

Supporting Information

The Synthesis of 2-Aminobenzoxazoles Using Reusable Ionic Liquid as an Green Catalyst under Mild Conditions

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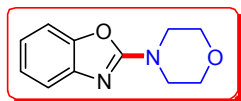
I . General methods

All reagents and solvents were purchased from commercial sources (Adamas-beta, TCI, Alfa Aesar and Ark) and used without further purification. Analytical thin layer chromatography (TLC) was performed on 0.25 mm silica gel 60 F₂₅₄ plates. Visualization on TLC was achieved by the use of UV light (254 nm). Column chromatography was undertaken on silica gel (300-400 mesh) using a proper eluent. ¹H and ¹³C NMR spectra were collected on 400 MHz NMR spectrometers (Varian Inova-400). Chemical shifts for protons were reported in parts per million (ppm) downfield from tetramethylsilane and were referenced to residual protium in the NMR solvents (CDCl₃ = δ 7.26). Chemical shifts for carbon resonances were reported in parts per million (ppm) downfield from tetramethylsilane and were referenced to the carbon resonances of the solvents (CDCl₃ = δ 77.00). The following abbreviations were used to describe peak splitting patterns when appropriate: br = broad, s = singlet, d = doublet, t = triplet, q = quartet, dt = doublet of triplet, m = multiplet. Coupling constants *J* were reported in hertz unit (Hz). High-resolution mass spectra (HRMS) were recorded on Thermo Q-Exactive.

II. General experimental procedure

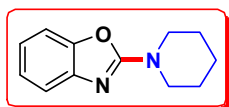
A reaction vessel was charged with acetic acid (2.016 mmol) and TBHP (70% in water, 1.008 mmol) in acetonitrile (2 mL). After the addition of [Bpy]I (0.1008 mmol), benzoxazole (0.672 mmol) and secondary amines (1.344 mmol) were added. Then the reaction mixture was stirred at room temperature for 3.5 hours. After the reaction finished, the mixture was extracted with dichloromethane (5 × 10 mL), and the combined organic phases were dried over anhydrous Na₂SO₄. The solvent was evaporated under vacuo, and the crude residue was purified by column chromatography on silica gel. Aqueous phase was dried in a vacuum evaporator to recover the ionic liquid and directly reused in subsequent runs.

III Characterization data of 2-aminobenzoxazoles (3a-3m, 4a-4m)



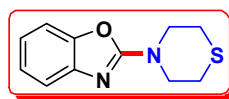
2-Morpholinobenzo[d]oxazole **3a¹**

White solid (yield: 94%), eluent for column chromatography hexane : ethyl acetate v/v 4 : 1; ¹H NMR (400 MHz, CDCl₃): δ 7.39-7.36 (m, 1H), 7.28-7.25 (m, 1H), 7.18 (dt, *J*=7.7 Hz, 1.1 Hz, 1H), 7.04 (dt, *J*=7.8 Hz, 1.2 Hz, 1H), 3.82-3.80 (m, 4H), 3.69-3.67 (m, 4H); ¹³C NMR (100 MHz, CDCl₃): δ 162.1, 148.7, 142.8, 124.1, 120.9, 116.5, 108.8, 66.2, 45.7.



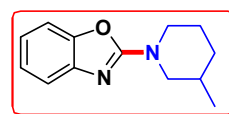
2-(Piperidin-1-yl)benzo[d]oxazole **3b¹**

Faint yellow solid (yield: 82%), eluent for column chromatography hexane : ethyl acetate v/v 10 : 1; ¹H NMR (400 MHz, CDCl₃): δ 7.35-7.33 (m, 1H), 7.23-7.21 (m, 1H), 7.14 (dt, *J*= 7.7 Hz, 1.1 Hz, 1H), 6.99 (dt, *J*= 7.8 Hz, 1.2 Hz, 1H), 3.64-3.63 (m, 4H), 1.66 (s, 6H); ¹³C NMR (100 MHz, CDCl₃): δ 162.4, 148.7, 143.4, 123.8, 120.2, 116.0, 108.5, 46.6, 25.2, 24.1.



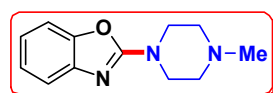
2-Thiomorpholinobenzo[d]oxazole **3c²**

Faint yellow solid (yield: 82%), eluent for column chromatography hexane : ethyl acetate v/v 10 : 1; ¹H NMR (400 MHz, CDCl₃): δ 7.40-7.38 (m, 1H), 7.28-7.25 (m, 1H), 7.17 (dt, *J*= 8.0 Hz, 1.1 Hz, 1H), 7.03 (dt, *J*= 8.0 Hz, 1.2 Hz, 1H), 4.04-4.01 (m, 4H), 2.76-2.73 (m, 4H); ¹³C NMR (100 MHz, CDCl₃): δ 161.5, 148.6, 142.6, 124.1, 120.9, 116.3, 108.8, 48.1, 26.7.



2-(3-Methylpiperidin-1-yl)benzo[d]oxazole **3d³**

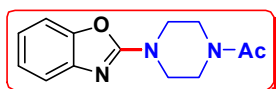
White solid (yield: 86%), eluent for column chromatography hexane : ethyl acetate v/v 8 : 1; ¹H NMR (400 MHz, CDCl₃): δ 7.36-7.34 (m, 1H), 7.24-7.22 (m, 1H), 7.14 (dt, *J*= 7.7 Hz, 1.1 Hz, 1H), 7.00 (dt, *J*= 7.8 Hz, 1.2 Hz, 1H), 4.22-4.15 (m, 2H), 3.06-2.99 (m, 1H), 2.73-2.67 (m, 1H), 1.88-1.56 (m, 4H), 1.20-1.10 (m, 1H), 0.97-0.95 (d, 3H); ¹³C NMR (100 MHz, CDCl₃): δ 162.1, 148.5, 143.0, 123.9, 120.4, 115.9, 108.6, 53.0, 46.1, 32.6, 30.6, 24.7, 18.9.



2-(4-Methylpiperazin-1-yl)benzo[d]oxazole **3e¹**

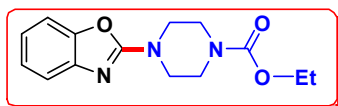
Faint yellow solid (yield: 90%), eluent for column

chromatography dichloromethane : methanol v/v 15 : 1; ^1H NMR (400 MHz, CDCl_3): δ 7.34-7.32 (m, 1H), 7.23-7.21 (m, 1H), 7.13 (dt, $J = 7.7$ Hz, 1.1 Hz, 1H), 6.99 (dt, $J = 7.8$ Hz, 1.2 Hz, 1H), 3.69 (t, $J = 5.2$ Hz, 4H), 2.49 (t, $J = 5.2$ Hz, 4H), 2.31 (s, 3H); ^{13}C NMR (100 MHz, CDCl_3): δ 162.2, 148.7, 143.1, 124.0, 120.6, 116.3, 108.7, 54.2, 46.2, 45.5.



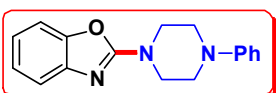
1-(4-(Benzo[d]oxazol-2-yl)piperazin-1-yl)ethan-1-one **3f¹**

Faint yellow solid (yield: 97%), eluent for column chromatography hexane : ethyl acetate v/v 1 : 3; ^1H NMR (400 MHz, CDCl_3): δ 7.39-7.37 (m, 1H), 7.29-7.27 (m, 1H), 7.19 (dt, $J = 7.7$ Hz, 1.1 Hz, 1H), 7.06 (dt, $J = 7.7$ Hz, 1.2 Hz, 1H), 3.78-3.68 (m, 6H), 3.62-3.60 (m, 2H), 2.16 (s, 3H); ^{13}C NMR (100 MHz, CDCl_3): δ 169.2, 161.7, 148.7, 142.7, 124.2, 121.1, 116.6, 109.0, 45.7, 45.6, 45.4, 40.8, 21.4.



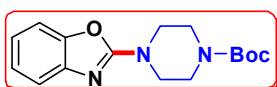
Ethyl 4-(benzo[d]oxazol-2-yl)piperazine-1-carboxylate **3g⁴**

Yellow solid (yield: 91%), eluent for column chromatography hexane : ethyl acetate v/v 6 : 1; ^1H NMR (400 MHz, CDCl_3): δ 7.38-7.36 (m, 1H), 7.26-7.25 (m, 1H), 7.18 (dt, $J = 7.7$ Hz, 1.1 Hz, 1H), 7.04 (dt, $J = 7.8$ Hz, 1.2 Hz, 1H), 4.19 (q, $J = 7.1$ Hz, 2H), 3.70-3.61 (m, 8H), 1.29 (t, $J = 7.1$ Hz, 3H); ^{13}C NMR (100 MHz, CDCl_3): δ 161.8, 155.3, 148.7, 142.7, 124.0, 120.9, 116.4, 108.8, 61.7, 45.3, 43.0, 14.6.



2-(4-Phenylpiperazin-1-yl)benzo[d]oxazole **3h⁵**

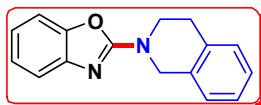
Yellow solid (yield: 82%), eluent for column chromatography hexane : ethyl acetate v/v 4 : 1; ^1H NMR (400 MHz, CDCl_3): δ 7.39-7.37 (m, 1H), 7.32-7.25 (m, 3H), 7.18 (dt, $J = 7.7$ Hz, 1.1 Hz, 1H), 7.04 (dt, $J = 7.8$ Hz, 1.2 Hz, 1H), 7.00-6.96 (m, 2H), 6.94-6.91 (m, 1H), 3.87-3.85 (m, 4H), 3.31-3.29 (m, 4H); ^{13}C NMR (100 MHz, CDCl_3): δ 162.1, 151.1, 148.8, 143.0, 129.3, 124.1, 120.8, 120.7, 116.9, 116.4, 108.8, 49.2, 45.6.



Tert-butyl 4-(benzo[d]oxazol-2-yl)piperazine-1-carboxylate **3i⁵**

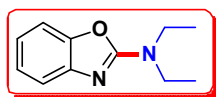
White solid (yield: 95%), eluent for column chromatography hexane : ethyl acetate v/v 10 : 1; ^1H NMR (400 MHz, CDCl_3): δ 7.40-7.38 (m, 1H), 7.28-7.26 (m, 1H), 7.19 (dt, $J = 7.7$ Hz, 1.1 Hz, 1H), 7.06 (dt, $J = 7.8$ Hz, 1.1 Hz, 1H),

3.71-3.69 (m, 4H), 3.59-3.56 (m, 4H), 1.49 (s, 9H); ^{13}C NMR (100 MHz, CDCl_3): δ 161.9, 154.5, 148.7, 142.8, 124.1, 120.9, 116.4, 108.8, 80.4, 45.4, 28.4.



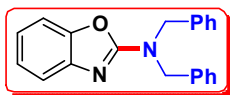
2-(3,4-Dihydroisoquinolin-2(1H)-yl)benzo[d]oxazole **3j⁴**

Yellow solid (yield: 93%), eluent for column chromatography hexane : ethyl acetate v/v 6 : 1; ^1H NMR (400 MHz, CDCl_3): δ 7.39-7.37 (m, 1H), 7.28-7.26 (m, 1H), 7.24-7.14 (m, 5H), 7.01 (dt, $J = 7.8$ Hz, 1.2 Hz, 1H), 4.84 (s, 2H), 3.93 (t, $J = 6.0$ Hz, 2H), 2.98 (t, $J = 5.9$ Hz, 2H); ^{13}C NMR (100 MHz, CDCl_3): δ 162.0, 148.8, 143.2, 134.0, 132.3, 128.8, 126.8, 126.5, 126.3, 124.0, 120.5, 116.2, 108.7, 47.1, 43.1, 28.4.



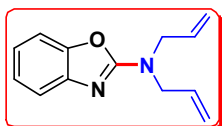
N,N-Diethylbenzo[d]oxazol-2-amine **3k¹**

Light yellow liquid (yield: 87%), eluent for column chromatography hexane : ethyl acetate v/v 10 : 1; ^1H NMR (400 MHz, CDCl_3): δ 7.36-7.34 (m, 1H), 7.24-7.22 (m, 1H), 7.13 (dt, $J = 7.7$ Hz, 1.1 Hz, 1H), 6.97 (dt, $J = 7.7$ Hz, 1.2 Hz, 1H), 3.57 (q, $J = 7.1$ Hz, 4H), 1.26 (t, $J = 7.1$ Hz, 6H); ^{13}C NMR (100 MHz, CDCl_3): δ 162.2, 148.8, 143.6, 123.8, 119.9, 115.8, 108.5, 42.9, 13.5.



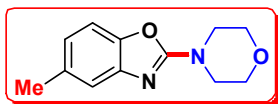
N,N-Dibenzylbenzo[d]oxazol-2-amine **3l¹**

White solid (yield: 96%), eluent for column chromatography hexane : ethyl acetate v/v 10 : 1; ^1H NMR (400 MHz, CDCl_3): δ 7.42-7.40 (m, 1H), 7.34-7.24 (m, 11H), 7.19 (dt, $J = 7.7$ Hz, 1.1 Hz, 1H), 7.07-7.02 (m, 1H), 4.71 (s, 4H); ^{13}C NMR (100 MHz, CDCl_3): δ 163.2, 149.0, 143.5, 136.3, 128.7, 127.9, 127.7, 124.1, 120.5, 116.3, 108.8, 50.3.



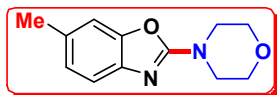
N,N-Diallylbenzo[d]oxazol-2-amine **3m¹**

Light yellow liquid (yield: 92%), eluent for column chromatography hexane : ethyl acetate v/v 10 : 1; ^1H NMR (400 MHz, CDCl_3): δ 7.38-7.35 (m, 1H), 7.26-7.24 (m, 1H), 7.15 (dt, $J = 7.7$ Hz, 1.1 Hz, 1H), 7.02-7.00 (m, 1H), 5.91-5.83 (m, 2H), 5.27-5.22 (m, 4H), 4.15 (dt, $J = 5.7$ Hz, 1.3 Hz, 4H); ^{13}C NMR (100 MHz, CDCl_3): δ 162.3, 148.9, 143.4, 132.6, 123.9, 120.4, 117.9, 116.2, 108.7, 49.3.



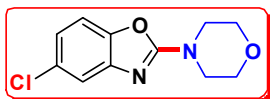
5-Methyl-2-morpholinobenzo[d]oxazole **4a**¹

White solid (yield: 90%), eluent for column chromatography hexane : ethyl acetate v/v 4 : 1; ¹H NMR (400 MHz, CDCl₃): δ 7.17 (s, 1H), 7.13 (d, *J* = 8.1 Hz, 1H), 6.86-6.83(m, 1H), 3.83-3.80 (m, 4H), 3.69-3.64 (m, 4H), 2.40 (s, 3H); ¹³C NMR (100 MHz, CDCl₃): δ 162.3, 146.9, 142.9, 133.8, 121.6, 116.9, 108.2, 66.2, 45.7, 21.5.



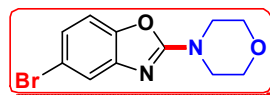
6-Methyl-2-morpholinobenzo[d]oxazole **4b**¹

White solid (yield: 97%), eluent for column chromatography hexane : ethyl acetate v/v 4 : 1; ¹H NMR (400 MHz, CDCl₃): δ 7.26-7.24 (m, 1H), 7.08 (d, *J* = 0.6 Hz, 1H), 6.99 (dd, *J* = 7.9 Hz, 0.6 Hz, 1H), 3.83-3.80 (m, 4H), 3.68-3.65 (m, 4H), 2.40 (s, 3H); ¹³C NMR (100 MHz, CDCl₃): δ 161.9, 148.9, 140.3, 131.0, 124.8, 115.9, 109.4, 66.2, 45.8, 21.5.



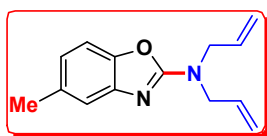
5-Chloro-2-morpholinobenzo[d]oxazole **4c**¹

Faint yellow solid (yield: 86%), eluent for column chromatography hexane : ethyl acetate v/v 10 : 1; ¹H NMR (400 MHz, CDCl₃): δ 7.32 (d, *J* = 1.9 Hz, 1H), 7.15 (d, *J* = 8.5 Hz, 1H), 6.99 (dd, *J* = 8.5 Hz, 2.1 Hz, 1H), 3.83-3.80 (m, 4H), 3.70-3.67 (m, 4H); ¹³C NMR (100 MHz, CDCl₃): δ 162.8, 147.3, 144.3, 129.4, 120.7, 116.6, 109.3, 66.1, 45.6.



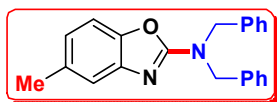
5-Bromo-2-morpholinobenzo[d]oxazole **4d**⁶

Yellow solid (yield: 87%), eluent for column chromatography hexane : ethyl acetate v/v 4 : 1; ¹H NMR (400 MHz, CDCl₃): δ 7.47-7.46 (m, 1H), 7.16-7.10 (m, 2H), 3.83-3.80 (m, 4H), 3.70-3.67 (m, 4H); ¹³C NMR (100 MHz, CDCl₃): δ 162.6, 147.8, 144.7, 123.5, 119.5, 116.8, 109.9, 66.1, 45.6.



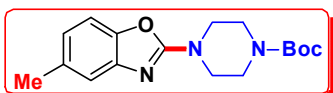
N,N-Diallyl-5-methylbenzo[d]oxazol-2-amine **4e**⁷

Light yellow liquid (yield: 89%), eluent for column chromatography hexane : ethyl acetate v/v 6 : 1; ¹H NMR (400 MHz, CDCl₃): δ 7.18-7.17 (m, 1H), 7.12 (d, *J* = 8.1 Hz, 1H), 6.82-6.80 (m, 1H), 5.92-5.84 (m, 2H), 5.27-5.22 (m, 4H), 4.13 (dt, *J* = 5.7 Hz, 1.4 Hz, 4H), 2.39 (s, 3H); ¹³C NMR (100 MHz, CDCl₃): δ 162.5, 147.1, 143.5, 133.5, 132.7, 121.0, 117.8, 116.6, 108.0, 49.9, 21.5.



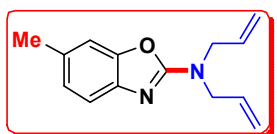
N,N-Dibenzyl-5-methylbenzo[*d*]oxazol-2-amine **4f**⁸

White solid (yield: 93%), eluent for column chromatography hexane : ethyl acetate v/v 6 : 1; ¹H NMR (400 MHz, CDCl₃): δ 7.40-7.28 (m, 10H), 7.21 (br, 1H), 7.19 (s, 1H), 6.90-6.88 (m, 1H), 4.74 (s, 4H), 2.47 (s, 3H); ¹³C NMR (100 MHz, CDCl₃): δ 163.3, 147.1, 143.6, 136.4, 133.7, 128.7, 127.9, 127.7, 121.2, 116.7, 108.2, 50.3, 21.5.



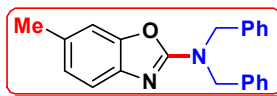
Tert-butyl 4-(5-methylbenzo[*d*]oxazol-2-yl)piperazine-1-carboxylate **4g**⁹

White solid (yield: 94%), eluent for column chromatography hexane : ethyl acetate v/v 4 : 1; ¹H NMR (400 MHz, CDCl₃): δ 7.19 (s, 1H), 7.14 (d, *J* = 8.1 Hz, 1H), 6.87-6.84(m, 1H), 3.70-3.67 (m, 4H), 3.58-3.55 (m, 4H), 2.39 (s, 3H), 1.49 (s, 9H); ¹³C NMR (100 MHz, CDCl₃): δ 161.7, 154.5, 146.6, 142.0, 134.0, 121.9, 116.7, 108.3, 80.4, 45.6, 28.4, 21.5.



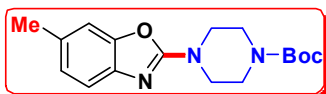
N,N-Diallyl-6-methylbenzo[*d*]oxazol-2-amine **4h**¹⁰

Light yellow liquid (yield: 84%), eluent for column chromatography hexane : ethyl acetate v/v 6 : 1; ¹H NMR (400 MHz, CDCl₃): δ 7.24 (d, *J* = 8.0 Hz, 1H), 7.07 (br, 1H), 6.97-6.95 (m, 1H), 5.91-5.84 (m, 2H), 5.25-5.20 (m, 4H), 4.13 (dt, *J* = 5.7 Hz, 1.3 Hz, 4H), 2.39 (s, 3H); ¹³C NMR (100 MHz, CDCl₃): δ 162.1, 149.1, 141.0, 132.7, 130.3, 124.6, 117.8, 115.6, 109.3, 49.9, 21.4.



N,N-Dibenzyl-6-methylbenzo[*d*]oxazol-2-amine **4i**

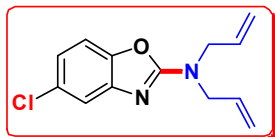
White solid (yield: 90%), eluent for column chromatography hexane : ethyl acetate v/v 6 : 1; ¹H NMR (400 MHz, CDCl₃): δ 7.34-7.25 (m, 11H), 7.10 (br, 1H), 7.01-6.99 (m, 1H), 4.68 (s, 4H), 2.40 (s, 3H); ¹³C NMR (100 MHz, CDCl₃): δ 162.9, 149.1, 141.0, 136.4, 130.6, 128.7, 127.9, 127.7, 124.7 115.7, 109.4, 50.4, 21.5; C₂₂H₂₀N₂O [M+H]⁺: 329.16484, found: 329.16443.



Tert-butyl 4-(6-methylbenzo[*d*]oxazol-2-yl)piperazine-1-carboxylate **4j**¹¹

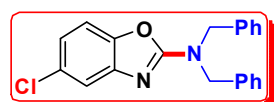
White solid (yield: 91%), eluent for column chromatography hexane : ethyl acetate v/v 4 : 1; ¹H NMR (400 MHz, CDCl₃): δ 7.30 (d, *J* = 8.0 Hz, 1H), 7.10 (s, 1H), 7.02

(d, $J = 8.0$ Hz, 1H), 3.73-3.71 (m, 4H), 3.60-3.57 (m, 4H), 2.41 (s, 3H), 1.49 (s, 9H); ^{13}C NMR (100 MHz, CDCl_3): δ 161.8, 154.6, 149.0, 140.4, 131.0, 124.8, 115.9, 109.4, 80.4, 45.5, 28.4, 21.5.



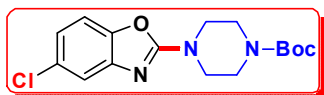
N,N-Diallyl-5-chlorobenzo[d]oxazol-2-amine **4k**⁷

Light yellow liquid (yield: 85%), eluent for column chromatography hexane : ethyl acetate v/v 10 : 1; ^1H NMR (400 MHz, CDCl_3): δ 7.31-7.30 (m, 1H), 7.14-7.12 (m, 1H), 6.97-6.94 (m, 1H), 5.90-5.83 (m, 2H), 5.27-5.22 (m, 4H), 4.14 (dt, $J = 5.8$ Hz, 1.3 Hz, 4H); ^{13}C NMR (100 MHz, CDCl_3): δ 163.1, 147.5, 144.8, 132.3, 129.2, 120.2, 118.1, 116.3, 109.2, 50.0.



N,N-Dibenzyl-5-chlorobenzo[d]oxazol-2-amine **4l**¹²

White solid (yield: 91%), eluent for column chromatography hexane : ethyl acetate v/v 10 : 1; ^1H NMR (400 MHz, CDCl_3): δ 7.38-7.23 (m, 11H), 7.16 (d, $J = 8.5$ Hz, 1H), 7.01-6.98 (m, 1H), 4.69 (s, 4H); ^{13}C NMR (100 MHz, CDCl_3): δ 163.9, 147.5, 144.9, 136.0, 129.4, 128.8, 127.9, 127.8, 120.3, 116.4, 109.3, 50.4.



Tert-butyl 4-(5-chlorobenzo[d]oxazol-2-yl)piperazine-1-carboxylate **4m**¹¹

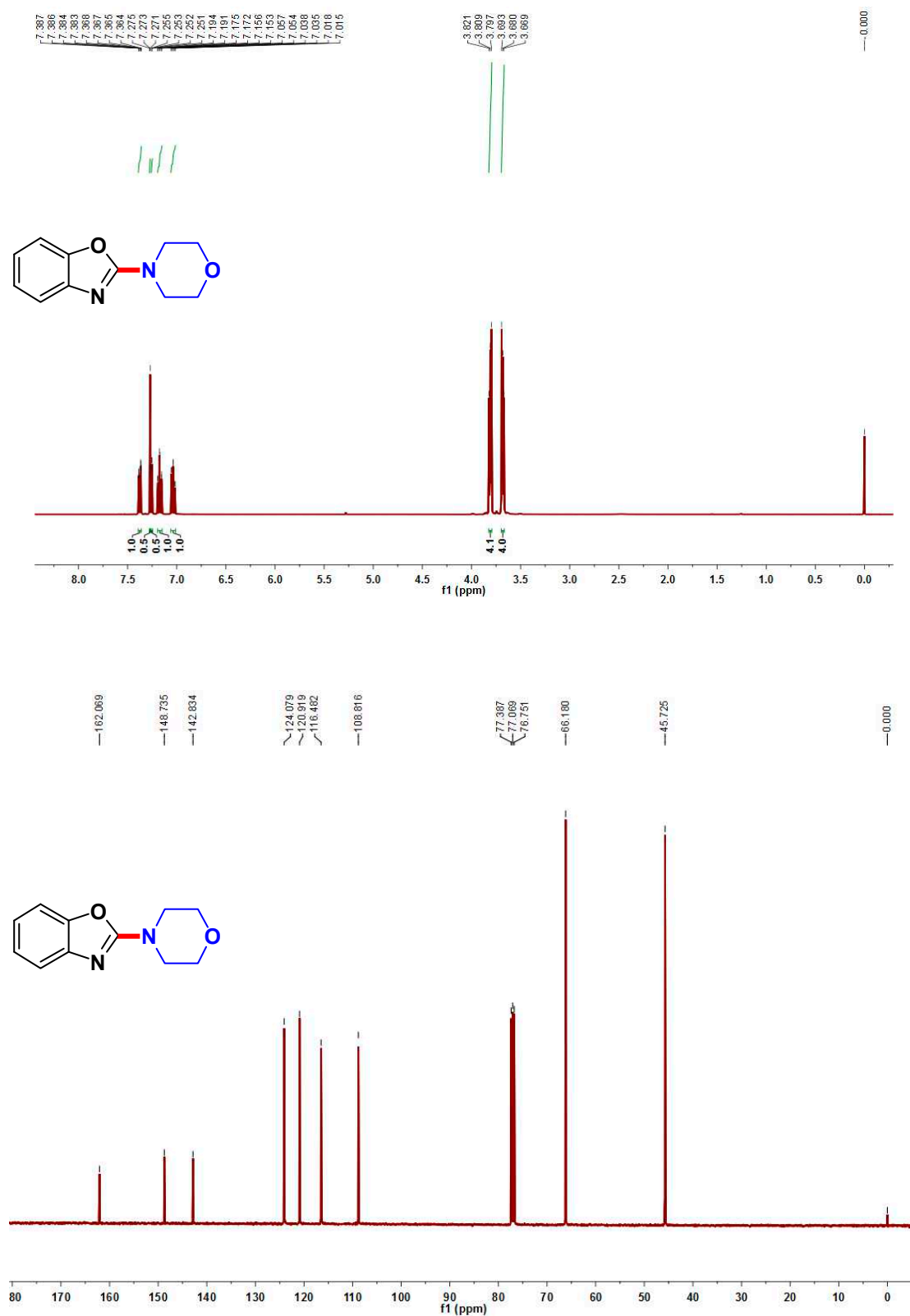
White solid (yield: 93%), eluent for column chromatography hexane : ethyl acetate v/v 10 : 1; ^1H NMR (400 MHz, CDCl_3): δ 7.34 (d, $J = 1.9$ Hz, 1H), 7.16 (d, $J = 8.4$ Hz, 1H), 7.02-6.99 (m, 1H), 3.71-3.68 (m, 4H), 3.59-3.56 (m, 4H), 1.49 (s, 9H); ^{13}C NMR (100 MHz, CDCl_3): δ 162.7, 154.5, 147.3, 144.3, 129.4, 120.7, 116.5, 109.3, 80.5, 45.3, 28.4.

VI. References

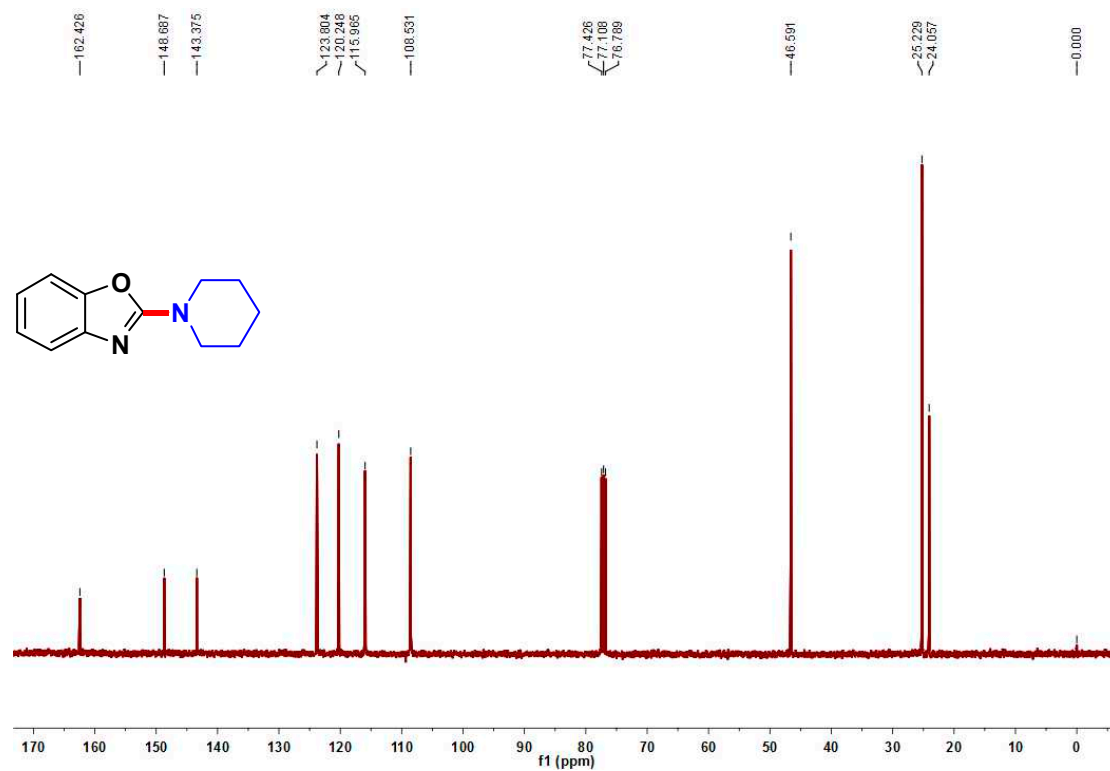
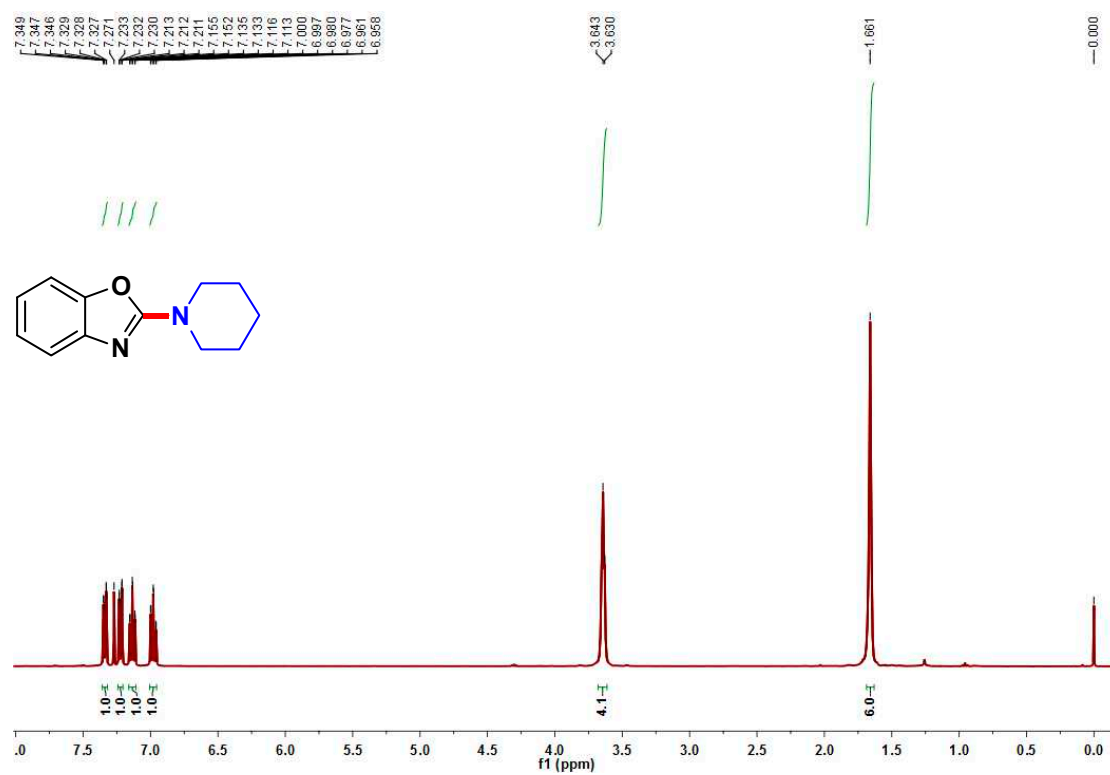
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V. ^1H and ^{13}C NMR spectra of the compounds

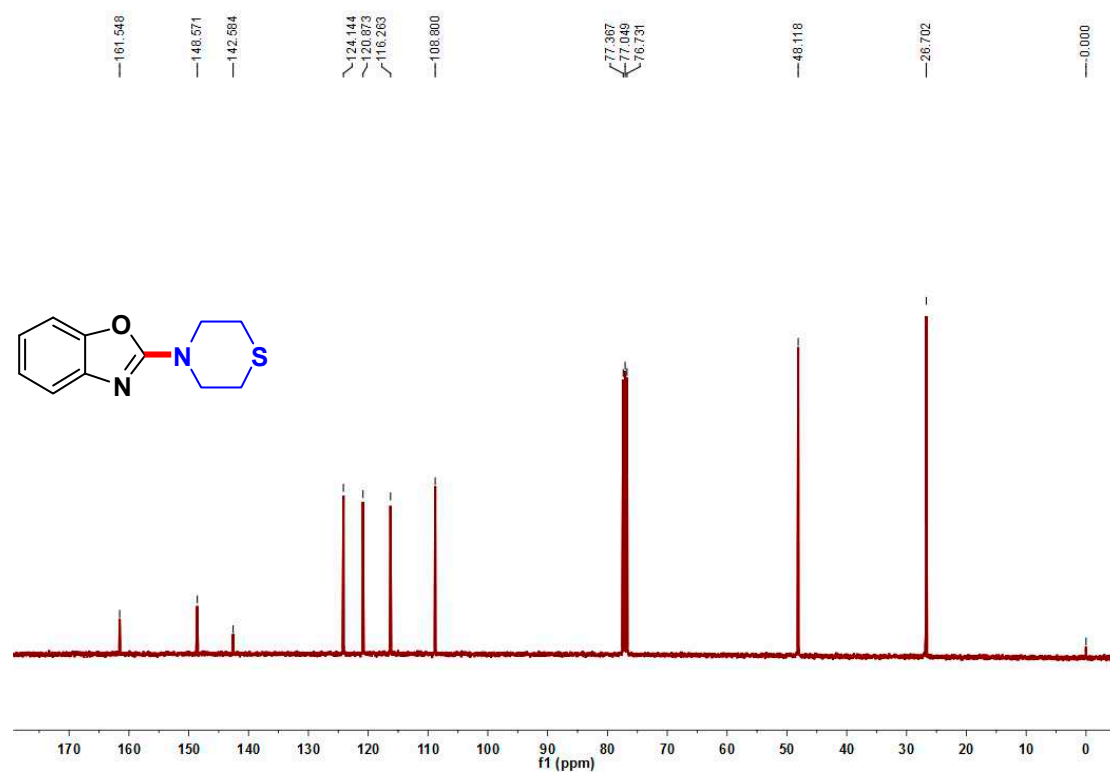
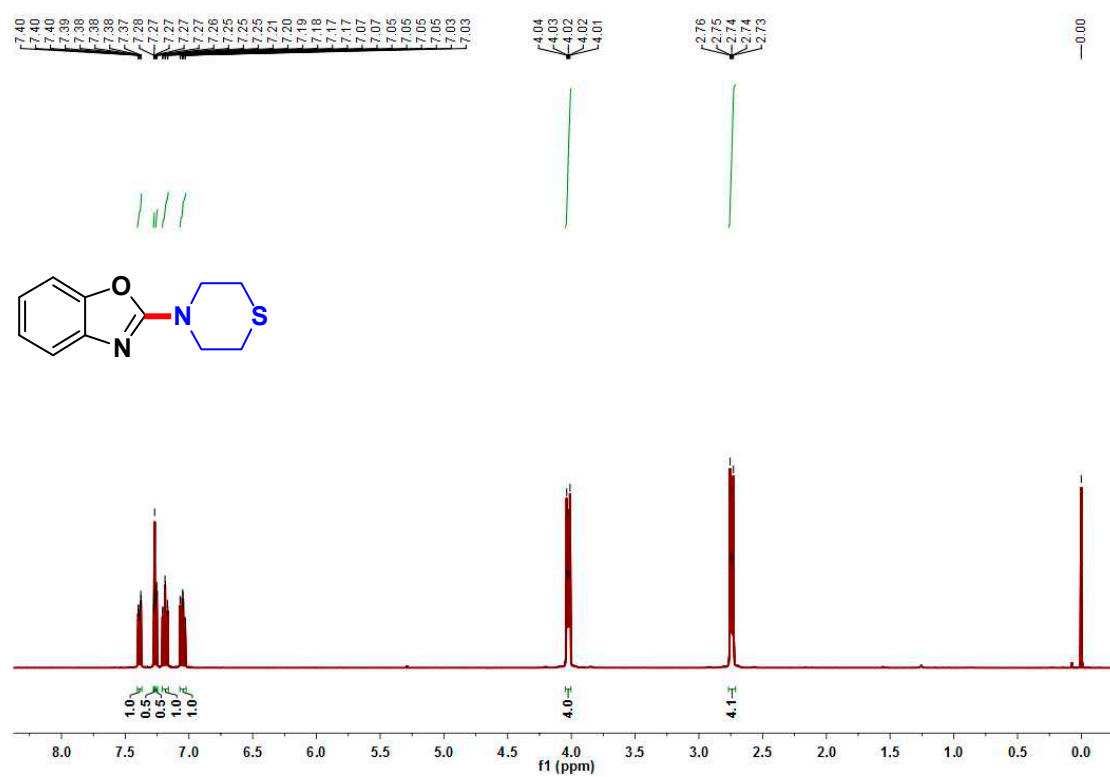
2-Morpholinobenzo[d]oxazole (3a)



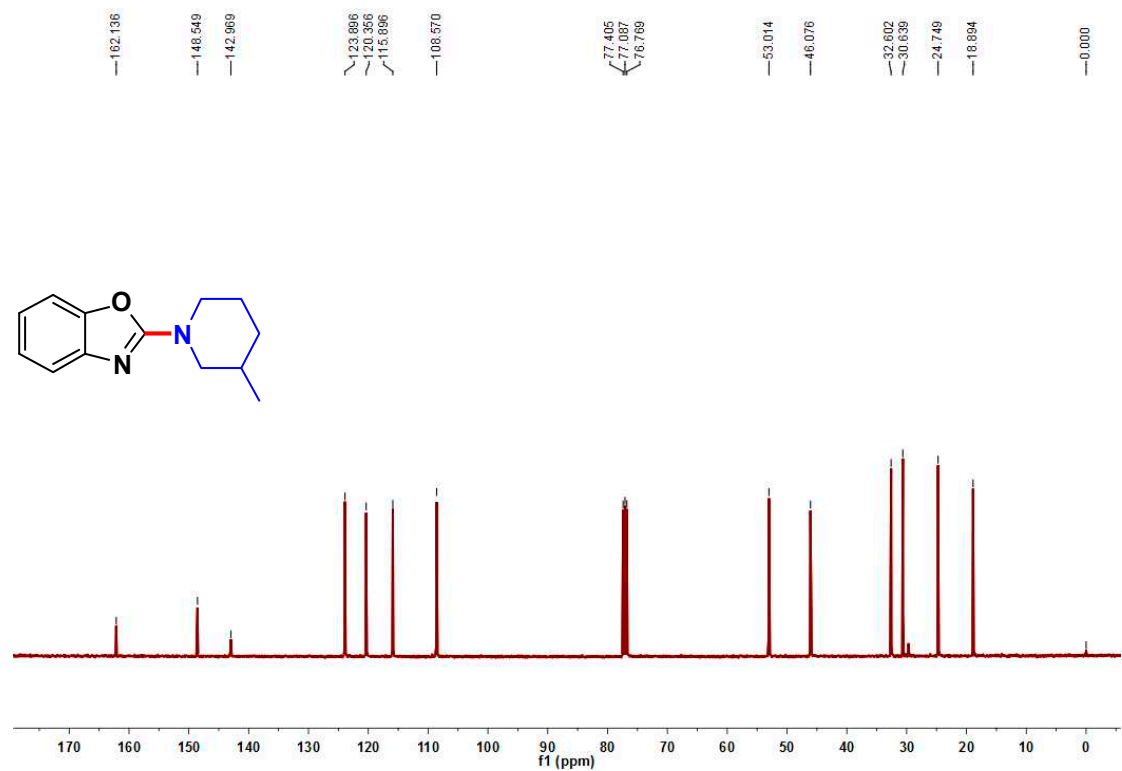
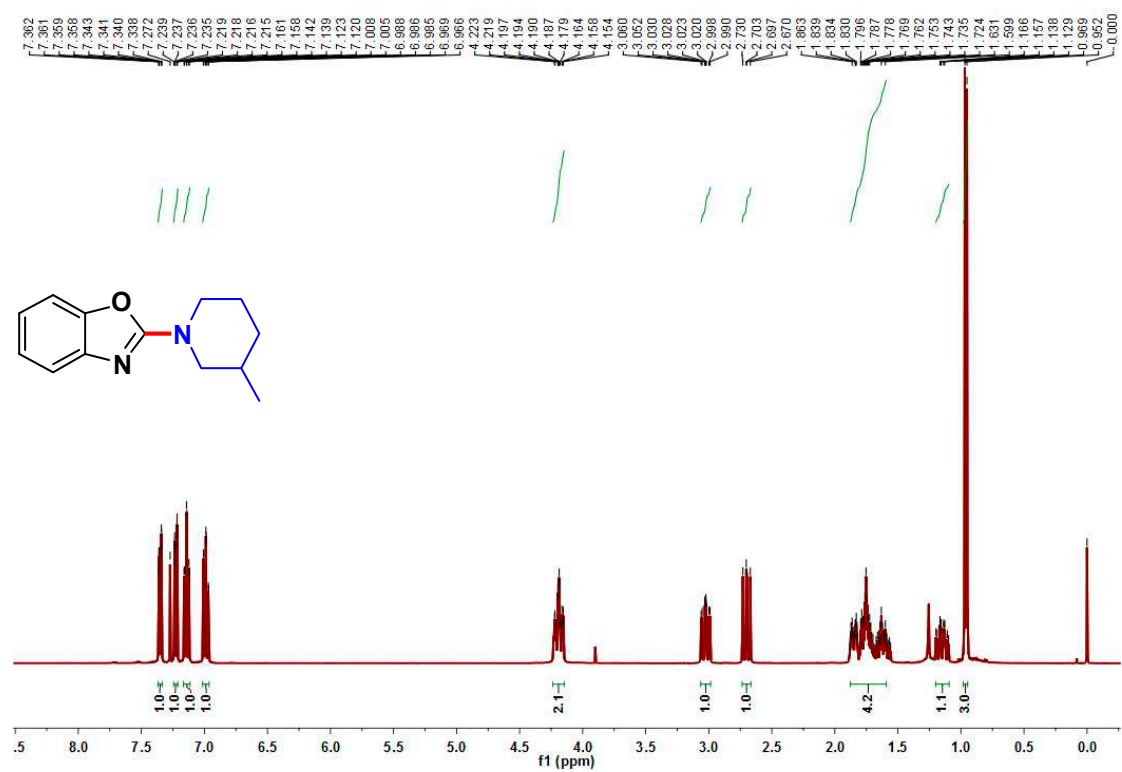
2-(Piperidin-1-yl)benzo[d]oxazole (3b)



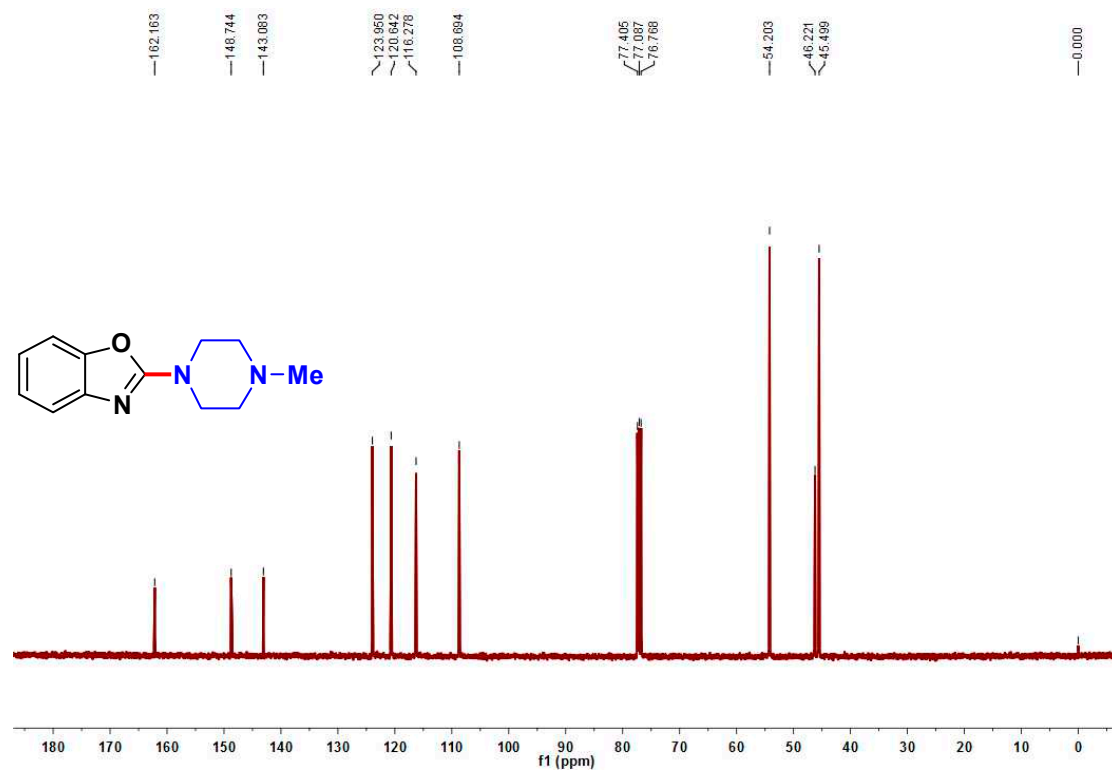
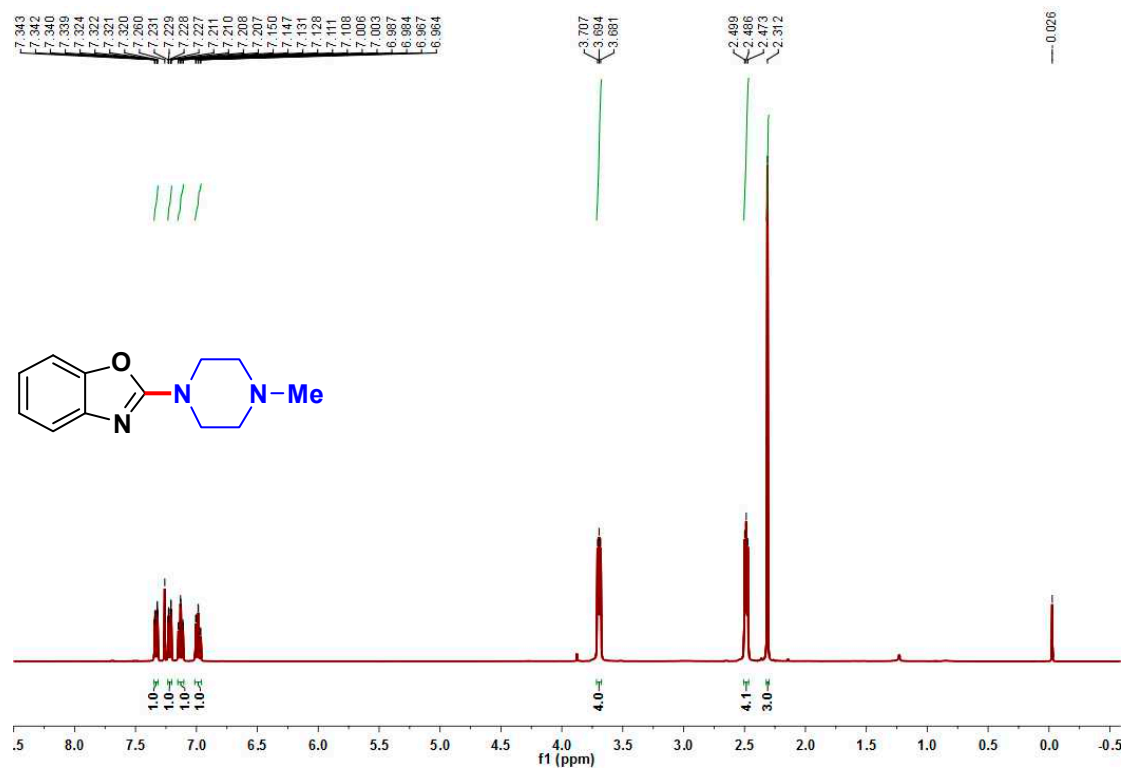
2-Thiomorpholinobenzo[d]oxazole (3c)



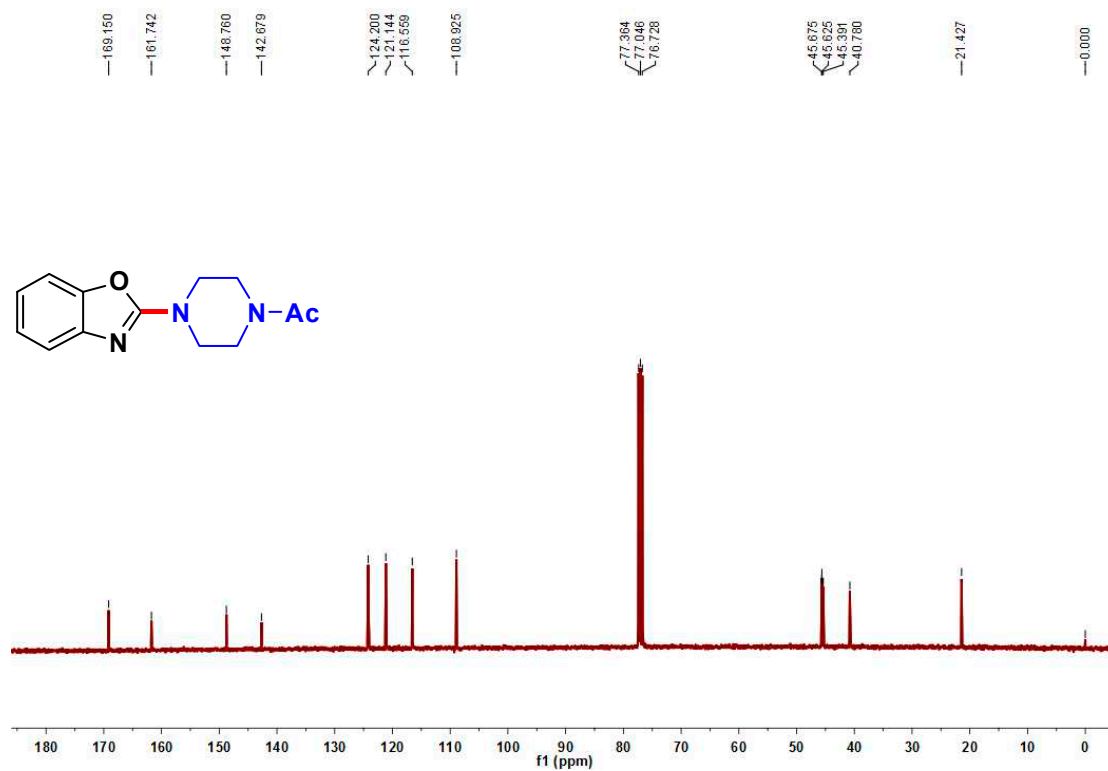
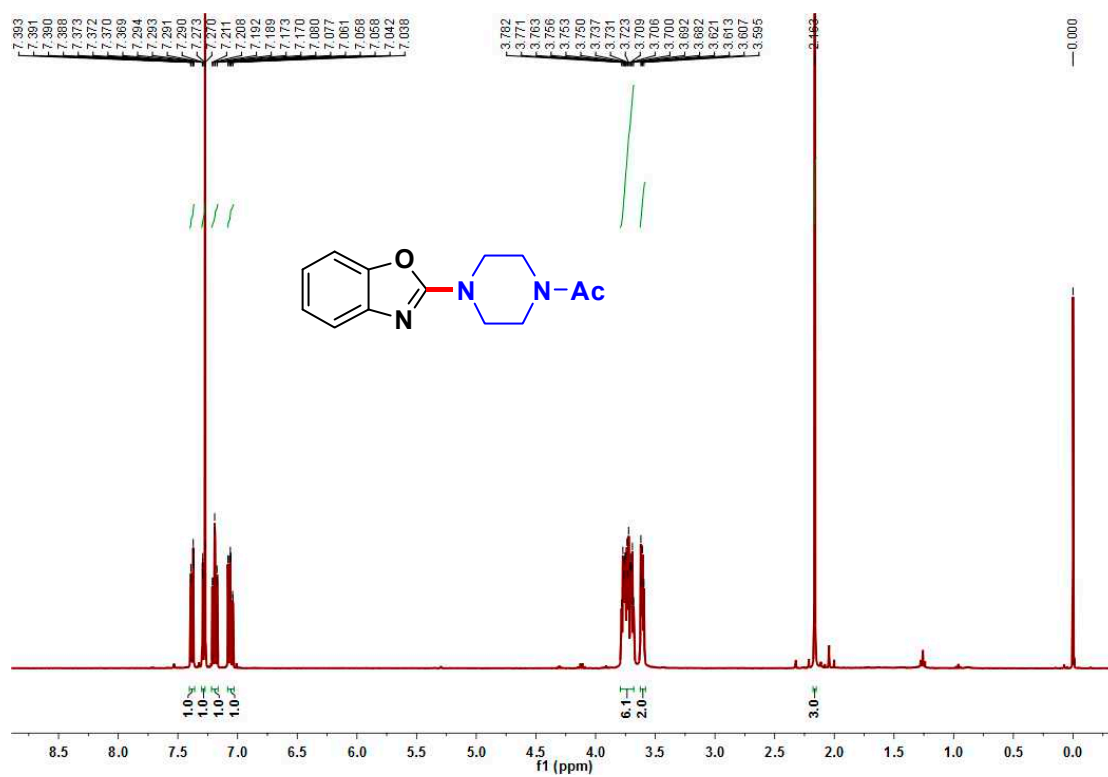
2-(3-Methylpiperidin-1-yl)benzo[d]oxazole (3d)



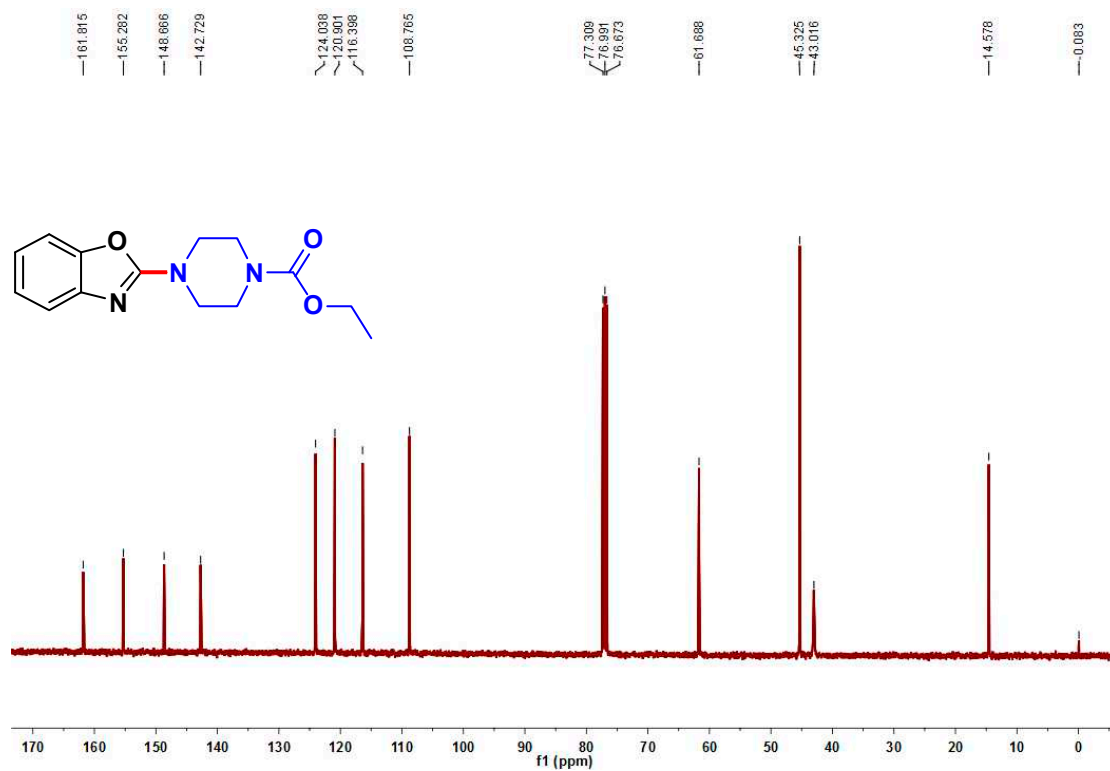
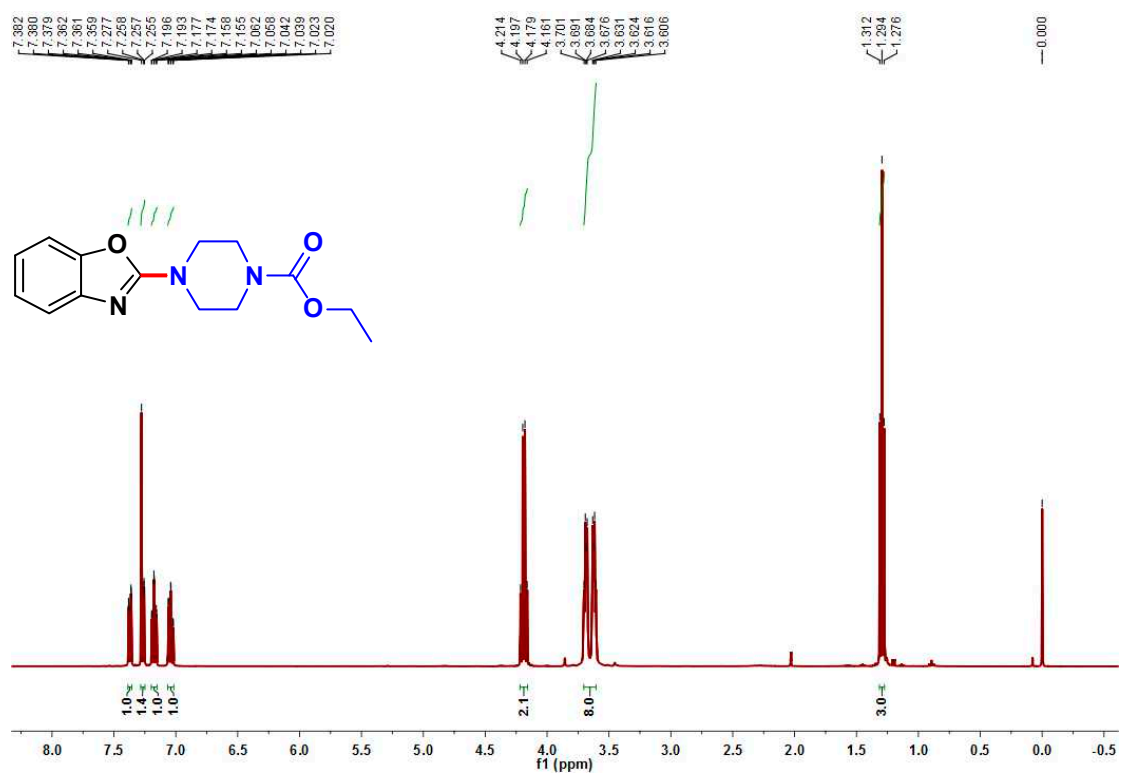
2-(4-Methylpiperazin-1-yl)benzo[d]oxazole (3e)



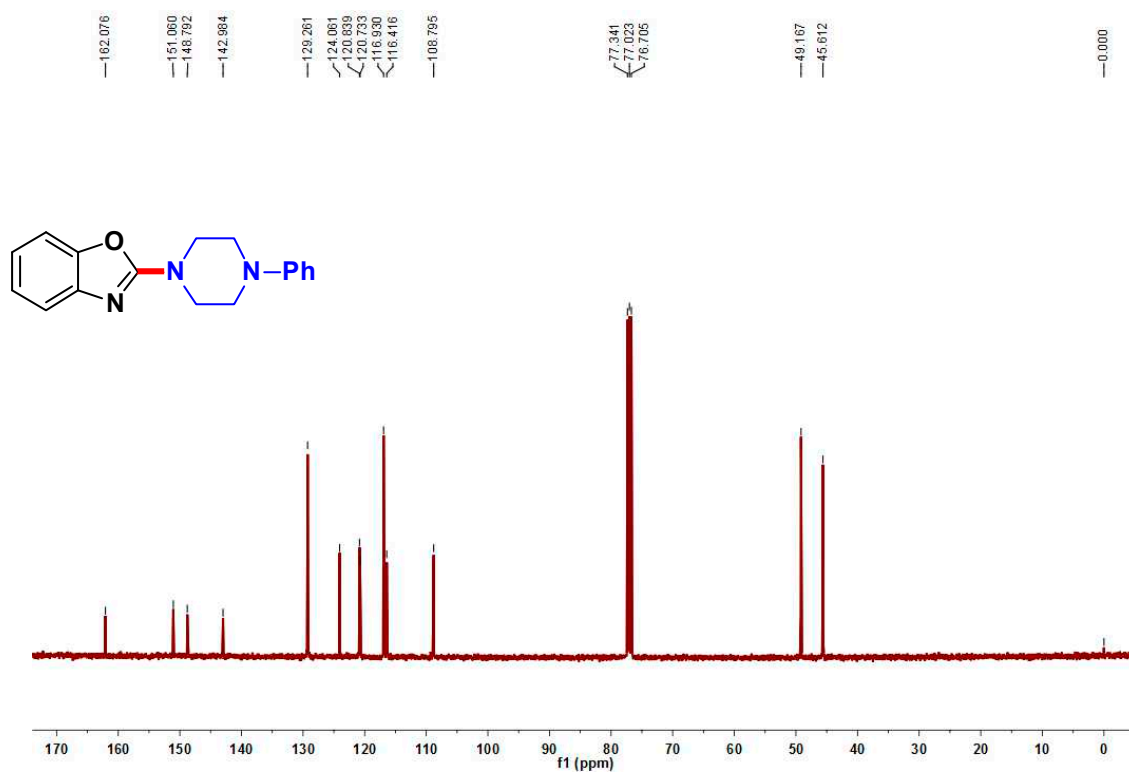
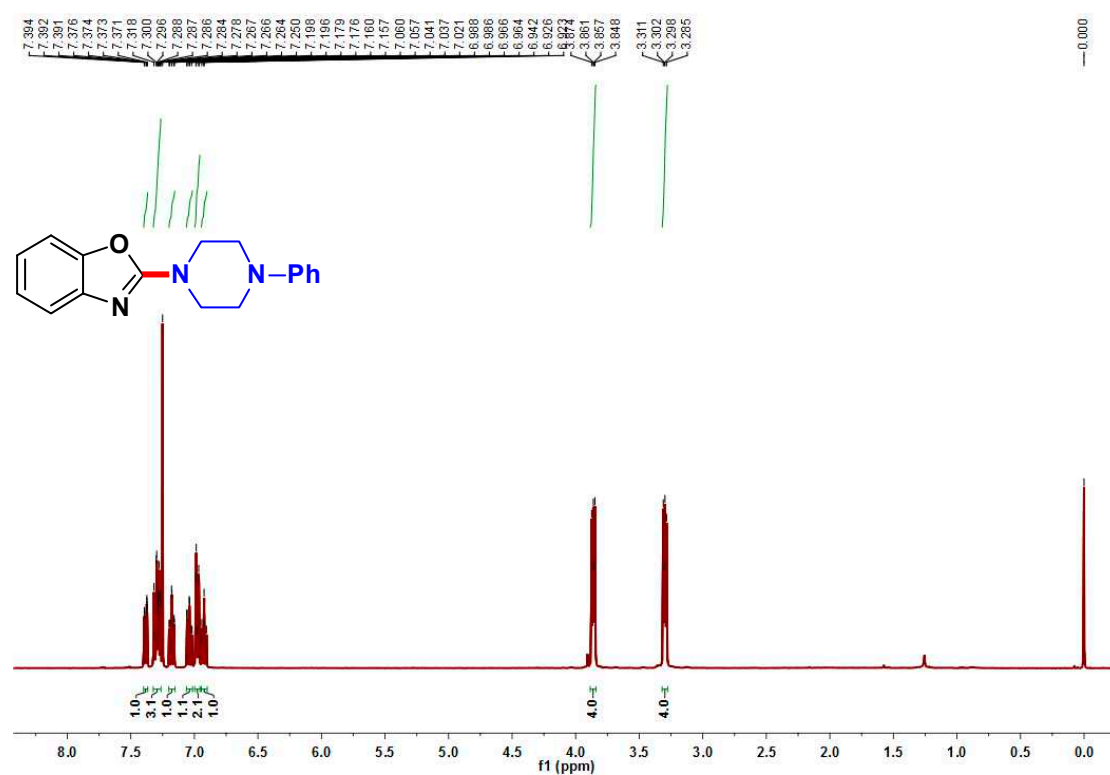
1-(4-(Benzo[d]oxazol-2-yl)piperazin-1-yl)ethan-1-one (3f)



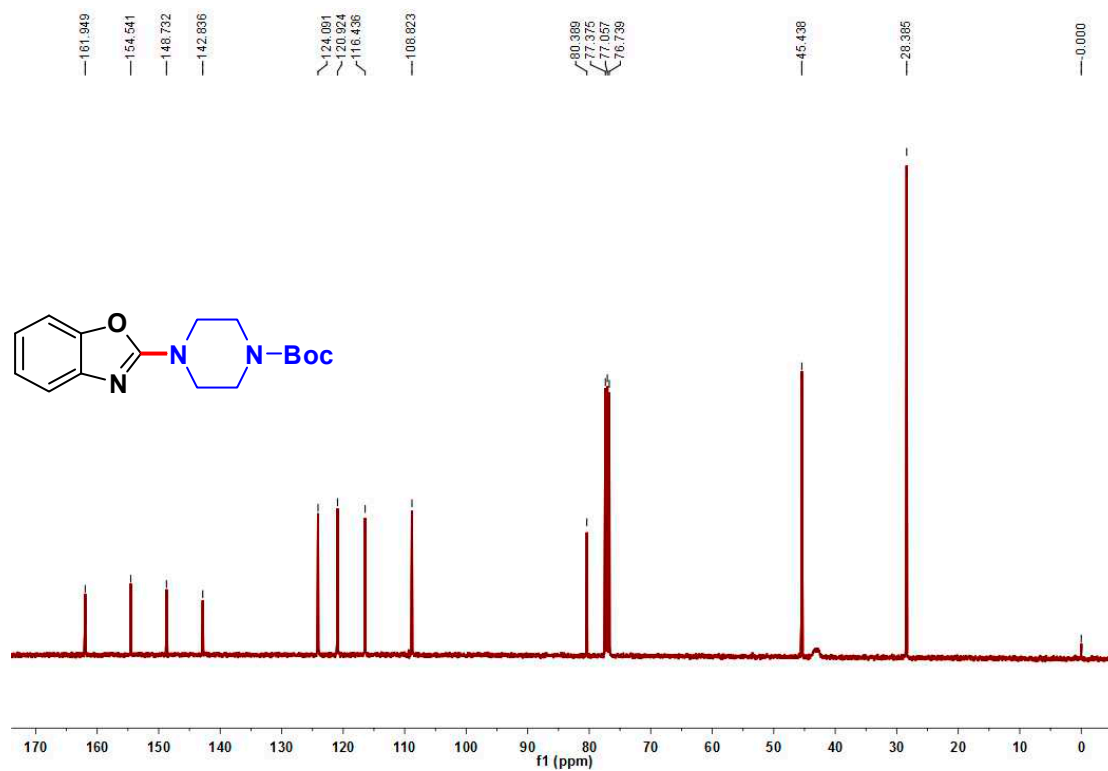
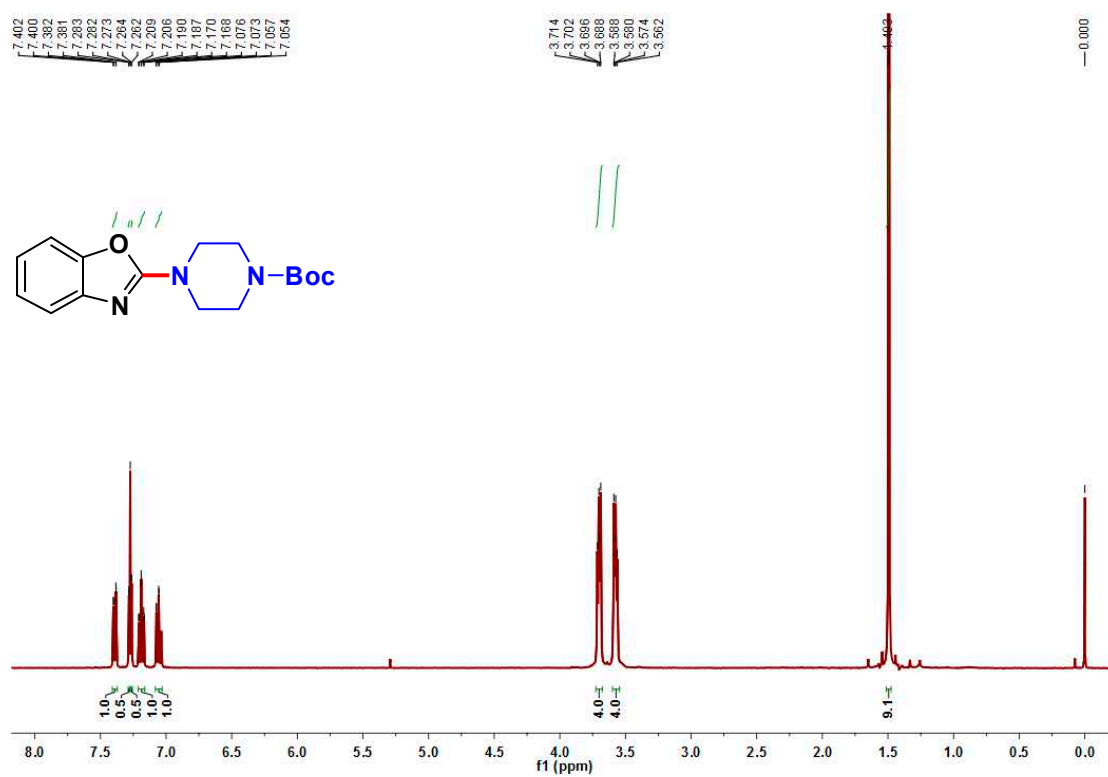
Ethyl 4-(benzo[d]oxazol-2-yl)piperazine-1-carboxylate (3g)



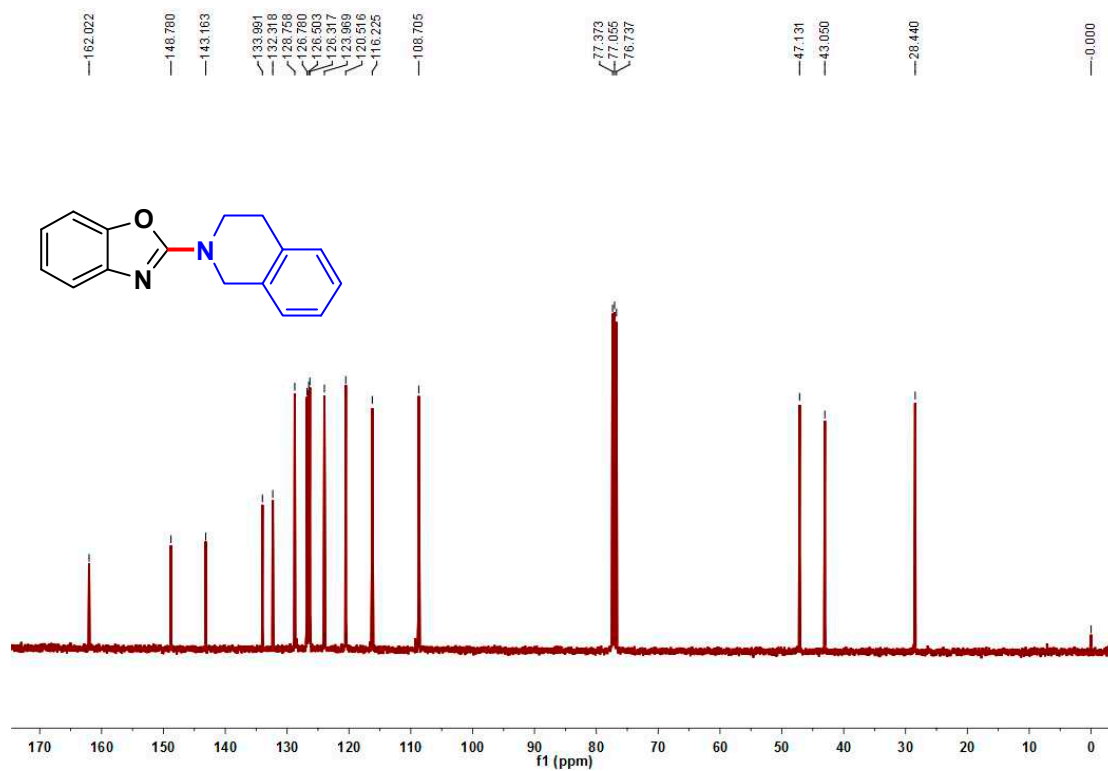
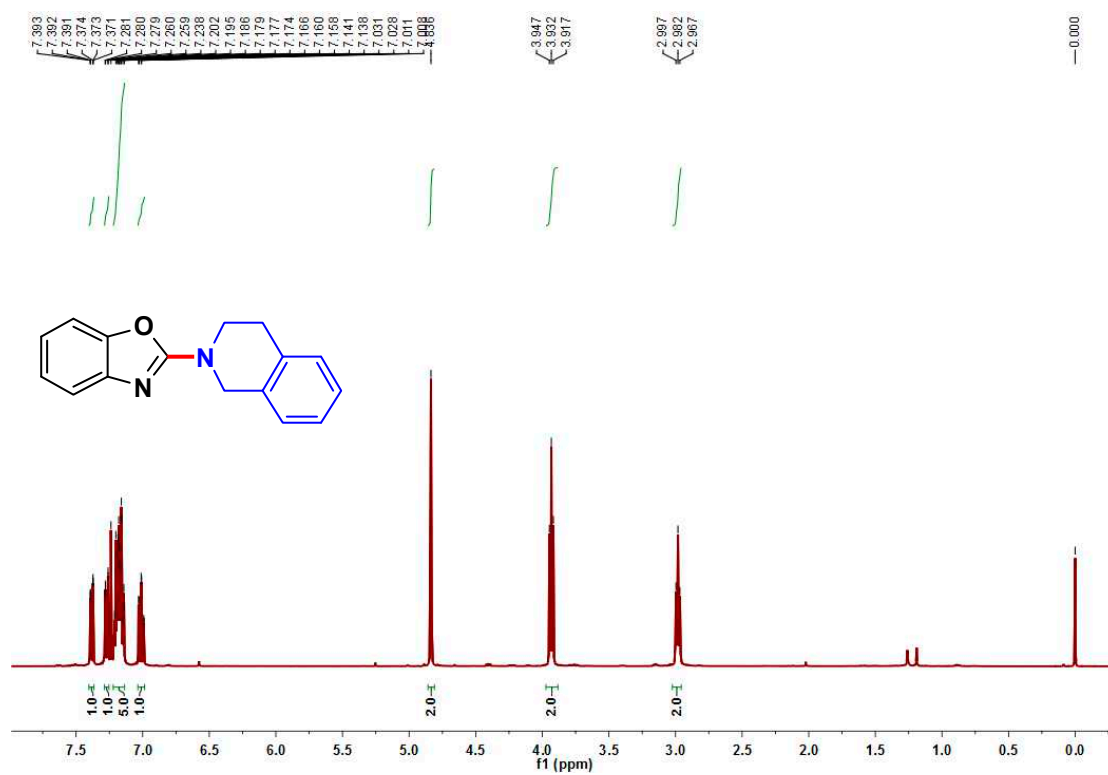
2-(4-Phenylpiperazin-1-yl)benzo[d]oxazole (3h)



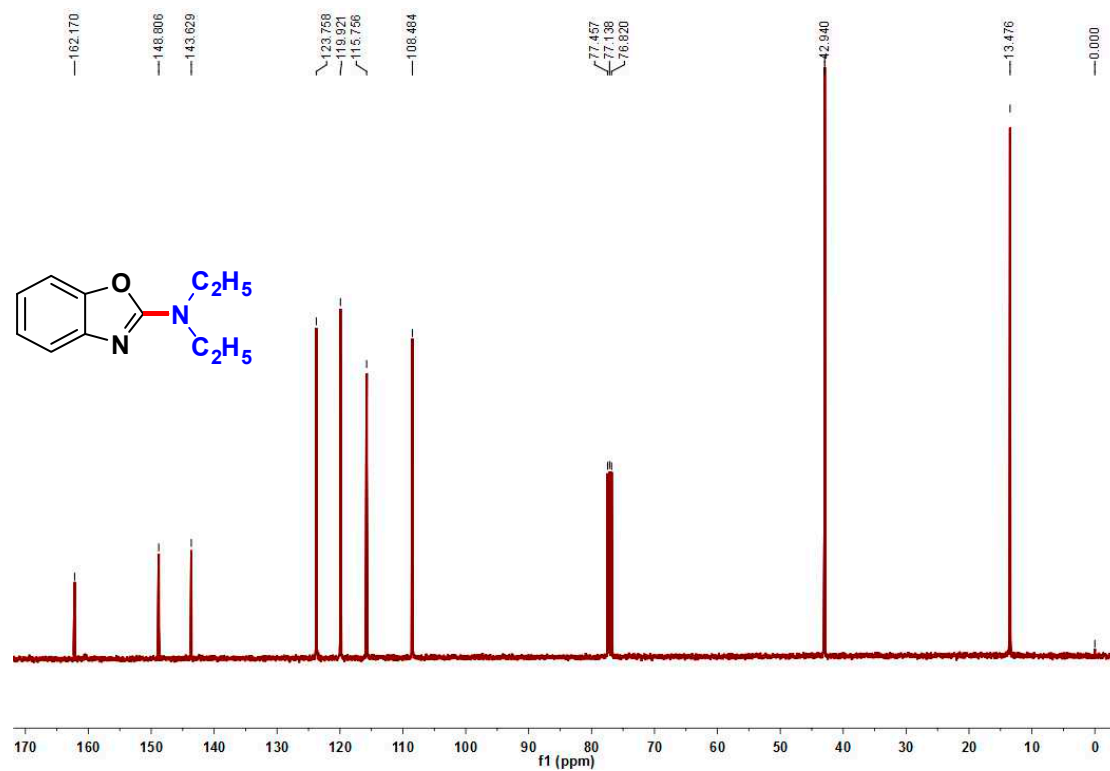
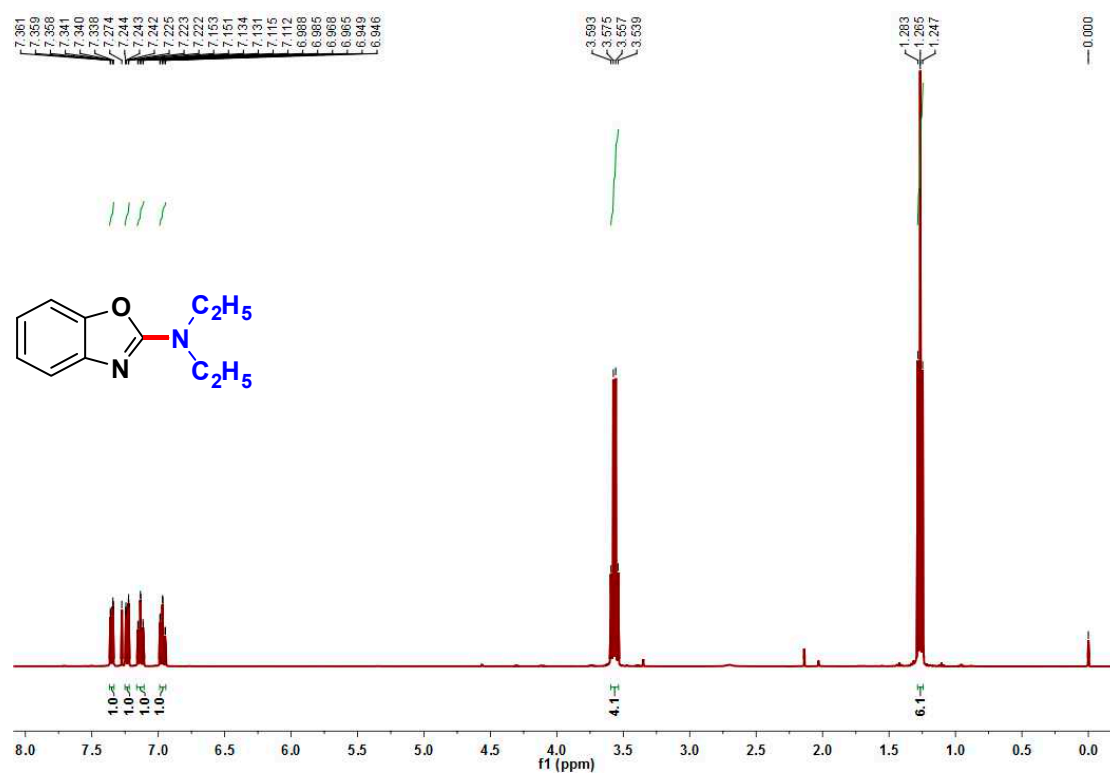
***Tert*-butyl 4-(benzo[d]oxazol-2-yl)piperazine-1-carboxylate (3i)**



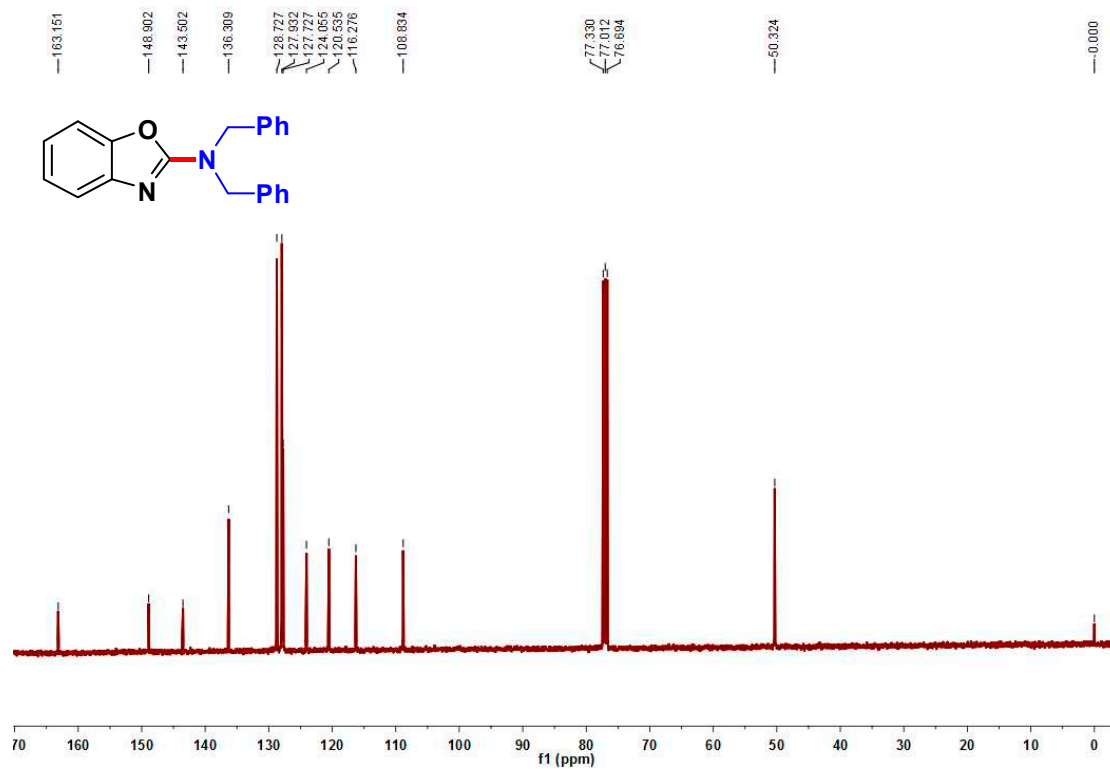
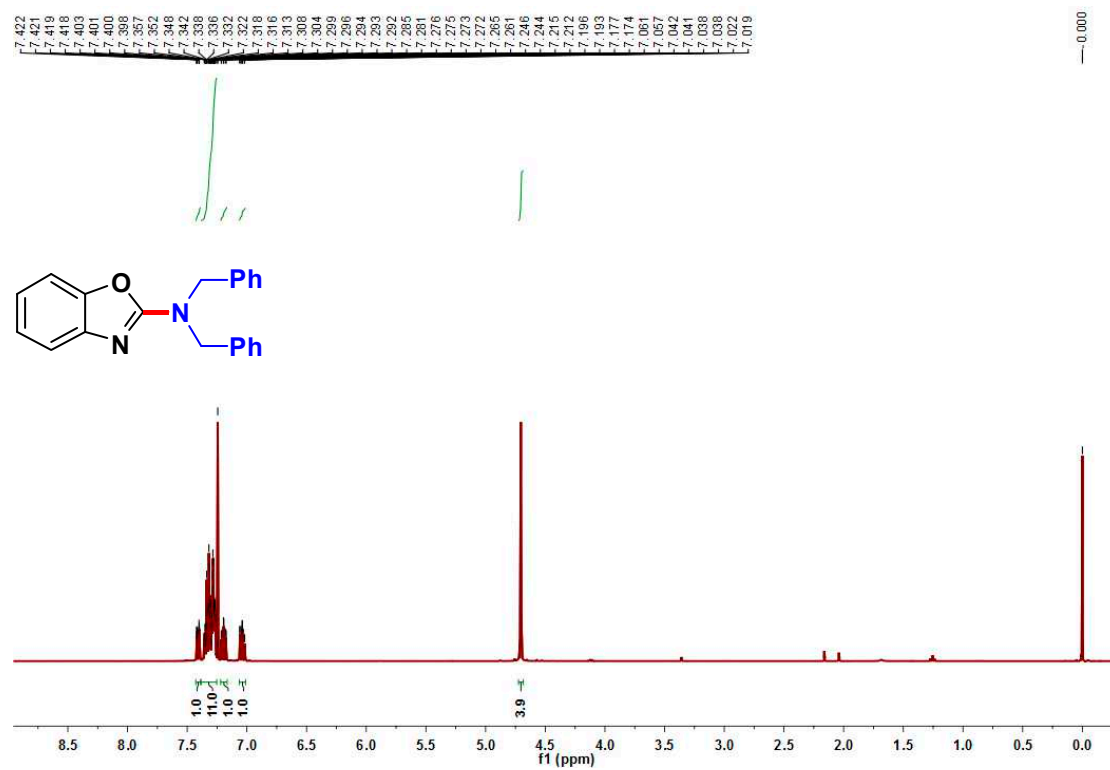
2-(3,4-Dihydroisoquinolin-2(1H)-yl)benzo[d]oxazole (3j)



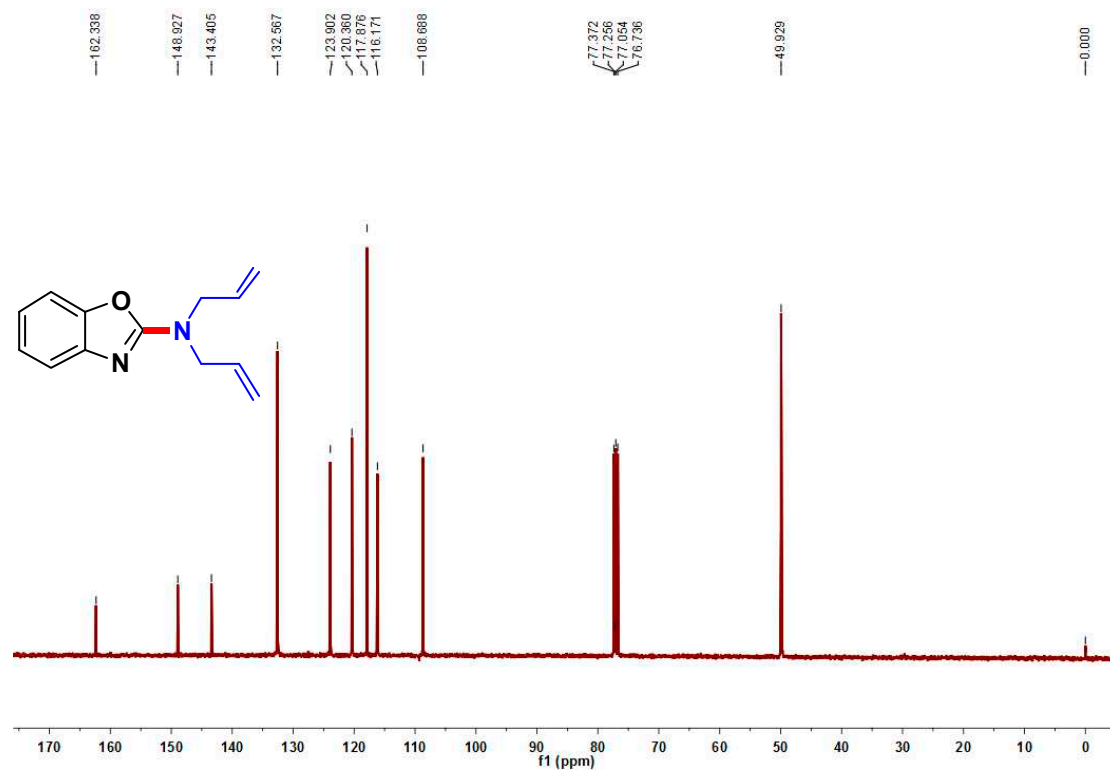
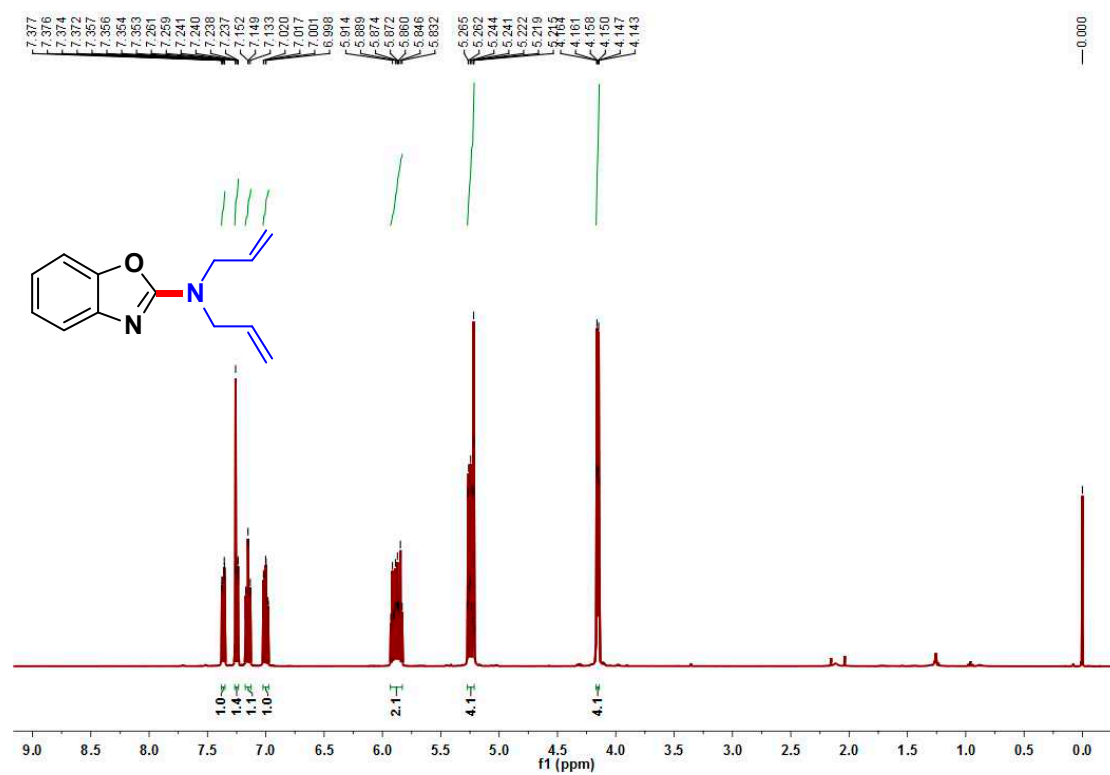
***N,N*-Diethylbenzo[*d*]oxazol-2-amine (3k)**



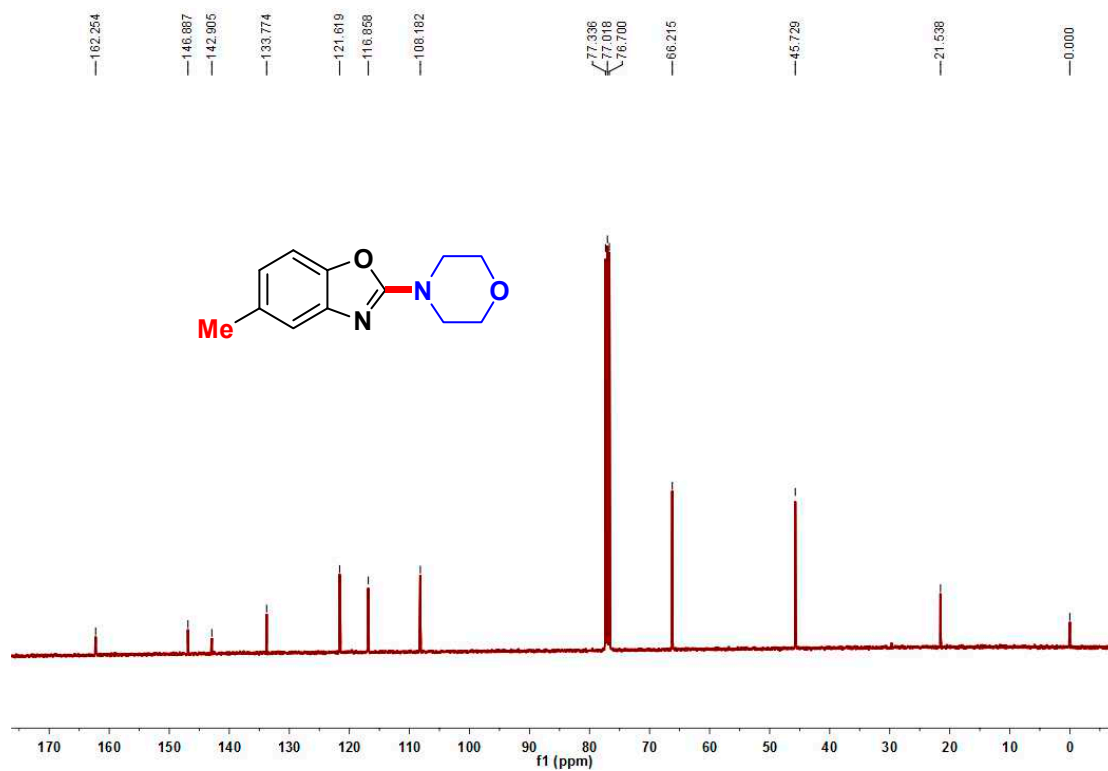
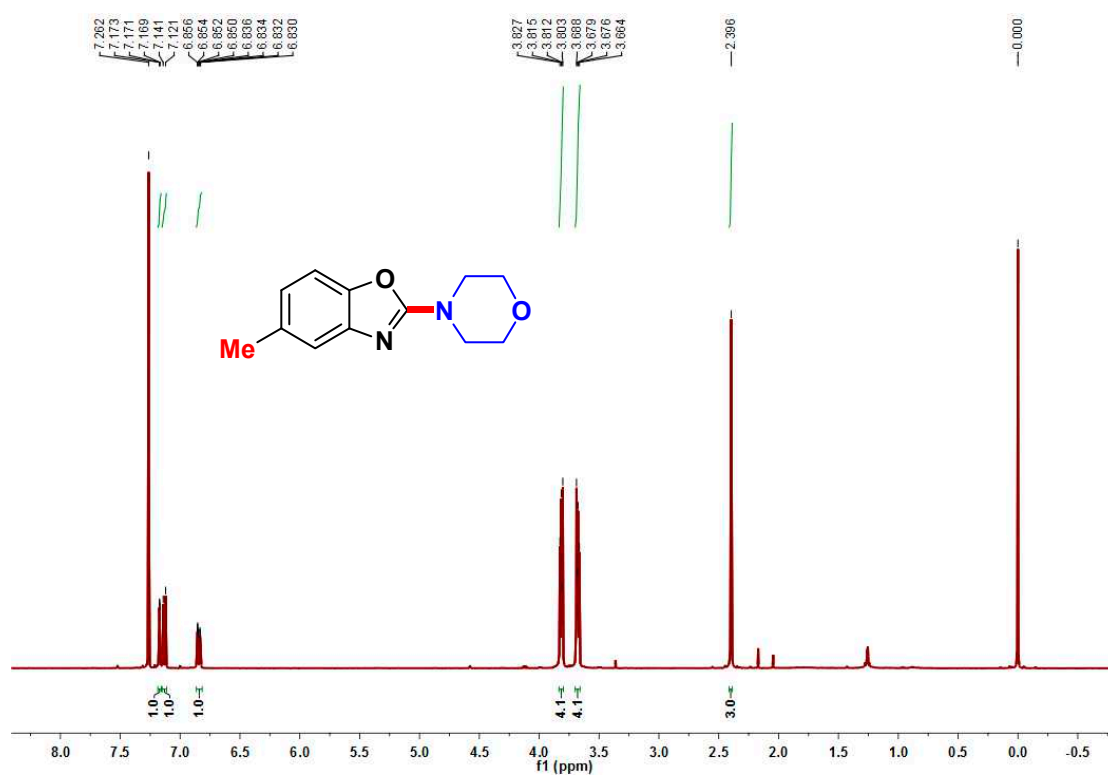
***N,N*-Dibenzylbenzo[d]oxazol-2-amine (3l)**



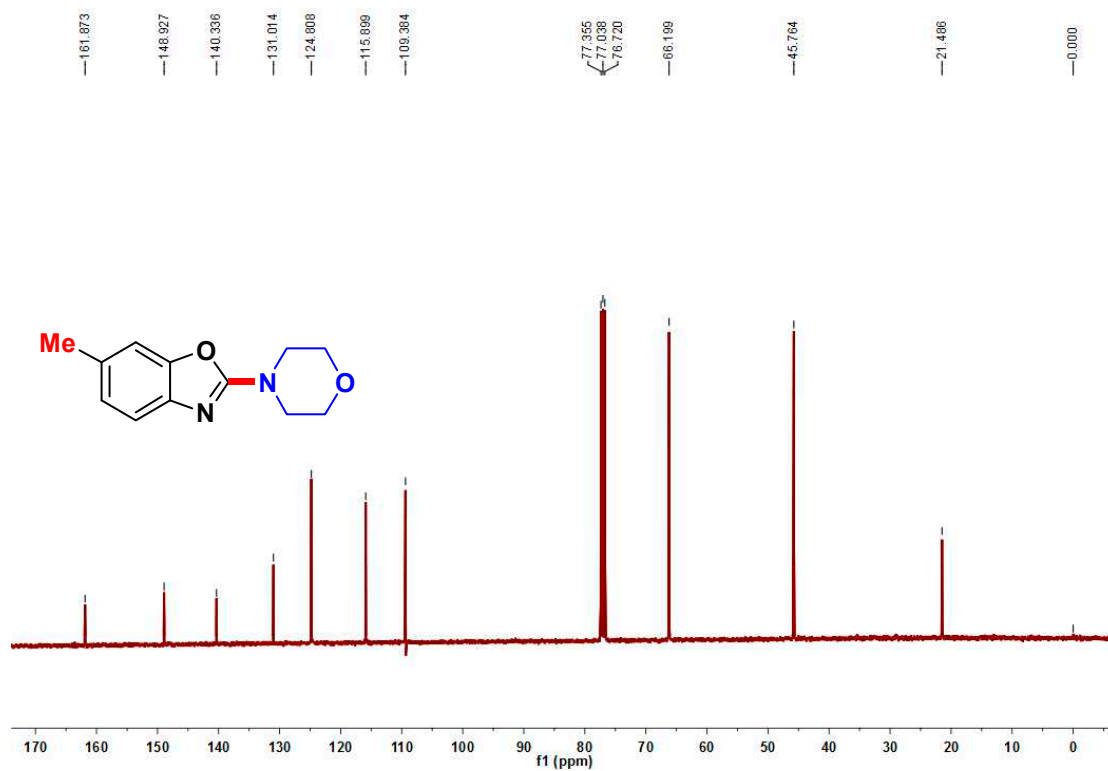
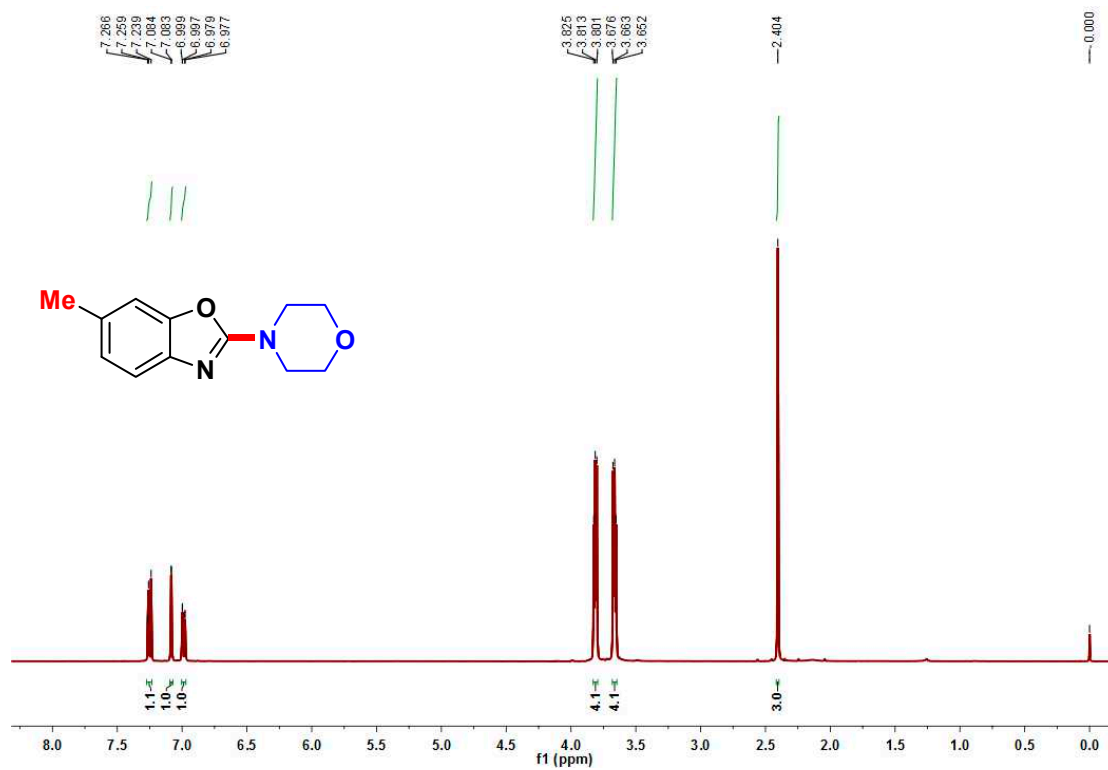
***N,N*-Diallylbenzo[d]oxazol-2-amine (3m)**



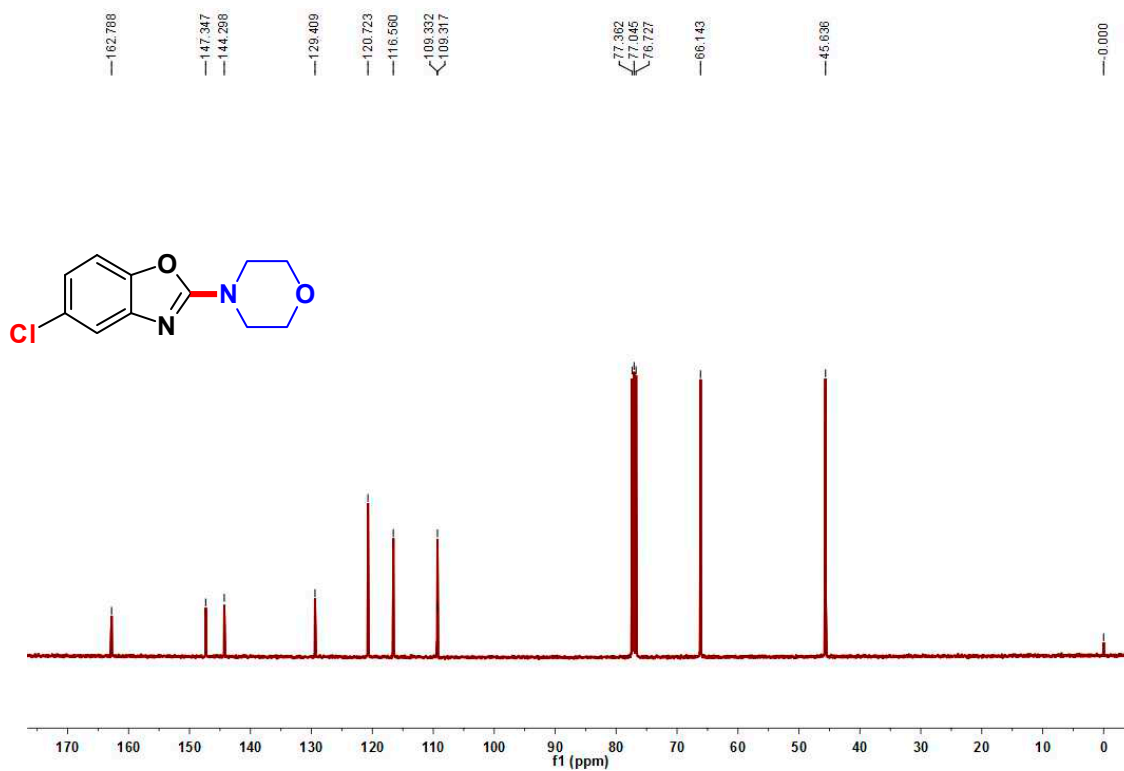
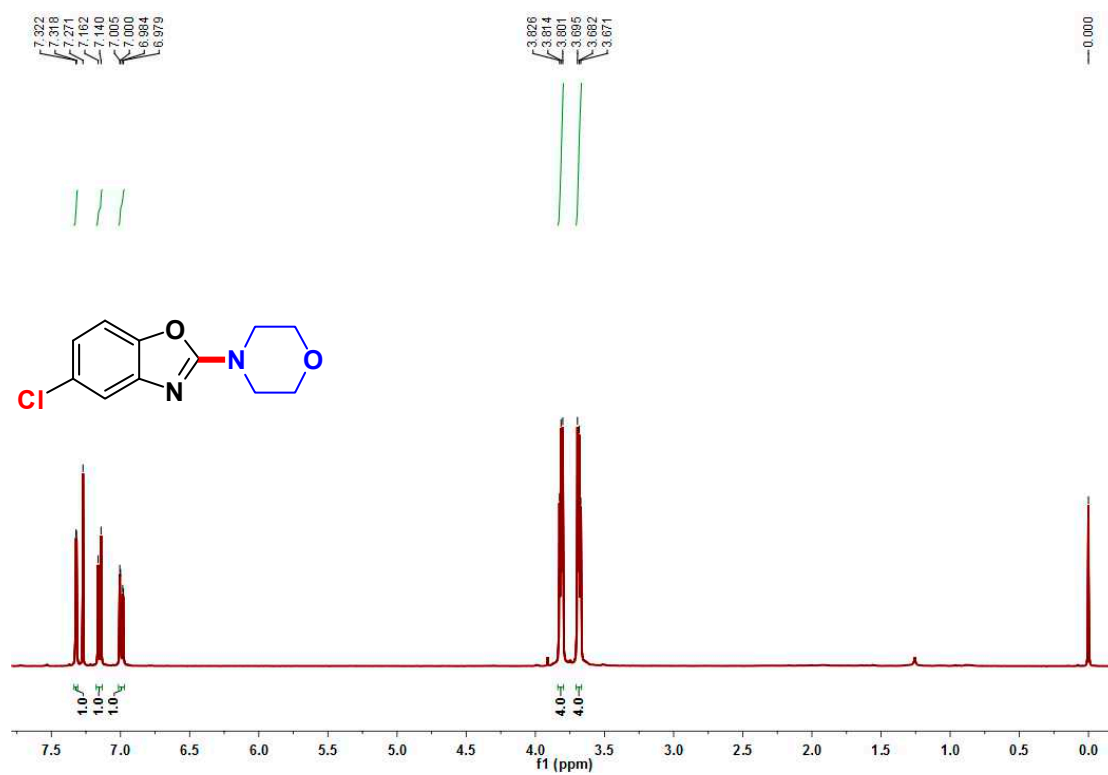
5-Methyl-2-morpholinobenzo[d]oxazole (4a)



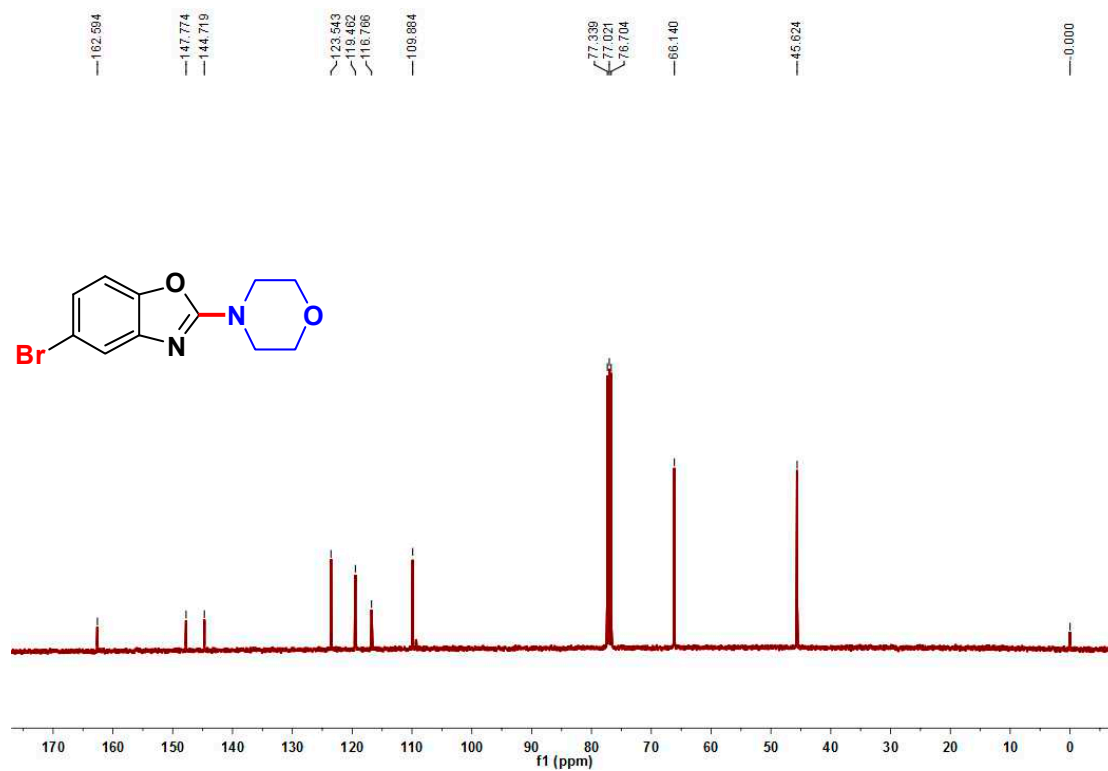
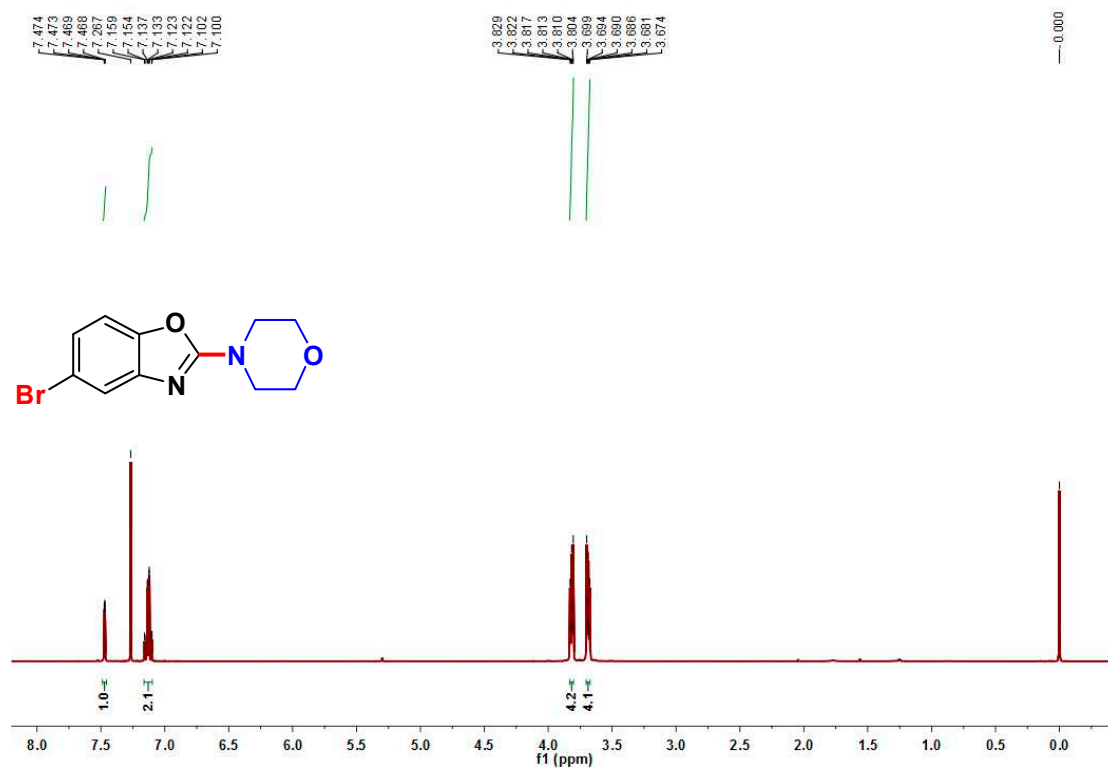
6-Methyl-2-morpholinobenzo[d]oxazole (4b)



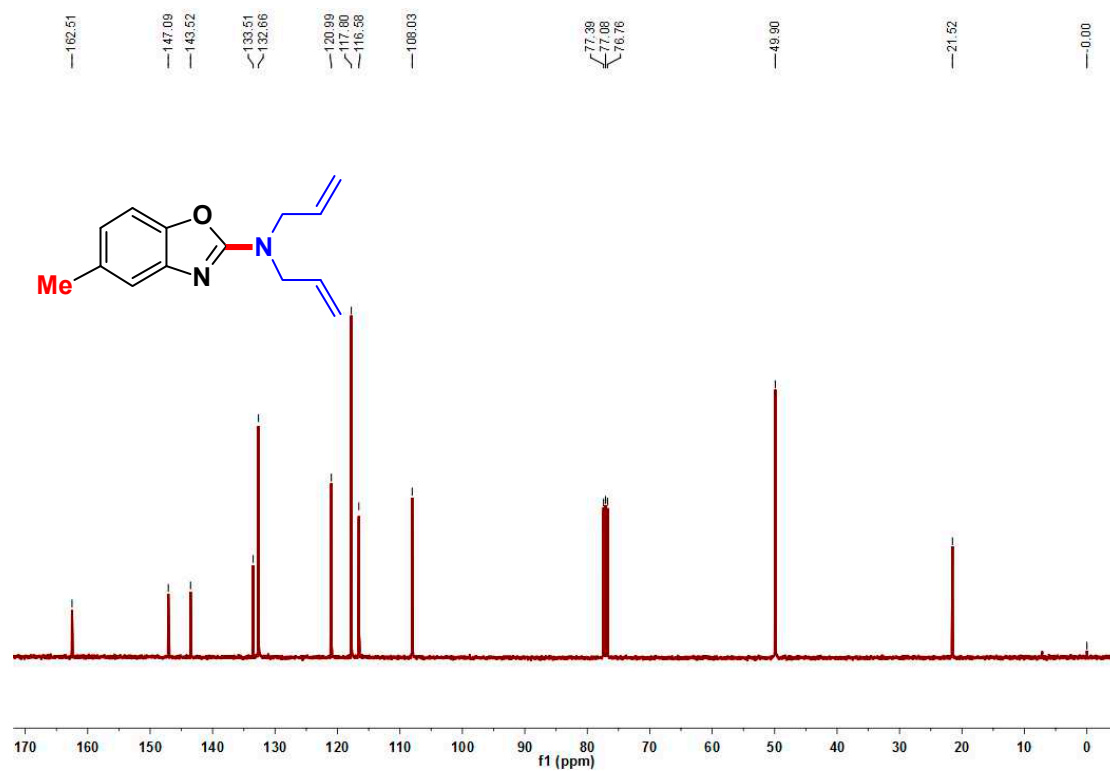
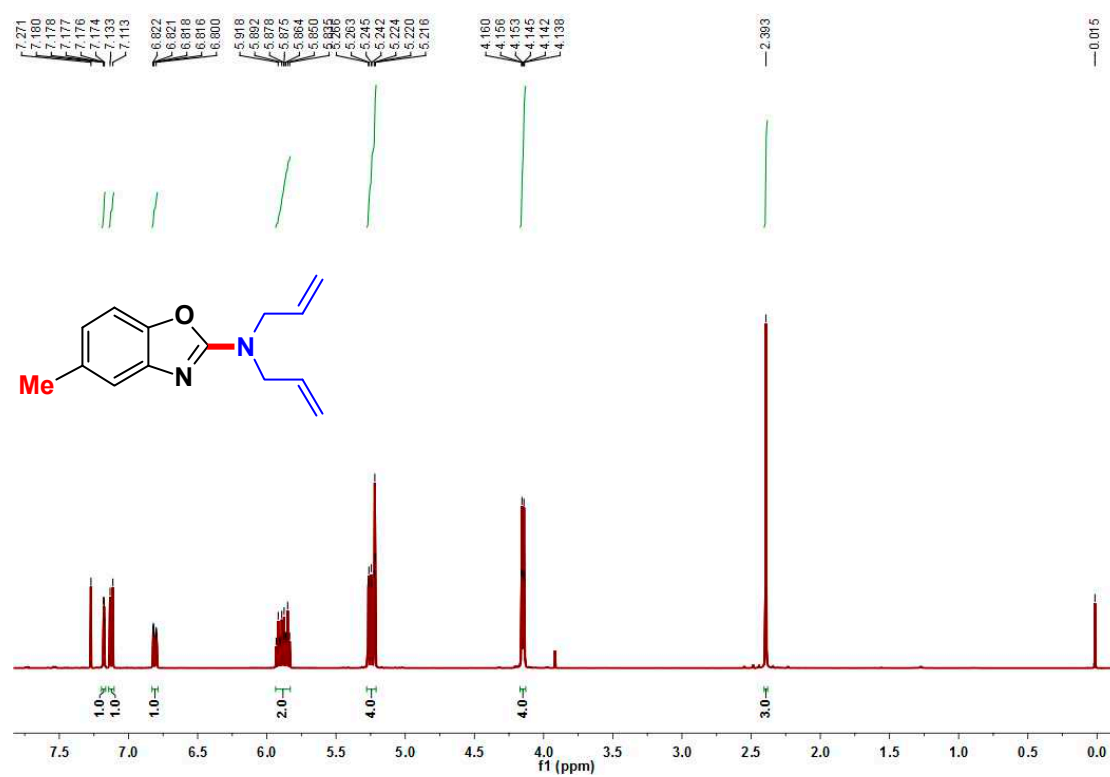
5-Chloro-2-morpholinobenzo[d]oxazole (4c)



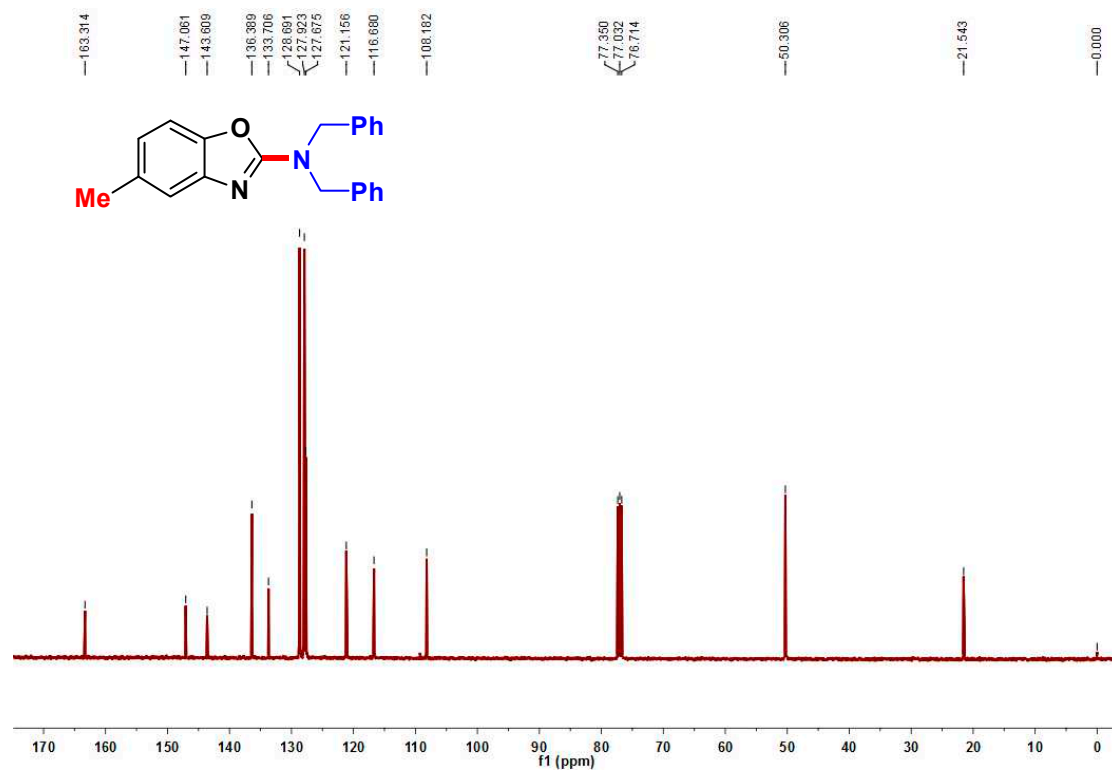
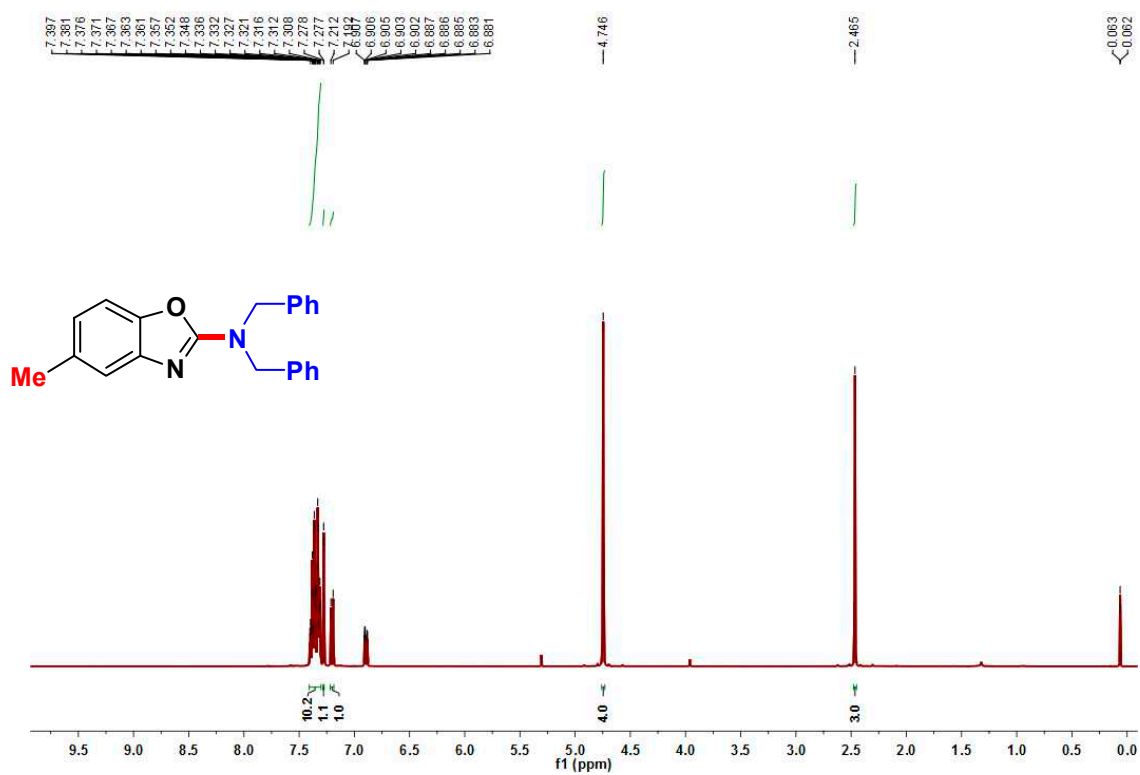
5-Bromo-2-morpholinobenzo[d]oxazole (4d)



N,N-Diallyl-5-methylbenzo[d]oxazol-2-amine (4e)

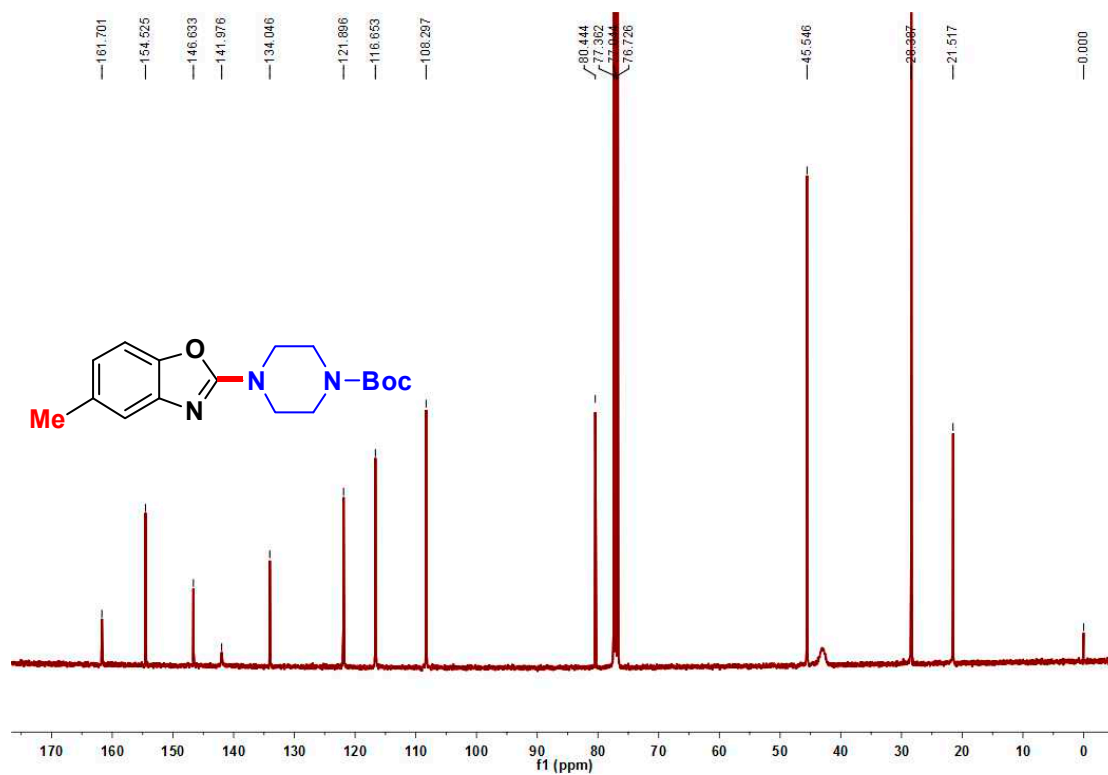
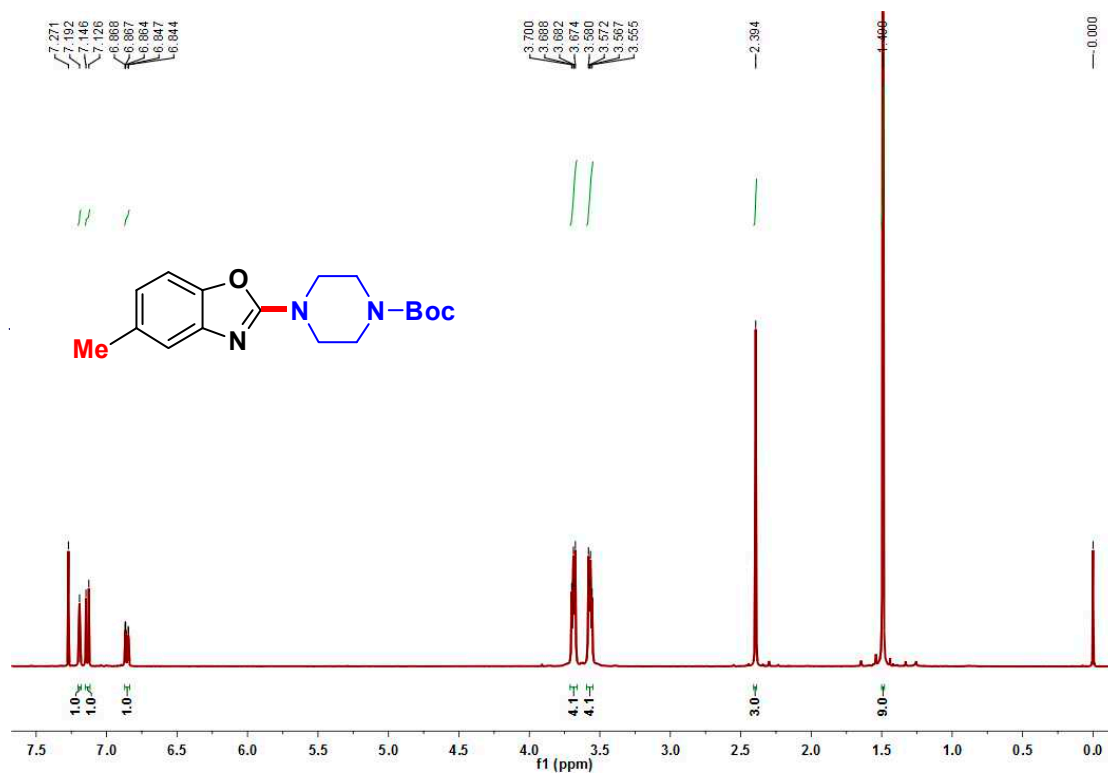


***N,N*-Dibenzyl-5-methylbenzo[d]oxazol-2-amine (4f)**

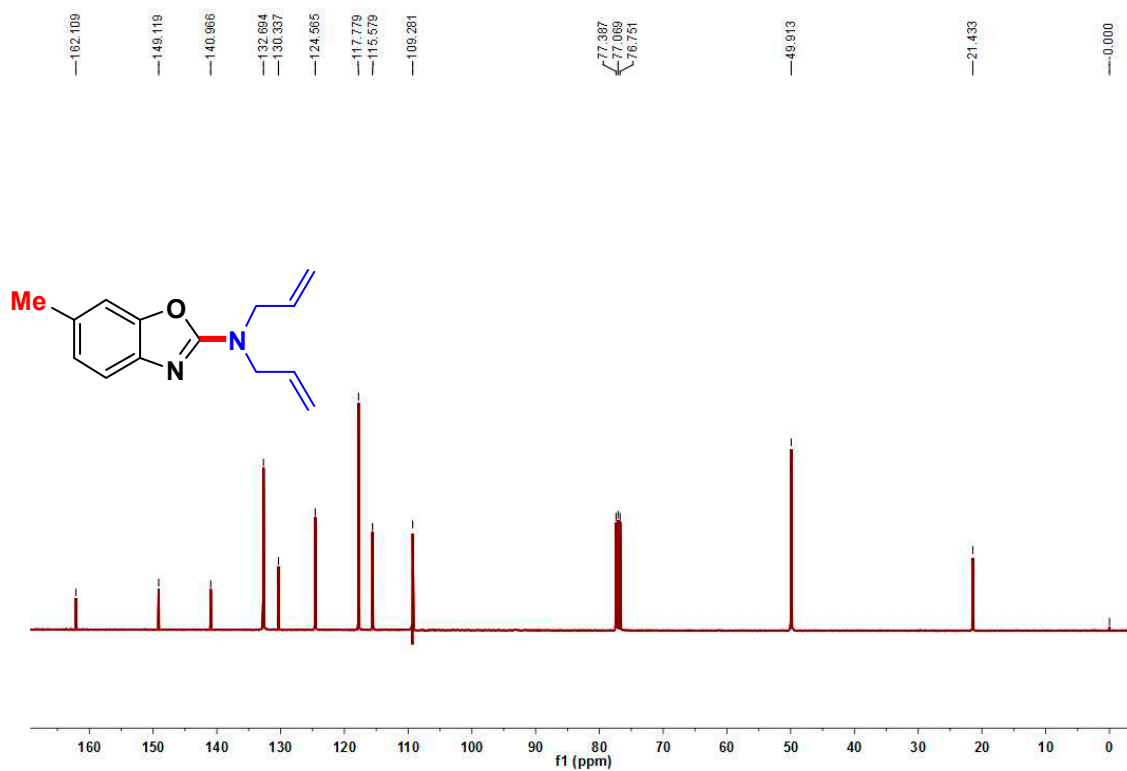
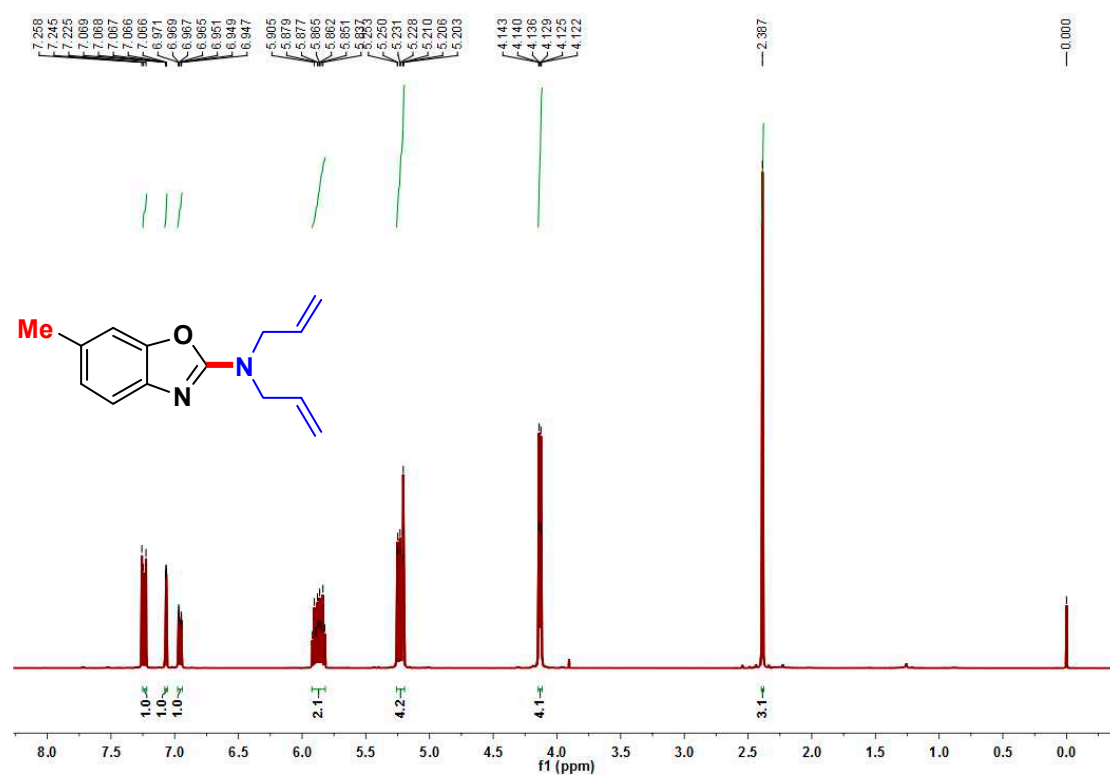


***Tert*-butyl 4-(5-methylbenzo[d]oxazol-2-yl)piperazine-1-carboxylate**

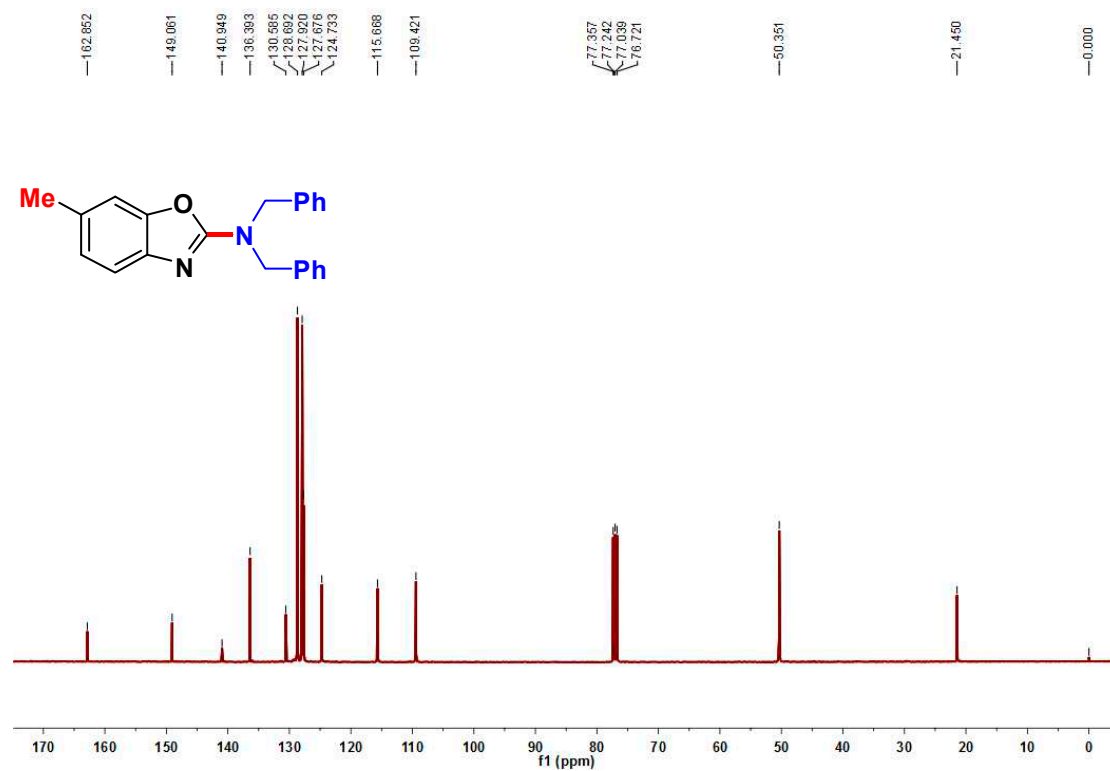
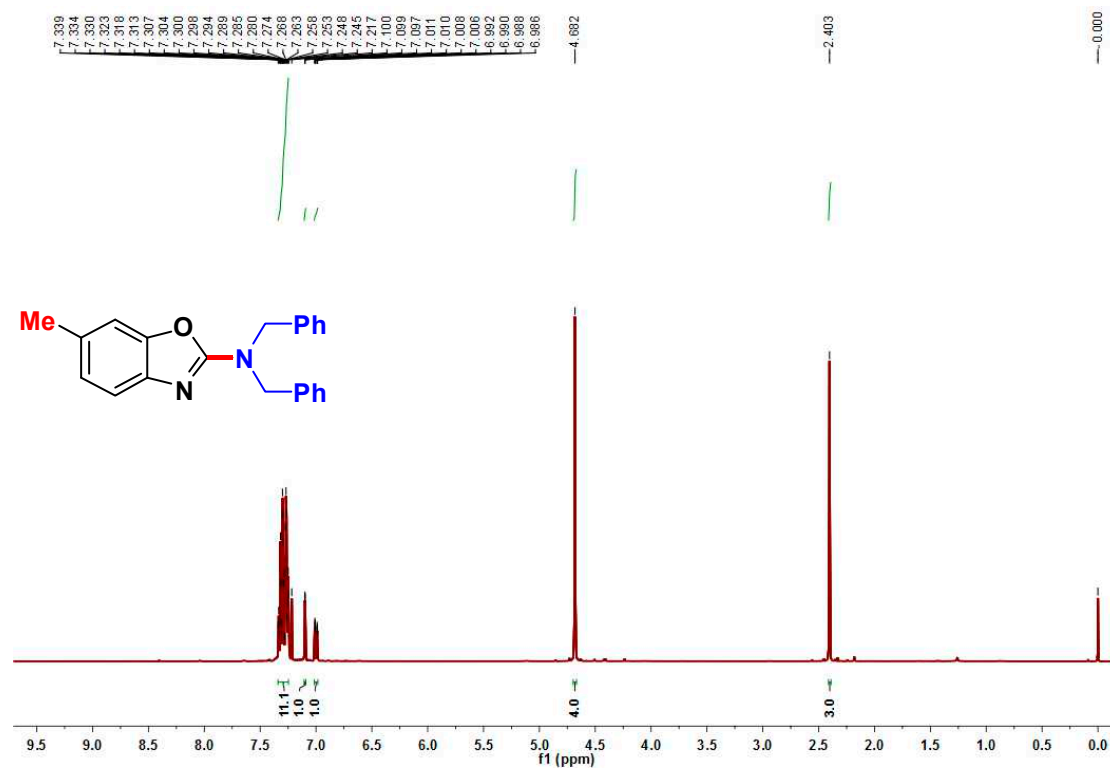
(4g)



***N,N*-Diallyl-6-methylbenzo[d]oxazol-2-amine (4h)**

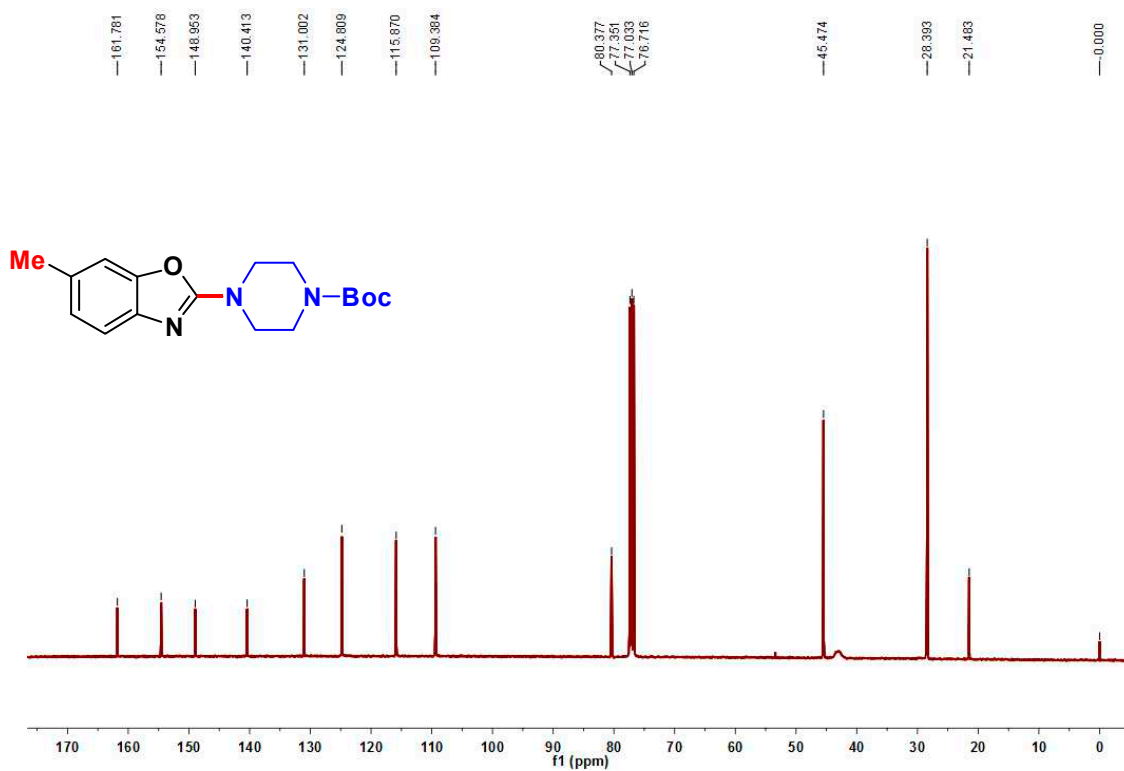
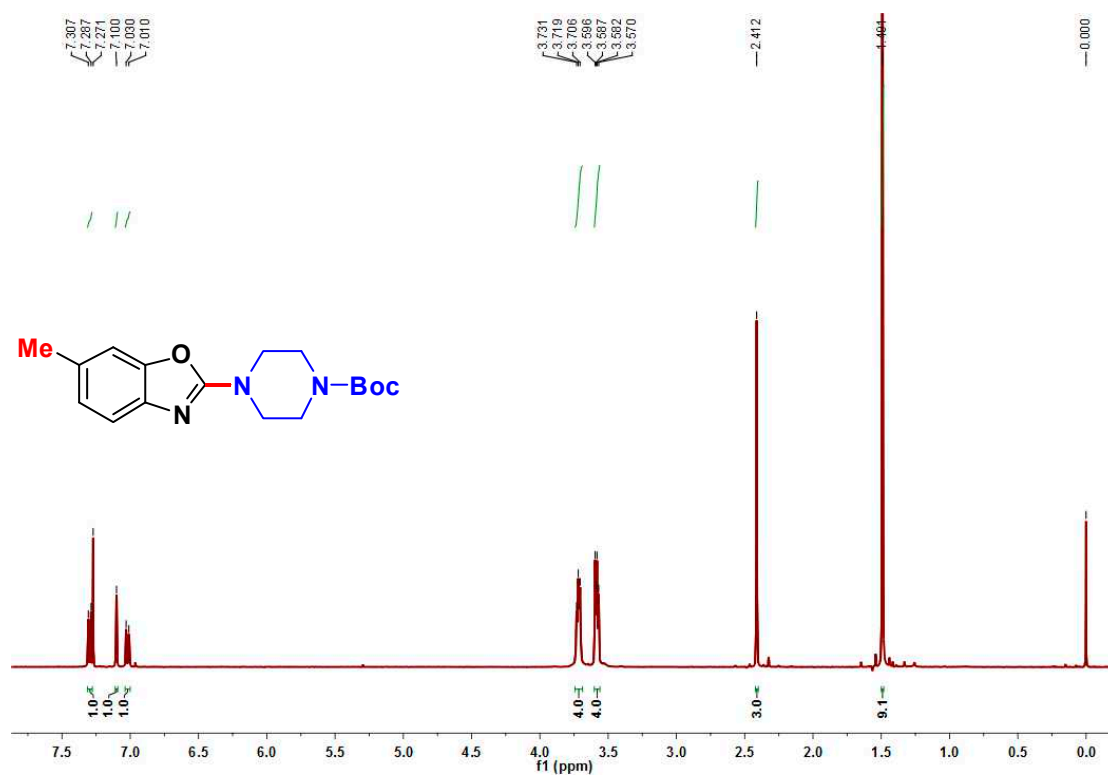


***N,N*-Dibenzyl-6-methylbenzo[d]oxazol-2-amine (4i)**

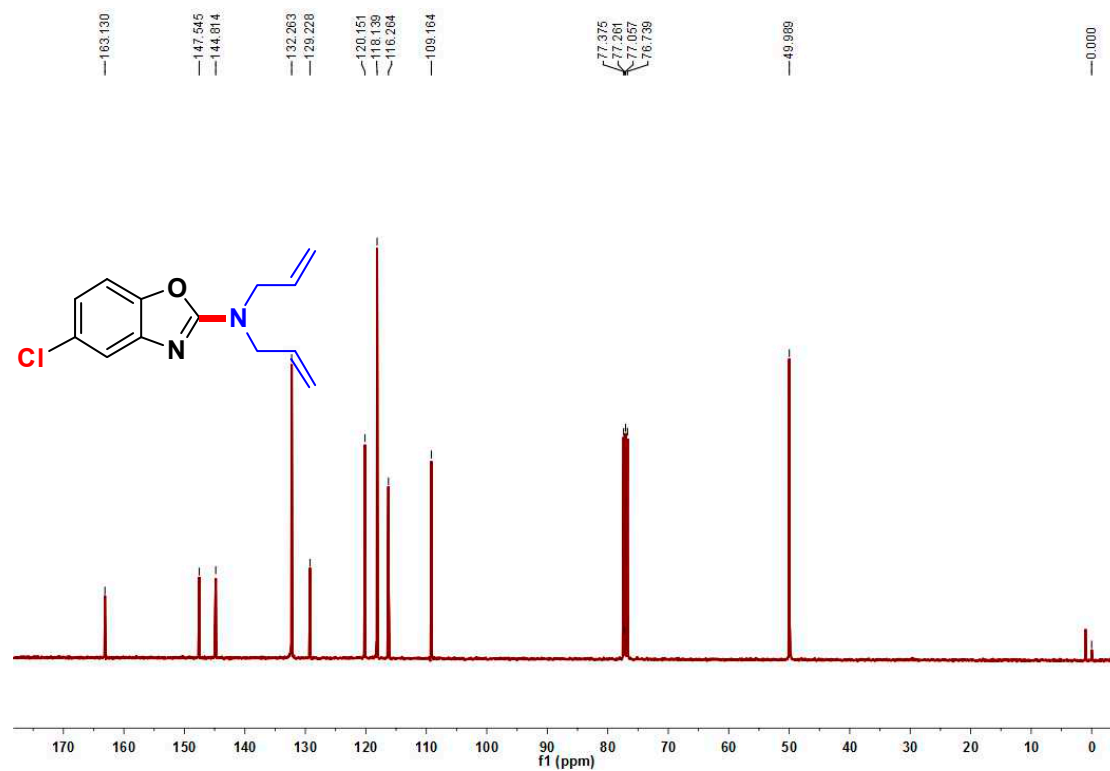
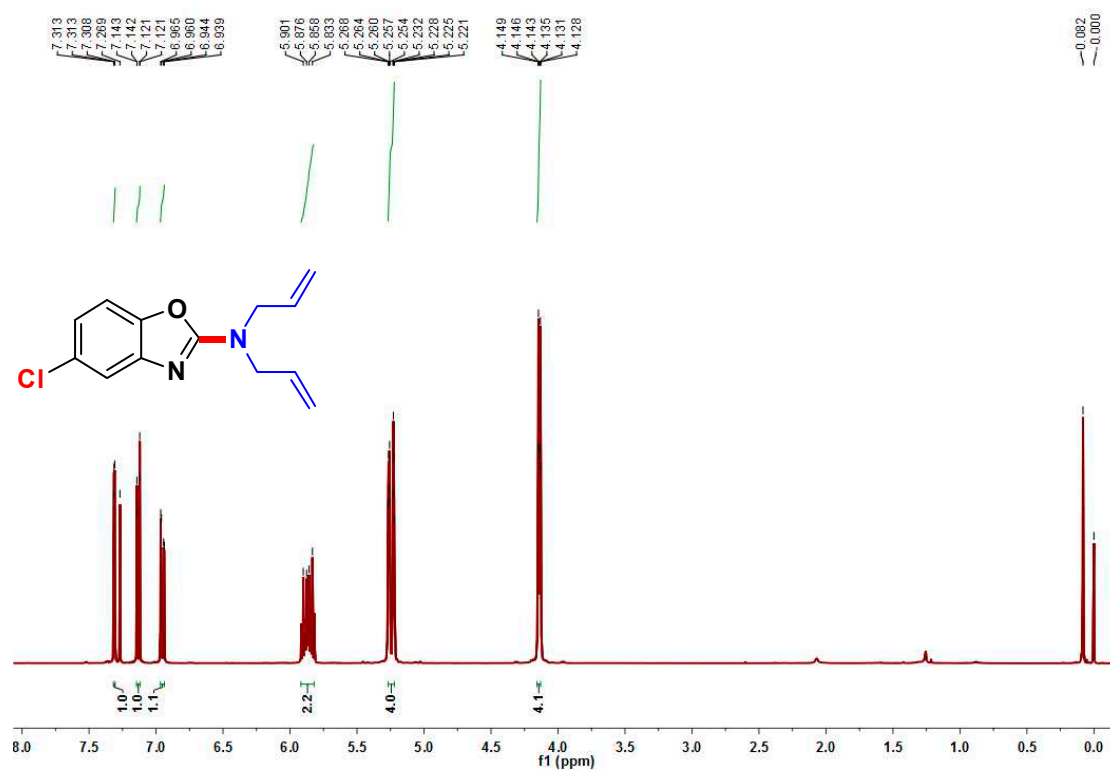


***Tert*-butyl 4-(6-methylbenzo[d]oxazol-2-yl)piperazine-1-carboxylate**

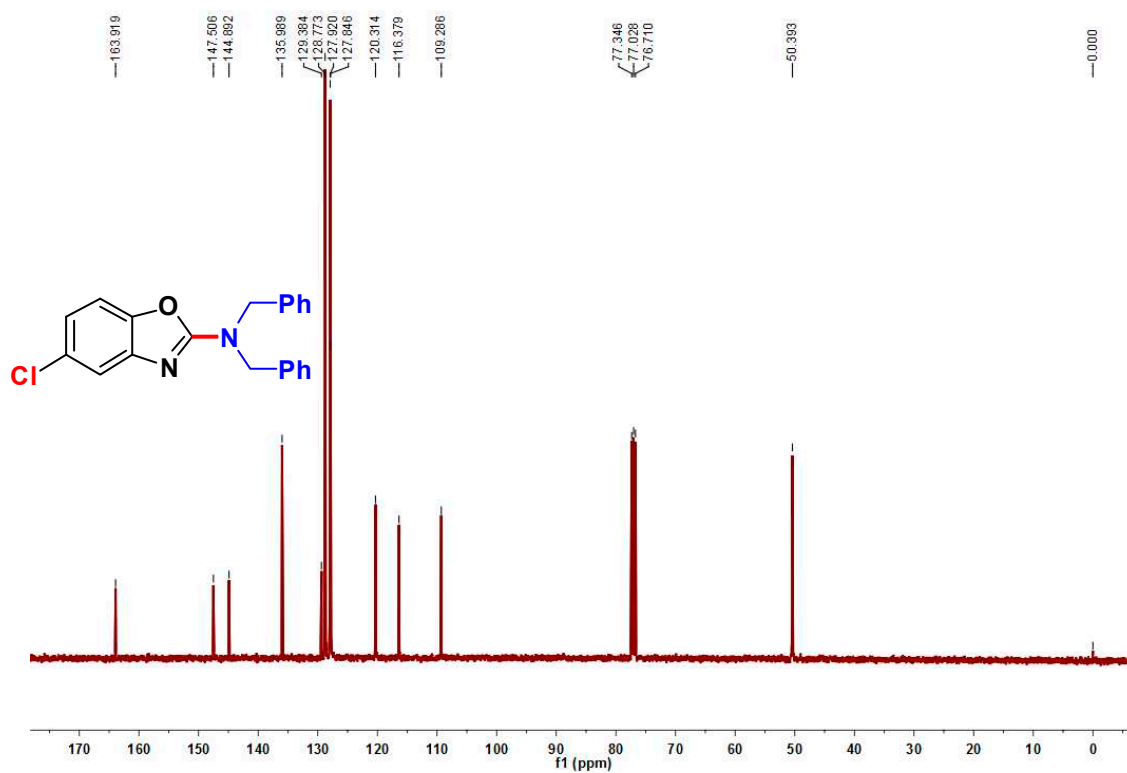
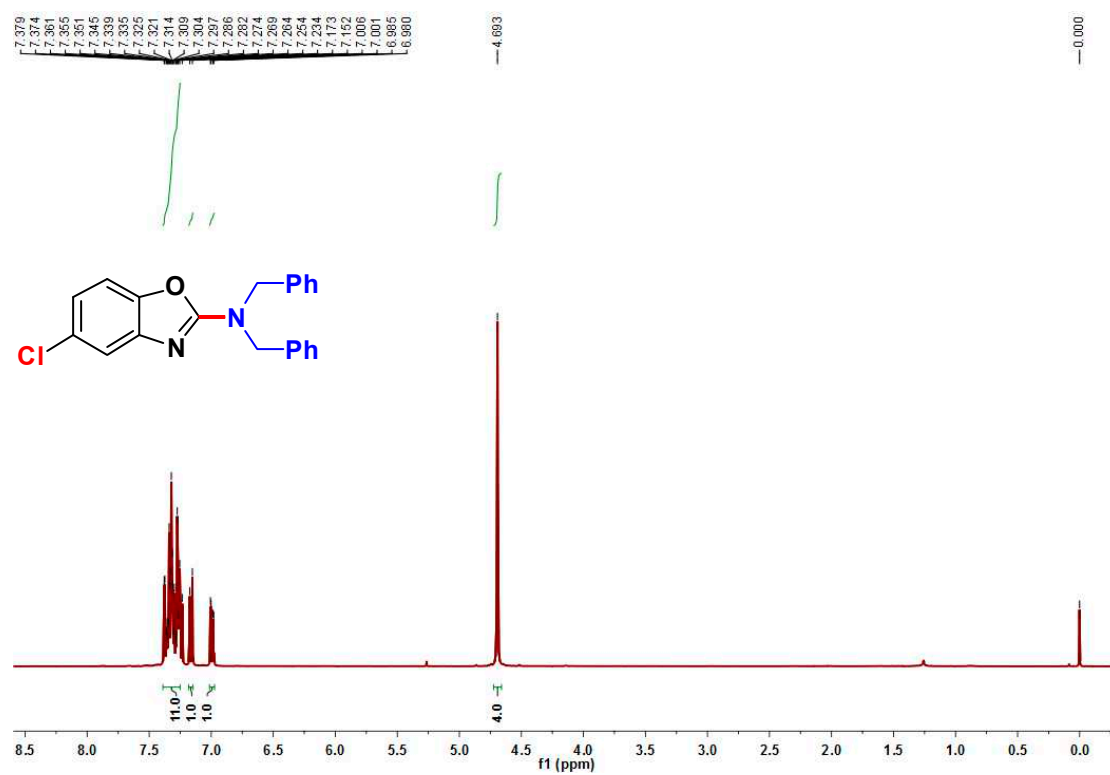
(4j)



***N,N*-Diallyl-5-chlorobenzo[d]oxazol-2-amine (4k)**



***N,N*-Dibenzyl-5-chlorobenzo[d]oxazol-2-amine (4l)**



***Tert*-butyl 4-(5-chlorobenzo[d]oxazol-2-yl)piperazine-1-carboxylate**

(4m)

