Electronic Supplementary Information for

Metal-free denitrative arylation of β-nitrostyrenes using benzoyl peroxide: an easy access to *trans*-stilbenes

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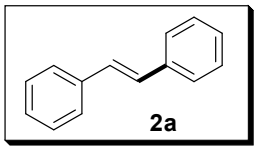
Contents **Page No.**

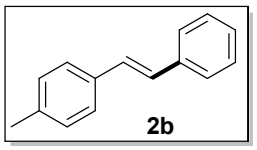
I. General Information: All commercially available reagents were used without further purification unless otherwise specified. Solvents were purified by the usual methods and were stored over molecular sieves. All the reactions were performed using oven-dried glassware including sealed tube. Organic solutions were concentrated using a Buchi rotary evaporator under diminished pressure. Column chromatography and TLC were performed using silica gel (Merck 100–200 mesh) and silica gel GF254 (Merck) plates respectively. Melting point (M.p.) was determined by open glass tube and is uncorrected. ^{1}H (500 MHz) and ^{13}C (126 MHz) NMR spectra were recorded on a JEOL ECZ 500R FTNMR spectrometer in $CDCl_3$ using TMS as internal reference. The chemical shifts are reported in δ/ppm and coupling constants (*J*) in Hertz (Hz).

II. General procedure for the synthesis of Stilbene 2: β-Nitrostyrene **1** (1.0 mmol), benzoyl peroxide (BPO)/substituted benzoyl peroxide (0.5 mmol) and CH_3CN (3 mL) were placed in a dried sealed vessel. The contents were heated under stirring at 100 °C for 2-4 h. After the completion of reaction (as indicated by TLC), the contents were quenched with water (10 mL) and then extracted with ethyl acetate (3 × 10 mL). The combined organic phase was dried over anhydrous magnesium sulfate, filtered and concentrated under reduced pressure to give the crude product, which was purified by silica gel column chromatography using n-hexane to give the pure product **2** in high yields (MS, Table 2). The structures of the products were confirmed by comparison of M.p., ^1H, and ^{13}C NMR spectral data with those reported in the literature.[1]

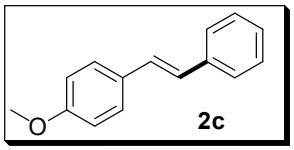
III. Spectral data of compounds 2:



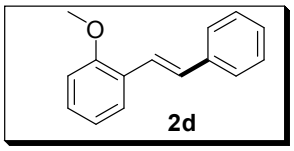
(*E*)-1,2-Diphenylethene (2a):[1] White solid (87% yield). M.p.: 121-122 °C (Lit. 121-122 °C).[1a] ^1H NMR (500 MHz, $CDCl_3$): δ = 7.53 (d, *J* = 7.8 Hz, 1H, ArH), 7.52 (d, *J* = 7.2 Hz, 1H, ArH), 7.38-7.35 (m, 2H, ArH), 7.28-7.24 (m, 1H, ArH), 7.12 (s, 1H, CH). ^{13}C NMR (126 MHz, $CDCl_3$): δ = 137.4, 128.7, 128.5, 127.7, 126.6.



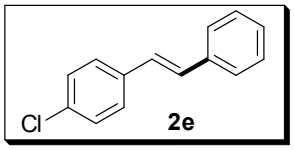
(*E*)-1-Methyl-4-styrylbenzene (2b):[1] White solid (90% yield). M.p.: 114-115 °C (Lit. 114-116 °C).[1a] ^1H NMR (500 MHz, $CDCl_3$): δ = 7.44 (d, *J* = 7.2 Hz, 2H, ArH), 7.42 (d, *J* = 8.4 Hz, 2H, ArH), 7.35 (t, *J* = 7.2 Hz, 2H, ArH), 7.28 (d, *J* = 7.2 Hz, 1H, ArH), 7.18 (d, *J* = 7.8 Hz, 2H, ArH), 7.00 (d, *J* = 4.8 Hz, 2H, CH), 2.29 (s, 3H, CH_3). ^{13}C NMR (126 MHz, $CDCl_3$): δ = 137.5, 137.5, 134.6, 129.4, 128.7, 128.7, 127.7, 127.4, 126.5, 126.4, 21.2.



(*E*)-1-Methoxy-4-styrylbenzene (2c):[1] White solid (92% yield). M.p.: 134-135 °C (Lit. 134-135 °C).[1a] ^{1}H NMR (500 MHz, $CDCl_3$): δ = 8.15 (d, *J* = 7.8 Hz, 1H, ArH), 7.46-7.34 (m, 4H, ArH), 7.28 (t, *J* = 7.2 Hz, 2H, ArH), 7.18 (d, *J* = 16.2 Hz, 1H, ArH), 7.00 (d, *J* = 9.2 Hz, 1H, CH), 6.98 (d, *J* = 16.2 Hz, 1H, ArH), 6.88 (d, *J* = 9.0 Hz, 1H, CH), 3.75 (s, 3H, CH_3). ^{13}C NMR (126 MHz, $CDCl_3$): δ = 159.3, 133.6, 130.1, 128.6, 128.2, 127.7, 127.2, 126.6, 126.2, 114.2, 55.4.

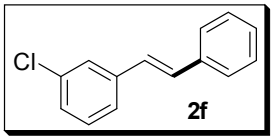


(*E*)-1-Methoxy-2-styrylbenzene (2d):[1] Colorless liquid (86% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 7.53 (d, *J* = 7.8 Hz, 1H, ArH), 7.51 (d, *J* = 7.2 Hz, 2H, ArH), 7.45 (d, *J* = 16.8 Hz, 1H, ArH), 7.35 (t, *J* = 7.2 Hz, 2H, ArH), 7.27-7.17 (m, 2H, ArH), 7.16 (d, *J* = 16.8 Hz, 1H, CH), 6.98 (t, *J* = 7.2 Hz, 1H, ArH), 6.90 (d, *J* = 8.4 Hz, 1H, CH), 3.82 (s, 3H, CH_3). ^{13}C NMR (126 MHz, $CDCl_3$): δ = 156.9, 138.0, 129.1, 128.6, 128.6, 127.4, 126.6, 126.4, 126.4, 123.5, 120.8, 111.0, 55.6.

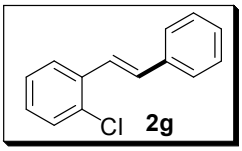


(*E*)-1-Chloro-4-styrylbenzene (2e):[1] Yellow solid (78% yield). M.p.: 129-130 °C (Lit. 129-131).[1a] ^{1}H NMR (500 MHz, $CDCl_3$): δ = 7.43 (d, *J* = 7.8 Hz, 2H, ArH), 7.37 (t, *J* = 7.8 Hz, 2H, ArH), 7.30 (d, *J* = 8.4 Hz, 2H, ArH), 7.27 (d, *J* = 7.2 Hz, 2H, ArH), 7.24 (d, *J* = 7.2 Hz, 1H,

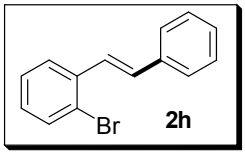
ArH), 7.02-6.95 (m, 2H, CH). ^{13}C NMR (126 MHz, $CDCl_3$): δ = 137.0, 135.9, 133.2, 129.4, 128.9, 128.8, 127.9, 127.7, 127.4, 126.6.



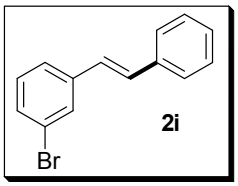
(*E*)-1-Chloro-3-styrylbenzene (2f):[1] White solid (80% yield): M.p.: 72-73 ˚C (Lit. 71-72 ˚C).[1a] ^{1}H NMR (500 MHz, $CDCl_3$): δ = 7.44 (d, *J* = 7.8 Hz, 3H, ArH), 7.23 (t, *J* = 7.8 Hz, 3H, ArH), 7.20 (t, *J* = 7.8 Hz, 2H, ArH), 7.16 (d, *J* = 8.4Hz, 1H, ArH), 7.06 (d, *J* = 16.2 Hz, 1H, CH), 6.98 (d, *J* = 16.2 Hz, 1H, CH). ^{13}C NMR (126 MHz, $CDCl_3$): δ = 139.3, 136.8, 134.7, 130.2, 129.9, 128.8, 128.4, 127.5, 127.2, 126.7, 126.3, 124.8.



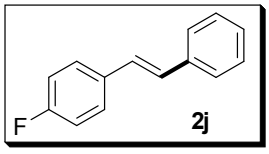
(*E*)-1-Chloro-2-styrylbenzene (2g):[1] White solid (73% yield). M.p.: 64-65 ˚C (Lit. 64-66 ˚C).[1a] ^{1}H NMR (500 MHz, $CDCl_3$): δ = 7.62 (d, *J* = 8.0 Hz, 1H, ArH), 7.47 (dd, *J* = 7.6, 16.4 Hz, 3H, ArH), 7.32 (t, *J* = 7.6 Hz, 3H, ArH), 7.23 (d, *J* = 7.6 Hz, 1H, ArH and 1H, CH), 7.17-7.10 (m, 1H, ArH), 7.02 (d, *J* = 16.4 Hz, 1H, CH). ^{13}C NMR (126 MHz, $CDCl_3$): δ = 137.1, 135.5, 133.5, 131.3, 129.9, 128.8, 128.6, 128.1, 126.9, 126.9, 126.5, 124.8.



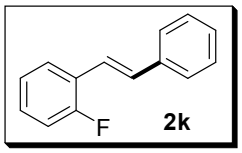
(*E*)-1-Bromo-2-styrylbenzene (2h):[1] Yellow liquid (76% yield).[1a] ^{1}H NMR (500 MHz, $CDCl_3$): δ = 7.67 (d, *J* = 7.8 Hz, 1H, ArH), 7.57 (dd, *J* = 7.8, 7.8 Hz, 3H, ArH), 7.47 (d, *J* = 16.2 Hz, 1H, ArH), 7.38 (t, *J* = 7.8 Hz, 2H, ArH), 7.29-7.06 (m, 2H, ArH), 7.04 (t, *J* = 7.8 Hz, 1H, CH), 6.98 (d, *J* = 16.2 Hz, 1H, CH). ^{13}C NMR (126 MHz, $CDCl_3$): δ = 137.2, 137.1, 133.1, 131.5, 128.8, 128.4, 128.1, 127.6, 127.5, 126.9, 126.8, 124.2.



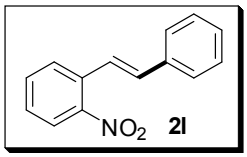
(*E*)-1-Bromo-3-styrylbenzene (2i):[1] White solid (82% yield). M.p.: 72-73 ˚C (Lit. 72-73 ˚C).[1a] ^{1}H NMR (500 MHz, $CDCl_3$): δ = 7.59 (s, 1H, ArH), 7.44 (d, *J* = 7.8 Hz, 2H, ArH), 7.35 (t, *J* = 7.8 Hz, 3H, ArH), 7.22 (t, *J* = 7.8 Hz, 2H, ArH), 7.14 (d, *J* = 8.4Hz, 1H, ArH), 7.04 (d, *J* = 16.2 Hz, 1H, CH), 6.96 (d, *J* = 16.2 Hz, 1H, CH). ^{13}C NMR (126 MHz, $CDCl_3$): δ = 139.6, 136.8, 130.4, 130.2, 129.3, 128.8, 128.1, 127.1, 126.7, 125.2, 122.9.



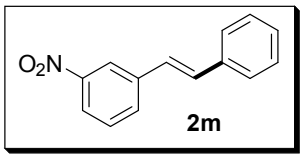
(*E*)-1-Fluoro-4-styrylbenzene (2j):[1] White solid (78% yield). M.p.: 123-124 ˚C (Lit. 123-124 ˚C).[1a] ^{1}H NMR (500 MHz, $CDCl_3$): δ = 7.43-7.39 (m, 5H), 7.30 (t, *J* = 7.8 Hz, 1H), 7.19-7.18 (m, 1H), 6.99-6.96 (m, 4H). ^{13}C NMR (126 MHz, $CDCl_3$): δ = 163.8 ($^1J_{C\text{-}F}$ = 248.8 Hz), 137.2, 133.6 ($^3J_{C\text{-}F}$ = 3.8 Hz), 128.7, 128.5, 128.0, 128.0, 127.7, 127.5, 126.5, 115.7 ($^2J_{C\text{-}F}$ = 21.9 Hz).



(*E*)-1-Fluoro-2-styrylbenzene (2k):[1] White solid (74% yield). M.p.: 103-104 ˚C (Lit. 103-105 ˚C).[1a] ^{1}H NMR (500 MHz, $CDCl_3$): δ = 7.54 (t, *J* = 7.8 Hz, 1H, ArH), 7.46 (d, *J* = 7.8 Hz, 2H, ArH), 7.30 (t, *J* = 7.5 Hz, 2H, ArH), 7.33-7.04 (m, 4H, ArH), 7.00 (t, *J* = 7.8 Hz, 1H, CH), 6.98 (d, *J* = 16.2 Hz, 1H, CH). ^{13}C NMR (126 MHz, $CDCl_3$): δ = 161.5 (d, $^1J_{C\text{-}F}$ = 246.5 Hz), 137.3, 131.0 (d, $^3J_{C\text{-}F}$ = 3.8 Hz), 128.7 (d, $^3J_{C\text{-}F}$ = 3.8 Hz), 128.0, 127.1(d, $^3J_{C\text{-}F}$ = 3.8 Hz), 126.7, 125.2, 125.1, 124.2 (d, $^2J_{C\text{-}F}$ = 21.4 Hz), 121.0, 115.9 (d, $^2J_{C\text{-}F}$ = 21.4 Hz).

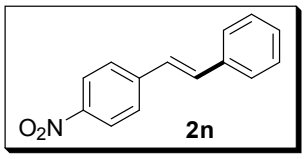


(*E*)-1-Nitro-2-styrylbenzene (2l):[1] Yellow orange solid (70% yield). M.p.: 71-73 ˚C (Lit. 72-73 ˚C). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 8.23 (d, *J* = 9.0 Hz, 1H), 7.98 (dd, *J* = 7.5 Hz, 9.0 Hz, 1H), 7.65 (t, *J* = 7.5 Hz, 2H), 7.62 (t, *J* = 7.5 Hz, 2H), 7.34-7.28 (m, 3H), 7.23 (d, *J* = 7.4 Hz, 1H), 7.11 (d, *J* = 16.0 Hz, 1H). ^{13}C NMR (126 MHz, $CDCl_3$): δ = 149.9, 135.4, 132.8, 132.0, 129.1, 128.4, 127.7, 126.0, 124.9, 123.7, 122.5, 120.6.

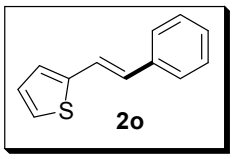


(*E*)-1-Nitro-3-styrylbenzene (2m):[1] Yellow orange solid (72% yield). M.p.: 102-103 ˚C (Lit. 102-103 ˚C). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 8.28 (s, 1H), 8.02 (dd, *J* = 8.2, 1.3 Hz, 1H), 7.71 (dd, *J* = 7.7 Hz, 1H), 7.45 (dd, *J* = 15.7, 7.7 Hz, 2H), 7.43-7.29 (m, 3H), 7.25 (t, *J* = 7.3 Hz, 1H),

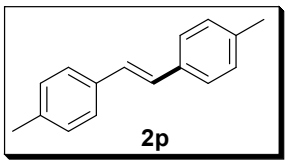
7.17 (d, *J* = 5.3 Hz, 1H), 7.06 (d, *J* = 15.3 Hz, 1H). ^{13}C NMR (126 MHz, $CDCl_3$): δ = 147.7, 138.1, 135.2, 131.2, 130.7, 128.5, 127.8, 127.5, 125.8, 125.0, 120.9, 119.8.



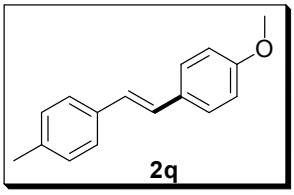
(*E*)-1-Nitro-4-styrylbenzene (2n):[1] Yellow orange solid (65% yield). M.p.: 148-150 ˚C (Lit. 150 ˚C). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 8.14 (d, *J* = 8.8 Hz, 2H), 7.55 (d, *J* = 8.7 Hz, 2H), 7.47 (d, *J* = 7.3 Hz, 2H), 7.33 (t, *J* = 7.5 Hz, 2H), 7.32-24 (m, 1H), 7.17 (t, *J* = 4.4 Hz, 1H), 7.07 (d, *J* = 16.3 Hz, 1H). ^{13}C NMR (126 MHz, $CDCl_3$) δ = 146.7, 143.8, 136.1, 133.2, 128.8, 128.8, 127.0, 126.8, 126.2, 124.1.



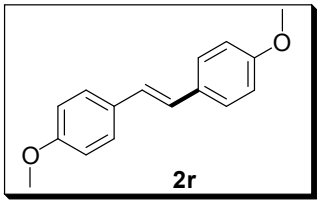
(*E*)-2-Styrylthiophene (2o):[1*d*] Yellow solid (89% yield). M.p.: 127-128 ˚C (Lit. 72-73 ˚C).[1*a*] ^{1}H NMR (500 MHz, $CDCl_3$): δ = 7.40 (d, *J* = 7.4 Hz, 2H, ArH), 7.28 (t, *J* = 7.4 Hz, 2H, ArH), 7.18-7.11 (m, 3H, ArH), 7.00 (d, *J* = 3.5 Hz, 1H, ArH), 6.94 (d, *J* = 16.1 Hz, 1H, CH), 6.87 (d, *J* = 3.7 Hz, 1H, CH). ^{13}C NMR (126 MHz, $CDCl_3$): δ = 142.9, 137.0, 135.1, 128.7, 128.4, 127.6, 126.3, 126.1, 124.4, 121.8.



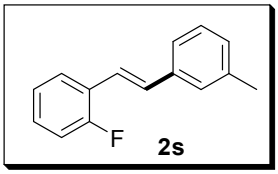
(*E*)-1,2-Dip-tolylethene (2p):[1] White solid (90% yield). M.p.: 179-180 ˚C (Lit. 180-182 ˚C).[1a] ^{1}H NMR (500 MHz, $CDCl_3$): δ = 7.21 (d, *J* = 8.0 Hz, 2H), 7.08 (d, *J* = 8.5 Hz, 2H), 6.55 (s, 1H), 2.35 (s, 3H). ^{13}C NMR (126 MHz, $CDCl_3$): δ = 136.8, 134.6, 129.6, 129.0, 126.4, 21.3.



(*E*)-1-Methoxy-4-(4-methylstyryl)benzene (2q):[1] White solid (92% yield). M.p.: 159-161 ˚C (Lit. 160-162 ˚C).[1a] ^{1}H-NMR (500 MHz, $CDCl_3$): δ = 7.42 (d, *J* = 8.7 Hz, 2H), 7.16 (d, *J* = 8.1 Hz, 2H), 6.91 (d, *J* = 8.0 Hz, 2H), 6.70 (d, *J* = 8.7 Hz, 2H), 3.69 (s, 3H), 2.32 (s, 3H). ^{13}C-NMR (126 MHz, $CDCl_3$): δ = 160.0, 144.6, 135.1, 132.0, 130.1, 129.5, 128.7, 124.8, 120.2, 114.0, 55.3, 21.7.

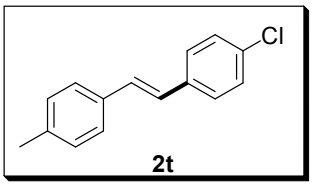


(*E*)-1,2-Bis(4-methoxyphenyl)ethene (2r):[1] Yellowish solid (94% yield). M.p.: 212-214 ˚C (Lit. 212-213 ˚C).[1a] ^{1}H NMR (500 MHz, $CDCl_3$): δ = 7.34-7.12 (m, 2H), 6.85-6.68 (m, 2H), 6.37 (s, 1H), 3.71 (s, 3H). ^{13}C NMR (126 MHz, $CDCl_3$): δ = 158.5, 130.1, 128.4 125.6, 114.1, 55.2.



(*E*)-1-Fluoro-2-(3-methylstyryl)benzene (2s):[1] Colorless oil (78% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 7.53 (d, *J* = 1.5 Hz, 1H), 7.29 (d, *J* = 14.0 Hz, 2H), 7.21-7.17 (m, 3H), 7.09-7.01 (m,

4H), 2.31 (s, 3H). ^{13}C NMR (126 MHz, $CDCl_3$): δ = 161.4 (d, $^{1}J_{C\text{-}F}$ = 247.1 Hz), 138.3, 137.2, 131.0 (d, $^{3}J_{C\text{-}F}$ = 3.7 Hz), 128.8 (d, $^{3}J_{C\text{-}F}$ = 3.6 Hz), 128.6, 128.1, 127.3 (d, $^{3}J_{C\text{-}F}$ = 3.7 Hz), 127.0, 125.4, 124.2 (d, $^{2}J_{C\text{-}F}$ = 21.3 Hz), 123.9, 120.7, 115.9 (d, $^{2}J_{C\text{-}F}$ = 21.3 Hz), 21.5.



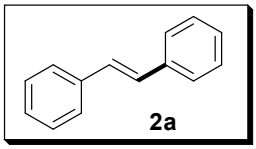
2t

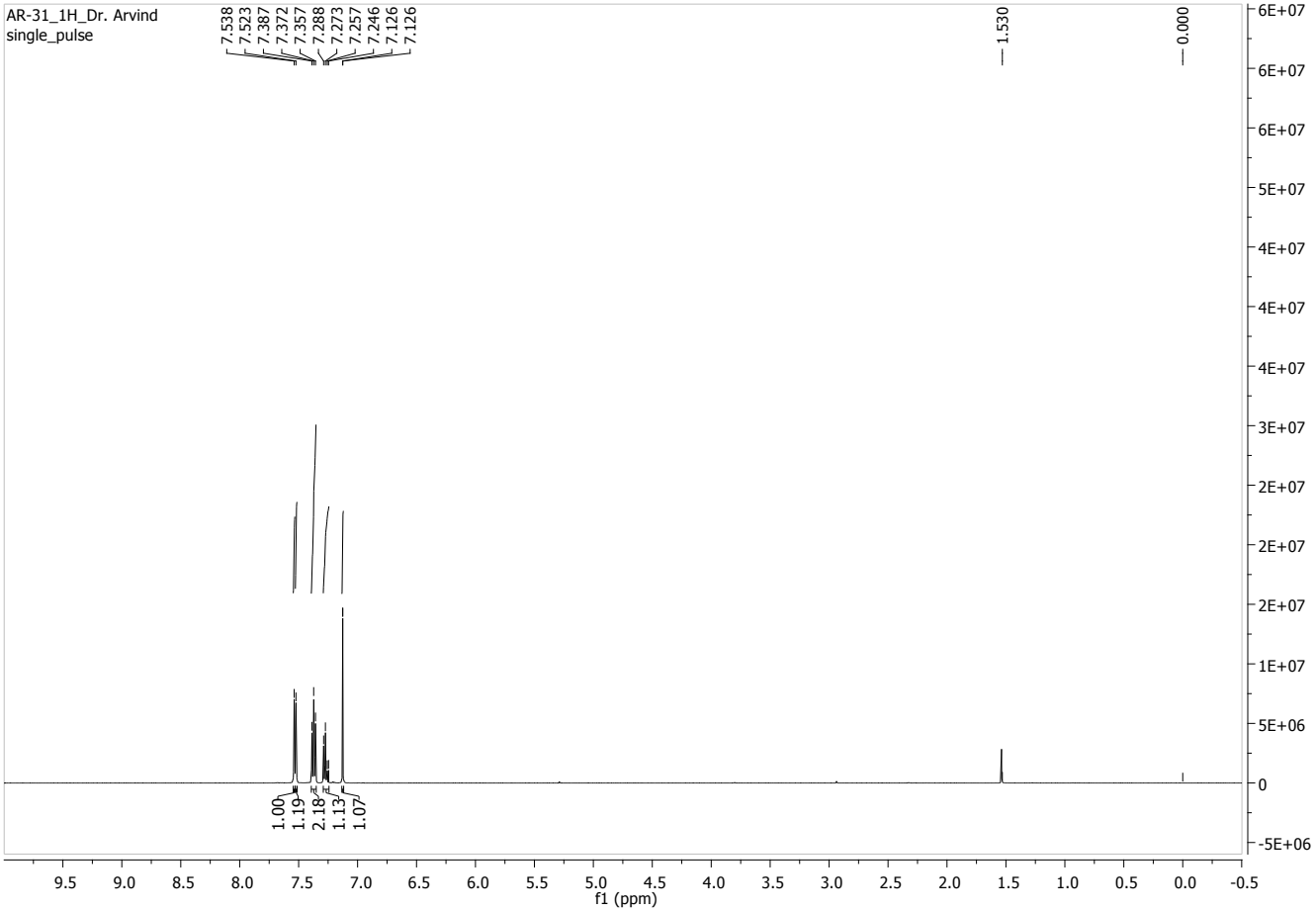
(*E*)-1-Chloro-4-(4-methylstyryl)benzene (2t):[1] White solid (70% yield). M.p.: 201-203 ˚C (Lit. 202-203 ˚C).[1a] ^{1}H NMR (500 MHz, $CDCl_3$): δ = 7.36-7.32 (m, 4H), 7.24 (d, *J* = 9.0, 2H), 7.10 (d, *J* = 7.5 Hz, 2H), 7.00 (d, *J* = 16.5 Hz, 2H), 2.29 (s, 3H). ^{13}C NMR (126 MHz, $CDCl_3$): δ = 137.9, 136.1, 134.2, 133.0, 129.5, 129.3, 128.8, 127.6, 126.5, 126.4, 21.3.

IV. References: 1 (*a*) J. J. Heynekamp, M. W. Waylon, L. A. Hunsaker, A. M. Gonzales, R. A. Orlando, M. D. Lorraine and D. L. Vander Jagt, *J. Med. Chem.,* 2006, **49**, 7182; (*b*) P. Schroll, D. P. Hari and B. König, *ChemistryOpen*, 2012, **1**, 130; (*c*) N. Zhang, Z.-J. Quan, Z. Zhang, Y.-X. Da and X.-C. Wang, *Chem. Commun*., 2016, **52**, 14234; (*d*) P. Puthiyaraj and K. Pitchumani, *Green Chem*., 2014, **16**, 4223.

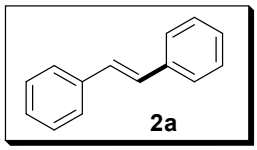
V. Copies of ^{1}H and ^{13}C NMR spectra.

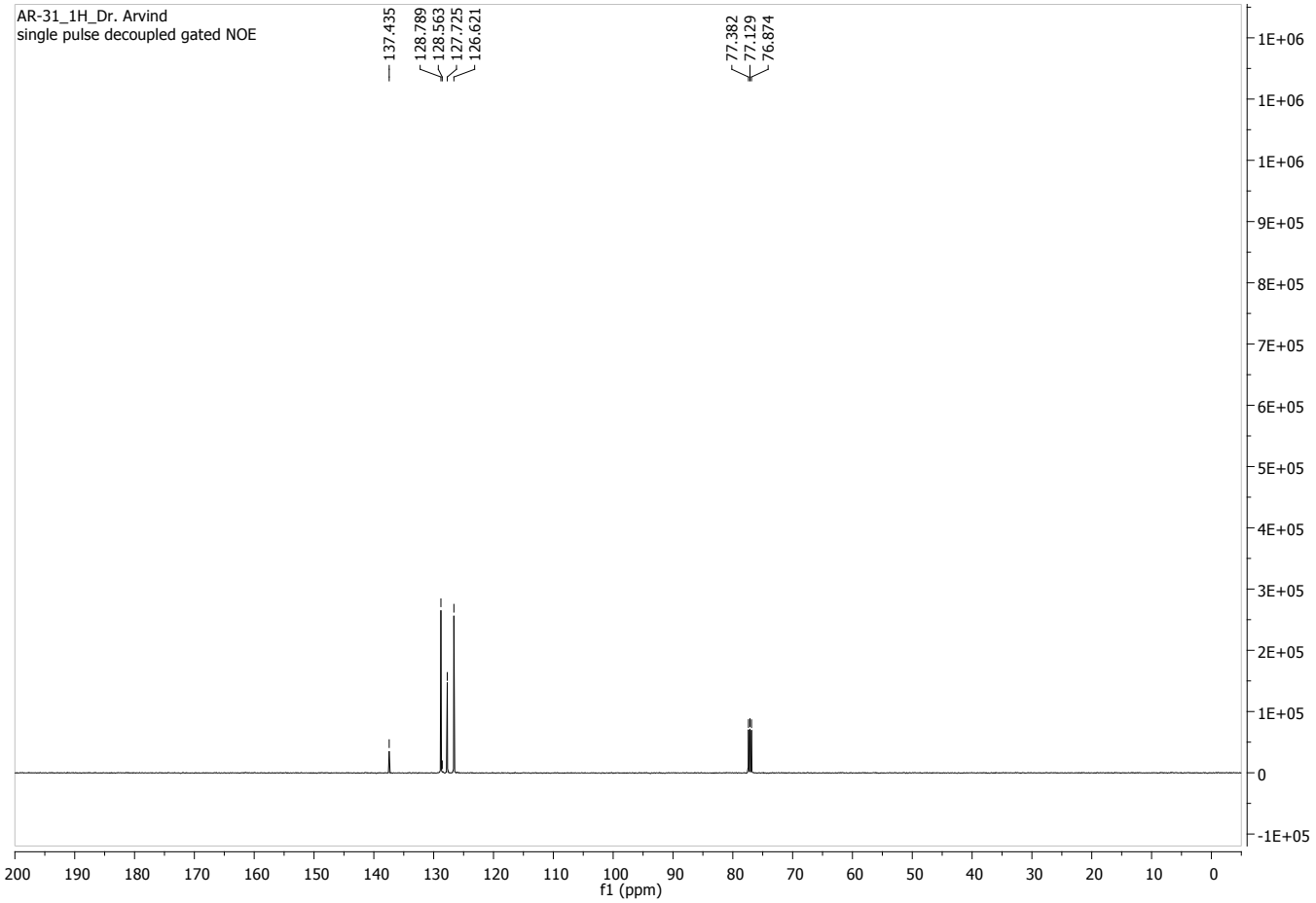
Compound 2a. ^{1}H NMR Spectrum ($CDCl_3$).



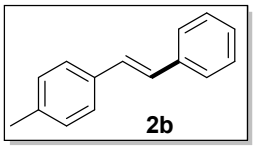


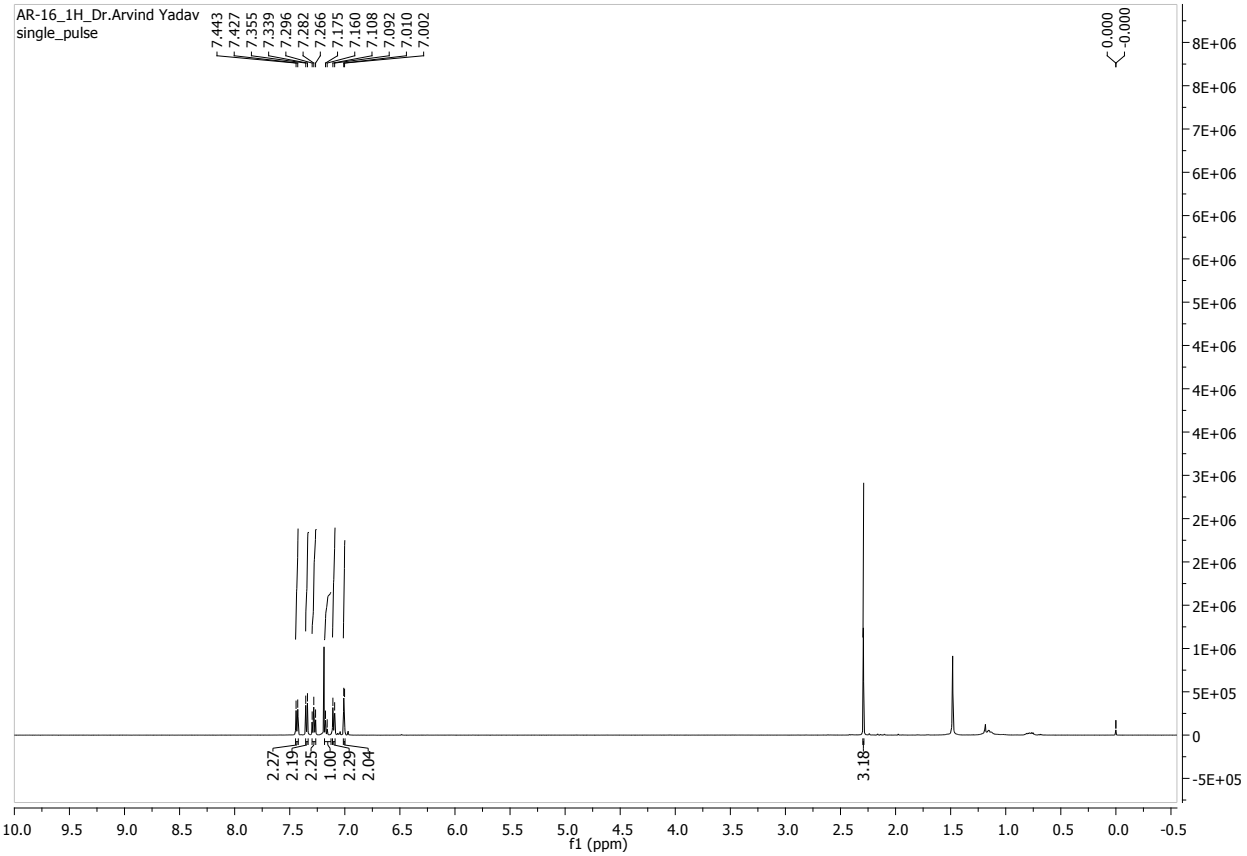
Compound 2a. ^{13}C NMR Spectrum ($CDCl_3$).



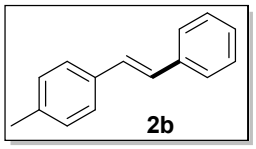


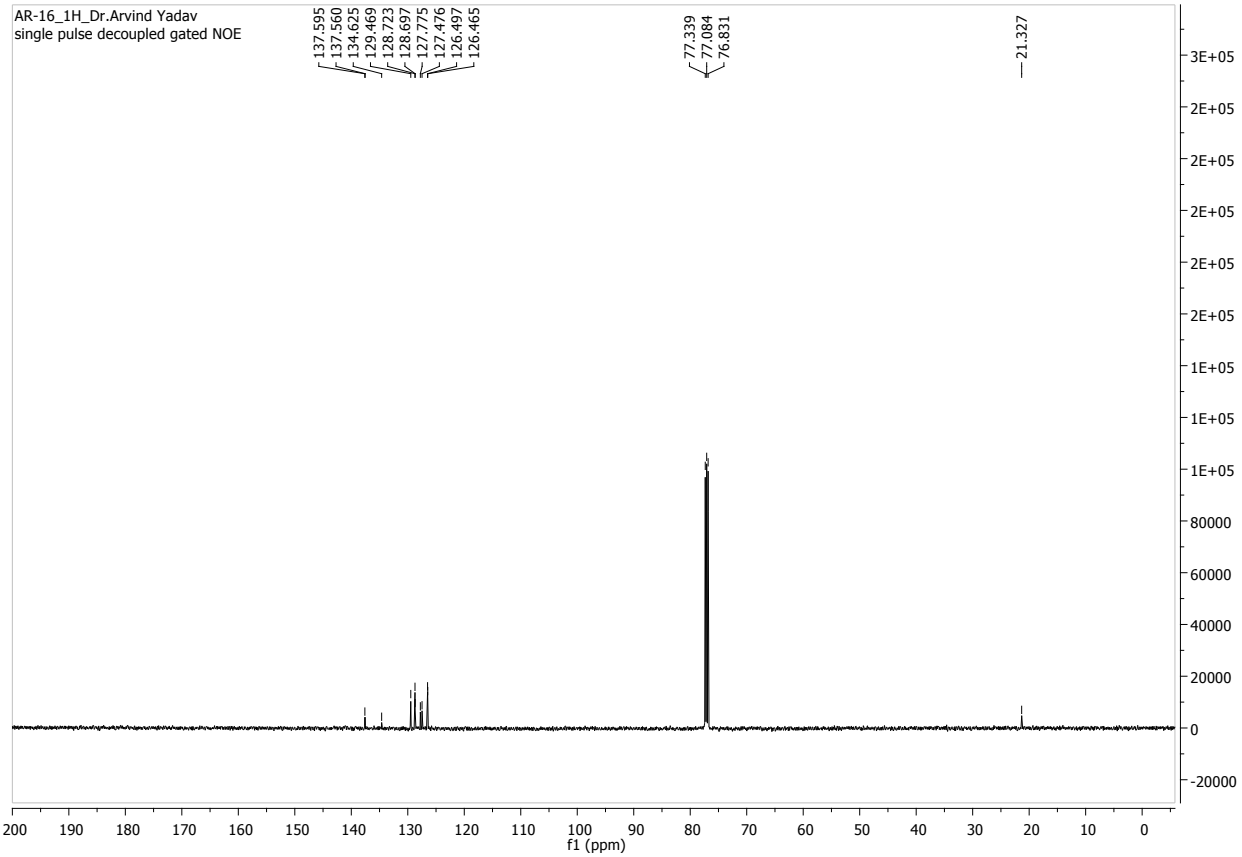
Compound 2b. ^{1}H NMR Spectrum ($CDCl_3$).



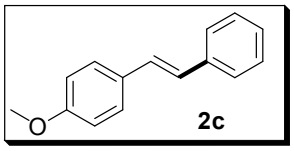


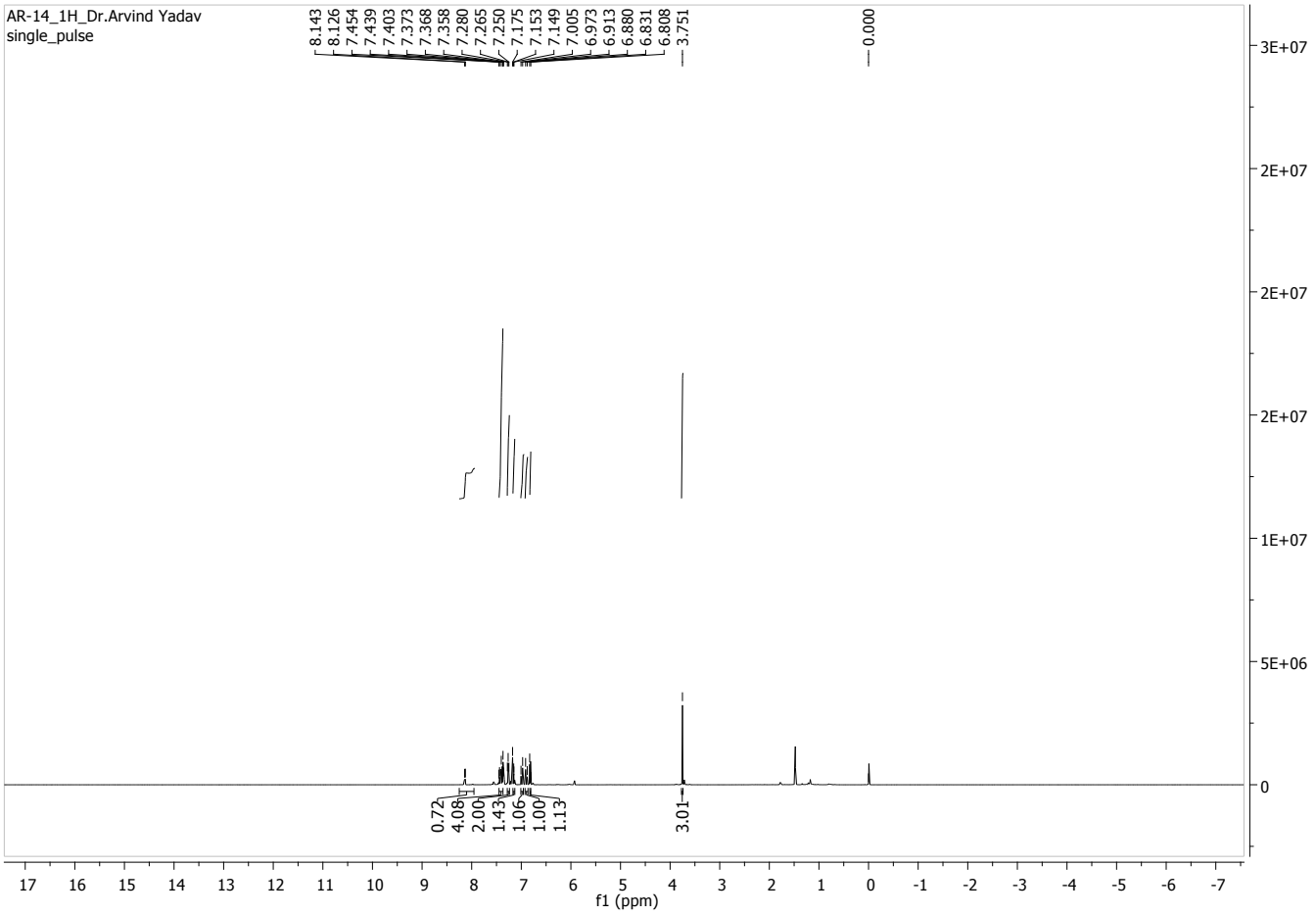
Compound 2b. ^{13}C NMR Spectrum ($CDCl_3$).



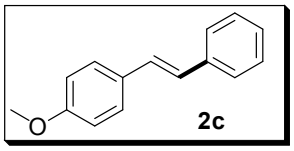


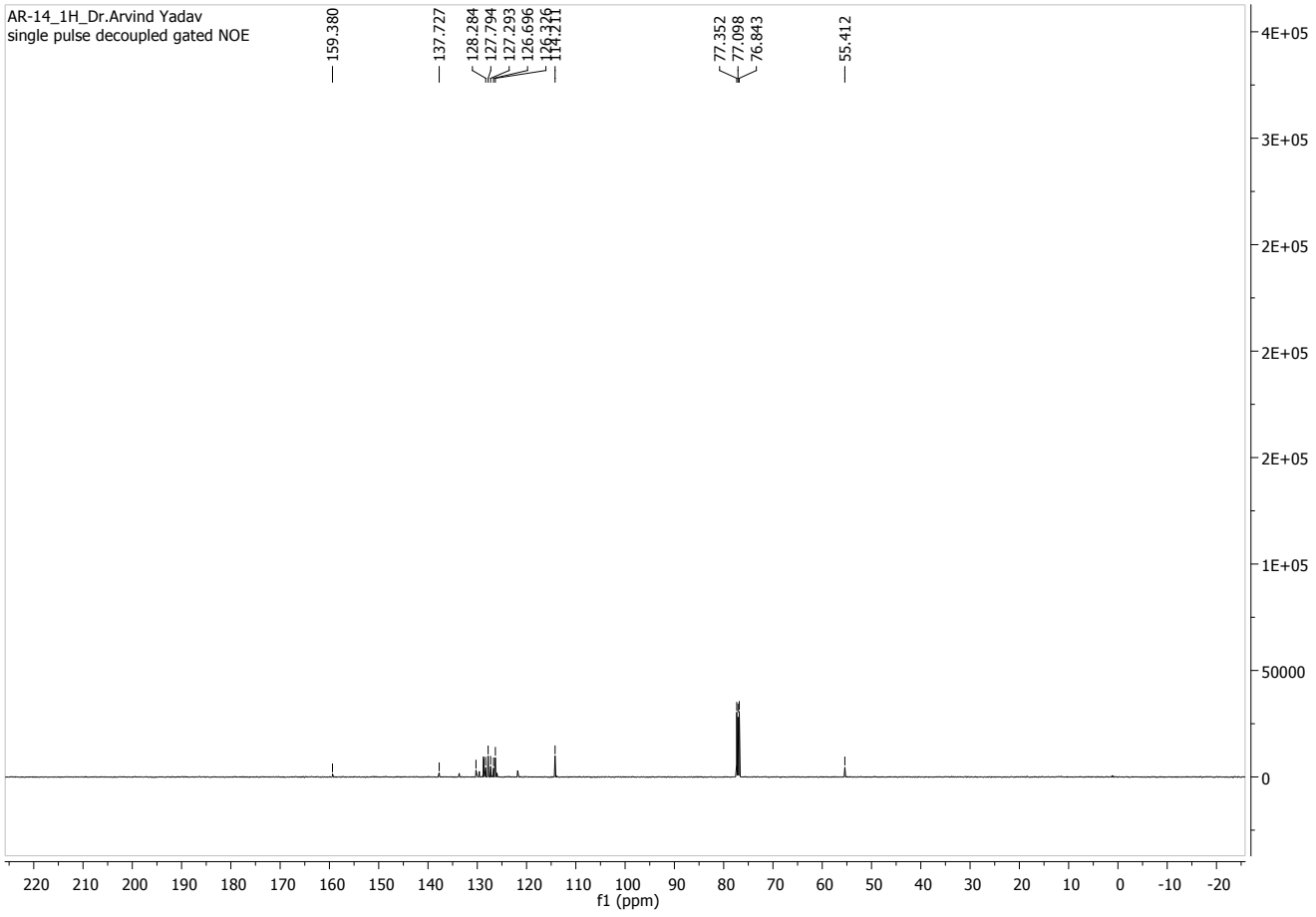
Compound 2c. ^{1}H NMR Spectrum ($CDCl_3$).



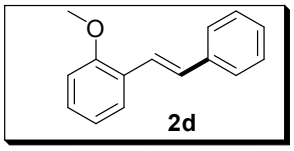


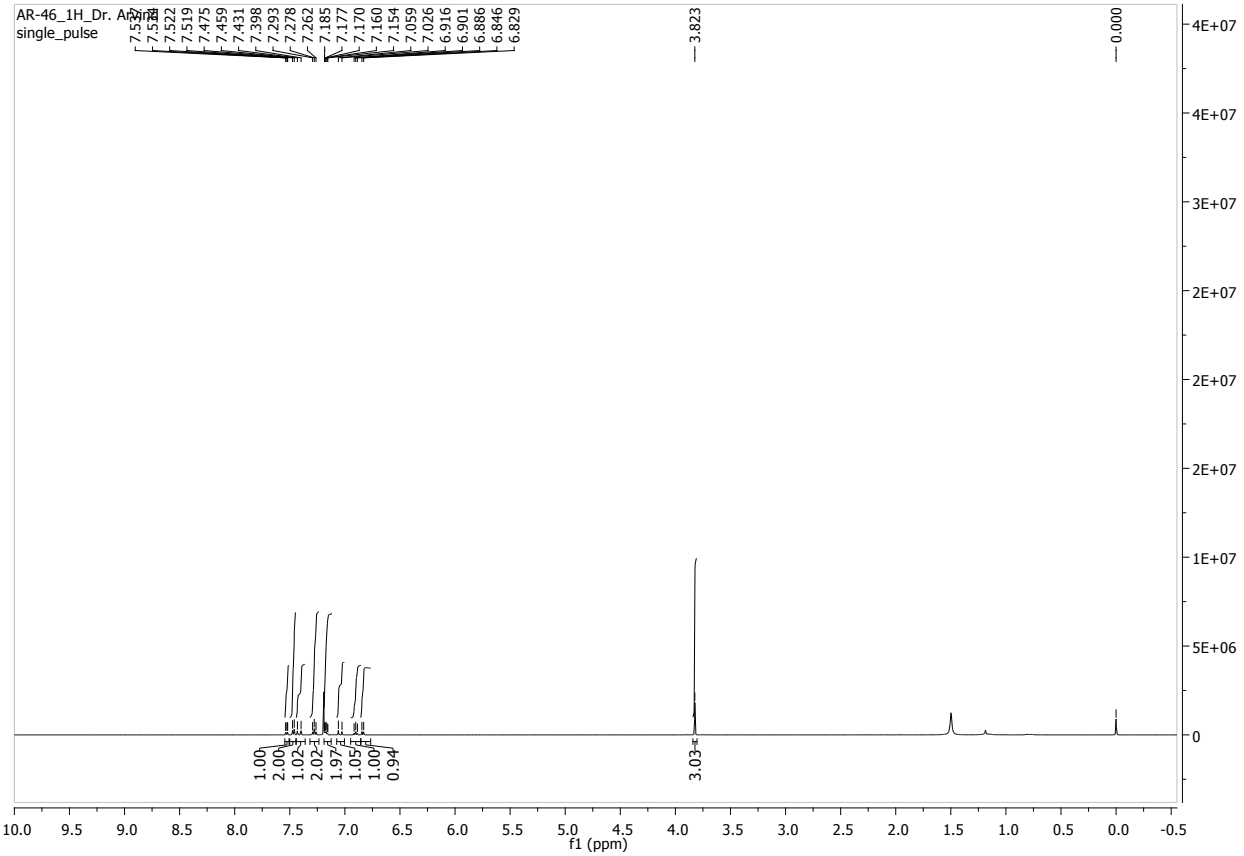
Compound 2c. ^{13}C NMR Spectrum ($CDCl_3$).



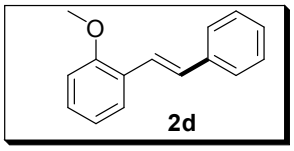


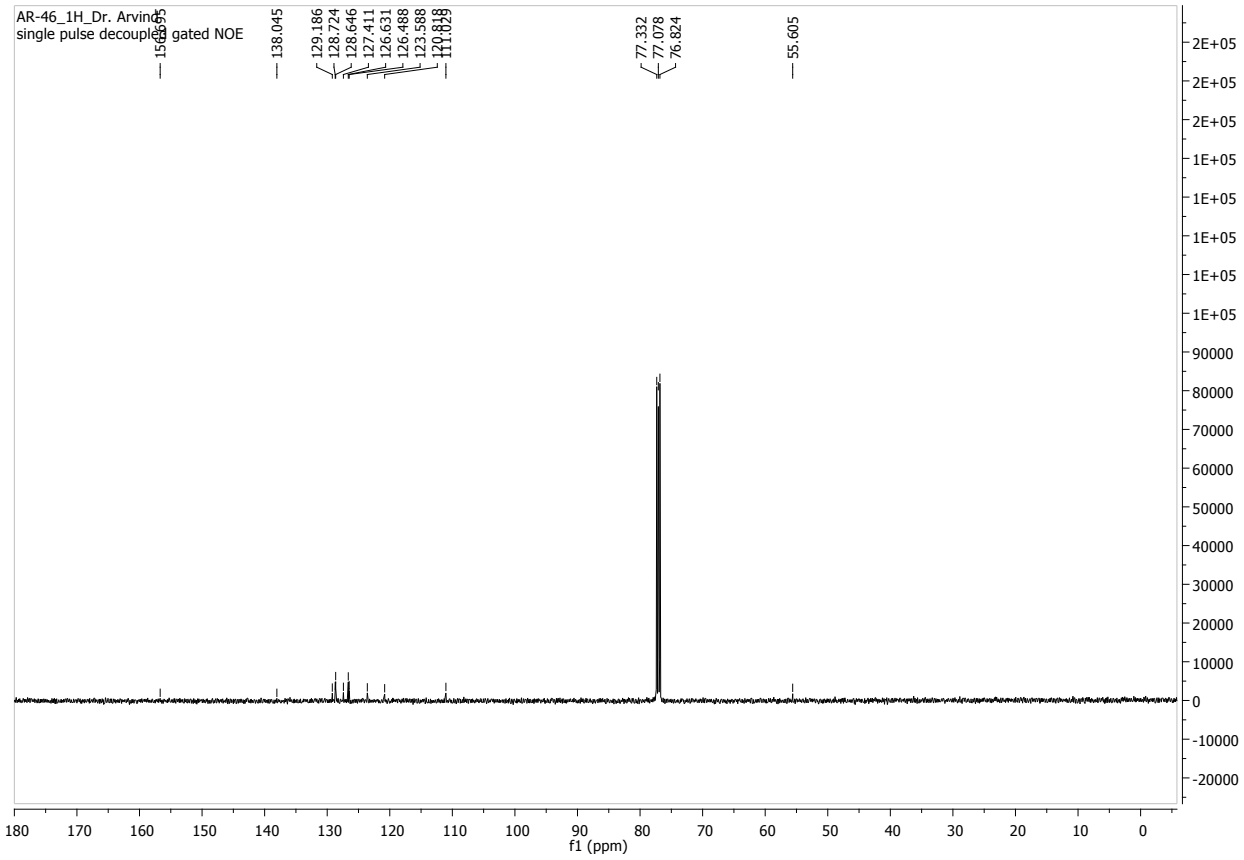
Compound 2d. ^{1}H NMR Spectrum ($CDCl_3$).



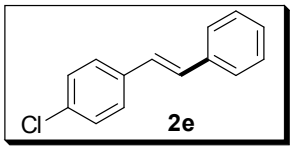


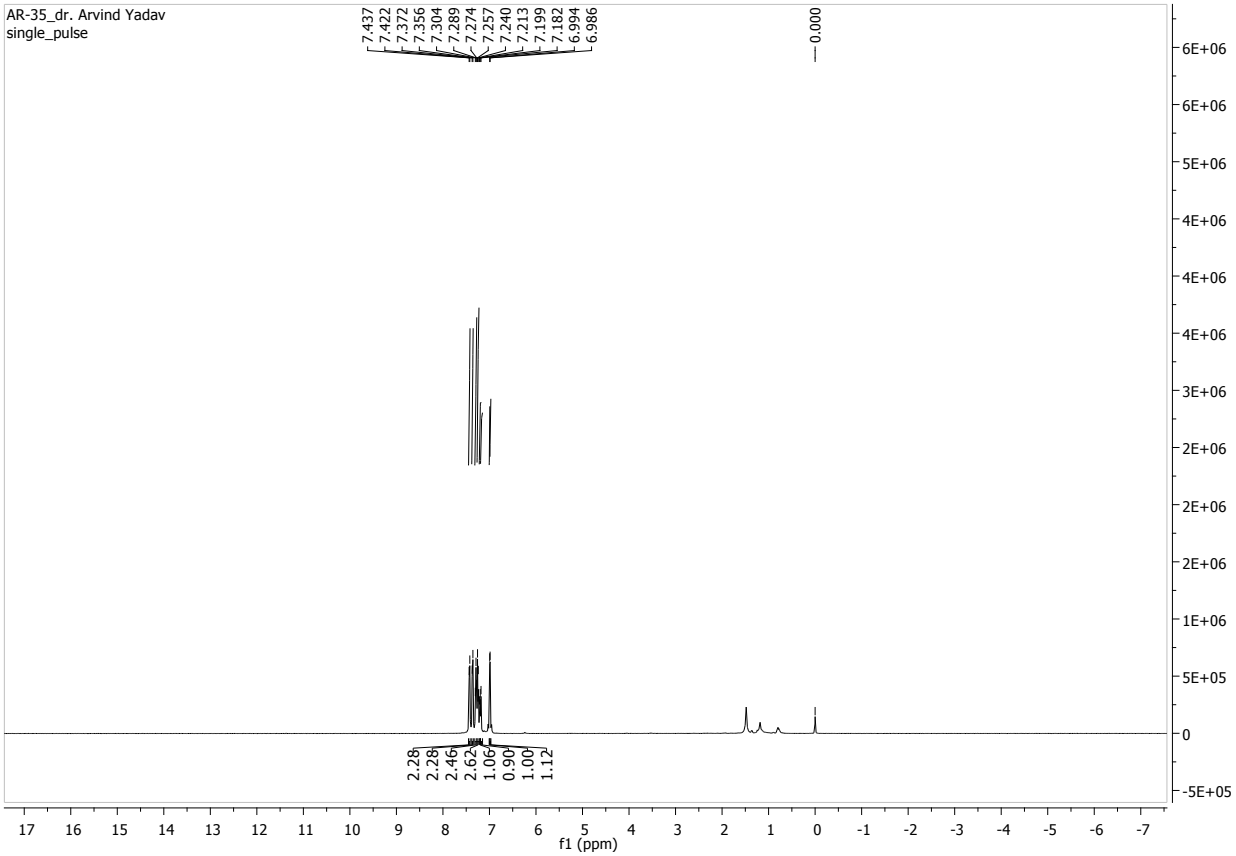
Compound 2d. ^{13}C NMR Spectrum ($CDCl_3$).





Compound 2e. ^{1}H NMR Spectrum ($CDCl_3$).





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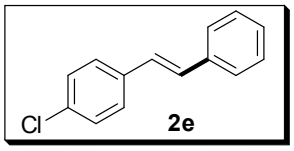
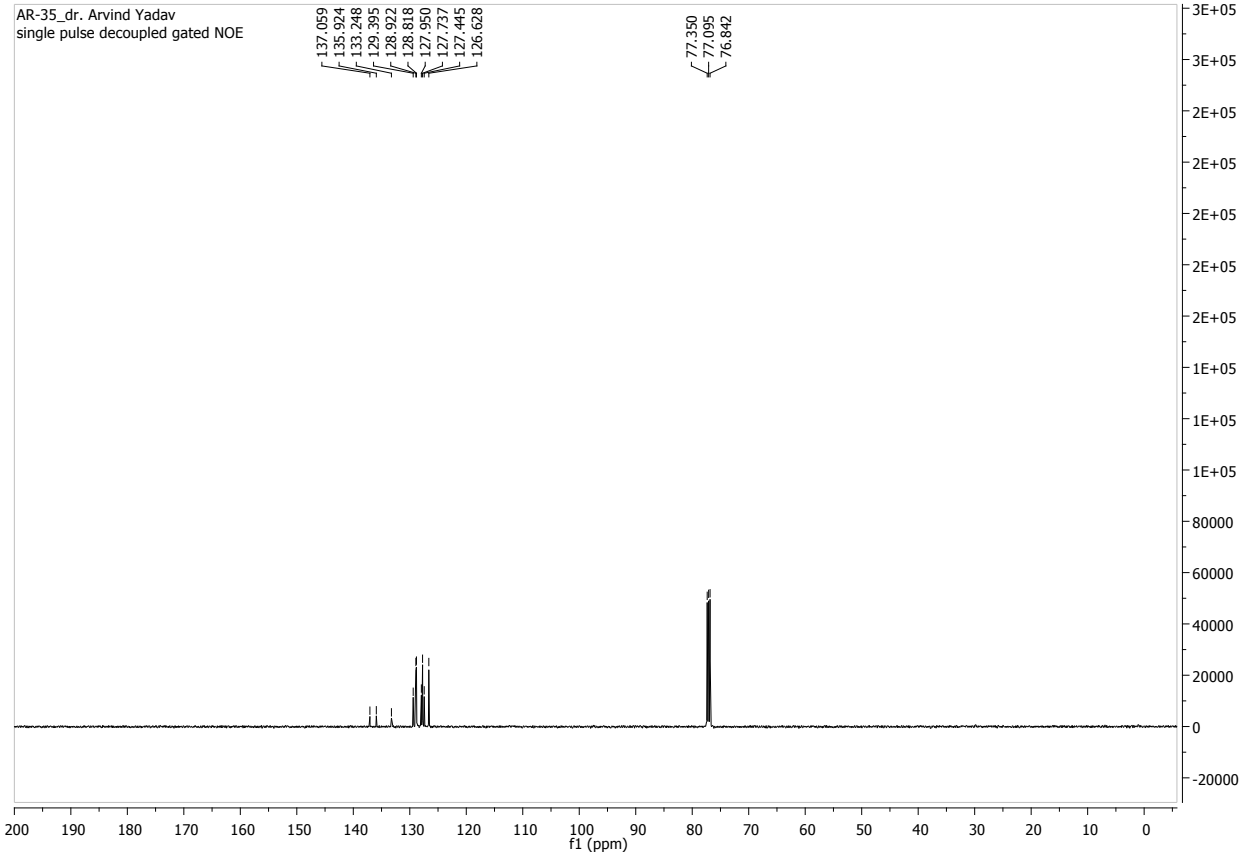
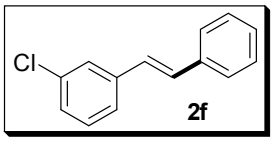
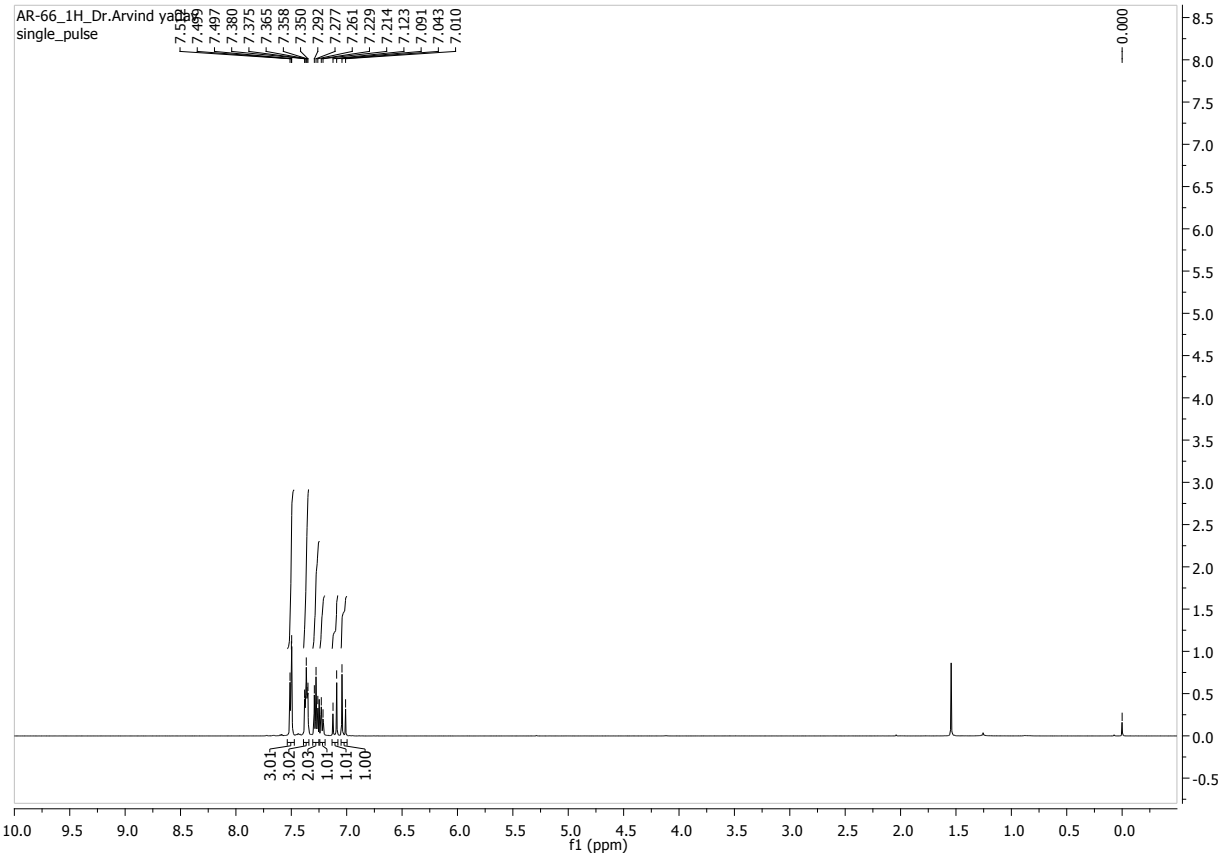


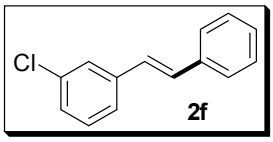


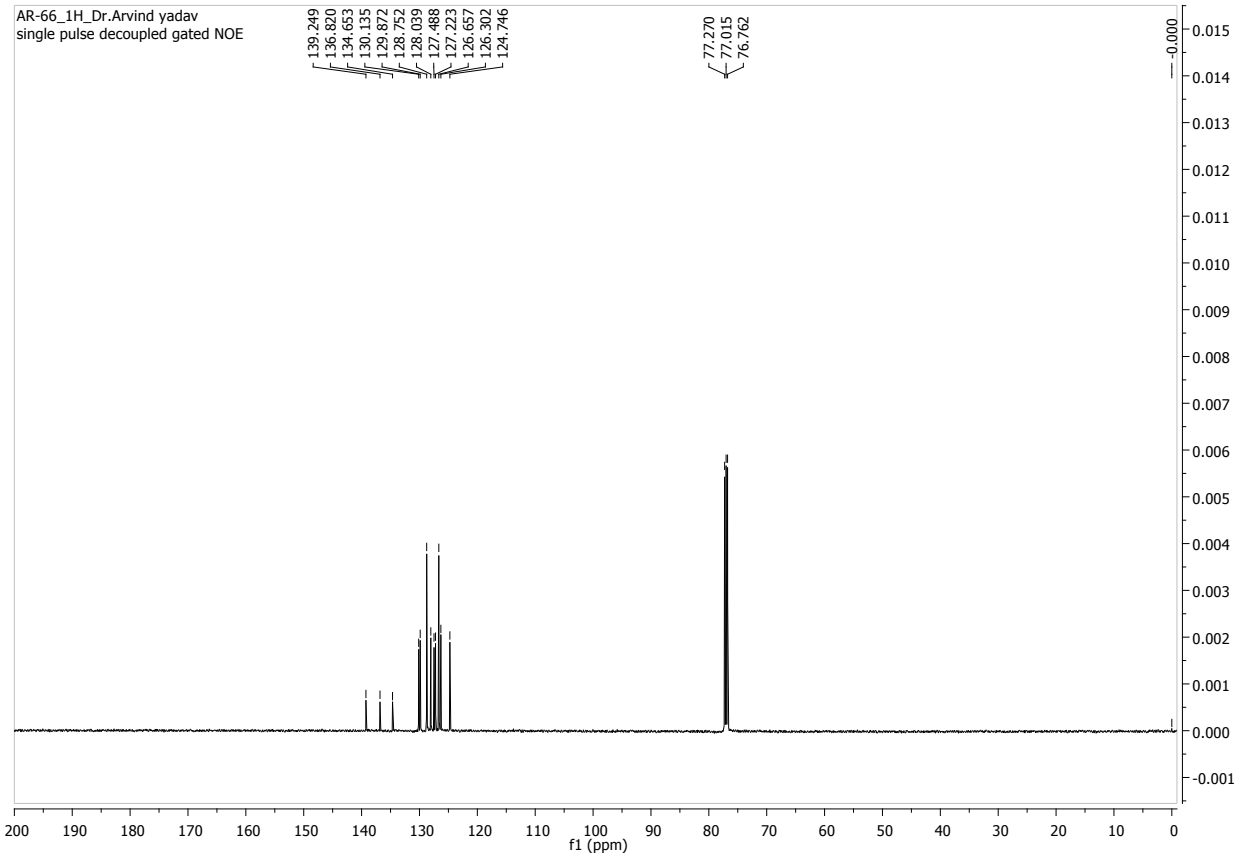
Compound 2f. ^{1}H NMR Spectrum ($CDCl_3$).



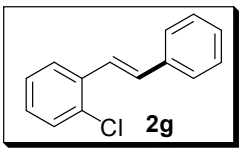


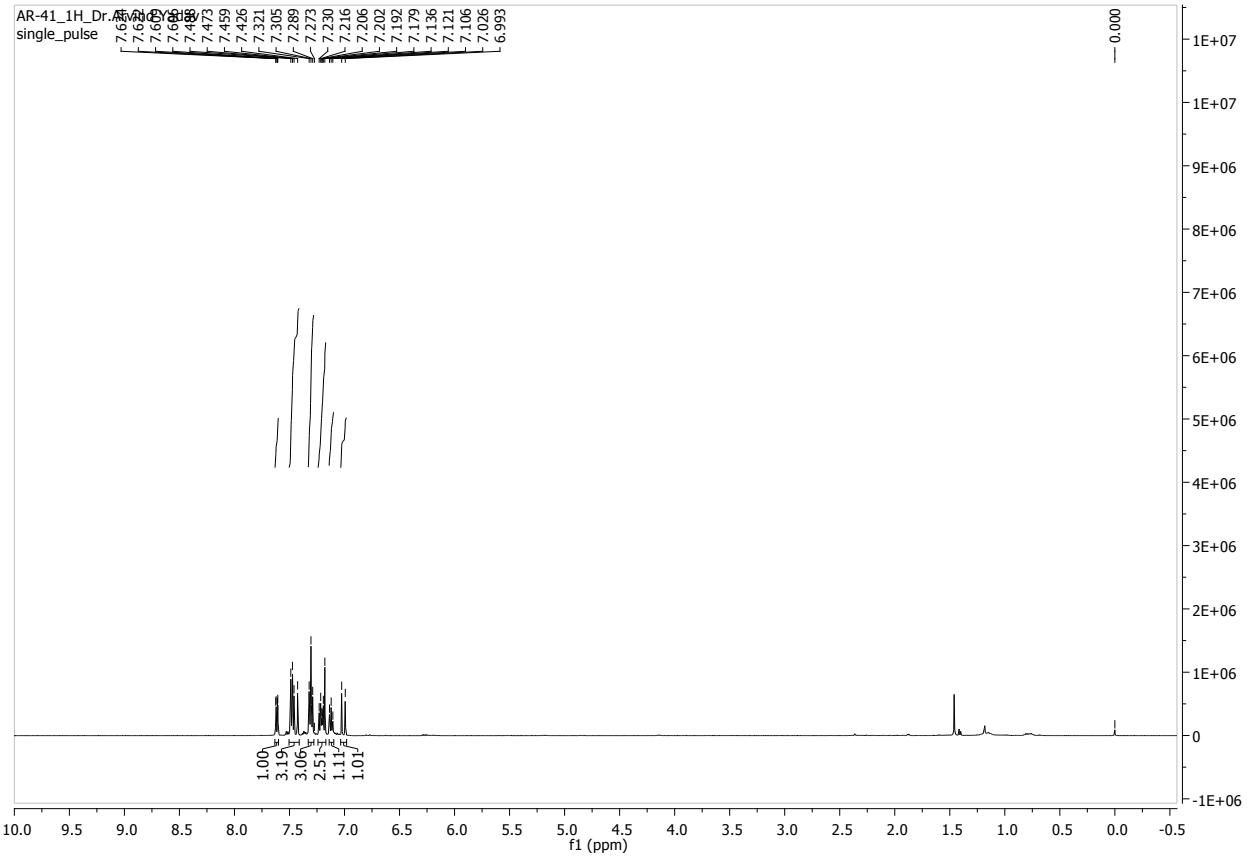
Compound 2f. ^{13}C NMR Spectrum ($CDCl_3$).



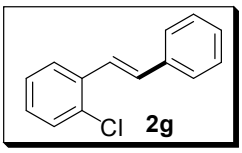


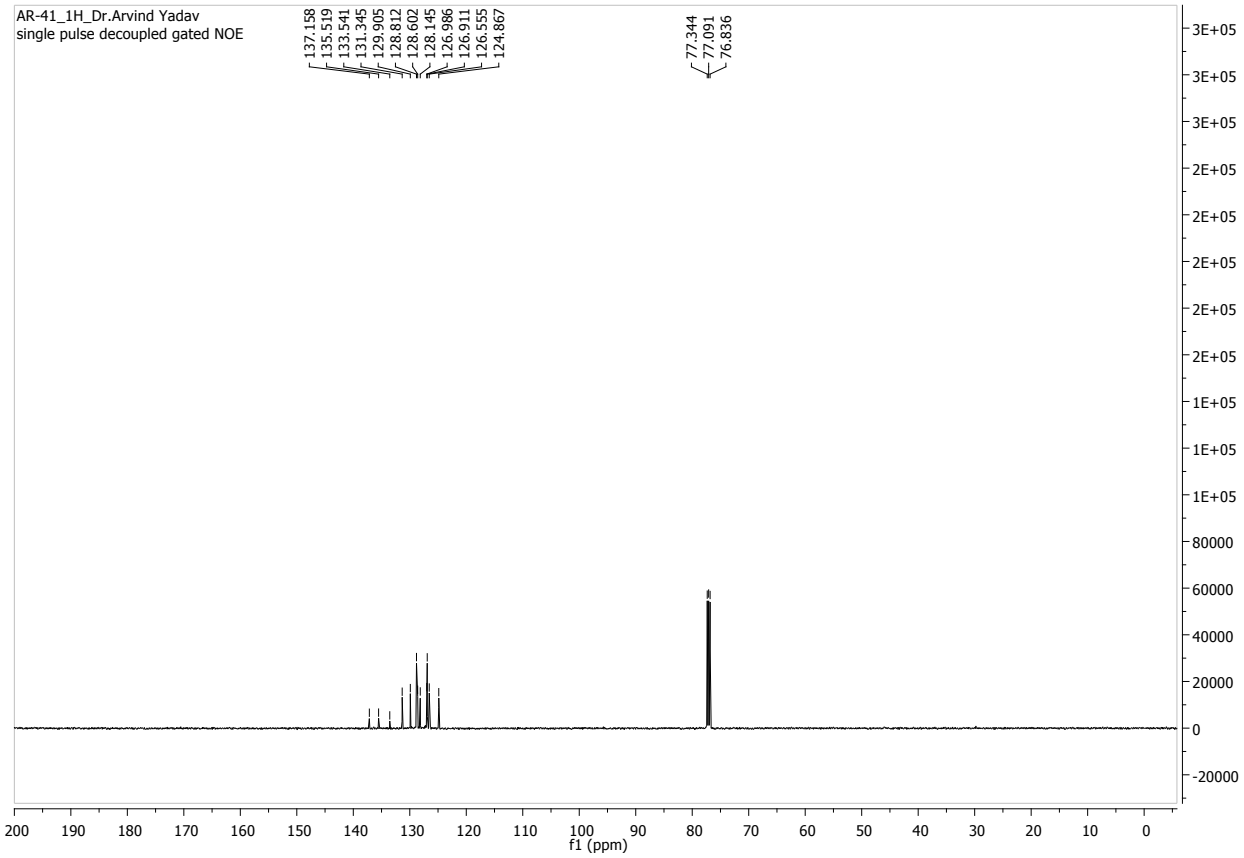
Compound 2g. ^{1}H NMR Spectrum ($CDCl_3$).



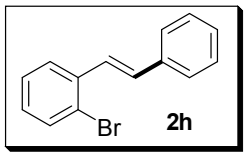


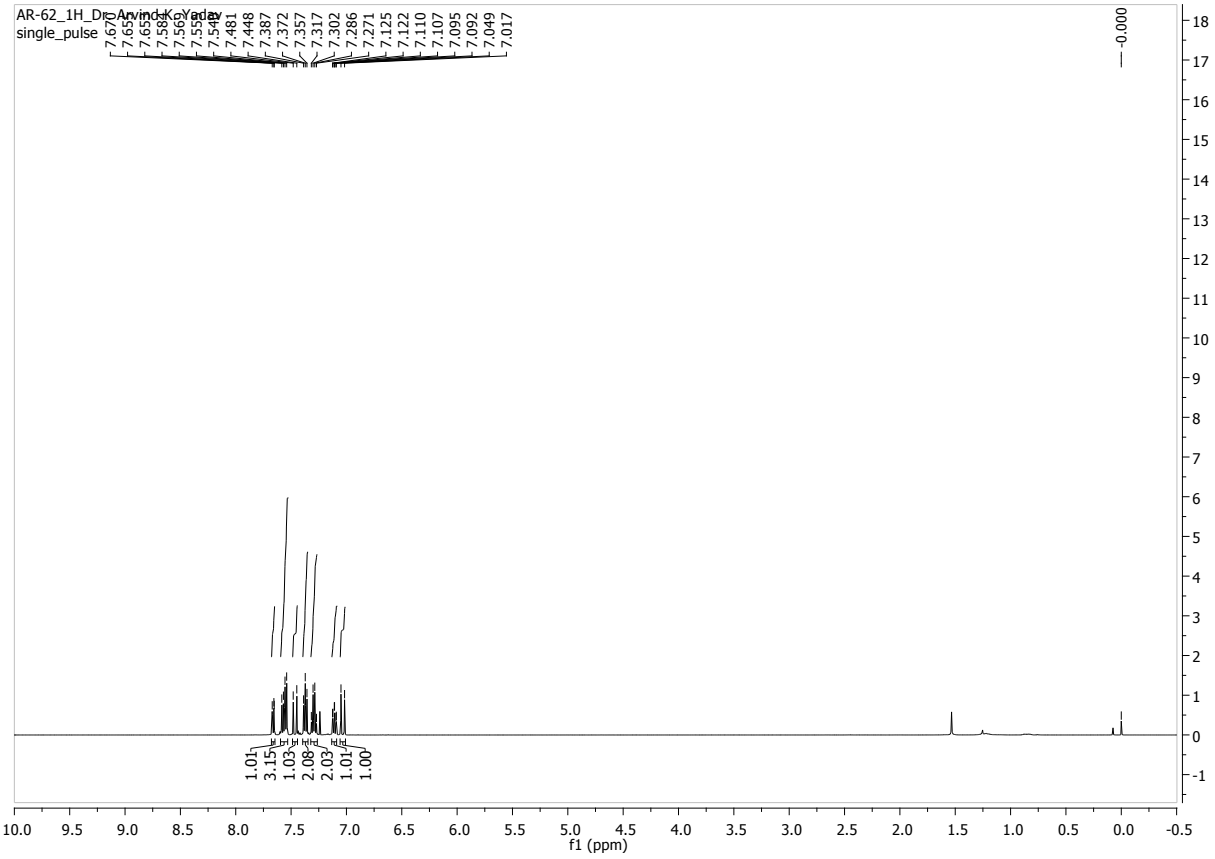
Compound 2f. ^{13}C NMR Spectrum ($CDCl_3$).



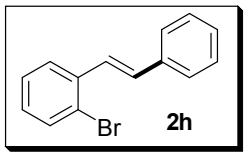


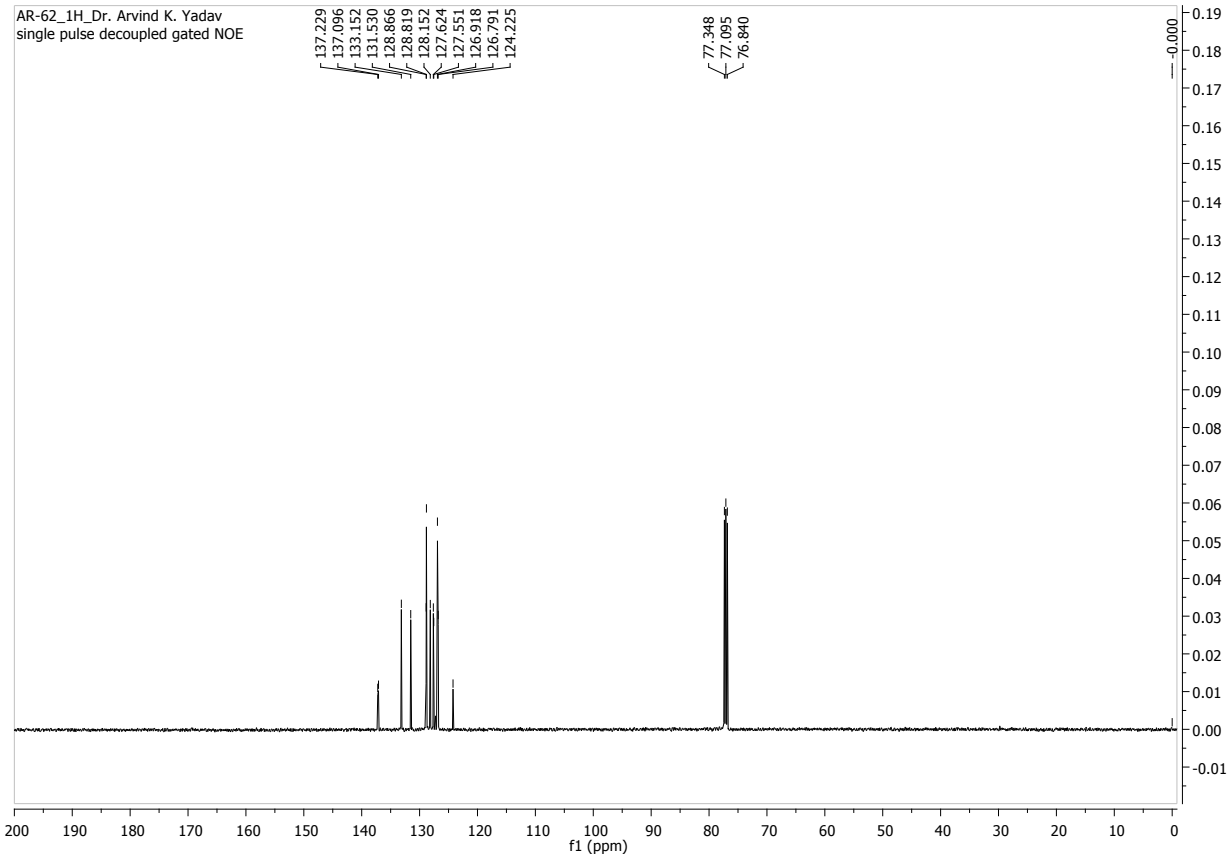
Compound 2h. ^{1}H NMR Spectrum ($CDCl_3$).



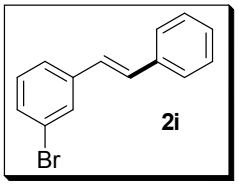


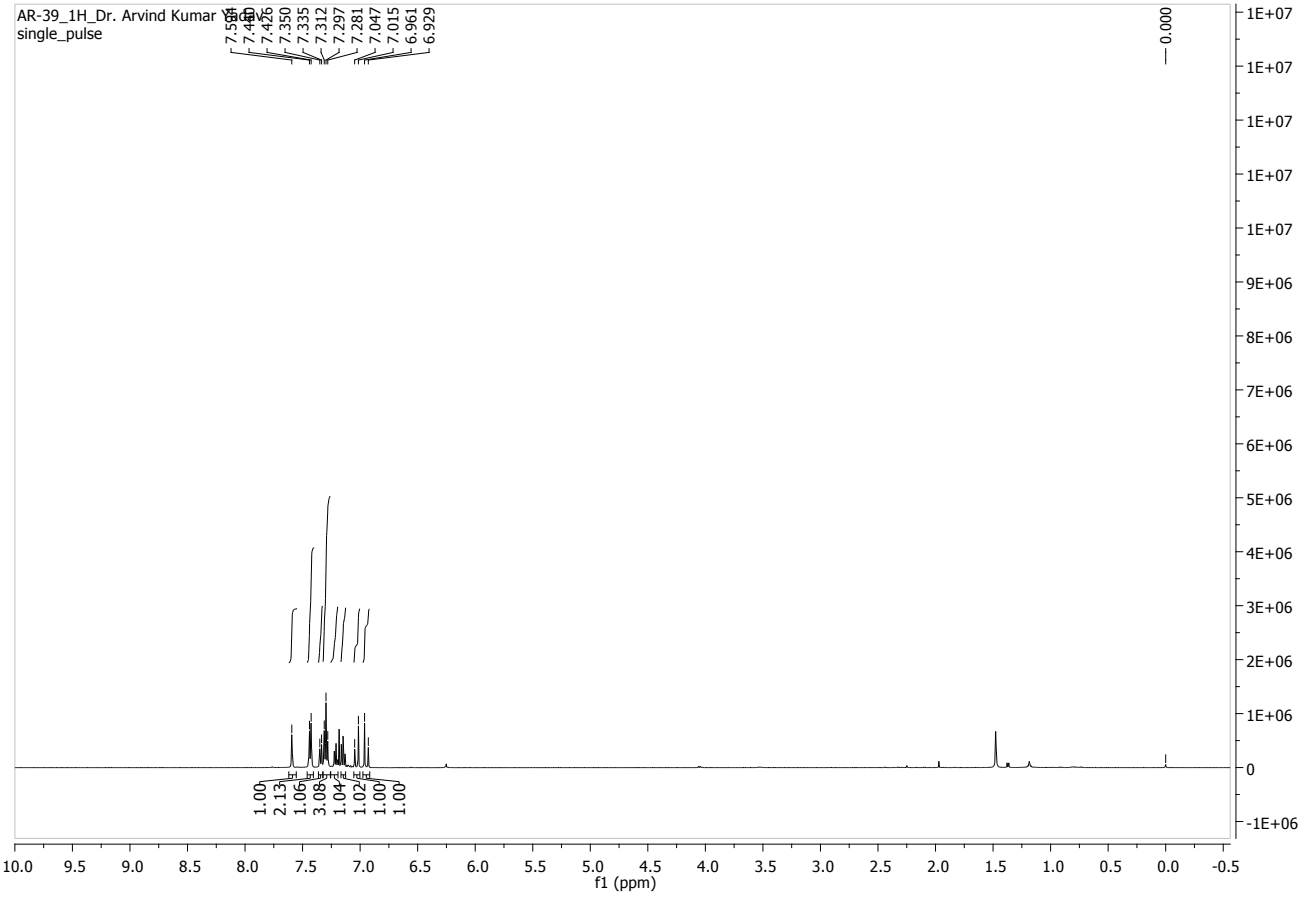
Compound 2h. ^{13}C NMR Spectrum ($CDCl_3$).



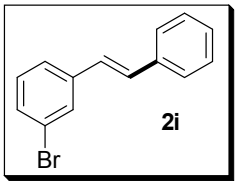


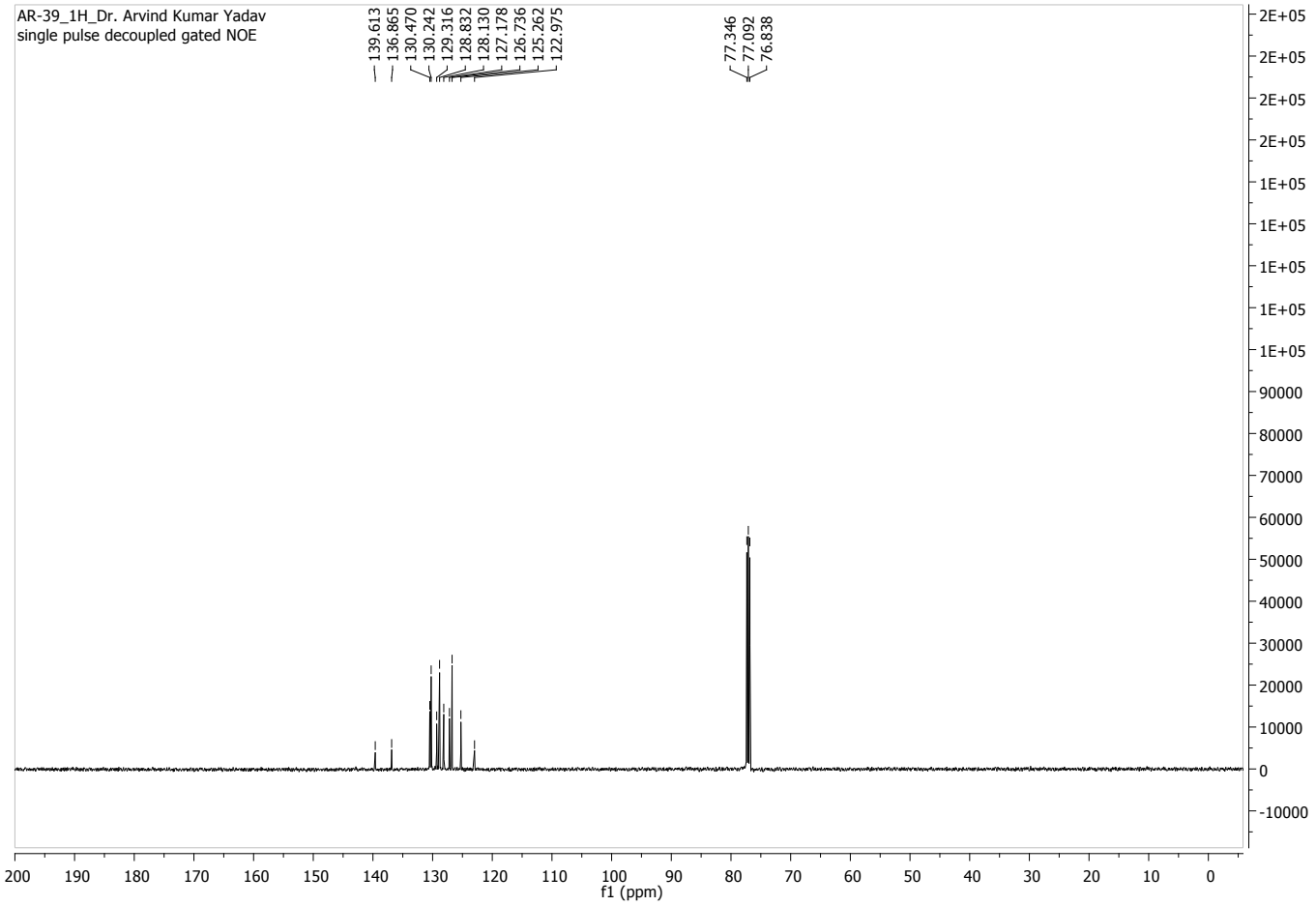
Compound 2i. ^{1}H NMR Spectrum ($CDCl_3$).



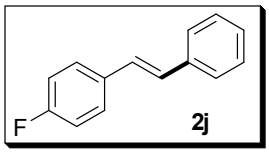


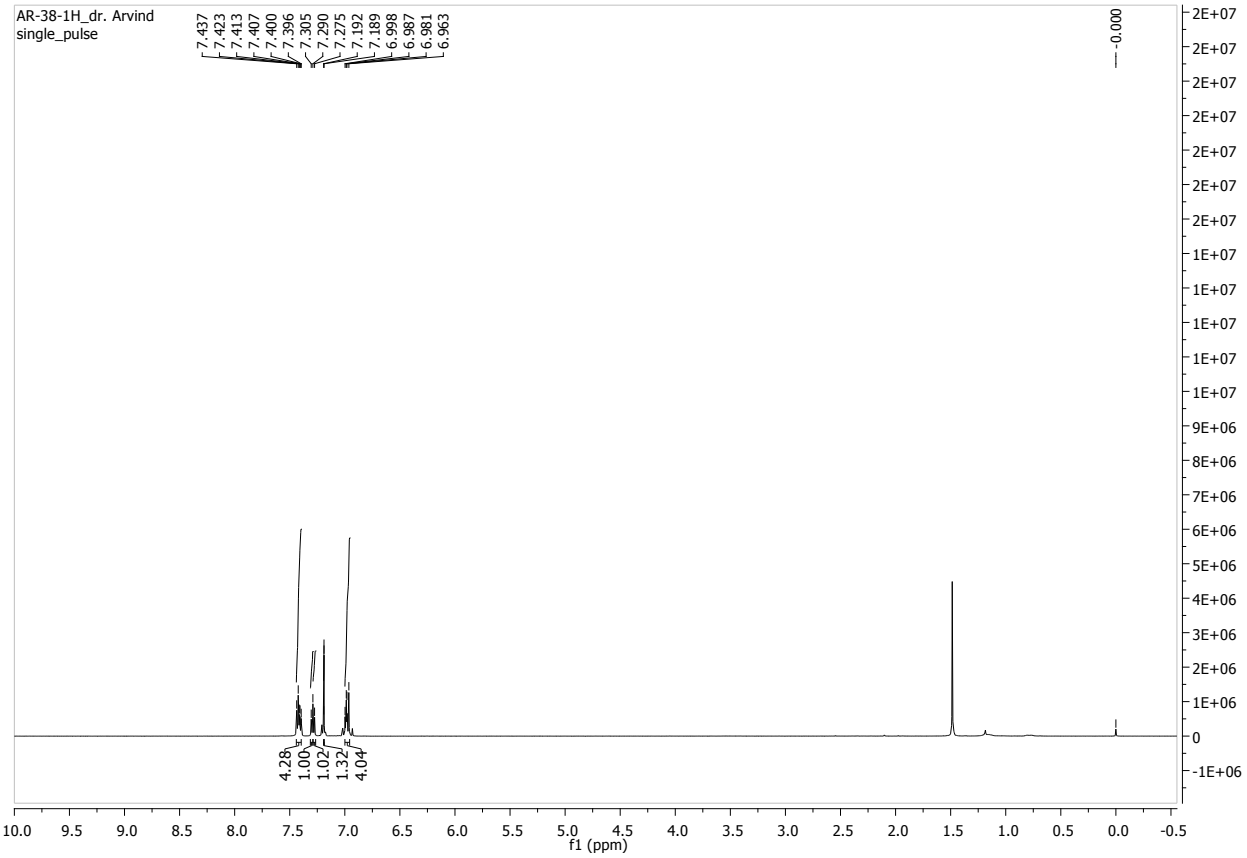
Compound 2i. ^{13}C NMR Spectrum ($CDCl_3$).





Compound 2j. ^{1}H NMR Spectrum ($CDCl_3$).





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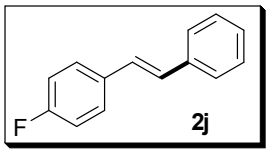
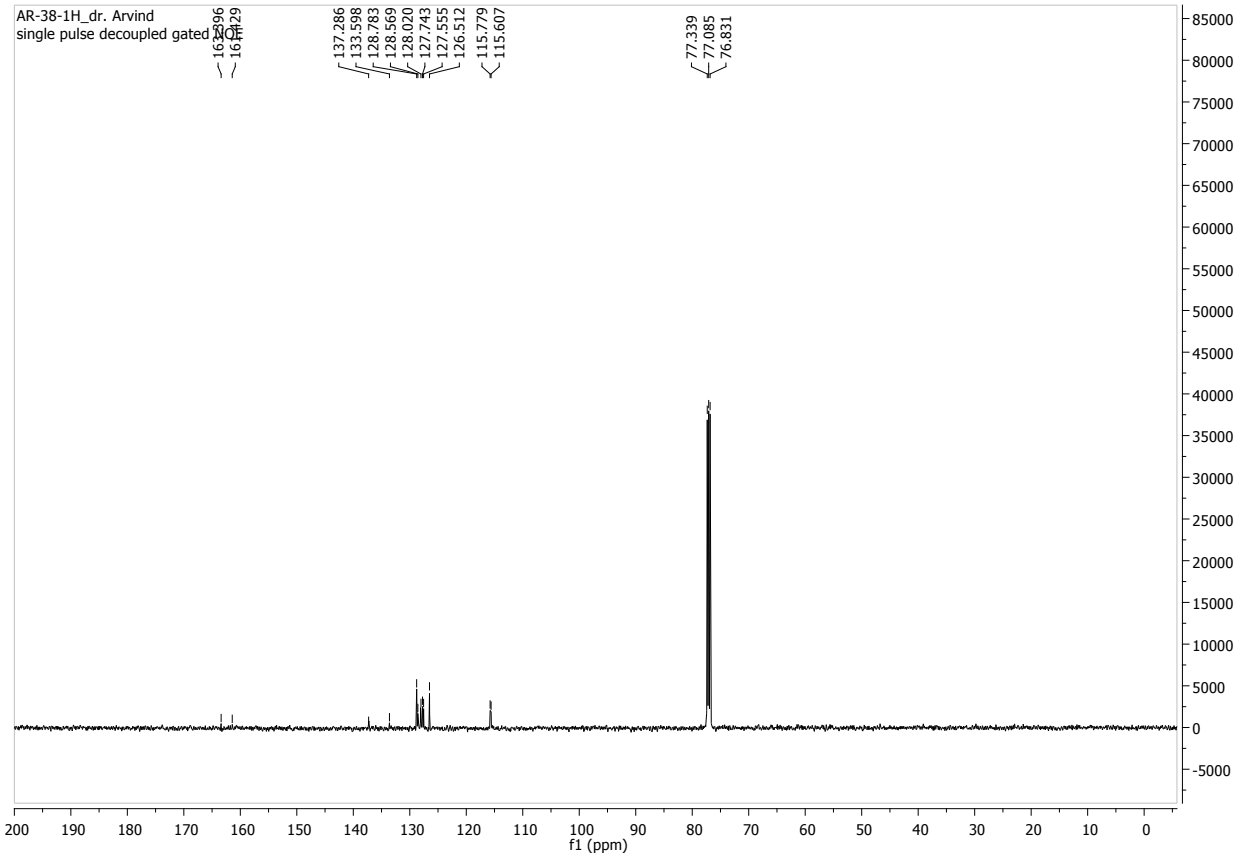
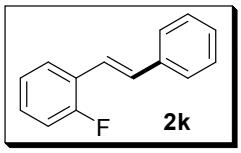
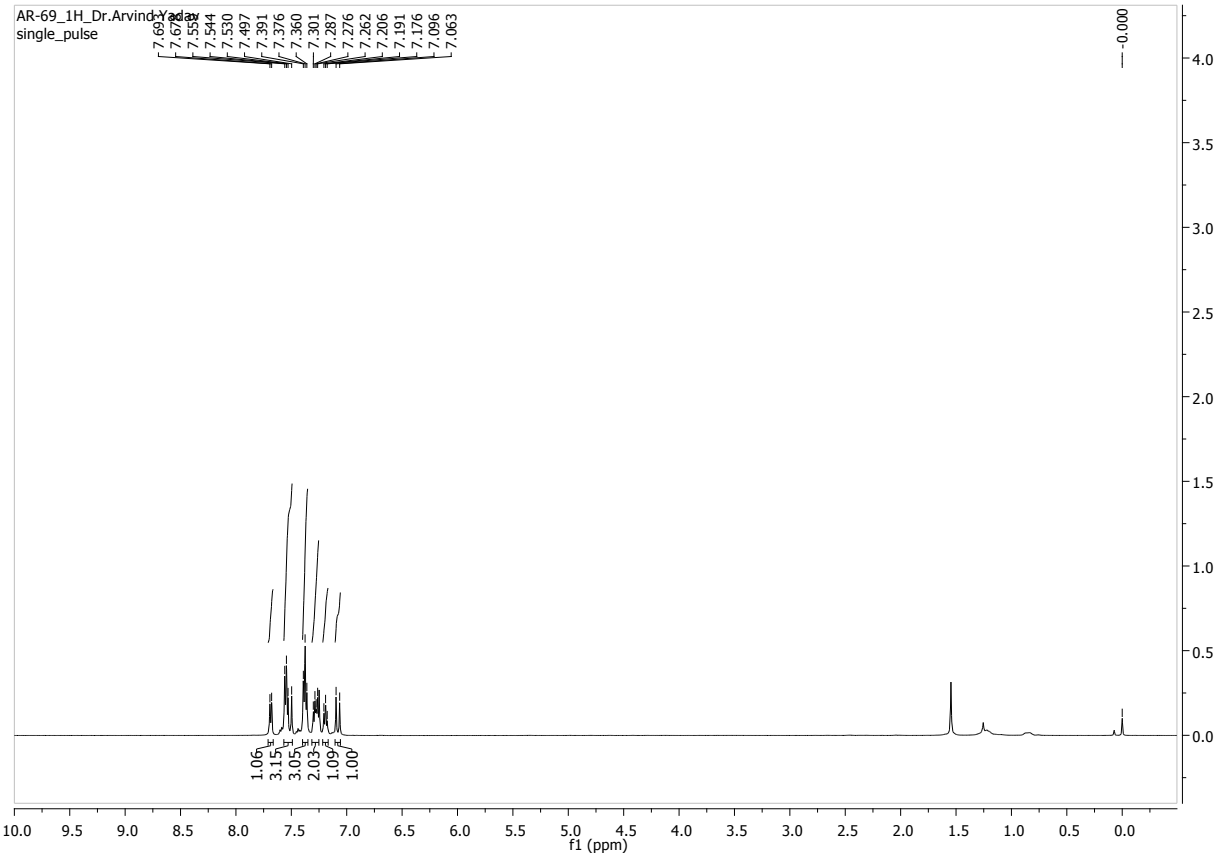


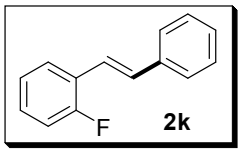


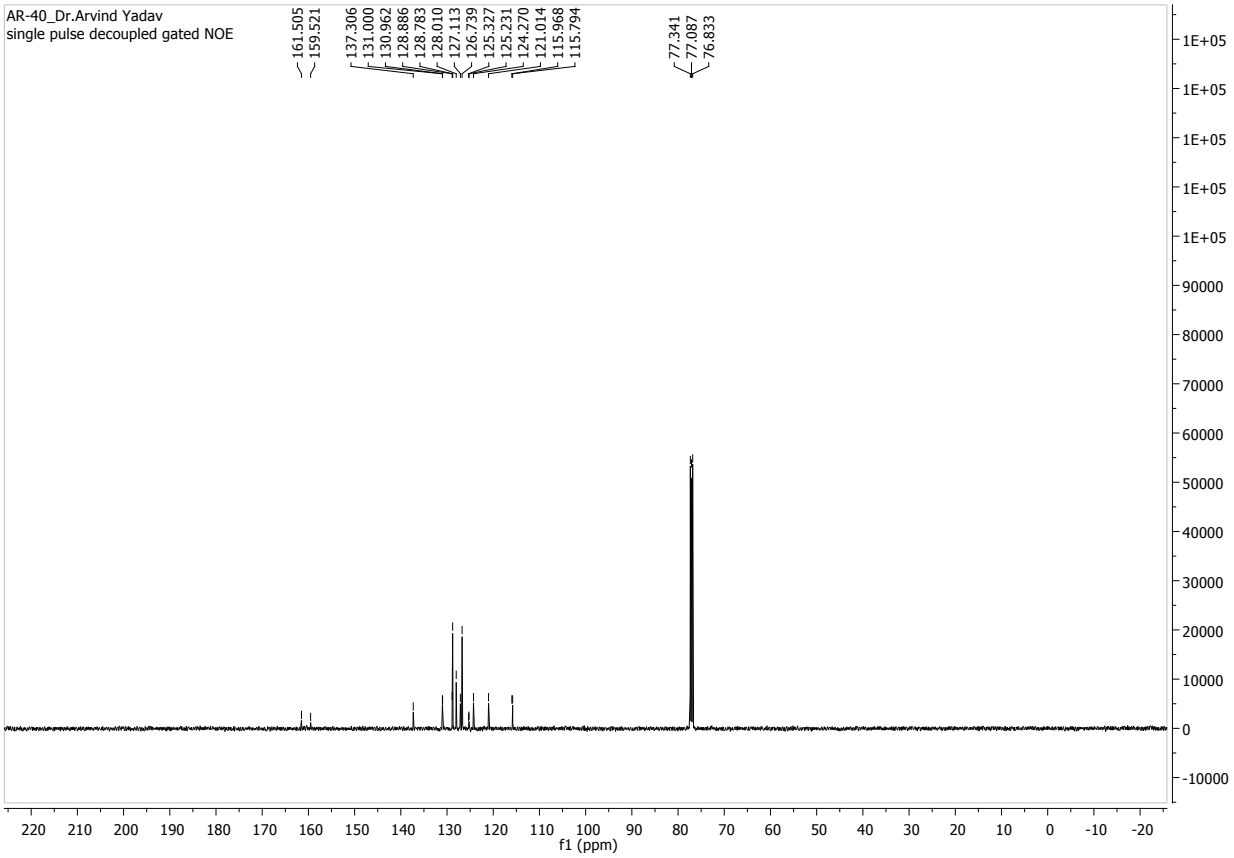
Compound 2k. ^{1}H NMR Spectrum ($CDCl_3$).



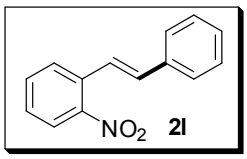


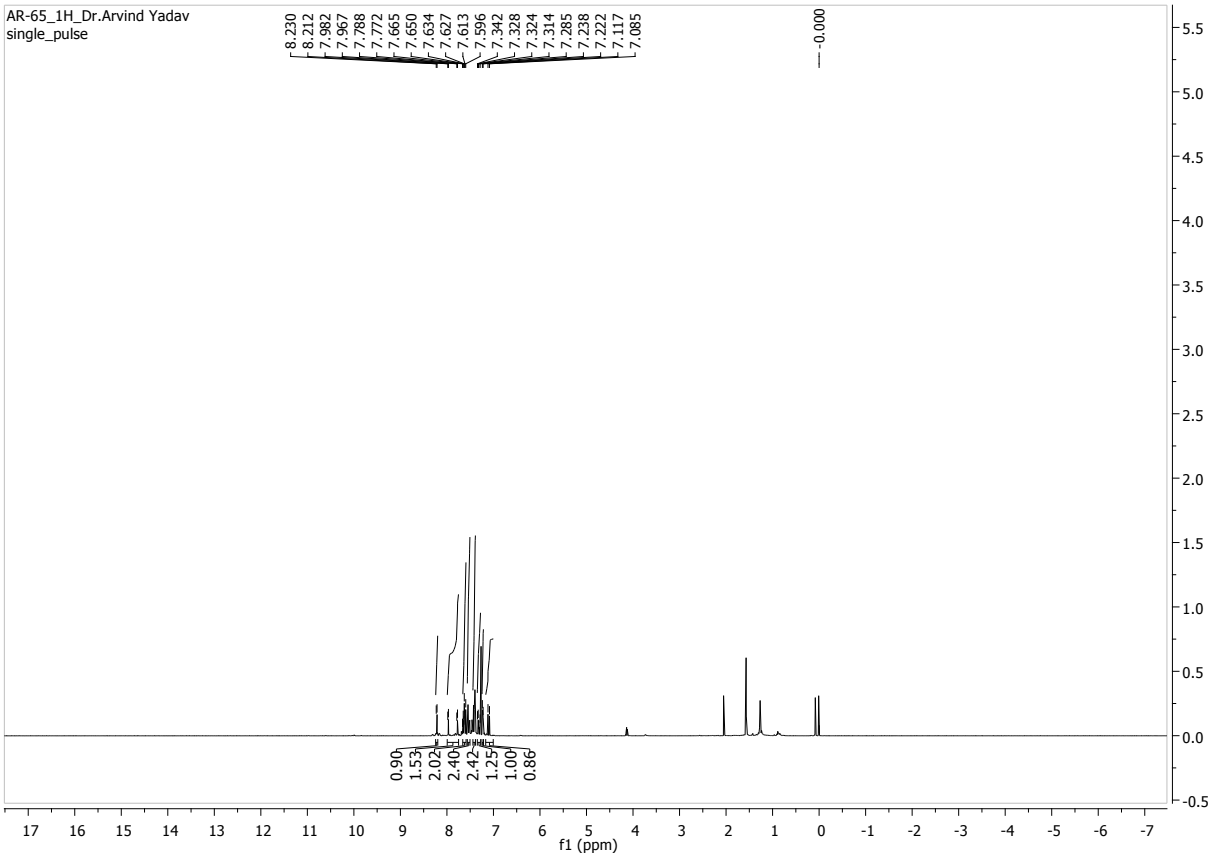
Compound 2k. ^{1}H NMR Spectrum ($CDCl_3$).



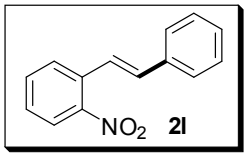


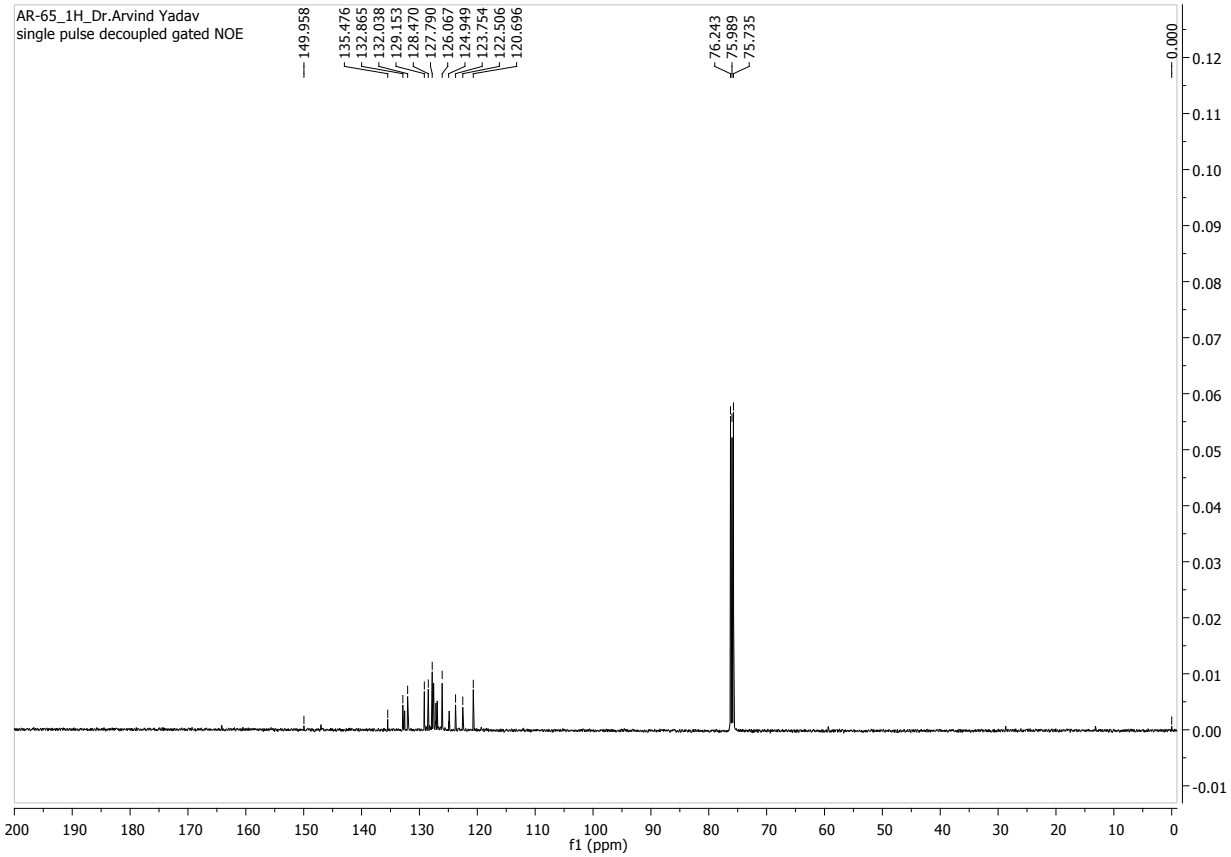
Compound 2l. ^{1}H NMR Spectrum ($CDCl_3$).



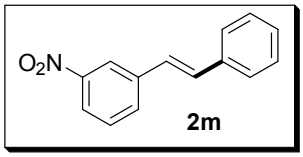


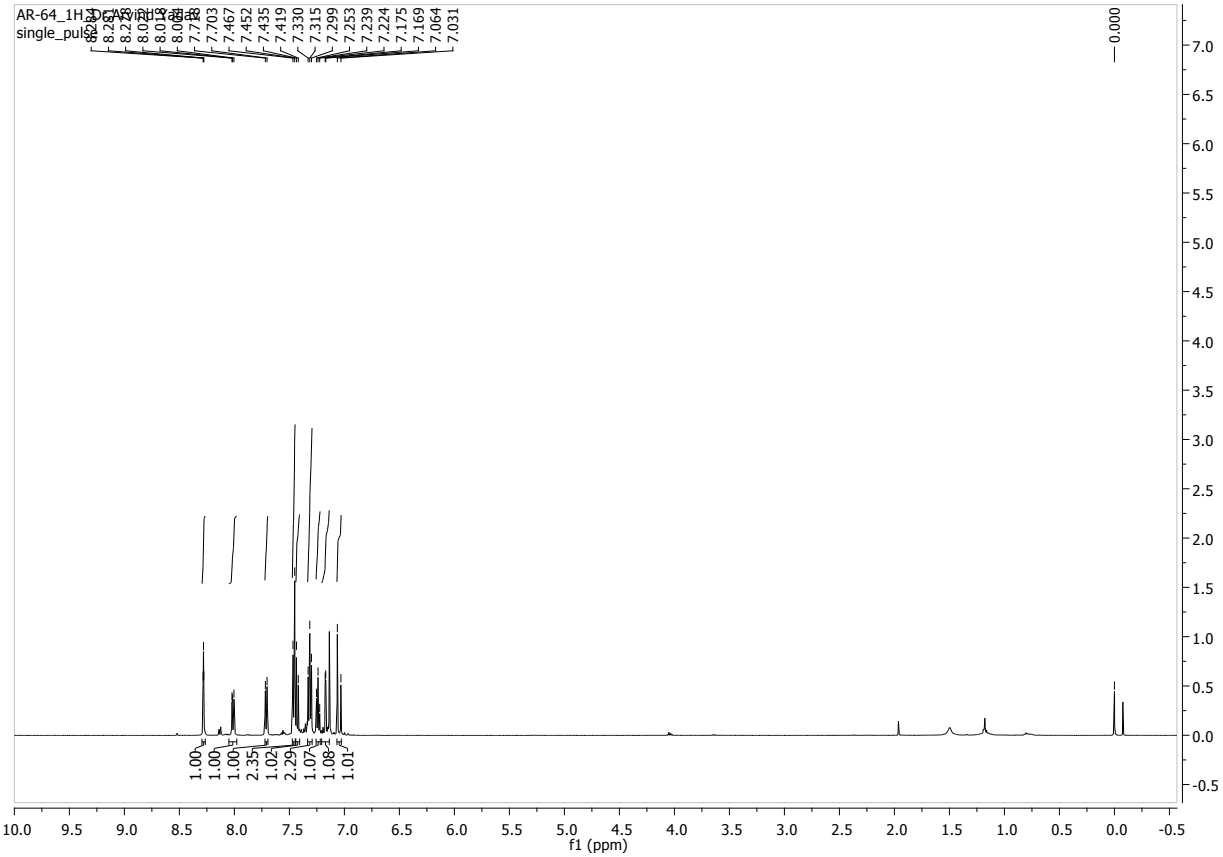
Compound 2l. ^{13}C NMR Spectrum ($CDCl_3$).



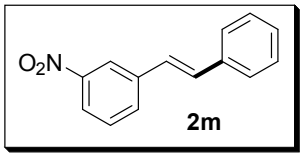


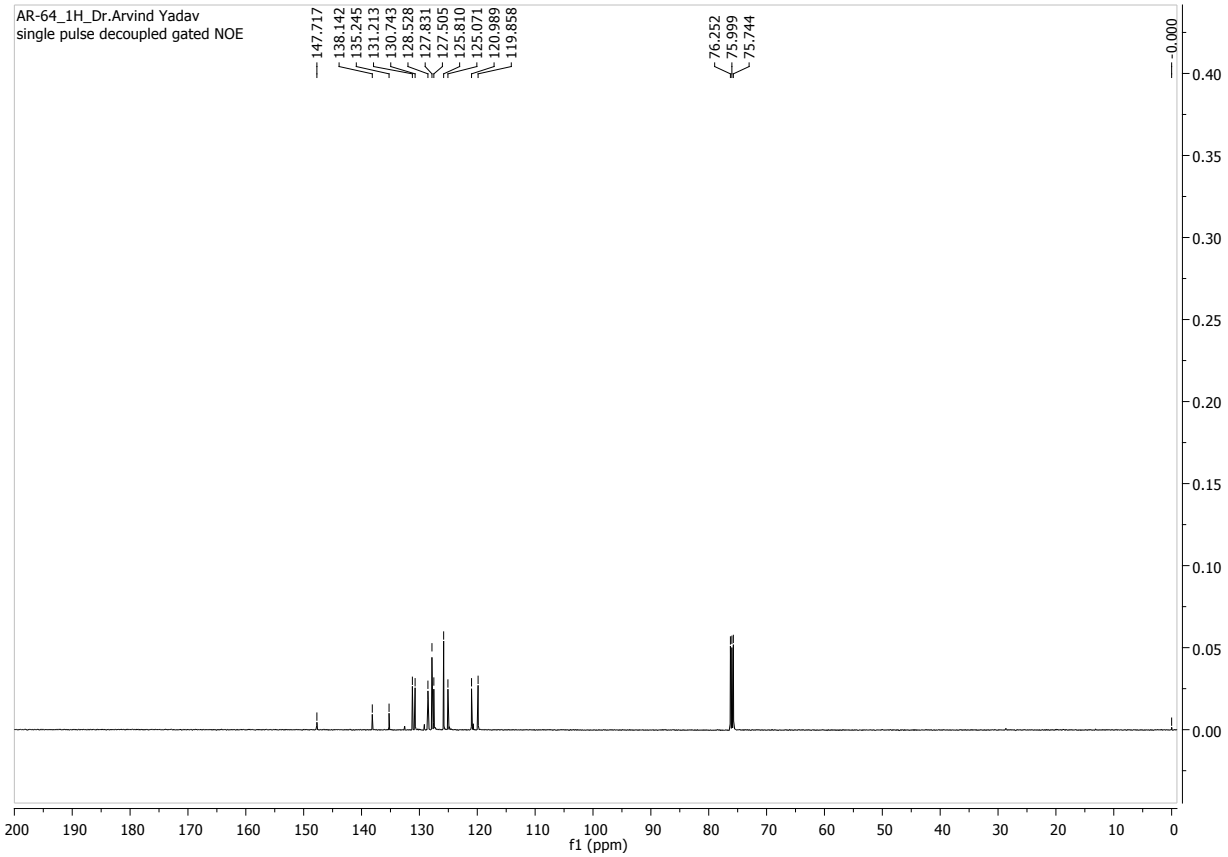
Compound 2m. ^{1}H NMR Spectrum ($CDCl_3$).



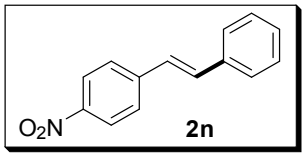


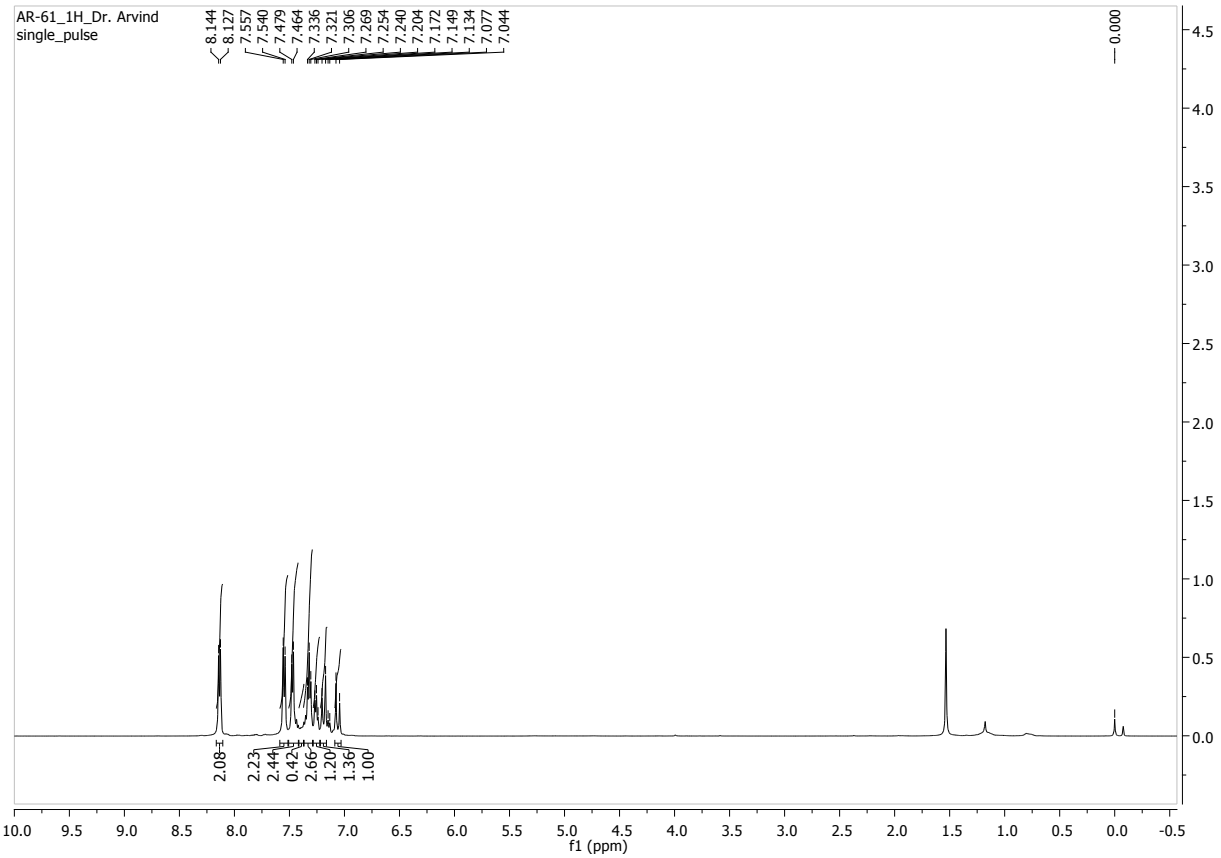
Compound 2m. ^{13}C NMR Spectrum ($CDCl_3$).



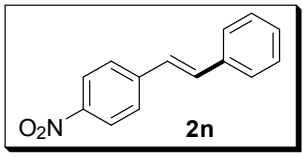


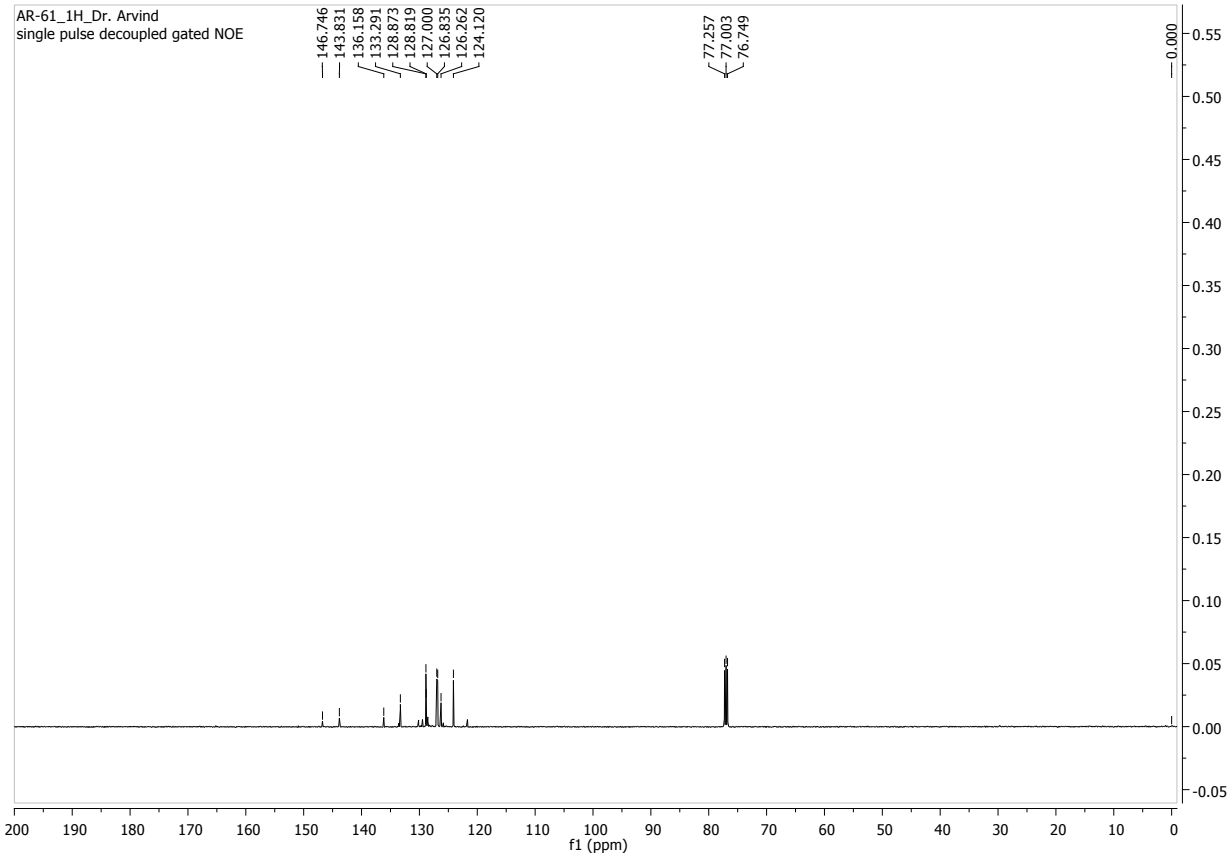
Compound 2n. ^{1}H NMR Spectrum ($CDCl_3$).



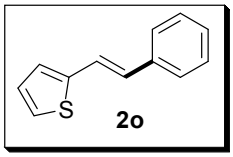


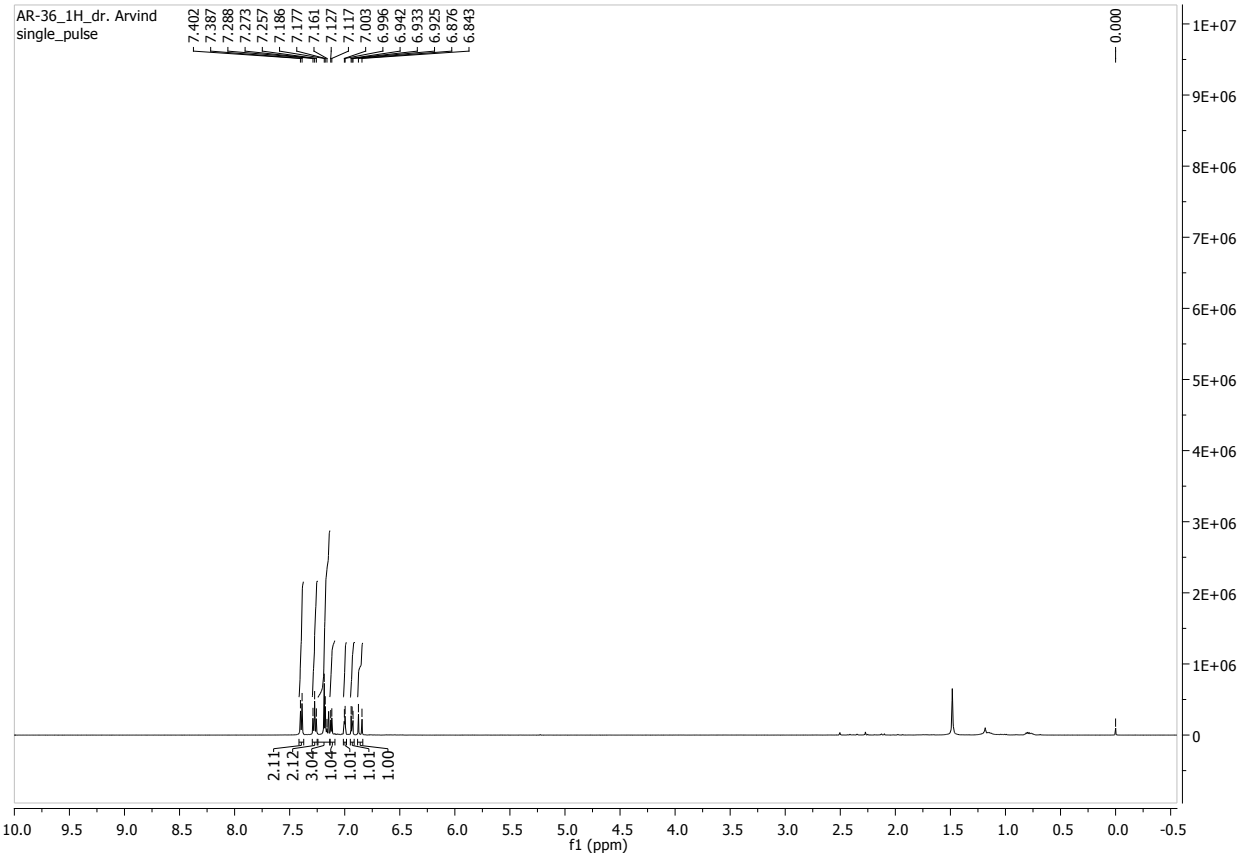
Compound 2n. ^{13}C NMR Spectrum ($CDCl_3$).



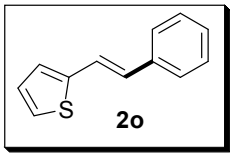


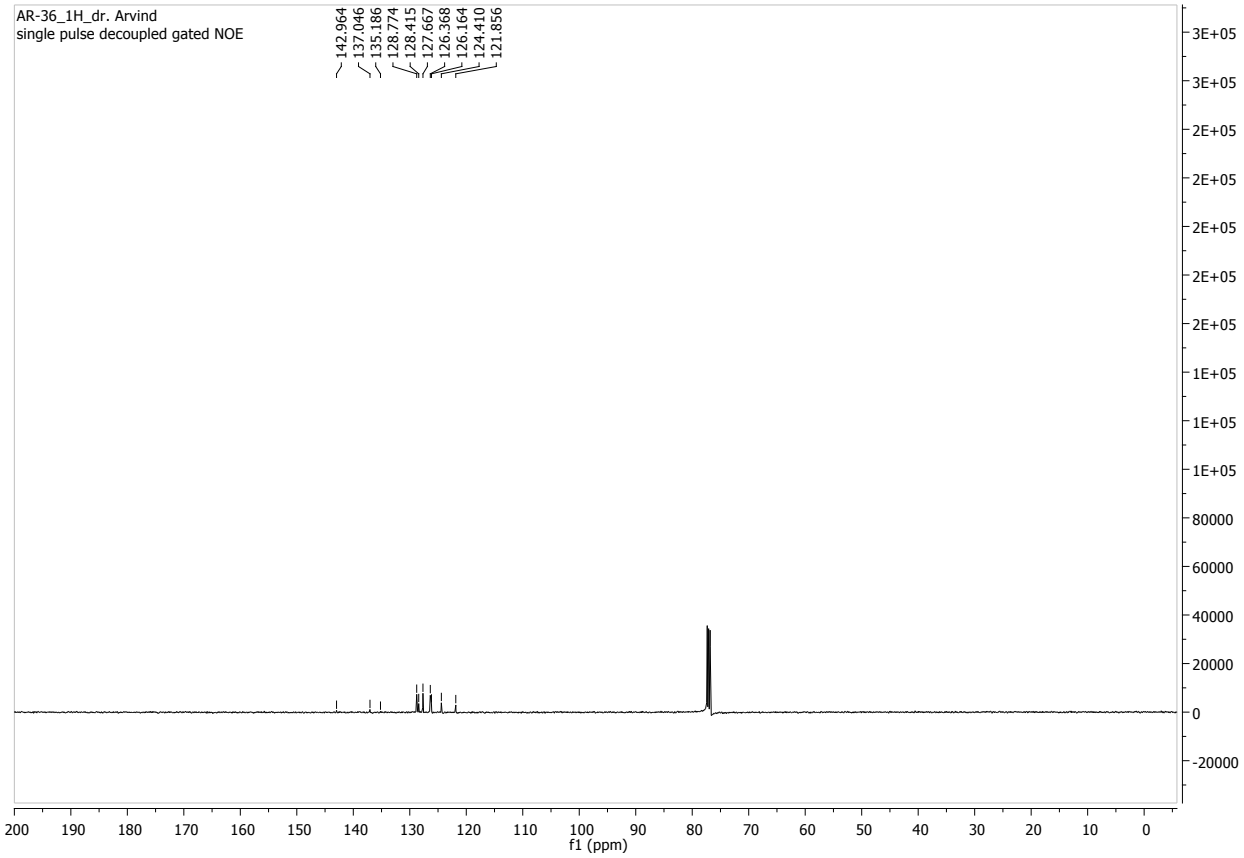
Compound 2o. ^{1}H NMR Spectrum ($CDCl_3$).



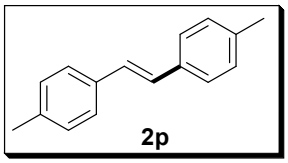


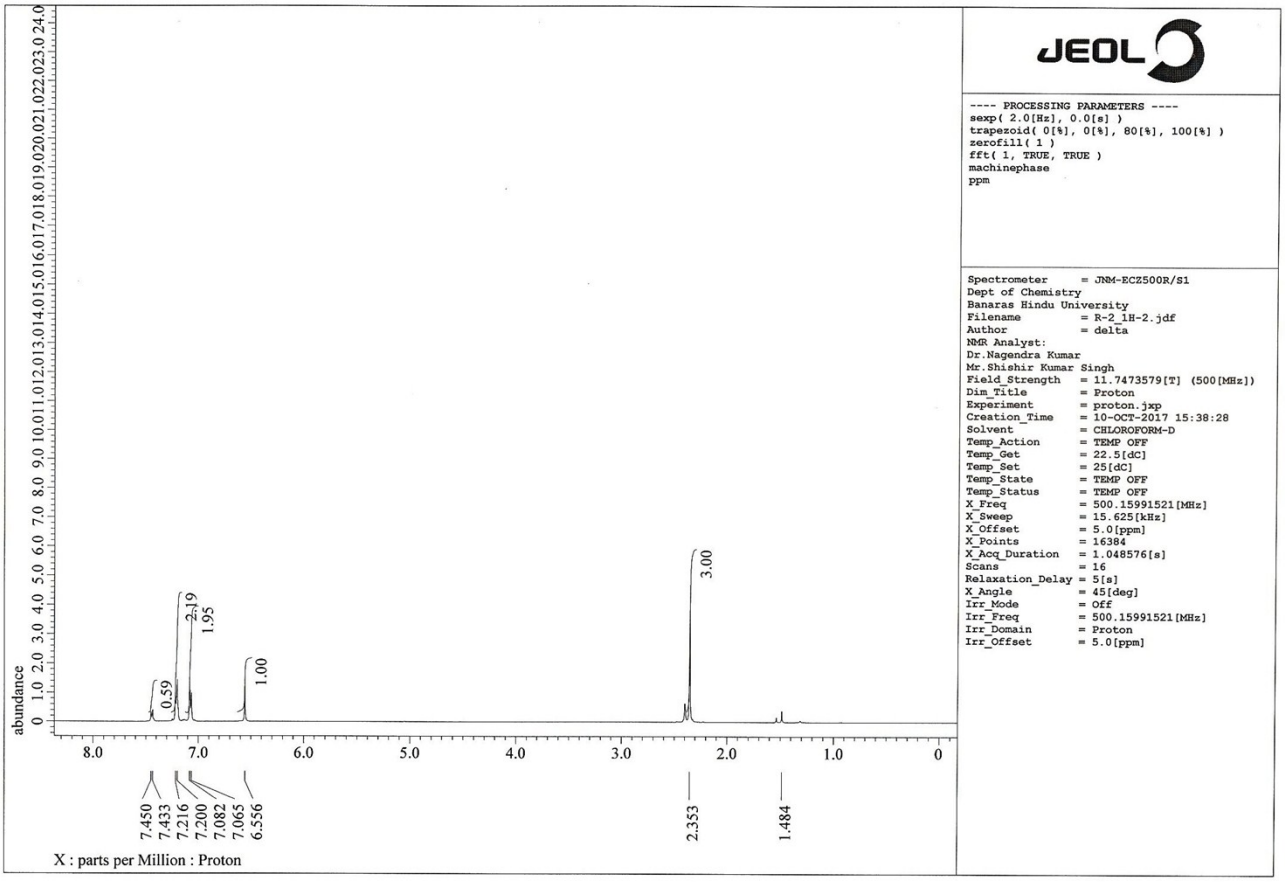
Compound 2o. ^{13}C NMR Spectrum ($CDCl_3$).



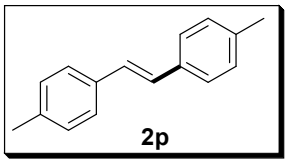


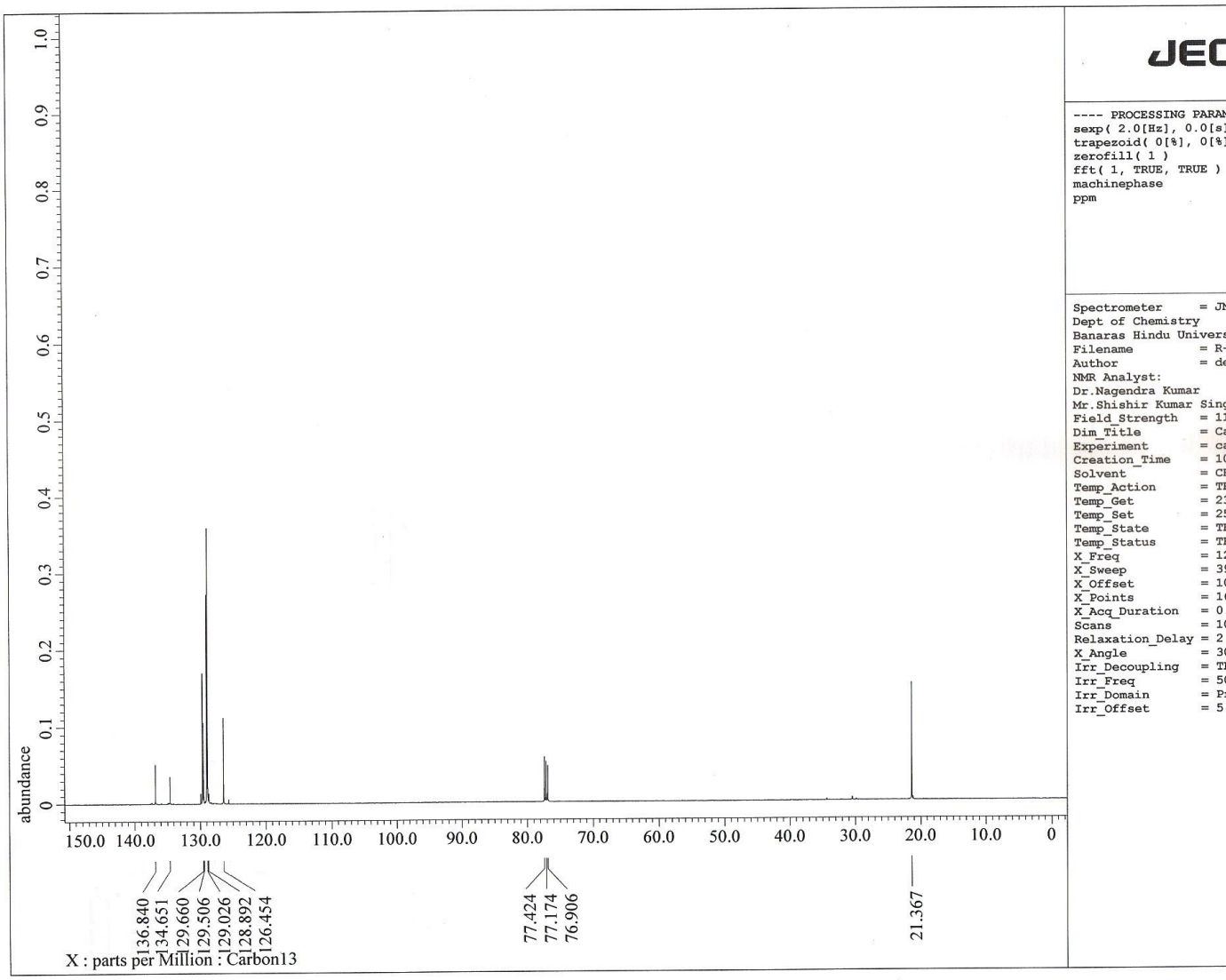
Compound 2p. ^{1}H NMR Spectrum ($CDCl_3$).



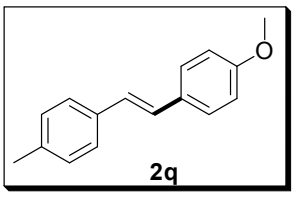


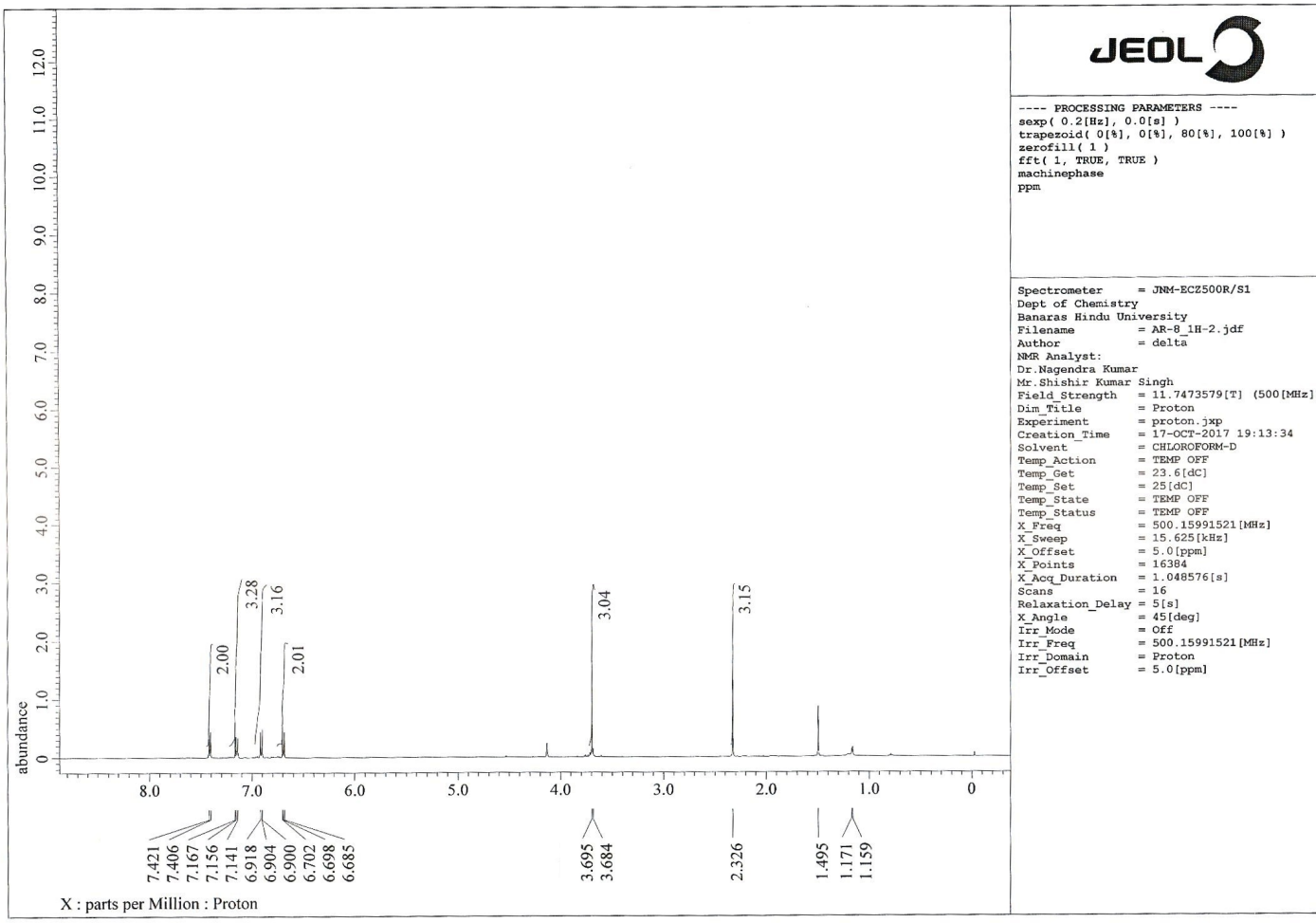
Compound 2p. ^{13}C NMR Spectrum ($CDCl_3$).



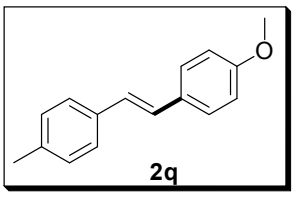


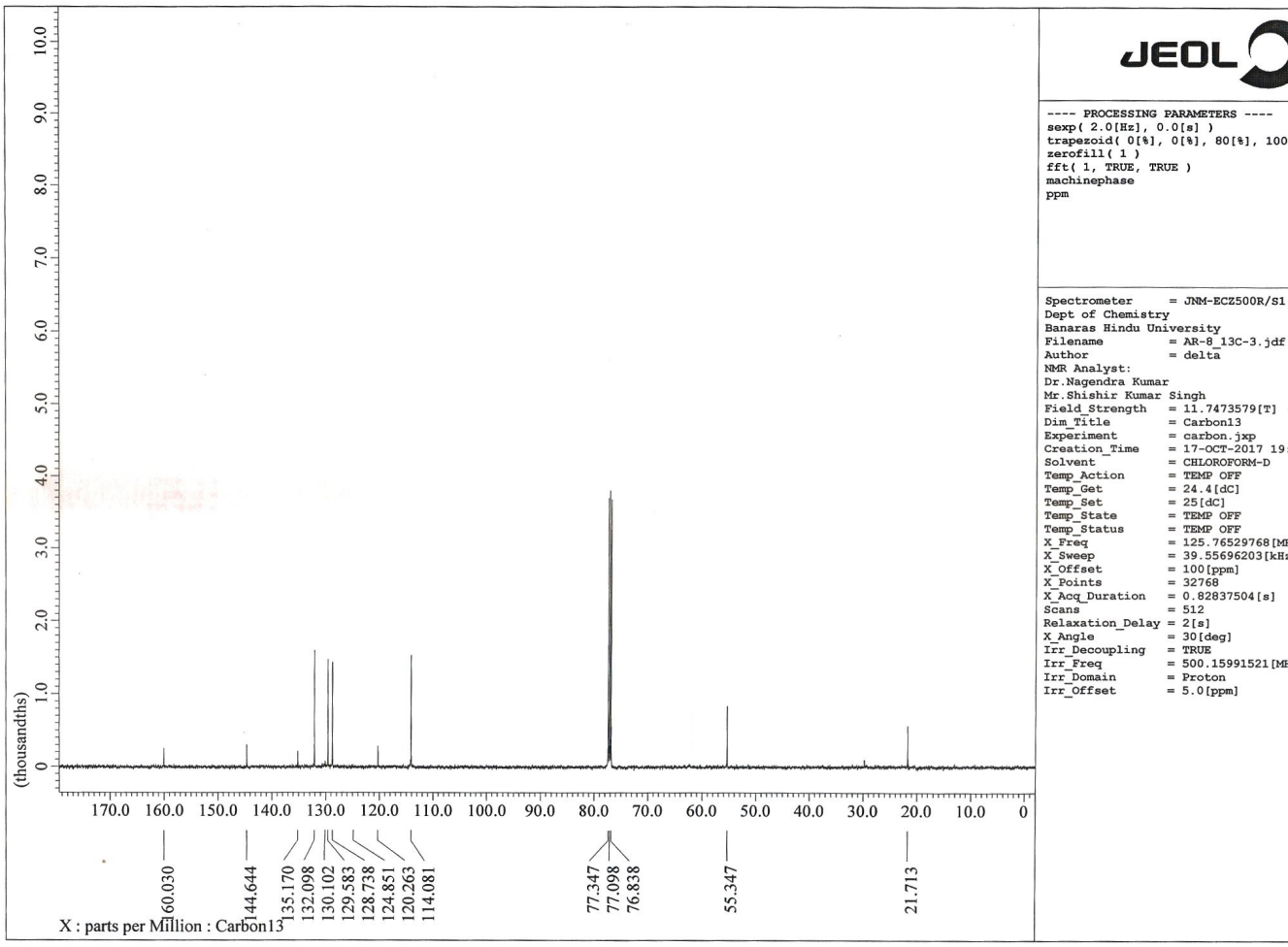
Compound 2q. ^{1}H NMR Spectrum ($CDCl_3$).



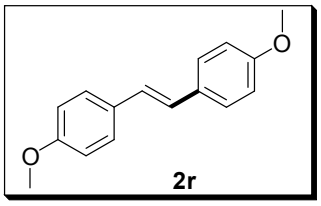


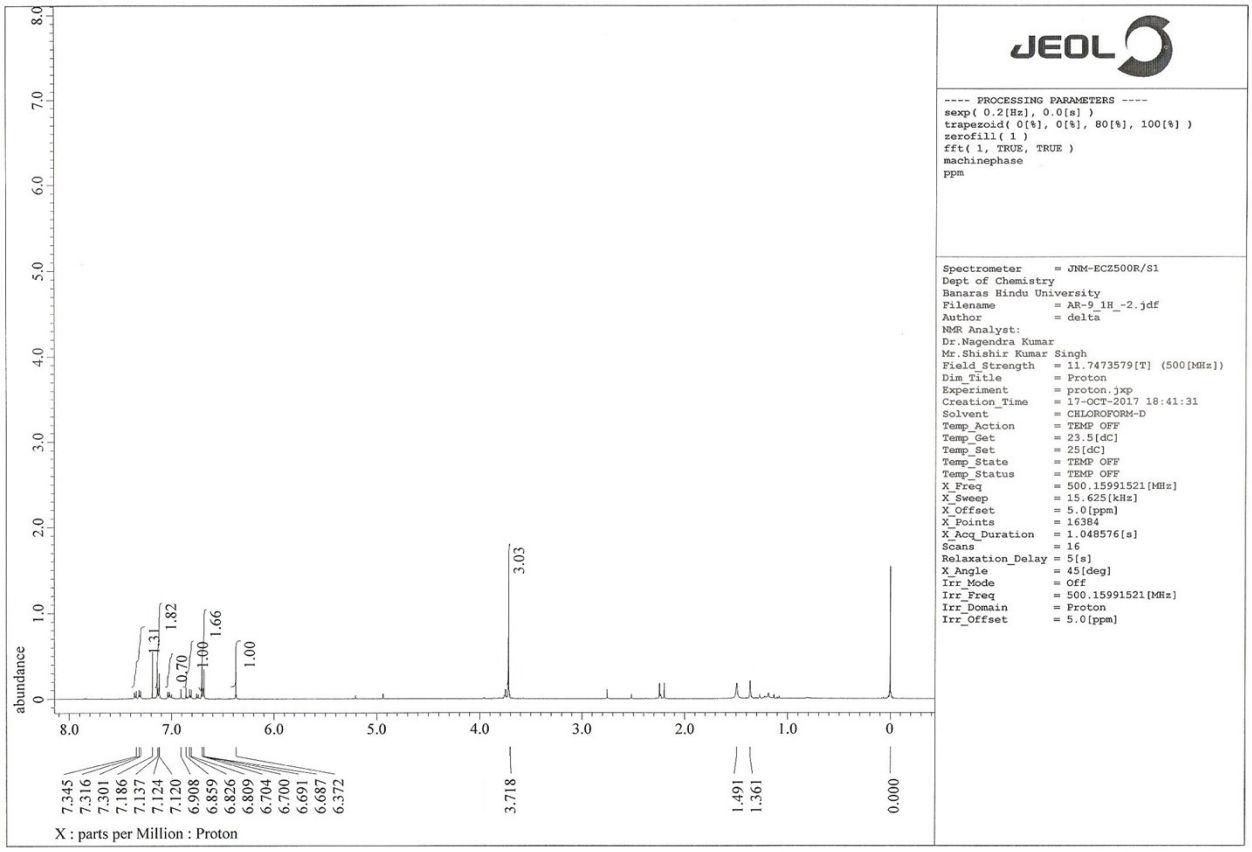
Compound 2q. ^{13}C NMR Spectrum ($CDCl_3$).



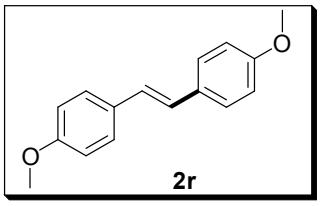


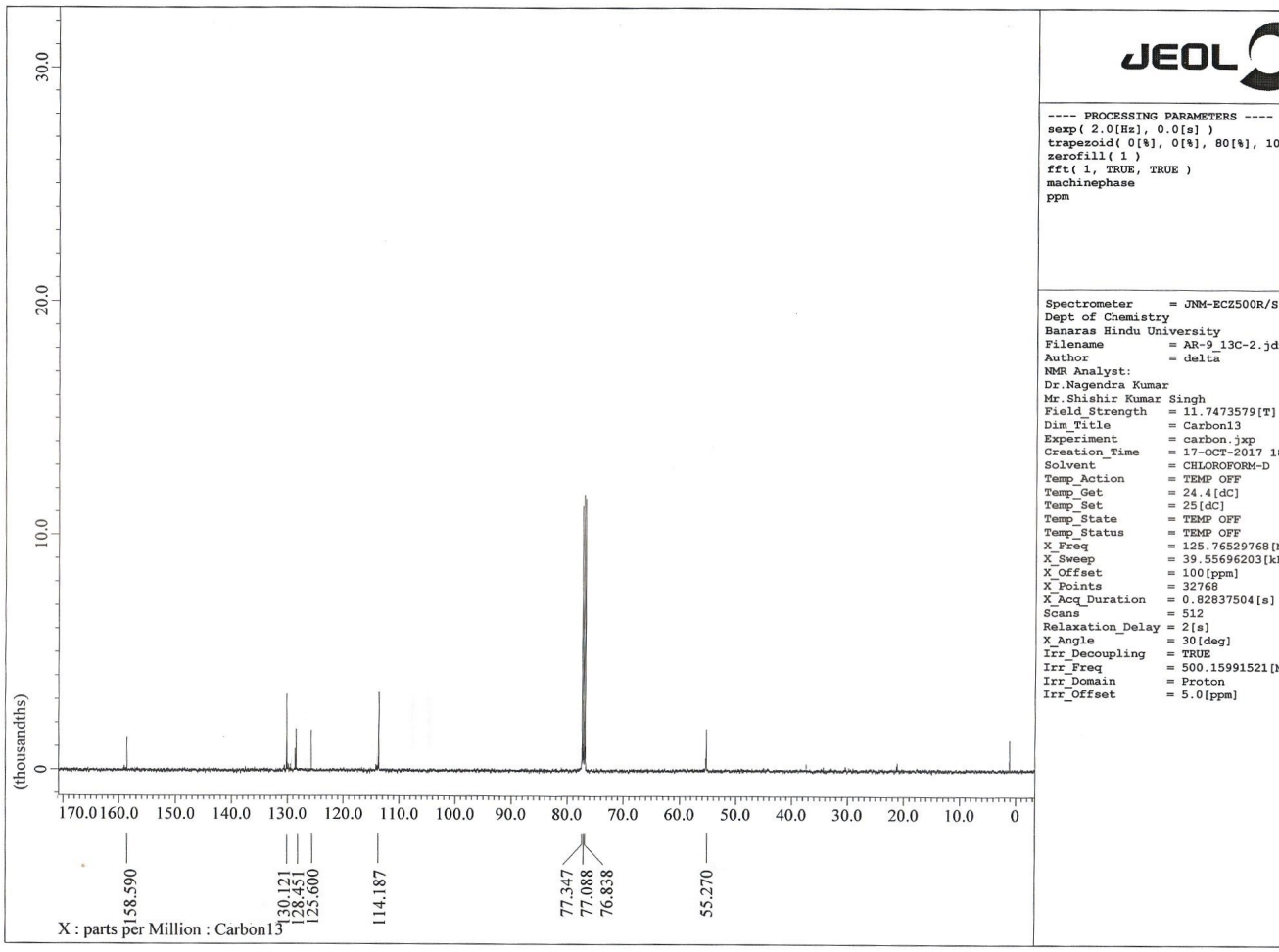
Compound 2r. ^{1}H NMR Spectrum ($CDCl_3$).



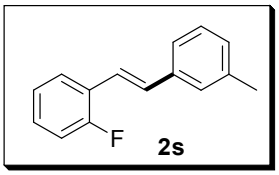


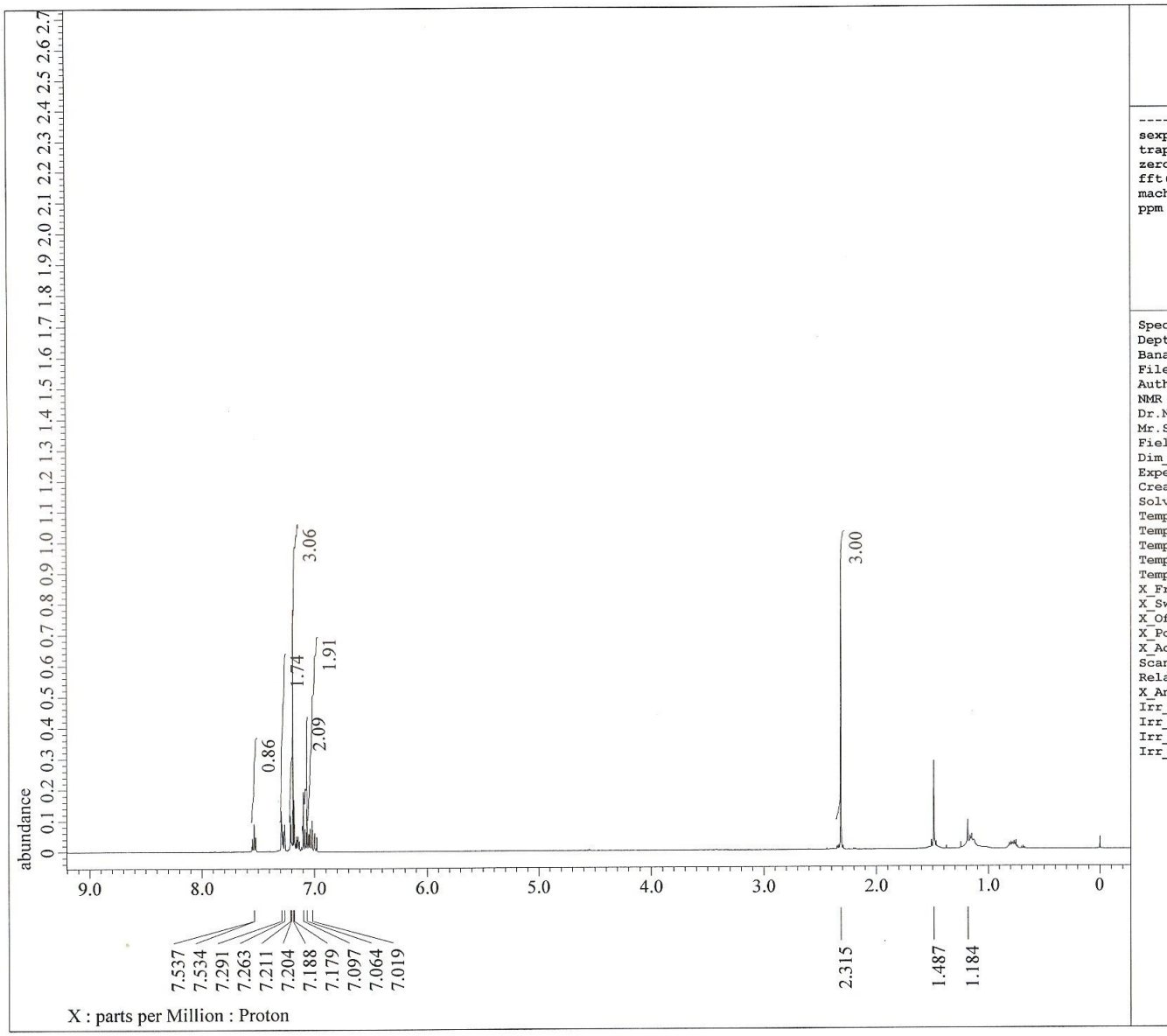
Compound 2r. ^{13}C NMR Spectrum ($CDCl_3$).



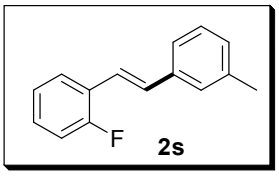


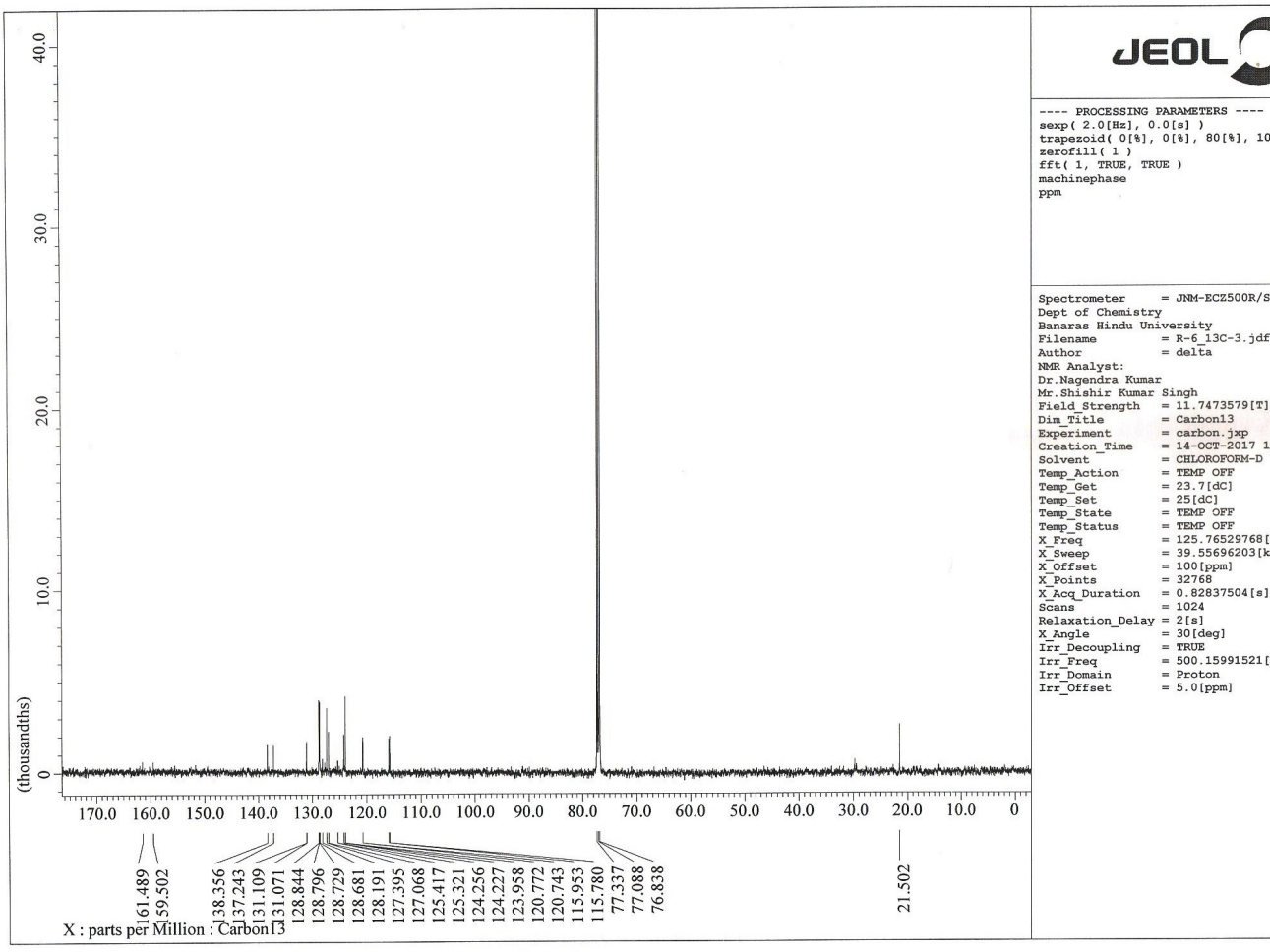
Compound 2s. ^{1}H NMR Spectrum ($CDCl_3$).



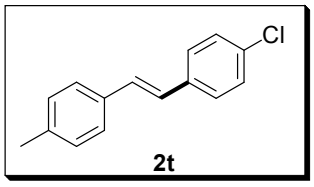


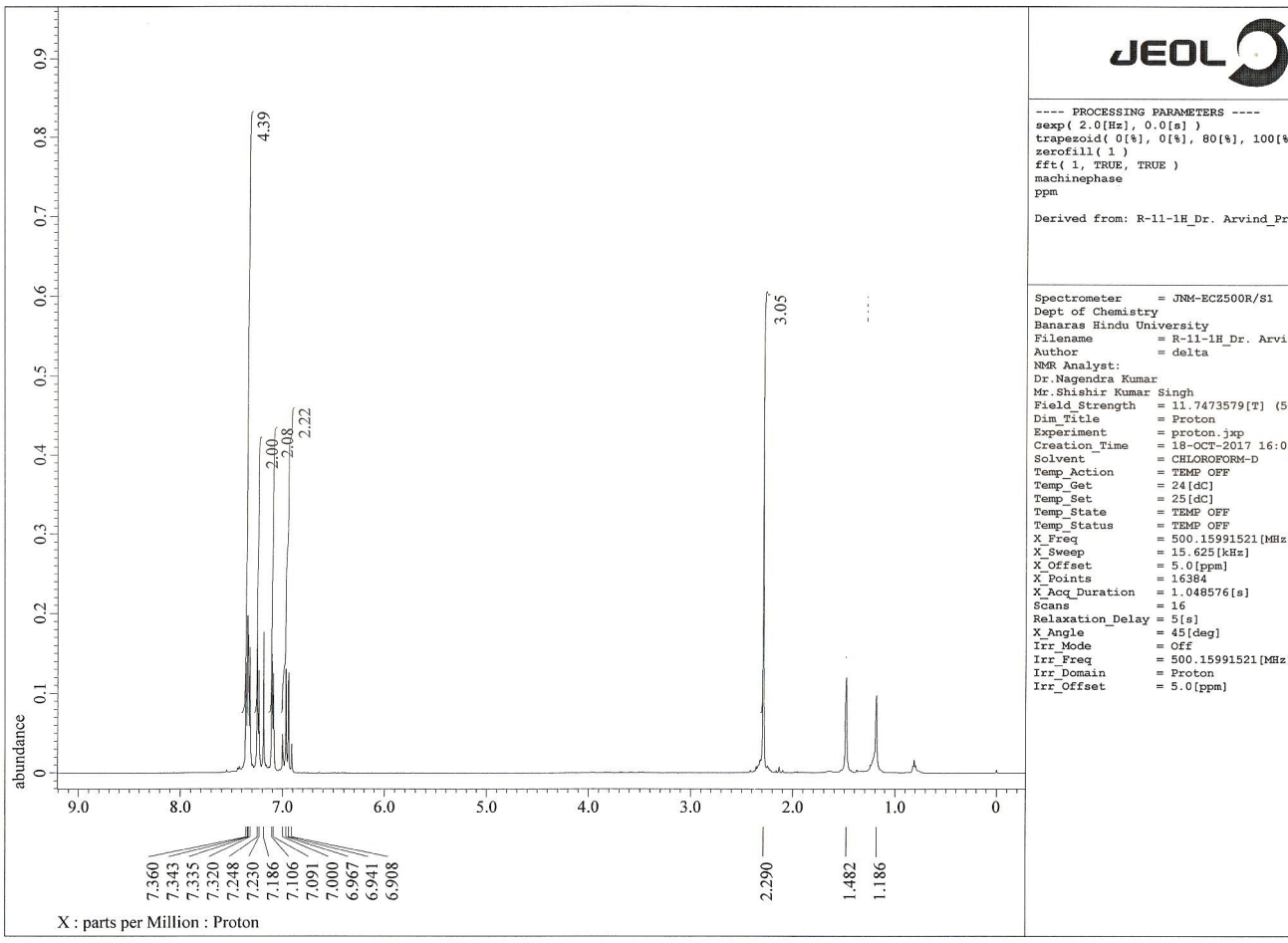
Compound 2s. ^{13}C NMR Spectrum ($CDCl_3$).





Compound 2t. ^{1}H NMR Spectrum ($CDCl_3$).





Compound 2t. ^{13}C NMR Spectrum ($CDCl_3$).