Supporting Information

I. General experimental details

1.1. Materials

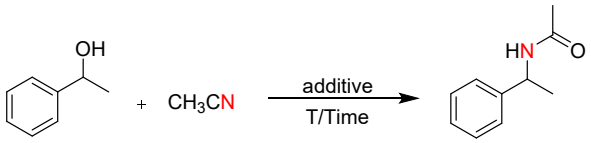
All of the materials were purchased from Beijing Innochem Company, and used as received.

1.2 Characterization

Some products were purified by flashchromatography on silica gel. 1-phenylethyl acetate: analysis of crude reaction mixture was performed on a SHIMADZU 2030 GC System with a HPINNOWAX capillary column (30 m×0.25 mm×0.32 μm) and an FID detector. The following GC temperature program was used: 45°C is maintained for 2 minutes, rises to 280 °C at 15 °C/min, and hold for 5 minutes. Nitrogen was used as a carrier gas. The injector temperature was held at 250 °C. ^{1}H-NMR and ^{13}C-NMR spectra spectra were acquired on a 400 MHz JNM-ECZ400S/L1 instrument. Chemical shifts were reported in ppm relative to a peak of a residual protiated solvent ($CDCl_3$ or DMSO).

1.3 General procedures for typical procedure

Typical procedure: iron iron nitrate as catalyst, add the required amount of primary alcohol bottom (0.5 mmol) and iron nitrate (0.5 mmol, acetonitrile (3 mL) to 10 mL reaction tube (open air), and complete the reaction within 80℃ set time. After cooling to room temperature, wash with 3ml of saturated salt water and the solution is extracted with dichloromethane (3×3 mL). The desired product was purified by column chromatography on 200-300-mesh silica gel using ethyl acetate / petroleum ether as the elution agent. Some of the products are as follows: the combined substrate by GC / FID method, with dodecane as the internal standard for quantitative identification of the standard substrate.

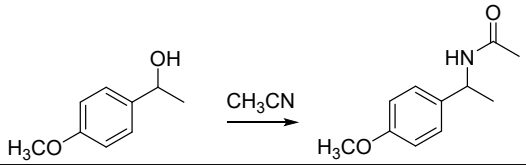


Entry	Additive (mmol)	T/°C	Time (h)	Yield (%)
1	$Fe(NO_3)_3·9H_2O$ (0.025)	80	3	24.7
2	$Fe(NO_3)_3·9H_2O$ (0.05)	80	3	41.6
3	$Fe(NO_3)_3·9H_2O$ (0.075)	80	3	46.2
4	$Fe(NO_3)_3·9H_2O$ (0.1)	50	3	50.5

Condition: substrate (0.5 mmol), CH_3CN (3 mL), GC yield.

Table S1. Optimization of reaction condition

Table S2. Optimization of reaction temperature condition in 1-(4-methoxyphenyl) ethanol [a]



Entry	T/°C	Yield (%)
1	rt	67.4
2	35	64.0
3	50	90.3
4	**65**	**96.5**
5	80	86.5

Condition: substrate (0.5 mmol), CH_3CN (3 mL), $Fe(NO_3)_3·9H_2O$ (0.5 mmol), 3h, GC yield.

II.Data of ^{1}H NMR and ^{13}C NMR of products

N-(1-phenylethyl)acetamide(table 2-1)[1]: white solid. Yield: 96.2%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.39 – 7.19 (m, 5H), 6.15 (s, 1H), 5.10 (p, J = 7.1 Hz, 1H), 1.94 (s, 3H), 1.46 (d, J = 6.9 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.76, 143.10, 128.80, 127.54, 126.31, 77.48, 77.16, 76.84, 49.05, 23.37, 21.77.

N-(1-phenylpropyl)acetamide(table 2-2)[1]: white solid. Yield: 95.1%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.47 – 7.17 (m, 5H), 5.83 (d, J = 7.7 Hz, 1H), 4.86 (q, J = 7.6 Hz, 1H), 1.97 (s, 3H), 1.84 – 1.77 (m, 1H), 0.86 (t, J = 7.4 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.68, 142.08, 128.74, 127.46, 126.75, 77.45, 77.13, 76.81, 55.10, 29.12, 23.49, 10.81.

N-(1-phenylpentyl)acetamide(table 2-3)[2]: white solid. Yield: 93.5%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.44 – 7.20 (m, 5H), 5.85 (d, J = 8.5 Hz, 1H), 4.92 (q, J = 7.6 Hz, 1H), 1.96 (s, 3H), 1.82

– 1.70 (m, 2H), 1.33 – 1.17 (m, 4H), 0.84 (t, *J* = 7.1 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.35, 140.26, 137.19, 129.44, 126.25, 77.48, 77.16, 76.84, 48.66, 23.53, 21.76, 21.14.

N-(1,2,3,4-tetrahydronaphthalen-1-yl)acetamide(table 2-4)[1]: white solid. Yield: 85.7%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.26 – 7.05 (m, 4H), 5.75 (d, *J* = 8.5 Hz, 1H), 5.15 (h, *J* = 4.0, 3.2 Hz, 1H), 2.76 (dtd, *J* = 9.5, 6.3, 2.8 Hz, 2H), 2.07 – 1.93 (m, 1H), 1.98 (s, 3H), 1.84 – 1.76 (m, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.59, 142.50, 128.77, 127.45, 126.72, 77.48, 77.16, 76.84, 53.67, 36.00, 28.47, 23.53, 22.57, 14.05.

N-(2-methyl-1-phenylpropyl)acetamide(table 2-5)[3]: white solid. Yield: 87.5%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.40 – 7.20 (m, 5H), 6.00 (d, *J* = 9.2 Hz, 1H), 4.74 (dd, *J* = 9.1, 8.1 Hz, 1H), 2.06 – 2.00 (m, 1H), 1.99 (s, 3H), 0.96 (d, *J* = 6.7 Hz, 3H), 0.81 (d, *J* = 6.7 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.72, 141.67, 128.56, 127.25, 127.09, 77.48, 77.16, 76.84, 59.34, 33.48, 23.52, 19.84, 18.99.

N-(2-phenylpropan-2-yl)acetamide(table 2-6)[7]: white solid. Yield: 77.1%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.41 – 7.18 (m, 5H), 5.88 (s, 1H), 1.96 (s, 3H), 1.69 (s, 6H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.50, 146.90, 128.49, 126.77, 124.84, 77.48, 77.16, 76.84, 56.05, 29.17, 24.37.

N-(1,2-diphenylethyl)acetamide(table 2-7)[8]: white solid. Yield: 43.1%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.32 – 7.12 (m, 8H), 7.03 (d, *J* = 7.2 Hz, 2H), 5.90 (d, *J* = 8.0 Hz, 1H), 5.26 (q, *J* = 7.4 Hz, 1H), 3.09 (d, *J* = 7.1 Hz, 2H), 1.92 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.60, 141.50, 137.34, 129.39, 128.67, 128.44, 127.53, 126.73, 77.45, 77.14, 76.82, 54.55, 42.58, 23.43.

N-(1-(4-methoxyphenyl)ethyl)acetamide(table 2-8)[3]: white solid. Yield: 96.5%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.29 – 7.15 (m, 2H), 6.90 – 6.77 (m, 2H), 6.09 (d, *J* = 8.1 Hz, 1H), 5.04 (p, *J* = 7.1 Hz, 1H), 3.77 (s, 3H), 1.93 (s, 3H), 1.43 (d, *J* = 6.9 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.22, 158.84, 135.49, 127.45, 114.01, 77.48, 77.16, 76.84, 55.34, 48.22, 23.42, 21.71.

N-(1-(2-methoxyphenyl)ethyl)acetamide(table 2-9)[3]: white solid. Yield: 85.6%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.30 – 7.13 (m, 2H), 6.97 – 6.81 (m, 2H), 6.42 (d, *J* = 8.9 Hz, 1H), 5.24 (dq, *J* = 8.7, 6.9 Hz, 1H), 3.86 (s, 3H), 1.94 (s, 3H), 1.42 (d, *J* = 6.9 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 168.91, 157.16, 130.95, 128.56, 128.19, 121.01, 111.18, 77.48, 77.16, 76.84, 55.44, 47.46, 23.73, 21.54.

N-(1-(3-methoxyphenyl)ethyl)acetamide(table 2-10)[2]: white solid. Yield: 83.4%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.25 (t, *J* = 7.9 Hz, 1H), 6.92 – 6.76 (m, 3H), 5.82 (s, 1H), 5.08 (hept, *J* = 7.9 Hz,

1H), 3.80 (s, 3H), 1.97 (s, 3H), 1.46 (dd, *J* = 6.9, 0.8 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.24, 159.96, 144.96, 129.88, 118.54, 112.59, 112.42, 77.48, 77.16, 76.84, 55.37, 48.92, 23.59, 21.85.

N-(1-(naphthalen-2-yl)ethyl)acetamide(table 2-11)[1]: white solid. Yield: 97.3%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.83 – 7.73 (m, 4H), 7.54 – 7.37 (m, 3H), 6.02 (s, 1H), 5.28 (p, *J* = 7.2 Hz, 1H), 2.00 (s, 3H), 1.56 (d, *J* = 6.9 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.62, 140.53, 133.41, 132.82, 128.61, 127.98, 127.72, 126.37, 126.03, 124.84, 124.66, 77.48, 77.16, 76.84, 49.00, 23.51, 21.71.

N-(1-(naphthalen-1-yl)ethyl)acetamide(table 2-12)[3]: white solid. Yield: 90.2%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 8.09 (d, *J* = 8.0 Hz, 1H), 7.89 – 7.83 (m, 1H), 7.79 (d, *J* = 7.3 Hz, 1H), 7.61 – 7.38 (m, 4H), 5.93 – 5.89 (m, 1H), 5.84 (s, 1H), 1.95 (s, 3H), 1.66 (d, *J* = 6.5 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.12, 138.30, 134.03, 131.23, 128.89, 128.52, 126.72, 126.01, 125.30, 123.55, 122.67, 77.48, 77.16, 76.84, 44.73, 23.46, 20.73.

N-(1-([1,1'-biphenyl]-4-yl)ethyl)acetamide(table 2-13)[1]:white solid. Yield: 95.6%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.55 (dd, *J* = 8.5, 2.2 Hz, 4H), 7.49 – 7.29 (m, 5H), 5.86 (s, 1H), 5.16 (p, *J* = 7.1 Hz, 1H), 1.99 (s, 3H), 1.51 (d, *J* = 6.9 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.33, 142.32, 140.84, 140.48, 128.91, 127.54, 127.44, 127.19, 126.77, 77.48, 77.16, 76.84, 48.64, 23.59, 21.82.

N-(1-(p-tolyl)ethyl)acetamide(table 2-14)[2]:white solid. Yield: 97.1%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.44 – 7.20 (m, 5H), 5.85 (d, *J* = 8.5 Hz, 1H), 4.92 (q, *J* = 7.6 Hz, 1H), 1.96 (s, 2H), 1.88 – 1.68 (m, 2H), 1.34 – 1.16 (m, 4H), 0.84 (t, *J* = 7.1 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.59, 142.50, 128.77, 127.45, 126.72, 77.48, 77.16, 76.84, 53.67, 36.00, 28.47, 23.53, 22.57, 14.05.

N-(1-(o-tolyl)ethyl)acetamide(table 2-15)[3]:white solid. Yield: 93.7%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.54 – 7.02 (m, 4H), 5.79 (s, 1H), 5.35 – 5.23 (m, 1H), 2.37 (s, 3H), 1.96 (s, 3H), 1.46 (d, *J* = 6.8 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.26, 141.05, 136.09, 130.85, 127.47, 126.38, 124.75, 77.45, 77.14, 76.82, 45.45, 23.36, 21.07, 19.24.

N-(1-(m-tolyl)ethyl)acetamide(table 2-16)[2]: white solid. Yield: 95.2%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.30 – 7.18 (m, 1H), 7.15 – 7.02 (m, 3H), 5.89 (s, 1H), 5.07 (p, *J* = 7.2 Hz, 1H), 2.34 (s, 3H), 1.97 (s, 3H), 1.46 (d, *J* = 6.9 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.43, 143.16, 138.45, 128.71, 128.27, 127.15, 123.23, 77.48, 77.16, 76.84, 48.95, 23.52, 21.84, 21.56.

N-(1-(4-chlorophenyl)ethyl)acetamide(table 2-17)[2]: white solid. Yield: 61.3%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.29 (d, *J* = 8.5 Hz, 2H), 7.23 (d, *J* = 8.5 Hz, 2H), 5.86 (s, 1H), 5.07 (p, *J* = 7.2 Hz, 1H), 1.98 (s, 3H), 1.45 (d, *J* = 7.0 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.49, 141.84, 133.18, 128.88, 127.70, 77.48, 77.16, 76.84, 48.36, 23.47, 21.80.

N-benzhydrylacetamide(table 2-19)[2]: white solid. Yield: 90.1%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.35 – 7.30 (m, 4H), 7.29 – 7.26 (m, 2H), 7.24 – 7.20 (m, 4H), 6.25 (d, *J* = 8.0 Hz, 1H), 6.18 (d, *J* = 8.3 Hz, 1H), 2.05 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.31, 141.62, 128.79, 127.60, 127.55, 77.48, 77.16, 76.84, 57.12, 23.45.

N-((4-methoxyphenyl)(phenyl)methyl)acetamide(table 2-20)[4]: white solid. Yield: 88.7%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.35 – 7.19 (m, 5H), 7.17 – 7.09 (m, 2H), 6.87 – 6.83 (m, 2H), 6.19 (d, *J* = 8.1 Hz, 1H), 6.12 (d, *J* = 8.2 Hz, 1H), 3.78 (s, 3H), 2.04 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.21, 159.03, 141.84, 133.88, 128.78, 128.73, 127.49, 127.40, 114.15, 77.48, 77.16, 76.84, 56.54, 55.42, 23.49.

N-((4-chlorophenyl)(phenyl)methyl)acetamide(table 2-21)[4]: white solid. Yield: 76.4%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.35 – 7.25 (m, 5H), 7.21 – 7.13 (m, 4H), 6.21 (q, *J* = 8.1 Hz, 2H), 2.03 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.40, 141.11, 140.13, 133.36, 128.94, 128.88, 128.83, 127.89, 127.59, 77.48, 77.16, 76.84, 56.60, 23.37.

N-(bis(4-chlorophenyl)methyl)acetamide(table 2-22)[4]: white solid. Yield: 51.0%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.27 (dd, *J* = 7.1, 3.7 Hz, 4H), 7.10 (dt, *J* = 7.7, 3.5 Hz, 4H), 6.26 – 6.04 (m, 2H), 2.02 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.49, 139.59, 133.75, 129.08, 128.89, 77.48, 77.16, 76.84, 56.04, 23.36.

N-(phenyl(4-(trifluoromethyl)phenyl)methyl)acetamide(table 2-23)[6]: white solid. Yield: 17.4%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.58 (d, *J* = 8.1 Hz, 2H), 7.39 – 7.25 (m, 5H), 7.22 – 7.17 (m, 2H), 6.27 (d, *J* = 7.6 Hz, 1H), 6.24 (d, *J* = 9.0 Hz, 1H), 2.06 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.60, 145.51, 140.72, 129.79 (q, *J* = 32.8 Hz),129.10, 128.15, 127.73, 127.69, 125.73 (q, *J* = 3.7 Hz), 124.17 (d, *J* = 272.1 Hz), 77.48, 77.16, 76.84, 57.01, 23.36.

N-(1-phenylethyl)acrylamide(table 3-1)[9]: white solid. Yield: 91.0%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.39 – 7.21 (m, 5H), 6.28 (dd, *J* = 16.9, 1.6 Hz, 1H), 6.10 (dd, *J* = 17.0, 10.2 Hz, 1H), 5.62 (dd, *J* = 10.2, 1.5 Hz, 1H), 5.26 – 5.14 (m, 1H), 1.52 (d, *J* = 6.9 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 164.73, 143.10, 130.98, 128.80, 127.53, 126.72, 126.36, 77.48, 77.16, 76.84, 48.92, 21.73.

N-(1-phenylethyl)benzamide(table 3-2)[2]: white solid. Yield: 96.0%. ^{1}H NMR (400 MHz, $CDCl_3$) ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.82 – 7.74 (m, 2H), 7.52 – 7.33 (m, 7H), 7.31 – 7.25 (m, 1H), 6.40 (d, *J* = 7.8 Hz, 1H), 5.34 (p, *J* = 7.1 Hz, 1H), 1.61 (d, *J* = 6.9 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 166.68, 143.21, 134.67, 131.57, 128.85, 128.66, 127.56, 127.02, 126.36, 77.45, 77.13, 76.81, 49.31, 21.81.

picolinamide(table 3-3)[12]: yellow solid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 8.57 (dt, *J* = 4.2, 2.1 Hz, 1H), 8.20 (dd, *J* = 7.9, 2.8 Hz, 1H), 7.97 – 7.79 (m, 1H), 7.48 – 7.40 (m, 1H), 6.17 (s, 1H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 167.08, 149.68, 148.43, 137.42, 126.58, 122.55, 77.48, 77.16, 76.84.

2-chloro-N-(1-phenylethyl)acetamide(table 3-4)[10]: white solid. Yield: 93.4%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.56 – 7.15 (m, 5H), 6.80 (s, 1H), 5.12 (pd, *J* = 7.2, 2.8 Hz, 1H), 4.09 – 3.95 (m, 3H), 1.52 (dd, *J* = 7.0, 3.0 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 165.07, 142.43, 128.91, 127.75, 126.19, 77.48, 77.16, 76.84, 49.35, 42.74, 21.78.

2-methoxy-N-(1-phenylethyl)acetamide(table 3-5)[11]: white solid. Yield: 92.6%. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.46 – 7.15 (m, 5H), 6.76 – 6.71 (m, 1H), 5.23 – 5.12 (m, 1H), 3.95 – 3.80 (m, 2H), 3.39 (s, 3H), 1.52 – 1.49 (m, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 168.66, 143.08, 128.82, 127.53, 126.28, 77.48, 77.16, 76.84, 72.09, 59.24, 48.14, 22.00.

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III. NMR spectra of the products

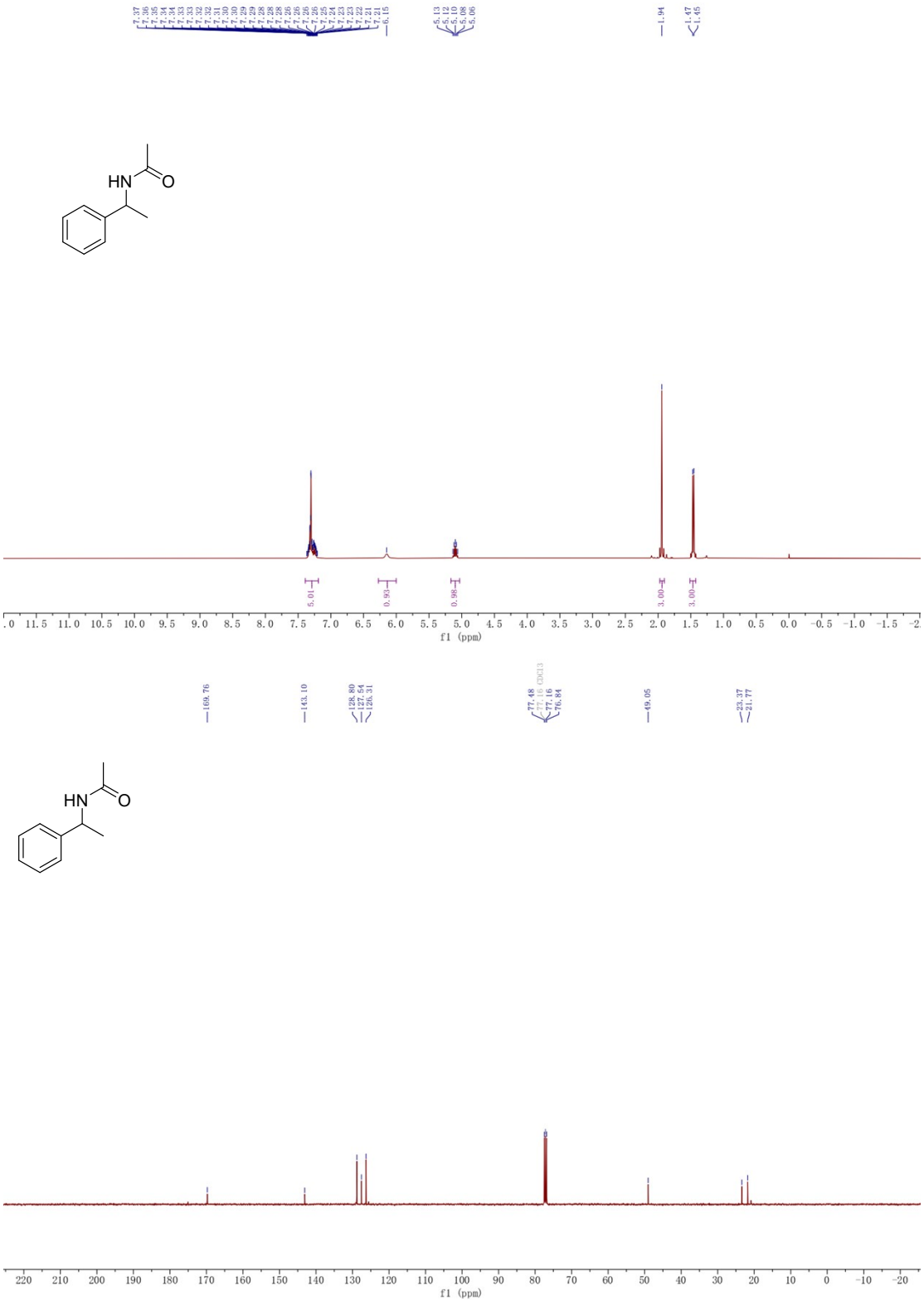

Figure S1. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(1-phenylethyl) acetamide (table 2-1).

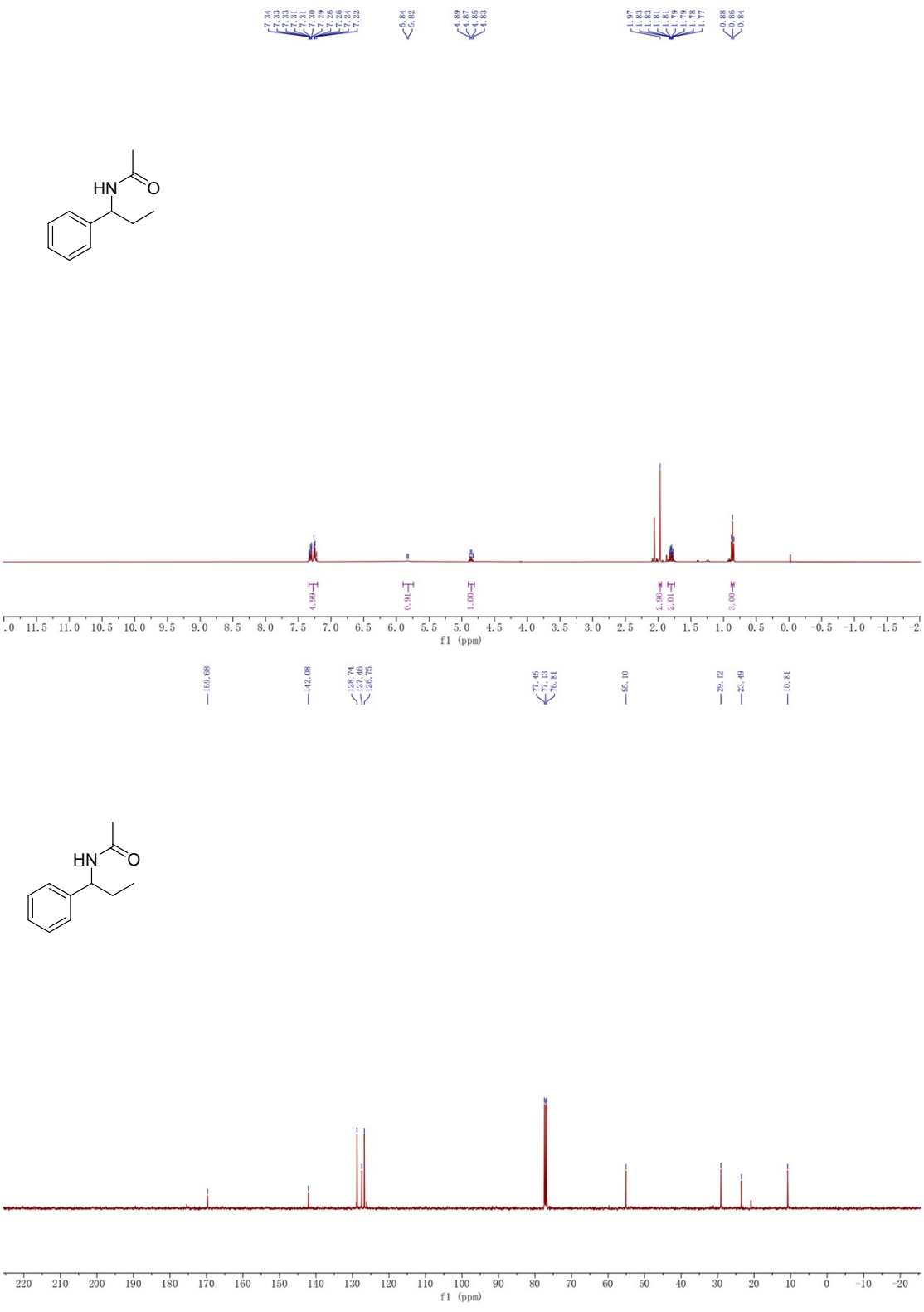

Figure S2. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(1-phenylpropyl) acetamide (table 2-2).

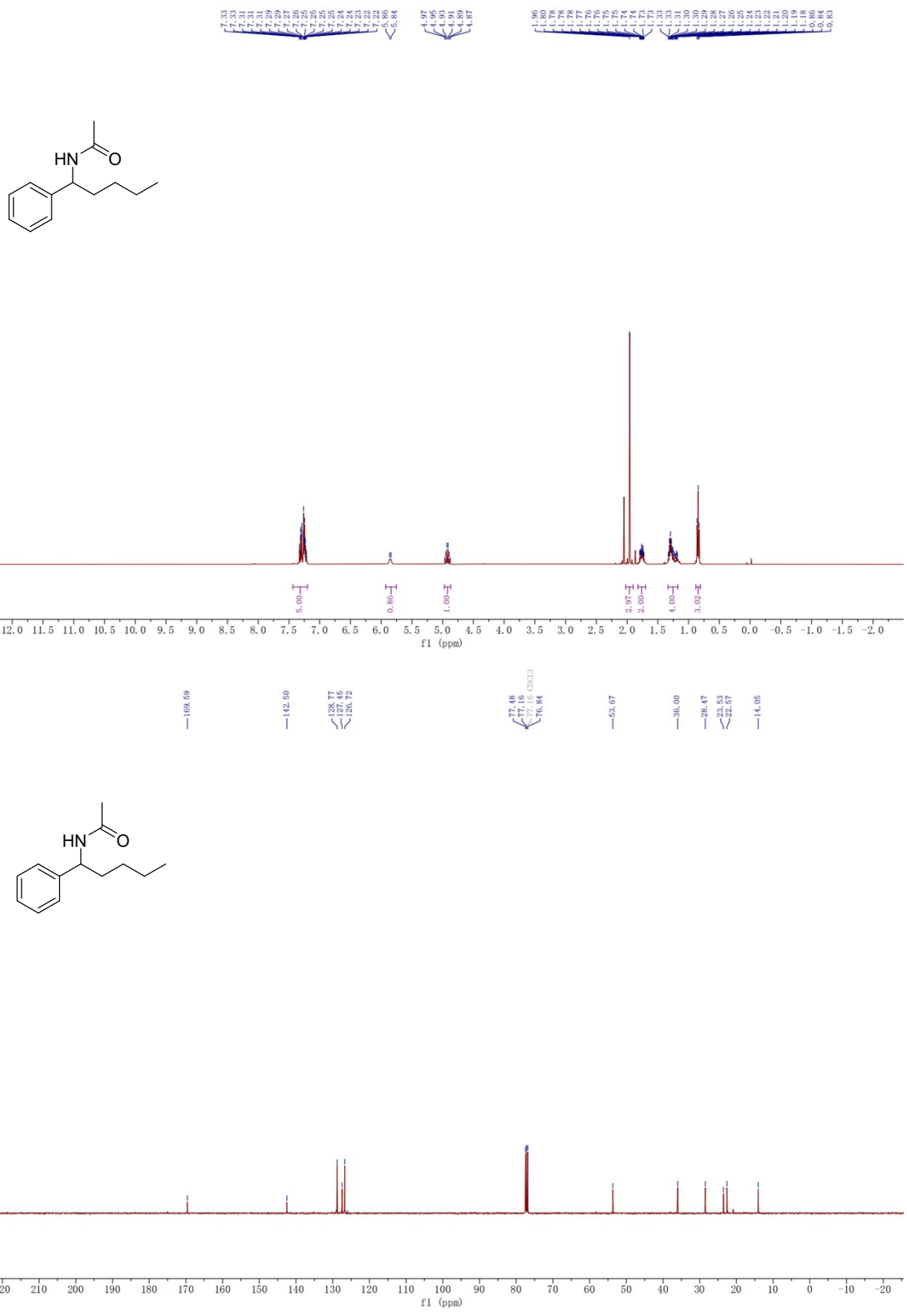

Figure S3. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(1-phenylpentyl) acetamide (table 2-3).

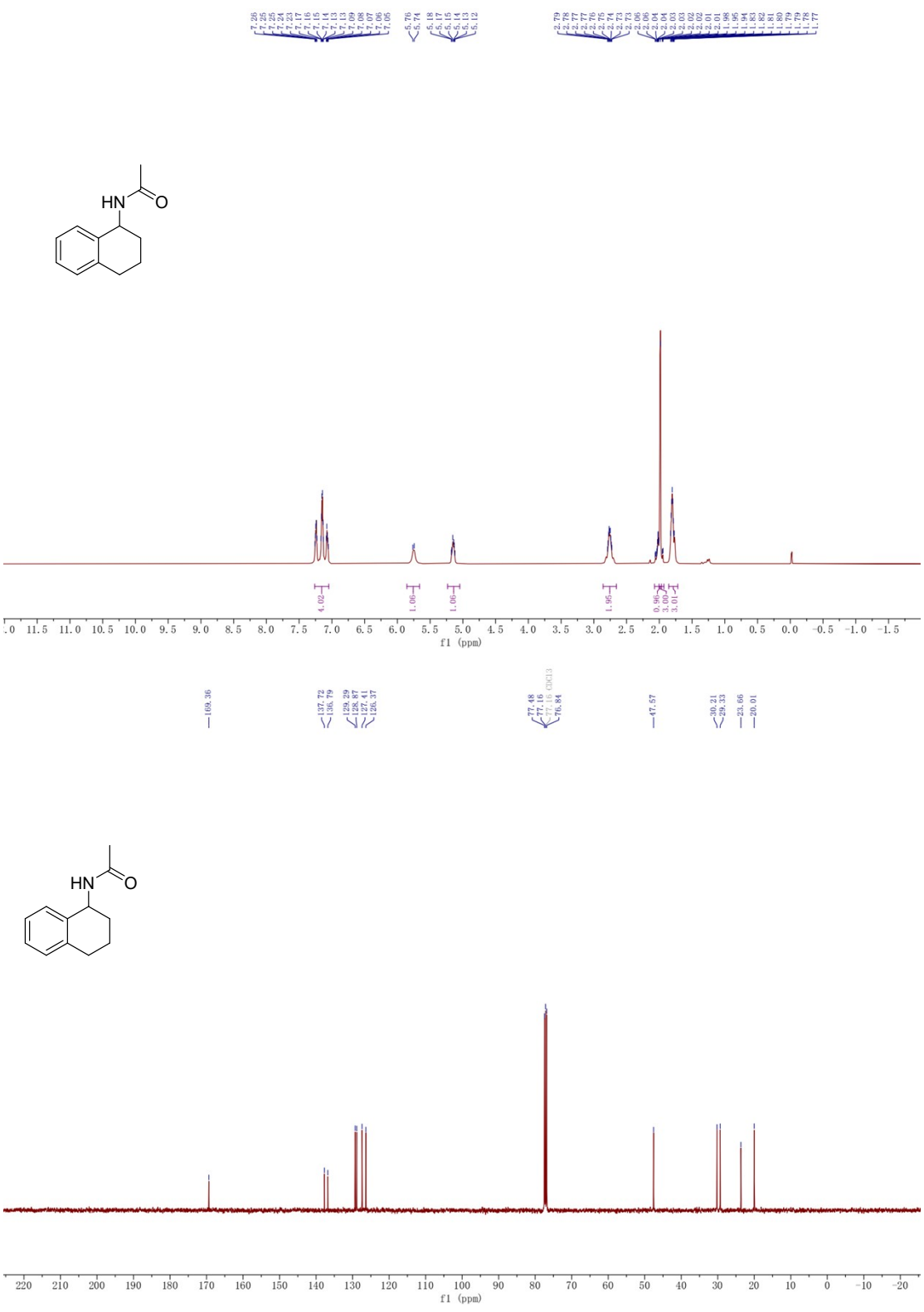

Figure S4. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(1,2,3,4-tetrahydronaphthalen-1-yl) acetamide (table 2-4).

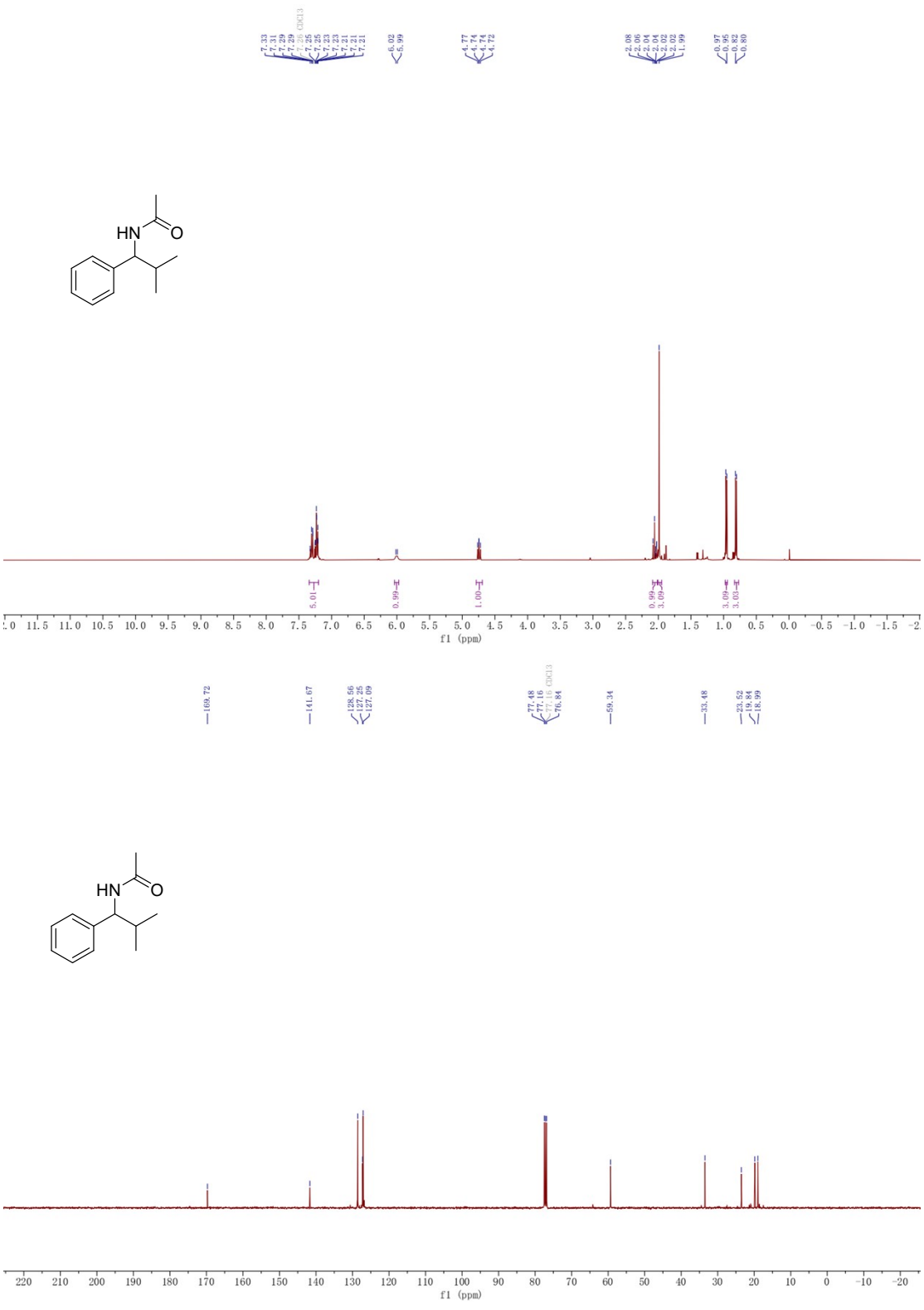

Figure S5. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(2-methyl-1-phenylpropyl) acetamide (table 2-5).

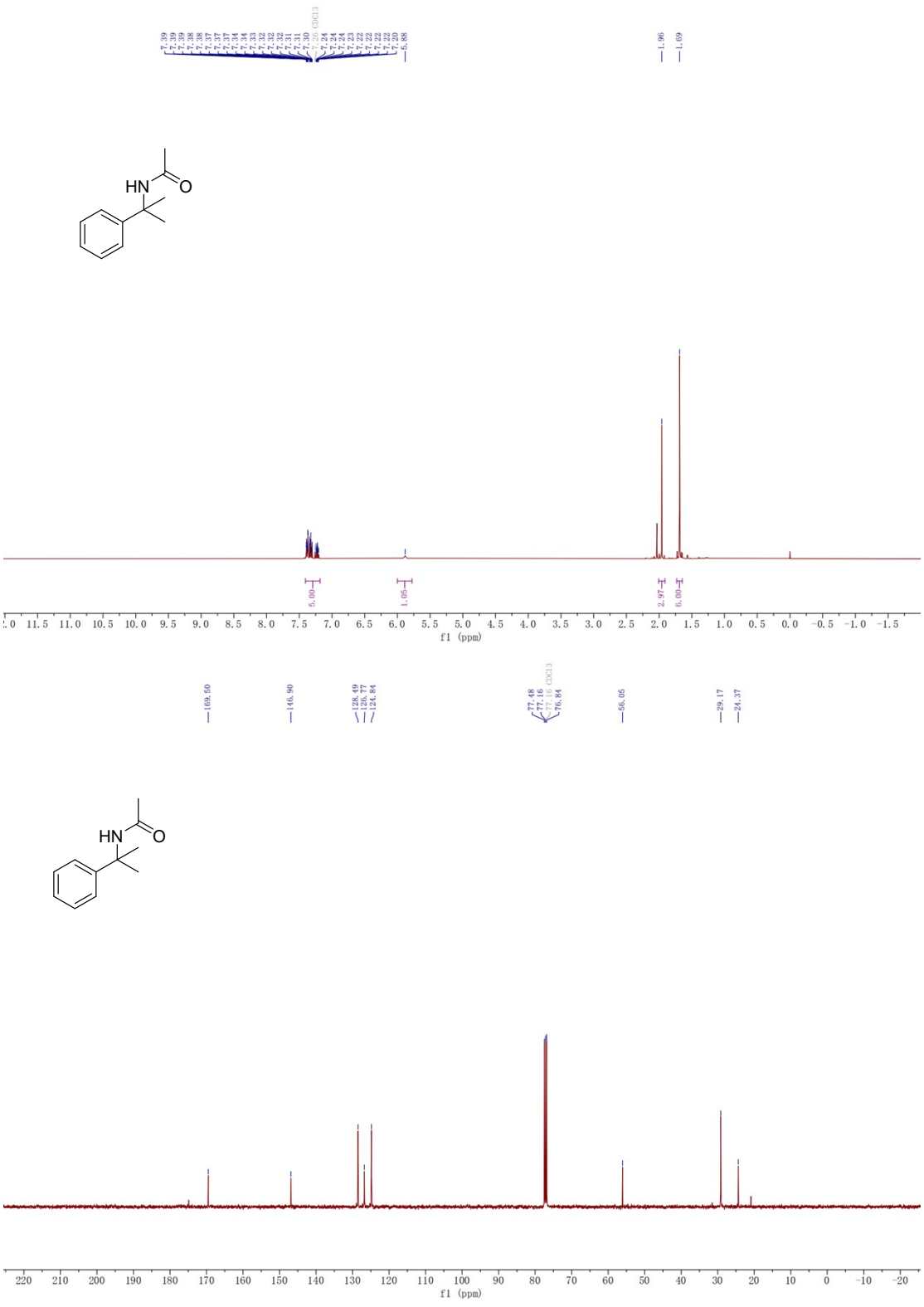

Figure S6. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(2-phenylpropan-2-yl) acetamide (table 2-6).

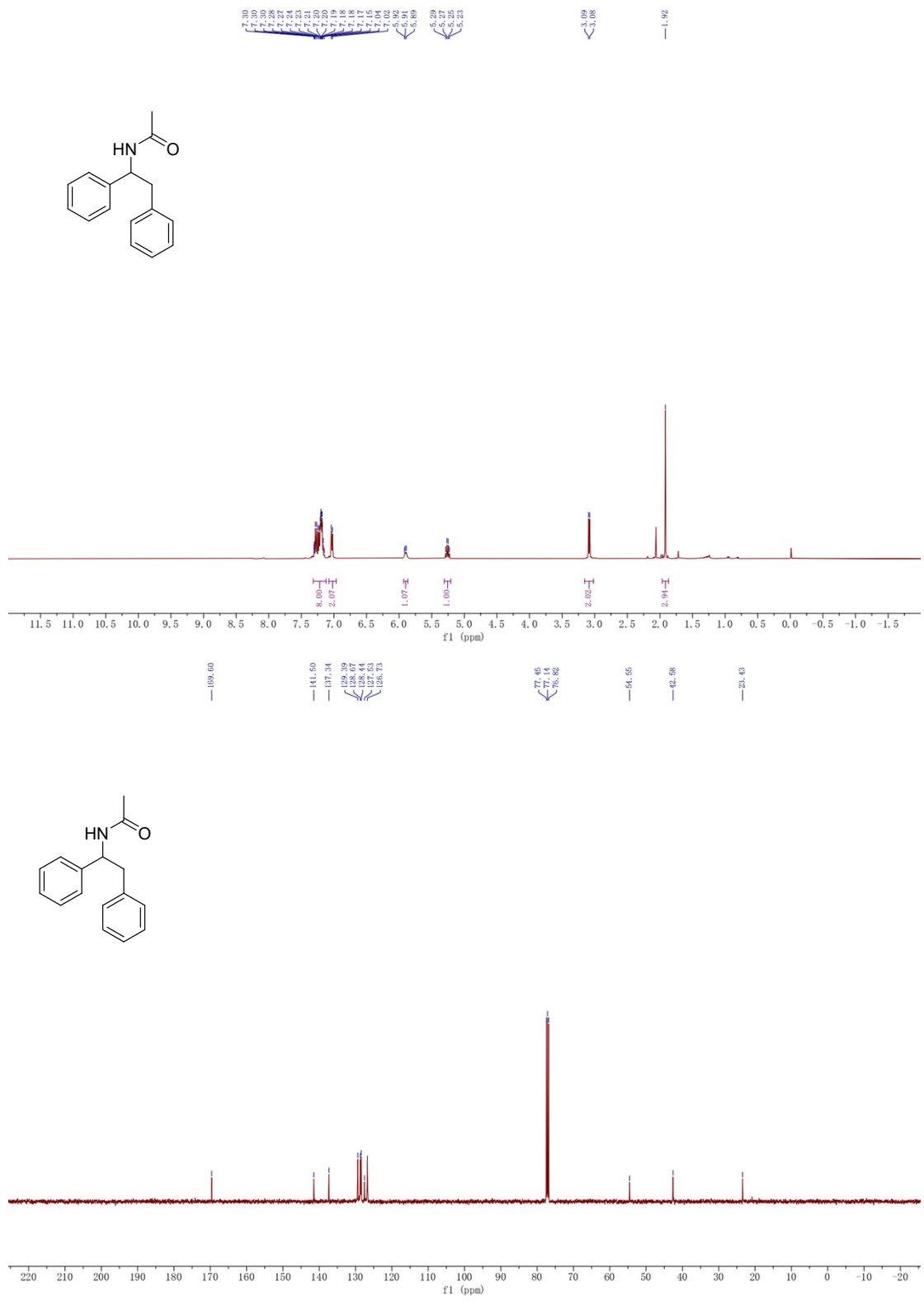

Figure S7. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(1,2-diphenylethyl) acetamide (table 2-7).

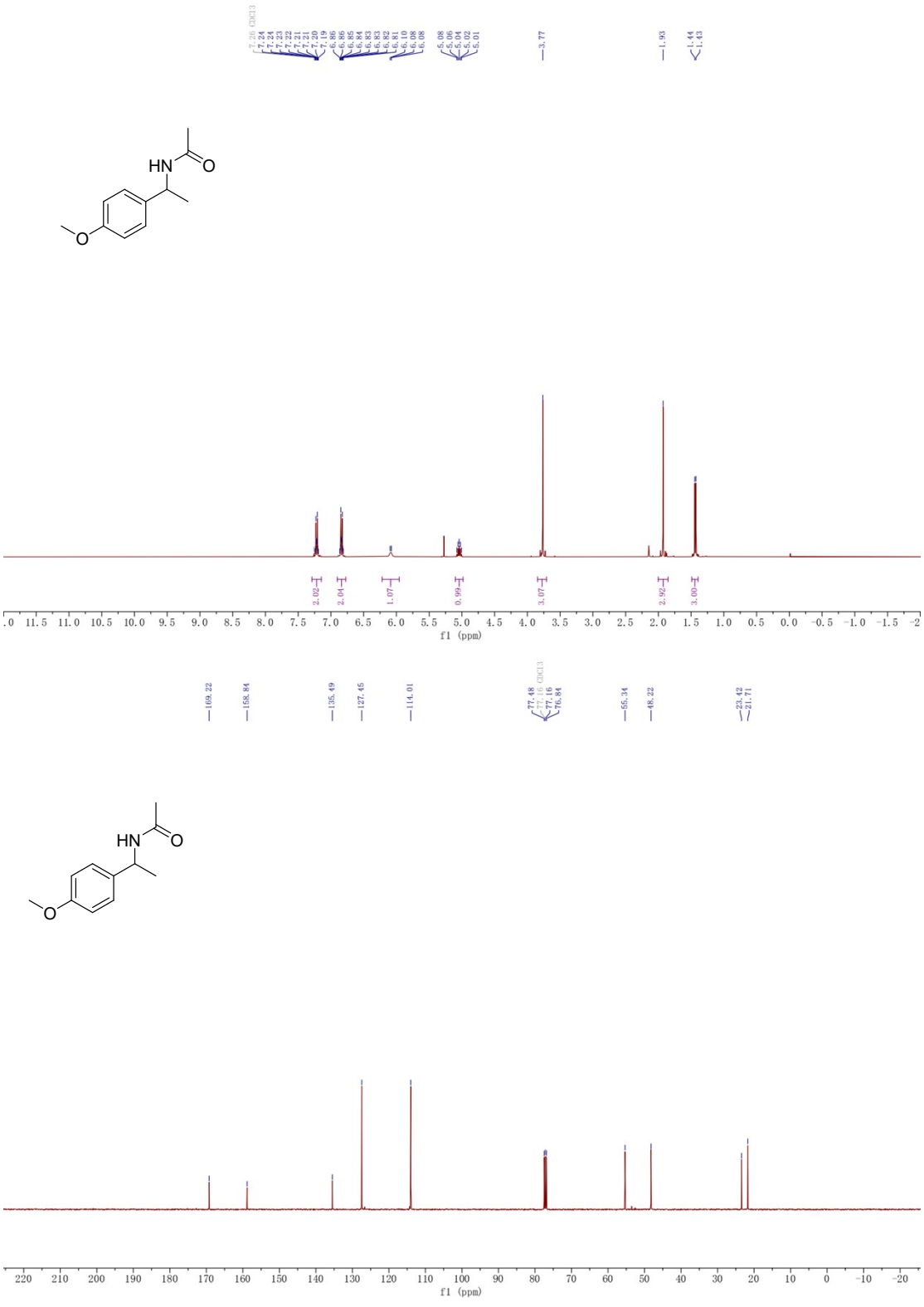

Figure S8. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(1-(4-methoxyphenyl)ethyl) acetamide (table 2-8).

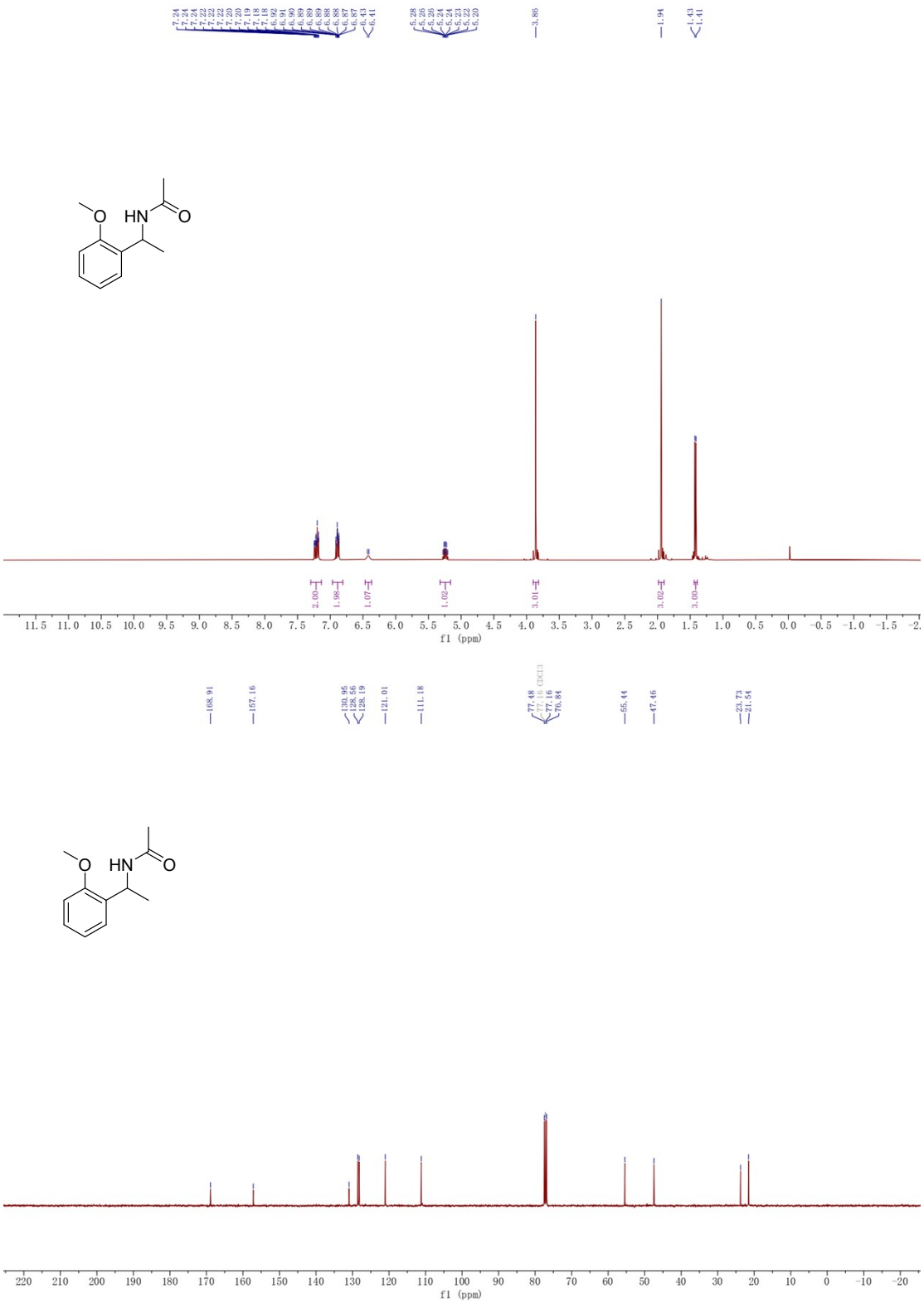

Figure S9. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(1-(2-methoxyphenyl)ethyl) acetamide (table 2-9).

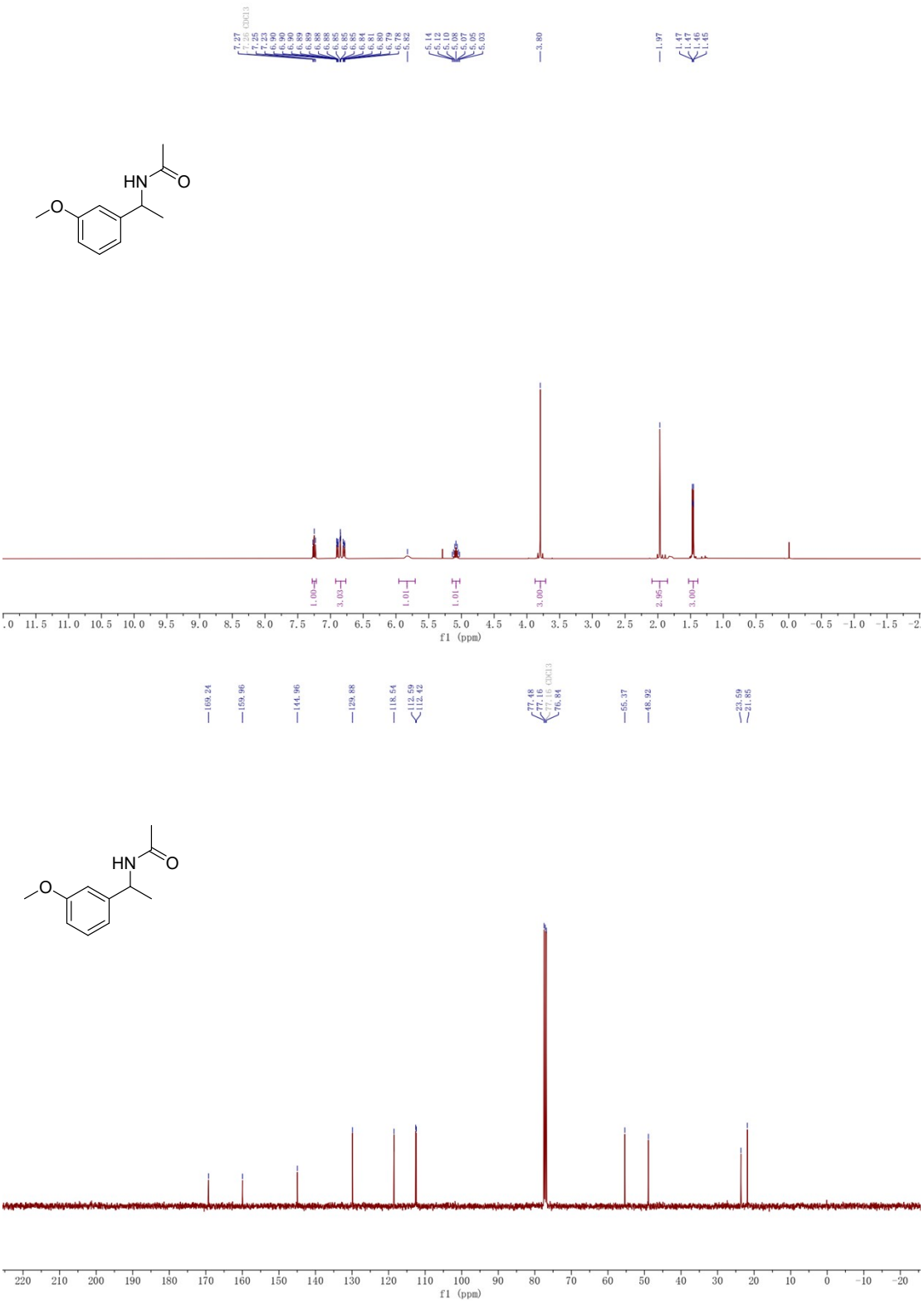

Figure S10. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(1-(3-methoxyphenyl)ethyl) acetamide (table 2-10).

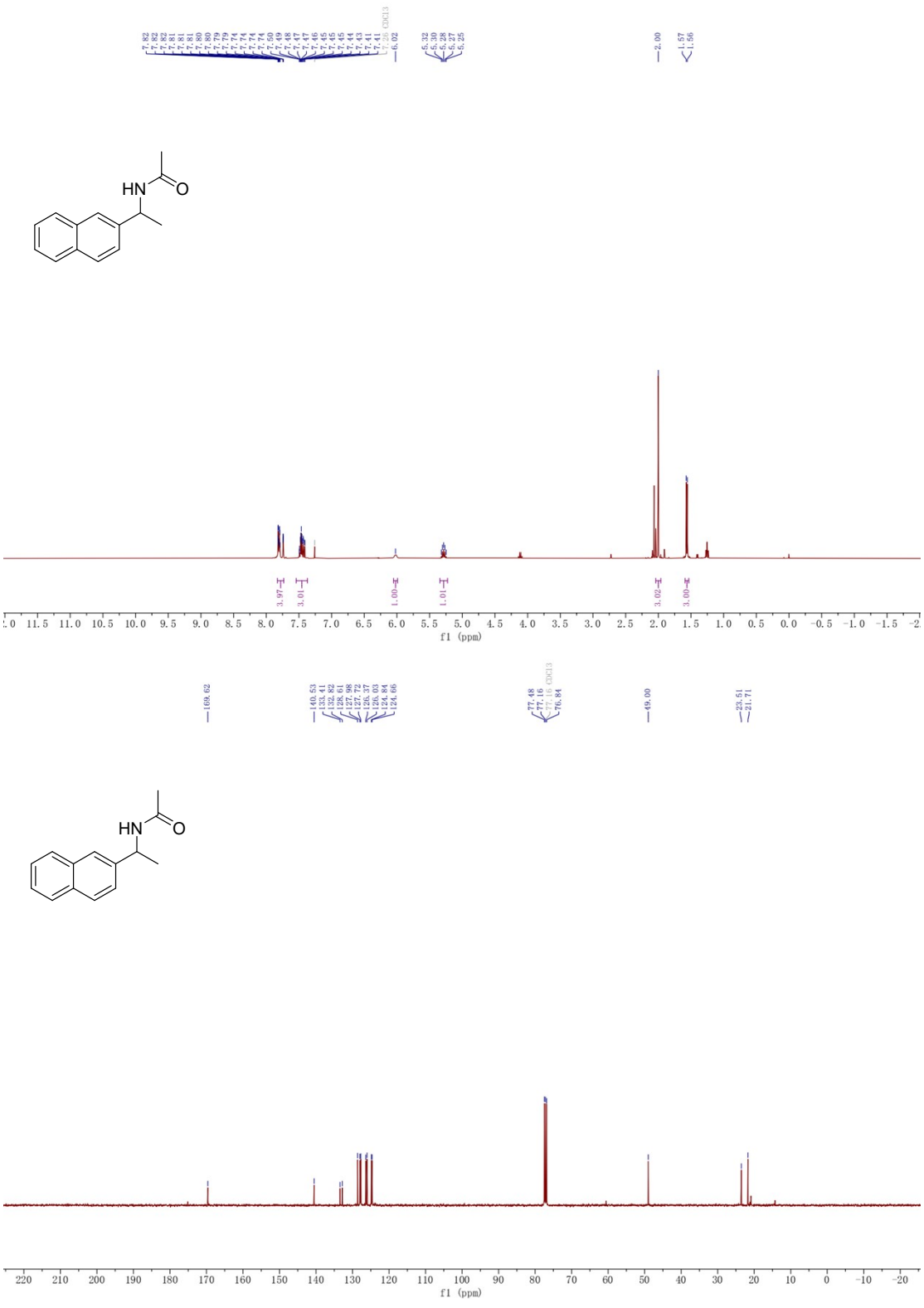

Figure S11. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(1-(naphthalen-2-yl)ethyl) acetamide (table 2-11).

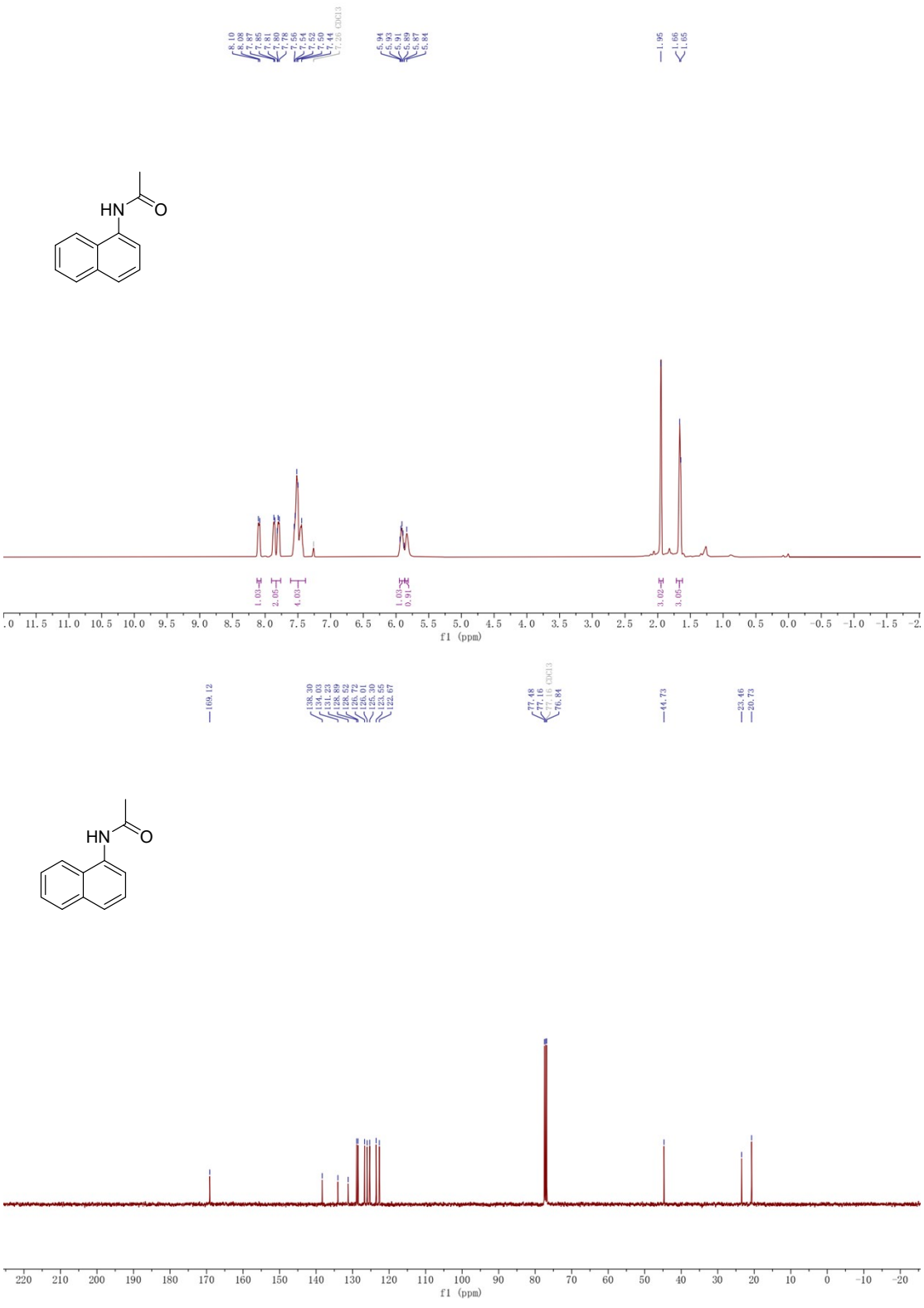

Figure S12. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(1-(naphthalen-1-yl)ethyl) acetamide (table 2-12).

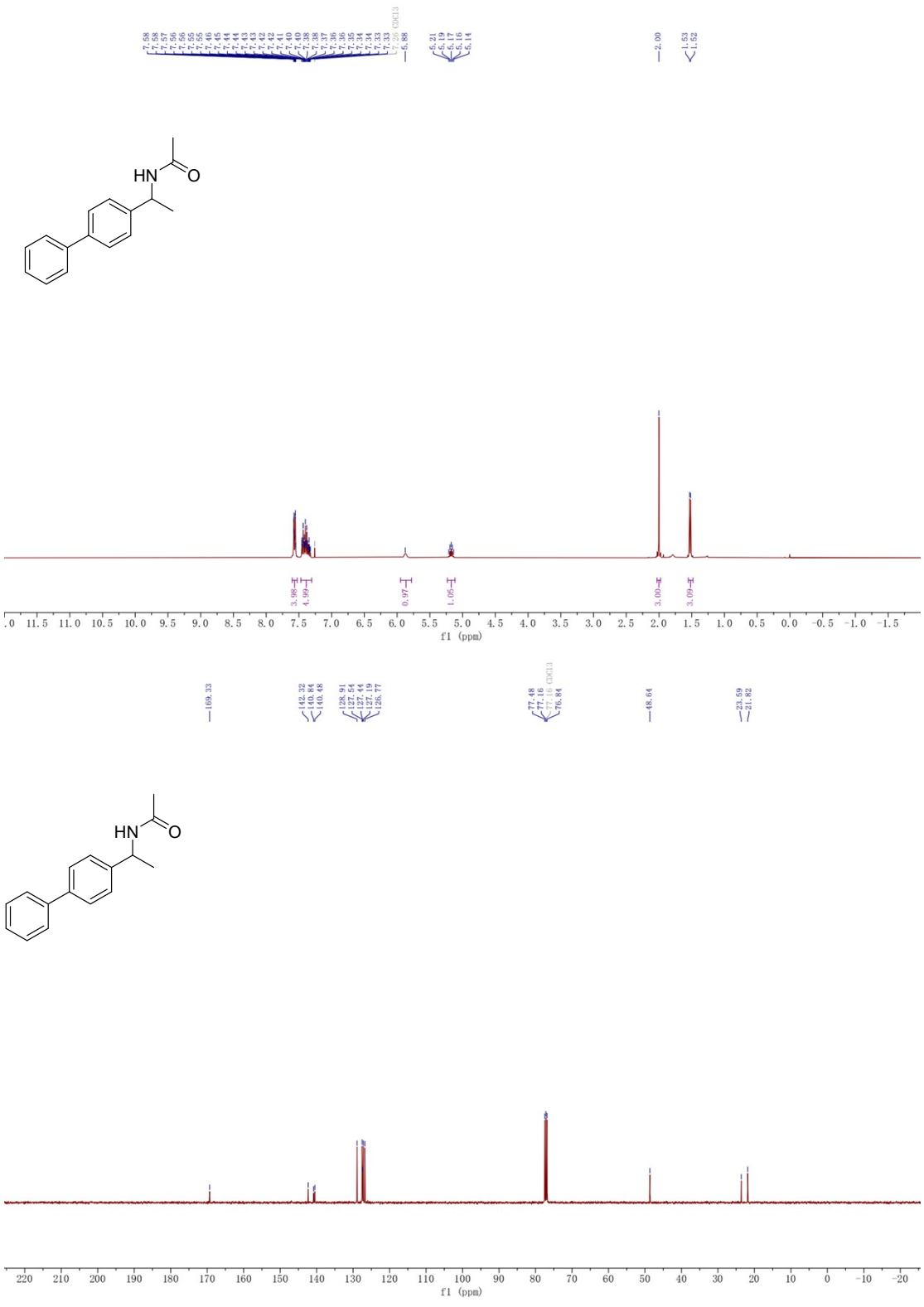

Figure S13. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(1-([1,1'-biphenyl]-4-yl)ethyl) acetamide (table 2-13).

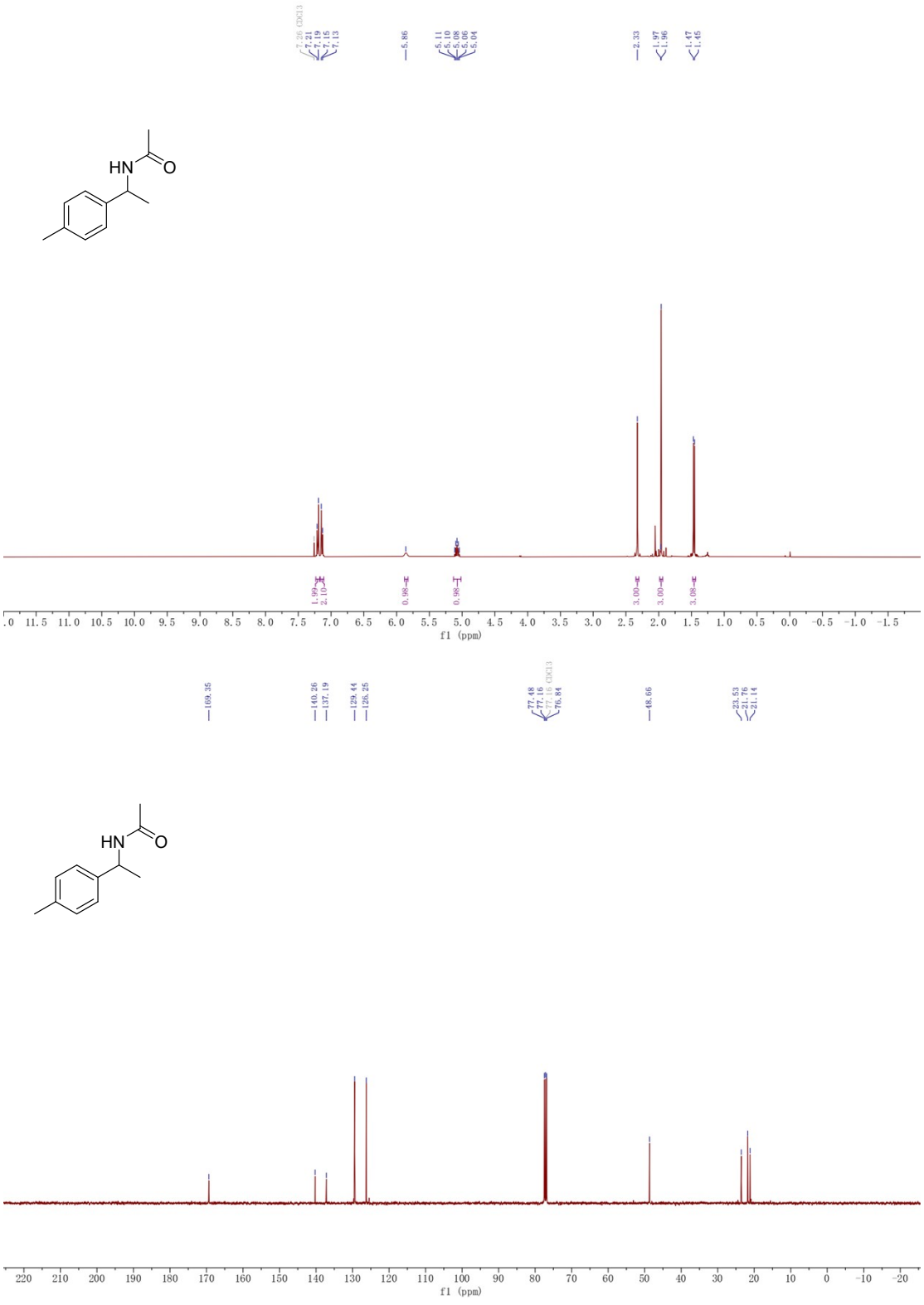

Figure S14. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(1-(p-tolyl)ethyl) acetamide (table 2-14).

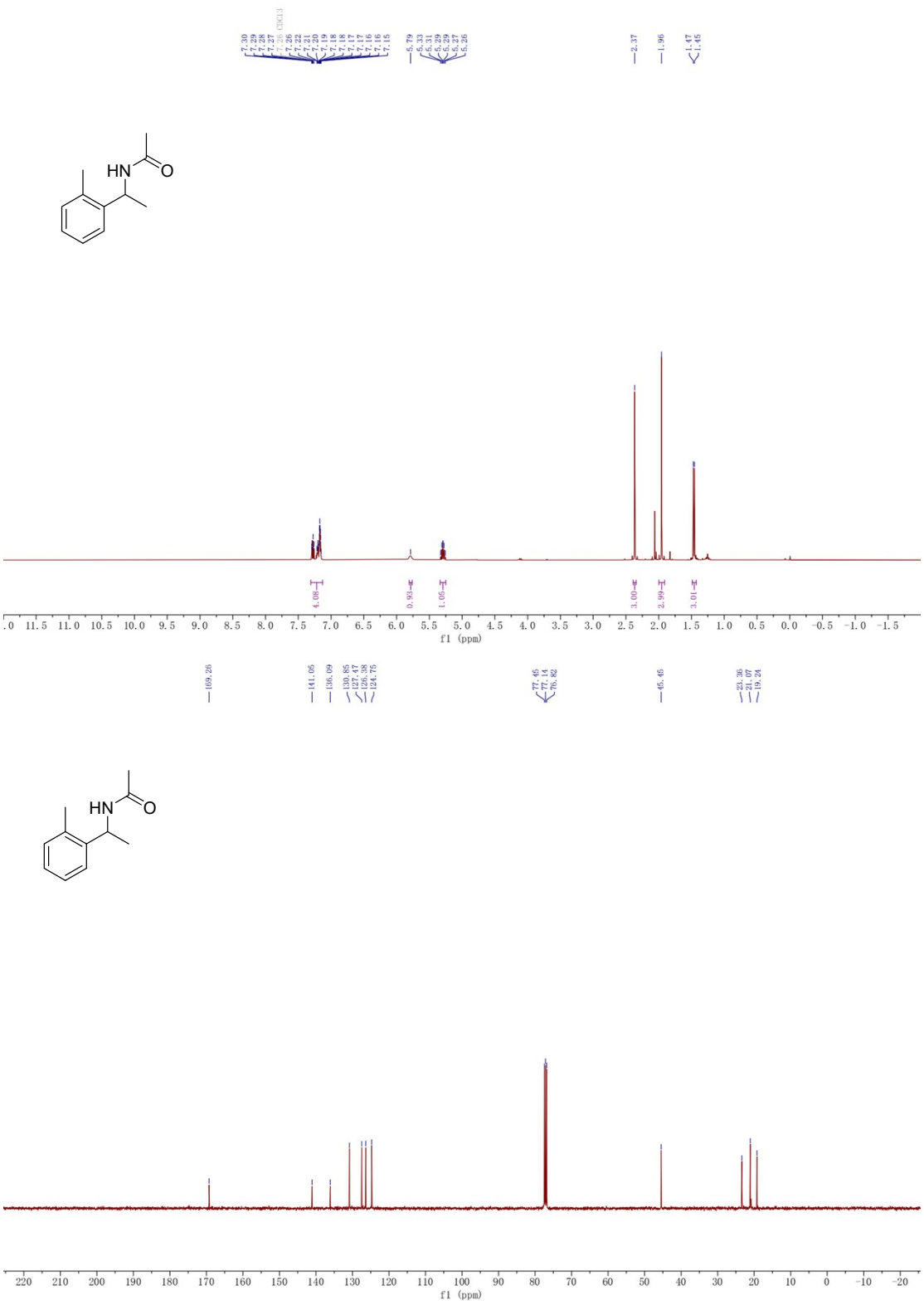

Figure S15. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(1-(o-tolyl)ethyl) acetamide (table 2-15).

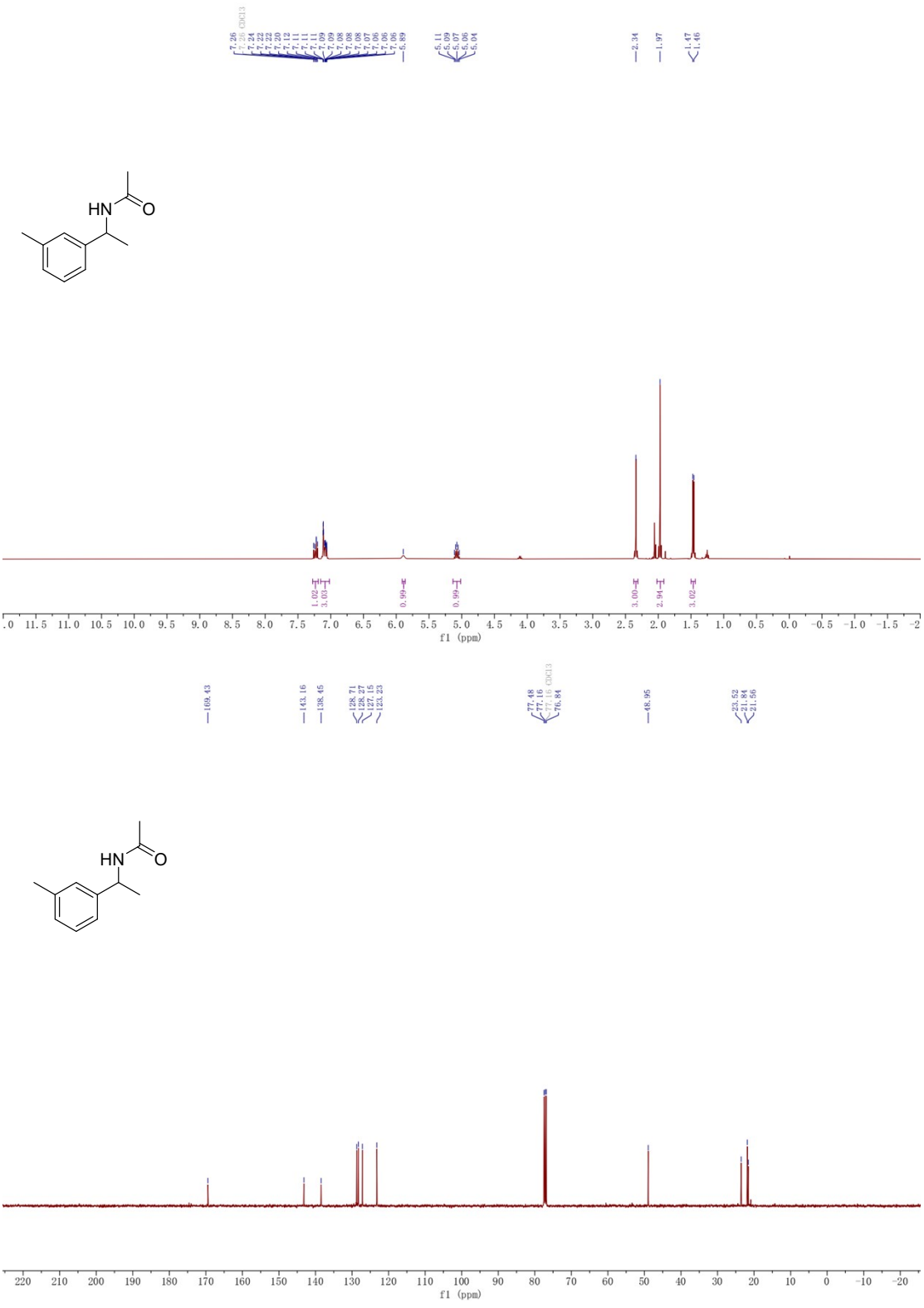

Figure S16. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(1-(m-tolyl)ethyl) acetamide (table 2-16).

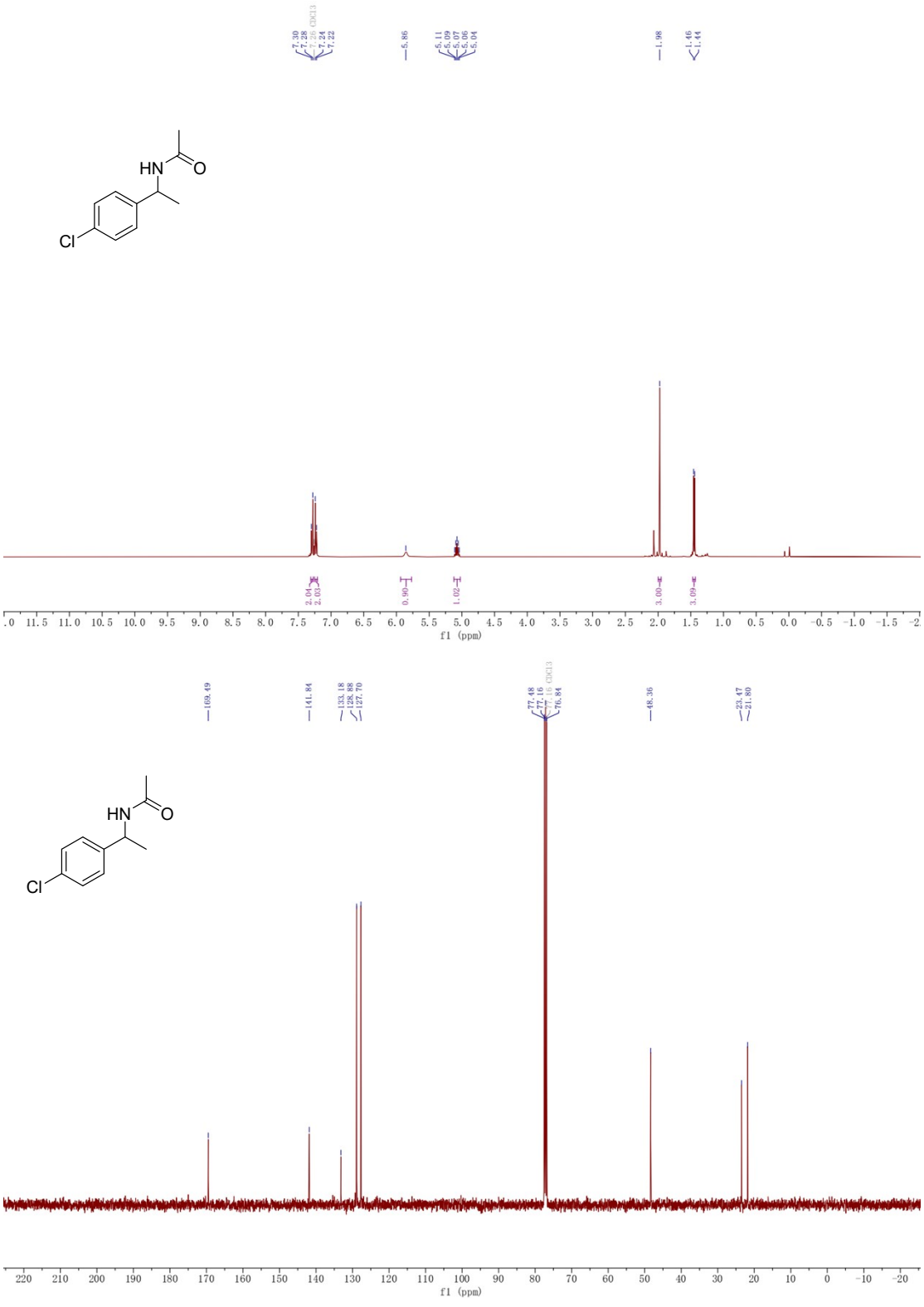

Figure S17. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(1-(4-chlorophenyl)ethyl) acetamide (table 2-17).

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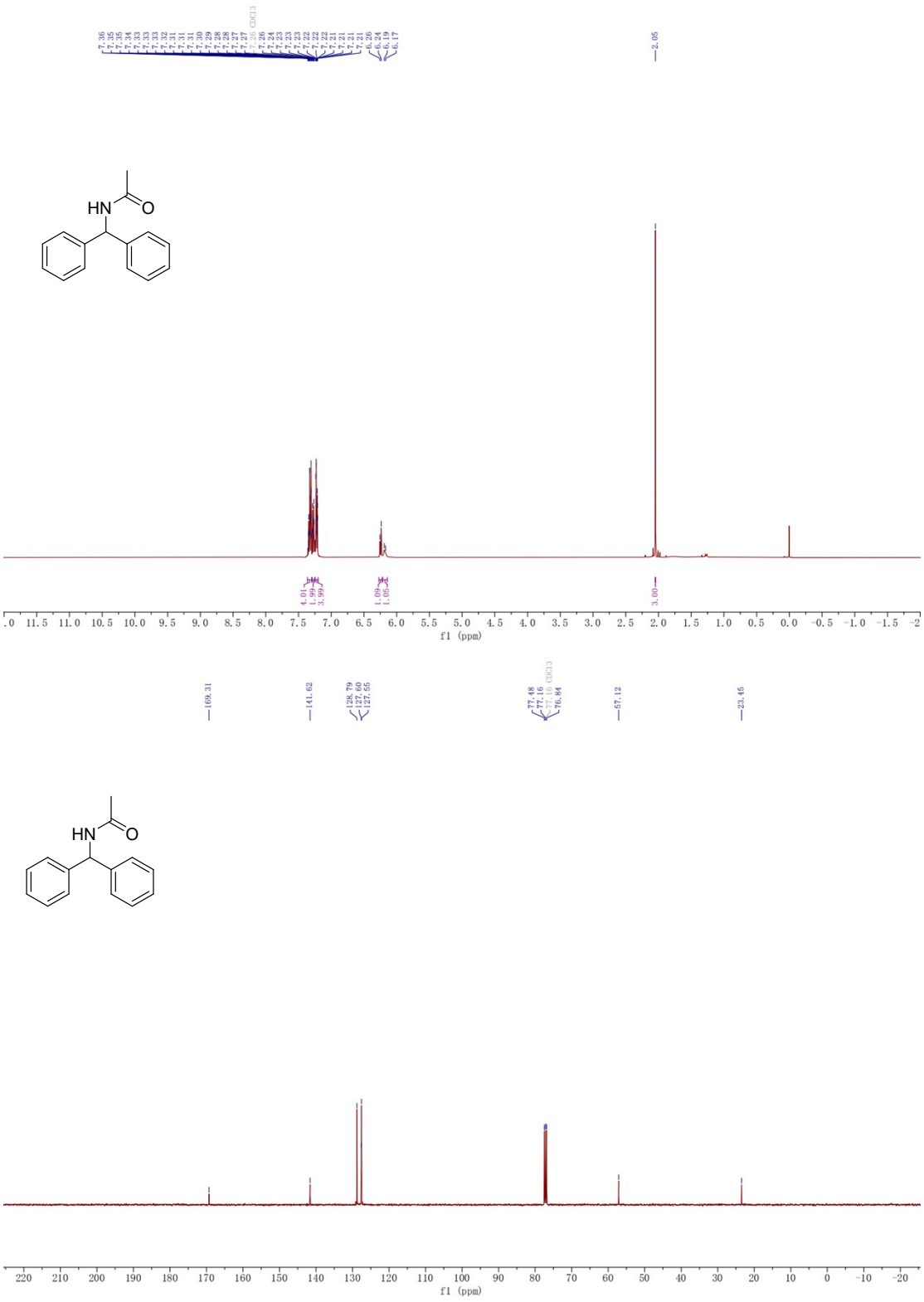

Figure S18. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-benzhydrylacetamide (table 2-19).

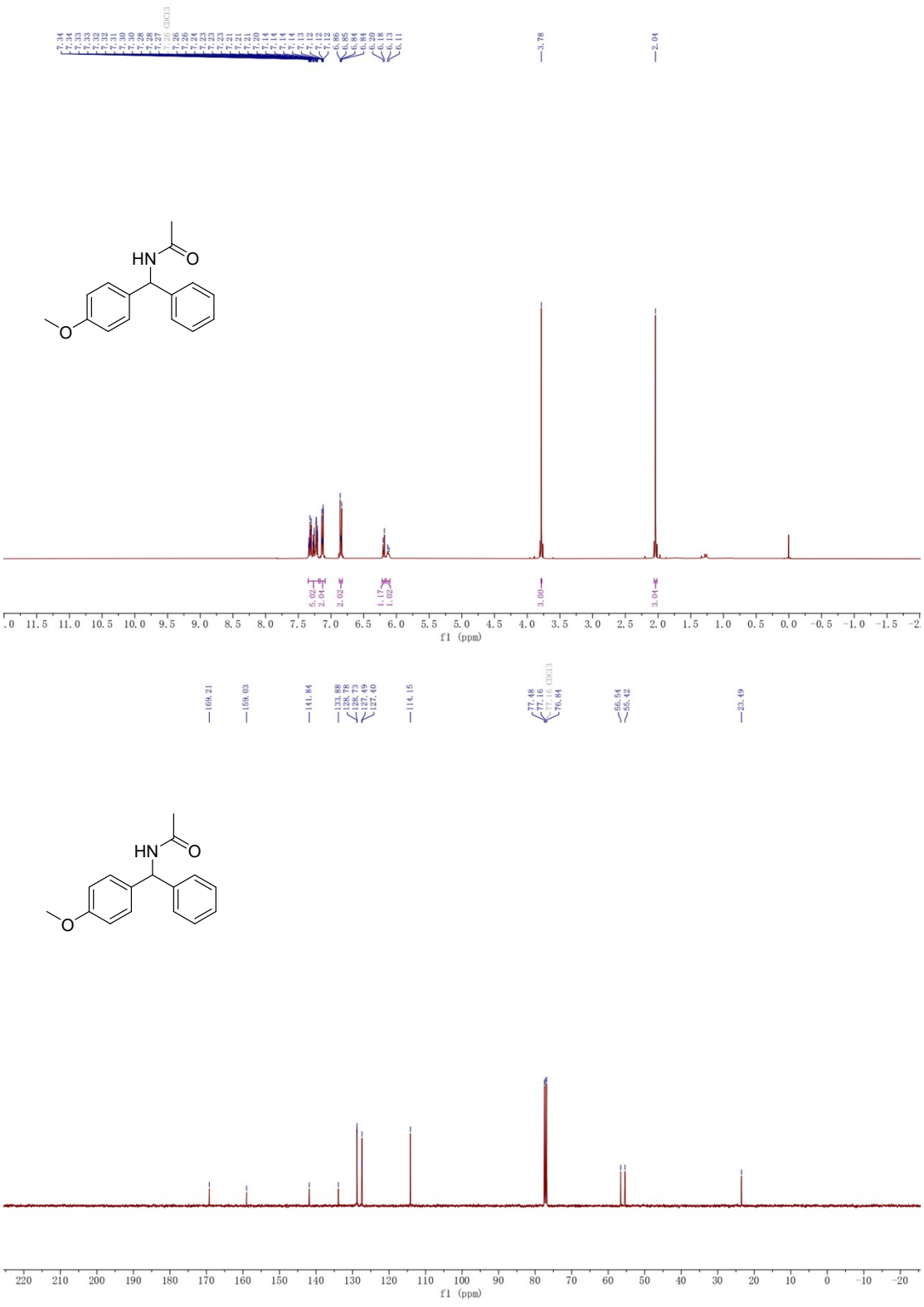

Figure S19. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-((4-methoxyphenyl)(phenyl)methyl) acetamide (table 2-20).

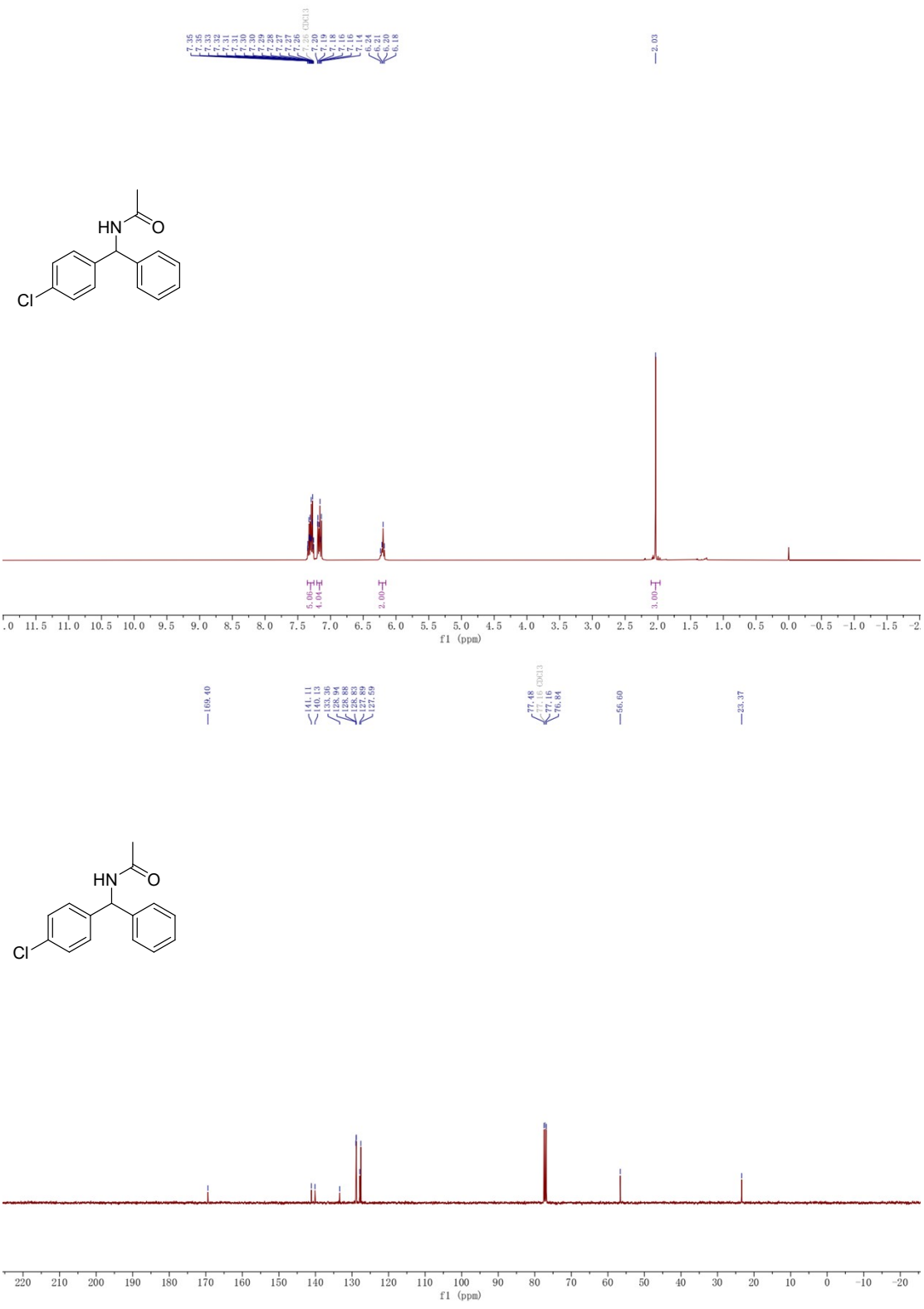

Figure S20. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-((4-chlorophenyl)(phenyl)methyl) acetamide (table 2-21).

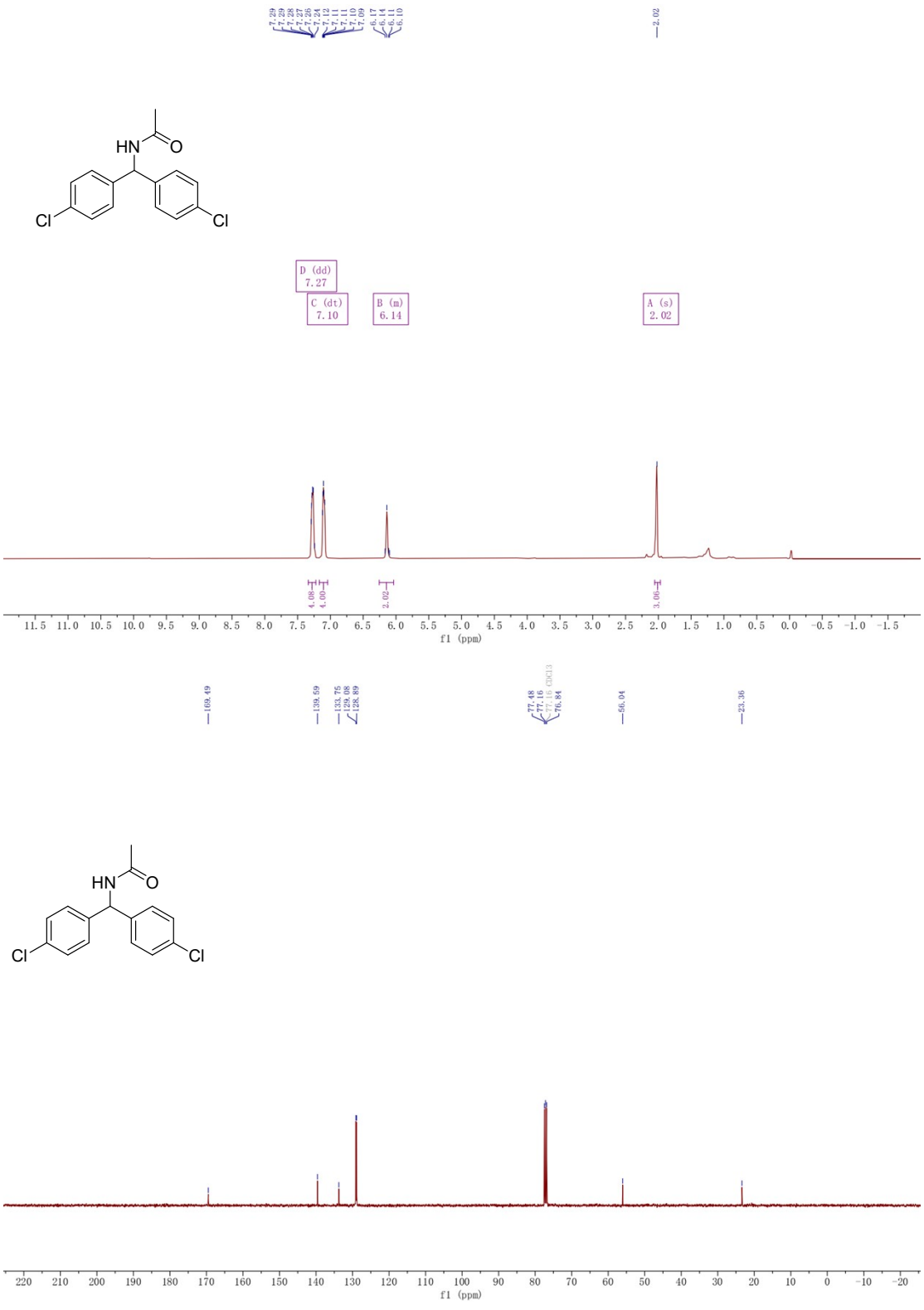

Figure S21. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(bis(4-chlorophenyl)methyl) acetamide (table 2-22).

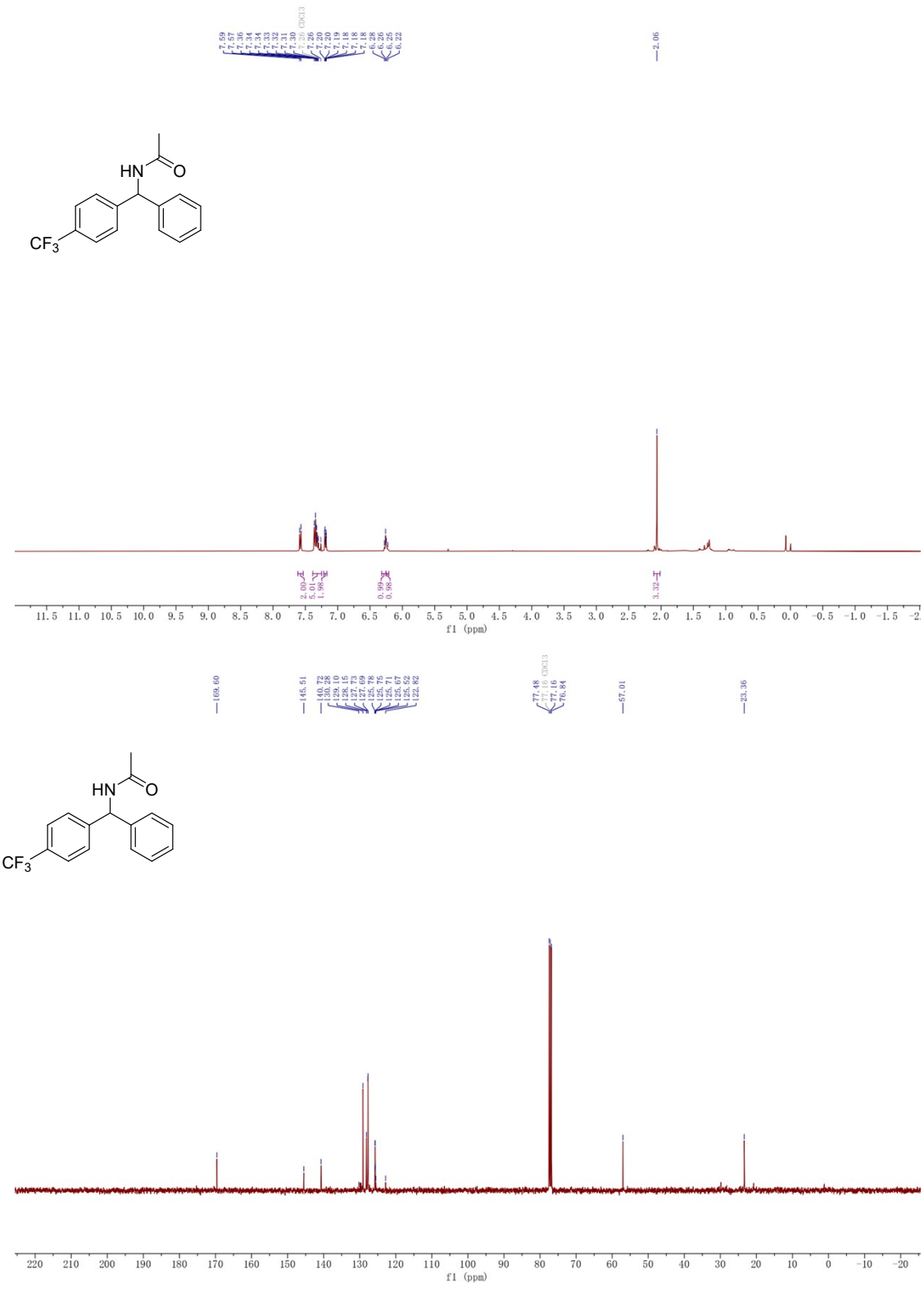

Figure S22. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(phenyl(4-(trifluoromethyl)phenyl)methyl) acetamide (table 2-23).

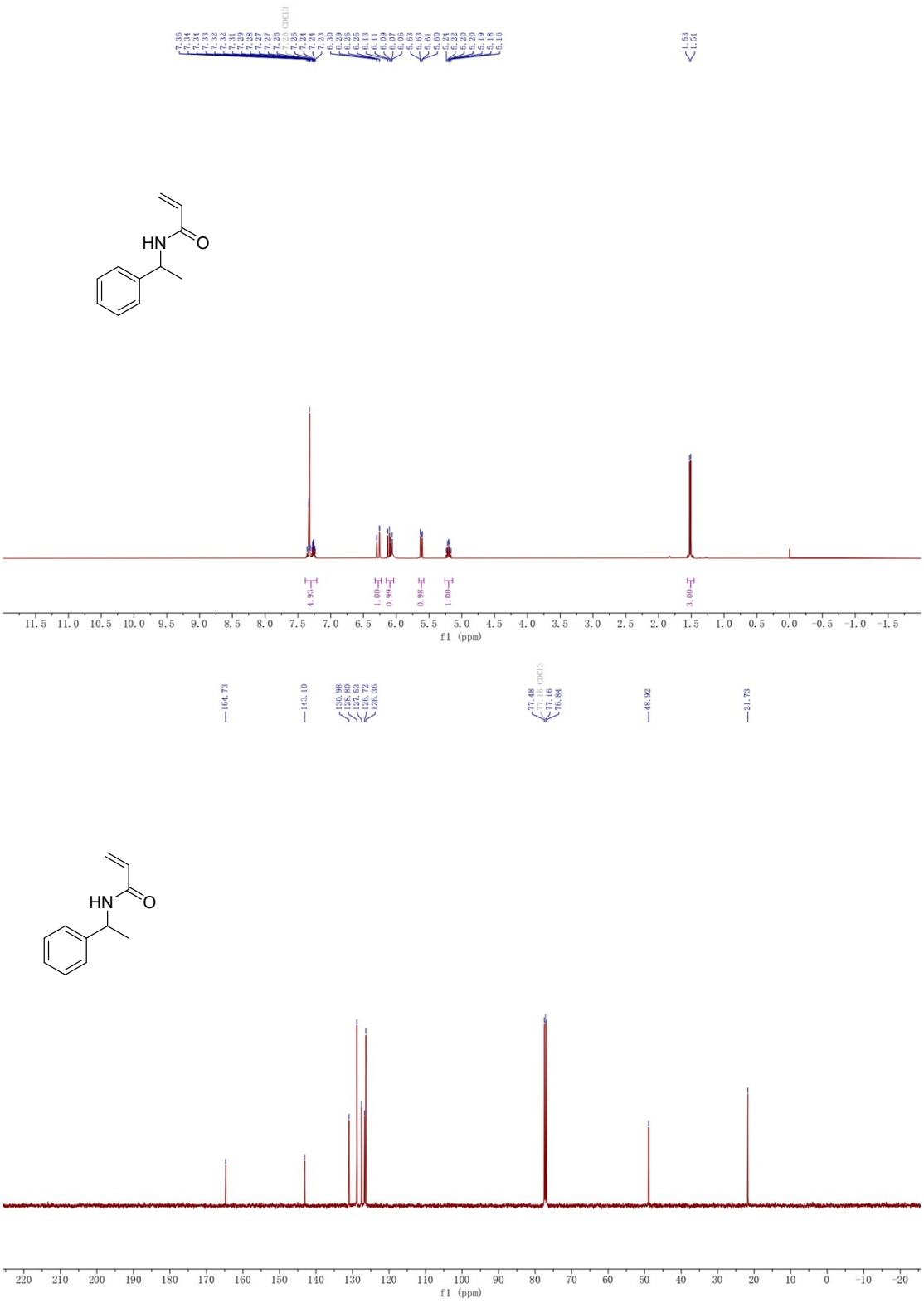

Figure S23. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(1-phenylethyl) acrylamide (table 3-1).

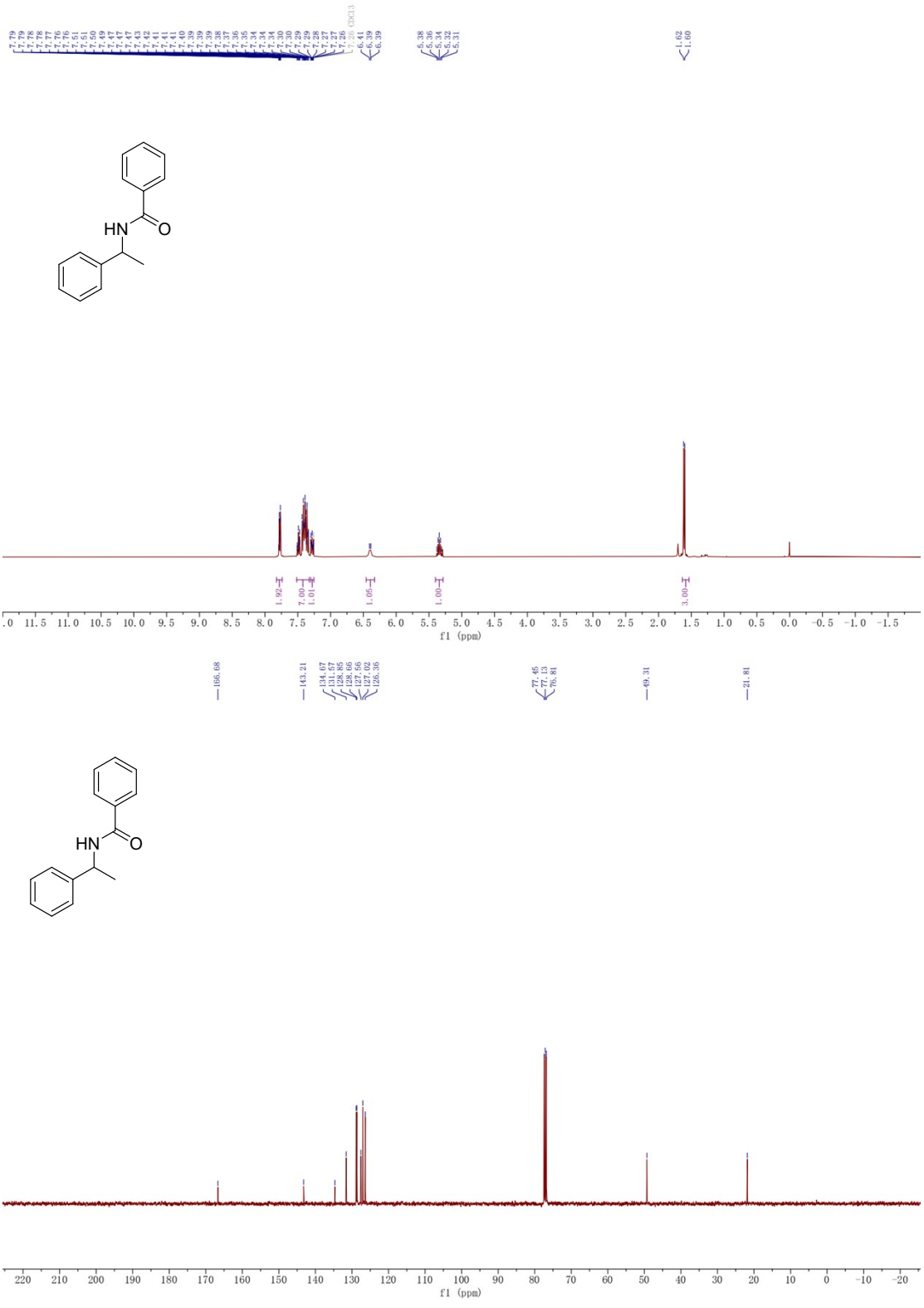

Figure S24. ^{1}H (top) and ^{13}C (bottom) NMR spectra of N-(1-phenylethyl)benzamide(table 3-2).

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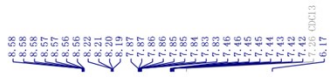

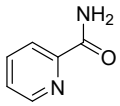

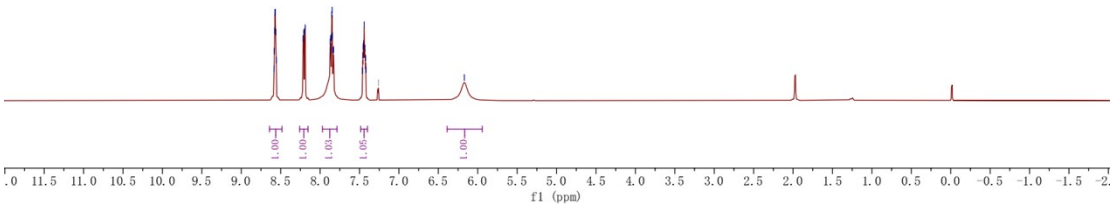

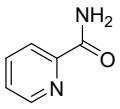

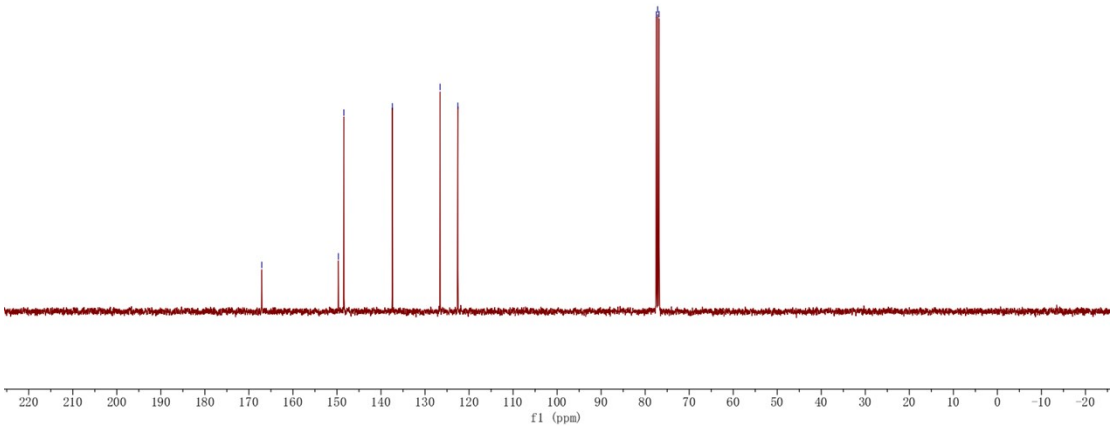

Figure S25. ^{1}H (top) and ^{13}C (bottom) NMR spectra of picolinamide(table 3-3).

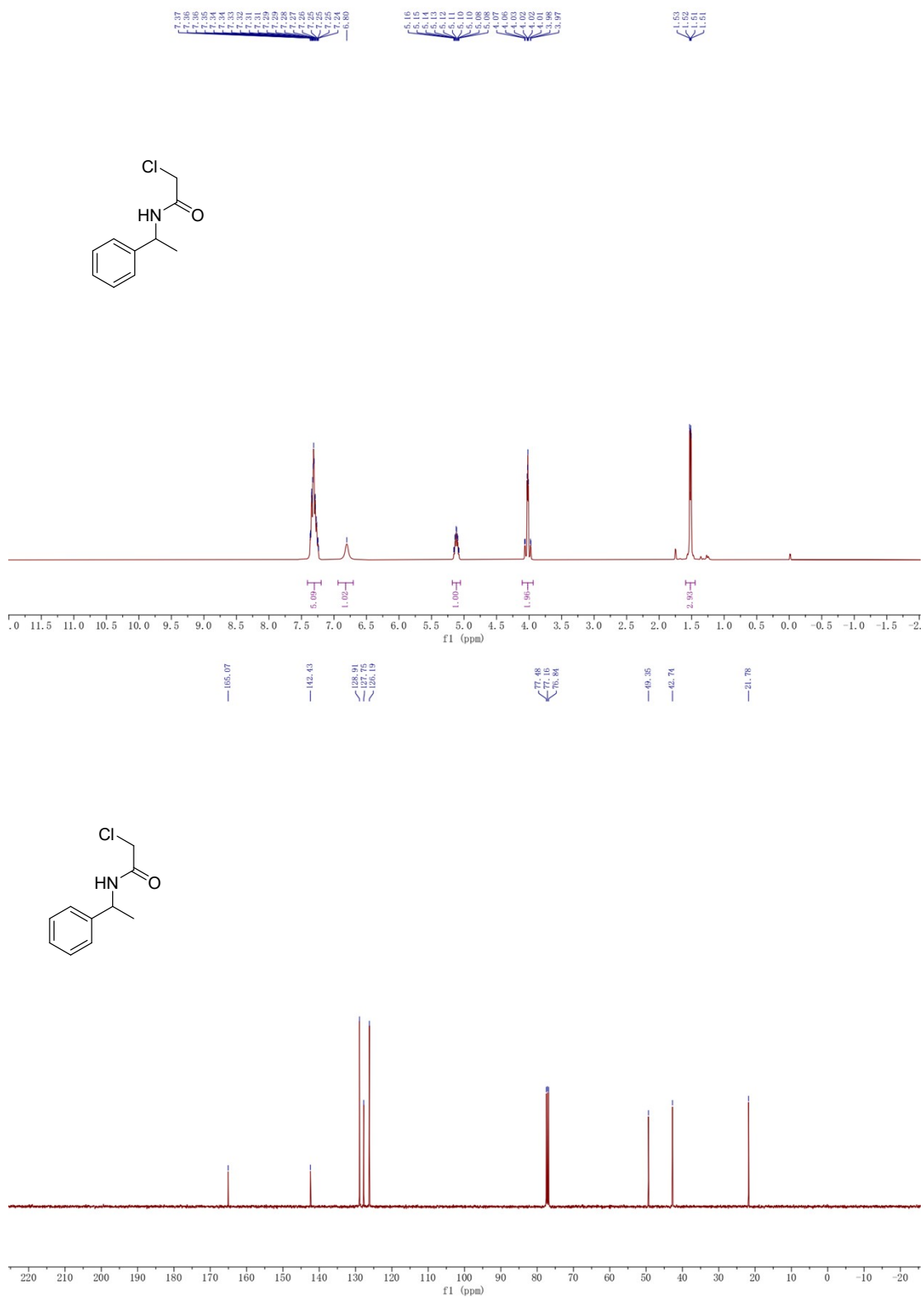

Figure S26. ^{1}H (top) and ^{13}C (bottom) NMR spectra of 2-chloro-N-(1-phenylethyl) acetamide(table 3-4)

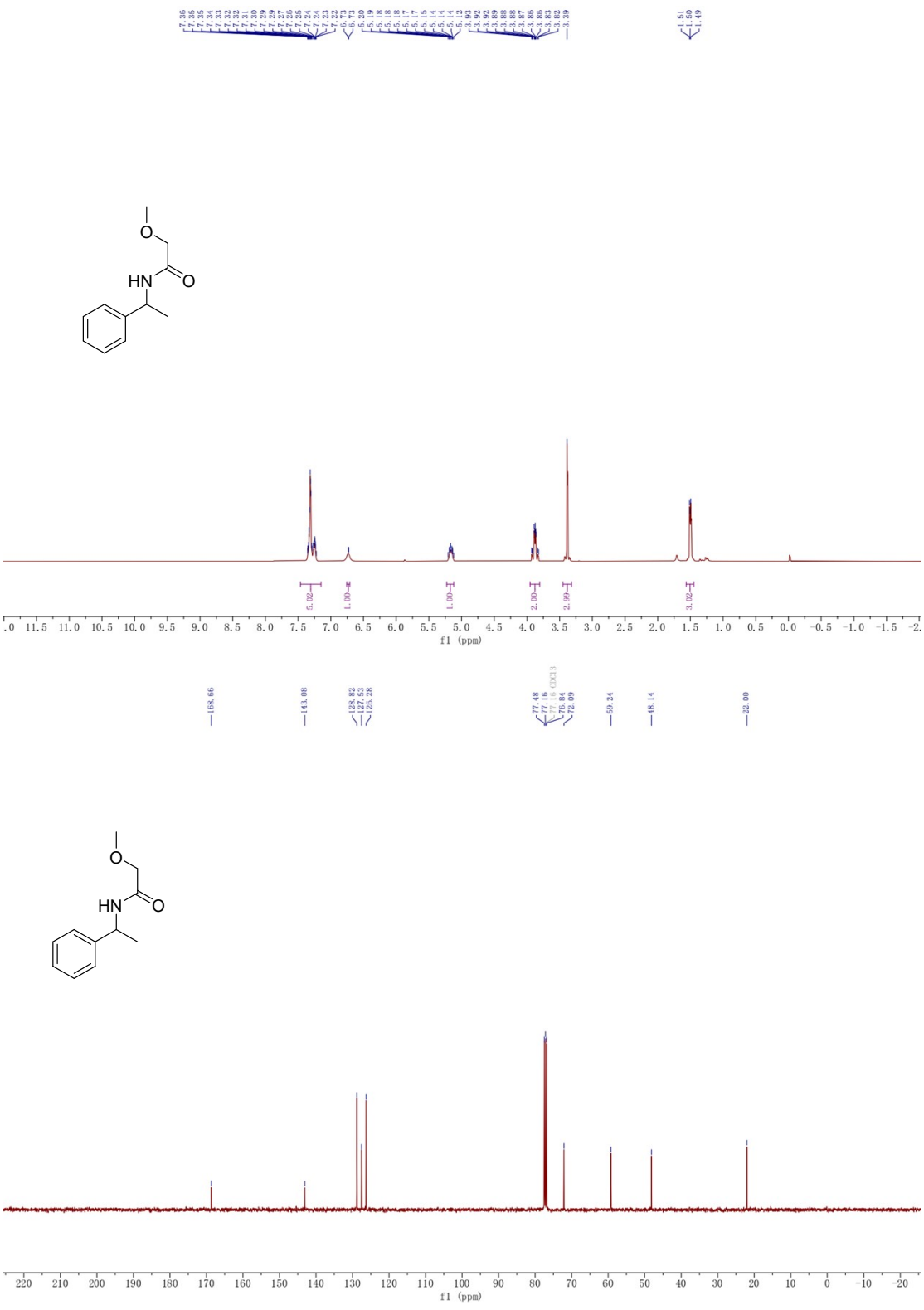

Figure S27. ^{1}H (top) and ^{13}C (bottom) NMR spectra of 2-methoxy-N-(1-phenylethyl) acetamide(table 3-5).