# Electronic Supplementary Information

## Palladium-Catalyzed Intramolecular Oxidative Annulation: Synthesis of *o*-Carboranoxazole

Hui Rao,[‡,a,b] Hairui Jia, [‡,a,b] Zaozao Qiu,[*,b,c] and Zuowei Xie[b,d]

[a]*School of Materials and Chemistry, University of Shanghai for Science and Technology, Shanghai 200093, China*

[b]*Shanghai-Hong Kong Joint Laboratory in Chemical Synthesis, Shanghai Institute of Organic Chemistry, University of Chinese Academy of Sciences, Chinese Academy of Sciences, Shanghai 200032, China*

[c]*Innovation Institute of Carbon Neutrality, International Joint Laboratory of Catalytic Chemistry, Department of Chemistry, College of Sciences, Shanghai University, Shanghai 200444, China*

[d]*Shenzhen Grubbs Institute and Department of Chemistry, Southern University of Science and Technology, Shenzhen 518055, China*

[‡]*These authors contributed equally to this work.*

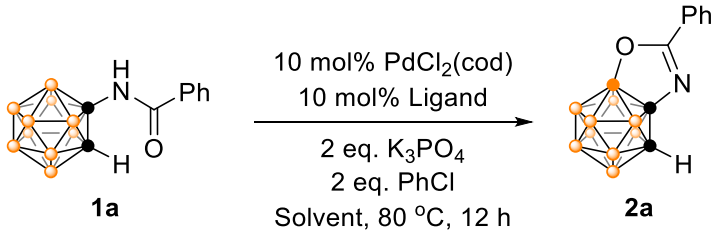
*E-mail: qiuzz@sioc.ac.cn*

### Table of Contents

**General Procedures.**

All reactions were carried out in oven-dried glassware under an atmosphere of dry $N_2$ with the rigid exclusion of air and moisture using standard Schlenk techniques or in a glovebox. Toluene was purified by solvent purification system prior to use. 1-Amino-*o*-carboranes were prepared according to literature procedures.[1] All other chemicals were purchased from either Aldrich or J&K Chemical Co. and used as received unless otherwise specified. $^{1}$H NMR spectra were recorded on a Bruker/Agilent/Varian 400 spectrometer at 400 MHz. $^{13}C\{^{1}H\}$, $^{11}$B and $^{19}$F NMR spectra were recorded on a Bruker/Agilent/Varian 400 spectrometer at 101, 128 and 376 MHz, respectively. All signals were reported in ppm unit with references to the residual solvent resonances of the deuterated solvents for proton and carbon chemical shifts, to external $BF_3{\cdot}OEt_2$ (0.00) for boron chemical shifts and to external $CFCl_3$ (0.00) for fluorine chemical shifts. Mass spectra were obtained on Thermo Fisher Scientific LTQ FTICR-MS spectrometer, Shanghai Institute of Organic Chemistry, CAS. The melting points of solid compounds were determined by a melting point apparatus without corrections (Shanghai INESA Physico-Optical Instrument Co., LTD).

**Table S1. Optimization of Reaction Solvents and Ligands[a]**

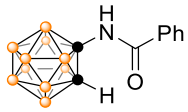



| Entry | Ligand | Solvent | Yield (%)[b] |
|---|---|---|---|
| 1 | - | Toluene | 33 |
| 2 | $PCy_3$ | Toluene | 94 |
| 3 | $P^nBu_3$ | Toluene | 93 |
| 4 | $P(OMe)_3$ | Toluene | N.R. |
| 5 | $PPh_3$ | Toluene | trace |
| 6 | P(*o*-OMe-$C_6H_4$)$_3$ | Toluene | N.R. |
| 7 | $PCy_3$ | $Et_2O$ | 62 |
| 8 | $PCy_3$ | THF | 35 |
| 9 | $PCy_3$ | MeCN | N.R. |
| 10 | $PCy_3$ | HFIP | N.R. |
| 11 | $PCy_3$ | DCE | N.R. |
| 12 | $PCy_3$ | PhCl | trace |

[a] Reactions were conducted on 0.2 mmol scale in 4.0 mL of solvent. [b] Yield determined by $^1$H NMR using 1,1,2,2-tetrachloroethane as the internal standard.

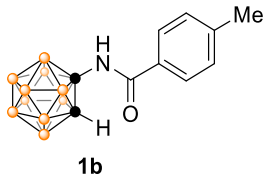
**A Representative Procedure for the Preparation of Starting Materials 1a-z**.

According to the literature procedure,[2] to a toluene solution (15 mL) of 1-amino-2-substituted-*o*-carborane (5.0 mmol) was added pyridine (1.2 mL, 15.0 mmol) and acyl chloride (15.0 mmol) successively under an atmosphere of dry nitrogen. The reaction flask was closed and the mixture was stirred at 80 °C for 12 h. After hydrolysis with water (20 mL) and extraction with diethyl ether (20 mL x 3), the organic portions were combined, dried over anhydrous $Na_2SO_4$ and concentrated to dryness in vacuo. The residue was subjected to flash column chromatography on silica gel (230-400 mesh) using *n*-hexane and ethyl acetate (3/1 in v/v) as eluent to give the products **1a-z**.



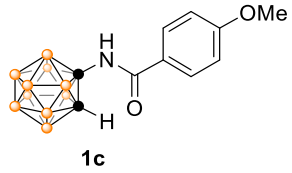
**1a**

**1a**: White solid. 88% yield. M.p. = 162-163 °C. TLC: $R_f$ = 0.30 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 7.66 (d, $J$ = 8.0 Hz, 2H), 7.59 (t, $J$ = 7.6 Hz, 1H), 7.48 (t, $J$ = 7.6 Hz, 2H) (aromatic C*H*), 6.88 (s, 1H) (N*H*), 5.28 (s, 1H) (cage C*H*). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 165.1 (*C*=O), 133.3, 131.9, 129.2, 127.2 (aromatic *C*), 78.8, 59.2 (cage *C*). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ -4.1 (d, $J$ = 153.6 Hz, 1B), -7.0 (d, $J$ = 142.1 Hz, 1B), -10.9 (d, $J$ = 149.8 Hz, 6B), -13.7 (d, $J$ = 169.0 Hz, 2B) (*B*H). HRMS (DART) Calcd for $C_9H_{18}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 264.2386, Found: 264.2386.



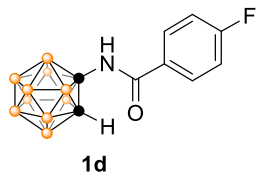
**1b**

**1b**: White solid. 90% yield. M.p. = 156-157 °C. TLC: $R_f$ = 0.32 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 7.55 (d, $J$ = 8.0 Hz, 2H), 7.25 (d, $J$ = 8.0 Hz, 2H) (aromatic C*H*), 6.95 (s, 1H) (N*H*), 5.24 (s, 1H) (cage C*H*), 2.41 (s, 3H) (C*H*$_3$). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 165.8 (*C*=O), 144.1, 129.8, 129.5, 127.2 (aromatic *C*), 79.0, 59.8 (cage *C*), 21.7 (*C*H$_3$). $^{11}$B NMR ($CDCl_3$, 128 M Hz): $\delta$ -4.1 (d, $J$ = 153.6 Hz, 1B), -7.0 (d, $J$ = 140.8 Hz, 1B), -10.9 (d, $J$ = 148.5 Hz, 6B), -13.7 (d, $J$ = 170.2 Hz, 2B) (*B*H). HRMS (ESI) Calcd for $C_{10}H_{18}{}^{10}B_2{}^{11}B_8NO^-$ [M-H$^+$]: 276.2397, Found: 276.2389.



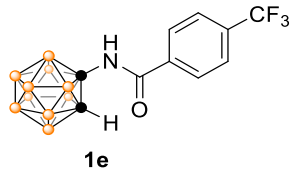
**1c**

**1c**: White solid. 80% yield. M.p. = 150-151 °C. TLC: $R_f$ = 0.15 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 7.64 (d, $J$ = 9.2 Hz, 2H), 6.94 (d, $J$ = 8.8 Hz, 2H) (aromatic C*H*), 6.79 (s, 1H) (N*H*), 5.28 (s, 1H) (cage C*H*), 3.86 (s, 3H) (OC*H*$_3$). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 165.2 (*C*=O), 163.6, 129.3, 124.4, 114.4 (aromatic *C*), 79.1, 59.8 (cage *C*), 55.7 (O*C*H$_3$). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ -4.1 (d, $J$ = 144.6 Hz, 1B), -7.1 (d, $J$ = 145.9 Hz, 1B), -10.9 (d, $J$ = 148.5 Hz, 6B), -13.6 (d, $J$ = 217.6 Hz, 2B) (*B*H). HRMS (ESI) Calcd for $C_{10}H_{18}{}^{10}B_2{}^{11}B_8NO_2^-$ [M-H$^+$]: 292.2355, Found: 292.2343.



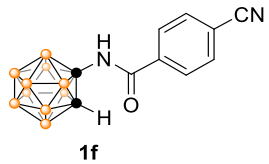
**1d**

**1d**: White solid. 50% yield. M.p. = 164-165 °C. TLC: $R_f$ = 0.31 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 7.69 (dd, $J$ = 8.4, 4.8 Hz, 2H), 7.28 (t, $J$ = 8.4 Hz, 2H) (aromatic C*H*), 6.84 (s, 1H) (N*H*), 5.24 (s, 1H) (cage C*H*). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 164.7 (*C*=O), 165.7 (d, $^1J_{C\text{-}F}$ = 255.6 Hz), 129.9 (d, $^3J_{C\text{-}F}$ = 9.1 Hz), 128.6 (d, $^4J_{C\text{-}F}$ = 3.0 Hz),116.4 (d, $^2J_{C\text{-}F}$ = 22.1 Hz) (aromatic *C*), 78.7, 59.7 (cage *C*). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ -4.0 (d, $J$ = 152.3 Hz, 1B), -6.9 (d, $J$ = 147.2 Hz, 1B), -10.8 (d, $J$ = 148.5 Hz, 6B), -13.6 (d, $J$ = 175.4 Hz, 2B) (*B*H). $^{19}$F NMR (377 MHz, $CDCl_3$): $\delta$ -104.6 (m,1F). HRMS (ESI) Calcd for $C_9H_{15}{}^{10}B_2{}^{11}B_8FNO^-$ [M-H$^+$]: 280.2146, Found: 280.2139.



**1e**

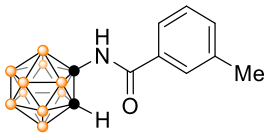
**1e**: White solid. 78% yield. M.p. = 184-185 °C. TLC: $R_f$ = 0.40 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR (400 MHz, acetone-$d_6$): $\delta$ 7.78 (d, $J$ = 8.4 Hz, 2H), 7.73 (d, $J$ = 8.0 Hz, 2H) (aromatic C*H*), 6.97 (s, 1H) (N*H*), 5.22 (s, 1H) (cage C*H*). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 164.8 (*C*=O), 135.7, 134.8 (q, $^2J_{C\text{-}F}$ = 32.2 Hz), 127.8, 126.2 (q, $^3J_{C\text{-}F}$ = 4.0 Hz) (aromatic *C*), 123.4 (q, $^1J_{C\text{-}F}$ = 272.7 Hz) (*C*F$_3$), 78.4, 59.8 (cage *C*). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ -3.9 (d, $J$ = 156.2 Hz, 1B), -6.7 (d, $J$ = 149.8 Hz, 1B), -10.8 (d, $J$ = 145.9 Hz, 6B), -13.6 (d, $J$ = 177.9 Hz, 2B) (*B*H). $^{19}$F NMR (377 MHz, $CDCl_3$): $\delta$ -63.2 (s, 3F). HRMS (ESI) Calcd for $C_{10}H_{15}{}^{10}B_2{}^{11}B_8F_3NO^-$ [M-H$^+$]: 330.2114, Found: 330.2108.



**1f**

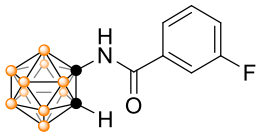
**1f**: White solid. 92% yield. M.p. = 159-160 °C. TLC: $R_f$ = 0.10 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR (400 MHz, acetone-$d_6$): $\delta$ 9.50 (s, 1H) (N*H*), 7.98 (d, $J$ = 8.0 Hz, 2H), 7.91 (d, $J$ = 8.4 Hz, 2H) (aromatic C*H*), 5.42 (s, 1H) (cage C*H*). $^{13}$C{$^1$H} NMR (acetone-$d_6$, 101 MHz): $\delta$ 165.2 (*C*=O), 137.2, 132.3, 128.7, 117.7, 115.6 (aromatic *C* and *C*N), 79.9, 63.8 (cage *C*). $^{11}$B NMR (THF, 128 MHz): $\delta$ -4.3 (d, $J$ = 147.2 Hz, 1B), -6.9 (m, 1B), -11.1 (d, $J$ = 152.3 Hz, 6B), -13.8 (m, 2B) (*B*H). HRMS (ESI) Calcd for

$C_{10}H_{15}{}^{10}B_2{}^{11}B_8N_2O^-$ [M-$H^+$]: 287.2193, Found: 287.2186.



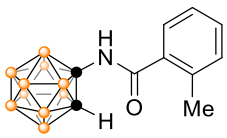
**1g**

**1g**: White solid. 92% yield. M.p. = 157-159 °C. TLC: $R_f$ = 0.35 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 7.47 (s, 1H), 7.44 (d, $J$ = 7.2 Hz, 1H), 7.37 (m, 2H) (aromatic C*H*), 6.86 (s, 1H) (N*H*), 5.27 (s, 1H) (cage C*H*), 2.41 (s, 3H) (C$H_3$). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 166.1 (*C*=O), 139.2, 134.0, 132.4, 129.0, 127.9, 124.2 (aromatic *C*), 78.9, 59.8 (cage *C*), 21.4 (*C*$H_3$). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ -4.1 (d, $J$ = 149.8 Hz, 1B), -7.1 (d, $J$ = 139.5 Hz, 1B), -10.9 (d, $J$ = 152.3 Hz, 6B), -13.7 (d, $J$ = 171.5 Hz, 2B) (*B*H). HRMS (DART) Calcd for $C_{10}H_{20}{}^{10}B_2{}^{11}B_8NO^+$ [M+$H^+$]: 278.2543, Found: 278.2543.



**1h**

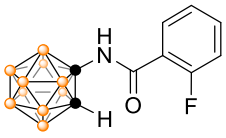
**1h**: White solid. 82% yield. M.p. = 147-148 °C. TLC: $R_f$ = 0.30 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 7.43 (m, 3H), 7.30 (m, 1H) (aromatic C*H*), 6.91 (s, 1H) (N*H*), 5.22 (s, 1H) (cage C*H*). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 164.6 (d, $^4J_{C\text{-}F}$ = 3.0 Hz) (*C*=O), 162.9 (d, $^1J_{C\text{-}F}$ = 249.6 Hz), 134.5 (d, $^3J_{C\text{-}F}$ = 7.0 Hz), 131.0 (d, $^3J_{C\text{-}F}$ = 8.1 Hz), 122.6 (d, $^4J_{C\text{-}F}$ = 3.0 Hz), 120.4 (d, $^2J_{C\text{-}F}$ = 21.1 Hz), 114.8 (d, $^2J_{C\text{-}F}$ = 23.1 Hz) (aromatic *C*) 78.5, 59.7 (cage *C*). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ -4.0 (d, $J$ = 142.1 Hz, 1B), -6.7 (d, $J$ = 151.0 Hz, 1B), -10.8 (d, $J$ = 151.0 Hz, 6B), -13.6 (d, $J$ = 169.0 Hz, 2B) (*B*H). $^{19}$F NMR (377 MHz, $CDCl_3$): $\delta$ -110.1 (m, 1F). HRMS (ESI) Calcd for $C_9H_{15}{}^{10}B_2{}^{11}B_8FNO^-$ [M-$H^+$]: 280.2146, Found: 280.2139.



**1i**

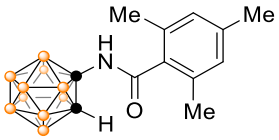
**1i**: White solid. 91% yield. M.p. = 157-159 °C. TLC: $R_f$ = 0.30 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 7.43 (m, 1H), 7.30 (m, 3H) (aromatic C*H*), 6.74 (s, 1H) (N*H*), 5.32 (s, 1H) (cage C*H*), 2.44 (s, 3H) (C$H_3$). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 168.1 (*C*=O), 136.7, 133.8, 131.7, 131.5, 126.7, 126.3 (aromatic *C*), 78.6, 59.4 (cage *C*), 19.8 (*C*$H_3$). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ -4.1 (d, $J$ = 151.0

Hz, 1B), -7.0 (d, $J$ = 143.4 Hz, 1B), -10.9 (d, $J$ = 147.2 Hz, 6B), -13.6 (d, $J$ = 166.4 Hz, 2B) (*B*H). HRMS (ESI) Calcd for $C_{10}H_{18}{}^{10}B_2{}^{11}B_8NO^-$ [M-H$^+$]: 276.2397, Found: 276.2389.



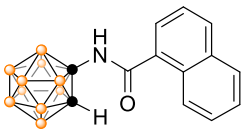
**1j**

**1j**: White solid. 65% yield. M.p. = 121-122 ºC. TLC: $R_f$ = 0.30 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 8.01 (td, $J$ = 8.0, 2.0 Hz, 1H), 7.57 (m, 1H), 7.31 (t, $J$ = 7.6 Hz, 1H), 7.16 (dd, $J$ = 12.8, 8.4 Hz, 1H) (aromatic C*H*), 7.64 (s, 1H) (N*H*), 5.18 (s, 1H) (cage C*H*). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 161.7 (d, $^3J_{C\text{-}F}$ = 3.0 Hz) (*C*=O), 160.4 (d, $^1J_{C\text{-}F}$ = 247.6 Hz), 135.2 (d, $^3J_{C\text{-}F}$ = 9.1 Hz), 132.1 (d, $^4J_{C\text{-}F}$ = 1.0 Hz), 125.5 (d, $^3J_{C\text{-}F}$ = 3.0 Hz), 119.0 (d, $^2J_{C\text{-}F}$ = 10.1 Hz), 116.5 (d, $^2J_{C\text{-}F}$ = 25.2 Hz) (aromatic *C*), 78.4, 60.3 (cage *C*). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ -3.9 (d, $J$ = 149.8 Hz, 1B), -6.8 (d, $J$ = 145.9 Hz, 1B), -10.8 (d, $J$ = 151.0 Hz, 6B), -13.7 (d, $J$ = 172.8 Hz, 2B) (*B*H). $^{19}$F NMR (377 MHz, $CDCl_3$): $\delta$ -112.6 (m,1F). HRMS (ESI) Calcd for $C_9H_{15}{}^{10}B_2{}^{11}B_8FNO^-$ [M-H$^+$]: 280.2146, Found: 280.2139.



**1k**

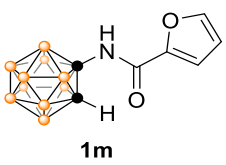
**1k**: White solid. 20% yield. M.p. = 231-232 ºC. TLC: $R_f$ = 0.47 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 6.85 (s, 2H) (aromatic C*H*), 6.54 (s, 1H) (N*H*), 5.41 (s, 1H) (cage C*H*), 2.28 (s, 3H), 2.22 (s, 6H) (C*H*$_3$). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz) $\delta$ 169.4 (*C*=O), 140.1, 134.1, 132.5, 128.6 (aromatic *C*), 78.3, 59.2 (cage *C*) 21.3, 18.9 (*C*H$_3$). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ -4.2 (d, $J$ = 151.0 Hz, 1B), -6.9 (d, $J$ = 134.4 Hz, 1B), -10.8 (d, $J$ = 143.4 Hz, 6B), -13.6 (d, $J$ = 203.5 Hz, 2B) (*B*H). HRMS (ESI) Calcd for $C_{12}H_{22}{}^{10}B_2{}^{11}B_8NO^-$ [M-H$^+$]: 304.2710, Found: 304.2704.



**1l**

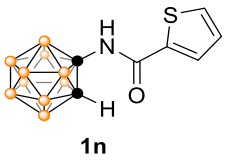
**1l**: White solid. 85% yield. M.p. = 188-189 ºC. TLC: $R_f$ = 0.25 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 8.13 (d, $J$ = 6.8 Hz, 1H), 7.99 (d, $J$ = 8.0 Hz, 1H), 7.90 (d, $J$ = 7.2 Hz, 1H), 7.58 (m, 3H), 7.48 (t, $J$ = 7.2 Hz 1H) (aromatic

C*H*), 6.84 (s, 1H) (N*H*), 5.40 (s, 1H) (cage C*H*). $^{13}C\{^{1}H\}$ NMR ($CDCl_3$, 101 MHz): $\delta$ 167.8 (*C*=O), 133.7, 132.4, 131.5, 129.7, 128.8, 128.1, 127.1, 125.7, 124.6, 124.4 (aromatic *C*), 78.6, 59.6 (cage *C*). $^{11}B$ NMR ($CDCl_3$, 128 MHz): $\delta$ -5.0 (d, $J$ = 145.9 Hz, 1B), -7.9 (d, $J$ = 152.3 Hz, 1B), -11.9 (d, $J$ = 129.3 Hz, 6B), -14.7 (d, $J$ = 181.8 Hz, 2B) (*B*H). HRMS (ESI) Calcd for $C_{13}H_{18}{}^{10}B_2{}^{11}B_8NO^-$ [M-$H^+$]: 312.2397, Found: 312.2395.



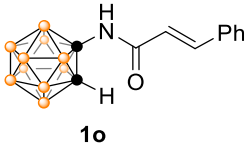
**1m**

**1m**: White solid. 82% yield. M.p. = 132-133 °C. TLC: $R_f$ = 0.10 (*n*-hexane:ethyl acetate = 10:1). $^{1}H$ NMR ($CDCl_3$, 400 MHz): $\delta$ 7.50 (d, $J$ = 1.6 Hz, 1H), 7.20 (d, $J$ = 3.6 Hz, 1H), 6.56 (dd, $J$ = 3.6, 2.0 Hz, 1H) (aromatic C*H*), 7.12 (s, 1H) (N*H*), 5.11 (s, 1H) (cage C*H*). $^{13}C\{^{1}H\}$ NMR ($CDCl_3$, 101 MHz): $\delta$ 155.9 (*C*=O), 145.5, 145.4, 145.4, 117.4, 113.2 (aromatic *C*), 78.3, 60.1 (cage *C*). $^{11}B$ NMR ($CDCl_3$, 128 MHz): $\delta$ -4.0 (d, $J$ = 151.0 Hz, 1B), -6.9 (d, $J$ = 145.9 Hz, 1B), -10.8 (d, $J$ = 148.5 Hz, 6B), -13.7 (d, $J$ = 172.8 Hz, 2B) (*B*H). HRMS (ESI) Calcd for $C_7H_{14}{}^{10}B_2{}^{11}B_8NO_2^-$ [M-$H^+$]: 252.2033, Found: 252.2025.



**1n**

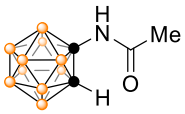
**1n**: White solid. 90% yield. M.p. = 151-152 °C. TLC: $R_f$ = 0.15 (*n*-hexane:ethyl acetate = 10:1). $^{1}H$ NMR ($CDCl_3$, 400 MHz): $\delta$ 7.61 (m, 1H), 7.50 (m, 1H), 7.12 (m, 1H) (aromatic C*H*), 6.79 (s, 1H) (N*H*), 5.18 (s, 1H) (cage C*H*). $^{13}C\{^{1}H\}$ NMR ($CDCl_3$, 101 MHz): $\delta$ 160.0 (*C*=O), 136.3, 132.8, 129.8, 128.3 (aromatic *C*), 78.6, 60.0 (cage *C*). $^{11}B$ NMR ($CDCl_3$, 128 MHz): $\delta$ -4.0 (d, $J$ = 152.3 Hz, 1B), -6.9 (d, $J$ = 148.5 Hz, 1B), -10.8 (d, $J$ = 151.0 Hz, 6B), -13.6 (d, $J$ = 167.7 Hz, 2B) (*B*H). HRMS (ESI) Calcd for $C_7H_{14}{}^{10}B_2{}^{11}B_8NOS^-$ [M-$H^+$]: 268.1805, Found: 268.1798.



**1o**

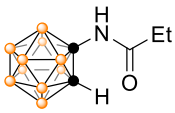
**1o**: White solid. 88% yield. M.p. = 116-117 °C. TLC: $R_f$ = 0.23 (*n*-hexane:ethyl acetate = 10:1). $^{1}H$ NMR ($CDCl_3$, 400 MHz): $\delta$ 7.67 (d, $J$ = 16.0 Hz, 1H) (alkenyl C*H*), 7.46 (m, 2H), 7.37 (m, 3H) (aromatic C*H*), 6.40 (d, $J$ = 16.0 Hz, H) (alkenyl C*H*), 5.11 (s, 1H) (cage C*H*).

$^{13}C\{^{1}H\}$ NMR ($CDCl_3$, 101 MHz): $\delta$ 164.3 (*C*=O), 145.2, 133.8, 131.0, 129.2, 128.3, 118.1 (aromatic *C* and alkenyl *C*), 78.8, 59.9 (cage *C*). $^{11}B$ NMR ($CDCl_3$, 128 MHz): $\delta$ -4.0 (d, $J$ = 147.2 Hz, 1B), -6.8 (d, $J$ = 138.2 Hz, 1B), -10.8 (d, $J$ = 151.0 Hz, 6B), -13.6 (d, $J$ = 170.2 Hz, 2B) (*B*H). HRMS (ESI) Calcd for $C_{11}H_{18}{}^{10}B_2{}^{11}B_8NO^-$ [M-$H^+$]: 288.2397, Found: 288.2394.



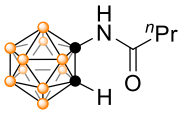
**1p**

**1p**: is a known compound and its $^{1}H$ NMR data are the same as the reported one.[2] White solid. 76% yield. M.p. = 178-179 °C.$^{1}H$ NMR ($CDCl_3$, 400 MHz): 6.50 (s, 1H) (N*H*), 5.07 (s, 1H) (cage C*H*), 1.99 (s, 3H) (C$H_3$).



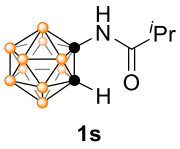
**1p**

**1q**: White solid. 88% yield. M.p. = 129-131 °C. TLC: $R_f$ = 0.10 (*n*-hexane:ethyl acetate = 10:1). $^{1}H$ NMR ($CDCl_3$, 400 MHz): $\delta$ 6.40 (s, 1H) (N*H*), 5.09 (s, 1H) (cage C*H*), 2.18 (q, $J$ = 7.6 Hz, 2H) (C$H_2$), 1.12 (t, $J$ = 7.6 Hz, 3H) (C$H_3$). $^{13}C\{^{1}H\}$ NMR ($CDCl_3$, 101 MHz): $\delta$ 172.2 (*C*=O), 78.5, 59.7 (cage *C*), 30.0 (*C*$H_2$), 9.1 (*C*$H_3$). $^{11}B$ NMR ($CDCl_3$, 128 MHz): $\delta$ -4.1 (d, $J$ = 147.2 Hz, 1B), -7.1 (d, $J$ = 140.8 Hz, 1B), -11.0 (d, $J$ = 151.0 Hz, 6B), -13.8 (d, $J$ = 169.0 Hz, 2B) (*B*H). HRMS (ESI) Calcd for $C_5H_{16}{}^{10}B_2{}^{11}B_8NO^-$ [M-$H^+$]: 214.2241, Found: 214.2230.



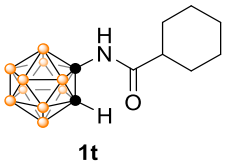
**1r**

**1r**: White solid. 80% yield. M.p. = 116-117 °C. TLC: $R_f$ = 0.16 (*n*-hexane:ethyl acetate = 10:1). $^{1}H$ NMR ($CDCl_3$, 400 MHz): $\delta$ 6.57 (s, 1H) (N*H*), 5.08 (s, 1H) (cage C*H*), 2.13 (t, $J$ = 7.2 Hz, 2H), 1.62 (m, 2H), 0.93 (t, $J$ = 7.2 Hz, 3H) (alkyl *H*). $^{13}C\{^{1}H\}$ NMR ($CDCl_3$, 101 MHz): $\delta$ 171.8 (*C*=O), 78.5, 59.8 (cage *C*), 38.7 (*C*$H_2$), 18.7 (*C*$H_2$), 13.5 (*C*$H_3$). $^{11}B$ NMR ($CDCl_3$, 128 MHz): $\delta$ -4.2 (d, $J$ = 147.2 Hz, 1B), -7.1 (d, $J$ = 152.3 Hz, 1B), -11.0 (d, $J$ = 147.2 Hz, 6B), -13.8 (d, $J$ = 167.9 Hz, 2B) (*B*H). HRMS (DART) Calcd for $C_6H_{20}{}^{10}B_2{}^{11}B_8NO^-$ [M+$H^+$]: 230.2543, Found: 230.2541.



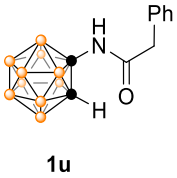
**1s**

**1s**: White solid. 52% yield. M.p. = 151-152 °C. TLC: $R_f$ = 0.18 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 6.31 (s, 1H) (N*H*), 5.14 (s, 1H) (cage C*H*), 2.26 (m, 1H), 1.12 (d, $J$ = 6.8 Hz, 6H) (alkyl *H*). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 175.5 (*C*=O), 78.6, 59.5 (cage *C*), 36.1 (*C*H), 19.1 (*C*H$_3$). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ -4.2 (d, $J$ = 144.6 Hz, 1B), -7.1 (d, $J$ = 142.1 Hz, 1B), -11.0 (d, $J$ = 152.3 Hz, 6B), -13.7 (d, $J$ = 170.2 Hz, 2B) (*B*H). HRMS (ESI) Calcd for $C_6H_{18}{}^{10}B_2{}^{11}B_8NO^-$ [M-H$^+$]: 228.2397, Found: 228.2389.



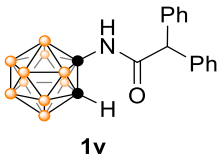
**1t**

**1t**: White solid. 88% yield. M.p. = 151-152 °C. TLC: $R_f$ = 0.40 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 6.30 (s, 1H) (N*H*), 5.15 (s, 1H) (cage C*H*), 1.98 (m, 1H), 1.78 (m, 3H), 1.68 (m, 2H), 1.37 (m, 2H), 1.23 (m, 3H) (alkyl *H*). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 174.7 (*C*=O), 78.7, 59.6 (cage *C*), 45.6 (*C*H), 29.2, 25.5, 25.4 (*C*H$_2$). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ -4.3 (d, $J$ = 145.9 Hz, 1B), -7.3 (d, $J$ = 142.1 Hz, 1B), -11.1 (d, $J$ = 152.3 Hz, 6B), -13.8 (d, $J$ = 170.2 Hz, 2B) (*B*H). HRMS (ESI) Calcd for $C_9H_{22}{}^{10}B_2{}^{11}B_8NO^-$ [M-H$^+$]: 268.2710, Found: 268.2705.



**1u**

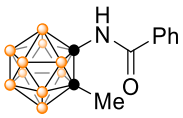
**1u**: White solid. 95% yield. M.p. = 153-154 °C. TLC: $R_f$ = 0.18 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 7.37 (m, 3H), 7.18 (d, $J$ = 7.6 Hz, 2H) (aromatic C*H*), 6.32 (s, 1H) (N*H*), 5.04 (s, 1H) (cage C*H*), 3.53 (s, 2H) (C*H*$_2$). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 169.4 (*C*=O), 132.8, 129.6, 129.3, 128.4 (aromatic *C*), 78.4, 59.4 (cage *C*), 43.9 (*C*H$_2$). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ -4.2 (d, $J$ = 147.2 Hz, 1B), -7.1 (d, $J$ = 140.8 Hz, 1B), -11.0 (d, $J$ = 147.2 Hz, 6B), -13.8 (d, $J$ = 167.8 Hz, 2B) (*B*H). HRMS (ESI) Calcd for $C_{10}H_{18}{}^{10}B_2{}^{11}B_8NO^-$ [M-H$^+$]: 276.2397, Found: 276.2392.



**1v**

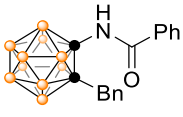
**1v**: White solid. 31% yield. M.p. = 126-128 °C. TLC: $R_f$ = 0.29 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 7.36 (m, 6H), 7.18 (d, $J$ = 6.8 Hz, 4H) (aromatic C*H*), 6.49 (s, 1H)

(N*H*), 5.13 (s, 1H) (cage C*H*), 4.82 (s, 1H) (C*H*). $^{13}C\{^{1}H\}$ NMR ($CDCl_3$, 101 MHz): $\delta$ 170.7 (*C*=O), 137.6, 129.3, 128.7, 128.2 (aromatic *C*), 78.5, 59.3 (cage *C*), 59.1 (*C*H). $^{11}B$ NMR ($CDCl_3$, 128 MHz): $\delta$ -4.1 (d, $J$ = 148.5 Hz, 1B), -7.0 (d, $J$ = 137.0 Hz, 1B), -10.9 (d, $J$ = 143.4 Hz, 6B), -13.7 (d, $J$ = 169.0 Hz, 2B) (*B*H). HRMS (ESI) Calcd for $C_{16}H_{22}{}^{10}B_2{}^{11}B_8NO^-$ [M-H$^+$]: 352.2710, Found: 352.2703.



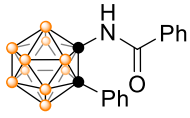
**1w**

**1w**: White solid. 87% yield. M.p. = 147-148 °C. TLC: $R_f$ = 0.17 (*n*-hexane:ethyl acetate = 10:1). $^{1}H$ NMR ($CDCl_3$, 400 MHz): $\delta$ 8.12 (d, $J$ = 7.2 Hz, 1H), 7.74 (d, $J$ = 8.0 Hz, 1H), 7.62 (m, 1H), 7.50 (m, 2H) (aromatic C*H*), 7.05 (s, 1H) (N*H*), 2.04 (s, 3H) (C$H_3$). $^{13}C\{^{1}H\}$ NMR ($CDCl_3$, 101 MHz): $\delta$ 165.5 (*C*=O), 133.3, 132.7, 129.3, 127.3 (aromatic *C*), 82.2, 78.8 (cage *C*), 22.5 (*C*H$_3$). $^{11}B$ NMR ($CDCl_3$, 128 MHz): $\delta$ -7.1 (d, $J$ = 143.4 Hz, 2B), -12.0 (m, 8B) (*B*H). HRMS (ESI) Calcd for $C_{10}H_{18}{}^{10}B_2{}^{11}B_8NO^-$ [M-H$^+$]: 276.2397, Found: 276.2390.



**1x**

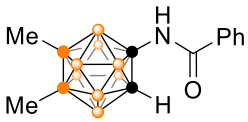
**1x**: White solid. 45% yield. M.p. = 149-150 °C. TLC: $R_f$ = 0.18 (*n*-hexane:ethyl acetate = 10:1). $^{1}H$ NMR ($CDCl_3$, 400 MHz): $\delta$ 7.79 (d, $J$ = 7.2 Hz, 2H), 7.64 (t, $J$ = 7.2 Hz, 1H), 7.53 (t, $J$ = 8.0 Hz, 2H), 7.31 (m, 3H) (aromatic C*H*), 7.18 (s, 1H) (N*H*), 7.13 (m, 2H) (aromatic C*H*), 3.49 (s, 2H) (C$H_2$). $^{13}C\{^{1}H\}$ NMR ($CDCl_3$, 101 MHz): $\delta$ 165.5 (*C*=O), 134.9, 133.4, 132.6, 130.3, 129.3, 128.8, 128.7, 128.2, 127.3 (aromatic *C*), 83.8, 83.4 (cage *C*), 40.7(*C*H$_2$). $^{11}B$ NMR ($CDCl_3$, 128 MHz): $\delta$ -5.0 (d, $J$ = 90.9 Hz, 1B), -5.7 (d, $J$ = 101.1 Hz, 1B), -11.4 (d, $J$ = 134.4 Hz, 8B) (*B*H). HRMS (DART) Calcd for $C_{16}H_{24}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 354.2856, Found: 354.2855.



**1y**

**1y**: White solid. 85% yield. M.p. = 151-152 °C. TLC: $R_f$ = 0.18 (*n*-hexane:ethyl acetate = 10:1). $^{1}H$ NMR ($CDCl_3$, 400 MHz): $\delta$ 7.71 (d, $J$ = 8.0 Hz, 2H), 7.47 (q, $J$ = 7.6 Hz, 2H), 7.40 (m, 2H), 7.28 (m, 2H), 7.10 (d, $J$ = 7.6 Hz, 2H) (aromatic C*H*), 6.91 (s, 1H) (N*H*). $^{13}C\{^{1}H\}$ NMR ($CDCl_3$, 101 MHz): $\delta$ 166.1 (*C*=O), 133.0, 132.9, 131.4, 131.1, 130.4, 129.1, 129.0,

127.0 (aromatic *C*), 88.0, 85.5 (cage *C*). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ -3.7 (d, $J$ = 144.6 Hz, 1B), -4.8 (d, $J$ = 137.0 Hz, 1B), -10.8 (m, 8B) (*B*H). HRMS (ESI) Calcd for $C_{15}H_{20}{}^{10}B_2{}^{11}B_8NO^-$ [M-H$^+$]: 338.2554, Found: 338.2548.

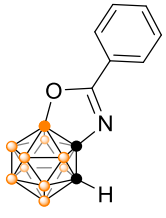


**1z**

**1z**: White solid. 60% yield. M.p. = 156-157 °C. TLC: $R_f$ = 0.29 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 7.66 (d, $J$ = 7.2 Hz, 2H), 7.58 (t, $J$ = 7.6 Hz, 1H), 7.47 (m, 2H) (aromatic C*H*), 6.81 (s, 1H) (N*H*), 5.05 (s, 1H) (cage C*H*), 0.23 (s, 3H), 0.20 (s, 3H) (cage B-C$H_3$). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 165.9 (*C*=O), 133.1, 132.6, 129.2, 127.2 (aromatic *C*), 72.9, 52.9 (cage *C*), the $B_{cage}$-*C* were not observed. $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ -5.0 (s, 1B) (*B*C), -2.3 (s, 1B) (*B*C), -9.9 (d, $J$ = 151.0 Hz, 2B), -12.1 (d, $J$ = 171.5 Hz, 2B), -14.8 (d, $J$ = 148.5 Hz, 4B) (*B*H). HRMS (DART) Calcd for $C_{11}H_{22}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 292.2699, Found: 292.2699.

**General procedure for the synthesis of 2**.

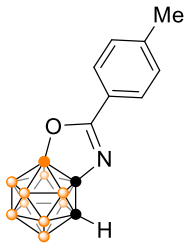
To an oven-dried Schlenk flask equipped with a stir bar was sequentially added **1** (0.2 mmol), $PdCl_2$(cod) (4.3 mg, 0.015 mmol), $PCy_3$ (4.2 mg, 0.015 mmol), $K_3PO_4$ (85.0 mg, 0.4 mmol), PhCl (45.0 mg, 0.4 mmol), and toluene (4 mL). The flask was closed under an atmosphere of nitrogen, then stirred at 80 °C for 12 h. After hydrolysis with water (5 mL) and extraction with diethyl ether (10 mL x 3), the ether solutions were combined, dried over anhydrous $Na_2SO_4$ and concentrated to dryness in vacuo. The residue was subjected to flash column chromatography on silica gel (230-400 mesh) using *n*-hexane as eluent to give product **2**.



**2a**

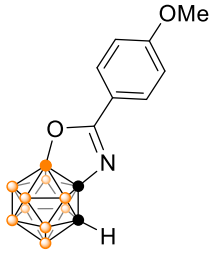
**2a**: White solid. 90% yield. M.p. = 126-127 °C. TLC: $R_f$ = 0.22 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 8.08 (d, $J$ = 8.0 Hz, 2H), 7.59 (t, $J$ = 7.2 Hz, 1H), 7.48 (t, $J$ = 8.0 Hz, 2H) (aromatic C*H*), 4.38 (s, 1H) (cage C*H*). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 181.4 (*C*=N), 133.4, 128.9, 128.8, 128.7 (aromatic *C*),

99.8, 56.8 (cage *C*). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 1.9 (s, 1B) (*B*O), -5.4 (d, $J$ = 151.0 Hz, 1B), -10.2 (d, $J$ = 171.5 Hz, 2B), -13.3 (d, $J$ = 143.4 Hz, 2B), -14.1 (d, $J$ = 120.3 Hz, 1B), -15.6 (d, $J$ = 148.5 Hz, 1B), -16.6 (d, $J$ = 96.0 Hz, 1B), -21.4 (d, $J$ = 166.4 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_9H_{16}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 262.2230, Found: 262.2238.



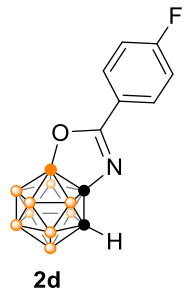
**2b**

**2b**: White solid. 91% yield. M.p. = 182-183 °C. TLC: $R_f$ = 0.22 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 7.95 (d, $J$ = 8.4 Hz, 2H), 7.26 (d, $J$ = 8.0 Hz, 2H) (aromatic C*H*), 4.35 (s, 1H) (cage C*H*), 2.42 (s, 3H) (C$H_3$). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 181.7 (*C*=N), 144.2, 129.5, 128.8, 126.1 (aromatic *C*), 100.1, 56.9 (cage *C*), 21.9 (*C*H$_3$). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 1.9 (s, 1B) (*B*O), -5.5 (d, $J$ = 152.3 Hz, 1B), -10.1 (d, $J$ = 170.2 Hz, 2B), -13.4 (d, $J$ = 135.7 Hz, 2B), -14.2 (d, $J$ = 124.2 Hz, 1B), -15.7 (d, $J$ = 156.2 Hz, 1B), -16.6 (d, $J$ = 107.5 Hz, 1B), -21.4 (d, $J$ = 166.4 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_{10}H_{18}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 276.2386, Found: 276.2388.



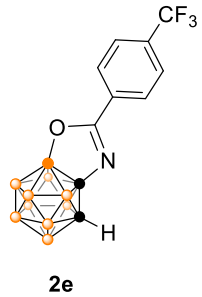
**2c**

**2c**: White solid. 76% yield. M.p. = 188-190 °C. TLC: $R_f$ = 0.1 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 8.01 (d, $J$ = 8.0 Hz, 2H), 6.94 (d, $J$ = 8.0 Hz, 2H) (aromatic C*H*), 4.34 (s, 1H) (cage C*H*), 3.87 (s, 3H) (OC$H_3$). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 181.3 (*C*=N), 163.7, 130.8, 121.3, 114.1 (aromatic *C*), 100.3, 56.9 (cage *C*), 55.7 (O*C*H$_3$). $^{11}$B NMR (acetone-$d_6$, 128 MHz): $\delta$ 1.0 (s, 1B) (*B*O), -6.6, (d, $J$ = 158.7 Hz, 1B), -11.0 (d, $J$ = 171.5 Hz, 2B), -14.5 (d, $J$ = 145.9 Hz, 2B), -15.3 (d, $J$ = 113.9 Hz, 1B), -16.8 (d, $J$ = 140.8 Hz, 1B), -17.6 (d, $J$ = 99.8 Hz, 1B), -22.5 (d, $J$ = 170.2 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_{10}H_{18}{}^{10}B_2{}^{11}B_8NO_2^+$ [M+H$^+$]: 292.2335, Found: 292.2334.



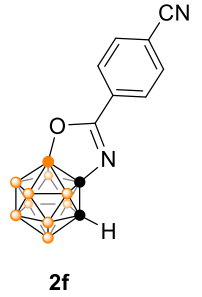
**2d**

**2d**: White solid. 90% yield. M.p. = 125-127 °C. TLC: $R_f$ = 0.23 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 8.08 (dd, $J$ = 8.8, 5.6 Hz, 2H), 7.14 (t, $J$ = 8.4 Hz, 2H) (aromatic C*H*), 4.35 (s, 1H) (cage C*H*). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 180.4 (*C*=N), 165.9 (d, $^1J_{C\text{-}F}$ = 254.6 Hz), 136.3 (d, $^3J_{C\text{-}F}$ = 9.1 Hz), 125.5 (d, $^4J_{C\text{-}F}$ = 3.0 Hz), 116.1 (d, $^2J_{C\text{-}F}$ = 22.1 Hz) (aromatic *C*), 56.9 (cage *C*). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 1.9 (s, 1B) (*B*O), -5.4 (d, $J$ = 152.3 Hz, 1B), -10.2 (d, $J$ = 171.5 Hz, 2B), -13.3 (d, $J$ = 152.3 Hz, 2B), -14.1 (d, $J$ = 111.4 Hz, 1B), -15.7 (d, $J$ = 144.6 Hz, 1B), -16.6 (d, $J$ = 111.4 Hz, 1B), -21.4 (d, $J$ = 166.4 Hz, 1B) (*B*H). $^{19}$F NMR (377 MHz, $CDCl_3$): $\delta$ -104.5 (m, 1F). HRMS (ESI) Calcd for $C_9H_{15}{}^{10}B_2{}^{11}B_8FNO^+$ [M+H$^+$]: 280.2135, Found: 280.2133.



**2e**

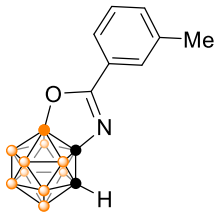
**2e**: White solid. 84% yield. M.p. = 109-111 °C. TLC: $R_f$ = 0.28 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 8.19 (d, $J$ = 8.4 Hz, 2H), 7.73 (d, $J$ = 8.4 Hz, 2H) (aromatic C*H*), 4.38 (s, 1H) (cage C*H*). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 179.9 (*C*=N), 134.8 (q, $^2J_{C\text{-}F}$ = 33.2 Hz), 131.9, 129.2, 125.9 (q, $^3J_{C\text{-}F}$ = 4.0 Hz) (aromatic *C*), 123.6 (q, $^1J_{C\text{-}F}$ = 272.7 Hz) (*C*F$_3$), 99.4, 57.0 (cage *C*). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 1.8 (s, 1B) (*B*O), -5.2 (d, $J$ = 152.3 Hz, 1B), -10.4 (d, $J$ = 171.5 Hz, 2B), -13.2 (d, $J$ = 139.5 Hz, 2B), -14.0 (d, $J$ = 130.6 Hz, 1B), -15.5 (d, $J$ = 157.4 Hz, 1B), -16.5 (d, $J$ = 112.6 Hz, 1B), -21.3(d, $J$ = 167.7 Hz, 1B) (*B*H). $^{19}$F NMR (377 MHz, $CDCl_3$): $\delta$ -63.2 (s, 3F). HRMS (ESI) Calcd for $C_{10}H_{15}{}^{10}B_2{}^{11}B_8F_3NO^+$ [M+H$^+$]: 330.2103, Found: 330.2109.



**2f**

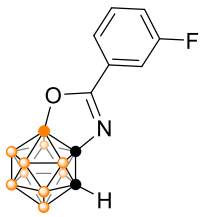
**2f**: White solid. 74% yield. M.p. = 179-181 °C. TLC: $R_f$ = 0.1 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 8.18 (d, $J$ = 8.0 Hz, 2H), 7.73 (d, $J$ = 8.0 Hz, 2H) (aromatic C*H*), 4.40 (s, 1H) (cage C*H*). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 179.4 (*C*=N), 132.6, 132.4, 129.2, 117.9, 116.6 (aromatic *C* and *C*N),

99.2, 57.0 (cage *C*). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 1.8 (s, 1B) (*B*O), -5.2 (d, $J$ = 152.3 Hz, 1B), -10.4 (d, $J$ = 172.8 Hz, 2B), -13.1 (d, $J$ = 119.0 Hz, 2B), -13.9 (d, $J$ = 148.5 Hz, 1B), -15.5 (d, $J$ = 162.6 Hz, 1B), -16.4 (d, $J$ = 108.8 Hz, 1B), -21.2 (d, $J$ = 166.4 Hz, 1B) (*B*H). HRMS (DART) Calcd for $C_{10}H_{15}{}^{10}B_2{}^{11}B_8N_2O^+$ [M+H$^+$]: 287.2182, Found: 287.2182.



**2g**

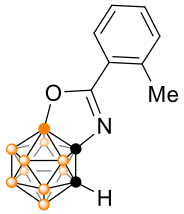
**2g**: White solid. 94% yield. M.p. = 117-118 ºC. TLC: $R_f$ = 0.24 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 7.90 (s, 1H), 7.87 (d, $J$ = 7.6 Hz, 1H), 7.39 (d, $J$ = 8.0 Hz, 1H), 7.35 (t, $J$ = 7.2 Hz, 1H) (aromatic C*H*), 4.36 (s, 1H) (cage C*H*), 2.41 (s, 3H) (C$H_3$). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 181.7 (*C*=N), 138.7, 134.2, 129.2, 128.8, 128.6, 125.9 (aromatic *C*), 99.9, 56.9 (cage *C*), 21.4 (*C*H$_3$). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 1.9 (s, 1B) (*B*O), -5.4 (d, $J$ = 152.3 Hz, 1B), -10.2 (d, $J$ = 171.5 Hz, 2B), -13.4 (d, $J$ = 151.0 Hz, 2B), -14.1 (d, $J$ = 111.4 Hz, 1B), -15.7 (d, $J$ = 149.8 Hz, 1B), -16.6 (d, $J$ = 102.4 Hz, 1B), -21.4 (d, $J$ = 166.4 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_{10}H_{18}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 276.2386, Found: 276.2393.



**2h**

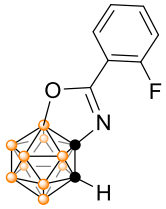
**2h**: White solid. 90% yield. M.p. = 119-121 ºC. TLC: $R_f$ = 0.23 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 7.87 (d, $J$ = 8.0 Hz, 1H), 7.77 (dt, $J$ = 9.6, 2.4 Hz, 1H), 7.45 (td, $J$ = 8.0, 5.6 Hz, 1H), 7.28 (td, $J$ = 8.4, 2.8 Hz,1H) (aromatic C*H*), 4.37 (s, 1H) (cage C*H*). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 180.2 (d, $^4J_{C\text{-}F}$ = 3.0 Hz) (*C*=N), 162.7 (d, $^1J_{C\text{-}F}$ = 247.6 Hz), 130.7 (d, $^3J_{C\text{-}F}$ = 8.1 Hz), 130.6 (d, $^4J_{C\text{-}F}$ = 8.1 Hz), 124.5 (d, $^3J_{C\text{-}F}$ = 11.1 Hz), 120.4 (d, $^2J_{C\text{-}F}$ = 21.1 Hz), 115.8 (d, $^2J_{C\text{-}F}$ = 23.1 Hz) (aromatic *C*), 99.5, 56.9 (cage *C*). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 1.8 (s, 1B) (*B*O), -5.3 (d, $J$ = 151.0 Hz, 1B), -10.3 (d, $J$ = 174.1 Hz, 2B), -13.3 (d, $J$ = 136.9 Hz, 2B), -14.1 (d, $J$ = 133.1 Hz, 1B), -15.6 (d, $J$ = 152.3 Hz, 1B), -16.5 (d, $J$ = 115.2 Hz, 1B), -21.3(d, $J$ = 167.7 Hz, 1B) (*B*H). $^{19}$F NMR (377 MHz, $CDCl_3$): $\delta$ -111.6

(m,1F). HRMS (ESI) Calcd for $C_9H_{15}{}^{10}B_2{}^{11}B_8FNO^+$ [M+H$^+$]: 280.2146, Found: 280.2139.



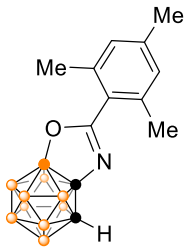
**2i**

**2i**: White solid. 88% yield. M.p. = 135-137 °C. TLC: $R_f$ = 0.32 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 7.87 (m, 2H), 7.37 (m, 2H), (aromatic C*H*), 4.36 (s, 1H) (cage C*H*), 2.41(s, 3H) (C*H*$_3$). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 182.3 (*C*=N), 139.7, 132.3, 131.9, 130.5, 128.2, 126.1 (aromatic *C*), 99.9, 57.0 (cage *C*), 22.3 (*C*H$_3$). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 1.5 (s, 1B) (*B*O), -5.4 (d, $J$ = 147.2 Hz, 1B) -10.3, (d, $J$ = 171.5 Hz, 2B), -13.4 (d, $J$ = 138.2 Hz, 2B), -14.2 (d, $J$ = 122.9 Hz, 1B), -15.6 (d, $J$ = 161.3 Hz, 1B), -16.6 (d, $J$ = 153.6 Hz, 1B), -21.5 (d, $J$ = 167.7 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_{10}H_{18}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 276.2397, Found: 276.2390.



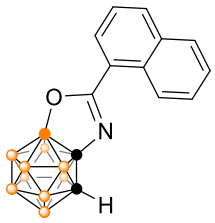
**2j**

**2j**: White solid. 86% yield. M.p. = 90-92 °C. TLC: $R_f$ = 0.15 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 8.05 (td, $J$ = 7.6, 1.6 Hz, 1H), 7.56 (m, 1H), 7.23 (m, 2H) (aromatic C*H*), 4.45 (s, 1H) (cage C*H*). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 177.7 (d, $^3J_{C\text{-}F}$ = 7.0 Hz) (*C*=N), 161.6 (d, $^1J_{C\text{-}F}$ = 261.7 Hz), 134.9 (d, $^3J_{C\text{-}F}$ = 9.1 Hz), 131.5, 124.5 (d, $^3J_{C\text{-}F}$ = 4.0 Hz), 117.3 (d, $^2J_{C\text{-}F}$ = 21.1 Hz), 117.2 (d, $^2J_{C\text{-}F}$ = 22.1 Hz) (aromatic *C*), 99.5, 57.1 (cage *C*).$^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 1.4 (s, 1B) (*B*O), -5.3 (d, $J$ = 152.3 Hz, 1B), -10.4 (d, $J$ = 167.7 Hz, 2B), -13.2 (d, $J$ = 139.5 Hz, 2B), -14.1 (d, $J$ = 128.0 Hz, 1B), -15.5 (d, $J$ = 163.8 Hz, 1B), -16.5 (d, $J$ = 154.88 Hz, 1B), -21.3(d, $J$ = 166.4 Hz, 1B) (*B*H). $^{19}$F NMR (377 MHz, $CDCl_3$): $\delta$ -107.5 (m, 1F). HRMS (ESI) Calcd for $C_9H_{15}{}^{10}B_2{}^{11}B_8FNO^+$ [M+H$^+$]: 280.2135, Found: 280.2141.



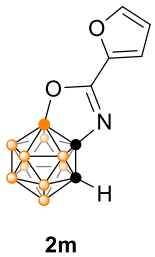
**2k**

**2k**: White solid. 90% yield. M.p. = 199-201 °C. TLC: $R_f$ = 0.23 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 6.87 (s, 2H) (aromatic C*H*), 4.38 (s, 1H) (cage C*H*), 2.29 (s, 3H), 2.25 (s, 6H) (alkyl C$H_3$). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 183.6 (*C*=N), 140.7, 137.4, 128.9, 126.8 (aromatic *C*), 99.3, 56.9 (cage *C*), 21.4, 20.00 (*C*H$_3$). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 1.6 (s, 1B) (*B*O), -5.3 (d, $J$ = 156.2 Hz, 1B), -10.6 (d, $J$ = 172.8 Hz, 2B), -13.3 (d, $J$ = 135.7 Hz, 2B), -14.1 (d, $J$ = 131.8 Hz, 1B), -15.6 (d, $J$ = 169.0 Hz, 1B), -16.6 (d, $J$ = 112.6 Hz, 1B), -21.5 (d, $J$ = 167.0 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_{12}H_{22}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 304.2699, Found: 304.2694.



**2l**

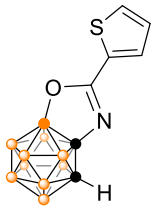
**2l**: White solid. 83% yield. M.p. = 145-147 °C. TLC: $R_f$ = 0.27 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 8.96 (d, $J$ = 8.8 Hz, 1H), 8.30 (d, $J$ = 7.2 Hz, 1H), 8.06 (d, $J$ = 8.0 Hz, 1H), 7.91 (d, $J$ = 8.0 Hz, 1H), 7.64 (t, $J$ = 7.6 Hz, 1H), 7.57 (t, $J$ = 6.8 Hz, 1H), 7.55 (t, $J$ = 7.6 Hz, 1H) (aromatic C*H*), 4.46 (s, 1H) (cage C*H*). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 181.6 (*C*=N), 134.0, 133.9, 130.7, 130.7, 129.0, 128.2, 126.6, 125.8, 125.4, 124.8 (aromatic *C*), 99.9, 57.1 (cage *C*). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 1.5 (s, 1B) (*B*O), -5.3 (d, $J$ = 152.3 Hz, 1B), -10.1 (d, $J$ = 170.2 Hz, 2B), -13.2 (d, $J$ = 139.5 Hz, 2B), -14.0 (d, $J$ = 125.4 Hz, 1B), -15.4 (d, $J$ = 163.8 Hz, 1B), -16.5 (d, $J$ = 115.2 Hz, 1B), -21.3 (d, $J$ = 166.4 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_{13}H_{18}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 312.2397, Found: 312.2395.



**2m**

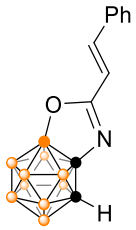
**2m**: White solid. 86% yield. M.p. = 184-186 °C. TLC: $R_f$ = 0.10 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 7.60 (m, 1H), 7.24 (d, $J$ = 3.6 Hz, 1H), 6.57 (dd, $J$ = 3.6, 1.6 Hz, 1H) (aromatic C*H*), 4.37 (s, 1H) (cage C*H*). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 172.1 (*C*=N), 146.9, 144.1, 117.8, 112.4 (aromatic *C*), 99.2, 57.0 (cage *C*). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 1.6 (s, 1B) (*B*O), -5.5 (d, $J$ = 152.3 Hz,

1B), -10.2 (d, $J$ = 171.5 Hz, 2B), -13.4 (d, $J$ = 142.1 Hz, 2B), -14.1 (d, $J$ = 115.2 Hz, 1B), -15.7 (d, $J$ = 147.2 Hz, 1B), -16.5 (d, $J$ = 90.9 Hz, 1B), -21.3(d, $J$ = 167.7 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_7H_{14}{}^{10}B_2{}^{11}B_8NO_2^+$ [M+H$^+$]: 252.2022, Found: 252.2021.



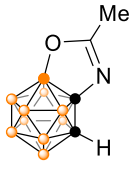
**2n**

**2n**: White solid. 88% yield. M.p. = 161-162 ºC. TLC: $R_f$ = 0.16 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 7.84 (d, $J$ = 3.6 Hz, 1H), 7.57 (d, $J$ = 4.8 Hz, 1H), 7.13 (t, $J$ = 4.0 Hz, 1H) (aromatic C*H*), 4.35 (s, 1H) (cage C*H*). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 176.5 (*C*=N), 132.9, 132.5, 131.7, 128.2 (aromatic *C*), 99.6, 56.8 (cage *C*). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 1.8 (s, 1B) (*B*O), -5.5 (d, $J$ = 152.3 Hz, 1B), -10.0 (d, $J$ = 172.8 Hz, 2B), -13.3 (d, $J$ = 133.1 Hz, 2B), -14.1 (d, $J$ = 131.8 Hz, 1B), -15.7 (d, $J$ = 139.5 Hz, 1B), -16.5 (d, $J$ = 98.6 Hz, 1B), -21.3 (d, $J$ = 167.7 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_7H_{14}{}^{10}B_2{}^{11}B_8NOS^+$ [M+H$^+$]: 268.1805, Found: 268.1798.



**2o**

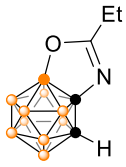
**2o**: White solid. 85% yield. M.p. = 152-153 ºC. TLC: $R_f$ = 0.10 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 7.75 (d, $J$ = 16.4 Hz, 1H) (alkenyl C*H*), 7.54 (m, 2H), 7.41 (m, 3H) (aromatic C*H*), 6.67 (d, $J$ = 16.0 Hz, H) (alkenyl C*H*), 4.31 (s, 1H) (cage C*H*). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 181.0 (*C*=N), 143.9, 134.3, 130.8, 129.2, 128.2, 116.4 (alkenyl & aromatic *C*), 99.7, 56.8 (cage *C*). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 1.8 (s, 1B) (*B*O), -5.4 (d, $J$ = 151.0 Hz, 1B), -10.2 (d, $J$ = 171.5 Hz, 2B), -13.4 (d, $J$ = 134.4 Hz, 2B), -14.1 (d, $J$ = 119.0 Hz, 1B), -15.7 (d, $J$ = 144.6 Hz, 1B), -16.5 (d, $J$ = 97.3 Hz, 1B), -21.4 (d, $J$ = 162.6 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_{11}H_{18}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 288.2386, Found: 288.2387.



**2p**

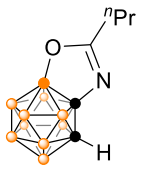
**2p**: White solid. 86% yield. M.p. = 82-84 ºC. TLC: $R_f$ = 0.10 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 4.25 (s, 1H) (cage C*H*), 2.25 (s, 3H) (C*H*$_3$). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 184.4 (*C*=N), 99.0, 56.6 (cage *C*), 18.6 (*C*H$_3$). $^{11}$B NMR ($CDCl_3$,

128 MHz): $\delta$ 1.7 (s, 1B) (*B*O), -5.4 (d, $J$ = 152.3 Hz, 1B), -10.4 (d, $J$ = 171.5 Hz, 2B), -13.4 (d, $J$ = 139.5 Hz, 2B), -14.3 (d, $J$ = 139.5 Hz, 1B), -15.8 (d, $J$ = 144.6 Hz, 1B), -16.7 (d, $J$ = 162.6 Hz, 1B), -21.4 (d, $J$ = 165.1 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_4H_{14}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 200.2073, Found: 200.2067.



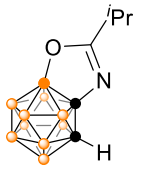
**2q**

**2q**: White solid. 80% yield. M.p. = 80-81 ºC. TLC: $R_f$ = 0.16 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 4.27 (s, 1H) (cage C*H*), 2.54 (q, $J$ = 7.6 Hz, 2H) (C$H_2$), 1.21 (t, $J$ = 7.6 Hz, 3H) (C$H_3$). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 188.5 (*C*=N), 99.5, 56.6 (cage *C*), 26.0 (*C*H$_2$), 10.2 (*C*H$_3$). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 1.7 (s, 1B) (*B*O), -5.5 (d, $J$ = 151.0 Hz, 1B), -10.4 (d, $J$ = 170.2 Hz, 2B), -13.5 (d, $J$ = 138.2 Hz, 2B), -14.4 (d, $J$ = 137.0 Hz, 1B), -15.8 (d, $J$ = 152.3 Hz, 1B), -16.8 (d, $J$ = 110.1 Hz, 1B), -21.5 (d, $J$ = 166.4 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_5H_{16}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 214.2230, Found: 214.2226.



**2r**

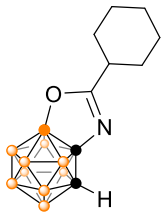
**2r**: White solid. 78% yield. M.p. = 128-130 ºC. TLC: $R_f$ = 0.17 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 4.27 (s, 1H) (cage C*H*), 2.49 (t, $J$ = 7.2 Hz, 2H), 1.71 (m, 2H) (C$H_2$), 0.95 (t, $J$ = 7.2 Hz, 3H) (C$H_3$). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 187.7 (*C*=N), 99.0, 56.6 (cage *C*), 34.2 (*C*H$_2$), 19.6 (*C*H$_2$), 13.6 (*C*H$_3$). $^{11}$B NMR (THF, 128 MHz): $\delta$ 1.3 (s, 1B) (*B*O), -5.8 (d, $J$ = 153.3 Hz, 1B), -10.7 (d, $J$ = 171.5 Hz, 2B), -13.8 (d, $J$ = 137.0 Hz, 2B), -14.6 (d, $J$ = 134.4 Hz, 1B), -16.1 (d, $J$ = 157.4 Hz, 1B), -17.0 (d, $J$ = 152.3 Hz, 1B), -21.8 (d, $J$ = 167.7 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_6H_{18}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 228.2386, Found: 228.2383.



**2s**

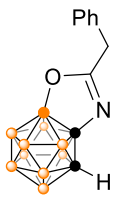
**2s**: White solid. 86% yield. M.p. = 71-73 ºC. TLC: $R_f$ = 0.23 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 4.28 (s, 1H) (cage C*H*), 2.77 (m, 1H) (C*H*), 1.21 (d, $J$ = 7.2 Hz, 6H) (C$H_3$). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 191.7 (*C*=N), 99.1, 56.7 (cage

*C*), 32.3 (*C*H), 19.6 (*C*H$_3$), 19.5 (*C*H$_3$). $^{11}$B NMR (CDCl$_3$, 128 MHz): $\delta$ 1.7 (s, 1B) (*B*O), -5.4 (d, *J* = 152.3 Hz, 1B) -10.4 (d, *J* = 171.5 Hz, 2B), -13.4 (d, *J* = 131.8 Hz, 2B), -14.3 (d, *J* = 138.2 Hz, 1B), -15.7 (d, *J* = 147.2 Hz, 1B), -16.7 (d, *J* = 117.8 Hz, 1B), -21.5 (d, *J* = 166.4 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_6H_{18}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 228.2397, Found: 228.2389.



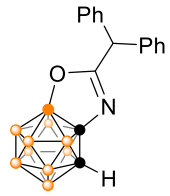
**2t**

**2t**: White solid. 88% yield. M.p. = 118-120 °C. TLC: R$_f$ = 0.22 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR (CDCl$_3$, 400 MHz): $\delta$ 4.26 (s, 1H) (cage C*H*), 2.51 (m, *J* = m, 1H) (C*H*), 1.92 (m, 2H), 1.77 (m, 2H), 1.68 (m, 1H), 1.45 (m, 2H), 1.29 (m, 3H) (C*H*$_2$). $^{13}$C{$^1$H} NMR (CDCl$_3$, 101 MHz): $\delta$ 190.8 (*C*=N), 99.2, 56.7 (cage *C*), 41.3 (*C*H), 29.7, 29.6, 25.7, 25.4, 25.4 (*C*H$_2$). $^{11}$B NMR (CDCl$_3$, 128 MHz): $\delta$ 1.6 (s, 1B) (*B*O), -5.5 (d, *J* = 152.3 Hz, 1B), -10.4 (d, *J* = 171.5 Hz, 2B), -13.5 (d, *J* = 135.7 Hz, 2B), -14.4 (d, *J* = 137.0 Hz, 1B), -15.8 (d, *J* = 154.9 Hz, 1B), -16.8 (d, *J* = 103.7 Hz, 1B), -21.6 (d, *J* = 166.4 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_9H_{22}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 268.2699, Found: 268.2703.



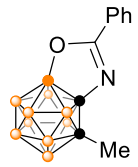
**2u**

**2u**: Colorless oil. 76% yield. TLC: R$_f$ = 0.1 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR (CDCl$_3$, 400 MHz): $\delta$ 7.30 (m, 3H), 7.20 (d, *J* = 6.4 Hz, 2H) (aromatic C*H*), 4.21 (s, 1H) (cage C*H*), 3.77 (s, 2H) (C*H*$_2$). $^{13}$C{$^1$H} NMR (CDCl$_3$, 101 MHz): $\delta$ 185.4 (*C*=N), 133.6, 129.1, 129.0, 127.7 (aromatic C*H*), 98.9, 56.7 (cage *C*), 38.8 (*C*H$_2$). $^{11}$B NMR (CDCl$_3$, 128 MHz): $\delta$ 1.7 (s, 1B) (*B*O), -5.3 (d, *J* = 152.3 Hz, 1B), -10.5 (d, *J* = 171.5 Hz, 2B), -13.3 (d, *J* = 140.8 Hz, 2B), -14.3 (d, *J* = 140.8 Hz, 1B), -15.7 (d, *J* = 163.8 Hz, 1B), -16.7 (d, *J* = 116.5 Hz, 1B), -21.3 (d, *J* = 169.0 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_{10}H_{18}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 276.2386, Found: 276.2392.



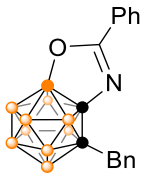

**2v**

**2v**: White solid. 74% yield. M.p. = 128-130 °C. TLC: $R_f$ = 0.15 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 7.26 (m, 10H) (aromatic C*H*), 5.25 (s, 1H) (C*H*), 4.25 (s, 1H) (cage C*H*). $^{13}C\{^1H\}$ NMR ($CDCl_3$, 101 MHz): $\delta$ 186.8 (*C*=N), 138.0, 137.9, 129.0, 128.9, 128.9, 128.8, 127.8, 127.8 (aromatic *C*), 98.8, 56.8 (cage *C*), 54.5 (*C*H). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 1.7 (s, 1B) (*B*O), -5.2 (d, $J$ = 152.3 Hz, 1B), -10.6 (d, $J$ = 144.6 Hz, 2B), -13.2 (d, $J$ = 144.6 Hz, 2B), -14.2 (d, $J$ = 137.0 Hz, 1B), -15.6 (d, $J$ = 165.1 Hz, 1B), -16.6 (d, $J$ = 113.9 Hz, 1B), -21.3 (d, $J$ = 163.8 Hz, 1B) (*B*H). RMS (ESI) Calcd for $C_{16}H_{22}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 352.2699, Found: 352.2697.



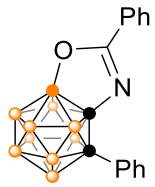

**2w**

**2w**: White solid. 78% yield. M.p. = 75-77 °C. TLC: $R_f$ = 0.2 (*n*-hexane:ethyl acetate = 80:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 8.13 (d, $J$ = 6.8 Hz, 2H), 7.58 (m, 1H), 7.47(t, $J$ = 7.6 Hz, 2H) (aromatic C*H*), 2.26 (s, 3H) (C*H*$_3$). $^{13}C\{^1H\}$ NMR ($CDCl_3$, 101 MHz): $\delta$ 181.4 (*C*=N), 133.3, 129.0, 128.8, 128.8 (aromatic *C*), 102.1, 72.3 (cage *C*), 21.0 (*C*H$_3$). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 2.5 (s, 1B) (*B*O), -7.7 (d, $J$ = 201.0 Hz, 1B), -9.2 (d, $J$ = 158.7 Hz, 2B), -15.4 (m, 5B), -18.3 (d, $J$ = 167.7 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_{10}H_{18}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 276.2397, Found: 276.2390.



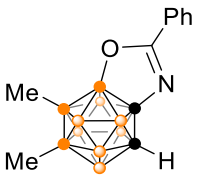

**2x**

**2x**: White solid. 72% yield. M.p. = 71-72 °C. TLC: $R_f$ = 0.26 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 8.17 (d, $J$ = 7.6 Hz, 2H), 7.59 (t, $J$ = 8.0 Hz, 1H), 7.49 (t, $J$ = 8.0 Hz, 2H), 7.31 (m, 5H) (aromatic C*H*), 3.80 (m, 2H) (C*H*$_2$). $^{13}C\{^1H\}$ NMR ($CDCl_3$, 101 MHz): $\delta$ 181.4 (*C*=N), 135.4, 133.3, 130.5, 129.0, 128.9, 128.8, 128.7, 128.1 (aromatic *C*), 102.8 (cage *C*), 39.5 (*C*H$_2$). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 2.5 (s, 1B) (*B*O), -8.2 (d, $J$ = 167.7 Hz, 2B), -9.9 (d, $J$ = 216.3 Hz, 1B), -13.7 (m, 5B), -19.2 (d, $J$ = 163.8 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_{16}H_{22}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 352.2699, Found: 352.2707.




**2y**

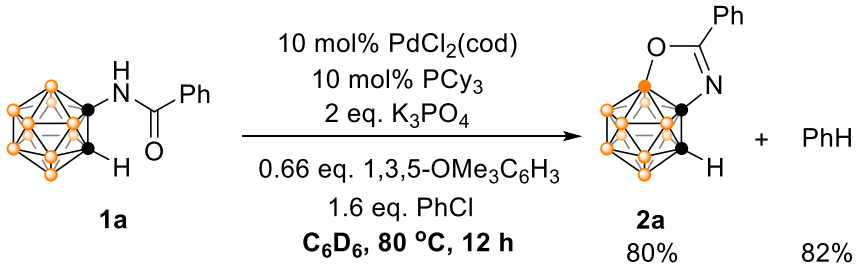
**2y**: Colorless oil. 64% yield. TLC: $R_f$ = 0.25 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 8.15 (d, $J$ = 7.6 Hz, 2H), 7.89 (d, $J$ = 7.2 Hz, 2H), 7.59 (t, $J$ = 7.6 Hz, 1H), 7.46 (m, 5H) (aromatic C*H*). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 180.9 (*C*=N), 133.3, 131.6, 130.1, 129.4, 128.9, 128.9, 128.8, 128.7 (aromatic *C*), 103.7, 78.9 (cage *C*). $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 2.6 (s, 1B) (*B*O), -7.5 (d, $J$ = 176.6 Hz, 2B), -9.3 (d, $J$ = 212.5 Hz, 1B), -13.3 (m, 5B), -18.0 (d, $J$ = 166.4 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_{15}H_{20}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 338.2543, Found: 338.2548.




**2z**

**2z**: White solid. 75% yield. M.p. = 165-166 ºC. TLC: $R_f$ = 0.18 (*n*-hexane:ethyl acetate = 10:1). $^1$H NMR ($CDCl_3$, 400 MHz): $\delta$ 8.08 (d, $J$ = 8.0 Hz, 2H), 7.57 (t, $J$ = 7.6 Hz, 1H), 7.46 (t, $J$ = 7.6 Hz, 2H) (aromatic C*H*), 4.19 (s, 1H) (cage C*H*), 0.45 (s, 3H), 0.23 (s, 3H) (C*H*$_3$). $^{13}$C{$^1$H} NMR ($CDCl_3$, 101 MHz): $\delta$ 181.1 (*C*=N), 133.1, 128.9, 128.8, 128.7 (aromatic *C*), 94.3, 50.3 (cage *C*), the $B_{cage}$-C were not observed. $^{11}$B NMR ($CDCl_3$, 128 MHz): $\delta$ 4.8 (s, 1B) (*B*O), 0.9 (s, 1B) (*B*C), -2.9 (s, 1B) (*B*C), -11.5 (d, $J$ = 153.6 Hz, 4B), -16.8 (d, $J$ = 161.3 Hz, 2B), -20.8 (d, $J$ = 165.1 Hz, 1B) (*B*H). HRMS (ESI) Calcd for $C_{11}H_{20}{}^{10}B_2{}^{11}B_8NO^+$ [M+H$^+$]: 290.2543, Found: 290.2541.

**Preliminary mechanistic study.**




**1a** (13.1 mg, 0.05 mmol), $PdCl_2(cod)$ (1.4 mg, 10 mol%), $PCy_3$ (1.4 mg, 10 mol%), $K_3PO_4$ (21.1 mg, 0.1 mmol), PhCl (9.0 mg, 0.8 mmol), and 1,3,5-trimethoxybenzene (internal standard, 5.5 mg, 0.033 mmol) were mixed in $C_6D_6$ (2 mL) in a J. Young valve NMR tube in glovebox. The tube was closed and heated at 80 °C (bath temperature) for 12 h. The reaction was then monitored by $^1H$ NMR.

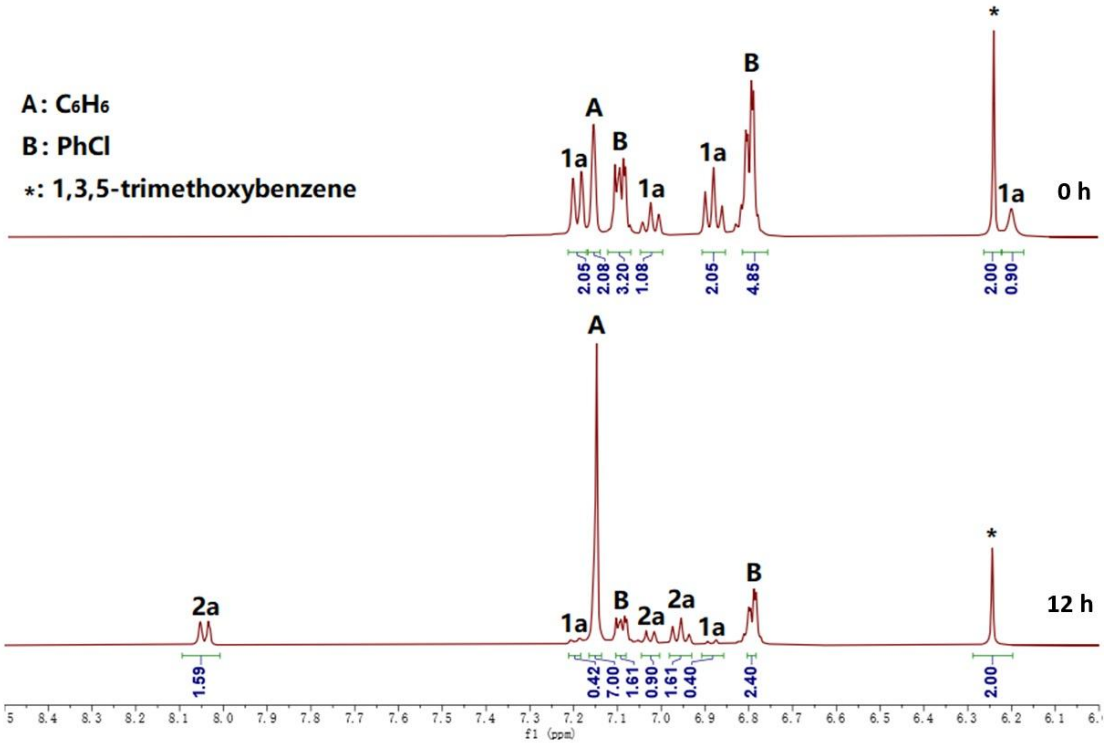



**Figure S1.** $^1H$ NMR spectra of the control experiment

**X-ray Structure Determination.** The data of **2b**, **2m**, and **2t** were collected at 213 K on a Bruker APEX DUO diffractometer. An empirical absorption correction was applied using the SADABS program.[3] All structures were solved by direct methods and subsequent Fourier difference techniques and refined anisotropically for all non-

hydrogen atoms by full-matrix least-squares on $F^2$ using the SHELXTL program package[4]. All hydrogen atoms were geometrically fixed using the riding model. Crystal data and details of data collection and structure refinements were given in Table S2.

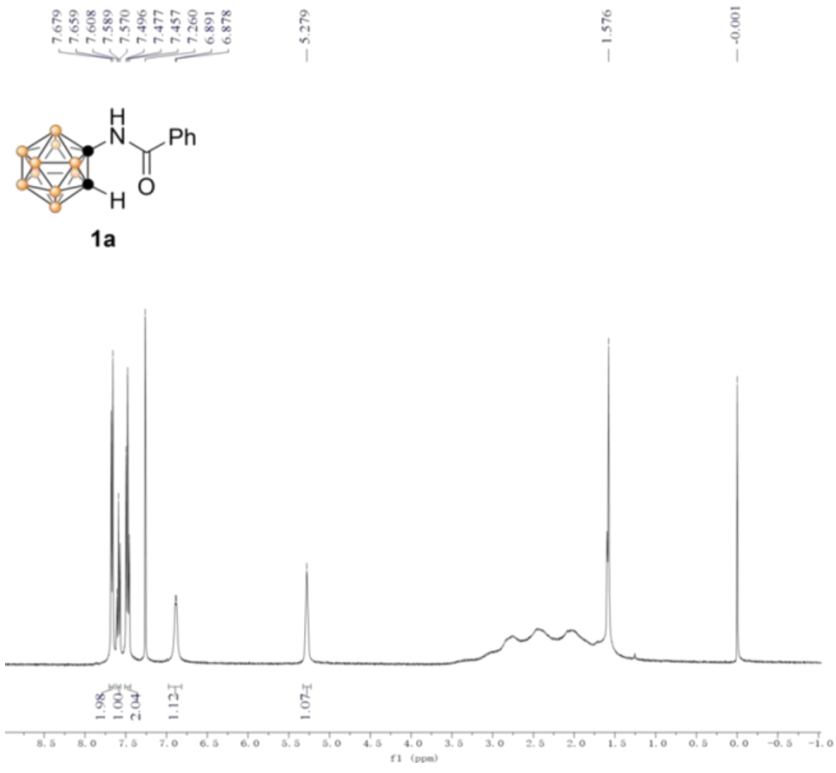
CCDC 2417342-2417344 (**2b**, **2m** and **2t**) contains the supplementary crystallographic data for this paper. These data can be obtained free of charge from The Cambridge Crystallographic Data Centre via www.ccdc.cam.ac.uk/data_request/cif.

**Table S2.** Crystal Data and Summary of Data Collection and Refinements.

| compound | **2b** | **2m** | **2t** |
|---|---|---|---|
| formula | $C_{10}H_{17}B_{10}NO$ | $C_7H_{14}B_{10}NO_2$ | $C_9H_{21}B_{10}NO$ |
| crystal size ($mm^3$) | 0.07x0.07x0.05 | 0.07x0.07x0.05 | 0.07x0.07x0.05 |
| fw | 275.35 | 252.29 | 267.37 |
| crystal system | monoclinic | monoclinic | monoclinic |
| space group | $P2_1/c$ | $P2_1/c$ | $P2_1/n$ |
| $a$, Å | 11.486(1) | 6.759(1) | 11.687(1) |
| $b$, Å | 19.564(1) | 20.968(1) | 11.014(1) |
| $c$, Å | 6.782(1) | 9.278(1) | 12.611(1) |
| $\beta$, deg | 95.718(2) | 98.688(2) | 110.678(2) |
| $V$, $Å^3$ | 1516.3(1) | 1299.7(1) | 1518.7(1) |
| $Z$ | 4 | 4 | 4 |
| $D_{calcd}$, $Mg/m^3$ | 1.206 | 1.289 | 1.169 |
| radiation (λ) Å | 1.34139 | 1.34139 | 1.34139 |
| $2\theta$ range, deg | 7.8 to 110.1 | 9.2 to 109.9 | 7.7 to 109.8 |
| $\mu$, $mm^{-1}$ | 0.304 | 0.360 | 0.289 |
| $F$(000) | 568 | 516 | 560 |
| no. of obsd reflns | 2849 | 2458 | 2886 |
| no. of params refnd | 200 | 181 | 190 |
| goodness of fit | 1.081 | 1.047 | 1.060 |
| R1 | 0.0678 | 0.0450 | 0.0443 |
| wR2 | 0.1797 | 0.1202 | 0.1209 |

## References


1. N. Yong, Y. Wang, J. Miao, Y. Li and Z. Zhang, *J. Organomet. Chem.*, 2015, **798**, 182-188.
2. R. Cheng, J. Zhang, H. Zhang, Z. Qiu and Z. Xie, *Nat. Commun.*, 2021, **12**, 7146.
3. Sheldrick, G. M. S*ADABS: Program for Empirical Absorption Correction of Area Detector Data*. University of Göttingen: Germany, 1996.
4. Sheldrick, G. M. *SHELXTL 5.10 for Windows NT: Structure Determination Software Programs*. Bruker Analytical X-ray Systems, Inc., Madison, Wisconsin, USA, 1997.




| | Parameter | 值 |
|---|---|---|
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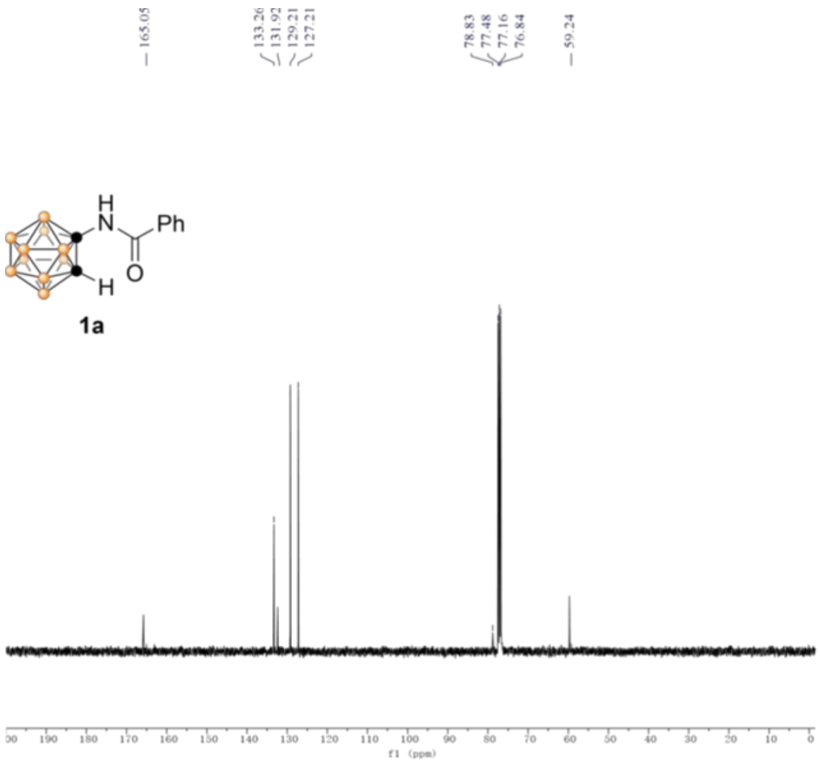
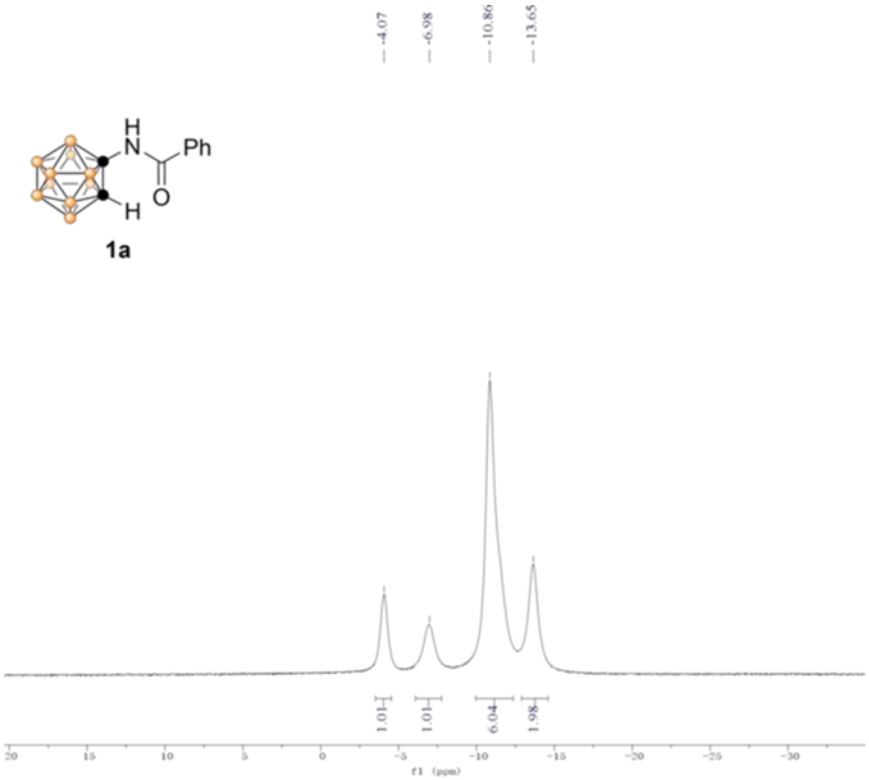
| 2 | 标题 | jhr-1a.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.9 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 8 |
| 15 | Receiver Gain | 77.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-08-16T19:09:20 |
| 21 | Modification Date | 2022-08-16T19:09:21 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -412.7 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-1a-0112-C/ 2/ fid |
| 2 | 标题 | jhr-1a-0112-C.2.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.6 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 207 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2023-01-12T15:21:29 |
| 21 | Modification Date | 2023-01-12T15:21:30 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1545.7 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |





1a

| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-1a-0112-deB/ 1/ fid |
| 2 | 标题 | jhr-1a-0112-deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.6 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 15 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2023-01-12T14:59:27 |
| 21 | Modification Date | 2023-01-12T14:59:28 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |

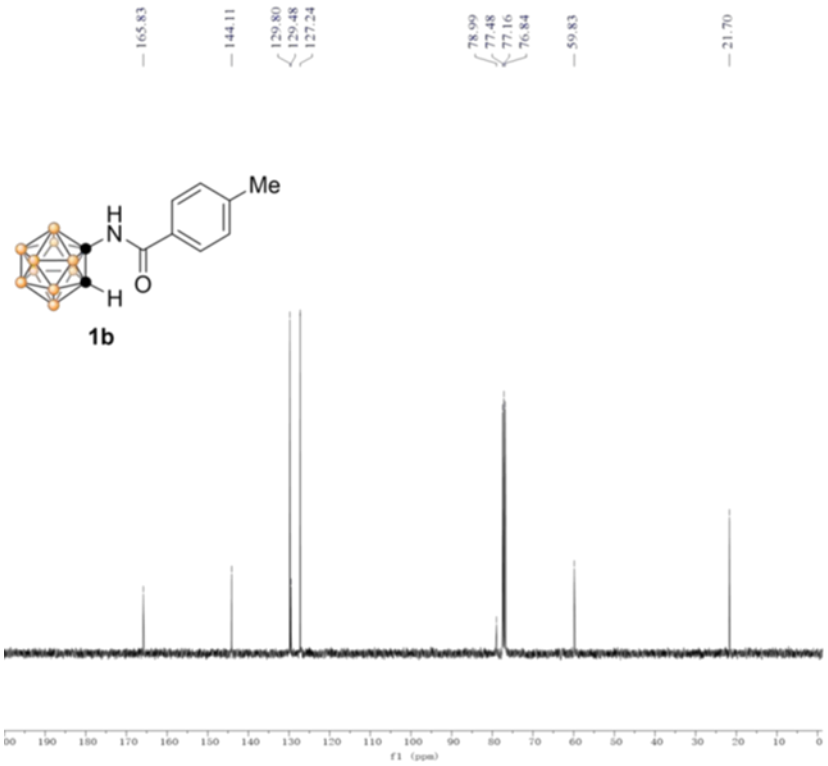




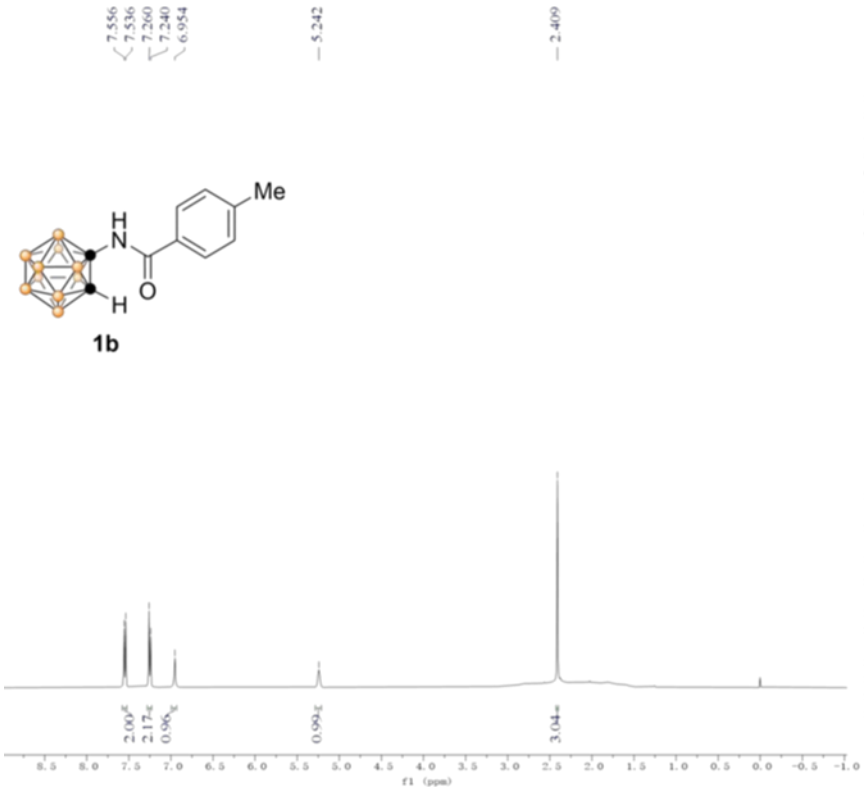


1a

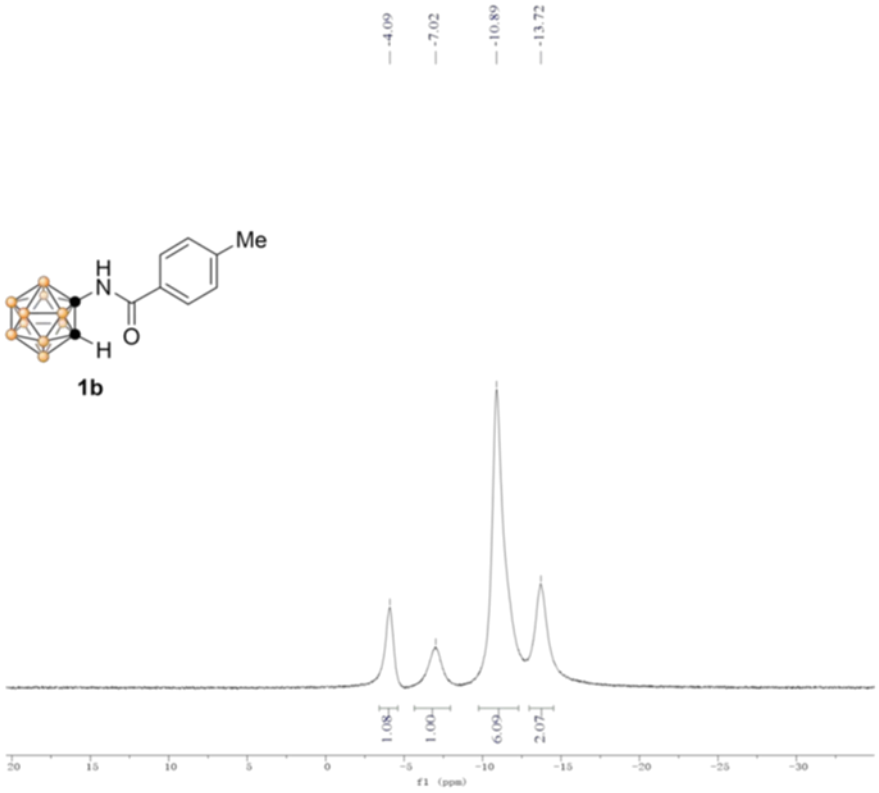
| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-1a-0112-noDeB/ 1/ fid |
| 2 | 标题 | jhr-1a-0112-noDeB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.4 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 13 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2023-01-12T15:00:14 |
| 21 | Modification Date | 2023-01-12T15:00:15 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |



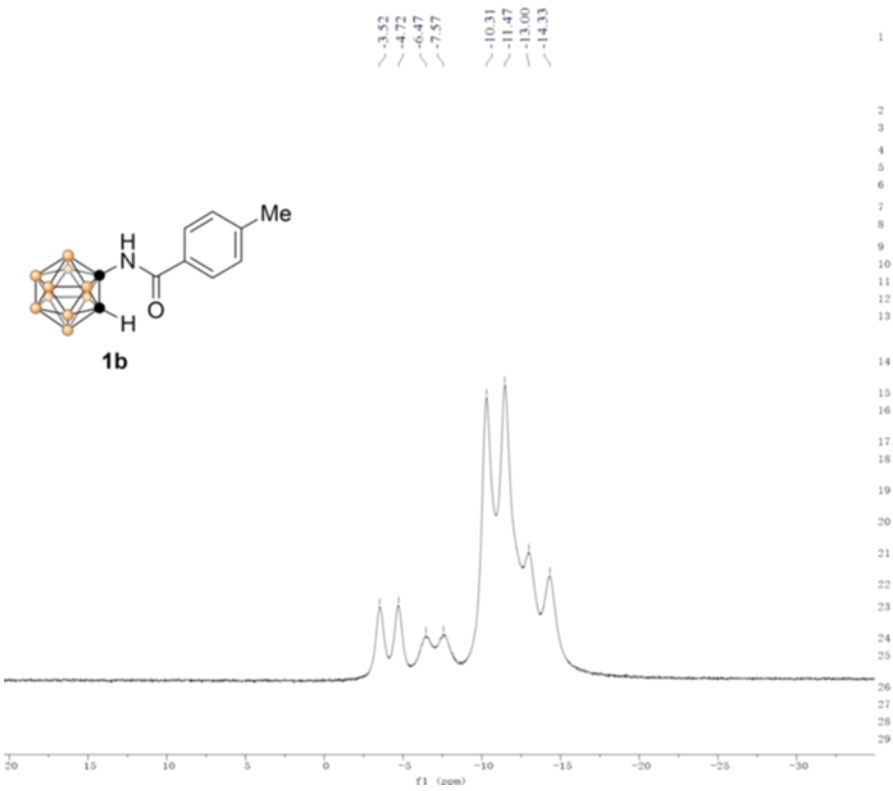

| Parameter | 值 |
|---|---|
| 1 Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-1bbb-C/ 1/ fid |
| 2 标题 | jhr-1bbb-C. 1. fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 297.0 |
| 11 Pulse Sequence | zgpg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 83 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2999 |
| 20 Acquisition Date | 2022-09-03T20:04:46 |
| 21 Modification Date | 2022-09-03T20:04:48 |
| 22 Class | |
| 23 Spectrometer Frequency | 100.64 |
| 24 Spectral Width | 25252.5 |
| 25 Lowest Frequency | -1547.0 |
| 26 Nucleus | 13C |
| 27 Acquired Size | 32827 |
| 28 Spectral Size | 131072 |
| 29 Digital Resolution | 0.19 |




| Parameter | 值 |
|---|---|
| 1 Data File Name | I:/ 布鲁克-jhr/ 收谱/ jhr-1bbbb/ 1/ fid |
| 2 标题 | jhr-1bbbb. 1. fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 296.9 |
| 11 Pulse Sequence | zg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 8 |
| 15 Receiver Gain | 56.7 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 2.9998 |
| 20 Acquisition Date | 2022-09-03T19:20:27 |
| 21 Modification Date | 2022-09-03T19:20:30 |
| 22 Class | |
| 23 Spectrometer Frequency | 400.20 |
| 24 Spectral Width | 4807.7 |
| 25 Lowest Frequency | -412.7 |
| 26 Nucleus | 1H |
| 27 Acquired Size | 14422 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.07 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 原料合成/ 酰胺底物/ 3081/ jhr-3081-2-B/ 1/ fid |
| 2 | 标题 | jhr-3081-2-B.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.0 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 2 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-03-29T20:28:06 |
| 21 | Modification Date | 2022-03-29T20:28:07 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |




| | Parameter | 值 |
|---|---|---|
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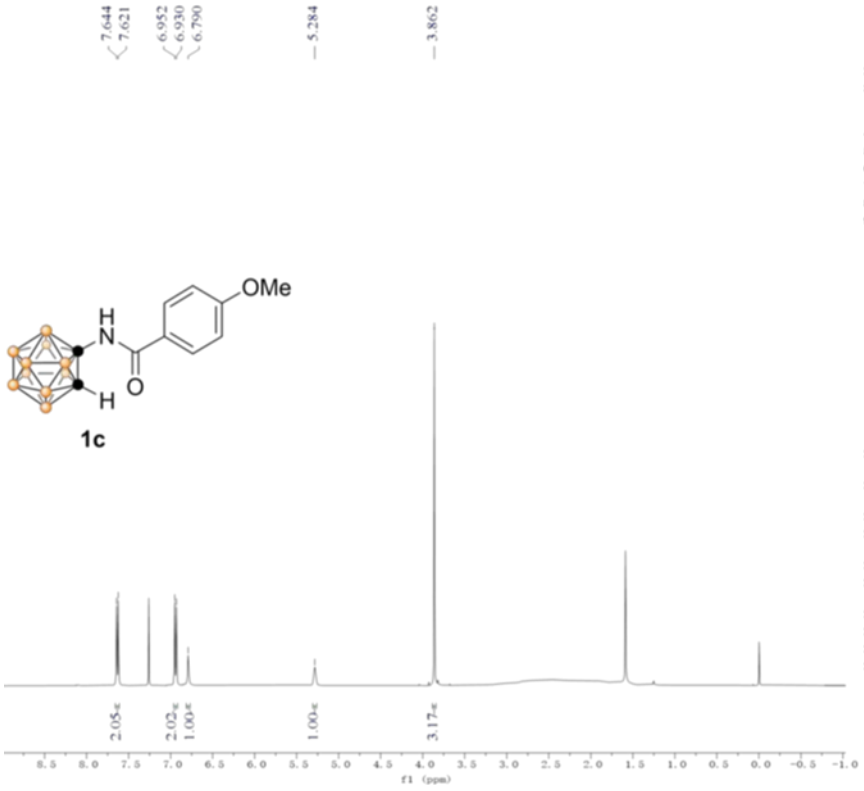
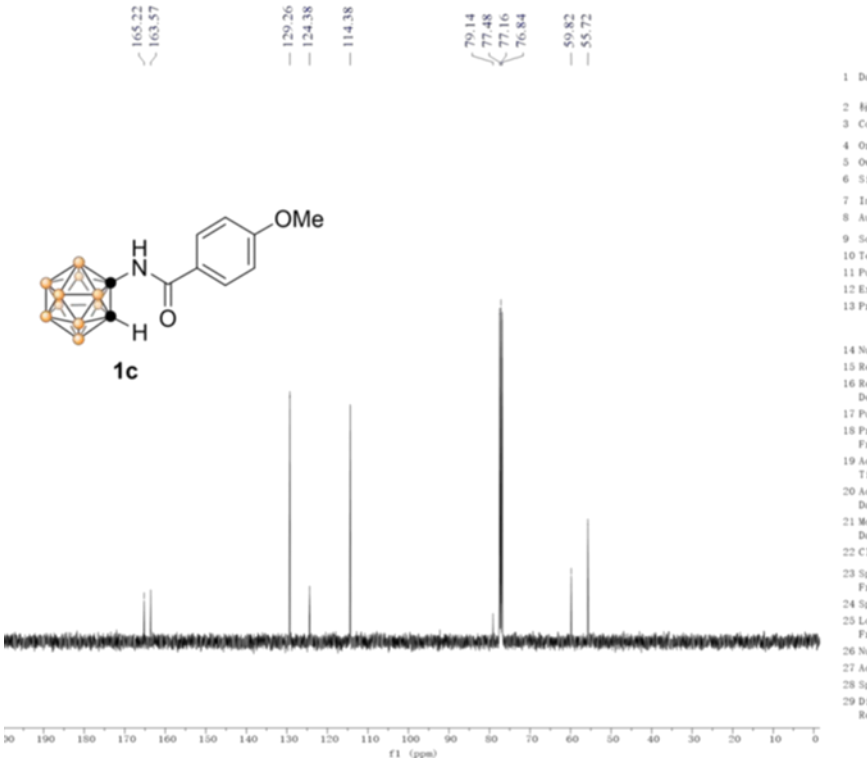
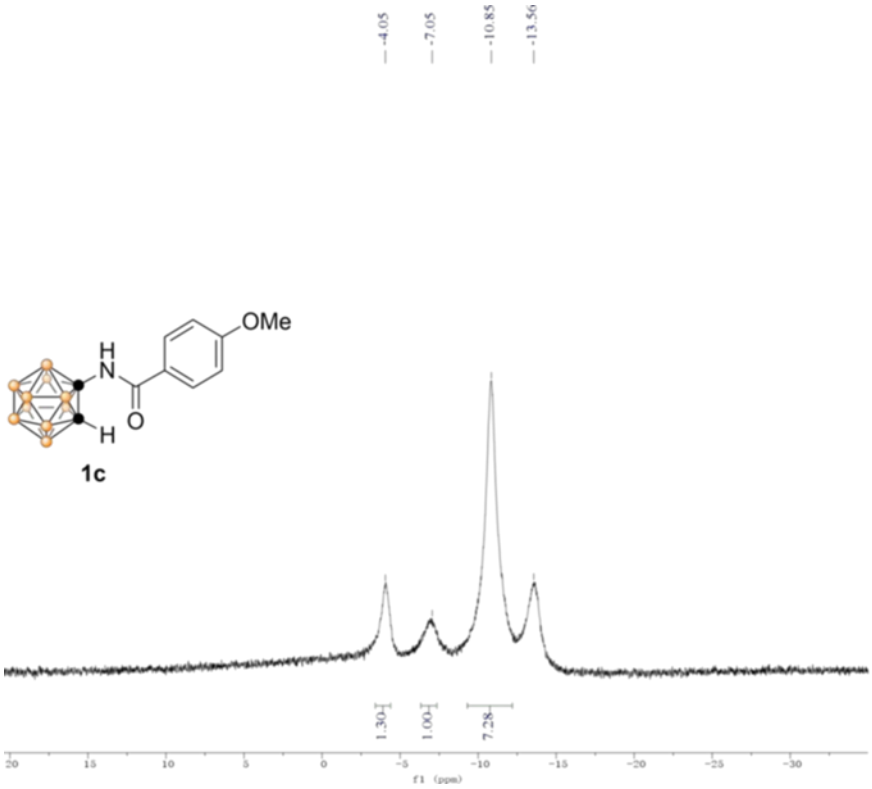
| 2 | 标题 | jhr-3081-2-noB.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.0 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 4 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-03-29T20:27:38 |
| 21 | Modification Date | 2022-03-29T20:27:39 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |



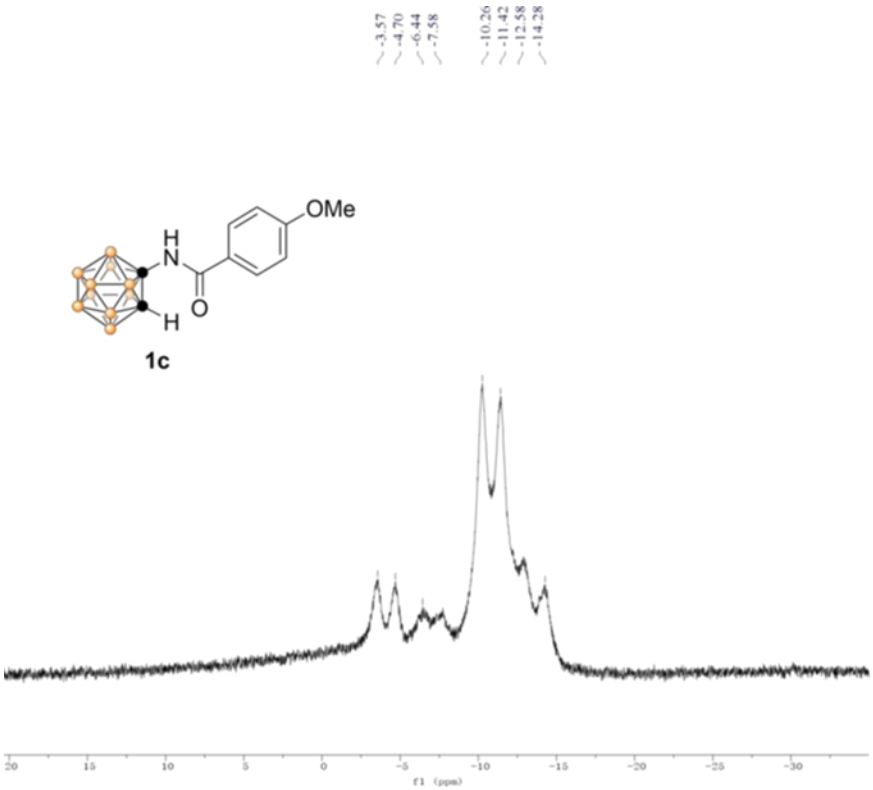

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ jhr/收谱/ 原料/ jhr-1c.fid/ fid |
| 2 | 标题 | jhr-1c |
| 3 | Comment | Std proton |
| 4 | Origin | Varian |
| 5 | Owner | |
| 6 | Site | |
| 7 | Instrument | vnmrs |
| 8 | Author | omc1 |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 25.0 |
| 11 | Pulse Sequence | s2pul |
| 12 | Experiment | 1D |
| 13 | Probe | ATB |
| 14 | Number of Scans | 12 |
| 15 | Receiver Gain | 28 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 11.5000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 3.0000 |
| 20 | Acquisition Date | 2022-08-17T08:27:10 |
| 21 | Modification Date | 2022-08-17T00:28:00 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.03 |
| 24 | Spectral Width | 7225.4 |
| 25 | Lowest Frequency | -805.4 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 21676 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.11 |



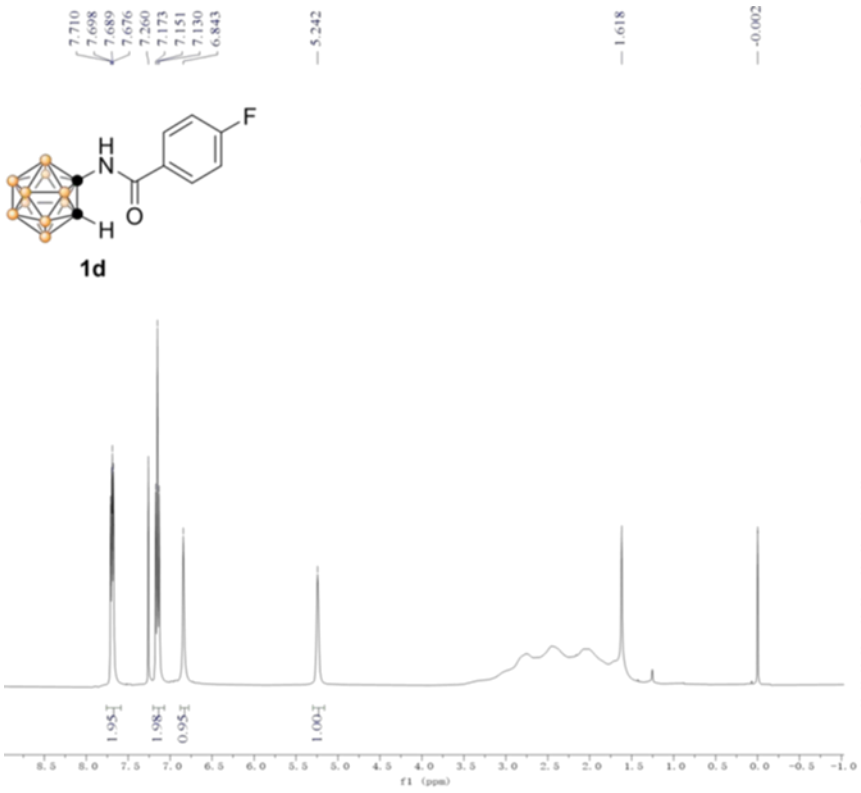

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克~jhr/ 收谱/ jhr-1ccc-C/ 1/ fid |
| 2 | 标题 | jhr-1ccc-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 297.0 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 105 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 0.9999 |
| 20 | Acquisition Date | 2022-09-02T16:54:43 |
| 21 | Modification Date | 2022-09-02T16:54:46 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 26041.7 |
| 25 | Lowest Frequency | -1939.5 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 26040 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.40 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-1c-1229-deB/ 1/ fid |
| 2 | 标题 | jhr-1c-1229-deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 289. 3 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 64 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-12-29T20:42:57 |
| 21 | Modification Date | 2022-12-29T20:42:58 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-1c-1229-noDeB/ 1/ fid |
| 2 | 标题 | jhr-1c-1229-no deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 289. 0 |
| 11 | Pulse Sequence | zg |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 97 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-12-29T20:46:59 |
| 21 | Modification Date | 2022-12-29T20:47:00 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |




| Parameter | 值 |
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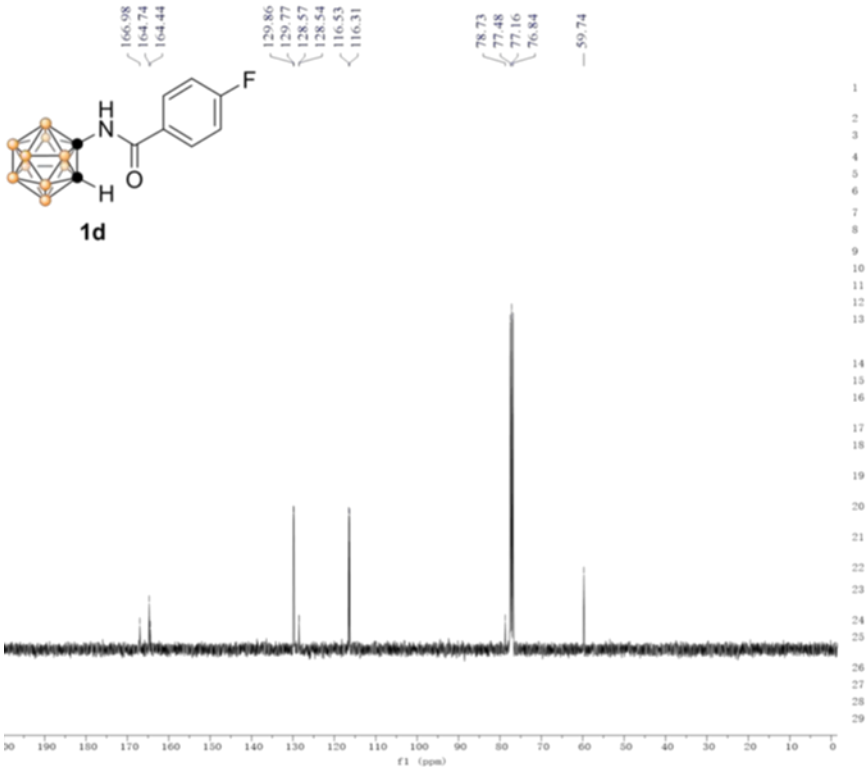
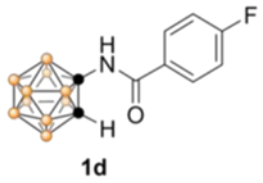
| 1 Data File Name | I:/ 布鲁克-jhr/ 收谱/ jhr-1ddd/ 1/ fid |
| 2 标题 | jhr-1ddd.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 296.8 |
| 11 Pulse Sequence | zg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 5 |
| 15 Receiver Gain | 77.4 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 2.9998 |
| 20 Acquisition Date | 2022-09-02T13:02:54 |
| 21 Modification Date | 2022-09-02T13:02:56 |
| 22 Class | |
| 23 Spectrometer Frequency | 400.20 |
| 24 Spectral Width | 4807.7 |
| 25 Lowest Frequency | -412.7 |
| 26 Nucleus | 1H |
| 27 Acquired Size | 14422 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.07 |



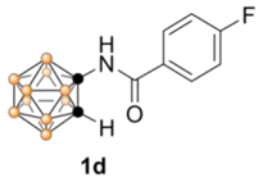

| Parameter | 值 |
|---|---|
| 1 Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-1dddd-C/ 1/ fid |
| 2 标题 | jhr-1dddd-C.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 297.1 |
| 11 Pulse Sequence | zgpg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 233 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2999 |
| 20 Acquisition Date | 2022-09-03T20:22:43 |
| 21 Modification Date | 2022-09-03T20:22:46 |
| 22 Class | |
| 23 Spectrometer Frequency | 100.64 |
| 24 Spectral Width | 25252.5 |
| 25 Lowest Frequency | -1544.8 |
| 26 Nucleus | 13C |
| 27 Acquired Size | 32827 |
| 28 Spectral Size | 131072 |
| 29 Digital Resolution | 0.19 |



1d



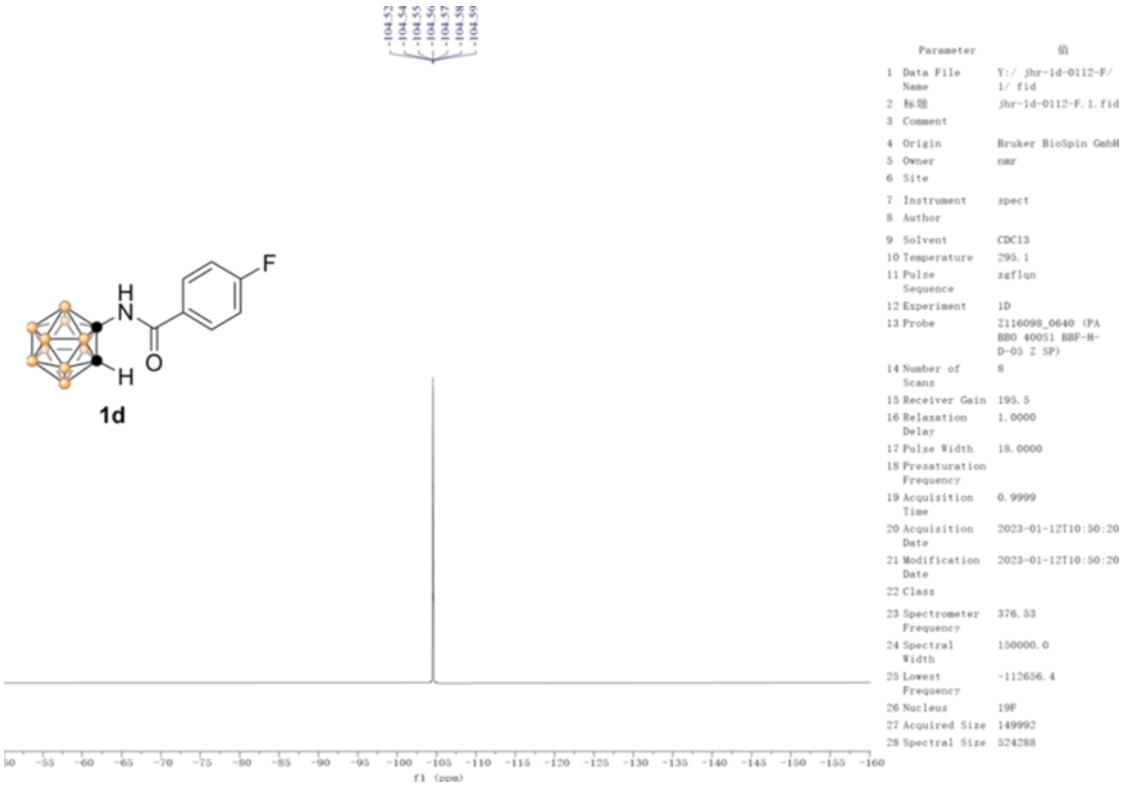

| Parameter | 值 |
|---|---|
| 1 Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4011-B/ 1/ fid |
| 2 标题 | jhr-4011-B.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 296.2 |
| 11 Pulse Sequence | aring-b11 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PABBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 2 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2845 |
| 20 Acquisition Date | 2022-06-19T16:21:03 |
| 21 Modification Date | 2022-06-19T16:21:04 |
| 22 Class | |
| 23 Spectrometer Frequency | 128.40 |
| 24 Spectral Width | 25510.2 |
| 25 Lowest Frequency | -12755.1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.39 |



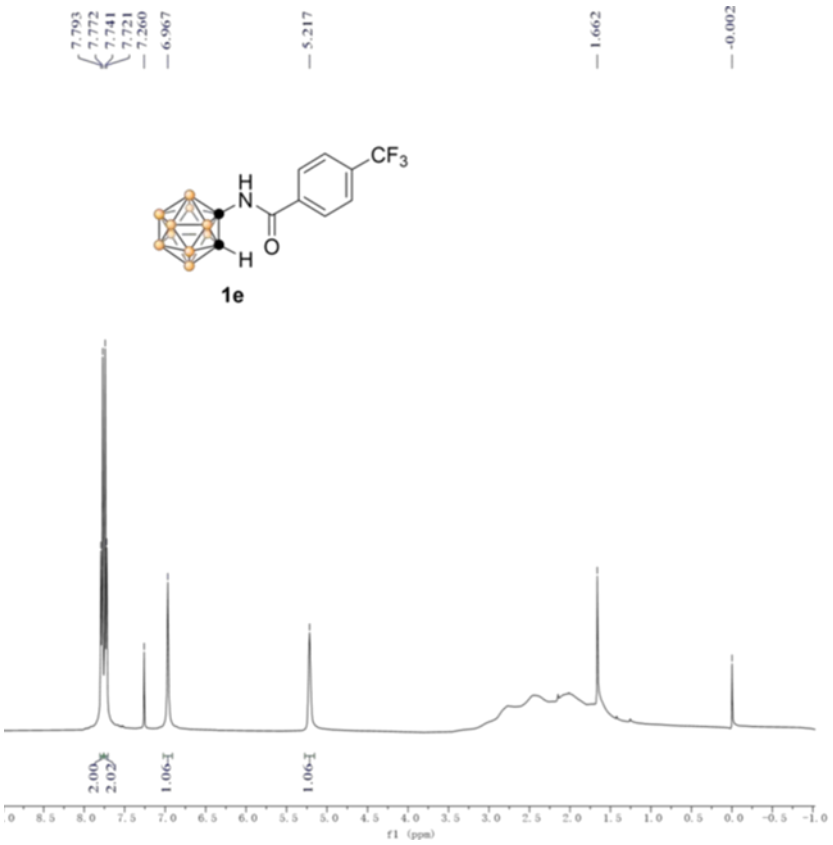
1d




| Parameter | 值 |
|---|---|
| 1 Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4011-noB/ 1/ fid |
| 2 标题 | jhr-4011-noB.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 296.2 |
| 11 Pulse Sequence | aring |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PABBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 2 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2845 |
| 20 Acquisition Date | 2022-06-19T16:21:26 |
| 21 Modification Date | 2022-06-19T16:21:27 |
| 22 Class | |
| 23 Spectrometer Frequency | 128.40 |
| 24 Spectral Width | 25510.2 |
| 25 Lowest Frequency | -12755.1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.39 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-1d-0112-F/1/ fid |
| 2 | 标题 | jhr-1d-0112-F.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.1 |
| 11 | Pulse Sequence | zgflqn |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PABBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 8 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 18.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 0.9999 |
| 20 | Acquisition Date | 2023-01-12T10:50:20 |
| 21 | Modification Date | 2023-01-12T10:50:20 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 376.53 |
| 24 | Spectral Width | 150000.0 |
| 25 | Lowest Frequency | -112656.4 |
| 26 | Nucleus | 19F |
| 27 | Acquired Size | 149992 |
| 28 | Spectral Size | 524288 |




| Parameter | 值 |
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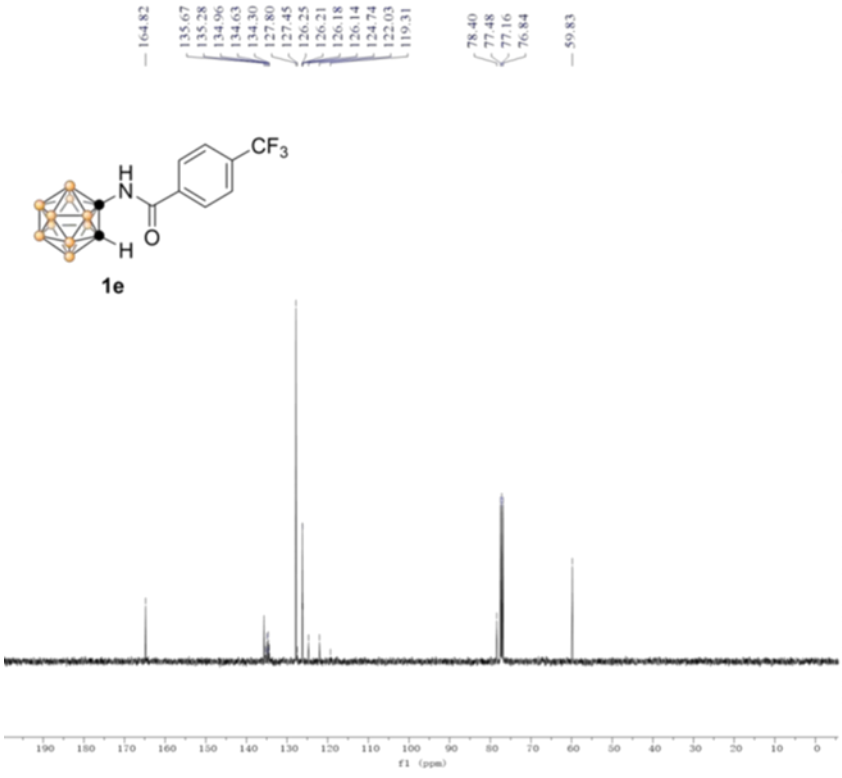
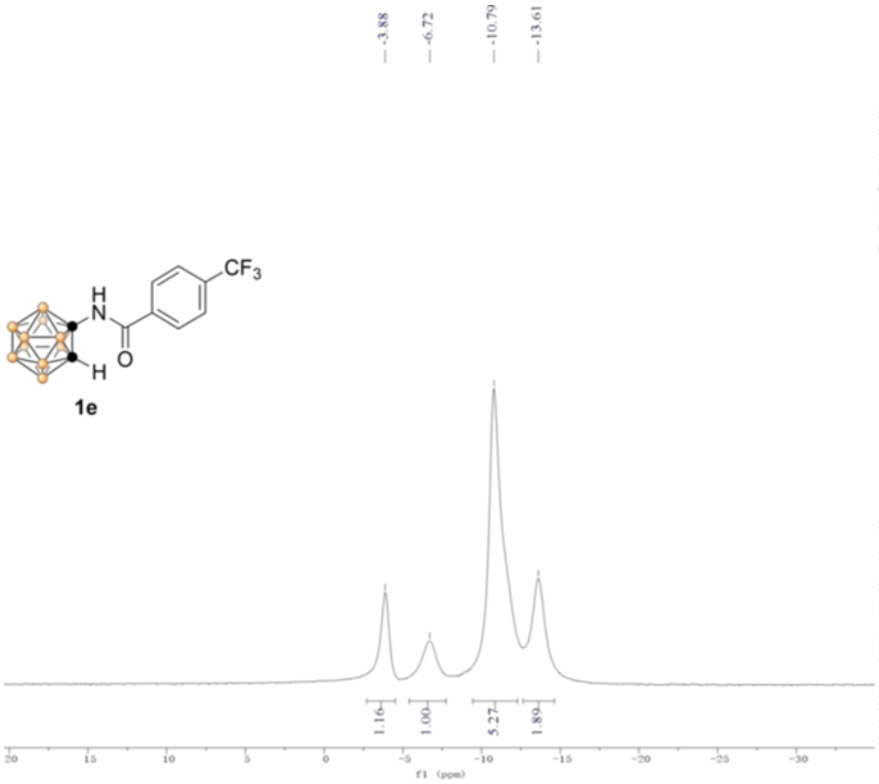
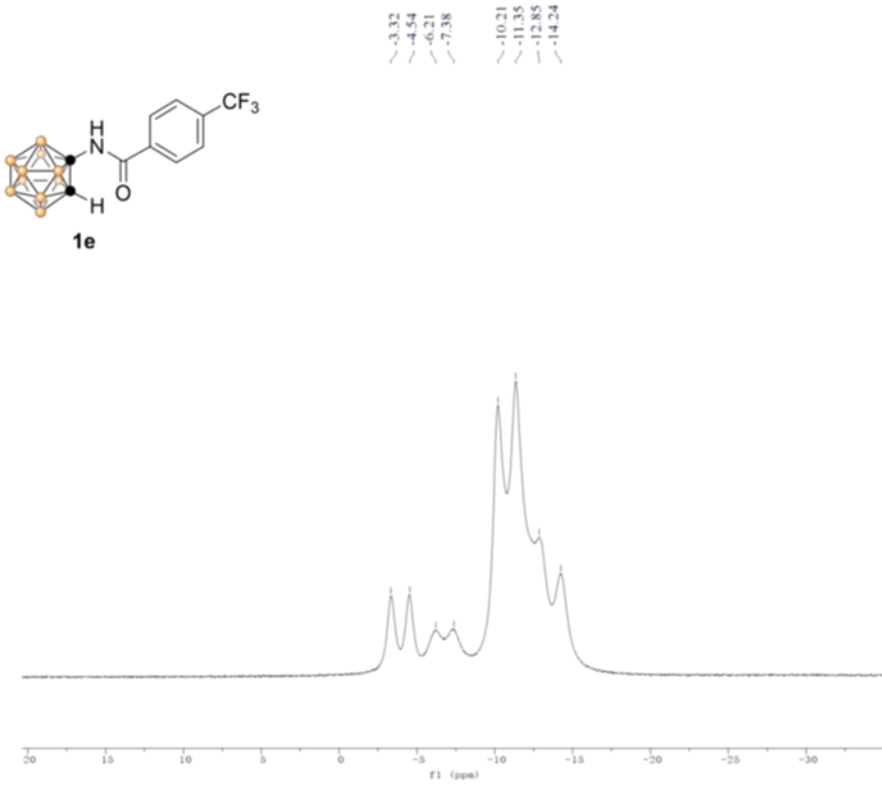
| 1 Data File Name | D:/ / -收谱/ 原料/ jhr-1e/ 4/ fid |
| 2 标题 | jhr-1e.4.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 297.0 |
| 11 Pulse Sequence | zg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 5 |
| 15 Receiver Gain | 77.4 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 2.9998 |
| 20 Acquisition Date | 2022-08-16T19:17:45 |
| 21 Modification Date | 2022-08-16T19:17:46 |
| 22 Class | |
| 23 Spectrometer Frequency | 400.20 |
| 24 Spectral Width | 4807.7 |
| 25 Lowest Frequency | -412.7 |
| 26 Nucleus | 1H |
| 27 Acquired Size | 14422 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.07 |



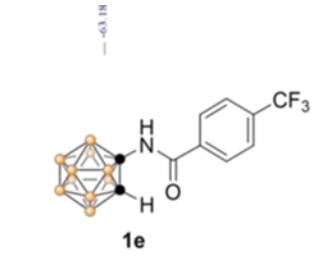

| Parameter | 值 |
|---|---|
| 1 Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-1ee-C/ 1/ fid |
| 2 标题 | jhr-1ee-C.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 297.2 |
| 11 Pulse Sequence | zgpg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 71 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2999 |
| 20 Acquisition Date | 2022-08-17T19:38:01 |
| 21 Modification Date | 2022-08-17T19:38:04 |
| 22 Class | |
| 23 Spectrometer Frequency | 100.64 |
| 24 Spectral Width | 25252.5 |
| 25 Lowest Frequency | -1546.6 |
| 26 Nucleus | 13C |
| 27 Acquired Size | 32827 |
| 28 Spectral Size | 131072 |
| 29 Digital Resolution | 0.19 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 原料合成/ 酰胺底物/ 3077/ jhr-3077-3-B/ 1/ fid |
| 2 | 标题 | jhr-3077-3-B. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298. 1 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 6 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-03-10T19:48:33 |
| 21 | Modification Date | 2022-03-10T19:48:34 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 原料合成/ 酰胺底物/ 3077/ jhr-3077-3-no B/ 1/ fid |
| 2 | 标题 | jhr-3077-3-no B. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298. 1 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 6 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-03-10T19:49:06 |
| 21 | Modification Date | 2022-03-10T19:49:07 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |

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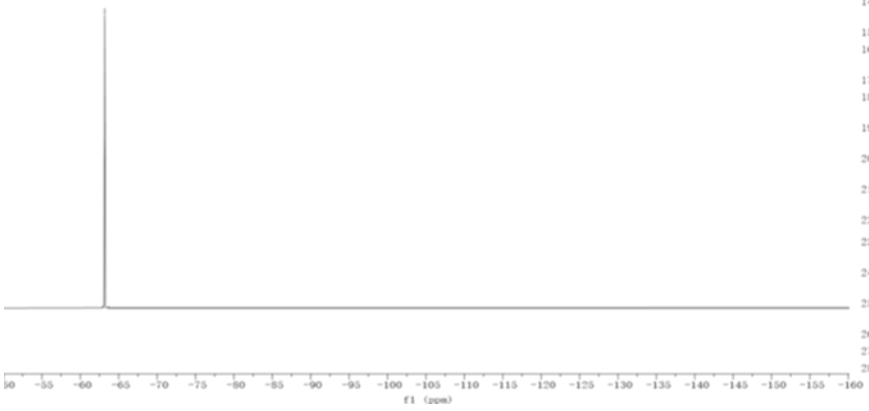
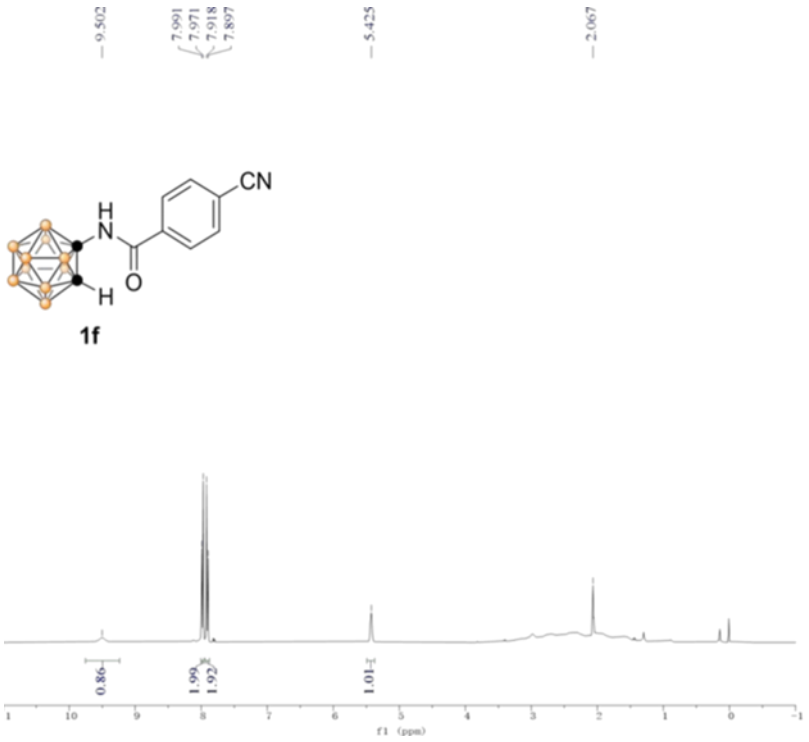
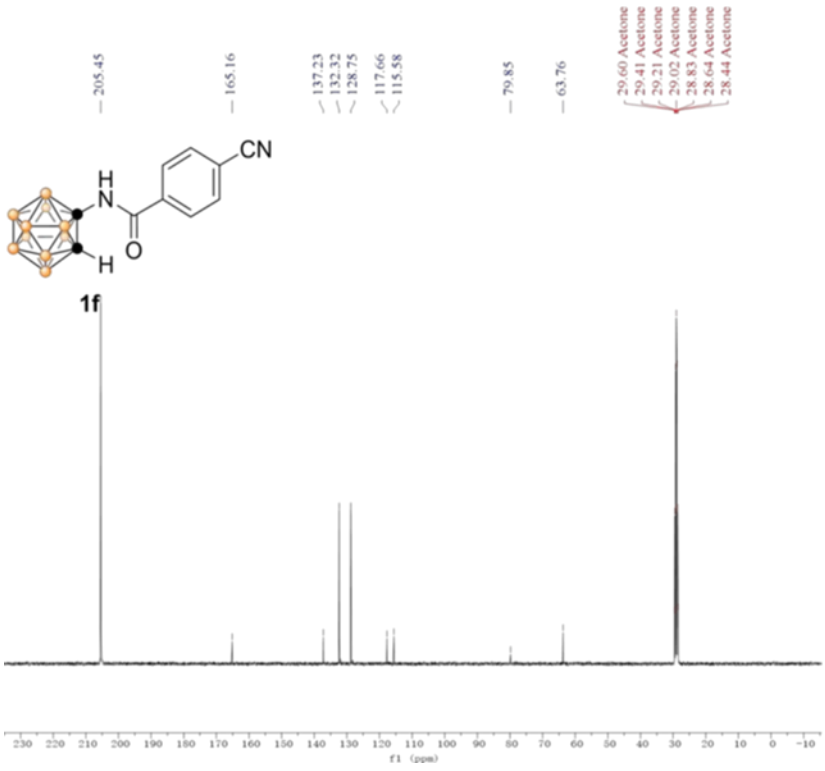


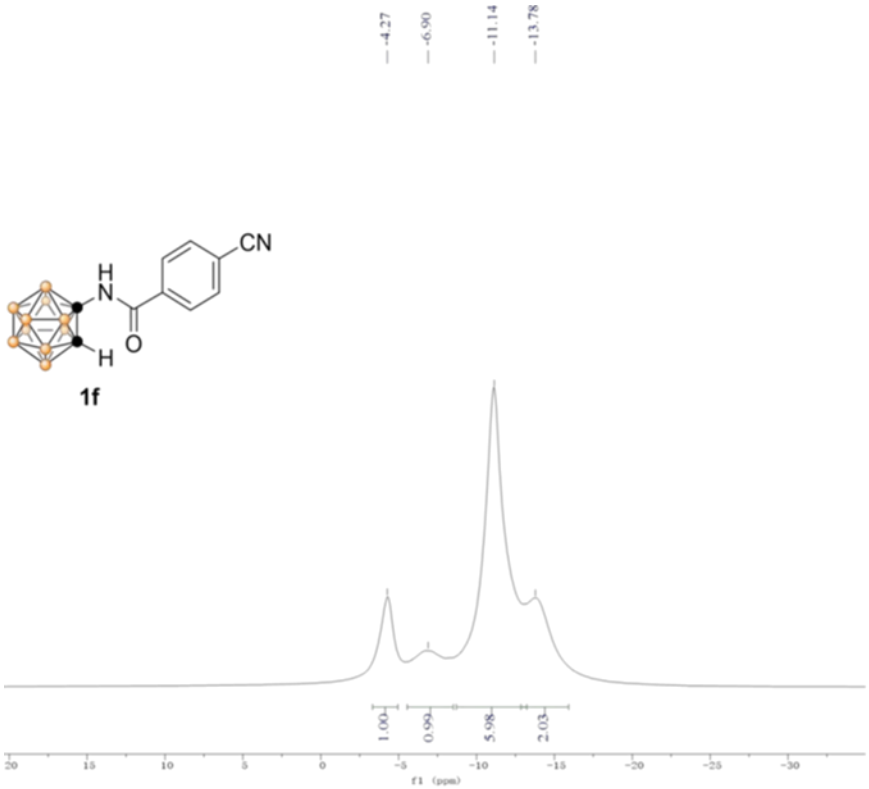

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-1e-0112-F/ 1/ fid |
| 2 | 标题 | jhr-1e-0112-F.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.0 |
| 11 | Pulse Sequence | zgflqn |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 9 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 18.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 0.9999 |
| 20 | Acquisition Date | 2023-01-12T10:47:23 |
| 21 | Modification Date | 2023-01-12T10:47:23 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 376.53 |
| 24 | Spectral Width | 150000.0 |
| 25 | Lowest Frequency | -112656.4 |
| 26 | Nucleus | 19F |
| 27 | Acquired Size | 149992 |
| 28 | Spectral Size | 524288 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-1f-0111-d-acetone/ 1/ fid |
| 2 | 标题 | jhr-1f-0111-d-acetone. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | Acetone |
| 10 | Temperature | 294.9 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 32 |
| 15 | Receiver Gain | 56.7 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2023-01-11T12:47:33 |
| 21 | Modification Date | 2023-01-11T12:47:34 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -402.8 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-1f-0111-d-acetone-C/ 1/ fid |
| 2 | 标题 | jhr-1f-0111-d-acetone-C. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | Acetone |
| 10 | Temperature | 295.0 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 159 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2023-01-11T12:56:13 |
| 21 | Modification Date | 2023-01-11T12:56:14 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1556.9 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |




| | Parameter | 值 |
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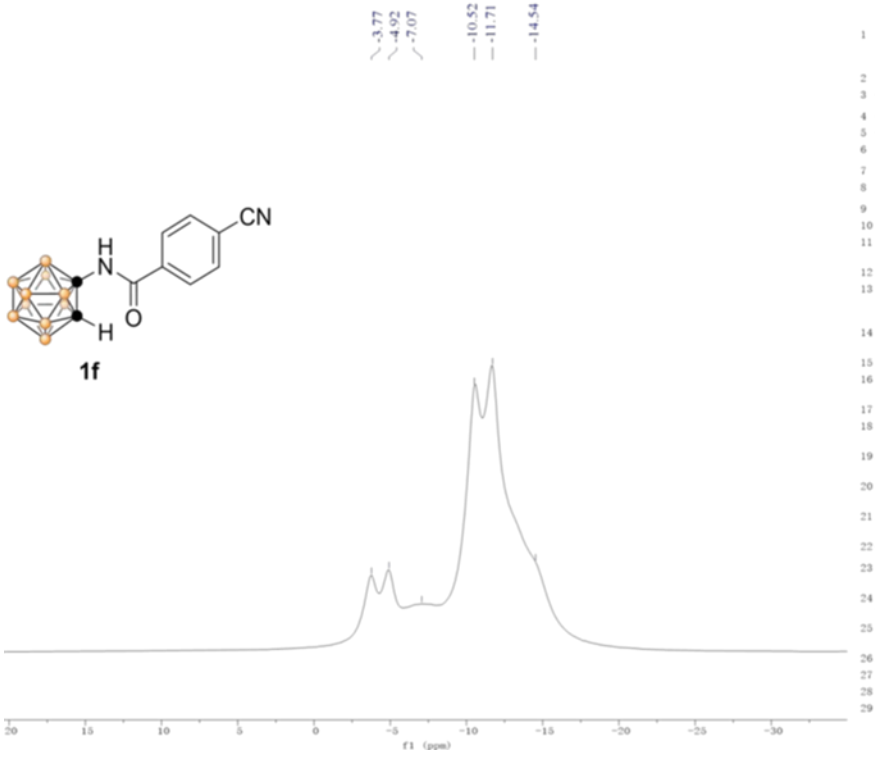
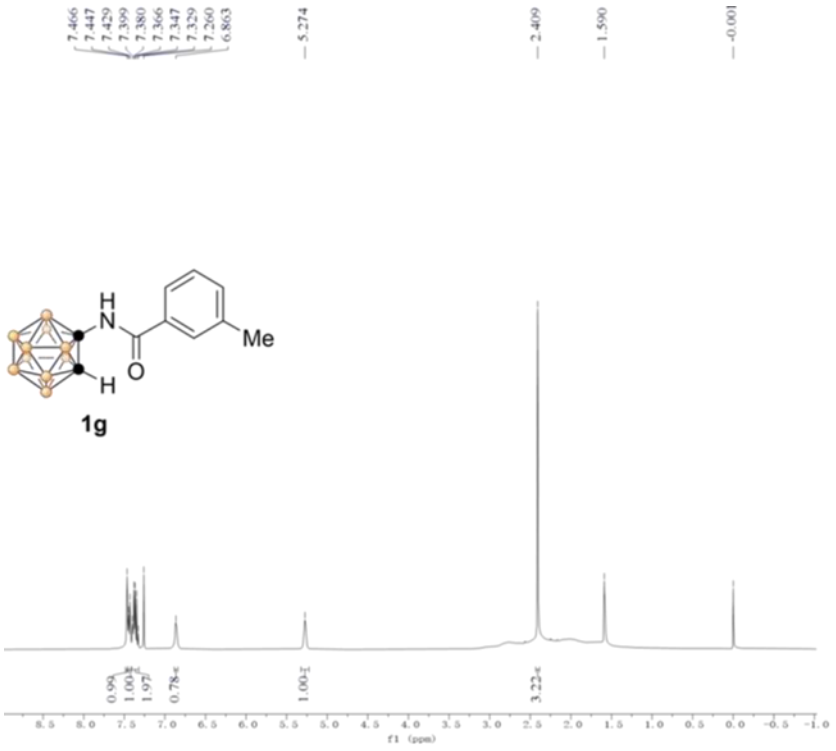
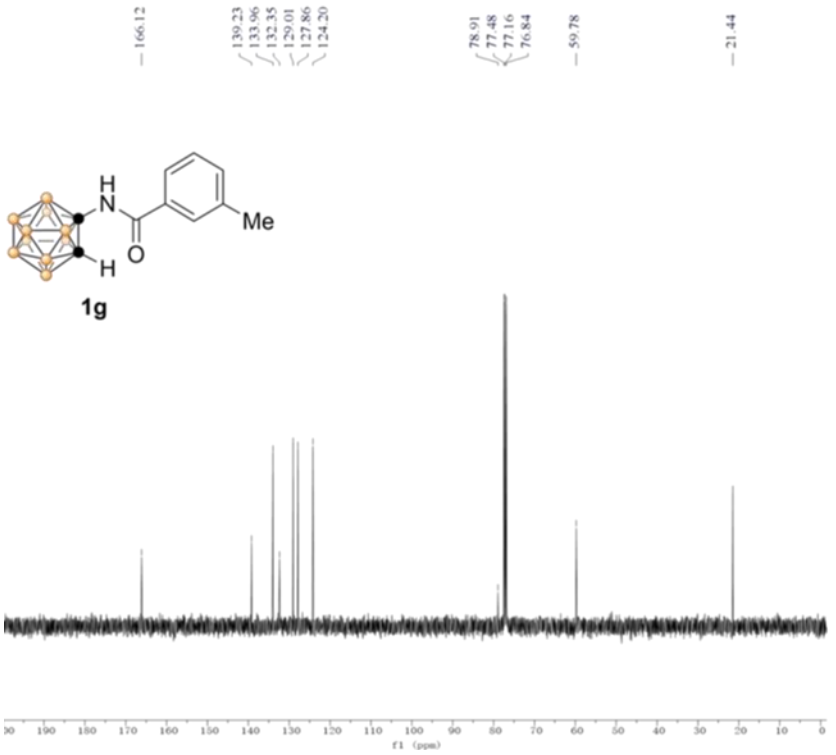
| 1 | Data File Name | / / 10.0.19.201/ nmr/ jhr-1f-B/ 1/ fid |
| 2 | 标题 | jhr-1f-B.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | THF |
| 10 | Temperature | 298.2 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PABBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 5 |
| 15 | Receiver Gain | 77.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2023-02-14T17:17:23 |
| 21 | Modification Date | 2023-02-14T17:17:24 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |



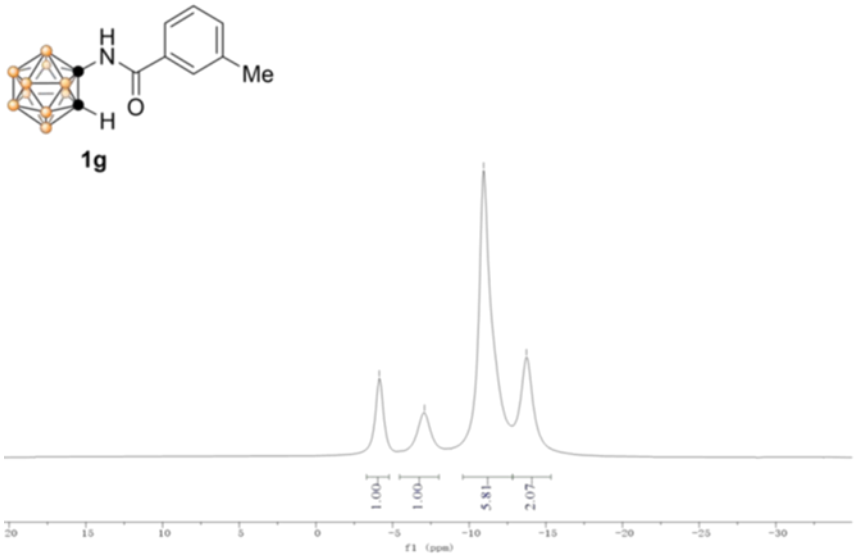

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.201/ nmr/ jhr-1f-no B/ 1/ fid |
| 2 | 标题 | jhr-1f-no B.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | THF |
| 10 | Temperature | 298.1 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PABBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 8 |
| 15 | Receiver Gain | 77.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2023-02-14T17:18:06 |
| 21 | Modification Date | 2023-02-14T17:18:07 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |




| Parameter | 值 |
|---|---|
| 1 Data File Name | D:/-收谱/ 原料/ jhr-1g/ 6/ fid |
| 2 标题 | jhr-1g.6.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 297.1 |
| 11 Pulse Sequence | zg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 5 |
| 15 Receiver Gain | 77.4 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 2.9998 |
| 20 Acquisition Date | 2022-08-16T19:23:46 |
| 21 Modification Date | 2022-08-16T19:23:46 |
| 22 Class | |
| 23 Spectrometer Frequency | 400.20 |
| 24 Spectral Width | 4807.7 |
| 25 Lowest Frequency | -412.9 |
| 26 Nucleus | 1H |
| 27 Acquired Size | 14422 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.07 |




| Parameter | 值 |
|---|---|
| 1 Data File Name | D:/ 收谱/ 底物/ jhr-1gg-C/ 1/ fid |
| 2 标题 | jhr-1gg-C.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 297.2 |
| 11 Pulse Sequence | zgpg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 16 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2999 |
| 20 Acquisition Date | 2022-08-17T19:41:29 |
| 21 Modification Date | 2022-08-17T19:41:29 |
| 22 Class | |
| 23 Spectrometer Frequency | 100.64 |
| 24 Spectral Width | 25252.5 |
| 25 Lowest Frequency | -1547.7 |
| 26 Nucleus | 13C |
| 27 Acquired Size | 32827 |
| 28 Spectral Size | 131072 |
| 29 Digital Resolution | 0.19 |

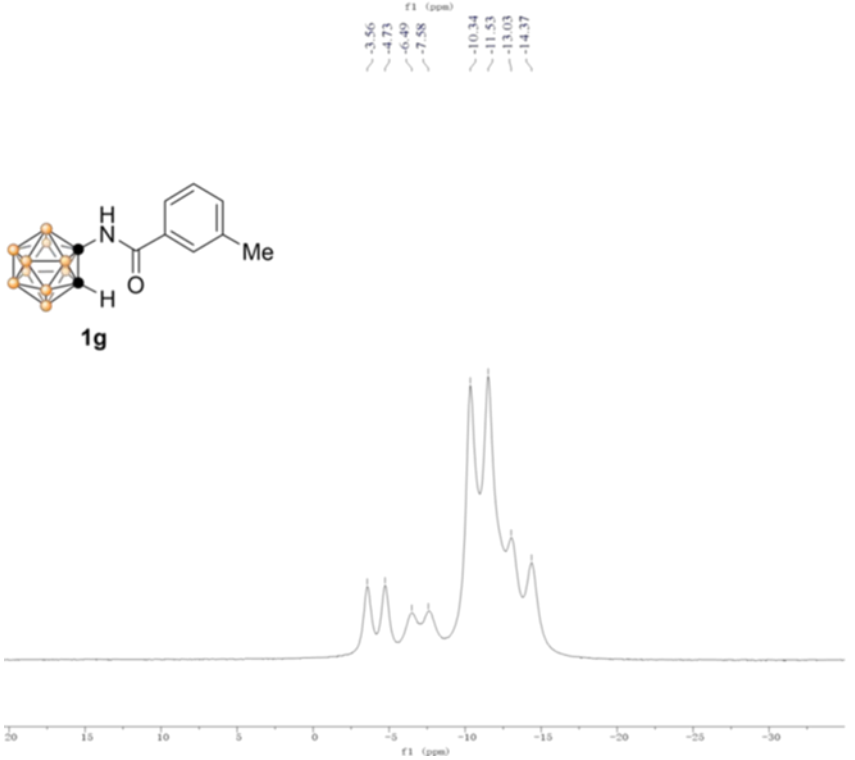






1g

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-lg-0112-deB/ 1/ fid |
| 2 | 标题 | jhr-lg-0112-deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | C6D6 |
| 10 | Temperature | 295.0 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 8 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2023-01-12T09:46:20 |
| 21 | Modification Date | 2023-01-12T09:46:21 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |

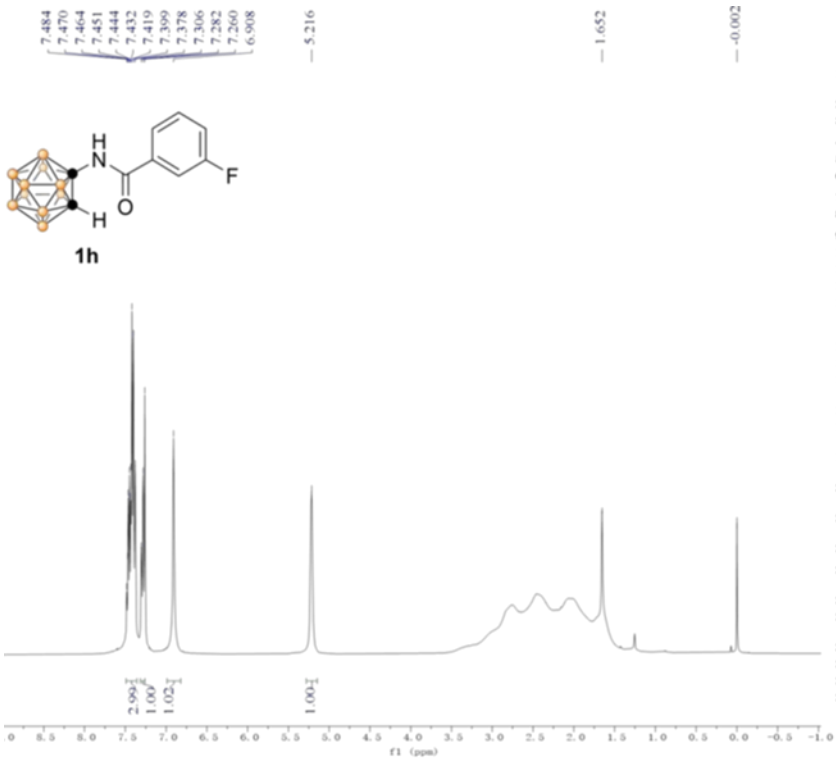




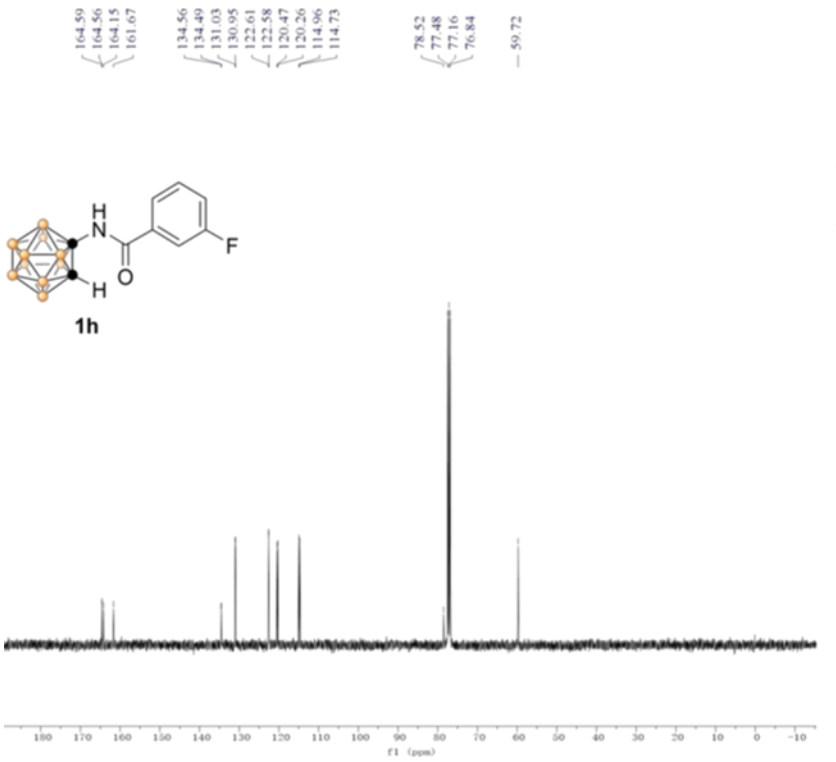


1g

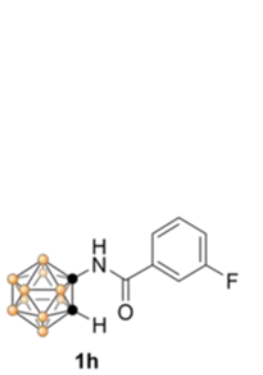
| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-lg-0112-no deB/ 1/ fid |
| 2 | 标题 | jhr-lg-0112-no deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | C6D6 |
| 10 | Temperature | 295.0 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 11 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2023-01-12T09:45:42 |
| 21 | Modification Date | 2023-01-12T09:45:43 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | I:/ 布鲁克-jhr/ 收谱/ jhr-1hhh/ 1/ fid |
| 2 | 标题 | jhr-1hhh. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 296. 9 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 4 |
| 15 | Receiver Gain | 77. 4 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2. 9998 |
| 20 | Acquisition Date | 2022-09-02T13:40:42 |
| 21 | Modification Date | 2022-09-02T13:40:44 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400. 20 |
| 24 | Spectral Width | 4807. 7 |
| 25 | Lowest Frequency | -413. 0 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 07 |



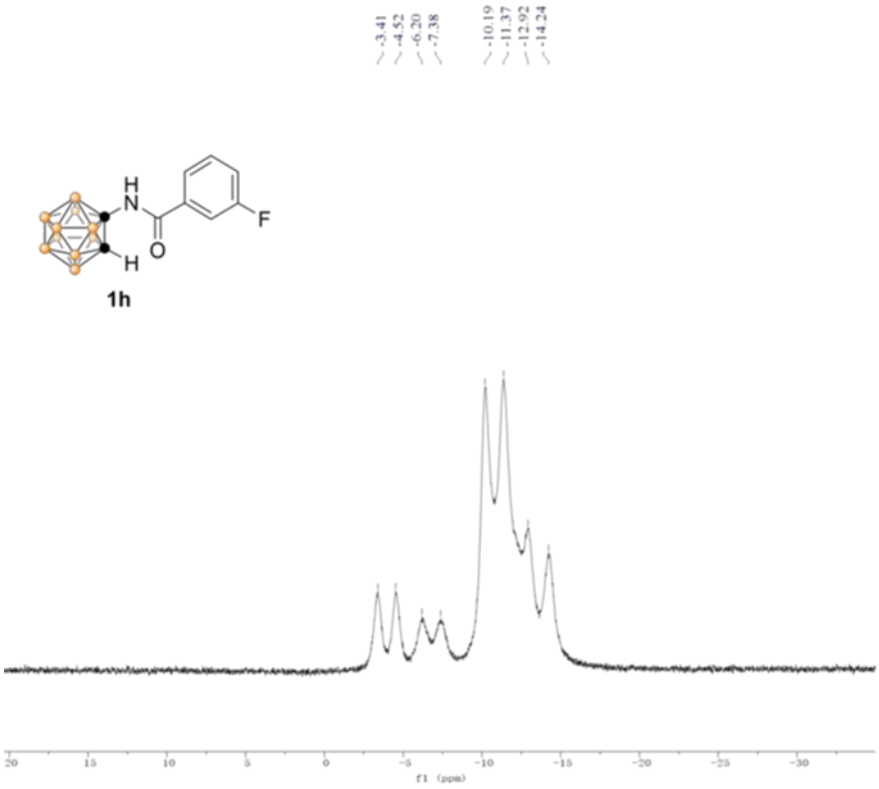

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-1h-C/ 1/ fid |
| 2 | 标题 | jhr-1h-C. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 296. 1 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 222 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2999 |
| 20 | Acquisition Date | 2022-10-21T19:41:05 |
| 21 | Modification Date | 2022-10-21T19:41:08 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100. 64 |
| 24 | Spectral Width | 25252. 5 |
| 25 | Lowest Frequency | -1343. 6 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0. 19 |




1h




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4009-B/ 1/ fid |
| 2 | 标题 | jhr-4009-B. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296. 2 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 3 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-06-19T16:19:03 |
| 21 | Modification Date | 2022-06-19T16:19:04 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |

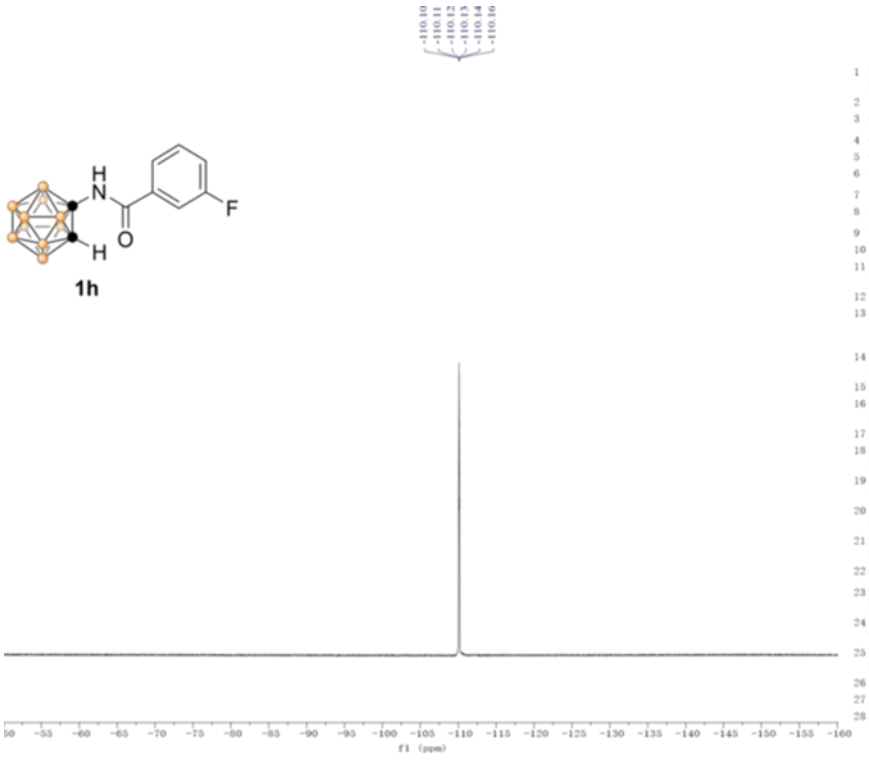




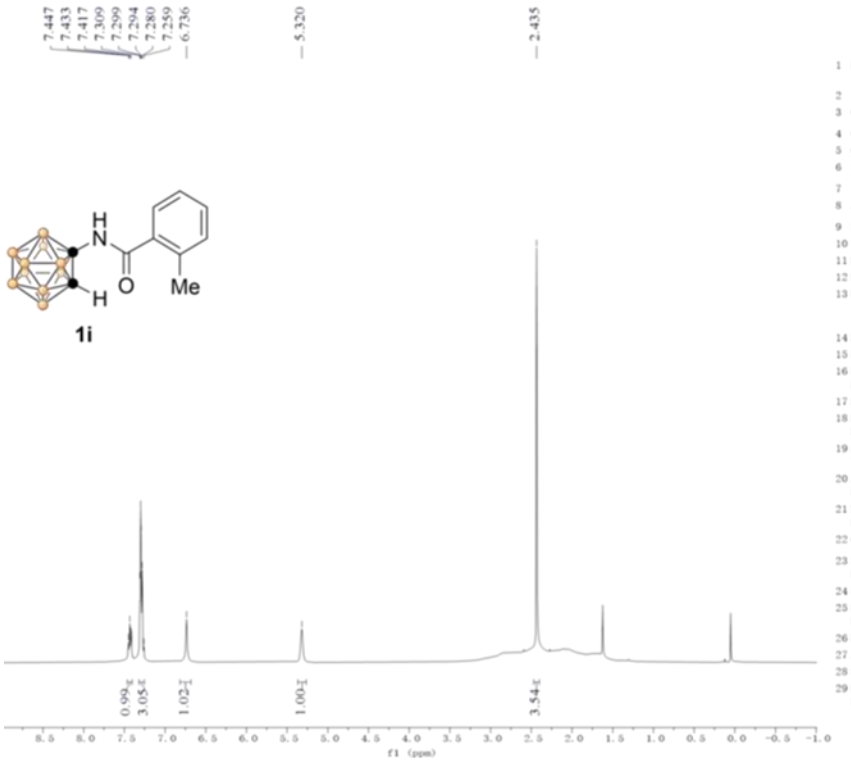


1h

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4009-noB/ 1/ fid |
| 2 | 标题 | jhr-4009-noB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296. 2 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 4 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-06-19T16:19:28 |
| 21 | Modification Date | 2022-06-19T16:19:28 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |

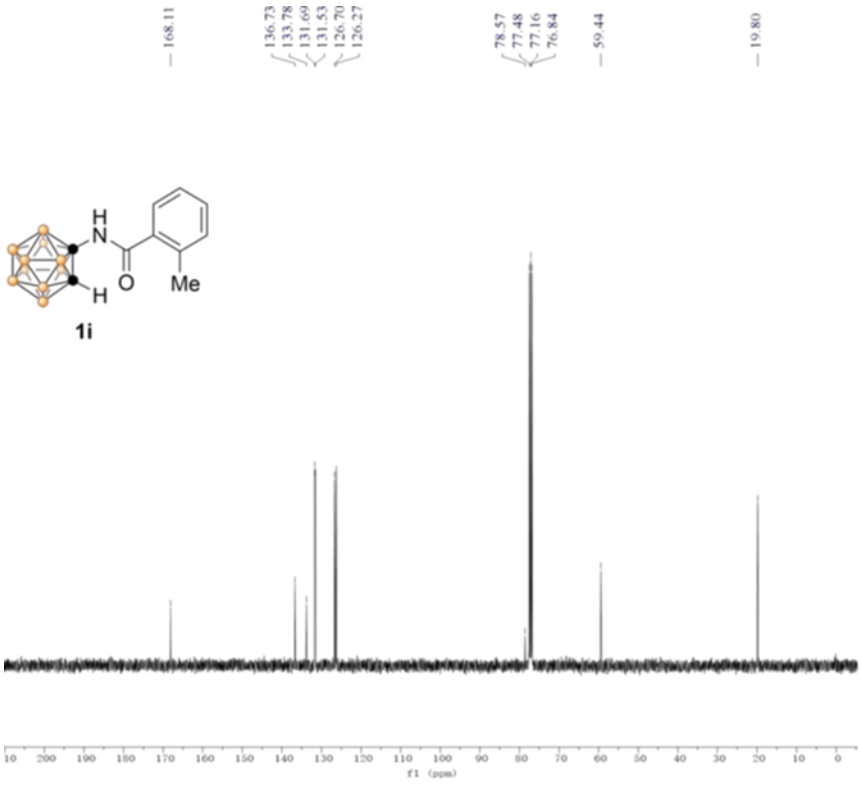



| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-1h-0112-F/2/ fid |
| 2 | 标题 | jhr-1h-0112-F.2.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 295.0 |
| 11 | Pulse Sequence | zgflqn |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PABBO 40051 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 8 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 18.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 0.9999 |
| 20 | Acquisition Date | 2023-01-12T10:42:44 |
| 21 | Modification Date | 2023-01-12T10:42:44 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 376.53 |
| 24 | Spectral Width | 150000.0 |
| 25 | Lowest Frequency | -112656.4 |
| 26 | Nucleus | 19F |
| 27 | Acquired Size | 149992 |
| 28 | Spectral Size | 524288 |



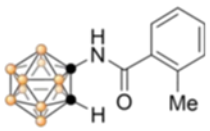

1i

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | I:/ 布鲁克-jhr/ 收谱/ jhr-1i/ 6/ fid |
| 2 | 标题 | jhr-1i.6.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.9 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 7 |
| 15 | Receiver Gain | 77.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-09-08T12:50:47 |
| 21 | Modification Date | 2022-09-08T12:50:50 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 7598.8 |
| 25 | Lowest Frequency | -1188.9 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 22795 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.12 |




1i

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-1i-C/ 1/ fid |
| 2 | 标题 | jhr-1i-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.8 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 201 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-09-09T19:26:10 |
| 21 | Modification Date | 2022-09-09T19:26:12 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1545.6 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |



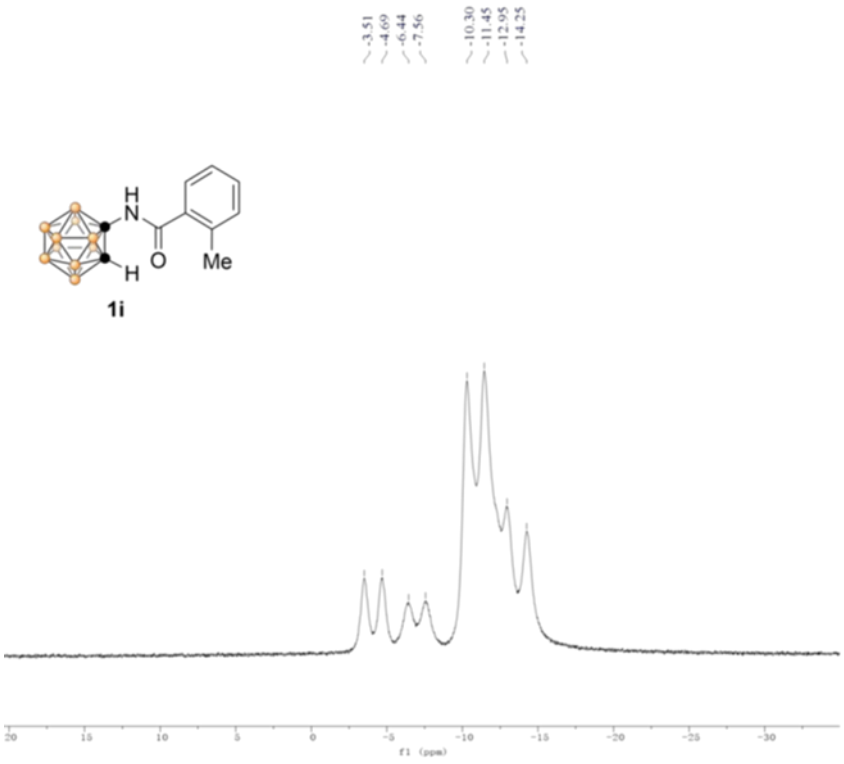

1i



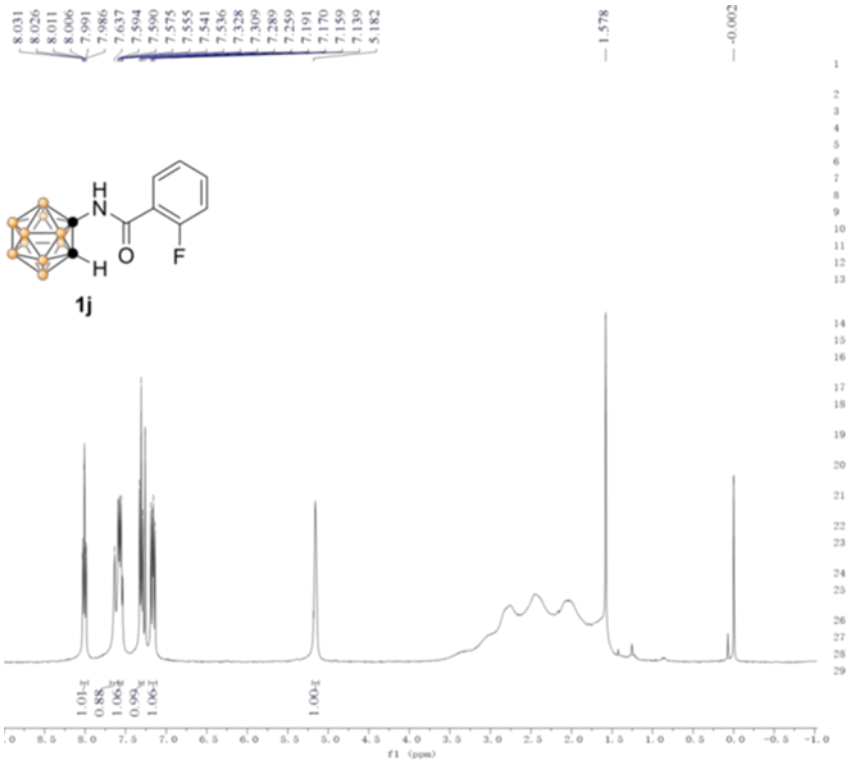

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4040-1-B/ 1/ fid |
| 2 | 标题 | jhr-4040-1-B. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296. 8 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 23 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-07-12T23:34:25 |
| 21 | Modification Date | 2022-07-12T23:34:26 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |



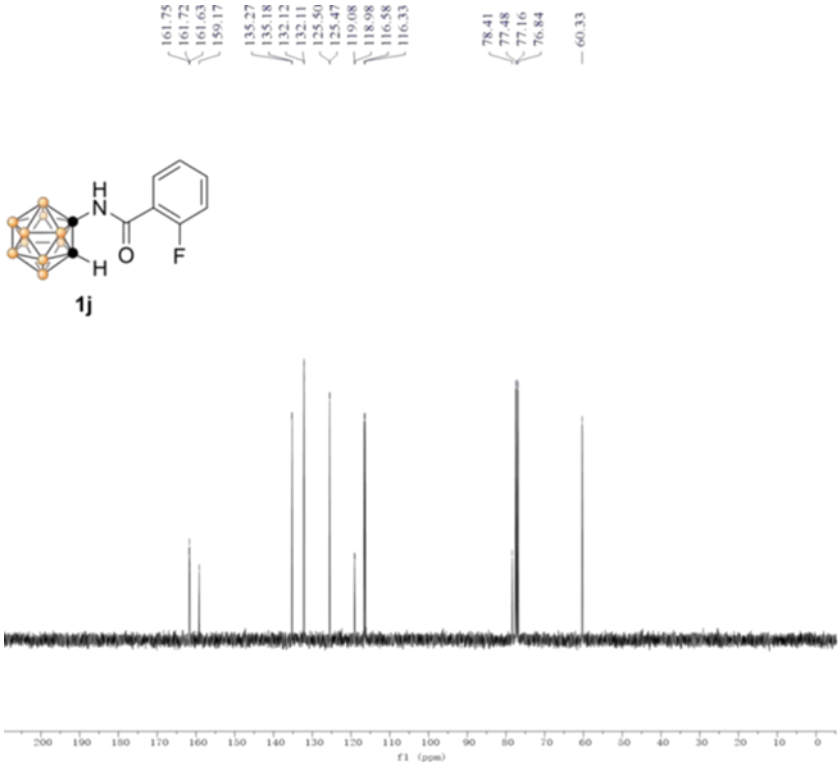

1i



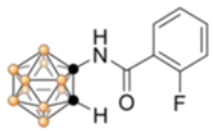

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4040-1-noB/ 1/ fid |
| 2 | 标题 | jhr-4040-1-noB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296. 5 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 29 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-07-12T23:33:11 |
| 21 | Modification Date | 2022-07-12T23:33:12 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |




| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 收遗/ 原料/ jhr-1j/ 8/ fid |
| 2 | 标题 | jhr-1j.8.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 297.1 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 40051 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 4 |
| 15 | Receiver Gain | 77.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-08-16T19:29:18 |
| 21 | Modification Date | 2022-08-16T19:29:19 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -413.1 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |



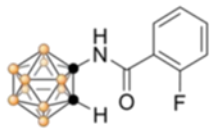

| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收遗/ jhr-1j-C/ 1/ fid |
| 2 | 标题 | jhr-1j-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 297.2 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 40051 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 21 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-08-17T19:54:19 |
| 21 | Modification Date | 2022-08-17T19:54:22 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1552.9 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |



1j



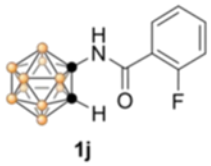

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 原料合成/ 酰胺底物/ 3077/ jhr-3077-1-B/ 1/ fid |
| 2 | 标题 | jhr-3077-1-B.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.2 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 5 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-03-10T19:47:49 |
| 21 | Modification Date | 2022-03-10T19:47:50 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |



1j



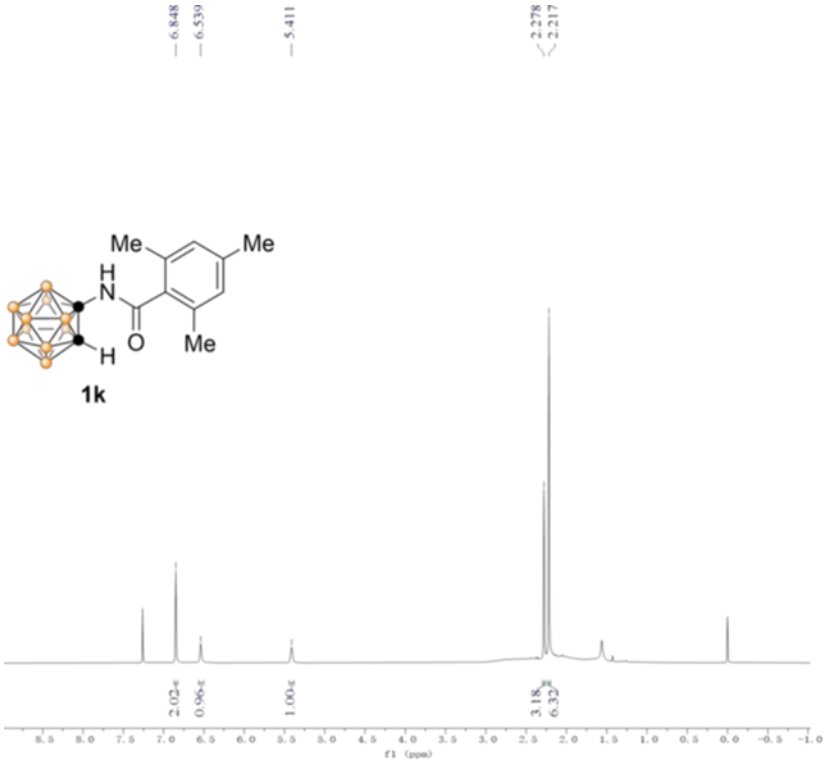

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 原料合成/ 酰胺底物/ 3077/ jhr-3077-1-no B/ 1/ fid |
| 2 | 标题 | jhr-3077-1-no B.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.1 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 6 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-03-10T19:47:17 |
| 21 | Modification Date | 2022-03-10T19:47:18 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |



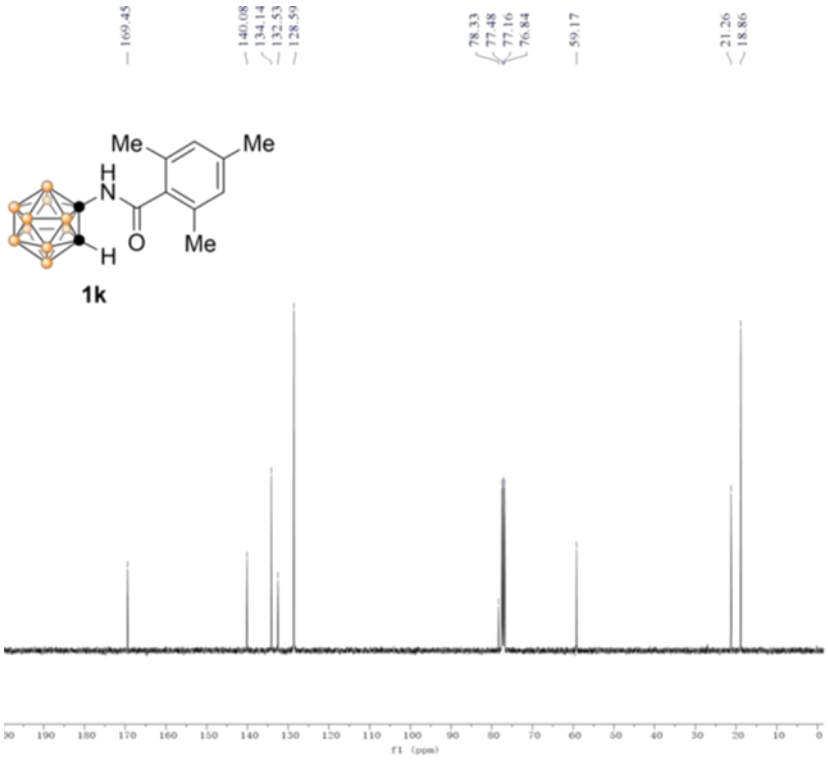

**1j**



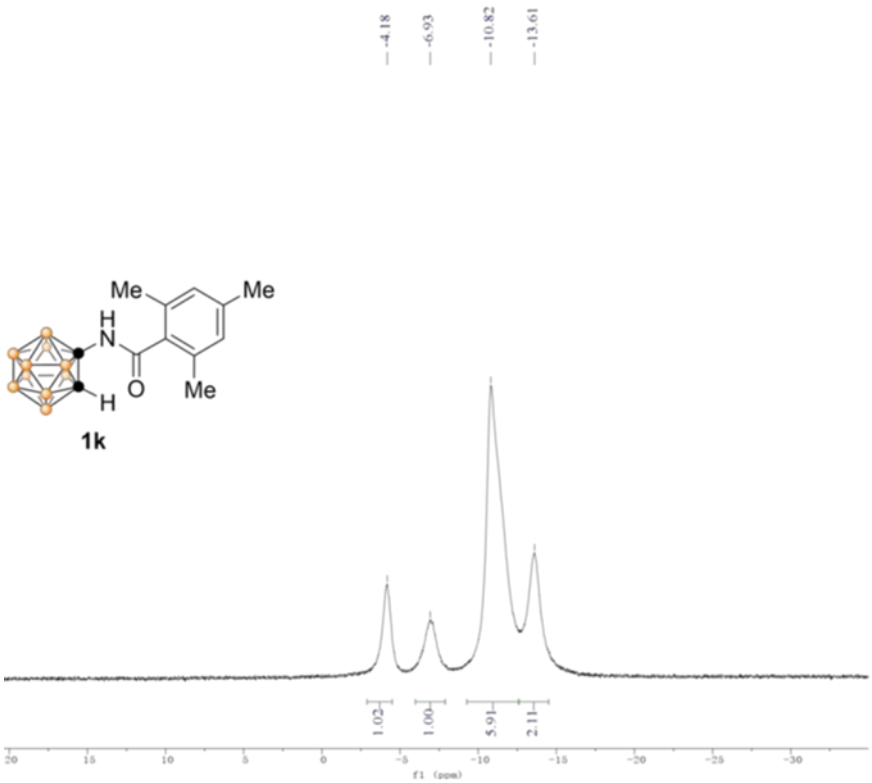

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-1j-0112-F/1/ fid |
| 2 | 标题 | jhr-1j-0112-F.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.1 |
| 11 | Pulse Sequence | zgflqn |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PABBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 15 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 18.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 0.9999 |
| 20 | Acquisition Date | 2023-01-12T10:45:08 |
| 21 | Modification Date | 2023-01-12T10:45:08 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 376.53 |
| 24 | Spectral Width | 150000.0 |
| 25 | Lowest Frequency | -112656.4 |
| 26 | Nucleus | 19F |
| 27 | Acquired Size | 149992 |
| 28 | Spectral Size | 524288 |



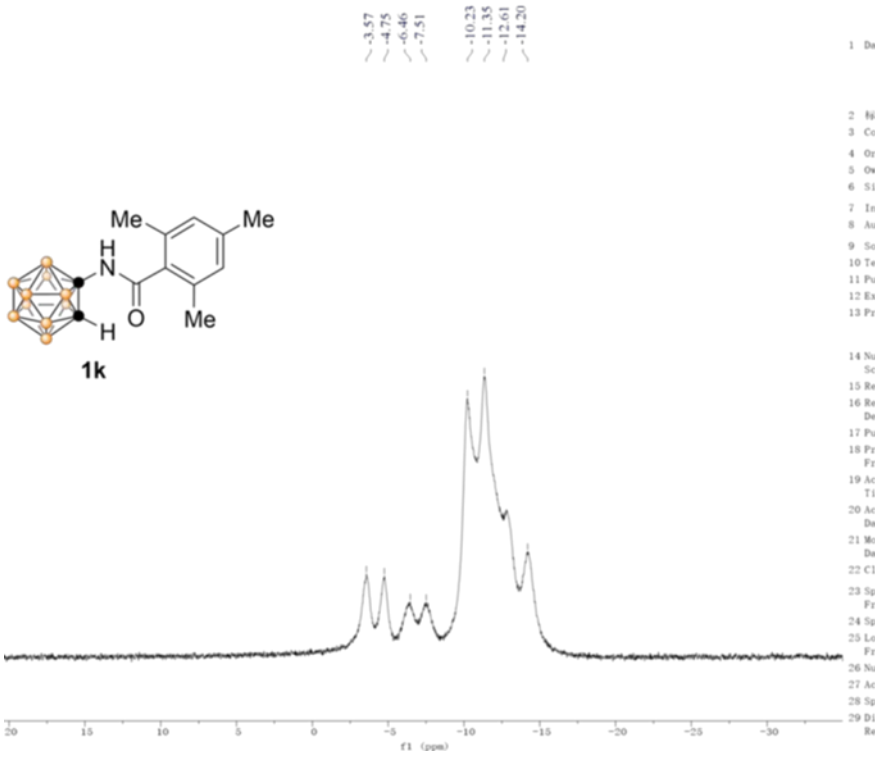

| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 收谱/ 原料/ jhr-1k/ 9/ fid |
| 2 | 标题 | jhr-1k.9.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 297.1 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 4 |
| 15 | Receiver Gain | 77.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-08-16T19:31:40 |
| 21 | Modification Date | 2022-08-16T19:31:40 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -412.9 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |



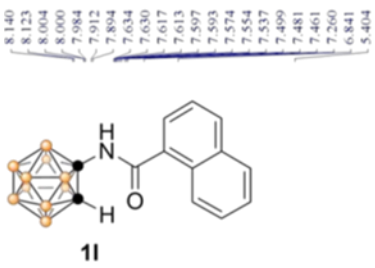

| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 一收谱/ 底物/ jhr-1k-C/ 1/ fid |
| 2 | 标题 | jhr-1k-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.2 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0643 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 150 |
| 15 | Receiver Gain | 197.1 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-08-19T20:20:52 |
| 21 | Modification Date | 2022-08-19T20:20:52 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.62 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1550.6 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 原料合成/ 酰胺底物/ 3081/ jhr-3081-3-B/ 1/ fid |
| 2 | 标题 | jhr-3081-3-B.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.0 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 6 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-03-29T20:26:24 |
| 21 | Modification Date | 2022-03-29T20:26:25 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 原料合成/ 酰胺底物/ 3081/ jhr-3081-3-noB/ 1/ fid |
| 2 | 标题 | jhr-3081-3-noB.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.0 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 6 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-03-29T20:26:58 |
| 21 | Modification Date | 2022-03-29T20:26:59 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |







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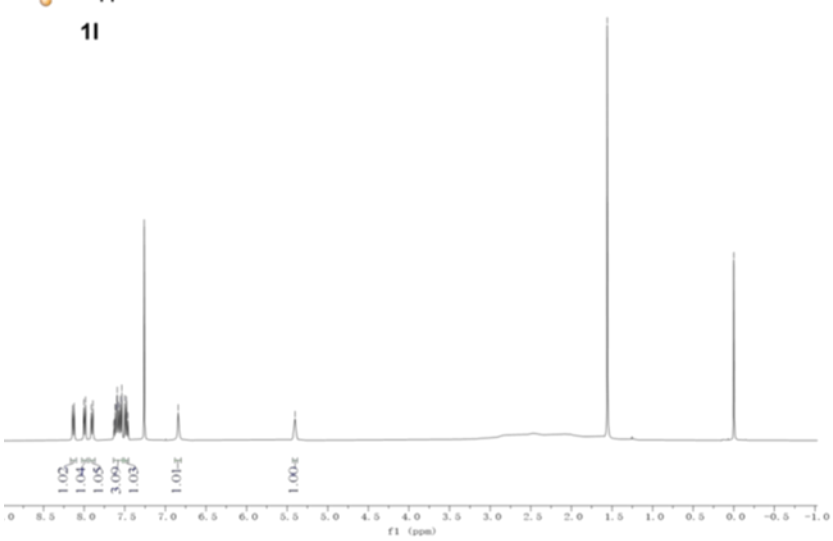
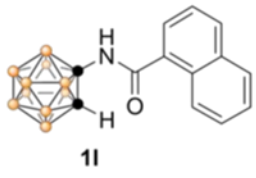



| Parameter | 值 |
|---|---|
| 1 Data File Name | D:/ -收谱/ 原料/ jhr-11/ 10/ fid |
| 2 标题 | jhr-11.10.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 297.1 |
| 11 Pulse Sequence | zg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 4 |
| 15 Receiver Gain | 141.8 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 2.9998 |
| 20 Acquisition Date | 2022-08-16T19:34:05 |
| 21 Modification Date | 2022-08-16T19:34:06 |
| 22 Class | |
| 23 Spectrometer Frequency | 400.20 |
| 24 Spectral Width | 4807.7 |
| 25 Lowest Frequency | -412.8 |
| 26 Nucleus | 1H |
| 27 Acquired Size | 14422 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.07 |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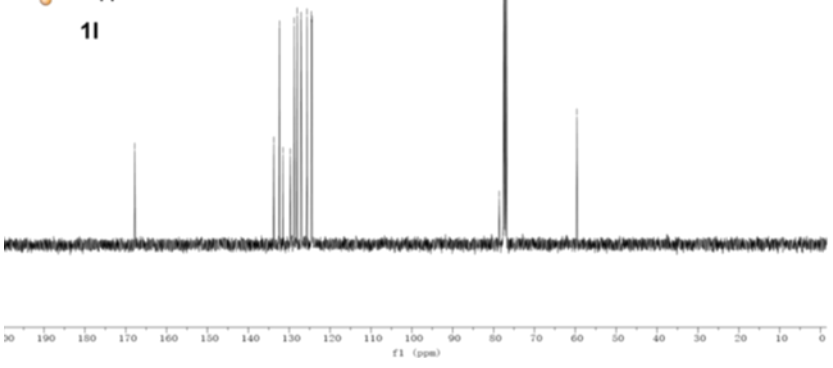
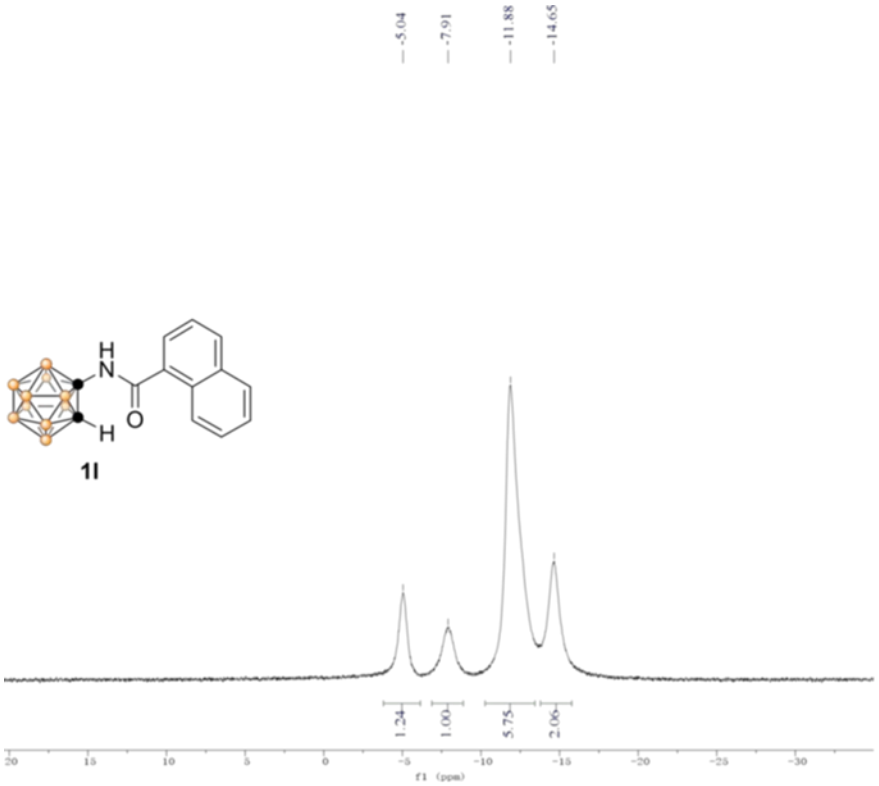
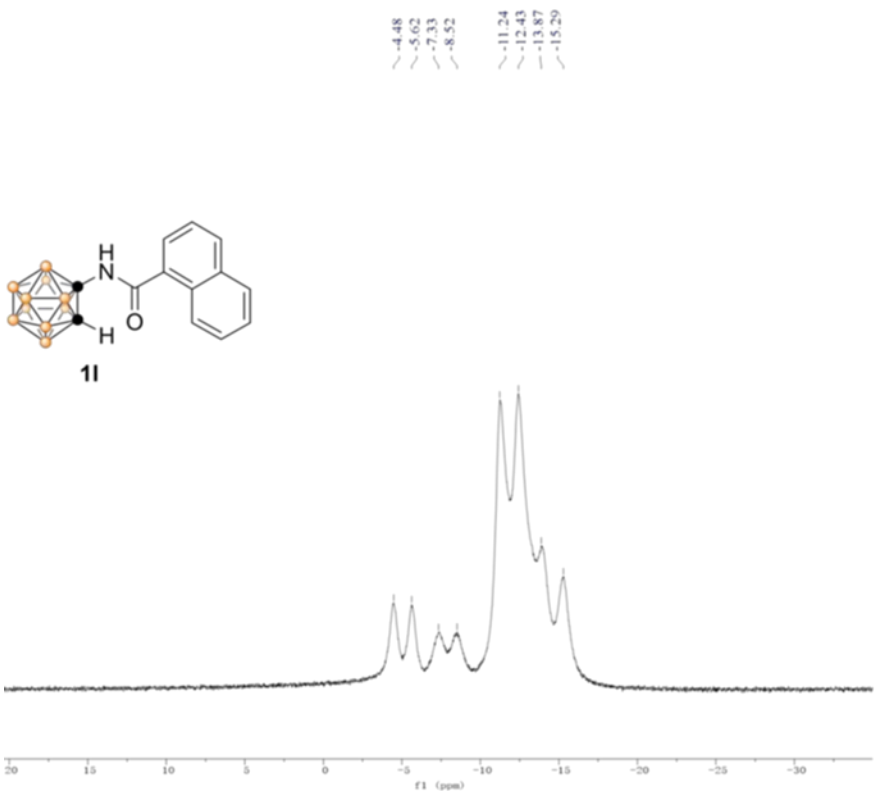


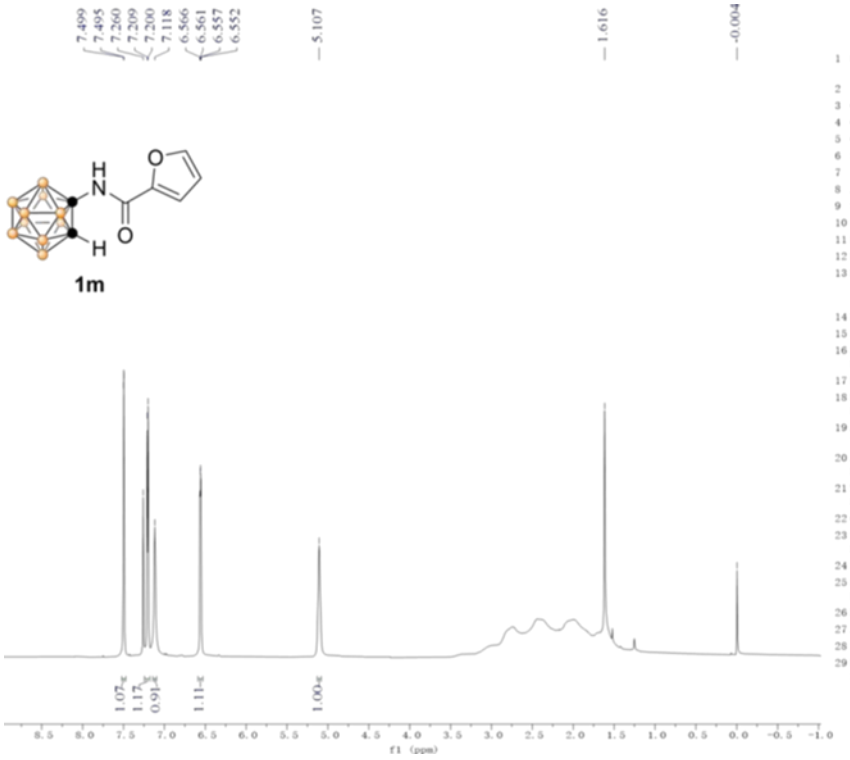

| Parameter | 值 |
|---|---|
| 1 Data File Name | D:/ -收谱/ 底物/ jhr-11-C/ 1/ fid |
| 2 标题 | jhr-11-C.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 298.1 |
| 11 Pulse Sequence | zgpg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0643 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 150 |
| 15 Receiver Gain | 197.1 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2999 |
| 20 Acquisition Date | 2022-08-19T21:17:43 |
| 21 Modification Date | 2022-08-19T21:17:43 |
| 22 Class | |
| 23 Spectrometer Frequency | 100.62 |
| 24 Spectral Width | 25252.5 |
| 25 Lowest Frequency | -1549.7 |
| 26 Nucleus | 13C |
| 27 Acquired Size | 32827 |
| 28 Spectral Size | 131072 |
| 29 Digital Resolution | 0.19 |



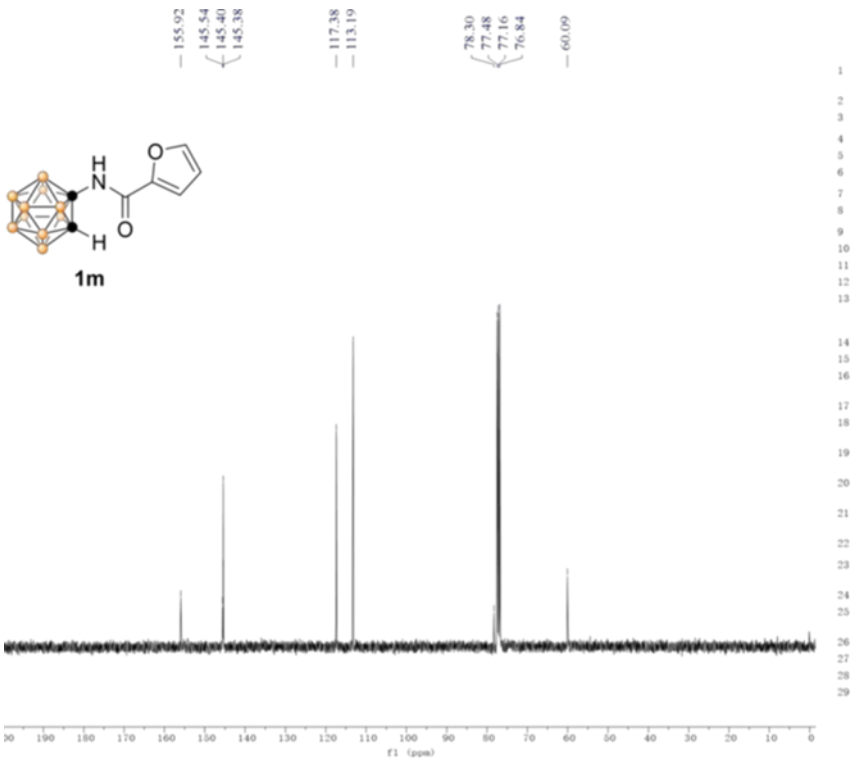

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-11-0113-deB/ 1/ fid |
| 2 | 标题 | jhr-11-0113-deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | Acetone |
| 10 | Temperature | 295. 7 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 18 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2023-01-13T19:30:06 |
| 21 | Modification Date | 2023-01-13T19:30:07 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |



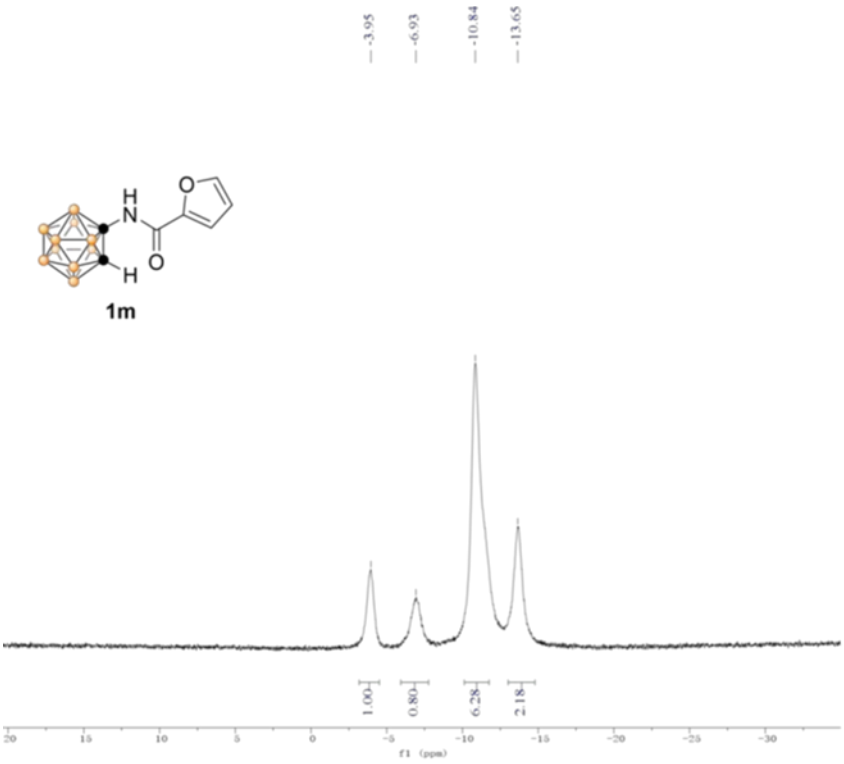

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-11-0113-no deB/ 1/ fid |
| 2 | 标题 | jhr-11-0113-no deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | Acetone |
| 10 | Temperature | 295. 7 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 34 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2023-01-13T19:31:41 |
| 21 | Modification Date | 2023-01-13T19:31:42 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ -收谱/ 原料/ jhr-1mm/ 1/ fid |
| 2 | 标题 | jhr-1mm.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.9 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 3 |
| 15 | Receiver Gain | 77.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-08-17T18:44:13 |
| 21 | Modification Date | 2022-08-17T18:44:14 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -413.1 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |

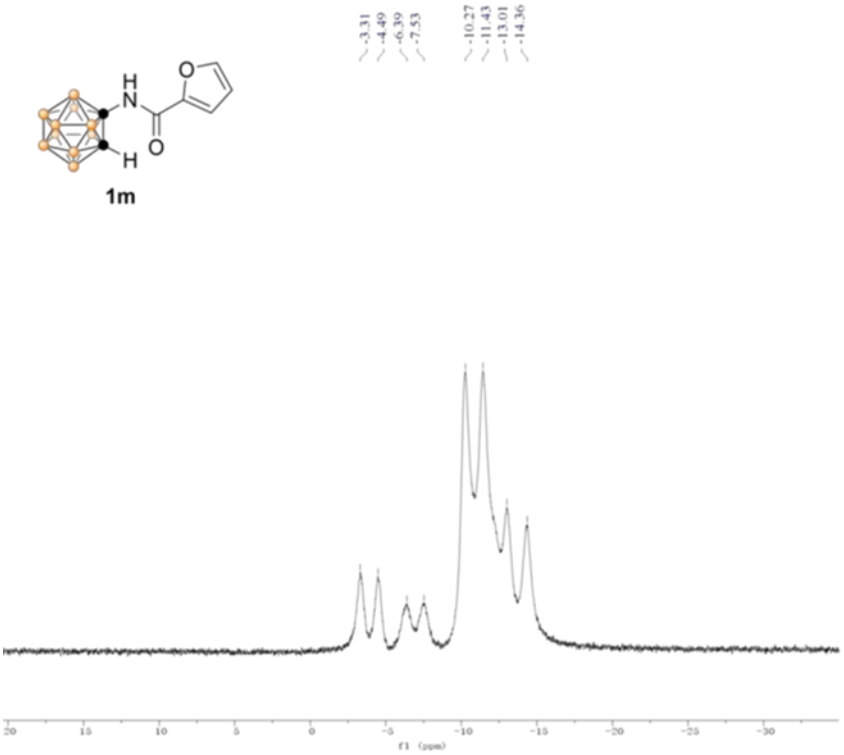



| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 自动进样/ jhr-1mm-C/ 2/ fid |
| 2 | 标题 | jhr-1mm-C.2.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.2 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0643 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 660 |
| 15 | Receiver Gain | 197.1 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 0.6999 |
| 20 | Acquisition Date | 2022-09-02T16:31:25 |
| 21 | Modification Date | 2022-09-02T16:31:26 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.62 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1546.8 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 17675 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |



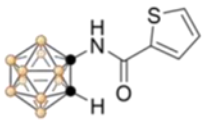

1m

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4010-B/ 1/ fid |
| 2 | 标题 | jhr-4010-B. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296. 2 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 2 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-06-19T16:20:28 |
| 21 | Modification Date | 2022-06-19T16:20:29 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |



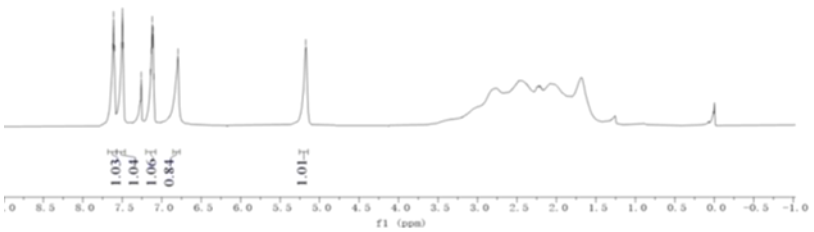

1m

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4010-noB/ 1/ fid |
| 2 | 标题 | jhr-4010-noB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296. 2 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 4 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-06-19T16:20:06 |
| 21 | Modification Date | 2022-06-19T16:20:07 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |

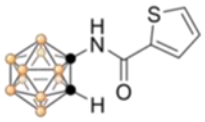




1n

| Parameter | 值 |
|---|---|
| 1 Data File Name | D:/ 收谱/ 原料/ jhr-1nn/ 2/ fid |
| 2 标题 | jhr-1nn.2.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 297.0 |
| 11 Pulse Sequence | zg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 2 |
| 15 Receiver Gain | 77.4 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 2.9998 |
| 20 Acquisition Date | 2022-08-17T18:45:05 |
| 21 Modification Date | 2022-08-17T18:45:06 |
| 22 Class | |
| 23 Spectrometer Frequency | 400.20 |
| 24 Spectral Width | 4807.7 |
| 25 Lowest Frequency | -416.1 |
| 26 Nucleus | 1H |
| 27 Acquired Size | 14422 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.07 |

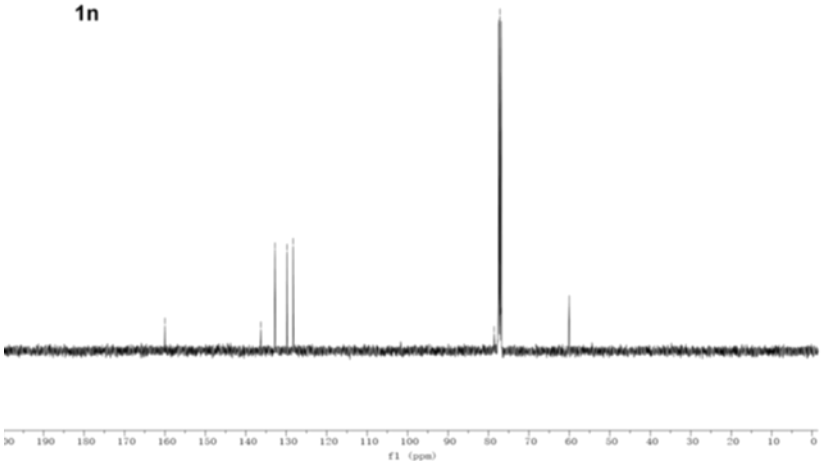


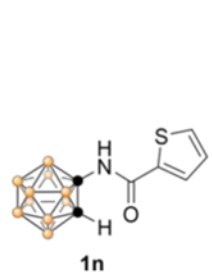





1n

| Parameter | 值 |
|---|---|
| 1 Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-1nnn-C/ 1/ fid |
| 2 标题 | jhr-1nnn-C.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 297.1 |
| 11 Pulse Sequence | zgpg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 348 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 0.9999 |
| 20 Acquisition Date | 2022-09-02T16:21:18 |
| 21 Modification Date | 2022-09-02T16:21:20 |
| 22 Class | |
| 23 Spectrometer Frequency | 100.64 |
| 24 Spectral Width | 26041.7 |
| 25 Lowest Frequency | -1939.1 |
| 26 Nucleus | 13C |
| 27 Acquired Size | 26040 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.40 |

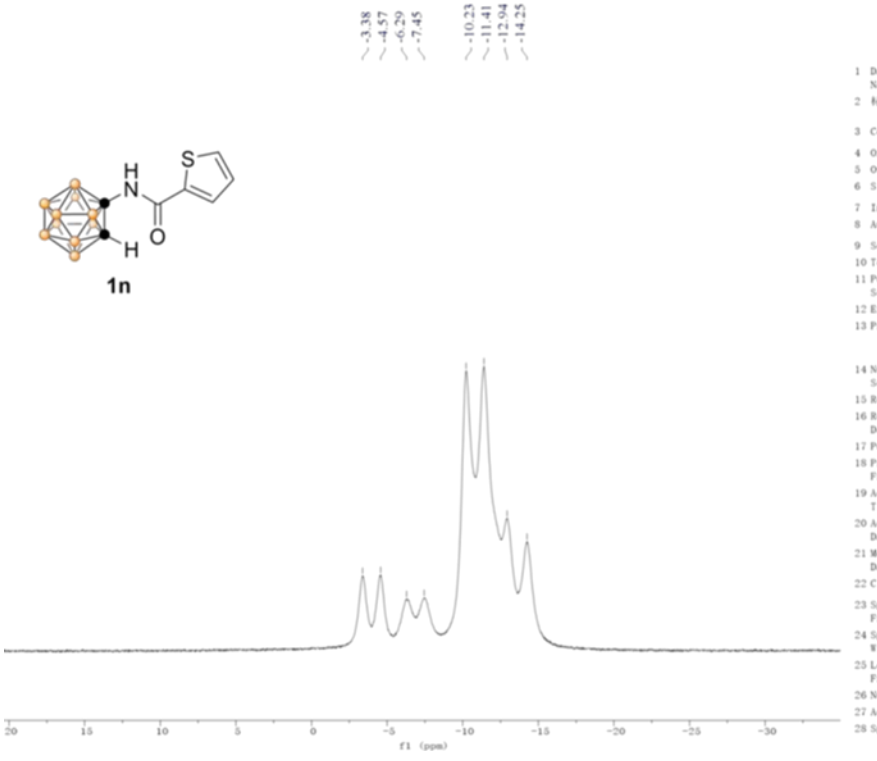





1n




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-2n-0112-deB/ 1/ fid |
| 2 | 标题 | jhr-2n-0112-deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 295. 5 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 10 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2023-01-12T14:54:42 |
| 21 | Modification Date | 2023-01-12T14:54:43 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |

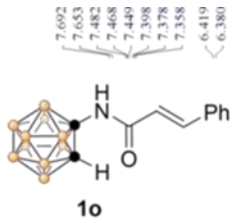






1n

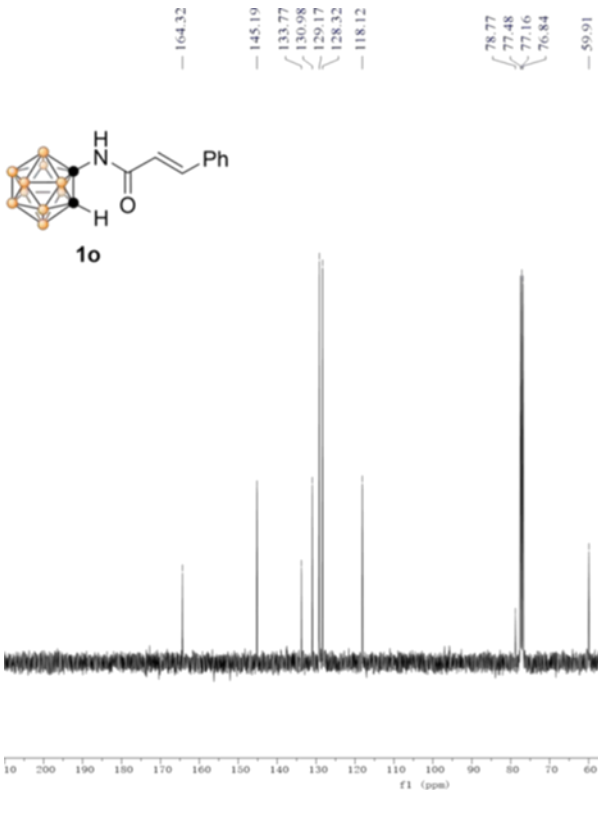
| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-2n-0112-no deB/ 1/ fid |
| 2 | 标题 | jhr-2n-0112-no deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 295. 4 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 16 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2023-01-12T14:55:36 |
| 21 | Modification Date | 2023-01-12T14:55:36 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |




1o




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | C:/ Users/ 17336/ AppData/ Local/ Temp/ BNZ. 63ef213e3806cc d6/ cyy-jhr-1w. fid/ fid |
| 2 | 标题 | cyy-jhr-1o |
| 3 | Comment | |
| 4 | Origin | Varian |
| 5 | Owner | |
| 6 | Site | |
| 7 | Instrument | vnmrs |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 25.0 |
| 11 | Pulse Sequence | s2pul |
| 12 | Experiment | 1D |
| 13 | Probe | 4nuc |
| 14 | Number of Scans | 12 |
| 15 | Receiver Gain | 34 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 7.7000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 3.0000 |
| 20 | Acquisition Date | 2023-02-17T11:24:34 |
| 21 | Modification Date | 2023-02-17T03:25:00 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 399.72 |
| 24 | Spectral Width | 7575.8 |
| 25 | Lowest Frequency | -1185.6 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 22727 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.12 |

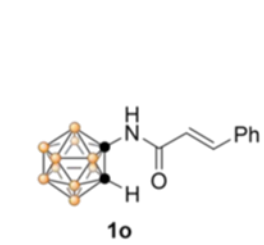






1o

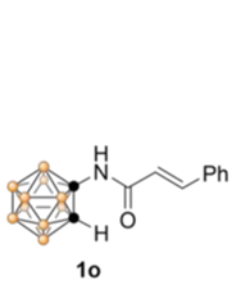
| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-1w-1024-C/ 1/ fid |
| 2 | 标题 | jhr-1w-1024-C. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.2 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 40051 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 63 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-10-24T19:14:16 |
| 21 | Modification Date | 2022-10-24T19:14:18 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1547.3 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |




1o



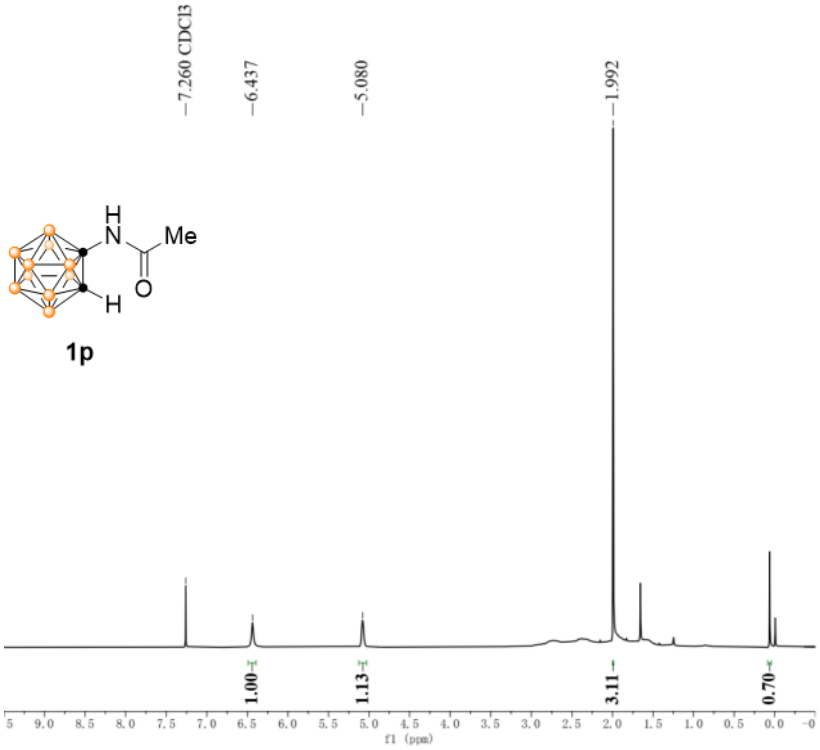

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-1W-1024-B/ 1/ fid |
| 2 | 标题 | jhr-1W-1024-B. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296. 2 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 12 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-10-24T19:35:17 |
| 21 | Modification Date | 2022-10-24T19:35:20 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |




1o

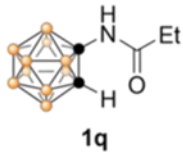



| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-1W-1024-noB/ 1/ fid |
| 2 | 标题 | jhr-1o-1024-noB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295. 9 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 29 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-10-24T19:36:47 |
| 21 | Modification Date | 2022-10-24T19:36:48 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |




1p

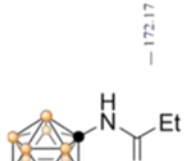
| Parameter | 值 |
|---|---|
| Data File Name | / / 10.0.19.201/ nmr/ zyl-1-q-h/ 4/ fid |
| 标题 | zyl-1-q-h.4.fid |
| Comment | |
| Origin | Bruker BioSpin GmbH |
| Owner | nmr |
| Site | |
| Instrument | spect |
| Author | |
| Solvent | CDCl3 |
| Temperature | 291.2 |
| Pulse Sequence | zg30 |
| Experiment | 1D |
| Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| Number of Scans | 3 |
| Receiver Gain | 77.4 |
| Relaxation Delay | 1.0000 |
| Pulse Width | 10.0000 |
| Presaturation Frequency | |
| Acquisition Time | 2.9998 |
| Acquisition Date | 2025-02-10T12:38:46 |
| Modification Date | 2025-02-10T12:38:47 |
| Class | |
| Spectrometer Frequency | 400.20 |
| Spectral Width | 4807.7 |
| Lowest Frequency | -412.7 |
| Nucleus | 1H |
| Acquired Size | 14422 |
| Spectral Size | 65536 |




1q




| Parameter | 值 |
|---|---|
| 1 Data File Name | D:/ -收谱/ 原料/ jhr-1pp/ 1/ fid |
| 2 标题 | jhr-1q.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 297.0 |
| 11 Pulse Sequence | zg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 2 |
| 15 Receiver Gain | 77.4 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 2.9998 |
| 20 Acquisition Date | 2022-08-17T18:51:33 |
| 21 Modification Date | 2022-08-17T18:51:33 |
| 22 Class | |
| 23 Spectrometer Frequency | 400.20 |
| 24 Spectral Width | 4807.7 |
| 25 Lowest Frequency | -412.8 |
| 26 Nucleus | 1H |
| 27 Acquired Size | 14422 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.07 |




1q

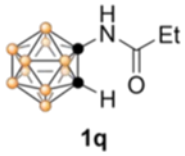



| Parameter | 值 |
|---|---|
| 1 Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-1p-1021-C/ 1/ fid |
| 2 标题 | jhr-1q-1021-C.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 296.1 |
| 11 Pulse Sequence | zgpg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 121 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2999 |
| 20 Acquisition Date | 2022-10-21T16:25:41 |
| 21 Modification Date | 2022-10-21T16:25:44 |
| 22 Class | |
| 23 Spectrometer Frequency | 100.64 |
| 24 Spectral Width | 33714.3 |
| 25 Lowest Frequency | -5266.5 |
| 26 Nucleus | 13C |
| 27 Acquired Size | 46426 |
| 28 Spectral Size | 131072 |
| 29 Digital Resolution | 0.27 |


1q



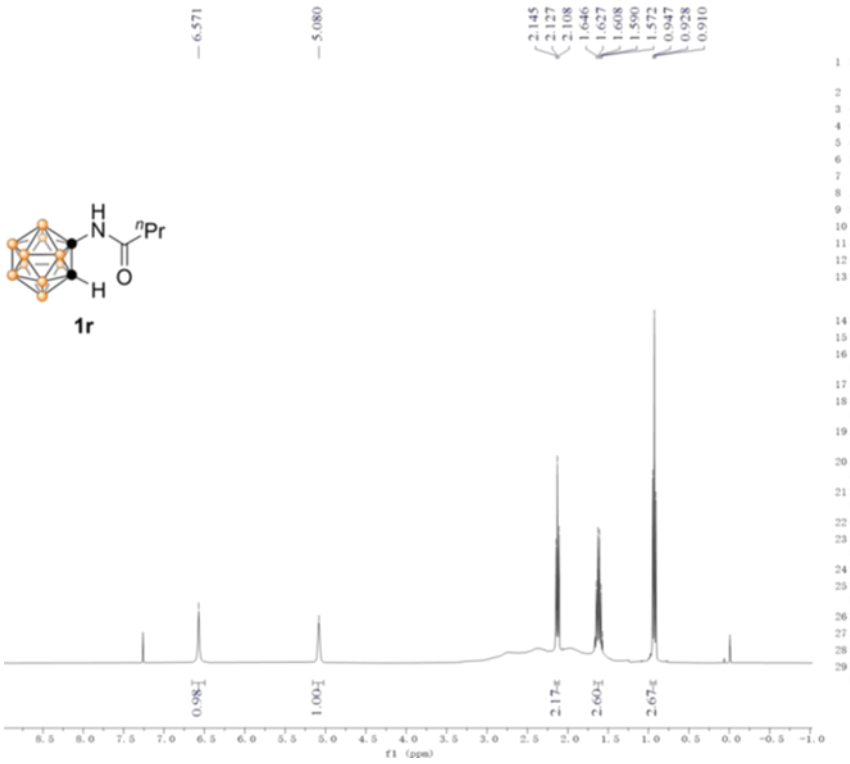

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-1p-1229-deB/ 1/ fid |
| 2 | 标题 | jhr-1q-1229-deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 289. 2 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 8 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-12-29T20:35:47 |
| 21 | Modification Date | 2022-12-29T20:35:48 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |




1q




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-1p-1229-no deB/ 1/ fid |
| 2 | 标题 | jhr-1q-1229-no deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 289. 2 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 10 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-12-29T20:35:08 |
| 21 | Modification Date | 2022-12-29T20:35:09 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |

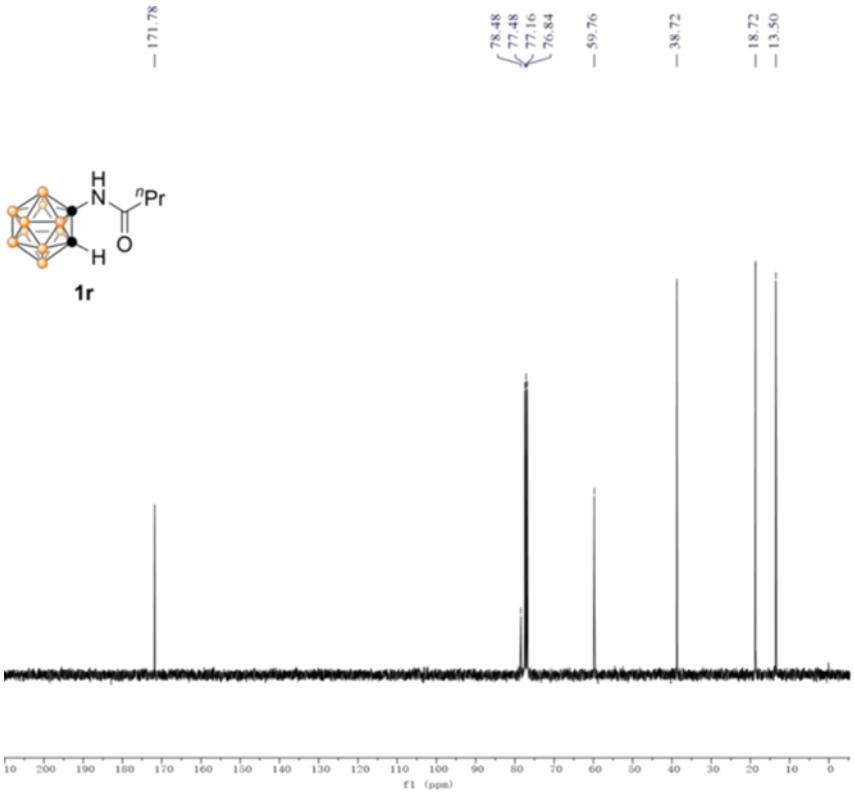






1r

| Parameter | 值 |
|---|---|
| 1 Data File Name | I:/ 布鲁克-jhr/ 收谱/ jhr-lq-1018/ 1/ fid |
| 2 标题 | jhr-1r-1018.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 295.8 |
| 11 Pulse Sequence | zg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 5 |
| 15 Receiver Gain | 38.4 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 2.9998 |
| 20 Acquisition Date | 2022-10-18T21:43:41 |
| 21 Modification Date | 2022-10-18T21:43:42 |
| 22 Class | |
| 23 Spectrometer Frequency | 400.20 |
| 24 Spectral Width | 4807.7 |
| 25 Lowest Frequency | -412.3 |
| 26 Nucleus | 1H |
| 27 Acquired Size | 14422 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.07 |

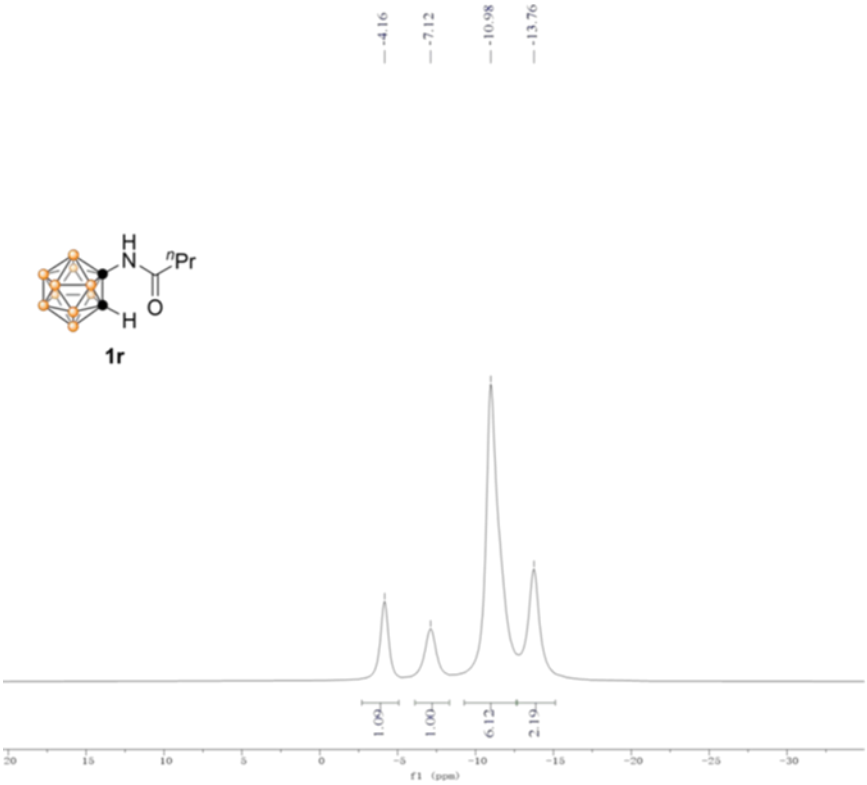






1r

| Parameter | 值 |
|---|---|
| 1 Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-lq-1018-C/ 1/ fid |
| 2 标题 | jhr-1r-1018-C.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 296.1 |
| 11 Pulse Sequence | zgpg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 97 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2999 |
| 20 Acquisition Date | 2022-10-19T13:04:53 |
| 21 Modification Date | 2022-10-19T13:04:56 |
| 22 Class | |
| 23 Spectrometer Frequency | 100.64 |
| 24 Spectral Width | 25252.5 |
| 25 Lowest Frequency | -1547.9 |
| 26 Nucleus | 13C |
| 27 Acquired Size | 32827 |
| 28 Spectral Size | 131072 |
| 29 Digital Resolution | 0.19 |

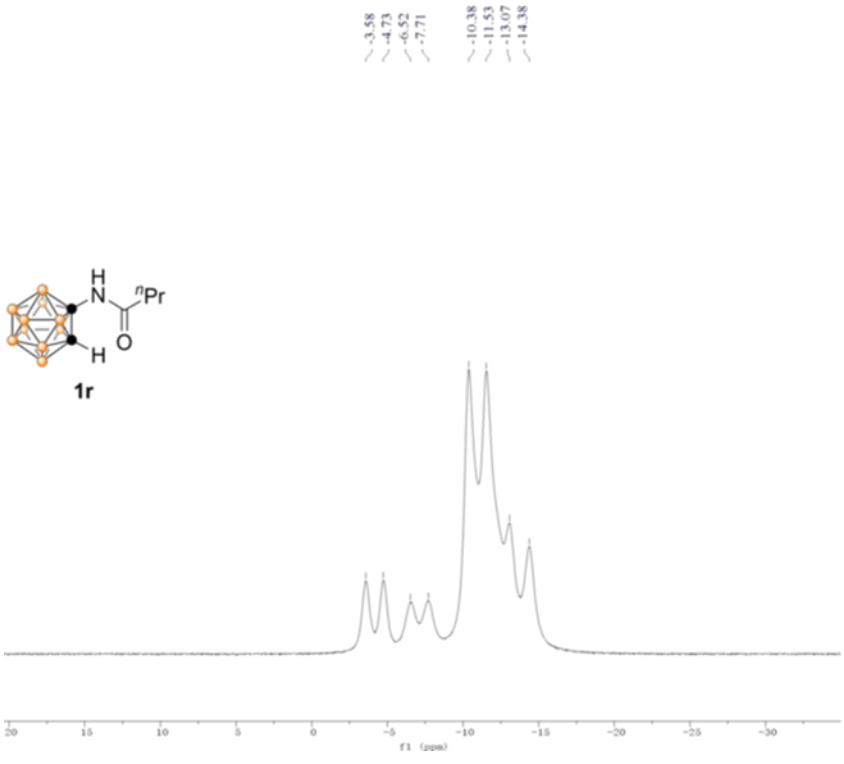






1r

| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-1q-B/ 1/ fid |
| 2 | 标题 | jhr-1r-B. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295. 9 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PABBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 4 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-10-18T21:53:47 |
| 21 | Modification Date | 2022-10-18T21:53:50 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |







1r

| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-1q-no B/ 1/ fid |
| 2 | 标题 | jhr-1r-no B. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295. 9 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PABBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 3 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-10-18T21:53:20 |
| 21 | Modification Date | 2022-10-18T21:53:22 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |

1s

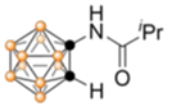



| Parameter | 值 |
|---|---|
| 1 Data File Name | / / 10.0.19.201/ nmr/ Hugang/ jhr/ 3/ 底物/ jhr-3065-2/ 1/ fid |
| 2 标题 | jhr-3065-2.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 298.1 |
| 11 Pulse Sequence | zg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 7 |
| 15 Receiver Gain | 63.0 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 2.9998 |
| 20 Acquisition Date | 2022-02-19T16:32:58 |
| 21 Modification Date | 2022-02-19T16:32:58 |
| 22 Class | |
| 23 Spectrometer Frequency | 400.20 |
| 24 Spectral Width | 7598.8 |
| 25 Lowest Frequency | -1208.0 |
| 26 Nucleus | 1H |
| 27 Acquired Size | 22795 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.12 |

1s



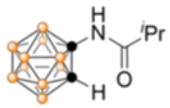

| Parameter | 值 |
|---|---|
| 1 Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-1ssss-C/ 2/ fid |
| 2 标题 | jhr-1ssss-C.2.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 296.7 |
| 11 Pulse Sequence | zgpg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 139 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2999 |
| 20 Acquisition Date | 2022-09-06T19:40:16 |
| 21 Modification Date | 2022-09-06T19:40:18 |
| 22 Class | |
| 23 Spectrometer Frequency | 100.64 |
| 24 Spectral Width | 25252.5 |
| 25 Lowest Frequency | -1545.0 |
| 26 Nucleus | 13C |
| 27 Acquired Size | 32827 |
| 28 Spectral Size | 131072 |
| 29 Digital Resolution | 0.19 |



1s



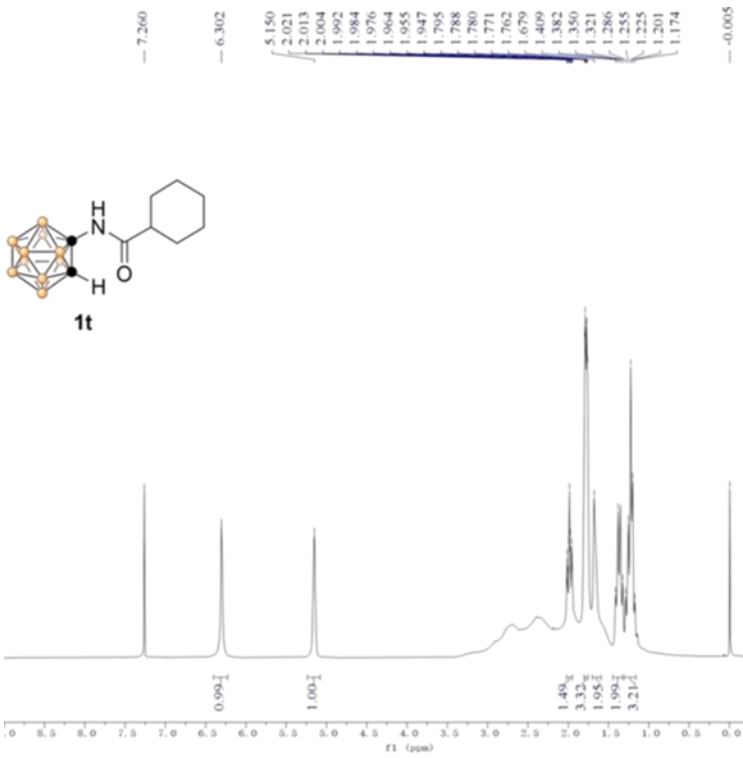

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-1s-1229-deB/ 1/ fid |
| 2 | 标题 | jhr-1s-1229-deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 289.3 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 9 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-12-29T20:36:39 |
| 21 | Modification Date | 2022-12-29T20:36:40 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |



1s

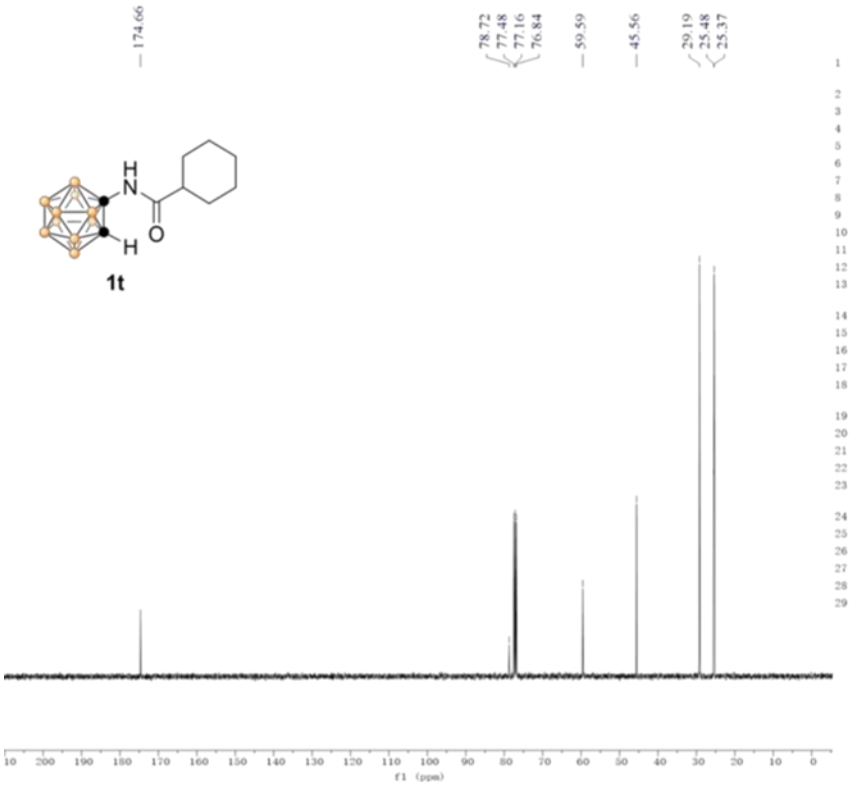



| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-1s-1229-no deB/ 1/ fid |
| 2 | 标题 | jhr-1s-1229-no deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 289.2 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 11 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-12-29T20:37:24 |
| 21 | Modification Date | 2022-12-29T20:37:25 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |



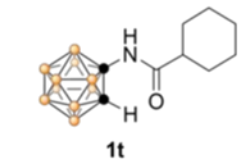

1t

| Parameter | 值 |
|---|---|
| 1 Data File Name | I:/ 布鲁克-jhr/ 收谱/ jhr-1ttt/ 1/ fid |
| 2 标题 | jhr-1ttt.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 296.5 |
| 11 Pulse Sequence | zg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 10 |
| 15 Receiver Gain | 63.0 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 2.9998 |
| 20 Acquisition Date | 2022-09-06T19:31:13 |
| 21 Modification Date | 2022-09-06T19:31:16 |
| 22 Class | |
| 23 Spectrometer Frequency | 400.20 |
| 24 Spectral Width | 4807.7 |
| 25 Lowest Frequency | -412.7 |
| 26 Nucleus | 1H |
| 27 Acquired Size | 14422 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.07 |




1t

| Parameter | 值 |
|---|---|
| 1 Data File Name | D:/ -收谱/ 底物/ jhr-1t-C/ 1/ fid |
| 2 标题 | jhr-1t-C.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 298.1 |
| 11 Pulse Sequence | zgpg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0643 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 150 |
| 15 Receiver Gain | 197.1 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2999 |
| 20 Acquisition Date | 2022-08-19T21:27:43 |
| 21 Modification Date | 2022-08-19T21:27:43 |
| 22 Class | |
| 23 Spectrometer Frequency | 100.62 |
| 24 Spectral Width | 25252.5 |
| 25 Lowest Frequency | -1549.7 |
| 26 Nucleus | 13C |
| 27 Acquired Size | 32827 |
| 28 Spectral Size | 131072 |
| 29 Digital Resolution | 0.19 |



1t

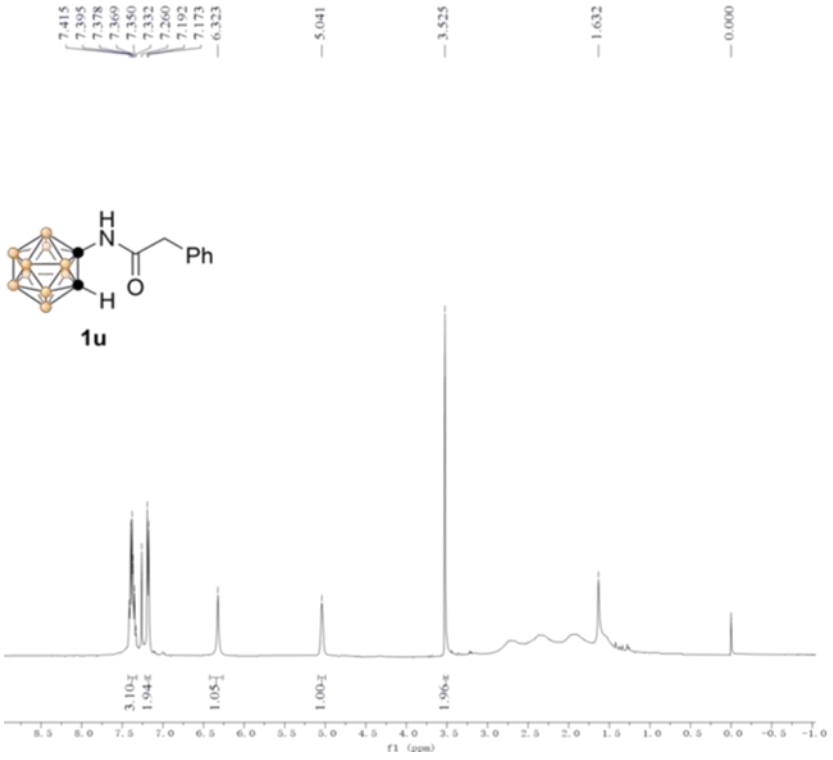



| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-1t-1229-deB/ 1/ fid |
| 2 | 标题 | jhr-1t-1229-deB. 1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | C6D6 |
| 10 | Temperature | 289.2 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 10 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-12-29T21:00:20 |
| 21 | Modification Date | 2022-12-29T21:00:21 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |

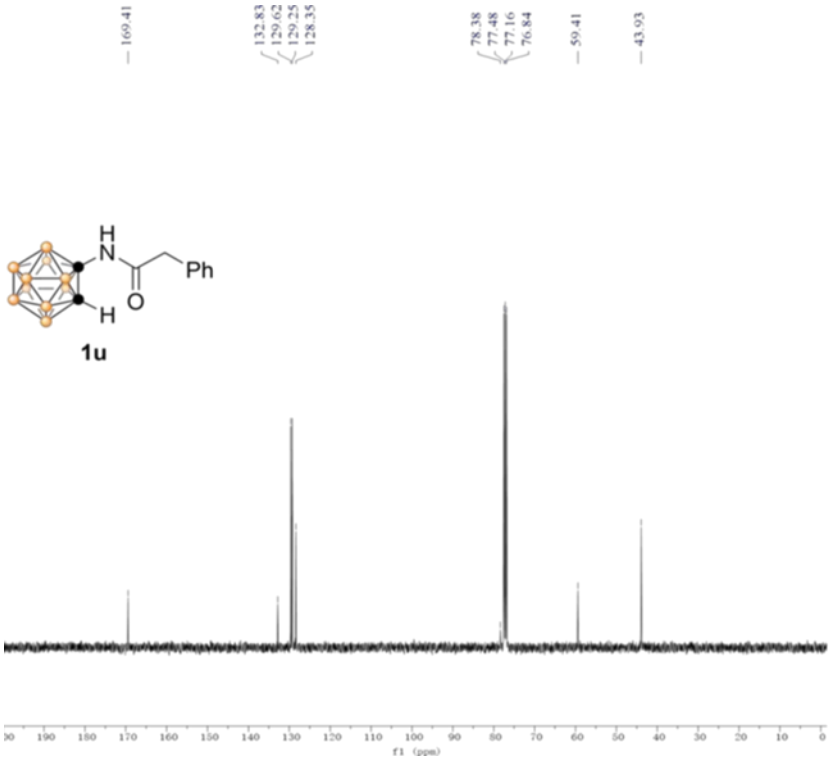
1t



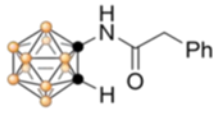

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-1t-1229-noDeB/ 1/ fid |
| 2 | 标题 | jhr-1t-1229-no deB. 1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | C6D6 |
| 10 | Temperature | 289.0 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 18 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-12-29T21:01:19 |
| 21 | Modification Date | 2022-12-29T21:01:20 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |




| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | I:/ 布鲁克-jhr/ 收进/ jhr-1u/ 9/ fid |
| 2 | 标题 | jhr-1u. 9. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.9 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 7 |
| 15 | Receiver Gain | 77.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-09-08T13:01:37 |
| 21 | Modification Date | 2022-09-08T13:01:40 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 7598.8 |
| 25 | Lowest Frequency | -1208.1 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 22795 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.12 |




| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收进/ jhr-1u-C/ 1/ fid |
| 2 | 标题 | jhr-1u-C. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.9 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 218 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-09-09T19:48:21 |
| 21 | Modification Date | 2022-09-09T19:48:24 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1345.4 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |




1u



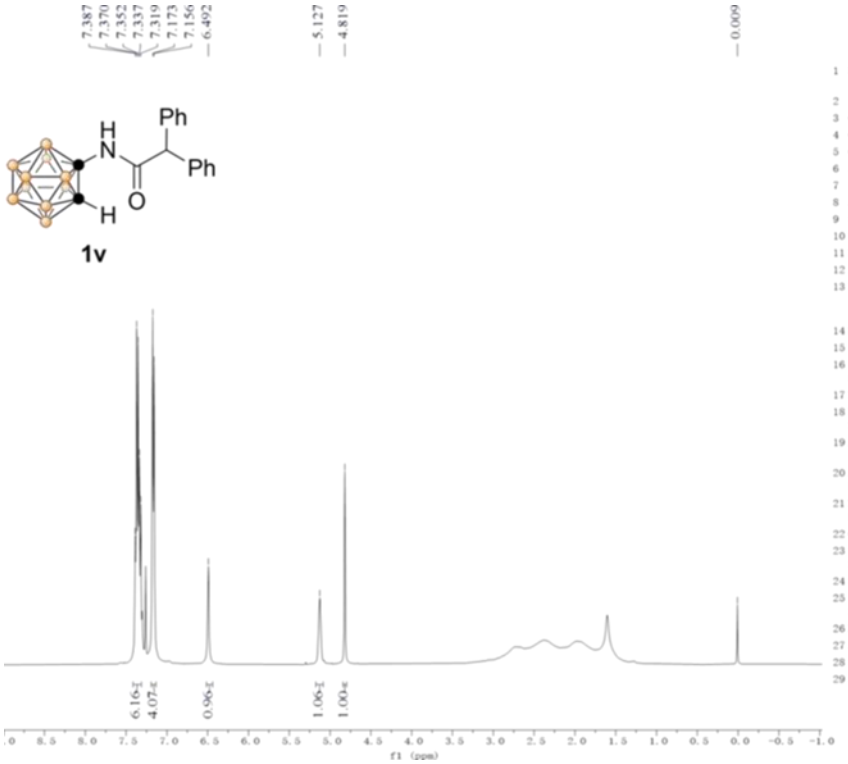

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ -收谱/ 底物/ jhr-1u-B/ 1/ fid |
| 2 | 标题 | jhr-1u-B. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298. 2 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PABBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 8 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-03-12T13:49:06 |
| 21 | Modification Date | 2022-03-12T13:49:08 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |



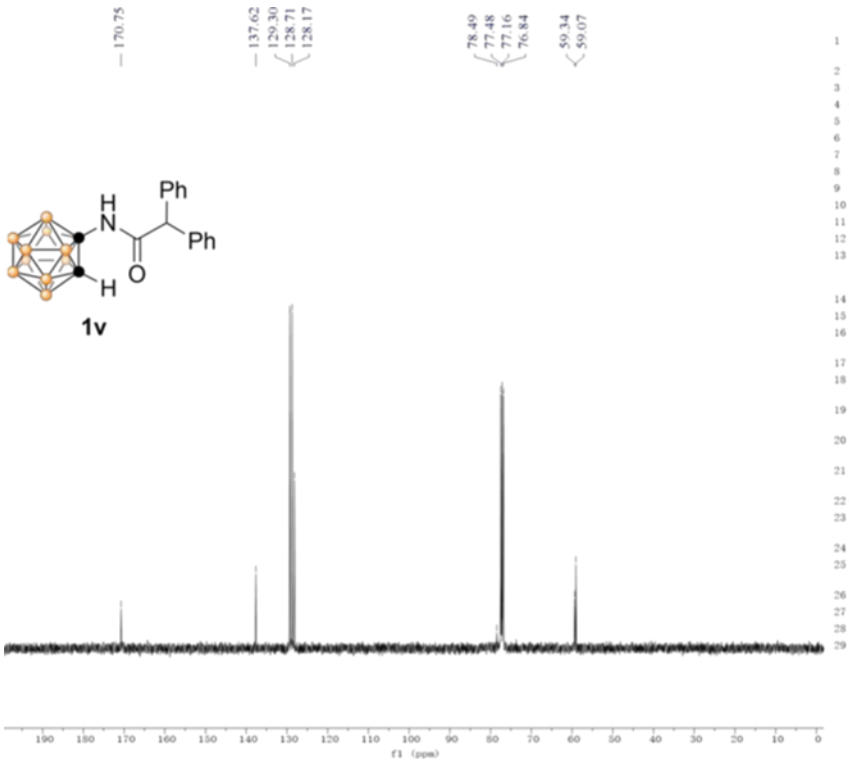

1u



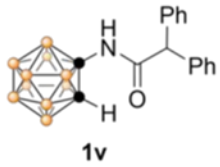

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ -收谱/ 底物/ jhr-1u-no B/ 1/ fid |
| 2 | 标题 | jhr-1u-no B. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298. 1 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PABBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 8 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-03-12T13:49:44 |
| 21 | Modification Date | 2022-03-12T13:49:48 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ -收进/ 原料/ jhr-1v/ 1/ fid |
| 2 | 标题 | jhr-1v.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 297.0 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 4 |
| 15 | Receiver Gain | 77.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-08-16T20:09:57 |
| 21 | Modification Date | 2022-08-16T20:09:57 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -412.7 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |



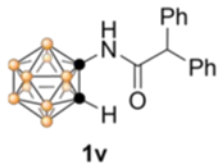

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ -收进/ 底物/ jhr-1v-C/ 1/ fid |
| 2 | 标题 | jhr-1v-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.2 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0643 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 150 |
| 15 | Receiver Gain | 197.1 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-08-19T21:40:25 |
| 21 | Modification Date | 2022-08-19T21:40:25 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.62 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1548.5 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |



1v



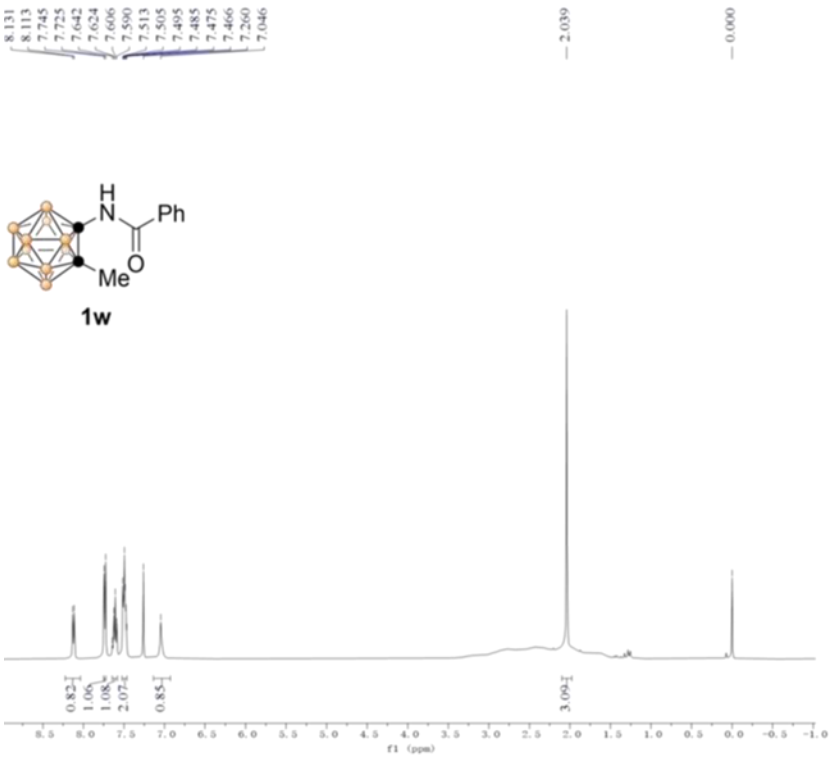

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-1v-1229-deB/ 1/ fid |
| 2 | 标题 | jhr-1v-1229-deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 289.2 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 15 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-12-29T20:39:49 |
| 21 | Modification Date | 2022-12-29T20:39:49 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |



1v




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-1v-1229-no deB/ 1/ fid |
| 2 | 标题 | jhr-1v-1229-no deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 289.2 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 26 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-12-29T20:38:55 |
| 21 | Modification Date | 2022-12-29T20:38:56 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |




| | Parameter | 值 |
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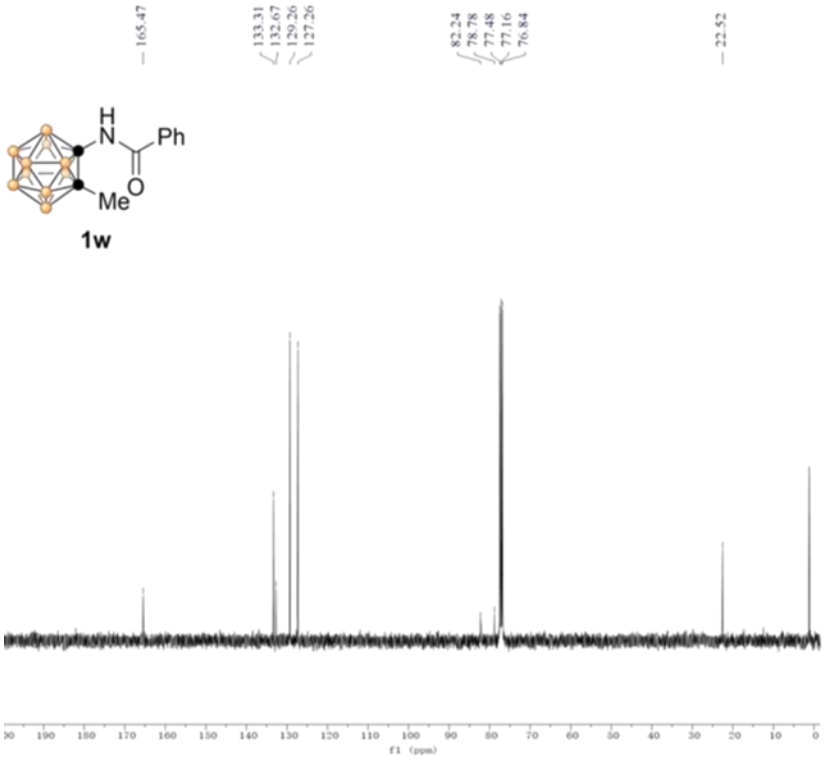
| 1 | Data File Name | I:/ 布鲁克-jhr/ 收谱/ jhr-3a/ 1/ fid |
| 2 | 标题 | jhr-3a.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.7 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 6 |
| 15 | Receiver Gain | 77.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-09-09T18:40:03 |
| 21 | Modification Date | 2022-09-09T18:40:06 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -412.0 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |




| | Parameter | 值 |
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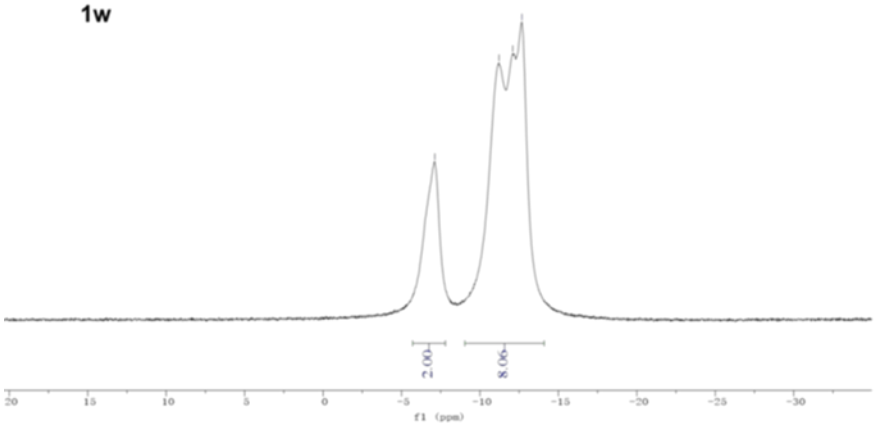
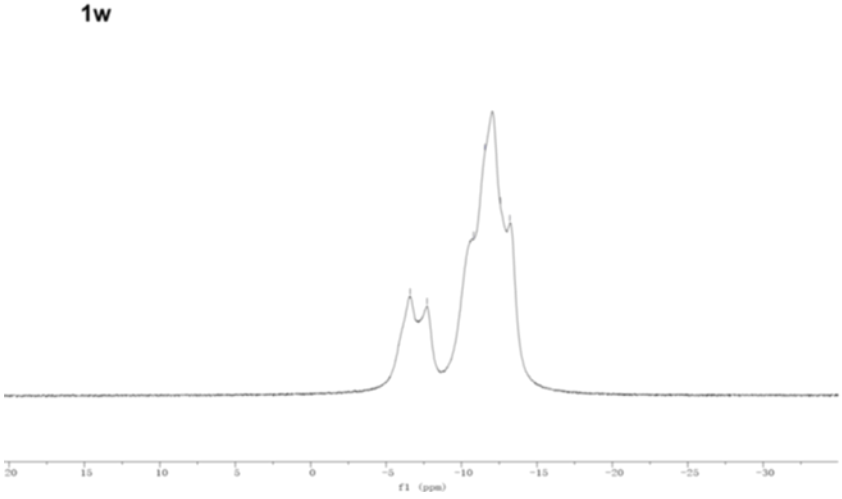
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-3a-1121-C/ 1/ fid |
| 2 | 标题 | jhr-3a-1121-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.7 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 108 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-11-22T20:40:16 |
| 21 | Modification Date | 2022-11-22T20:40:17 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1546.0 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |


1w




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-3a-1229-deB/ 1/ fid |
| 2 | 标题 | jhr-3a-1229-deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | Acetone |
| 10 | Temperature | 289.0 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 10 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-12-29T21:07:14 |
| 21 | Modification Date | 2022-12-29T21:07:15 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |


1w

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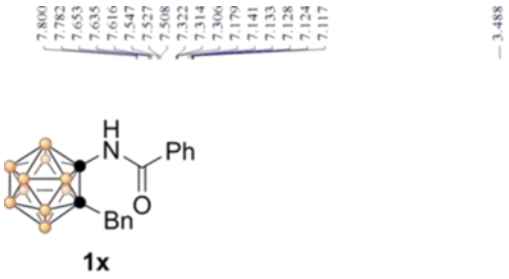
| 1 | Data File Name | Y:/ jhr-3a-1229-no deB/ 1/ fid |
| 2 | 标题 | jhr-3a-1229-no deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | Acetone |
| 10 | Temperature | 289.1 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 17 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-12-29T21:08:10 |
| 21 | Modification Date | 2022-12-29T21:08:11 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |

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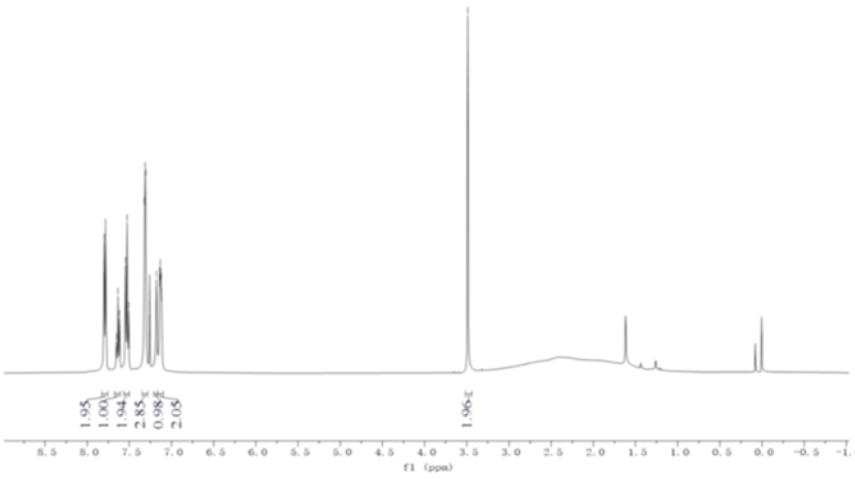
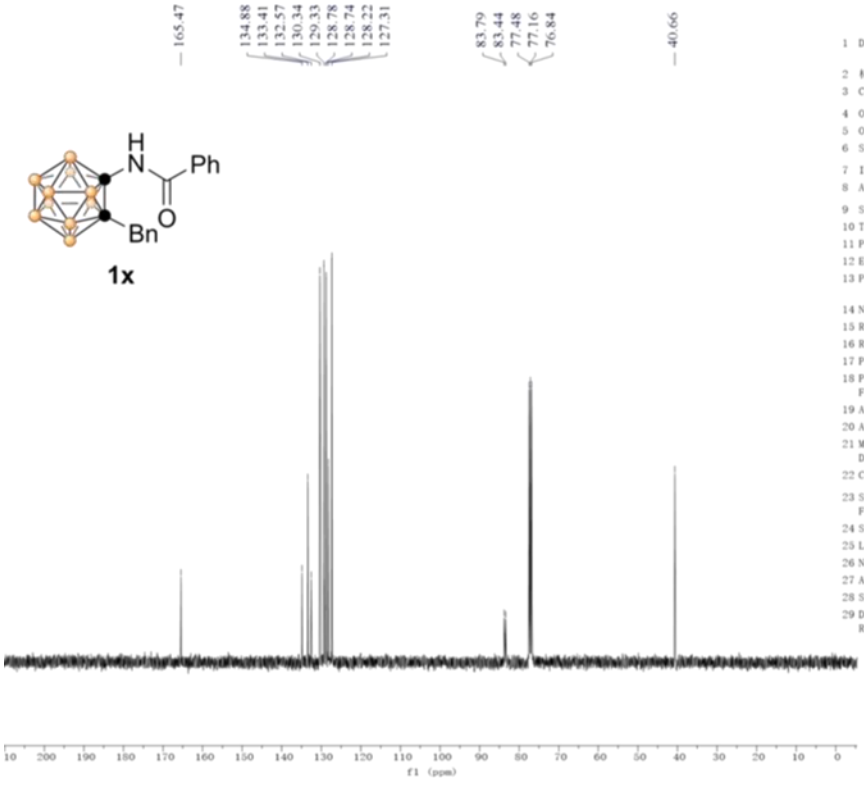
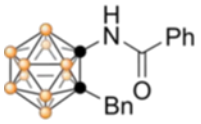



| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | I:/ 布鲁克-jhr/ 收谱/ jhr-3d-1021/ 1/ fid |
| 2 | 标题 | jhr-3c-1021.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.1 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 5 |
| 15 | Receiver Gain | 77.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-10-21T15:42:40 |
| 21 | Modification Date | 2022-10-21T15:42:42 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -412.4 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |




1x

| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 自动进样/ jhr-3d-1020-C/ 1/ fid |
| 2 | 标题 | jhr-3d-1020-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.2 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0643 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 150 |
| 15 | Receiver Gain | 197.1 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-10-20T16:54:35 |
| 21 | Modification Date | 2022-10-20T16:54:35 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.62 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1550.2 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |




**1x**




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-3d-1020-B/ 1/ fid |
| 2 | 标题 | jhr-3c-1020-B. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.0 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 5 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-10-20T15:43:55 |
| 21 | Modification Date | 2022-10-20T15:43:56 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |

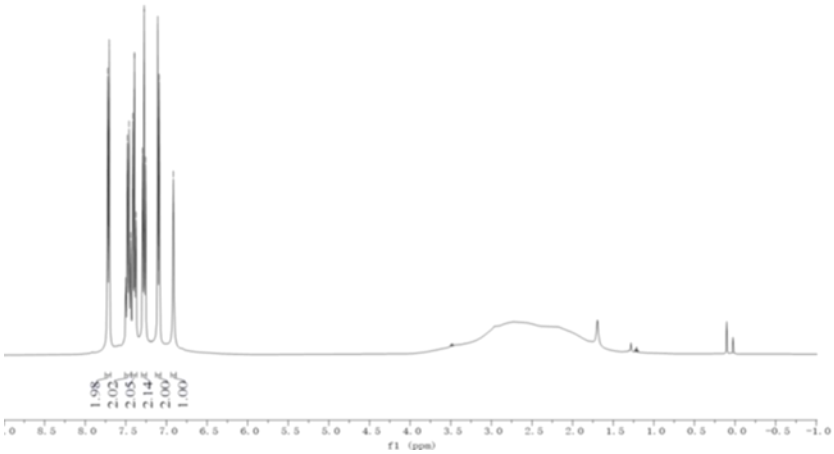

**1x**




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-3d-1020-noB/ 1/ fid |
| 2 | 标题 | jhr-3c-1020-noB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.9 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 6 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-10-20T15:43:25 |
| 21 | Modification Date | 2022-10-20T15:43:28 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |



1y




| Parameter | | 值 |
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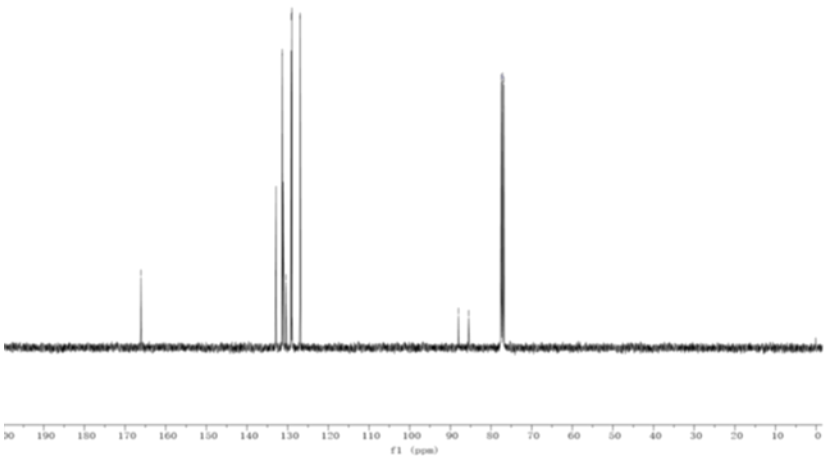
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-3c-1121/ 1/ fid |
| 2 | 标题 | jhr-3b-1121.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.6 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 5 |
| 15 | Receiver Gain | 44.2 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-11-22T20:51:20 |
| 21 | Modification Date | 2022-11-22T20:51:21 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -404.9 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |



1y




| Parameter | | 值 |
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| 1 | Data File Name | E:/ 自动进样/ jhr-3c-1020-C/ 1/ fid |
| 2 | 标题 | jhr-3b-1020-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.2 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0643 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 150 |
| 15 | Receiver Gain | 197.1 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-10-20T16:44:42 |
| 21 | Modification Date | 2022-10-20T16:44:42 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.62 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1549.1 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |


1y

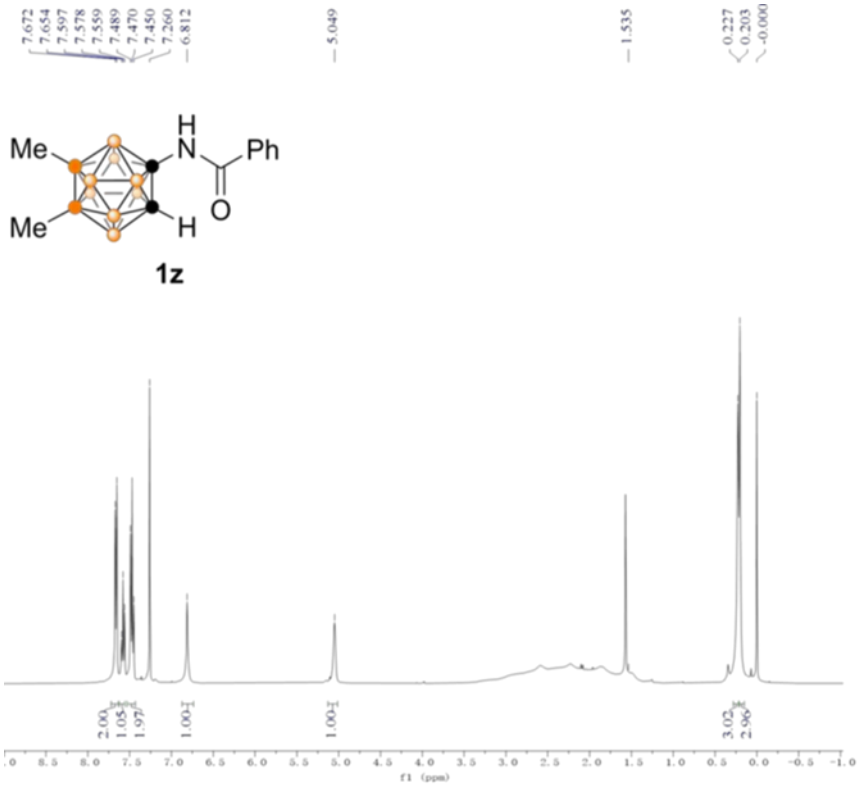



| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-3c-1020-B/ 1/ fid |
| 2 | 标题 | jhr-3b-1020-B. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.9 |
| 11 | Pulse Sequence | zaring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 5 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-10-20T15:46:16 |
| 21 | Modification Date | 2022-10-20T15:46:18 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |


1y




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-3c-1020-noB/ 1/ fid |
| 2 | 标题 | jhr-3b-1020-noB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.8 |
| 11 | Pulse Sequence | zaring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 5 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-10-20T15:45:47 |
| 21 | Modification Date | 2022-10-20T15:45:50 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |




| | Parameter | 值 |
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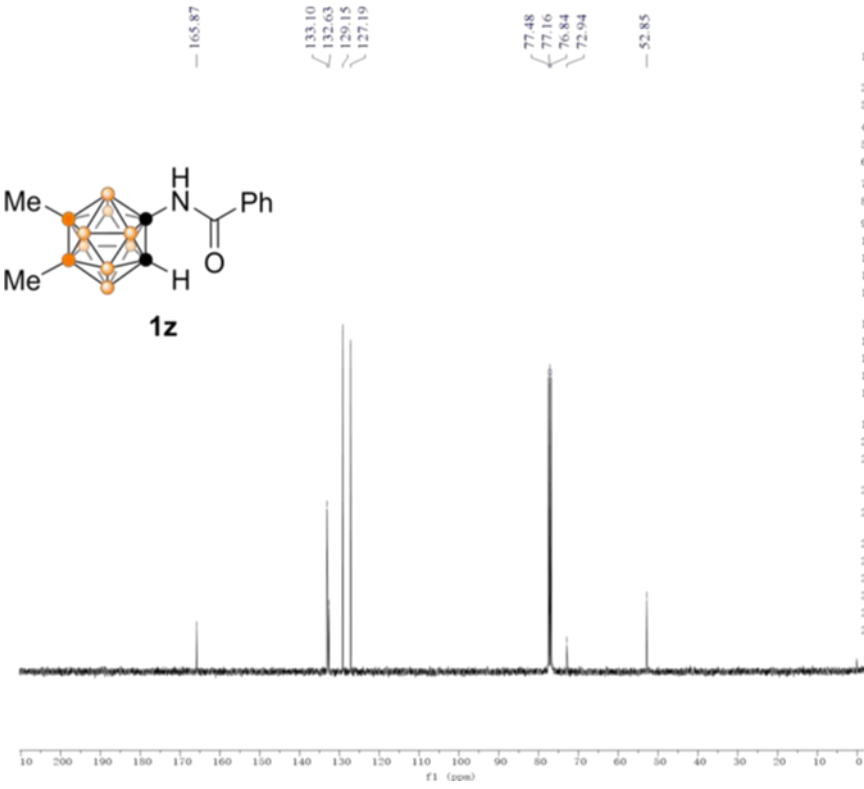
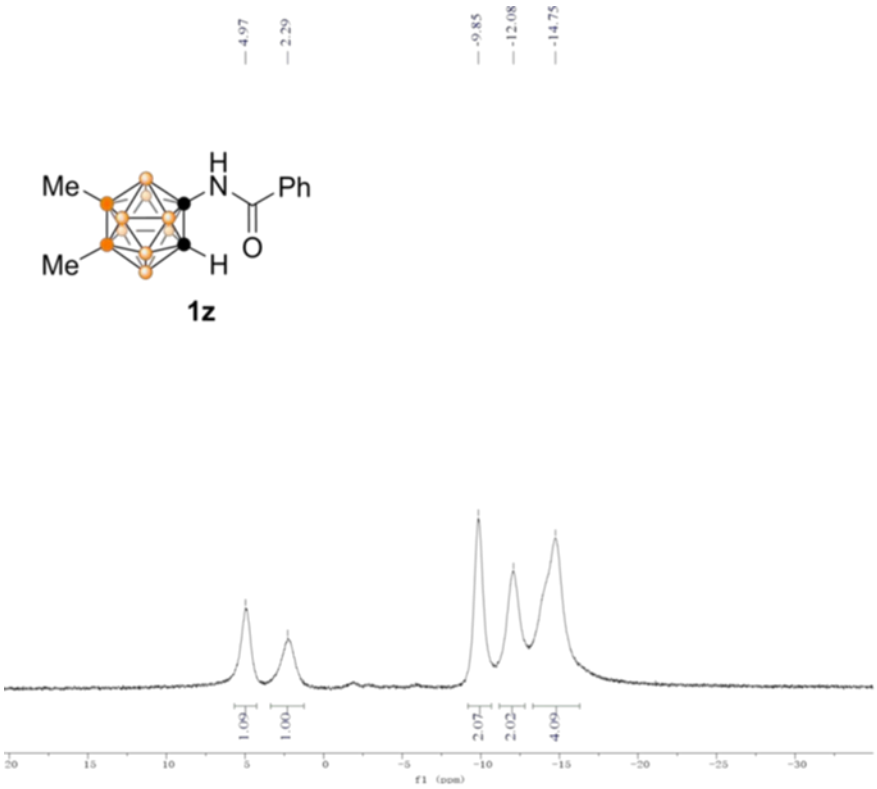
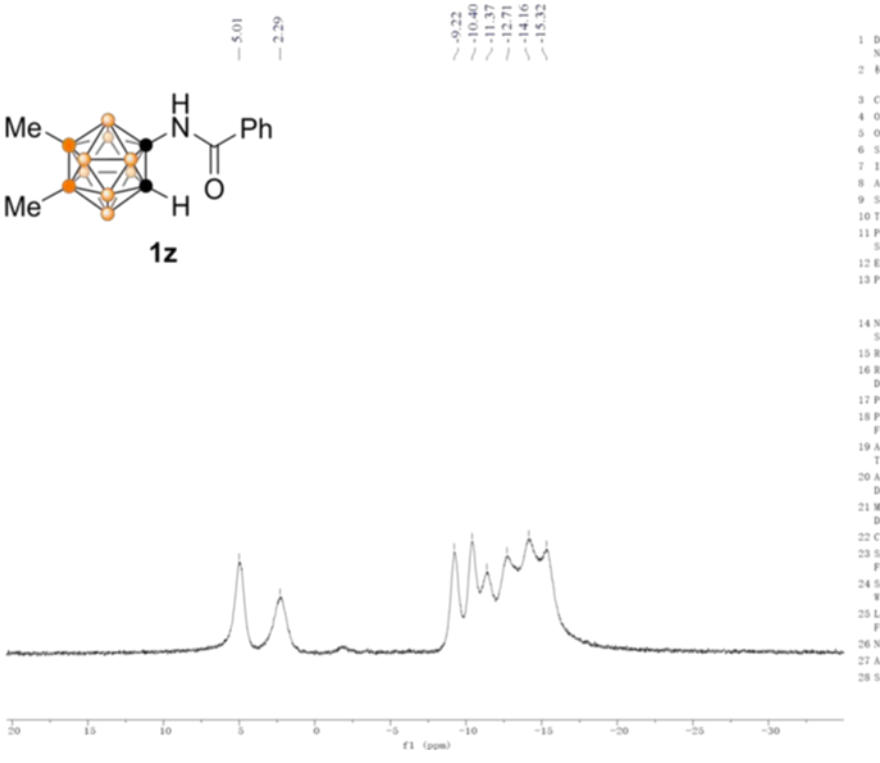
| 1 | Data File Name | I:/ 布鲁克-jhr/ 收谱/ jhr-3e/ 1/ fid |
| 2 | 标题 | jhr-3d.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.7 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 13 |
| 15 | Receiver Gain | 77.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-09-09T18:53:54 |
| 21 | Modification Date | 2022-09-09T18:53:56 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -412.9 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |



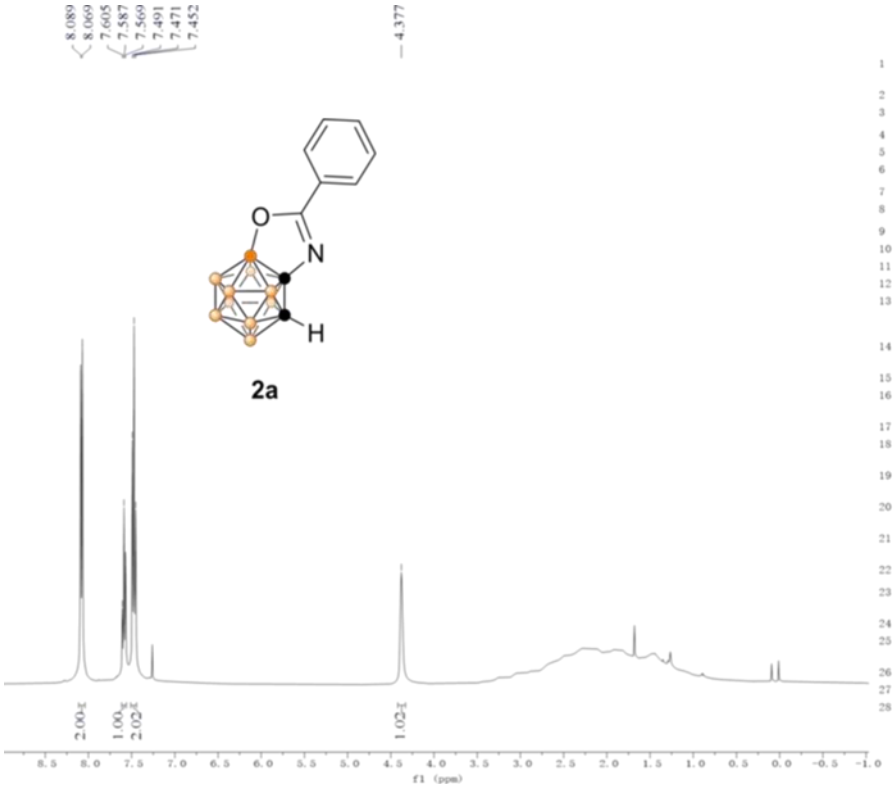

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-3e-1020-C/ 1/ fid |
| 2 | 标题 | jhr-3e-1020-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.1 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 237 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-10-20T16:56:21 |
| 21 | Modification Date | 2022-10-20T16:56:24 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1545.6 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |



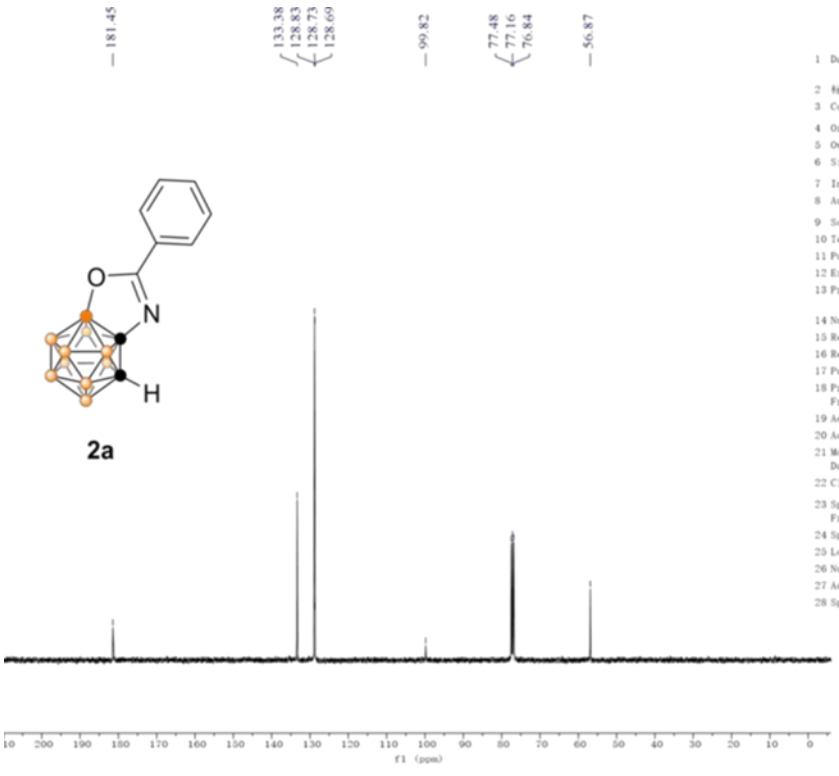

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-3e-0112-deB/ 1/ fid |
| 2 | 标题 | jhr-3d-0112-deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | DMSO |
| 10 | Temperature | 295. 3 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 31 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2023-01-12T10:14:23 |
| 21 | Modification Date | 2023-01-12T10:14:24 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |



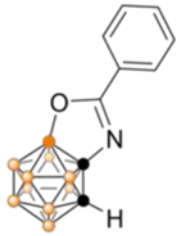

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-3e-0112-no deB/ 1/ fid |
| 2 | 标题 | jhr-3d-0112-no deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | DMSO |
| 10 | Temperature | 295. 2 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 28 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2023-01-12T10:15:43 |
| 21 | Modification Date | 2023-01-12T10:15:44 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12699. 6 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-2a-1229/ 1/ fid |
| 2 | 标题 | jhr-2a-1229.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 289.3 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 6 |
| 15 | Receiver Gain | 38.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-12-29T20:10:45 |
| 21 | Modification Date | 2022-12-29T20:10:45 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -412.9 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |



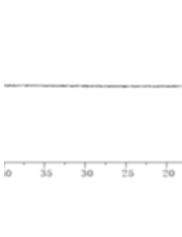

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-2a-1229-C/ 1/ fid |
| 2 | 标题 | jhr-2a-1229-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 289.4 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 83 |
| 15 | Receiver Gain | 193.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-12-29T20:29:13 |
| 21 | Modification Date | 2022-12-29T20:29:14 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1550.7 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |




2a



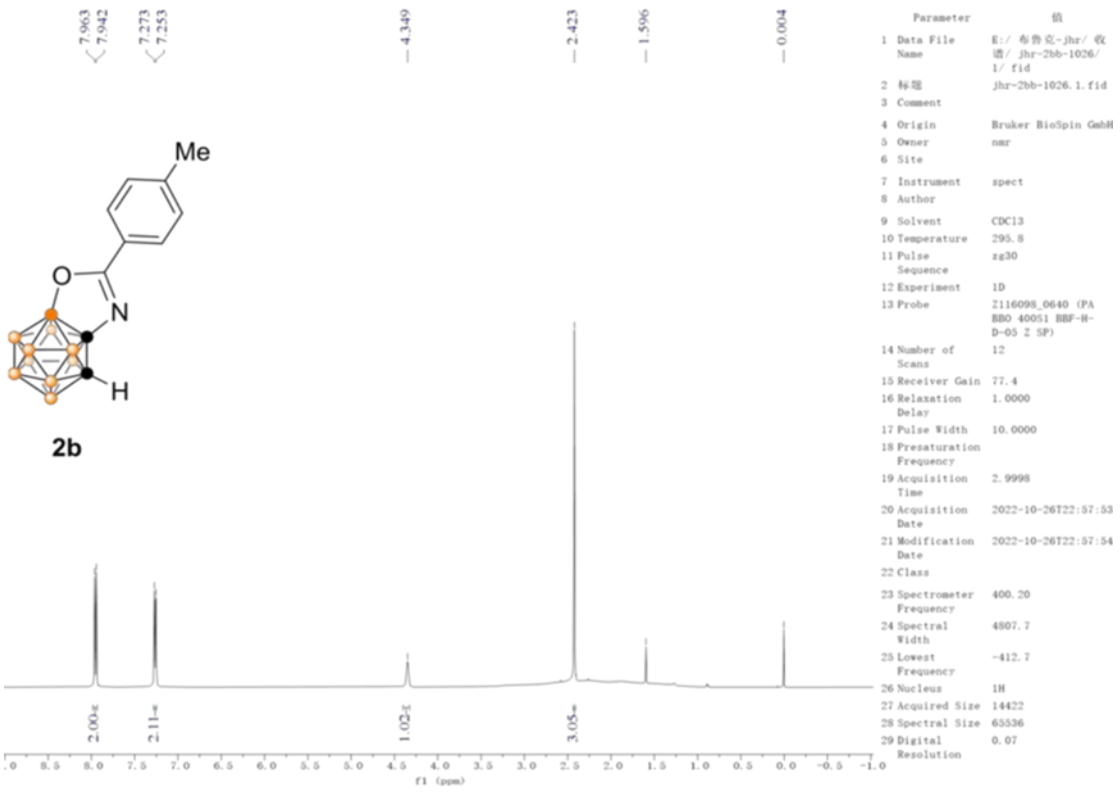

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 原料合成/ 标准底物/ jhr-261-2.16-B/ 1/ fid |
| 2 | 标题 | jhr-261-2.16-B.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.2 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 40051 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 23 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-02-16T16:05:26 |
| 21 | Modification Date | 2022-02-16T16:05:27 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |




2a




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 原料合成/ 标准底物/ jhr-261-2.16-no B/ 1/ fid |
| 2 | 标题 | jhr-261-2.16-no B.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.2 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 40051 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 29 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-02-16T16:04:10 |
| 21 | Modification Date | 2022-02-16T16:04:11 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |




| | Parameter | 值 |
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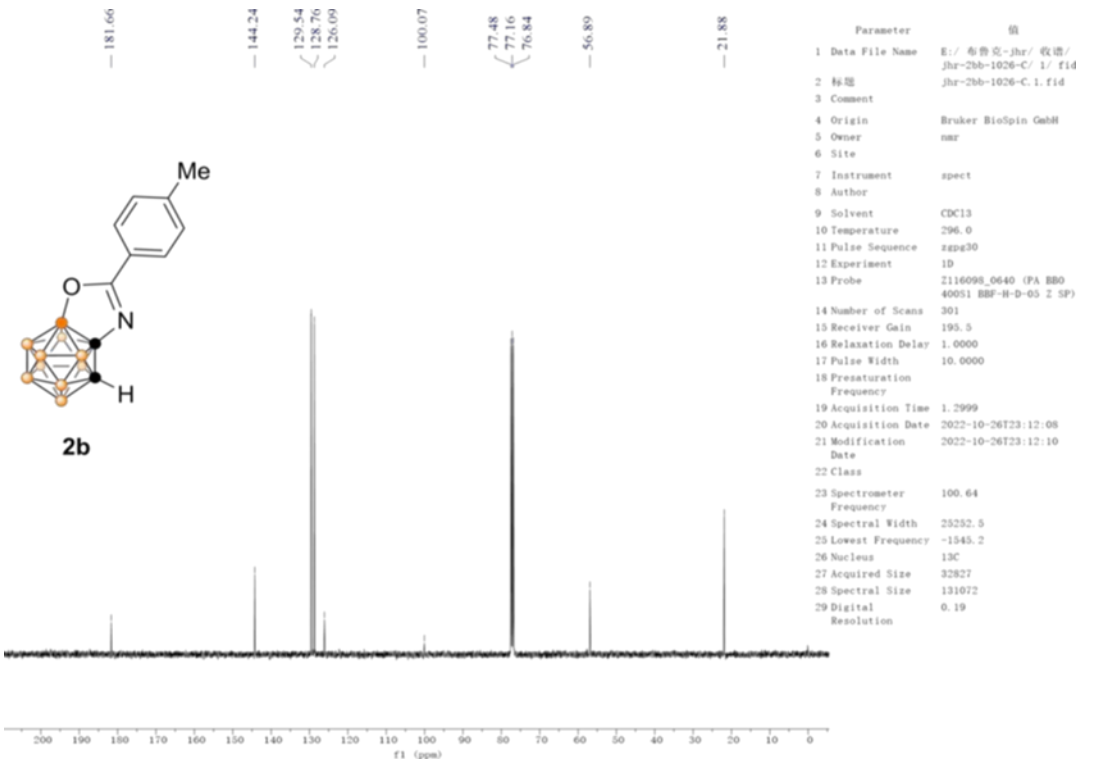
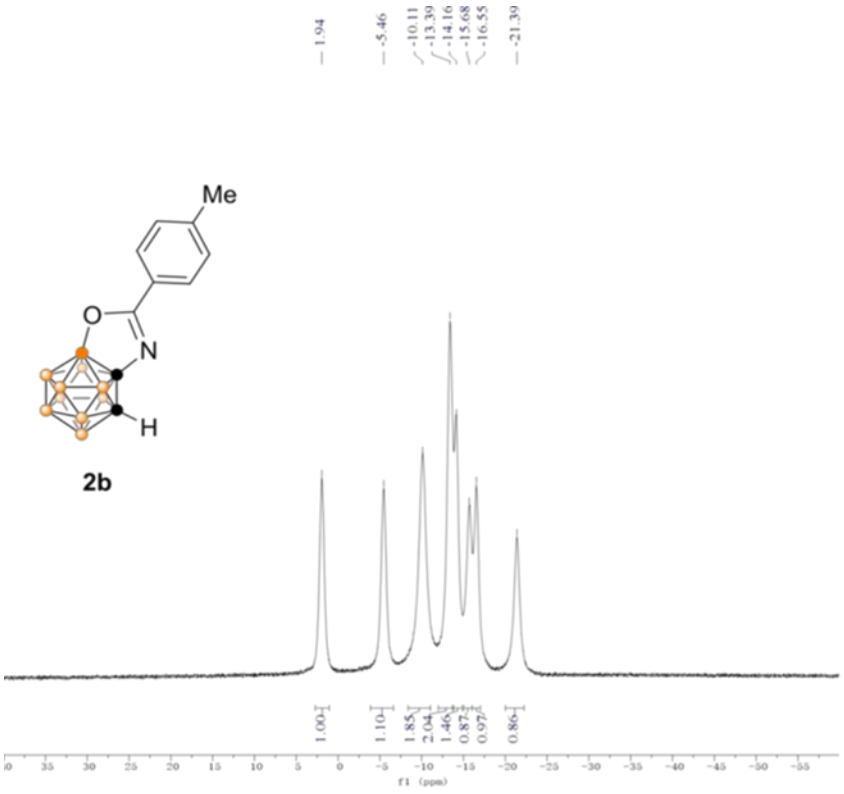
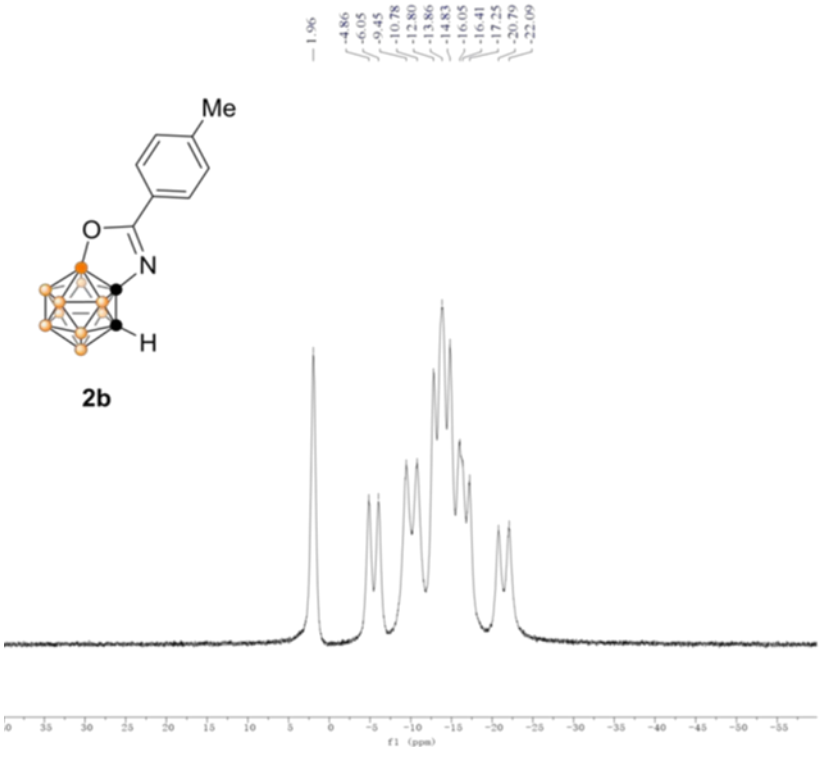
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2bb-1026/ 1/ fid |
| 2 | 标题 | jhr-2bb-1026.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.8 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 12 |
| 15 | Receiver Gain | 77.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-10-26T22:57:53 |
| 21 | Modification Date | 2022-10-26T22:57:54 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -412.7 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |



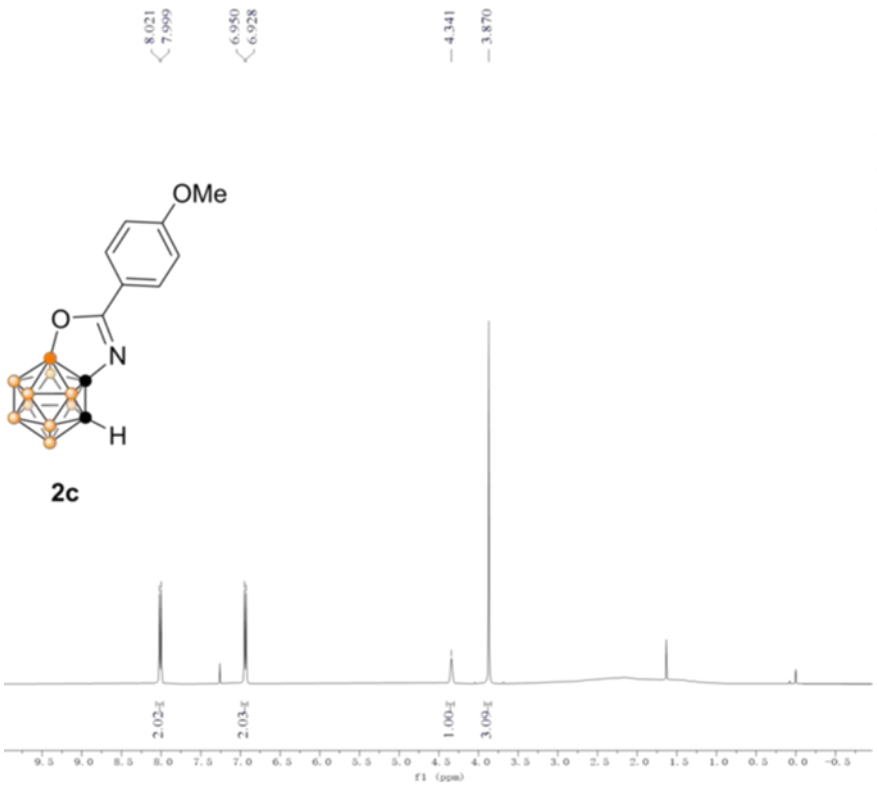

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2bb-1026-C/ 1/ fid |
| 2 | 标题 | jhr-2bb-1026-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.0 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 301 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-10-26T23:12:08 |
| 21 | Modification Date | 2022-10-26T23:12:10 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1545.2 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |




| Parameter | 值 |
|---|---|
| 1 Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2b-1026-B/ 1/ fid |
| 2 标题 | jhr-2b-1026-B. 1. fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 295. 9 |
| 11 Pulse Sequence | aring-b11 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 7 |
| 15 Receiver Gain | 195. 5 |
| 16 Relaxation Delay | 1. 0000 |
| 17 Pulse Width | 10. 0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1. 2845 |
| 20 Acquisition Date | 2022-10-26T23:46:24 |
| 21 Modification Date | 2022-10-26T23:46:26 |
| 22 Class | |
| 23 Spectrometer Frequency | 128. 40 |
| 24 Spectral Width | 25510. 2 |
| 25 Lowest Frequency | -12755. 1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0. 39 |




| Parameter | 值 |
|---|---|
| 1 Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2b-1026-noB/ 1/ fid |
| 2 标题 | jhr-2b-1026-noB. 1. fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 295. 8 |
| 11 Pulse Sequence | aring |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 9 |
| 15 Receiver Gain | 195. 5 |
| 16 Relaxation Delay | 1. 0000 |
| 17 Pulse Width | 10. 0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1. 2845 |
| 20 Acquisition Date | 2022-10-26T23:45:50 |
| 21 Modification Date | 2022-10-26T23:45:52 |
| 22 Class | |
| 23 Spectrometer Frequency | 128. 40 |
| 24 Spectral Width | 25510. 2 |
| 25 Lowest Frequency | -12755. 1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0. 39 |




| Parameter | 值 |
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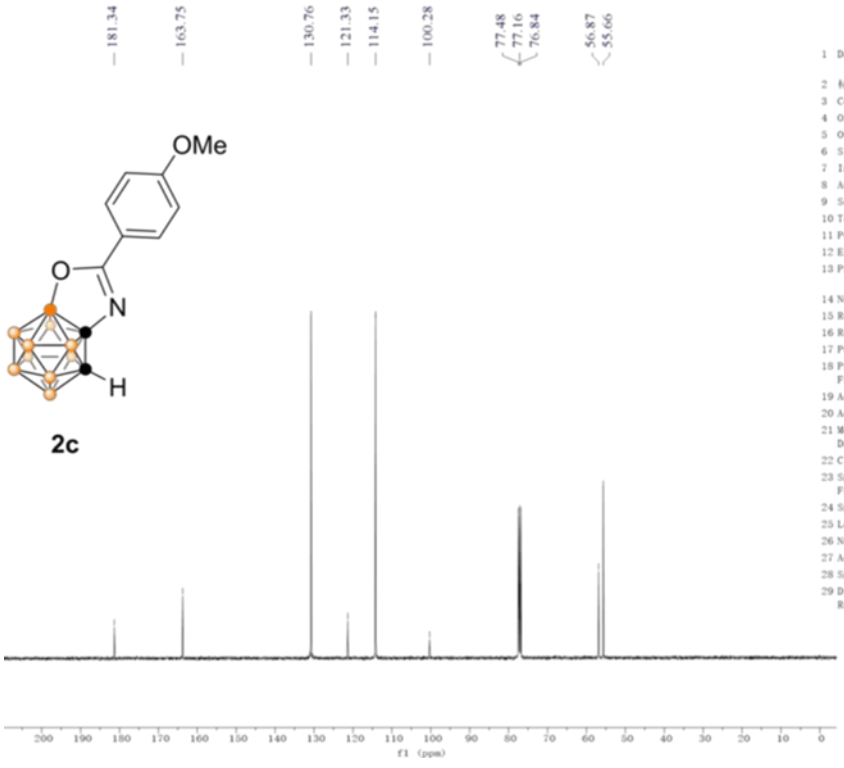
| 2 标题 | jhr-4016-clean.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 296.1 |
| 11 Pulse Sequence | zg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 5 |
| 15 Receiver Gain | 63.0 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 2.9998 |
| 20 Acquisition Date | 2022-06-24T09:31:11 |
| 21 Modification Date | 2022-06-24T09:31:11 |
| 22 Class | |
| 23 Spectrometer Frequency | 400.20 |
| 24 Spectral Width | 4807.7 |
| 25 Lowest Frequency | -412.9 |
| 26 Nucleus | 1H |
| 27 Acquired Size | 14422 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.07 |




| Parameter | 值 |
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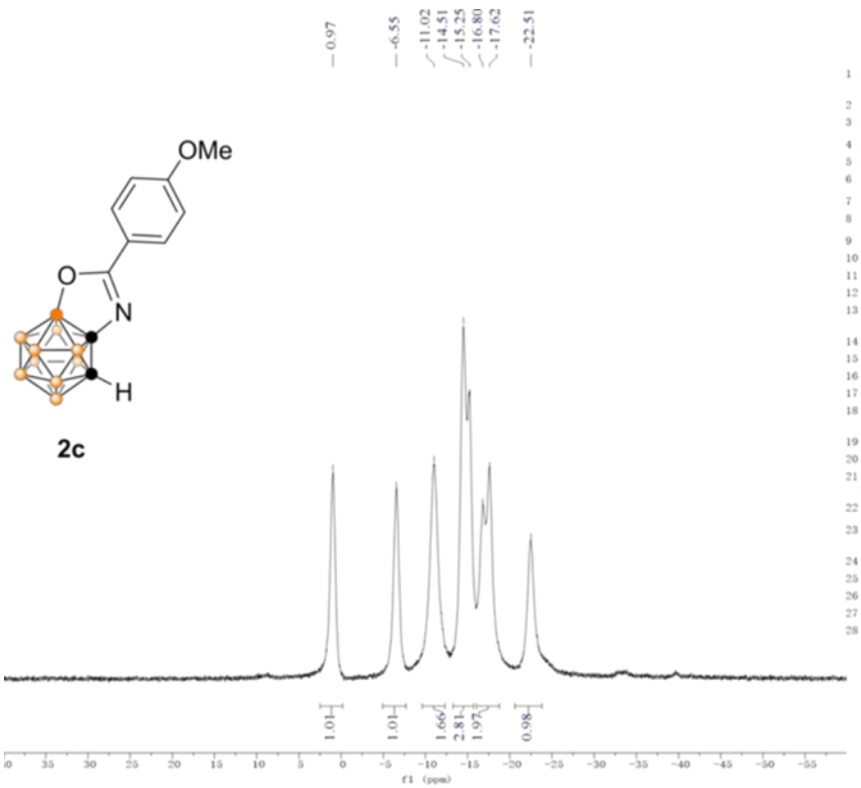
| 1 Data File Name | D:/ ~收谱/ 产物/ jhr-2cc-C/ 1/ fid |
| 2 标题 | jhr-2cc-C.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 298.2 |
| 11 Pulse Sequence | zgpg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0643 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 1000 |
| 15 Receiver Gain | 197.1 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 0.6999 |
| 20 Acquisition Date | 2022-08-20T15:09:17 |
| 21 Modification Date | 2022-08-20T15:09:17 |
| 22 Class | |
| 23 Spectrometer Frequency | 100.62 |
| 24 Spectral Width | 25252.5 |
| 25 Lowest Frequency | -1548.4 |
| 26 Nucleus | 13C |
| 27 Acquired Size | 17675 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.39 |




| Parameter | 值 |
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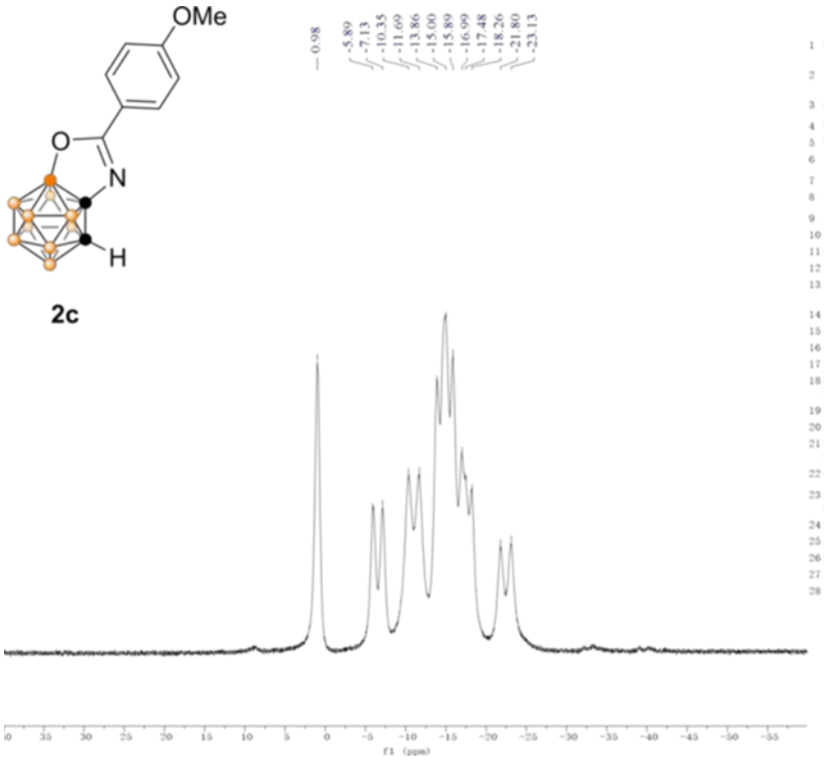
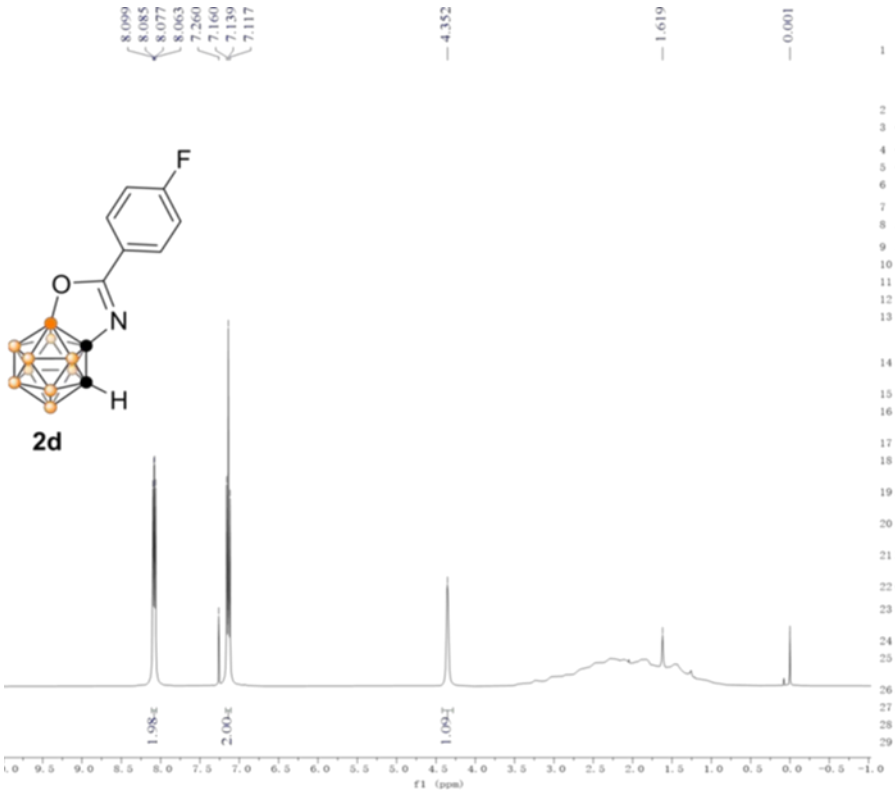
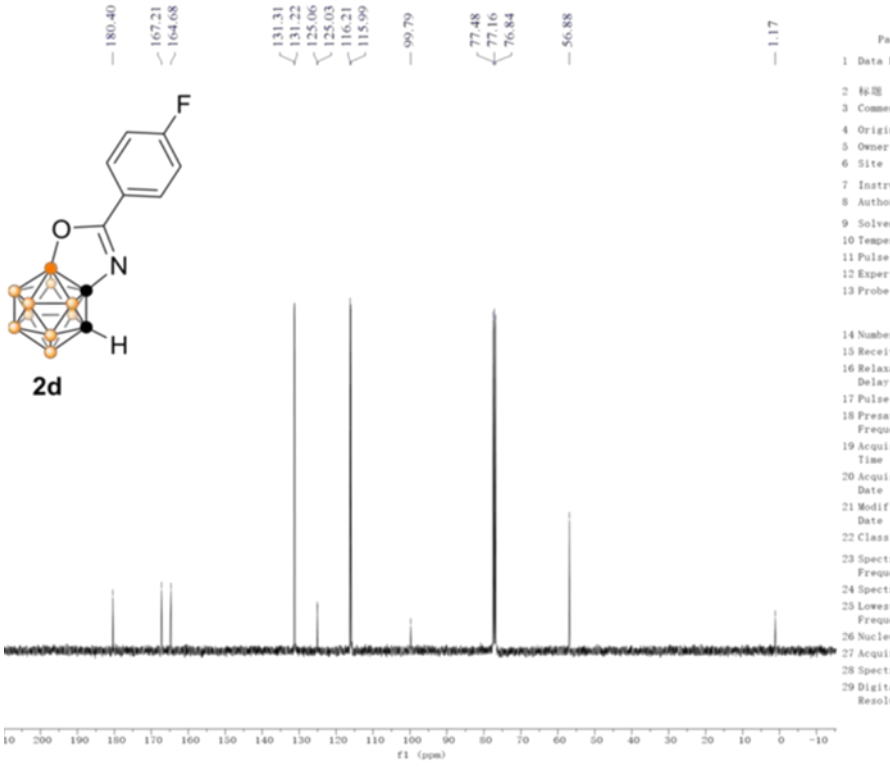
| 1 Data File Name | Y:/ jhr-2c-0113-deB/ 1/ fid |
| 2 标题 | jhr-2c-0113-deB. 1. fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | Acetone |
| 10 Temperature | 295.6 |
| 11 Pulse Sequence | aring-b11 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 9 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2845 |
| 20 Acquisition Date | 2023-01-13T19:28:50 |
| 21 Modification Date | 2023-01-13T19:28:51 |
| 22 Class | |
| 23 Spectrometer Frequency | 128.40 |
| 24 Spectral Width | 25510.2 |
| 25 Lowest Frequency | -12755.1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |



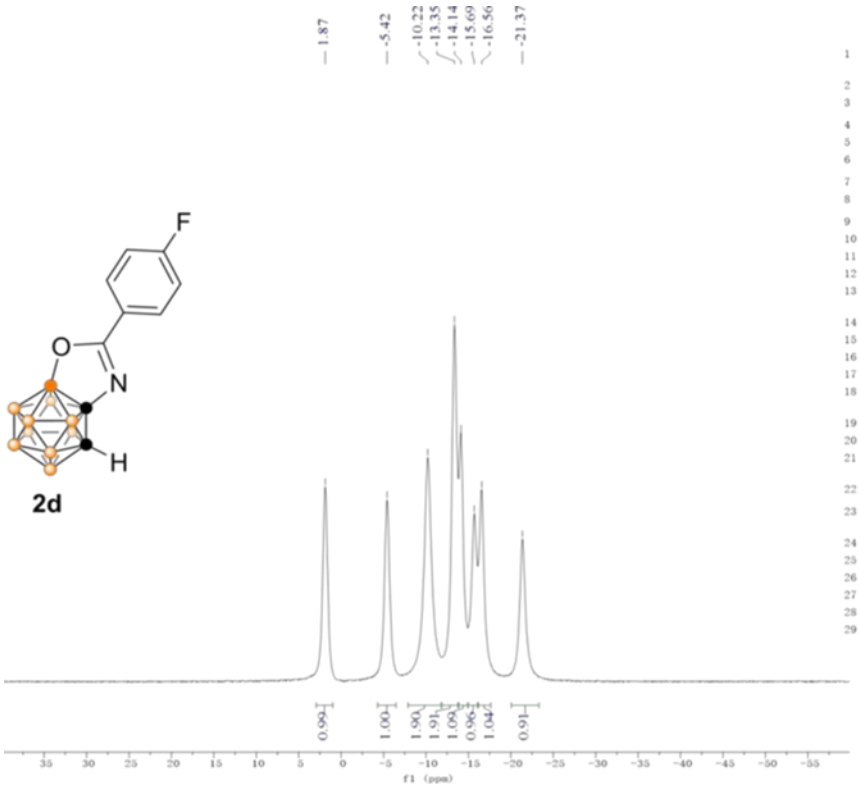

| Parameter | 值 |
|---|---|
| 1 Data File Name | Y:/ jhr-2c-0113-no deB/ 1/ fid |
| 2 标题 | jhr-2c-0113-no deB. 1. fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | Acetone |
| 10 Temperature | 295.6 |
| 11 Pulse Sequence | aring |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 18 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2845 |
| 20 Acquisition Date | 2023-01-13T19:28:13 |
| 21 Modification Date | 2023-01-13T19:28:13 |
| 22 Class | |
| 23 Spectrometer Frequency | 128.40 |
| 24 Spectral Width | 25510.2 |
| 25 Lowest Frequency | -12755.1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |



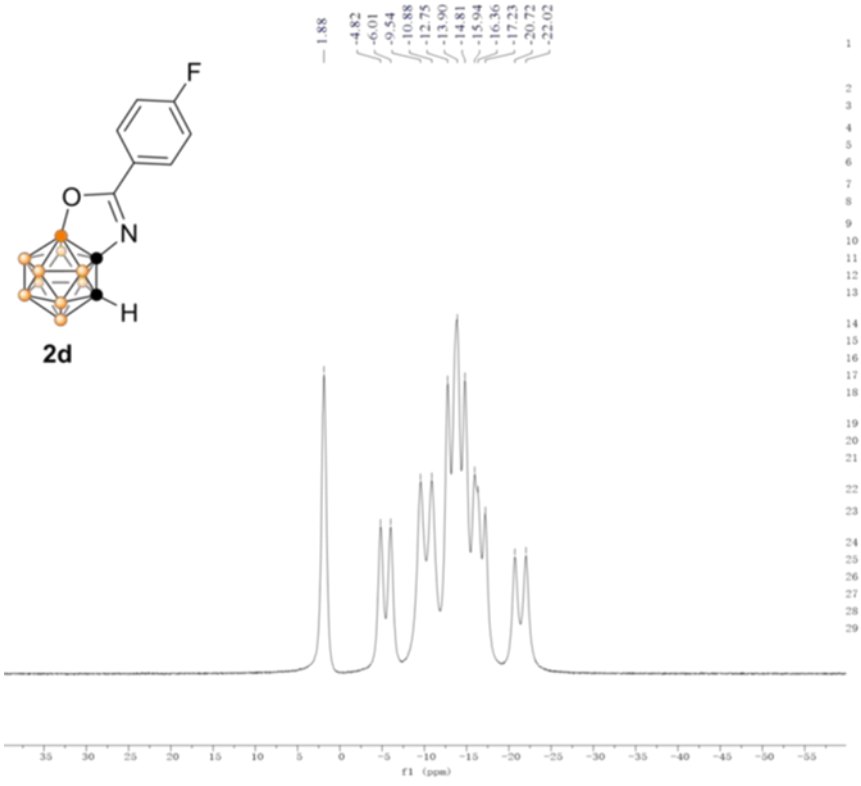

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.201/ nmr/ Hugang/ jhr/ 收谱/ jhr-4014-clean/ 1/ fid |
| 2 | 标题 | jhr-4014-clean.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.2 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 5 |
| 15 | Receiver Gain | 63.0 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-06-24T09:27:58 |
| 21 | Modification Date | 2022-06-24T09:27:59 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -412.7 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |



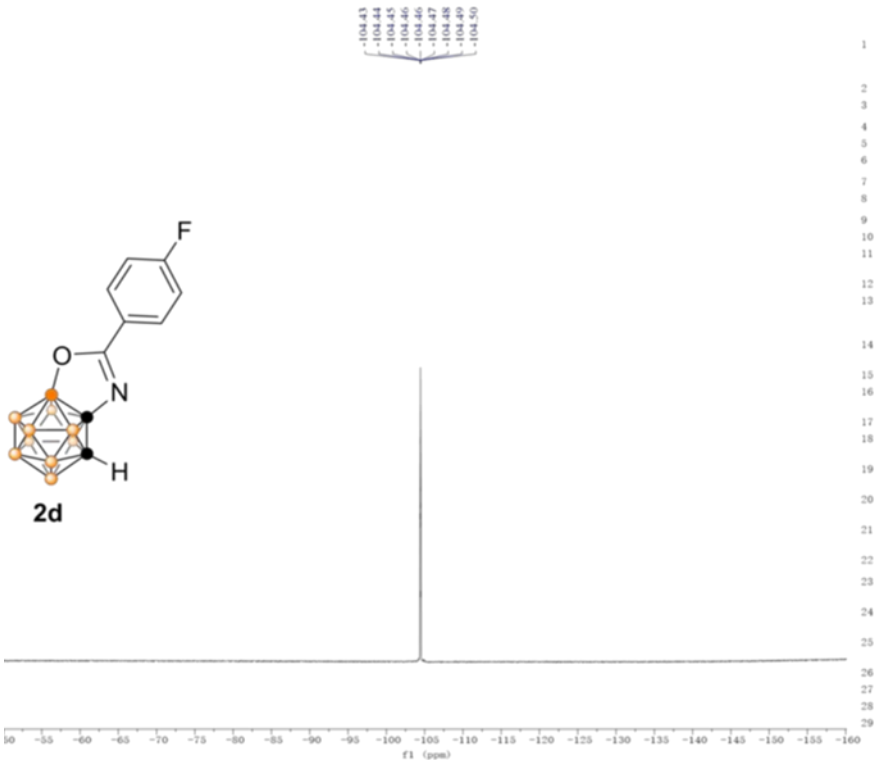

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2d-1103-C/ 1/ fid |
| 2 | 标题 | jhr-2d-1103-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.1 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 202 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-11-03T12:12:37 |
| 21 | Modification Date | 2022-11-03T12:12:40 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1545.4 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |



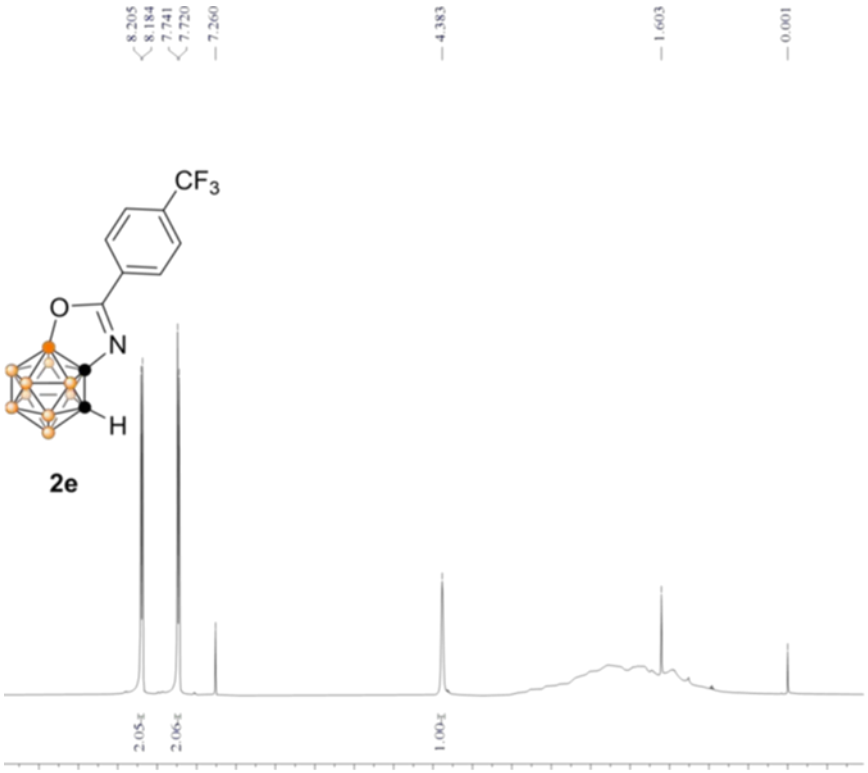

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2d-1103-B/ 1/ fid |
| 2 | 标题 | jhr-2d-1103-B.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 296.2 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 20 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-11-03T12:14:50 |
| 21 | Modification Date | 2022-11-03T12:14:52 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |



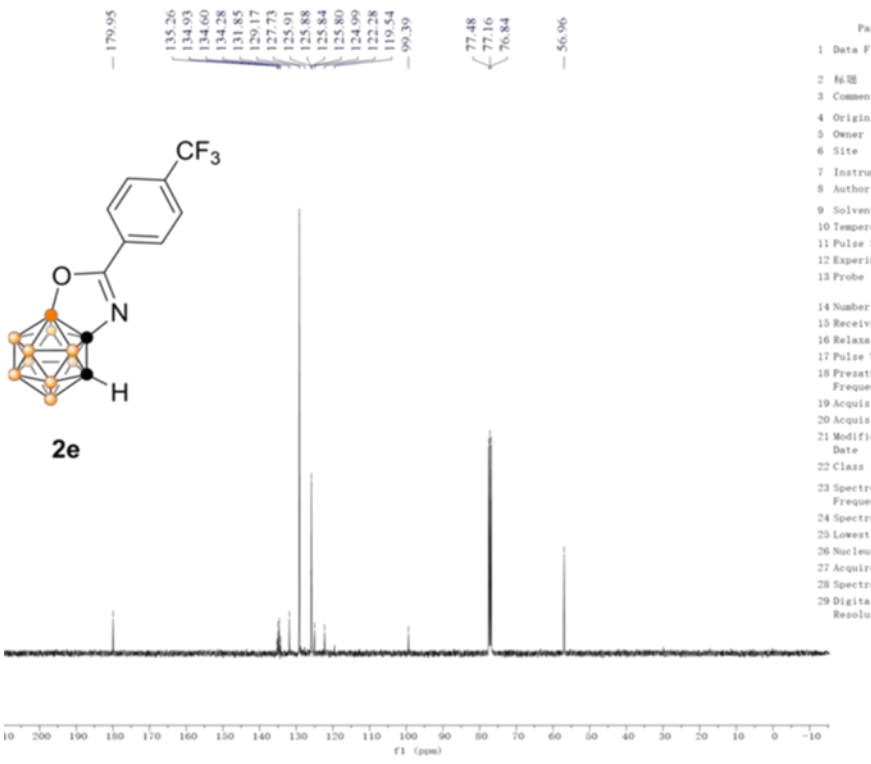

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2d-1103-noB/ 1/ fid |
| 2 | 标题 | jhr-2d-1103-noB.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 295.9 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 25 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-11-03T12:16:08 |
| 21 | Modification Date | 2022-11-03T12:16:10 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |



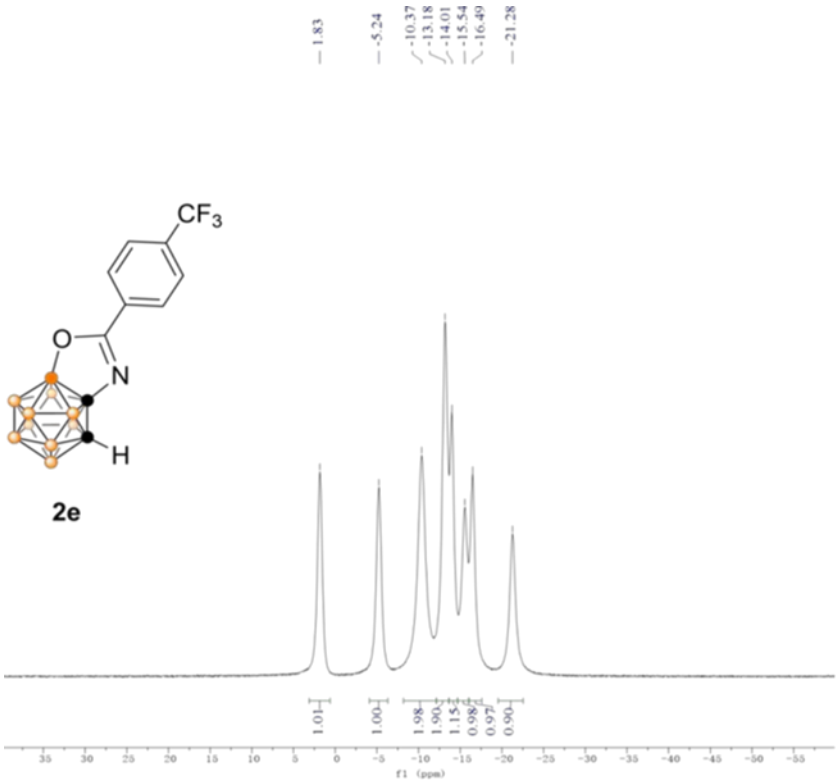

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2d-1103-F/ 1/ fid |
| 2 | 标题 | jhr-2d-1103-F.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.8 |
| 11 | Pulse Sequence | zgflqn |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PABBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 9 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 18.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 0.9999 |
| 20 | Acquisition Date | 2022-11-03T12:18:25 |
| 21 | Modification Date | 2022-11-03T12:18:26 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 376.53 |
| 24 | Spectral Width | 75000.0 |
| 25 | Lowest Frequency | -75156.4 |
| 26 | Nucleus | 19F |
| 27 | Acquired Size | 74996 |
| 28 | Spectral Size | 262144 |
| 29 | Digital Resolution | 0.29 |




| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 谱/ jhr-2e-1121/ fid |
| 2 | 标题 | jhr-2e-1121.1.fi |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin G |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.6 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 5 |
| 15 | Receiver Gain | 31.0 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-11-22T20:09 |
| 21 | Modification Date | 2022-11-22T20:09 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -412.9 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |




| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2e-1121-C/ 1/ fid |
| 2 | 标题 | jhr-2e-1121-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.7 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 301 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-11-22T20:23:52 |
| 21 | Modification Date | 2022-11-22T20:23:53 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 23252.5 |
| 25 | Lowest Frequency | -1544.1 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |

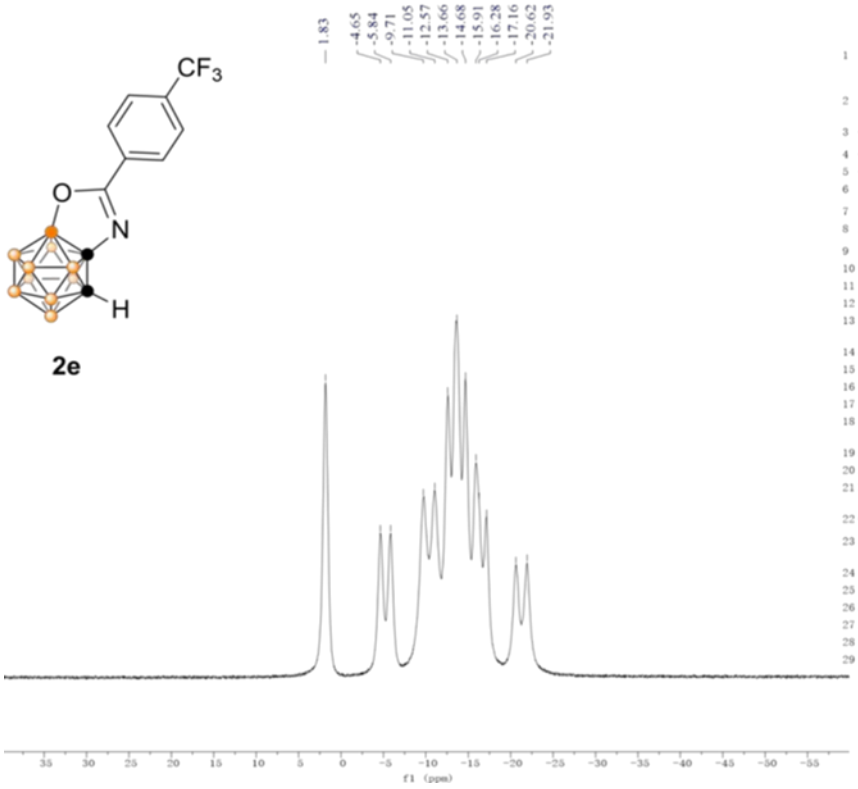






2e

| Parameter | 值 |
|---|---|
| 1 Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2e-1121-C-B/ 1/ fid |
| 2 标题 | jhr-2e-1121-C-B. 1. fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 295. 9 |
| 11 Pulse Sequence | aring-b11 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 13 |
| 15 Receiver Gain | 195. 5 |
| 16 Relaxation Delay | 1. 0000 |
| 17 Pulse Width | 10. 0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1. 2845 |
| 20 Acquisition Date | 2022-11-22T20:25:38 |
| 21 Modification Date | 2022-11-22T20:25:39 |
| 22 Class | |
| 23 Spectrometer Frequency | 128. 40 |
| 24 Spectral Width | 25510. 2 |
| 25 Lowest Frequency | -12755. 1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0. 39 |

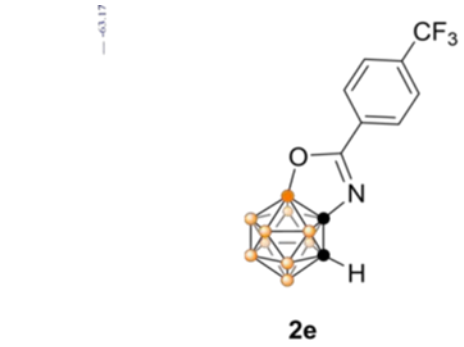




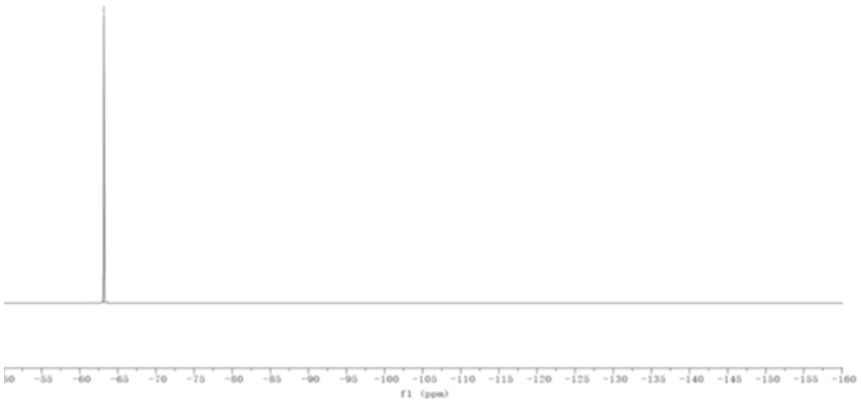


2e

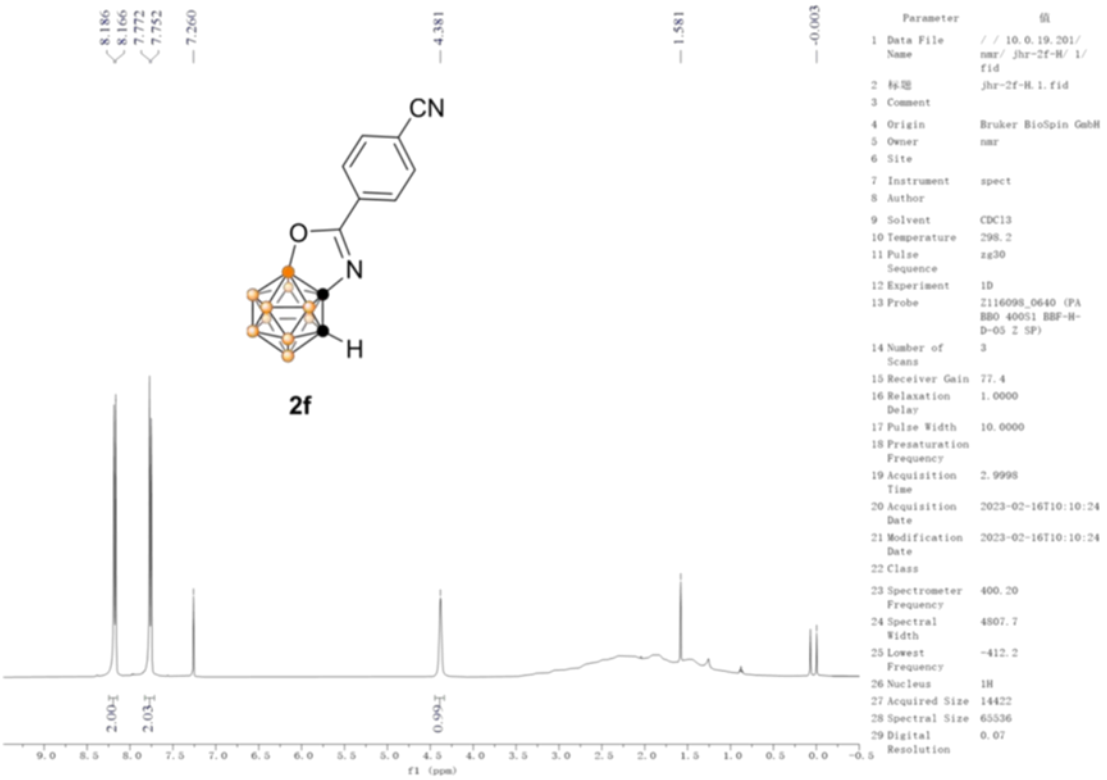
| Parameter | 值 |
|---|---|
| 1 Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2e-1121-C-nOB/ 1/ fid |
| 2 标题 | jhr-2e-1121-C-nOB. 1. fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 295. 8 |
| 11 Pulse Sequence | aring |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 8 |
| 15 Receiver Gain | 195. 5 |
| 16 Relaxation Delay | 1. 0000 |
| 17 Pulse Width | 10. 0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1. 2845 |
| 20 Acquisition Date | 2022-11-22T20:26:13 |
| 21 Modification Date | 2022-11-22T20:26:14 |
| 22 Class | |
| 23 Spectrometer Frequency | 128. 40 |
| 24 Spectral Width | 25510. 2 |
| 25 Lowest Frequency | -12755. 1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0. 39 |




2e




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2e-1119-F/ 1/ fid |
| 2 | 标题 | jhr-2e-1119-F.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.7 |
| 11 | Pulse Sequence | zgflqn |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PABBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 21 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 18.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 0.9999 |
| 20 | Acquisition Date | 2022-11-19T17:53:17 |
| 21 | Modification Date | 2022-11-19T17:53:20 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 376.53 |
| 24 | Spectral Width | 150000.0 |
| 25 | Lowest Frequency | -112656.4 |
| 26 | Nucleus | 19F |
| 27 | Acquired Size | 149992 |
| 28 | Spectral Size | 524288 |
| 29 | Digital Resolution | 0.29 |




| | Parameter | 值 |
|---|---|---|
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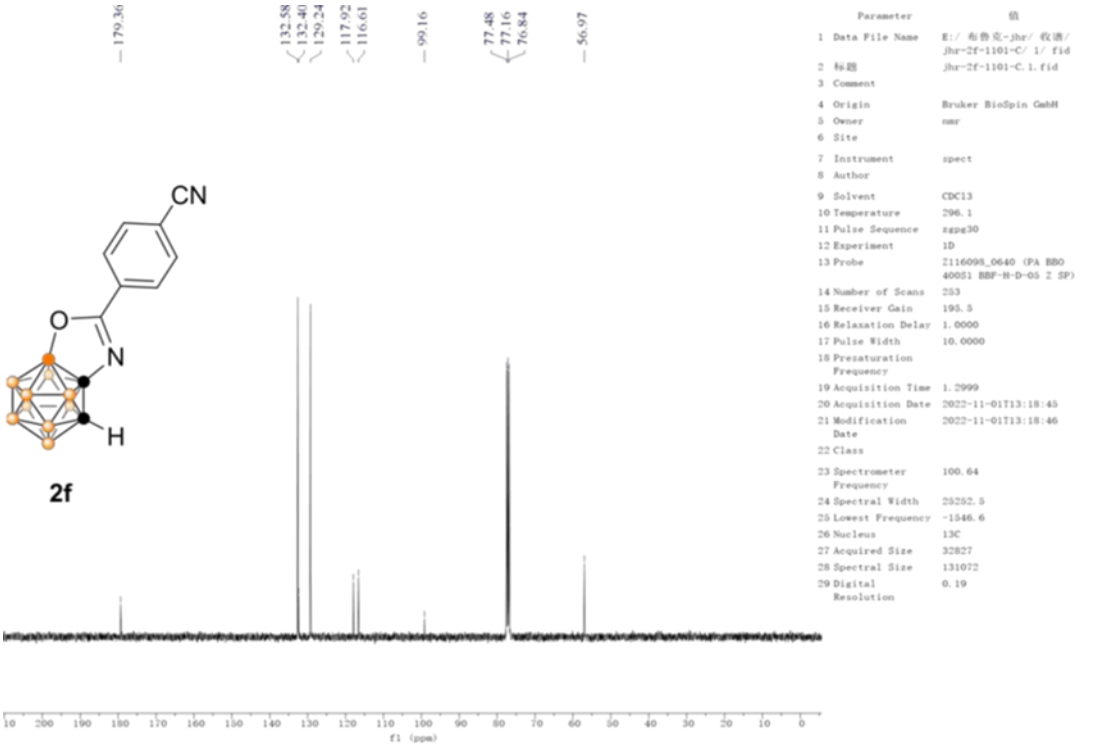
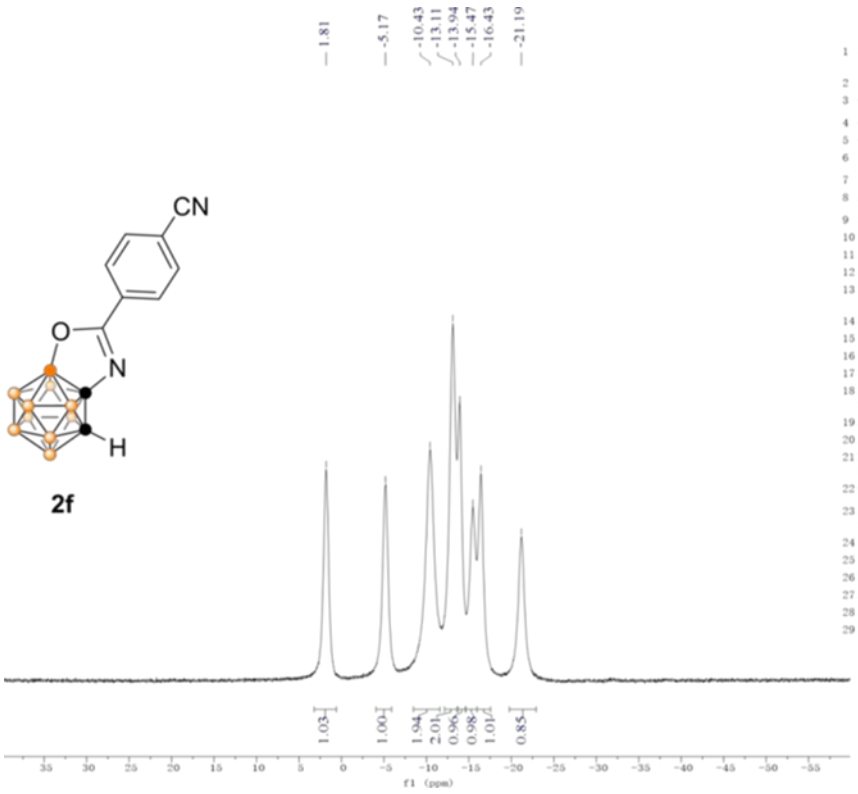
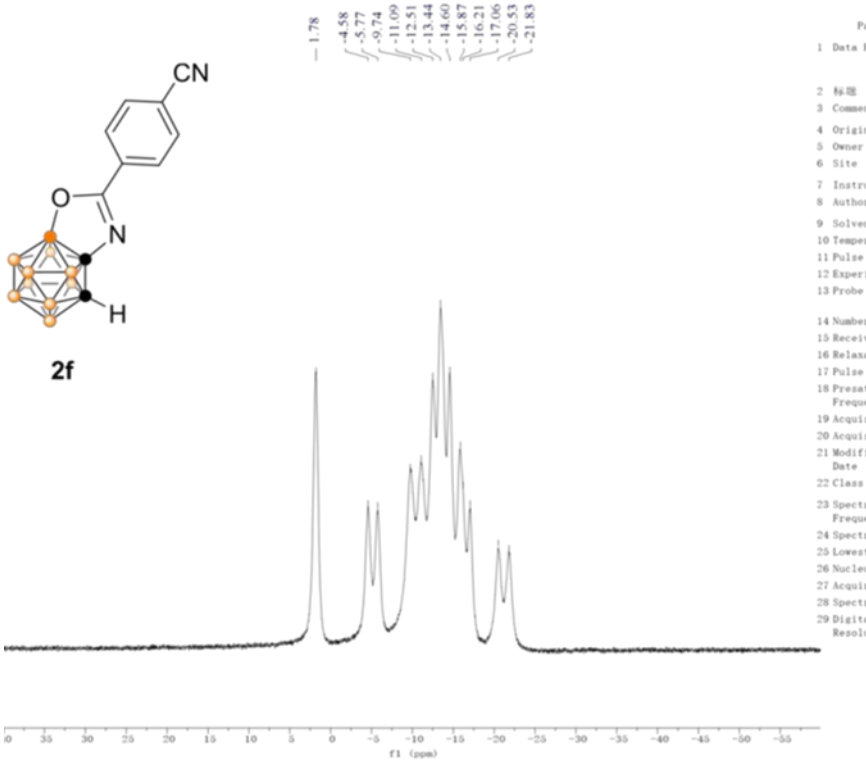
| 2 | 标题 | jhr-2f-H.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.2 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 3 |
| 15 | Receiver Gain | 77.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2023-02-16T10:10:24 |
| 21 | Modification Date | 2023-02-16T10:10:24 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -412.2 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |



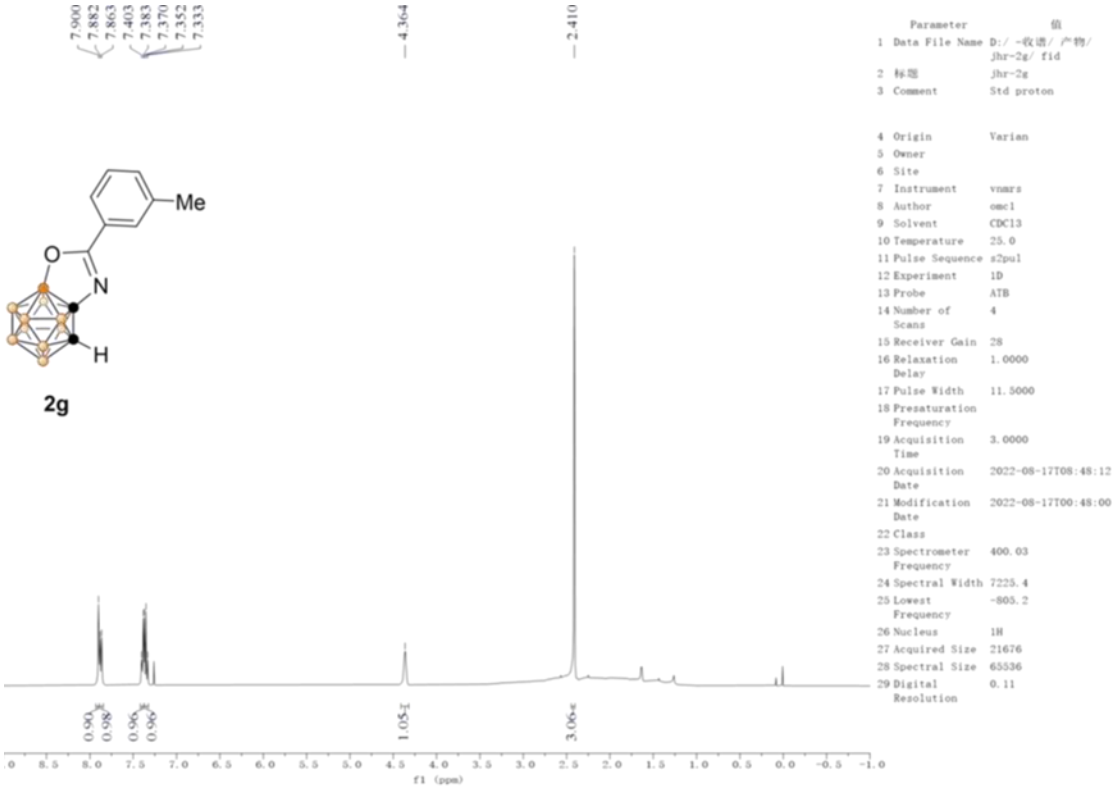

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2f-1101-C/ 1/ fid |
| 2 | 标题 | jhr-2f-1101-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.1 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 253 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-11-01T13:18:45 |
| 21 | Modification Date | 2022-11-01T13:18:46 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1546.6 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |



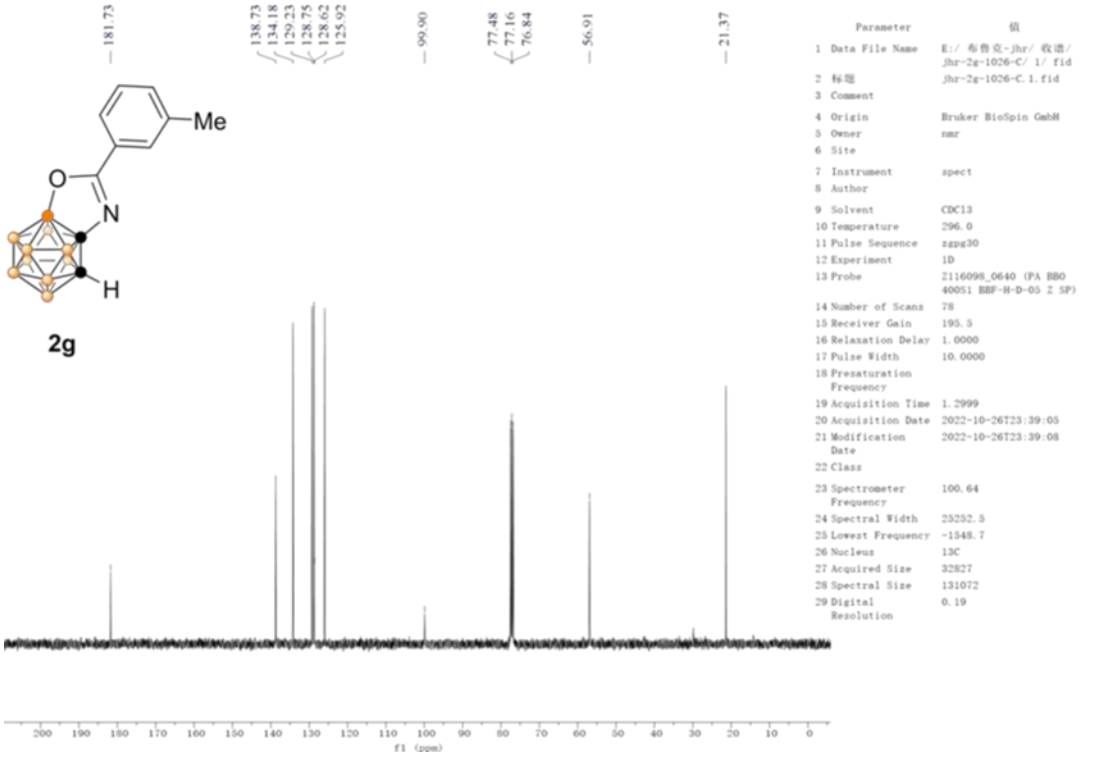

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2f-1031-B/ 1/ fid |
| 2 | 标题 | jhr-2f-1031-B. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 295. 9 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 10 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-10-31T10:32:11 |
| 21 | Modification Date | 2022-10-31T10:32:14 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |



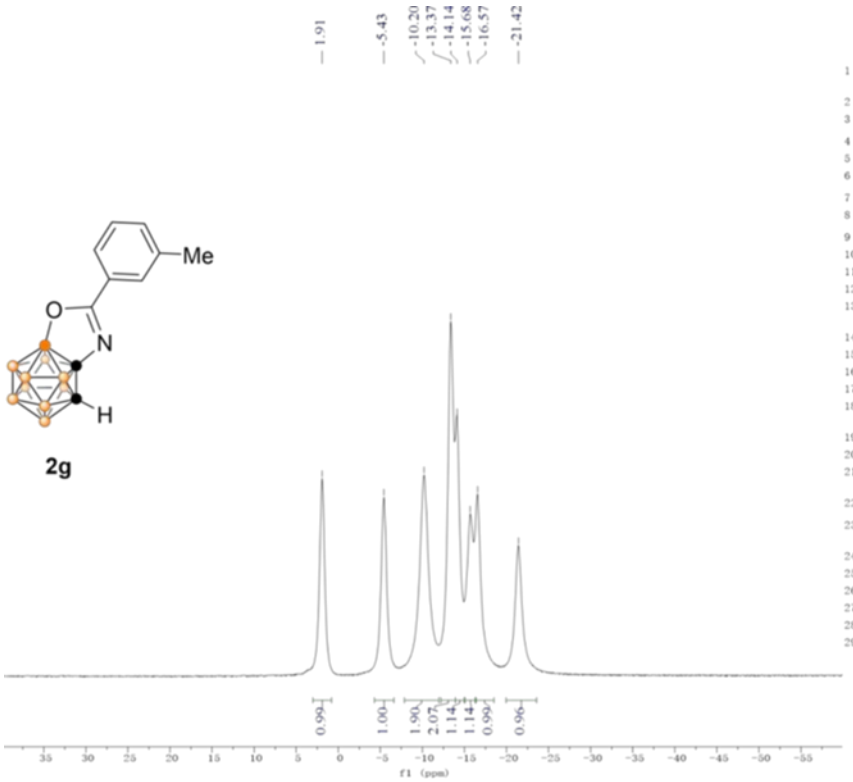

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2f-1031-noB/ 1/ fid |
| 2 | 标题 | jhr-2f-1031-noB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 295. 7 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 8 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-10-31T10:31:32 |
| 21 | Modification Date | 2022-10-31T10:31:34 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |



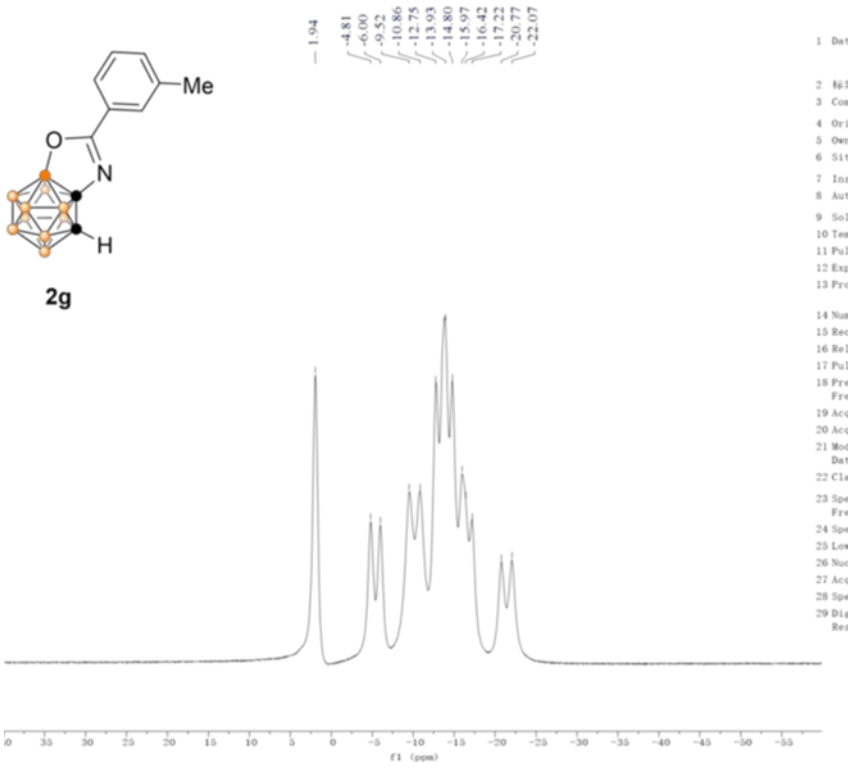

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ -收语/ 产物/ jhr-2g/ fid |
| 2 | 标题 | jhr-2g |
| 3 | Comment | Std proton |
| 4 | Origin | Varian |
| 5 | Owner | |
| 6 | Site | |
| 7 | Instrument | vnmrs |
| 8 | Author | omc1 |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 25.0 |
| 11 | Pulse Sequence | s2pul |
| 12 | Experiment | 1D |
| 13 | Probe | ATB |
| 14 | Number of Scans | 4 |
| 15 | Receiver Gain | 28 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 11.5000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 3.0000 |
| 20 | Acquisition Date | 2022-08-17T08:48:12 |
| 21 | Modification Date | 2022-08-17T00:48:00 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.03 |
| 24 | Spectral Width | 7225.4 |
| 25 | Lowest Frequency | -805.2 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 21676 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.11 |



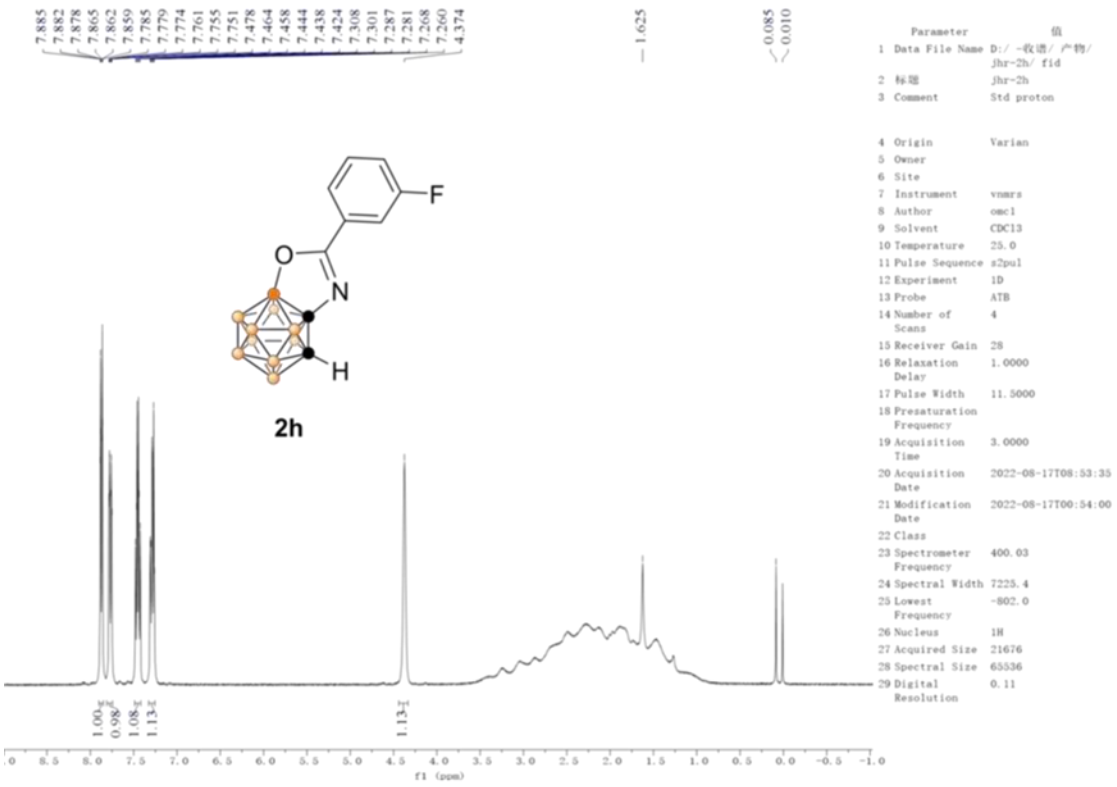

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收语/ jhr-2g-1026-C/ 1/ fid |
| 2 | 标题 | jhr-2g-1026-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 296.0 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 78 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-10-26T23:39:05 |
| 21 | Modification Date | 2022-10-26T23:39:08 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1548.7 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |



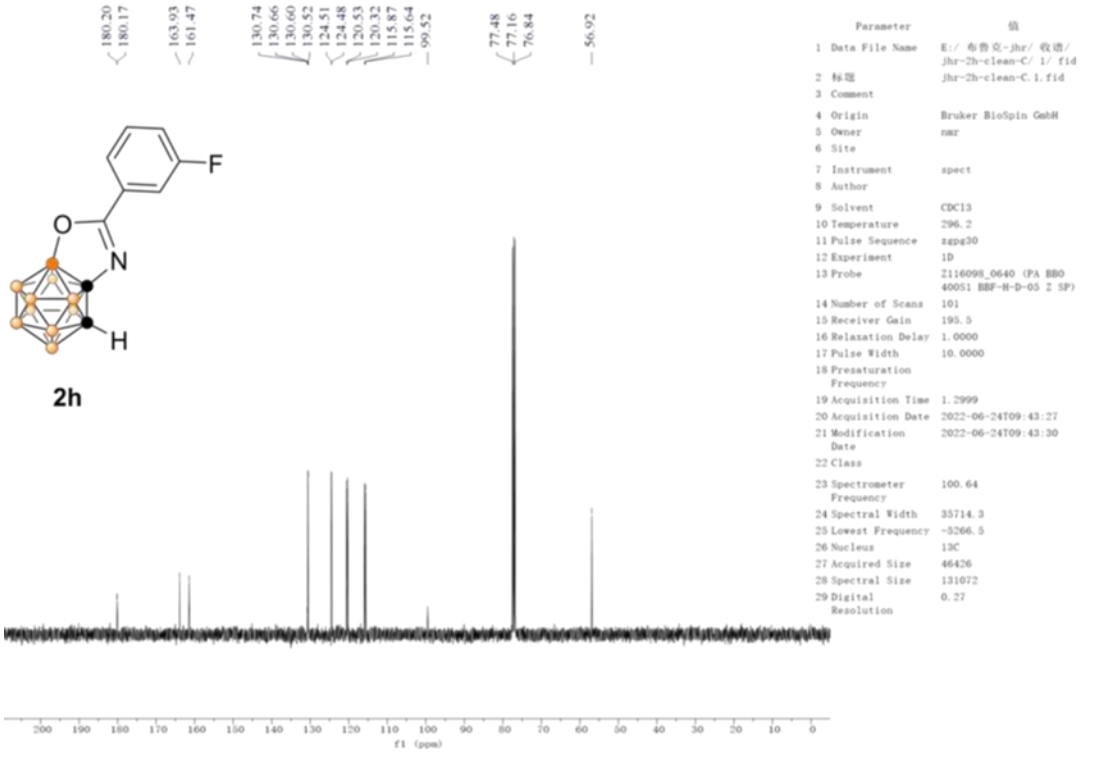

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2g-1026-B/ 1/ fid |
| 2 | 标题 | jhr-2g-1026-B. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 295. 9 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 8 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-10-26T23:44:17 |
| 21 | Modification Date | 2022-10-26T23:44:20 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |



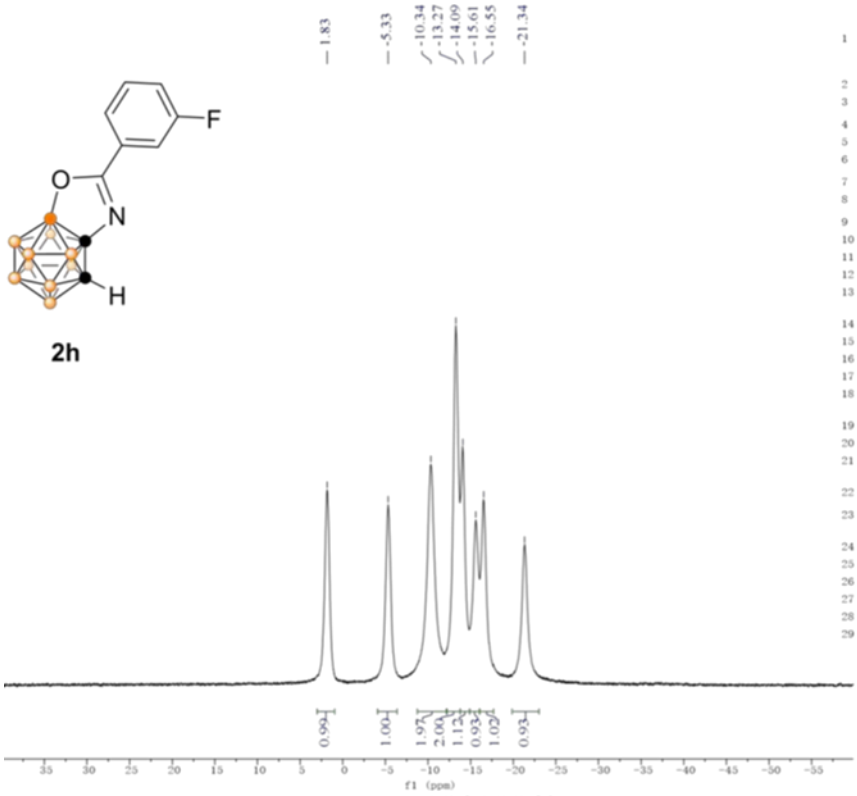

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2g-1026-noB/ 1/ fid |
| 2 | 标题 | jhr-2g-1026-noB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 295. 9 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 12 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-10-26T23:45:00 |
| 21 | Modification Date | 2022-10-26T23:45:02 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ -收语/ 产物/ jhr-2h/ fid |
| 2 | 标题 | jhr-2h |
| 3 | Comment | Std proton |
| 4 | Origin | Varian |
| 5 | Owner | |
| 6 | Site | |
| 7 | Instrument | vnmrs |
| 8 | Author | omc1 |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 25.0 |
| 11 | Pulse Sequence | s2pul |
| 12 | Experiment | 1D |
| 13 | Probe | ATB |
| 14 | Number of Scans | 4 |
| 15 | Receiver Gain | 28 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 11.5000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 3.0000 |
| 20 | Acquisition Date | 2022-08-17T08:53:35 |
| 21 | Modification Date | 2022-08-17T00:54:00 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.03 |
| 24 | Spectral Width | 7225.4 |
| 25 | Lowest Frequency | -802.0 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 21676 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.11 |

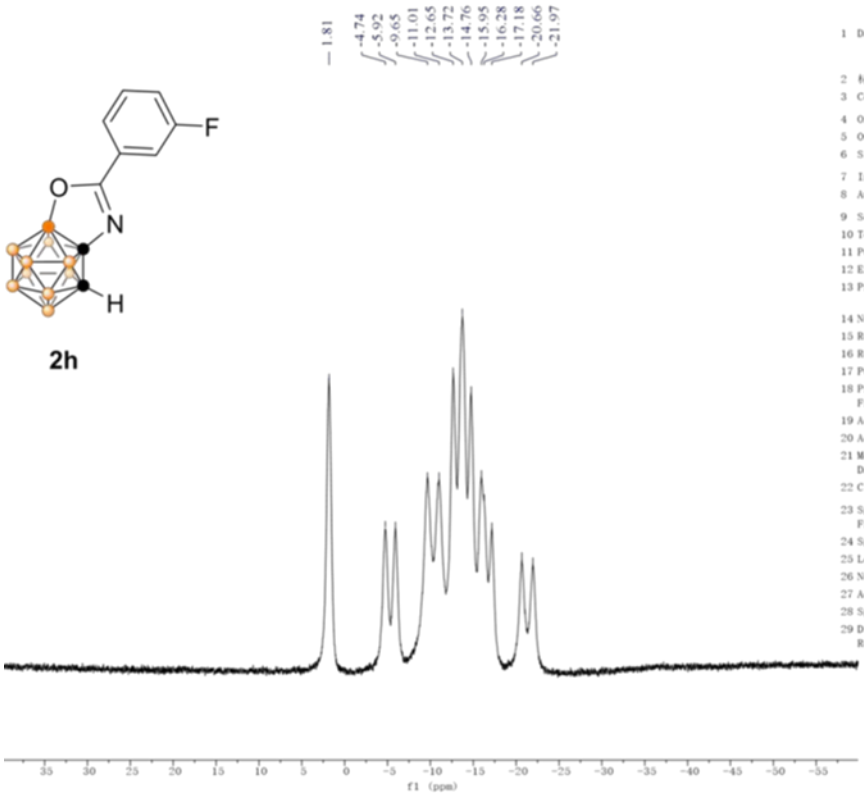



| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-Jhr/ 收语/ Jhr-2h-clean-C/ 1/ fid |
| 2 | 标题 | Jhr-2h-clean-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 296.2 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 101 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-06-24T09:43:27 |
| 21 | Modification Date | 2022-06-24T09:43:30 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 35714.3 |
| 25 | Lowest Frequency | -5266.5 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 46426 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.27 |



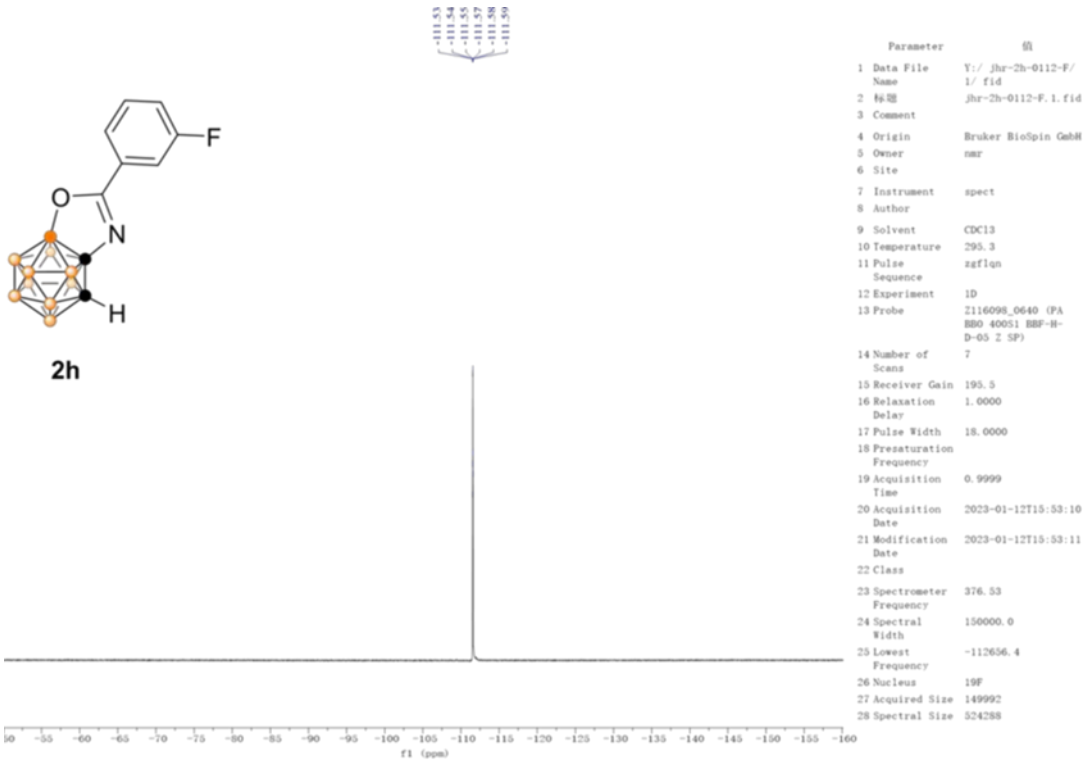

**2h**

| Parameter | 值 |
|---|---|
| 1 Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4013-B/ 2/ fid |
| 2 标题 | jhr-4013-B. 2. fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 296. 3 |
| 11 Pulse Sequence | aring-b11 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 5 |
| 15 Receiver Gain | 195. 5 |
| 16 Relaxation Delay | 1. 0000 |
| 17 Pulse Width | 10. 0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1. 2845 |
| 20 Acquisition Date | 2022-06-20T20:47:41 |
| 21 Modification Date | 2022-06-20T20:47:42 |
| 22 Class | |
| 23 Spectrometer Frequency | 128. 40 |
| 24 Spectral Width | 25510. 2 |
| 25 Lowest Frequency | -12755. 1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0. 39 |

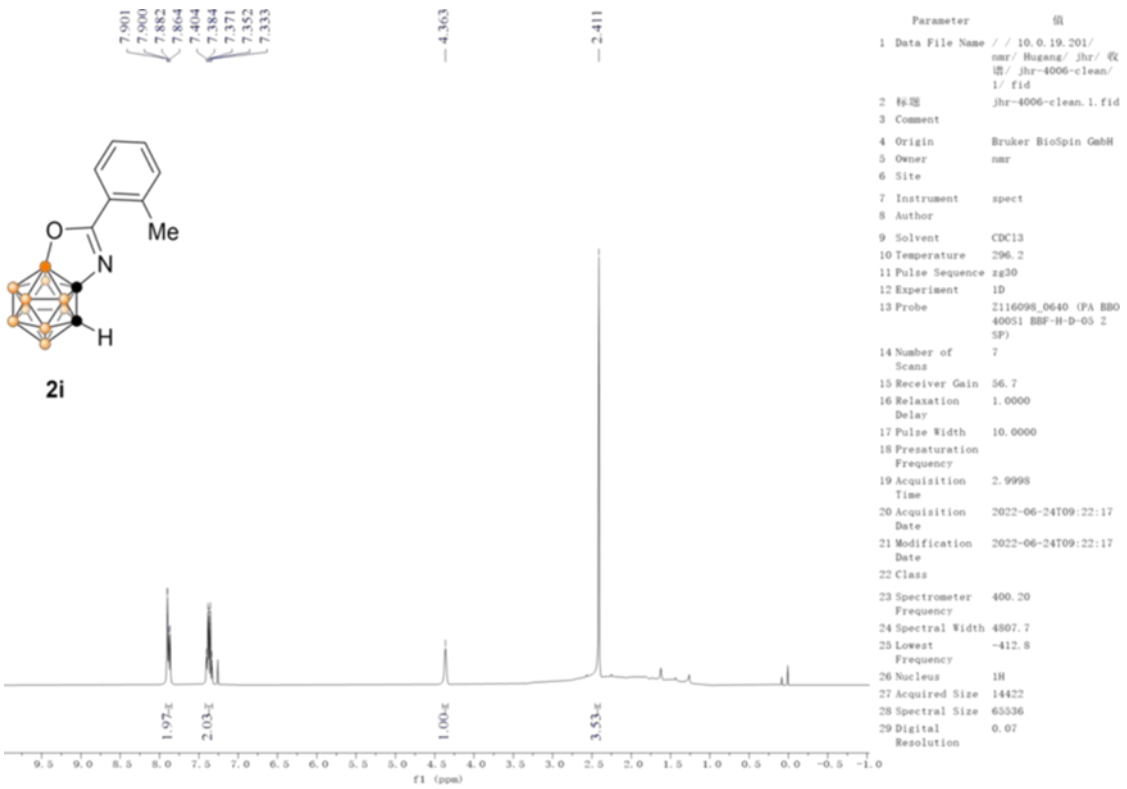



**2h**

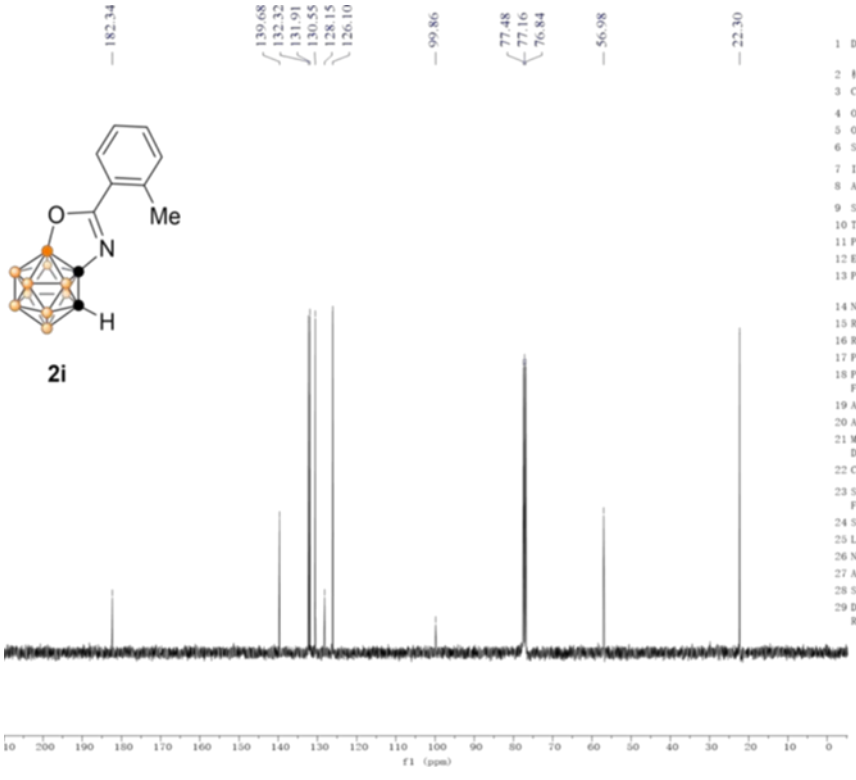
| Parameter | 值 |
|---|---|
| 1 Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4013-noB/ 1/ fid |
| 2 标题 | jhr-4013-noB. 1. fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 296. 4 |
| 11 Pulse Sequence | aring |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 2 |
| 15 Receiver Gain | 195. 5 |
| 16 Relaxation Delay | 1. 0000 |
| 17 Pulse Width | 10. 0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1. 2845 |
| 20 Acquisition Date | 2022-06-20T20:48:06 |
| 21 Modification Date | 2022-06-20T20:48:06 |
| 22 Class | |
| 23 Spectrometer Frequency | 128. 40 |
| 24 Spectral Width | 25510. 2 |
| 25 Lowest Frequency | -12755. 1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0. 39 |



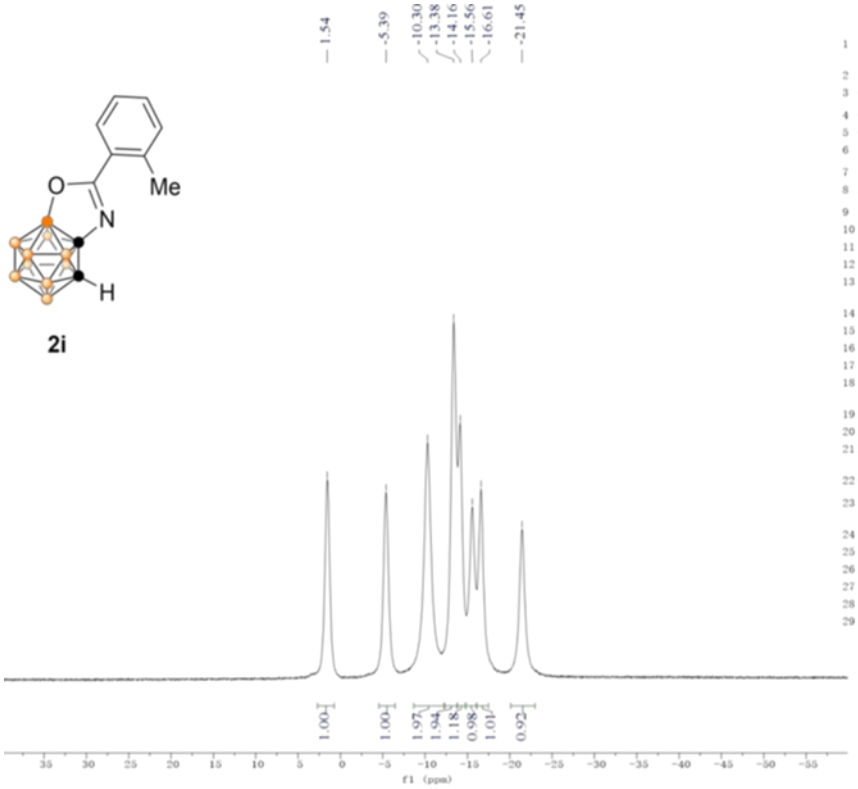

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-2h-0112-F/1/ fid |
| 2 | 标题 | jhr-2h-0112-F.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.3 |
| 11 | Pulse Sequence | zgflqn |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PABBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 7 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 18.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 0.9999 |
| 20 | Acquisition Date | 2023-01-12T15:53:10 |
| 21 | Modification Date | 2023-01-12T15:53:11 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 376.53 |
| 24 | Spectral Width | 150000.0 |
| 25 | Lowest Frequency | -112656.4 |
| 26 | Nucleus | 19F |
| 27 | Acquired Size | 149992 |
| 28 | Spectral Size | 524288 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.201/ nmr/ Huganz/ jhr/ 收谱/ jhr-4006-clean/ 1/ fid |
| 2 | 标题 | jhr-4006-clean.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.2 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 7 |
| 15 | Receiver Gain | 56.7 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-06-24T09:22:17 |
| 21 | Modification Date | 2022-06-24T09:22:17 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -412.8 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |

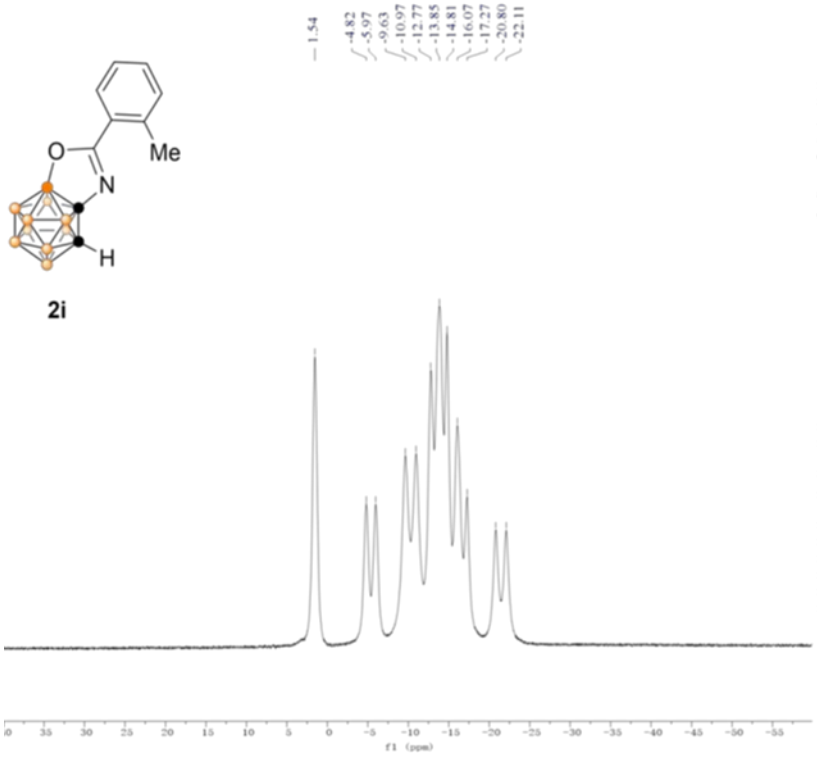



| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2i-1031-C/ 1/ fid |
| 2 | 标题 | jhr-2i-1031-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.7 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 109 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-10-31T10:42:29 |
| 21 | Modification Date | 2022-10-31T10:42:32 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1547.7 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |



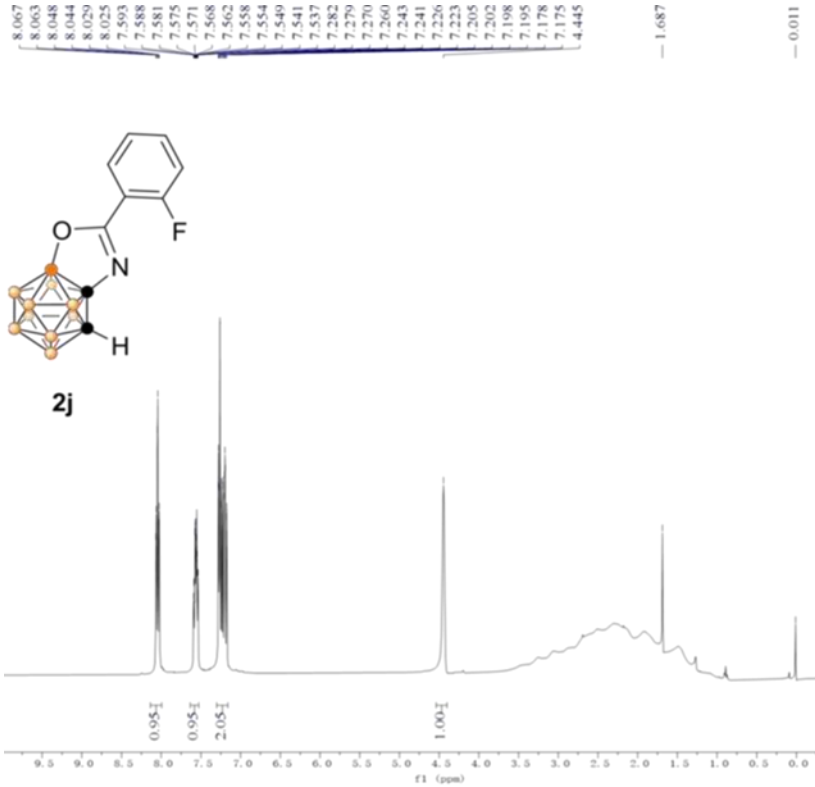

2i

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2i-1031-B/ 1/ fid |
| 2 | 标题 | jhr-2i-1031-B.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.7 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 6 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-10-31T10:30:12 |
| 21 | Modification Date | 2022-10-31T10:30:14 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |

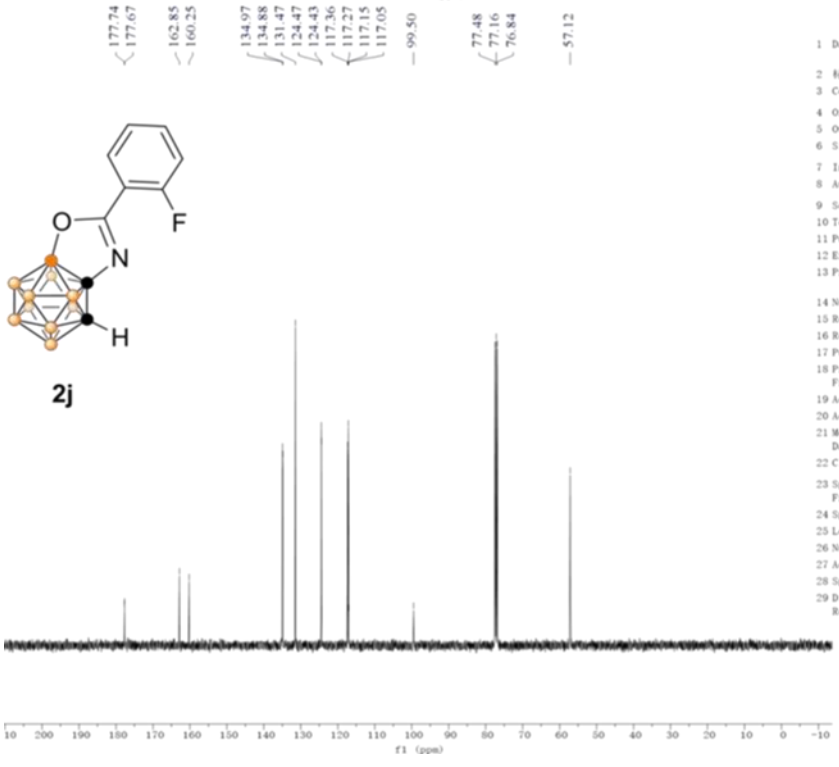



2i

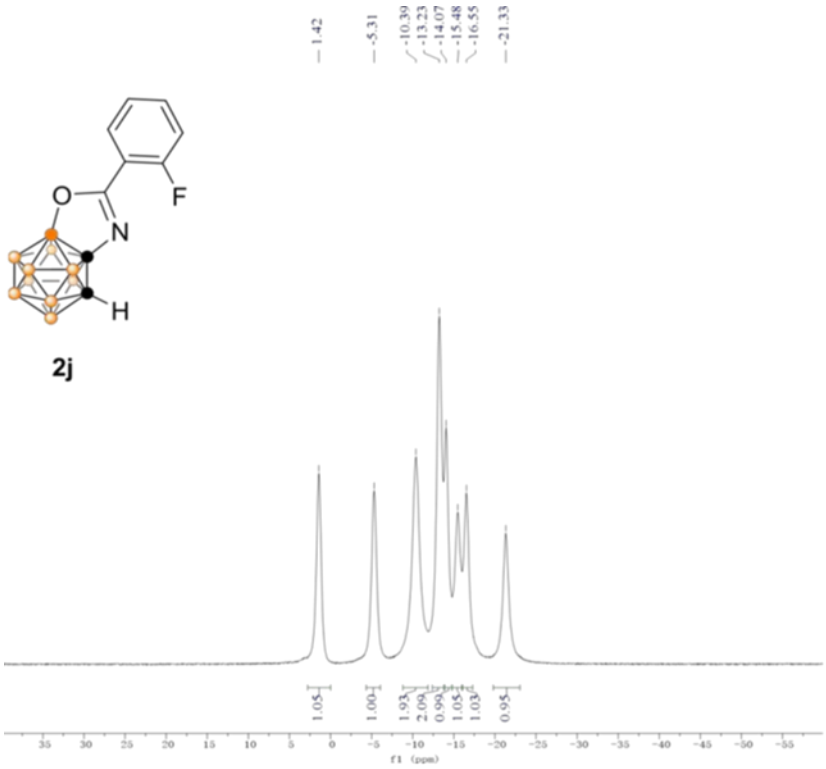
| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2i-1031-noB/ 1/ fid |
| 2 | 标题 | jhr-2i-1031-noB.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.8 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 6 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-10-31T10:30:40 |
| 21 | Modification Date | 2022-10-31T10:30:42 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2j-1103/ 1/ fid |
| 2 | 标题 | jhr-2j-1103.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.8 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 3 |
| 15 | Receiver Gain | 44.2 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-11-03T19:29:41 |
| 21 | Modification Date | 2022-11-03T19:29:44 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -408.8 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2j-1103-C/ 1/ fid |
| 2 | 标题 | jhr-2j-1103-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.0 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 161 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-11-03T19:38:55 |
| 21 | Modification Date | 2022-11-03T19:38:58 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1547.7 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |

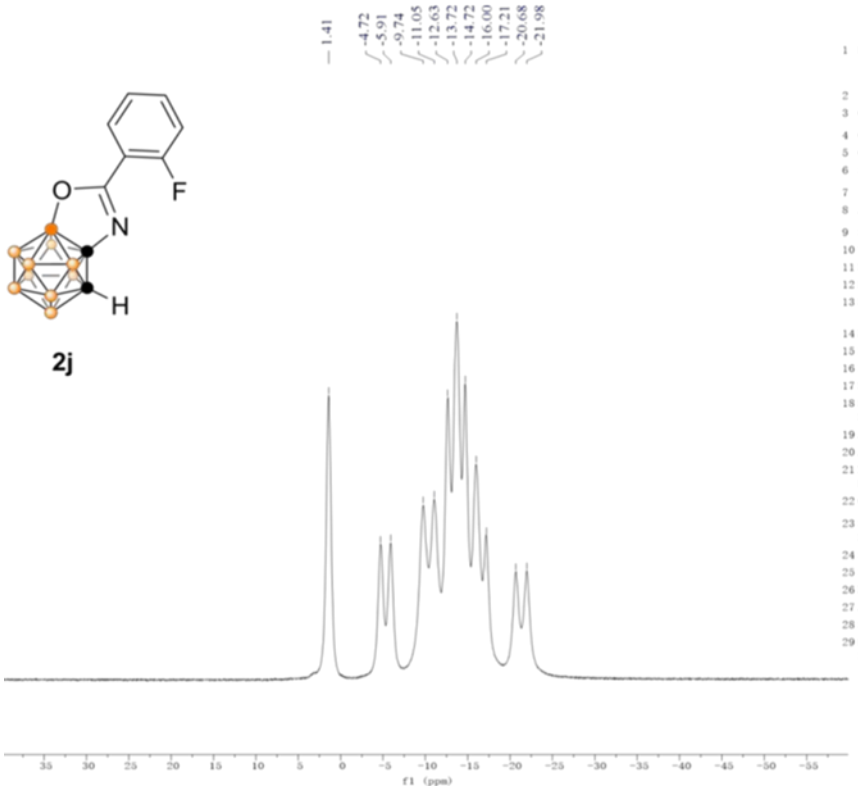






**2j**

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2j-1103-B/ 1/ fid |
| 2 | 标题 | jhr-2j-1103-B.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.9 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 8 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-11-03T19:40:29 |
| 21 | Modification Date | 2022-11-03T19:40:32 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |

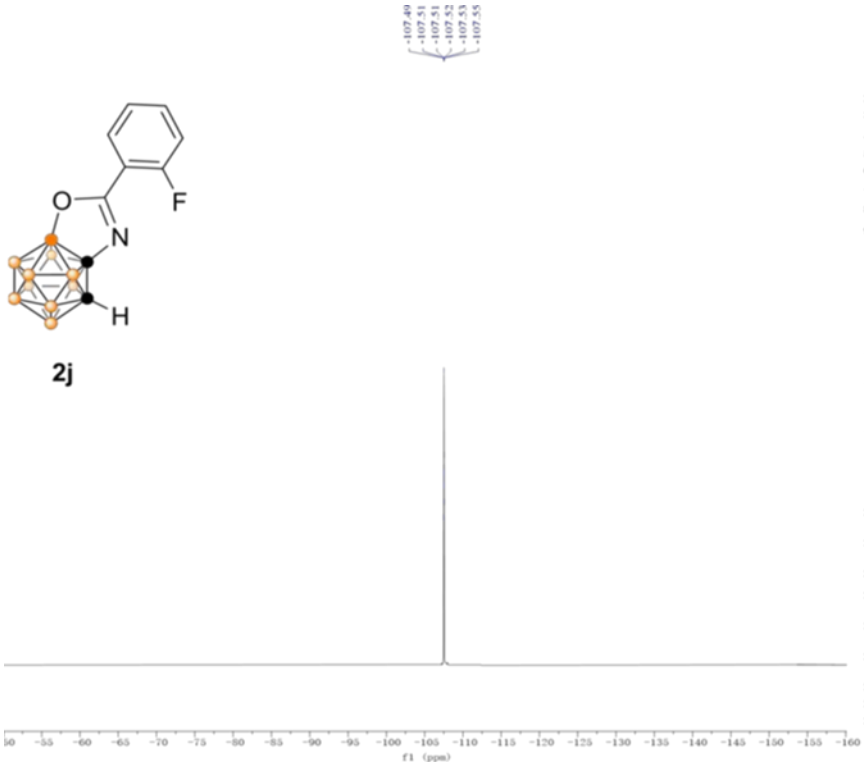




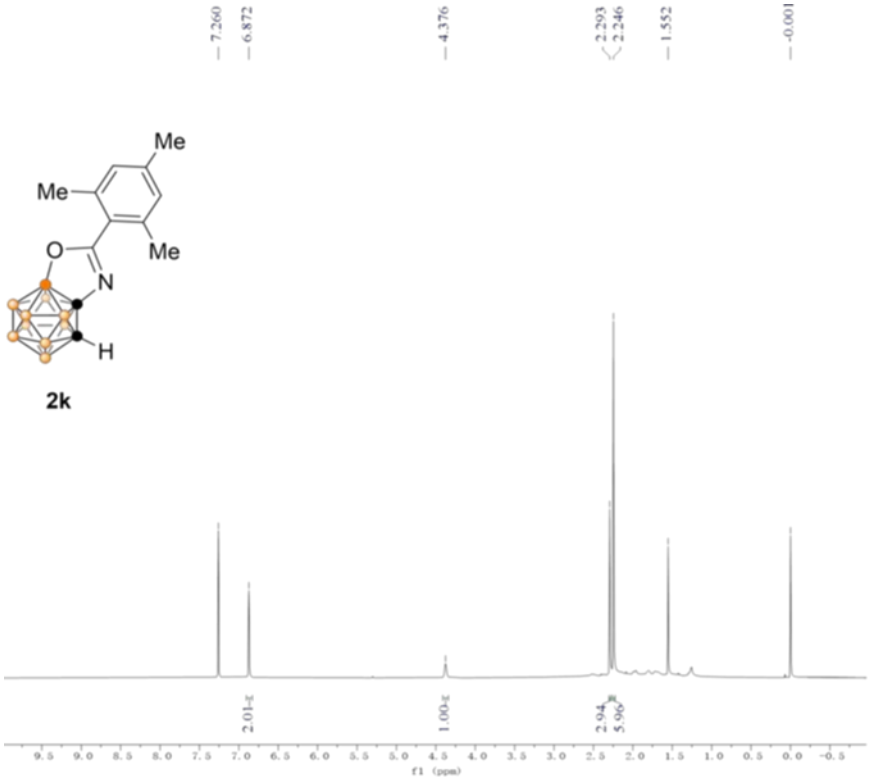


**2j**

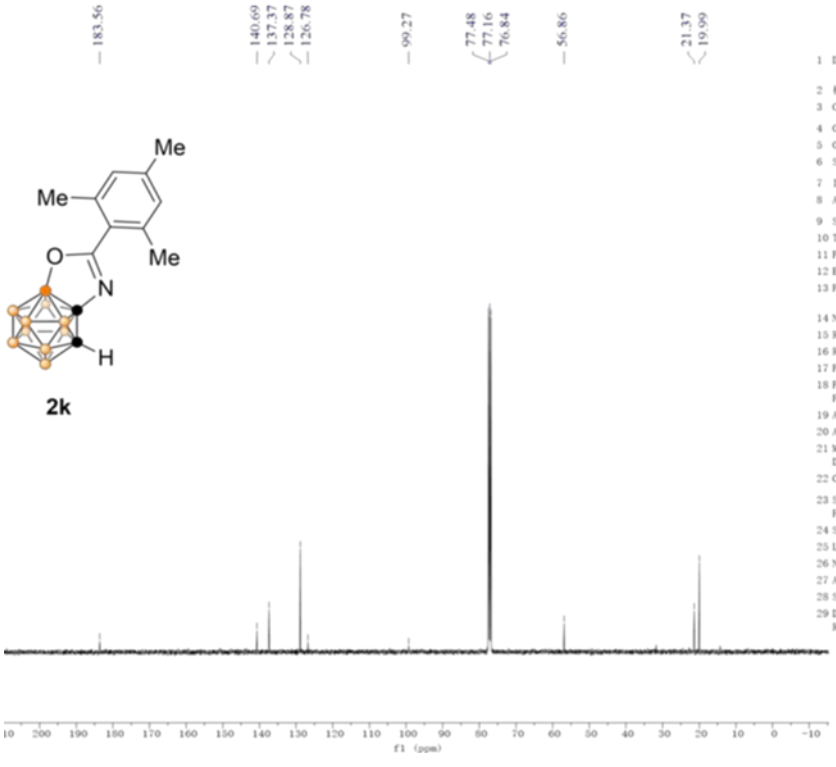
| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2j-1103-noB/ 1/ fid |
| 2 | 标题 | jhr-2j-1103-noB.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.9 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 9 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-11-03T19:41:05 |
| 21 | Modification Date | 2022-11-03T19:41:08 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |



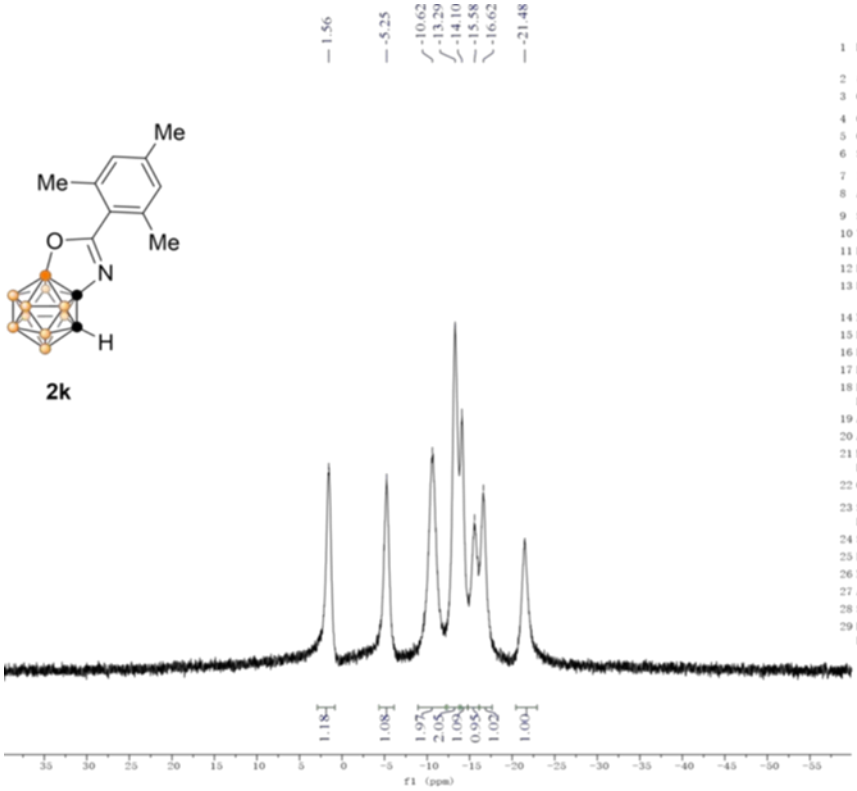

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-2j-0112-F/1/ fid |
| 2 | 标题 | jhr-2j-0112-F.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.3 |
| 11 | Pulse Sequence | zgflqn |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PABBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 12 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 18.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 0.9999 |
| 20 | Acquisition Date | 2023-01-12T15:50:34 |
| 21 | Modification Date | 2023-01-12T15:50:34 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 376.53 |
| 24 | Spectral Width | 150000.0 |
| 25 | Lowest Frequency | -112656.4 |
| 26 | Nucleus | 19F |
| 27 | Acquired Size | 149992 |
| 28 | Spectral Size | 524288 |




| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.201/ nmr/ Hugang/ jhr/ 收谱/ jhr-3093-clean/ 1/ fid |
| 2 | 标题 | jhr-3093-clean.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.3 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 8 |
| 15 | Receiver Gain | 141.8 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-06-22T19:25:20 |
| 21 | Modification Date | 2022-06-22T19:25:21 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -412.8 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |

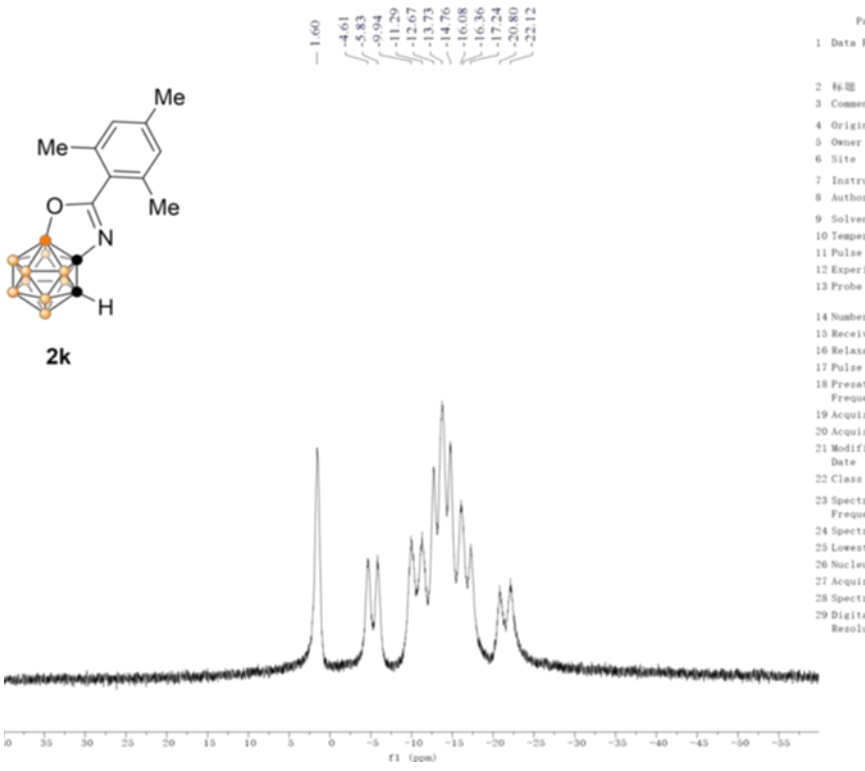



| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.13/ nmr/ jhr-2k-C-0217/ 1/ fid |
| 2 | 标题 | jhr-2k-C-0217.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.2 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0643 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 1475 |
| 15 | Receiver Gain | 197.1 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2023-02-17T15:27:31 |
| 21 | Modification Date | 2023-02-17T15:27:32 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.62 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1546.6 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |



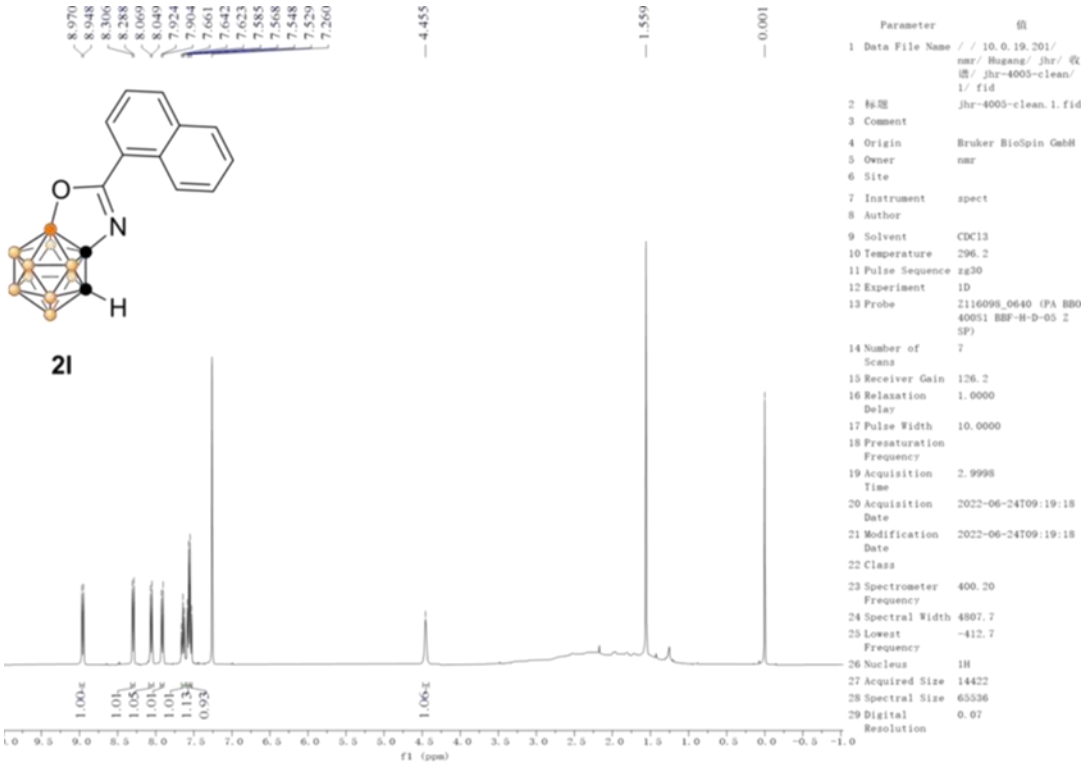

**2k**

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2k-clean-B/ 1/ fid |
| 2 | 标题 | jhr-2k-clean-B.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.5 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 40051 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 45 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-06-22T19:36:18 |
| 21 | Modification Date | 2022-06-22T19:36:20 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |

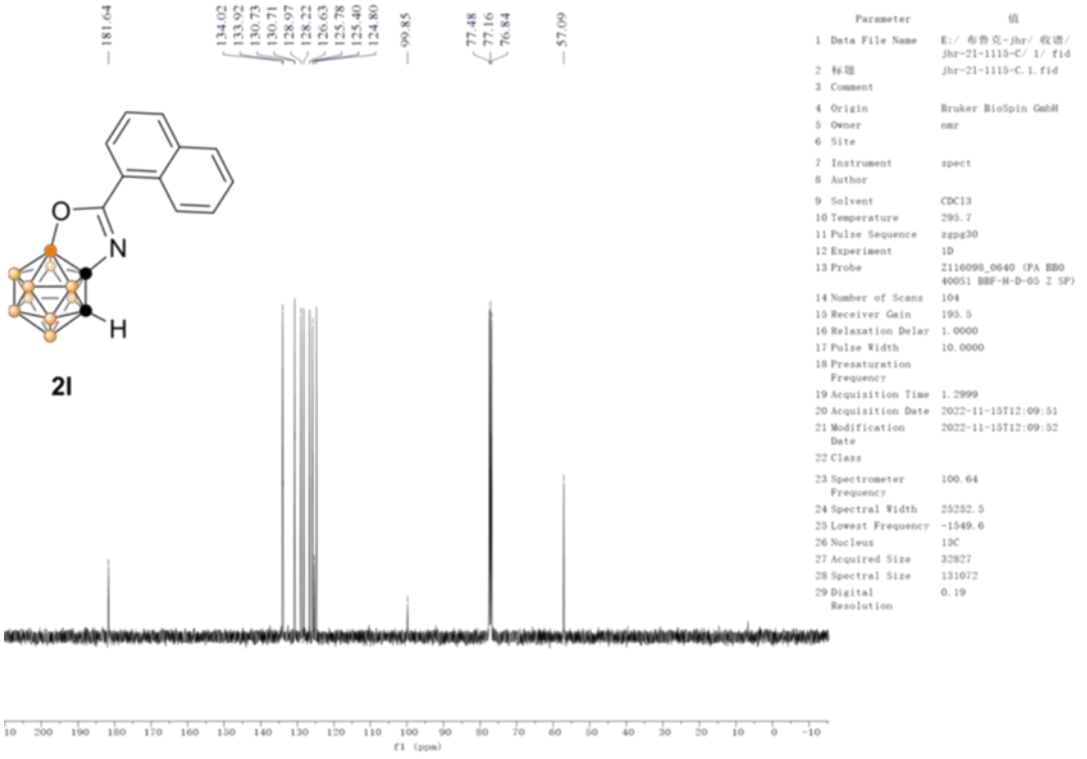



**2k**

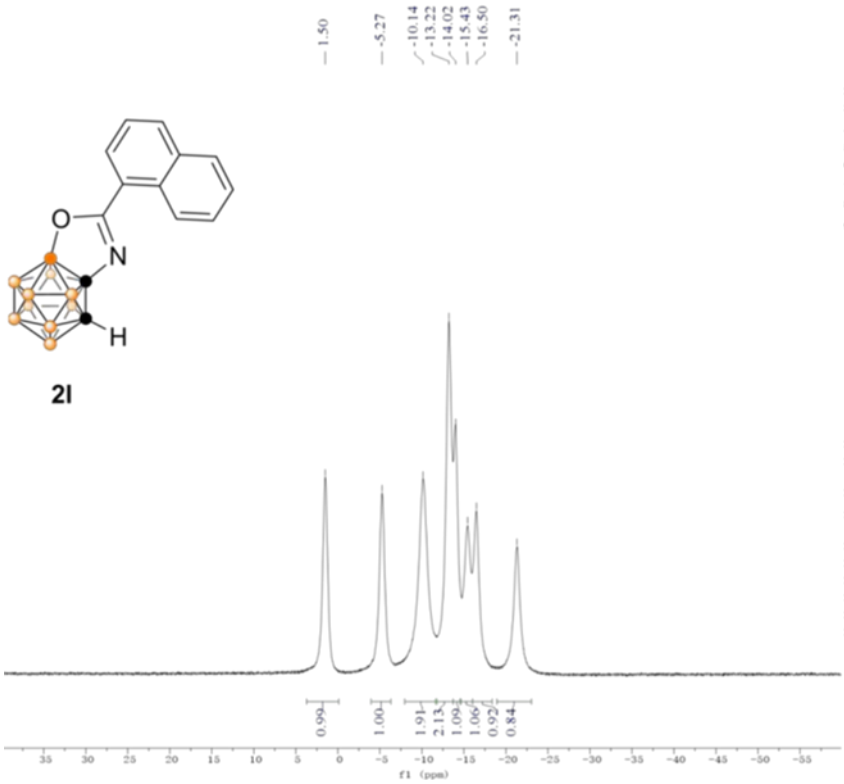
| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2k-clean-noB/ 1/ fid |
| 2 | 标题 | jhr-2k-clean-noB.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.3 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 40051 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 69 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-06-22T19:34:09 |
| 21 | Modification Date | 2022-06-22T19:34:12 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |




| Parameter | 值 |
|---|---|
| 1 Data File Name | / / 10.0.19.201/ nmr/ Hugang/ jhr/ 收谱/ jhr-4005-clean/ 1/ fid |
| 2 标题 | jhr-4005-clean.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 296.2 |
| 11 Pulse Sequence | zg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 40051 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 7 |
| 15 Receiver Gain | 126.2 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 2.9998 |
| 20 Acquisition Date | 2022-06-24T09:19:18 |
| 21 Modification Date | 2022-06-24T09:19:18 |
| 22 Class | |
| 23 Spectrometer Frequency | 400.20 |
| 24 Spectral Width | 4807.7 |
| 25 Lowest Frequency | -412.7 |
| 26 Nucleus | 1H |
| 27 Acquired Size | 14422 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.07 |

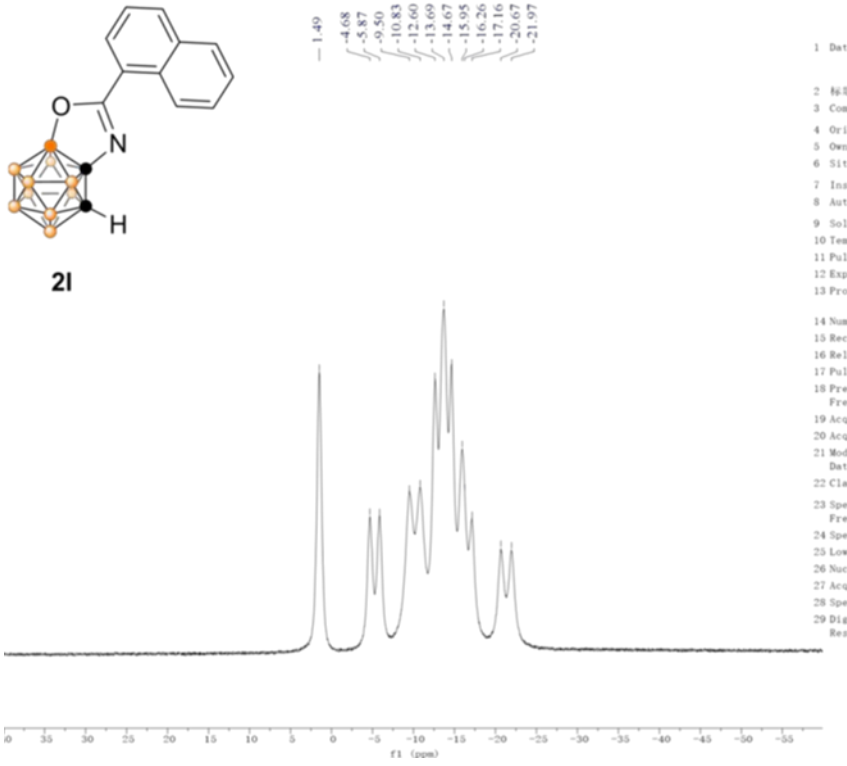



| Parameter | 值 |
|---|---|
| 1 Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-21-1115-C/ 1/ fid |
| 2 标题 | jhr-21-1115-C.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 295.7 |
| 11 Pulse Sequence | zgpg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 40051 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 104 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2999 |
| 20 Acquisition Date | 2022-11-15T12:09:51 |
| 21 Modification Date | 2022-11-15T12:09:52 |
| 22 Class | |
| 23 Spectrometer Frequency | 100.64 |
| 24 Spectral Width | 25252.5 |
| 25 Lowest Frequency | -1549.6 |
| 26 Nucleus | 13C |
| 27 Acquired Size | 32827 |
| 28 Spectral Size | 131072 |
| 29 Digital Resolution | 0.19 |



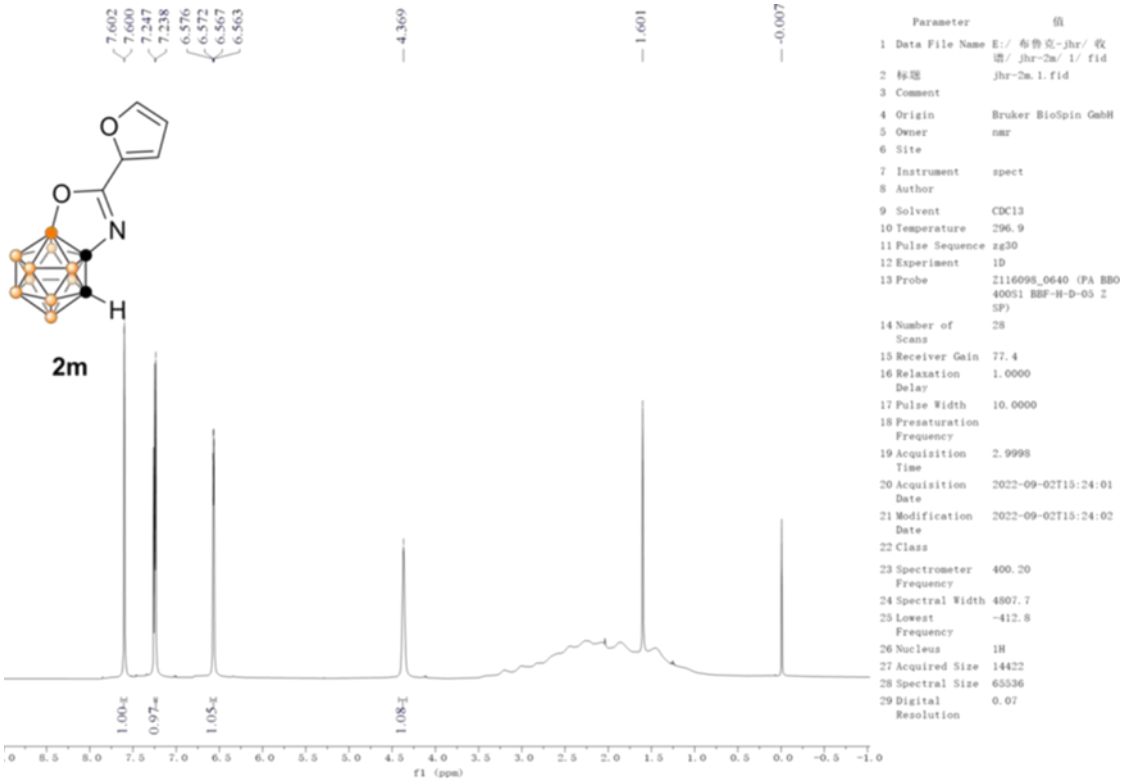

2l

| Parameter | 值 |
|---|---|
| 1 Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-21-1115-B/ 1/ fid |
| 2 标题 | jhr-21-1115-B. 1. fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 295. 5 |
| 11 Pulse Sequence | aring-b11 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 4 |
| 15 Receiver Gain | 195. 5 |
| 16 Relaxation Delay | 1. 0000 |
| 17 Pulse Width | 10. 0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1. 2845 |
| 20 Acquisition Date | 2022-11-15T12:02:49 |
| 21 Modification Date | 2022-11-15T12:02:52 |
| 22 Class | |
| 23 Spectrometer Frequency | 128. 40 |
| 24 Spectral Width | 25510. 2 |
| 25 Lowest Frequency | -12755. 1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0. 39 |

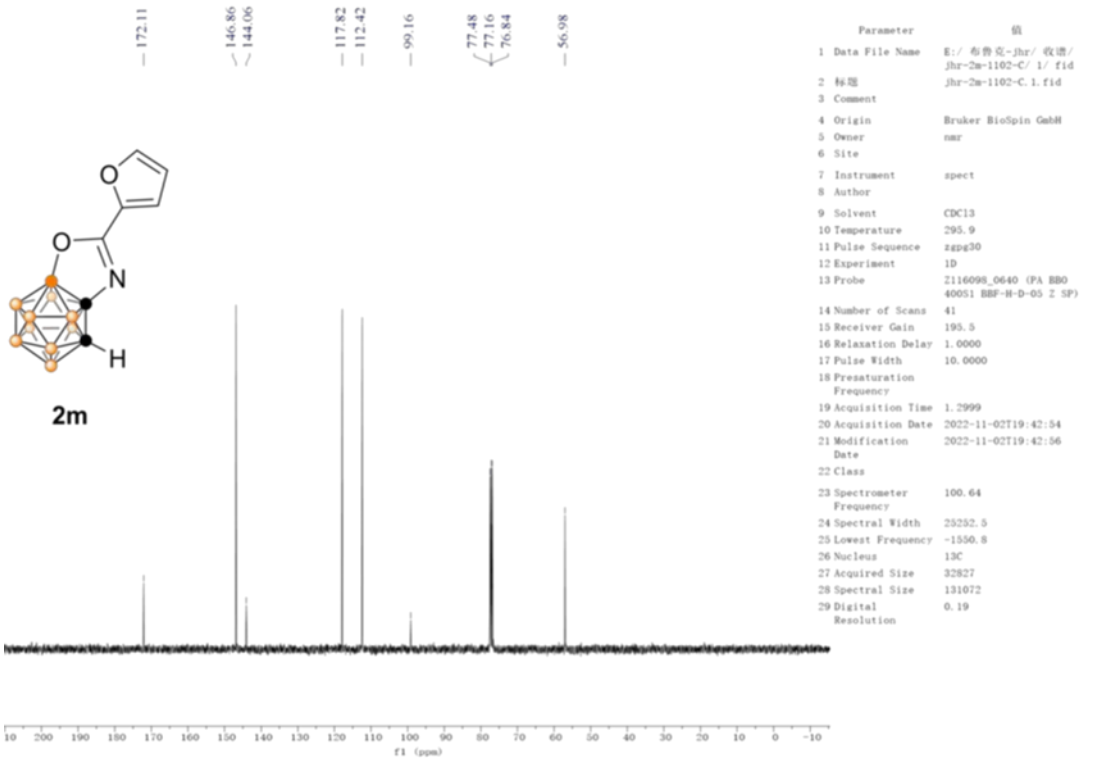



2l

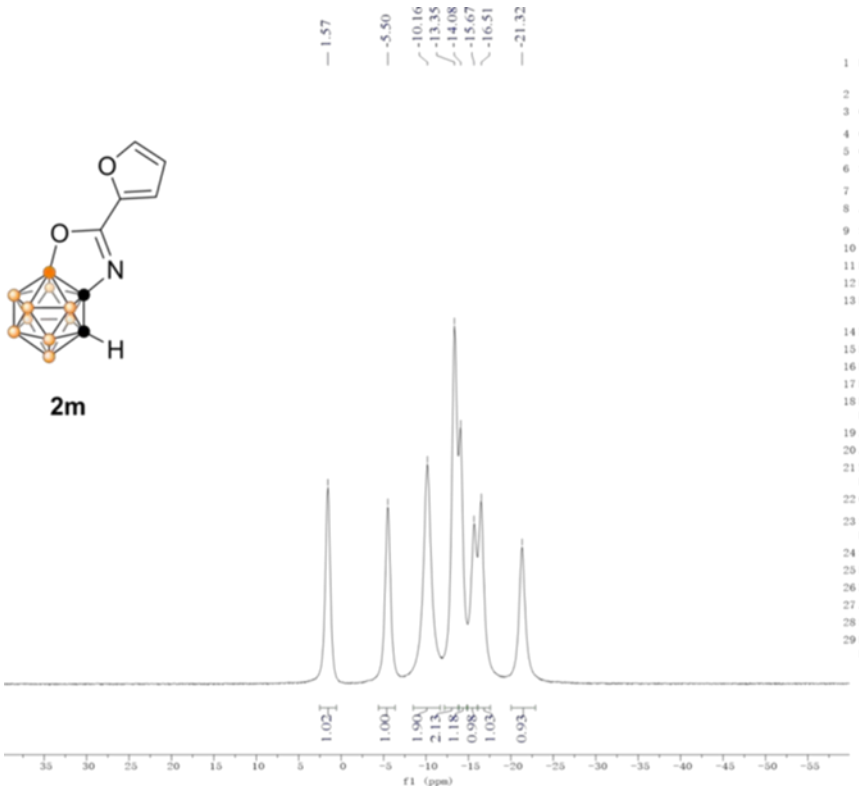
| Parameter | 值 |
|---|---|
| 1 Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-21-1115-noB/ 1/ fid |
| 2 标题 | jhr-21-1115-noB. 1. fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 295. 5 |
| 11 Pulse Sequence | aring |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 6 |
| 15 Receiver Gain | 195. 5 |
| 16 Relaxation Delay | 1. 0000 |
| 17 Pulse Width | 10. 0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1. 2845 |
| 20 Acquisition Date | 2022-11-15T12:03:18 |
| 21 Modification Date | 2022-11-15T12:03:20 |
| 22 Class | |
| 23 Spectrometer Frequency | 128. 40 |
| 24 Spectral Width | 25510. 2 |
| 25 Lowest Frequency | -12755. 1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0. 39 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2m/ 1/ fid |
| 2 | 标题 | jhr-2m.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.9 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116095_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 28 |
| 15 | Receiver Gain | 77.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-09-02T15:24:01 |
| 21 | Modification Date | 2022-09-02T15:24:02 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -412.8 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |

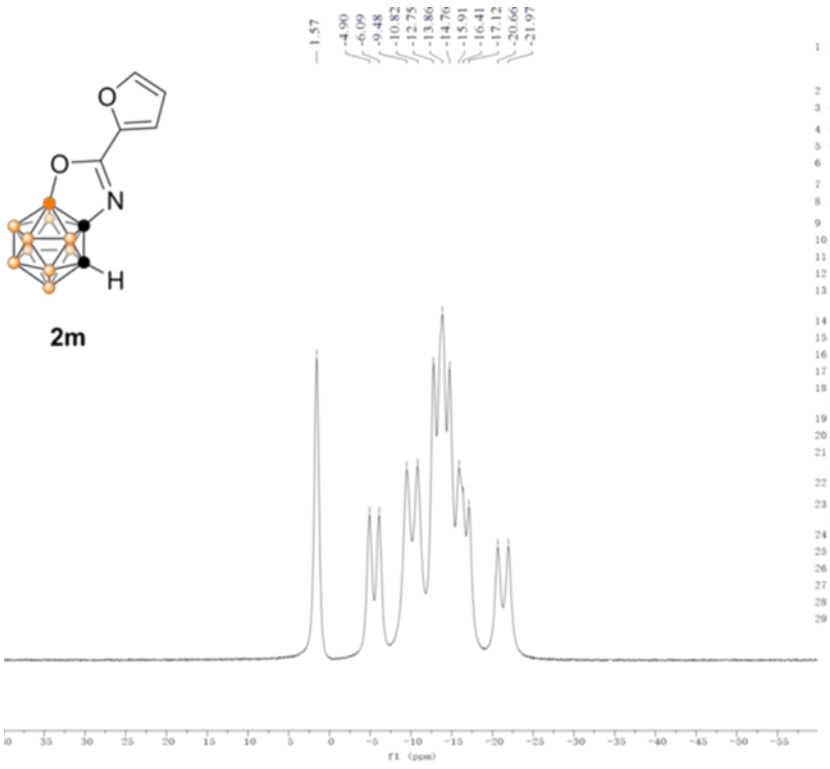



| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2m-1102-C/ 1/ fid |
| 2 | 标题 | jhr-2m-1102-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.9 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116095_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 41 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-11-02T19:42:54 |
| 21 | Modification Date | 2022-11-02T19:42:56 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1550.8 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |



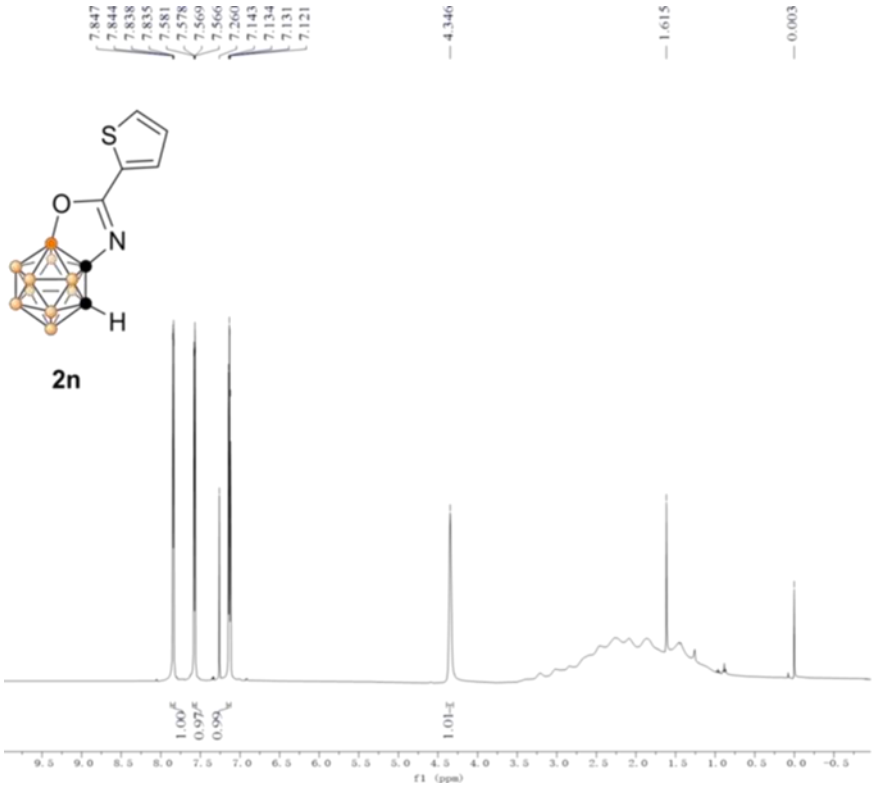

2m

| Parameter | 值 |
|---|---|
| 1 Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2m-1103-B/ 1/ fid |
| 2 标题 | jhr-2m-1103-B. 1. fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 296.0 |
| 11 Pulse Sequence | aring-b11 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 11 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2845 |
| 20 Acquisition Date | 2022-11-03T12:20:30 |
| 21 Modification Date | 2022-11-03T12:20:32 |
| 22 Class | |
| 23 Spectrometer Frequency | 128.40 |
| 24 Spectral Width | 25510.2 |
| 25 Lowest Frequency | -12755.1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.39 |

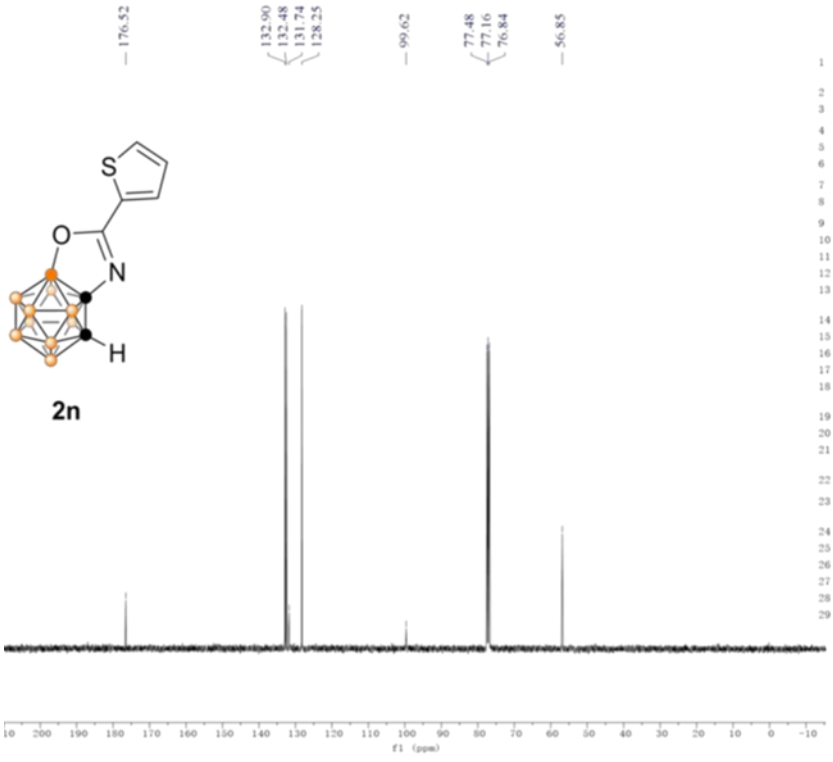



2m

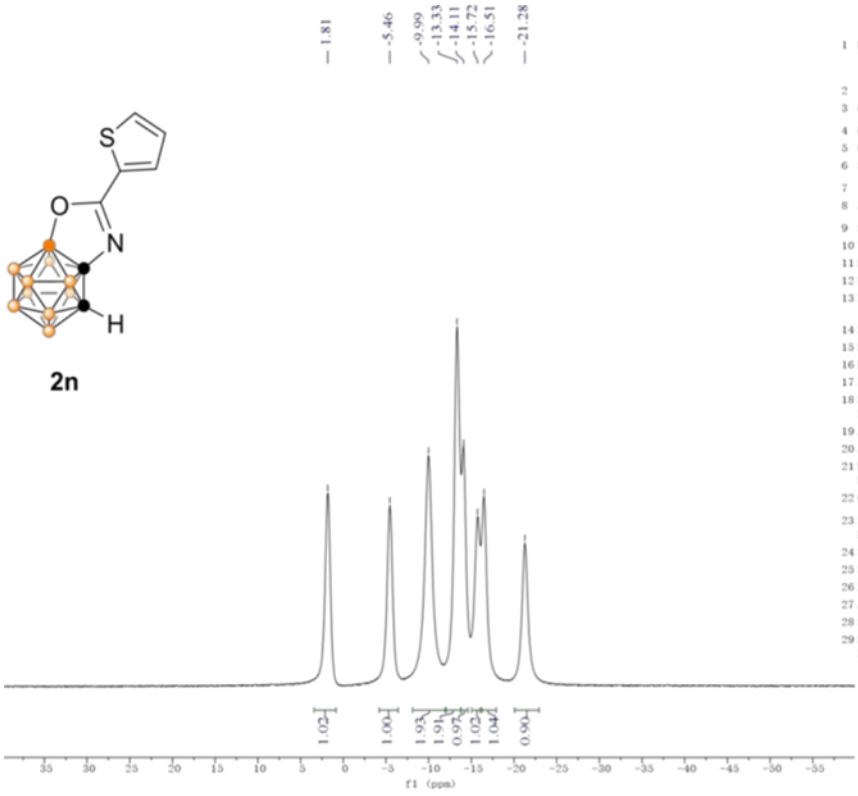
| Parameter | 值 |
|---|---|
| 1 Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2m-1103-noB/ 1/ fid |
| 2 标题 | jhr-2m-1103-noB. 1. fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 295.9 |
| 11 Pulse Sequence | aring |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 12 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2845 |
| 20 Acquisition Date | 2022-11-03T12:21:17 |
| 21 Modification Date | 2022-11-03T12:21:20 |
| 22 Class | |
| 23 Spectrometer Frequency | 128.40 |
| 24 Spectral Width | 25510.2 |
| 25 Lowest Frequency | -12755.1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.39 |




| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 自动进样/ jhr-2n-1103/ 1/ fid |
| 2 | 标题 | jhr-2n-1103.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.1 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0643 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 3 |
| 15 | Receiver Gain | 50.0 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-11-03T22:34:09 |
| 21 | Modification Date | 2022-11-03T22:34:09 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.10 |
| 24 | Spectral Width | 4795.4 |
| 25 | Lowest Frequency | -407.2 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14385 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |

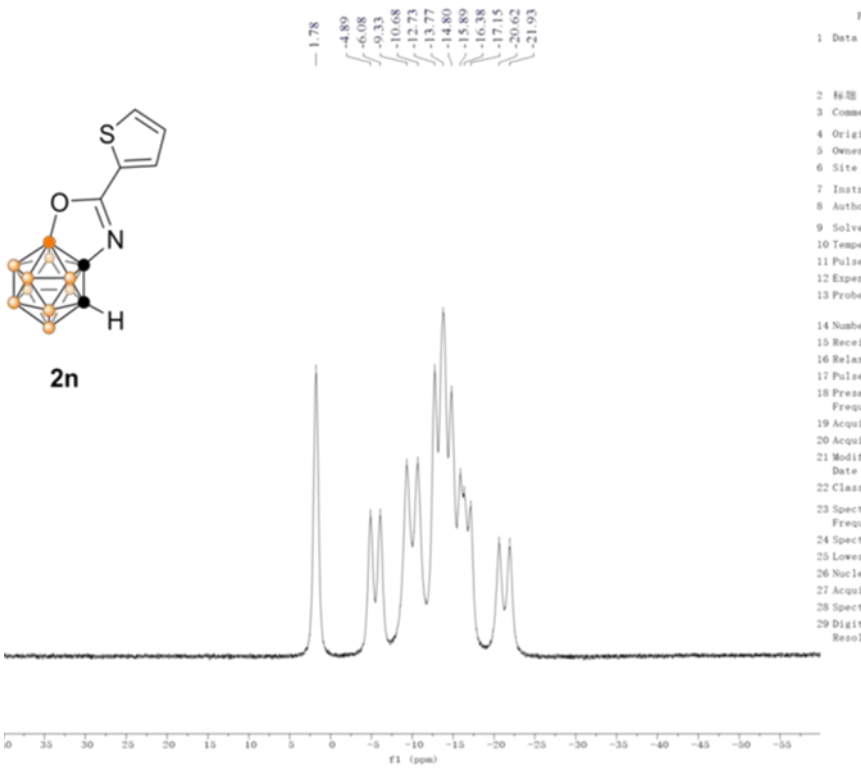



| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 自动进样/ jhr-2n-1103-C/ 1/ fid |
| 2 | 标题 | jhr-2n-1103-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.2 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0643 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 300 |
| 15 | Receiver Gain | 197.1 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-11-03T22:46:56 |
| 21 | Modification Date | 2022-11-03T22:46:57 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.62 |
| 24 | Spectral Width | 23252.5 |
| 25 | Lowest Frequency | -1549.1 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |



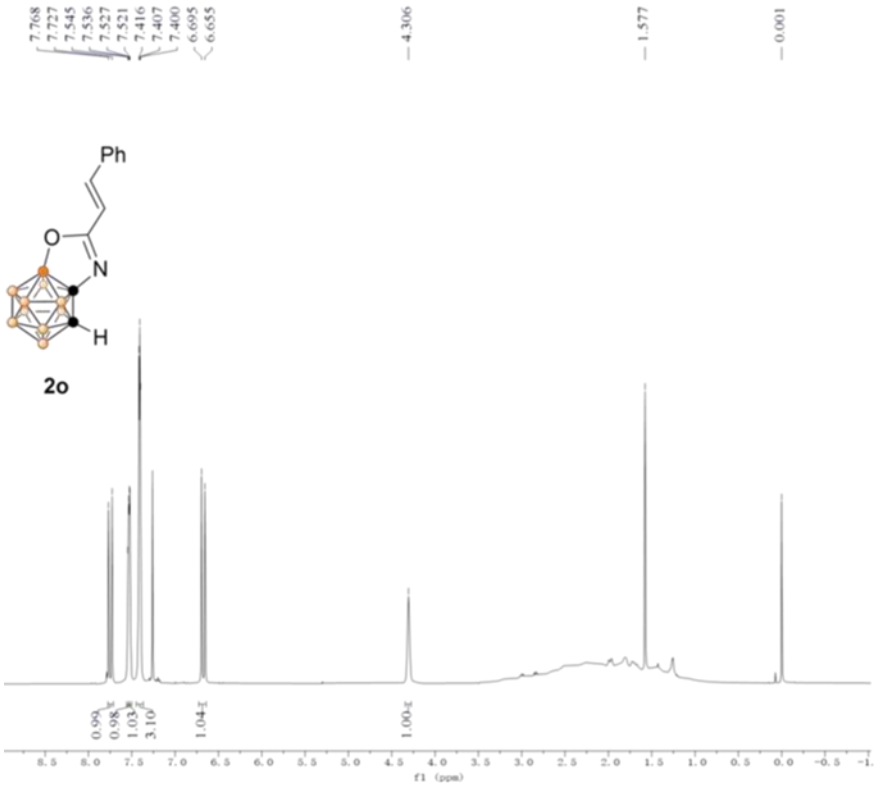

2n

| Parameter | 值 |
|---|---|
| 1 Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4002-is-B/ 1/ fid |
| 2 标题 | jhr-4002-is-B.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 296.5 |
| 11 Pulse Sequence | aring-b11 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 40US1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 15 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2845 |
| 20 Acquisition Date | 2022-06-16T11:02:29 |
| 21 Modification Date | 2022-06-16T11:02:30 |
| 22 Class | |
| 23 Spectrometer Frequency | 128.40 |
| 24 Spectral Width | 25510.2 |
| 25 Lowest Frequency | -12755.1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.39 |

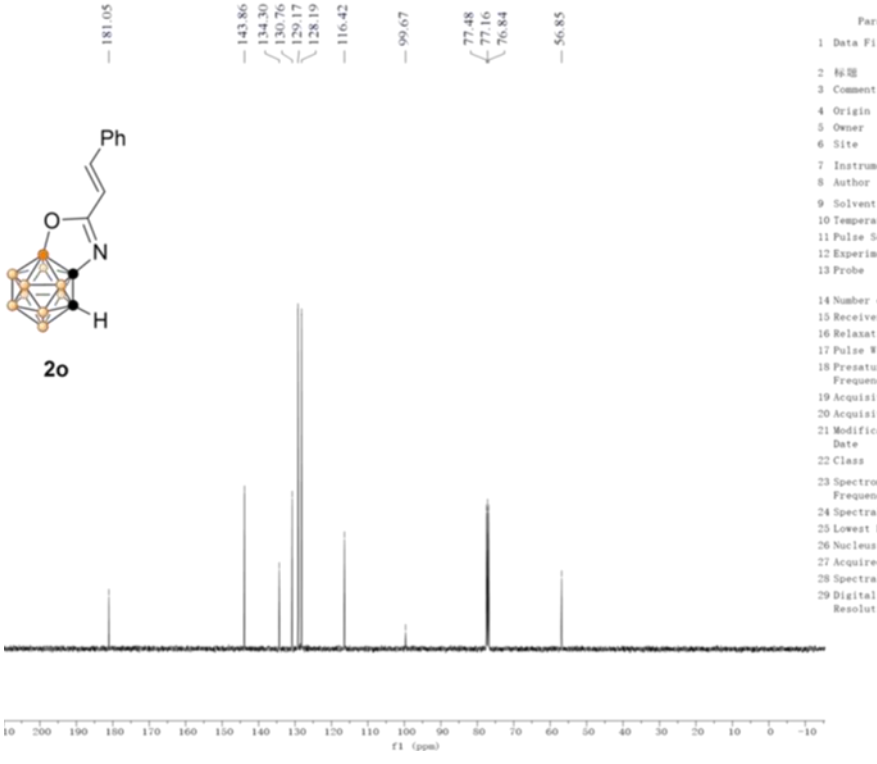



2n

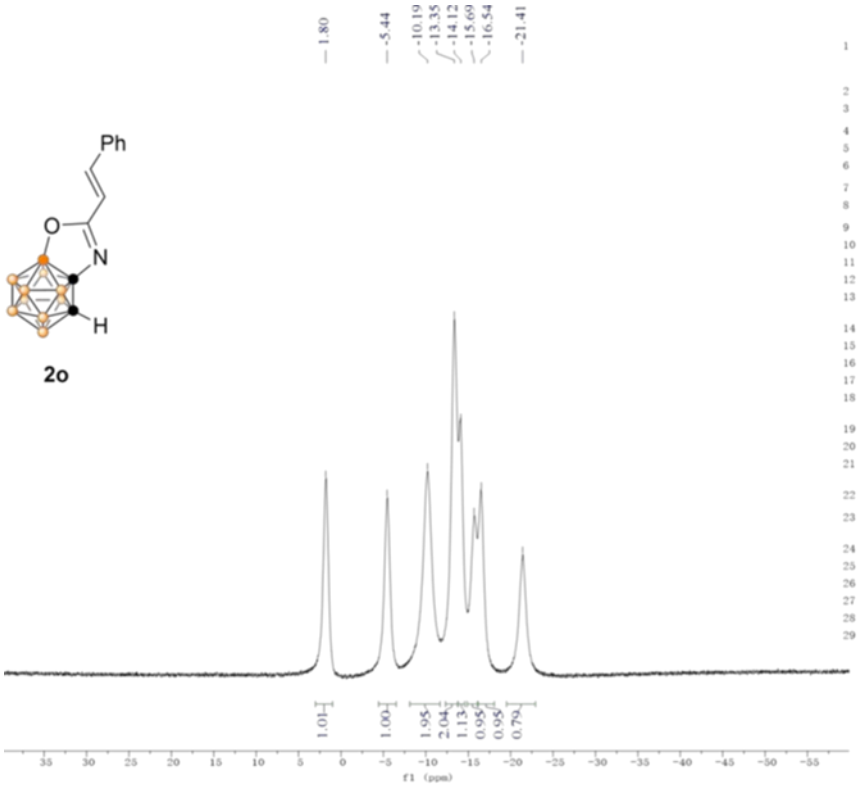
| Parameter | 值 |
|---|---|
| 1 Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4002-is-noB/ 1/ fid |
| 2 标题 | jhr-4002-is-noB.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 296.4 |
| 11 Pulse Sequence | aring |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 40US1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 3 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2845 |
| 20 Acquisition Date | 2022-06-16T11:02:57 |
| 21 Modification Date | 2022-06-16T11:02:58 |
| 22 Class | |
| 23 Spectrometer Frequency | 128.40 |
| 24 Spectral Width | 25510.2 |
| 25 Lowest Frequency | -12755.1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.39 |



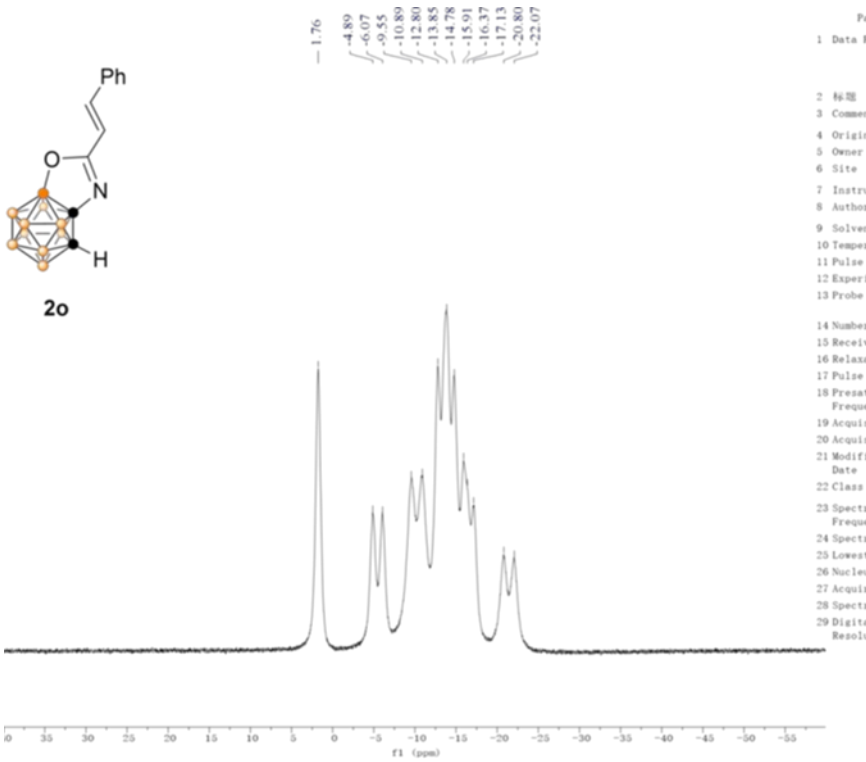

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.201/ nmr/ Huagang/ jhr/ 收谱/ jhr-4004-clean/ 1/ fid |
| 2 | 标题 | jhr-4004-clean.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.3 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 7 |
| 15 | Receiver Gain | 77.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-06-22T19:27:50 |
| 21 | Modification Date | 2022-06-22T19:27:51 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -412.9 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |



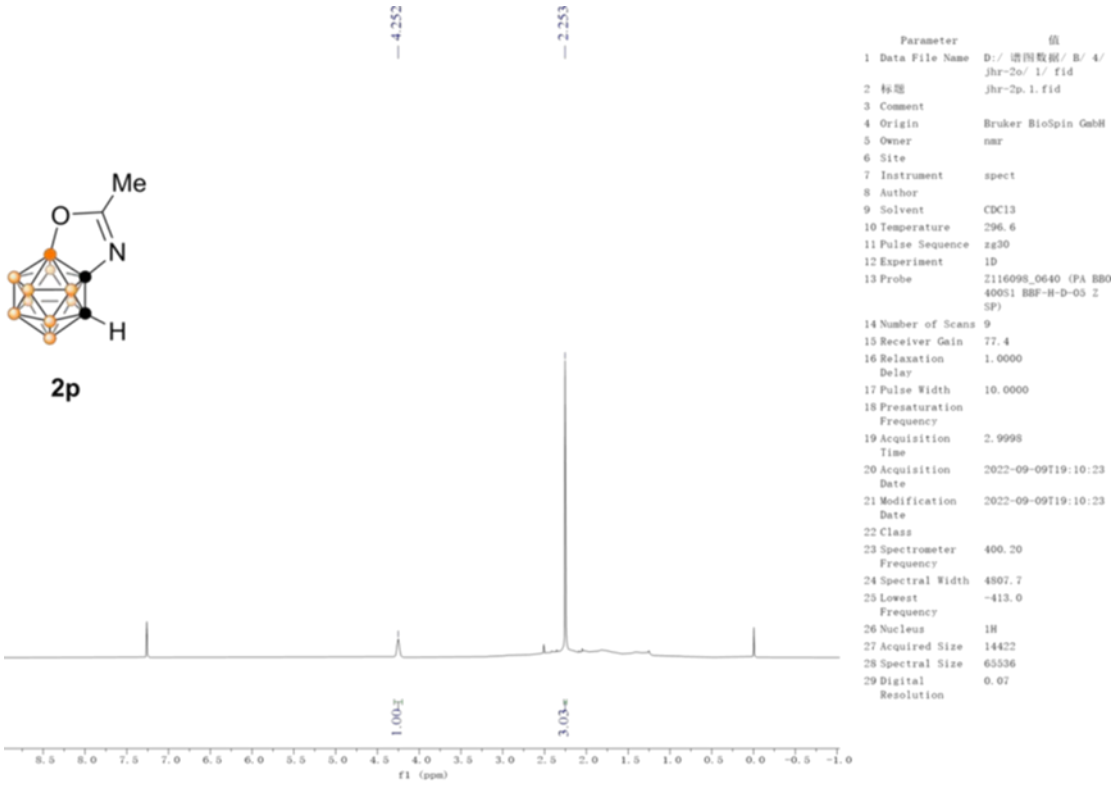

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.13/ nmr/ jhr-2w-1207-C/ 1/ fid |
| 2 | 标题 | jhr-2o-1207-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.2 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0643 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 162 |
| 15 | Receiver Gain | 197.1 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-12-07T17:11:18 |
| 21 | Modification Date | 2022-12-07T17:11:19 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.62 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1549.7 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |



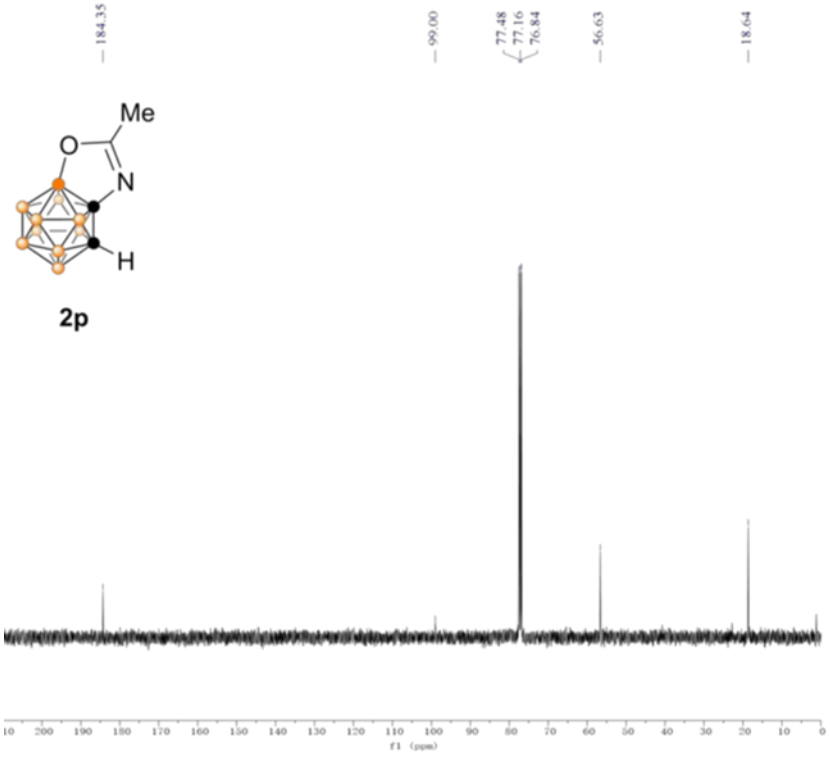

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4004-is-B/ 1/ fid |
| 2 | 标题 | jhr-4004-is-B.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.3 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 2 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-06-16T10:59:26 |
| 21 | Modification Date | 2022-06-16T10:59:27 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |



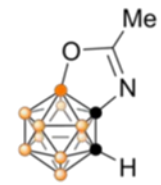

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4004-is-noB/ 1/ fid |
| 2 | 标题 | jhr-4004-is-noB.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.3 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 3 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-06-16T10:59:51 |
| 21 | Modification Date | 2022-06-16T10:59:52 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 谱图数据/ B/ 4/ jhr-2o/ 1/ fid |
| 2 | 标题 | jhr-2p.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.6 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 9 |
| 15 | Receiver Gain | 77.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-09-09T19:10:23 |
| 21 | Modification Date | 2022-09-09T19:10:23 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -413.0 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |



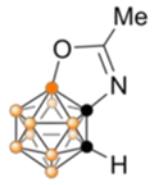

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.201/ nmr/ jhr-2o-C-0321/ 1/ fid |
| 2 | 标题 | jhr-2p-C-0321.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.5 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 96 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2023-03-21T10:27:29 |
| 21 | Modification Date | 2023-03-21T10:27:30 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1545.4 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |




**2p**



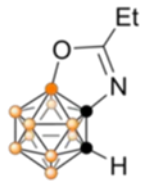

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.201/ nmr/ jhr-2o-deB-0321/ 1/ fid |
| 2 | 标题 | jhr-2p-deB-0321.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.5 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 14 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2023-03-21T10:19:34 |
| 21 | Modification Date | 2023-03-21T10:19:34 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |




**2p**



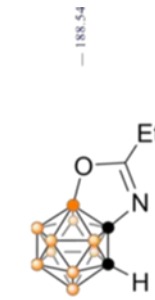

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.201/ nmr/ jhr-2o-no deB-0321/ 1/ fid |
| 2 | 标题 | jhr-2p-no deB-0321.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.4 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 8 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2023-03-21T10:20:12 |
| 21 | Modification Date | 2023-03-21T10:20:13 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |




2q



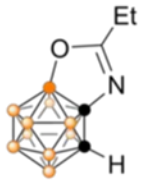

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.201/ nmr/ jhr-2p/ 5/ fid |
| 2 | 标题 | jhr-2q.5.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 288.9 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 4 |
| 15 | Receiver Gain | 50.8 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-12-14T19:41:03 |
| 21 | Modification Date | 2022-12-14T19:41:03 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -413.2 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |




2q



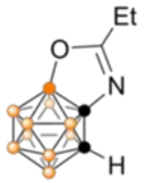

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.201/ nmr/ 新建文件夹 (3)/ jhr-2p-1225-C/ 1/ fid |
| 2 | 标题 | jhr-2q-1225-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 294.3 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 106 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-12-15T19:47:31 |
| 21 | Modification Date | 2022-12-15T19:47:32 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1546.0 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |




**2q**



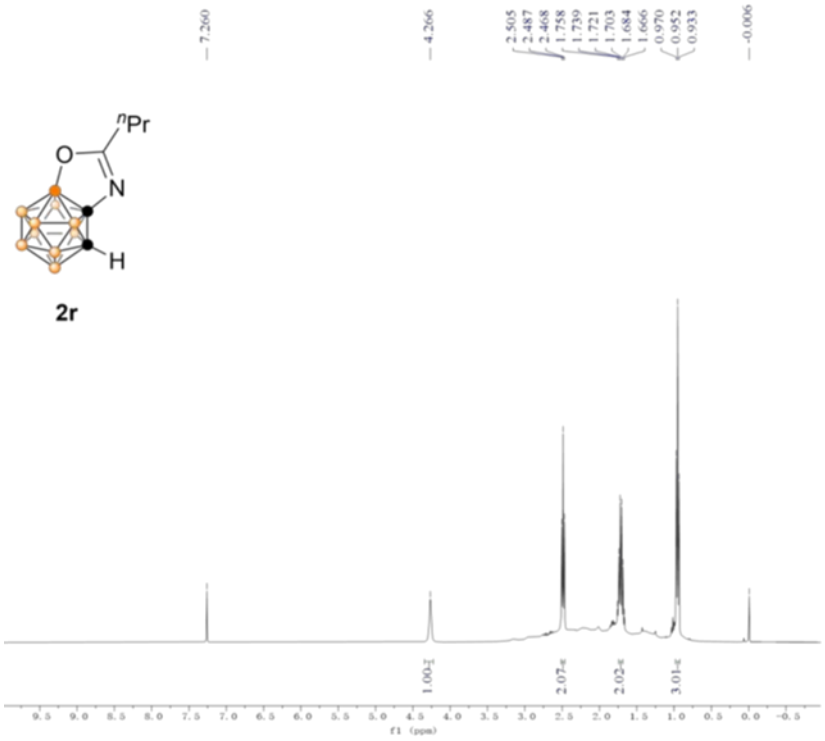

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.201/ nmr/ 新建文件夹 (3)/ jhr-2p-1225-deB/ 1/ fid |
| 2 | 标题 | jhr-2q-1225-deB.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 294.5 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 7 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-12-15T20:26:25 |
| 21 | Modification Date | 2022-12-15T20:26:26 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |




**2q**




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.201/ nmr/ 新建文件夹 (3)/ jhr-2p-1225-no deB/ 1/ fid |
| 2 | 标题 | jhr-2q-1225-no deB.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 294.4 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 7 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-12-15T20:27:29 |
| 21 | Modification Date | 2022-12-15T20:27:30 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |

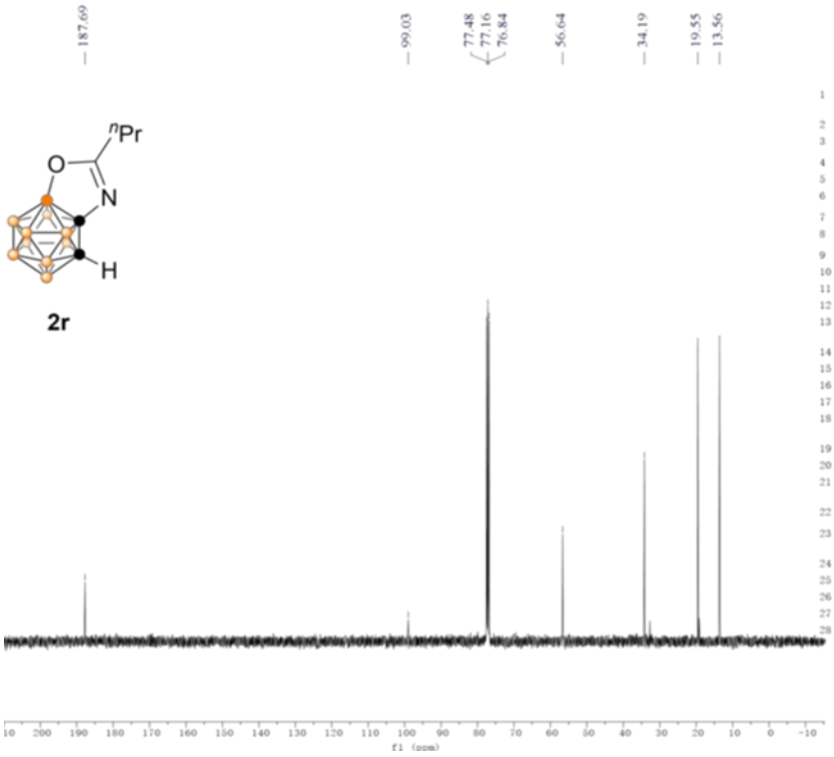






**2r**

| Parameter | 值 |
|---|---|
| 1 Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2q-1021/ 1/ fid |
| 2 标题 | jhr-2r-1021.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 296.0 |
| 11 Pulse Sequence | zg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 40051 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 6 |
| 15 Receiver Gain | 56.7 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 2.9998 |
| 20 Acquisition Date | 2022-10-21T15:56:04 |
| 21 Modification Date | 2022-10-21T15:56:06 |
| 22 Class | |
| 23 Spectrometer Frequency | 400.20 |
| 24 Spectral Width | 4807.7 |
| 25 Lowest Frequency | -412.3 |
| 26 Nucleus | 1H |
| 27 Acquired Size | 14422 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.07 |

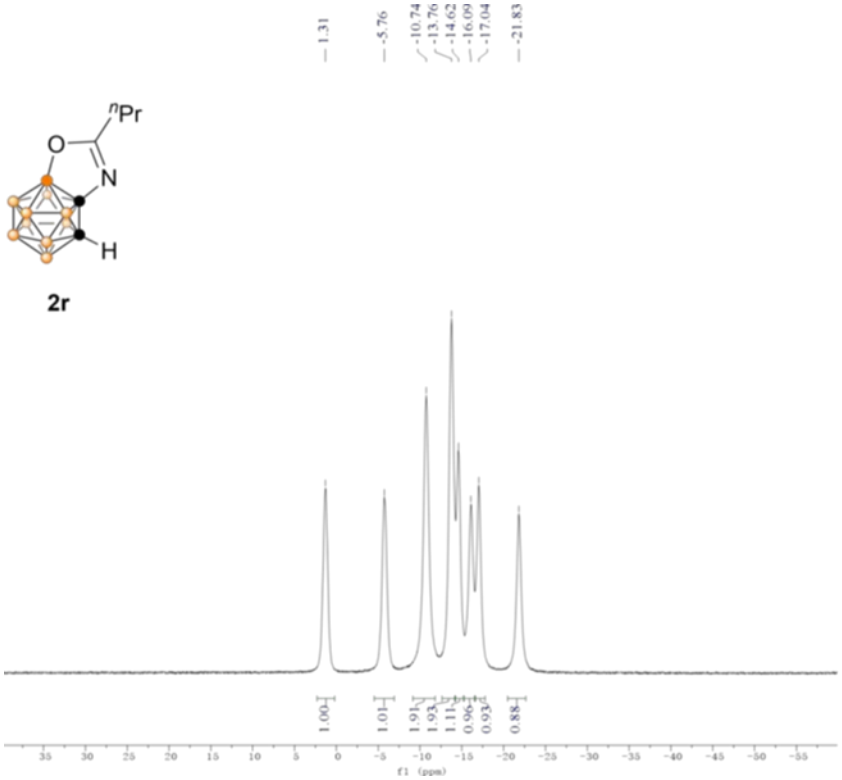






**2r**

| Parameter | 值 |
|---|---|
| 1 Data File Name | Y:/ jhr-2q-0113-C/ 1/ fid |
| 2 标题 | jhr-2r-0113-C.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 295.5 |
| 11 Pulse Sequence | zgpg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 40051 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 146 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2999 |
| 20 Acquisition Date | 2023-01-12T16:02:52 |
| 21 Modification Date | 2023-01-12T16:02:53 |
| 22 Class | |
| 23 Spectrometer Frequency | 100.64 |
| 24 Spectral Width | 25252.5 |
| 25 Lowest Frequency | -1546.3 |
| 26 Nucleus | 13C |
| 27 Acquired Size | 32827 |
| 28 Spectral Size | 131072 |

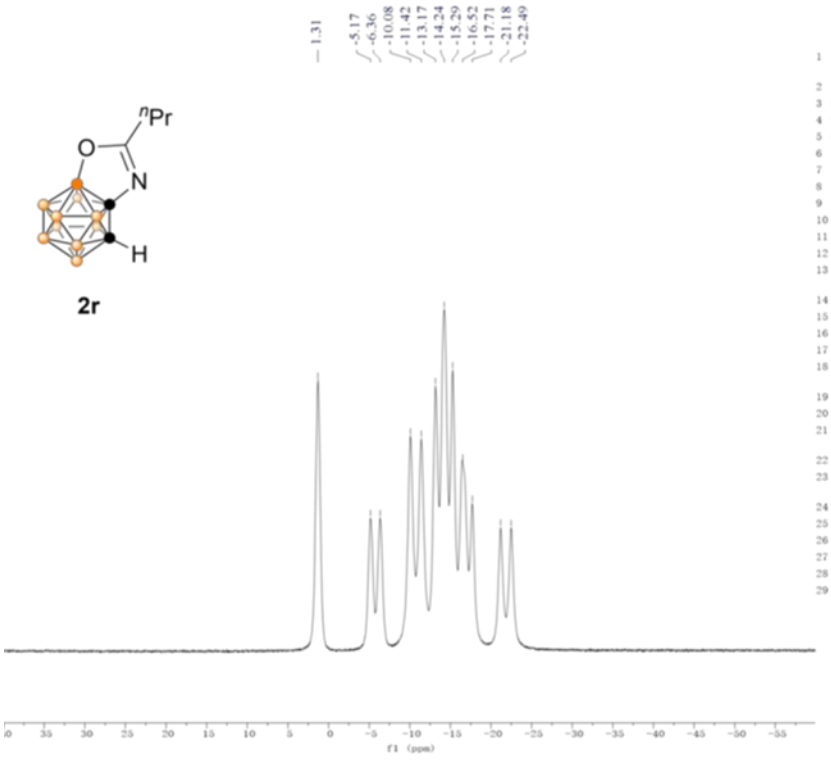






**2r**

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.201/ nmr/ jhr-2q-B/ 1/ fid |
| 2 | 标题 | jhr-2r-B.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | THF |
| 10 | Temperature | 298.2 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 5 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2023-02-14T17:19:23 |
| 21 | Modification Date | 2023-02-14T17:19:23 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |

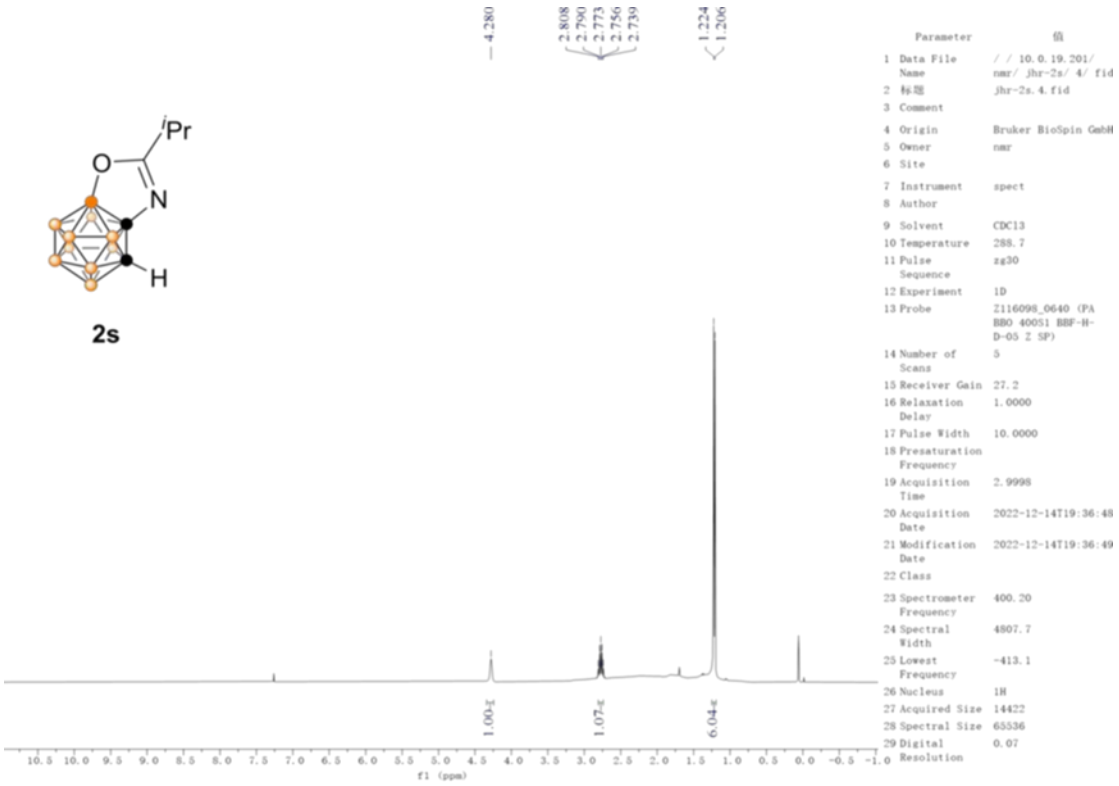






**2r**

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.201/ nmr/ jhr-2q-no B/ 1/ fid |
| 2 | 标题 | jhr-2r-no B.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | THF |
| 10 | Temperature | 298.1 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 8 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2023-02-14T17:18:51 |
| 21 | Modification Date | 2023-02-14T17:18:52 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |

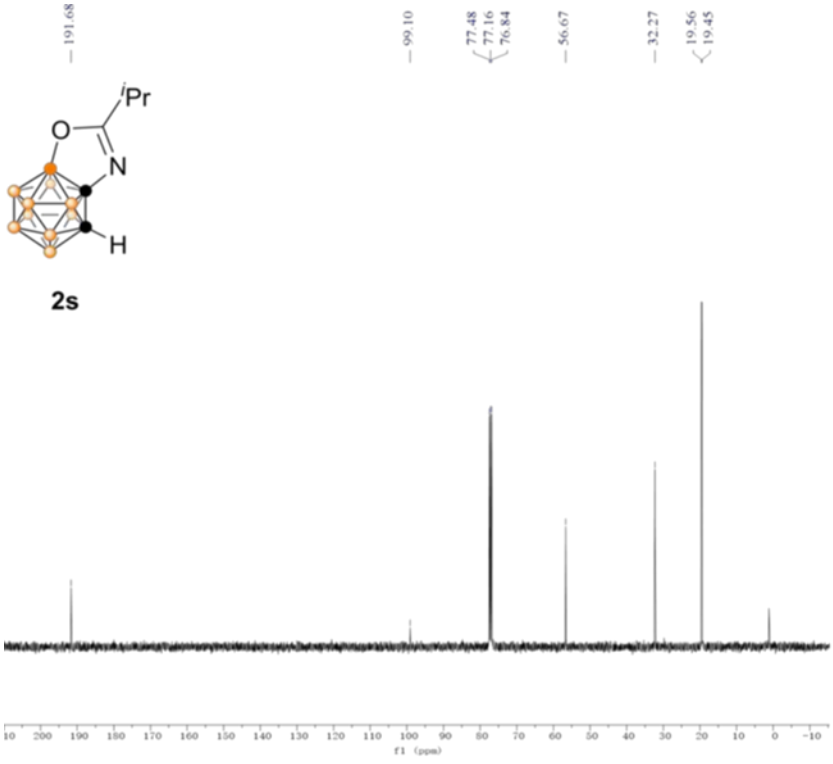






**2s**

| Parameter | 值 |
|---|---|
| 1 Data File Name | / / 10.0.19.201/ nmr/ jhr-2s/ 4/ fid |
| 2 标题 | jhr-2s.4.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 288.7 |
| 11 Pulse Sequence | zg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 5 |
| 15 Receiver Gain | 27.2 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 2.9998 |
| 20 Acquisition Date | 2022-12-14T19:36:48 |
| 21 Modification Date | 2022-12-14T19:36:49 |
| 22 Class | |
| 23 Spectrometer Frequency | 400.20 |
| 24 Spectral Width | 4807.7 |
| 25 Lowest Frequency | -413.1 |
| 26 Nucleus | 1H |
| 27 Acquired Size | 14422 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.07 |

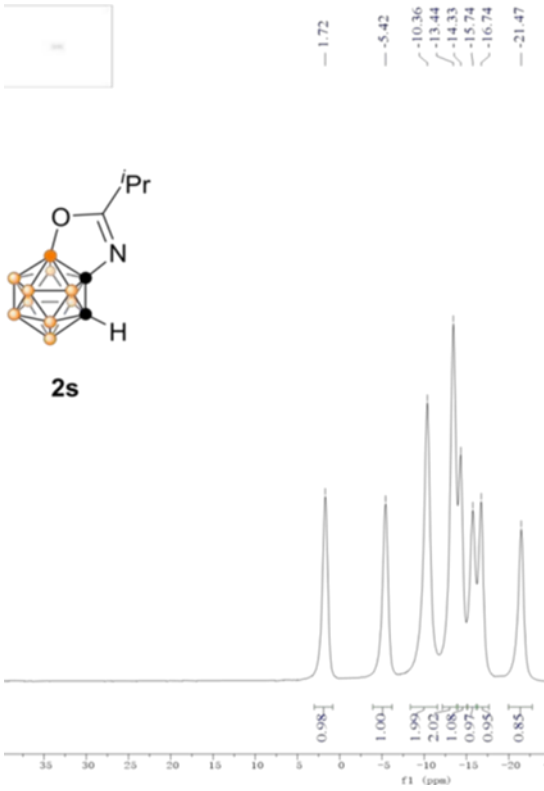






**2s**

| Parameter | 值 |
|---|---|
| 1 Data File Name | / / 10.0.19.201/ nmr/ 新建文件夹 (3)/ jhr-2s-1225-C/ 1/ fid |
| 2 标题 | jhr-2s-1225-C.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 294.3 |
| 11 Pulse Sequence | zgpg30 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 89 |
| 15 Receiver Gain | 193.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2999 |
| 20 Acquisition Date | 2022-12-15T20:00:05 |
| 21 Modification Date | 2022-12-15T20:00:05 |
| 22 Class | |
| 23 Spectrometer Frequency | 100.64 |
| 24 Spectral Width | 25252.5 |
| 25 Lowest Frequency | -1546.2 |
| 26 Nucleus | 13C |
| 27 Acquired Size | 32827 |
| 28 Spectral Size | 131072 |
| 29 Digital Resolution | 0.19 |

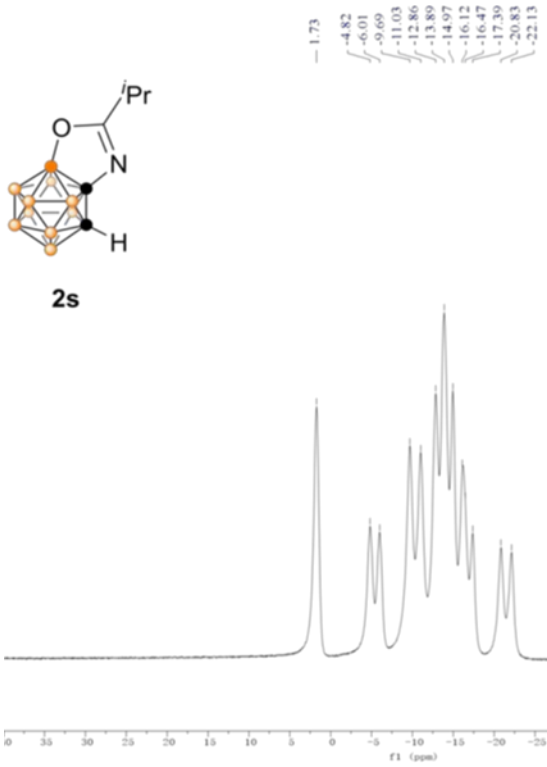






**2s**

| Parameter | 值 |
|---|---|
| 1 Data File Name | / / 10.0.19.201/ nmr/ 新建文件夹 (3)/ jhr-2s-1225-deB/ 1/ fid |
| 2 标题 | jhr-2s-1225-deB.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 294.4 |
| 11 Pulse Sequence | aring-b11 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 15 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2845 |
| 20 Acquisition Date | 2022-12-15T20:39:45 |
| 21 Modification Date | 2022-12-15T20:39:46 |
| 22 Class | |
| 23 Spectrometer Frequency | 128.40 |
| 24 Spectral Width | 25510.2 |
| 25 Lowest Frequency | -12755.1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.39 |

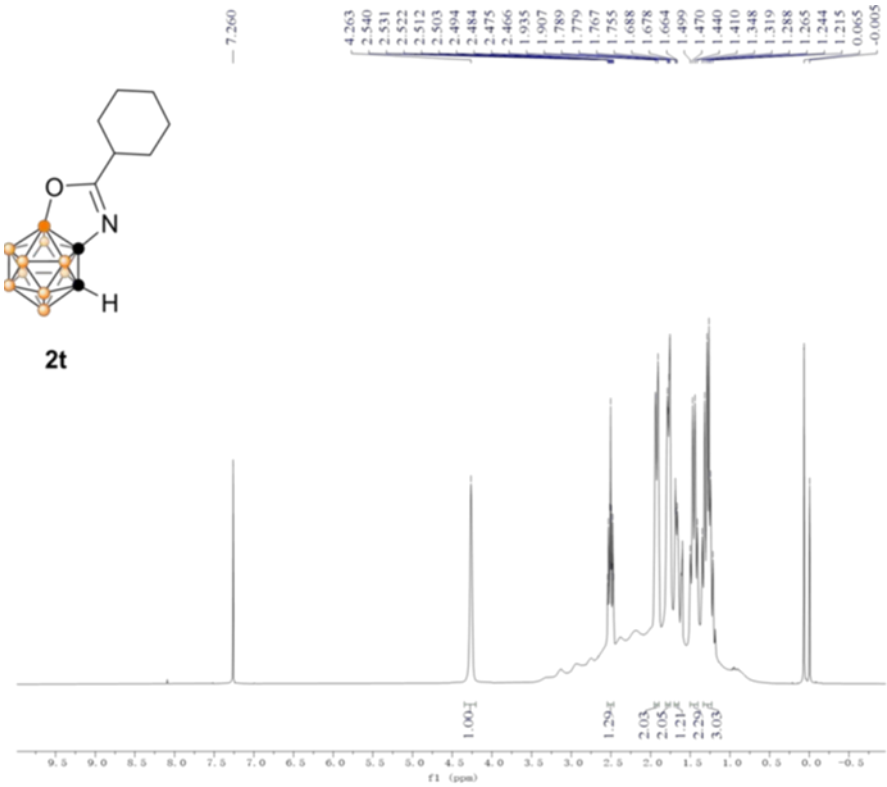






**2s**

| Parameter | 值 |
|---|---|
| 1 Data File Name | / / 10.0.19.201/ nmr/ 新建文件夹 (3)/ jhr-2s-1225-no deB0/ 1/ fid |
| 2 标题 | jhr-2s-1225-no deB0.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 294.4 |
| 11 Pulse Sequence | aring |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 7 |
| 15 Receiver Gain | 195.5 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2845 |
| 20 Acquisition Date | 2022-12-15T20:40:20 |
| 21 Modification Date | 2022-12-15T20:40:21 |
| 22 Class | |
| 23 Spectrometer Frequency | 128.40 |
| 24 Spectral Width | 25510.2 |
| 25 Lowest Frequency | -12755.1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.39 |




| | Parameter | 值 |
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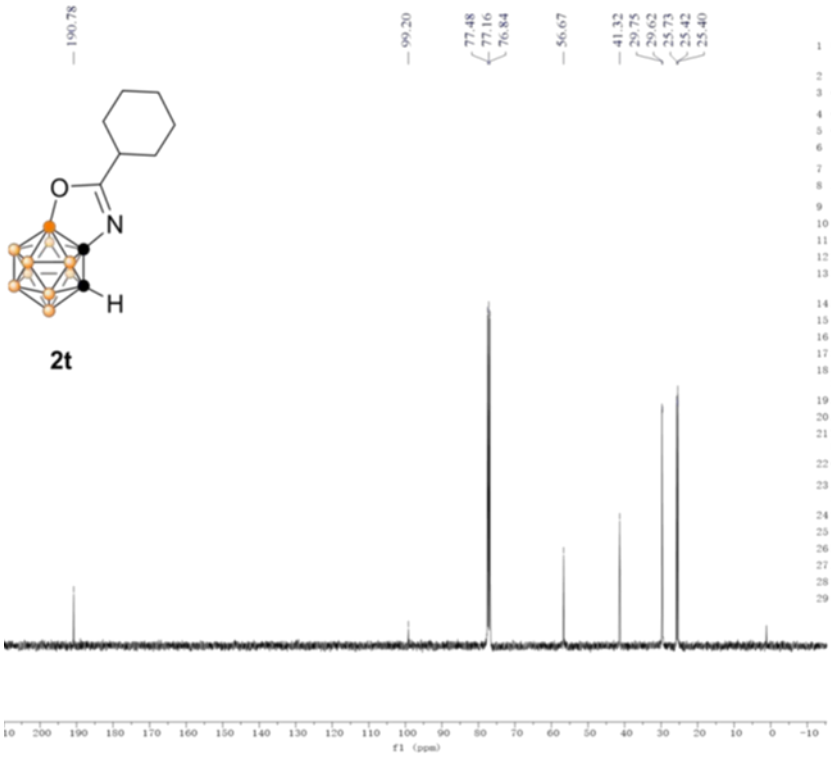
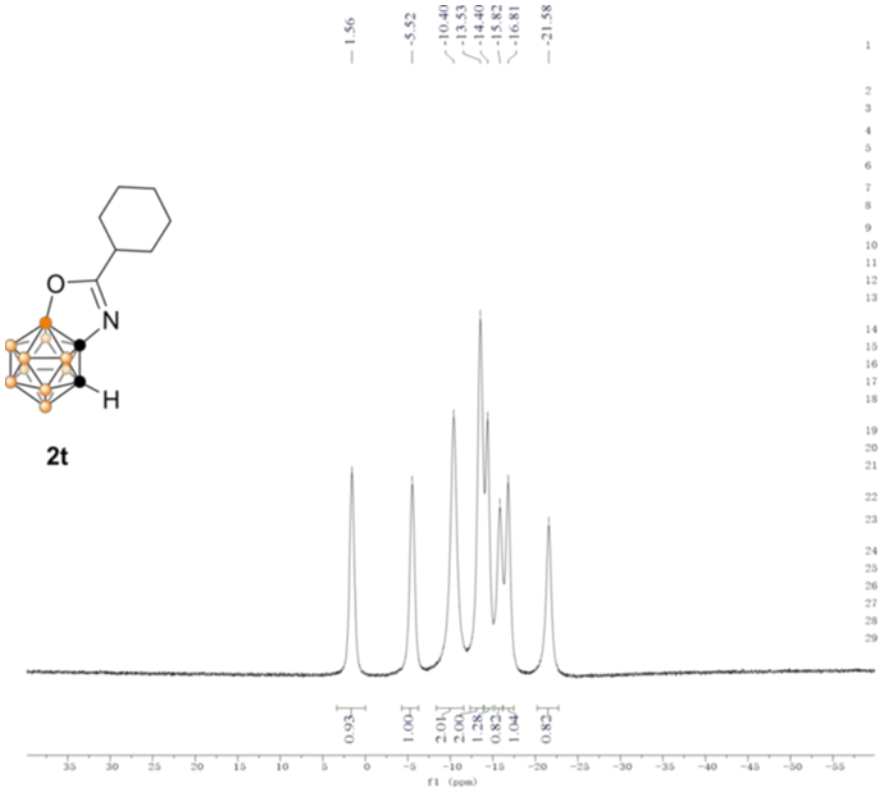
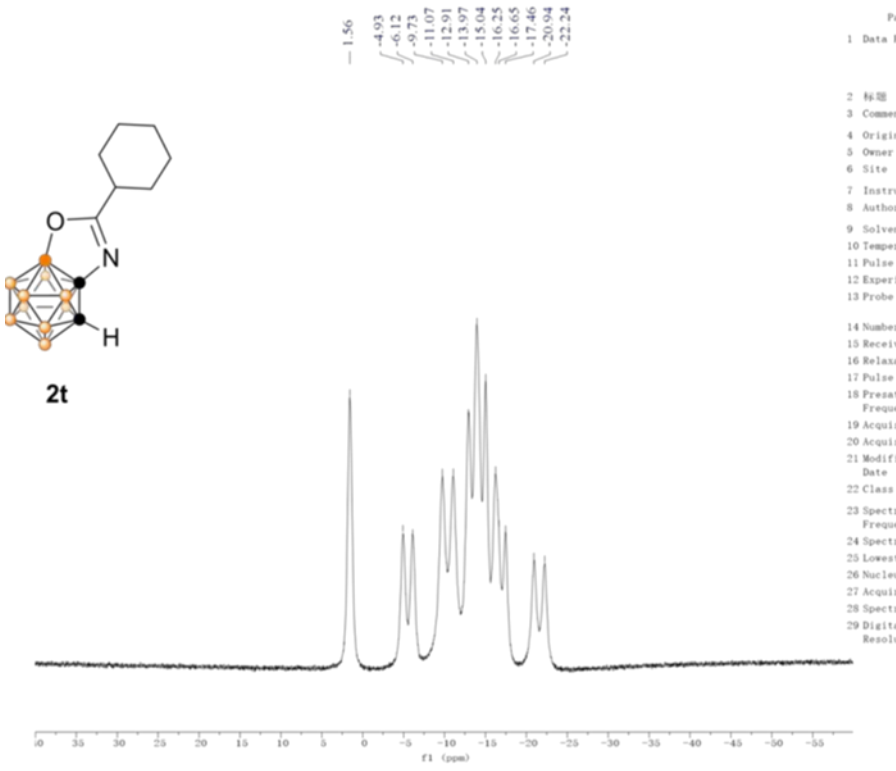
| 1 | Data File Name | Y:/ jhr-2t-01120/ 1/ fid |
| 2 | 标题 | jhr-2t-01120.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.3 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 7 |
| 15 | Receiver Gain | 56.7 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2023-01-12T15:46:44 |
| 21 | Modification Date | 2023-01-12T15:46:44 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -413.3 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |



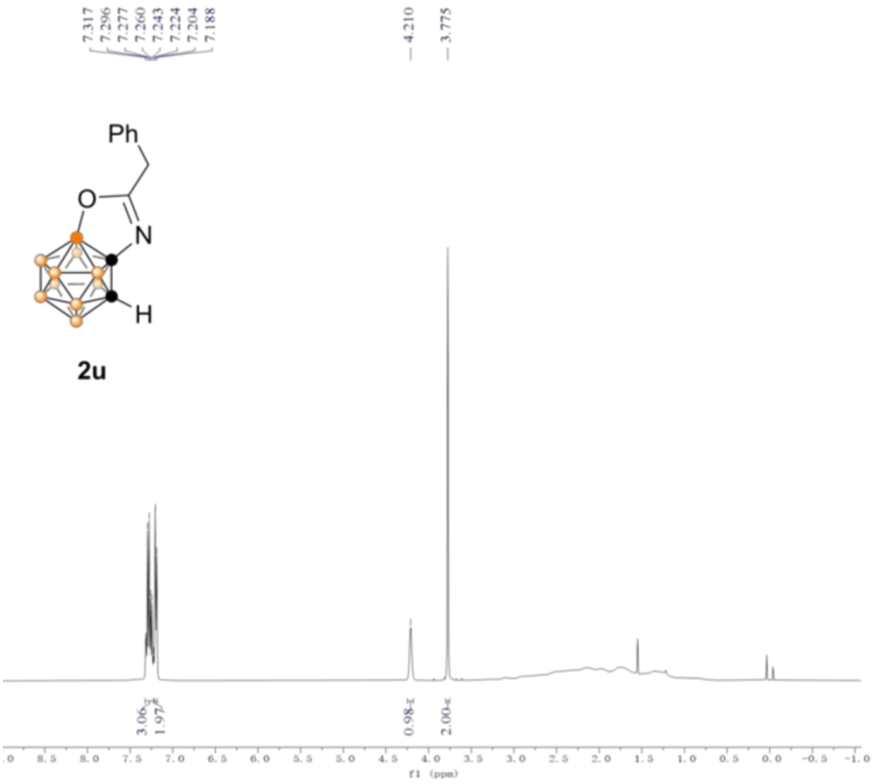

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-2t-1119-C/ 1/ fid |
| 2 | 标题 | jhr-2t-1119-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 295.7 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 383 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-11-19T18:12:11 |
| 21 | Modification Date | 2022-11-19T18:12:12 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1545.0 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |



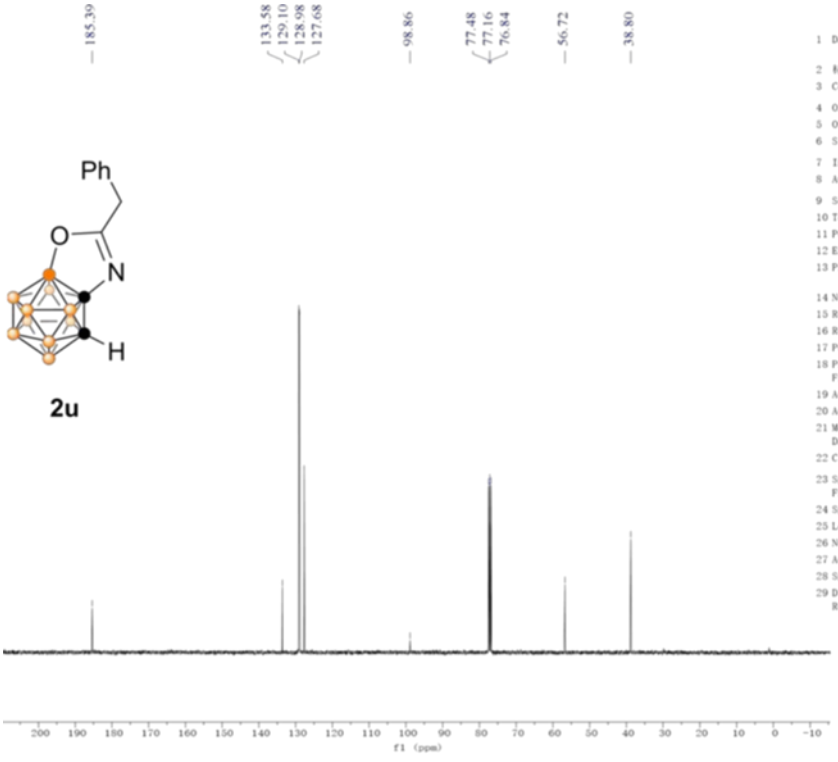

| Parameter | 值 |
|---|---|
| 1 Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4007-is-B/ 1/ fid |
| 2 标题 | jhr-4007-is-B. 1. fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 296. 2 |
| 11 Pulse Sequence | aring-b11 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 2 |
| 15 Receiver Gain | 195. 5 |
| 16 Relaxation Delay | 1. 0000 |
| 17 Pulse Width | 10. 0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1. 2845 |
| 20 Acquisition Date | 2022-06-19T16:17:05 |
| 21 Modification Date | 2022-06-19T16:17:06 |
| 22 Class | |
| 23 Spectrometer Frequency | 128. 40 |
| 24 Spectral Width | 25510. 2 |
| 25 Lowest Frequency | -12755. 1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0. 39 |



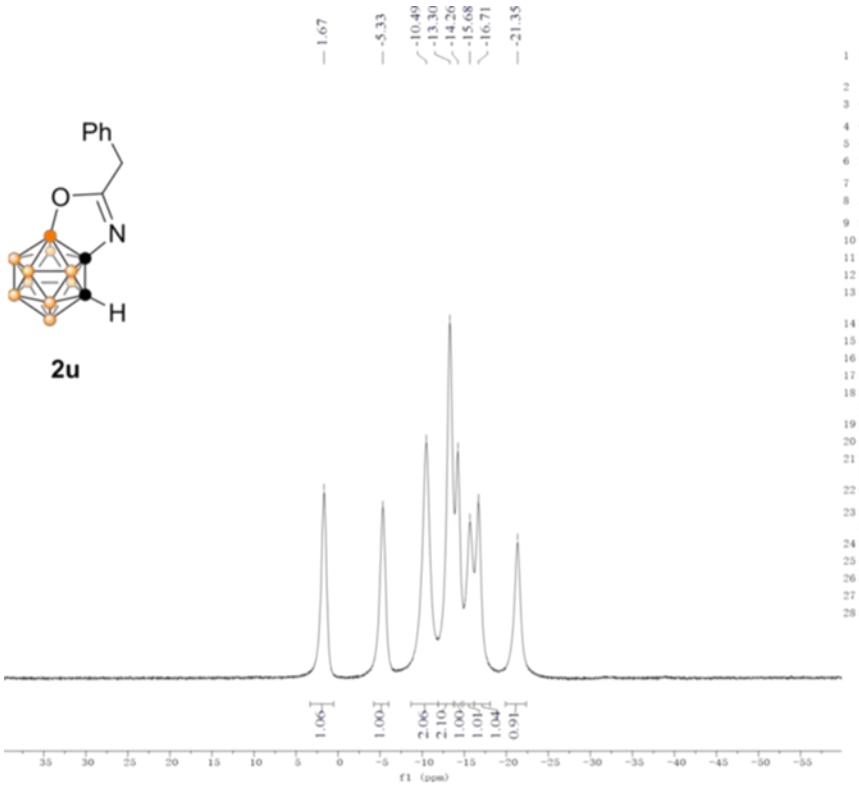

| Parameter | 值 |
|---|---|
| 1 Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4007-is-noB/ 1/ fid |
| 2 标题 | jhr-4007-is-noB. 1. fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 296. 2 |
| 11 Pulse Sequence | aring |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 2 |
| 15 Receiver Gain | 195. 5 |
| 16 Relaxation Delay | 1. 0000 |
| 17 Pulse Width | 10. 0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1. 2845 |
| 20 Acquisition Date | 2022-06-19T16:17:32 |
| 21 Modification Date | 2022-06-19T16:17:33 |
| 22 Class | |
| 23 Spectrometer Frequency | 128. 40 |
| 24 Spectral Width | 25510. 2 |
| 25 Lowest Frequency | -12755. 1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0. 39 |



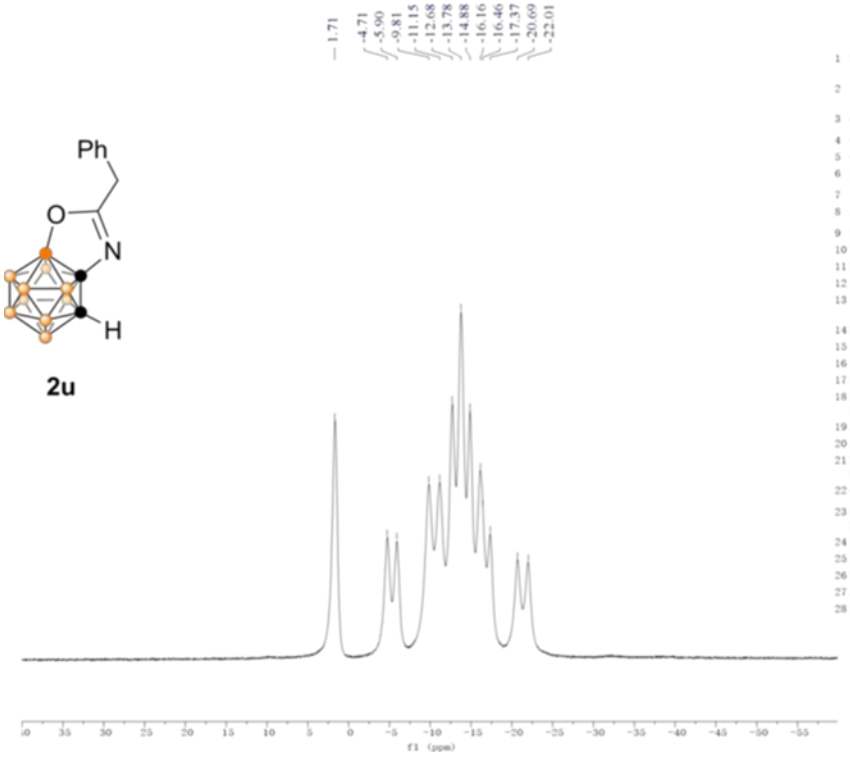

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.13/ nmr/ jhr-2u-H/ 1/ fid |
| 2 | 标题 | jhr-2u-H.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.1 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0643 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 2 |
| 15 | Receiver Gain | 32.2 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2023-02-17T14:11:47 |
| 21 | Modification Date | 2023-02-17T14:11:47 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.10 |
| 24 | Spectral Width | 4795.4 |
| 25 | Lowest Frequency | -430.5 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14385 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |



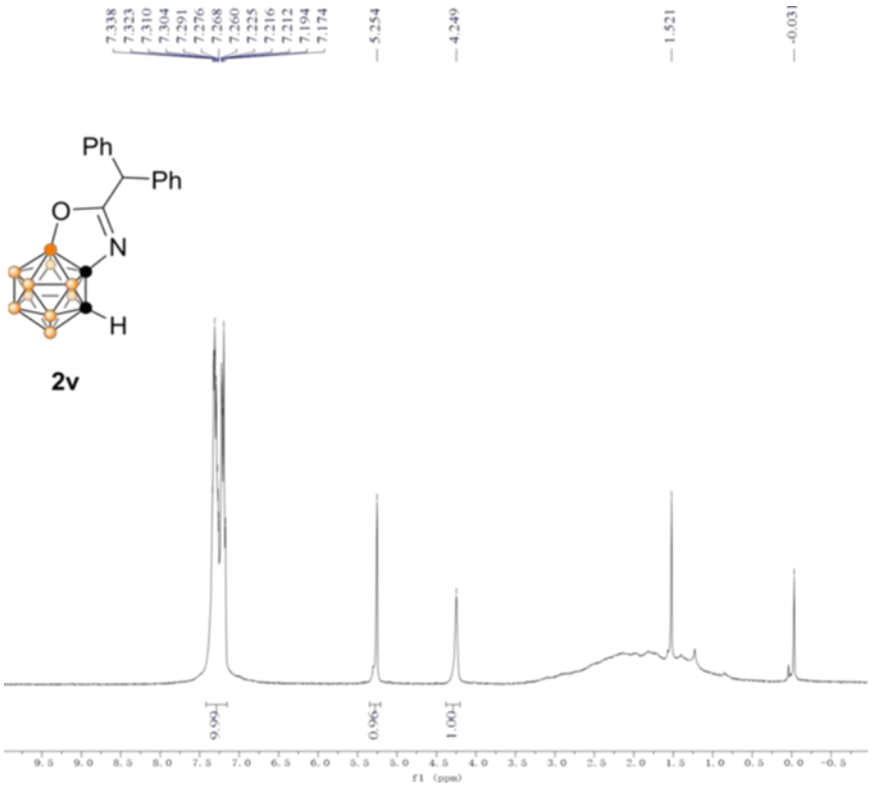

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.13/ nmr/ jhr-2u-C/ 1/ fid |
| 2 | 标题 | jhr-2u-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.2 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0643 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 230 |
| 15 | Receiver Gain | 197.1 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2023-02-17T14:21:59 |
| 21 | Modification Date | 2023-02-17T14:22:00 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.62 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1550.8 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |



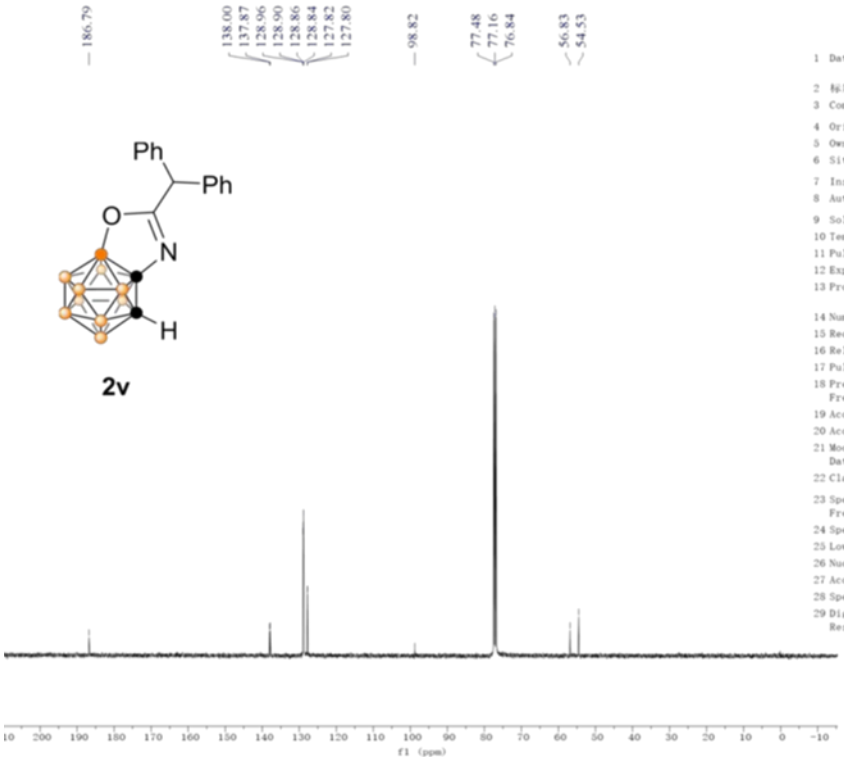

| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-2u-1229-deB/ 1/ fid |
| 2 | 标题 | jhr-2u-1229-deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 289. 2 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 3 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-12-29T20:32:38 |
| 21 | Modification Date | 2022-12-29T20:32:39 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |



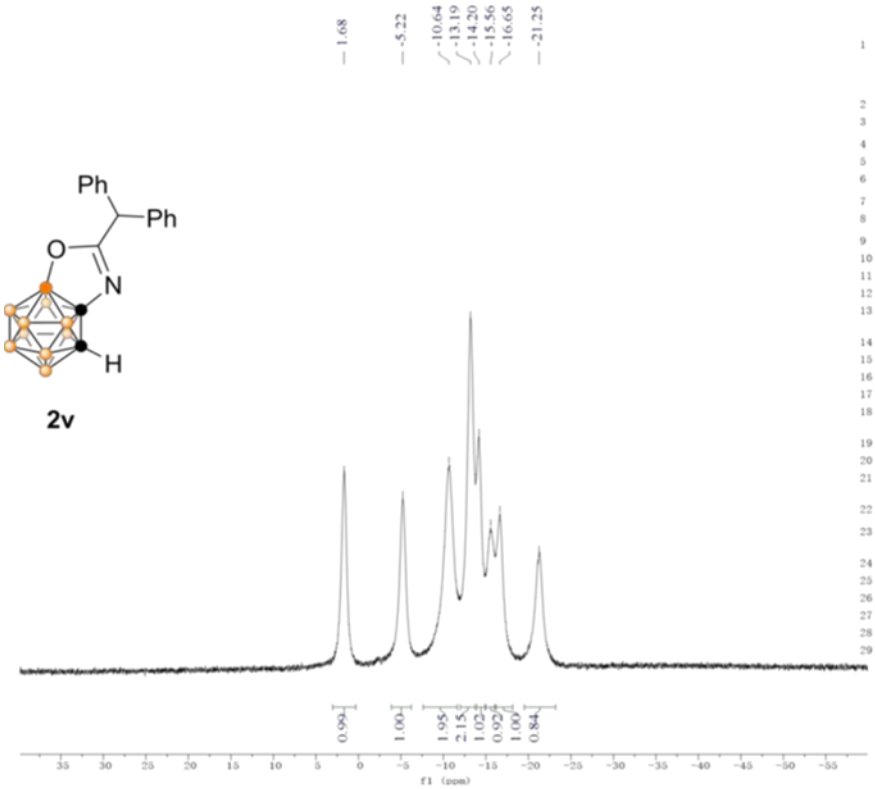

| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | Y:/ jhr-2u-1229-no deB/ 1/ fid |
| 2 | 标题 | jhr-2u-1229-no deB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 289. 3 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 7 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-12-29T20:32:09 |
| 21 | Modification Date | 2022-12-29T20:32:10 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |




| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.201/ nmr/ 新建文件夹 (3)/ jhr-2v-1224/ 1/ fid |
| 2 | 标题 | jhr-2v-1224.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 294.0 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 4 |
| 15 | Receiver Gain | 77.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-12-15T19:22:03 |
| 21 | Modification Date | 2022-12-15T19:22:03 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -425.7 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |



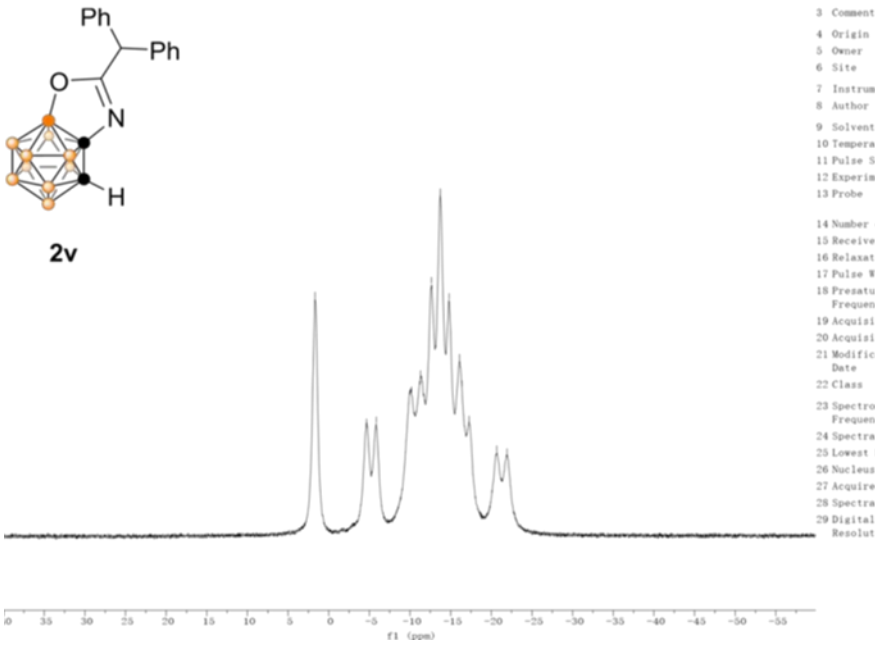

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.13/ nmr/ jhr-2v-1226-C/ 1/ fid |
| 2 | 标题 | jhr-2v-1226-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.1 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0643 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 2048 |
| 15 | Receiver Gain | 197.1 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-12-16T00:36:50 |
| 21 | Modification Date | 2022-12-16T00:36:50 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.62 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1346.6 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |




**2v**



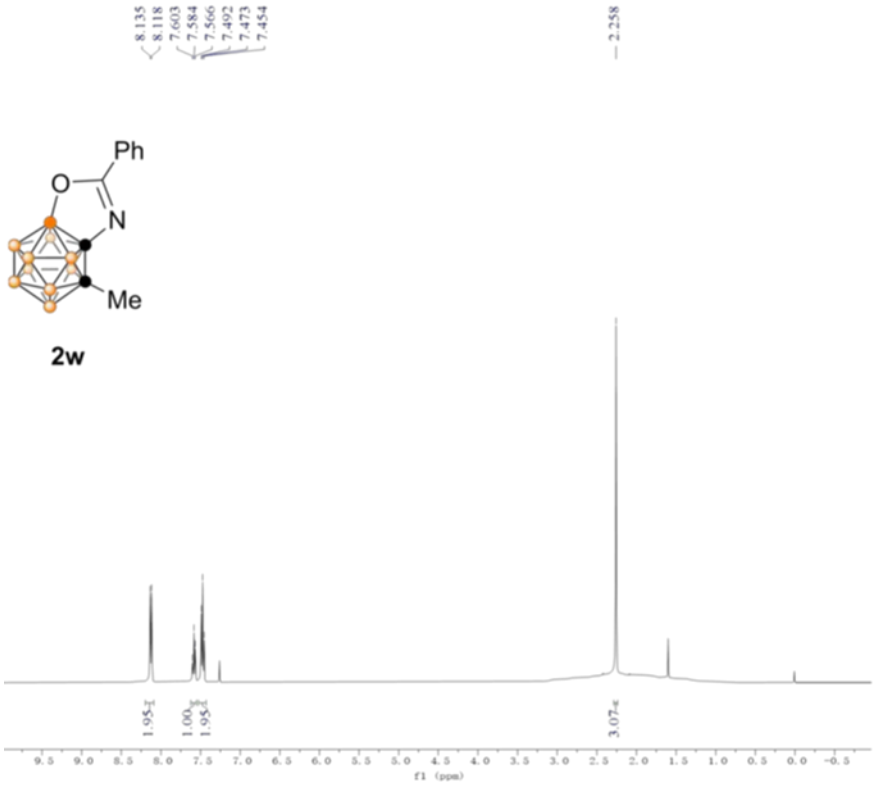

| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4030-1-is-B0/ 1/ fid |
| 2 | 标题 | jhr-4030-1-is-B0.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.6 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 6 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-07-09T19:57:23 |
| 21 | Modification Date | 2022-07-09T19:57:24 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |




**2v**

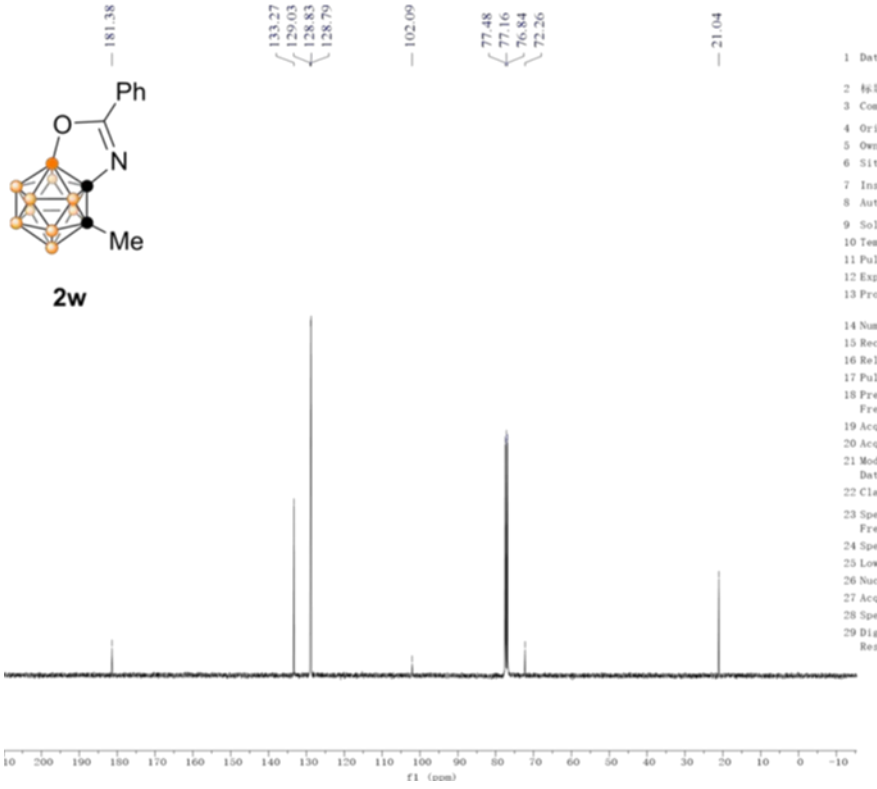



| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4030-1-is-noB00/ 1/ fid |
| 2 | 标题 | jhr-4030-1-is-noB00.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.4 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 19 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-07-09T19:59:44 |
| 21 | Modification Date | 2022-07-09T19:59:45 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |



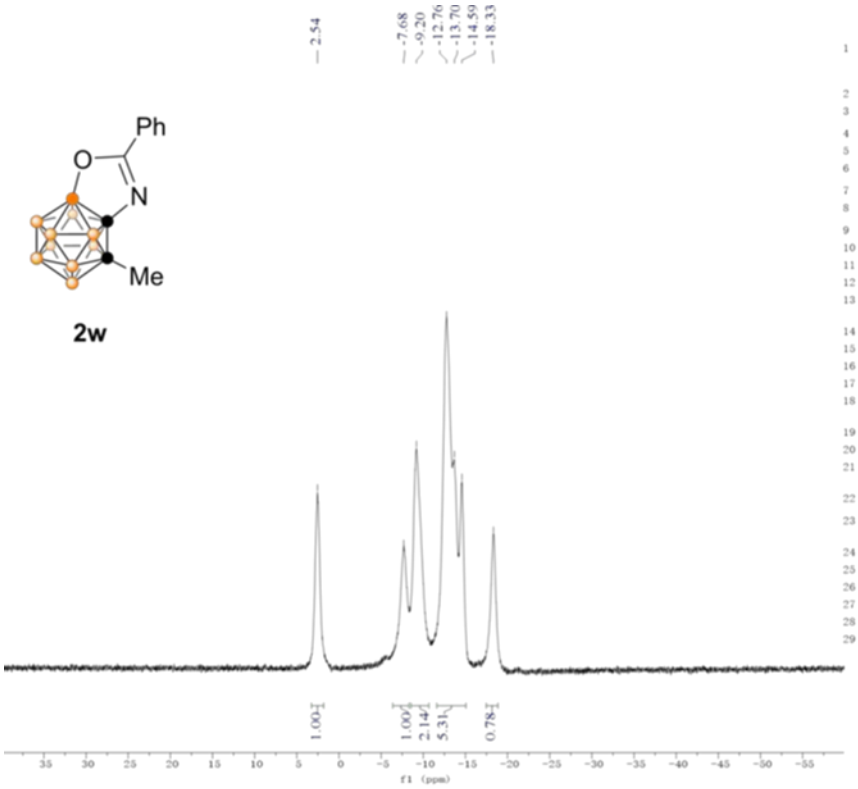

2w

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | C:/ Users/ 17336/ AppData/ Local/ Temp/ BNZ_ 638ea52f4105392f/ jhe-4a-1203/ 1/ fid |
| 2 | 标题 | jhe-4a-1203.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 294.8 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 7 |
| 15 | Receiver Gain | 63.0 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-12-03T18:07:39 |
| 21 | Modification Date | 2022-12-03T18:07:40 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -413.0 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |

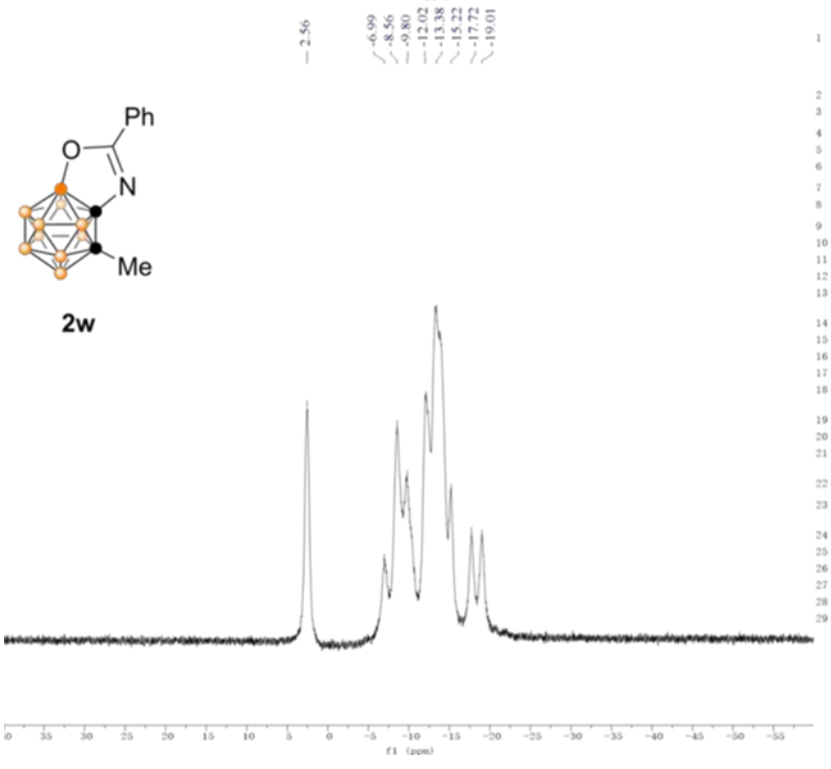



2w

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.13/ nmr/ jhr-4a-1207-C/ 1/ fid |
| 2 | 标题 | jhr-4a-1207-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.1 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0643 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 500 |
| 15 | Receiver Gain | 197.1 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-12-07T16:12:23 |
| 21 | Modification Date | 2022-12-07T16:12:23 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.62 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1547.5 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |



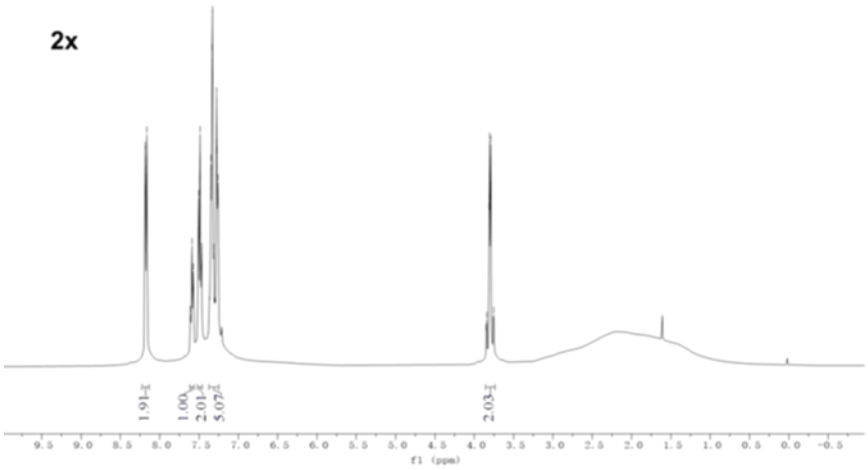

| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4031-is-B/ 1/ fid |
| 2 | 标题 | jhr-4031-is-B.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.5 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 4 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-07-09T19:52:49 |
| 21 | Modification Date | 2022-07-09T19:52:50 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |




| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4031-is-noB/ 1/ fid |
| 2 | 标题 | jhr-4031-is-noB.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.5 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 4 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-07-09T19:53:27 |
| 21 | Modification Date | 2022-07-09T19:53:28 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |



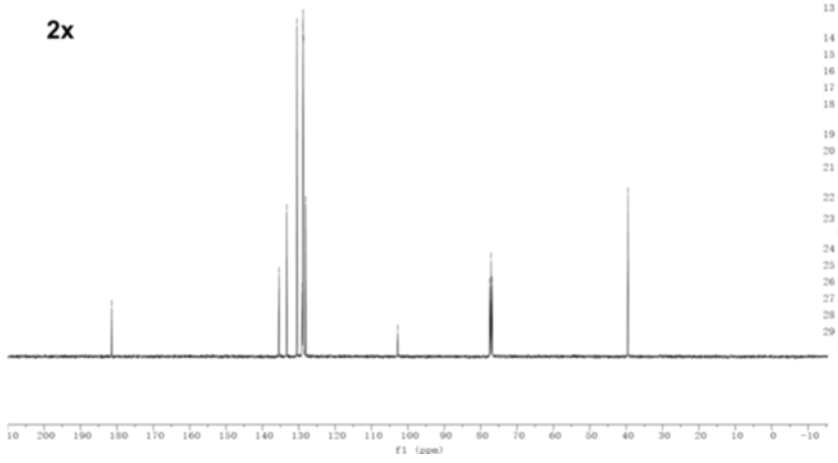
2x




| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | C:/ Users/ 17336/ AppData/ Local/ Temp/ BNZ. 638ea52f4105392f/ jhe-4d-1203/ 1/ fid |
| 2 | 标题 | jhe-4c-1203.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 294.8 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 40051 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 3 |
| 15 | Receiver Gain | 21.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-12-03T18:12:37 |
| 21 | Modification Date | 2022-12-03T18:12:37 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 4807.7 |
| 25 | Lowest Frequency | -432.0 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 14422 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.07 |



2x




| Parameter | | 值 |
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| 1 | Data File Name | / / 10.0.19.13/ nmr/ jhr-4d-1207-C/ 1/ fid |
| 2 | 标题 | jhr-4c-1207-C.1.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.2 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0643 (PA BBO 40051 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 161 |
| 15 | Receiver Gain | 197.1 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-12-07T16:44:06 |
| 21 | Modification Date | 2022-12-07T16:44:07 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.62 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1556.0 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |


**2x**



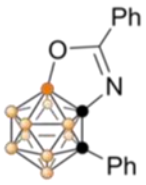

| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-4d-1108-B/ 1/ fid |
| 2 | 标题 | jhr-4c-1108-B. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 295. 8 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 6 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-11-08T22:59:37 |
| 21 | Modification Date | 2022-11-08T22:59:40 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |




**2x**

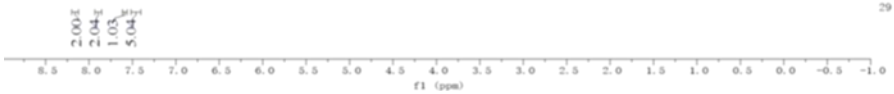



| | Parameter | 值 |
|---|---|---|
| 1 | Data File Name | E:/ 布鲁克-jhr/ 收谱/ jhr-4d-1108-noB/ 1/ fid |
| 2 | 标题 | jhr-4c-1108-noB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDC13 |
| 10 | Temperature | 295. 7 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 8 |
| 15 | Receiver Gain | 195. 5 |
| 16 | Relaxation Delay | 1. 0000 |
| 17 | Pulse Width | 10. 0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1. 2845 |
| 20 | Acquisition Date | 2022-11-08T23:00:12 |
| 21 | Modification Date | 2022-11-08T23:00:14 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128. 40 |
| 24 | Spectral Width | 25510. 2 |
| 25 | Lowest Frequency | -12755. 1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0. 39 |

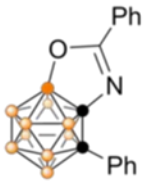

2y

| Parameter | | 值 |
|---|---|---|
| 1 | Data File Name | / / 10.0.19.201/ nmr/ jhr-4c-1103/ 17/ fid |
| 2 | 标题 | jhr-4b-1103.17.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 294.6 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 6 |
| 15 | Receiver Gain | 21.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-11-30T19:22:17 |
| 21 | Modification Date | 2022-11-30T19:22:18 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 7598.8 |
| 25 | Lowest Frequency | -1208.1 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 22795 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.12 |








2y

| Parameter | | 值 |
|---|---|---|
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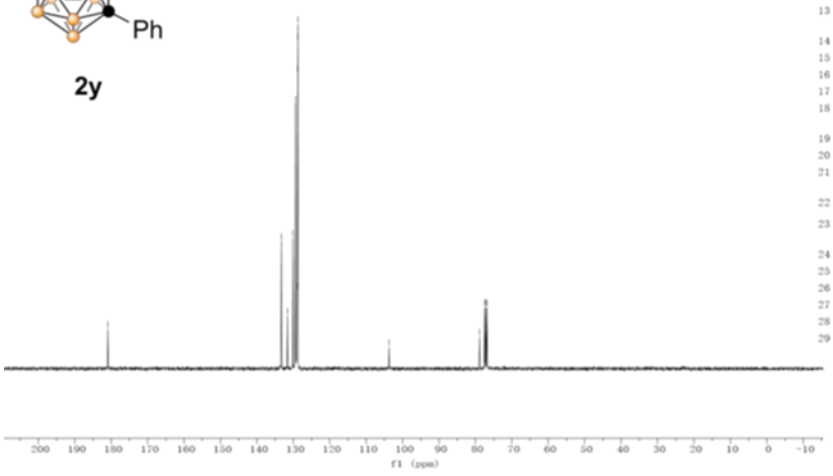
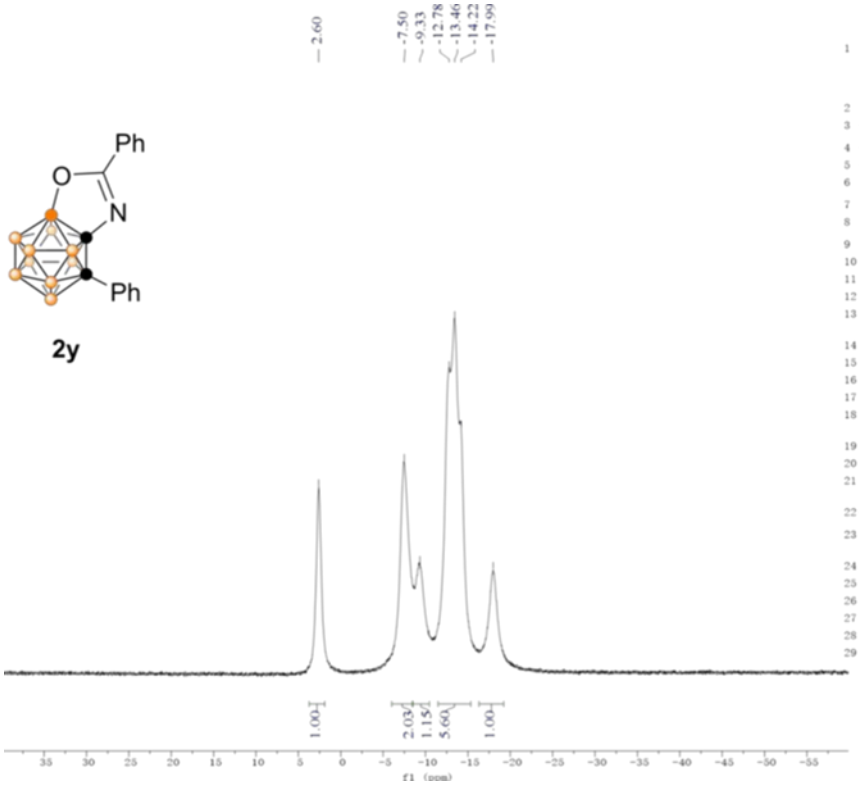
| 2 | 标题 | jhr-4b-1207-C.2.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 298.2 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0643 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 113 |
| 15 | Receiver Gain | 197.1 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-12-07T16:53:46 |
| 21 | Modification Date | 2022-12-07T16:53:47 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.62 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1555.6 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |






| Parameter | | 值 |
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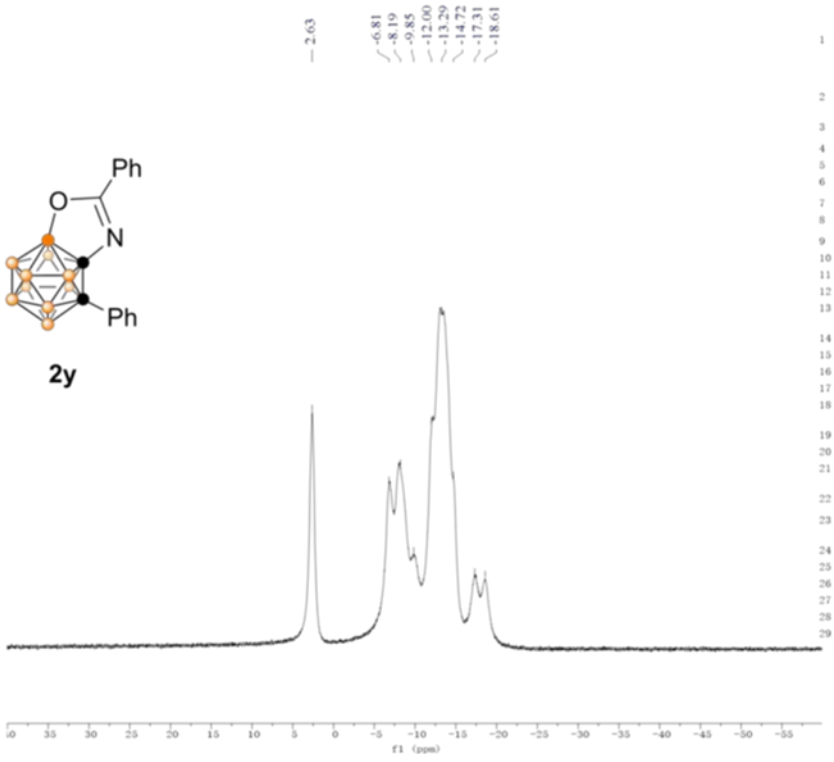
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4036-2-is-B/ 1/ fid |
| 2 | 标题 | jhr-4036-2-is-B. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.5 |
| 11 | Pulse Sequence | aring-b11 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 4 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-07-09T19:55:02 |
| 21 | Modification Date | 2022-07-09T19:55:03 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |




| Parameter | | 值 |
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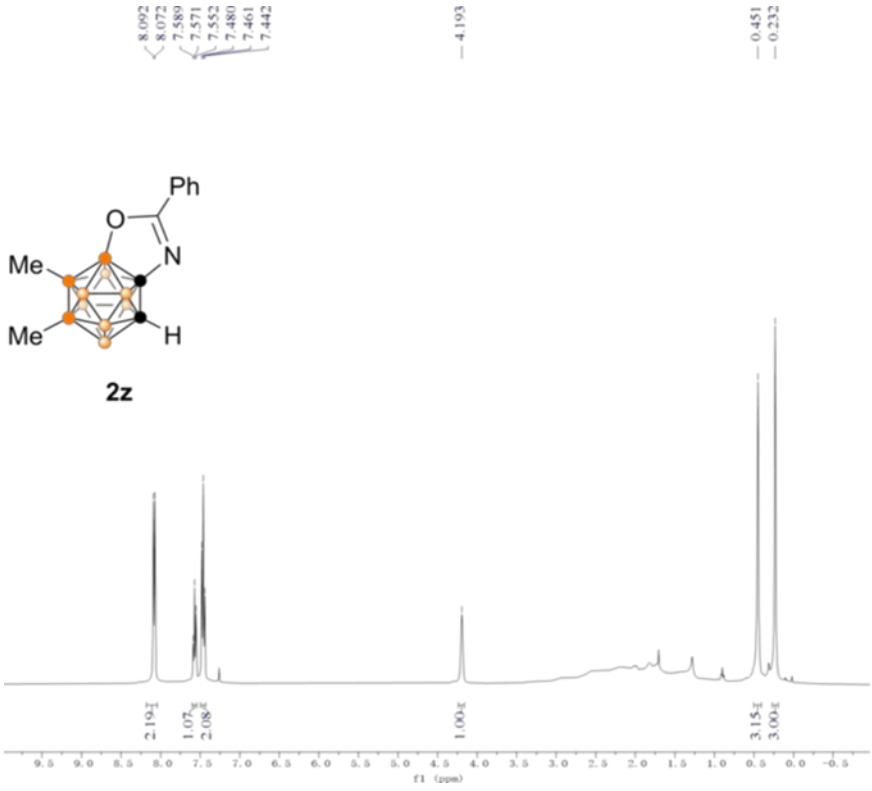
| 1 | Data File Name | D:/ 实验室相关/ lab/ 关环核磁/ 未整理-第四本/ jhr-4036-2-is-noB/ 1/ fid |
| 2 | 标题 | jhr-4036-2-is-noB. 1. fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 296.5 |
| 11 | Pulse Sequence | aring |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 5 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2845 |
| 20 | Acquisition Date | 2022-07-09T19:54:21 |
| 21 | Modification Date | 2022-07-09T19:54:22 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 128.40 |
| 24 | Spectral Width | 25510.2 |
| 25 | Lowest Frequency | -12755.1 |
| 26 | Nucleus | 11B |
| 27 | Acquired Size | 32768 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.39 |




| | Parameter | 值 |
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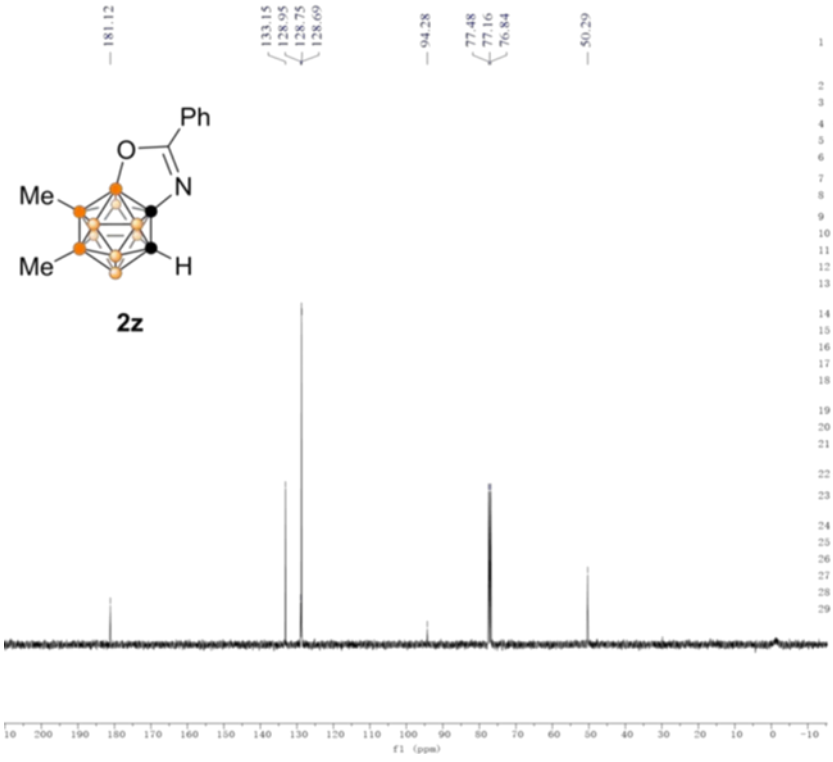
| 2 | 标题 | jhr-4d-1103.18.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 294.6 |
| 11 | Pulse Sequence | zg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 40051 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 4 |
| 15 | Receiver Gain | 24.4 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 2.9998 |
| 20 | Acquisition Date | 2022-11-30T19:25:33 |
| 21 | Modification Date | 2022-11-30T19:25:33 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 400.20 |
| 24 | Spectral Width | 7598.8 |
| 25 | Lowest Frequency | -1207.8 |
| 26 | Nucleus | 1H |
| 27 | Acquired Size | 22795 |
| 28 | Spectral Size | 65536 |
| 29 | Digital Resolution | 0.12 |




| | Parameter | 值 |
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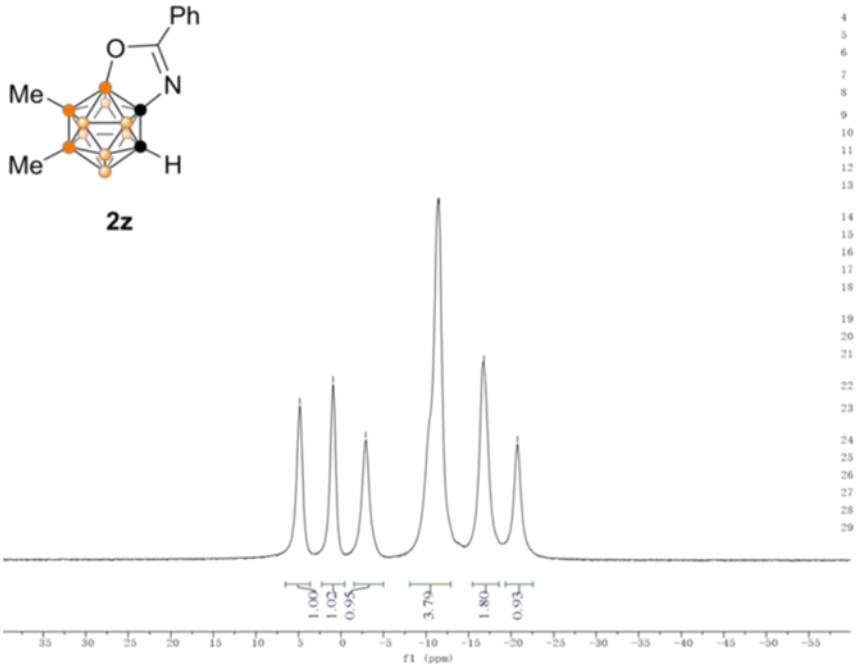
| 1 | Data File Name | / / 10.0.19.201/ nmr/ 新建文件夹 (3)/ jhr-4e-1225-C/ 2/ fid |
| 2 | 标题 | jhr-4d-1225-C.2.fid |
| 3 | Comment | |
| 4 | Origin | Bruker BioSpin GmbH |
| 5 | Owner | nmr |
| 6 | Site | |
| 7 | Instrument | spect |
| 8 | Author | |
| 9 | Solvent | CDCl3 |
| 10 | Temperature | 294.2 |
| 11 | Pulse Sequence | zgpg30 |
| 12 | Experiment | 1D |
| 13 | Probe | Z116098_0640 (PA BBO 40051 BBF-H-D-05 Z SP) |
| 14 | Number of Scans | 17 |
| 15 | Receiver Gain | 195.5 |
| 16 | Relaxation Delay | 1.0000 |
| 17 | Pulse Width | 10.0000 |
| 18 | Presaturation Frequency | |
| 19 | Acquisition Time | 1.2999 |
| 20 | Acquisition Date | 2022-12-15T19:37:20 |
| 21 | Modification Date | 2022-12-15T19:37:21 |
| 22 | Class | |
| 23 | Spectrometer Frequency | 100.64 |
| 24 | Spectral Width | 25252.5 |
| 25 | Lowest Frequency | -1549.1 |
| 26 | Nucleus | 13C |
| 27 | Acquired Size | 32827 |
| 28 | Spectral Size | 131072 |
| 29 | Digital Resolution | 0.19 |

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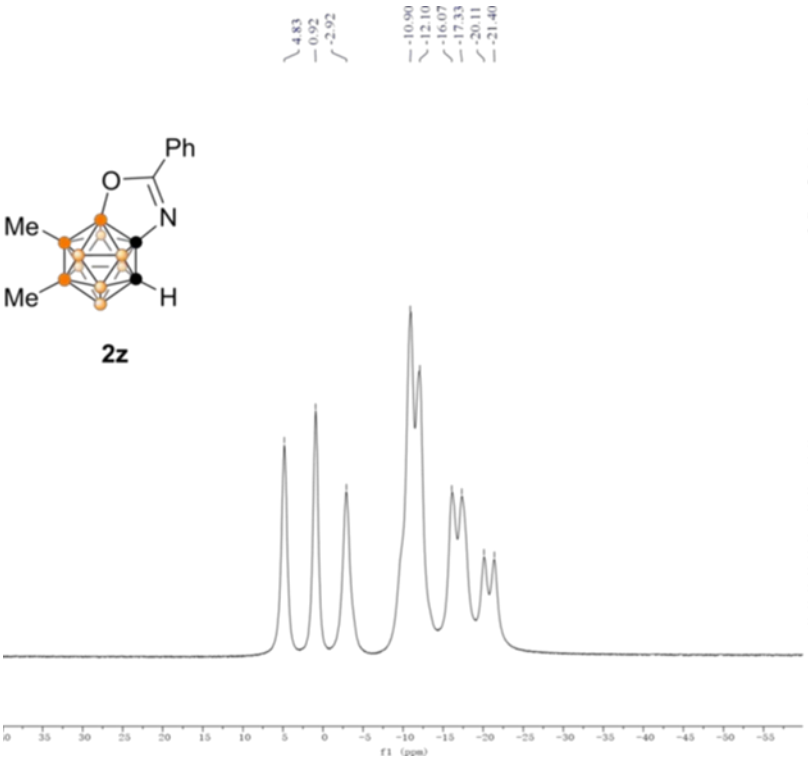
| Parameter | 值 |
|---|---|
| 1 Data File Name | / / 10.0.19.201/ nmr/ 新建文件夹 (3)/ jhr-4e-1225-deB/ 1/ fid |
| 2 标题 | jhr-4d-1225-deB.1.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 294.4 |
| 11 Pulse Sequence | aring-b11 |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 5 |
| 15 Receiver Gain | 97.3 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2845 |
| 20 Acquisition Date | 2022-12-15T20:37:45 |
| 21 Modification Date | 2022-12-15T20:37:46 |
| 22 Class | |
| 23 Spectrometer Frequency | 128.40 |
| 24 Spectral Width | 25510.2 |
| 25 Lowest Frequency | -12755.1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.39 |




2z

| Parameter | 值 |
|---|---|
| 1 Data File Name | / / 10.0.19.201/ nmr/ 新建文件夹 (3)/ jhr-4e-1225-no deB/ 2/ fid |
| 2 标题 | jhr-4d-1225-no deB.2.fid |
| 3 Comment | |
| 4 Origin | Bruker BioSpin GmbH |
| 5 Owner | nmr |
| 6 Site | |
| 7 Instrument | spect |
| 8 Author | |
| 9 Solvent | CDCl3 |
| 10 Temperature | 294.3 |
| 11 Pulse Sequence | aring |
| 12 Experiment | 1D |
| 13 Probe | Z116098_0640 (PA BBO 400S1 BBF-H-D-05 Z SP) |
| 14 Number of Scans | 8 |
| 15 Receiver Gain | 110.9 |
| 16 Relaxation Delay | 1.0000 |
| 17 Pulse Width | 10.0000 |
| 18 Presaturation Frequency | |
| 19 Acquisition Time | 1.2845 |
| 20 Acquisition Date | 2022-12-15T20:37:02 |
| 21 Modification Date | 2022-12-15T20:37:02 |
| 22 Class | |
| 23 Spectrometer Frequency | 128.40 |
| 24 Spectral Width | 25510.2 |
| 25 Lowest Frequency | -12755.1 |
| 26 Nucleus | 11B |
| 27 Acquired Size | 32768 |
| 28 Spectral Size | 65536 |
| 29 Digital Resolution | 0.39 |