

Electronic Supplementary Material (ESI) for Organic & Biomolecular Chemistry

Supporting Information

N,N-dicarboxymethyl hydrazine: an old but neglected reagent for Chemoselective derivatization of carbonyl compounds

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N,N'-dicarboxymethyl hydrazine: White solid (614 mg, 83%); mp 168–169 °C (from water). δ H (400 MHz, D₂O): 3.28 (s, 2 H, CH₂), 3.24 (s, 2 H, CH₂) ppm; δ C (100 MHz, D₂O): 178.31, 177.91, 61.76, 61.21 ppm. MS (EI, 70eV): m/z (%) 148.1 (M⁺, 4), 116.1 (10), 104.1 (30), 87.0 (11), 59.1 (44), 44.0 (100). C₄H₈N₂O₄ (148.12): requires C 32.44, H 5.44, N 18.91; found C 32.47, H 5.46, N 18.87%.

Benzylidenehydrazinodiacetic Acid: Light yellow solid (401 mg, 85%); mp 121–122 °C (from EtOH). δ H (400 MHz, D₂O, DMSO-*d*₆): 7.52 (d, J = 7.2 Hz, 2 H, Ar-H), 7.39 (t, J = 7.6 Hz, 2 H, Ar-H), 7.33 (d, J = 7.2 Hz, 1 H, Ar-H), 7.23 (s, 1 H, N=CH), 4.27 (s, 4 H, CH₂) ppm; δ C (100 MHz, D₂O, DMSO-*d*₆): 175.75, 137.72, 135.74, 131.24, 130.77, 128.17, 57.83 ppm. MS (EI, 70eV): m/z (%) 236.1 (M⁺, 2), 218.1 (21), 145.1 (14), 104.1 (100), 77.0 (38), 42.0 (17). C₁₁H₁₂N₂O₄ (236.22): requires C 55.93, H 5.12, N 11.86; found C 55.97, H 5.15, N 11.82%. IR (KBr): $\nu_{\max}$ 3425, 3015, 2961, 1743, 1621, 1517, 1287, 1196, 984, 851, 664 cm⁻¹.

4-Chlorobenzylidenehydrazinodiacetic Acid: White solid (480 mg, 88%); mp 145–146 °C (from EtOH). δ H (400 MHz, D₂O, DMSO-*d*₆): 7.50 (d, J = 8.4 Hz, 2 H, Ar-H), 7.36 (d, J = 8.4 Hz, 2 H, Ar-H), 7.13 (s, 1 H, N=CH), 4.20 (s, 4 H, CH₂) ppm; δ C (100 MHz, D₂O, DMSO-*d*₆): 171.07, 135.23, 131.41, 129.18, 128.48, 126.80, 54.99 ppm. MS (EI, 70eV): m/z (%) 270.0 (M⁺, 3), 138.0 (100), 112.0 (11), 102.0 (19), 75.0 (11). C₁₁H₁₁ClN₂O₄ (270.67): requires C 48.81, H 4.10, N 10.35; found C 48.82, H 4.11, N 11.37%. IR (KBr): $\nu_{\max}$ 3480, 3070, 2954, 2512, 1691, 1582, 1422, 1325, 1235, 1151, 980, 819, 664 cm⁻¹.

2-Nitrobenzylidenehydrazinodiacetic Acid: Yellow solid (440 mg, 78%); mp 131–132 °C (from EtOH). δ H (400 MHz, D₂O, DMSO-*d*₆): 7.92–7.95 (m, 2 H, Ar-H), 7.67 (t, J = 7.6 Hz, 1 H, Ar-H), 7.42–7.48 (m, 2 H, Ar-H and N=CH), 4.3 (s, 4 H, CH₂) ppm; δ C (100 MHz, D₂O, DMSO-*d*₆): 174.93, 148.99, 135.94, 132.37, 130.71, 129.39, 127.95, 127.02, 58.56 ppm. MS (EI, 70eV): m/z (%) 281.1 (M⁺, 2), 131.1 (23), 118.1 (100), 91.0 (28), 76.0 (11). C₁₁H₁₁N₃O₆ (281.22): requires C 46.98, H 3.94, N 14.94; found C 47.02, H 3.97, N 14.90%. IR (KBr): $\nu_{\max}$ 3428, 3045, 2930, 2519, 1715, 1625, 1512, 1332, 1120, 984, 876, 754, 646 cm⁻¹.

3-Hydroxybenzylidenehydrazinodiacetic Acid: Light yellow solid (410 mg, 81%); mp 178–179 °C (from EtOH). δ H (400 MHz, D₂O, DMSO-*d*₆): 7.48 (t, J = 7.2 Hz, 1 H, Ar-H), 7.35 (s, 1 H, N=CH), 7.23 (s, 2 H, Ar-H), 6.99 (d, J = 6.4 Hz, 1 H, Ar-H), 4.48 (s, 4 H, CH₂) ppm; δ C (100 MHz, D₂O, DMSO-*d*₆): 177.65, 161.61, 142.24, 137.11, 135.12, 122.86, 120.20, 116.54, 60.42 ppm. MS (EI, 70eV): m/z (%) 252.0 (M⁺, 3), 138.0 (20), 118.1 (100), 91.0 (23), 42.0 (21). C₁₁H₁₂N₂O₅ (252.22): requires C 52.38, H 4.80, N 11.11; found C 52.43, H 4.82, N 11.09%. IR (KBr): $\nu_{\max}$ 3410, 3170, 3052, 2923, 2550, 1722, 1672, 1593, 1235, 991, 883, 781, 684 cm⁻¹.

2,4-Dichlorobenzylidenehydrazinodiacetic Acid: White solid (510 mg, 84%); mp 162–163 °C (from EtOH). δ H (400 MHz, D₂O, DMSO-*d*₆): 7.71 (d, J = 8.8 Hz, 1 H, Ar-H), 7.42 (s, 1 H, N=CH), 7.33 (s, 1 H, Ar-H), 7.27 (d, J = 8.4 Hz, 1 H, Ar-H), 4.32 (s, 4 H, CH₂) ppm; δ C (100 MHz, D₂O, DMSO-*d*₆): 175.13, 135.42, 134.49, 133.92, 131.40, 129.85, 129.45, 129.11, 58.04 ppm. MS (EI, 70eV): m/z (%) 304.0 (M⁺, 3), 286.0 (30), 258.0 (28), 173.0 (100), 136.0 (40), 75.0 (15), 42.0 (16). C₁₁H₁₀Cl₂N₂O₄ (305.11): requires C 43.40, H 3.30, N 9.18; found C 43.43, H 3.31, N 9.19%. IR (KBr): $\nu_{\max}$ 3449, 3070, 2916, 2607, 1659, 1582, 1433, 1384, 1217, 876, 819, 670 cm⁻¹.

4-Methylbenzylidenehydrazinodiacetic Acid: Yellow solid (410 mg, 82%); mp 142–143 °C (from EtOH). δ H (400 MHz, D₂O, DMSO-*d*₆): 7.42 (d, J = 8.0 Hz, 2 H, Ar-H), 7.20 (d, J = 7.6 Hz, 2 H, Ar-H), 7.15 (s, 1 H, N=CH), 4.24 (s, 4 H, CH₂), 2.31 (s, 3 H, CH₃) ppm; δ C (100 MHz, D₂O, DMSO-*d*₆): 177.36, 140.62, 135.04, 131.81, 128.07, 125.99, 58.78, 22.95 ppm. MS (EI, 70eV): m/z (%) 250.0 (M⁺, 2),

204.1 (12), 118.1 (100), 91.1 (32), 42.0 (12). $C_{12}H_{14}N_2O_4$ (250.25): requires C 57.59, H 5.64, N 11.19; found C 57.61, H 5.65, N 11.17%. IR (KBr): $\nu_{\max}$ 3428, 3024, 2973, 2499, 1715, 1589, 1395, 1147, 984, 813, 667 cm^{-1} .

4-Methoxybenzylidenehydrazinodiacetic Acid: Yellow solid (430 mg, 80%); mp 155–156 °C (from EtOH). δH (400 MHz, D_2O , DMSO- d_6): 7.42 (d, J = 8.8 Hz, 2 H, Ar-H), 7.09 (s, 1 H, N=CH), 6.91 (d, J = 8.8 Hz, 2 H, Ar-H), 4.43 (s, 4 H, CH_2), 3.78 (s, 3 H, OCH_3) ppm; δC (100 MHz, D_2O , DMSO- d_6): 176.84, 161.14, 133.92, 131.74, 129.40, 116.59, 57.70, 54.44 ppm. MS (EI, 70eV): m/z (%) 266.1 (M^+ , 4), 241.1 (17), 161.1 (78), 134.1 (100), 77.0 (14). $C_{12}H_{14}N_2O_5$ (266.25): requires C 54.13, H 5.30, N 11.52; found C 54.15, H 5.31, N 11.49%. IR (KBr): $\nu_{\max}$ 3456, 3018, 2941, 1666, 1582, 1512, 1429, 1262, 1133, 819, 736, 646 cm^{-1} .

2-Thenylidenehydrazinodiacetic Acid: Yellow solid (440 mg, 89%); mp 167–168 °C (from EtOH). δH (400 MHz, D_2O , DMSO- d_6): 7.31–7.34 (m, 2 H, Ar-H and N=CH), 7.04–7.10 (m, 2 H, Ar-H), 4.18 (s, 4 H, CH_2) ppm; δC (100 MHz, D_2O , DMSO- d_6): 176.41, 143.46, 130.29, 129.49, 128.76, 127.48, 58.89 ppm. MS (EI, 70eV): m/z (%) 242.0 (M^+ , 2), 224.0 (23), 196.0 (30), 138.0 (17), 110.0 (100), 42.0 (19). $C_9H_{10}N_2O_4S$ (242.25): requires C 44.62, H 4.16, N 11.56; found C 44.65, H 4.16, N 11.54%. IR (KBr): $\nu_{\max}$ 3428, 3006, 2909, 1715, 1408, 1307, 1147, 984, 883, 697 cm^{-1} .

2-Pyridinylidenehydrazinodiacetic Acid: Yellow solid (430 mg, 91%); mp 201–202 °C (from EtOH). δH (400 MHz, D_2O , DMSO- d_6): 8.46 (d, J = 4.4 Hz, 1 H, Ar-H), 7.75–7.68 (m, 2 H, Ar-H), 7.21 (t, J = 5.8 Hz, 1 H, Ar-H), 7.09 (s, 1 H, N=CH), 4.25 (s, 4 H, CH_2) ppm; δC (100 MHz, D_2O , DMSO- d_6): 171.42, 155.29, 149.07, 137.05, 130.68, 122.41, 118.70, 55.96 ppm. MS (EI, 70eV): m/z (%) 237.1 (M^+ , 2), 104.0 (19), 79.0 (100), 58.1 (18), 42.0 (14). $C_{10}H_{11}N_3O_4$ (237.21): requires C 50.63, H 4.76, N 17.71; found C 50.65, H 4.77, N 17.69%. IR (KBr): $\nu_{\max}$ 3460, 3090, 2930, 1614, 1562, 1447, 1311, 1004, 781, 697 cm^{-1} .

3-Phenyl-2-propenylidenehydrazinodiacetic Acid: Light yellow solid (450 mg, 85%); mp 173–174 °C (from EtOH). δH (400 MHz, D_2O , DMSO- d_6): 7.44 (d, J = 7.2 Hz, 2 H, Ar-H), 7.34 (t, J = 7.6 Hz, 2 H, Ar-H), 7.26 (d, J = 7.2 Hz, 1 H, N=CH), 7.05 (d, J = 8.4 Hz, 1 H, Ar-H), 6.78–6.84 (m, 1 H, CH=CH), 6.66 (d, J = 16.0 Hz, 1 H, Ar-CH), 4.16 (s, 4 H, CH_2) ppm; δC (100 MHz, D_2O , DMSO- d_6): 174.67, 138.91, 137.74, 135.82, 131.50, 130.64, 128.83, 128.59, 57.64 ppm. MS (EI, 70eV): m/z (%) 262.1 (M^+ , 2), 130.1 (100), 103.1 (17), 77.0 (10), 58.1 (15). $C_{13}H_{14}N_2O_4$ (262.26): requires C 59.54, H 5.38, N 10.68; found C 59.56, H 5.37, N 10.66%. IR (KBr): $\nu_{\max}$ 3474, 3024, 2941, 2492, 1749, 1555, 1395, 1332, 1178, 966, 876, 754 cm^{-1} .

Butylidenehydrazinodiacetic Acid: Yellow solid (310 mg, 76%); mp 118–119 °C (from EtOH). δH (400 MHz, D_2O , DMSO- d_6): 6.58 (t, J = 7.2 Hz, 1 H, N=CH), 4.20 (s, 4 H, CH_2), 2.38–2.42 (m, 2 H, CH_2), 1.61–1.70 (m, 2 H, CH_2), 0.95 (t, J = 7.6 Hz, 3 H, CH_3) ppm; δC (100 MHz, D_2O , DMSO- d_6): 171.08, 135.04, 54.99, 45.73, 15.59, 13.66 ppm. MS (EI, 70eV): m/z (%) 202.1 (M^+ , 2), 144.1 (15), 84.0 (30), 70.1 (100), 58.1 (14), 44.0 (25). $C_8H_{14}N_2O_4$ (202.21): requires C 47.54, H 6.89, N 13.85; found C 47.58, H 6.90, N 13.82. IR (KBr): $\nu_{\max}$ 3417, 3115, 2954, 1736, 1627, 1524, 1408, 1185, 1101, 884, 664 cm^{-1} .

4-Chlorophenylethylidenehydrazinodiacetic Acid: Yellow solid (330 mg, 58%); mp 174–175 °C (from EtOH). δH (400 MHz, D_2O , DMSO- d_6): 7.49 (d, J = 8.4 Hz, 2 H, Ar-H), 7.37 (d, J = 8.4 Hz, 2 H, Ar-H), 4.19 (s, 4 H, CH_2), 2.17 (s, 3 H, CH_3) ppm; δC (100 MHz, D_2O , DMSO- d_6): 171.07, 135.24, 131.40, 129.19, 128.48, 126.80, 54.99, 14.62 ppm. MS (EI, 70eV): m/z (%) 284.0 (M^+ , 2), 152.0 (100), 138.0 (31), 117.0 (19), 75.0 (10). $C_{12}H_{13}ClN_2O_4$ (284.70): requires C 50.63, H 4.60, N 9.84; found C 50.66, H 4.61, N 9.82. IR (KBr): $\nu_{\max}$ 3428, 3078, 2930, 1715, 1593, 1499, 1332, 1225, 1106,

858, 754, 691 cm⁻¹.

Benzaldehyde: Colorless liquid (93 mg, 88%); δ H (400 MHz, CDCl₃): 10.05 (s, 1 H, CHO), 7.91 (d, J = 7.6 Hz, 2 H, Ar-H), 7.66 (t, J = 7.4 Hz, 1 H, Ar-H), 7.56 (t, J = 7.6 Hz, 2 H, Ar-H) ppm; δ C (100 MHz, CDCl₃): 190.42, 130.84, 129.30, 128.53, 126.83 ppm.

4-Chlorobenzaldehyde: Colorless solid (125 mg, 89%); mp 46–47 °C (from dichloromethane) (lit.,¹ 47–50 °C). δ H (400 MHz, CDCl₃): 9.99 (s, 1 H, CHO), 7.83 (d, J = 8.4 Hz, 2 H, Ar-H), 7.52 (d, J = 8.4 Hz, 2 H, Ar-H) ppm; δ C (100 MHz, CDCl₃): 190.81, 140.94, 134.74, 130.89, 129.45 ppm.

2-Nitrobenzaldehyde: Light yellow solid (118 mg, 78%); mp 44–45 °C (from dichloromethane) (lit.,² 45–46 °C). δ H (400 MHz, CDCl₃): 10.41 (s, 1 H, CHO), 8.12 (d, J = 6.8 Hz, 1 H, Ar-H), 7.95 (d, J = 6.4 Hz, 1 H, Ar-H), 7.84–7.61 (m, 2 H, Ar-H) ppm; δ C (100 MHz, CDCl₃): 188.18, 149.58, 134.12, 133.75, 131.35, 129.64, 124.51 ppm.

3-Hydroxybenzaldehyde: Light yellow solid (102 mg, 83%); mp 103–104 °C (from dichloromethane) (lit.,³ 103–105 °C). δ H (400 MHz, CDCl₃): 9.89 (s, 1 H, CHO), 7.38–7.33 (m, 3 H, Ar-H), 7.91 (d, J = 8.0 Hz, 1 H, Ar-H), 5.84 (s, 1 H, OH) ppm; δ C (100 MHz, CDCl₃): 192.61, 156.47, 137.80, 130.44, 123.57, 122.18, 114.79 ppm.

2,4-Dichlorobenzaldehyde: White solid (150 mg, 86%); mp 71–72 °C (from dichloromethane) (lit.,⁴ 73–74 °C). δ H (400 MHz, CDCl₃): 10.44 (s, 1 H, CHO), 7.90 (d, J = 8.4 Hz, 1 H, Ar-H), 7.51 (s, 1 H, Ar-H), 7.40 (d, J = 8.4 Hz, 1 H, Ar-H) ppm; δ C (100 MHz, CDCl₃): 188.55, 141.13, 138.56, 130.93, 130.49, 130.34, 127.98 ppm.

4-Methylbenzaldehyde: Light yellow liquid (98 mg, 81%). δ H (400 MHz, CDCl₃): 9.96 (s, 1 H, CHO), 7.78 (d, J = 8.0 Hz, 2 H, Ar-H), 7.33 (d, J = 8.0 Hz, 2 H, Ar-H), 2.44 (s, 3 H, CH₃) ppm; δ C (100 MHz, CDCl₃): 191.99, 145.56, 134.21, 129.85, 129.72, 21.88 ppm.

4-Methoxybenzaldehyde: Yellow liquid (114 mg, 84%). δ H (400 MHz, CDCl₃): 7.90 (s, 1 H, CHO), 7.85 (d, J = 8.8 Hz, 2 H, Ar-H), 7.02 (d, J = 8.8 Hz, 2 H, Ar-H), 3.90 (s, 3 H, OCH₃) ppm; δ C (100 MHz, CDCl₃): 190.82, 164.62, 131.99, 129.42, 114.32, 55.59 ppm.

2-Thenaldehyde: Yellow liquid (92 mg, 82%). δ H (400 MHz, CDCl₃): 9.89 (s, 1 H, CHO), 7.75–7.72 (m, 2 H, Ar-H), 7.17 (t, J = 4.8 Hz, 1 H, Ar-H) ppm; δ C (100 MHz, CDCl₃): 183.08, 143.96, 136.55, 135.19, 128.43 ppm.

2-Pyridinecarboxaldehyde (9b): Yellow liquid (94 mg, 88%). δ H (400 MHz, CDCl₃): 10.02 (s, 1 H, CHO), 8.57 (d, J = 4.0 Hz, 1 H, Ar-H), 8.11 (d, J = 7.6 Hz, 1 H, Ar-H), 7.83–7.76 (m, 2 H, Ar-H) ppm; δ C (100 MHz, CDCl₃): 193.42, 150.21, 148.46, 137.63, 127.94, 124.29 ppm.

Cinnamaldehyde: Light yellow liquid (106 mg, 80%). δ H (400 MHz, CDCl₃): 9.73 (d, J = 7.6 Hz, 1 H, CHO), 7.60–7.58 (m, 2 H, Ar-H and Ar-CH), 7.49–7.47 (m, 4 H, Ar-H), 6.75 (dd, J_1 = 7.6 Hz, J_2 = 7.6 Hz, 1 H, C=CH) ppm; δ C (100 MHz, CDCl₃): 193.77, 152.85, 134.02, 131.31, 129.13, 128.61, 128.52 ppm.

1-Butyraldehyde: Colorless liquid (54 mg, 75%). δ H (400 MHz, CDCl₃): 9.75 (t, J = 2.0 Hz, 1 H, CHO), 2.42–2.38 (m, 2 H, CH₂), 1.70–1.61 (m, 2 H, CH₂), 0.95 (t, J = 7.6 Hz, 3 H, CH₃) ppm; δ C (100 MHz, CDCl₃): 202.88, 45.73, 15.59, 13.66 ppm.

4-Chloroacetophenone: Colorless liquid (108 mg, 70%). δ H (400 MHz, CDCl₃): 8.08 (d, J = 8.8 Hz, 2 H, Ar-H), 7.69 (d, J = 8.8 Hz, 2 H, Ar-H), 2.76 (s, 3 H, CH₃) ppm; δ C (100 MHz, CDCl₃): 191.99, 135.70, 129.45, 128.61, 123.48, 21.88 ppm.

1,3-Diphenyl-3-(phenylamino)propan-1-one: Yellow solid (547 mg, 91%); mp 168–169 °C (from

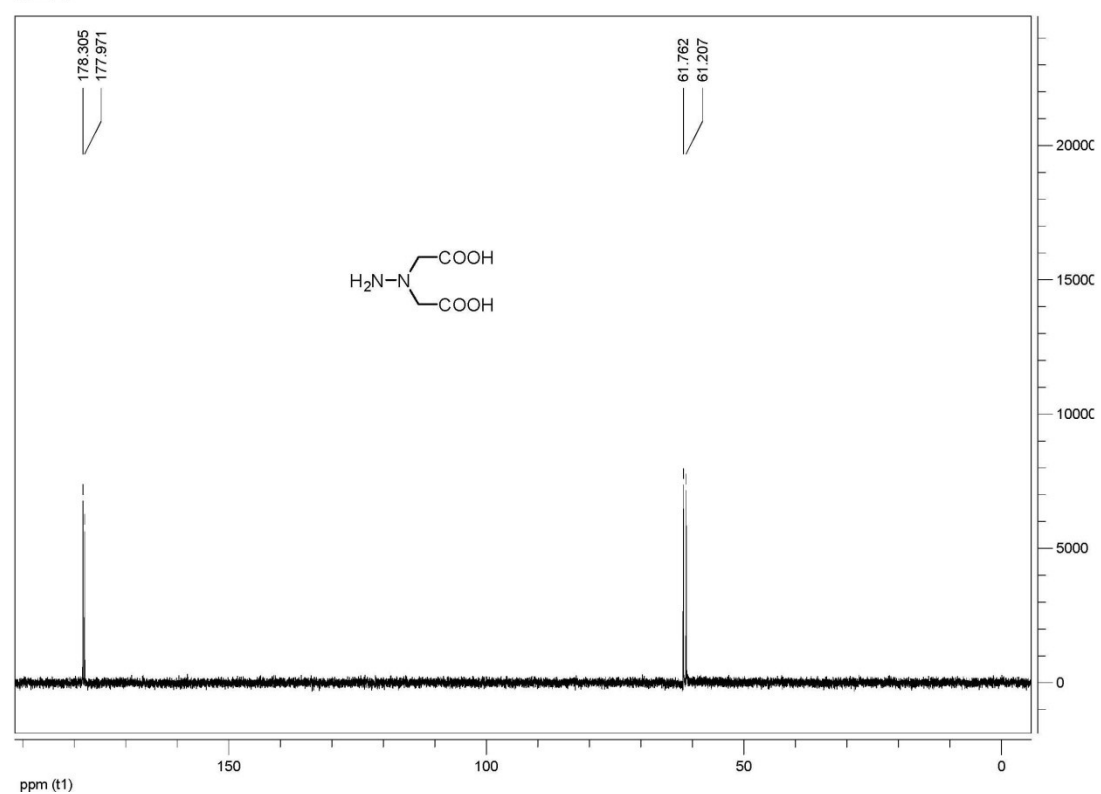
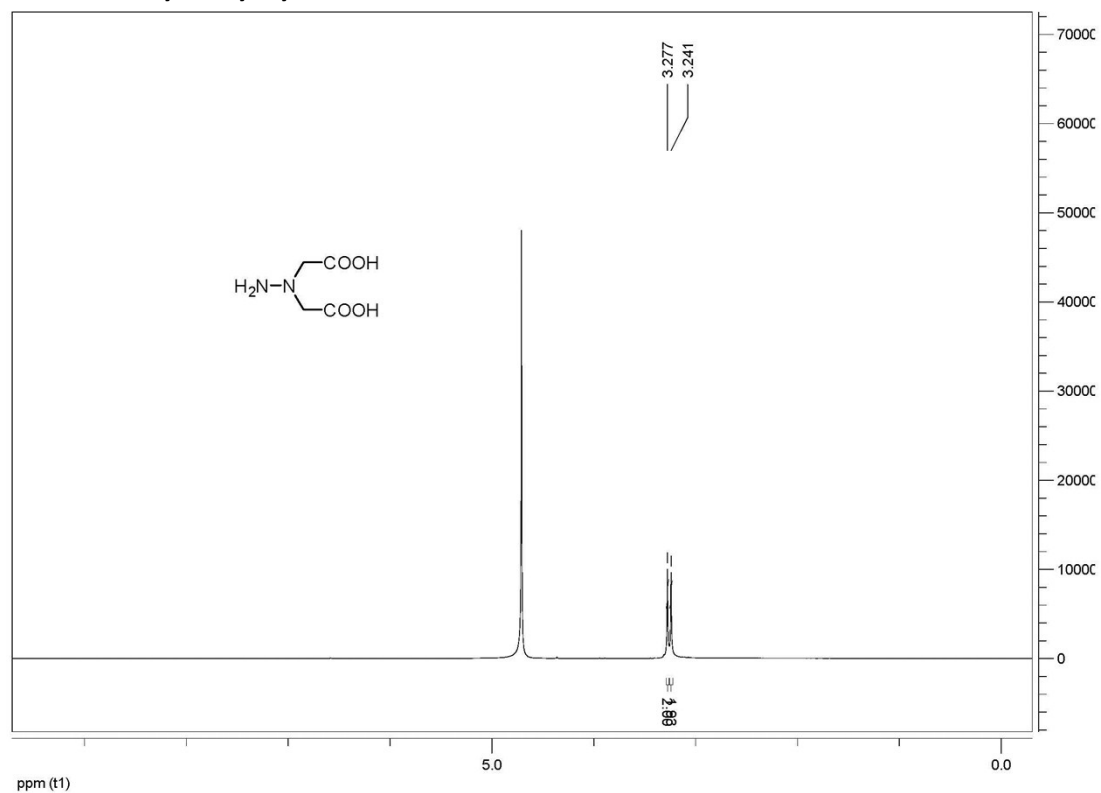
dichloromethane). δ H (400 MHz, CDCl_3): 7.82 (d, $J = 7.2$ Hz, 2 H, Ar-H), 7.47 (t, $J = 7.6$ Hz, 1 H, Ar-H), 7.34–7.37 (m, 4 H, Ar-H), 7.24 (t, $J = 8.0$ Hz, 2 H, Ar-H), 7.15 (t, $J = 7.2$ Hz, 1 H, Ar-H), 7.01 (t, $J = 8.4$ Hz, 2 H, Ar-H), 6.58 (t, $J = 7.2$ Hz, 1 H, Ar-H), 6.48 (d, $J = 8.0$ Hz, 2 H, Ar-H), 4.92 (brs, 1 H, NH), 4.48 (s, 1 H, CH), 3.43 (dd, $J_1 = 5.2$ Hz, $J_2 = 5.2$ Hz, 1 H, CH), 3.33 (dd, $J_1 = 7.6$ Hz, $J_2 = 7.6$ Hz, 1 H, CH) ppm; δ C (100 MHz, CDCl_3): 198.30, 147.02, 143.01, 136.71, 133.47, 129.15, 128.87, 128.74, 128.25, 127.39, 126.41, 117.81, 113.85, 54.81, 46.36 ppm. $\text{C}_{21}\text{H}_{19}\text{NO}$ (301.38): requires C 83.69, H 6.35, N 4.65; found C 83.70, H 6.34, N 4.66%.

3-(3-phenyl-acryloyl)-chromen-2-one: Yellow solid (525 mg, 95%); mp 141–142 °C (from dichloromethane). δ H (400 MHz, CDCl_3): 8.58 (s, 1 H, Coumarin-H), 7.95 (d, $J = 8.4$ Hz, 1 H, CO-C=CH), 7.87 (d, $J = 8.4$ Hz, 1 H, CO-CH=C), 7.63–7.68 (m, 4 H, Coumarin-H), 7.34–7.42 (m, 5 H, Ar-H) ppm; δ C (100 MHz, CDCl_3): 186.54, 159.35, 155.26, 148.16, 145.14, 134.79, 134.30, 130.87, 130.08, 128.95, 125.28, 125.03, 123.94, 118.57, 116.74, 112.83 ppm. $\text{C}_{18}\text{H}_{12}\text{O}_3$ (276.29): requires C 78.25, H 4.38; found C 78.27, H 4.40%.

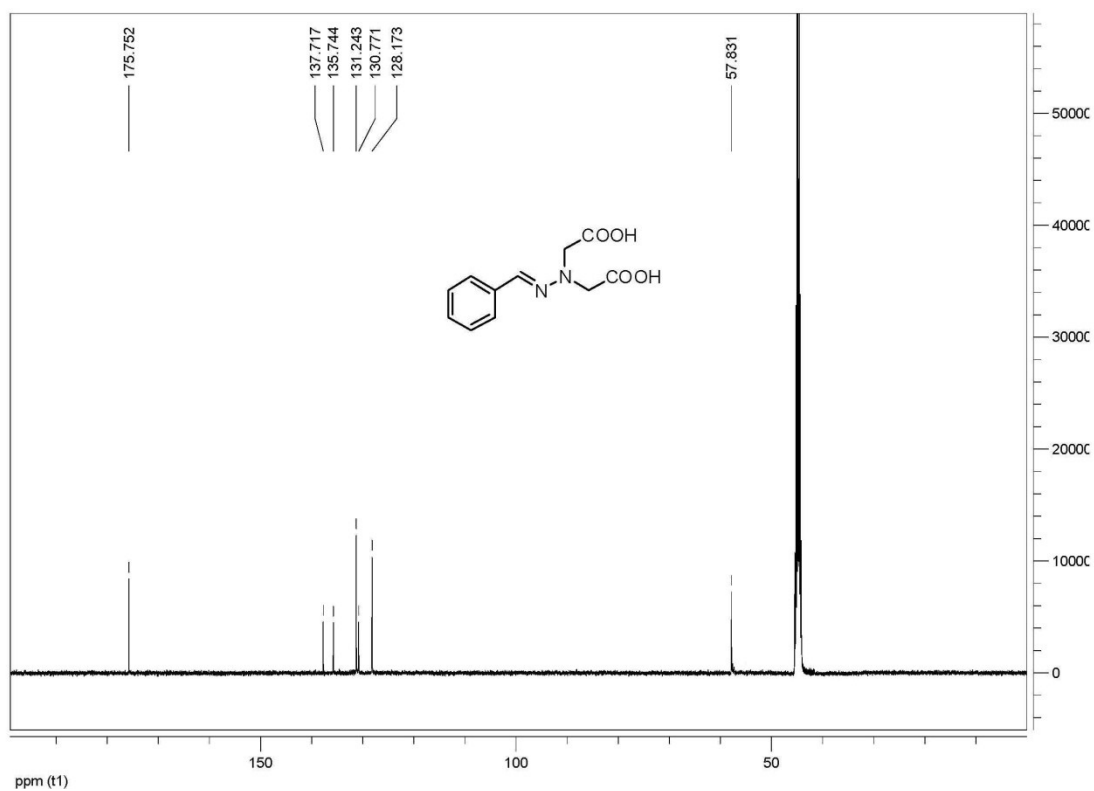
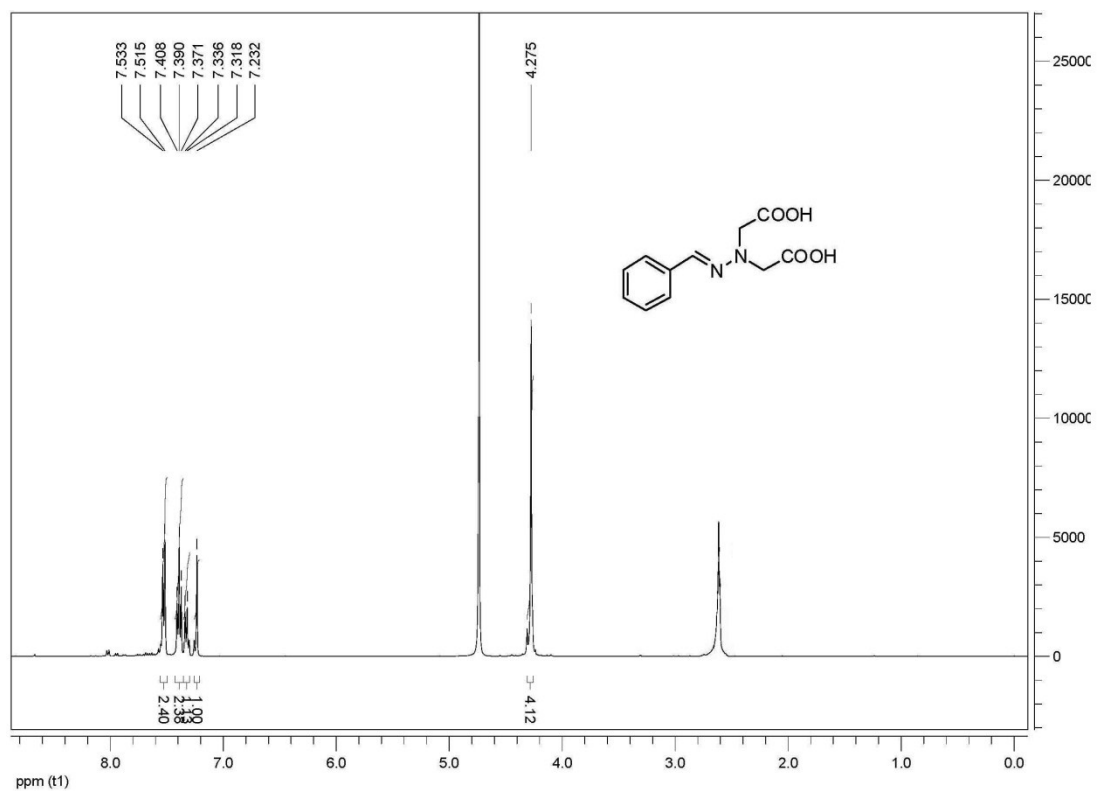
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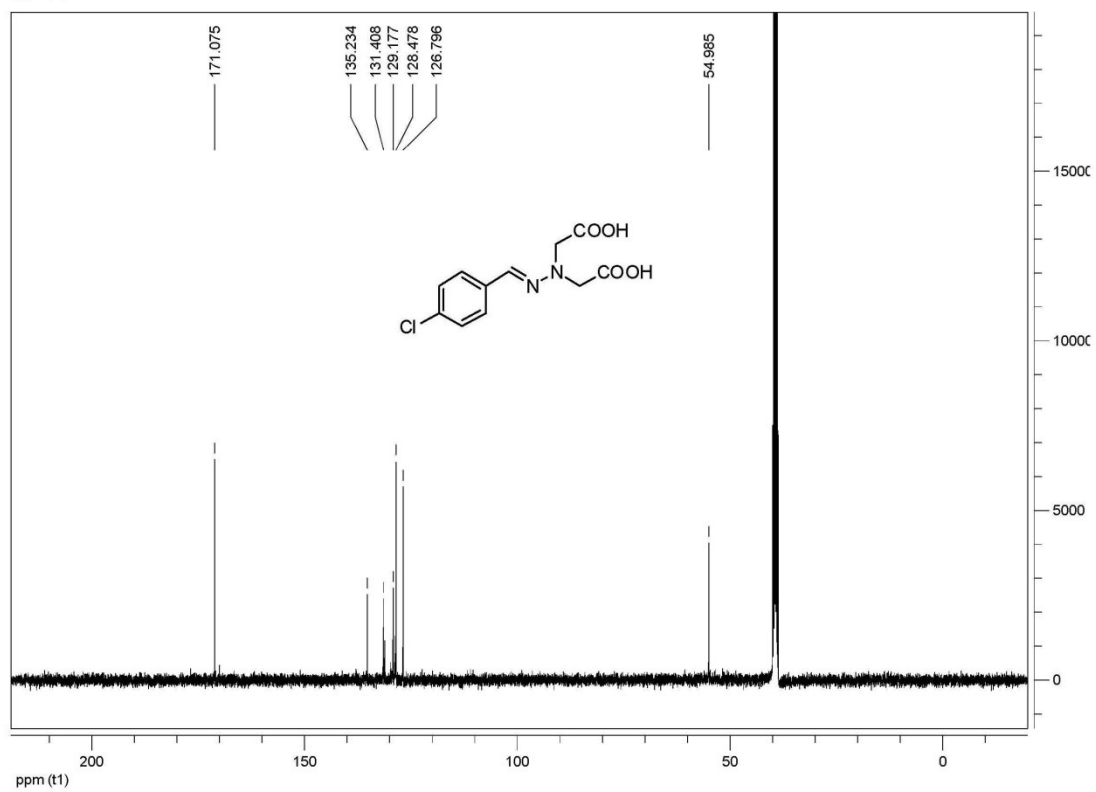
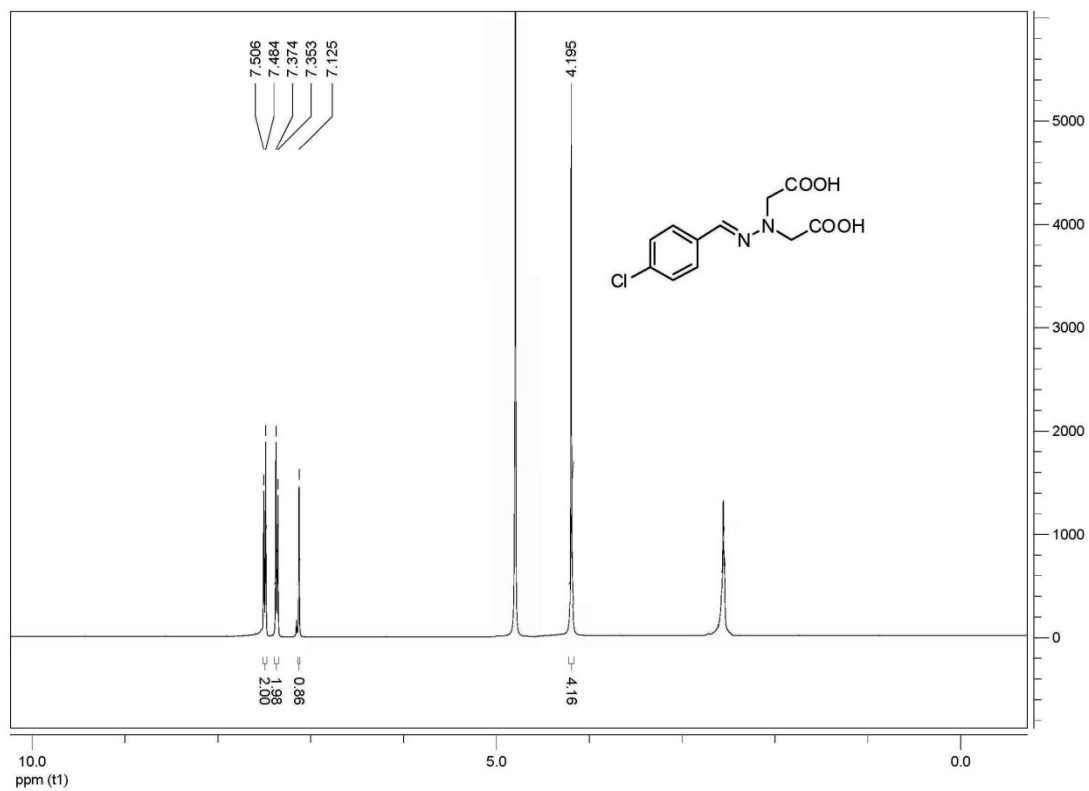
N,N'-dicarboxymethyl hydrazine



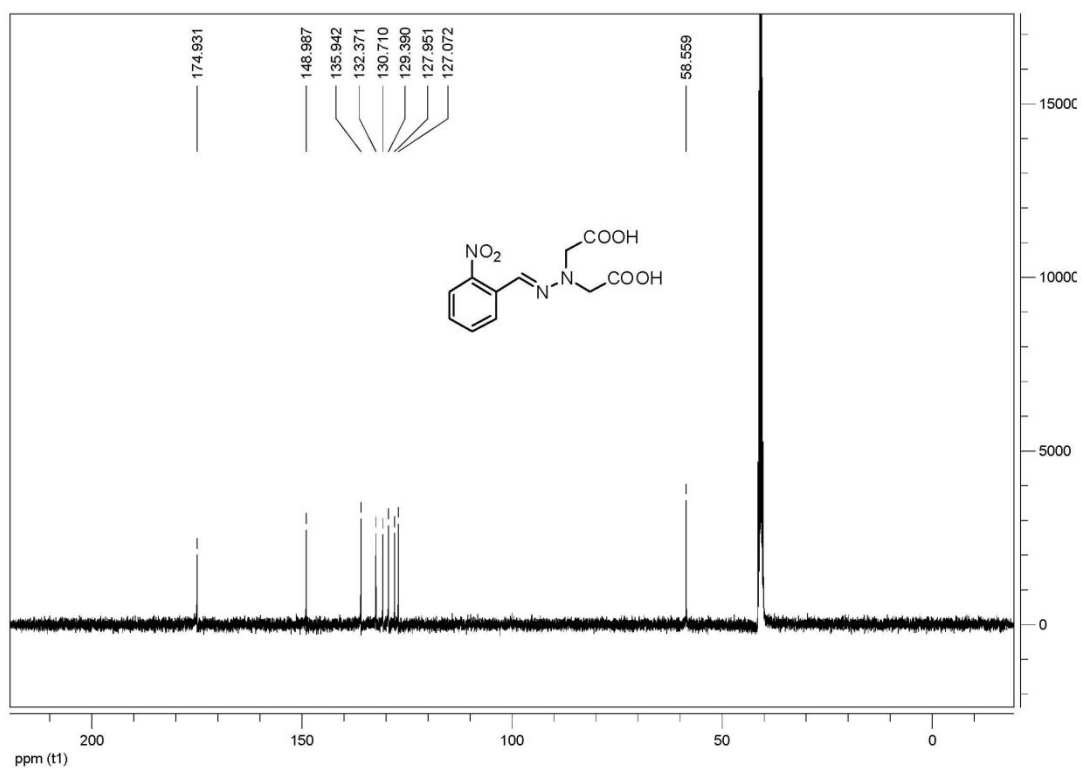
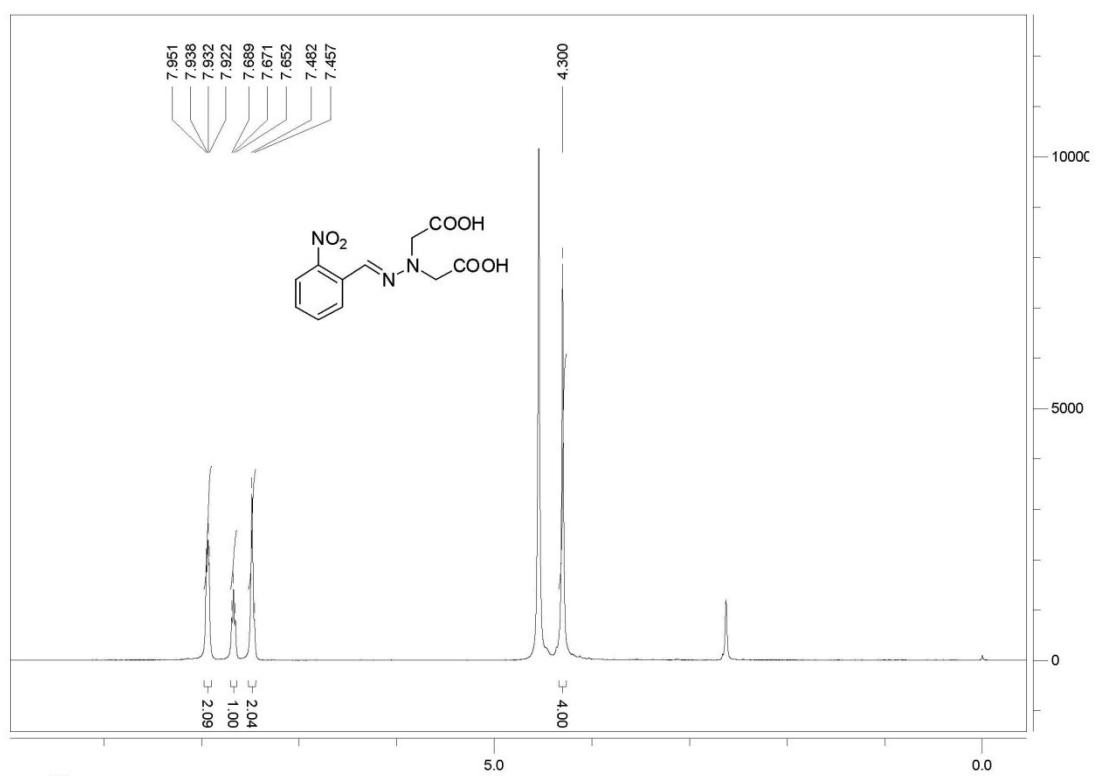
Benzylidenehydrazinodiacetic Acid



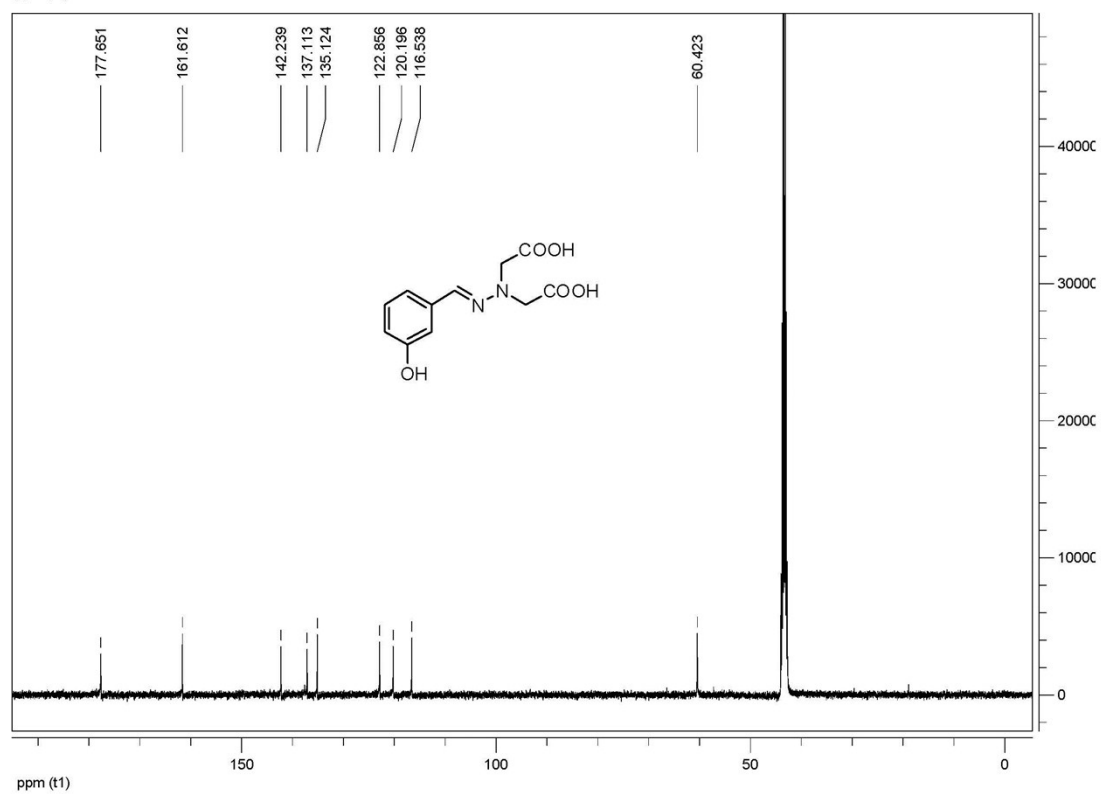
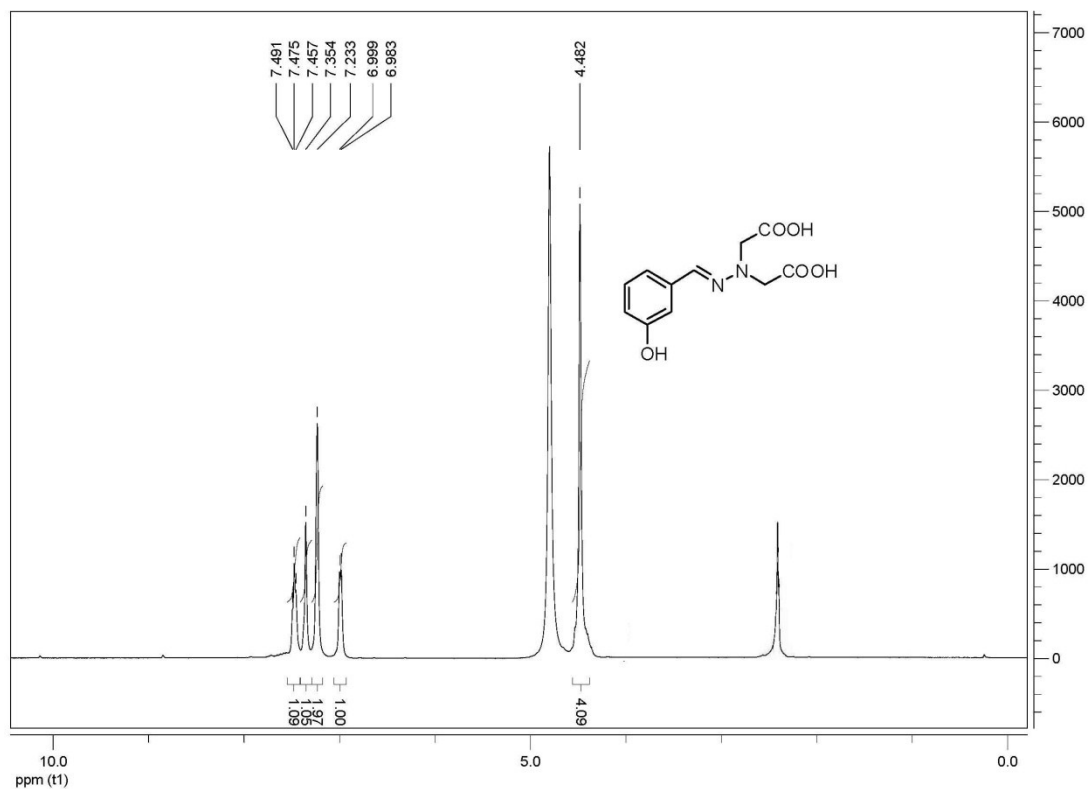
4-Chlorobenzylidenehydrazinodiacetic Acid



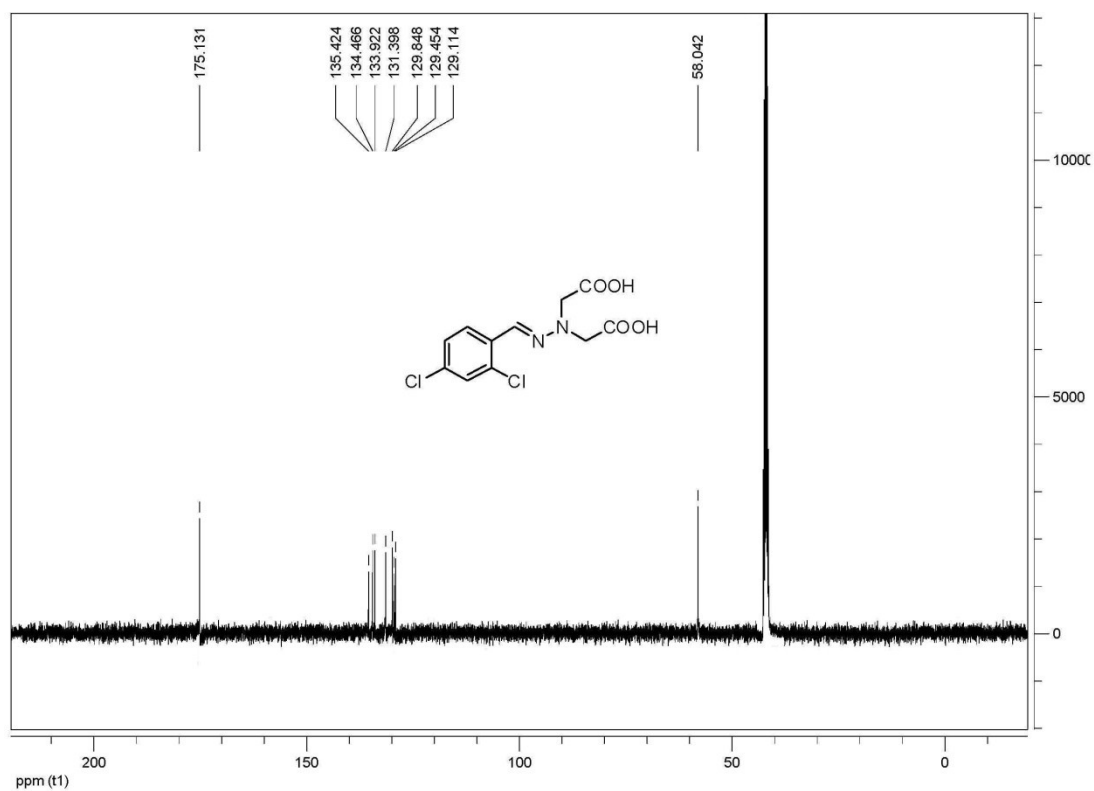
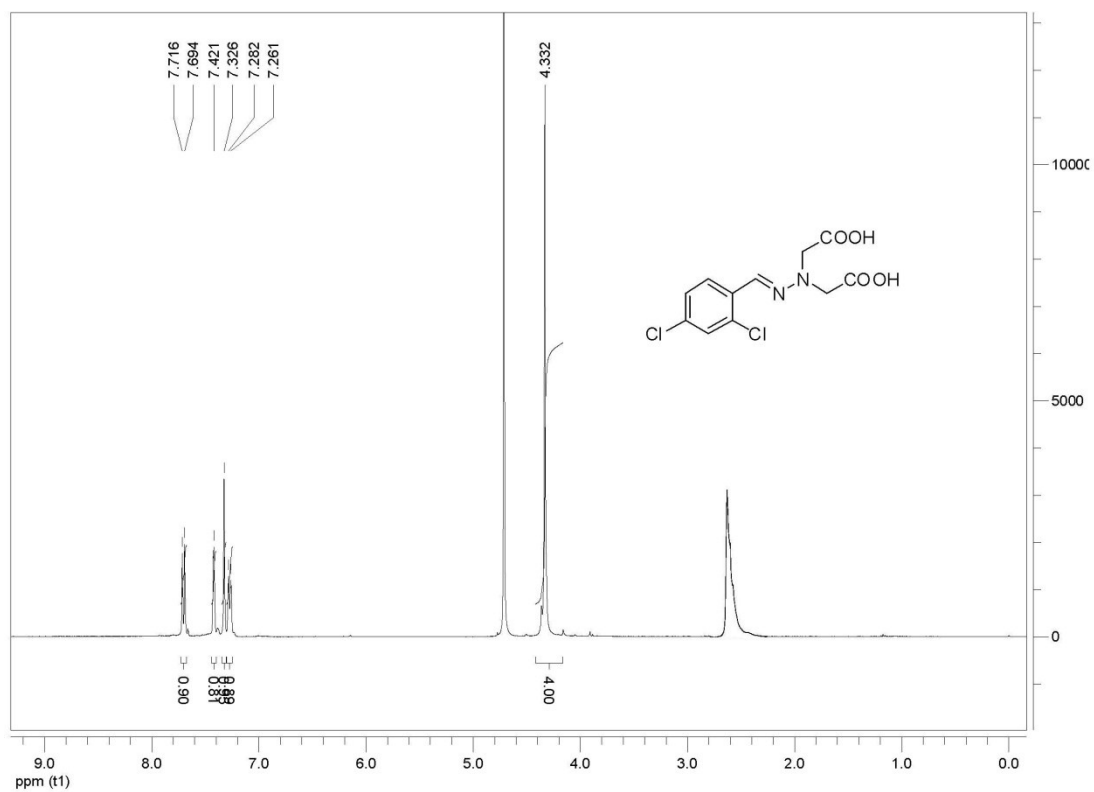
2-Nitrobenzylidenhydrazinodiacetic Acid



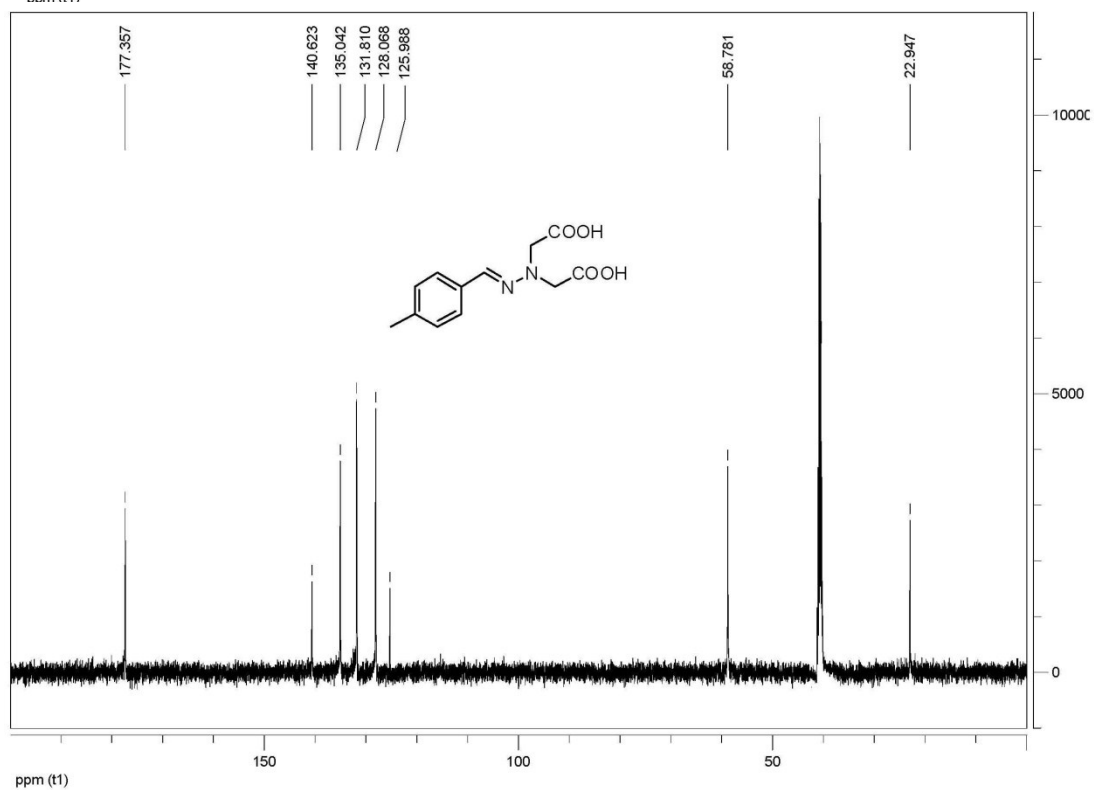
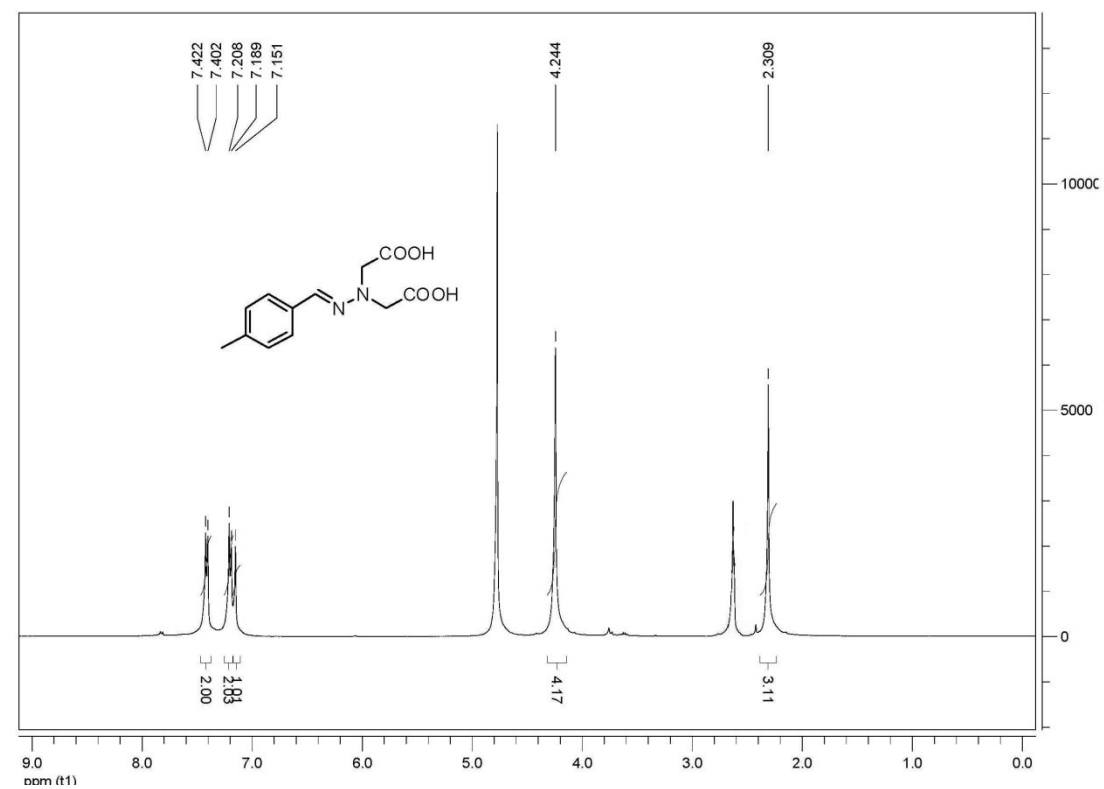
3-Hydroxybenzylidenehydrazinodiacetic Acid



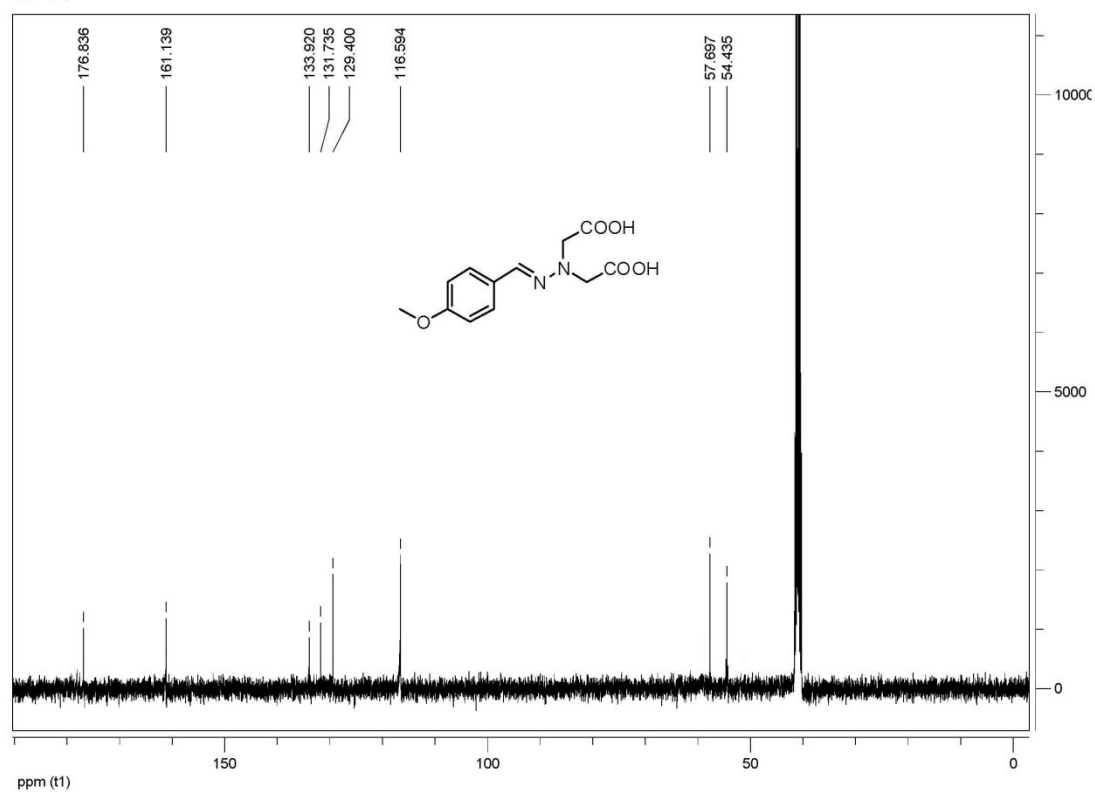
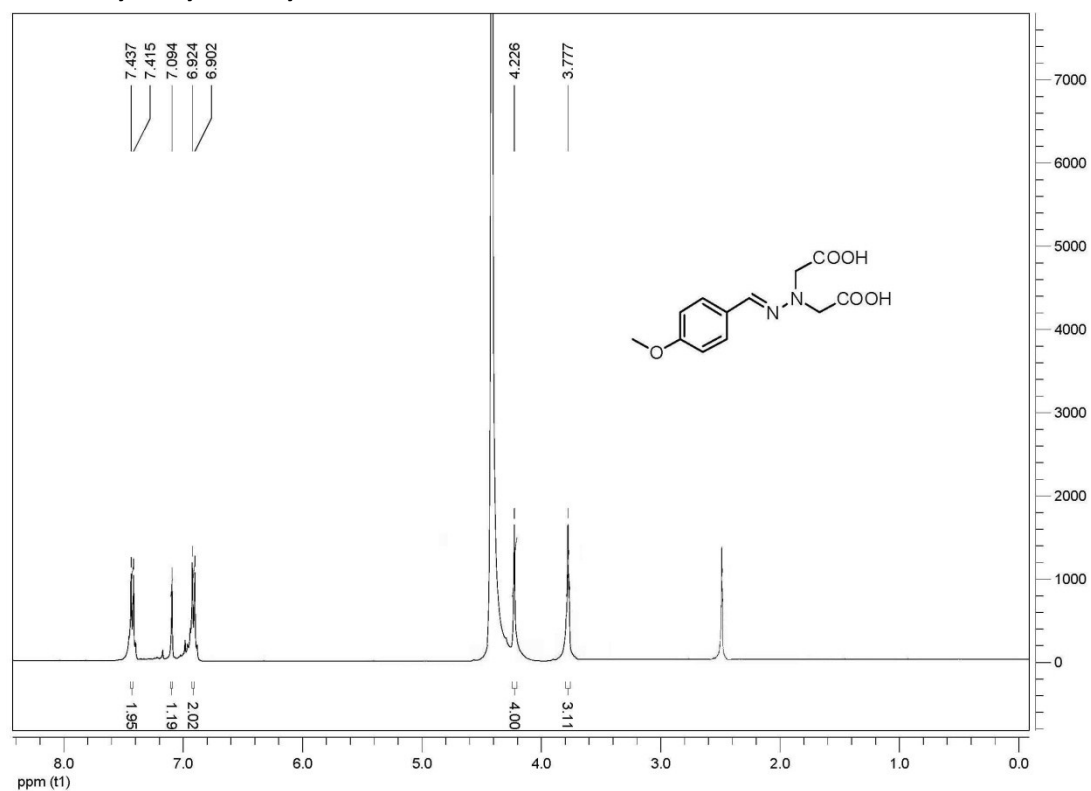
2,4-Dichlorobenzylidenehydrazinodiacetic Acid



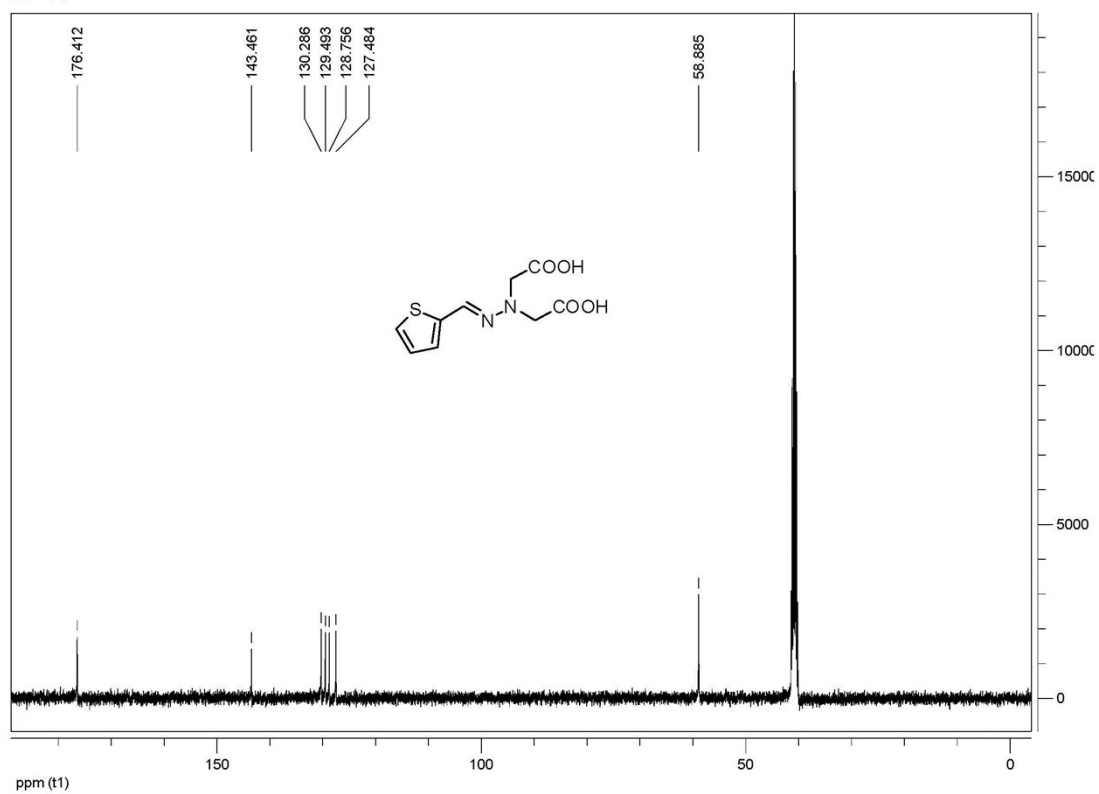
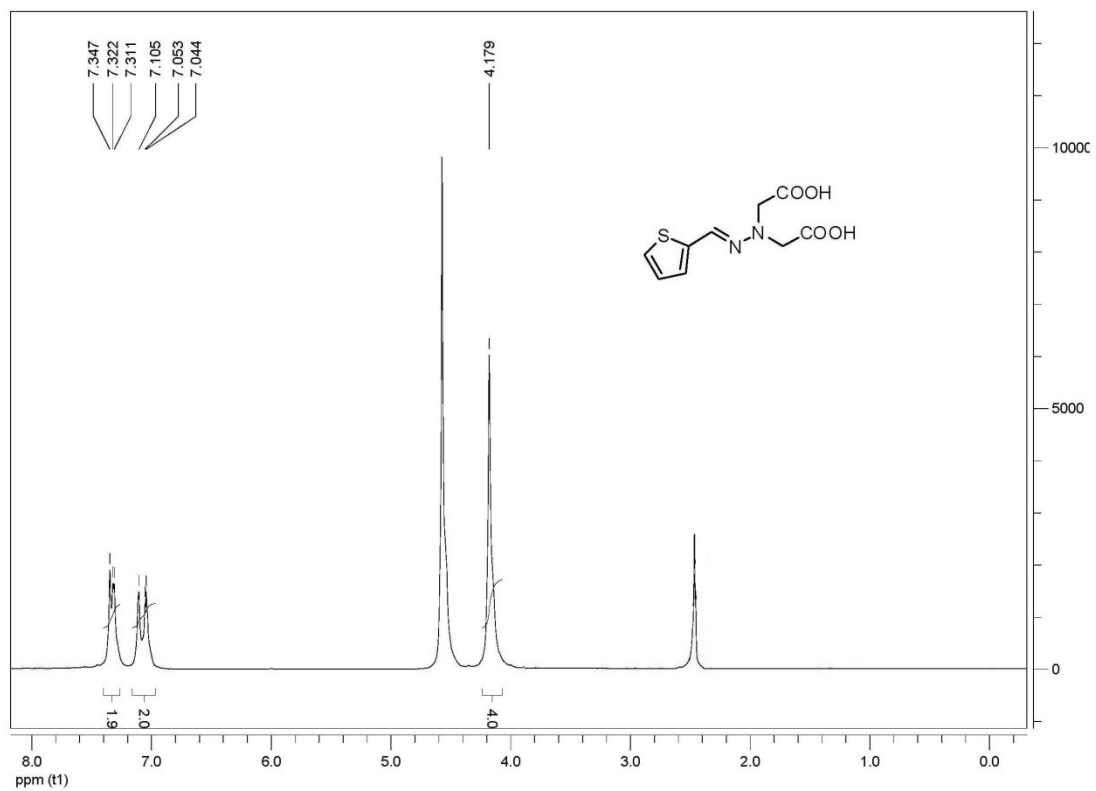
4-Methylbenzylidenehydrazinodiacetic Acid



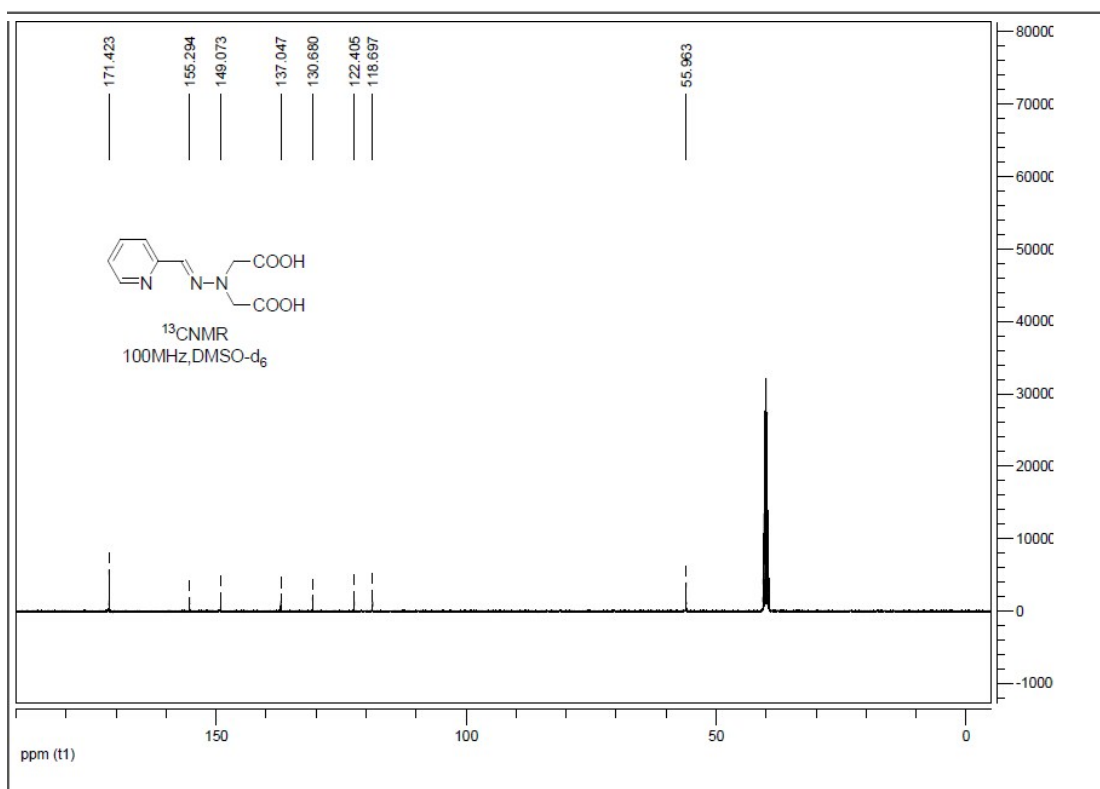
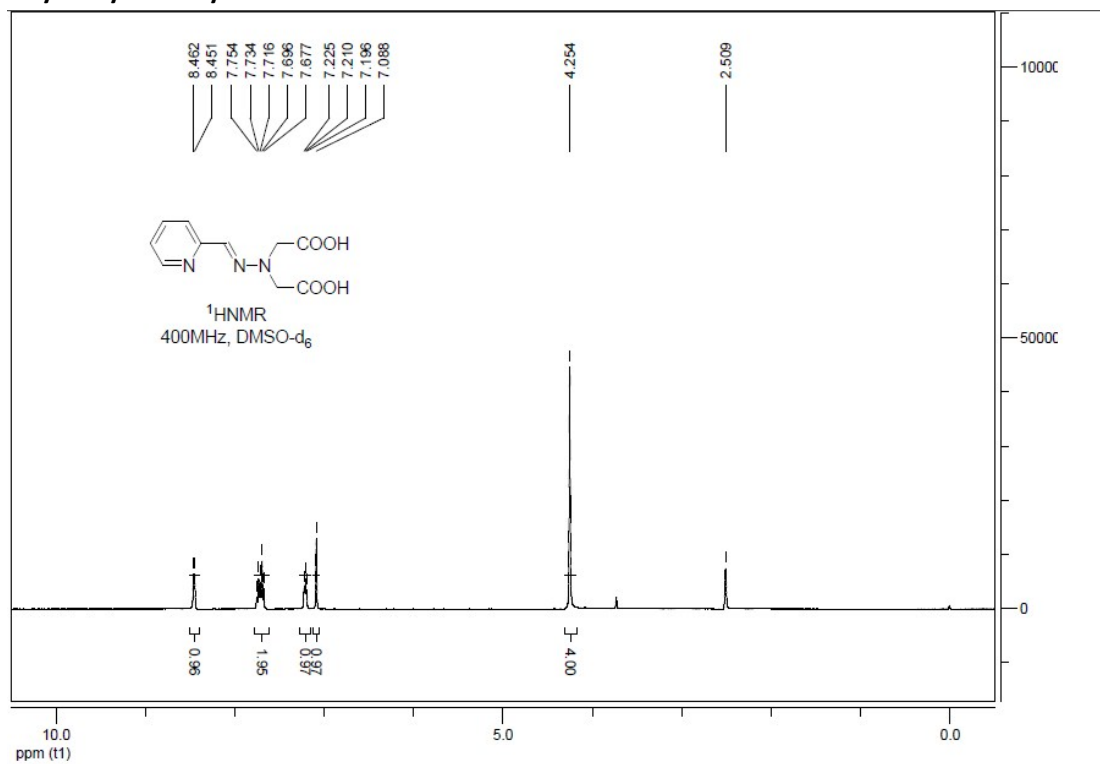
4-Methoxybenzylidenehydrazinodiacetic Acid



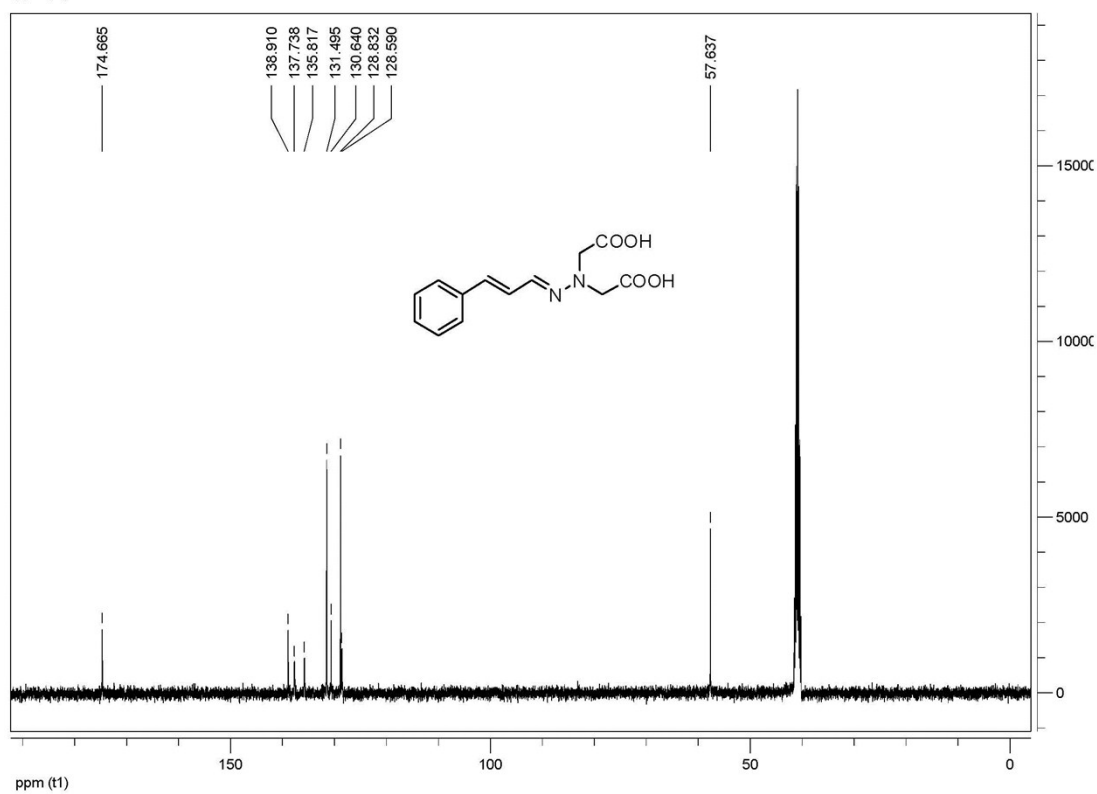
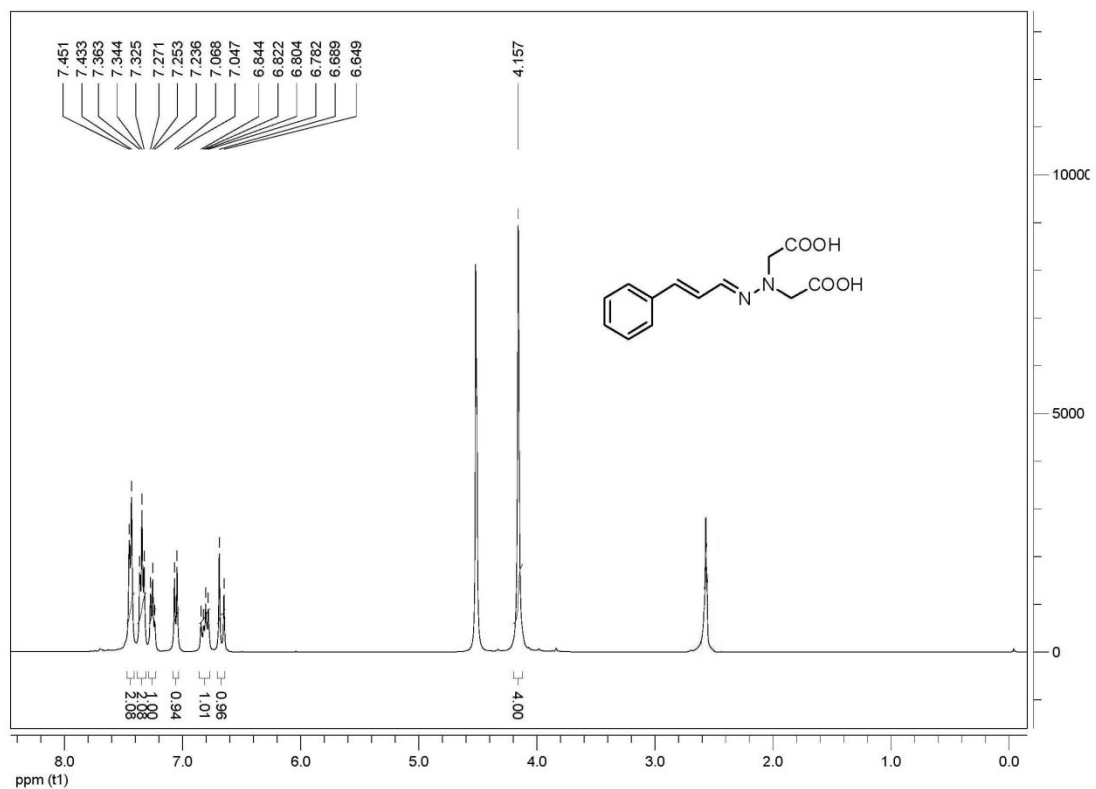
2-Thenylidenehydrazinodiacetic Acid



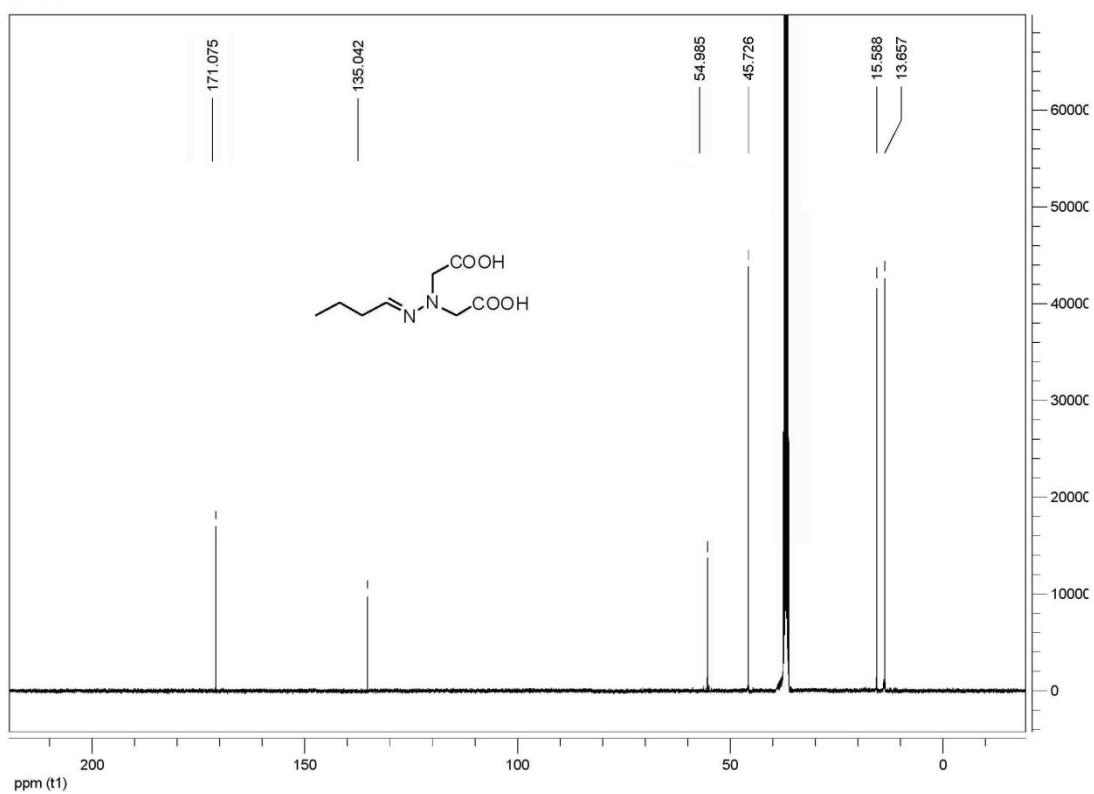
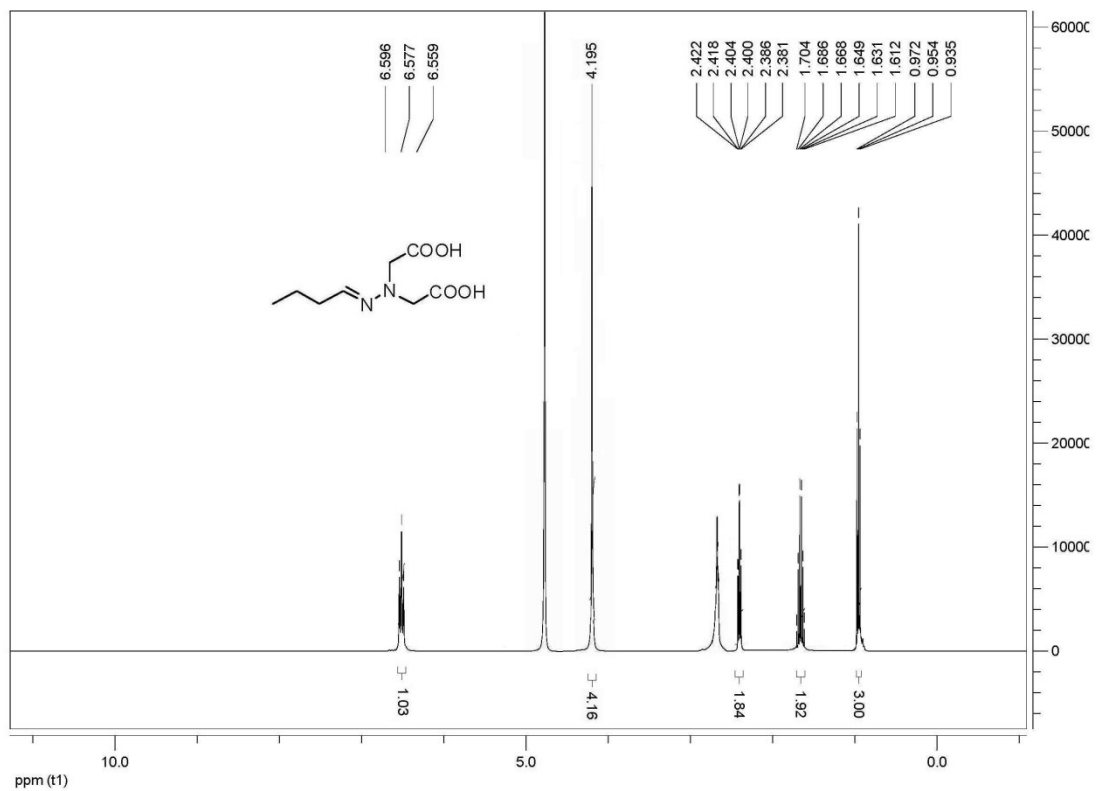
2-Pyridinylidenehydrazinodiacetic Acid



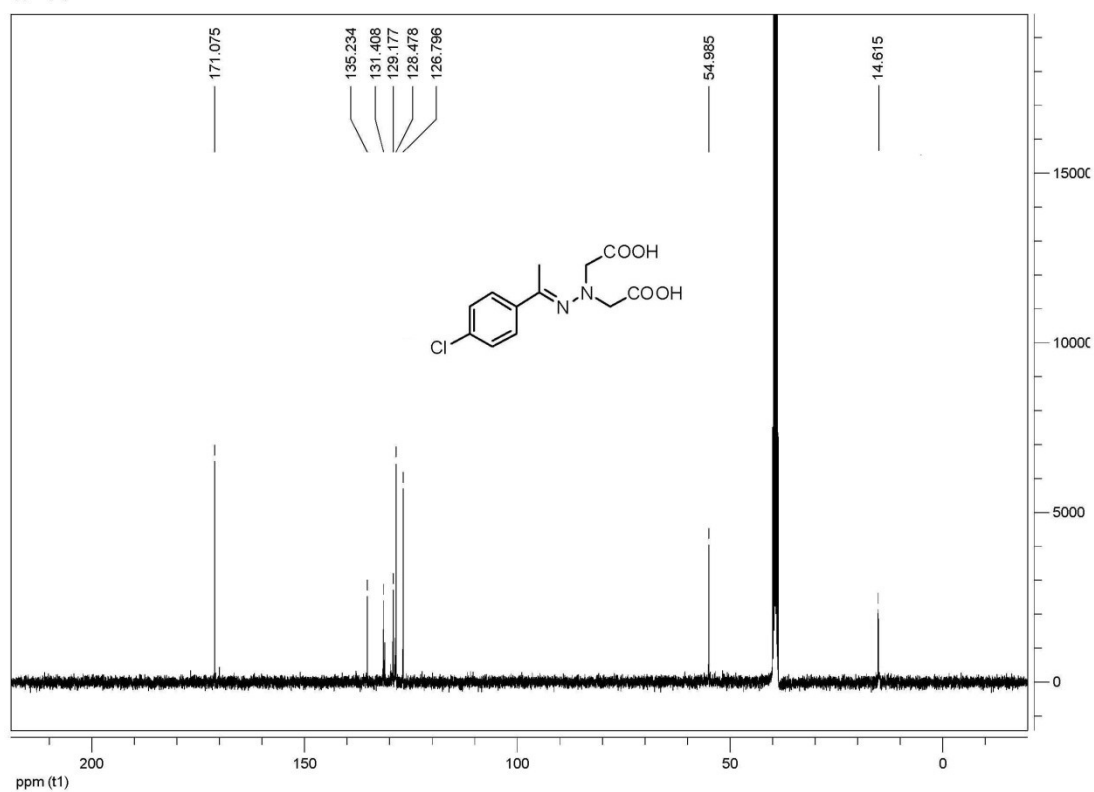
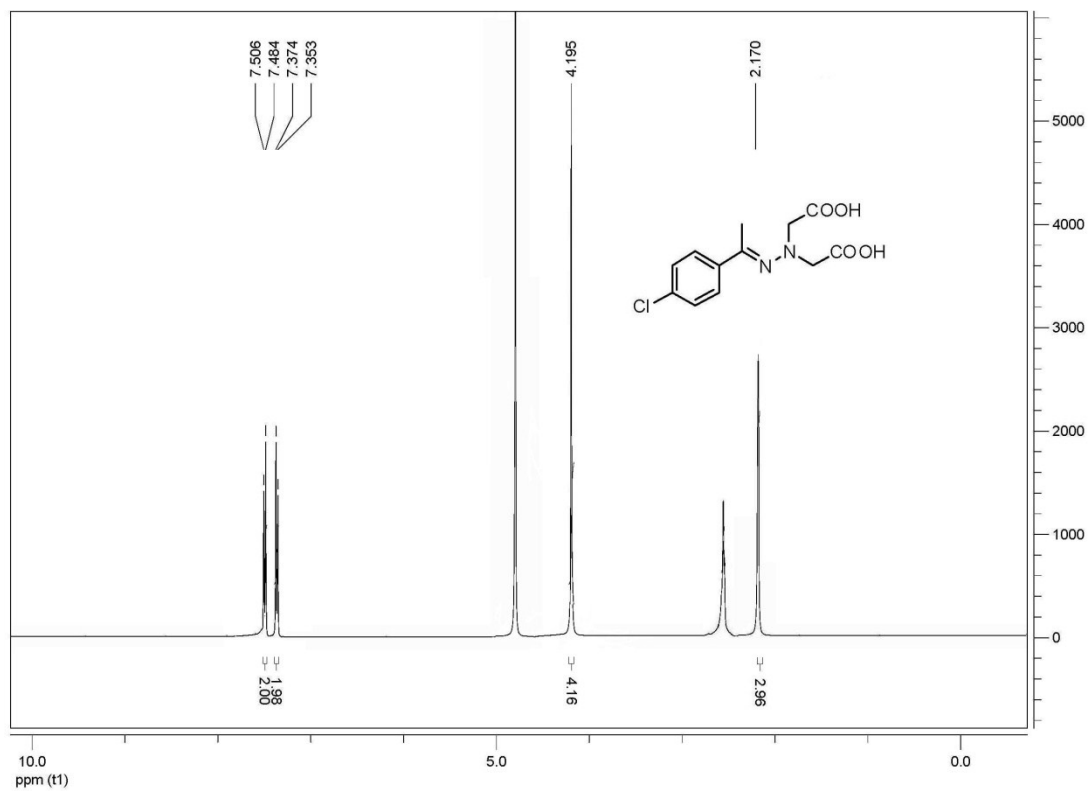
3-phenyl-2-propenylidenehydrazinodiacetic Acid



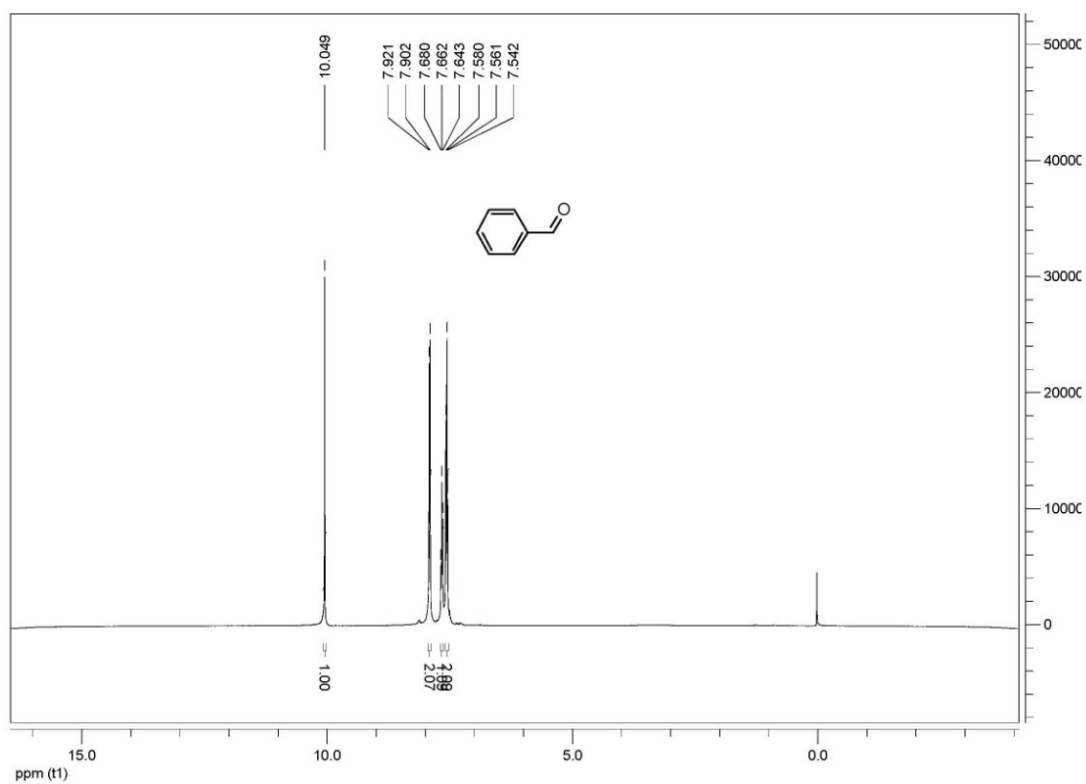
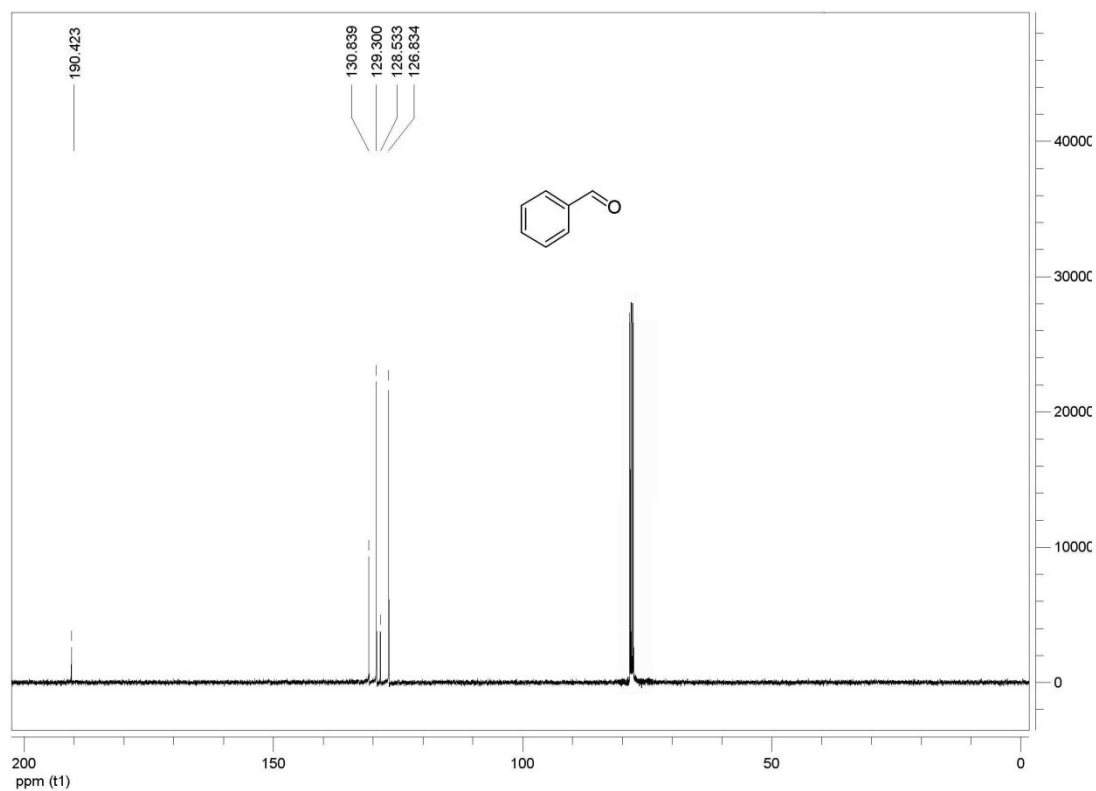
Butylidenehydrazinodiacetic Acid



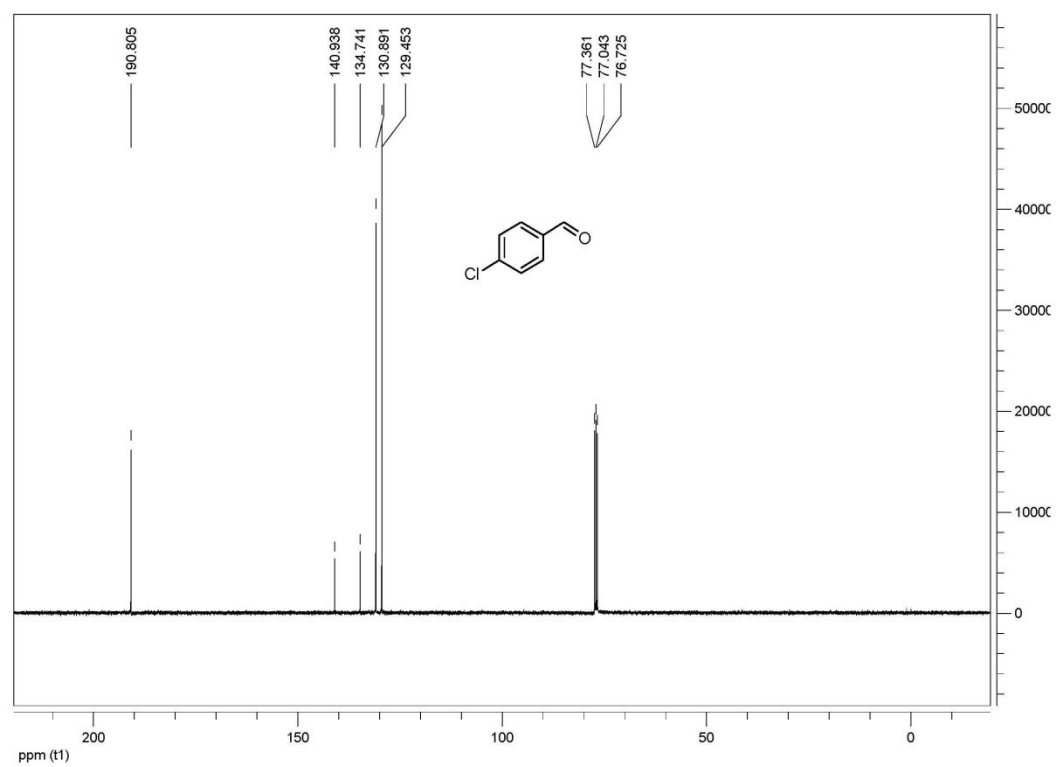
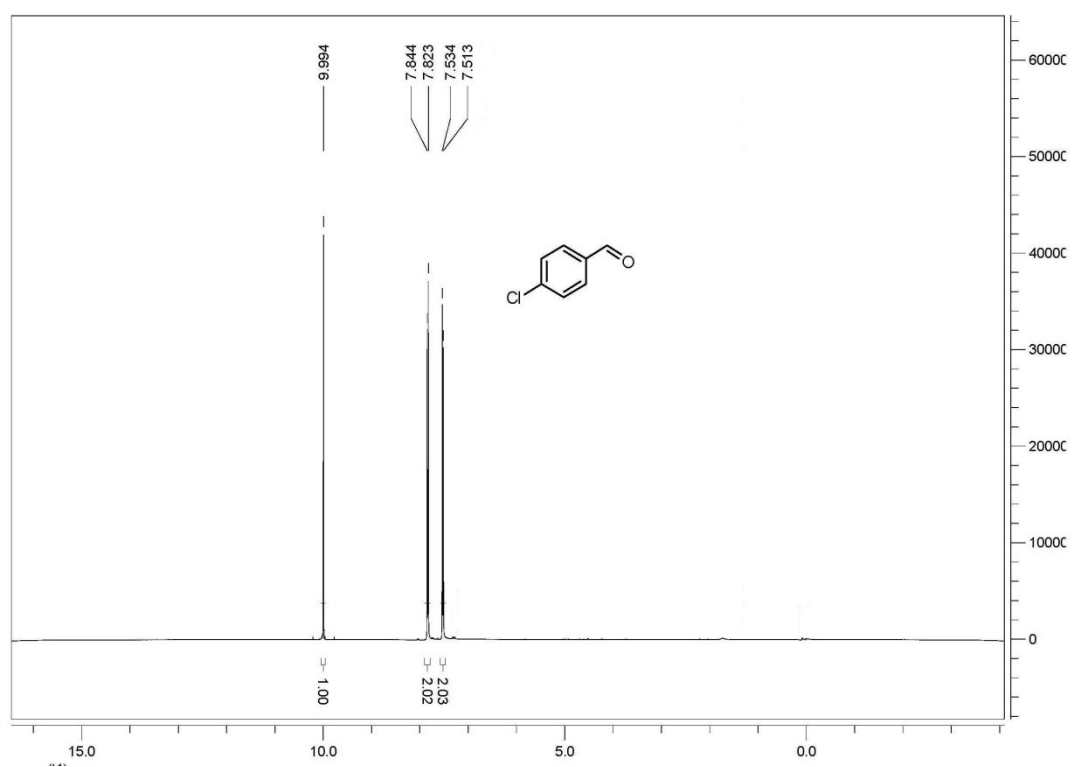
4-Chlorophenylethylidenehydrazinodiacetic Acid



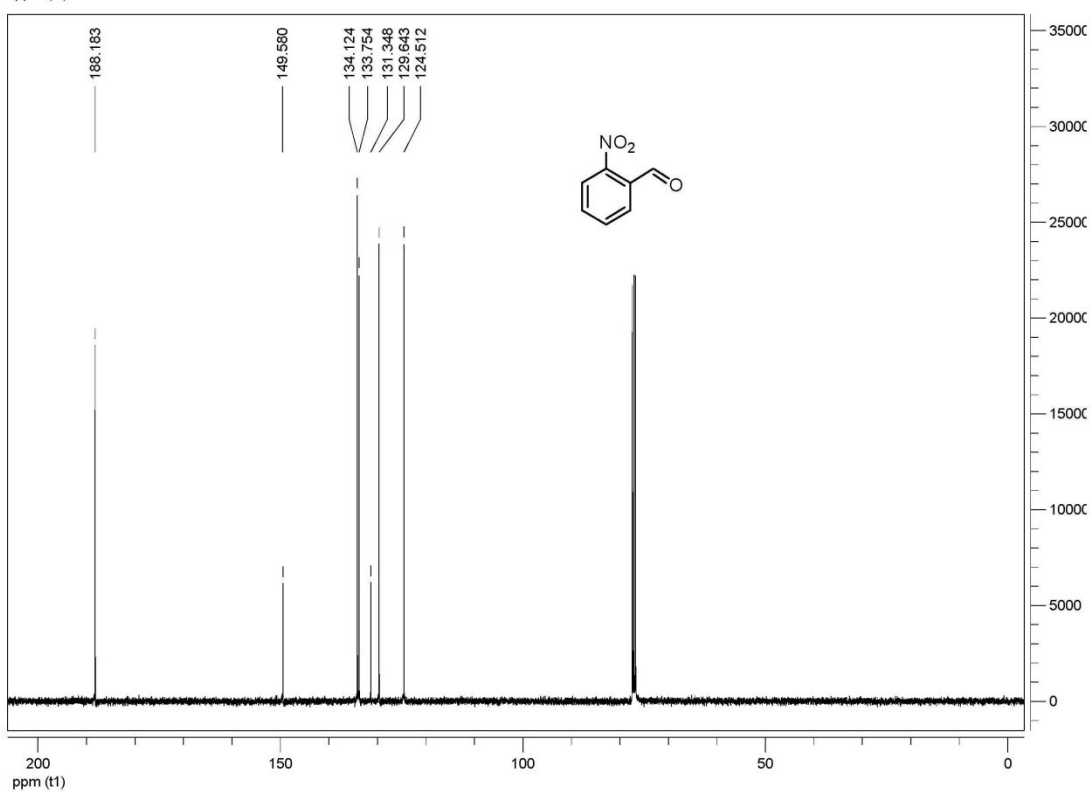
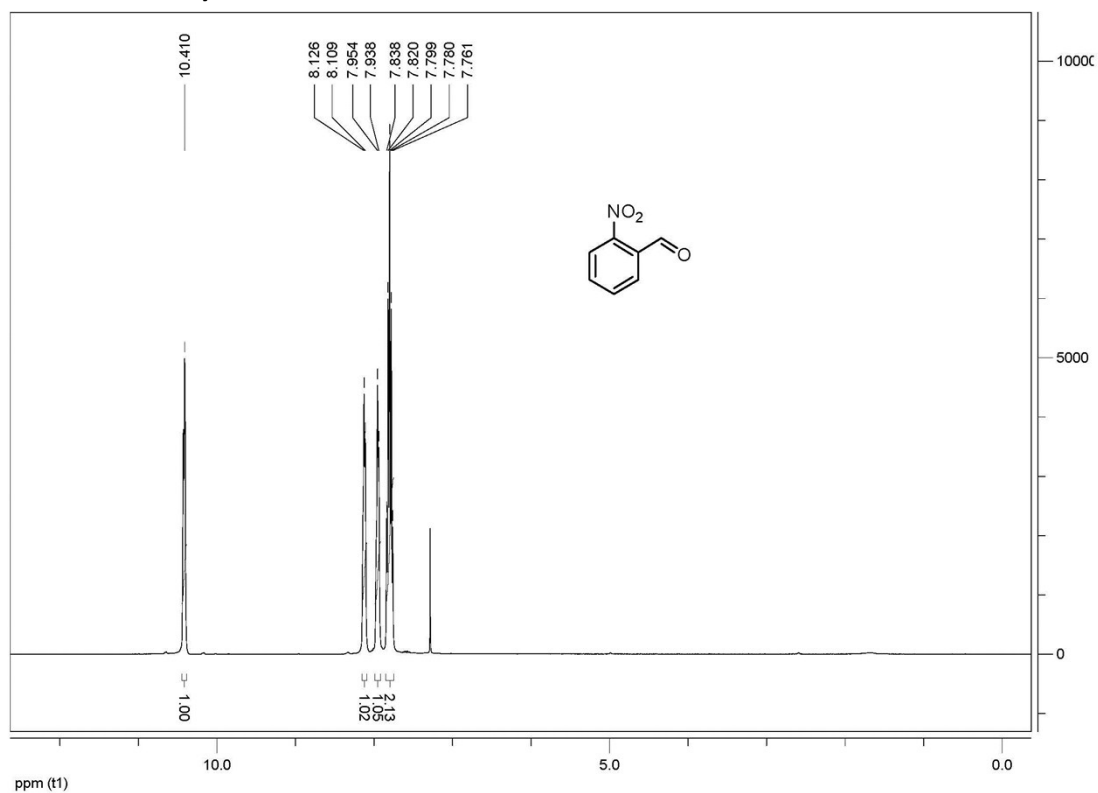
Benzaldehyde



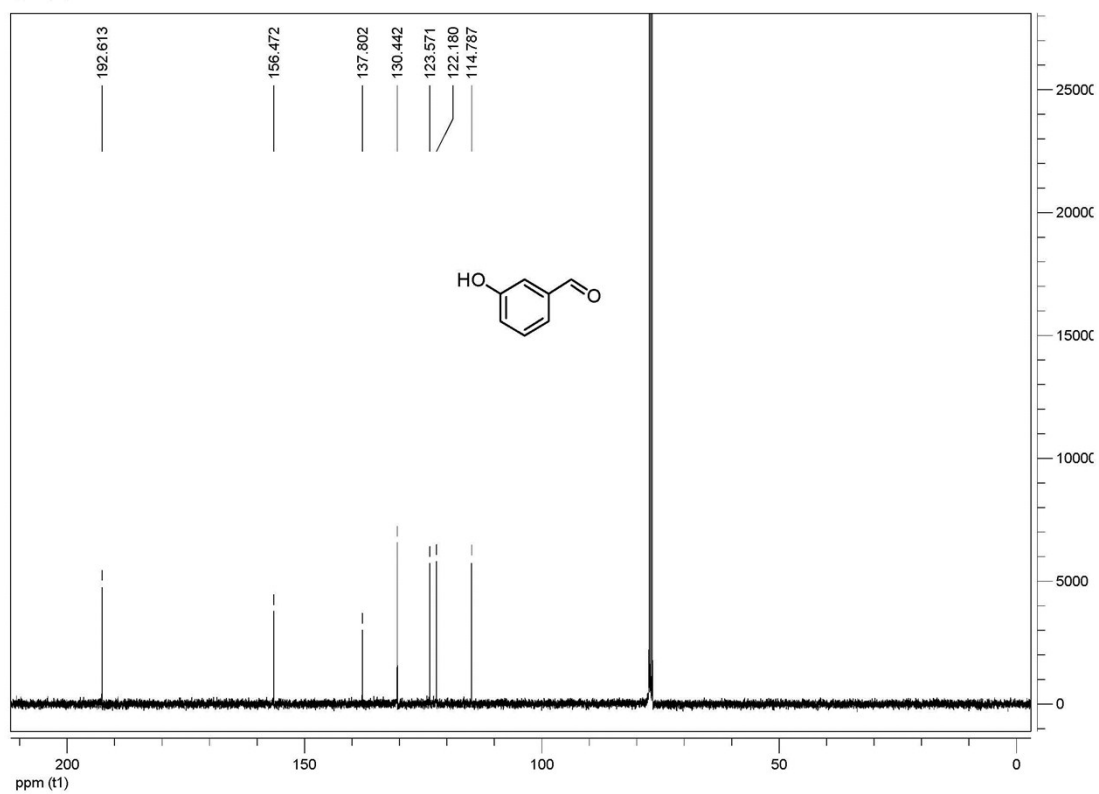
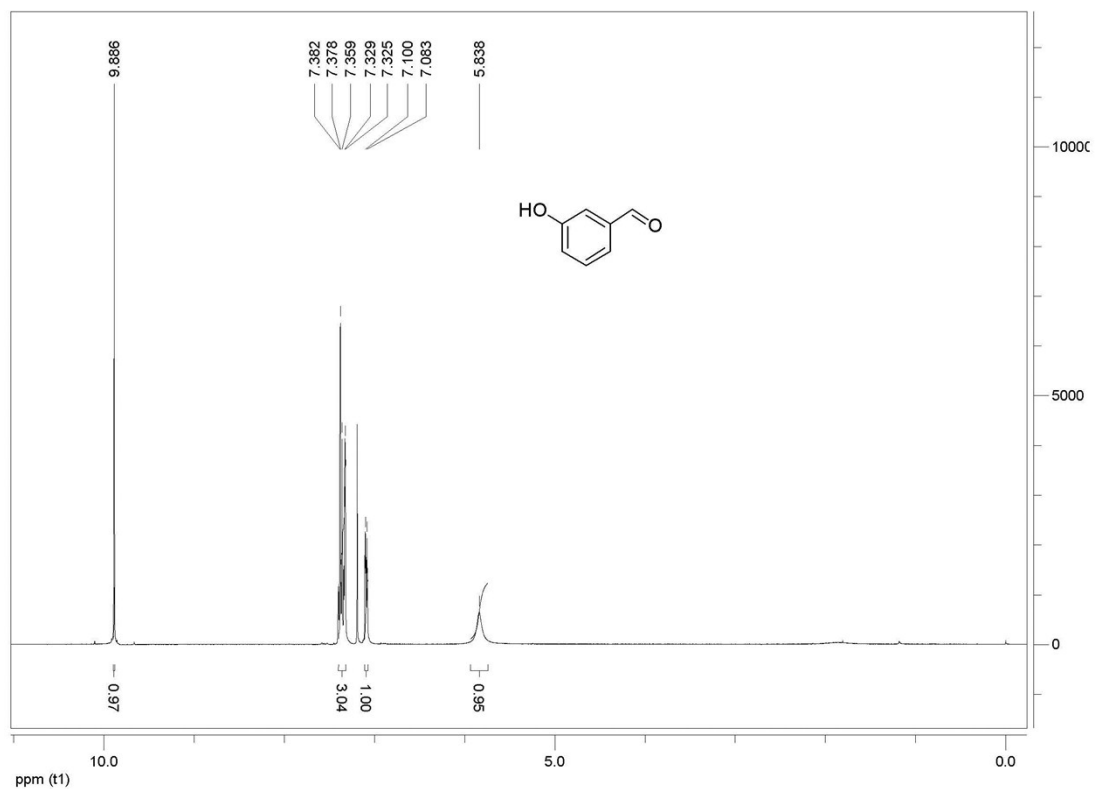
4-Chlorobenzaldehyde



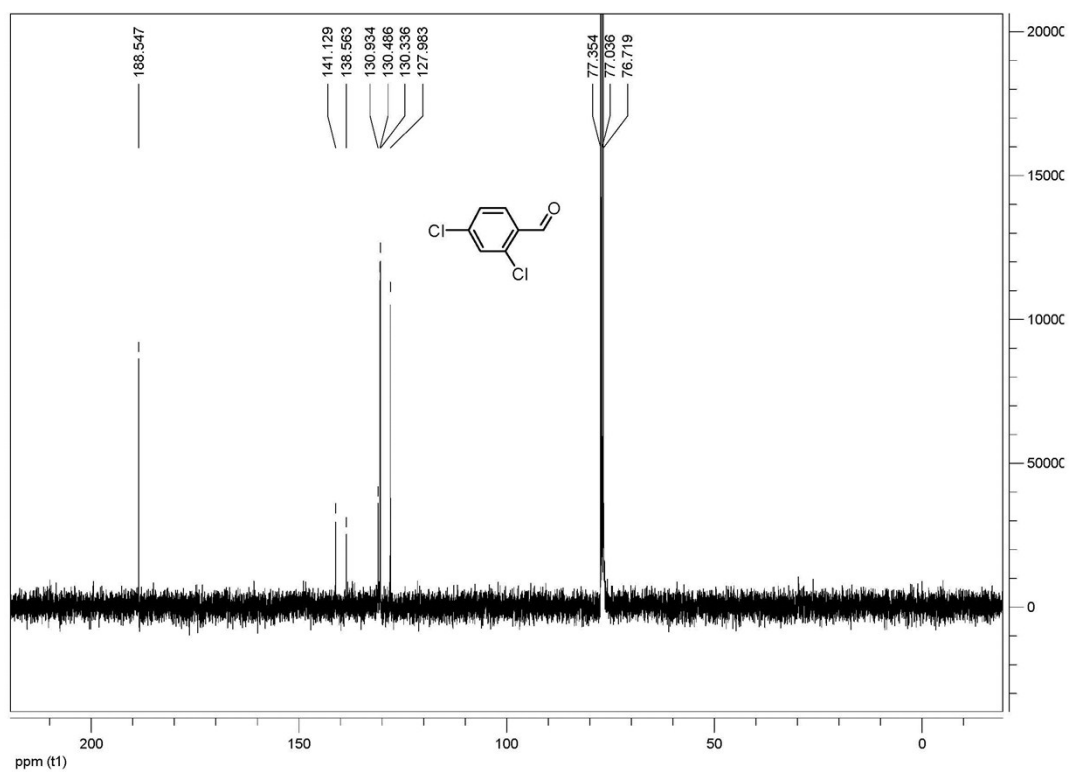
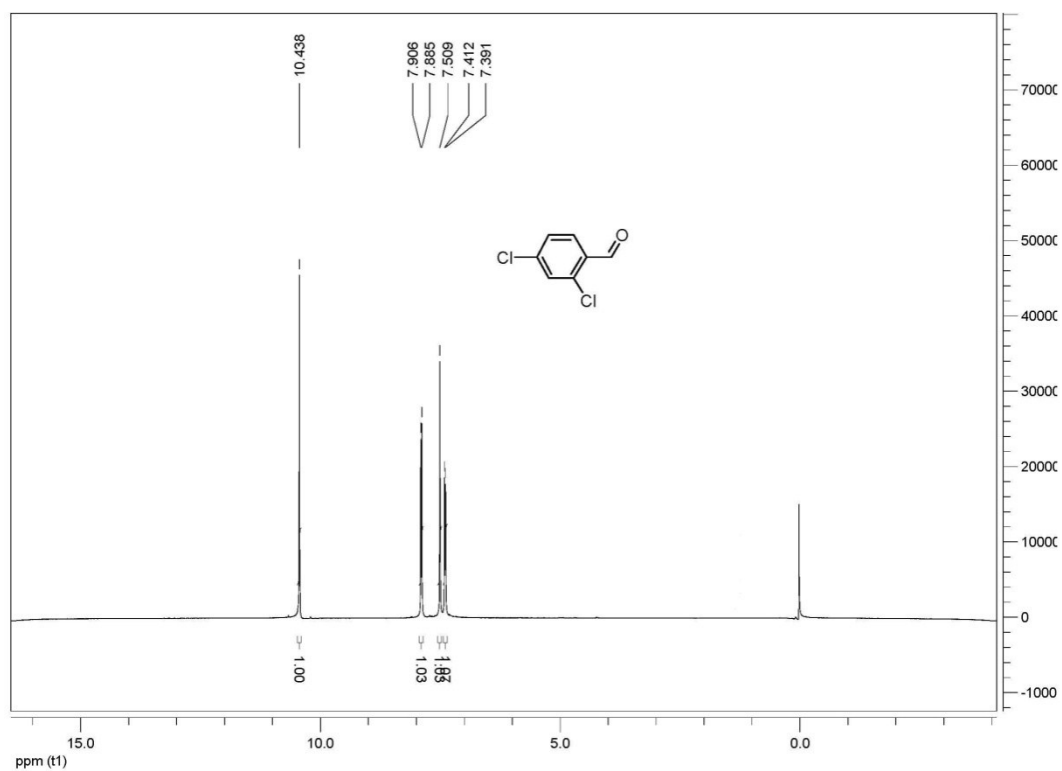
2-Nitrobenzaldehyde



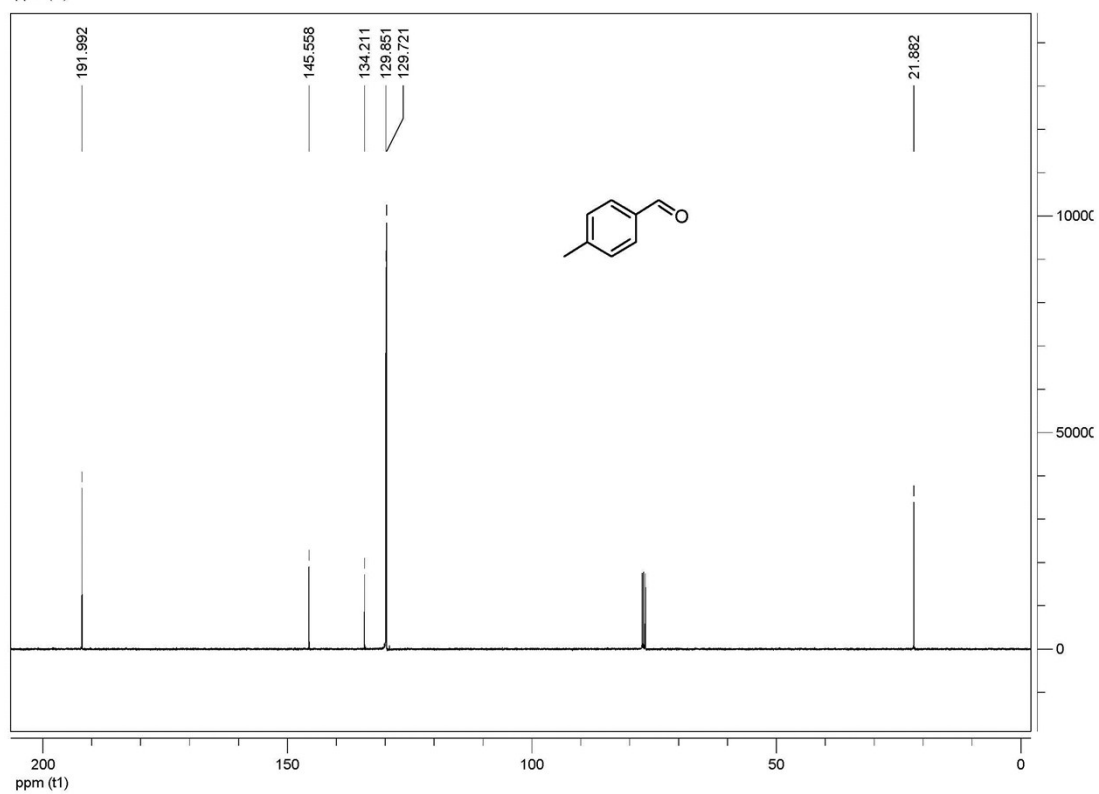
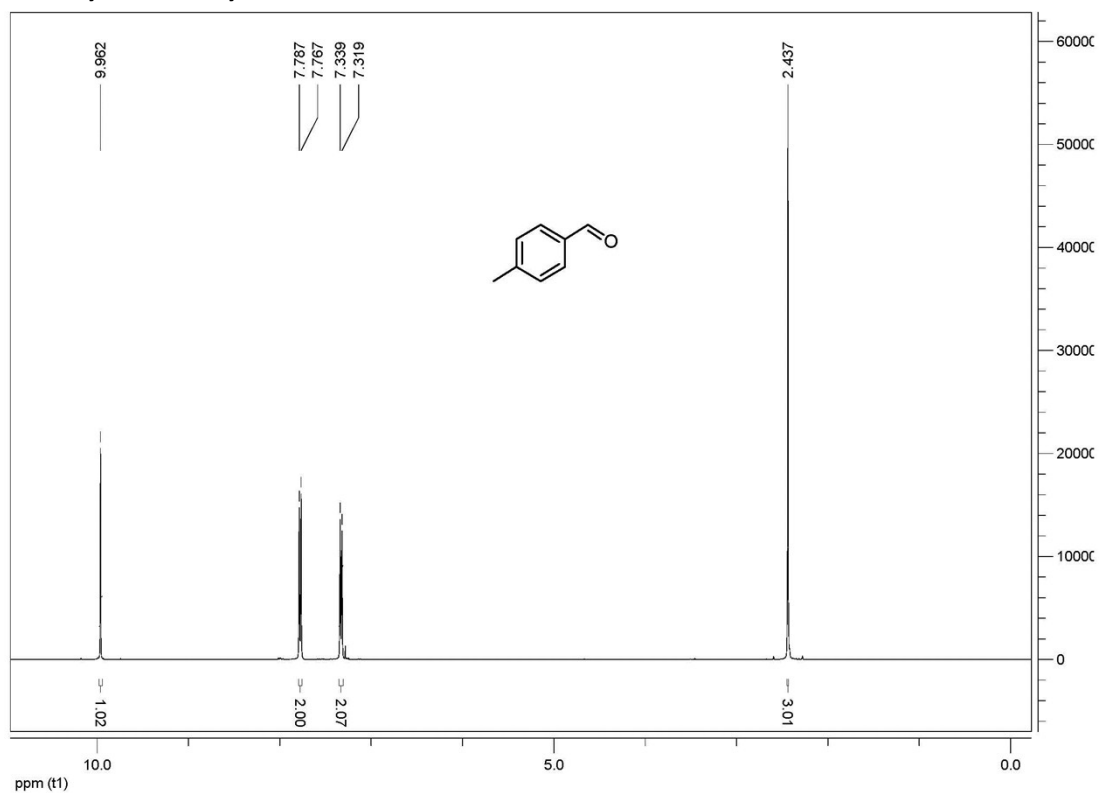
3-Hydroxybenzaldehyde



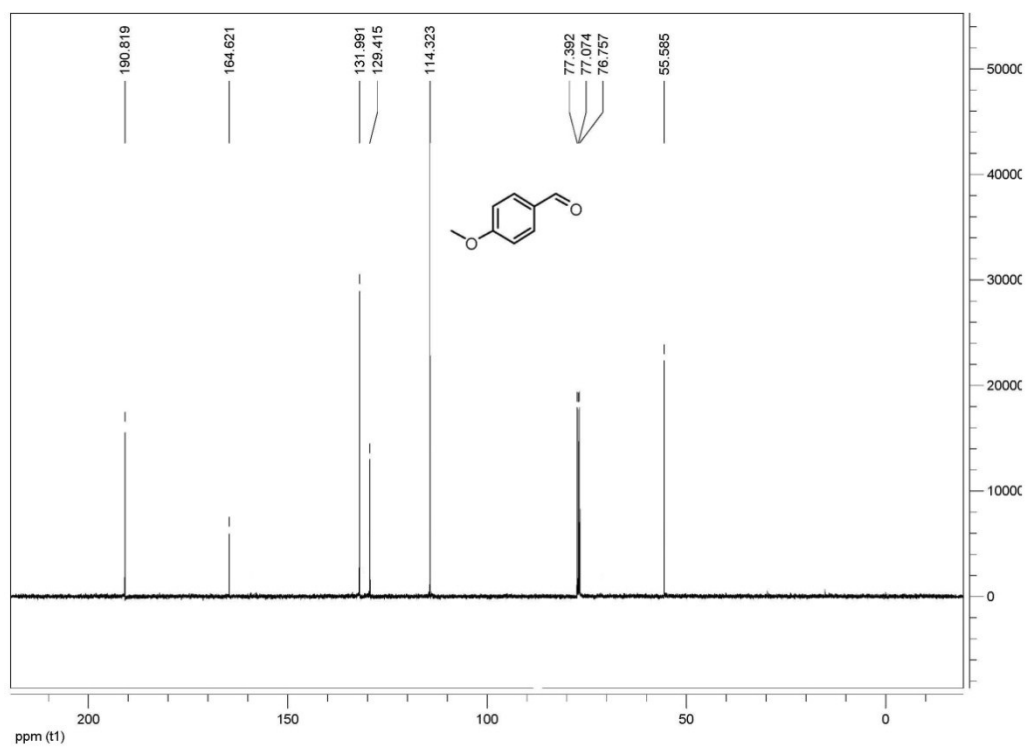
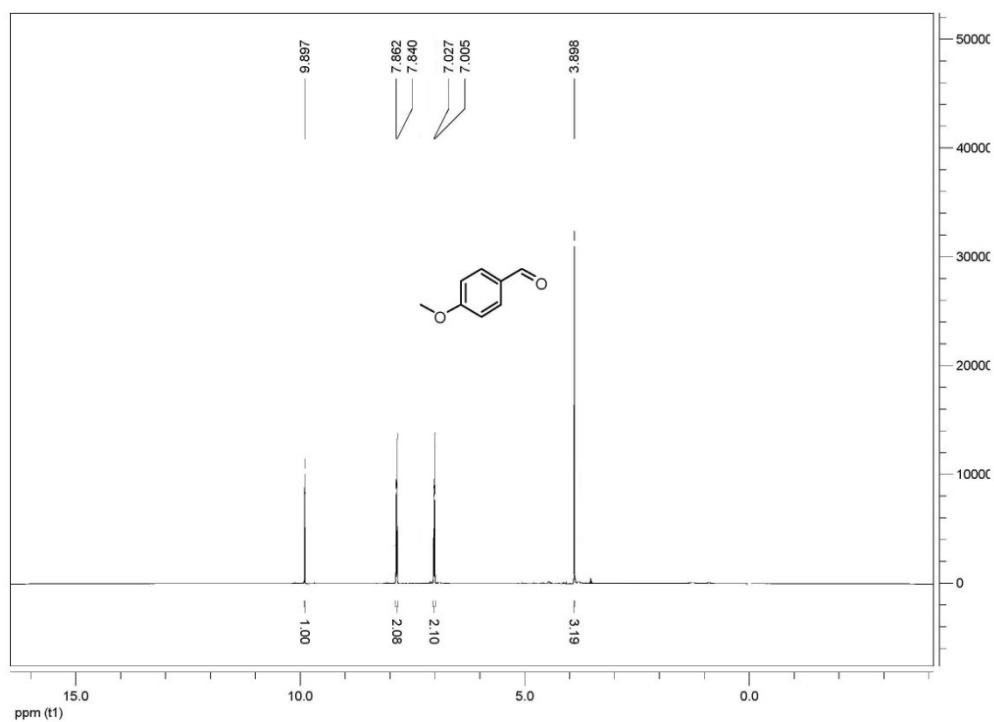
2,4-Dichlorobenzaldehyde



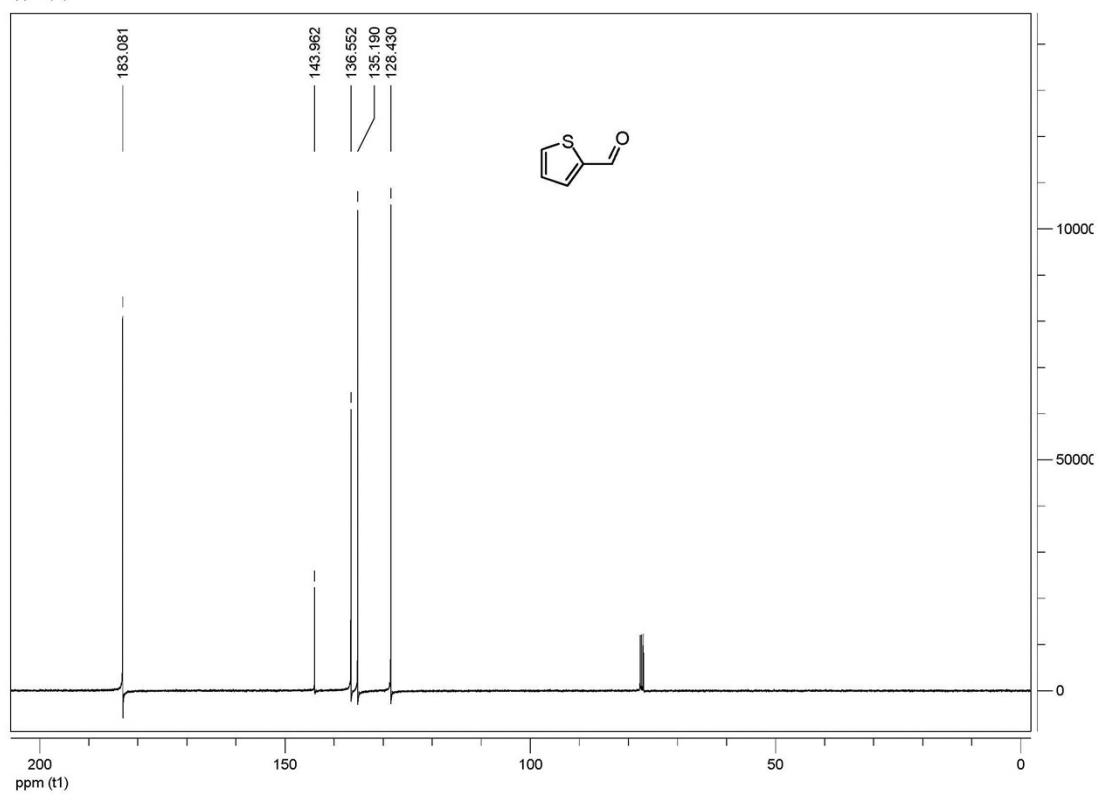
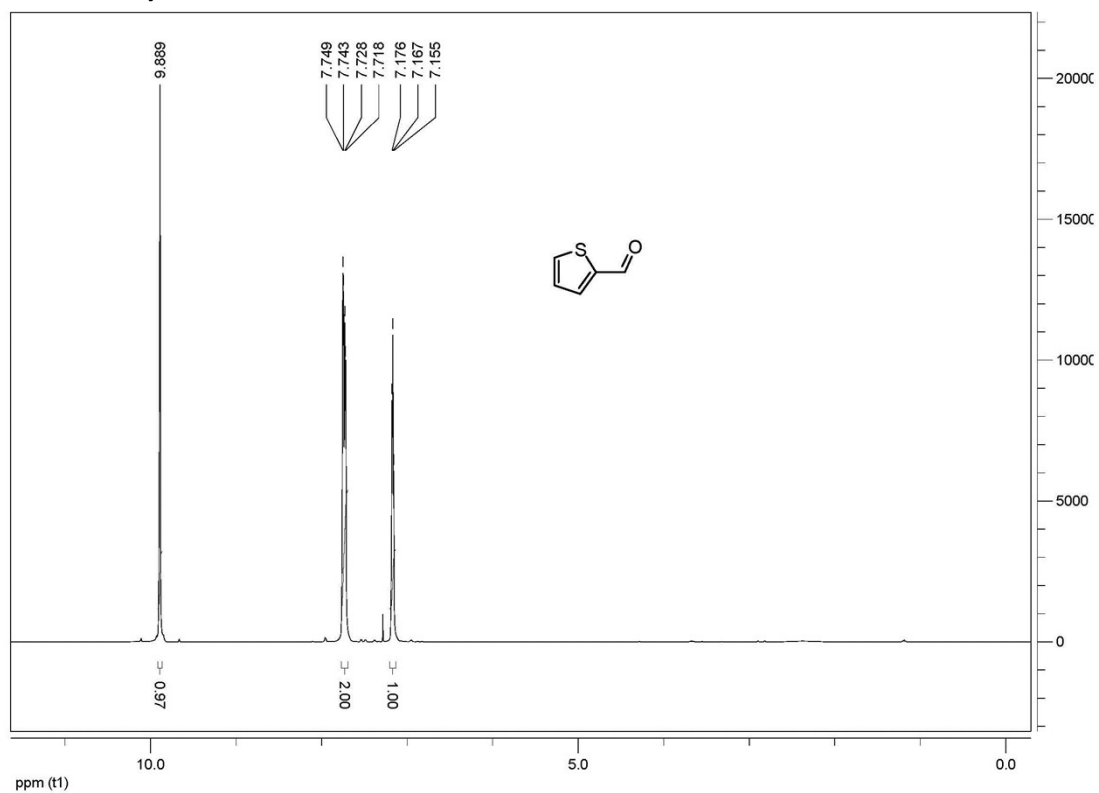
4-Methylbenzaldehyde



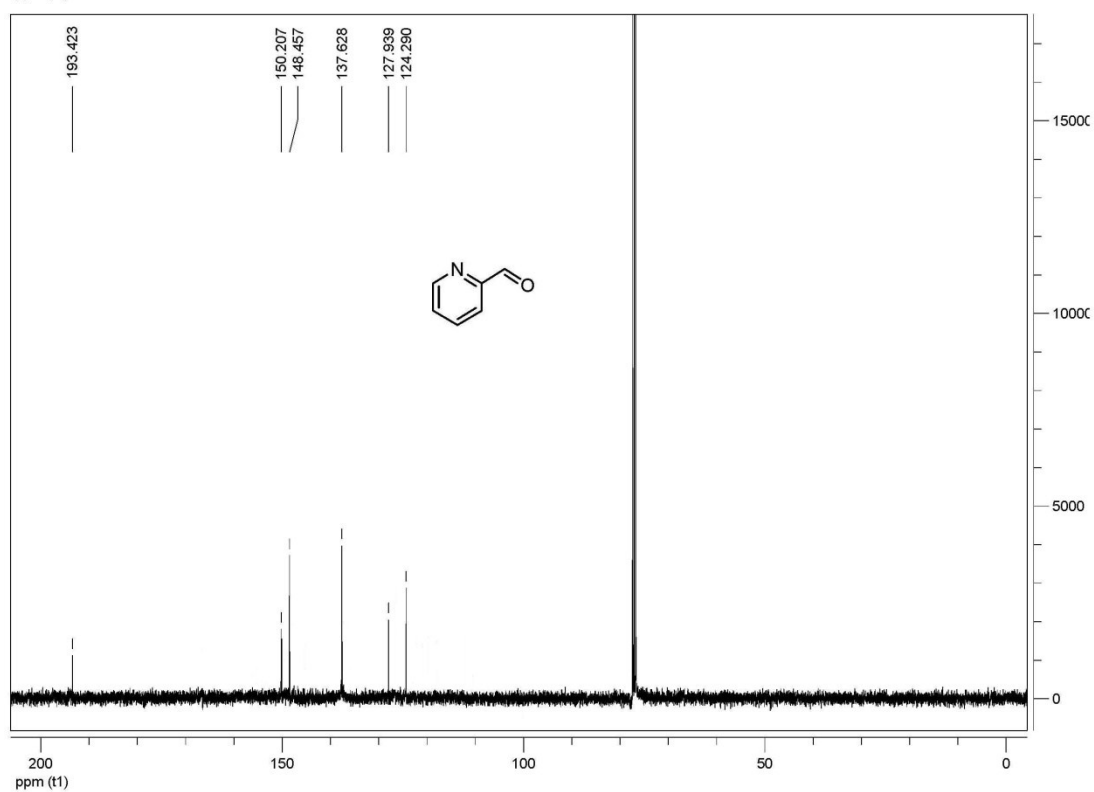
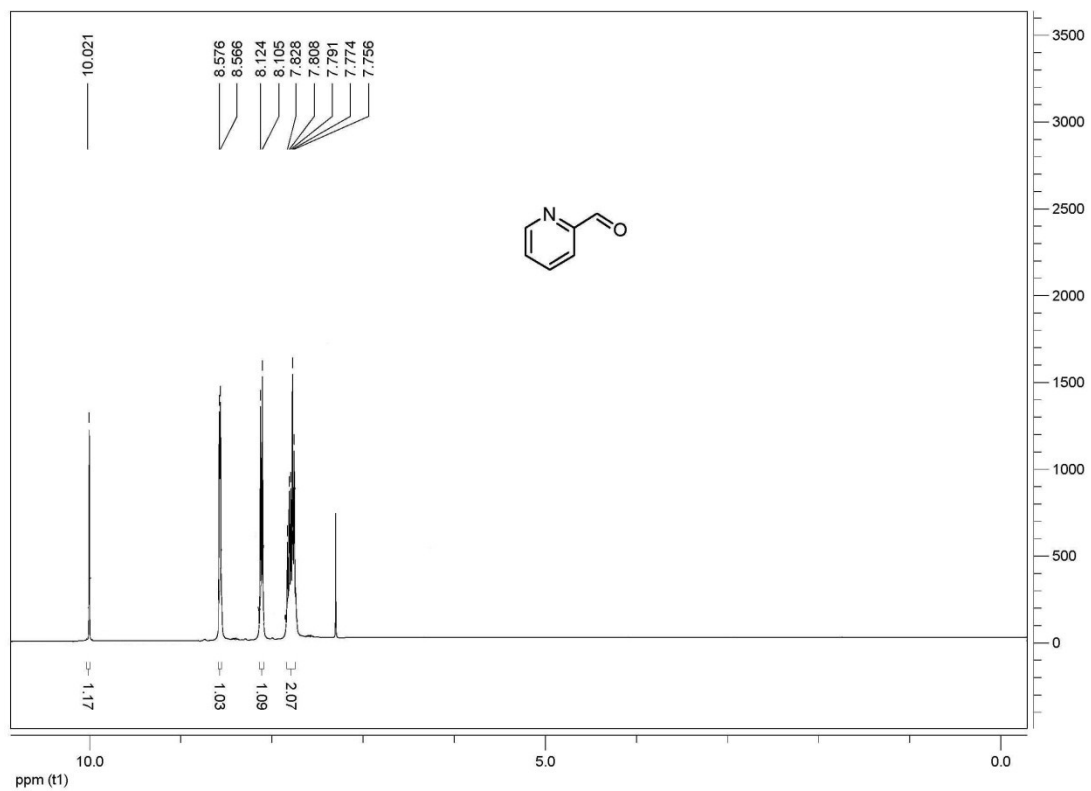
4-Methoxybenzaldehyde



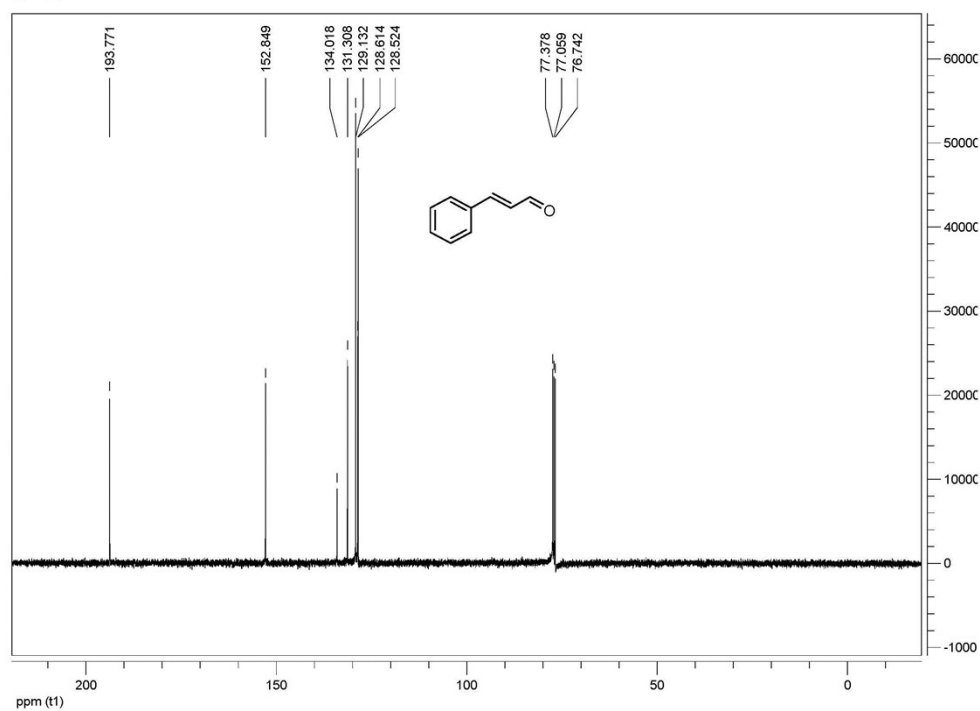
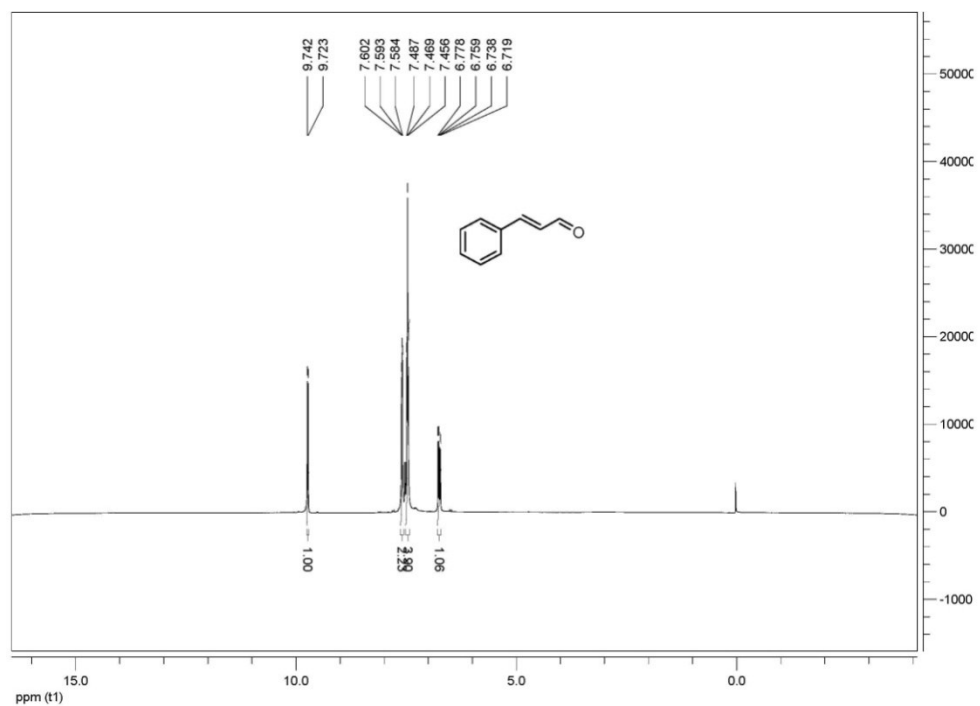
2-Thenaldehyde



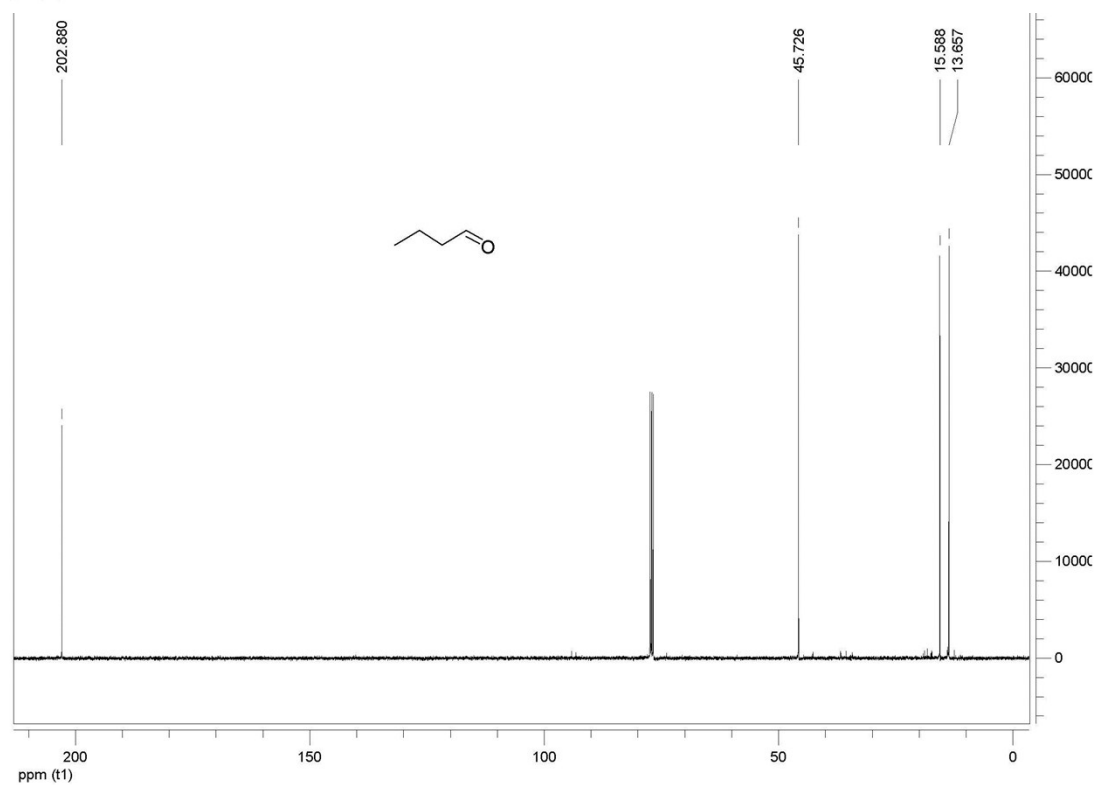
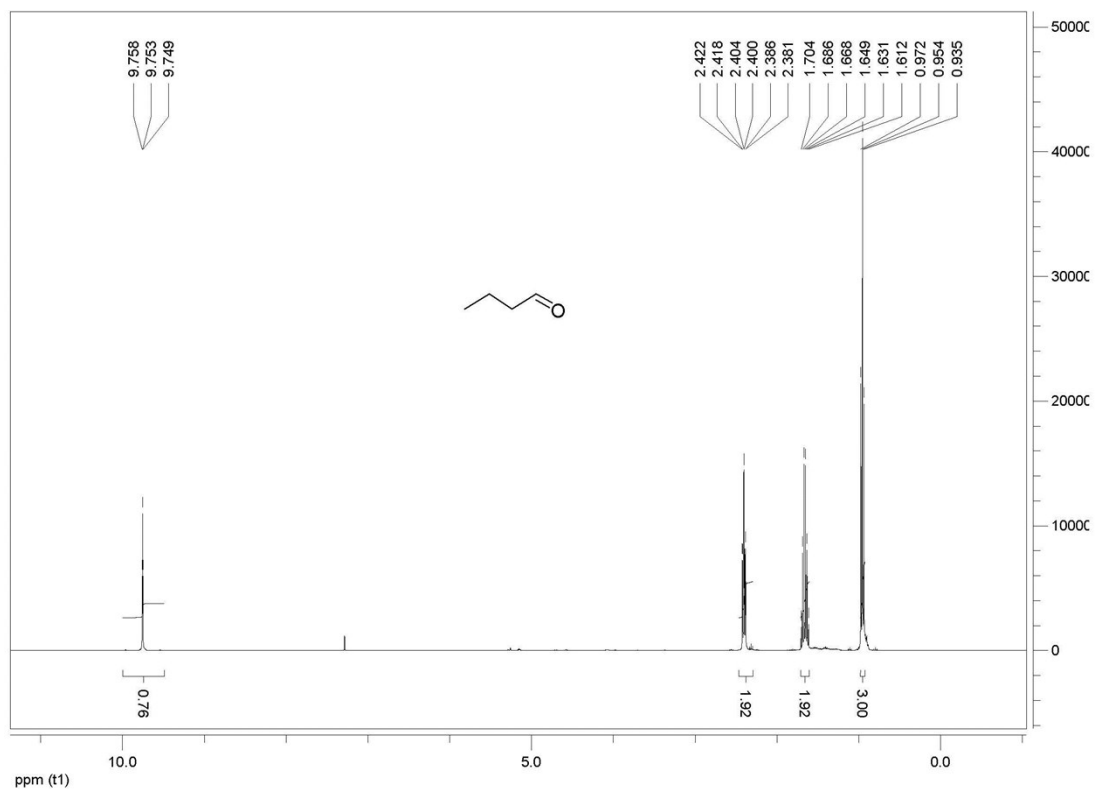
2-Pyridinecarboxaldehyde



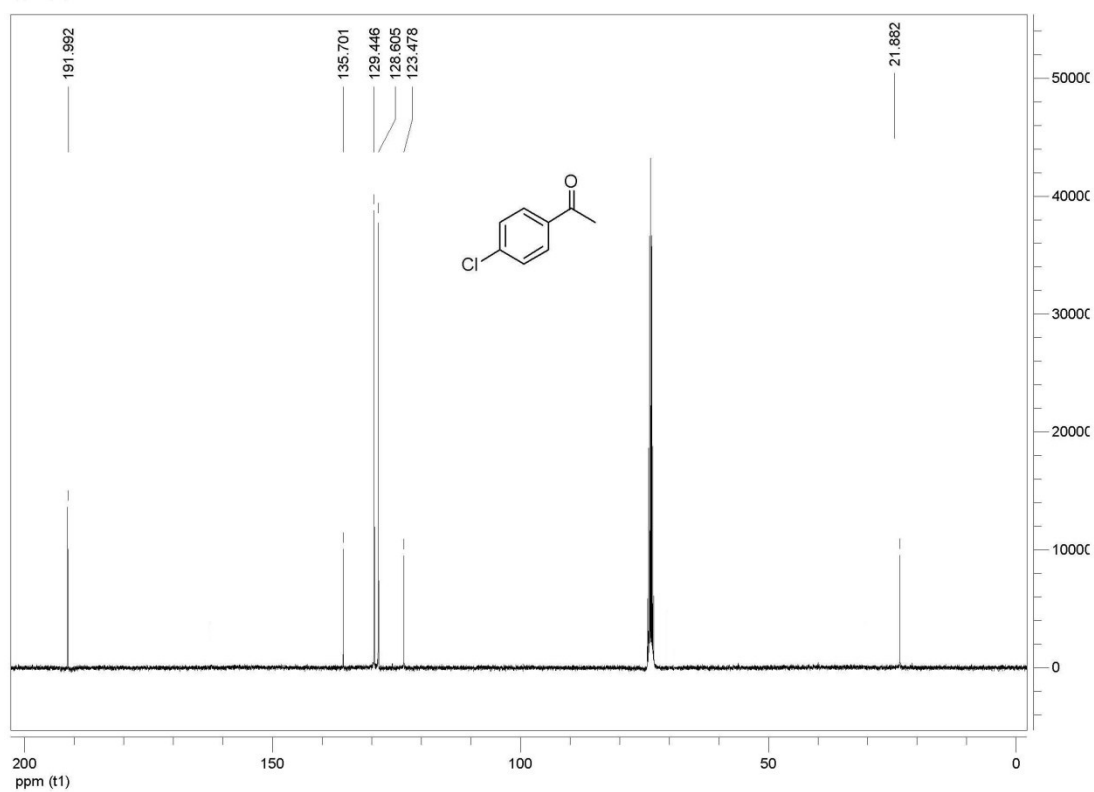
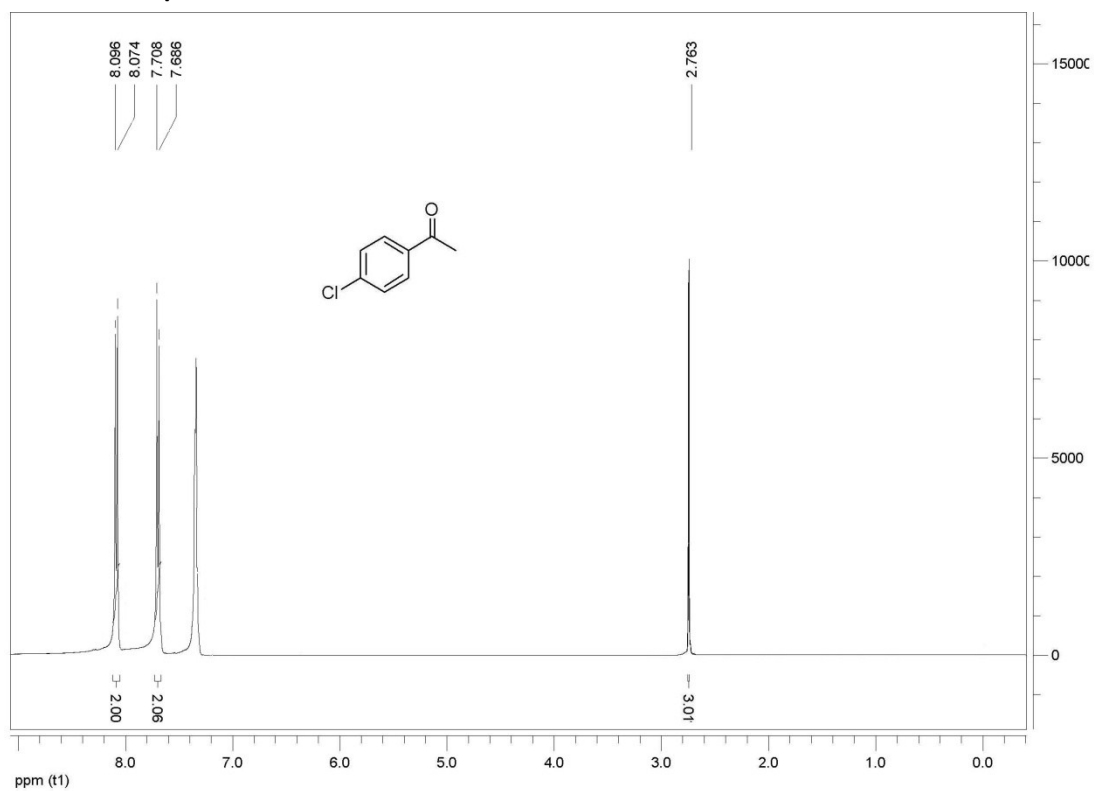
Cinnamaldehyde



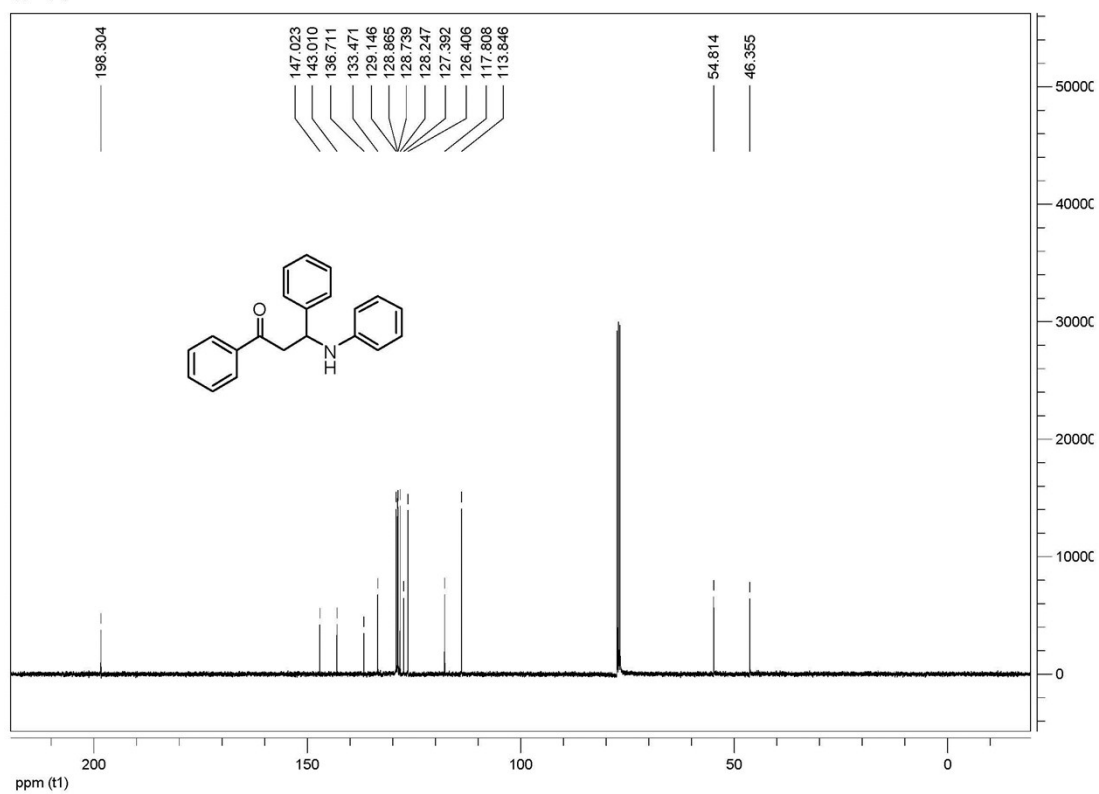
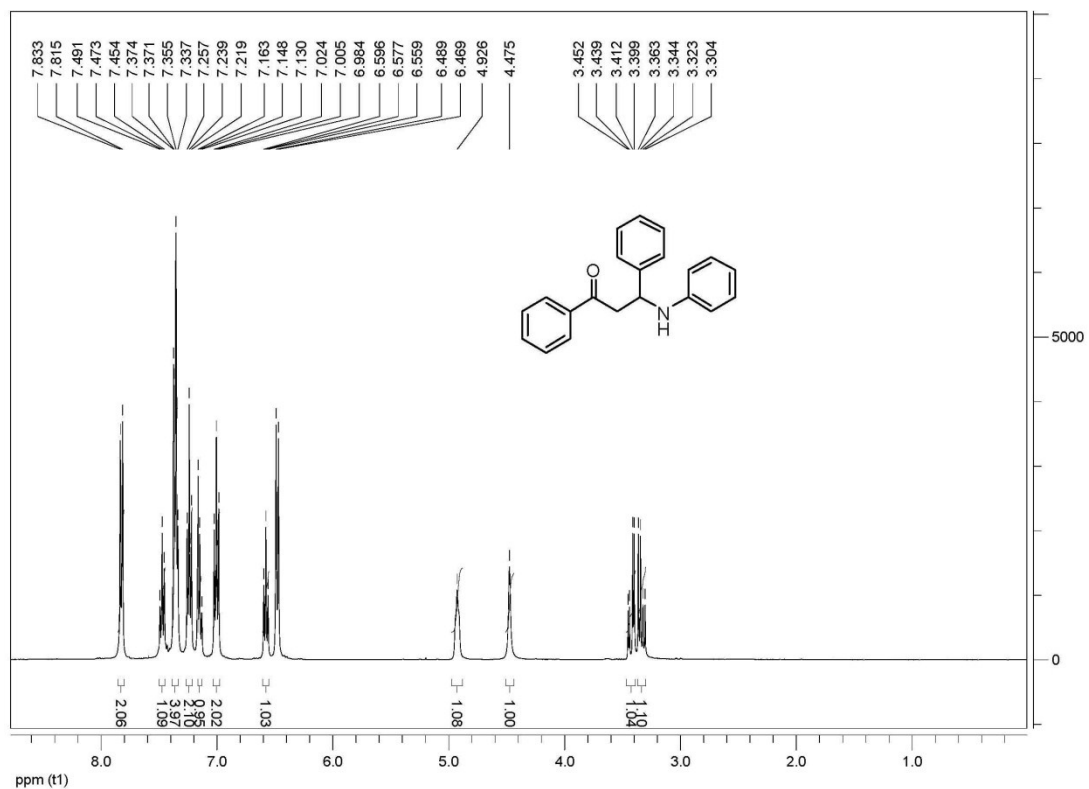
Butyraldehyde



4-Chloroacetophenone



1,3-Diphenyl-3-(phenylamino)propan-1-one



3-Cinnamoyl-2H-chromen-2-one

