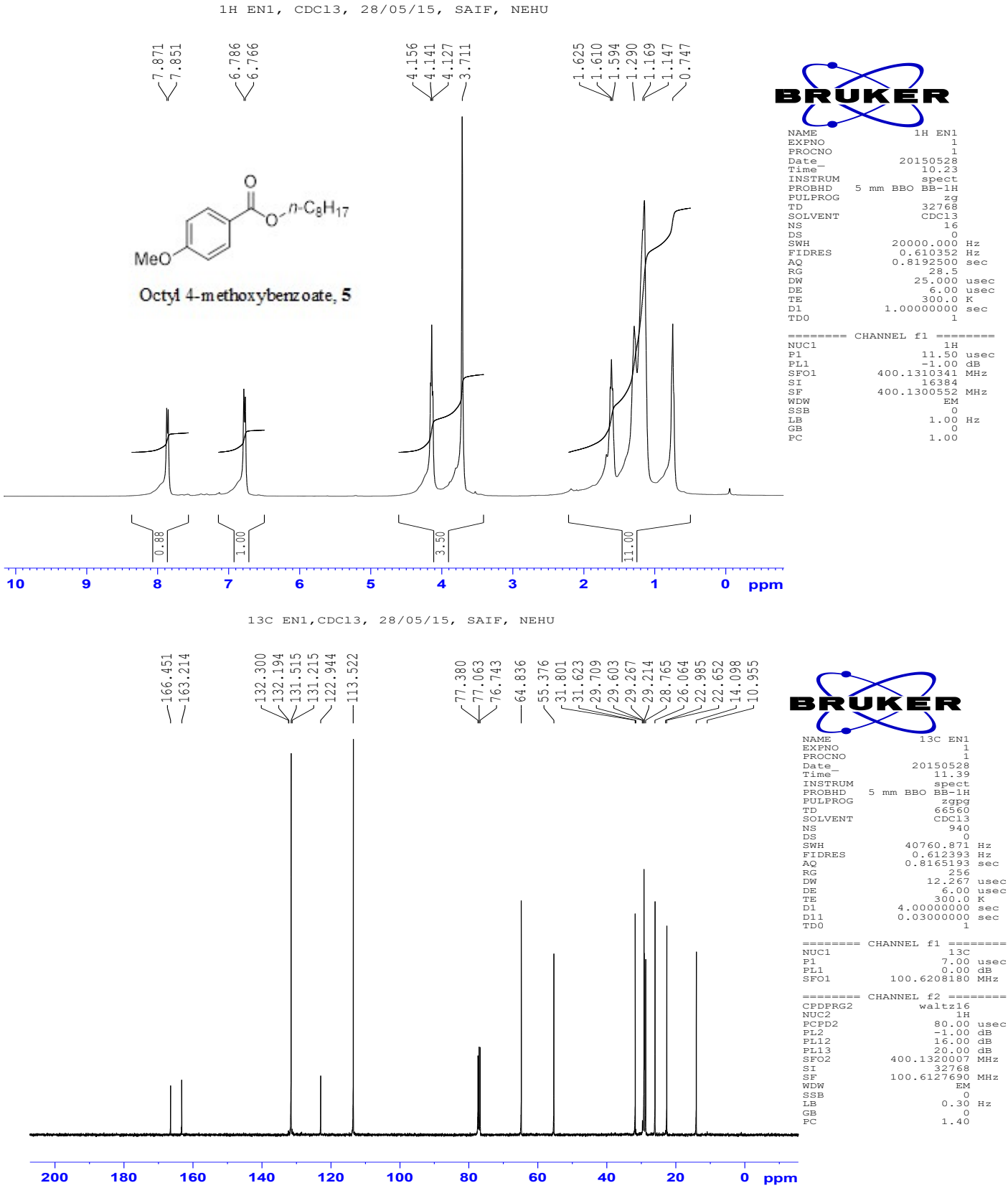
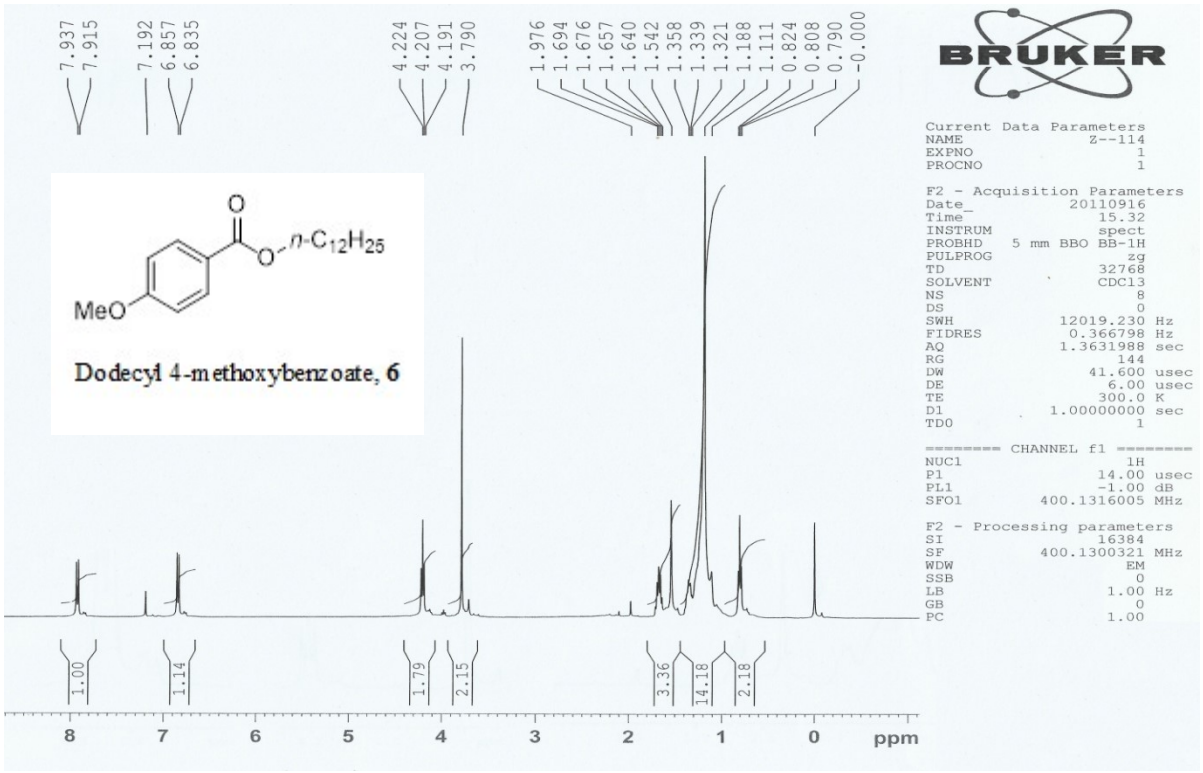


Fig: ^{1}H &^{13}C NMR of Octyl 4-methoxybenzoate . **5**



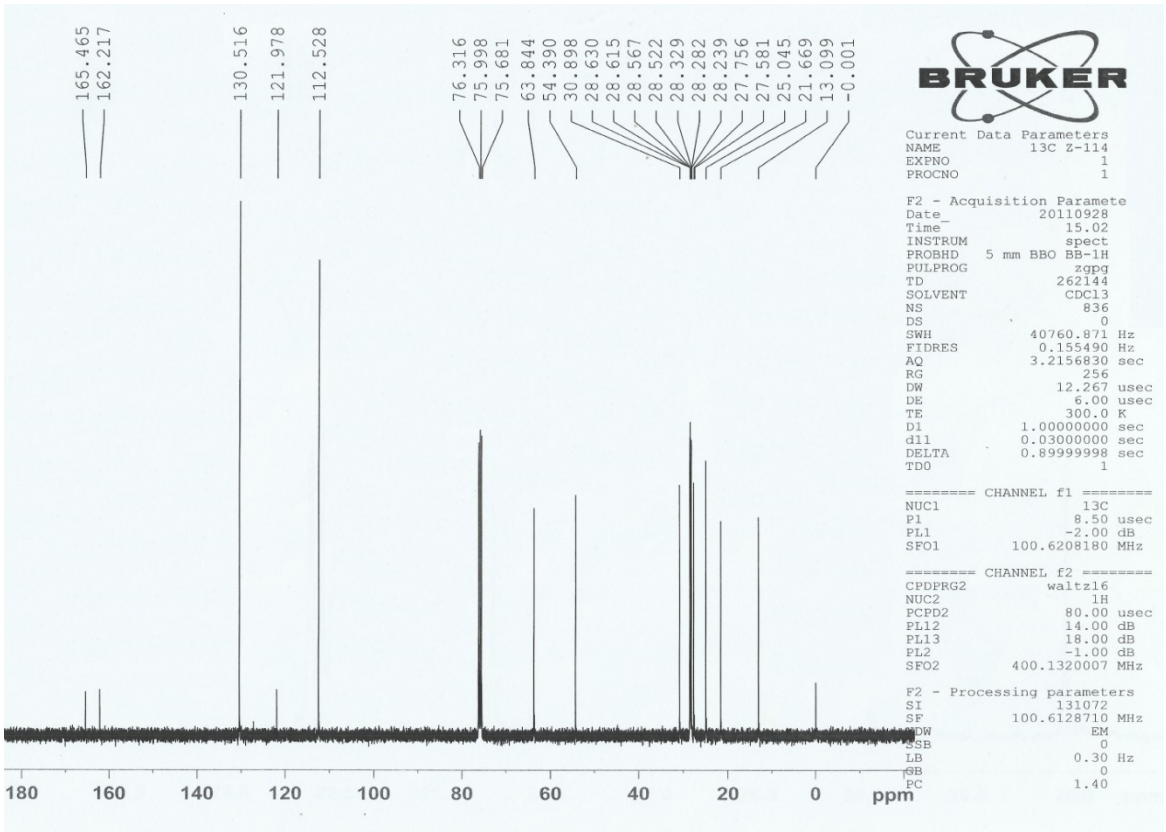


Fig: ^{1}H &^{13}C NMR of Dodecyl 4-methoxybenzoate, **6**

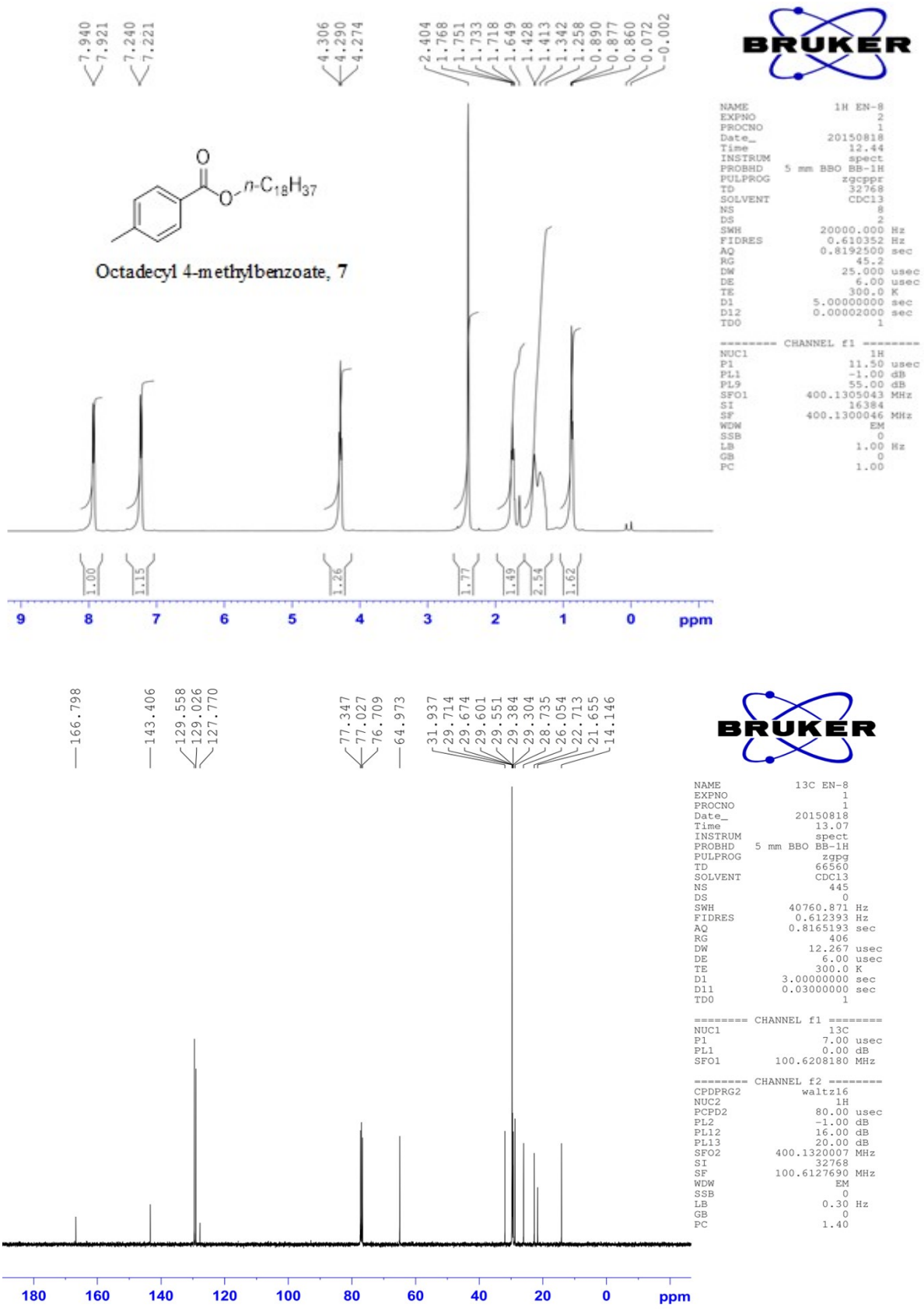
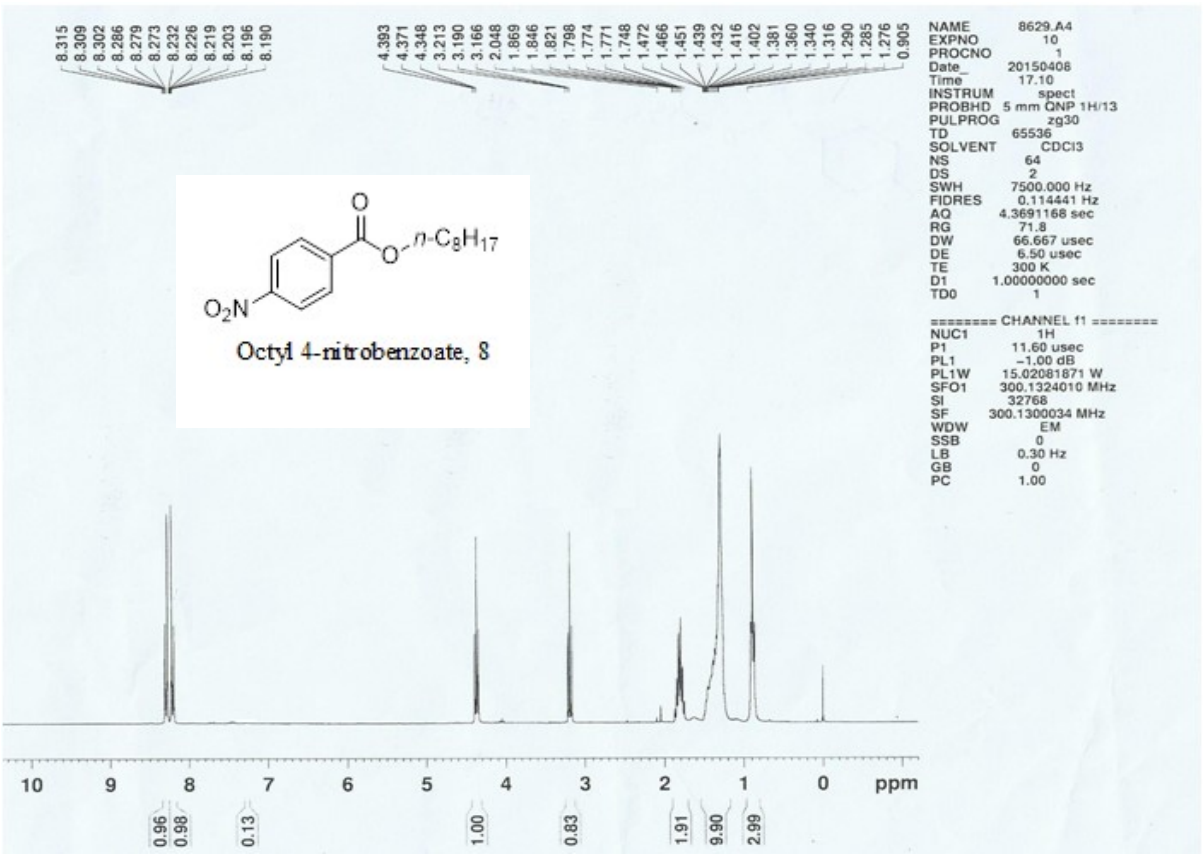


Fig: ^{1}H &^{13}C NMR ofOctadecyl4-methylbenzoate. **7**



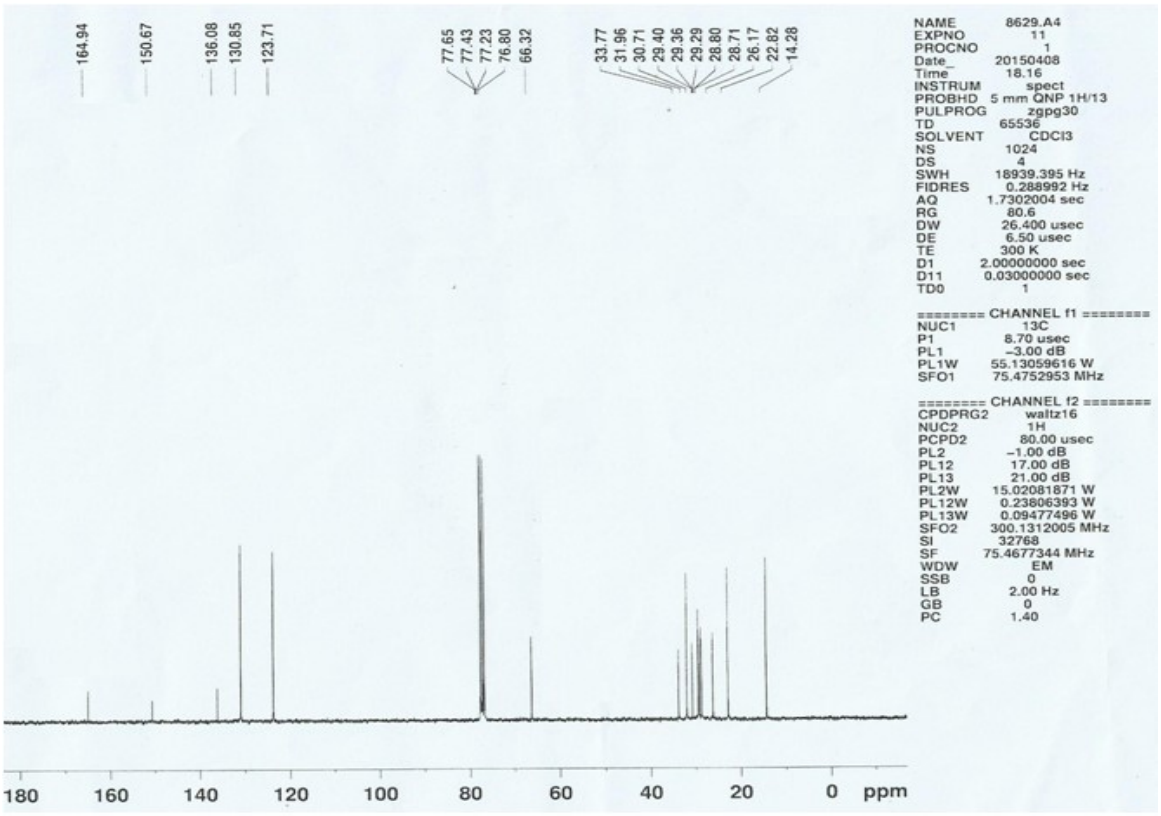
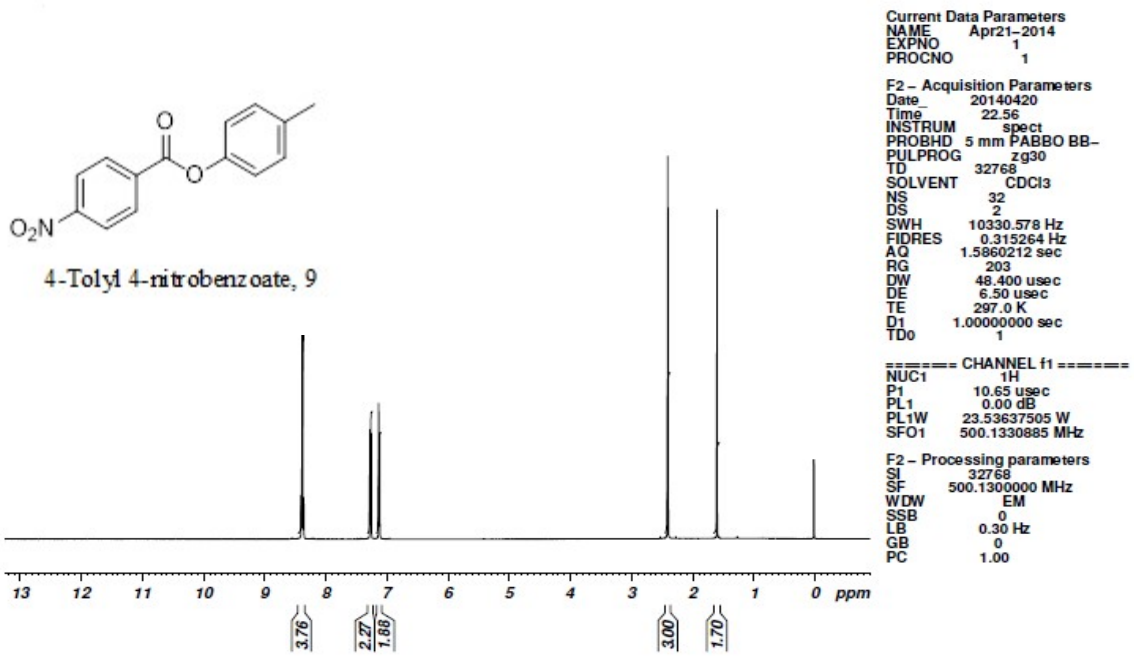


Fig: ^{1}H &^{13}C NMR of Octyl 4-nitrobenzoate, **8**



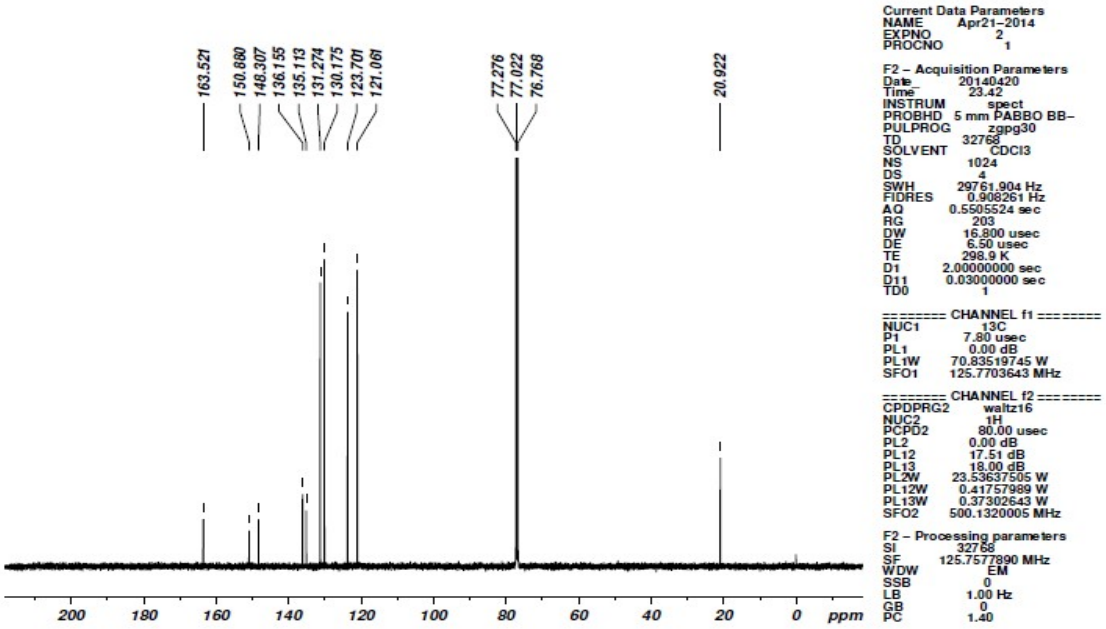
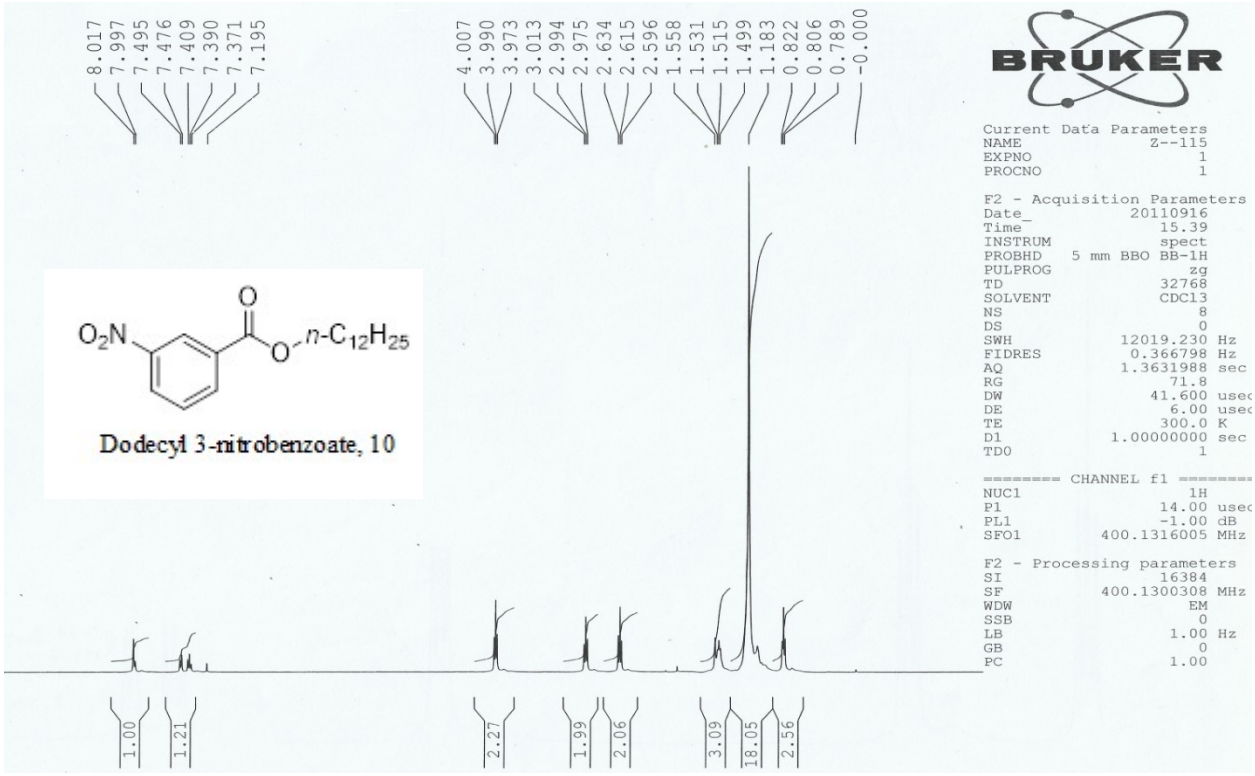


Fig: ^{1}H &^{13}C NMR of4-Tolyl 4-nitrobenzoate, **9**



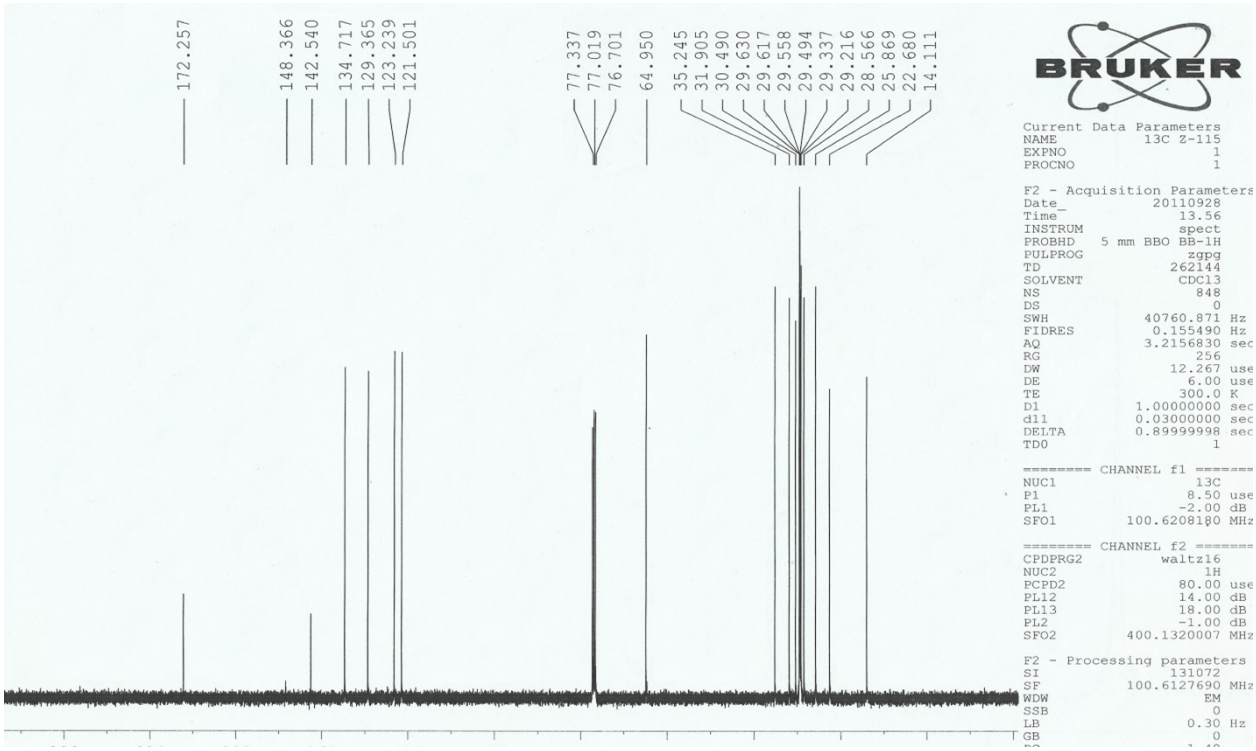
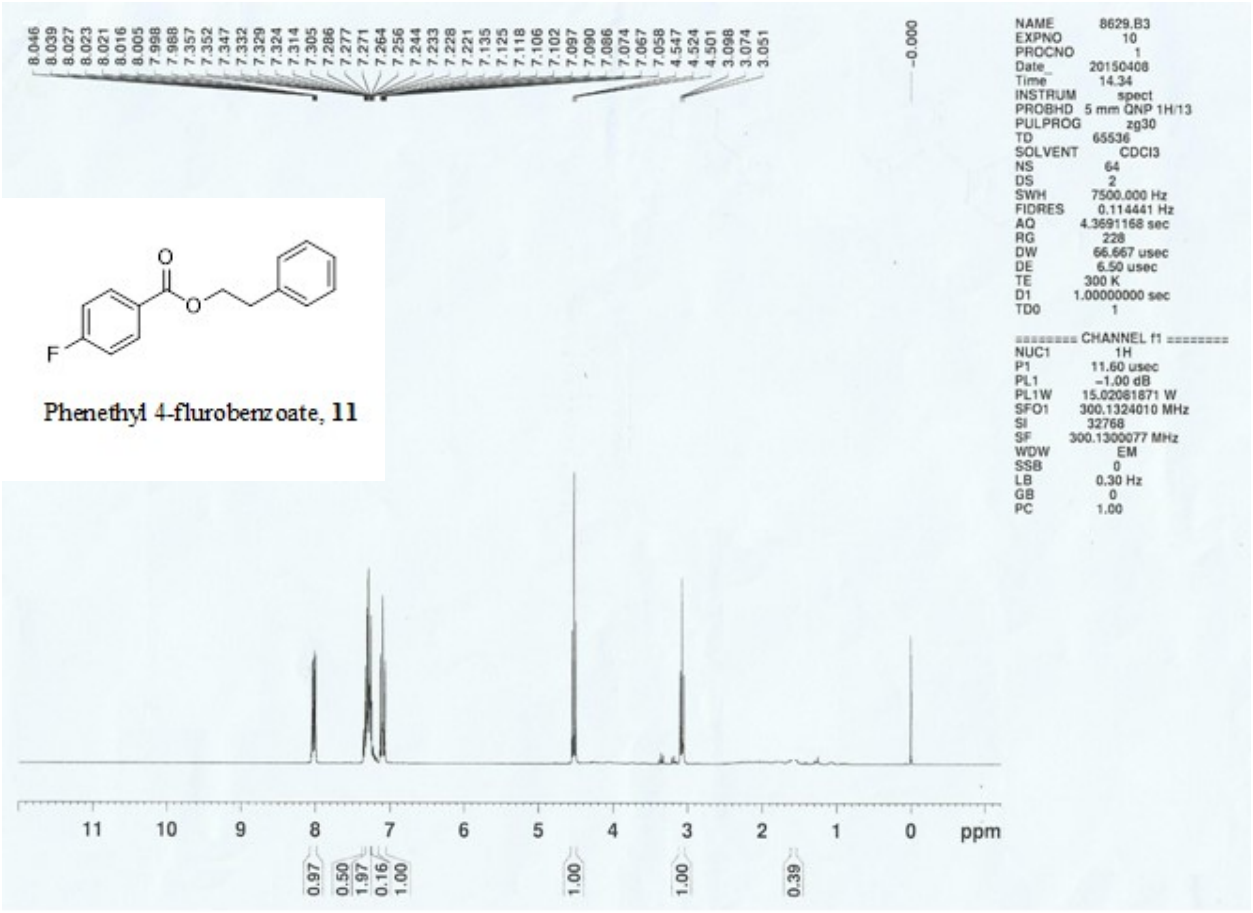


Fig: ^{1}H &^{13}C NMR ofDodecyl 3-nitrobenzoate, **10**



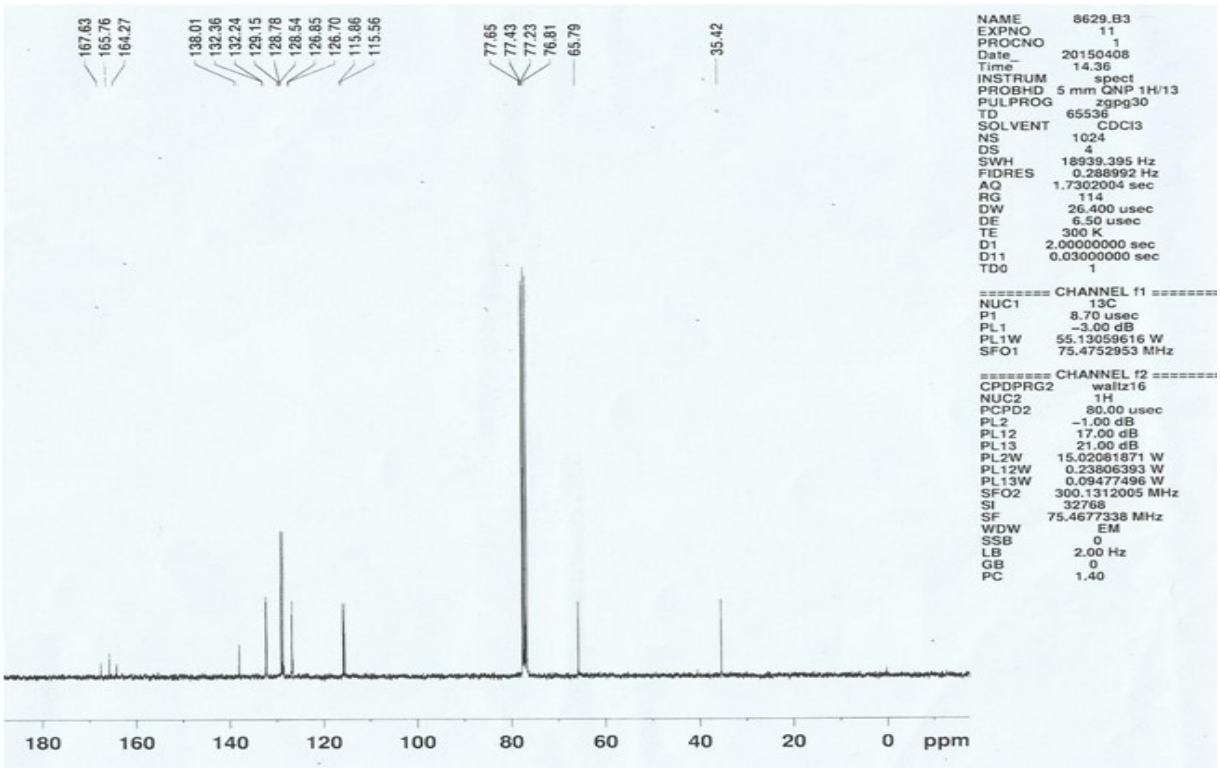


Fig: ^{1}H &^{13}C NMR of Phenethyl 4-flurobenzoate, **11**

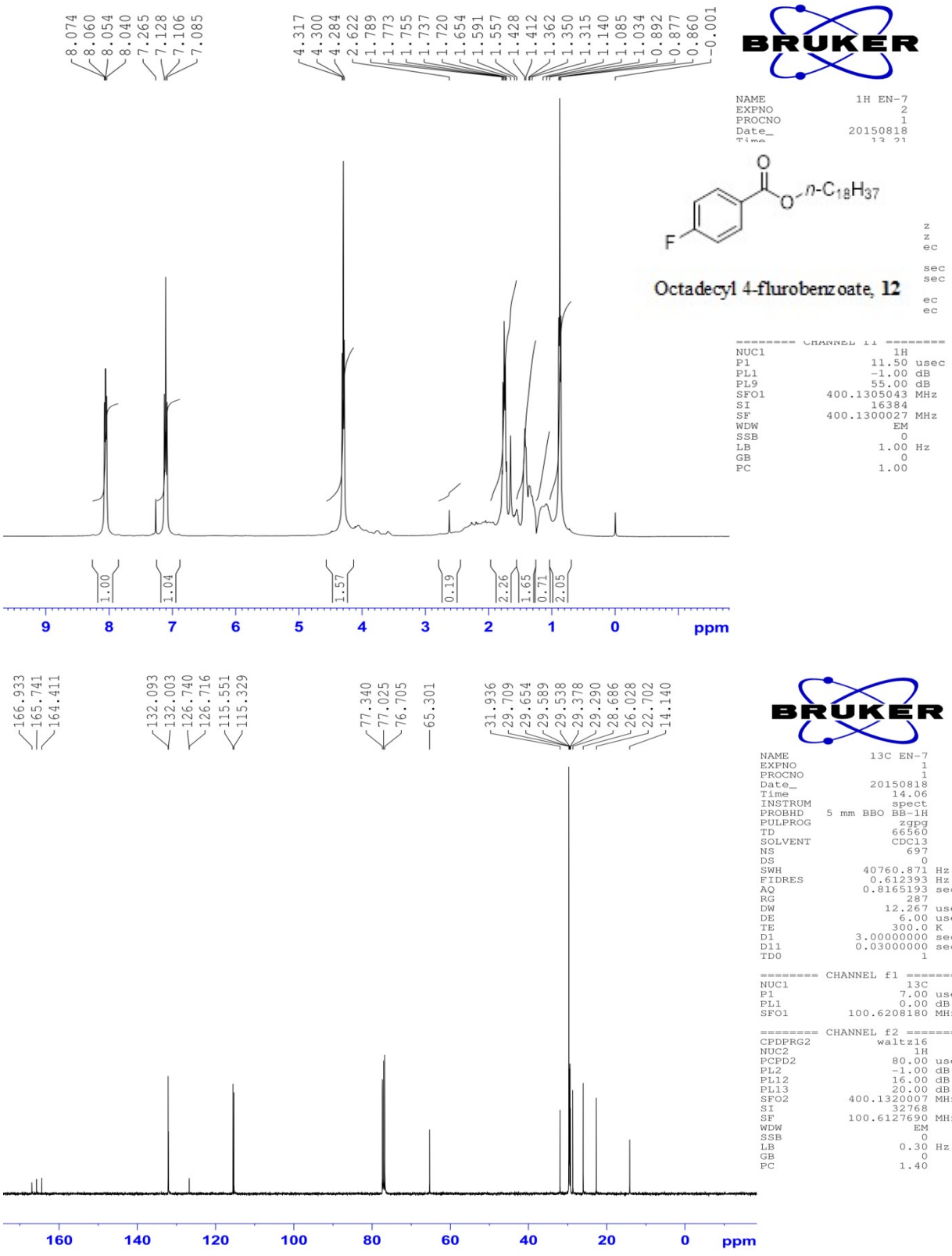


Fig: ^{1}H &^{13}C NMR ofOctadecyl 4- flurobenzoate, **12**

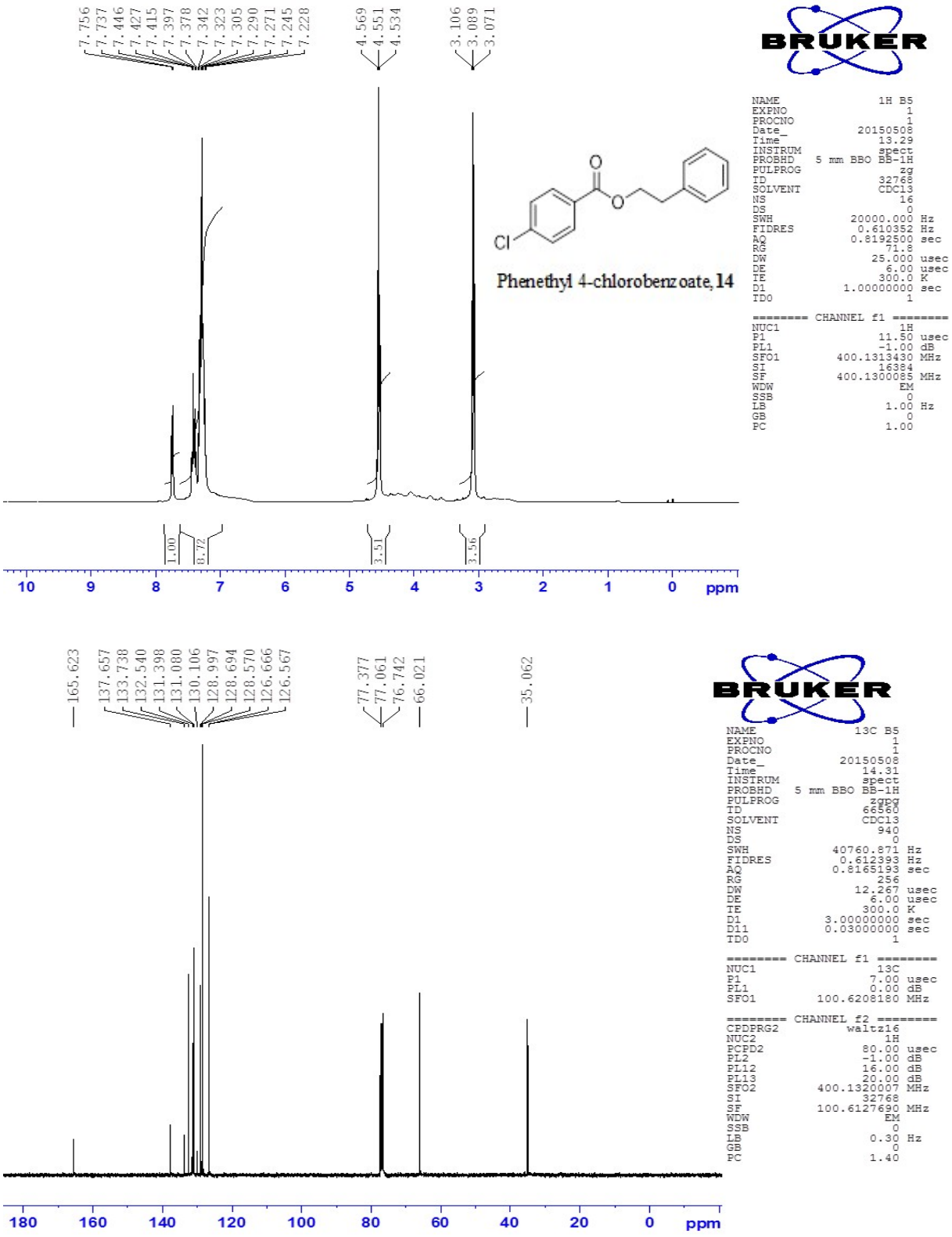


Fig: ^{1}H &^{13}C NMR ofPhenethyl4-chlorobenzoate, **14**

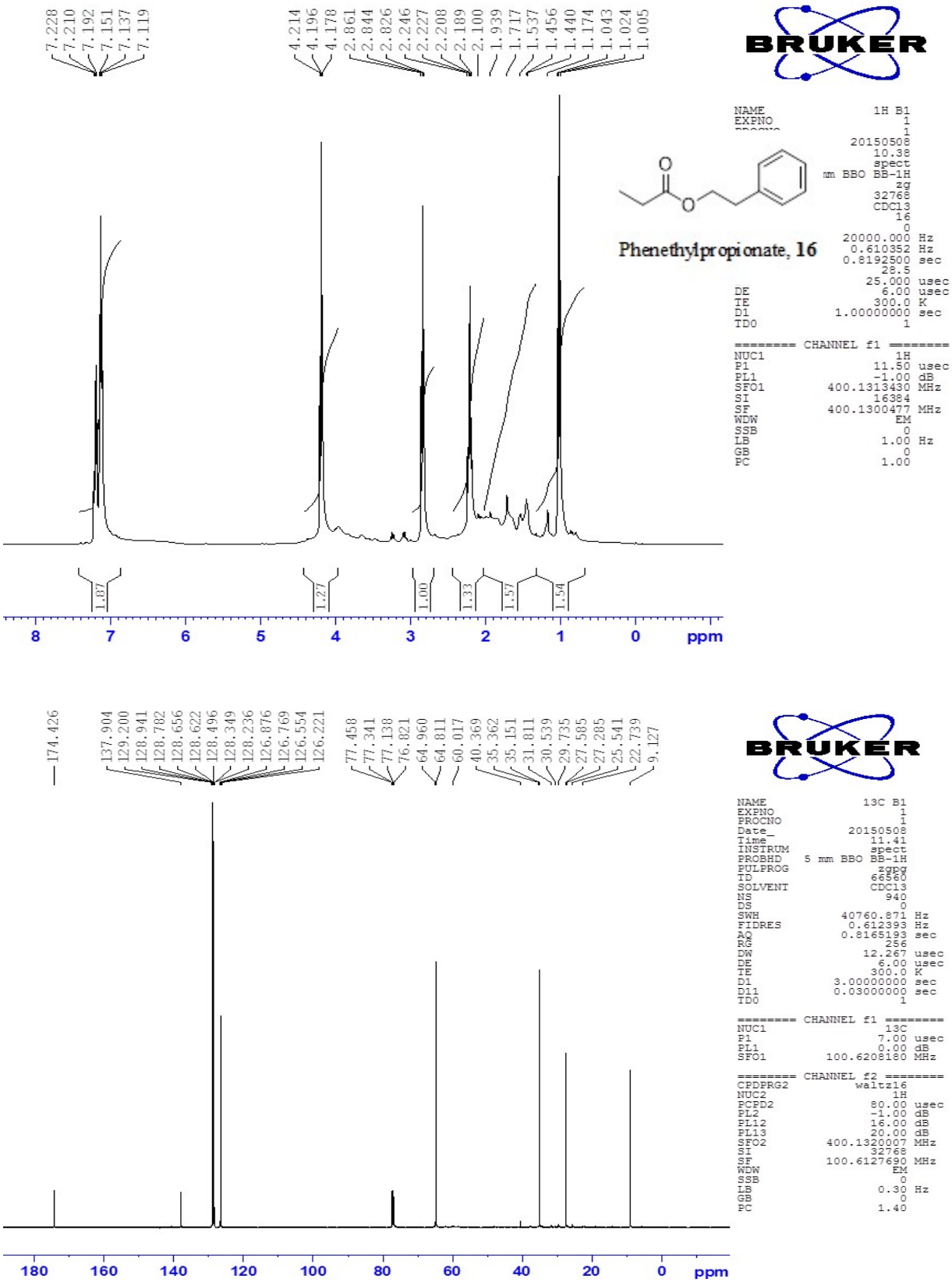


Fig: ^{1}H &^{13}C NMR ofPhenethylpropionate, **16**

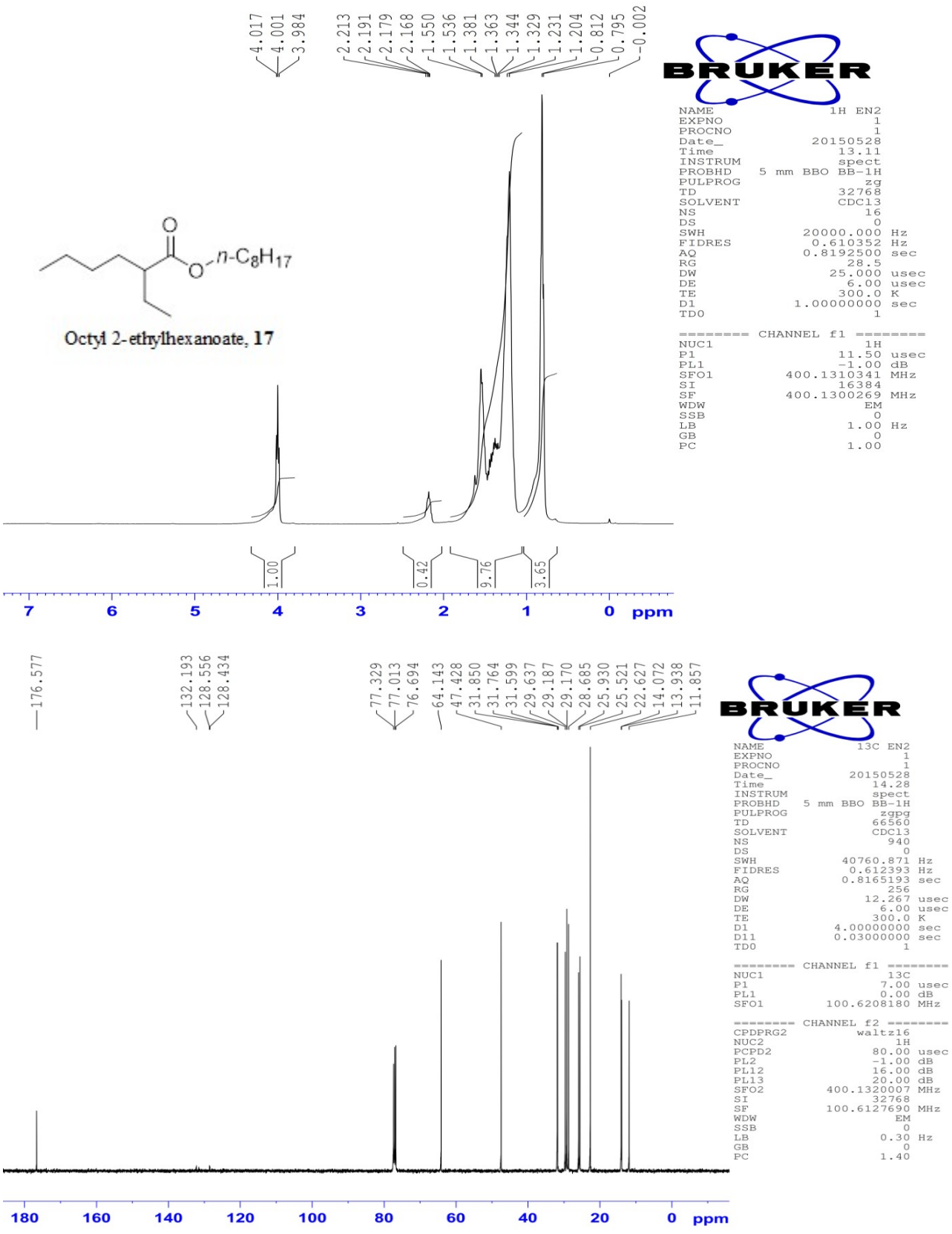
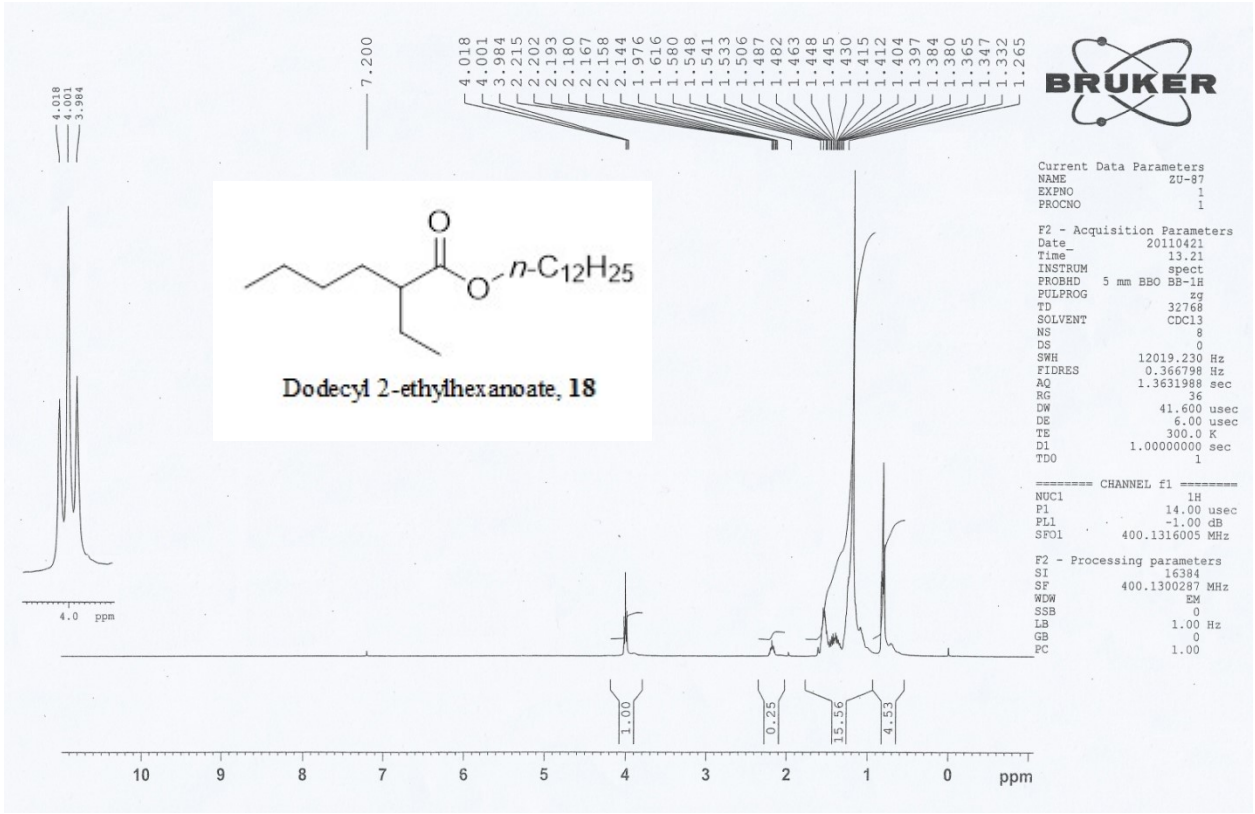


Fig: ^{1}H &^{13}C NMR of Octyl 2-ethylhexanoate, **17**



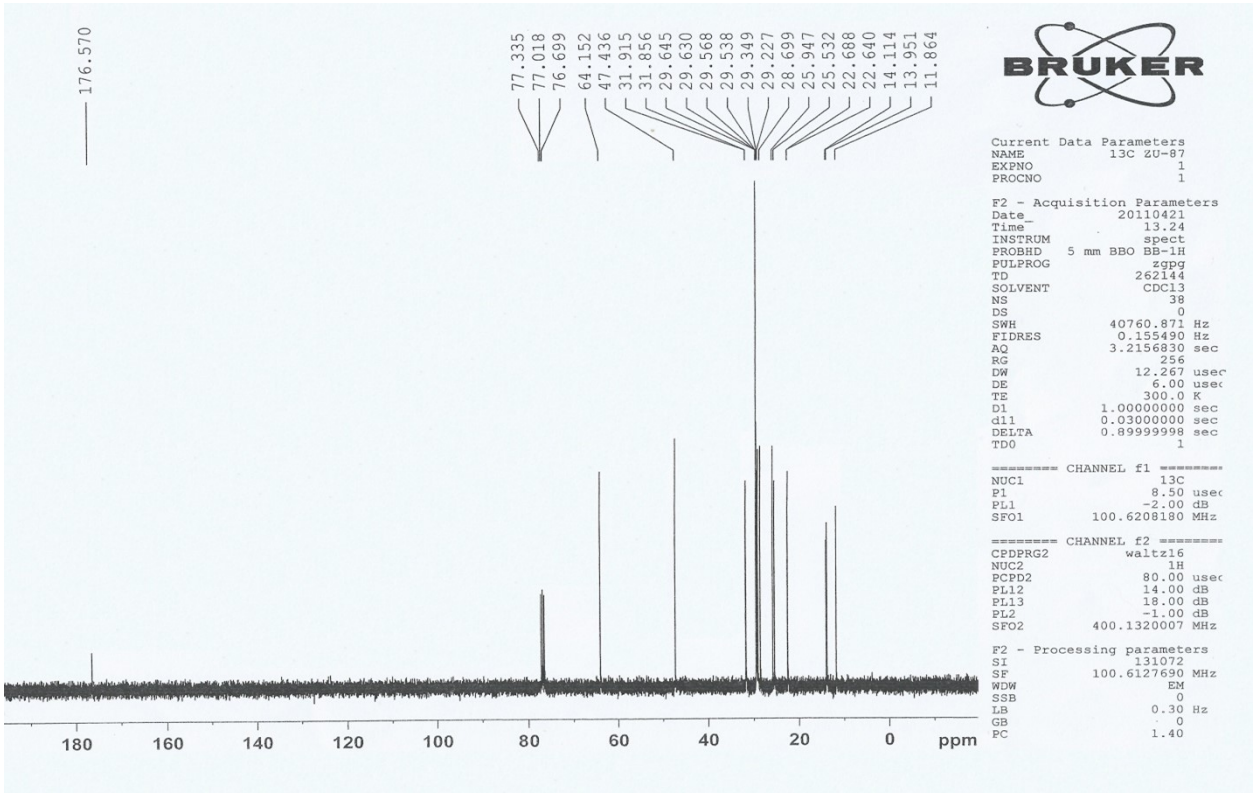


Fig: ^{1}H &^{13}C NMR of Dodecyl 2-ethylhexanoate, **18**

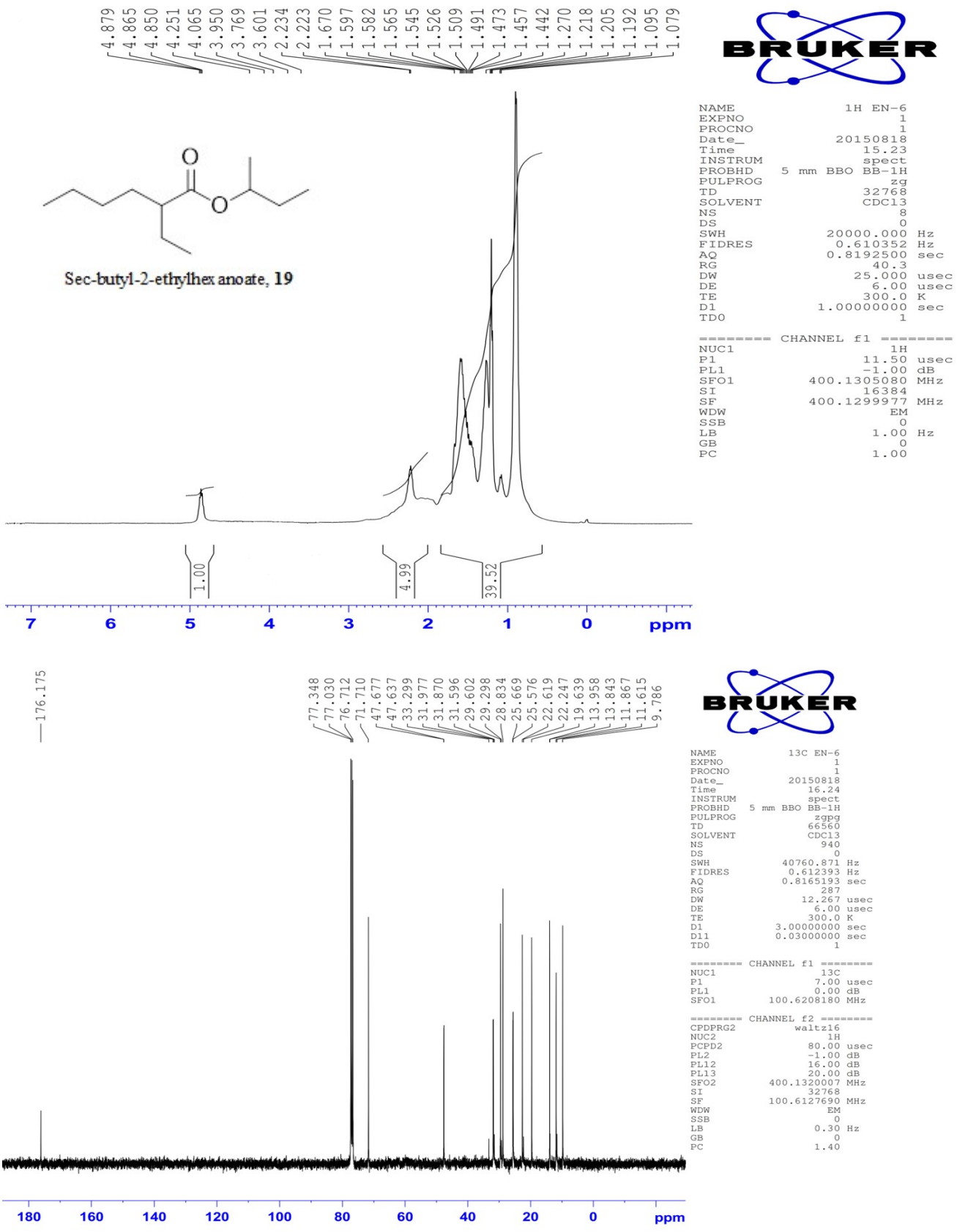


Fig: ^{1}H &^{13}C NMR of Sec-butyl-2-ethylhexanoate, **19**

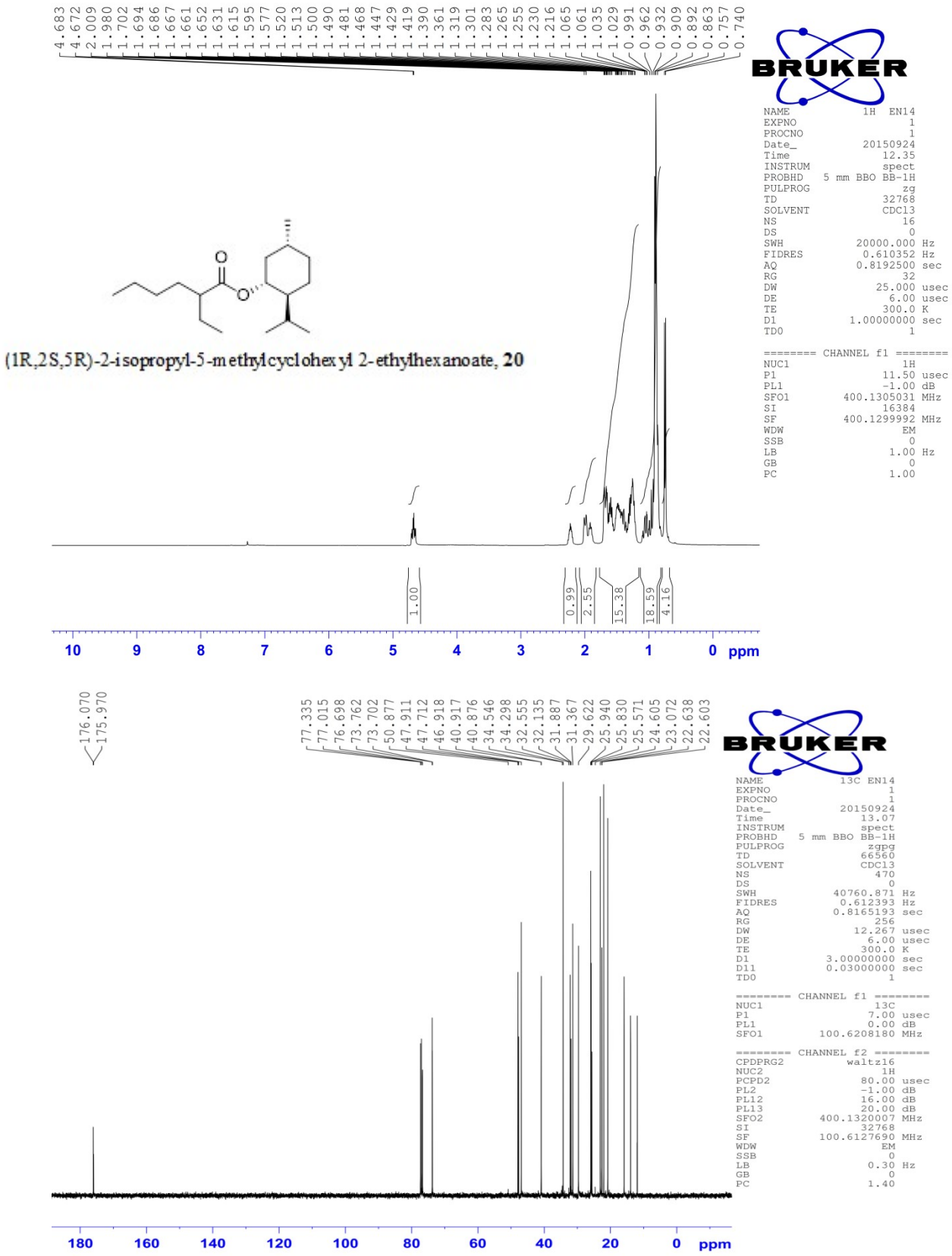


Fig: ^{1}H &^{13}C NMR of (1R,2S,5R)-2-isopropyl-5-methylcyclohexyl 2-ethylhexanoate, **20**

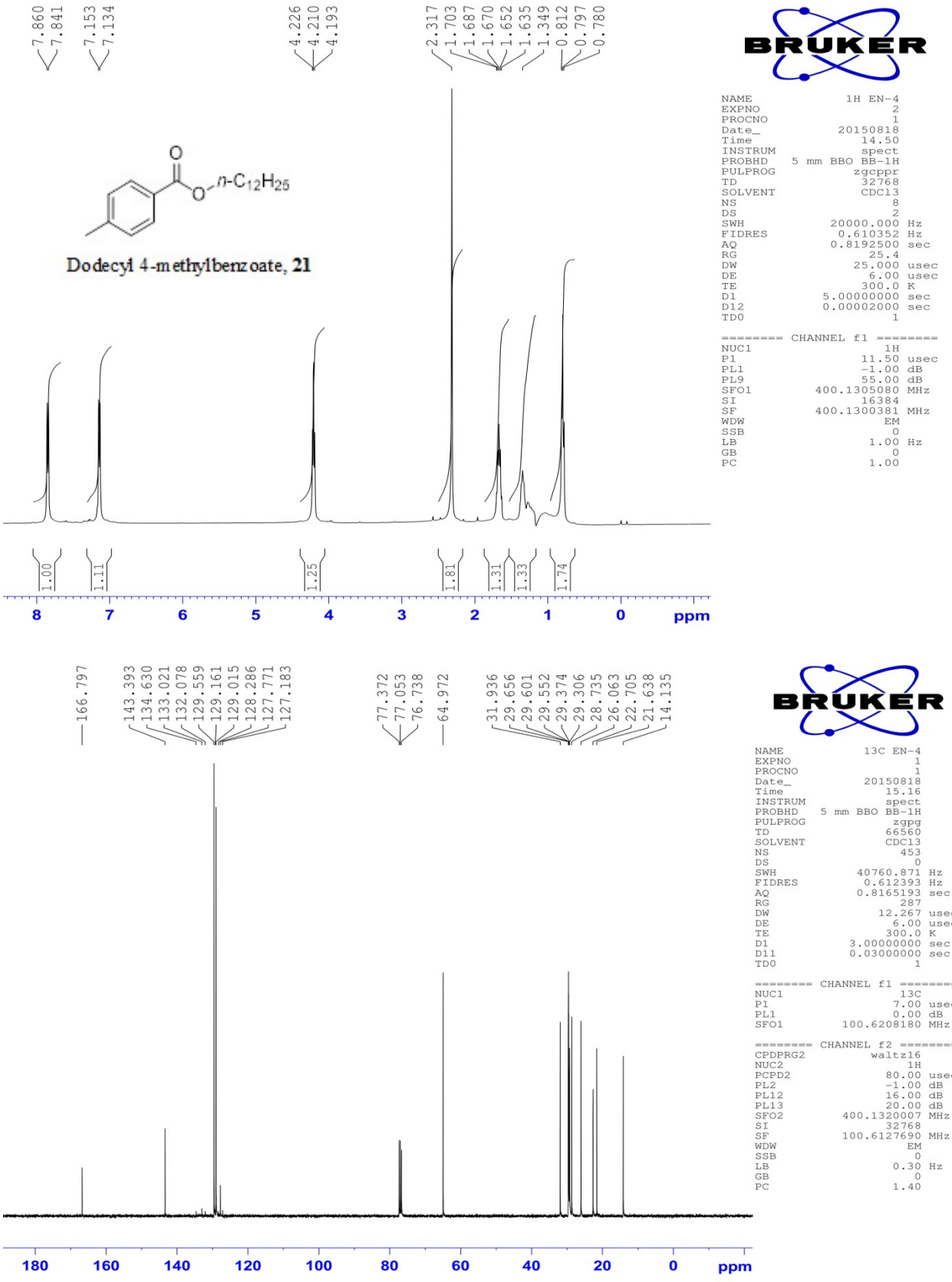


Fig: ^{1}H &^{13}C NMR of Dodecyl 4-methylbenzoate, **21**

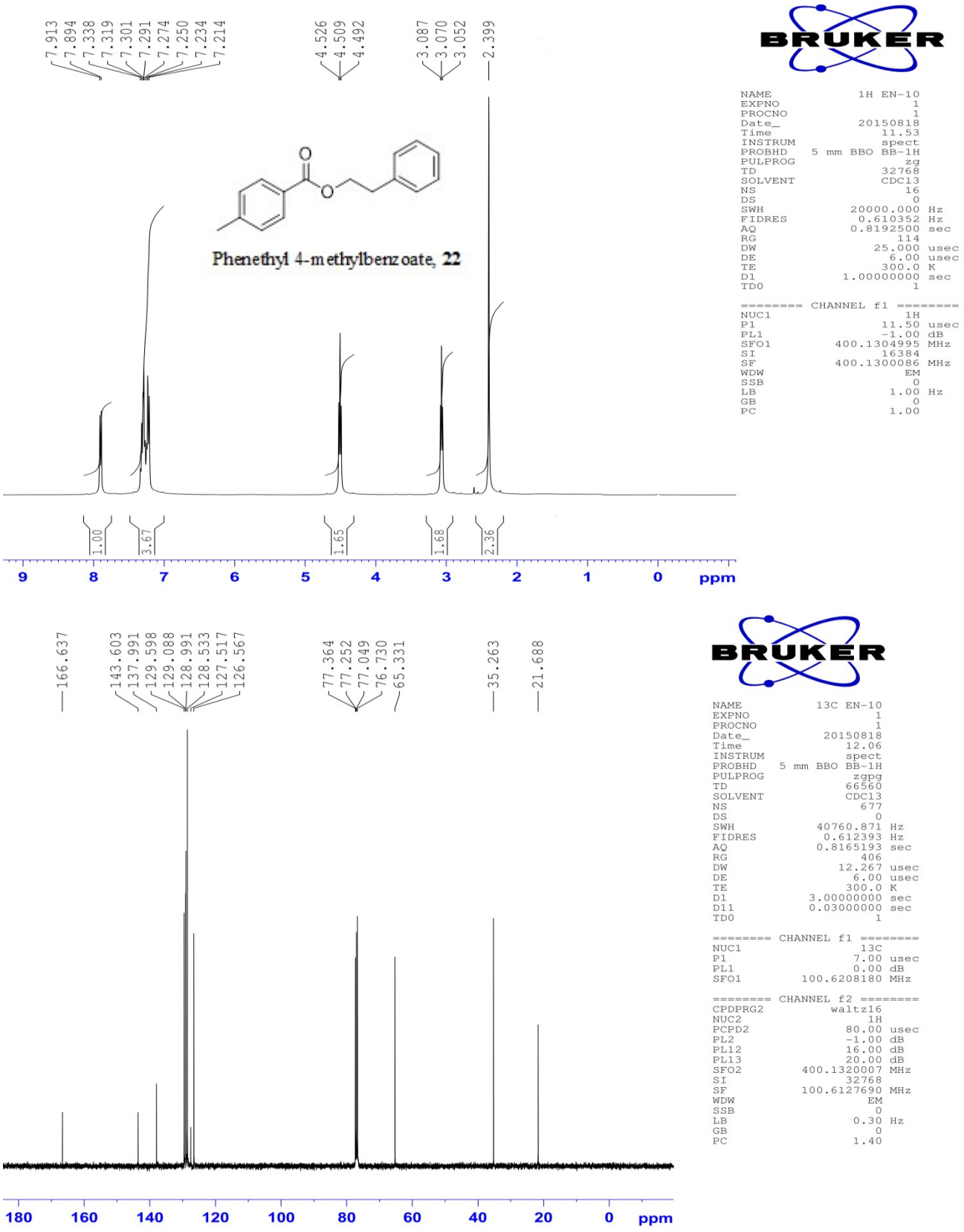


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Fig: ^{1}H &^{13}C NMR ofPhenethyl 4-methylbenzoate, **22**

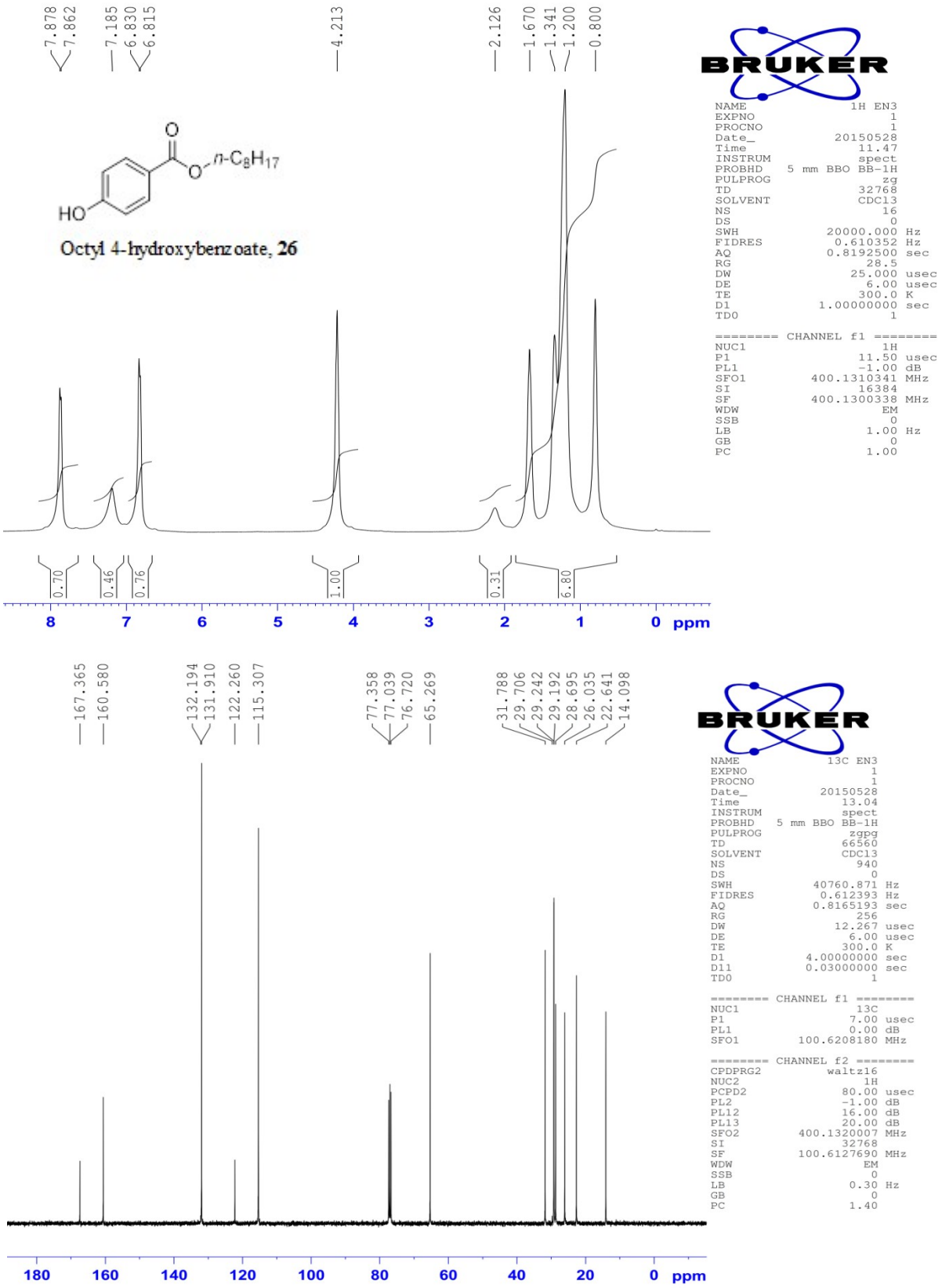
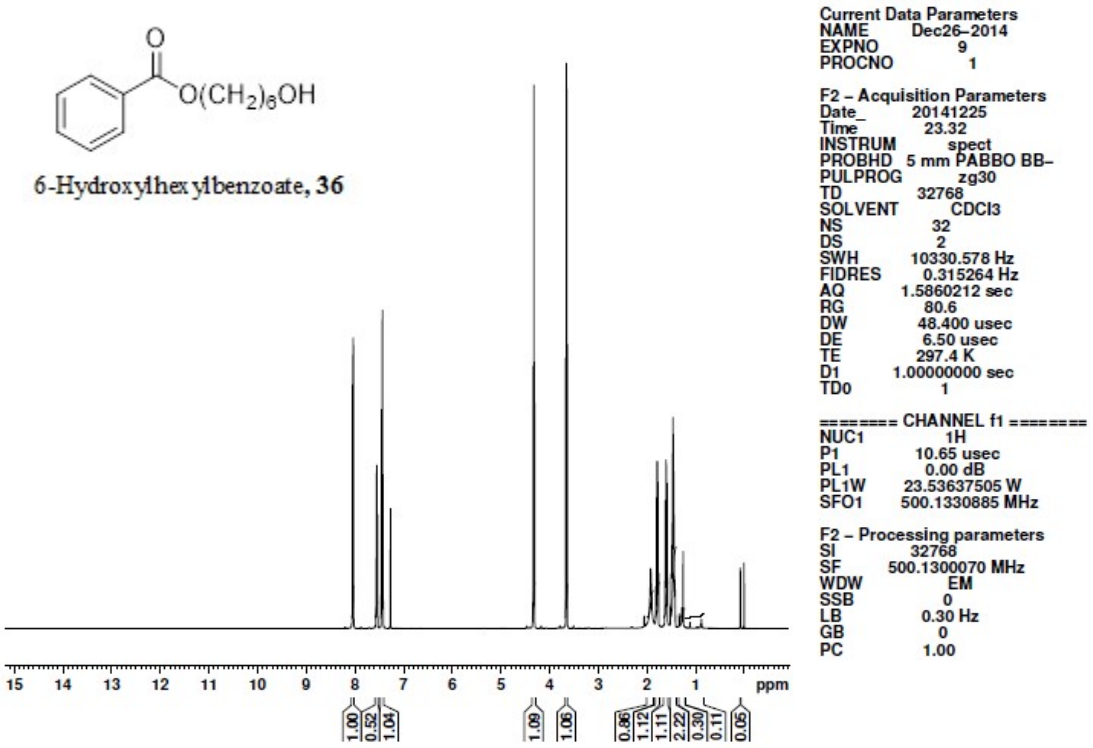


Fig: ^{1}H &^{13}C NMR ofOctyl 4-hydroxybenzoate, **26**



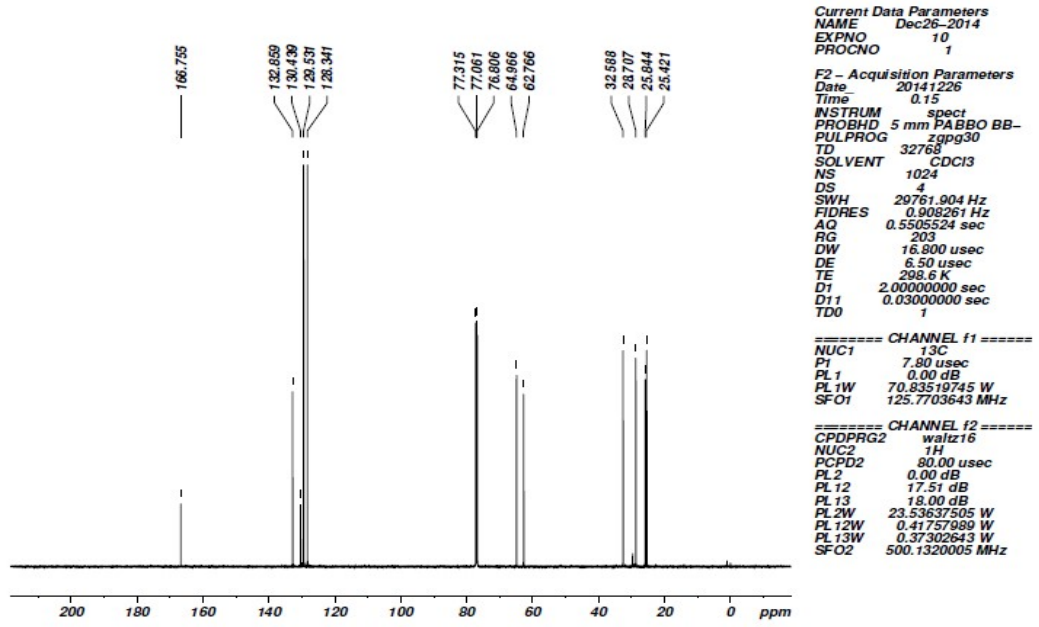
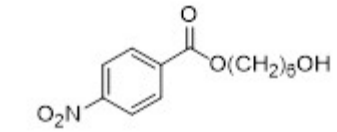
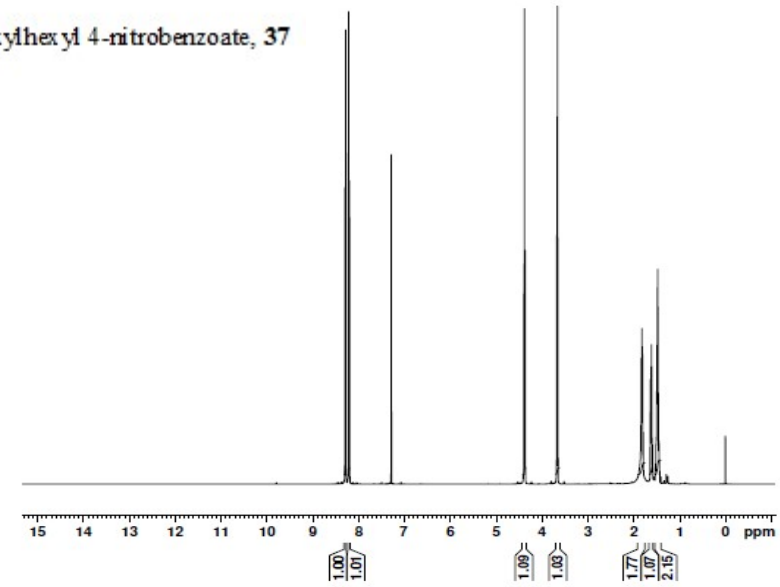


Fig: ^{1}H &^{13}C NMR of6-Hydroxylhexylbenzoate, **36**



6-Hydroxylhexyl 4-nitrobenzoate, **37**

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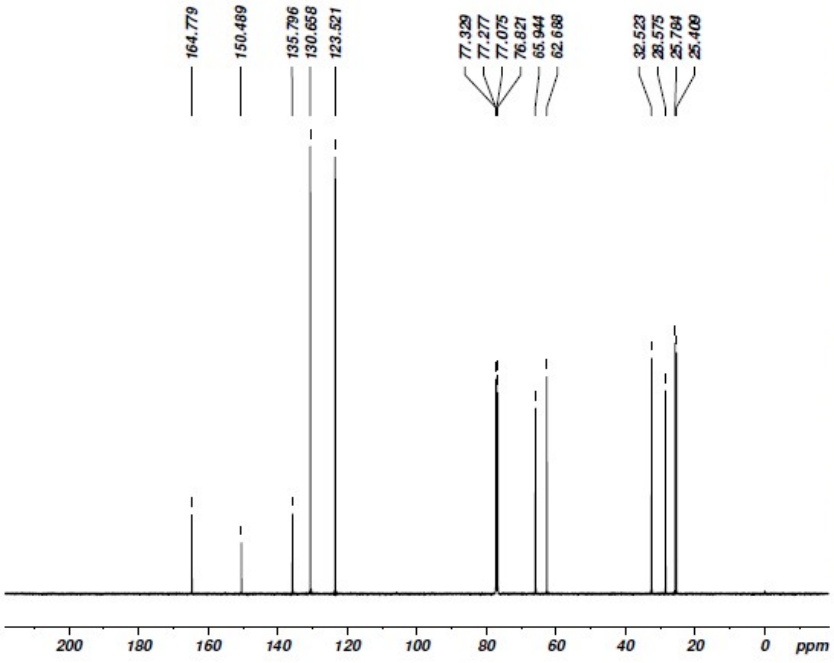


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Fig: ^{1}H &^{13}C NMR of6-Hydroxylhexyl 4-nitrobenzoate, **37**

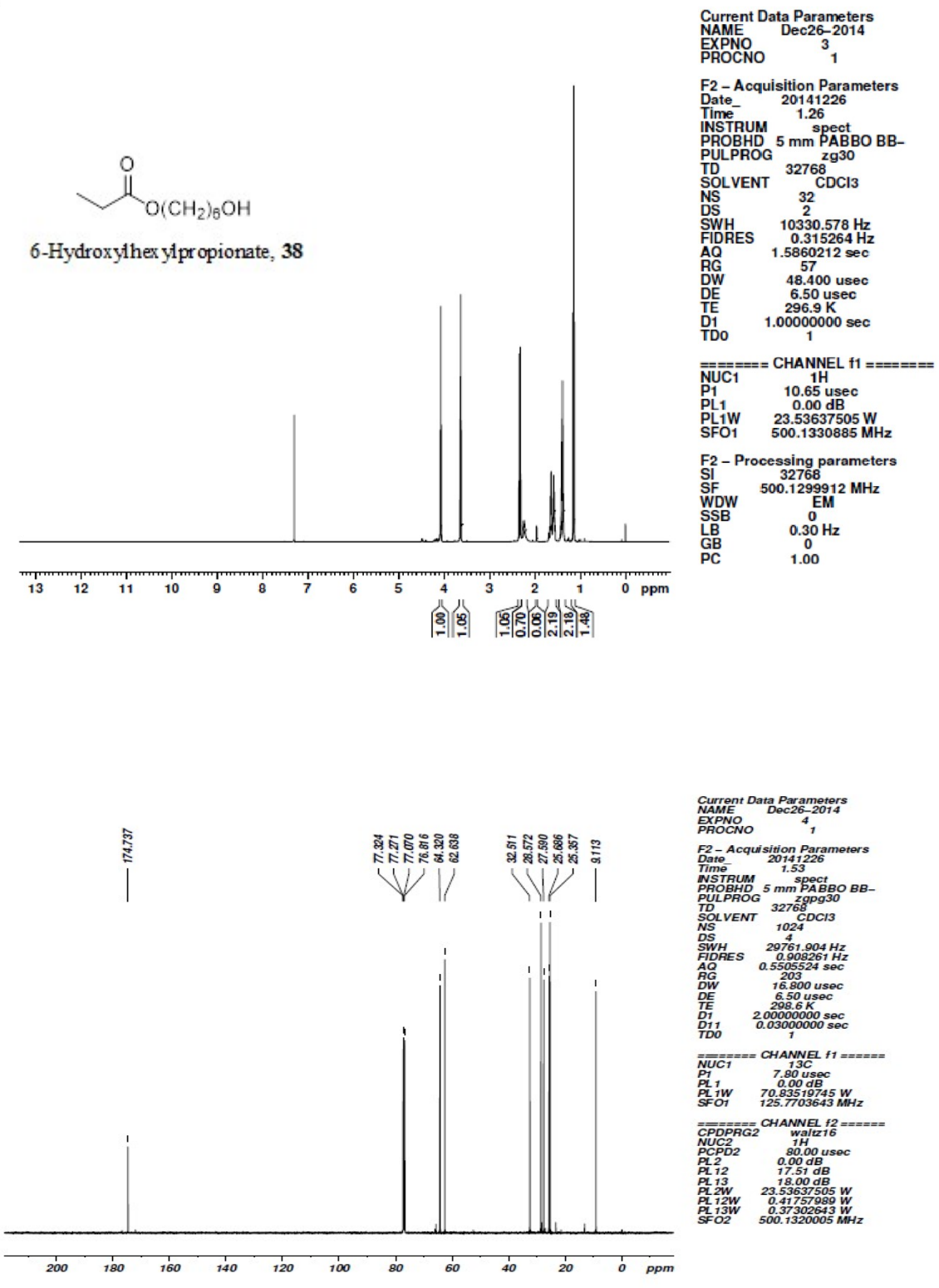

Fig: ^{1}H &^{13}C NMR of6-Hydroxylhexylpropionate, **38**

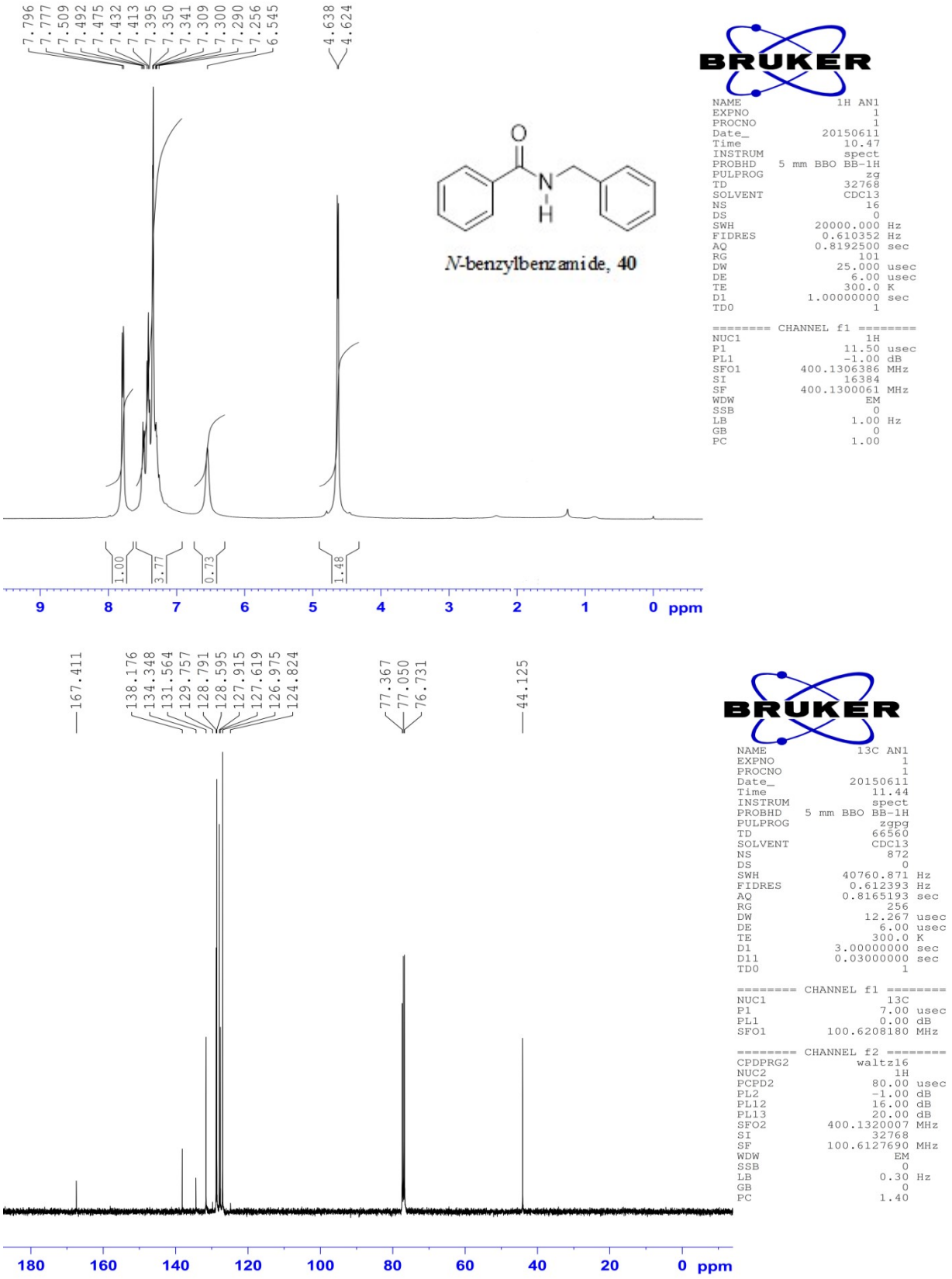

Fig: ^{1}H &^{13}C NMR of*N*-benzylbenzamide, **40**

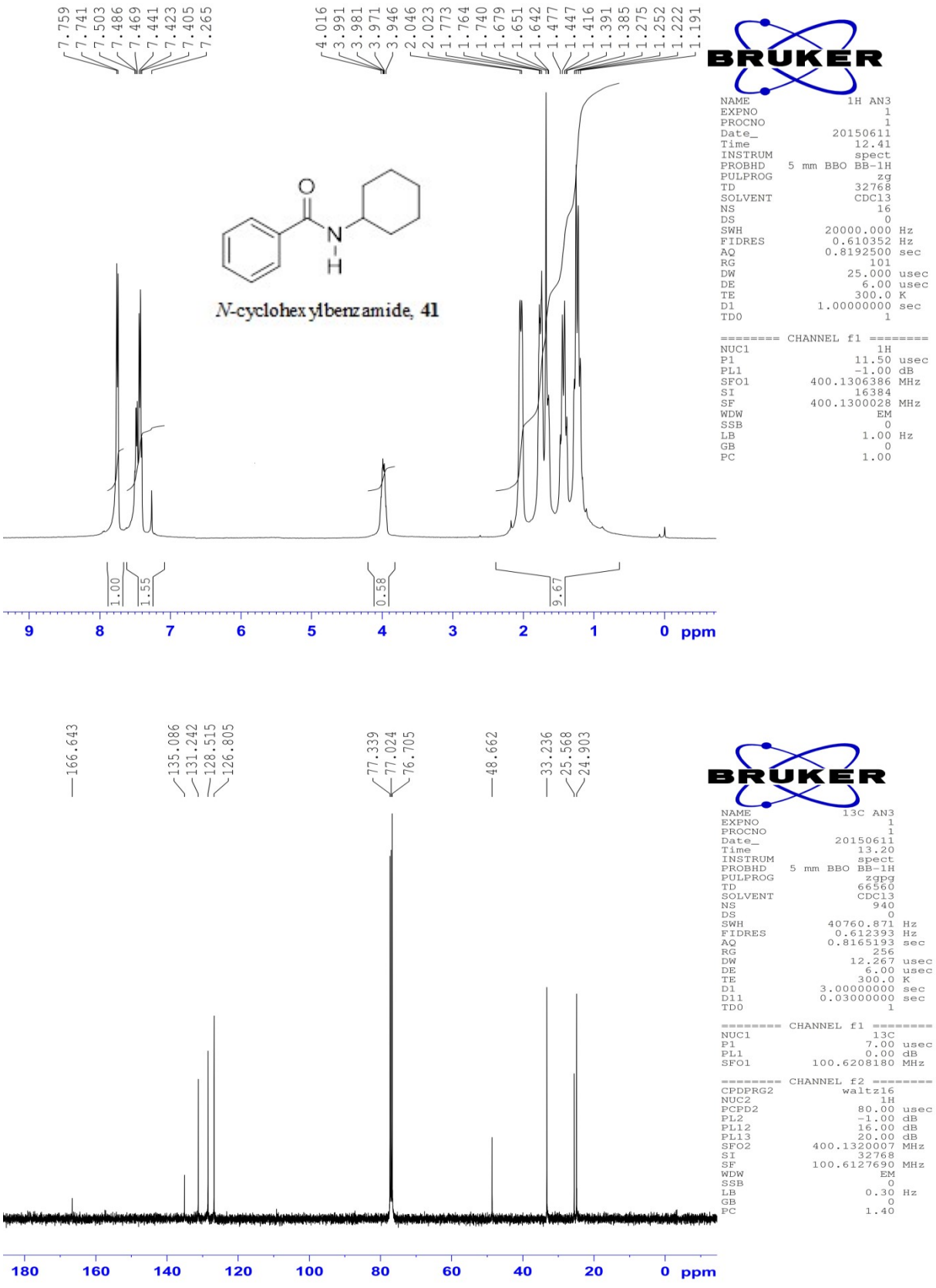

Fig: ^{1}H &^{13}C NMR of*N*-cyclohexylbenzamide, **41**

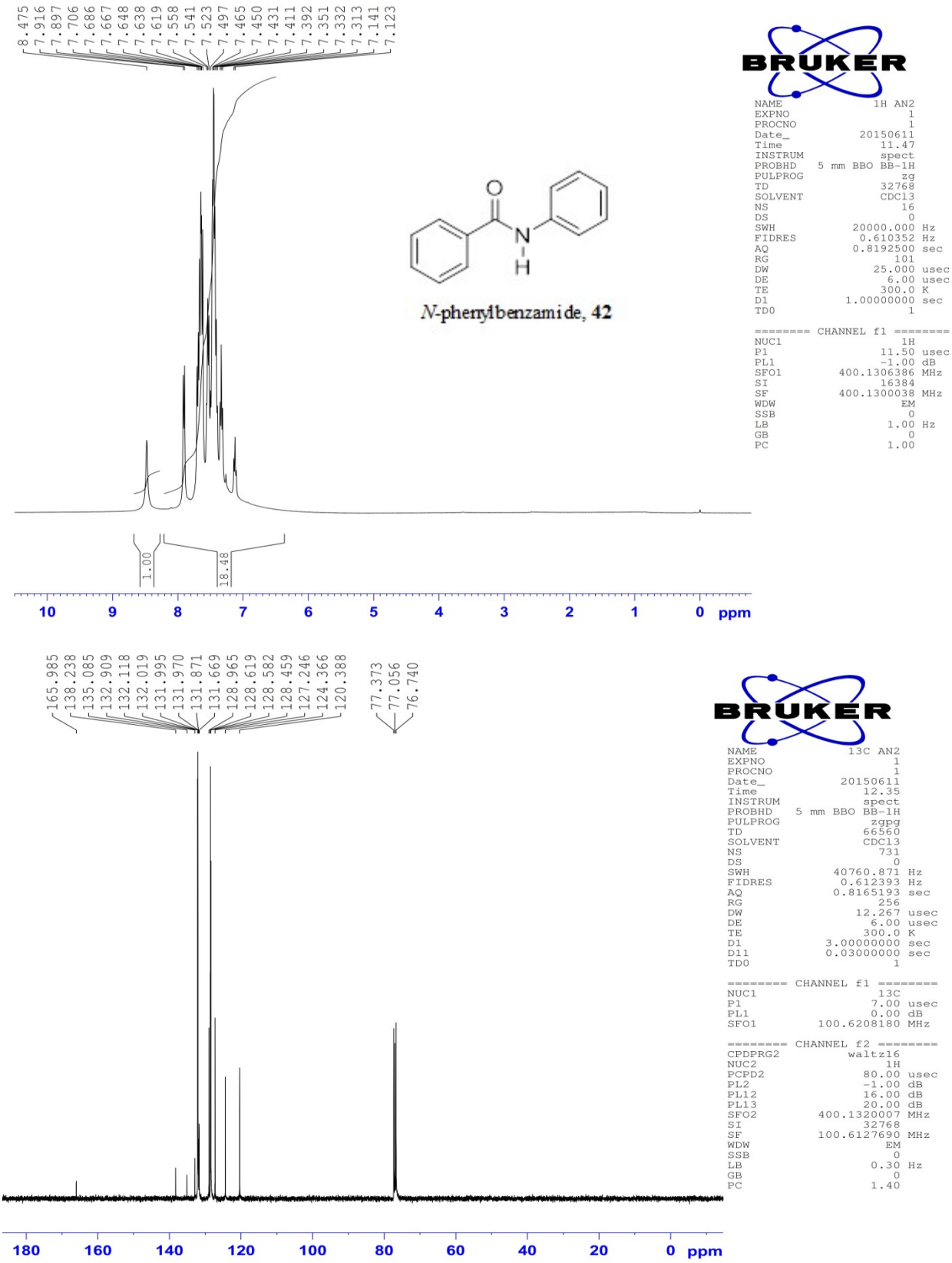

Fig: ^{1}H &^{13}C NMR of*N*-phenylbenzamide, **42**

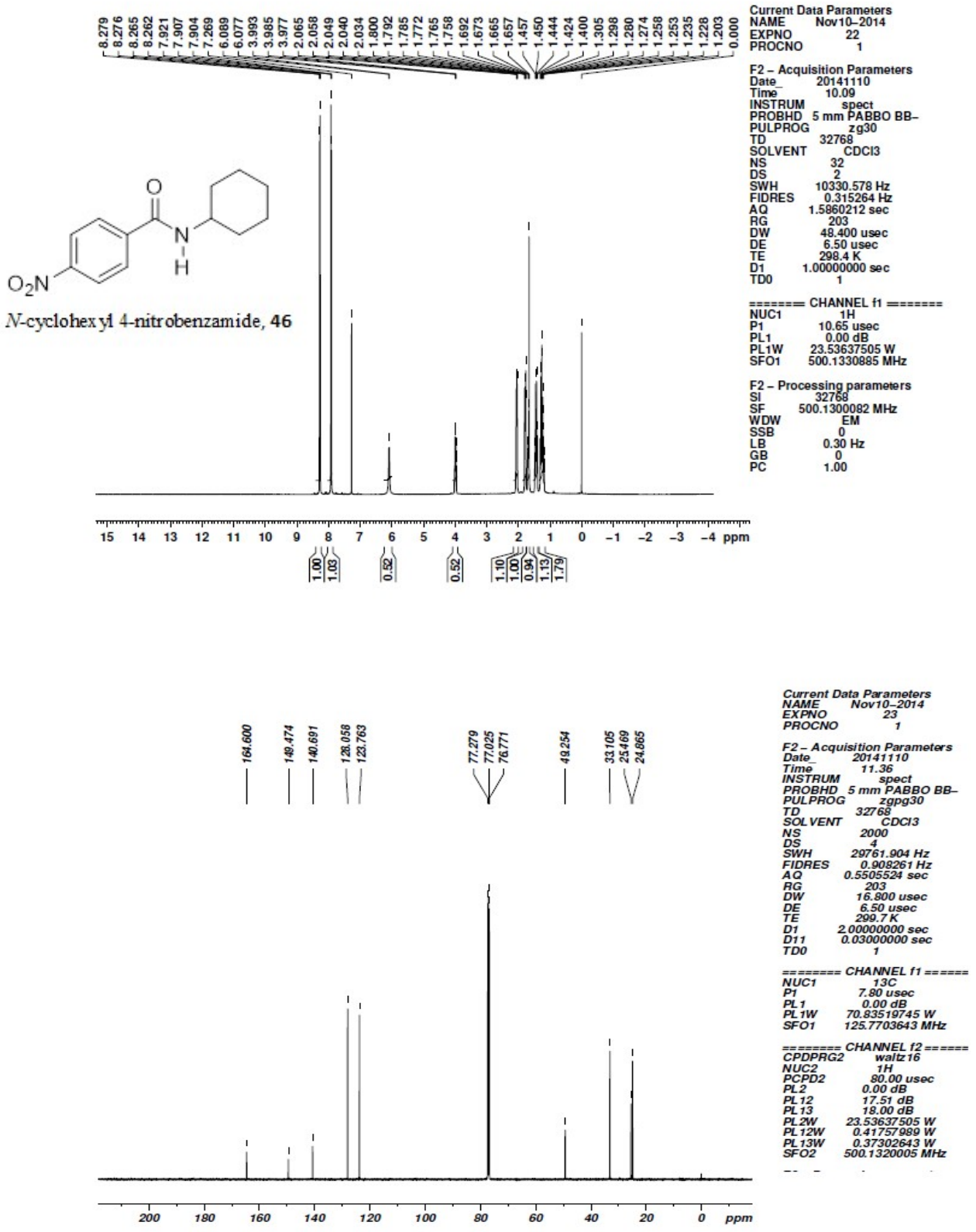

Fig: ^{1}H &^{13}C NMR of*N*-cyclohexyl 4-nitrobenzamide, **46**