Electronic Supporting Information

Synthesis of 1,2-Oxaborole *via* Base-Mediated Borylation of Propynols

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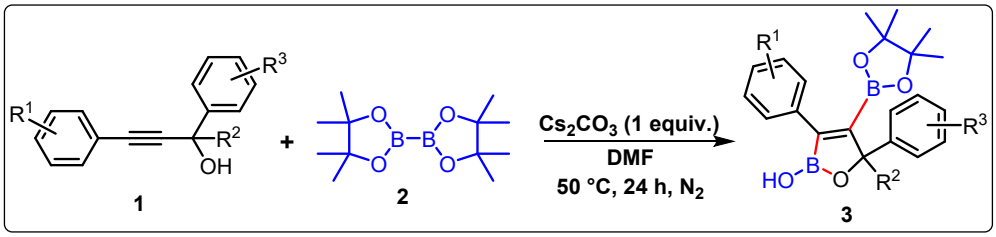
1. General information:

All reagents were purchased from commercial sources and used without further purification. ^{1}H NMR spectra were determined on 400 MHz spectrometer as solutions in $CDCl_3$ or DMSO-d_6. Chemical shifts were expressed in parts per million (δ) and the signals were reported as s (singlet), d (doublet), dd (doublet of doublet), t (triplet), m (multiplet), q (quartet), and coupling constants (J) were given in Hz. $^{13}C\{^{1}H\}$ NMR spectra were recorded at 100 MHz in $CDCl_3$ or DMSO-d_6 solution. Chemical shifts were referenced to $CDCl_3$ (δ = 7.26 for ^{1}H and δ = 77.16 for $^{13}C\{^{1}H\}$ NMR) or DMSO-d_6 (^{1}H, δ = 2.50 ppm). as internal standard. TLC was done on silica gel-coated glass slide. All solvents were dried and distilled before use. Commercially available solvents were freshly distilled before the reaction. All reactions involving moisture-sensitive reactants were executed using oven-dried glassware. High-resolution mass spectra (HRMS) were collected using electrospray ionization (ESI) on a time-of-flight (TOF) mass spectrometer. The SCXRD-BRUKER D8QUEST collected the crystallographic data for the compounds **3j** and the crystal data was solved by Olex2 1.3-ac4 software. Melting points (mp.) were determined after the recrystallization of solid compounds from a solution of dichloromethane/petroleum ether (1:3). All the propargylic alcohols were prepared by this reported method.[1]

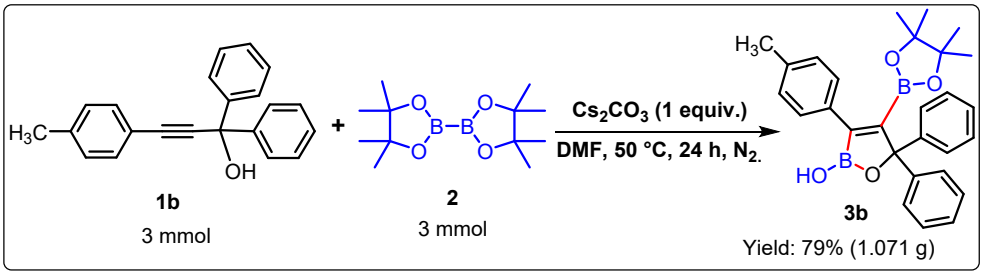
2. Experimental procedures:

2.1. Typical experimental procedure for the synthesized compounds 3a-3z:



Propargylic alcohols **1** (0.2 mmol, 1 equiv.), B_2pin_2 **2** (0.2 mmol, 1 equiv., 50.8 mg) and Cs_2CO_3 (0.2 mmol, 1 equiv., 65.2 mg) were loaded in an oven-dried reaction tube which was subjected to flushing with nitrogen three times. Then, DMF (2.0 mL) was added to the mixture *via* syringe, and the reaction mixture was stirred at 50 °C for 24 h. After completion of the reaction (TLC), the reaction mixture was extracted with ethyl acetate. The organic phase was dried over anhydrous Na_2SO_4. The crude residue was obtained after evaporating the solvent in vacuum and was purified by column chromatography on silica gel using a mixture of petroleum ether and ethyl acetate as an eluting solvent to afford the pure products **3a-3z**.

3. Gram-scale synthesis of 3b:

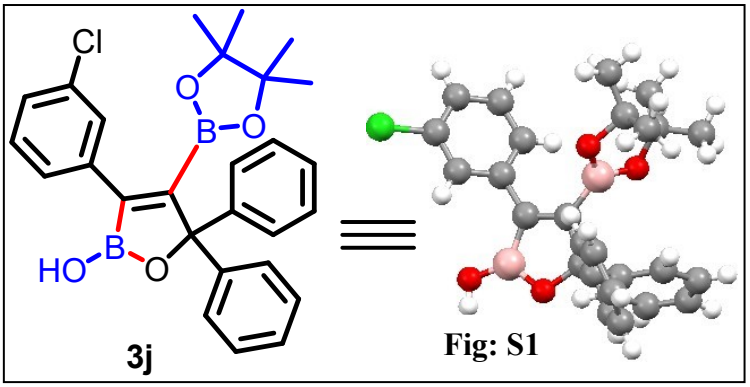


1,1-diphenyl-3-(*p*-tolyl)prop-2-yn-1-ol (**1b**, 3 mmol, 1.0 equiv., 895.15 mg), B_2pin_2 (**2**, 3 mmol, 1.0 equiv., 761.82 mg) and Cs_2CO_3 (3 mmol, 1.0 equiv., 977.46 mg) were loaded in an oven-dried 25 mL round bottom flask (RB) which was subjected to flushing with nitrogen for

three times. Then, DMF (12 mL) was added to the mixture *via* syringe, and the reaction mixture was stirred at 50 °C for 24 h under N_2 atmosphere. After completion of the reaction (TLC), the reaction mixture was extracted with ethyl acetate. The organic phase was dried over anhydrous Na_2SO_4. The crude residue was obtained after evaporating the solvent in vacuum and was purified by column chromatography on silica gel using a mixture of petroleum ether and ethyl acetate as an eluting solvent to afford the pure product **3b** (1.071 g, 79%) as a yellow solid.

4. Structure determination (X-ray crystallographic data for 3j):

The White crystal of **3j** was obtained by crystallization from a solution in dichloromethane/petroleum ether after purification by column chromatography. Chemical formula: $C_{27}H_{27}B_2ClO_4$. This data was collected on a RIGAKU SATURN724+ diffractometer using Mo−Kα radiation. The data collection was carried out by standard ω-scan technique and was evaluated and reduced by using Crystal Clear-SM Expert software. Absorption correction (numerical) was applied to the collected reflections. The structures were solved by direct method using SHELXS-97 and refined by full-matrix least-squares with SHELXL-2012, refining on F2.



3j **Fig: S1**

Wavelength	0.71073 Å

Formula	$C_{27}H_{27}B_2ClO_4$	
Crystal system	monoclinic	
Space group	P 1 21/n 1	
Unit cell dimensions	a = 13.4401(4) Å	α = 90 °
	b = 10.9000 (3) Å	β = 97.099 (3) °
	c = 17.4319 (5) Å	γ = 90 °
Volume	2534.15(13) $Å^3$	
Z	4	
R-factor (%)	7.73	

The crystallographic data have been deposited with the Cambridge Crystallographic Data Centre as a supplementary publication with a CCDC reference number **CCDC 2441373**.

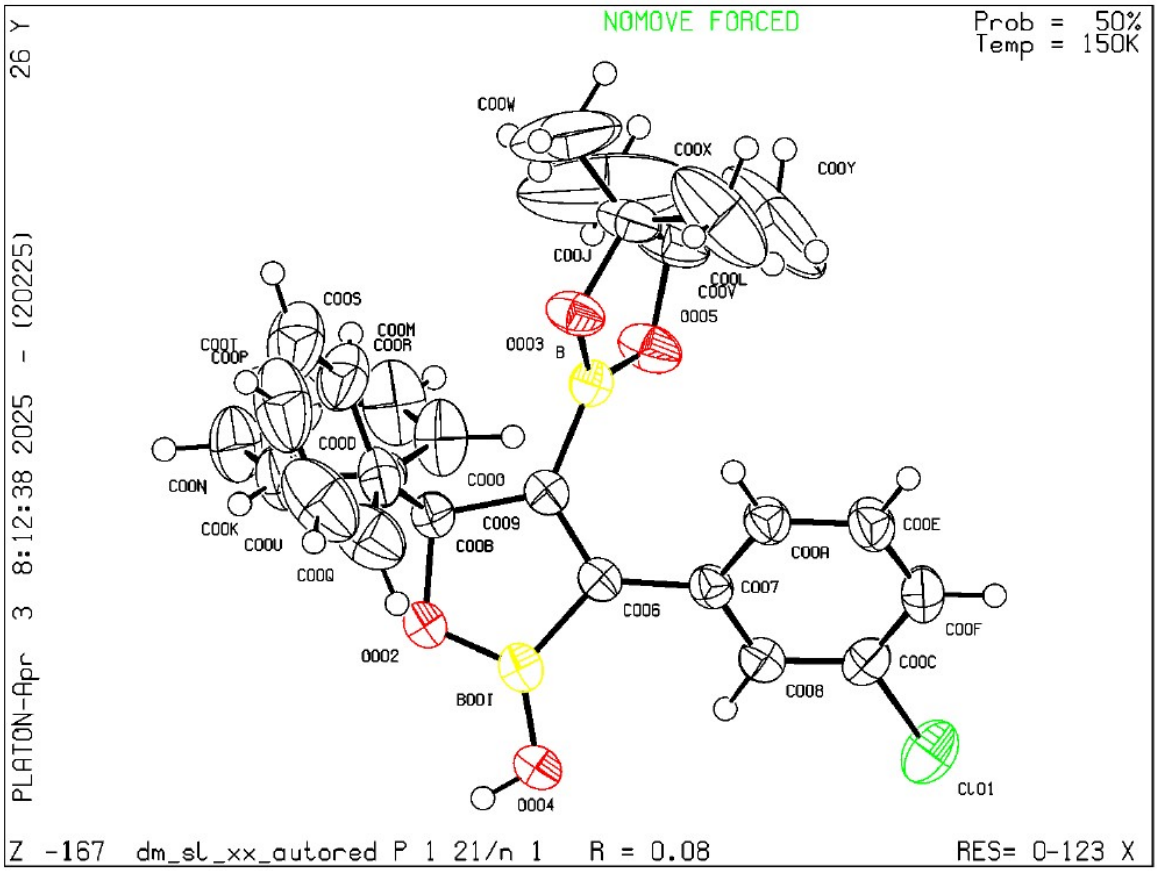


Fig: S2

View of ORTEP diagram for the crystal structure of the compound **3-(3-chlorophenyl)-5,5-diphenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-1,2-oxaborol-2(5*H*)-ol (3j)** (Thermal ellipsoid contour at 50% probability level).

Alert level B

PLAT220_ALERT_2_B NonSolvent Resd 1 C Ueq(max)/Ueq(min) Range 7.1 Ratio.

Explanation of Alert B:

This particular alert is related to the anisotropic displacement parameters (ADPs) of a non-solvent residue. Specifically, it indicates that for residue 1 (likely a solvent or impurity molecule), the ratio of the maximum to minimum atomic displacement parameter (Ueq(max)/Ueq(min)) is unusually large 7.1 in this case. Typically, for well-ordered atoms in a crystal structure, the ratio of these parameters should not deviate significantly from 1. If the

ratio is much larger, it can indicate that the atom's motion is highly anisotropic or that there is some disorder in the structure.

PLAT242_ALERT_2_B Low ’MainMol’ Ueq as Compared to Neighbors of C00J Check

PLAT242_ALERT_2_B Low ’MainMol’ Ueq as Compared to Neighbors of C00L Check

Explanation of Alert B:

This alert appears in crystallographic refinement reports, typically from software like **PLATON**, and highlights that the **Ueq** (which describes the thermal motion or disorder of an atom) of the **MainMol** atoms is unusually low compared to the neighboring atoms **C00J** and **C00L**.

PLAT412_ALERT_2_B Short Intra XH3 .. XHn H00G ..H00V . 1.76 Ang. x,y,z = 1_555 Check

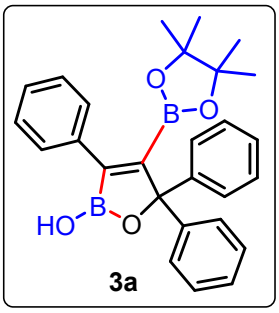
Explanation of Alert B:

The **PLAT412_ALERT_2_B** is a warning from a crystallographic refinement check (typically using **PLATON** or similar tools) that points to a **short intra-molecular hydrogen bond** between two hydrogen atoms, **H00G** and **H00V**, with a distance of **1.76 Å**, which is shorter than expected.

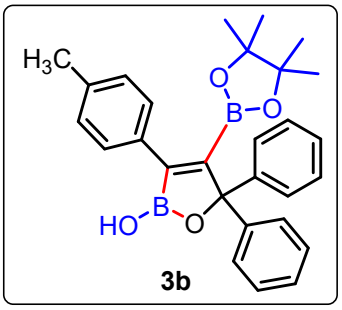
The alert is flagging a **hydrogen–hydrogen distance** of **1.76 Å**, which is unusually short for a hydrogen bond, as typical hydrogen–hydrogen distances in molecular crystals tend to be larger. In most well-refined structures, **hydrogen-hydrogen distances** are expected to be longer than **1.76 Å**.

The specific **intra XH3 .. XHn** part of the message suggests that this involves a hydrogen atom (designated by **XH3**) interacting with another hydrogen atom (**XHn**), and the software has detected that the distance between these atoms is shorter than expected based on typical structural parameters.

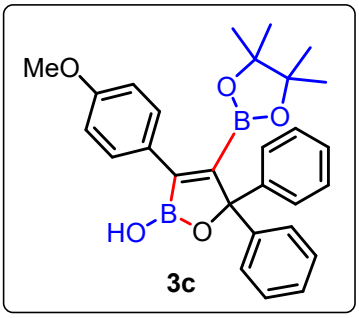
5. Physical data of the compounds 3a-3z:



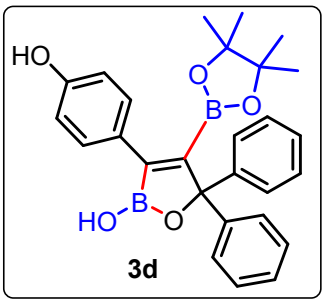
3,5,5-triphenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-1,2-oxaborol-2(5H)-ol (3a): Brown yellow solid (80.7 mg, 92%); mp. 109−110 °C; R_f 0.45 (PET:EtOAc = 85:15); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.50 (d, J = 7.6 Hz, 2H), 7.46-7.44 (m, 3H), 7.35-7.24 (m, 10H), 1.08 (m, 12H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 43.4, 137.5, 128.3, 128.2, 128.0, 127.9, 127.6, 127.5, 94.5, 84.1, 24.8; **HRMS** (ESI–TOF) m/z: $[M + H]^+$ Calcd for $[C_{27}H_{29}B_2O_4]^+$: 439.2246; Found 439.2272.



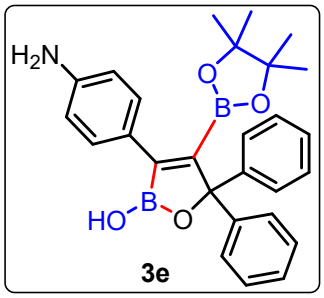
5,5-diphenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-3-(p-tolyl)-1,2-oxaborol-2(5H)-ol (3b): Yellow solid (85.9 mg, 95%); mp. 140−141 °C; R_f 0.45 (PET:EtOAc = 4:1); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.46-7.41 (m, 6H), 7.34-7.28 (m, 6H), 7.14 (d, J = 8 Hz, 2H), 5.04 (s, 1H), 2.35 (s, 3H), 1.10 (s, 12H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 167.9, 143.5, 137.3, 134.5, 131.1, 128.9, 128.3, 128.0, 127.9, 127.5, 94.4, 84.1, 24.8, 21.3; **HRMS** (ESI–TOF) m/z: $[M + H]^+$ Calcd for $[C_{28}H_{31}B_2O_4]^+$: 453.2403; Found 453.2412.



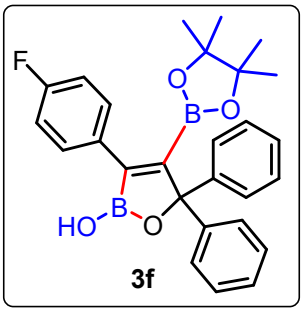
3-(4-methoxyphenyl)-5,5-diphenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-1,2-oxaborol-2(5H)-ol (3c): Reddish yellow solid (85.3 mg, 91%); mp. 138−139 °C; R_f 0.35 (PET:EtOAc = 85:15); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.30 (d, J = 8.8, 2H), 7.26-7.24 (m, 3H), 7.14-7.06 (m, 7H), 6.67 (d, J = 8.8, 2H), 3.61 (s, 3H), 0.90 (s, 12H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 159.2, 143.4, 130.0, 129.7, 128.0, 127.8, 127.7, 127.5, 113.5, 94.4, 84.0, 55.3, 24.8; **HRMS** (ESI–TOF) m/z: $[M + Na]^+$ Calcd for $[C_{28}H_{30}B_2O_5Na]^+$: 491.2172; Found 491.2162.



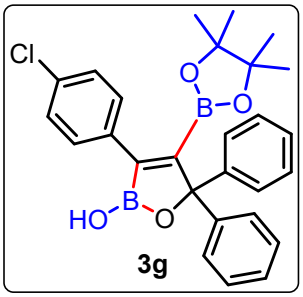
3-(4-hydroxyphenyl)-5,5-diphenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-1,2-oxaborol-2(5H)-ol (3d): Brown solid (77.3 mg, 85%); mp. 156–157 °C; R_f 0.4 (PET:EtOAc = 7:3); **^{1}H NMR** (DMSO-d_6, 400 MHz): δ 9.49 (s, 1H), 9.18 (s, 1H), 7.34-7.26 (m, 12H), 6.71 (d, J = 8.4 Hz, 2H), 1.04 (s, 12H); **^{13}C{^{1}H} NMR** (DMSO-d_6, 100 MHz): δ 157.0, 144.0, 129.5, 128.3, 127.7, 127.4, 127.3, 114.7, 92.7, 83.5, 24.5; **HRMS** (ESI–TOF) m/z: $[M + H]^+$ Calcd for $[C_{27}H_{29}B_2O_5]^+$: 455.2196; Found 455.2207.



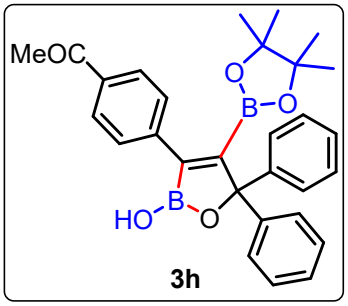
3-(4-aminophenyl)-5,5-diphenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-1,2-oxaborol-2(5H)-ol (3e): Brown solid (77.97 mg, 86%); mp. 158–159 °C; R_f 0.4 (PET:EtOAc = 7:3); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.43-7.41 (m, 4H), 7.36 (d, J = 8.4 Hz, 2H), 7.31-7.25 (m, 6H), 6.70 (d, J = 8.0 Hz, 2H), 1.08 (s, 12H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 144.7, 143.6, 129.7, 128.8, 128.1, 127.8, 127.5, 115.5, 94.3, 84.0, 24.8; **HRMS** (ESI–TOF) m/z: [M + H]$^+$ Calcd for $[C_{27}H_{30}B_2NO_4]^+$: 454.2355; Found 454.2362.



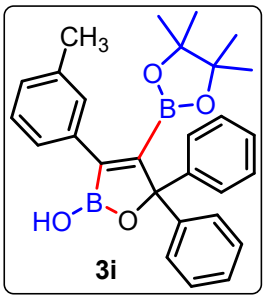
3-(4-fluorophenyl)-5,5-diphenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-1,2-oxaborol-2(5H)-ol (3f): White solid (74.9 mg, 82%); mp. 154–155 °C; R_f 0.4 (PET:EtOAc = 9:1); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.51-7.48 (m, 2H), 7.44-7.41 (m, 4H), 7.34-7.28 (m, 6H), 7.03-6.99 (m, 2H), 5.10 (s, 1H), 1.08 (s, 12H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 162.5 ($J_{C\text{-}F}$ = 245 Hz), 143.2, 133.4 ($J_{C\text{-}F}$ = 3.0 Hz), 130.2, 130.1, 128.0, 127.9, 127.8, 127.7, 127.5, 115.1, 114.9, 114.8 ($J_{C\text{-}F}$ = 14.0 Hz), 94.6, 84.2, 24.8; **^{19}F NMR** (376.5 MHz, $CDCl_3$): δ -114.93; **HRMS** (ESI–TOF) m/z: [M + Na]$^+$ Calcd for $[C_{27}H_{27}B_2FO_4Na]^+$: 479.1972; Found 479.1982.



3-(4-chlorophenyl)-5,5-diphenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-1,2-oxaborol-2(5H)-ol (3g): White solid (76.58 mg, 81%); mp. 180–181 °C; R_f 0.45 (PET:EtOAc = 4:1); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.46-7.44 (m, 2H), 7.43-7.40 (m, 4H), 7.33-7.28 (m, 8H), 4.89 (s, 1H), 1.08 (s, 12H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 143.1, 135.9, 133.4, 129.8, 128.2, 128.0, 127.9, 127.7, 94.6, 84.3, 24.8; **HRMS** (ESI–TOF) m/z: [M + H]$^+$ Calcd for $[C_{27}H_{28}B_2ClO_4]^+$: 473.1857; Found 473.1880.

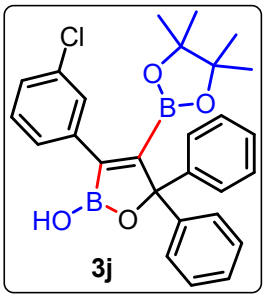


1-(4-(2-hydroxy-5,5-diphenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-2,5-dihydro-1,2-oxaborol-3-yl)phenyl)ethan-1-one (3h): White solid (80.67 mg, 84%); mp. 168–169 °C; R_f 0.4 (PET:EtOAc = 85:15); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.92-7.90 (m, 2H), 7.60-7.58 (m, 2H), 7.44-7.42 (m, 4H), 7.33-7.30 (m, 6H), 5.68 (s, 1H), 2.59 (s, 3H), 1.07 (s, 12H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 198.2, 142.9, 142.6, 135.8, 128.6, 128.2, 128.0, 127.9, 127.7, 94.7, 84.3, 26.7, 24.7; **HRMS** (ESI–TOF) m/z: [M + H]$^+$ Calcd for $[C_{29}H_{31}B_2O_5]^+$: 481.2352; Found 481.2362.



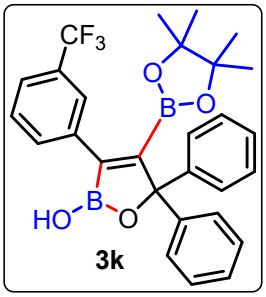
3i

5,5-diphenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-3-(m-tolyl)-1,2-oxaborol-2(5H)-ol (3i): Pale yellow solid (75.10 mg, 83%); mp. 119−120 °C; R_f 0.4 (PET:EtOAc = 9:1); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.44-7.41 (m, 4H), 7.31-7.24 (m, 8H), 7.20 (t, J = 8.4 Hz, 1H), 7.06 (d, J = 7.6 Hz, 1H), 5.21 (s, 1H), 2.33 (s, 3H), 1.06 (s, 12H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 143.3, 137.5, 137.3, 128.8, 128.3, 128.1, 128.0, 127.9, 127.7, 127.5, 125.4, 94.5, 84.0, 24.8, 21.5; **HRMS** (ESI–TOF) m/z: $[M + K]^+$ Calcd for $[C_{28}H_{30}B_2O_4K]^+$: 491.1962; Found 491.1956.



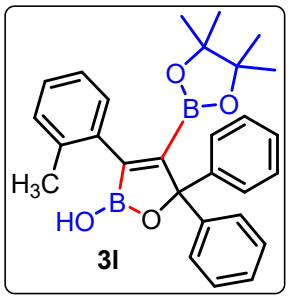
3j

3-(3-chlorophenyl)-5,5-diphenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-1,2-oxaborol-2(5H)-ol (3j): White solid (75.7 mg, 80%); mp. 152–153 °C; R_f 0.45 (PET:EtOAc = 4:1); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.41 (s, 1H), 7.33-7.31 (m, 4H), 7.23-7.16 (m, 7H), 7.14-7.12 (m, 2H), 5.56 (s, 1H), 0.99 (s, 12H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 142.9, 139.2, 133.8, 129.4, 128.2, 128.0, 127.9, 127.7, 127.4, 126.8, 94.7, 84.3, 24.8; **HRMS** (ESI–TOF) m/z: $[M + H]^+$ Calcd for $[C_{27}H_{28}B_2ClO_4]^+$: 473.1857; Found 473.1880.



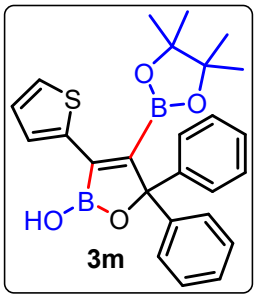
3k

5,5-diphenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-3-(3-(trifluoromethyl)phenyl)-1,2-oxaborol-2(5H)-ol (3k): White solid (87.1 mg, 86%); mp. 148–149 °C; R_f 0.45 (PET:EtOAc = 85:15); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.82 (s, 1H), 7.74 (d, J = 7.6 Hz, 1H), 7.55 (d, J = 7.6 Hz, 1H), 7.48-7.44 (m, 5H), 7.38-7.33 (m, 6H), 5.88 (s, 1H), 1.10 (s, 12H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 144.6 (J = 366 Hz), 138.1, 132.0, 130.7, 130.4, 130.1, 129.8, 128.5, 128.0 (J = 7 Hz), 127.9, 127.8, 125.7, 125.0 (J = 3 Hz), 125.03, 124.24, 124.1 (J = 6 Hz), 123.0, 120.3, 94.9, 84.3, 24.7; **^{19}F NMR** (376.5 MHz, $CDCl_3$): δ -62.27; **HRMS** (ESI–TOF) m/z: $[M + H]^+$ Calcd for $[C_{28}H_{28}B_2F_3O_4]^+$: 507.2120; Found 507.2143.

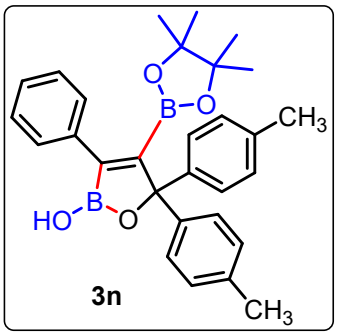


3l

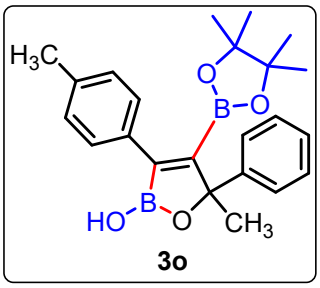
5,5-diphenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-3-(o-tolyl)-1,2-oxaborol-2(5H)-ol (3l): White solid (76.87 mg, 85%); mp. 111−112 °C; R_f 0.4 (PET:EtOAc = 9:1); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.46-7.44 (m, 4H), 7.35-7.29 (m, 6H), 7.15-7.09 (m, 4H), 5.08 (s, 1H), 2.28 (s, 3H), 0.94 (s, 12H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 143.6, 137.9, 135.4, 129.5, 128.4, 127.9, 127.8, 127.5, 126.9, 125.2, 94.7, 83.8, 24.4, 20.5; **HRMS** (ESI–TOF) m/z: $[M + H]^+$ Calcd for $[C_{28}H_{31}B_2O_4]^+$: 453.2403; Found 453.2438.



5,5-diphenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-3-(thiophen-2-yl)-1,2-oxaborol-2(5H)-ol (3m): Brown solid (70.18 mg, 79%); mp. 132–133 °C; R_f 0.35 (PET:EtOAc = 9:1); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.54 (d, J = 3.6 Hz, 1H), 7.42-7.40 (m, 4H), 7.33-7.28 (m, 7H), 7.03-7.01 (m, 1H), 5.23 (s, 1H), 1.16 (s, 12H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 143.1, 139.6, 128.8, 128.1, 127.8, 127.6, 127.4, 126.2, 94.9, 84.3, 25.0; **HRMS** (ESI-TOF) m/z: $[M + H]^+$ Calcd for $[C_{25}H_{27}B_2O_4S]^+$: 445.1811; Found 445.1820.

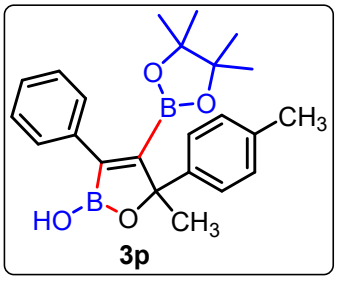


3-phenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-5,5-di-p-tolyl-1,2-oxaborol-2(5H)-ol (3n): White solid (82.98 mg, 89%); mp. 152–153 °C; R_f 0.35 (PET:EtOAc = 9:1); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.52-7.50 (m, 2H), 7.36-7.30 (m, 6H), 7.28-7.22 (m, 1H), 7.14-7.12 (m, 4H), 5.53 (s, 1H), 2.36 (s, 6H), 1.10 (s, 12H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 140.4, 137.6, 137.1, 128.5, 128.4, 128.3, 128.2, 128.0, 127.9, 127.3, 94.4, 84.0, 24.8, 21.2; **HRMS** (ESI–TOF) m/z: $[M + H]^+$ Calcd for $[C_{29}H_{33}B_2O_4]^+$: 467.2559; Found 467.2602.



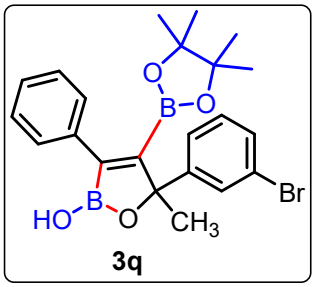
3o

5-methyl-5-phenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-3-(p-tolyl)-1,2-oxaborol-2(5H)-ol (3o): White solid (56.28 mg, 72%); mp. 158–159 °C; R_f 0.4 (PET:EtOAc = 9:1); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.45-7.42 (m, 2H), 7.36 (d, J = 8.4 Hz, 2H), 7.31-7.27 (m, 2H), 7.24-7.20 (m, 1H), 7.12 (d, J = 8 Hz, 2H), 4.81 (s, 1H), 2.33 (s, 3H), 1.93 (s, 3H), 1.10 (s, 12H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 142.3, 137.2, 134.4, 128.8, 128.4, 128.2, 127.4, 125.8, 89.7, 83.9, 26.5, 24.8, 24.5, 21.3; **HRMS** (ESI–TOF) m/z: $[M + H]^+$ Calcd for $[C_{23}H_{29}B_2O_4]^+$: 391.2246 Found 391.2234.



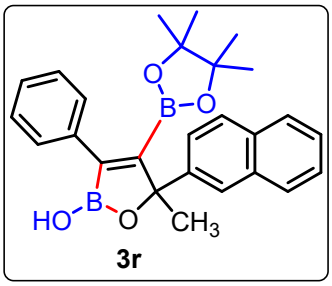
3p

5-methyl-3-phenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-5-(p-tolyl)-1,2-oxaborol-2(5H)-ol (3p): White solid (61.83 mg, 79%); mp. 168–169 °C; R_f 0.45 (PET:EtOAc = 9:1); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.47-7.45 (m, 2H), 7.35-7.28 (m, 4H), 7.25-7.22 (m, 1H), 7.11 (d, J = 8.0 Hz, 2H), 5.31 (s, 1H), 2.31 (s, 3H), 1.93 (s, 3H), 1.12 (s, 12H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 139.2, 137.4, 137.0, 128.9, 128.3, 128.0, 127.3, 125.7, 89.8, 83.9, 26.6, 24.8, 24.5, 21.1; **HRMS** (ESI–TOF) m/z: $[M + H]^+$ Calcd for $[C_{23}H_{29}B_2O_4]^+$: 391.2246; Found 391.2255.



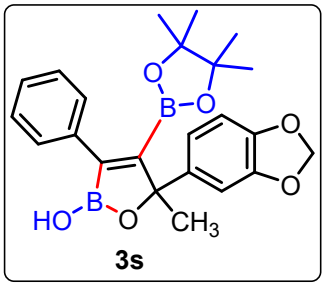
3q

5-(3-bromophenyl)-5-methyl-3-phenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-1,2-oxaborol-2(5H)-ol (3q): White solid (68.54 mg, 75%); mp. 156–157 °C; R_f 0.4 (PET:EtOAc = 9:1); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.51 (s, 1H), 7.35-7.33 (m, 2H), 7.29-7.25 (m, 2H), 7.20 (t, J = 7.2 Hz, 2H), 7.16-7.12 (m, 1H), 7.09-7.05 (m, 1H), 5.54 (s, 1H), 1.82 (s, 3H), 1.04 (s, 12H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 144.9, 137.0, 130.4, 129.9, 128.9, 128.3, 128.1, 127.5, 124.3, 122.4, 89.5, 84.1, 26.8, 24.9, 24.6; **HRMS** (ESI–TOF) m/z: $[M + H]^+$ Calcd for $[C_{22}H_{26}B_2BrO_4]^+$: 455.1195; Found 455.1230.



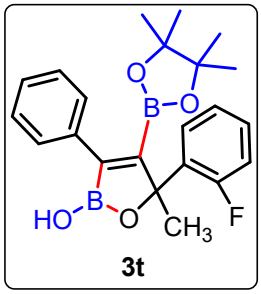
3r

5-methyl-5-(naphthalen-2-yl)-3-phenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-1,2-oxaborol-2(5H)-ol (3r): White solid (67.59 mg, 79%); mp. 138–139 °C; R_f 0.4 (PET:EtOAc = 85:15); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 8.00 (s, 1H), 7.88-7.83 (m, 3H), 7.61-7.59 (m, 1H), 7.56-7.54 (m, 2H), 7.51-7.49 (m, 2H), 7.36 (t, J = 7.6 Hz, 2H), 7.31-7.27 (m, 1H), 5.95 (s, 1H), 2.14 (s, 3H), 1.11 (s, 12H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 139.7, 137.3, 133.2, 132.7, 128.3, 128.2, 128.09, 128.06, 127.6, 127.4, 126.0, 125.9, 124.5, 124.1, 90.0, 84.0, 26.6, 24.8, 24.4; **HRMS** (ESI–TOF) m/z: $[M + H]^+$ Calcd for $[C_{26}H_{29}B_2O_4]^+$: 427.2246; Found 427.2274.



3s

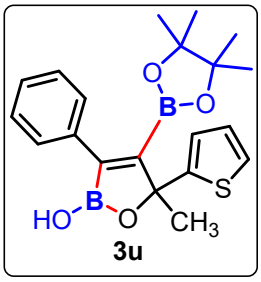
5-(benzo[d][1,3]dioxol-5-yl)-5-methyl-3-phenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-1,2-oxaborol-2(5H)-ol (3s): Brown solid (62.50 mg, 74%); mp. 179−180 °C; R_f 0.4 (PET:EtOAc = 85:15); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.51-7.48 (m, 2H), 7.36-7.32 (m, 2H), 7.30-7.25 (m, 1H), 6.99-6.96 (m, 2H), 6.78-6.76 (m, 1H), 5.95-5.94 (m, 2H), 1.95 (s, 3H), 1.17 (s, 12H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 147.6, 146.8, 137.3, 136.3, 128.3, 128.0, 127.3, 119.2, 107.8, 106.8, 101.0, 89.6, 84.0, 26.7, 24.8, 24.5; **HRMS** (ESI–TOF) m/z: $[M + H]^+$ Calcd for $[C_{23}H_{27}B_2O_6]^+$: 421.1988; Found 421.2016.



3t

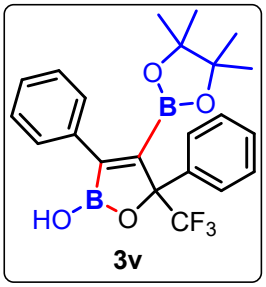
5-(2-fluorophenyl)-5-methyl-3-phenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-1,2-oxaborol-2(5H)-ol (3t): Green solid (59.11 mg, 75%); mp. 148–149 °C; R_f 0.5 (PET:EtOAc = 9:1); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.37-7.33 (m, 3H), 7.19-7.15 (m, 2H), 7.12-7.08 (m, 2H), 6.95 (t, J = 7.6 Hz, 1H), 6.88-6.83 (m, 1H), 5.37 (s, 1H), 1.84 (s, 3H), 1.00 (s, 6H), 0.97 (s, 6H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 160.9 ($J_{C\text{-}F}$ = 247.0 Hz), 137.4, 129.5 ($J_{C\text{-}F}$ = 9.0 Hz), 129.4, 129.3, 128.2, 128.1, 127.9, 127.3, 123.9 ($J_{C\text{-}F}$ = 3.0 Hz),, 116.3 ($J_{C\text{-}F}$ = 23.0 Hz),

88.6, 84.1, 26.9, 26.8, 24.9, 24.6; **^{19}F NMR** (376.5 MHz, $CDCl_3$): δ -109.53; **HRMS** (ESI–TOF) m/z: $[M + H]^+$ Calcd for $[C_{22}H_{26}B_2FO_4]^+$: 395.1996; Found 395.2014.



3u

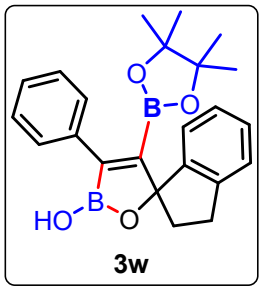
5-methyl-3-phenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-5-(thiophen-2-yl)-1,2-oxaborol-2(5H)-ol (3u): Brown solid (61.90 mg, 81%); mp. 130–131 °C; R_f 0.4 (PET:EtOAc = 9:1); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.51-7.48 (m, 2H), 7.34-7.30 (m, 2H), 7.28-7.24 (m, 1H), 7.21-7.19 (m, 1H), 7.07-7.06 (m, 1H), 6.93-6.91 (m, 1H), 5.78 (s, 1H), 2.01 (s, 3H), 1.16 (s, 6H), 1.13 (s, 6H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 147.3, 137.0, 128.4, 128.0, 127.5, 126.6, 125.0, 124.6, 87.7, 84.0, 27.7, 24.7, 24.4; **HRMS** (ESI–TOF) m/z: $[M + H]^+$ Calcd for $[C_{20}H_{25}B_2O_4S]^+$: 383.1654; Found 383.1650.



3v

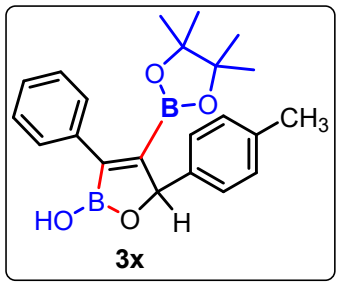
3,5-diphenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-5-(trifluoromethyl)-1,2-oxaborol-2(5H)-ol (3v): White solid (67.09 mg, 78%); mp. 182–183 °C; R_f 0.4 (PET:EtOAc = 85:15); **^{1}H NMR** (DMSO-d_6, 400 MHz): δ 9.95 (s, 1H), 7.64 (d, J = 7.6 Hz, 1H), 7.47-7.37 (m, 6H), 7.36-7.29 (m, 3H), 1.16 (s, 6H), 1.14 (s, 6H); **^{13}C{^{1}H} NMR** (DMSO-d_6, 100 MHz): δ 152.6 ($J_{C\text{-}F}$ = 250.0 Hz), 151.3 ($J_{C\text{-}F}$ = 3.0 Hz), 151.2, 136.3, 134.9, 128.9, 128.4, 128.1 ($J_{C\text{-}F}$ = 9.0 Hz), 127.8, 126.2, 125.8, 123.0, 88.8 (t, $J_{C\text{-}F}$ = 29.0 Hz), 84.2, 24.5, 24.4; **^{19}F NMR**

(376.5 MHz, DMSO-d_6): δ -74.0; **HRMS** (ESI–TOF) m/z: $[M + H]^+$ Calcd for $[C_{22}H_{24}B_2F_3O_4]^+$: 431.1807; Found 431.1811.



3w

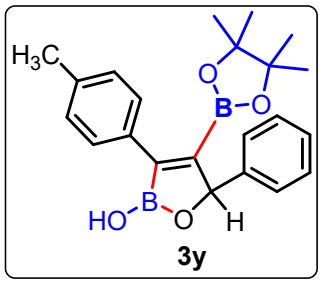
3'-phenyl-4'-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-2,3-dihydro-2'H-spiro[indene-1,5'-[1,2]oxaborol]-2'-ol (3w): White solid (55.04 mg, 71%); mp. 170−171 °C; R_f 0.4 (PET:EtOAc = 85:15); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.56-7.53 (m, 2H), 7.35-7.30 (m, 2H), 7.28-7.22 (m, 3H), 7.17-7.15 (m, 1H), 7.14-7.09 (m, 1H), 5.19 (s, 1H), 3.27-3.19 (m, 1H), 3.10-3.03 (m, 1H), 2.88-2.80 (m, 1H), 2.33-2.27 (m, 1H), 1.02 (s, 6H), 0.97 (s, 6H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 144.7, 142.7, 137.3, 128.8, 128.3, 128.2, 127.4, 126.6, 124.9, 124.0, 98.2, 83.9, 37.4, 30.6, 24.5, 24.2; **HRMS** (ESI–TOF) m/z: $[M + H]^+$ Calcd for $[C_{23}H_{27}B_2O_4]^+$: 389.2090; Found 389.2115.



3x

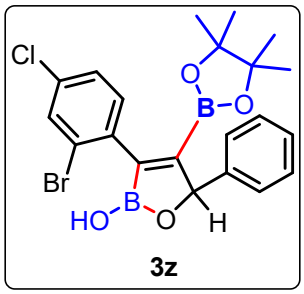
3-phenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-5-(p-tolyl)-1,2-oxaborol-2(5H)-ol (3x): Brown oil (55.09 mg, 73%); R_f 0.5 (PET:EtOAc = 9:1); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.57-7.55 (m, 2H), 7.35-7.31 (m, 2H), 7.28-7.24 (m, 1H), 7.20 (d, J = 8.0 Hz, 2H), 7.12 (d, J = 7.6 Hz, 2H), 5.86 (s, 1H), 2.32 (s, 3H), 1.08 (s, 6H), 1.03 (s, 6H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 138.0, 137.1, 135.5, 129.1, 128.4, 128.1, 127.5, 127.3, 87.0, 84.1, 24.7, 24.2,

21.3; **HRMS** (ESI–TOF) m/z: $[M + H]^+$ Calcd for $[C_{22}H_{27}B_2O_4]^+$: 377.2090; Found 377.2109.



3y

5-phenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-3-(p-tolyl)-1,2-oxaborol-2(5H)-ol (3y): Yellow solid (55.66 mg, 74%); mp. 135−136 °C; R_f 0.5 (PET:EtOAc = 9:1); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.48 (d, J = 8.0 Hz, 2H), 7.32-7.25 (m, 5H), 7.14 (d, J = 8.0 Hz, 2H), 5.88 (s, 1H), 5.28 (s, 1H), 2.35 (s, 3H), 1.07 (s, 6H), 1.03 (s, 6H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 138.6, 137.4, 134.0, 128.9, 128.4, 128.3, 127.4, 87.1, 84.0, 24.7, 24.2, 21.4; **HRMS** (ESI–TOF) m/z: $[M + K]^+$ Calcd for $[C_{22}H_{26}B_2O_4K]^+$: 415.1649; Found 415.1660.



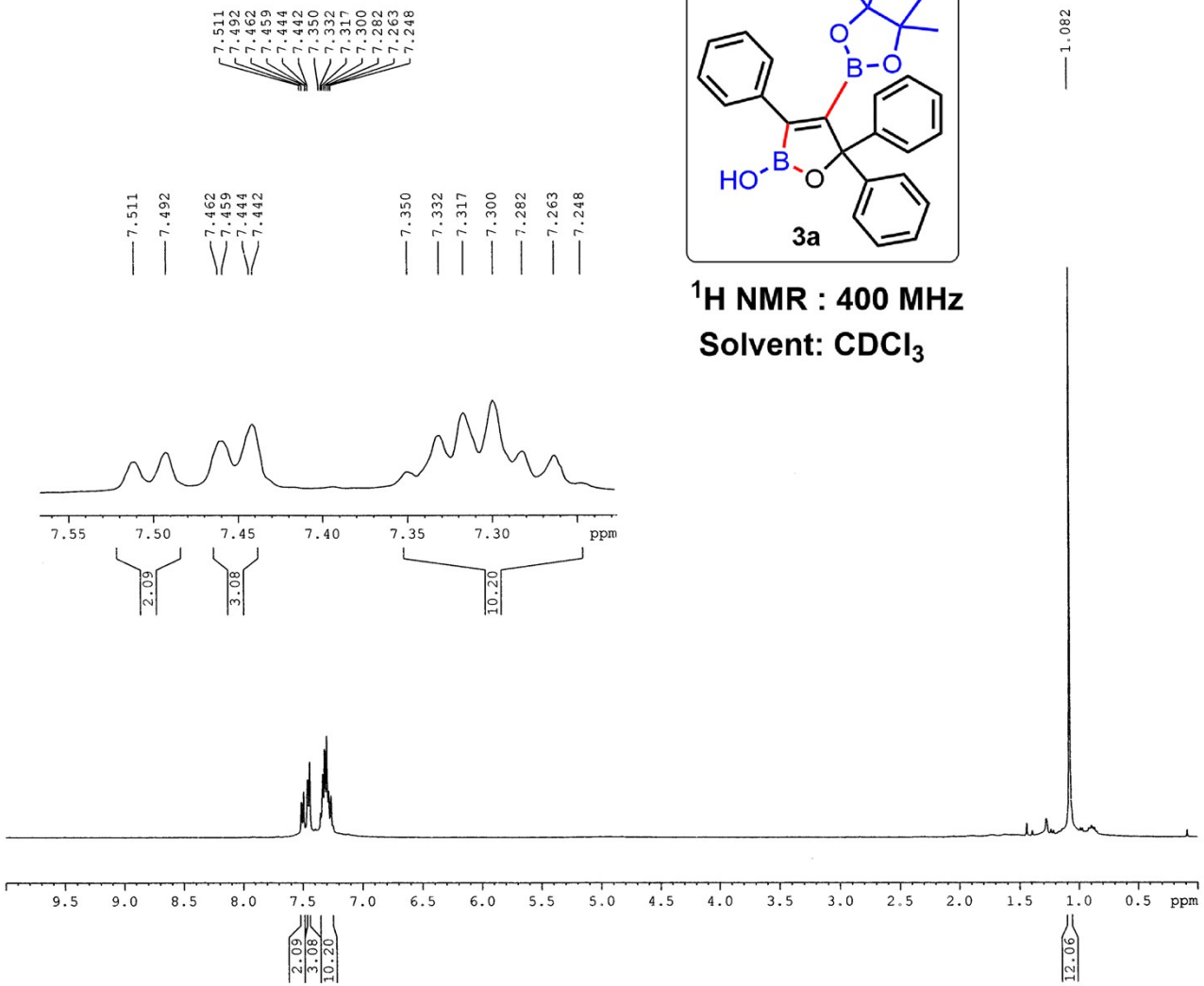
3z

3-(2-bromo-4-chlorophenyl)-5-phenyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-1,2-oxaborol-2(5H)-ol (3z): Yellow solid (66.70 mg, 70%); mp. 185−186 °C; R_f 0.45 (PET:EtOAc = 9:1); **^{1}H NMR** ($CDCl_3$, 400 MHz): δ 7.60-7.56 (m, 3H), 7.37-7.32 (m, 2H), 7.31-7.27 (m, 1H), 7.24-7.21 (m, 1H), 7.07 (d, J = 8.0 Hz, 1H), 6.35 (s, 1H), 5.11 (s, 1H), 1.11 (s, 6H), 1.05 (s, 6H); **^{13}C{^{1}H} NMR** ($CDCl_3$, 100 MHz): δ 136.7, 136.5, 134.8, 132.5, 129.8, 128.39, 128.31, 128.0, 127.9, 125.0, 84.7, 84.3, 24.7, 24.3; **HRMS** (ESI-TOF) m/z: $[M + H]^+$ Calcd for $[C_{21}H_{23}B_2BrClO_4]^+$: 475.0649; Found 475.0673.

6. References:

(1) (a) Zhu, W.-R.; Su, Q.; Deng, X.-Y.; Ouyang, Z.-L.; Weng, J.; Lu, G. Organocatalytic asymmetric cascade bicyclization: access to chiral polycyclic bisindoles from 2-indolylmethanols and propargylic alcohols. *Org. Chem. Front.* **2024**, *11* (7), 2040-2046. (b) He, W.; Zheng, W.-F.; Qian, H. Rh-Catalyzed Carbonylative Cyclization of Propargylic Alcohols with Aryl Boronic Acids. *Org. Lett.* **2024**, *26* (29), 6279-6283. (c) Yan, W.; Wang, Q.; Chen, Y.; Petersen, J. L.; Shi, X. Iron-Catalyzed C−O Bond Activation for the Synthesis of Propargyl-1,2,3-triazoles and 1,1-Bis-triazoles. *Org. Lett.* **2010**, *12* (15), 3308-3311.

7. NMR spectra [^{1}H, ^{13}C {^{1}H}, and ^{19}F] of synthesized products

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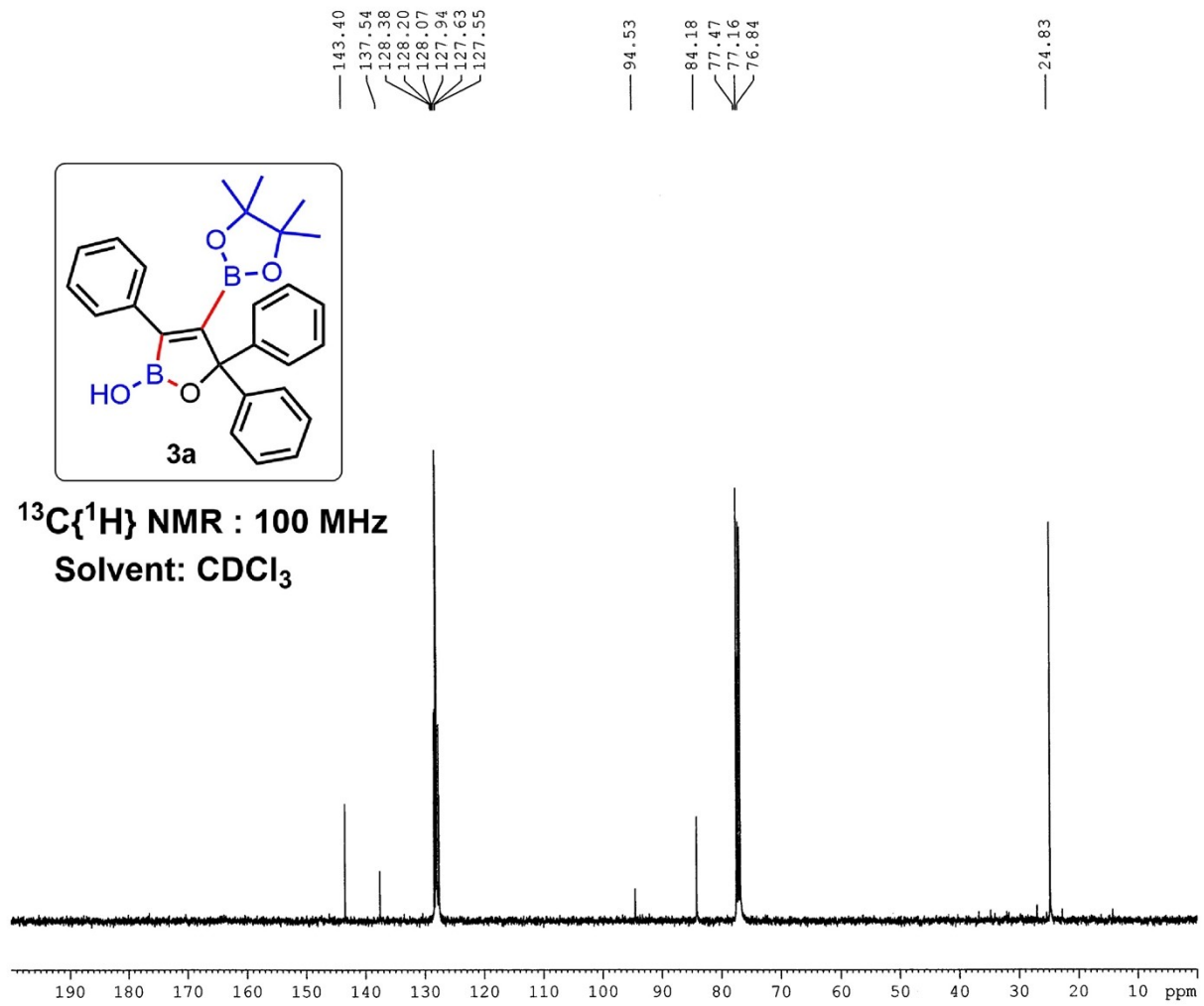


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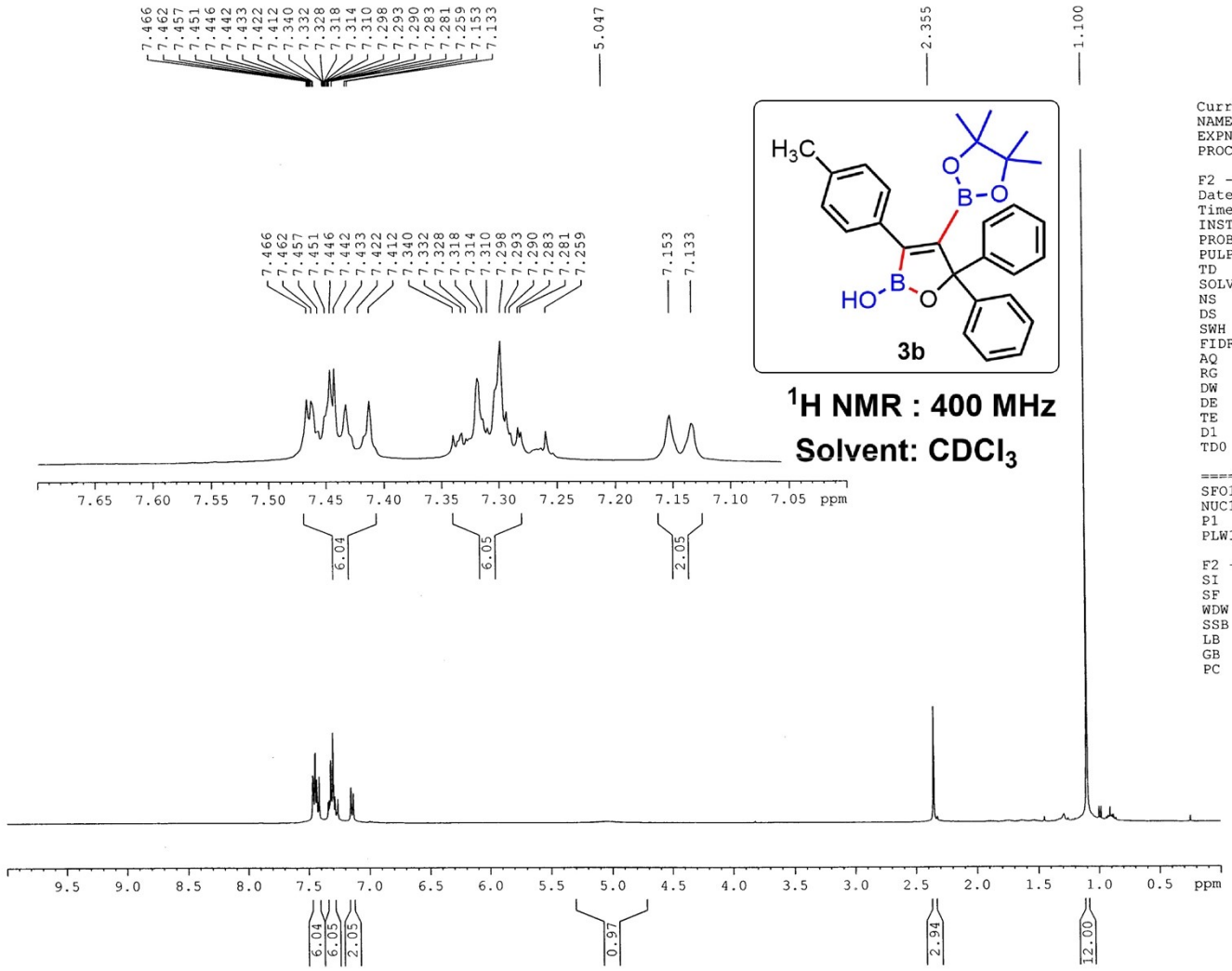
Date_              20230927
Time                 22.16
INSTRUM              spect
PROBHD   5 mm PABBO BB/
PULPROG             zgpg30
TD                   32768
SOLVENT              CDCl3
NS                     640
DS                       2
SWH              24038.461 Hz
FIDRES            0.733596 Hz
AQ                0.6815744 sec
RG                   77.59
DW                  20.800 usec
DE                   6.50 usec
TE                  298.2 K
D1               2.00000000 sec
D11              0.03000000 sec
TD0                      1

======== CHANNEL f1 ========
SFO1          100.6278588 MHz
NUC1                    13C
P1                   8.90 usec
PLW1         54.00000000 W

======== CHANNEL f2 ========
SFO2          400.1516006 MHz
NUC2                    1H
CPDPRG[2           waltz16
PCPD2               90.00 usec
PLW2         12.00000000 W
PLW12         0.32231000 W
PLW13         0.16212000 W

F2 - Processing parameters
SI                   16384
SF            100.6177858 MHz
WDW                     EM
SSB       0
LB                   1.00 Hz
GB        0
PC                   1.40
```

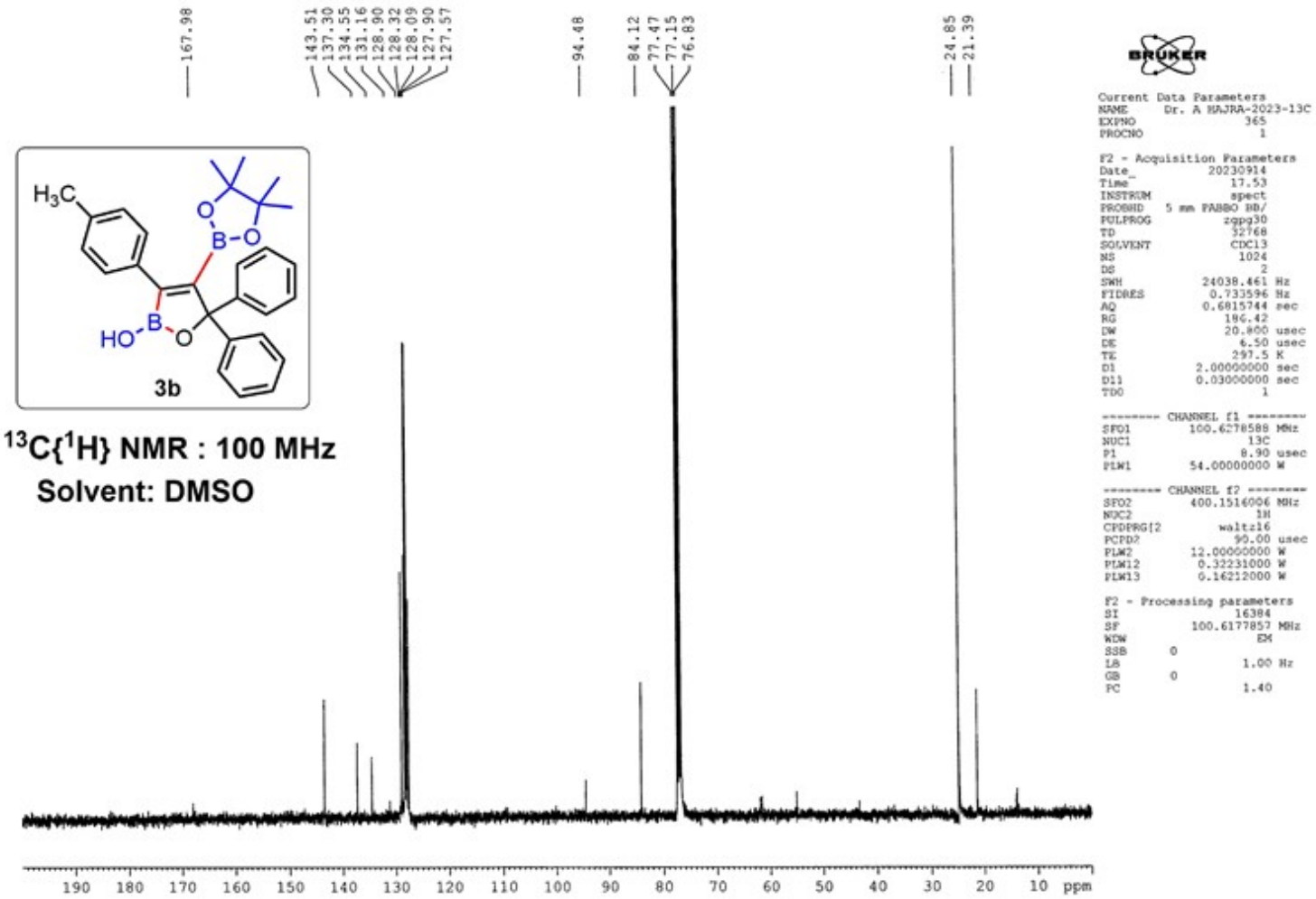



```
Current Data Parameters
NAME      Dr. A HAJRA 2024 1H
EXPNO                294
PROCNO                 1

F2 - Acquisition Parameters
Date_           20240411
Time              13.04
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     2
SWH             8223.685 Hz
FIDRES          0.250967 Hz
AQ              1.9922944 sec
RG                 57.28
DW                60.800 usec
DE                 6.50 usec
TE                296.8 K
D1             1.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1524711 MHz
NUC1                  1H
P1                14.75 usec
PLW1         12.00000000 W

F2 - Processing parameters
SI                 16384
SF           400.1500097 MHz
WDW                   EM
SSB       0
LB                0.30 Hz
GB        0
PC                1.00
```



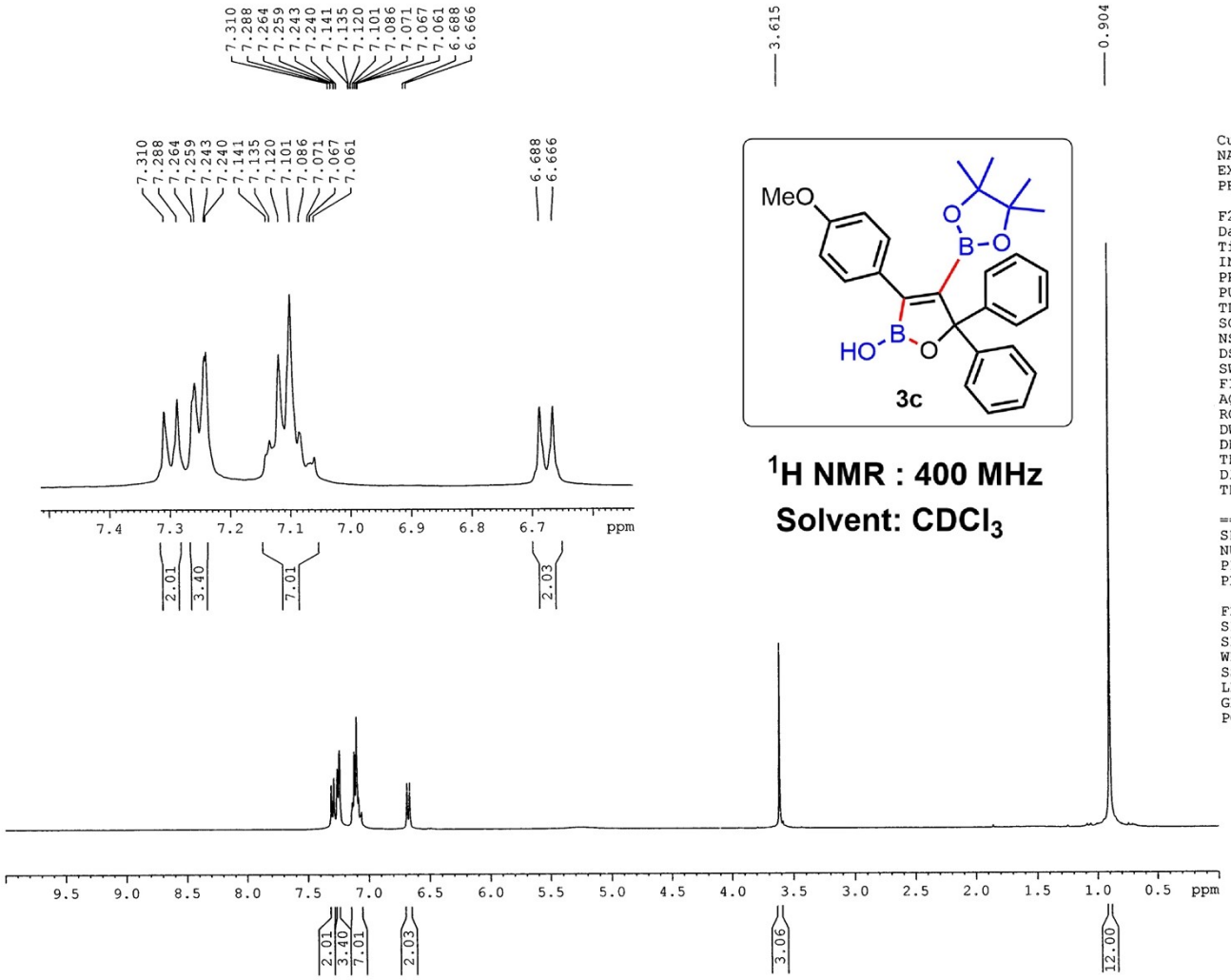

```
Current Data Parameters
NAME      Dr. A HAJRA-2023-13C
EXPNO                  365
PROCNO                   1

F2 - Acquisition Parameters
Date_              20230914
Time               17.53
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG            zgpg30
TD                 32768
SOLVENT            CDCl3
NS                 1024
DS                 2
SWH                24038.461 Hz
FIDRES             0.733596 Hz
AQ                 0.6815744 sec
RG                 186.42
DW                 20.800 usec
DE                 6.50 usec
TE                 297.5 K
D1                 2.00000000 sec
D11                0.03000000 sec
TD0                1

======== CHANNEL f1 ========
SFO1               100.6270588 MHz
NUC1               13C
P1                 8.90 usec
PLW1               54.00000000 W

======== CHANNEL f2 ========
SFO2               400.1514006 MHz
NUC2               1H
CPDPRG[2           waltz16
PCPD2              90.00 usec
PLW2               12.00000000 W
PLW12              0.32231000 W
PLW13              0.16212000 W

F2 - Processing parameters
SI                 16384
SF                 100.6177857 MHz
WDW                EM
SSB                0
LB                 1.00 Hz
GB                 0
PC                 1.40
```



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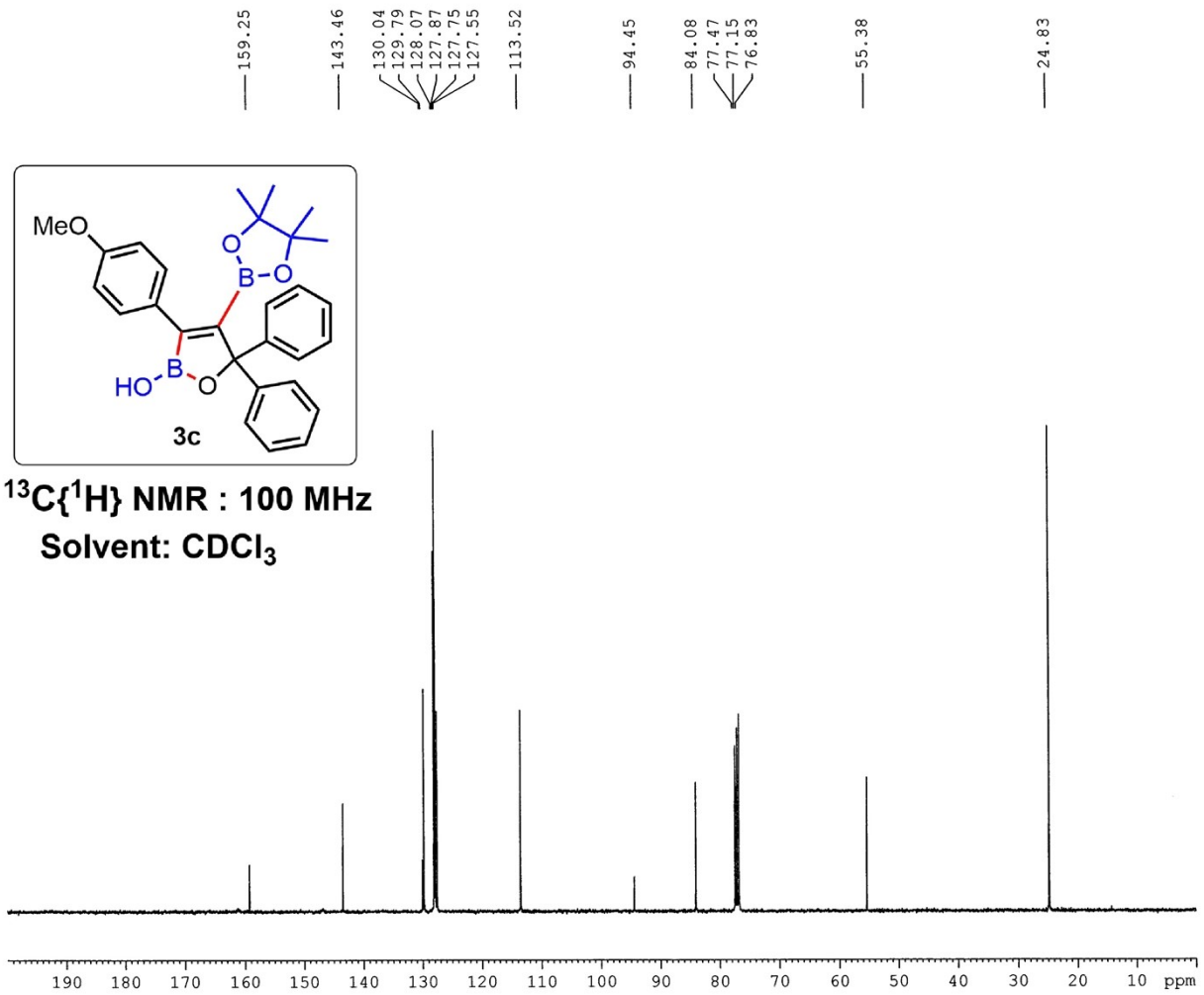
```
Current Data Parameters
NAME      Dr. A HAJRA 2023 1H
EXPNO               1146
PROCNO                 1

F2 - Acquisition Parameters
Date_           20231003
Time              11.11
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG           zg30
TD               32768
SOLVENT          CDCl3
NS                   8
DS                   2
SWH           8223.685 Hz
FIDRES        0.250967 Hz
AQ            1.9922944 sec
RG               37.83
DW               60.800 usec
DE                6.50 usec
TE               289.8 K
D1            1.00000000 sec
TD0                  1

======== CHANNEL f1 ========
SFO1        400.1524711 MHz
NUC1               1H
P1               14.75 usec
PLW1        12.00000000 W

F2 - Processing parameters
SI               16384
SF          400.1500891 MHz
WDW                 EM
SSB       0
LB              0.30 Hz
GB        0
PC              1.00
```



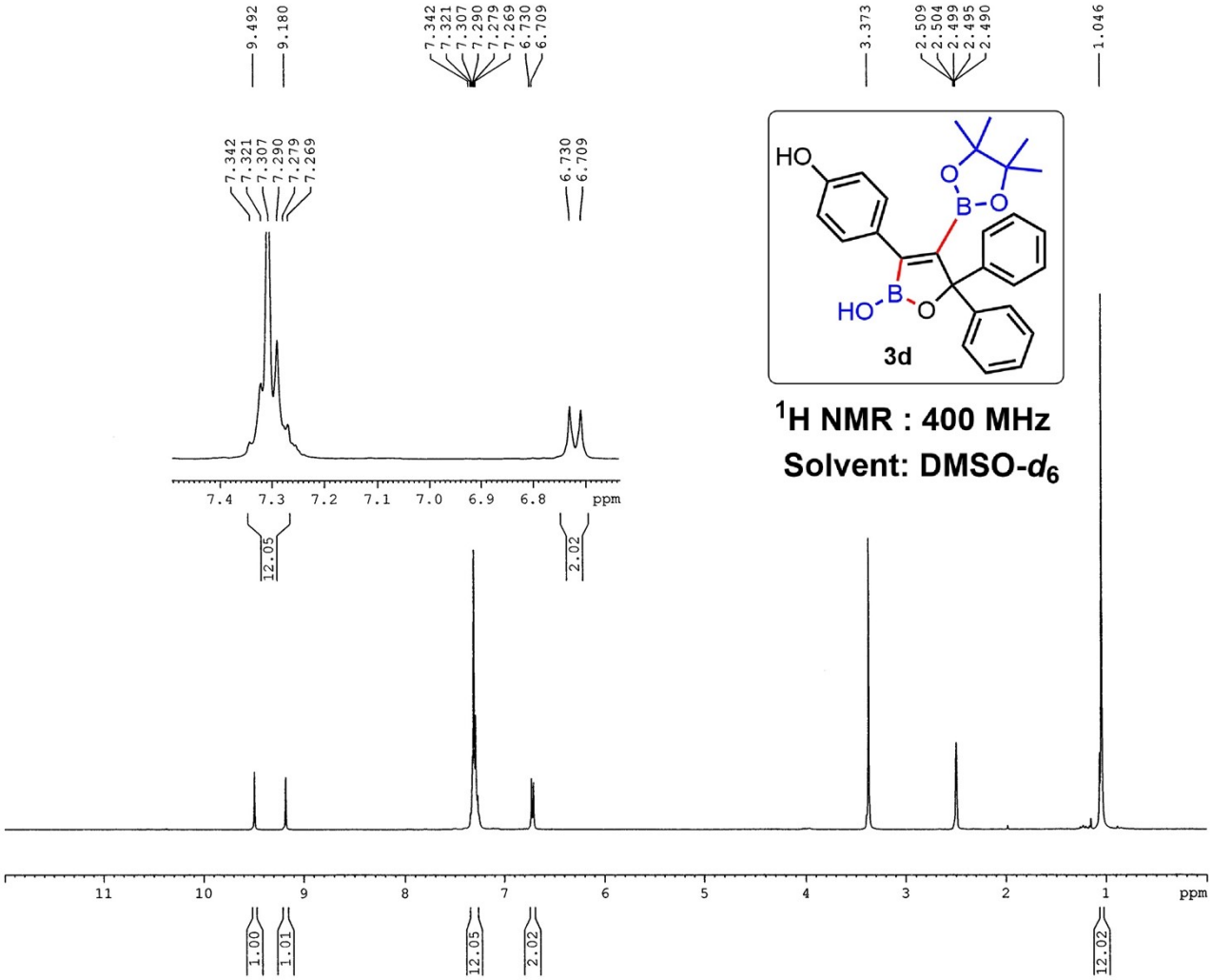

```
Current Data Parameters
NAME      Dr. A HAJRA-2023-13C
EXPNO                  396
PROCNO                   1

F2 - Acquisition Parameters
Date_              20231003
Time                 11.40
INSTRUM              spect
PROBHD   5 mm PABBO BB/
PULPROG            zgpg30
TD                  32768
SOLVENT             CDCl3
NS                    460
DS                      2
SWH              24038.461 Hz
FIDRES            0.733596 Hz
AQ                0.6815744 sec
RG                  186.42
DW                  20.800 usec
DE                   6.50 usec
TE                  291.3 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                     1

======== CHANNEL f1 ========
SFO1          100.6278588 MHz
NUC1                  13C
P1                   8.90 usec
PLW1          54.00000000 W

======== CHANNEL f2 ========
SFO2          400.1516006 MHz
NUC2                  1H
CPDPRG[2           waltz16
PCPD2               90.00 usec
PLW2          12.00000000 W
PLW12          0.32231000 W
PLW13          0.16212000 W

F2 - Processing parameters
SI                   16384
SF            100.6177930 MHz
WDW                    EM
SSB       0
LB                   1.00 Hz
GB        0
PC                   1.40
```



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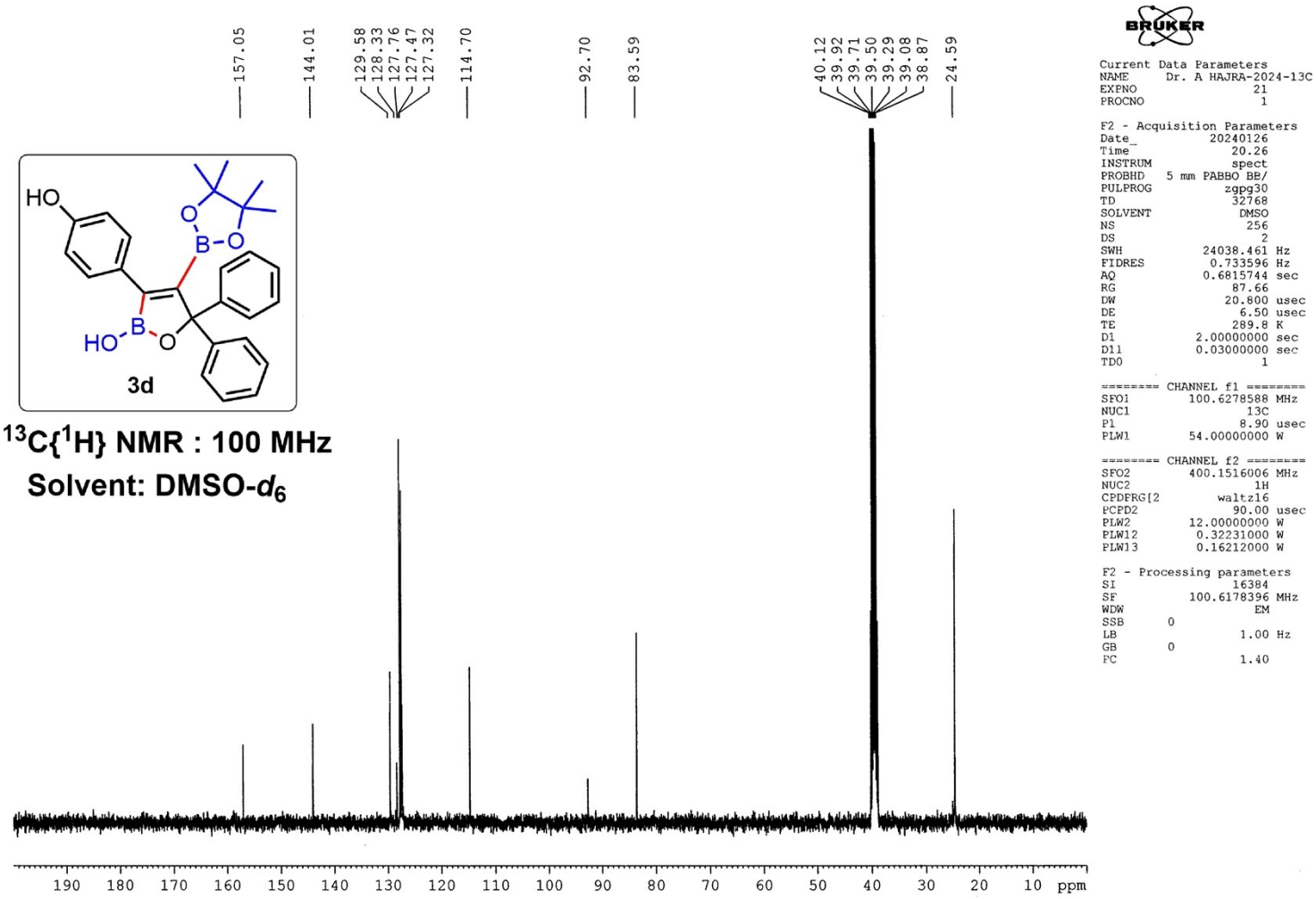
Current Data Parameters
NAME Dr. A HAJRA 2024 1H
EXPNO 65
PROCNO 1

F2 - Acquisition Parameters
Date_ 20240126
Time 20.08
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg30
TD 32768
SOLVENT DMSO
NS 18
DS 2
SWH 8223.685 Hz
FIDRES 0.250967 Hz
AQ 1.9922944 sec
RG 87.66
DW 60.800 usec
DE 6.50 usec
TE 289.7 K
D1 1.00000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 400.1524711 MHz
NUC1 1H
P1 14.75 usec
PLW1 12.00000000 W

F2 - Processing parameters
SI 16384
SF 400.1500026 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



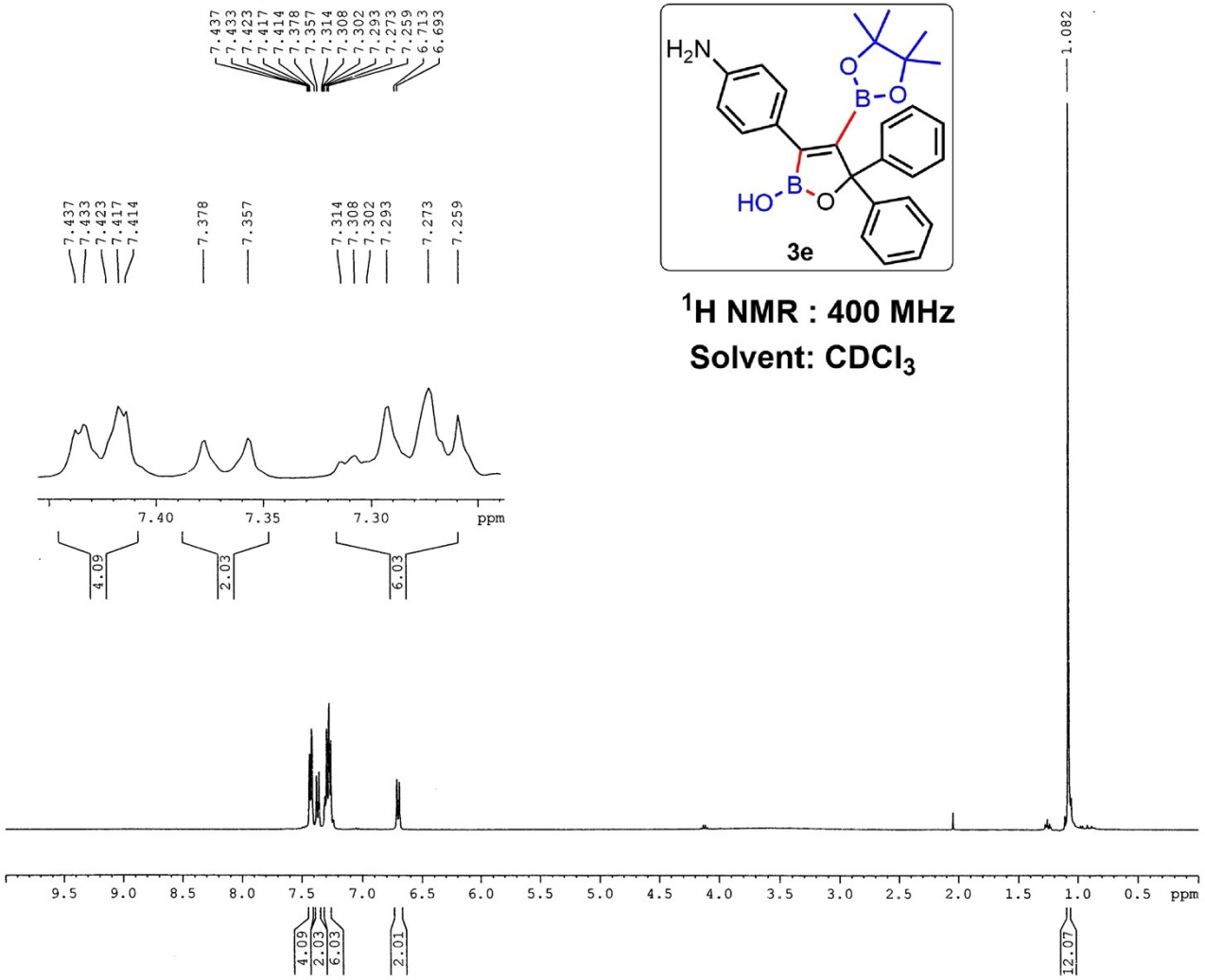

```
Current Data Parameters
NAME      Dr. A HAJRA-2024-13C
EXPNO                  21
PROCNO                  1

F2 - Acquisition Parameters
Date_           20240126
Time              20.26
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD               32768
SOLVENT           DMSO
NS                 256
DS                   2
SWH          24038.461 Hz
FIDRES        0.733596 Hz
AQ            0.6815744 sec
RG               87.66
DW              20.800 usec
DE               6.50 usec
TE              289.8 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                  1

======== CHANNEL f1 ========
SFO1        100.6278588 MHz
NUC1              13C
P1               8.90 usec
PLW1        54.00000000 W

======== CHANNEL f2 ========
SFO2        400.1516006 MHz
NUC2              1H
CPDPRG[2        waltz16
PCPD2            90.00 usec
PLW2        12.00000000 W
PLW12        0.32231000 W
PLW13        0.16212000 W

F2 - Processing parameters
SI               16384
SF          100.6178396 MHz
WDW                EM
SSB       0
LB              1.00 Hz
GB        0
PC              1.40
```



^{1}H NMR : 400 MHz

Solvent: $CDCl_3$

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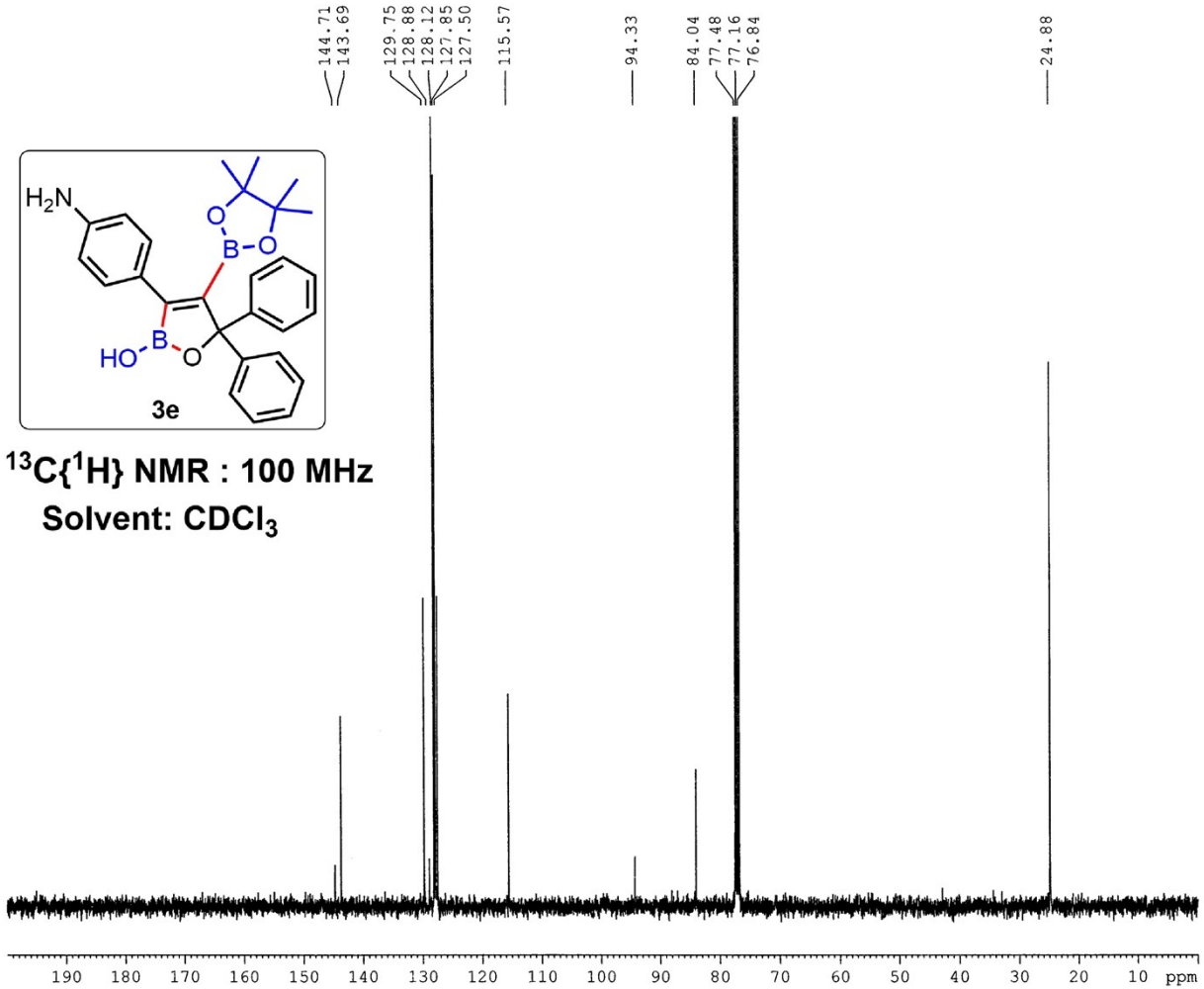
```
Current Data Parameters
NAME      Dr. A HAJRA 2024 1H
EXPNO                  223
PROCNO                   1

F2 - Acquisition Parameters
Date_           20240320
Time              17.45
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG            zg30
TD                32768
SOLVENT           CDCl3
NS                    8
DS                    2
SWH            8223.685 Hz
FIDRES        0.250967 Hz
AQ            1.9922944 sec
RG               106.66
DW               60.800 usec
DE                6.50 usec
TE               294.8 K
D1            1.00000000 sec
TD0                   1

======== CHANNEL f1 ========
SFO1         400.1524711 MHz
NUC1               1H
P1                14.75 usec
PLW1         12.00000000 W

F2 - Processing parameters
SI                16384
SF           400.1500097 MHz
WDW                EM
SSB       0
LB              0.30 Hz
GB        0
PC              1.00
```



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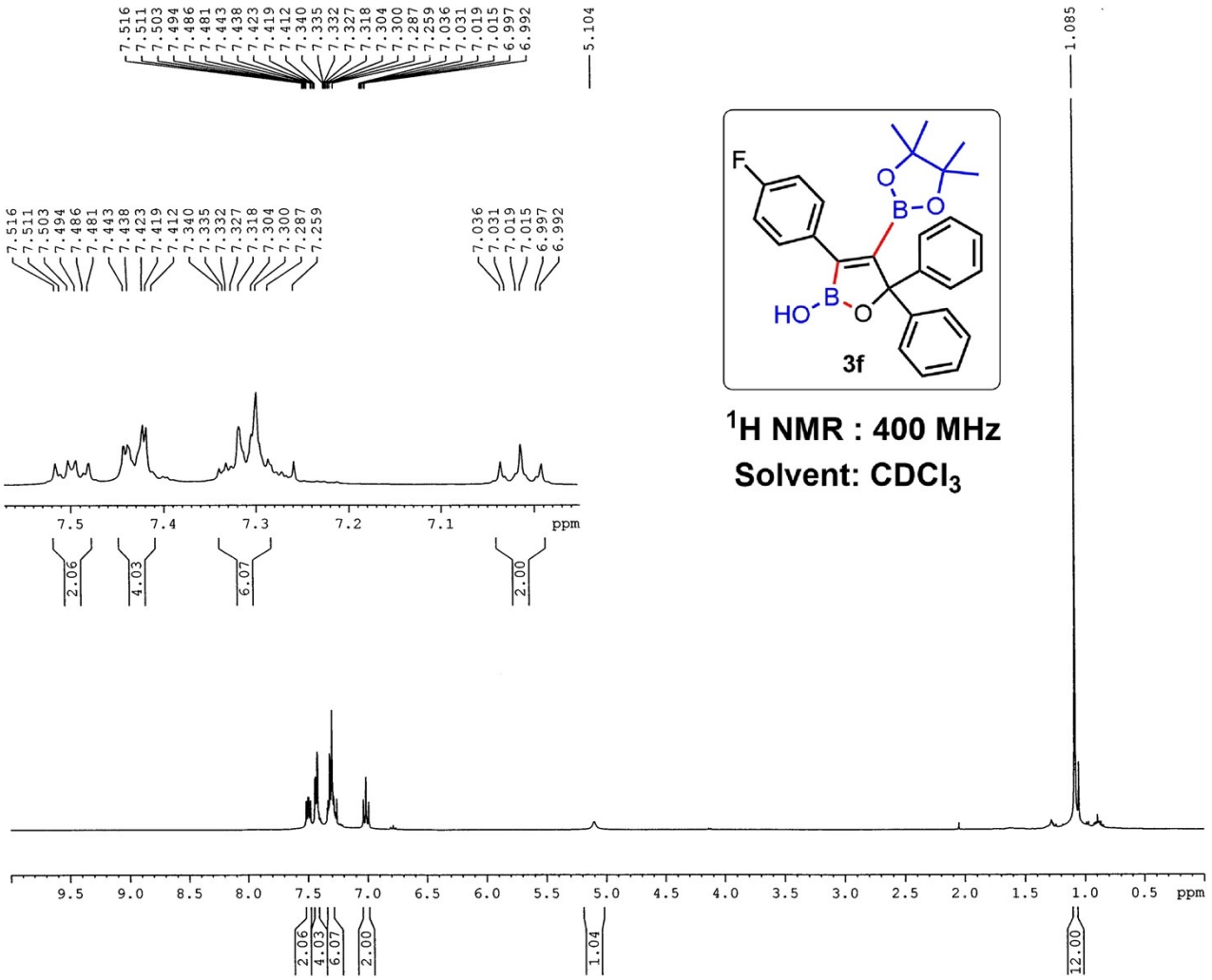
```
Current Data Parameters
NAME      Dr. A HAJRA-2024-13C
EXPNO                       70
PROCNO                       1

F2 - Acquisition Parameters
Date_              20240320
Time                  18.14
INSTRUM               spect
PROBHD   5 mm PABBO BB/
PULPROG             zgpg30
TD                   32768
SOLVENT              CDCl3
NS                     512
DS                       2
SWH              24038.461 Hz
FIDRES            0.733596 Hz
AQ                0.6815744 sec
RG                   106.66
DW                   20.800 usec
DE                    6.50 usec
TE                   294.8 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                      1

======== CHANNEL f1 ========
SFO1          100.6278588 MHz
NUC1                   13C
P1                    8.90 usec
PLW1         54.00000000 W

======== CHANNEL f2 ========
SFO2          400.1516006 MHz
NUC2                   1H
CPDPRG[2           waltz16
PCPD2                90.00 usec
PLW2         12.00000000 W
PLW12         0.32231000 W
PLW13         0.16212000 W

F2 - Processing parameters
SI                   16384
SF            100.6177859 MHz
WDW                     EM
SSB       0
LB                    1.00 Hz
GB        0
PC                    1.40
```

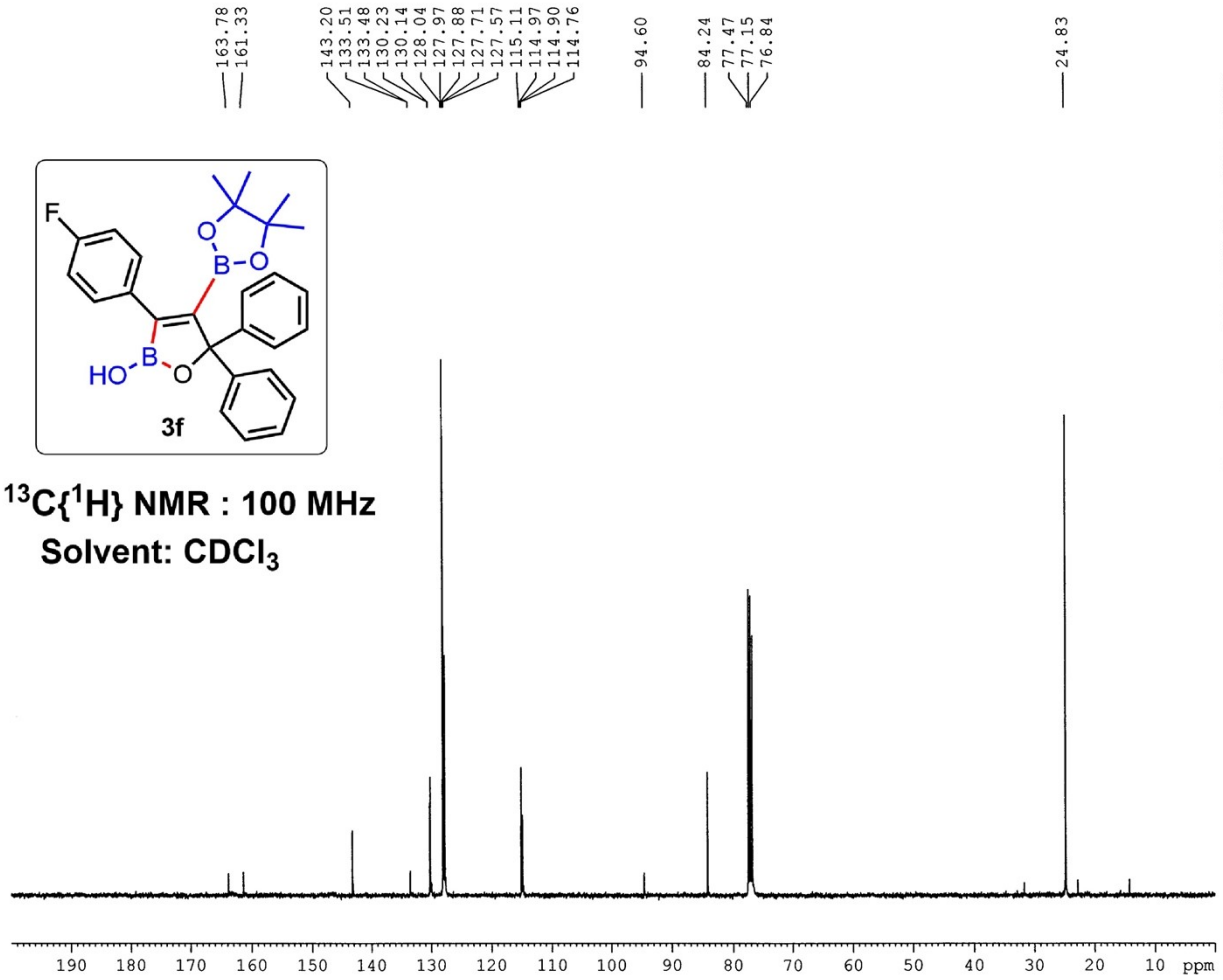



```
Current Data Parameters
NAME      Dr. A HAJRA 2023 1H
EXPNO               1263
PROCNO                 1

F2 - Acquisition Parameters
Date_           20231120
Time              10.36
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG           zg30
TD               32768
SOLVENT          CDCl3
NS                   8
DS                   2
SWH           8223.685 Hz
FIDRES        0.250967 Hz
AQ            1.9922944 sec
RG               67.81
DW               60.800 usec
DE                6.50 usec
TE               293.8 K
D1           1.00000000 sec
TD0                  1

======== CHANNEL f1 ========
SFO1         400.1524711 MHz
NUC1                1H
P1                14.75 usec
PLW1         12.00000000 W

F2 - Processing parameters
SI                16384
SF           400.1500097 MHz
WDW                  EM
SSB       0
LB                0.30 Hz
GB        0
PC                1.00
```



$^{13}C\{^{1}H\}$ NMR : 100 MHz

Solvent: $CDCl_3$

```
Current Data Parameters
NAME      Dr. A HAJRA-2023-13C
EXPNO                  437
PROCNO                   1

F2 - Acquisition Parameters
Date_           20231120
Time               11.25
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                32768
SOLVENT           CDCl3
NS                  860
DS                    2
SWH           24038.461 Hz
FIDRES         0.733596 Hz
AQ             0.6815744 sec
RG                67.81
DW                20.800 usec
DE                 6.50 usec
TE                293.9 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                   1

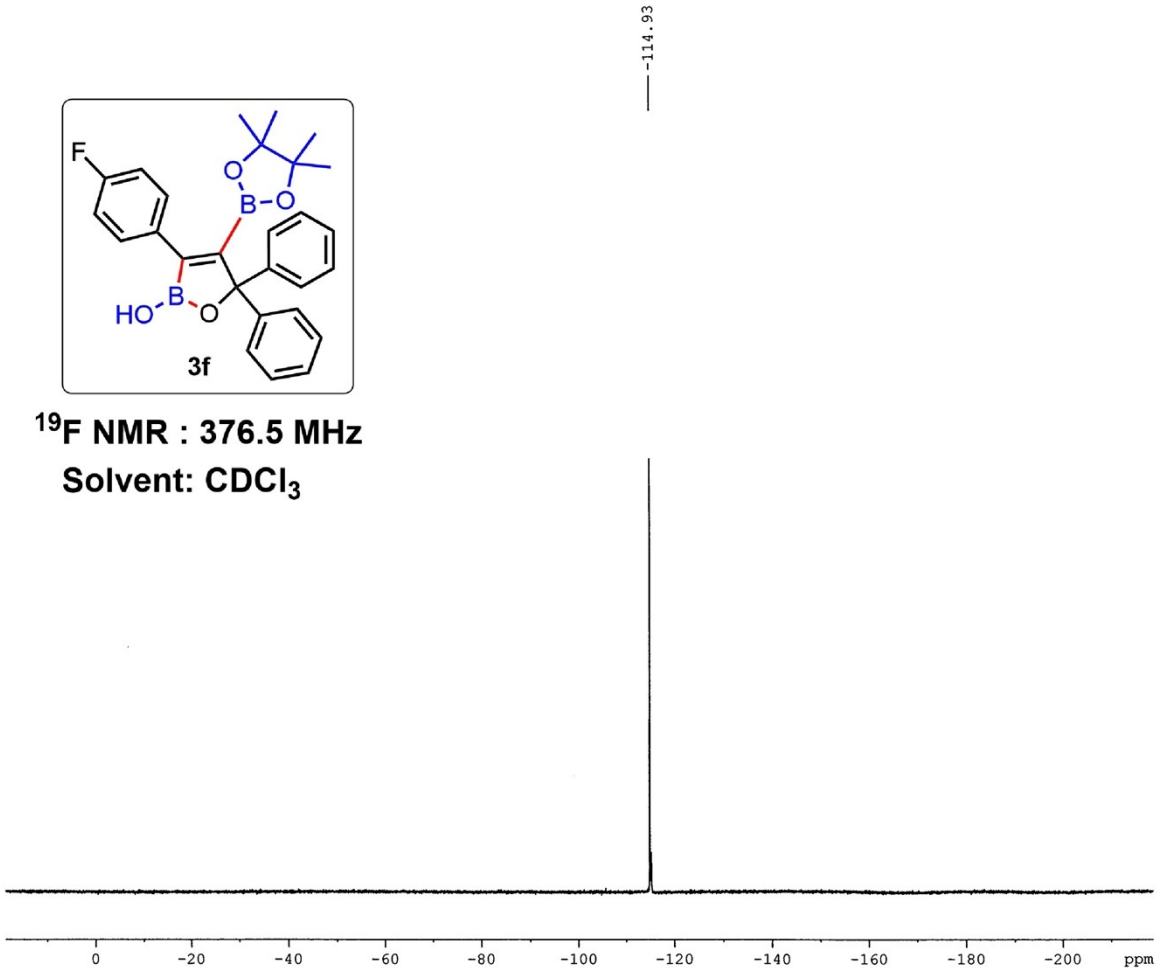
======== CHANNEL f1 ========
SFO1         100.6278588 MHz
NUC1                13C
P1                 8.90 usec
PLW1         54.00000000 W

======== CHANNEL f2 ========
SFO2         400.1516006 MHz
NUC2                1H
CPDPRG[2         waltz16
PCPD2             90.00 usec
PLW2         12.00000000 W
PLW12         0.32231000 W
PLW13         0.16212000 W

F2 - Processing parameters
SI                 16384
SF           100.6177874 MHz
WDW                   EM
SSB       0
LB                 1.00 Hz
GB        0
PC                 1.40
```

^{19}F NMR : 376.5 MHz

Solvent: $CDCl_3$

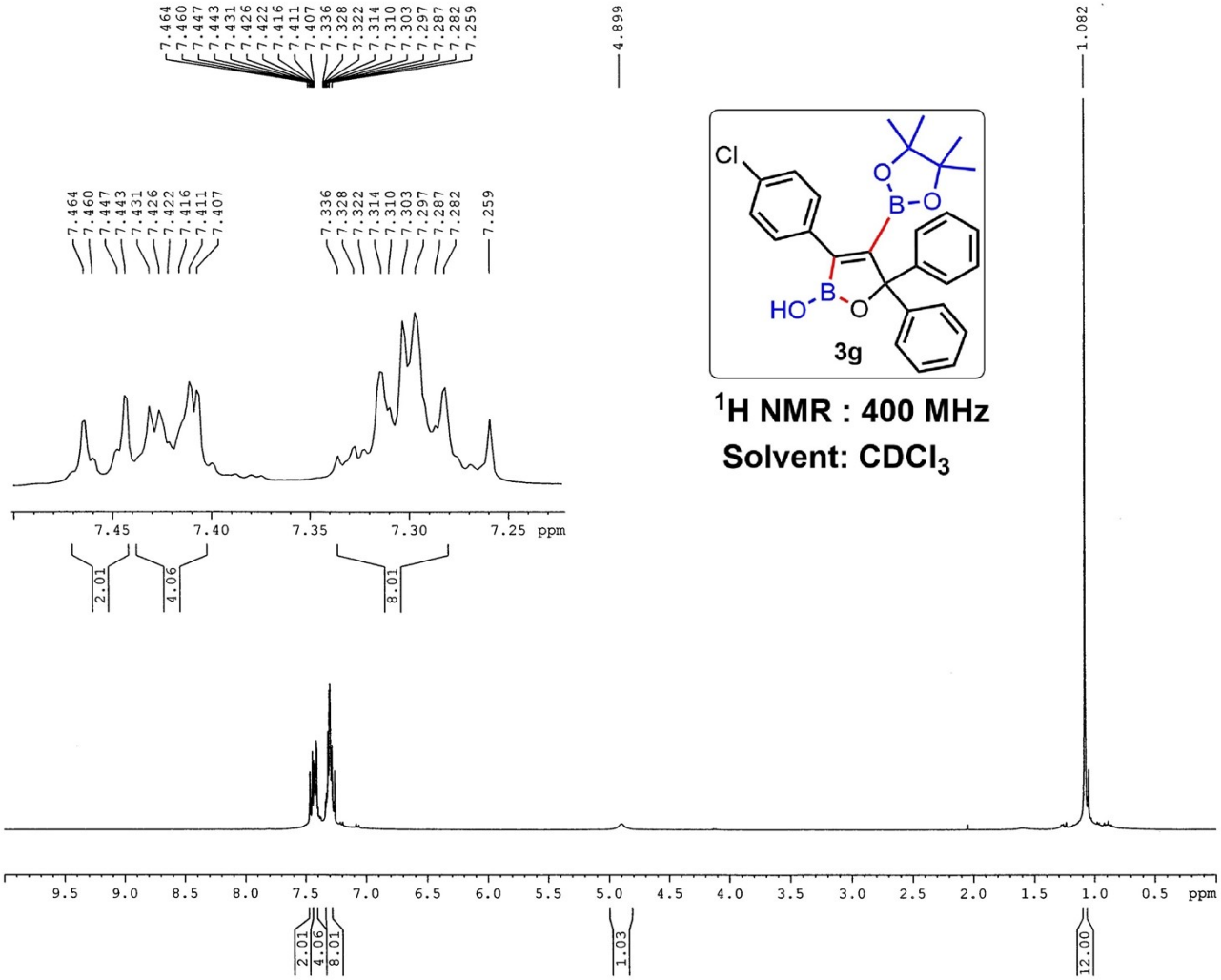



```
Current Data Parameters
NAME      Dr. A HAJRA 2023 1F
EXPNO                 1264
PROCNO                   1

F2 - Acquisition Parameters
Date_           20231120
Time              10.43
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG          zgflqn
TD                32768
SOLVENT           CDCl3
NS                    8
DS                    2
SWH           89285.711 Hz
FIDRES         2.724784 Hz
AQ             0.1835008 sec
RG                67.81
DW                5.600 usec
DE                6.50 usec
TE                293.5 K
D1           1.00000000 sec
TD0                   1

======== CHANNEL f1 ========
SFO1        376.4795333 MHz
NUC1               19F
P1                12.50 usec
PLW1        20.00000000 W

F2 - Processing parameters
SI                16384
SF          376.5171850 MHz
WDW                EM
SSB       0
LB                0.30 Hz
GB        0
PC                1.00
```



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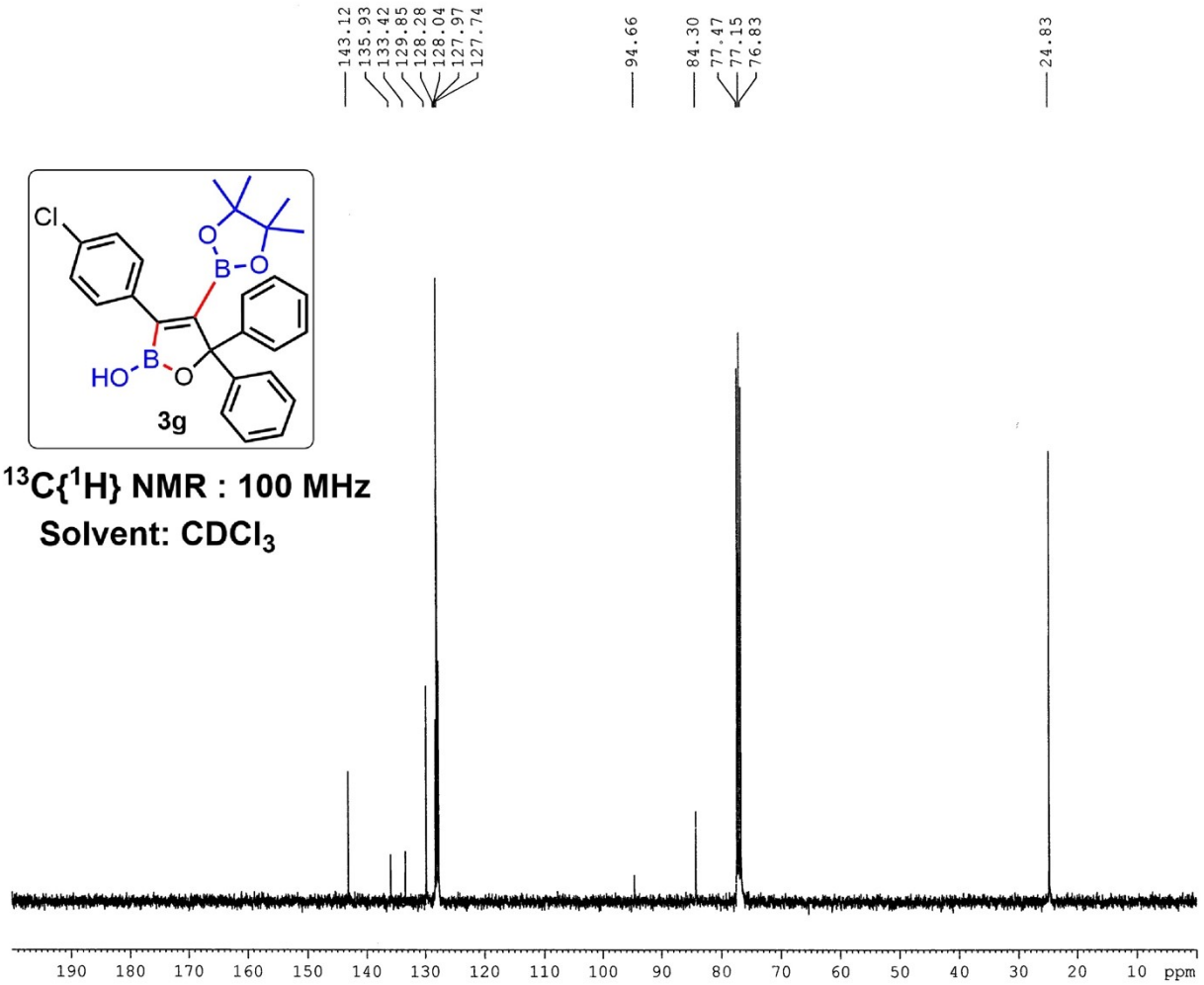
```
Current Data Parameters
NAME      Dr. A HAJRA 2024 1H
EXPNO                  229
PROCNO                   1

F2 - Acquisition Parameters
Date_           20240321
Time              21.24
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG           zg30
TD               32768
SOLVENT          CDCl3
NS                   8
DS                   2
SWH           8223.685 Hz
FIDRES        0.250967 Hz
AQ            1.9922944 sec
RG              120.16
DW               60.800 usec
DE                6.50 usec
TE               294.6 K
D1            1.00000000 sec
TD0                  1

======== CHANNEL f1 ========
SFO1        400.1524711 MHz
NUC1               1H
P1               14.75 usec
PLW1       12.00000000 W

F2 - Processing parameters
SI                16384
SF          400.1500097 MHz
WDW                EM
SSB       0
LB                0.30 Hz
GB        0
PC                1.00
```



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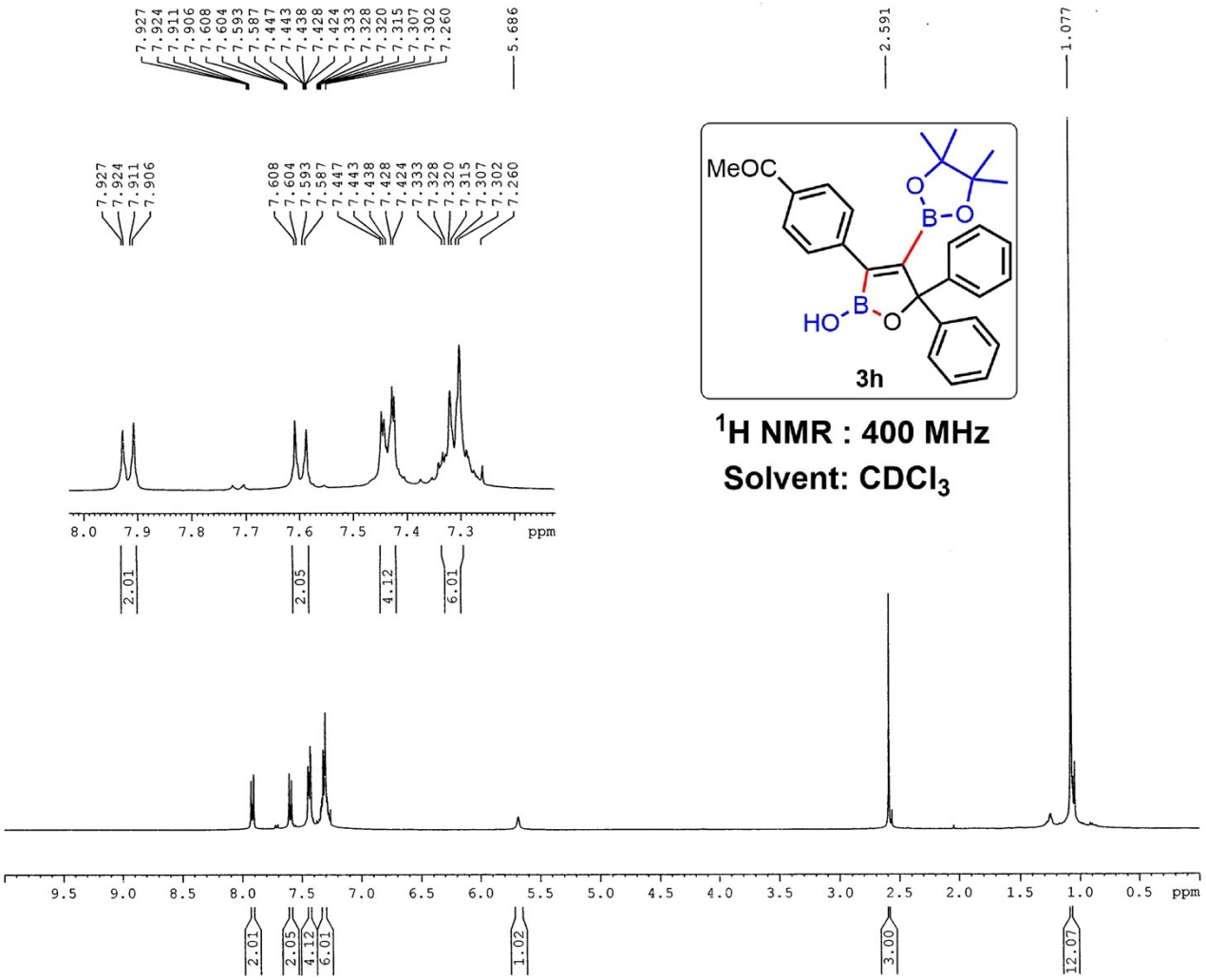
```
Current Data Parameters
NAME      Dr. A HAJRA-2024-13C
EXPNO                   72
PROCNO                   1

F2 - Acquisition Parameters
Date_              20240321
Time                 21.53
INSTRUM              spect
PROBHD   5 mm PABBO BB/
PULPROG             zgpg30
TD                   32768
SOLVENT              CDCl3
NS                     512
DS                       2
SWH              24038.461 Hz
FIDRES           0.733596 Hz
AQ               0.6815744 sec
RG                  120.16
DW                  20.800 usec
DE                   6.50 usec
TE                  295.4 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                      1

======== CHANNEL f1 ========
SFO1           100.6278588 MHz
NUC1                   13C
P1                    8.90 usec
PLW1          54.00000000 W

======== CHANNEL f2 ========
SFO2           400.1516006 MHz
NUC2                   1H
CPDPRG[2           waltz16
PCPD2                90.00 usec
PLW2          12.00000000 W
PLW12          0.32231000 W
PLW13          0.16212000 W

F2 - Processing parameters
SI                   16384
SF             100.6177860 MHz
WDW                     EM
SSB       0
LB                    1.00 Hz
GB        0
PC                    1.40
```



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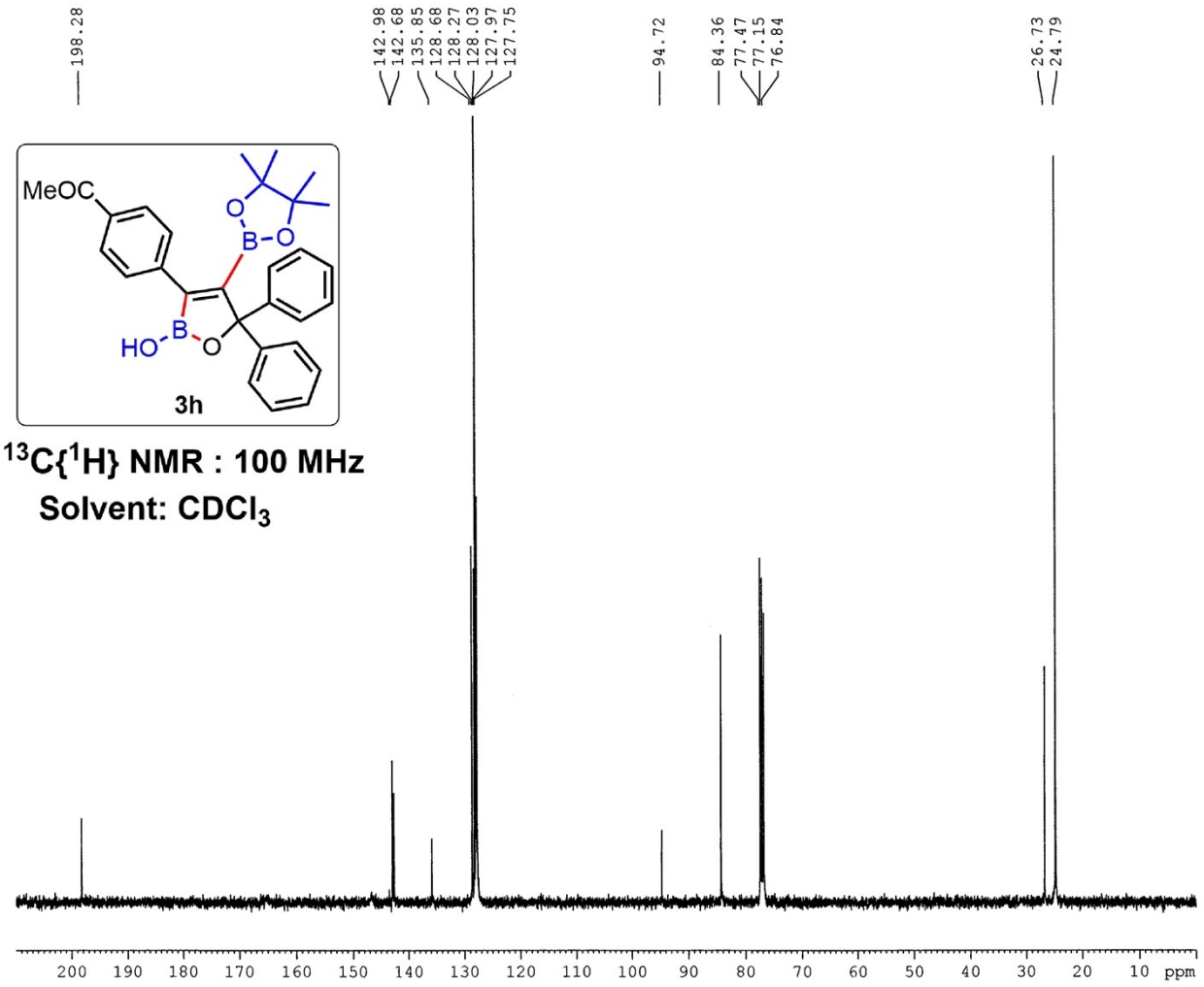
Current Data Parameters
NAME Dr. A HAJRA 2024 1H
EXPNO 139
PROCNO 1

F2 - Acquisition Parameters
Date_ 20240222
Time 23.42
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 8
DS 2
SWH 8223.685 Hz
FIDRES 0.250967 Hz
AQ 1.9922944 sec
RG 47.25
DW 60.800 usec
DE 6.50 usec
TE 296.3 K
D1 1.00000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 400.1524711 MHz
NUC1 1H
P1 14.75 usec
PLW1 12.00000000 W

F2 - Processing parameters
SI 16384
SF 400.1500092 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



$^{13}C\{^{1}H\}$ NMR : 100 MHz

Solvent: $CDCl_3$

BRUKER

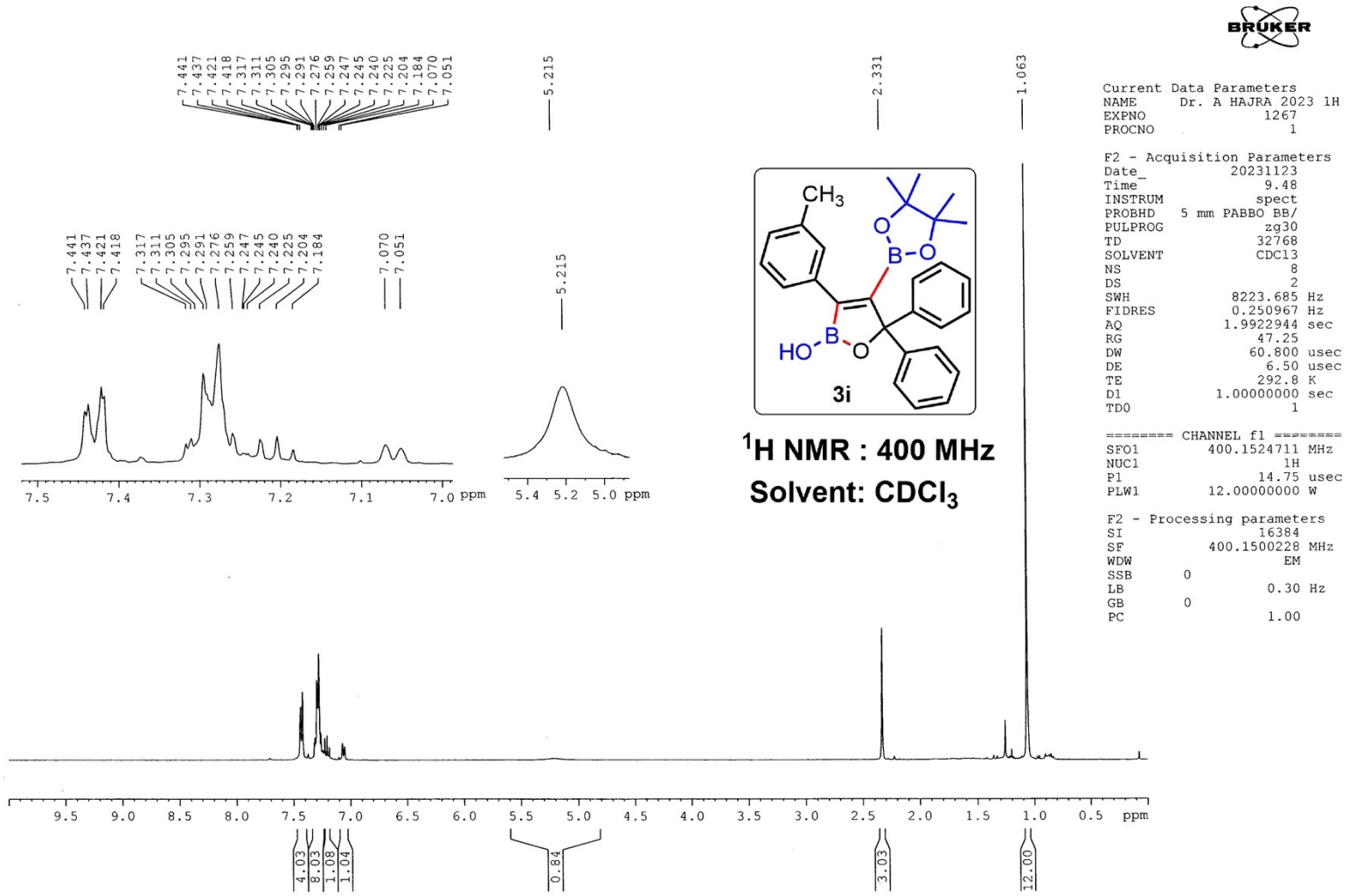
```
Current Data Parameters
NAME      Dr. A HAJRA-2024-13C
EXPNO                       46
PROCNO                       1

F2 - Acquisition Parameters
Date_                 20240222
Time                     23.59
INSTRUM                  spect
PROBHD   5 mm PABBO BB/
PULPROG                zgpg30
TD                      32768
SOLVENT                 CDCl3
NS                        256
DS                          2
SWH                 24038.461 Hz
FIDRES               0.733596 Hz
AQ                   0.6815744 sec
RG                       47.25
DW                      20.800 usec
DE                       6.50 usec
TE                      296.4 K
D1                  2.00000000 sec
D11                 0.03000000 sec
TD0                          1

======== CHANNEL f1 ========
SFO1           100.6278588 MHz
NUC1                     13C
P1                      8.90 usec
PLW1          54.00000000 W

======== CHANNEL f2 ========
SFO2           400.1516006 MHz
NUC2                     1H
CPDPRG[2            waltz16
PCPD2                  90.00 usec
PLW2          12.00000000 W
PLW12          0.32231000 W
PLW13          0.16212000 W

F2 - Processing parameters
SI                       16384
SF             100.6177903 MHz
WDW                         EM
SSB       0
LB                      1.00 Hz
GB        0
PC                      1.40
```

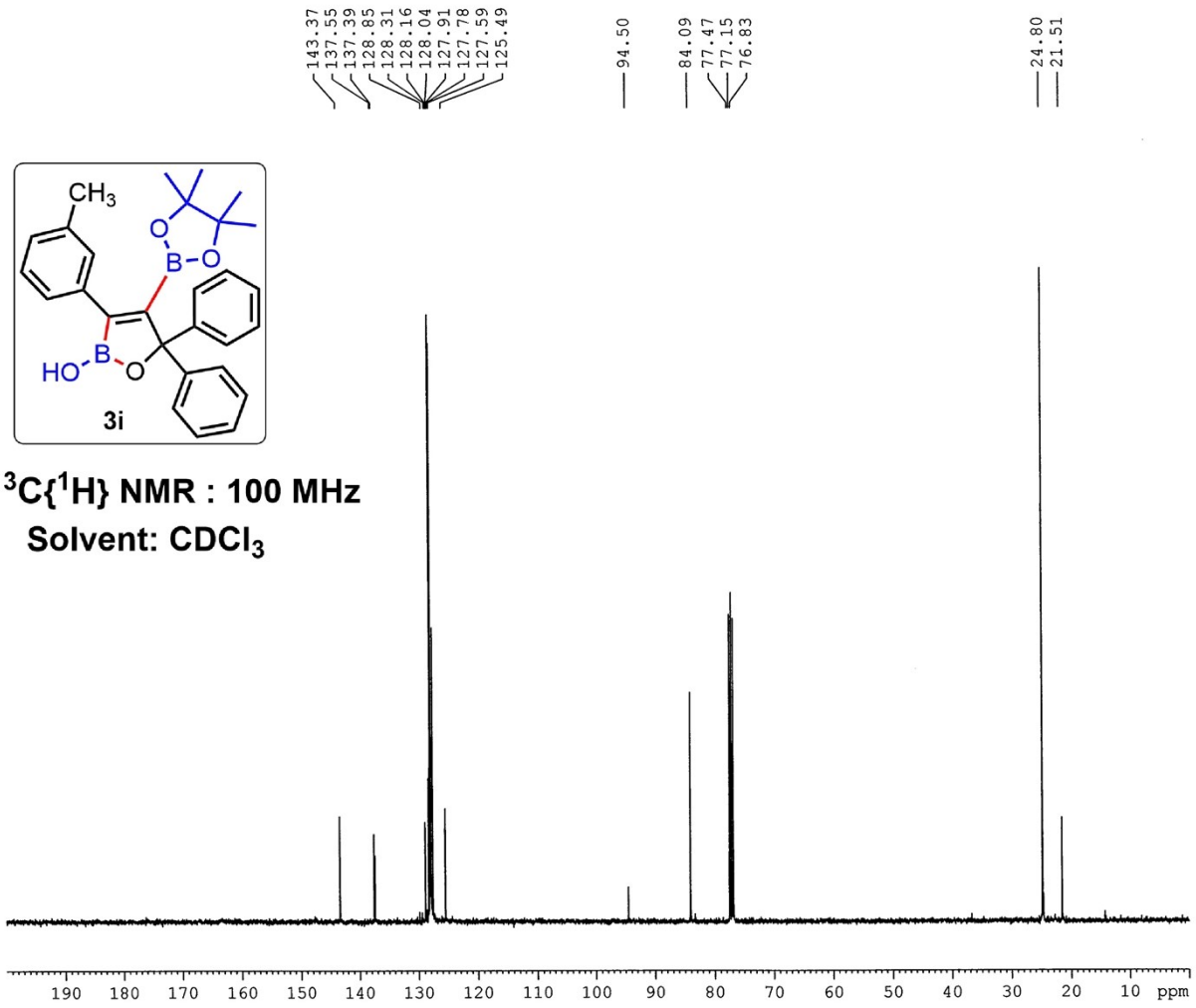



```
Current Data Parameters
NAME      Dr. A HAJRA 2023 1H
EXPNO                 1267
PROCNO                   1

F2 - Acquisition Parameters
Date_              20231123
Time                  9.48
INSTRUM              spect
PROBHD   5 mm PABBO BB/
PULPROG               zg30
TD                   32768
SOLVENT              CDCl3
NS                       8
DS                       2
SWH               8223.685 Hz
FIDRES            0.250967 Hz
AQ                1.9922944 sec
RG                   47.25
DW                  60.800 usec
DE                   6.50 usec
TE                  292.8 K
D1             1.00000000 sec
TD0                      1

======== CHANNEL f1 ========
SFO1          400.1524711 MHz
NUC1                    1H
P1                   14.75 usec
PLW1          12.00000000 W

F2 - Processing parameters
SI                   16384
SF            400.1500228 MHz
WDW                     EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```



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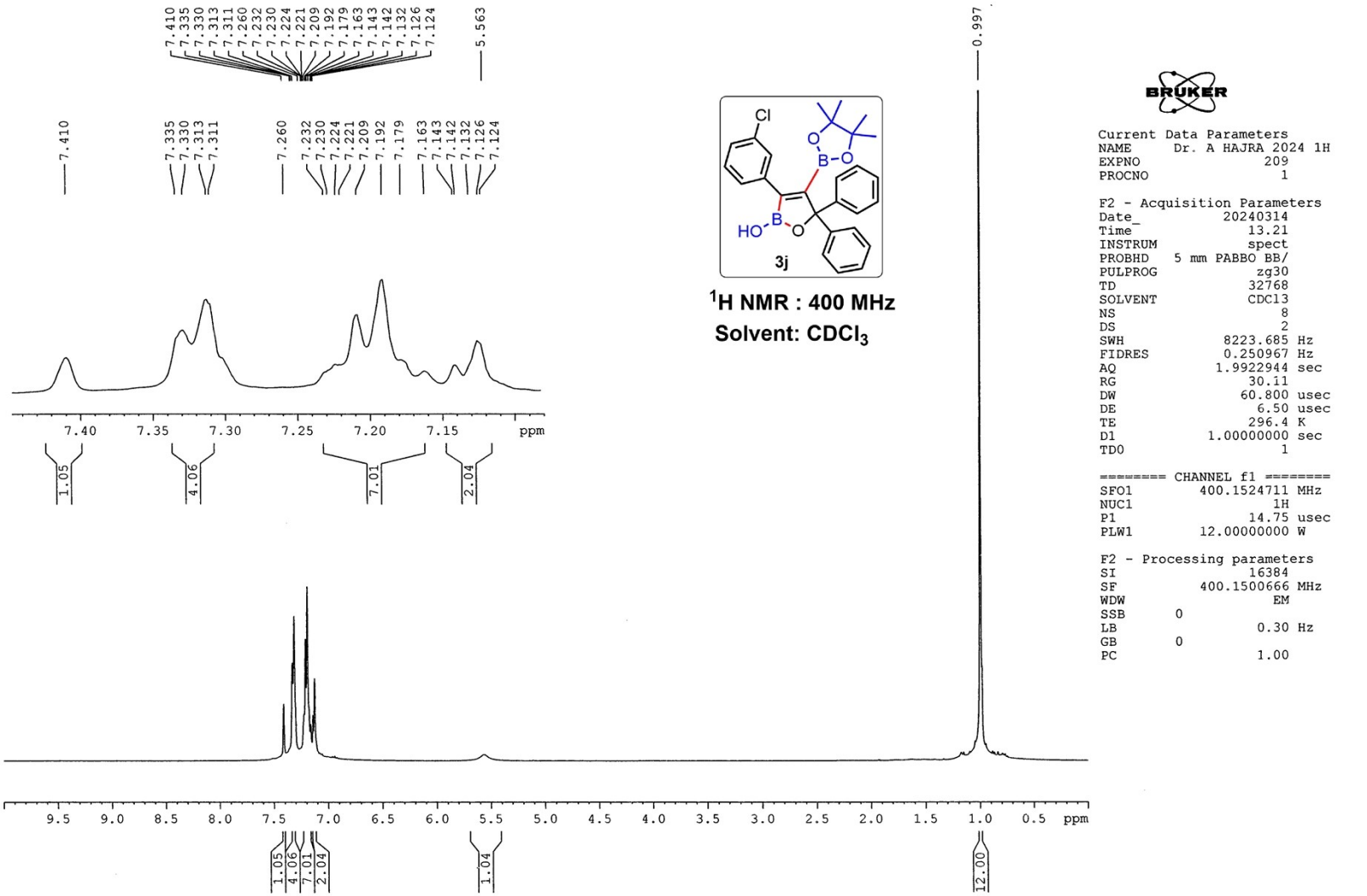
Current Data Parameters
NAME Dr. A HAJRA-2023-13C
EXPNO 438
PROCNO 1

F2 - Acquisition Parameters
Date_ 20231123
Time 10.13
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 32768
SOLVENT CDCl3
NS 320
DS 2
SWH 24038.461 Hz
FIDRES 0.733596 Hz
AQ 0.6815744 sec
RG 47.25
DW 20.800 usec
DE 6.50 usec
TE 292.7 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 100.6278588 MHz
NUC1 13C
P1 8.90 usec
PLW1 54.00000000 W

======== CHANNEL f2 ========
SFO2 400.1516006 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 90.00 usec
PLW2 12.00000000 W
PLW12 0.32231000 W
PLW13 0.16212000 W

F2 - Processing parameters
SI 16384
SF 100.6177917 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40



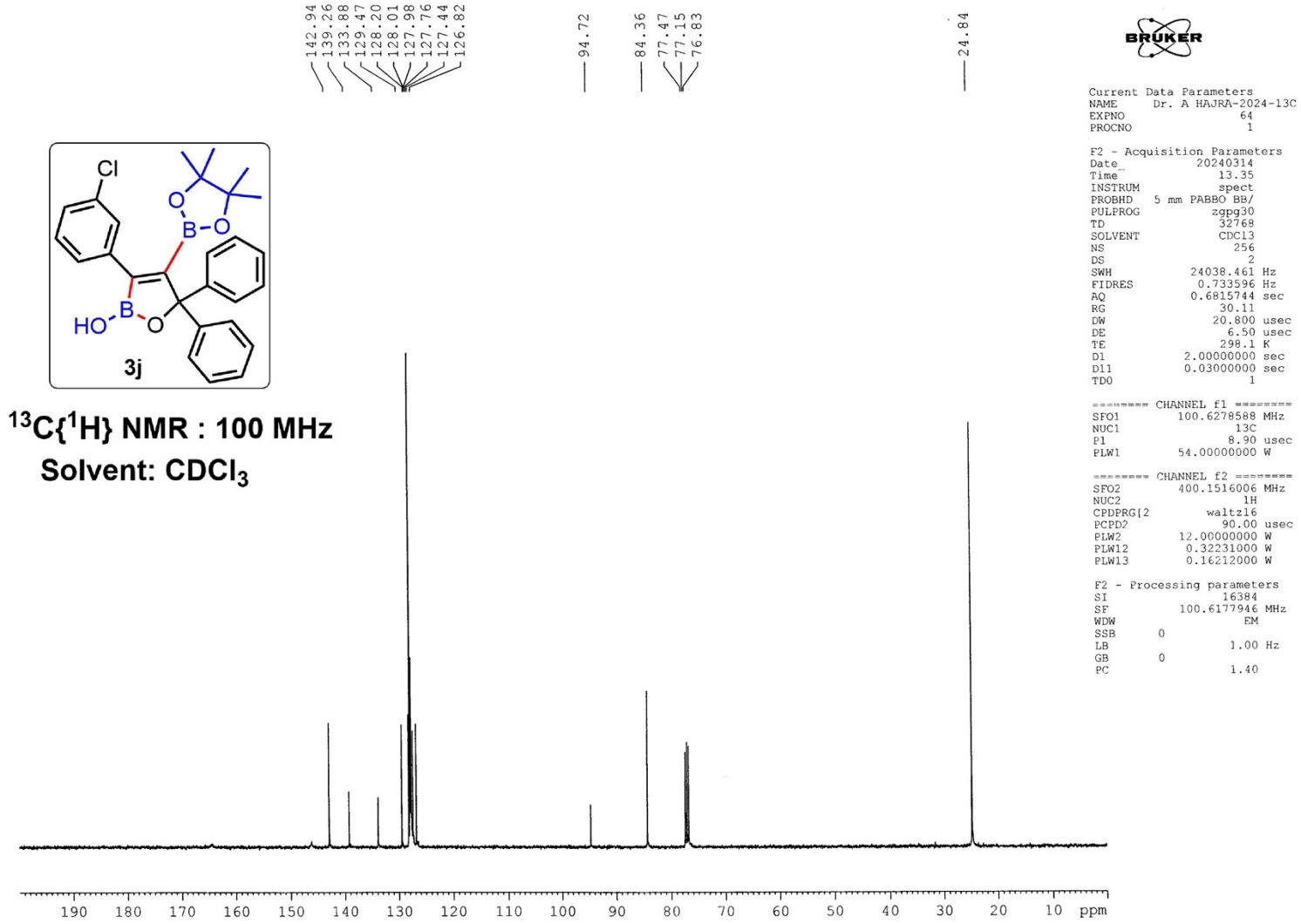
BRUKER

```
Current Data Parameters
NAME      Dr. A HAJRA 2024 1H
EXPNO                  209
PROCNO                   1

F2 - Acquisition Parameters
Date_           20240314
Time              13.21
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG           zg30
TD               32768
SOLVENT          CDCl3
NS                   8
DS                   2
SWH           8223.685 Hz
FIDRES        0.250967 Hz
AQ            1.9922944 sec
RG                30.11
DW               60.800 usec
DE                6.50 usec
TE               296.4 K
D1            1.00000000 sec
TD0                  1

======== CHANNEL f1 ========
SFO1        400.1524711 MHz
NUC1                1H
P1                14.75 usec
PLW1        12.00000000 W

F2 - Processing parameters
SI                16384
SF          400.1500666 MHz
WDW                 EM
SSB       0
LB                0.30 Hz
GB        0
PC                1.00
```



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Current Data Parameters
NAME Dr. A HAJRA-2024-13C
EXPNO 64
PROCNO 1

F2 - Acquisition Parameters

Date_	20240314
Time	13.35
INSTRUM	spect
PROBHD	5 mm PABBO BB/
PULPROG	zgpg30
TD	32768
SOLVENT	CDCl3
NS	256
DS	2
SWH	24038.461 Hz
FIDRES	0.733596 Hz
AQ	0.6815744 sec
RG	30.11
DW	20.800 usec
DE	6.50 usec
TE	298.1 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	1

======== CHANNEL f1 ========

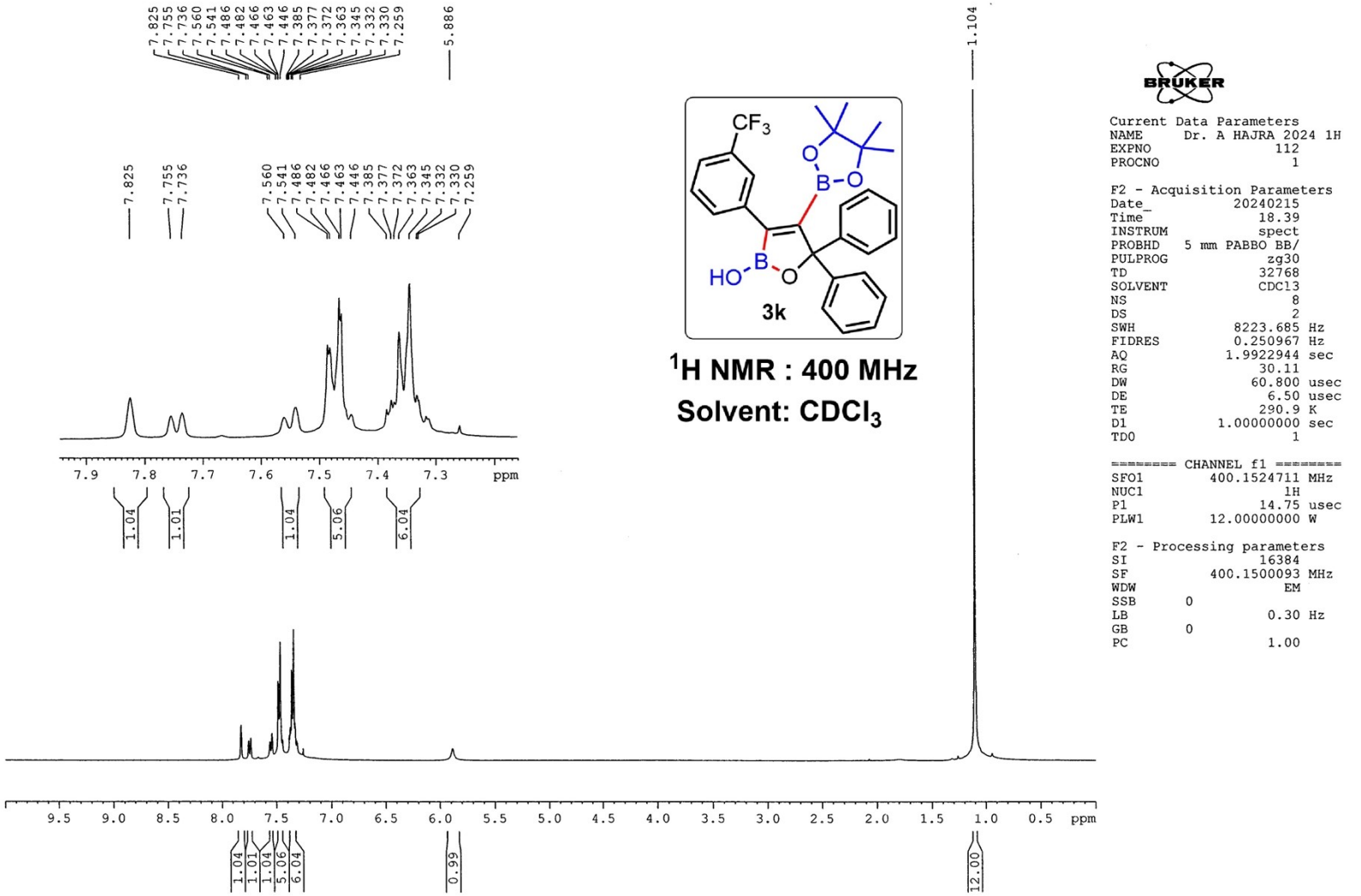
SFO1	100.6278588 MHz
NUC1	13C
P1	8.90 usec
PLW1	54.00000000 W

======== CHANNEL f2 ========

SFO2	400.1516006 MHz
NUC2	1H
CPDPRG[2	waltz16
PCPD2	90.00 usec
PLW2	12.00000000 W
PLW12	0.32231000 W
PLW13	0.16212000 W

F2 - Processing parameters

SI	16384
SF	100.6177946 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40



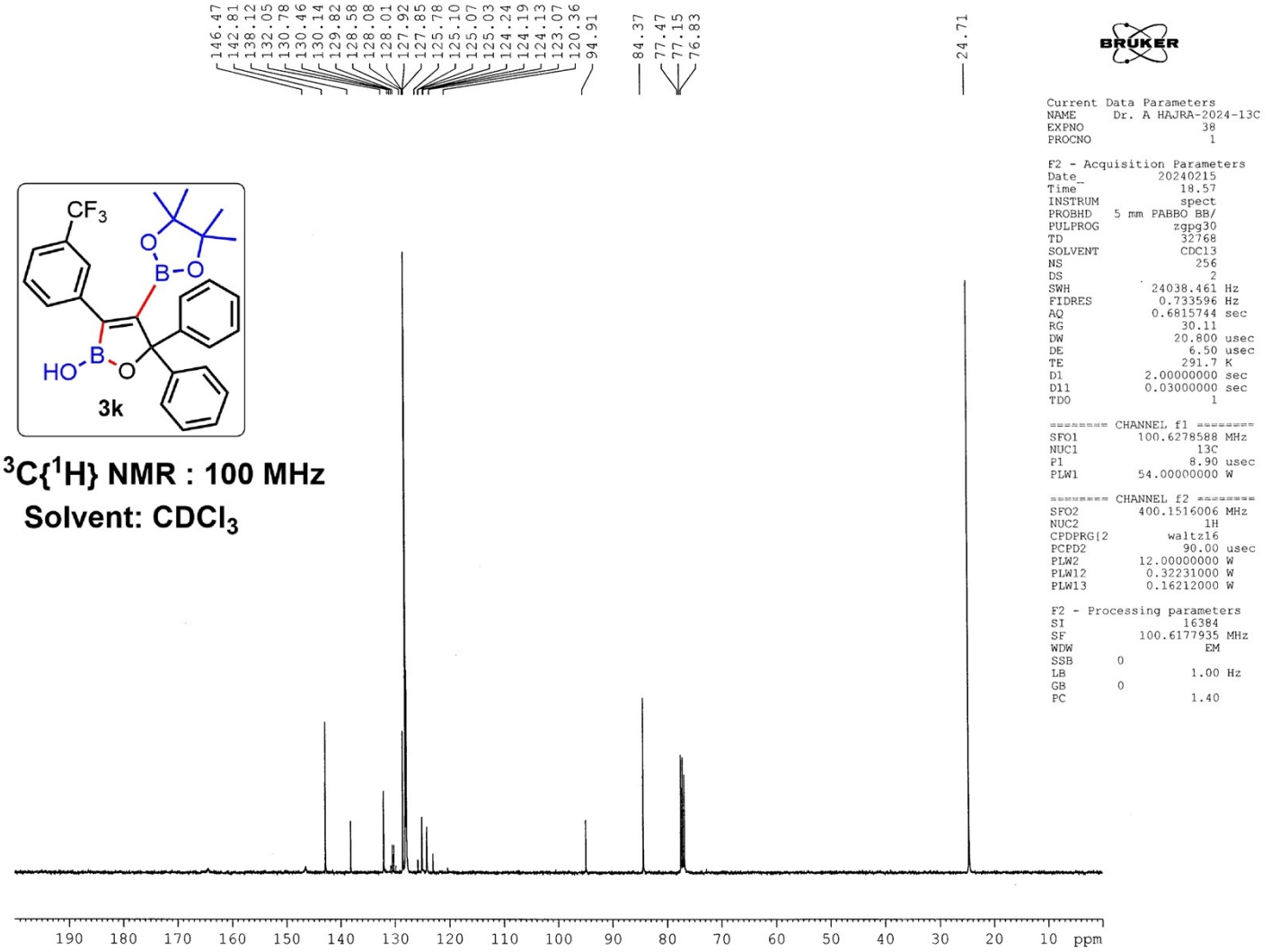
BRUKER

```
Current Data Parameters
NAME      Dr. A HAJRA 2024 1H
EXPNO                  112
PROCNO                   1

F2 - Acquisition Parameters
Date_           20240215
Time              18.39
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG            zg30
TD                32768
SOLVENT           CDCl3
NS                    8
DS                    2
SWH            8223.685 Hz
FIDRES        0.250967 Hz
AQ            1.9922944 sec
RG                30.11
DW               60.800 usec
DE                6.50 usec
TE                290.9 K
D1           1.00000000 sec
TD0                   1

======== CHANNEL f1 ========
SFO1         400.1524711 MHz
NUC1                 1H
P1                14.75 usec
PLW1        12.00000000 W

F2 - Processing parameters
SI                16384
SF           400.1500093 MHz
WDW                  EM
SSB       0
LB                0.30 Hz
GB        0
PC                1.00
```



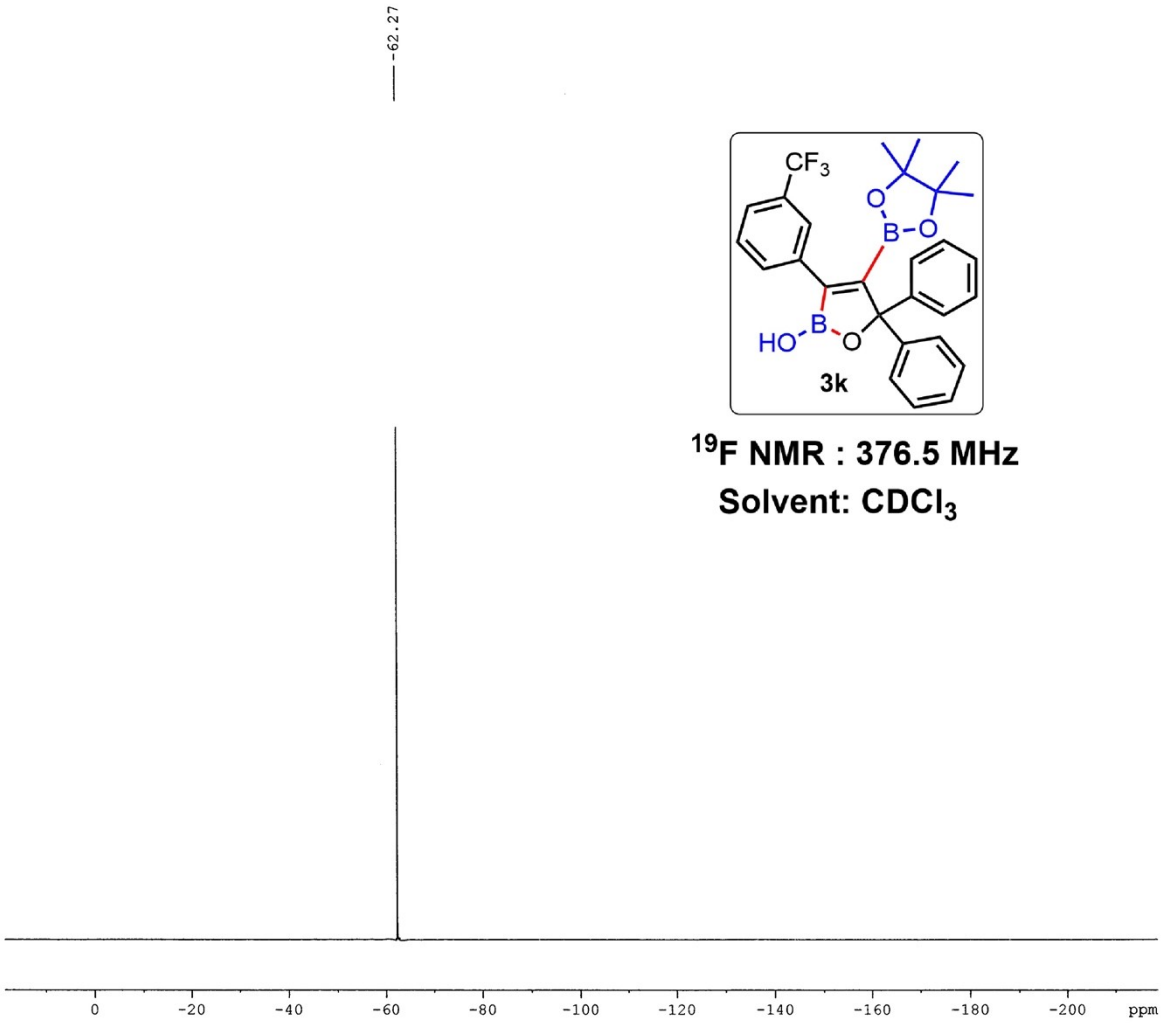

```
Current Data Parameters
NAME      Dr. A HAJRA-2024-13C
EXPNO                       38
PROCNO                       1

F2 - Acquisition Parameters
Date_              20240215
Time                  18.57
INSTRUM               spect
PROBHD   5 mm PABBO BB/
PULPROG             zgpg30
TD                   32768
SOLVENT              CDCl3
NS                     256
DS                       2
SWH              24038.461 Hz
FIDRES             0.733596 Hz
AQ                 0.6815744 sec
RG                    30.11
DW                   20.800 usec
DE                    6.50 usec
TE                   291.7 K
D1                2.00000000 sec
D11               0.03000000 sec
TD0                          1

======== CHANNEL f1 ========
SFO1            100.6278588 MHz
NUC1                     13C
P1                      8.90 usec
PLW1           54.00000000 W

======== CHANNEL f2 ========
SFO2            400.1516006 MHz
NUC2                     1H
CPDPRG[2             waltz16
PCPD2                 90.00 usec
PLW2           12.00000000 W
PLW12           0.32231000 W
PLW13           0.16212000 W

F2 - Processing parameters
SI                       16384
SF              100.6177935 MHz
WDW                         EM
SSB          0
LB                      1.00 Hz
GB           0
PC                      1.40
```



^{19}F NMR : 376.5 MHz

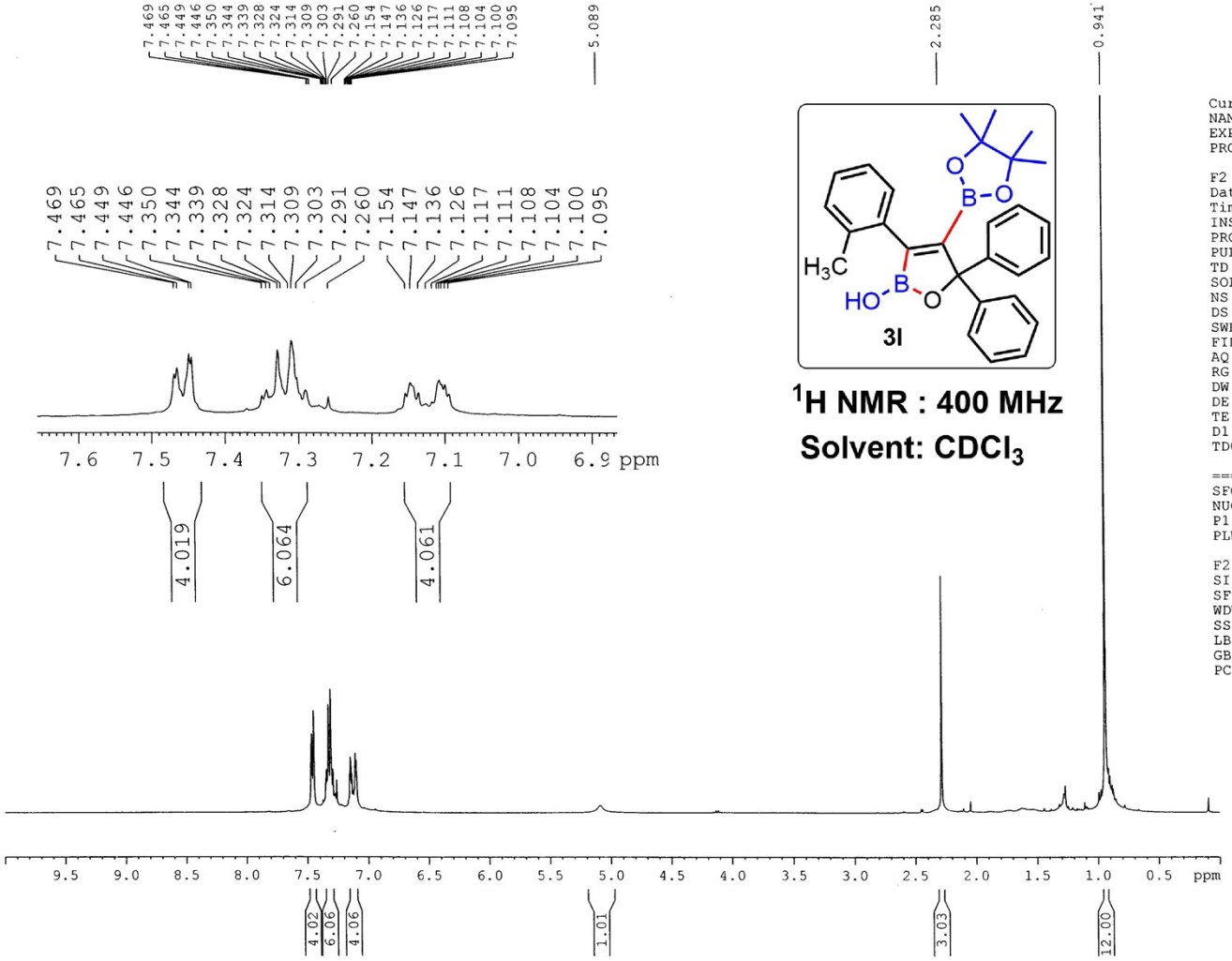
Solvent: $CDCl_3$

```
Current Data Parameters
NAME      Dr. A HAJRA 2024 1H
EXPNO                  113
PROCNO                   1

F2 - Acquisition Parameters
Date_             20240215
Time                 18.42
INSTRUM              spect
PROBHD   5 mm PABBO BB/
PULPROG             zgflqn
TD                   32768
SOLVENT              CDCl3
NS                       8
DS                       2
SWH              89285.711 Hz
FIDRES           2.724784 Hz
AQ               0.1835008 sec
RG                   30.11
DW                 5.600 usec
DE                 6.50 usec
TE                 291.0 K
D1              1.00000000 sec
TD0                      1

======== CHANNEL f1 ========
SFO1          376.4795333 MHz
NUC1                  19F
P1                 12.50 usec
PLW1          20.00000000 W

F2 - Processing parameters
SI                   16384
SF            376.5171850 MHz
WDW                     EM
SSB       0
LB                  0.30 Hz
GB        0
PC                  1.00
```



^{1}H NMR : 400 MHz

Solvent: $CDCl_3$

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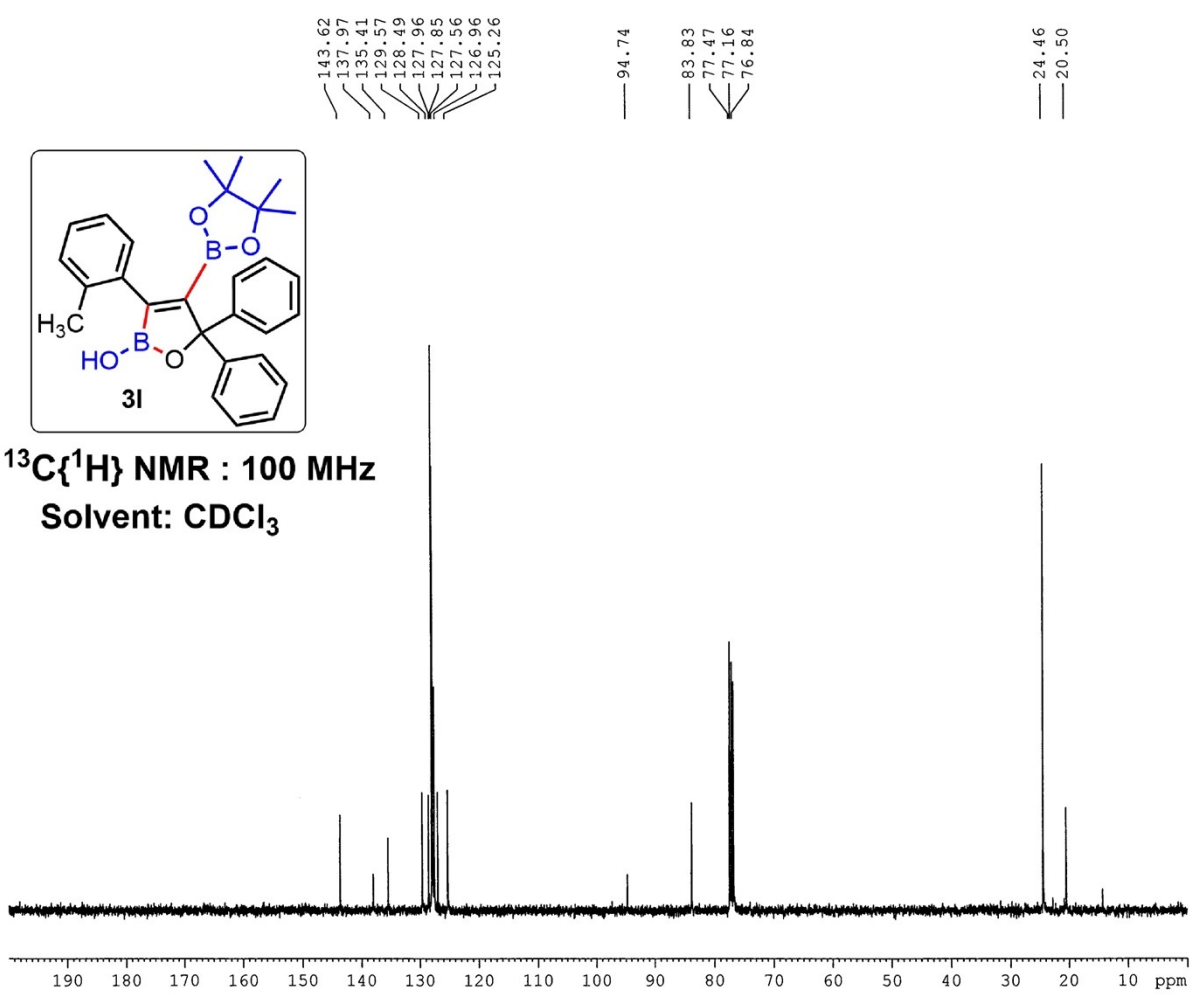
```
Current Data Parameters
NAME      Dr. A HAJRA 2023 1H
EXPNO               1268
PROCNO                 1

F2 - Acquisition Parameters
Date_           20231123
Time              18.53
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG           zg30
TD               32768
SOLVENT          CDCl3
NS                   8
DS                   2
SWH           8223.685 Hz
FIDRES        0.250967 Hz
AQ            1.9922944 sec
RG                47.25
DW               60.800 usec
DE                6.50 usec
TE               292.0 K
D1            1.00000000 sec
TD0                  1

======== CHANNEL f1 ========
SFO1        400.1524711 MHz
NUC1               1H
P1               14.75 usec
PLW1        12.00000000 W

F2 - Processing parameters
SI                16384
SF          400.1500096 MHz
WDW                EM
SSB       0
LB               0.30 Hz
GB        0
PC                1.00
```



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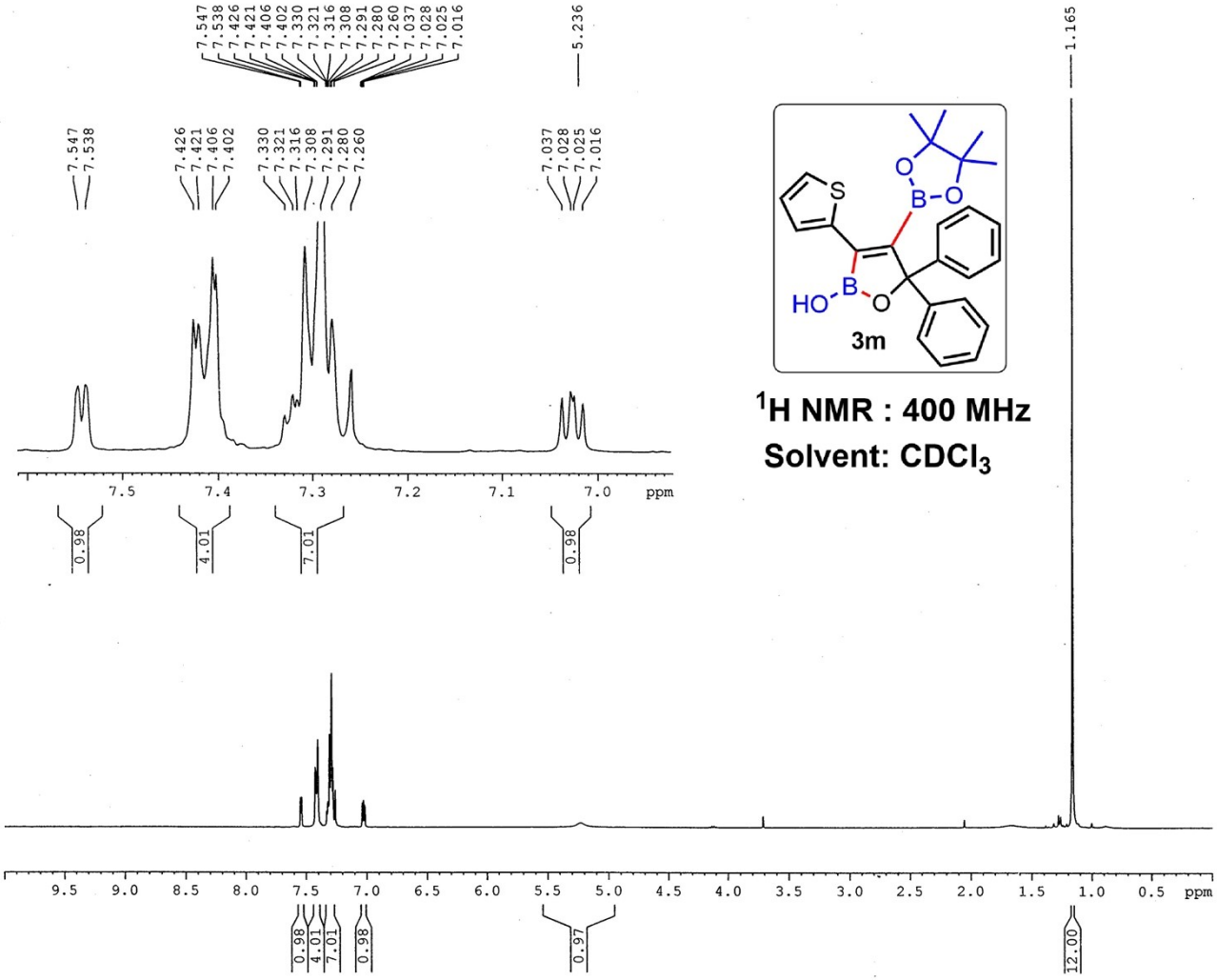
```
Current Data Parameters
NAME      Dr. A HAJRA-2023-13C
EXPNO                  439
PROCNO                   1

F2 - Acquisition Parameters
Date_           20231123
Time              19.08
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                32768
SOLVENT           CDCl3
NS                  160
DS                    2
SWH           24038.461 Hz
FIDRES         0.733596 Hz
AQ             0.6815744 sec
RG                47.25
DW               20.800 usec
DE                6.50 usec
TE                292.5 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                   1

======== CHANNEL f1 ========
SFO1         100.6278588 MHz
NUC1                 13C
P1                 8.90 usec
PLW1         54.00000000 W

======== CHANNEL f2 ========
SFO2         400.1516006 MHz
NUC2                 1H
CPDPRG[2          waltz16
PCPD2              90.00 usec
PLW2         12.00000000 W
PLW12         0.32231000 W
PLW13         0.16212000 W

F2 - Processing parameters
SI                  16384
SF           100.6177887 MHz
WDW                    EM
SSB       0
LB                  1.00 Hz
GB        0
PC                  1.40
```

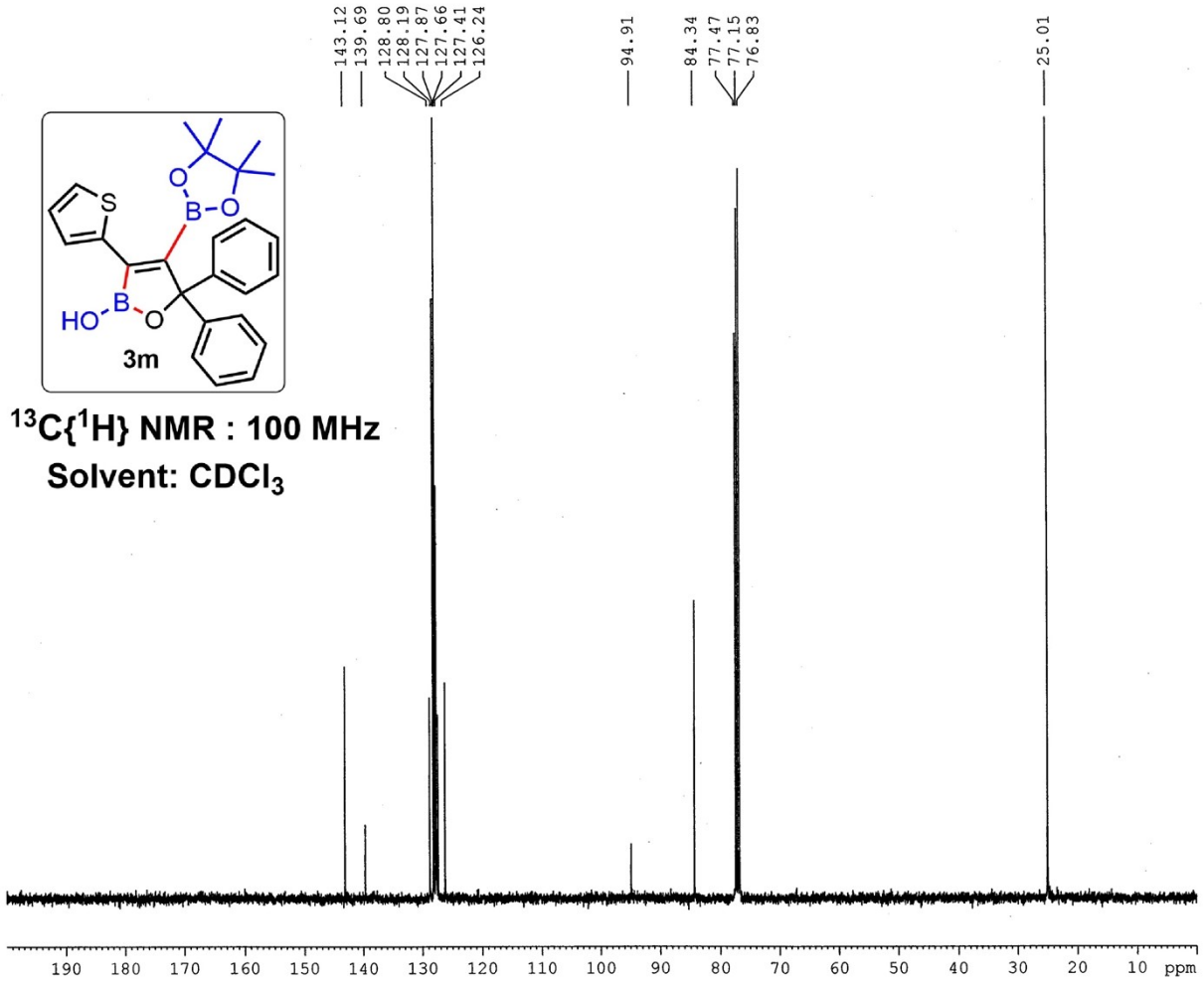



```
Current Data Parameters
NAME      Dr. A HAJRA 2024 1H
EXPNO                 67
PROCNO                 1

F2 - Acquisition Parameters
Date_           20240127
Time              18.17
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG           zg30
TD               32768
SOLVENT          CDCl3
NS                   8
DS                   2
SWH           8223.685 Hz
FIDRES        0.250967 Hz
AQ            1.9922944 sec
RG               87.66
DW               60.800 usec
DE                6.50 usec
TE               288.4 K
D1           1.00000000 sec
TD0                  1

======== CHANNEL f1 ========
SFO1        400.1524711 MHz
NUC1               1H
P1               14.75 usec
PLW1        12.00000000 W

F2 - Processing parameters
SI                16384
SF          400.1500093 MHz
WDW                EM
SSB       0
LB              0.30 Hz
GB        0
PC              1.00
```



BRUKER

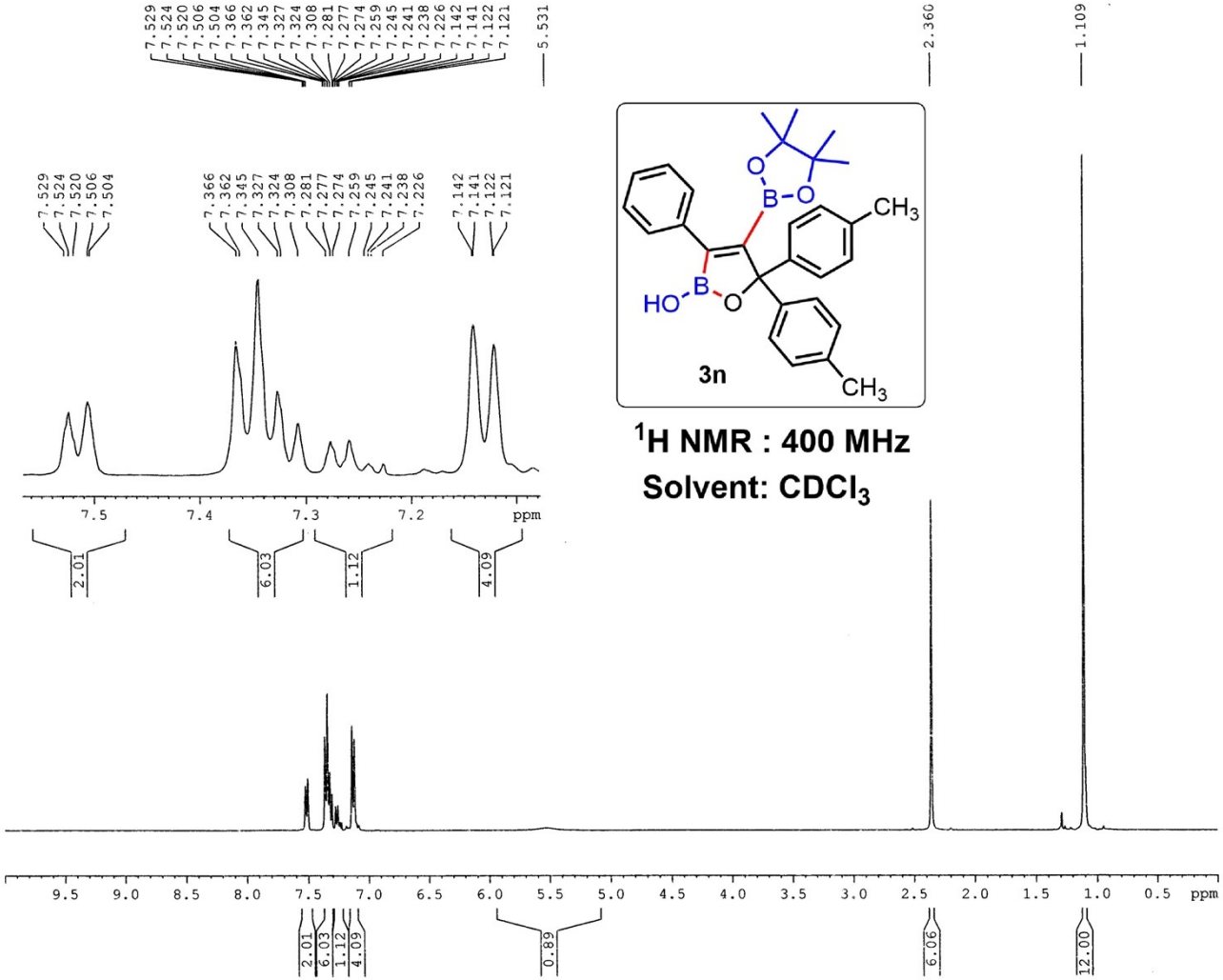
```
Current Data Parameters
NAME      Dr. A HAJRA-2024-13C
EXPNO                   22
PROCNO                   1

F2 - Acquisition Parameters
Date_           20240127
Time              18.48
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                32768
SOLVENT           CDCl3
NS                  400
DS                    2
SWH           24038.461 Hz
FIDRES         0.733596 Hz
AQ             0.6815744 sec
RG                87.66
DW               20.800 usec
DE                6.50 usec
TE                288.9 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                   1

======== CHANNEL f1 ========
SFO1        100.6278588 MHz
NUC1                13C
P1                 8.90 usec
PLW1        54.00000000 W

======== CHANNEL f2 ========
SFO2        400.1516006 MHz
NUC2                1H
CPDPRG[2         waltz16
PCPD2             90.00 usec
PLW2        12.00000000 W
PLW12        0.32231000 W
PLW13        0.16212000 W

F2 - Processing parameters
SI                 16384
SF          100.6177902 MHz
WDW                   EM
SSB       0
LB                 1.00 Hz
GB        0
PC                 1.40
```



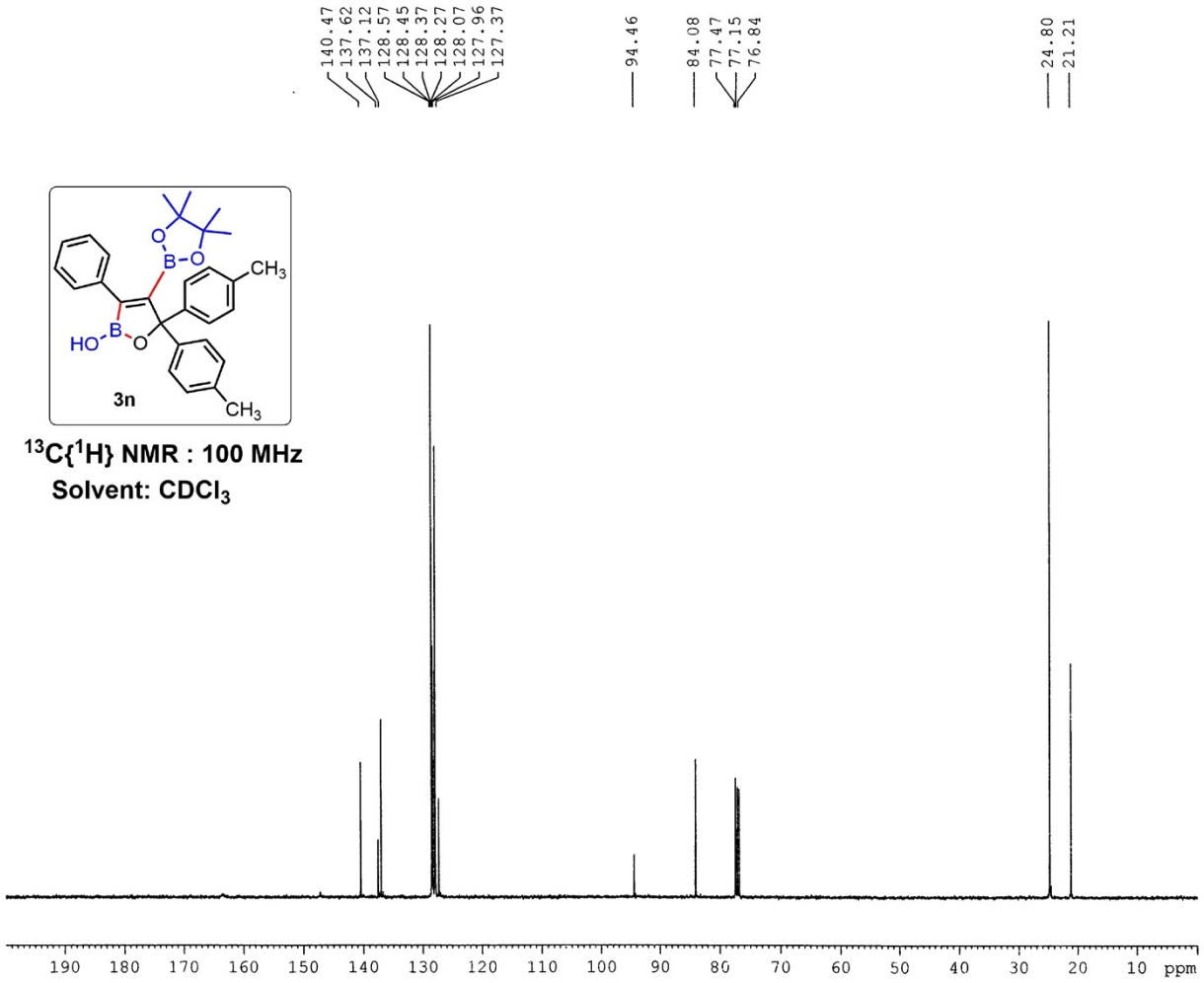
BRUKER

```
Current Data Parameters
NAME      Dr. A HAJRA 2024 1H
EXPNO                  254
PROCNO                   1

F2 - Acquisition Parameters
Date_           20240329
Time              20.06
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG           zg30
TD               32768
SOLVENT           CDCl3
NS                   8
DS                   2
SWH           8223.685 Hz
FIDRES        0.250967 Hz
AQ            1.9922944 sec
RG                19.02
DW              60.800 usec
DE               6.50 usec
TE              297.5 K
D1           1.00000000 sec
TD0                  1

======== CHANNEL f1 ========
SFO1        400.1524711 MHz
NUC1               1H
P1               14.75 usec
PLW1        12.00000000 W

F2 - Processing parameters
SI                16384
SF          400.1500223 MHz
WDW                EM
SSB       0
LB              0.30 Hz
GB        0
PC              1.00
```



$^{13}C\{^{1}H\}$ NMR : 100 MHz
Solvent: $CDCl_3$

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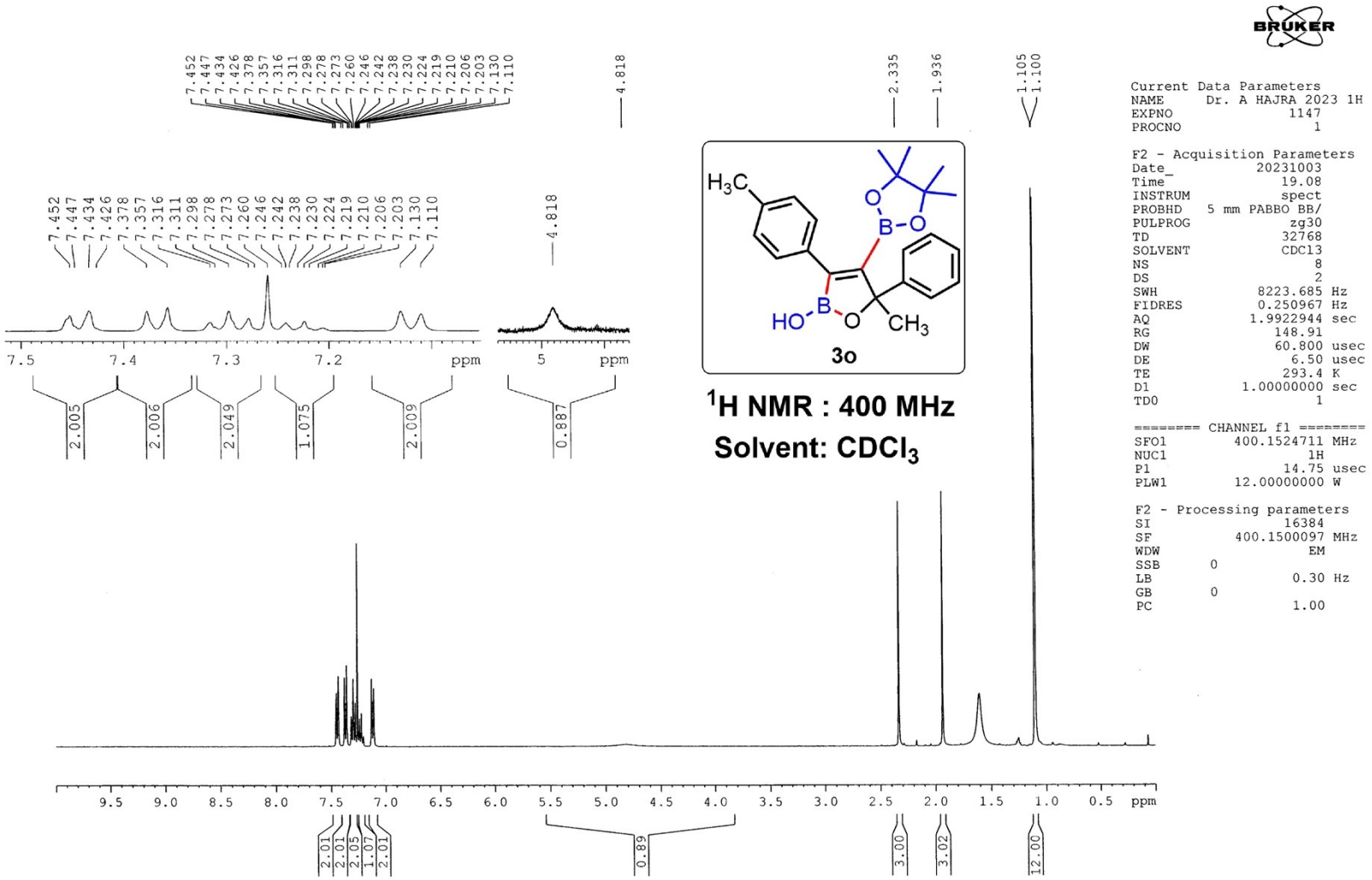
Current Data Parameters
NAME Dr. A HAJRA-2024-13C
EXPNO 92
PROCNO 1

F2 - Acquisition Parameters
Date_ 20240329
Time 20.21
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 32768
SOLVENT CDCl3
NS 256
DS 2
SWH 24038.461 Hz
FIDRES 0.733596 Hz
AQ 0.6815744 sec
RG 19.02
DW 20.800 usec
DE 6.50 usec
TE 297.8 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 100.6278588 MHz
NUC1 13C
P1 8.90 usec
PLW1 54.00000000 W

======== CHANNEL f2 ========
SFO2 400.1516006 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 90.00 usec
PLW2 12.00000000 W
PLW12 0.32231000 W
PLW13 0.16212000 W

F2 - Processing parameters
SI 16384
SF 100.6177964 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40



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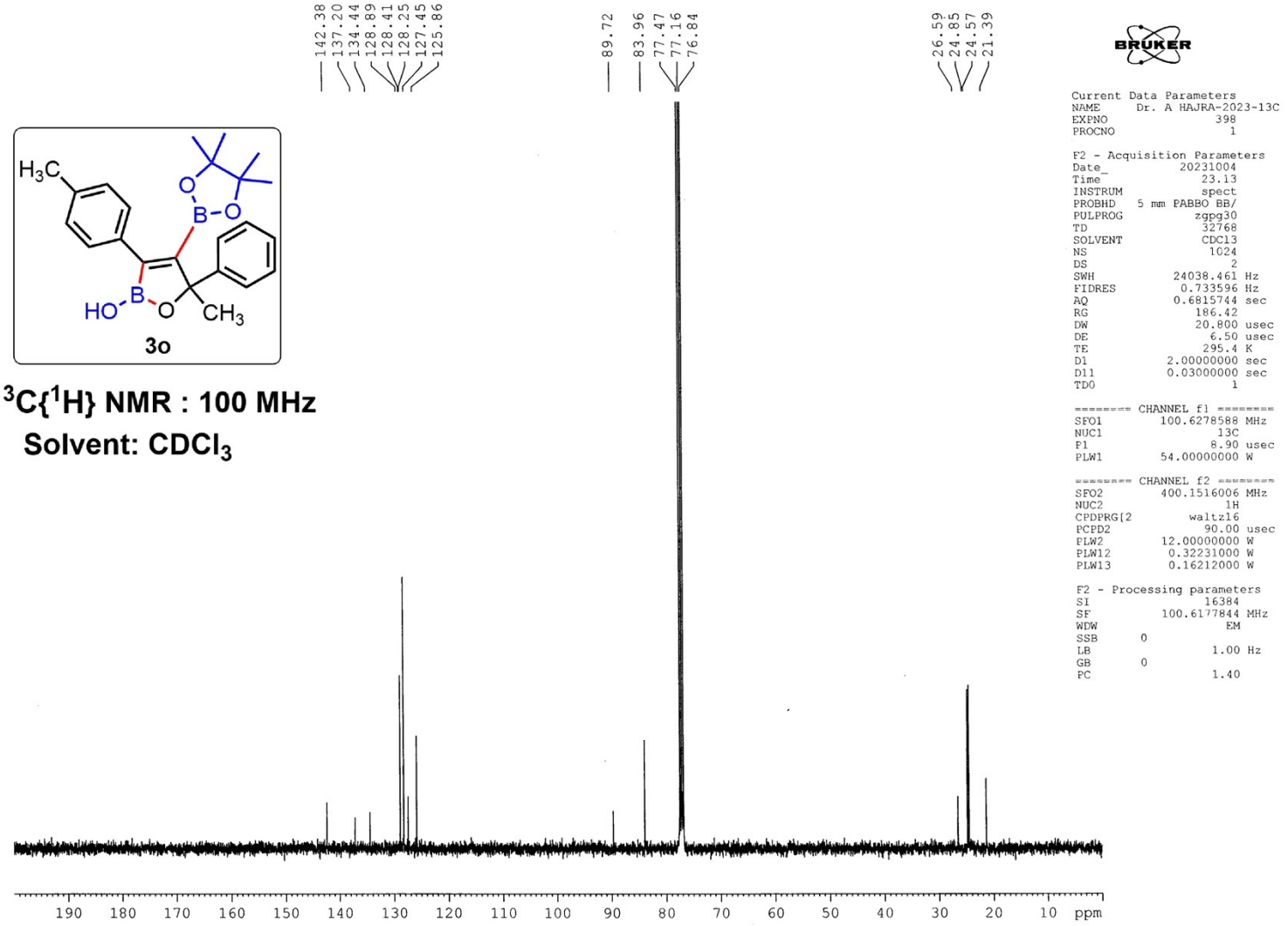
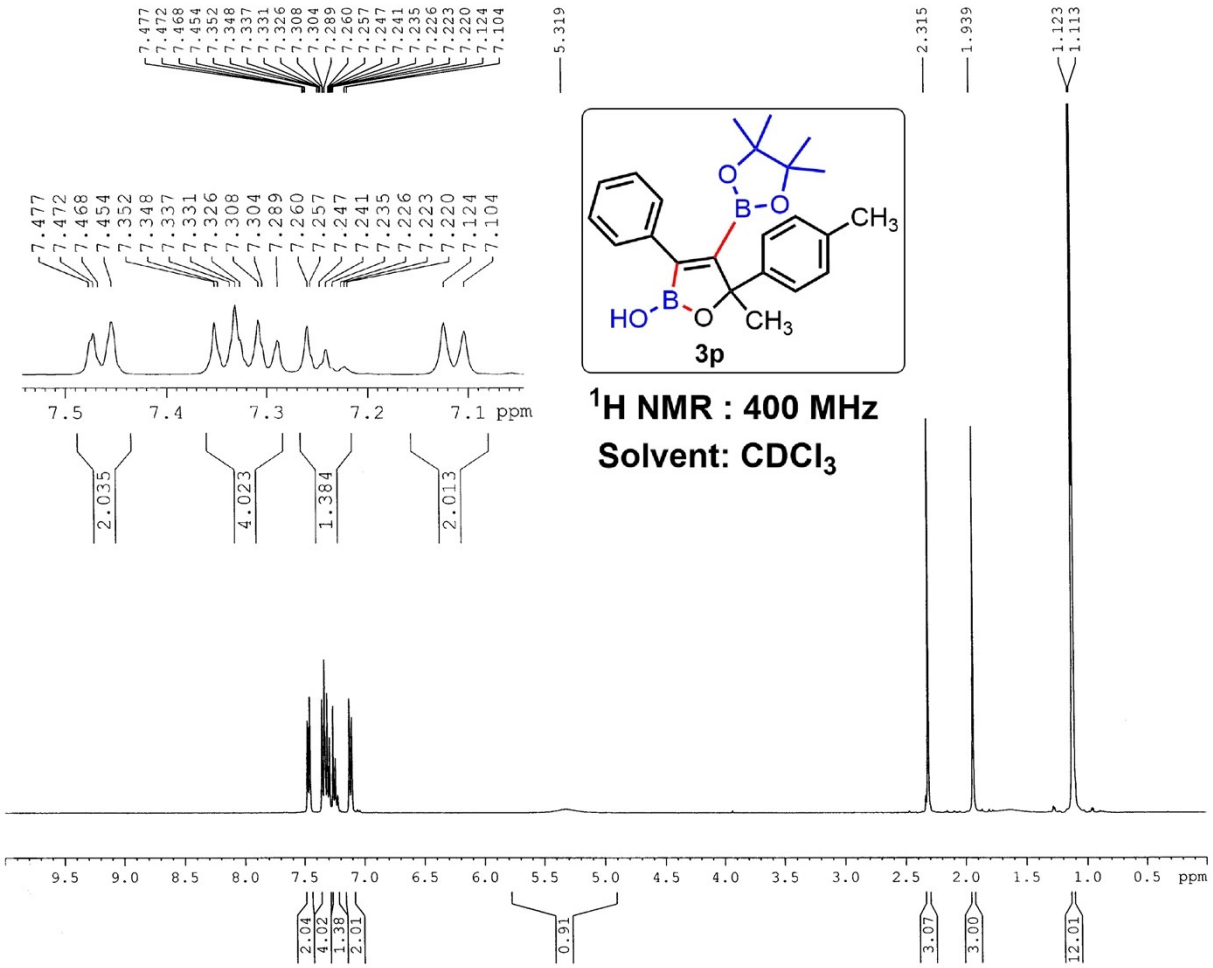
```
Current Data Parameters
NAME      Dr. A HAJRA 2023 1H
EXPNO               1147
PROCNO                 1

F2 - Acquisition Parameters
Date_           20231003
Time              19.08
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG           zg30
TD               32768
SOLVENT          CDCl3
NS                   8
DS                   2
SWH           8223.685 Hz
FIDRES        0.250967 Hz
AQ            1.9922944 sec
RG              148.91
DW               60.800 usec
DE                6.50 usec
TE               293.4 K
D1            1.00000000 sec
TD0                  1

======== CHANNEL f1 ========
SFO1        400.1524711 MHz
NUC1               1H
P1               14.75 usec
PLW1        12.00000000 W

F2 - Processing parameters
SI                16384
SF          400.1500097 MHz
WDW                EM
SSB       0
LB               0.30 Hz
GB        0
PC               1.00
```


142.38
137.20
134.44
128.89
128.41
128.25
127.45
125.86
89.72
83.96
77.47
77.16
76.84
26.59
24.85
24.57
21.39
H3C
O
B
O
HO
B
O
CH3
3o
13C{1H} NMR : 100 MHz
Solvent: CDCl3
BRUKER
Current Data Parameters
NAME Dr. A HAJRA-2023-13C
EXPNO 398
PROCNO 1
F2 - Acquisition Parameters
Date_ 20231004
Time 23.13
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 32768
SOLVENT CDCl3
NS 1024
DS 2
SWH 24038.461 Hz
FIDRES 0.733596 Hz
AQ 0.6815744 sec
RG 186.42
DW 20.800 usec
DE 6.50 usec
TE 295.4 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1
======== CHANNEL f1 ========
SFO1 100.6278588 MHz
NUC1 13C
P1 8.90 usec
PLW1 54.00000000 W
======== CHANNEL f2 ========
SFO2 400.1516006 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 90.00 usec
PLW2 12.00000000 W
PLW12 0.32231000 W
PLW13 0.16212000 W
F2 - Processing parameters
SI 16384
SF 100.6177844 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ppm

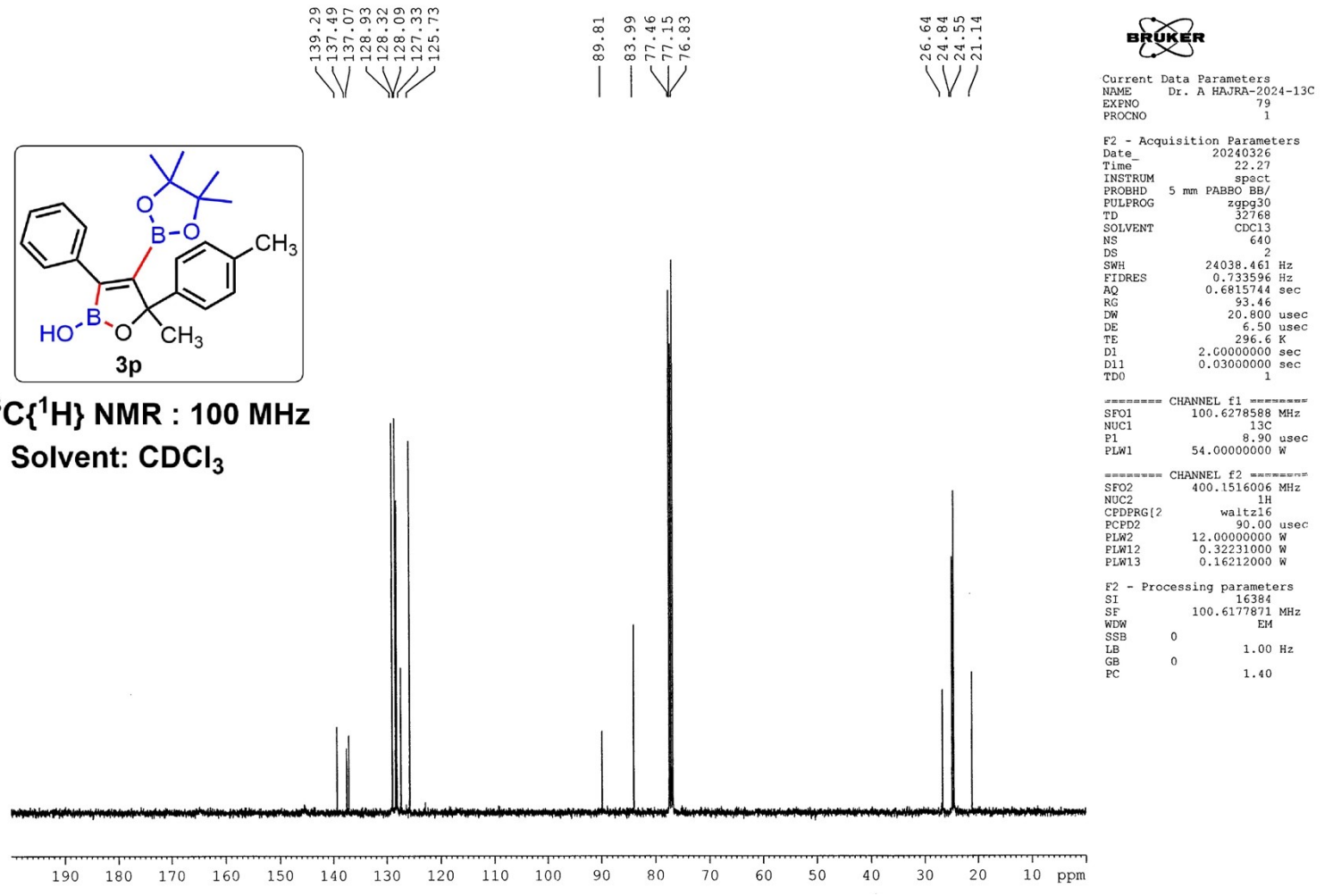



```
Current Data Parameters
NAME      Dr. A HAJRA 2024 1H
EXPNO                  242
PROCNO                   1

F2 - Acquisition Parameters
Date_           20240326
Time              21.52
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG            zg30
TD                32768
SOLVENT           CDCl3
NS                    8
DS                    2
SWH            8223.685 Hz
FIDRES        0.250967 Hz
AQ            1.9922944 sec
RG                93.46
DW               60.800 usec
DE                6.50 usec
TE                295.8 K
D1           1.00000000 sec
TD0                   1

======== CHANNEL f1 ========
SFO1         400.1524711 MHz
NUC1               1H
P1                14.75 usec
PLW1         12.00000000 W

F2 - Processing parameters
SI                16384
SF           400.1500092 MHz
WDW                EM
SSB       0
LB                0.30 Hz
GB        0
PC                1.00
```



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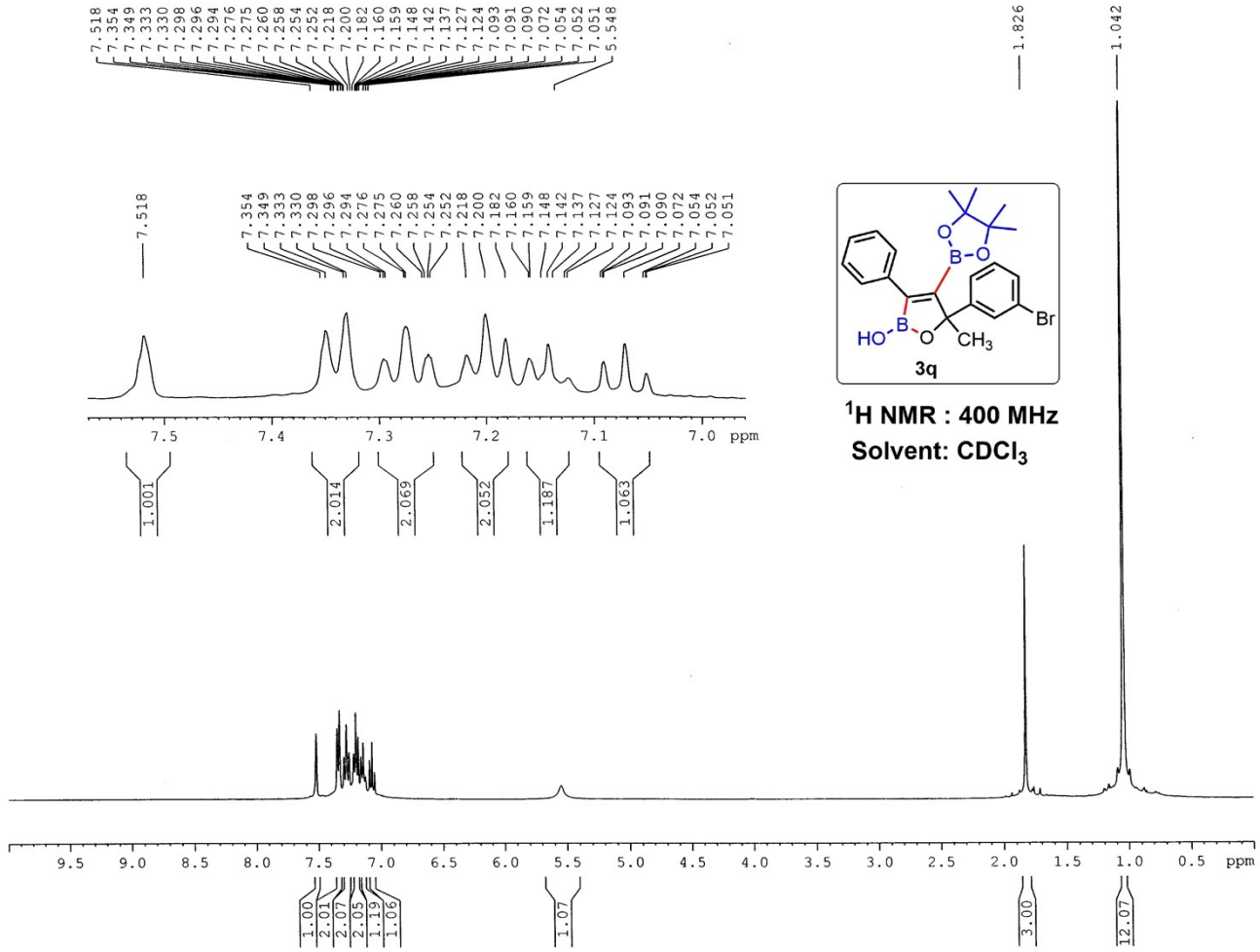
Current Data Parameters
NAME Dr. A HAJRA-2024-13C
EXPNO 79
PROCNO 1

F2 - Acquisition Parameters
Date_ 20240326
Time 22.27
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 32768
SOLVENT CDCl3
NS 640
DS 2
SWH 24038.461 Hz
FIDRES 0.733596 Hz
AQ 0.6815744 sec
RG 93.46
DW 20.800 usec
DE 6.50 usec
TE 296.6 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 100.6278588 MHz
NUC1 13C
P1 8.90 usec
PLW1 54.00000000 W

======== CHANNEL f2 ========
SFO2 400.1516006 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 90.00 usec
PLW2 12.00000000 W
PLW12 0.32231000 W
PLW13 0.16212000 W

F2 - Processing parameters
SI 16384
SF 100.6177871 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40



3q

^{1}H NMR : 400 MHz

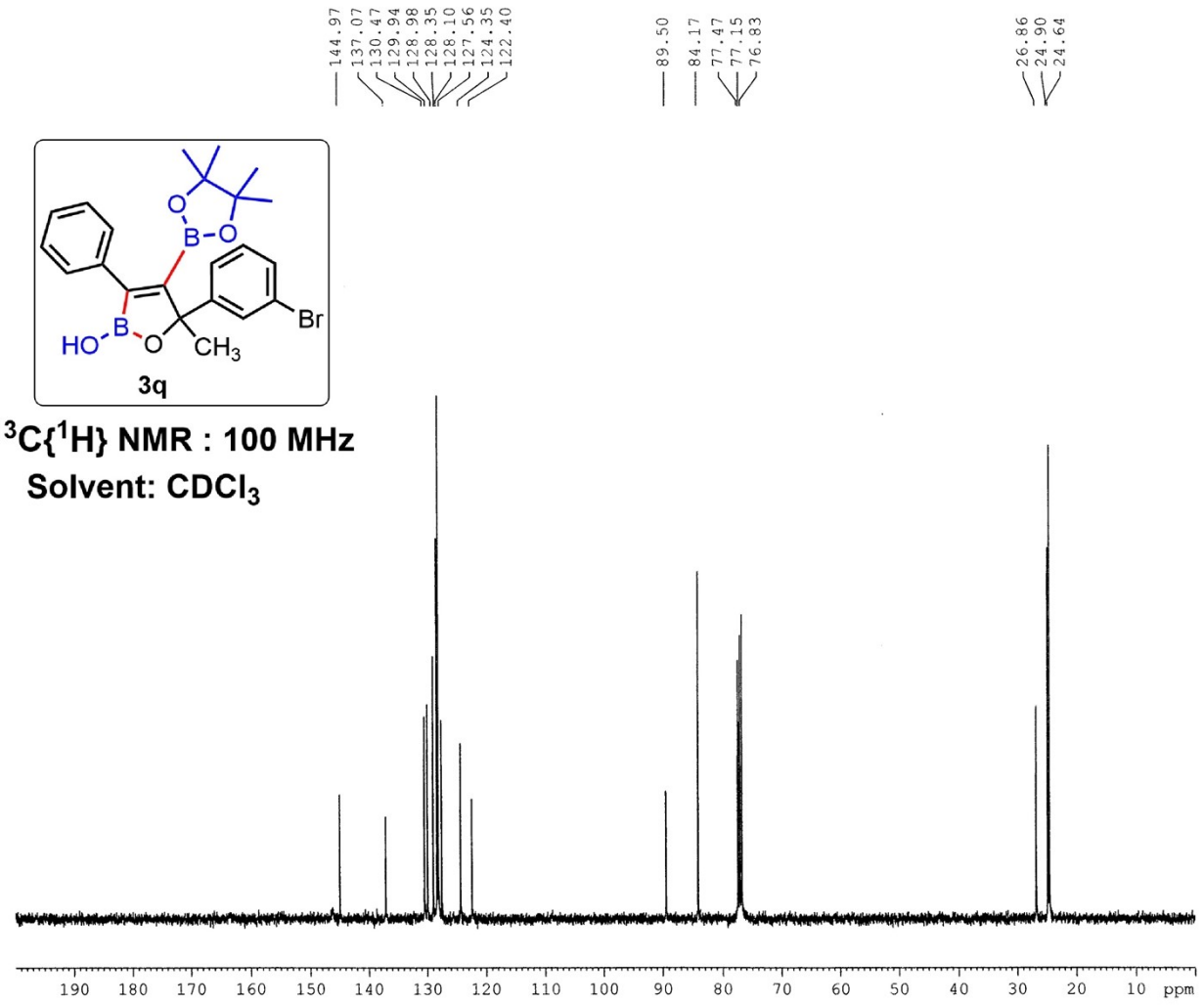
Solvent: $CDCl_3$

```
Current Data Parameters
NAME      Dr. A HAJRA 2024 1H
EXPNO                  326
PROCNO                   1

F2 - Acquisition Parameters
Date_           20240426
Time              12.54
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG           zg30
TD               32768
SOLVENT          CDCl3
NS                   8
DS                   2
SWH           8223.685 Hz
FIDRES        0.250967 Hz
AQ            1.9922944 sec
RG                47.25
DW               60.800 usec
DE                6.50 usec
TE                296.2 K
D1           1.00000000 sec
TD0                  1

======== CHANNEL f1 ========
SFO1        400.1524711 MHz
NUC1                1H
P1                14.75 usec
PLW1        12.00000000 W

F2 - Processing parameters
SI                16384
SF          400.1500569 MHz
WDW                 EM
SSB       0
LB                0.30 Hz
GB        0
PC                1.00
```



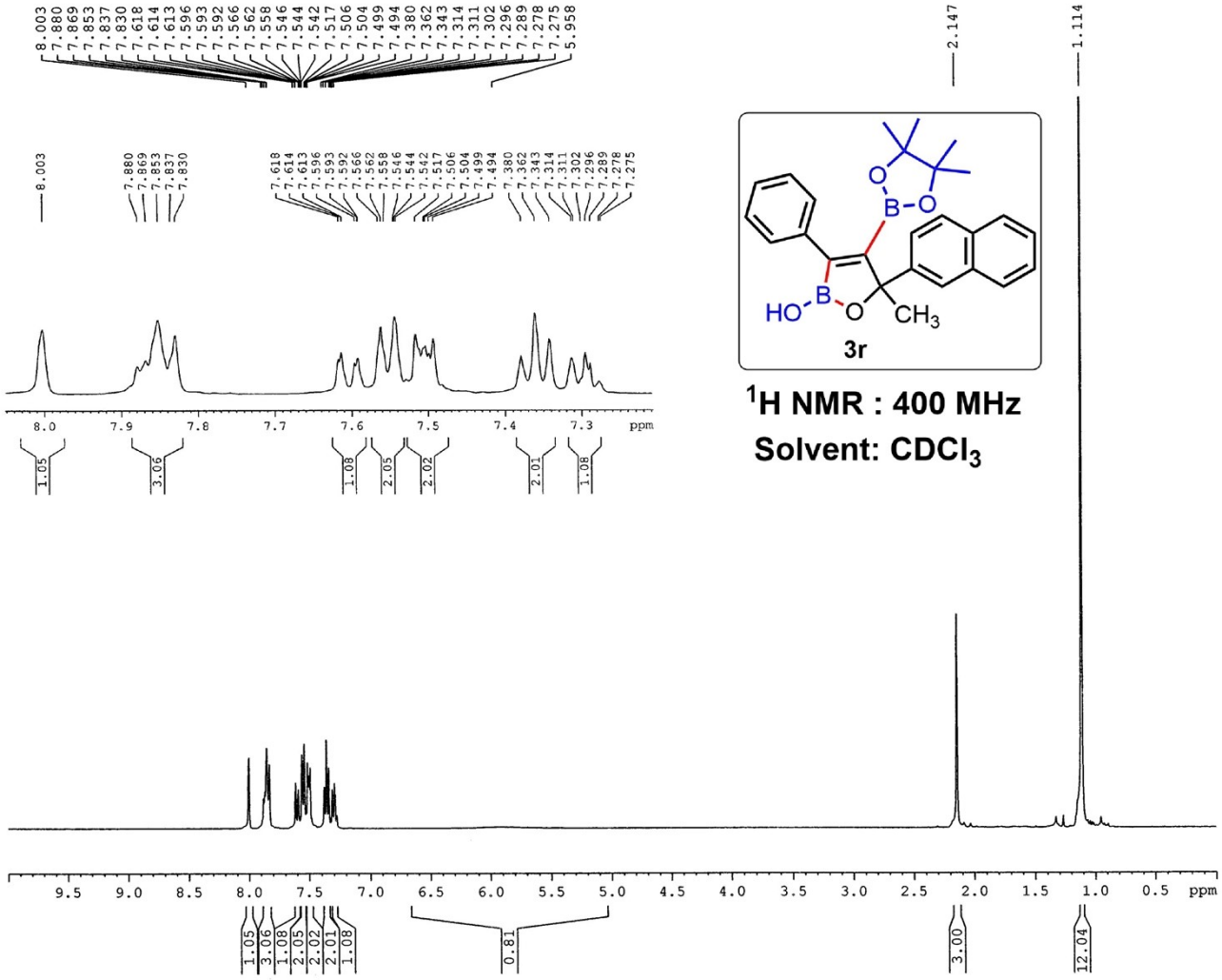

```
Current Data Parameters
NAME      Dr. A HAJRA-2024-13C
EXPNO                  120
PROCNO                   1

F2 - Acquisition Parameters
Date_          20240426
Time               13.05
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                32768
SOLVENT           CDCl3
NS                  185
DS                    2
SWH           24038.461 Hz
FIDRES         0.733596 Hz
AQ             0.6815744 sec
RG                 47.25
DW                20.800 usec
DE                 6.50 usec
TE                296.9 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                   1

======== CHANNEL f1 ========
SFO1        100.6278588 MHz
NUC1               13C
P1                8.90 usec
PLW1       54.00000000 W

======== CHANNEL f2 ========
SFO2        400.1516006 MHz
NUC2               1H
CPDPRG[2        waltz16
PCPD2            90.00 usec
PLW2       12.00000000 W
PLW12       0.32231000 W
PLW13       0.16212000 W

F2 - Processing parameters
SI                16384
SF          100.6177901 MHz
WDW                EM
SSB       0
LB                1.00 Hz
GB        0
PC                1.40
```

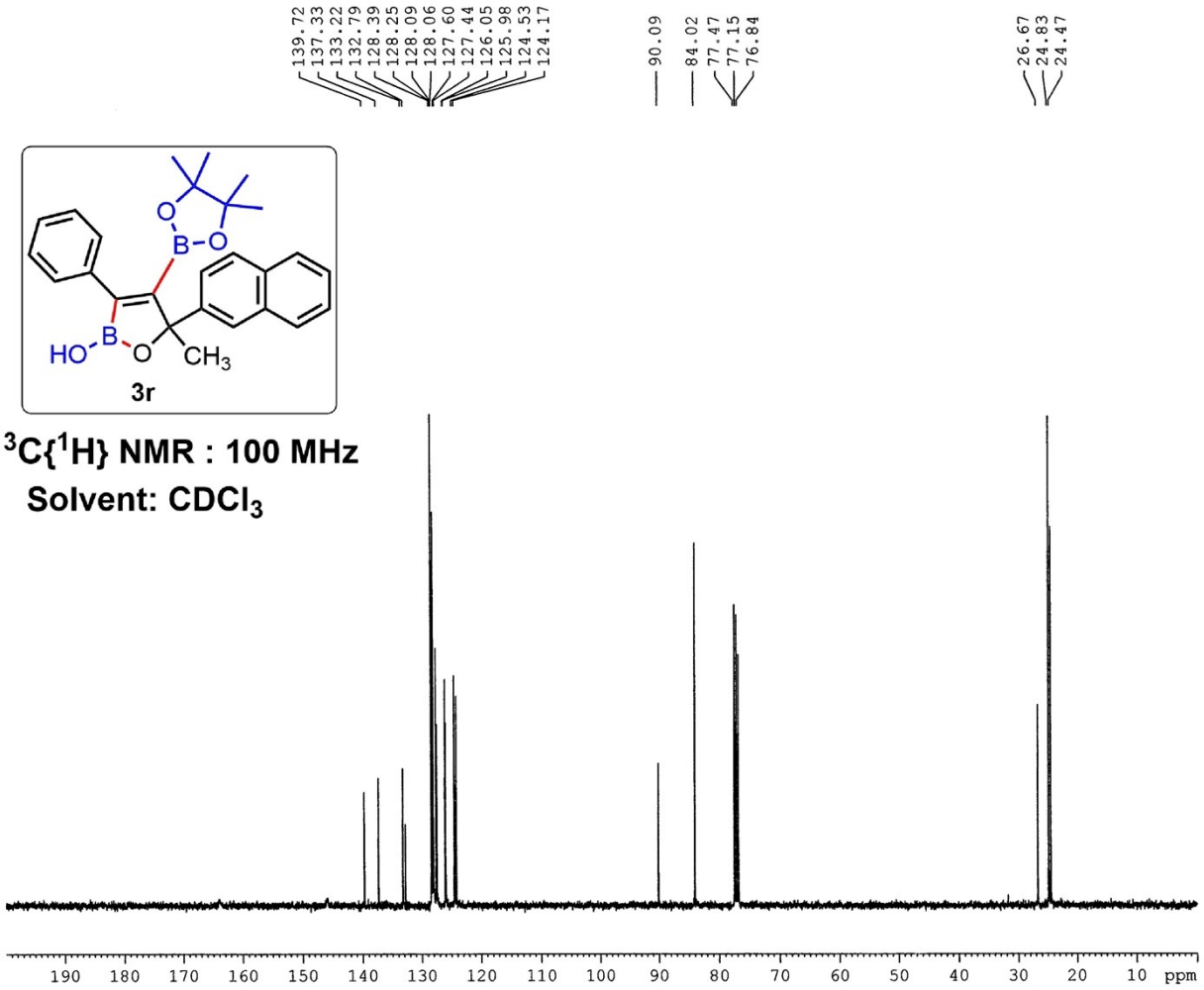



```
Current Data Parameters
NAME      Dr. A HAJRA 2024 1H
EXPNO                  300
PROCNO                   1

F2 - Acquisition Parameters
Date_             20240414
Time                 0.24
INSTRUM             spect
PROBHD    5 mm PABBO BB/
PULPROG              zg30
TD                  32768
SOLVENT             CDCl3
NS                      8
DS                      2
SWH               8223.685 Hz
FIDRES           0.250967 Hz
AQ               1.9922944 sec
RG                   40.87
DW                  60.800 usec
DE                   6.50 usec
TE                  295.4 K
D1             1.00000000 sec
TD0                     1

======== CHANNEL f1 ========
SFO1          400.1524711 MHz
NUC1                    1H
P1                   14.75 usec
PLW1          12.00000000 W

F2 - Processing parameters
SI                  16384
SF            400.1499977 MHz
WDW                    EM
SSB       0
LB                   0.30 Hz
GB        0
PC                   1.00
```



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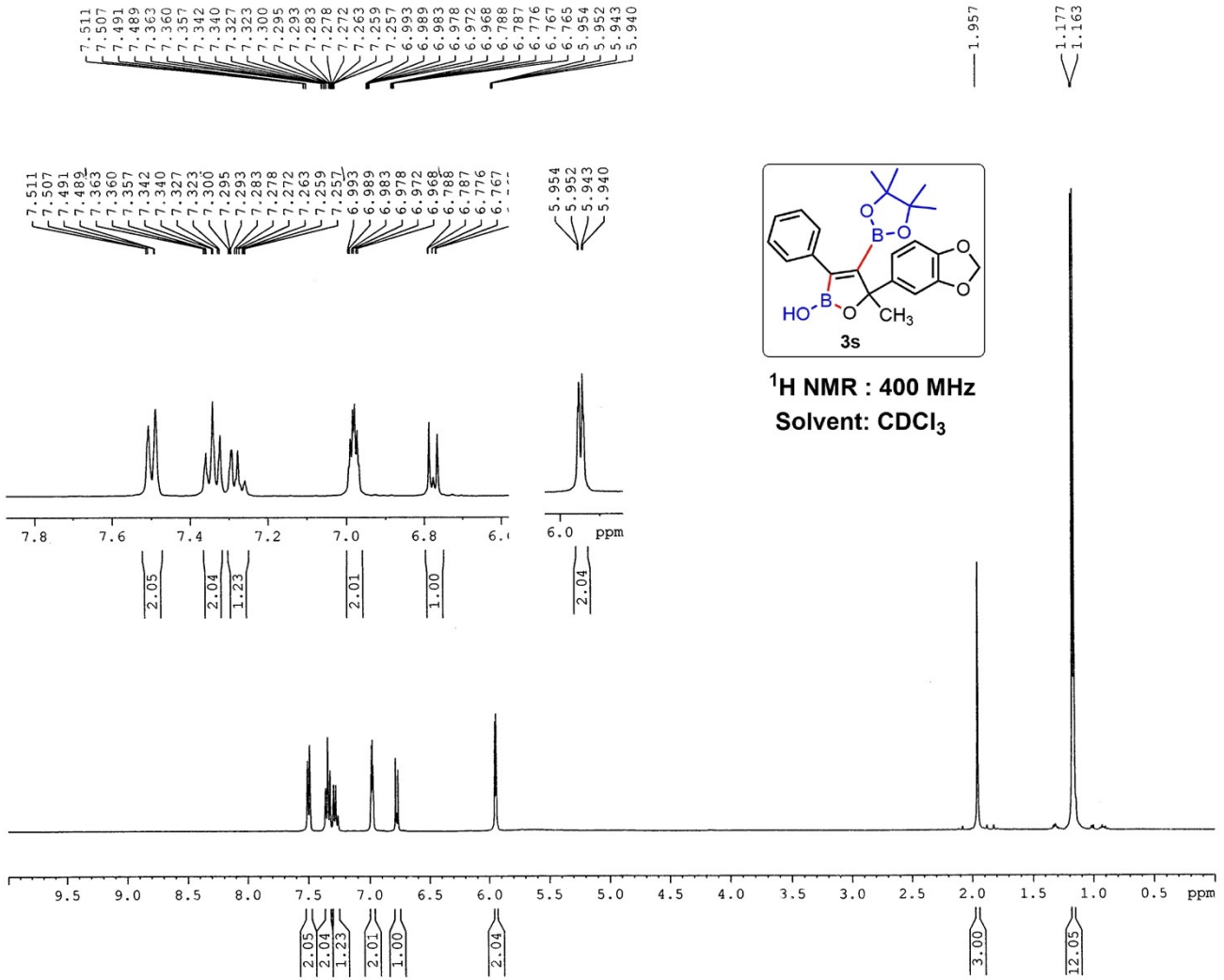
```
Current Data Parameters
NAME      Dr. A HAJRA-2024-13C
EXPNO                  105
PROCNO                   1

F2 - Acquisition Parameters
Date_              20240414
Time                   0.38
INSTRUM               spect
PROBHD   5 mm PABBO BB/
PULPROG             zgpg30
TD                   32768
SOLVENT              CDCl3
NS                     256
DS                       2
SWH              24038.461 Hz
FIDRES            0.733596 Hz
AQ                0.6815744 sec
RG                    40.87
DW                   20.800 usec
DE                    6.50 usec
TE                   295.7 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                      1

======== CHANNEL f1 ========
SFO1          100.6278588 MHz
NUC1                   13C
P1                    8.90 usec
PLW1          54.00000000 W

======== CHANNEL f2 ========
SFO2          400.1516006 MHz
NUC2                   1H
CPDPRG[2           waltz16
PCPD2                90.00 usec
PLW2          12.00000000 W
PLW12          0.32231000 W
PLW13          0.16212000 W

F2 - Processing parameters
SI                   16384
SF            100.6177918 MHz
WDW                     EM
SSB       0
LB                    1.00 Hz
GB        0
PC                    1.40
```



BRUKER

```
Current Data Parameters
NAME      Dr. A HAJRA 2024 1H
EXPNO                  307
PROCNO                   1

F2 - Acquisition Parameters
Date_           20240416
Time              18.33
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG           zg30
TD             32768
SOLVENT           CDCl3
NS                   8
DS                   2
SWH            8223.685 Hz
FIDRES        0.250967 Hz
AQ            1.9922944 sec
RG                54.07
DW               60.800 usec
DE                6.50 usec
TE               297.7 K
D1            1.00000000 sec
TD0                  1

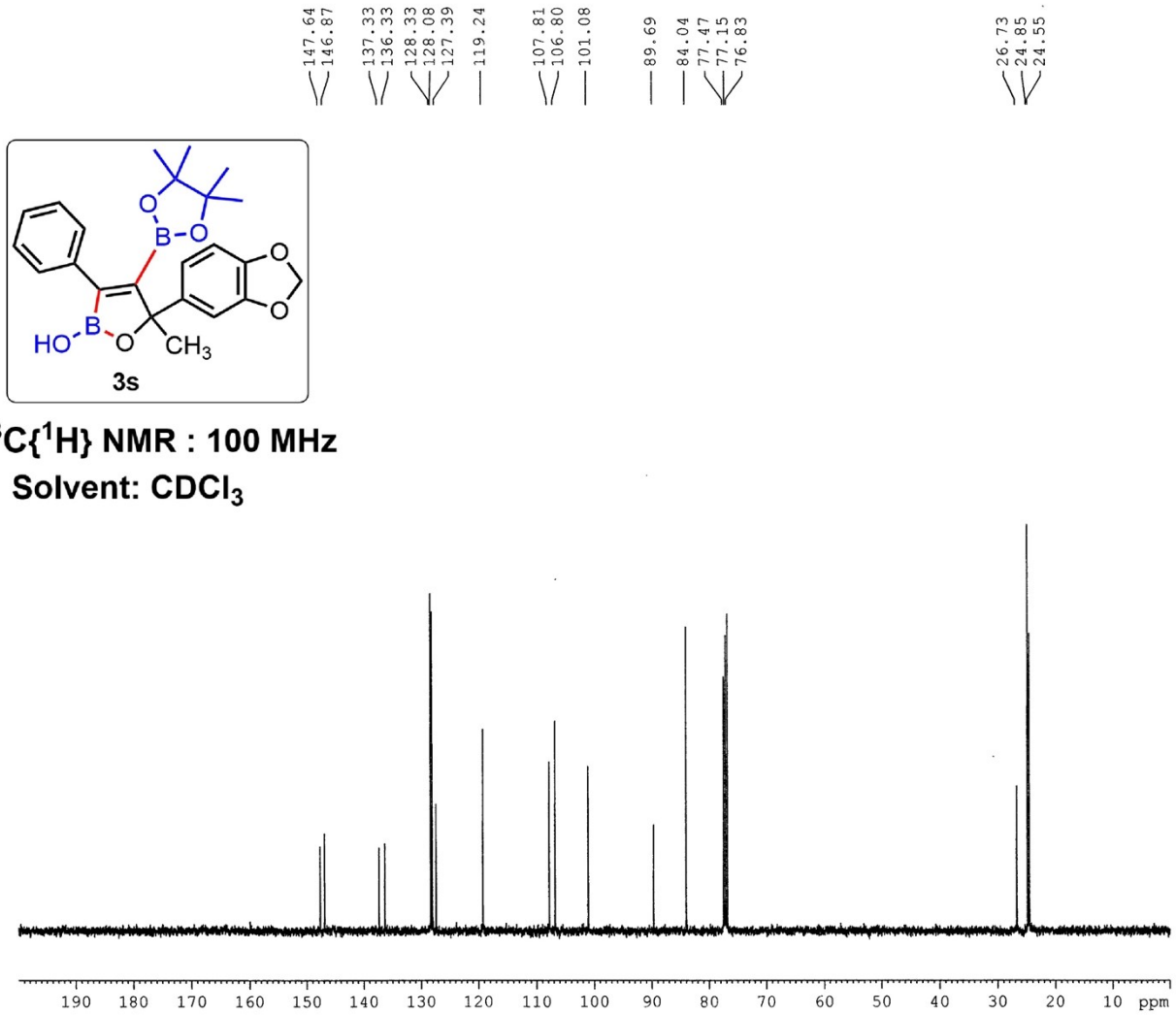
======== CHANNEL f1 ========
SFO1         400.1524711 MHz
NUC1                 1H
P1                14.75 usec
PLW1         12.00000000 W

F2 - Processing parameters
SI                16384
SF           400.1499962 MHz
WDW                  EM
SSB       0
LB                0.30 Hz
GB        0
PC                1.00
```

3s

$^{13}C\{^{1}H\}$ NMR : 100 MHz

Solvent: $CDCl_3$



BRUKER

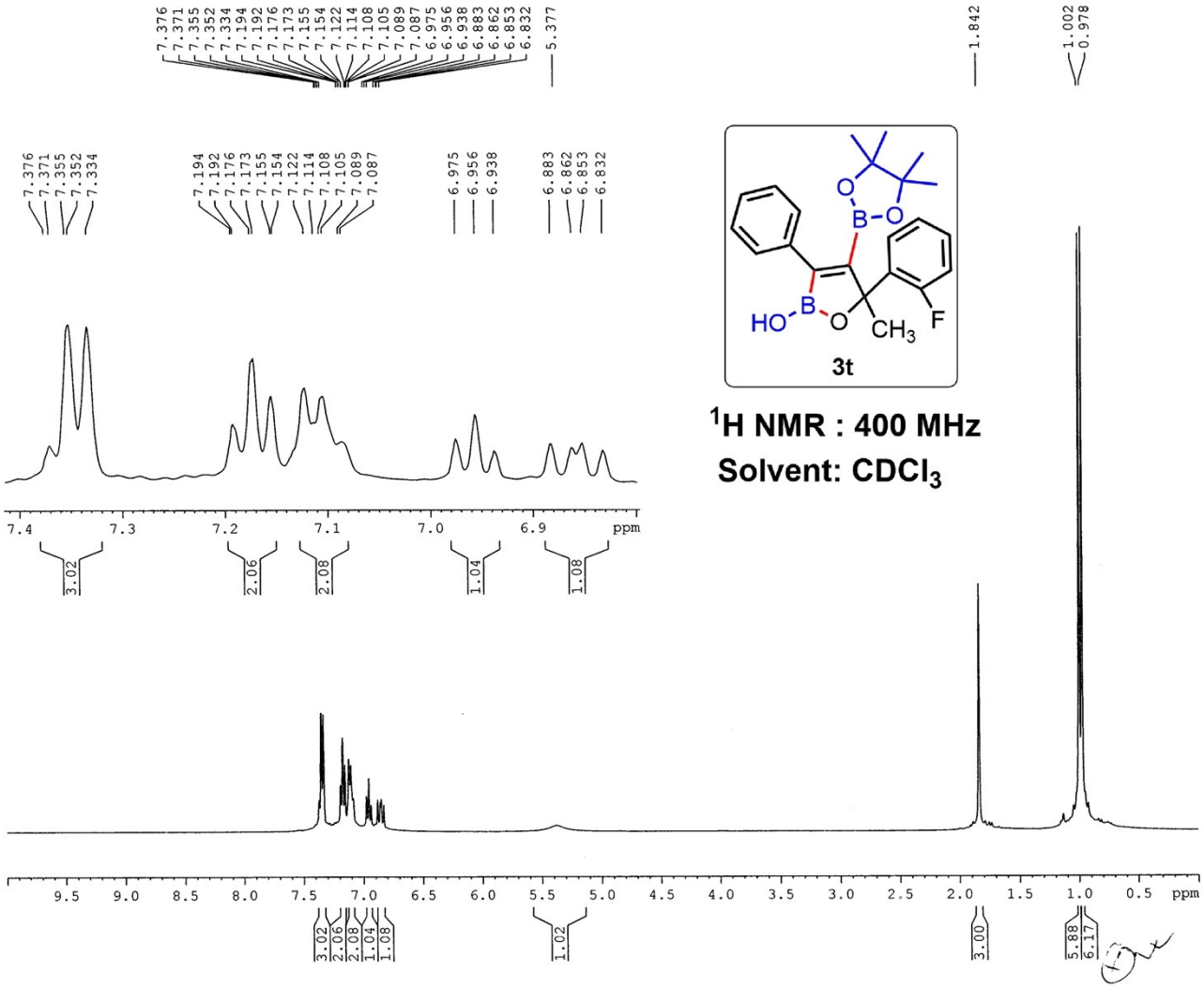
```
Current Data Parameters
NAME      Dr. A HAJRA-2024-13C
EXPNO              109
PROCNO               1

F2 - Acquisition Parameters
Date_          20240416
Time               18.43
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                32768
SOLVENT           CDCl3
NS                  156
DS                    2
SWH           24038.461 Hz
FIDRES         0.733596 Hz
AQ             0.6815744 sec
RG                54.07
DW               20.800 usec
DE                6.50 usec
TE               298.0 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                  1

======== CHANNEL f1 ========
SFO1         100.6278588 MHz
NUC1               13C
P1                8.90 usec
PLW1         54.00000000 W

======== CHANNEL f2 ========
SFO2         400.1516006 MHz
NUC2               1H
CPDPRG[2         waltz16
PCPD2             90.00 usec
PLW2         12.00000000 W
PLW12         0.32231000 W
PLW13         0.16212000 W

F2 - Processing parameters
SI                16384
SF           100.6177887 MHz
WDW                EM
SSB       0
LB                 1.00 Hz
GB        0
PC                 1.40
```



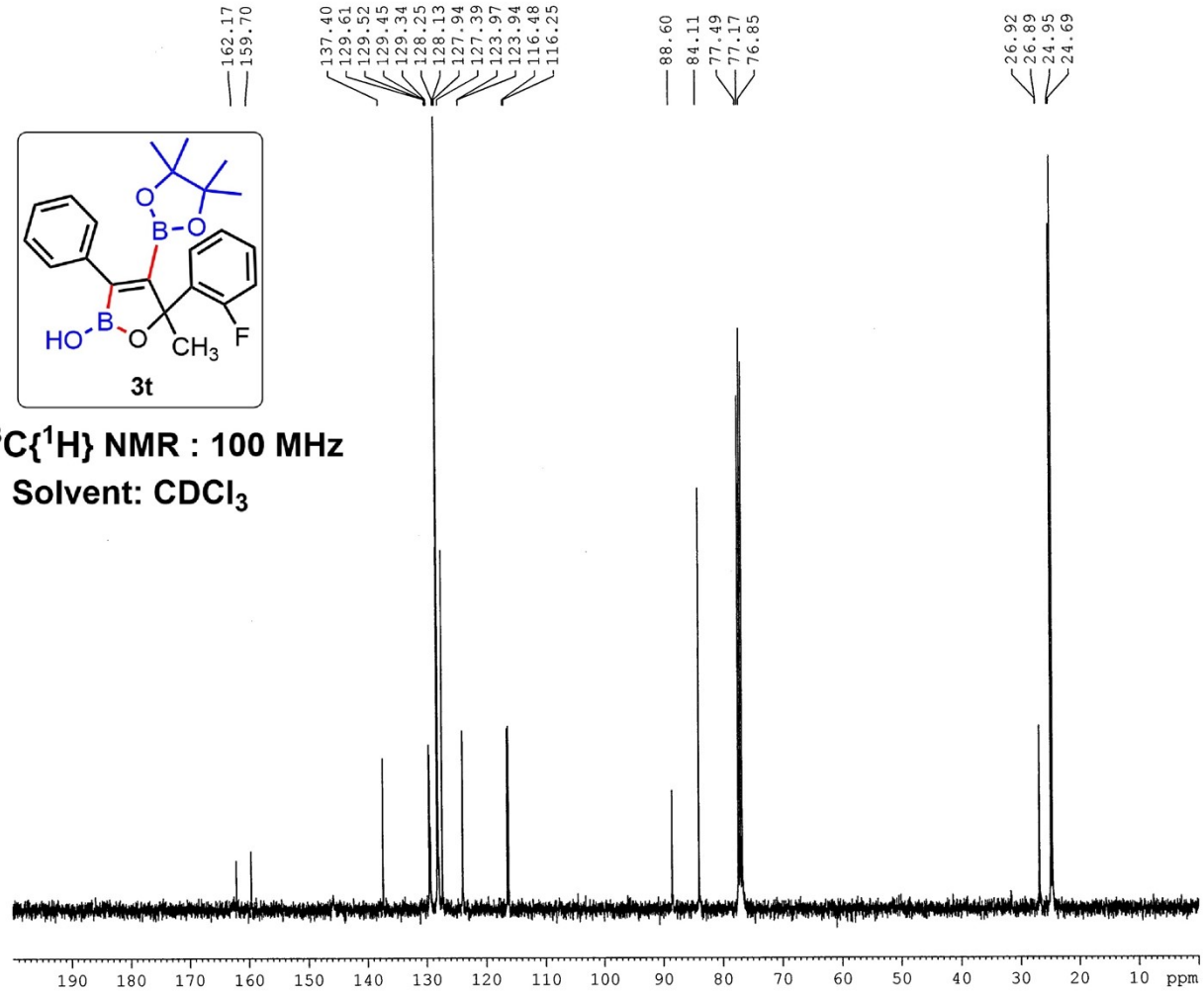
BRUKER

Current Data Parameters
NAME Dr. A HAJRA 2024 1H
EXPNO 349
PROCNO 1

F2 - Acquisition Parameters
Date_ 20240502
Time 13.06
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 8
DS 2
SWH 8223.685 Hz
FIDRES 0.250967 Hz
AQ 1.9922944 sec
RG 54.07
DW 60.800 usec
DE 6.50 usec
TE 295.2 K
D1 1.00000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 400.1524711 MHz
NUC1 1H
P1 14.75 usec
PLW1 12.00000000 W

F2 - Processing parameters
SI 16384
SF 400.1500646 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00




```
Current Data Parameters
NAME      Dr. A HAJRA-2024-13C
EXPNO                  132
PROCNO                   1

F2 - Acquisition Parameters
Date_           20240502
Time              13.23
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                32768
SOLVENT           CDCl3
NS                  256
DS                    2
SWH           24038.461 Hz
FIDRES         0.733596 Hz
AQ             0.6815744 sec
RG                54.07
DW                20.800 usec
DE                 6.50 usec
TE                296.4 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                   1

======== CHANNEL f1 ========
SFO1         100.6278588 MHz
NUC1               13C
P1                 8.90 usec
PLW1         54.00000000 W

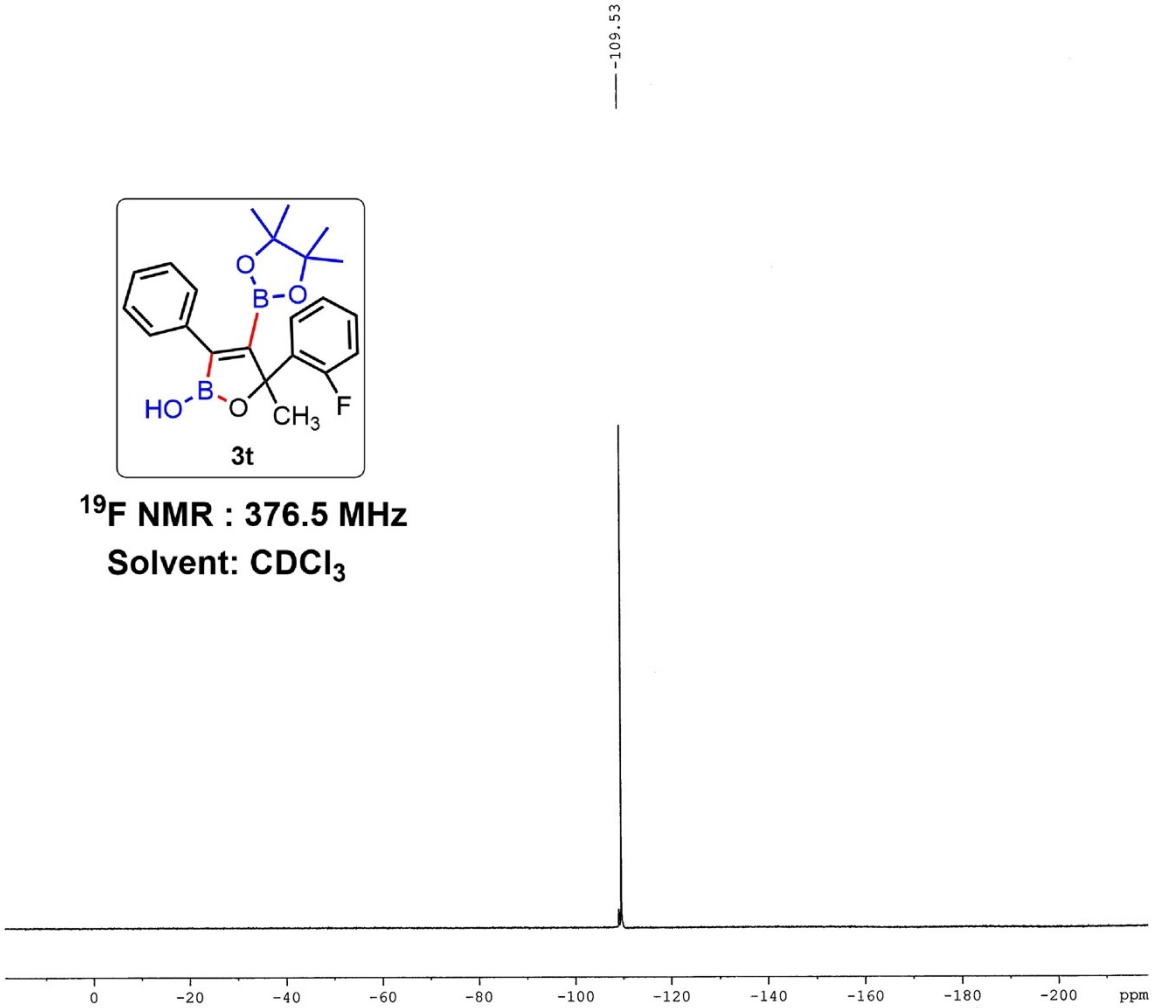
======== CHANNEL f2 ========
SFO2         400.1516006 MHz
NUC2               1H
CPDPRG[2         waltz16
PCPD2             90.00 usec
PLW2         12.00000000 W
PLW12         0.32231000 W
PLW13         0.16212000 W

F2 - Processing parameters
SI                16384
SF           100.6177887 MHz
WDW                EM
SSB       0
LB                 1.00 Hz
GB        0
PC                 1.40
```

3t

^{19}F NMR : 376.5 MHz

Solvent: $CDCl_3$

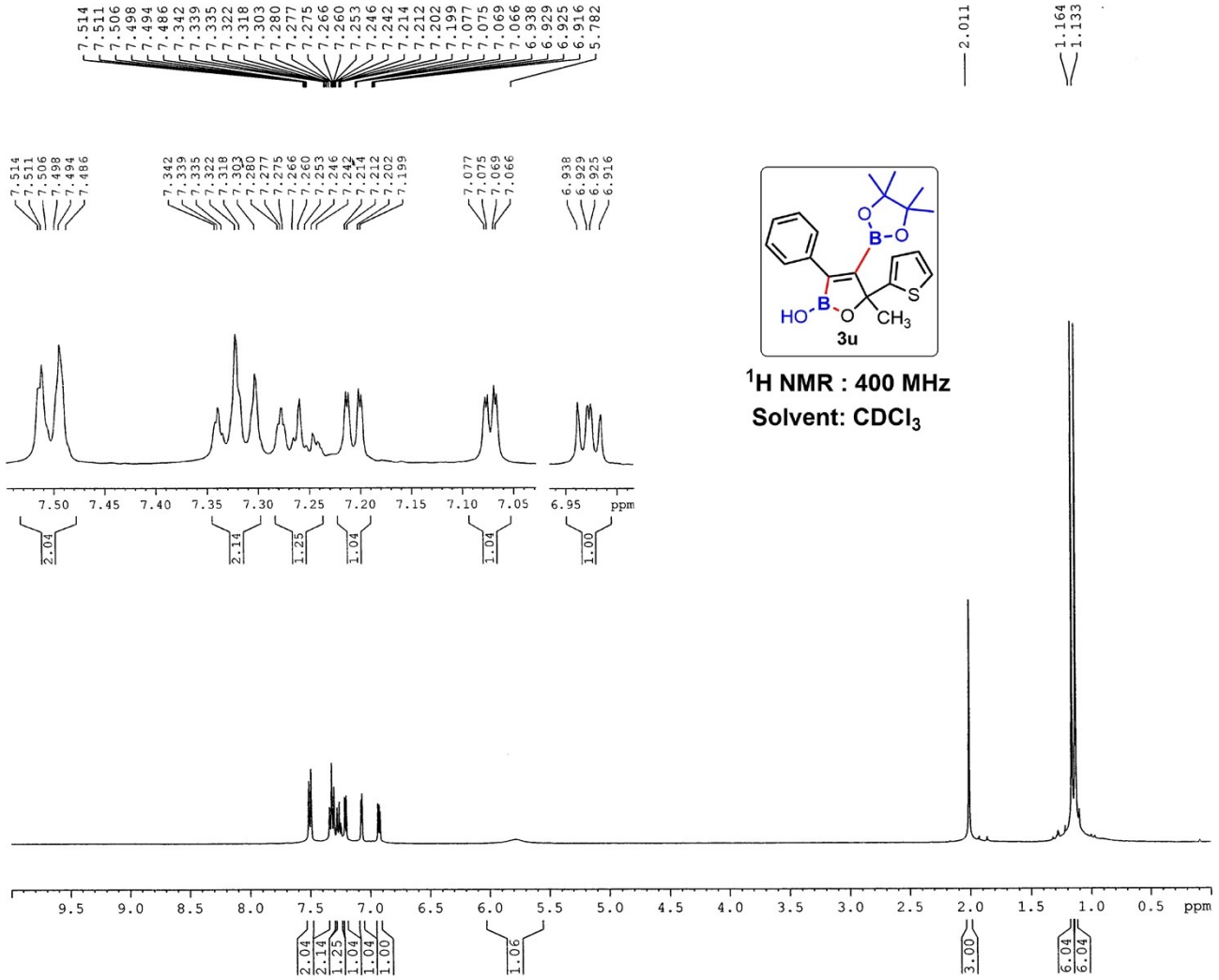



```
Current Data Parameters
NAME      Dr. A HAJRA 2024 1H
EXPNO                  350
PROCNO                   1

F2 - Acquisition Parameters
Date_           20240502
Time               13.09
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgflqn
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     2
SWH            89285.711 Hz
FIDRES          2.724784 Hz
AQ             0.1835008 sec
RG                 54.07
DW                 5.600 usec
DE                  6.50 usec
TE                 295.3 K
D1            1.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         376.4795333 MHz
NUC1                19F
P1                12.50 usec
PLW1         20.00000000 W

F2 - Processing parameters
SI                 16384
SF           376.5171850 MHz
WDW                   EM
SSB       0
LB                 0.30 Hz
GB        0
PC                 1.00
```



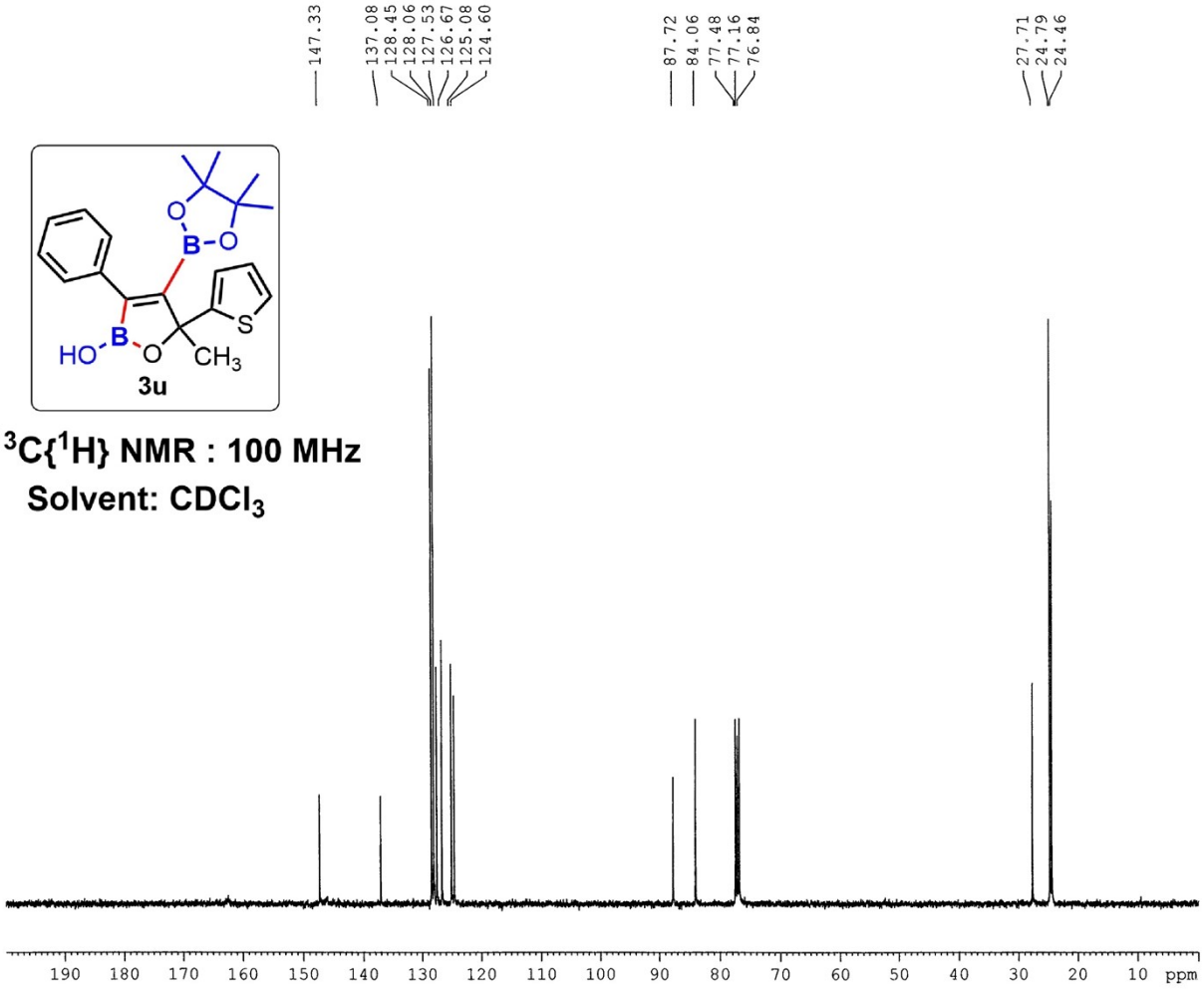
BRUKER

```
Current Data Parameters
NAME      Dr. A HAJRA 2024 1H
EXPNO                  266
PROCNO                   1

F2 - Acquisition Parameters
Date_           20240403
Time              19.14
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG           zg30
TD             32768
SOLVENT           CDCl3
NS                   8
DS                   2
SWH            8223.685 Hz
FIDRES         0.250967 Hz
AQ             1.9922944 sec
RG                40.87
DW               60.800 usec
DE                6.50 usec
TE               296.6 K
D1            1.00000000 sec
TD0                  1

======== CHANNEL f1 ========
SFO1         400.1524711 MHz
NUC1               1H
P1               14.75 usec
PLW1         12.00000000 W

F2 - Processing parameters
SI                16384
SF           400.1500147 MHz
WDW                EM
SSB       0
LB                0.30 Hz
GB        0
PC                1.00
```



$^{13}C\{^{1}H\}$ NMR : 100 MHz

Solvent: $CDCl_3$

BRUKER

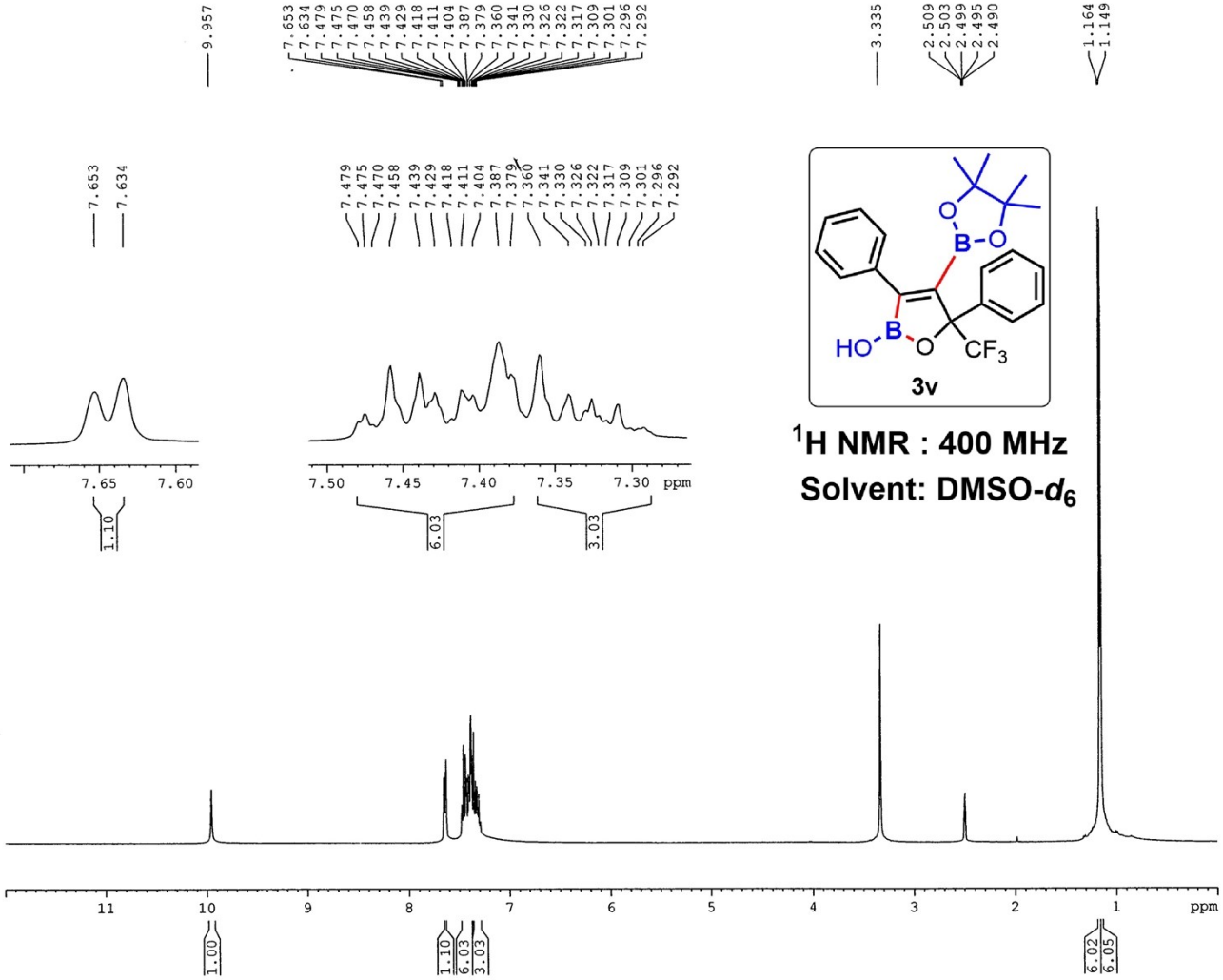
```
Current Data Parameters
NAME      Dr. A HAJRA-2024-13C
EXPNO                       86
PROCNO                       1

F2 - Acquisition Parameters
Date_              20240403
Time                 19.30
INSTRUM              spect
PROBHD   5 mm PABBO BB/
PULPROG            zgpg30
TD                  32768
SOLVENT             CDCl3
NS                    256
DS                      2
SWH              24038.461 Hz
FIDRES            0.733596 Hz
AQ                0.6815744 sec
RG                   37.83
DW                  20.800 usec
DE                   6.50 usec
TE                  297.3 K
D1              2.00000000 sec
D11             0.03000000 sec
TD0                     1

======== CHANNEL f1 ========
SFO1          100.6278588 MHz
NUC1                    13C
P1                     8.90 usec
PLW1          54.00000000 W

======== CHANNEL f2 ========
SFO2          400.1516006 MHz
NUC2                    1H
CPDPRG[2             waltz16
PCPD2                 90.00 usec
PLW2          12.00000000 W
PLW12          0.32231000 W
PLW13          0.16212000 W

F2 - Processing parameters
SI                    16384
SF            100.6177917 MHz
WDW                     EM
SSB       0
LB                    1.00 Hz
GB        0
PC                    1.40
```

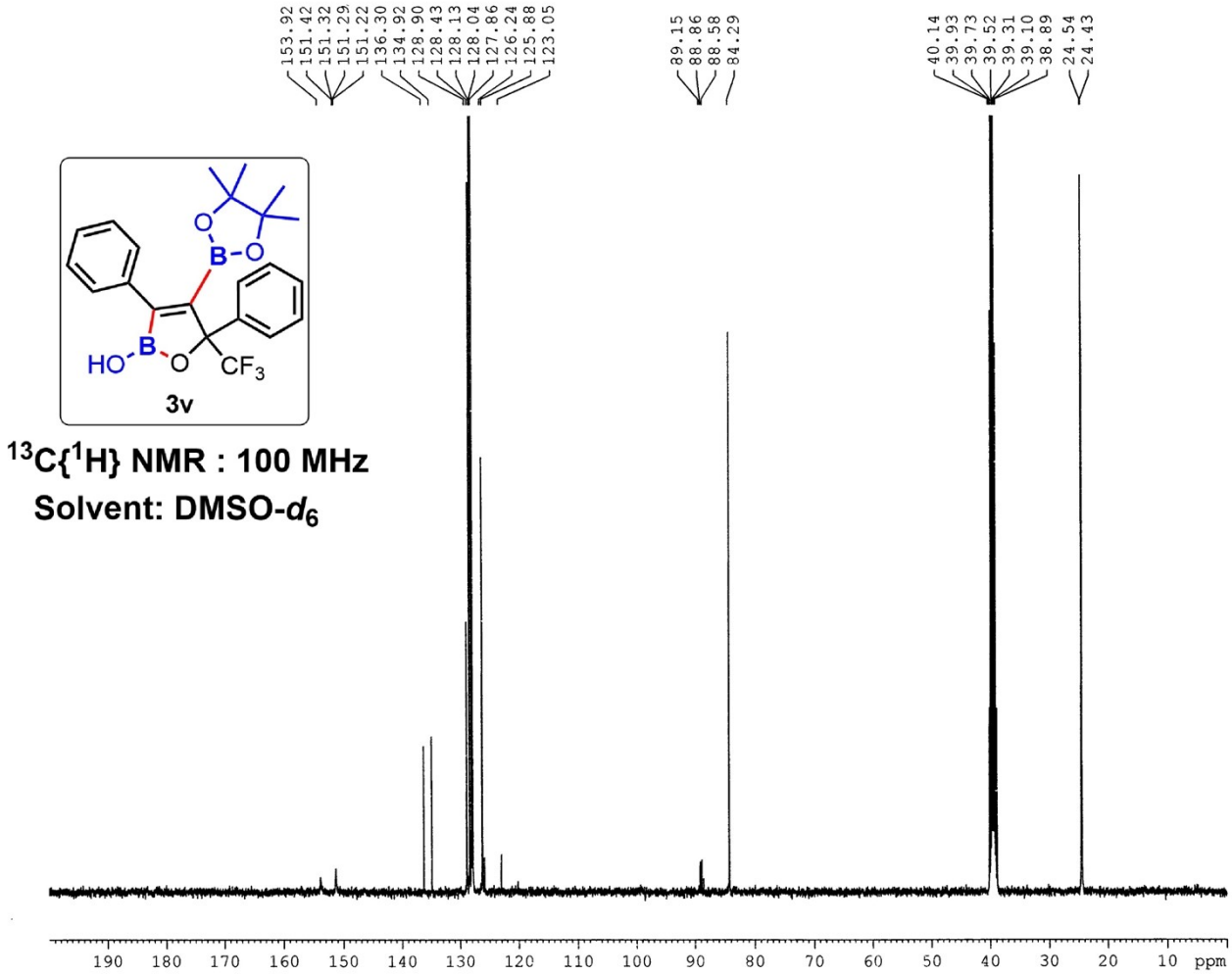



```
Current Data Parameters
NAME      Dr. A HAJRA 2024 1H
EXPNO                  270
PROCNO                   1

F2 - Acquisition Parameters
Date_              20240404
Time                  11.06
INSTRUM               spect
PROBHD   5 mm PABBO BB/
PULPROG                zg30
TD                    32768
SOLVENT                DMSO
NS                       12
DS                        2
SWH                8223.685 Hz
FIDRES            0.250967 Hz
AQ                1.9922944 sec
RG                    57.28
DW                   60.800 usec
DE                    6.50 usec
TE                   302.5 K
D1                1.00000000 sec
TD0                      1

======== CHANNEL f1 ========
SFO1          400.1524711 MHz
NUC1                     1H
P1                    14.75 usec
PLW1          12.00000000 W

F2 - Processing parameters
SI                    16384
SF            400.1500035 MHz
WDW                      EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```



BRUKER

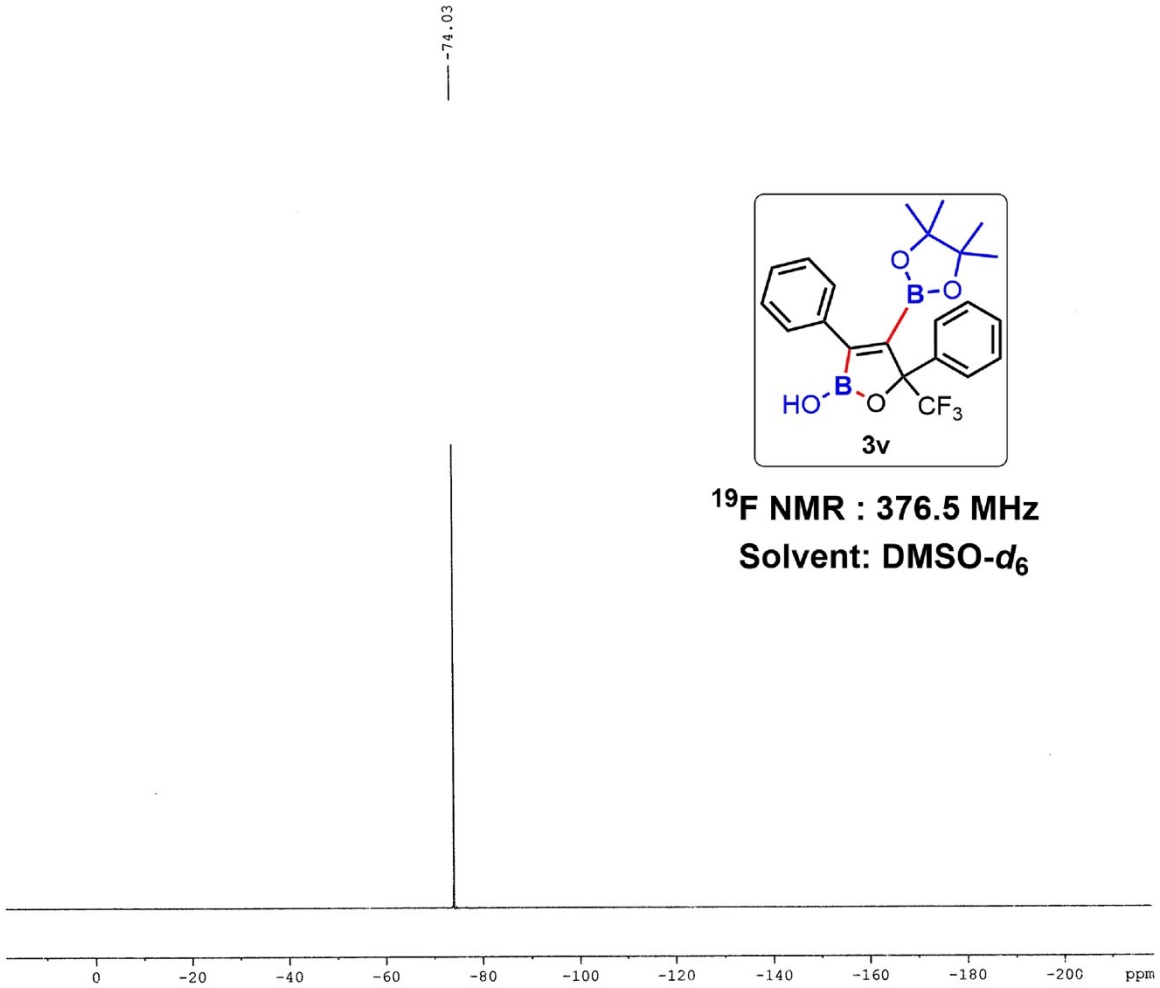
```
Current Data Parameters
NAME      Dr. A HAJRA-2024-13C
EXPNO                       88
PROCNO                       1

F2 - Acquisition Parameters
Date_              20240405
Time                 11.35
INSTRUM              spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT              DMSO
NS                     912
DS                       2
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6815744 sec
RG                  57.28
DW                 20.800 usec
DE                  6.50 usec
TE                296.6 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                      1

======== CHANNEL f1 ========
SFO1          100.6278588 MHz
NUC1                   13C
P1                    8.90 usec
PLW1          54.00000000 W

======== CHANNEL f2 ========
SFO2          400.1516006 MHz
NUC2                   1H
CPDPRG[2           waltz16
PCPD2                90.00 usec
PLW2          12.00000000 W
PLW12          0.32231000 W
PLW13          0.16212000 W

F2 - Processing parameters
SI                   16384
SF            100.6178420 MHz
WDW                     EM
SSB       0
LB                    1.00 Hz
GB        0
PC                    1.40
```



3v

^{19}F NMR : 376.5 MHz

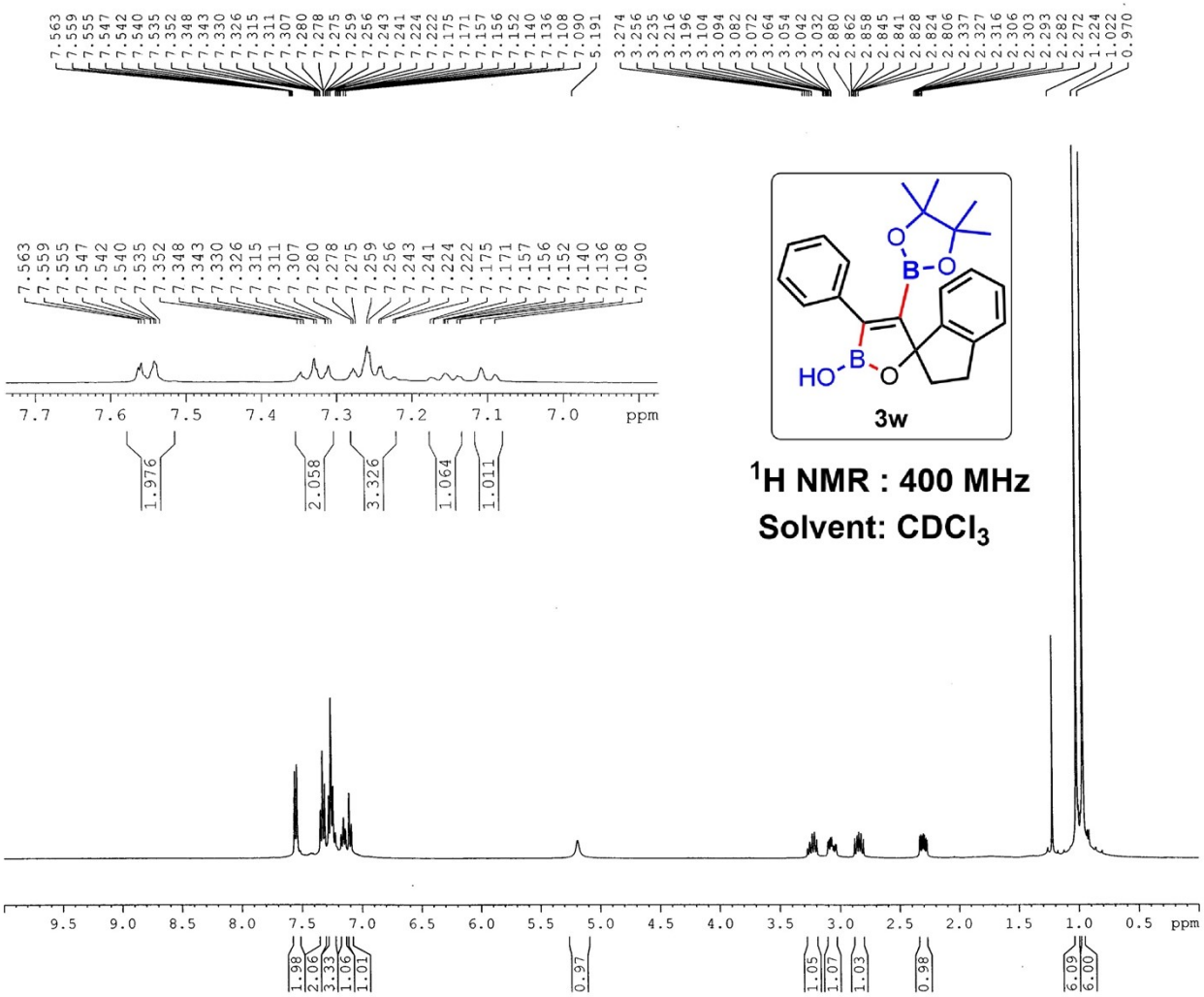
Solvent: DMSO-d_6

```
Current Data Parameters
NAME      Dr. A HAJRA 2024 1H
EXPNO                  271
PROCNO                   1

F2 - Acquisition Parameters
Date_           20240405
Time              10.51
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG         zgflqn
TD                32768
SOLVENT            DMSO
NS                    8
DS                    2
SWH           89285.711 Hz
FIDRES         2.724784 Hz
AQ             0.1835008 sec
RG                186.42
DW                 5.600 usec
DE                 6.50 usec
TE                296.0 K
D1           1.00000000 sec
TD0                   1

======== CHANNEL f1 ========
SFO1        376.4795333 MHz
NUC1              19F
P1                12.50 usec
PLW1       20.00000000 W

F2 - Processing parameters
SI                16384
SF          376.5171850 MHz
WDW                EM
SSB       0
LB                 0.30 Hz
GB        0
PC                 1.00
```

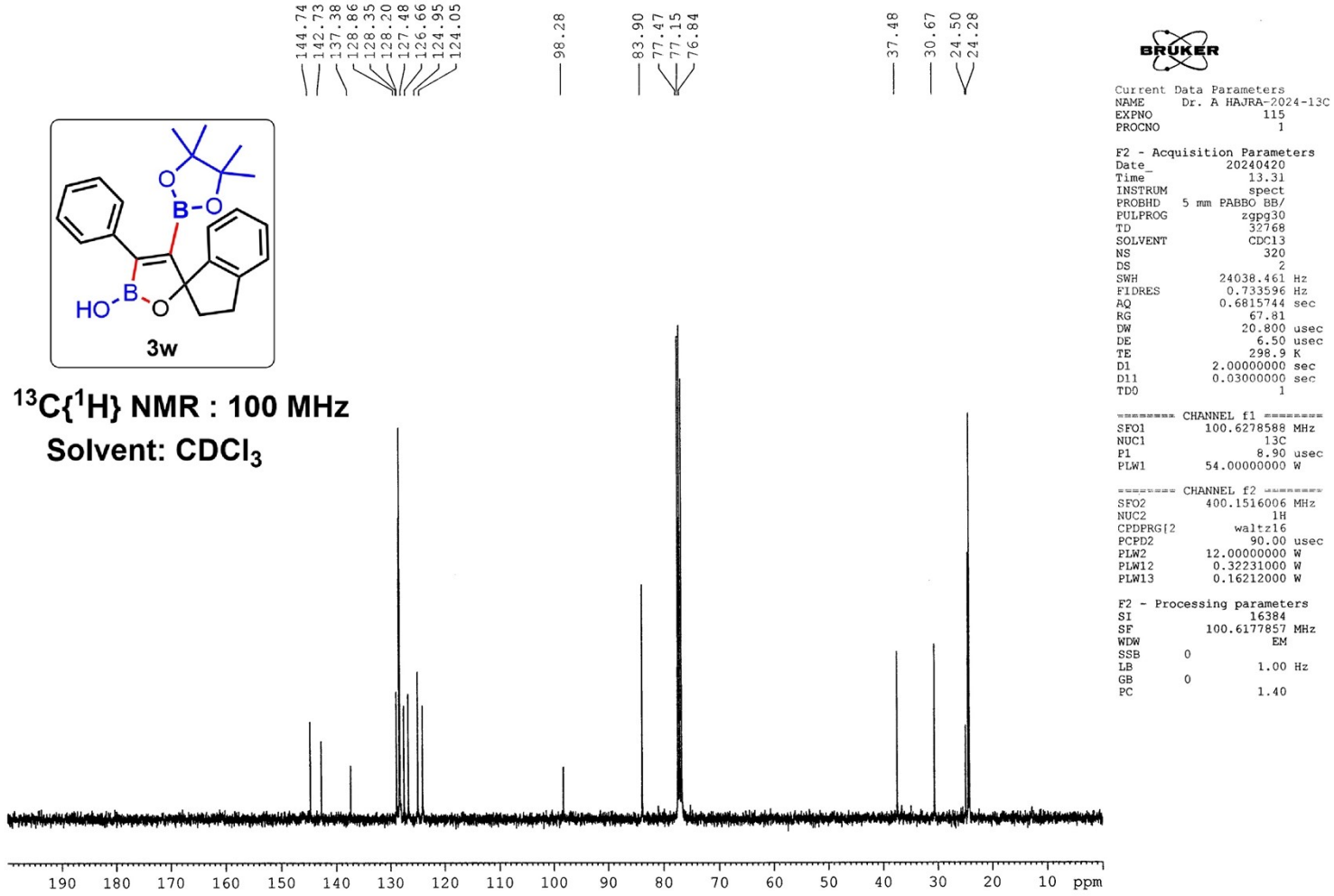



```
Current Data Parameters
NAME      Dr. A HAJRA 2024 1H
EXPNO                  319
PROCNO                   1

F2 - Acquisition Parameters
Date_           20240420
Time              13.02
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG           zg30
TD               32768
SOLVENT          CDCl3
NS                   8
DS                   2
SWH           8223.685 Hz
FIDRES        0.250967 Hz
AQ            1.9922944 sec
RG               67.81
DW               60.800 usec
DE                6.50 usec
TE               298.7 K
D1            1.00000000 sec
TD0                  1

======== CHANNEL f1 ========
SFO1        400.1524711 MHz
NUC1               1H
P1                14.75 usec
PLW1        12.00000000 W

F2 - Processing parameters
SI                16384
SF          400.1500113 MHz
WDW                EM
SSB       0
LB                0.30 Hz
GB        0
PC                1.00
```



BRUKER

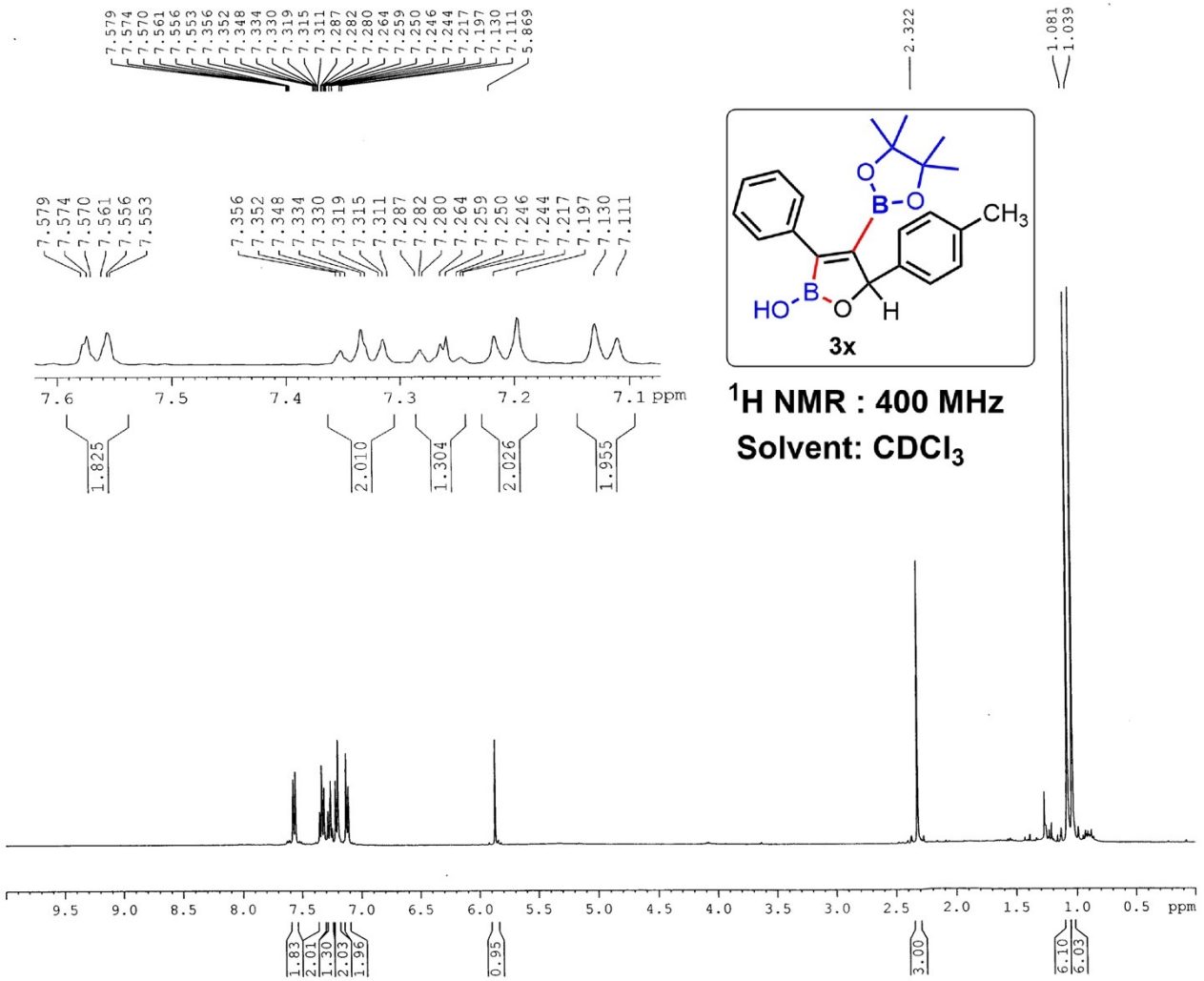
```
Current Data Parameters
NAME      Dr. A HAJRA-2024-13C
EXPNO                      115
PROCNO                       1

F2 - Acquisition Parameters
Date_              20240420
Time                 13.31
INSTRUM              spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   320
DS                     2
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6815744 sec
RG                 67.81
DW                 20.800 usec
DE                  6.50 usec
TE                298.9 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6278588 MHz
NUC1               13C
P1                  8.90 usec
PLW1        54.00000000 W

======== CHANNEL f2 ========
SFO2         400.1516006 MHz
NUC2               1H
CPDPRG[2         waltz16
PCPD2              90.00 usec
PLW2        12.00000000 W
PLW12        0.32231000 W
PLW13        0.16212000 W

F2 - Processing parameters
SI                 16384
SF           100.6177857 MHz
WDW                  EM
SSB       0
LB                  1.00 Hz
GB        0
PC                  1.40
```

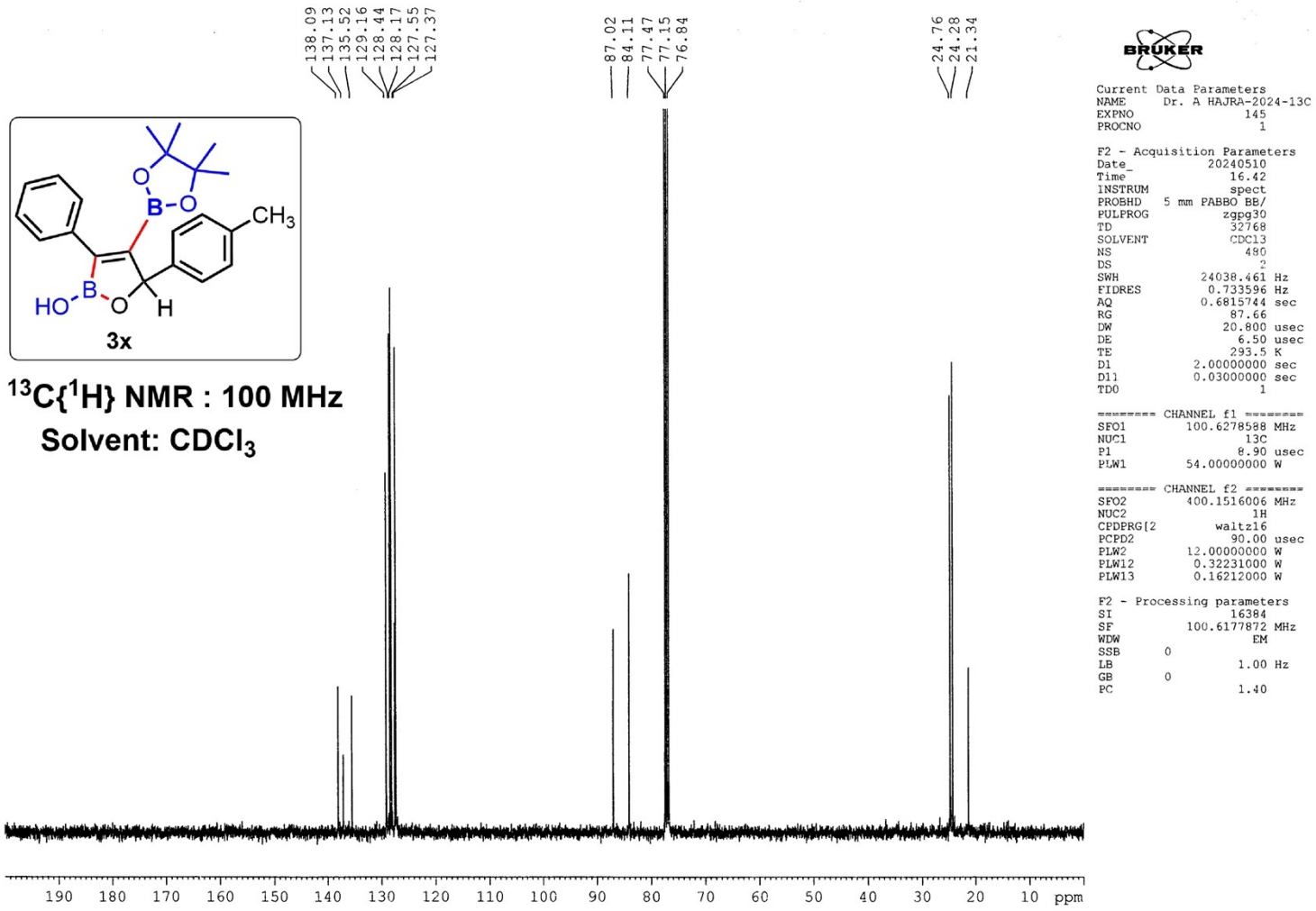



```
Current Data Parameters
NAME      Dr. A HAJRA 2024 1H
EXPNO                  384
PROCNO                   1

F2 - Acquisition Parameters
Date_           20240510
Time              16.12
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG           zg30
TD               32768
SOLVENT          CDCl3
NS                   8
DS                   2
SWH           8223.685 Hz
FIDRES        0.250967 Hz
AQ            1.9922944 sec
RG               87.66
DW               60.800 usec
DE                6.50 usec
TE               292.9 K
D1            1.00000000 sec
TD0                  1

======== CHANNEL f1 ========
SFO1         400.1524711 MHz
NUC1               1H
P1               14.75 usec
PLW1         12.00000000 W

F2 - Processing parameters
SI                16384
SF           400.1500097 MHz
WDW                EM
SSB       0
LB              0.30 Hz
GB        0
PC              1.00
```



BRUKER

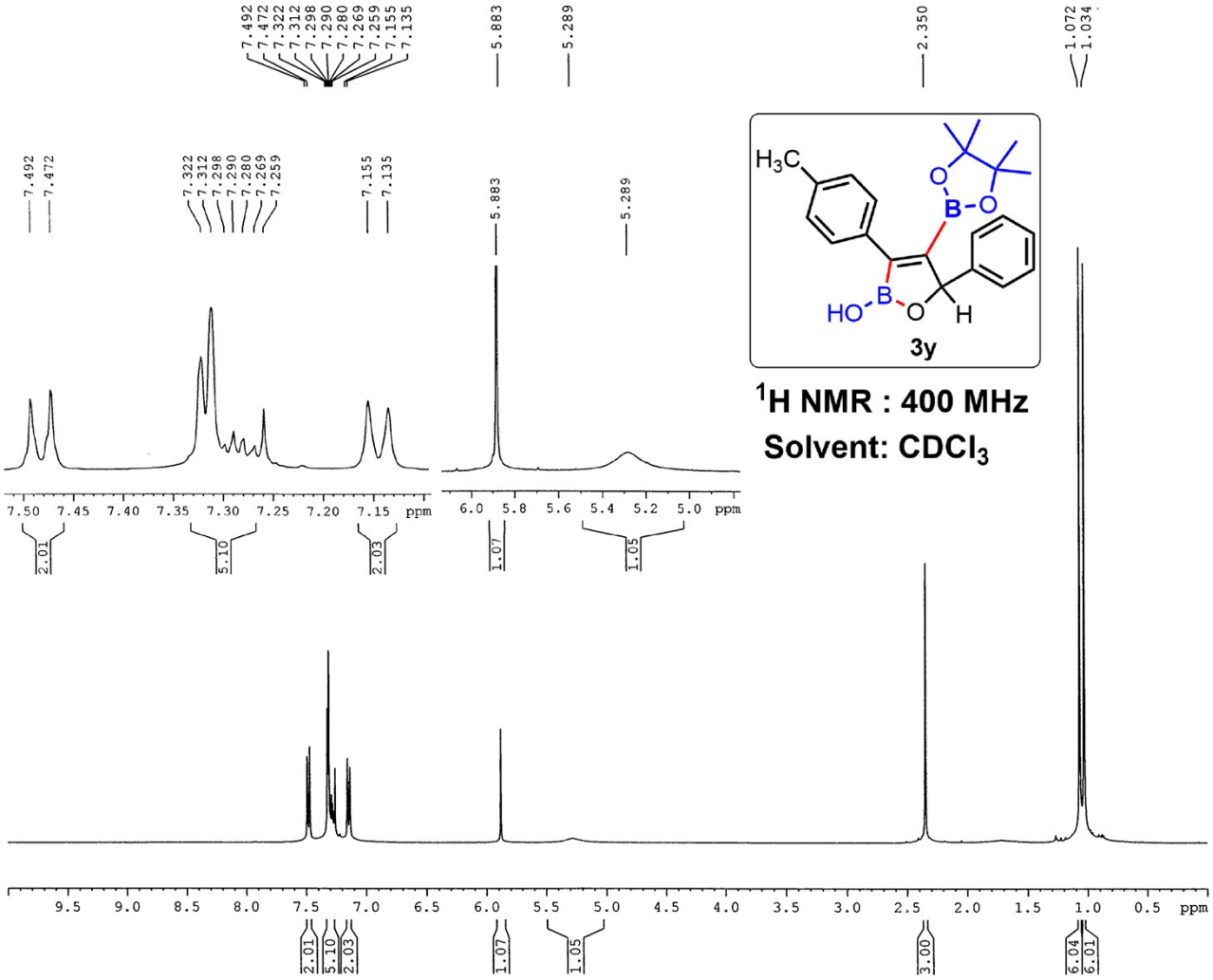
```
Current Data Parameters
NAME      Dr. A HAJRA-2024-13C
EXPNO                  145
PROCNO                   1

F2 - Acquisition Parameters
Date_           20240510
Time              16.42
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG         zgpg30
TD              32768
SOLVENT           CDCl3
NS                  480
DS                    2
SWH           24038.461 Hz
FIDRES         0.733596 Hz
AQ             0.6815744 sec
RG                87.66
DW                20.800 usec
DE                 6.50 usec
TE                293.5 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                   1

======== CHANNEL f1 ========
SFO1         100.6278588 MHz
NUC1                13C
P1                 8.90 usec
PLW1         54.00000000 W

======== CHANNEL f2 ========
SFO2         400.1516006 MHz
NUC2                1H
CPDPRG[2         waltz16
PCPD2             90.00 usec
PLW2         12.00000000 W
PLW12         0.32231000 W
PLW13         0.16212000 W

F2 - Processing parameters
SI                 16384
SF           100.6177872 MHz
WDW                  EM
SSB       0
LB                 1.00 Hz
GB        0
PC                 1.40
```

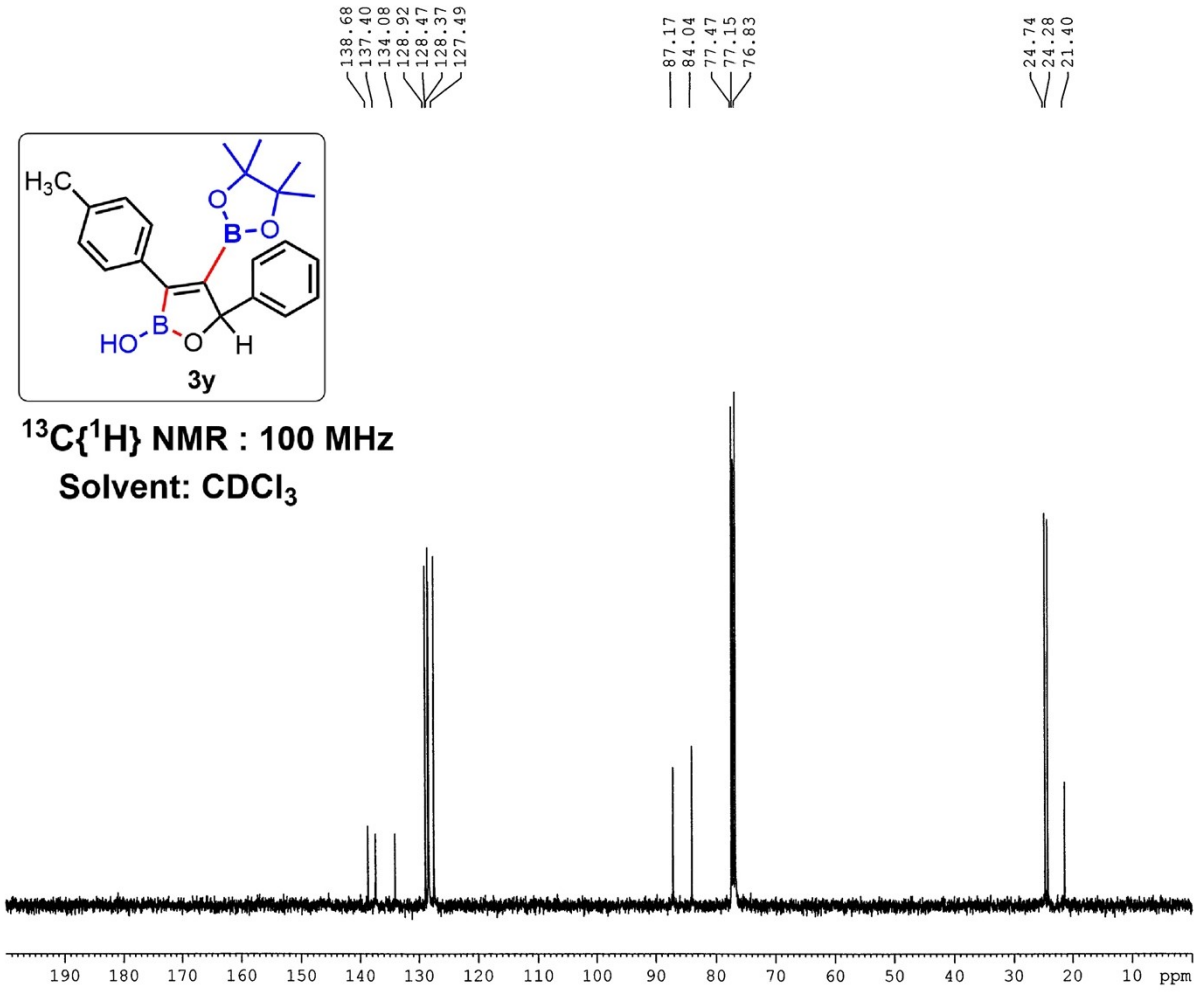


```
Current Data Parameters
NAME      Dr. A HAJRA 2023 1H
EXPNO              1269
PROCNO                1

F2 - Acquisition Parameters
Date_          20231127
Time              11.48
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG           zg30
TD               32768
SOLVENT          CDCl3
NS                   8
DS                   2
SWH           8223.685 Hz
FIDRES        0.250967 Hz
AQ            1.9922944 sec
RG               87.66
DW               60.800 usec
DE                6.50 usec
TE               291.4 K
D1            1.00000000 sec
TD0                  1

======== CHANNEL f1 ========
SFO1         400.1524711 MHz
NUC1               1H
P1               14.75 usec
PLW1         12.00000000 W

F2 - Processing parameters
SI               16384
SF         400.1500097 MHz
WDW                EM
SSB       0
LB              0.30 Hz
GB        0
PC              1.00
```



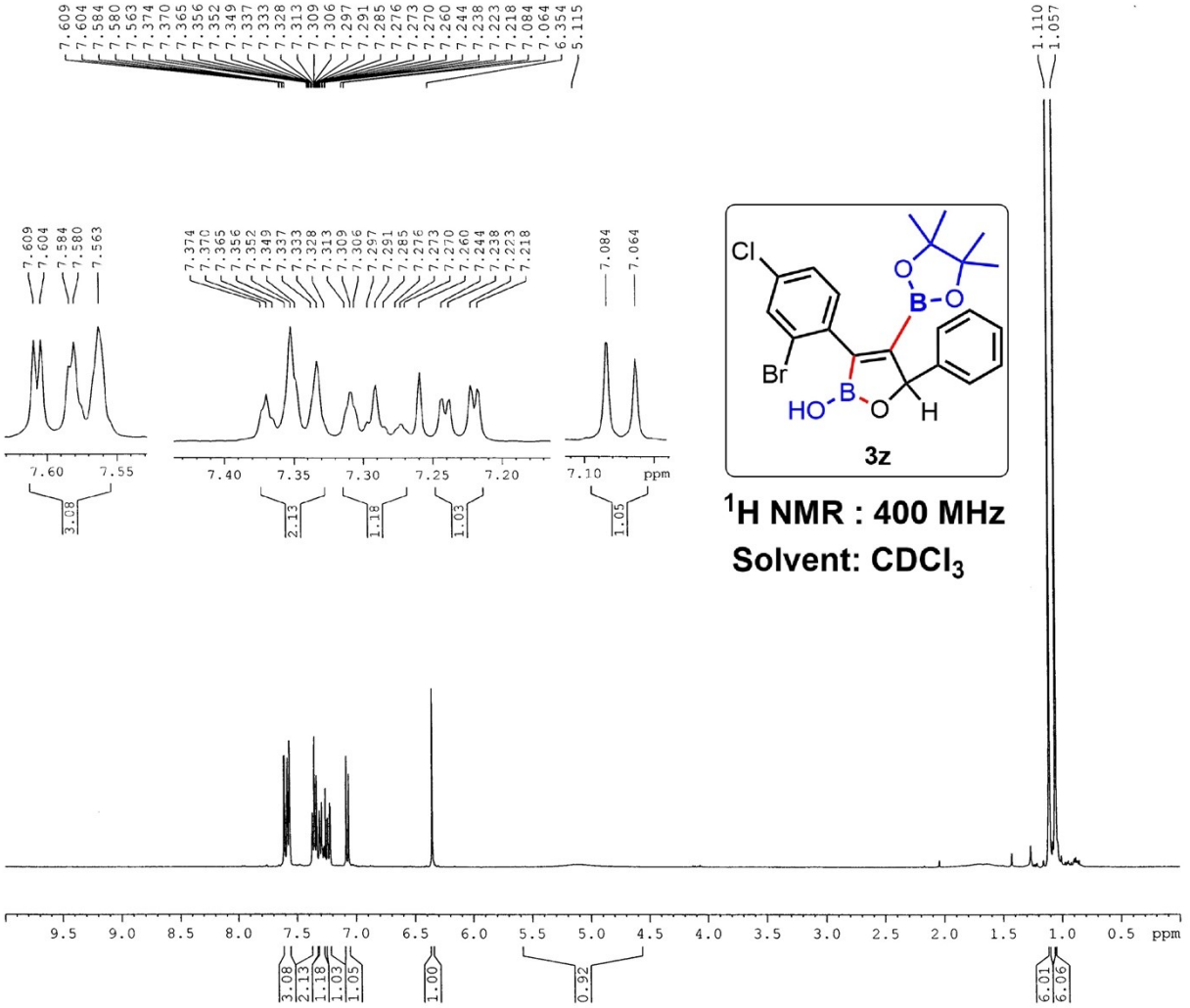

```
Current Data Parameters
NAME      Dr. A HAJRA-2023-13C
EXPNO                  440
PROCNO                   1

F2 - Acquisition Parameters
Date_              20231127
Time                 12.09
INSTRUM              spect
PROBHD   5 mm PABBO BB/
PULPROG             zgpg30
TD                   32768
SOLVENT              CDCl3
NS                     320
DS                       2
SWH              24038.461 Hz
FIDRES           0.733596 Hz
AQ               0.6815744 sec
RG                   87.66
DW                 20.800 usec
DE                  6.50 usec
TE                 291.9 K
D1              2.00000000 sec
D11             0.03000000 sec
TD0                      1

======== CHANNEL f1 ========
SFO1          100.6278588 MHz
NUC1                  13C
P1                   8.90 usec
PLW1          54.00000000 W

======== CHANNEL f2 ========
SFO2          400.1516006 MHz
NUC2                  1H
CPDPRG[2          waltz16
PCPD2               90.00 usec
PLW2          12.00000000 W
PLW12          0.32231000 W
PLW13          0.16212000 W

F2 - Processing parameters
SI                   16384
SF            100.6177883 MHz
WDW                     EM
SSB       0
LB                   1.00 Hz
GB        0
PC                   1.40
```



3z

^{1}H NMR : 400 MHz

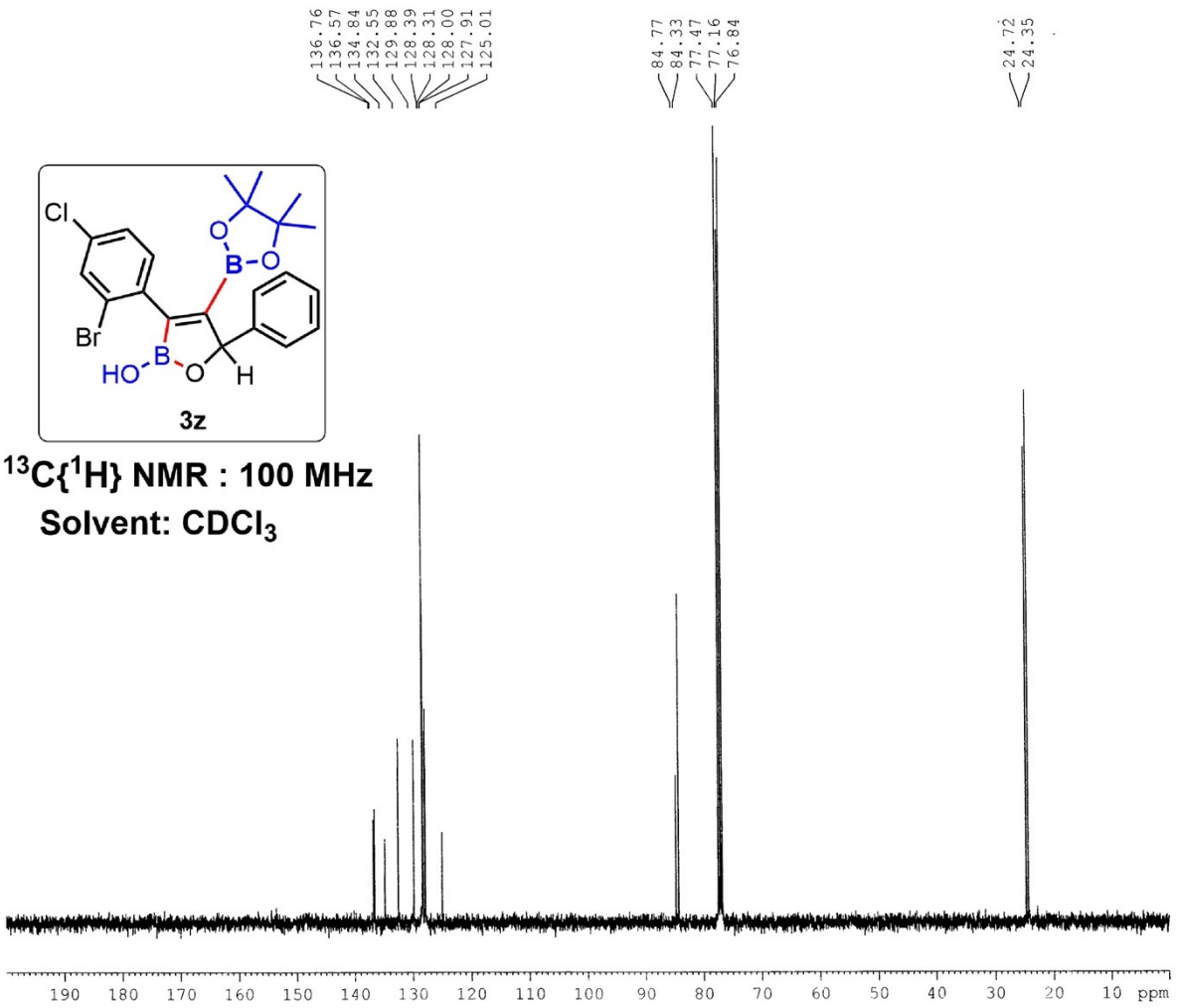
Solvent: $CDCl_3$

```
Current Data Parameters
NAME      Dr. A HAJRA 2024 1H
EXPNO                  502
PROCNO                   1

F2 - Acquisition Parameters
Date_             20240618
Time                 13.24
INSTRUM              spect
PROBHD   5 mm PABBO BB/
PULPROG               zg30
TD                   32768
SOLVENT              CDCl3
NS                       8
DS                       2
SWH               8223.685 Hz
FIDRES            0.250967 Hz
AQ                1.9922944 sec
RG                   93.46
DW                  60.800 usec
DE                   6.50 usec
TE                  295.4 K
D1              1.00000000 sec
TD0                      1

======== CHANNEL f1 ========
SFO1          400.1524711 MHz
NUC1                    1H
P1                   14.75 usec
PLW1          12.00000000 W

F2 - Processing parameters
SI                   16384
SF            400.1500097 MHz
WDW                     EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```



BRUKER

```
Current Data Parameters
NAME      Dr. A HAJRA-2024-13C
EXPNO                  188
PROCNO                   1

F2 - Acquisition Parameters
Date_           20240618
Time              13.41
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD               32768
SOLVENT          CDCl3
NS                 320
DS                   2
SWH          24038.461 Hz
FIDRES        0.733596 Hz
AQ            0.6815744 sec
RG               93.46
DW               20.800 usec
DE                6.50 usec
TE              295.6 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                  1

======== CHANNEL f1 ========
SFO1        100.6278588 MHz
NUC1              13C
P1                8.90 usec
PLW1       54.00000000 W

======== CHANNEL f2 ========
SFO2        400.1516006 MHz
NUC2              1H
CPDPRG[2        waltz16
PCPD2            90.00 usec
PLW2       12.00000000 W
PLW12       0.32231000 W
PLW13       0.16212000 W

F2 - Processing parameters
SI               16384
SF          100.6177859 MHz
WDW                EM
SSB       0
LB               1.00 Hz
GB        0
PC               1.40
```