

Supporting Information

**Gold-Catalyzed Nitrene Transfer to Activated Alkynes: Formation of α , β -
Unsaturated Amidines**

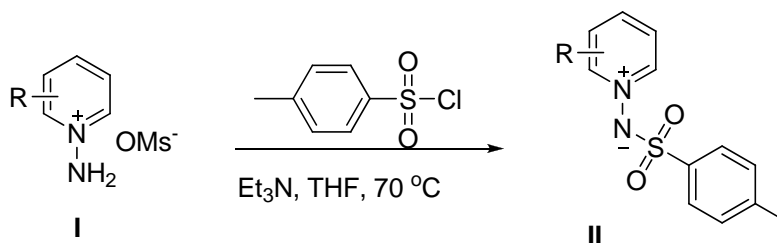
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General Ethyl acetate (ACS grade), hexanes (ACS grade), diethyl ether (ACS grade) and anhydrous 1, 2-dichloroethane (HPLC grade) were purchased from Fisher Scientific and used without further purification. Methylene chloride and tetrahydrofuran were purified using MBraun Solvent Purifier. Commercially available reagents were used without further purification. Reactions were monitored by thin layer chromatography (TLC) using Sorbent Technologies' pre-coated silica gel plates. Flash column chromatography was performed over Sorbent Technologies' silica gel (230-400 mesh). ¹H NMR and ¹³C NMR spectra were recorded on a Varian 500 MHz Unity plus spectrometer and a Varian 400 MHz spectrometer using residue solvent peaks as internal standards. Infrared spectra were recorded with a Perkin Elmer FT-IR spectrum 2000 spectrometer and are reported in reciprocal centimeter (cm⁻¹). Mass spectra were recorded with Micromass QTOF2 Quadrupole/Time-of-Flight Tandem mass spectrometer using electron spray ionization.

General procedure A : preparation of oxidants



Compound **I** were prepared according to the literature procedure.¹ Iminopyridinium ylide **II** were prepared from **I** according to the following procedure: to an ice-cold solution of **I** (2 mmol) and Et₃N (4 mmol) in anhydrous tetrahydrofuran (15 ml) was added 4-methylbenzenesulfonyl chloride (3 mmol). The reaction was allowed to reflux for 24 h at 70 °C. After cooling to room temperature, the reaction mixture was concentrated under *vacuum*. The residue was purified via silica gel flash chromatography to afford the desired product.

¹ Yoon, K.; Kode, B.; Bowen, L.; Redda, K. K. *J. Heterocyclic Chem.* **2001**, 38, 69-76.

General procedure B: preparation of alkynes

The *N*-alkynyloxazolidinones were prepared according to the literature procedure² as follows: to a mixture of a 2-oxazolidinone (2.0 equiv), K₃PO₄ (2.0 equiv), CuSO₄·5H₂O (0.1 equiv), and 1,10-phenanthroline (0.2 equiv) in a round flask was added a solution of 1-bromoalkyne (1.0 equiv, 1 M) in DMF/toluene (1/10). The reaction mixture was heated to 100 °C for 24 h while being monitored with TLC analysis. Upon completion, the reaction mixture was cooled to room temperature, diluted with EtOAc, and filtered through Celite, and the filtrate was concentrated under *vacuum*. The crude products were purified by silica gel flash column chromatography to afford the desired alkyne products.

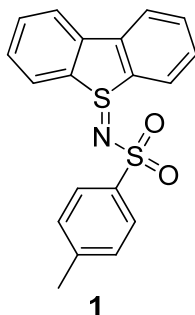
General procedure C: Gold-catalyzed synthesis α , β -unsaturated amidines

An oven-dried vial was charged with an alkyne (0.2 mmol) and (3,5-dichloropyridinium-1-yl)tosylamide (0.24 mmol, 1.2 equiv). DCE (4 ml) and IPrAuNTf₂ (8.6 mg, 5 mol %) were added. The reaction mixture was stirred at the indicated temperature until the substrate was completely consumed. The reaction mixture was concentrated under *vacuum*. The residue was purified via silica gel flash chromatography to give the amidine product.

Dibenzothiophene, 5,5-dihydro-5-[[4-methylphenyl)sulfonyl]imino]³

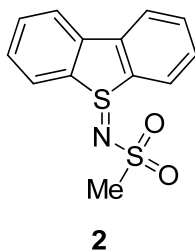
² Zhang, X.; Zhang, Y.; Huang, J.; Hsung, R. P.; Kurtz, K. C. M.; Oppenheimer, J.; Petersen, M.; E.; Sagamanova, I. K.; Shen, L.; Tracey, M. R. *J. Org. Chem.* **2006**, *71*, 4170.

³ Morita, H.; Tatami, A.; Maeda, T.; Kim, B. J.; Kawashima, W.; Yoshimura, T.; Abe, H.; Akasaka, T. *J. Org. Chem.* **2008**, *73*, 7159.



Compound **1** was prepared in 60 % yield according to the following procedure (eluent: ethyl acetate: hexanes = 10: 1): an oven-dried round flask was charged with a toluenesulfonamide (1.0 mmol), diacetoxyiodobenzene (1.3 mmol, 1.3 equiv), dibenzothiophene (1.3 mmol, 1.3 equiv), MgO (4.0 mmol, 4.0 equiv), DCM (10 ml) and Rh₂(OAc)₄ (8.82 mg, 2 mol %) was added. The reaction mixture was stirred at the room temperature while being monitored with TLC analysis. After 20 h, the reaction mixture was concentrated under *vacuum*. The residue was purified via silica gel flash chromatography to give desired the product. ¹H NMR (400 MHz, CDCl₃) δ 7.86 (d, 2H, *J* = 8.0 Hz), 7.82 (d, 2H, *J* = 8.0 Hz), 7.61 -7.66 (m, 4H), 7.42 -7.47 (m, 2H), 7.25 (d, 2H, *J* = 8.0 Hz), 2.43 (s, 3H,); ¹³C NMR (125 MHz, CDCl₃) δ 142.0, 141.3, 137.4, 137.2, 132.9, 130.0, 129.3, 127.5, 126.6, 122.4, 21.6; IR (neat): 3448, 1446, 1298, 1284, 1085, 939; MS (ES⁺) Calculated for [C₁₉H₁₅NO₂S₂Na]⁺: 376.04; Found: 376.04

Dibenzothiophene, 5,5-dihydro-5-[(methanesulfonyl)imino]⁴

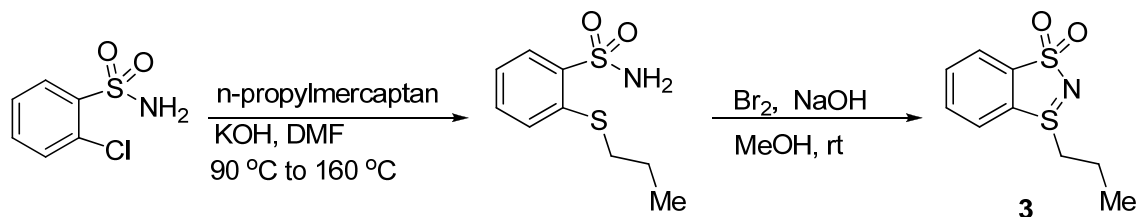


Compound **2** was prepared in 58 % yield according to the same procedure to compound **1**. (eluent: ethyl acetate: hexanes = 1: 1). ¹H NMR (400 MHz, CDCl₃) δ 8.01 (d, 2H, *J* =

⁴ Desikan, V.; Liu, Y.; Toscano, J. P.; Jenks, W. S. *J. Org. Chem.* **2008**, *73*, 4398.

8.0 Hz), 7.92 (d, 2H, $J = 8.0$ Hz), 7.70 (td, 2H, $J = 7.2, 1.2$ Hz), 7.59 (td, 2H, $J = 7.6, 1.2$ Hz), 3.07 (s, 3H); ^{13}C NMR (125 MHz, CDCl_3) δ 138.0, 137.2, 133.1, 130.1, 127.4, 122.6, 43.2; IR (neat): 3733, 3079, 1540, 1282, 1122, 968; MS (ES^+) Calculated for $[\text{C}_{13}\text{H}_{11}\text{NO}_2\text{S}_2\text{Na}]^+$: 300.01; Found: 300.04

1-Propyl-1 λ^4 -benzo[1,3,2]dithiazole 3,3-dioxide

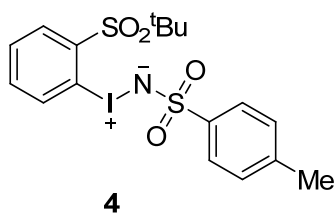


Compound **3** was prepared in 60 % yield from 2-chlorobenzenesulfonamide according to the following procedure: to a solution of potassium hydroxide (85%, 1.2 g, 20 mmol) and n-propylmercaptan (1.81 ml, 20 mmol) in 10 ml DMF at 90°C was added a solution of 2-chlorobenzenesulfonamide (1.91 g, 10 mmol) in 10 ml DMF. The reaction mixture was heated to reflux for 5 h, cooled, and the solvent was removed under *vacuum*. The residue was neutralized to pH = 7.0 by using 2 N hydrochloric acid and extracted with ether. The ether extracts were combined, washed with water and brine, dried with MgSO_4 and concentrated under *vacuum*. The resulting residue was purified via silica gel flash chromatography (eluent: ethyl acetate: hexane = 1: 1) to give 2-propylsulfanylbenzenesulfonamide (1.62 g, 70% yield).

To a solution of the above sulfide (2 mmol, 462 mg) in $\text{MeOH}/\text{H}_2\text{O}$ (10 mL/2mL) was added Br_2 (3 mmol, 0.54 mL) and NaOH (4 mmol, 160 mg). The reaction mixture was stirred at room temperature for 30 min, and the solvent was removed under *vacuum*. The ether extracts were washed with water and brine, dried with MgSO_4 and concentrated. The resulting residue was purified via silica gel flash chromatography (eluent: ethyl acetate: hexane = 2: 1) to give the desired cyclic sulfilimine **3** (0.412 g, 90% yield). ^1H

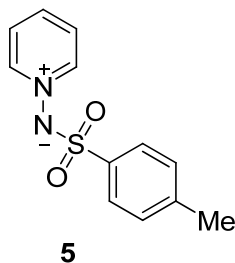
NMR (500 MHz, CDCl₃) δ 8.04 (d, 1H, *J* = 8.0 Hz), 7.79 (dd, 1H, *J* = 7.5, 7.5 Hz), 7.73 (dd, 1H, *J* = 7.0, 7.0 Hz), 7.70 (dd, 1H, *J* = 7.0, 7.0 Hz), 3.29 (dt, 1H, *J* = 13.0, 8.0 Hz), 3.00 (dt, 1H, *J* = 13.0, 8.0 Hz), 1.88 – 1.96 (m, 2H), 1.13 (t, 1H, *J* = 7.5 Hz); ¹³C NMR (125 MHz, CDCl₃) δ 137.4, 133.6, 133.3, 132.4, 124.3, 123.7, 55.0, 18.0, 12.9; IR (neat): 3459, 1650, 1635, 1444, 1284, 1151,; MS (ES⁺) Calculated for [C₉H₁₁NO₂S₂Na]⁺: 252.01; Found: 252.04

2-(*tert*-Butylsulfonyl)(*p*-toluenesulfonylimino)benzene



Compound **4** was prepared in 80 % yield according to the literature procedure.⁵ ¹H NMR (400 MHz, CDCl₃) δ 8.35 (d, 1H, *J* = 8.4 Hz), 7.90 (dd, 1H, *J* = 7.6, 1.6 Hz), 7.86 (dd, 1H, *J* = 8.4, 1.6 Hz), 7.82 (d, 2H, *J* = 7.6 Hz), 7.71 (dd, 1H, *J* = 7.6, 7.6 Hz), 7.22 (d, 2H, *J* = 8.0 Hz), 2.39 (s, 3H), 1.45 (s, 9H); ¹³C NMR (125 MHz, CDCl₃) δ 142.0, 140.5, 136.1, 133.4, 131.9, 130.6, 129.3, 128.5, 126.7, 115.3, 63.5, 23.5, 21.5; IR (neat): 3367, 1648, 1299, 1162, 1137, 1089, 732; MS (ES⁺) Calculated for [C₁₇H₂₀NIO₄S₂Na]⁺: 516.98; Found: 516.02

1-(*p*-toluenesulfonylimino)pyridinium ylide⁶



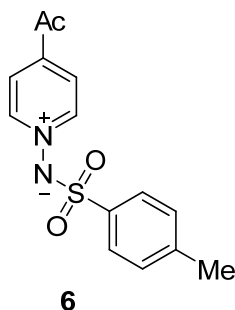
Compound **5** was prepared in 72 % yield according to the general procedure A (eluent: ethyl acetate: methanol = 20: 1). ¹H NMR (400 MHz, CDCl₃) δ 8.46 (d, 2H, *J* = 7.6 Hz),

⁵ Macikenas, D.; Skrzypczak-Jankun, E.; Protasiewicz, J. D. *J. Am. Chem. Soc.* **1999**, *121*, 7164.

⁶ Jiang, Y.; Zhou, G. C.; He, G. L.; He, L.; Li, J. L.; Zheng, S. L. *Synthesis*, **2007**, *10*, 1459.

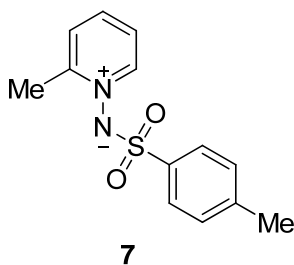
7.97 (dd, 1H, $J = 7.6, 7.6$ Hz), 7.61 (d, 2H, $J = 8.4$ Hz), 7.57 (d, 2H, $J = 7.6$ Hz), 7.17 (d, 2H, $J = 8.4$ Hz), 2.36 (s, 3H); ^{13}C NMR (125 MHz, CDCl_3) δ 145.2, 141.6, 138.6, 138.2, 129.2, 127.0, 126.6, 21.4; IR (neat): 3419, 1650, 1635, 1465, 1272, 1133; MS (ES^+) Calculated for $[\text{C}_{12}\text{H}_{12}\text{N}_2\text{O}_2\text{SNa}]^+$: 271.05; Found: 271.08

1-(*p*-toluenesulfonylimino)-4-acetylpyridinium ylide



Compound **6** was prepared in 75 % yield according to the general procedure A (eluent: ethyl acetate: methanol = 10: 1). ^1H NMR (400 MHz, CDCl_3) δ 8.66 (d, 2H, $J = 6.8$ Hz), 7.95 (d, 2H, $J = 6.8$ Hz), 7.71 (d, 2H, $J = 7.6$ Hz), 7.21 (d, 2H, $J = 7.6$ Hz), 2.65 (s, 3H), 2.37 (s, 3H); ^{13}C NMR (125 MHz, CDCl_3) δ 193.3, 142.6, 140.5, 138.3, 129.7, 127.4, 125.2, 121.7, 26.9, 21.7; IR (neat): 3120, 1697, 1436, 1157, 1128; MS (ES^+) Calculated for $[\text{C}_{14}\text{H}_{14}\text{N}_2\text{O}_3\text{SNa}]^+$: 313.06; Found: 313.09

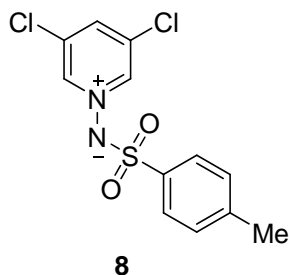
1-(*p*-toluenesulfonylimino)-2-methylpyridinium ylide⁶



Compound **7** was prepared in 58 % yield according to the general procedure A (eluent: ethyl acetate: methanol = 10: 1). ^1H NMR (400 MHz, CDCl_3) δ 8.62 (d, 1H, $J = 6.0$ Hz), 7.82 (td, 1H, $J = 8.0, 1.2$ Hz), 7.58 (d, 2H, $J = 8.0$ Hz), 7.48 (d, 1H, $J = 8.0$ Hz), 7.43 (dd, 1H, $J = 7.6, 7.6$ Hz), 7.17 (d, 2H, $J = 8.0$ Hz), 2.46 (s, 3H), 2.37 (s, 3H); ^{13}C NMR (125 MHz, CDCl_3) δ 156.3, 146.6, 141.3, 140.7, 137.8, 129.3, 127.9, 126.5, 123.8, 21.4, 20.1;

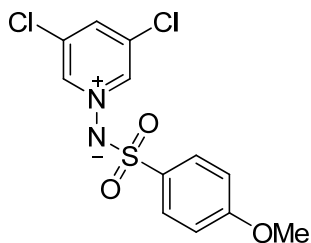
IR (neat): 3419, 1492, 1459, 1276, 1137, 1087; MS (ES⁺) Calculated for [C₁₃H₁₄N₂O₂SNa]⁺: 285.07; Found: 285.06

1-(*p*-toluenesulfonylimino)-3,5-dichloropyridinium ylide



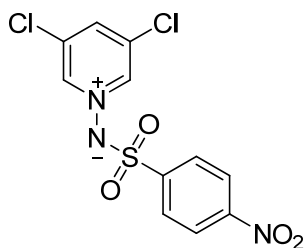
Compound **8** was prepared in 80 % yield according to the general procedure A (eluent: ethyl acetate: methanol = 20: 1). ¹H NMR (500 MHz, CDCl₃) δ 8.51 (s, 2H), 7.77 (s, 1H), 7.71 (d, 2H, *J* = 8.5 Hz), 7.24 (d, 2H, *J* = 8.5 Hz), 2.39 (s, 3H); ¹³C NMR (125 MHz, CDCl₃) δ 142.8, 139.6, 137.9, 135.7, 134.5, 129.8, 127.4, 21.8; IR (neat): 3419, 1650, 1635, 1556, 1294, 1132; MS (ES⁺) Calculated for [C₁₂H₁₀N₂O₂Cl₂SNa]⁺: 338.97; Found: 338.98

1-(4-methoxybenzenesulfonylimino)-3,5-dichloropyridinium ylide



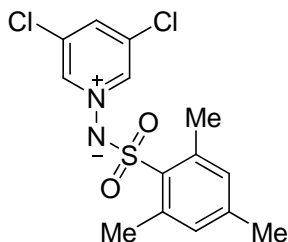
Compound was prepared in 75 % yield according to the general procedure A (eluent: ethyl acetate: methanol = 10: 1). ¹H NMR (500 MHz, CDCl₃) δ 8.51 (s, 2H), 7.78 (s, 1H), 7.76 (d, 2H, *J* = 8.0 Hz), 6.92 (d, 2H, *J* = 8.0 Hz), 3.84 (s, 3H); ¹³C NMR (125 MHz, CDCl₃) δ 162.6, 139.2, 135.4, 134.5, 132.5, 129.5, 114.3, 55.8; IR (neat): 3095, 1593, 1495, 1255; MS (ES⁺) Calculated for [C₁₂H₁₀N₂O₃Cl₂SNa]⁺: 354.97; Found: 354.96

1-(4-nitrobenzenesulfonylimino)-3,5-dichloropyridinium ylide



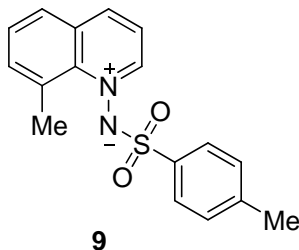
Compound was prepared in 78 % yield according to the general procedure A (eluent: ethyl acetate: methanol = 10: 1). ^1H NMR (500 MHz, CDCl_3) δ 8.49 (s, 2H), 8.29 (d, 2H, $J = 9.0$ Hz), 7.97 (d, 2H, $J = 9.0$ Hz), 7.95 (s, 1H); ^{13}C NMR (125 MHz, CDCl_3) δ 147.3, 144.2, 140.8, 137.6, 134.8, 128.1, 128.0, 124.2; IR (neat): 3099, 2981, 1920, 1556, 1527, 1348, 1139; MS (ES^+) Calculated for $[\text{C}_{11}\text{H}_7\text{N}_3\text{O}_4\text{Cl}_2\text{SNa}]^+$: 369.94; Found: 369.95

1-(2,4,6-trimethylbenzenesulfonylimino)-3,5-dichloropyridinium ylide



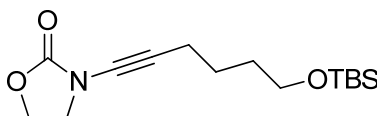
Compound was prepared in 60 % yield according to the general procedure A (eluent: ethyl acetate). ^1H NMR (500 MHz, CDCl_3) δ 8.37 (s, 2H), 7.68 (s, 1H), 6.92 (s, 2H), 2.64 (s, 6H), 2.27 (s, 3H); ^{13}C NMR (125 MHz, CDCl_3) δ 144.2, 139.0, 137.8, 134.2, 133.8, 133.7, 131.4, 22.7, 20.6; IR (neat): 2958, 1720, 1560, 1382, 1313, 1148; MS (ES^+) Calculated for $[\text{C}_{14}\text{H}_{14}\text{N}_2\text{O}_2\text{Cl}_2\text{SNa}]^+$: 367.01; Found: 366.95

1-(*p*-toluenesulfonylimino)-8-methylquinolinium ylide



Compound **9** was prepared in 20 % yield according to the general procedure A (eluent: ethyl acetate: methanol = 10: 1). ^1H NMR (400 MHz, CDCl_3) δ 8.77 (dd, 1H, $J = 6.0, 1.6$ Hz), 8.41 (dd, 1H, $J = 8.0, 1.6$ Hz), 7.79 – 7.82 (m, 1H), 7.56 – 7.61 (m, 2H), 7.48 (dd, 1H, $J = 8.4, 6.0$ Hz), 7.40 (d, $J = 8.4$ Hz), 7.05 (d, $J = 8.4$ Hz), 3.08 (s, 3H), 2.31 (s, 3H); ^{13}C NMR (125 MHz, CDCl_3) δ 148.7, 141.5, 141.0, 140.8, 139.4, 137.9, 133.7, 131.8, 129.0, 128.9, 127.3, 126.6, 119.8, 26.0, 21.4; IR (neat): 3419, 3066, 2933, 2244, 1519, 1276, 1135, 1085, 881; MS (ES^+) Calculated for $[\text{C}_{17}\text{H}_{16}\text{N}_2\text{O}_2\text{SNa}]^+$: 335.08; Found: 335.11

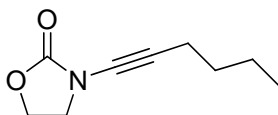
3-(6-(*tert*-Butyldimethylsilyloxy)hex-1-ynyl)oxazolidin-2-one⁷



10

Compound **10** was prepared in 70 % yield according to the general procedure B (eluent: ethyl acetate: hexanes = 1: 2). ^1H NMR (500 MHz, CDCl_3) δ 4.41 (t, 2H, $J = 7.5$ Hz), 3.87 (t, 2H, $J = 7.5$ Hz), 3.62 (t, 2H, $J = 6.0$ Hz), 2.32 – 2.35 (m, 2H), 1.55 – 1.62 (m, 4H), 0.89 (s, 9H), 0.05 (s, 3H); ^{13}C NMR (125 MHz, CDCl_3) δ 156.5, 71.0, 70.1, 62.8, 62.6, 47.0, 32.0, 26.0, 25.3, 18.4, -5.2; IR (neat): 2929, 2857, 2271, 1770, 1415, 1112, 836; MS (ES^+) Calculated for $[\text{C}_{15}\text{H}_{27}\text{NO}_3\text{SiNa}]^+$: 320.17; Found: 320.18

3-(Hex-1-ynyl)oxazolidin-2-one⁸



13a

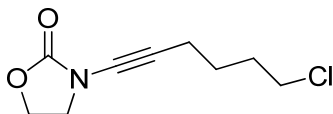
Compound **13a** was prepared in 75 % yield according to the general procedure B (eluent: ethyl acetate: hexanes = 1: 2). ^1H NMR (400 MHz, CDCl_3) δ 4.41 (t, 2H, $J = 8.0$ Hz), 3.87 (t, 2H, $J = 8.0$ Hz), 2.30 (t, 2H, $J = 7.2$ Hz), 1.47 – 1.55 (m, 2H), 1.36 – 1.45 (m, 2H), 0.90 (t, 3H, $J = 7.2$ Hz); ^{13}C NMR (125 MHz, CDCl_3) δ 156.5, 71.2, 70.0, 62.8, 47.1, 30.9, 22.0, 18.1, 13.6; IR (neat): 2933, 2873, 2273, 1770,

⁷ Lu, B.; Li, C.; Zhang, L. *J. Am. Chem. Soc.* **2010**, *132*, 14070-14072.

⁸ Davies, P. W.; Cremonesi, A.; Martin, N. *Chem. Commun.* **2011**, 379.

1415, 1207, 1116, 1033; MS (ES⁺) Calculated for [C₉H₁₃NO₂Na]⁺: 190.08; Found: 190.10

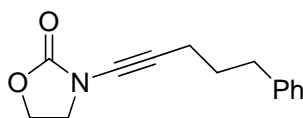
3-(6-Chlorohex-1-ynyl)oxazolidin-2-one⁸



13b

Compound **13b** was prepared in 50 % yield according to the literature procedure (eluent: ethyl acetate: hexanes = 1: 2). ¹H NMR (500 MHz, CDCl₃) δ 4.38 – 4.42 (m, 2H), 3.84 – 3.88 (m, 2H), 3.54 – 3.57 (m, 2H), 2.33 – 2.36 (m, 2H), 1.84 – 1.89 (m, 2H), 1.65 – 1.69 (m, 2H); ¹³C NMR (125 MHz, CDCl₃) δ 156.5, 70.6, 70.2, 62.8, 46.9, 44.5, 31.5, 25.9, 17.8; IR (neat): 2946, 2267, 1770, 1417, 1207, 1114, 1035; MS (ES⁺) Calculated for [C₉H₁₂NCIO₂Na]⁺: 224.05; Found: 224.05

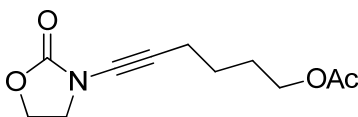
3-(5-Phenylpent-1-ynyl)oxazolidin-2-one



13c

Compound **13c** was prepared in 80 % yield according to the general procedure B (eluent: ethyl acetate: hexanes = 1: 2). ¹H NMR (400 MHz, CDCl₃) δ 7.26 – 7.31 (m, 2H), 7.17 – 7.21 (m, 3H), 4.42 (t, 2H, *J* = 8.0 Hz), 3.87 (t, 2H, *J* = 8.0 Hz), 2.72 (t, 2H, *J* = 7.6 Hz), 2.33 (t, 2H, *J* = 7.2 Hz), 1.82 – 1.89 (m, 2H); ¹³C NMR (125 MHz, CDCl₃) δ 156.6, 141.4, 128.4, 128.3, 125.8, 70.7, 70.5, 62.8, 47.0, 34.8, 30.3, 17.9; IR (neat): 2923, 2269, 1770, 1415, 1112, 1207; MS (ES⁺) Calculated for [C₁₄H₁₅NO₂Na]⁺: 252.10; Found: 252.13

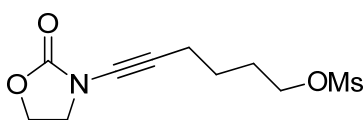
6-(2-Oxooxazolidin-3-yl)hex-5-ynyl acetate



13d

Compound **13d** was prepared in 76 % yield according to the general procedure B (eluent: ethyl acetate: hexanes = 1: 2). ^1H NMR (500 MHz, CDCl_3) δ 4.41 (t, 2H, $J = 8.0$ Hz), 4.07 (t, 2H, $J = 7.0$ Hz), 3.87 (t, 2H, $J = 8.0$ Hz), 2.35 (t, 2H, $J = 7.0$ Hz), 2.04 (s, 3H), 1.70 – 1.76 (m, 2H), 1.56 – 1.62 (m, 2H); ^{13}C NMR (125 MHz, CDCl_3) δ 171.0, 156.5, 70.5, 63.9, 62.8, 47.0, 27.8, 25.2, 21.0, 18.1; IR (neat): 2954, 2269, 1770, 1729, 1417, 1245, 1035; MS (ES^+) Calculated for $[\text{C}_{11}\text{H}_{15}\text{NO}_4\text{Na}]^+$: 248.09; Found: 248.09

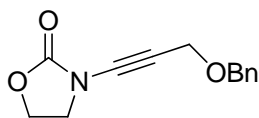
6-(2-Oxooxazolidin-3-yl)hex-5-ynyl methanesulfonate



13e

Compound **13e** was prepared in 65 % yield according to the general procedure B (eluent: ethyl acetate: hexanes = 1: 1). ^1H NMR (500 MHz, CDCl_3) δ 4.41 (t, 2H, $J = 8.0$ Hz), 4.26 (t, 2H, $J = 6.5$ Hz), 3.87 (t, 2H, $J = 8.0$ Hz), 3.01 (s, 3H), 2.38 (t, 2H, $J = 7.0$ Hz), 1.85 – 1.91 (m, 2H), 1.61 – 1.69 (m, 2H); ^{13}C NMR (125 MHz, CDCl_3) δ 156.5, 70.9, 70.0, 69.5, 62.8, 46.9, 37.4, 28.2, 24.6, 17.9; IR (neat): 2938, 1768, 1419, 1349, 1170; MS (ES^+) Calculated for $[\text{C}_{10}\text{H}_{15}\text{NO}_5\text{SNa}]^+$: 284.06; Found: 284.09

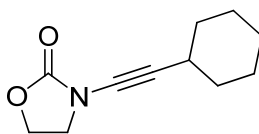
3-(3-(Benzyloxy)prop-1-ynyl)oxazolidin-2-one



13f

Compound **13f** was prepared in 70 % yield according to the general procedure B (eluent: ethyl acetate: hexanes = 1: 1). ^1H NMR (400 MHz, CDCl_3) δ 7.27 – 7.37 (m, 5H), 4.60 (s, 2H), 4.46 (t, 2H, $J = 8.0$ Hz), 4.34 (s, 2H), 3.92 (t, 2H, $J = 8.0$ Hz); ^{13}C NMR (125 MHz, CDCl_3) δ 156.0, 137.3, 128.3, 128.0, 127.7, 71.5, 67.8, 64.8, 63.0, 57.5, 46.7; IR (neat): 2861, 2260, 1770, 1419, 1205; MS (ES^+) Calculated for $[\text{C}_{13}\text{H}_{13}\text{NO}_3\text{Na}]^+$: 254.08; Found: 254.08

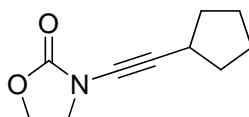
3-(Cyclohexylethynyl)oxazolidin-2-one⁸



13g

Compound **13g** was prepared in 80 % yield according to the general procedure B (eluent: ethyl acetate: hexanes = 1: 2). ¹H NMR (500 MHz, CDCl₃) δ 4.38 (t, 2H, *J* = 8.5 Hz), 3.85 (t, 2H, *J* = 8.5 Hz), 2.44 – 2.48 (m, 1H), 1.75 – 1.83 (m, 2H), 1.63 – 1.71 (m, 2H), 1.46 – 1.52 (m, 1H), 1.36 – 1.46 (m, 2H), 1.22 – 1.32 (m, 3H); ¹³C NMR (125 MHz, CDCl₃) δ 156.7, 75.2, 70.4, 63.0, 47.4, 33.0, 29.0, 26.0, 25.1; IR (neat): 2929, 2854, 2269, 1770, 1415, 1209; MS (ES⁺) Calculated for [C₁₁H₁₅NO₂Na]⁺: 216.10; Found: 216.10

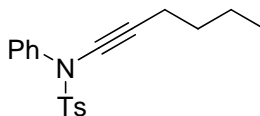
3-(Cyclopentylethynyl)oxazolidin-2-one



13h

Compound **13h** was prepared in 77 % yield according to the general procedure B (eluent: ethyl acetate: hexanes = 1: 2). ¹H NMR (400 MHz, CDCl₃) δ 4.38 (t, 2H, *J* = 8.0 Hz), 3.84 (t, 2H, *J* = 8.0 Hz), 2.65 – 2.73 (m, 1H), 1.84 – 1.94 (m, 2H), 1.64 – 1.71 (m, 2H), 1.48 – 1.61 (m, 4H); ¹³C NMR (125 MHz, CDCl₃) δ 156.7, 75.2, 70.0, 63.0, 47.3, 34.1, 30.0, 25.1; IR (neat): 2960, 2869, 1770, 1421, 1209, 1114; MS (ES⁺) Calculated for [C₁₀H₁₃NO₂Na]⁺: 202.08; Found: 202.09

N-1-Hexyn-1-yl-4-methyl-*N*-phenylbenzenesulfonamide⁸

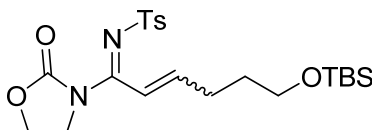


13l

Compound **13l** was prepared in 55 % yield according to the general procedure B (eluent: ethyl acetate: hexanes = 1: 2). ¹H NMR (500 MHz, CDCl₃) δ 7.55 (d, 2H, *J* = 8.5 Hz), 7.24 – 7.33 (m, 7H), 2.43 (s, 3H), 2.29 (t, 2H, *J* = 7.0 Hz), 1.40 – 1.52 (m, 2H), 1.35 –

1.39 (m, 2H), 0.90 (t, 3H, $J = 7.5$ Hz); ^{13}C NMR (125 MHz, CDCl_3) δ 144.5, 139.3, 132.9, 129.2, 128.8, 128.2, 127.2, 126.0, 73.8, 70.3, 30.9, 21.9, 21.7, 18.2, 13.6; IR (neat): 2931, 2254, 1594, 1488, 1373, 1176; MS (ES^+) Calculated for $[\text{C}_{19}\text{H}_{21}\text{NO}_2\text{SNa}]^+$: 350.11; Found: 350.12

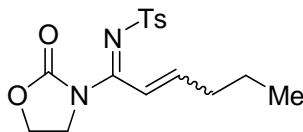
***N*-(6-(*tert*-Butyldimethylsilyloxy)-1-(2-oxooxazolidin-3-yl)hex-2-enylidene)-4-methylbenzenesulfonamide**



11

Compound **11** (E/Z = 4/1) was prepared in 92 % yield according to the general procedure C (eluent: ethyl acetate: hexanes = 1: 1). ^1H NMR (500 MHz, CDCl_3) δ 7.80 (d, 2H, $J = 8.0$ Hz), 7.28 (d, 2H, $J = 8.0$ Hz), 6.86 (dt, 1H, $J = 16.0, 7.0$ Hz), 6.73 (d, 2H, $J = 16.0$ Hz), 6.29 (minor, d, 2H, $J = 12.5$ Hz), 6.86 (minor, dt, 1H, $J = 12.0, 7.5$ Hz), 4.37 (t, 2H, $J = 8.0$ Hz), 3.95 (t, 2H, $J = 8.0$ Hz), 3.68 (t, 2H, $J = 6.5$ Hz), 2.41 (s, 3H), 2.36 – 2.42 (m, 2H), 1.71 – 1.77 (m, 2H), 0.89 (s, 9H), 0.05 (s, 6H); ^{13}C NMR (125 MHz, CDCl_3) δ 162.0, 153.0, 150.2, 143.1, 139.4, 129.3, 126.6, 118.8, 62.2, 61.9, 44.6, 30.8, 29.9, 25.9, 21.5, 18.3, -5.4; IR (neat): 3419, 2952, 2929, 1650, 1573, 1394, 1089; MS (ES^+) Calculated for $[\text{C}_{22}\text{H}_{34}\text{N}_2\text{O}_5\text{SSiNa}]^+$: 489.19; Found: 489.19

4-Methyl-*N*-(1-(2-oxooxazolidin-3-yl)hex-2-enylidene)benzenesulfonamide

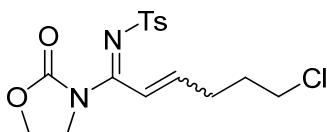


14a

Compound **14a** (E/Z = 4/1) was prepared in 93 % yield according to the general procedure C (eluent: ethyl acetate: hexanes = 1: 1). ^1H NMR (500 MHz, CDCl_3) δ 7.75 (d, 2H, $J = 8.0$ Hz), 7.23 (d, 2H, $J = 8.0$ Hz), 6.82 (dt, 1H, $J = 16.0, 7.0$ Hz), 6.68 (d, 2H, $J = 16.0$ Hz), 4.32 (t, 2H, $J = 8.0$ Hz), 3.88 (t, 2H, $J = 8.0$ Hz), 2.37 (s, 3H), 2.24 – 2.29 (m, 2H), 1.48 – 1.56 (m, 2H), 0.93 (t, 3H, $J = 8.0$ Hz); ^{13}C NMR (125 MHz, CDCl_3)

δ 162.0, 152.9, 150.4, 143.0, 139.3, 129.2, 126.5, 118.7, 61.9, 44.7, 35.4, 21.5, 21.0, 13.7; IR (neat): 3419, 1783, 1648, 1540, 1394, 1349, 1153, 1089 ; MS (ES⁺) Calculated for [C₁₆H₂₀N₂O₄SNa]⁺: 359.10; Found: 359.10

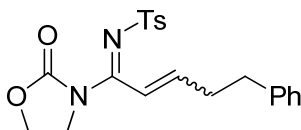
***N*-(6-Chloro-1-(2-oxooxazolidin-3-yl)hex-2-enylidene)-4-methylbenzenesulfonamide**



14b

Compound **14b** (E/Z = 2/1) was prepared in 81 % yield according to the general procedure C (eluent: ethyl acetate: hexanes = 1: 1). ¹H NMR (500 MHz, CDCl₃) δ 7.79 (d, 2H, *J* = 8.0 Hz), 7.28 (d, 2H, *J* = 8.0 Hz), 6.72 – 6.81 (m, 2H), 6.37 (minor, d, 1H, *J* = 12.0 Hz), 5.91 (minor, dt, 1H, *J* = 12.0, 8.0 Hz), 4.38 – 4.42 (minor, m, 2H), 4.35 – 4.40 (m, 2H), 4.00 (minor, t, 2H, *J* = 8.0 Hz), 3.94 (t, 2H, *J* = 8.0 Hz), 3.64 (t, 2H, *J* = 7.0 Hz), 3.54 (minor, t, 2H, *J* = 6.0 Hz), 2.46 – 2.52 (m, 2H), 2.37 (s, 3H), 2.22 – 2.28 (minor, m, 2H), 1.97 – 2.04 (m, 2H), 1.84 – 1.90 (minor, m, 2H); ¹³C NMR (125 MHz, CDCl₃) δ 162.4, 161.9, 153.3, 152.7, 147.8, 147.7, 143.7, 143.5, 139.5, 138.9, 137.4, 129.6, 127.3, 126.9, 121.0, 120.4, 64.5, 62.4, 62.2, 44.9, 44.8, 44.3, 44.2, 30.9, 30.7, 30.5, 27.5, 21.8; IR (neat): 3312, 2936, 2763, 2739, 2119, 1443, 1352; MS (ES⁺) Calculated for [C₁₆H₁₉ClN₂O₄SNa]⁺: 393.07; Found: 393.07

4-Methyl-*N*-(1-(2-oxooxazolidin-3-yl)-5-phenylpent-2-enylidene)benzenesulfonamide

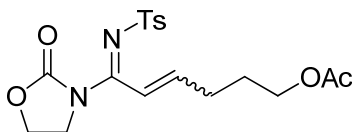


14c

Compound **14c** (E/Z = 3/1) was prepared in 88 % yield according to the general procedure C (eluent: ethyl acetate: hexanes = 1: 1). ¹H NMR (500 MHz, CDCl₃) δ 7.81 (d, 2H, *J* = 8.5 Hz), 7.16 – 7.32 (m, 7H), 6.88 (dt, *J* = 16.0, 6.0 Hz, 1H), 6.79 (d, 1H, *J* = 16.0 Hz), 6.30 (minor, d, 1H, *J* = 12.0 Hz), 6.02 (minor, dt, 1H, *J* = 12.0, 7.5 Hz), 4.37 (t,

1H, $J = 8.0$ Hz), 3.95 (t, 1H, $J = 8.0$ Hz), 2.86 (t, 1H, $J = 8.0$ Hz), 2.63 – 2.67 (m, 2H), 2.43 (s, 3H); ^{13}C NMR (125 MHz, CDCl_3) δ 161.8, 152.9, 148.8, 143.0, 140.8, 139.3, 129.3, 128.4, 128.3, 127.0, 126.3, 119.0, 62.0, 44.6, 35.1, 33.9, 21.6; IR (neat): 2923, 2854, 1781, 1648, 1552, 1382, 1313, 1149, 1091; MS (ES^+) Calculated for $[\text{C}_{21}\text{H}_{22}\text{N}_2\text{O}_4\text{SNa}]^+$: 421.12; Found: 421.16

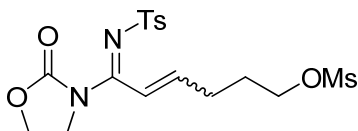
(6E)-6-(2-Oxooxazolidin-3-yl)-6-(tosylimino)hex-4-enyl acetate



14d

Compound **14d** (E/Z = 2/1) was prepared in 79 % yield according to the general procedure C (eluent: ethyl acetate: hexanes = 1: 1). ^1H NMR (500 MHz, CDCl_3) δ 7.78 (d, 2H, $J = 8.0$ Hz), 7.27 (d, 2H, $J = 8.0$ Hz), 6.84 (dt, 1H, $J = 16.0, 6.5$ Hz), 6.74 (d, 1H, $J = 16.0$ Hz), 6.31 (minor, d, 1H, $J = 12.5$ Hz), 5.99 (dt, 1H, $J = 12.5, 7.5$ Hz), 4.41 (minor, t, 2H, $J = 8.0$ Hz), 4.36 (t, 2H, $J = 8.0$ Hz), 4.14 (t, 2H, $J = 8.0$ Hz), 3.97 – 4.06 (m, 2H), 3.93 (t, 2H, $J = 8.0$ Hz), 2.41 (s, 3H), 2.28 – 2.42 (m, 2H), 2.09 – 2.13 (minor, m, 2H), 2.07 (s, 3H), 2.02 (minor, s, 3H), 1.84 – 1.90 (m, 2H), 1.70 – 1.74 (minor, m, 2H); ^{13}C NMR (125 MHz, CDCl_3) δ 171.3, 171.2, 162.4, 162.0, 153.3, 152.6, 148.5, 143.7, 143.4, 139.6, 138.9, 138.6, 129.6, 127.3, 126.8, 119.8, 119.6, 101.9, 63.9, 63.7, 62.2, 44.8, 44.3, 30.0, 29.8, 27.6, 27.2, 27.0, 21.8, 21.7, 21.2, 19.3; IR (neat): 3747, 3733, 2954, 1783, 1731, 1558, 1540, 1394, 1243, 1153, 1089; MS (ES^+) Calculated for $[\text{C}_{18}\text{H}_{22}\text{N}_2\text{O}_6\text{SNa}]^+$: 417.11; Found: 417.10

(6Z)-6-(2-Oxooxazolidin-3-yl)-6-(tosylimino)hex-4-enyl methanesulfonate

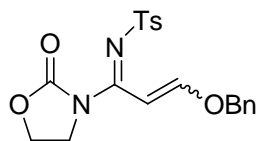


14e

Compound **14e** (E/Z = 3/2) was prepared in 72 % yield according to the general procedure C (eluent: ethyl acetate: hexanes = 1: 1). ^1H NMR (500 MHz, CDCl_3) δ 7.77

(d, 2H, $J = 8.0$ Hz), 7.28 (d, 2H, $J = 8.0$ Hz), 6.71 – 6.78 (m, 2H), 6.39 (minor, d, 1H, $J = 12.5$ Hz), 5.94 (minor, dt, 1H, $J = 12.5, 7.5$ Hz), 4.43 (minor, t, 2H, $J = 8.0$ Hz), 4.38 (t, 2H, $J = 8.0$ Hz), 4.33 (t, 2H, $J = 6.0$ Hz), 4.20 (minor, t, 2H, $J = 6.0$ Hz), 4.00 (minor, t, 2H, $J = 8.0$ Hz), 3.93 (t, 2H, $J = 8.0$ Hz), 3.03 (s, 3H), 2.99 (minor, s, 3H), 2.43 – 2.49 (m, 2H), 2.42 (s, 3H), 2.22 – 2.27 (minor, m, 2H), 1.99 – 2.03 (m, 2H), 1.86 – 1.90 (minor, m, 2H); ^{13}C NMR (125 MHz, CDCl_3) δ 162.2, 161.8, 153.3, 152.9, 146.8, 143.7, 143.5, 139.5, 138.9, 137.2, 129.6, 129.1, 127.2, 126.8, 121.2, 120.8, 69.9, 69.3, 62.4, 62.3, 44.7, 44.2, 37.6, 37.3, 29.1, 28.1, 27.5, 26.5, 21.8, 21.7; IR (neat): 2925, 1781, 1648, 1552, 1402, 1351, 1172, 1153; MS (ES^+) Calculated for $[\text{C}_{17}\text{H}_{22}\text{N}_2\text{O}_7\text{S}_2\text{Na}]^+$: 453.08; Found: 453.07

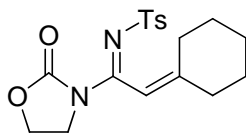
***N*-(3-(Benzyloxy)-1-(2-oxooxazolidin-3-yl)allylidene)-4-methylbenzenesulfonamide**



14f

Compound **14f** (E/Z = 5/1) was prepared in 75 % yield according to the general procedure C (eluent: ethyl acetate: hexanes = 1: 1). ^1H NMR (500 MHz, CDCl_3) δ 8.00 (d, 2H, $J = 12.0$ Hz), 7.80 (d, 2H, $J = 8.0$ Hz), 7.35 – 7.41 (m, 5H), 7.27 (d, 2H, $J = 8.0$ Hz), 6.61 (d, 2H, $J = 12.0$ Hz), 5.09 (s, 2H), 4.33 (t, 2H, $J = 8.0$ Hz), 3.95 (t, 2H, $J = 8.0$ Hz), 2.42 (s, 3H); ^{13}C NMR (125 MHz, CDCl_3) δ 165.4, 160.5, 153.6, 142.9, 139.6, 134.6, 129.3, 128.7, 128.6, 127.9, 126.4, 96.2, 73.8, 61.7, 45.2, 21.6; IR (neat): 3747, 3733, 3033, 2321, 1772, 1633, 1540, 1384, 1145, 1089; MS (ES^+) Calculated for $[\text{C}_{20}\text{H}_{20}\text{N}_2\text{O}_5\text{SNa}]^+$: 423.09; Found: 423.14

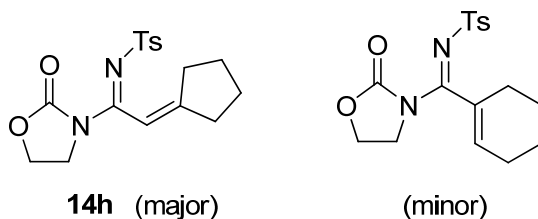
***E*)-*N*-(2-Cyclohexylidene-1-(2-oxooxazolidin-3-yl)ethylidene)-4-methylbenzenesulfonamide**



14g

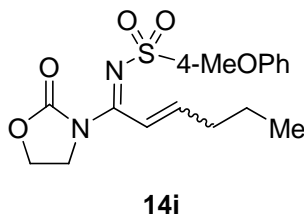
Compound **14g** was prepared in 90 % yield according to the general procedure C (eluent: ethyl acetate: hexanes = 1: 1). ^1H NMR (500 MHz, CDCl_3) δ 7.85 (d, 2H, $J = 8.0$ Hz), 7.35 (d, 2H, $J = 8.0$ Hz), 5.98 (s, 1H), 4.46 (t, 2H, $J = 8.0$ Hz), 4.12 (t, 2H, $J = 8.0$ Hz), 2.50 (s, 3H), 2.29 – 2.32 (m, 2H), 2.02 – 2.07 (m, 2H), 1.69 – 1.73 (m, 2H), 1.52 – 1.60 (m, 4H); ^{13}C NMR (125 MHz, CDCl_3) δ 163.4, 152.3, 152.0, 143.1, 138.7, 129.1, 127.1, 110.9, 61.7, 44.3, 36.3, 31.6, 27.1, 26.6, 25.8, 21.5; IR (neat): 3419, 2933, 2857, 1791, 1650, 1540, 1384, 1375, 1155, 1089; MS (ES^+) Calculated for $[\text{C}_{18}\text{H}_{22}\text{N}_2\text{O}_4\text{SNa}]^+$: 385.12; Found: 385.12

***N*-(2-Cyclopentylidene-1-(2-oxooxazolidin-3-yl)ethylidene)-4-methylbenzenesulfonamide (14h)**



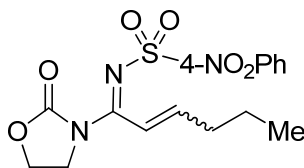
Compound **14h** was prepared in 76% yield along with the cyclohexene side product in 15% yield according to the general procedure C (eluent: ethyl acetate: hexanes = 1: 1). ^1H NMR (500 MHz, CDCl_3) δ 7.84 (d, 2H, $J = 8.0$ Hz), 7.36 (d, 2H, $J = 8.0$ Hz), 6.34 (brs, 1H), 5.98 (minor, brs, 1H), 4.47 (t, 2H, $J = 8.0$ Hz), 4.12 (t, 2H, $J = 8.0$ Hz), 2.50 – 2.53 (m, 2H), 2.50 (s, 3H), 2.13 – 2.19 (m, 2H), 1.73 – 1.76 (m, 4H); ^{13}C NMR (125 MHz, CDCl_3) δ 163.6, 159.4, 152.4, 143.4, 138.9, 129.4, 127.2, 110.5, 62.2, 44.8, 34.8, 31.6, 26.4, 25.6, 21.8; IR (neat): 3448, 2956, 2356, 1791, 1540, 1384, 1155, 1087; MS (ES^+) Calculated for $[\text{C}_{17}\text{H}_{20}\text{N}_2\text{O}_4\text{SNa}]^+$: 371.10; Found: 371.11

4-Methoxy-*N*-(1-(2-oxooxazolidin-3-yl)hex-2-enylidene)benzenesulfonamide



Compound **14i** (E/Z = 5/1) was prepared in 85 % yield according to the general procedure C (eluent: ethyl acetate: hexanes = 1: 1). ¹H NMR (400 MHz, CDCl₃) δ 7.83 (d, 2H, *J* = 8.8 Hz), 6.94 (d, 2H, *J* = 8.8 Hz), 6.78 – 6.86 (m, 1H), 6.70 (d, 1H, *J* = 16.0 Hz), 4.36 (t, 2H, *J* = 8.0 Hz), 3.96 (t, 2H, *J* = 8.0 Hz), 3.85 (s, 3H), 2.27 – 2.32 (m, 2H), 1.50 – 1.60 (m, 2H), 0.97 (t, 3H, *J* = 7.2 Hz); ¹³C NMR (125 MHz, CDCl₃) δ 162.9, 162.1, 153.3, 150.6, 134.4, 129.0, 119.0, 114.1, 62.2, 55.8, 44.9, 35.7, 21.3, 13.9; IR (neat): 3312, 2936, 2763, 2739, 2119, 1443, 1352; MS (ES⁺) Calculated for [C₁₆H₂₀N₂O₅SNa]⁺: 375.10; Found: 375.10

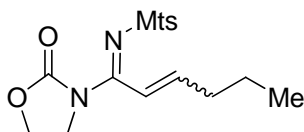
4-Nitro-*N*-(1-(2-oxooxazolidin-3-yl)hex-2-enylidene)benzenesulfonamide



14j

Compound **14j** (E/Z = 4/1) was prepared in 88 % yield according to the general procedure C (eluent: ethyl acetate: hexanes = 1: 1). ¹H NMR (500 MHz, CDCl₃) δ 8.34 (d, 2H, *J* = 8.5 Hz), 8.12 (d, 2H, *J* = 8.5 Hz), 7.02 (td, 1H, *J* = 16.0, 7.0 Hz), 6.82 (d, 1H, *J* = 16.0 Hz), 4.40 (t, 2H, *J* = 8.0 Hz), 3.93 (t, 2H, *J* = 8.0 Hz), 2.33 – 2.38 (m, 2H), 1.56 – 1.64 (m, 2H), 1.01 (t, 3H, *J* = 7.5 Hz); ¹³C NMR (125 MHz, CDCl₃) δ 163.3, 152.8, 152.3, 150.0, 148.2, 128.1, 124.3, 119.3, 62.2, 44.8, 35.9, 21.4, 13.9; IR (neat): 3733, 2960, 1783, 1648, 1558, 1384, 1313, 1153, 1089; MS (ES⁺) Calculated for [C₁₅H₁₇N₃O₆SNa]⁺: 390.07; Found: 390.10

2,4,6-Trimethyl-*N*-(1-(2-oxooxazolidin-3-yl)hex-2-enylidene)benzenesulfonamide

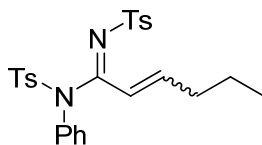


14k

Compound **14k** (E/Z = 5/1) was prepared in 80 % yield according to the general procedure C (eluent: ethyl acetate: hexanes = 1: 2). ¹H NMR (400 MHz, CDCl₃) δ 6.92 (s, 2H), 6.69 (dt, 1H, *J* = 16.8, 6.8 Hz), 6.60 (d, 1H, *J* = 16.8 Hz), 4.37 (t, 2H, *J* = 8.0 Hz),

3.96 (t, 2H, $J = 8.0$ Hz), 2.61 (s, 6H), 2.19 (s, 3H), 2.19 - 2.25 (m, 2H), 1.47 - 1.53 (m, 2H), 0.94 (t, 3H, $J = 7.2$ Hz); ^{13}C NMR (125 MHz, CDCl_3) δ 161.9, 153.2, 149.4, 141.9, 139.4, 138.7, 131.5, 118.6, 61.9, 44.8, 35.3, 22.8, 21.0, 20.8, 13.6; IR (neat): 3744, 3032, 1558, 1440, 1297, 1139; MS (ES^+) Calculated for $[\text{C}_{18}\text{H}_{24}\text{N}_2\text{O}_4\text{SNa}]^+$: 387.14; Found: 387.08

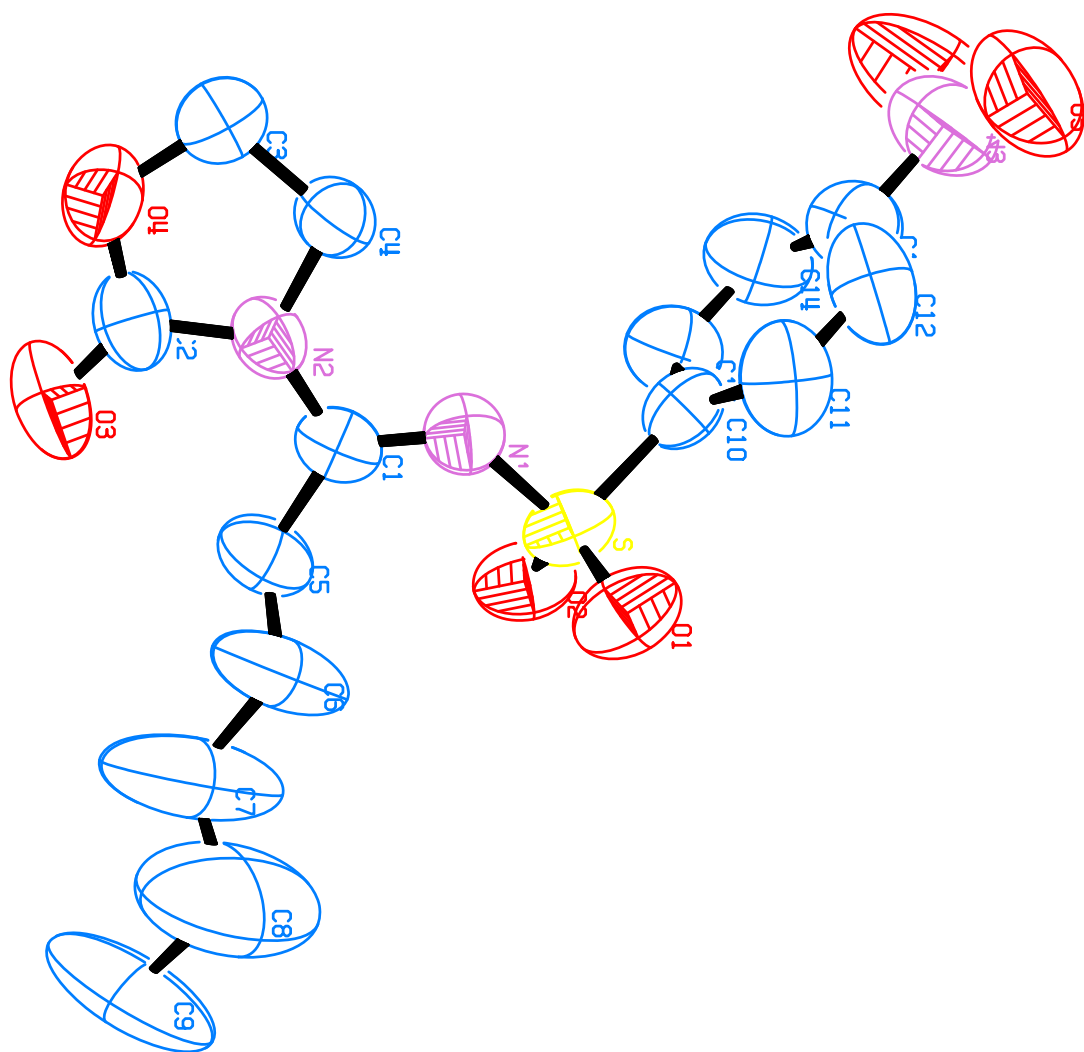
(1E)-N-Phenyl-N,N'-ditosylhex-2-enimidamide



14I

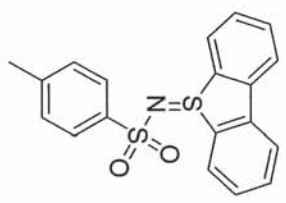
Compound **14I** ($E/Z = 3/2$) was prepared in 62 % yield according to the general procedure C (eluent: ethyl acetate: hexanes = 1: 1). ^1H NMR (400 MHz, CDCl_3) δ 7.85 (d, 2H, $J = 8.4$ Hz), 7.35 - 7.40 (m, 5H), 7.16 - 7.25 (m, 4H), 6.98 (d, 2H, $J = 8.4$ Hz), 6.55 (dt, 1H, $J = 16.0, 7.2$ Hz), 6.11 (d, 1H, $J = 16.0$ Hz), 2.50 (s, 3H), 2.37 (s, 3H), 1.94 - 1.99 (m, 2H), 1.12 - 1.21 (m, 2H), 0.63 (t, 3H, $J = 7.2$ Hz); ^{13}C NMR (125 MHz, CDCl_3) δ 163.0, 151.7, 144.7, 143.5, 138.8, 138.3, 135.1, 130.3, 129.6, 129.5, 129.4, 129.0, 127.4, 121.8, 101.8, 35.2, 21.9, 21.3, 13.6; IR (neat): 3735, 2960, 1648, 1596, 1560, 1540, 1371, 1155, 1087; MS (ES^+) Calculated for $[\text{C}_{26}\text{H}_{28}\text{N}_2\text{O}_4\text{S}_2\text{Na}]^+$: 519.14; Found: 519.13

ORTEP description of E-14j

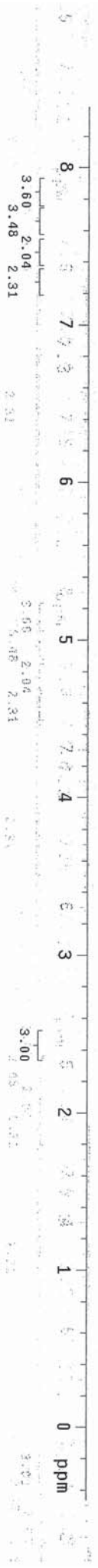


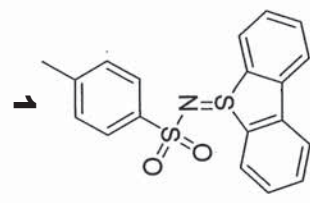
1c92-36
exp25 szpu1

date	Aug 19 2010	dn	H1
solvent	cdcl3	do	-1425.0
file	/home/Zhang/Cv	dm	nmn
q11	1c92-36-3.fid	dmm	C
ACQUISITION		dmf	200
sfrq	399.951	PROCESsing	0.10
tn	H1	1p	65536
at	2.502	fn	F
mp	36008	math	
sw	7190.8	werr	
fb	not used	wexp	
bs	2	wbs	
pw	8.0	wht	
tpwr	57	sp	-185.7
d1	3.000	wp	3539.3
tof	-6.9	vs	28
nt	10	sc	0
ct	10	WC	250
atlock	gain	Hzmm	14.16
gain	not used	IS	261.78
fl	FLAGS	rfl	4501.8
in	n	rffp	2903.6
dp	y	th	3
hs	nn	ins	3.000
		at	ph



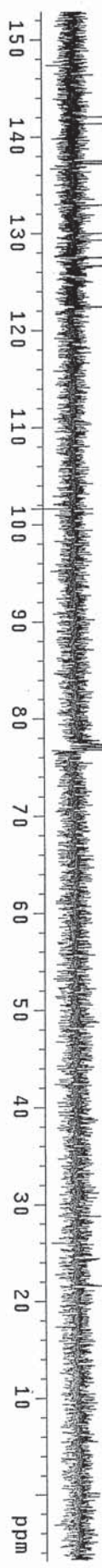
1





1c43-36-13C
 exp25 CARBON

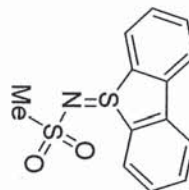
SAMPLE	date	Dec 17 2010	temp	not used
SOLVENT	solvent	cdcl3	gain	54
FILE	file	exp	spin	not used
ACQUISITION	sw	28258.6	hst	0.008
	at	1.300	pw90	9.200
	np	73498	a1fa	10.000
	fb	16000	FLAGS	
	bs	2	i1	n
	d1	3.000	dp	n
	nt	10000	hs	y
	ct	160	PROCESSING	nm
TRANSMITTER	tn	G13	lb	0.50
	sfrq	125.702	tsfid	2
	tof	865.4	fn	not used
	tpwr	56	SP	DISPLAY
	pw	13.500	wp	-861.6
DECOUPLER	dn	H1	ffl	20075.4
	dof	0	rfp	11036.8
	dm	nny	tp	3678.0
	decwave			65.8
	dpwr	36	WC	PLOT -1038.9
	dmf	11101	SC	250
			VS	0
			th	2141
			ai	cdc ph
				4

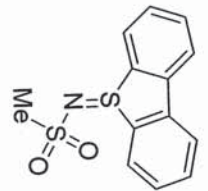


1cq2-76

exp25 s2pul

date	Aug 31 2010	dn	H1
solvent	cdcl3	dof	-1425.0
file	/home/Zhang/cv	dm	nm
q1	1cq2-76.fid	dmm	C
ACQUISITION		dmf	200
sfrq	399.951	PROCESSING	
tn	H1	lb	0.10
at	2.502	fn	65536
np	36008	math	f
sw	7198.8		
fb	not used	weff	
bs	2	wexp	
pw	8.0	wbs	
tpwr	57	wnt	
d1	3.000	sp	-94.5
tof	-6.9	wp	3572.9
nt	8	vs	25
ct	8	sc	0
alock	not used	WC	250
gain	n	Hzmm	14.29
fl	n	IS	500.00
in	n	rfl	4508.1
dp	y	rfd	2908.6
hs	nm	ins	3
ai		ph	3.000

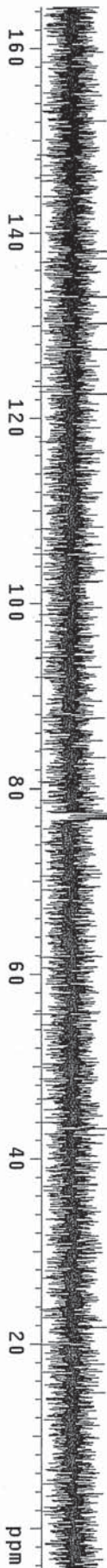


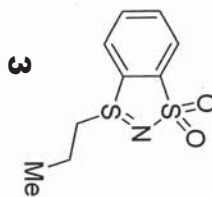


2

1c92-76-13C
 exp25 CARBON

SAMPLE	Dec 19 2010	temp	not used
solvent	cdcl3	gain	54
file	exp	spin	not used
ACQUISITION	28258.6	hst	0.008
sw	1.300	pw90	9.200
at	1.300	atfa	10.000
np	73498	FLAGS	
rb	16000	i1	n
bs	2	in	n
d1	3.000	dp	y
nt	10000	hs	nm
ct	210	PROCESSING	
TRANSMITTER	G13	lb	0.50
tn	125.702	isfid	2
sfrq	865.4	fn	not used
tof	56	DISPLAY	
tpwr	13.500	sp	-596.0
pw	0	wp	21268.1
DECOUPLER	H1	rfl	11036.3
dn	0	rtp	9678.0
dof	0	rp	161.2
dm	nny	lp	-891.8
decwave		PLOT	
dpwr	36	wc	250
dmf	11101	sc	0
		vs	2090
		th	8
		ai	cdc
			ph



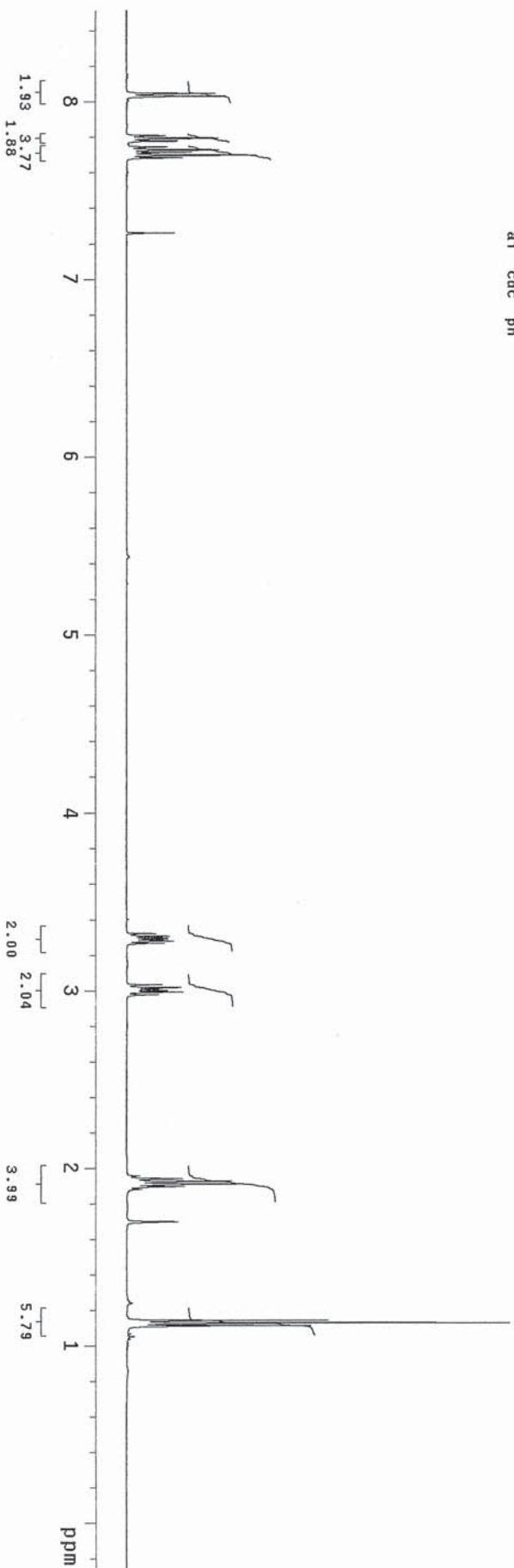


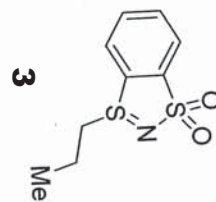
```

1c92-161-H
exp25  PROTON

SAMPLE      PRESATURATION
date       Dec 19 2010      satmode      n
solvent    CDCl3           wet          n
file       exp            SPECIAL      not used
ACQUISITION
sw         7397.6         gain        not used
at         2.049         spin        not used
np         32758         hst         0.008
fb         4000         pw90        9.100
bs         1.000         alfa        6.600
d1         12           FLAGS
d1         12           11          n
nt         12           12          n
ct         12           13          y
TRANSMITTER
tn         H1           hs          nn
sffq      499.859       fn          not used
tof       499.9        PROCESSING
tpwr      53           DISPLAY
pw        4.550       SP         -140.9
dn        C13         WP         4396.6
dof       0           rF1        4632.4
dm        nmh         rFP        3629.0
decbwv   W40_5mm3G1~ 1p          27.9
PLOT
dpwr      47           WC         250
dmf       32258        SC         0
                        VS         30
                        th         3
ai         cdc         ph

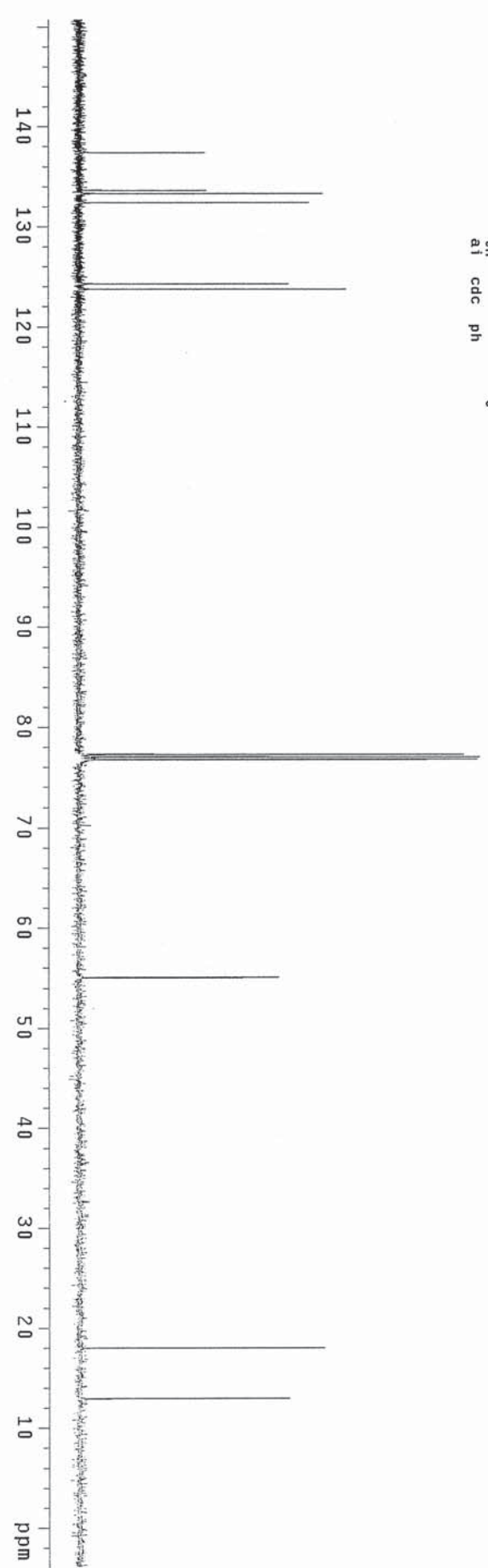
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1c92-161-13C
 exp25 CARBON

SAMPLE	Dec 19 2010	temp	not used
solvent	cdc13	gain	54
file	exp	spin	not used
ACQUISITION	28258.6	hst	0.008
sw	1.300	pw90	9.200
at	1.300	atfa	10.000
np	73498	FLAGS	
fb	18000	i1	n
bs	2	in	n
d1	3.000	dp	y
nt	10000	hs	nm
ct	196	PROCESSING	
TRANSMITTER		lb	0.50
tn	G13	isfid	2
sfrq	125.702	fn	not used
tof	865.4	DISPLAY	
tpwr	56	SP	-502.0
pw	13.500	wp	19443.9
DECOUPLER	H1	rfl	11041.3
dn	0	rff	9678.0
dof	0	rtp	-179.4
dm	nny	lp	-911.4
decwave		PLOT	
dpwr	36	wc	250
dmf	11101	sc	0
		th	554
		ai	9
		cdc	ph



1cq2-37

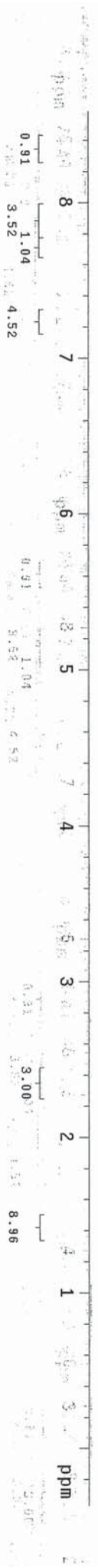
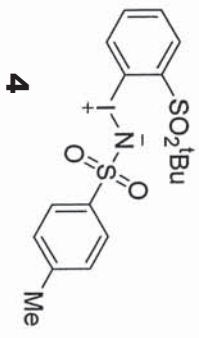
exp25 s2pul1

SAMPLE	Aug 19 2010	dn	H1
date	Aug 19 2010	dof	-1425.0
solvent	cdcl3	dm	nmn
file	/home/Zhang/C~	dmf	C
q1/1cq2-37.fid		dmf	200
ACQUISITION		PROCESSING	0.10
sfrq	399.951	fn	65536
tn	H1	1b	
at	2.502	fn	
np	36008	math	
sw	7190.8		
fb	not used	weff	
bs	not used	wexp	
pw	8.0	wbs	
tpwr	8.0	wnt	
d1	3.000	sp	-147.7
tof	-6.9	wp	3581.3
nt	10	vs	123
ct	8	sc	0
atlock	not used	WC	250
gain	n	Hzmm	14.33
fl	n	IS	500.00
in	Y	rfl	4502.2
dp	n	rtp	2903.6
hs	nm	th	3
ai	nm	ins	3.000

DEC. & VT

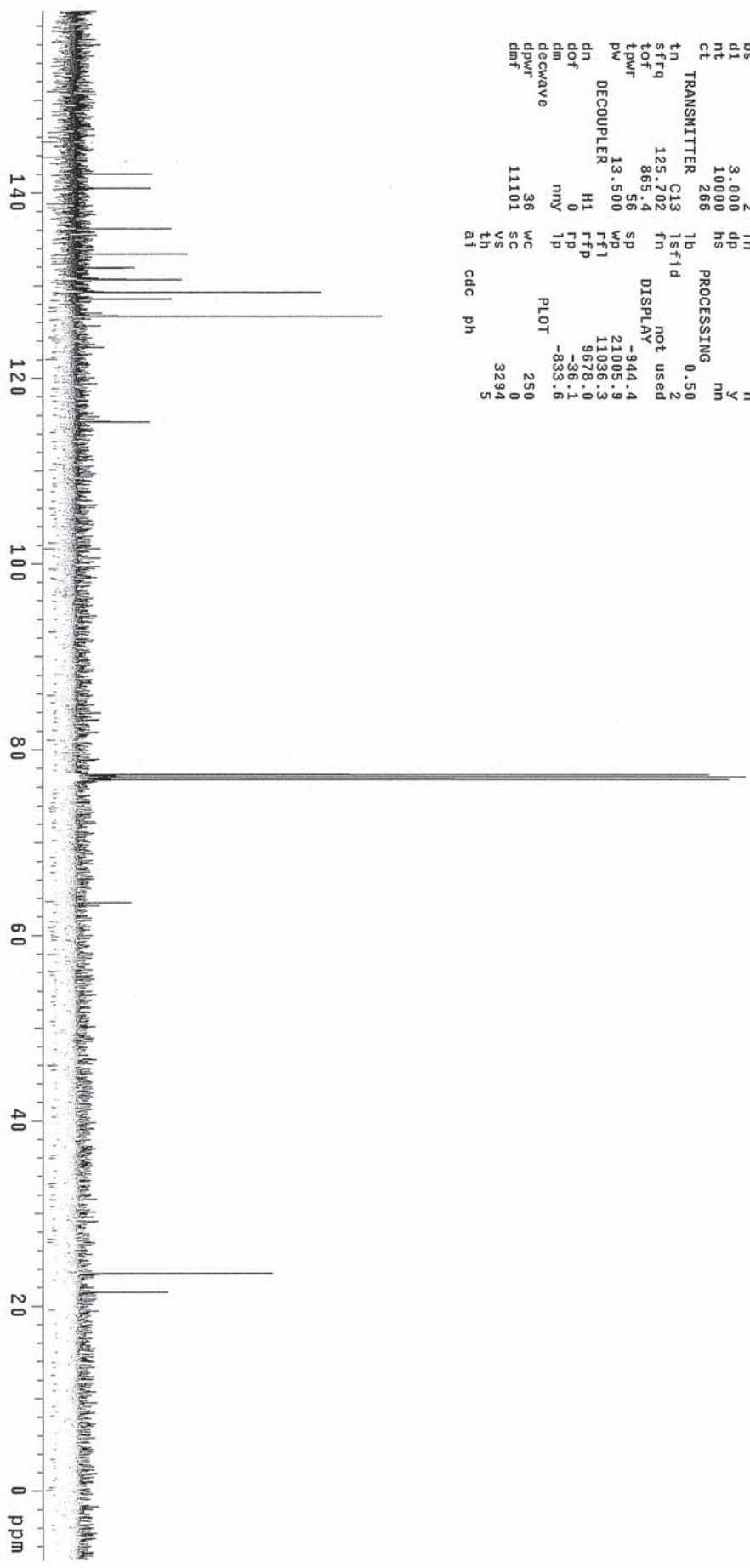
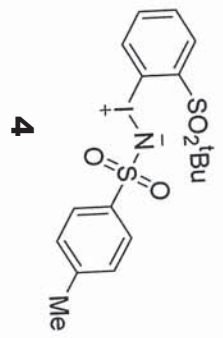
DISP	0.10
math	65536
weff	
wexp	
wbs	
wnt	
sp	-147.7
wp	3581.3
vs	123
sc	0
WC	250
Hzmm	14.33
IS	500.00
rfl	4502.2
rtp	2903.6
th	3
ins	3.000

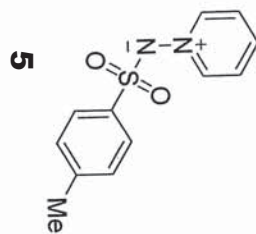
ph



1c42-37-13C
 exp25 CARBON

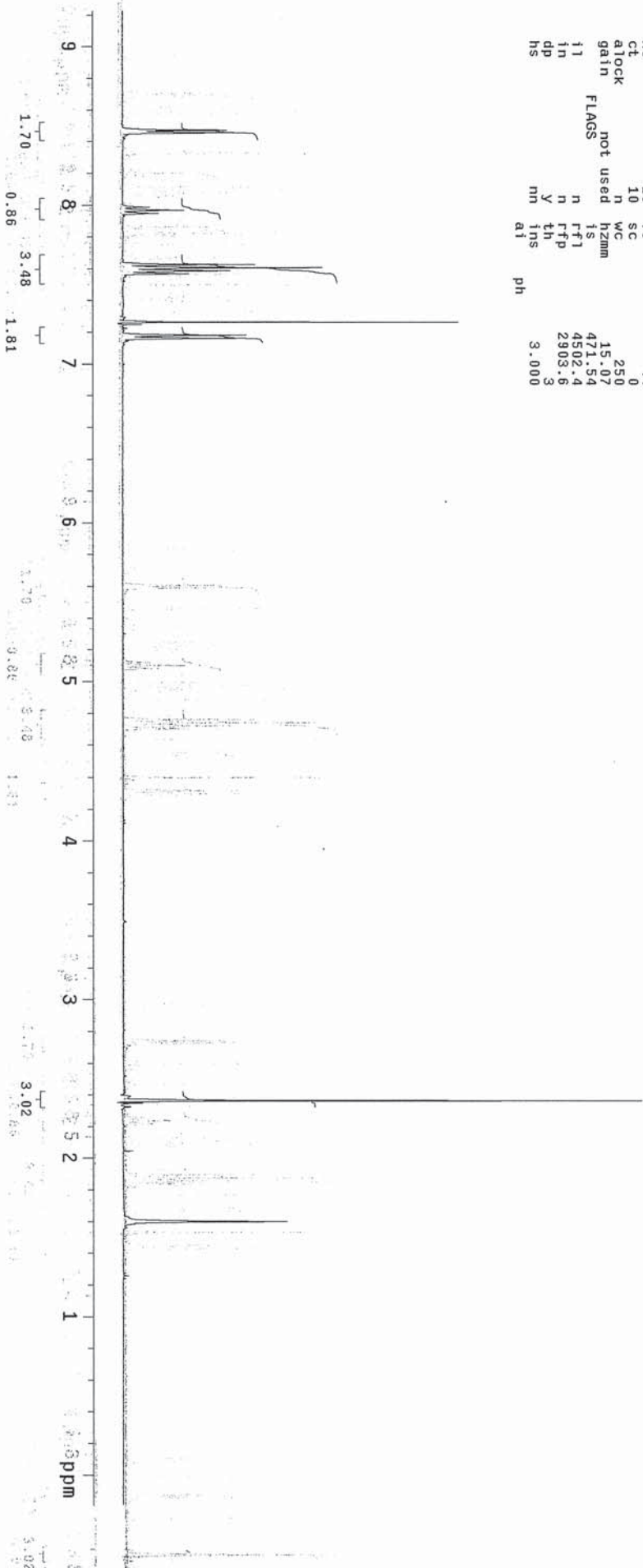
SAMPLE	Dec 17 2010	temp	not used
SOLVENT	cdcl3	gain	54
file	exp	spin	not used
ACQUISITION	28258.6	hst	0.008
SW	1.300	PW90	9.200
at	73498	atfa	10.000
np	16000	FLAGS	
fb	3.000	l1	n
bs	2	in	n
d1	10000	dp	y
nt	266	hs	m
ct		PROCESSING	
TRANSMITTER	G13	lb	0.50
tn	125.702	isfid	2
sffq	865.4	fn	not used
tof	56	DISPLAY	
tpwr	13.500	sp	-944.4
PW		wd	21005.3
DECOUPLER	H1	RF1	11038.3
dn	0	TFP	3678.0
dof	0	TP	-36.1
dm	nny	TP	-833.6
decwave		PLOT	
dpwr	36	WC	250
dmf	11101	SC	0
		VS	3294
		th	5
		ai	cdc ph





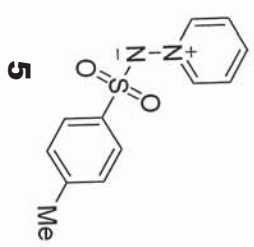
1cq2-114-1
exp25 s2pul

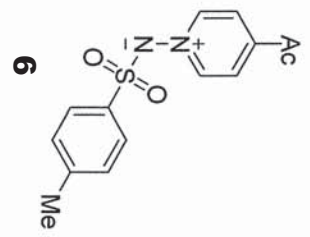
SAMPLE	date	16	2010	dn	H1
solvent	cdcl3	dm	-1425.0	dof	
file	/home/Zhang/cw	dm	nmn	dm	
q11/1cq2-114-1.fid	dmf	dmf	C	dmf	
ACQUISITION			200		
sfrq	399.951	H1	1b	PROCESSING	0.10
tn			fn		65536
at	2.502	math			f
np	36008				
sw	7196.8				
fb	not used				
bs	2	weff			
pw	8.0	wbs			
tpwr	8.0	wnt			
d1	3.000	sp	DISPLAY		
tof	-6.9	wp	-77.0		
nt	10	vs	3766.4		
ct	10	sc	44		
alock	n	WC	0		
gain	not used	h2mm	250		
fl	FLAGS	ts	15.07		
fn	n	ft1	471.54		
dp	y	rtf	4502.4		
hs	nm	th	2903.6		
		ins	3		
		ai	3.000		
			ph		



1c92-114-13C
exp25 CARBON

date	Dec 17 2010	SAMPLE	temp	not used
solvent	cdc13	solvent	gain	54
file	exp	exp	spin	not used
sw	28258.6	sw	hst	0.008
at	1.300	at	pw90	9.200
np	73498	np	a1fa	10.000
fb	16000	fb	flags	
bs	3.000	bs	in	n
di	10000	di	dp	y
nt	10000	nt	hs	nm
ct	826	ct	PROCESSING	0.50
tn	C13	tn	lb	1s'fid
sfrq	125.702	sfrq	fn	not used
tof	865.4	tof	DISPLAY	
tpwr	56	tpwr	sp	-462.7
pw	13.500	pw	wd	20307.4
dn	H1	dn	rfl	11035.5
dof	0	dof	rfl	9878.0
dm	nny	dm	tp	38.2
decwave	0	decwave	lp	-1008.5
dpwr	36	dpwr	PLOT	
dmf	11101	dmf	wc	250
			sc	0
			vs	1908
			th	
			ai	cdc ph
				2





1c92-215-H
exp25 s2pul

SAMPLE	Dec 31 2010	DN	H1
date	Dec 31 2010	dof	-1425.0
solvent	cdcl3	dm	mm
file	exp	dmm	C
ACQUISITION		dmf	200
sfrq	399.951	H1	
tn	H1	1b	
at	2.502	fn	0.10
np	36008	math	65536
sw	7196.8		f
fb	not used		
bs	2	weff	
pw	8.0	wexp	
tpwr	8.0	wbs	
di	57	wnt	
tof	3.000	sp	-61.6
nt	-6.9	wp	3808.4
ct	16	vs	54
alock	n	sc	0
gain	not used	wc	250
fl	FLAGS	h2mm	15.23
in	n	is	257.71
dp	Y	ft1	4504.0
hs	nn	ftp	2903.6
		th	3
		ins	3.000
		ai	

DEC. & VT

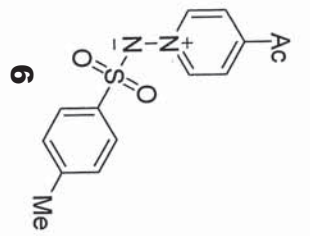
PROCESSING

DISPLAY



1c42-115-13C
exp25 CARBON

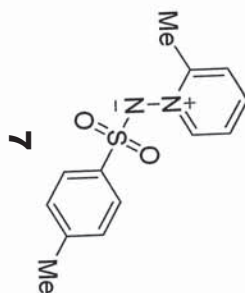
SAMPLE	Dec 17 2010	temp	not used
solvent	cdc13	gain	54
file	exp	spin	not used
ACQUISITION	28258.6	hst	0.008
sw	1.300	pw90	9.200
at	73498	a1fa	10.000
np	16000	flags	
fb	16000	i1	n
bs	3.000	in	n
d1	10000	dp	y
nt	10000	hs	m
ct	448	PROCESSING	0.50
TRANSMITTER		1b	2
tn	C13	1sfid	not used
sffq	125.702	fn	not used
lof	865.4	DISPLAY	
lpwr	56	sp	-1326.0
pw	13.500	wd	28258.1
DECOUPLER	H1	rfl	11004.4
dn	0	tfp	9878.0
dof	0	tp	3.2
dm	nny	1p	-928.2
decwave		PLOT	
dpwr	36	wc	250
dmf	11101	sc	0
		vs	2770
		th	0
		ai	cdc ph



1c92-226

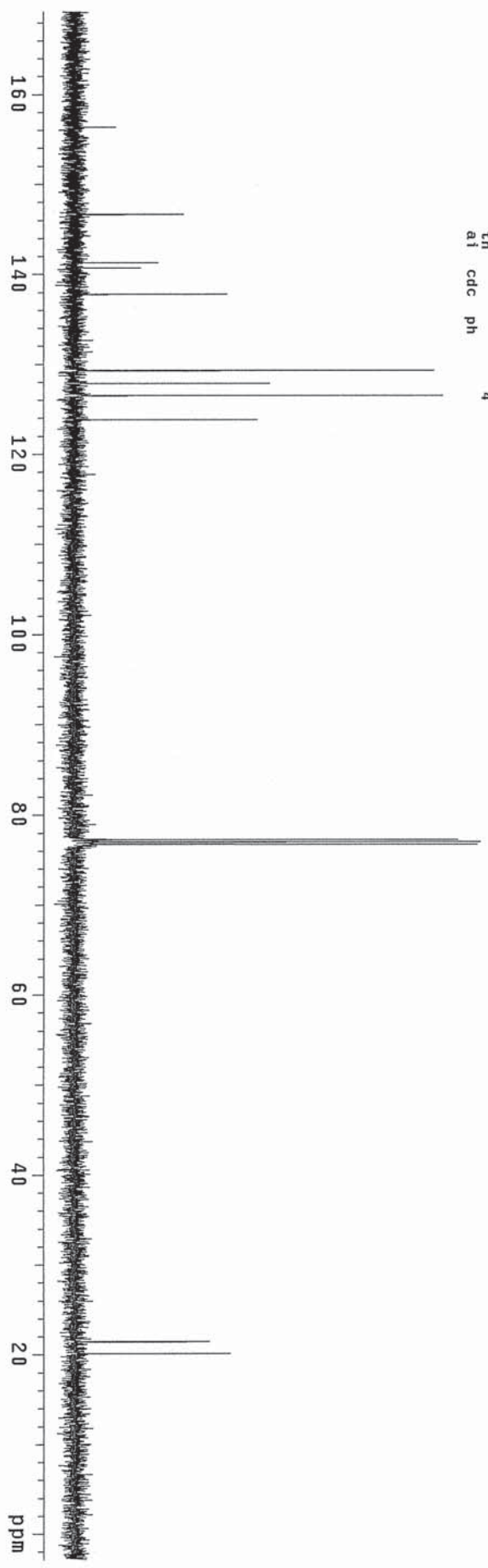
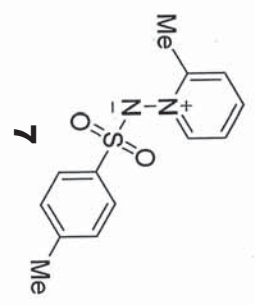
exp25 s2pu1

date	Oct 20 2010	dn	H1	DEC. & VT	H1
solvent	cdcl3	dof	-1425.0		
file	/home/Zhang/cv	dm	nm		
q11	1c92-226.fid	dmm	C		
ACQUISITION		dmf	200		
sfrq	399.951	PROCESSING	0.10		
tn	H1	lb	65536		
at	2.502	fn	f		
np	36008	math			
sw	7196.8				
fb	not used	weff			
bs	not used	wekp			
pw	8.0	wds			
pt	8.0	wnt			
tpwr	57	DISPLAY			
d1	3.000	sp	-144.0		
tof	-6.9	wp	3808.4		
nt	16	vs	56		
ct	14	sc	0		
alock	n	wc	250		
gain	not used	h2mm	15.23		
fl	n	is	384.32		
in	n	ft1	4502.2		
dp	y	th	2903.6		
hs	nm	ins	2		
ai	ph		3.000		



1c42-225-13C
 exp25 CARBON

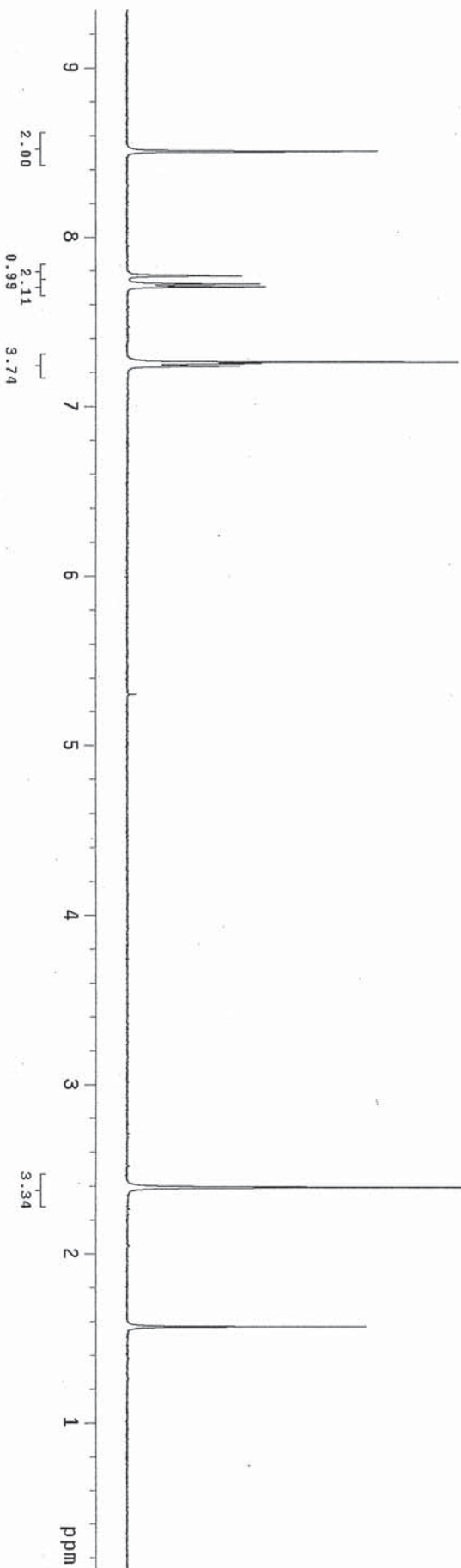
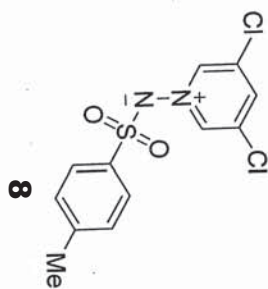
SAMPLE	Dec 17 2010	temp	not used
solvent	cdc13	gain	54
file	exp	sp1n	not used
ACQUISITION	28258.6	hst	0.008
sw	1.300	pw90	9.200
at	73498	alfa	10.000
np	16000	flags	n
fb	2	il	n
bs	3.000	in	y
d1	10000	dp	n
nl	234	hs	nm
ct	TRANSMITTER	PROCESSING	0.50
tn	C13	lb	2
sffq	125.702	tsfid	not used
lof	865.4	fn	DISPLAY
lpwr	56	sp	-365.7
pw	13.500	wd	21632.4
DECOUPLER	H1	rf1	11037.6
dn	0	fp	9878.0
dof	0	tp	8.3
dm	nmv	ip	-920.3
deccwave		PLOT	250
dpwr	36	wc	0
dmf	11101	sc	0
		vs	2141
		th	4
		ai	cdc ph

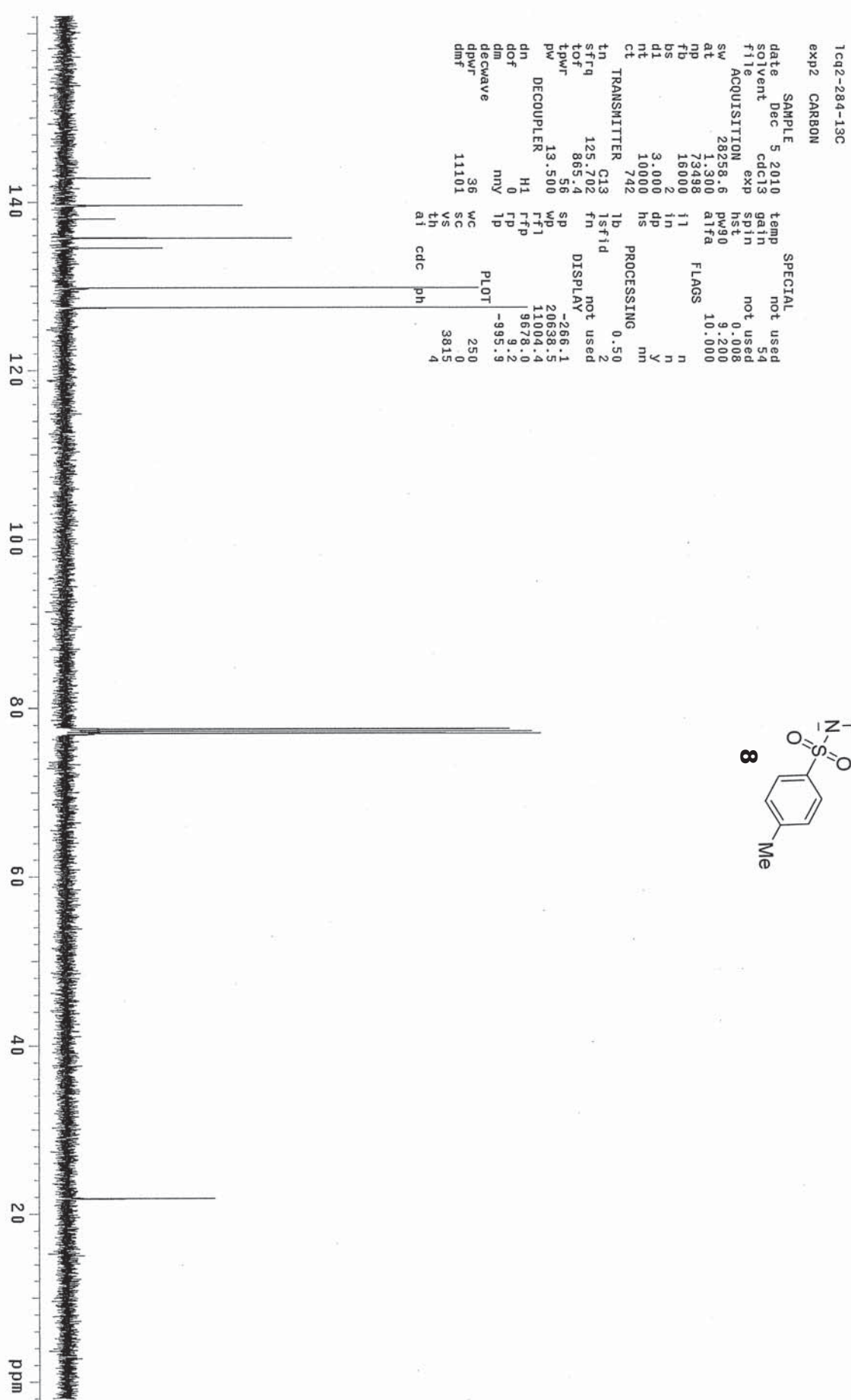
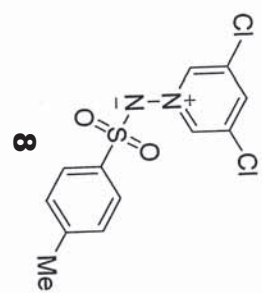


1c92-284-H

exp2 PROTON

SAMPLE PRESATURATION
date Dec 5 2010 satmode n
solvent CDC13 wet n
file CDC13 exp SPECIAL
ACQUISITION temp not used
sw 7997.6 gain not used
at 2.049 spin not used
np 32768 hst 0.008
fb 4000 pw90 9.100
bs 2 atfa 6.600
d1 1.000 FLAGS
d1 10 i1 n
nt 10 in n
ct 10 dp y
TRANSMITTER H1 hs nm
tn 499.859 fn PROCESSING
sfrq 499.9 not used
tof 53 DISPLAY
tpwr 4.550 sp 56.8
pw DECOUPLER C13 WP 4612.4
dn C13 TFI 4831.9
dof 0 TFP 3629.0
dm nmh b1.5
decwave W40_5mm3G1~ 1p 3.8
PLOT
dpwr 47 WC 250
dmf 32258 VS 0
ai cdc ph th 42
6

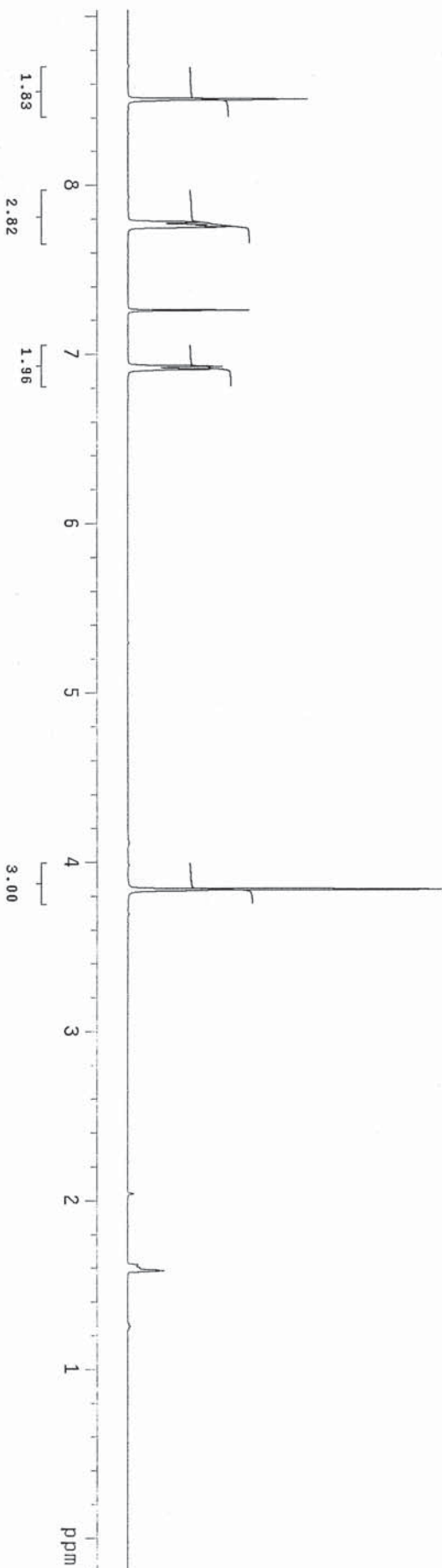
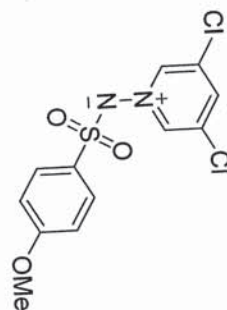




1cq3-120-H

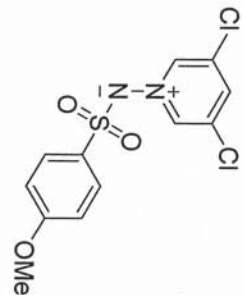
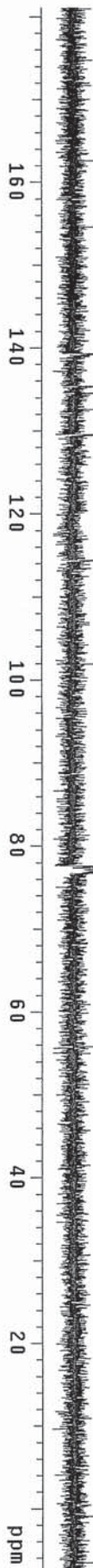
exp25 PROTON

SAMPLE	Dec 24 2010	PRESATURATION	n
date	Dec 24 2010	satmode	n
solvent	CDCl3	wet	n
file	exp	SPECIAL	
ACQUISITION		temp	not used
sw	7997.6	gain	not used
at	2.049	spin	not used
np	32768	hst	0.008
fb	4000	PW90	9.100
bs	2	alfa	6.600
dl	1.000	FLAGS	
nl	16	i1	n
ct	16	in	n
TRANSMITTER	H1	dp	y
tn	499.859	hs	nm
sfrq	499.9	fn	not used
tof	53	DISPLAY	
tpwr	4.550	SP	-103.8
DECOUPLER	C13	WP	4621.7
dn	0	FF1	4632.9
dof	0	TFP	3829.0
dm	nmn	TP	179.4
decwave	W40_5mm3Q1~	IP	3.4
dpwr	47	PLOT	
dmf	32258	wc	250
		sc	0
		vs	25
		th	3
		ai	cdc
			ph



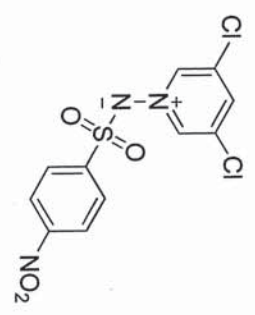
1c93-120-13C
exp25 CARBON

SAMPLE	Dec 24 2010	temp	not used
date	Dec 24 2010	gain	54
solvent	cdc13	sp1n	not used
file	exp	hst	0.008
ACQUISITION	28258.6	pw90	9.200
sw	1.300	alfa	10.000
at	73498	flags	
np	16000	i1	n
fb	3.000	i2	y
d1	10000	dp	n
nt	334	hs	m
ct	334	PROCESSING	
TRANSMITTER	G13	lb	0.50
tn	125.702	tsfid	2
sfrq	865.4	fn	not used
lof	56	DISPLAY	
lpwr	13.500	sp	-960.7
pw	0	wp	23719.4
DECOUPLER	H1	rf1	11003.6
dn	0	rfp	9678.0
dof	0	tp	43.6
dm	my	ip	-980.9
decwave	36	PLOT	250
dpwr	11101	wc	0
dmf		sc	0
		vs	2297
		th	4
		ai	cdc ph



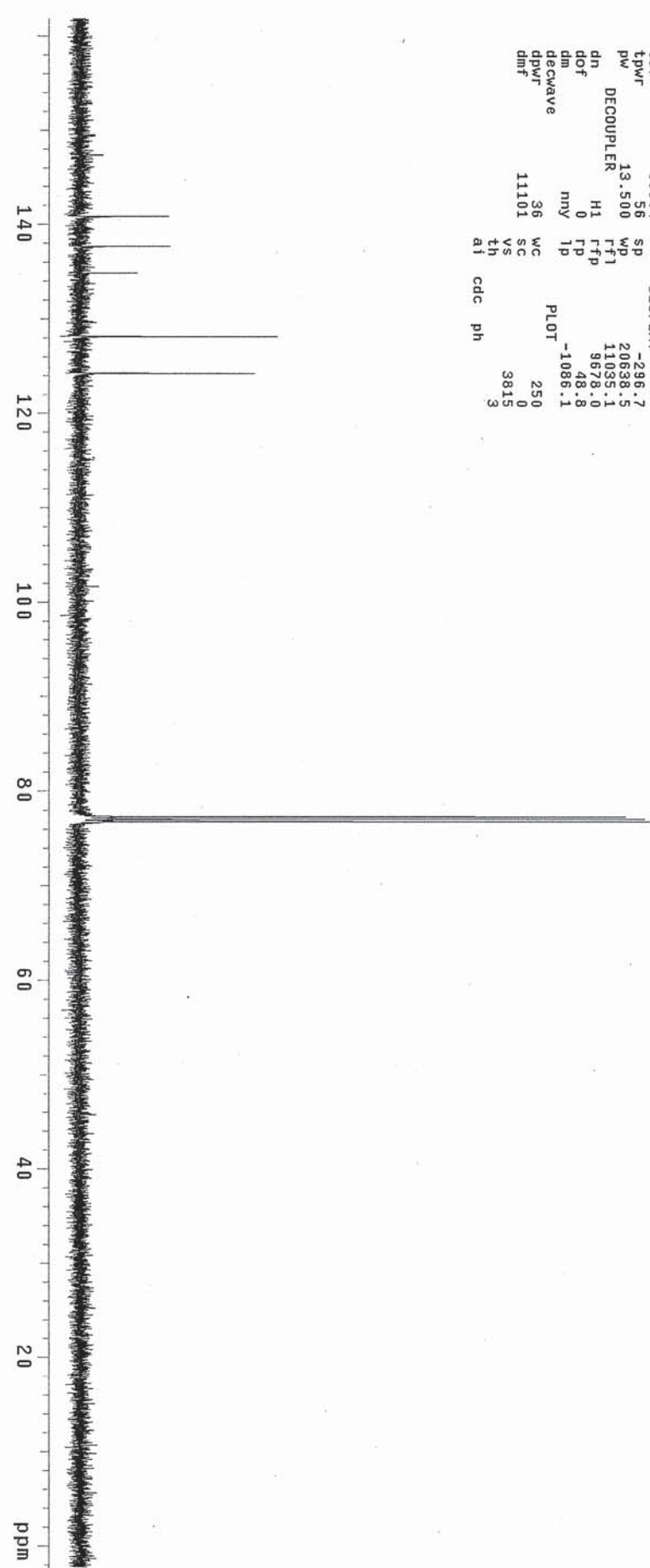
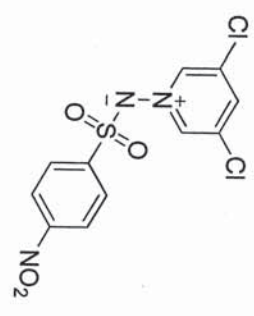
1c92-233-H
 exp2 PROTON

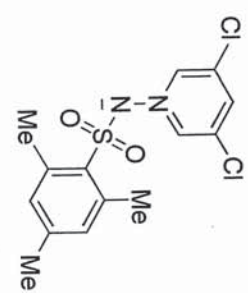
date	Dec 5 2010	SAMPLE	5	2010	satmode	n
solvent	CDCl3	SOLVENT	CDCl3		wet	n
file	exp	FILE	exp		SPECIAL	n
sw	7997.6	ACQUISITION	7997.6	temp	not used	
at	2.049	gain	2.049	spin	not used	
np	32758	hst	32758	pw90	0.008	
fb	4000	pw90	4000	atfa	9.100	
bs	2	atfa	2	flags	8.600	
di	1.000	flags	1.000			
nt	10		10			
ct	10		10			
tn	H1	TRANSMITTER	H1	hs	nm	
sfrq	499.859	fn	499.859	dp	nm	
tof	499.9	PROCESSING	499.9		not used	
tpwr	53	DISPLAY	53		not used	
pw	4.550	SP	4.550		-83.8	
dn	C13	WP	C13		4563.5	
dof	0	FT1	0		4831.9	
dm	nm	FTP	nm		3629.0	
decwave	W40_5mm3G1~	TP	W40_5mm3G1~		64.6	
dpwr	47	PLOT	47		-3.5	
dmf	32258	WC	32258		250	
		SC			0	
		VS			42	
		th			4	
		ai			cdc	
					ph	



1c42-233-13C
 exp2 CARBON

date	Dec 5 2010	temp	not used
solvent	cdc13	gain	54
file	exp	spin	not used
ACQUISITION	28258.6	hst	0.008
sw	1.300	pw90	9.200
at	73498	atfa	10.000
np	16000	flags	
fb	2	in	n
bs	3.000	dp	n
dl	10000	hs	y
nt	1032	hs	nm
ct		PROCESSING	0.50
tn	C13	lb	2
sfrq	125.702	lsfid	not used
tof	865.4	fn	not used
tpwr	56	SP	-296.7
pw	13.500	WD	20638.5
DECOUPLER	H1	RF1	11035.1
dn	0	FFP	9678.0
dof	0	TP	48.8
dm	nny	IP	-1086.1
decwave		PLOT	
dpwr	36	WC	250
dmf	11101	SC	0
		VS	3815
		TH	0
		AI	3
		cdc	ph

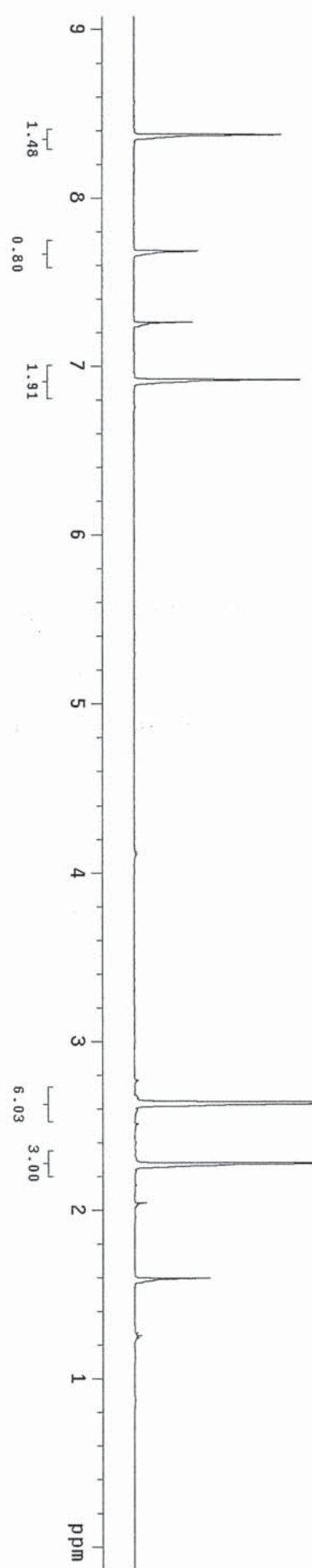




1c93-169-H
 expl1 PROTON

SAMPLE	Jan 16 2011	satmode	n
solvent	CDCl3	wet	n
file	exp	SPECIAL	n

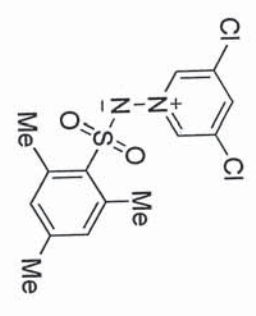
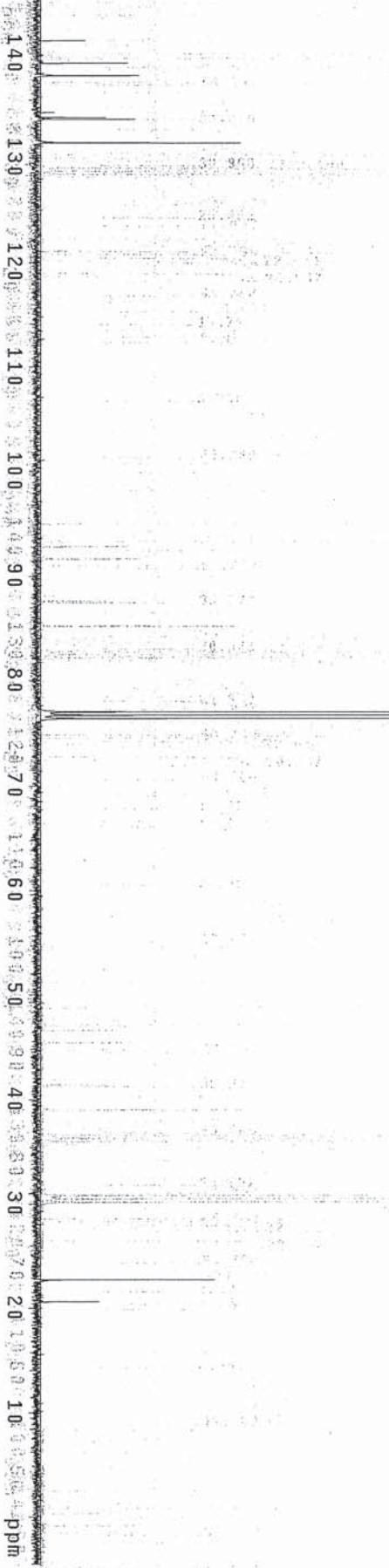
ACQUISITION	temp	not used	
sw	7997.6	gain	not used
at	2.049	spin	not used
np	32768	hst	0.008
fb	4000	pw90	9.100
bs	2	at9a	8.500
ds	1.000	flags	n
dl	16	i1	n
dt	16	in	n
ct	16	dp	y
tn	HS	hs	nm
TRANSMITTER	H1	fn	not used
stfrq	499.859	fn	not used
tof	499.9	fn	not used
tpwr	53	DISPLAY	-66.2
pw	4.550	SP	4603.1
DECOUPLER	C13	WP	4632.9
dn	0	rfl	3629.0
dof	0	rfd	-122.3
dm	nmn	rp	0.4
decwave	W40_5mm3G1~	lp	
dpwr	47	WC	250
dmf	32258	SC	0
		VS	32
		th	3
		ai	cdc
			ph



1c93-169-13C
 exp25 std13c

SAMPLE DEC. & VT
 date Jan 16 2011 dfrq 399.951
 solvent cdcl3 dn HI
 file exp dpwr 40
 ACQUISITION dof 0
 sfrq 100.577 dm nny
 tn C13 dmm W
 at 0.701 dmf 6700
 np 39216 dseq
 sw 27972.0 dres 90.0
 fb not used homo n
 bs 2 PROCESSING
 ss 4 lb 1.00
 tpwr 58 wfile
 pw 7.0 proc ft
 dl 1.300 fn 65536
 lof 525.7 math f
 nt 100000
 ct 1596 werr
 alock n wexp
 gain 44 wbs
 FLAGS wnt

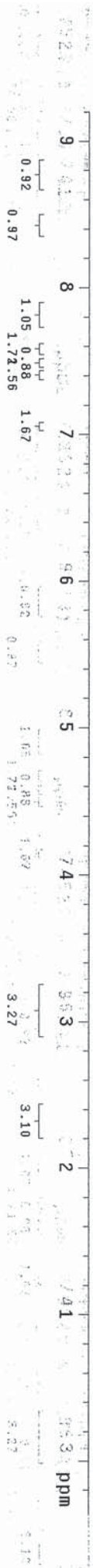
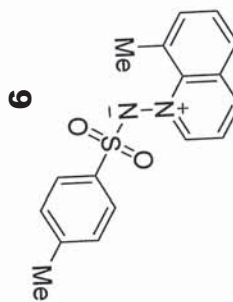
DISPLAY
 sp -465.8
 wp 15259.6
 vs 6974
 sc 0
 wc 250
 hzmm 61.04
 is 500.00
 rfl 11705.9
 rfp 7743.7
 th 0
 ins 100.000
 at ph



1c92-198

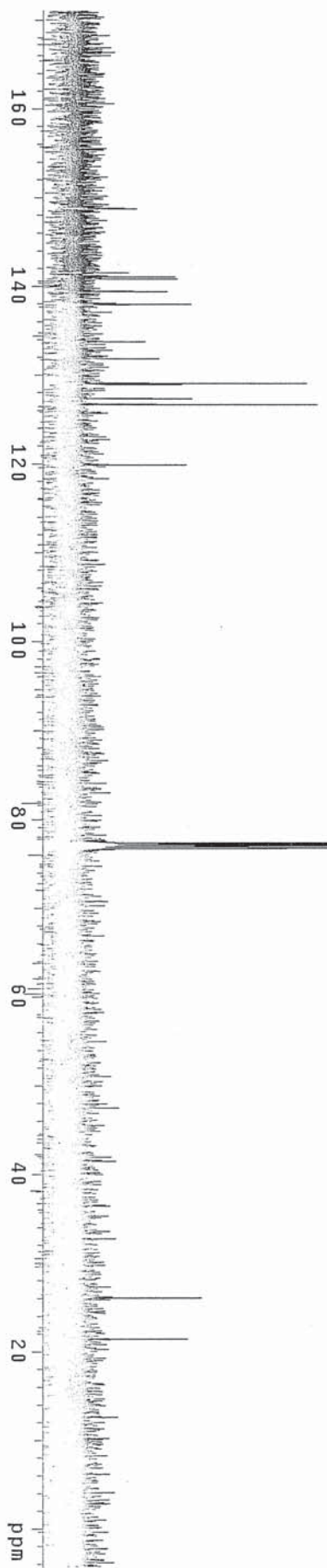
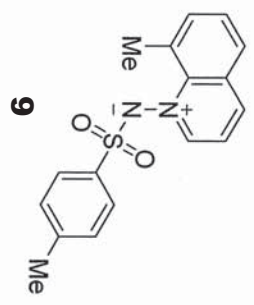
exp25 s2pul1

SAMPLE		date	Oct 13 2010	dn	H1
solvent		cdcl3		dof	-1425.0
file		/home/Zhang/cv		dm	nm
q11/1c92-198.fid				dmm	C
ACQUISITION				dmf	200
sfrq		399.951		PROCESSING	
tn	H1	1b	0.10		
at	2.502	fn	65536		
np	36008	math			
sw	7196.8				
fb	not used	weff			
bs	2	wexp			
pw	8.0	wbs			
tpwr	57	wnt			
d1	3.000	sp	-144.6	DISPLAY	
tof	-6.9	wp	3825.3		
nt	12	vs	86		
ct	12	sc	0		
alock	not used	h2mm	250		
gain		ts	15.30		
fl	not used	ft1	430.78		
in	n	ftf	4502.9		
dp	y	th	2903.6		
hs	nm	ins	3		
	ai	ph	3.000		



1cq2-198-13C
 exp25 CARBON

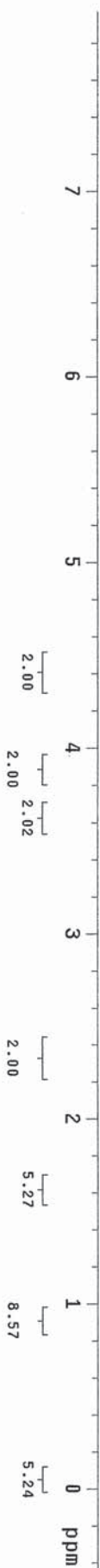
date	Dec 19 2010	temp	not used
solvent	cdcl3	gain	54
file	exp	spin	not used
ACQUISITION	28258.6	hst	0.008
sw	1.300	pw90	9.200
at	73498	afca	10.000
np	16000	FLAGS	
fb	3.000	l1	n
bs	10000	dp	n
d1	10000	hs	y
nt	1000	PROCESSING	m
ct	1000	lb	0.50
TRANSMITTER	C13	isfid	2
tn	125.702	fn	not used
sfrq	865.4	DISPLAY	
tof	56	sp	-562.3
lpwr	13.500	wd	22063.2
PW		FF1	11035.5
DECOUPLER	H1	TFP	3678.0
dn	0	tp	145.5
dof	nny	tp	-861.2
dm		PLOT	
decwave		wc	250
dpwr	36	sc	0
dmf	11101	vs	5794
		th	7
		ai	cdc
			ph

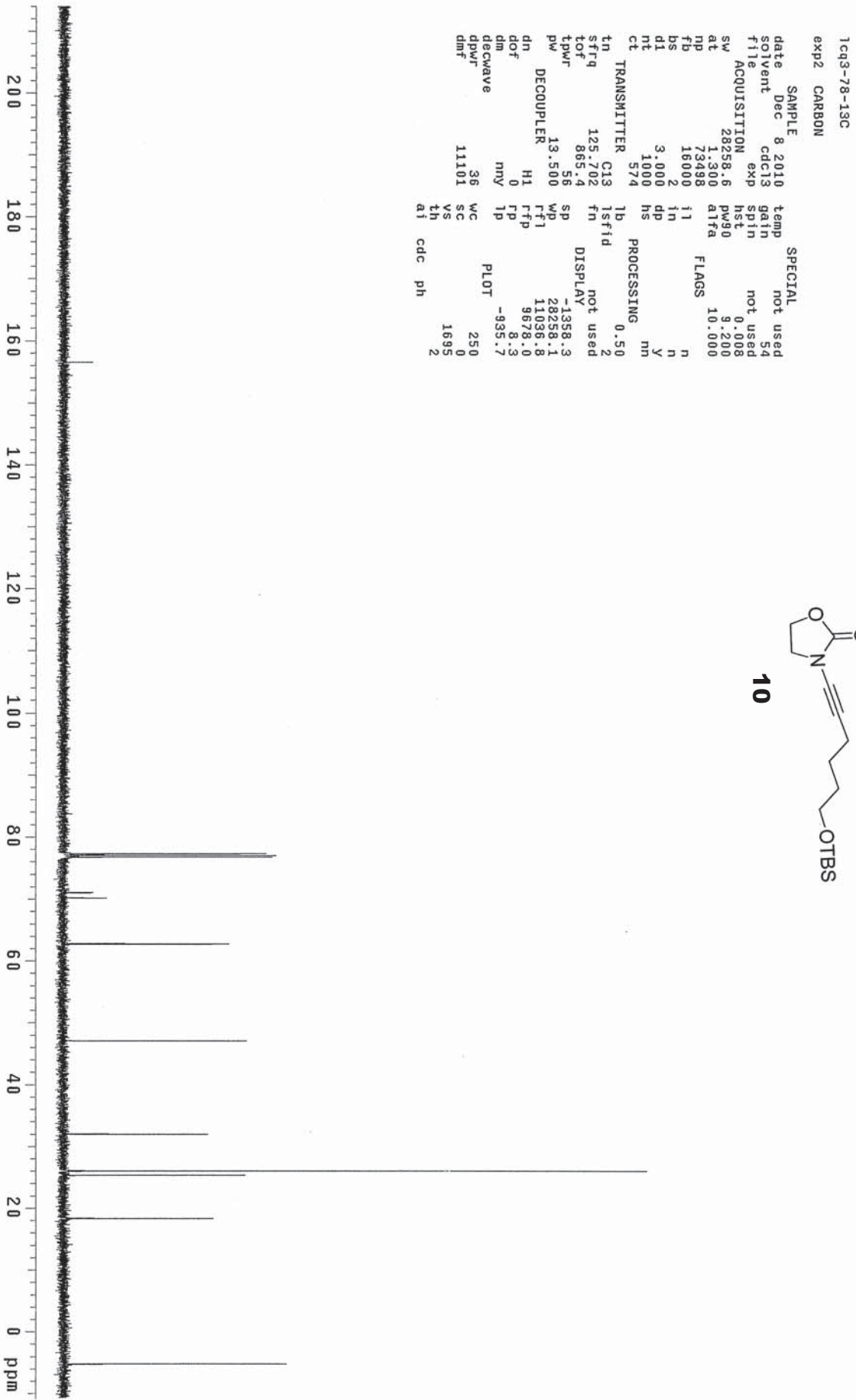


1c93-78-H

exp2 PROTON

SAMPLE		PRESATURATION	
date	Dec 8 2010	satmode	n
solvent	CDC13	wet	n
file	exp	SPECIAL	n
ACQUISITION	exp	temp	not used
sw	7897.6	gain	not used
at	2.048	sp1n	not used
np	32768	hst	0.008
fb	4000	pw90	9.100
bs	2	atfa	6.600
d1	1.000	FLAGS	n
nt	20	i1	n
ct	20	in	n
TRANSMITTER	H1	dp	y
tn	499.859	hs	nm
sfrq	499.9	fn	PROCESSING
tof	53	not used	not used
tpwr	4.550	SP	DISPLAY
pw	C13	wp	-228.3
dn	0	rfl	4213.1
dof	0	rfl	4632.9
dm	nm	rfl	3629.0
decwave	W40_5mm3G1~	tp	47.4
		lp	0.7
dpwr	47	WC	250
dmf	32258	SC	0
		VS	46
		th	2
		at	cdc ph





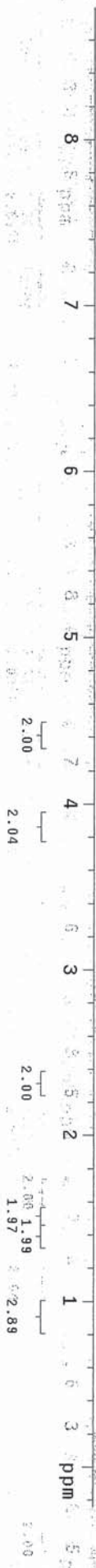
1cq2-192

exp25 szpu1

date	Oct 12 2010	dn	H1	DEC. & VT
solvent	cdcl3	dof	-1425.0	
file	/home/Zhang/cv	dm	nm	
q1	1cq2-192.fid	dmm	C	
ACQUISITION		dmf	200	
sfrq	399.951	temp	22.0	
tn	H1	PROCESSING	0.10	
at	2.502	fb	65536	
np	36008	fn		
sw	7196.8	math		
fb	not used	werr		
bs	2	wexp		
pw	8.0	wbs		
tpwr	8.0	wnt		
di	3.000	sp		DISPLAY
tof	-5.9	wp	-97.0	
nt	10	vs	3615.1	
ct	8	sc	56	
atlock	n	wc	250	
gain	not used	h2mm	14.48	
fl	n	ls	327.48	
in	n	rfl	4503.7	
dp	y	rfl	2903.6	
th	nn	ins	44	
hs		ai	2.000	ph



13a

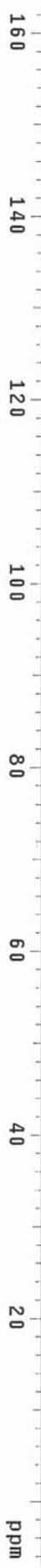


1c42-263-13C
 exp2 CARBON

date	Dec 6 2010	temp	not used
solvent	cdcl3	gain	54
file	exp	spin	not used
ACQUISITION	28258.6	hst	0.008
sw	1.300	pw90	9.200
at	73498	atfa	10.000
np	16000	FLAGS	
fb	2	i1	n
bs	3.000	in	n
dl	10000	dp	y
nt	590	hs	nn
ct	TRANSMITTER	PROCESSING	0.50
tn	G13	lb	1b
sfrq	125.702	lsfid	2
tof	865.4	fn	not used
tpwr	56	SP	DISPLAY
pw	13.500	wp	-894.8
DECOUPLER	H1	rf1	21367.3
dn	0	rfp	11036.8
dof	0	tp	3878.0
dm	nny	tp	-143.9
decwave		PLOT	-927.8
dpwr	36	wc	250
dmf	11101	sc	0
		th	1130
		vs	0
		ai	4
		cdc	ph



13a



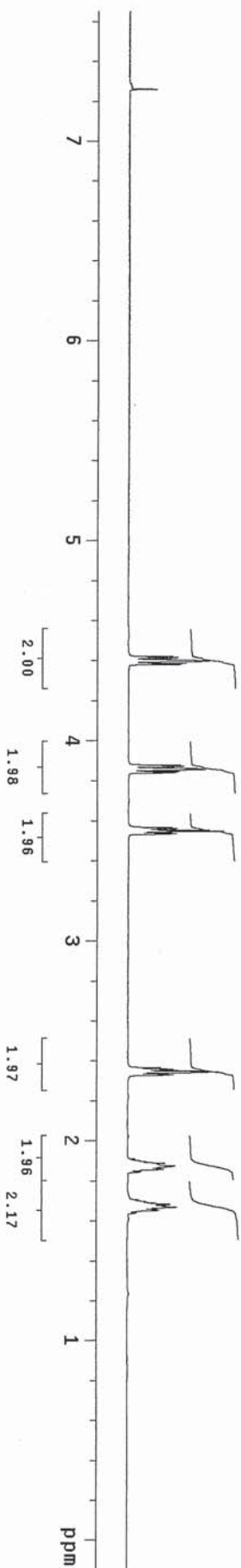
1c93-106-H

exp25 PROTON

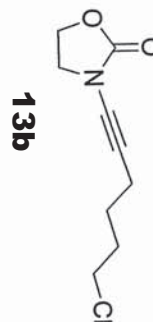
SAMPLE	Dec 14 2010	PRESATURATION	n
date	Dec 14 2010	satmode	n
solvent	CDCl3	wet	n
file	exp	SPECIAL	
ACQUISITION		temp	not used
sw	7997.6	gain	not used
at	2.049	spin	not used
np	32768	hst	0.008
fb	4000	pw90	9.100
bs	2	atfa	6.600
d1	1.000	FLAGS	
nt	12	i1	n
ct	12	in	n
TRANSMITTER	H1	dp	y
tn	499.859	hs	nh
sfrq	499.9	fn	not used
tof	53	PROCESSING	
tpwr	53	not used	
pw	4.550	DISPLAY	
DECOUPLER	C13	sp	-84.3
dn	0	wd	3909.5
dof	0	rf1	4632.4
dm	nmn	rfp	3629.0
decwave	W40_5mm3G1~	tp	57.2
	dp	PLOT	-4.6
dpwr	47	wc	250
dmf	32258	sc	0
	vs	th	24
ai	cdc	ph	2



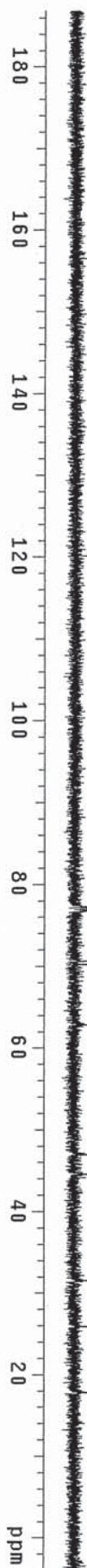
13b



1cq3-106-13C
exp25 CARBON

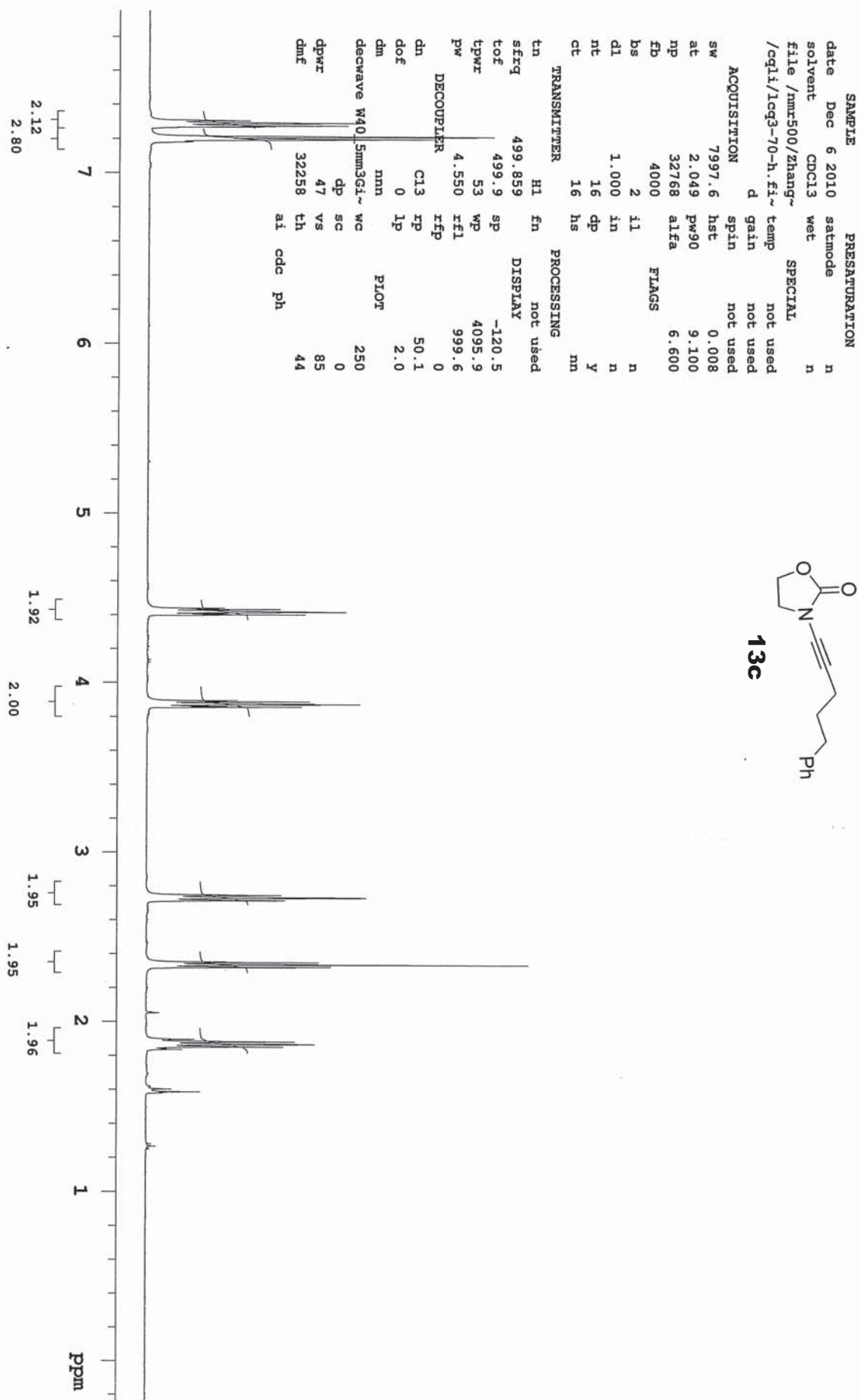


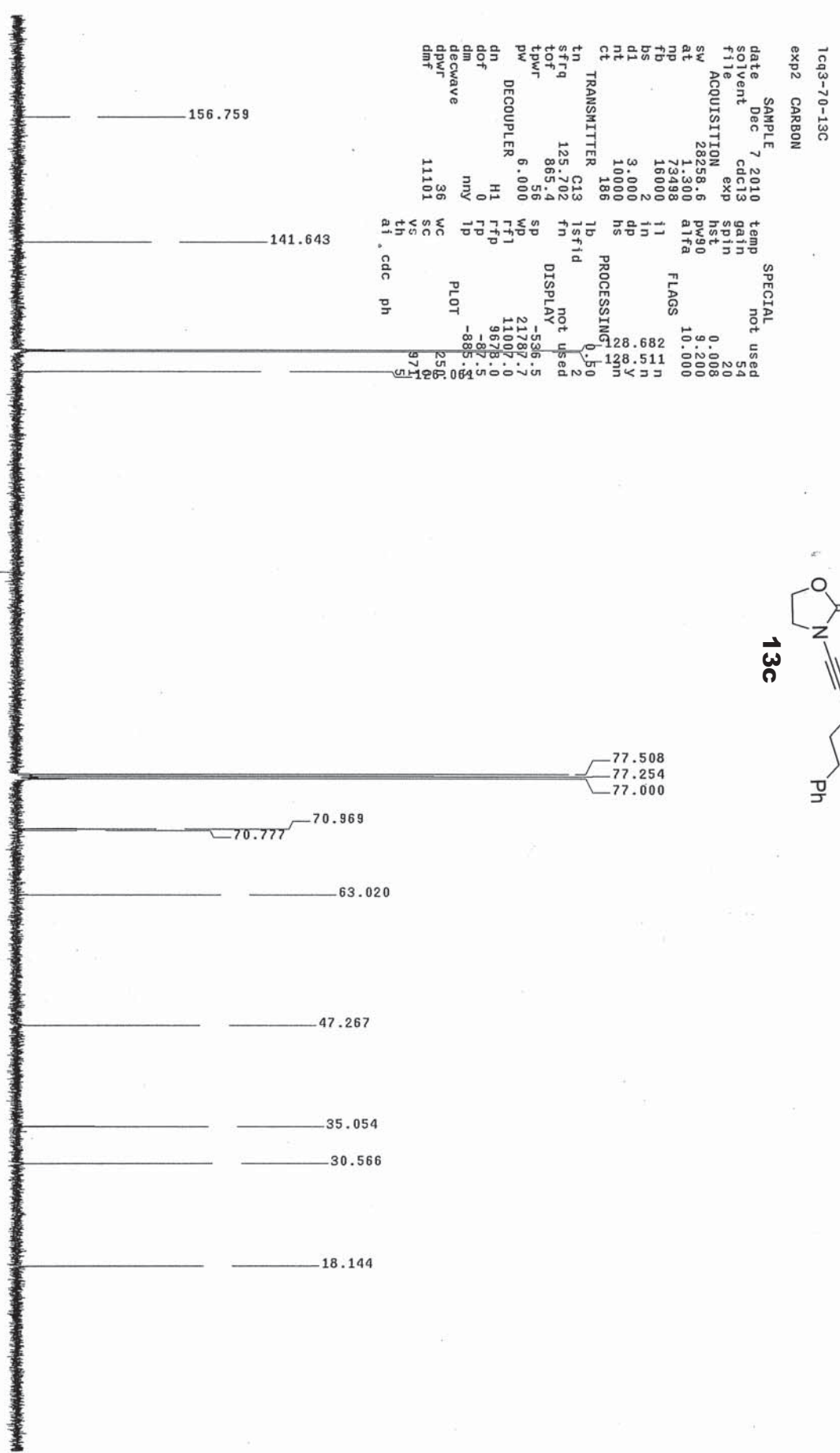
date	Dec 14 2010	SAMPLE	temp	not used
solvent	cdc13	cdc13	gain	54
file	exp	exp	spin	not used
ACQUISITION		sw	hst	0.008
at	1.300	28258.6	pw90	9.200
np	73498	16000	atfa	10.000
fb	16000	2	flags	n
bs	3.000	in	dp	n
dl	10000	hs	hs	y
nt	10000	hs	hs	nm
ct	184	PROCESSING		0.50
TRANSMITTER		1b	1sfid	2
tn	C13	fn	not used	
sfrq	125.702	fn	not used	
tof	865.4	sp	DISPLAY	-534.3
tpwr	56	wp	24017.4	
pw	13.500	ffl	11040.7	
DECOUPLER		ffp	9678.0	
dn	H1	tp	-30.5	
dof	0	tp	-947.8	
dm	my	tp		
decwave		PLOT		
dpwr	36	WC	250	
dmf	11101	SC	0	
		VS	1040	
		th		
		ai	cdc	ph
				3



lcq3-70-h

expt1 PROTON

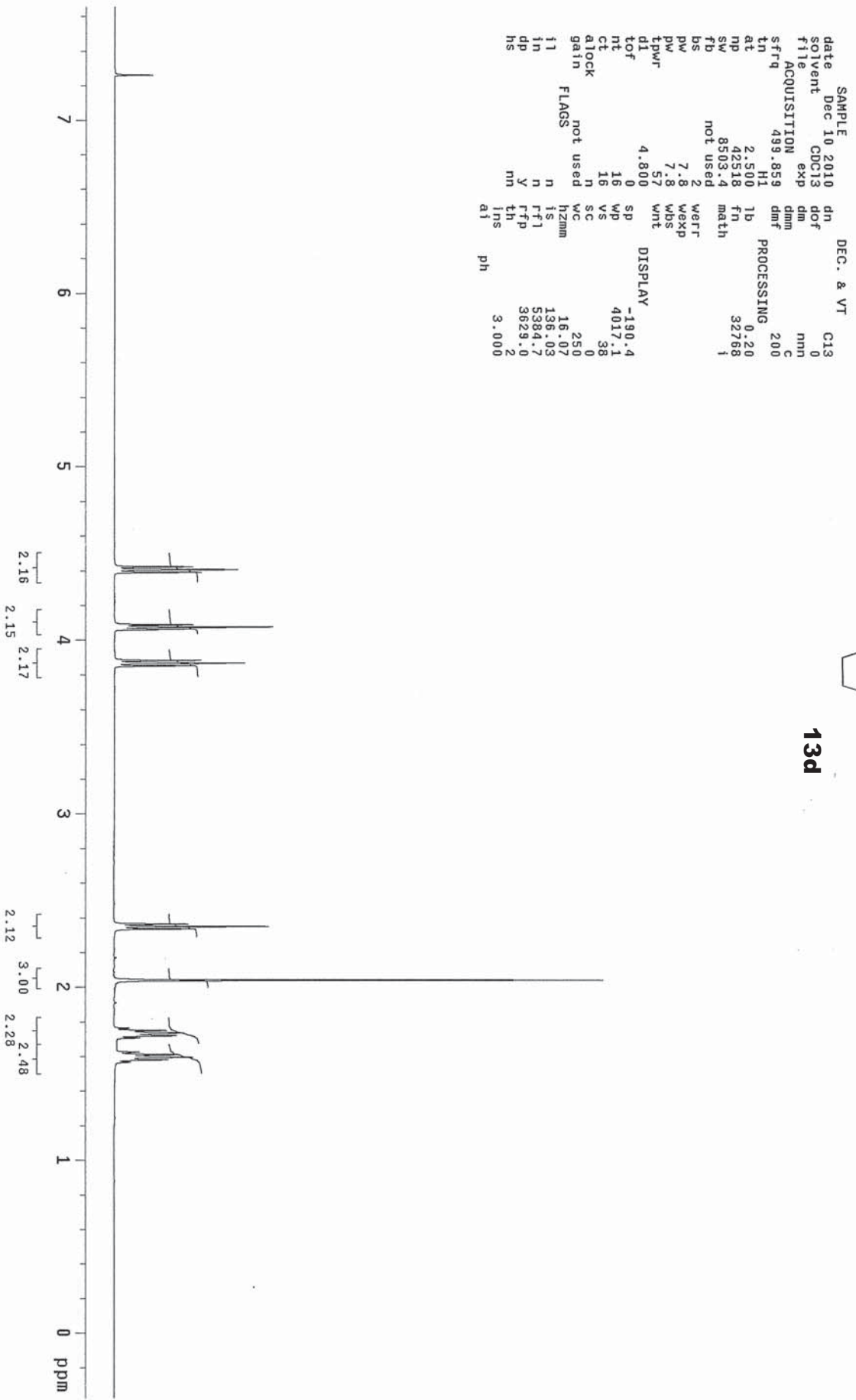






```

1c93-92
exp25 s2pu1
SAMPLE Dec 10 2010 dn
solvent CDC13 dm
file exp dm
ACQUISITION dmm
sfrq 499.859 H1 dmf
tn 2.500 1b
at 42518 fn
np 8503.4 math
sw not used
fb 2 wefr
bs 7.8 wexp
pw 7.8 wbs
tpwr 57 wnt
di 4.800
tof 0 sp
nt 16 wp
ct 16 vs
alock n SC
gain not used hc
flags not used hzmm
i1 n 16.07
in n 136.03
dp y rfl 5384.7
hs mn th 3629.0
aj ins 3.000
  
```

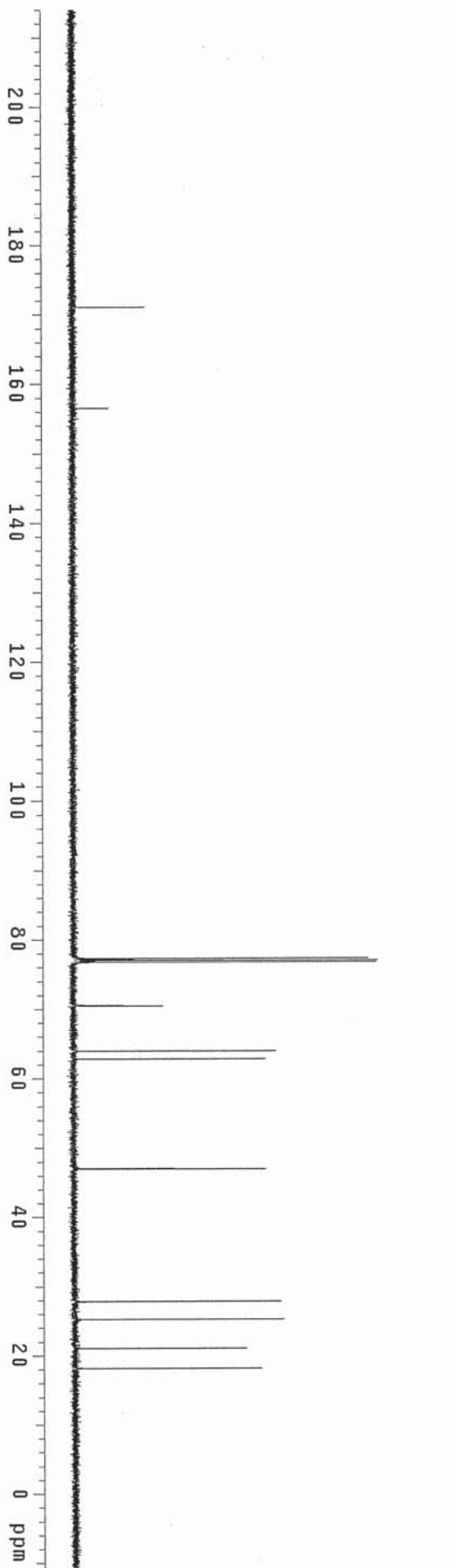




13d

1c93-92-13C
 exp25 CARBON

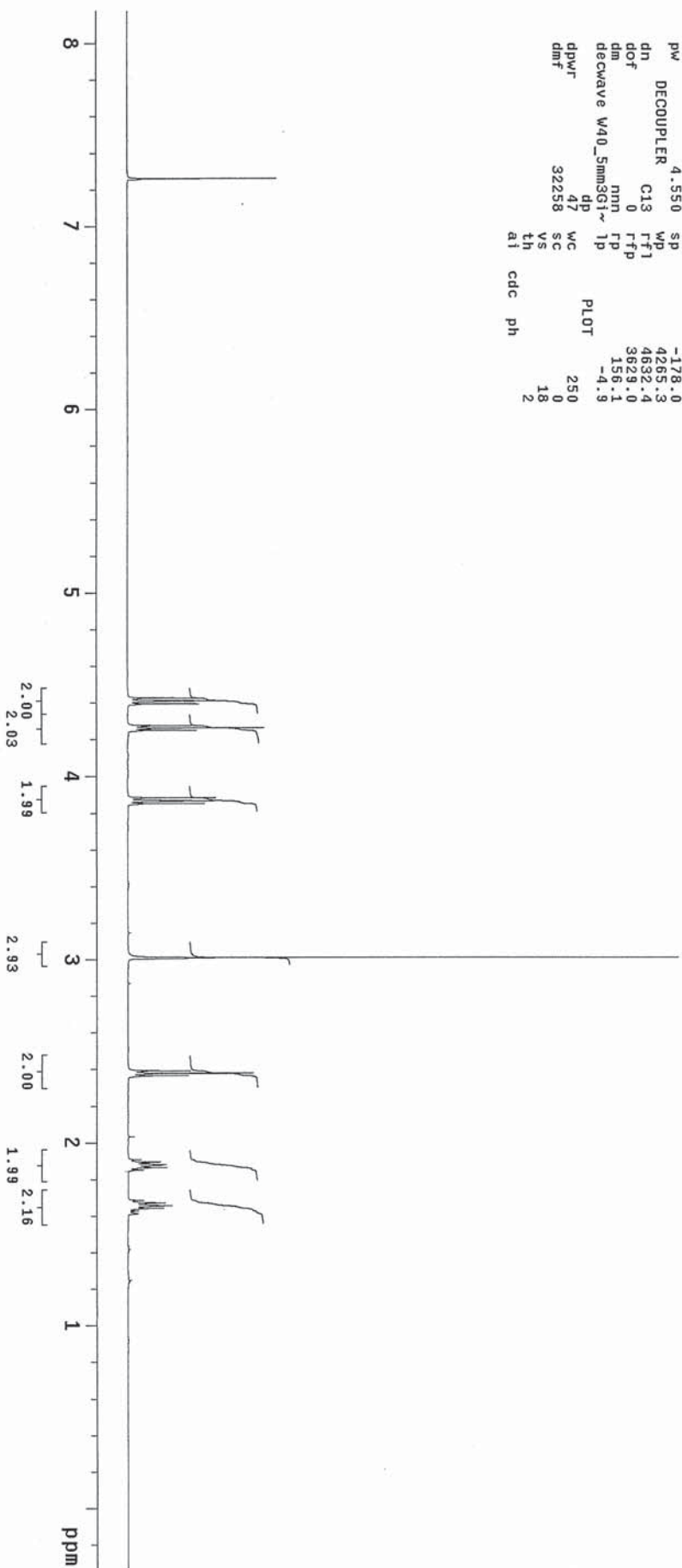
SAMPLE	Dec 10 2010	temp	not used
date	Dec 10 2010	gain	54
solvent	cdcl3	spin	not used
file	exp	hst	0.008
ACQUISITION	28258.6	pw30	9.200
sw	1.300	atfa	10.000
at	73498	FLAGS	
np	16000	i1	n
fb	4	in	n
bs	3.000	dp	y
d1	10000	hs	nm
nt	372	PROCESSING	0.50
ct		TRANSMITTER	
tn	C13	lb	1sfid
sfra	125.702	fn	not used
tof	865.4	sp	DISPLAY
tpwr	56	wp	-1359.2
DW	13.500	ft1	28258.1
DECOUPLER	H1	rfp	1037.6
dn	0	tp	9676.0
dof	0	nmv	-119.8
dm	nmv	1p	-907.0
decwave		PLOT	
dpwr	36	wc	250
dmf	11101	sc	0
		th	581
		ai	cdc ph



1c93-110-H

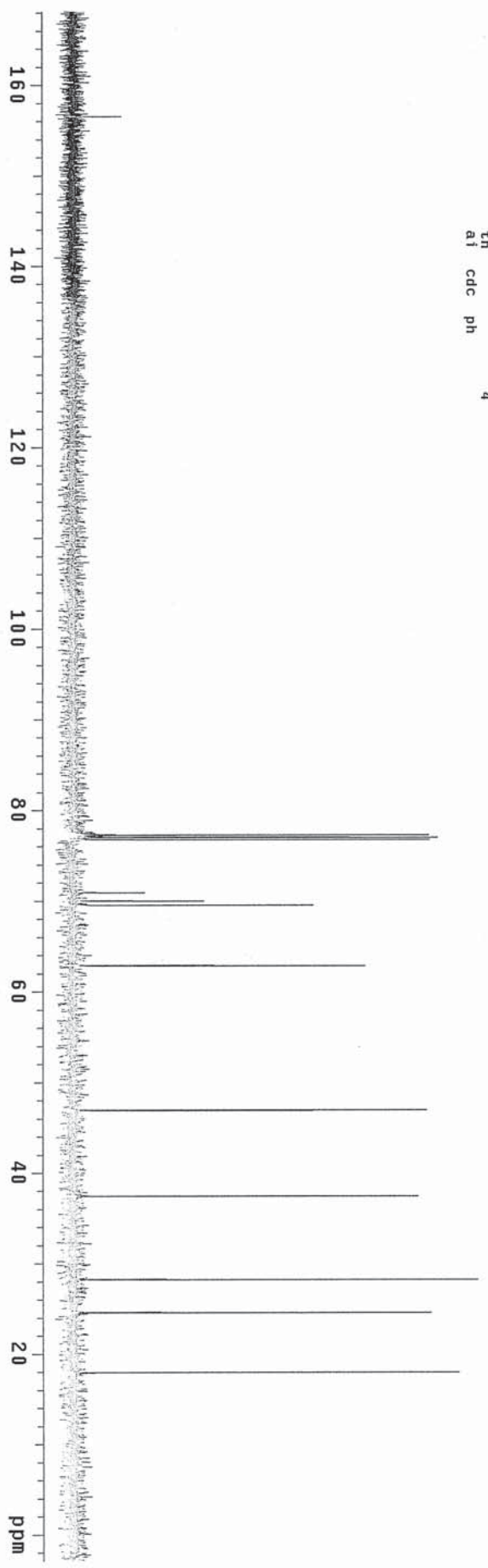
exp25 PROTON

SAMPLE	Dec 27 2010	PRESATURATION	n
date	Dec 27 2010	satmode	n
solvent	CDCl3	wet	n
file	exp	SPECIAL	
ACQUISITION	7997.6	temp	not used
sw	2.049	gain	not used
at	32758	spin	not used
np	4000	hst	0.008
fb	4000	pw90	9.100
bs	2	alfa	6.500
d1	1.000	FLAGS	
nt	16	i1	n
ct	16	in	n
TRANSMITTER	H1	dp	y
tn	499.859	hs	nm
sffq	499.9	fn	PROCESSING
tof	53	not used	
tpwr	4.550	sp	DISPLAY
pw	4.550	wp	-178.0
DECOUPLER	C13	TF1	4265.3
dn	0	TFP	4632.4
dof	nmn	TP	3623.0
dm	nmn	TP	156.1
decwave	W40_5mm3G1~	TP	-4.9
dpwr	47	PLOT	
dmf	32258	wc	250
		sc	0
		vs	18
		th	2
		ai	cdc
			ph



1c93-110-13C
exp25 CARBON

SAMPLE	Dec 27 2010	temp	not used
date	Dec 27 2010	gain	54
solvent	cdc13	spin	not used
file	exp	hst	0.008
ACQUISITION	28258.6	pw90	9.200
sw	1.300	alfa	10.000
at	73498	FLAGS	
np	16000	i1	n
fb	2	in	n
bs	3.000	dp	y
d1	10000	hs	m
nt	210	PROCESSING	
ct	210	lb	0.50
TRANSMITTER		isfid	2
tn	C13	fn	not used
sffq	125.702	DISPLAY	
tof	865.4	SP	-367.4
tpwr	56	WD	21499.6
PW	13.500	RF1	11039.4
DECOUPLER	H1	TFP	3678.0
dn	0	TP	33.7
dof	nny	TP	-898.5
dm	0	PLOT	
decwave		wc	250
dpwr	36	sc	0
dmf	11101	vs	1695
		th	0
		ai	cdc
		ph	4



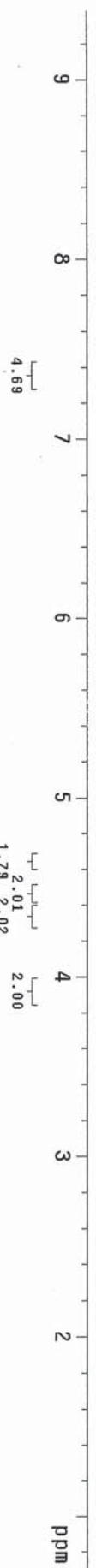
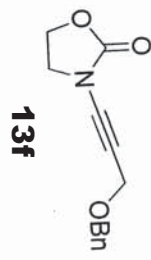
1b-II-249-2
exp3 s2pu1

DEC. & VT

SAMPLE Oct 17 2010 dn
date Oct 17 2010 dn
solvent CDCl3 dm
file /mrs00/Zhang~ dm
/biao1u/1b-II-249-2 dmm
2.11d dmf
ACQUISITION 499.859 1b
sfrq 499.859 1b
tn H1 fn
at 2.669 math
np 32000
sw 5995.2 Weff
fb not used Weff
bs 2 WDS
pw 9.0 Wnt
tpwr 9.0
d1 3.000 sp
tof 0 VS
nt 16 WC
ct 16 hzmm
gain not used
alock n
11 n
in n
dp Y
hs mn

PROCESSING 0.20
32768
1

DISPLAY 345.5
4346.0
49
250
17.88
953.67
498.3
2.000
ph



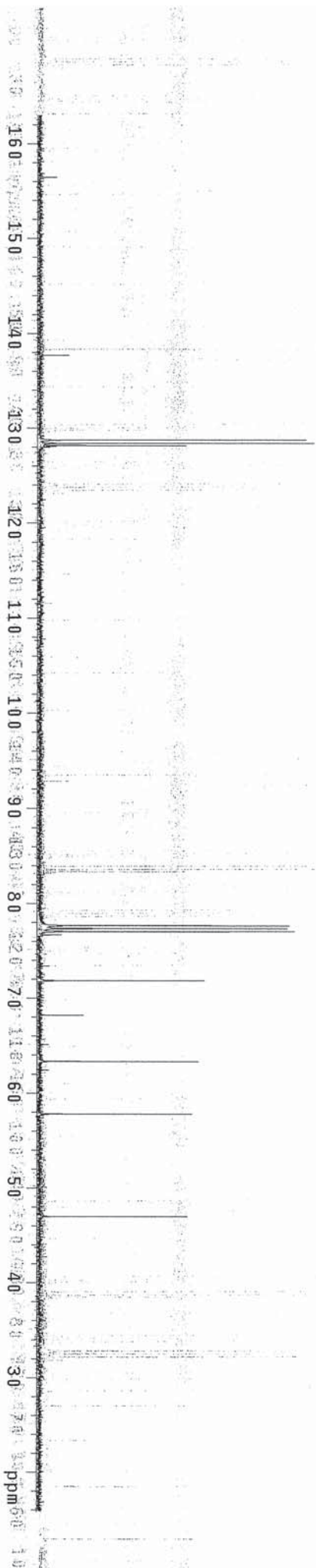
1u2-249-13C

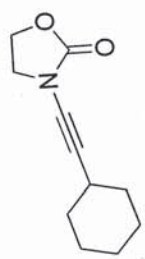
exp25 std13c



date	Jan 17 2011	dfreq	399.951
solvent	cdc13	dn	H1
file	exp	dpwr	40
exp		dof	0
nmr		nmr	0
sfreq	100.577	dm	6700
ln	C13	dmm	W
at	0.701	dmf	6700
np	39216	dseq	
sw	27972.0	dres	90.0
fb	not used	homo	n
bs		PROCESSING	
ss	4	lb	1.00
tpwr	58	wf11e	
pw	7.0	proc	ft
d1	1.300	fn	65536
tof	525.7	math	f
nt	10000	werr	
ct	1530	wexp	
alock	n	wbs	
gain	44	wnt	
flags			
l1	n		
l2	n		
dp	y		
hs	nm		

SP	1589.8	DISPLAY
WP	14802.1	
VS	5517	
SC	0	
WC	250	
h2mm	59.21	
fs	500.00	
ft1	11943.6	
ftp	7743.7	
th	0	
ins	100.000	
ai		

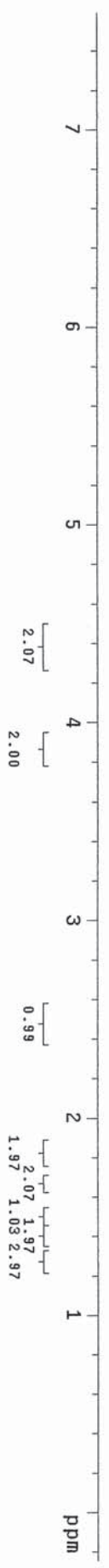




139

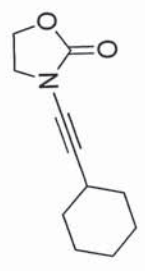
1c92-200-H
exp25 PROTON

SAMPLE	Dec 16 2010	PRESATURATION	n
date	Dec 16 2010	satmode	n
solvent	CDCl3	wet	n
file	exp	SPECIAL	
ACQUISITION	7397.6	temp	not used
sw	2.049	gain	not used
at	32768	spin	not used
np	4000	hst	0.008
fb	2	pw90	9.100
bs	1.000	alfa	6.800
dl	16	FLAGS	
nt	18	i1	n
ct	16	in	n
TRANSMITTER	H1	dp	y
tn	499.859	hs	m
sfrq	499.9	fn	not used
tof	53	DISPLAY	-122.4
lpwr	4.550	SP	3818.7
PW	DECOUPLER	WP	4832.3
dn	C13	TF1	3629.0
dof	0	TFP	53.3
dm	nmn	TP	0.6
decwave	W40_5mm3G1~	TP	0.6
dpwr	47	WC	250
dmf	32258	SC	0
		VS	30
		th	2
		ai	cdc
			ph



1cq2-200-13C
exp25 CARBON

date	Dec 16 2010	SAMPLE	temp	not used
solvent	cdc13	cdc13	gain	54
file	exp	sp1n	not used	
ACQUISITION	28258.6	hst	0.008	
sw	1.300	pw90	9.200	
at	73498	alfa	10.000	
np	16000	i1	n	
fb	2	in	n	
d1	3.000	dp	y	
nt	10000	hs	nm	
ct	224	PROCESSING	0.50	
tn	C13	lb	1sfid	2
stfq	125.702	fn	not used	
tof	865.4	DISPLAY		
tpwr	56	sp	-769.3	
pw	13.500	wp	22791.9	
DECOUPLER	H1	rfl	11010.9	
dn	0	rfp	9678.0	
dof	0	tp	-58.1	
dm	nmv	tp	-889.8	
decwave		PLOT		
dpwr	36	wc	250	
dmf	11101	sc	0	
th		vs	478	
ai	cdc	ph	3	



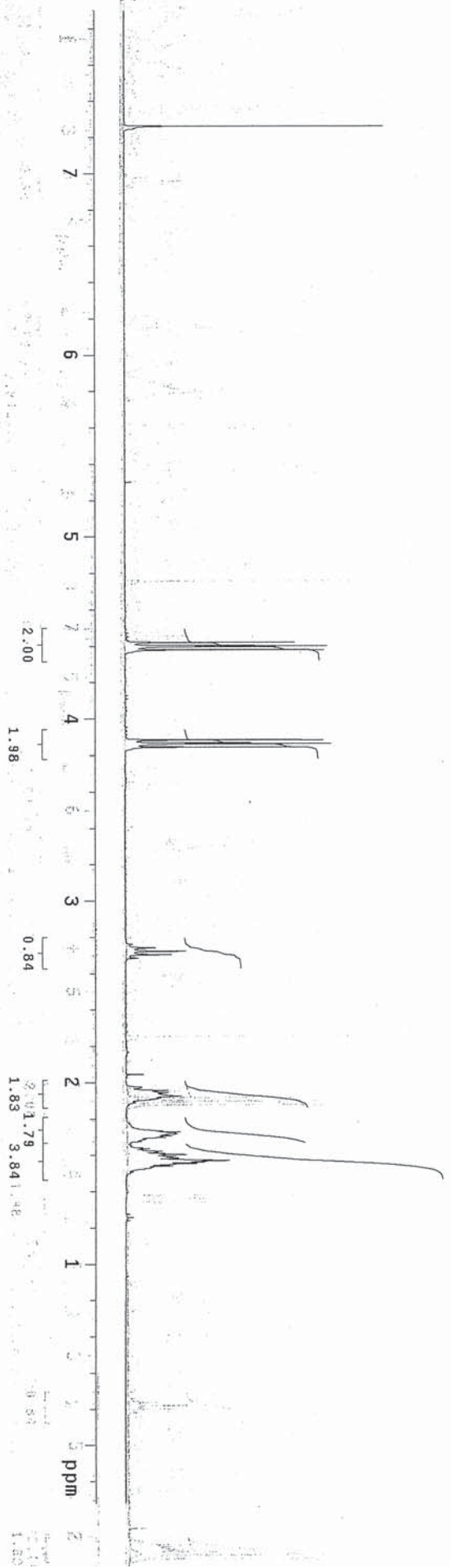
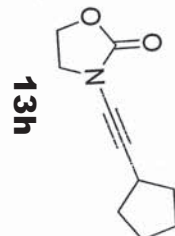
13g

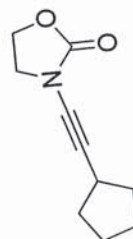


1c92-253

exp25 s2pu1

date	Oct 28 2010	dn	H1
solvent	CdCl3	dof	-1425.0
file	/home/Zhang/C~	dm	mm
q11/1c92-253.fid		dmm	C
ACQUISITION		dmf	200
sfrq	399.951	PROCESSING	
tn	H1	lb	0.10
at	2.500	fn	65536
mp	35984	math	f
sw	7198.8		
fb	not used	werr	
bs	not used	wexp	
pw	6.7	wbs	
tpwr	57	wnt	
d1	4.800	sp	-128.8
tof	-6.9	wp	3287.2
nt	10	vs	57
ct	10	sc	0
atlock	n	WC	250
gain	not used	Hzmm	13.15
fl	n	ls	770.72
in	n	ft1	4502.0
dp	Y	th	2903.6
hs	nm	ins	35
ai	ai	ph	2.000





13h

1cq-2-253-C13
 exp2 CARBON

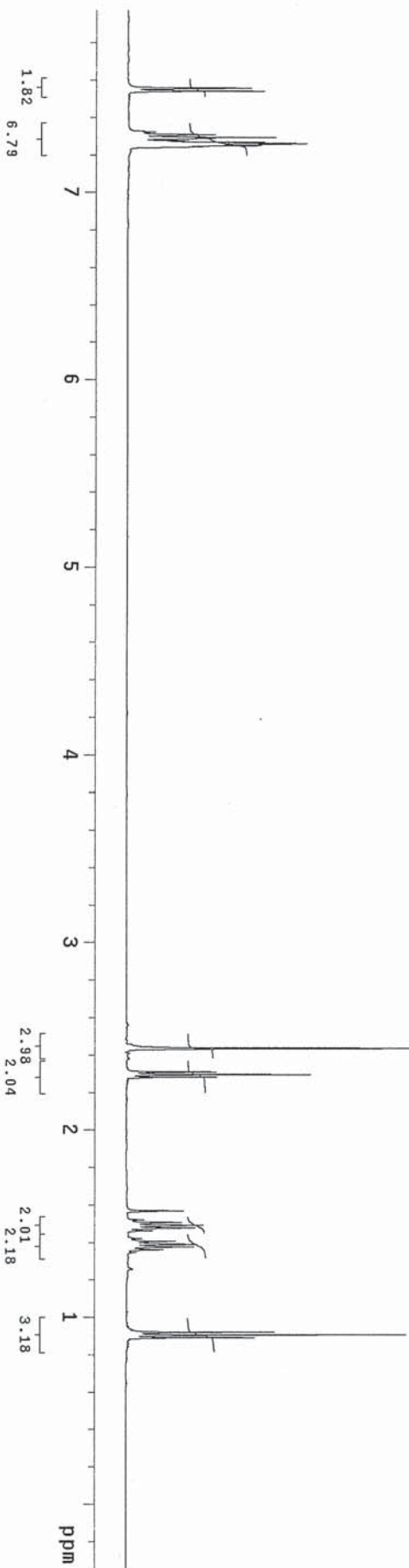
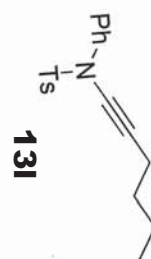
SAMPLE	Dec 15 2010	temp	not used
solvent	cdc13	gain	54
file	exp	spit	20
ACQUISITION		hst	0.008
sw	28258.6	pw90	9.200
at	1.300	alfa	10.000
np	73498	FLAGS	
fb	16000	i1	n
bs	4	in	n
d1	3.000	dp	y
nt	10000	hs	n
ct	692	PROCESSING	0.50
TRANSMITTER	C13	lb	1sfid
tn	125.702	fn	not used
sfrq	865.4	sp	DISPLAY
tof	56	wp	-1334.6
tpwr	13.500	rfl	28258.1
pw		rfp	11013.1
DECOUPLER	H1	tp	9678.0
dn	0	TP	8.5
dof	0	TP	-942.7
dm	nmv	PLOT	
decwave		WC	250
dpwr	36	SC	0
dmf	11101	VS	502
		th	2
		ai	cdc ph

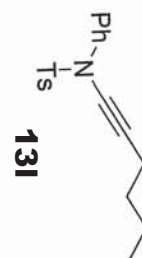


1c93-24-H

exp25 s2pu1

date	Dec 10 2010	dn	DEC. & VT	C13
solvent	CDCl3	dof		0
file	exp	dm		nmn
ACQUISITION		dmm		C
sfrq	499.859	dmf	PROCESSING	200
tn	H1	1b	0.20	
at	2.500	fn	32768	1
np	42518	math		
sw	8503.4	werr		
fb	not used	wexp		
bs	2	wbs		
pw	7.8	wnt		
tpwr	7.8	sp	DISPLAY	-181.1
di	57	wp		4166.6
tof	4.800	vs		38
nt	16	sc		0
ct	16	wc		250
alock	not used	hzmm		16.67
gain		ts		89.78
il	FLAGS	rfl		5385.2
in	n	rft		3629.0
dp	n	th		2
hs	nm	ins		3.000
		ph		



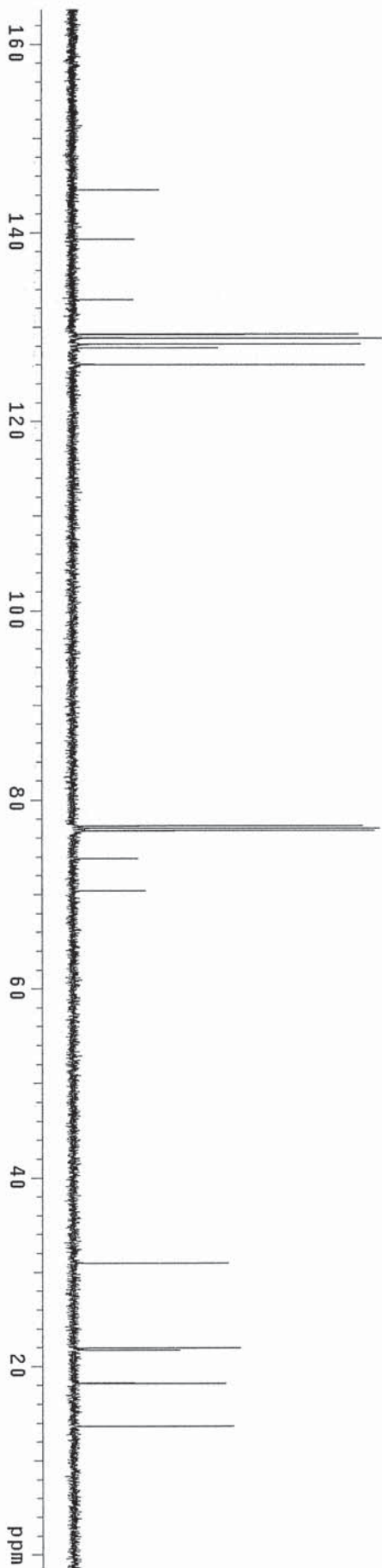


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1c93-24-13C
exp25 CARBON

SAMPLE      SPECIAL
date      Dec 10 2010    temp    not used
solvent    cdc13             gain     54
file       exp          spin    not used
ACQUISITION 28258.6         hst      0.008
sw         1.300        pw90     9.200
at         73488        a1fa    10.000
np         16000         flags
fb         3.000         i1      n
bs         3.000         in      n
d1         10000        dp      y
nt         148         hs      nm
ct         148         hs      nm
TRANSMITTER C13          1b      0.50
            C13          1s      2
sfrq       125.702      fn      not used
tof        865.4       sp      DISPLAY
tpwr       56         wd      -231.6
pw         13.500      rf1     20804.1
DECOUPLER  H1          ffp    11036.3
dn         0          ffp    3678.0
dof        nny       tp      -108.2
dm         nny       tp      -929.3
decwawe
dpwr       36         WC      250
dmf        11101      SC      0
            ai      cdc   ph
            th      581
            ai      3

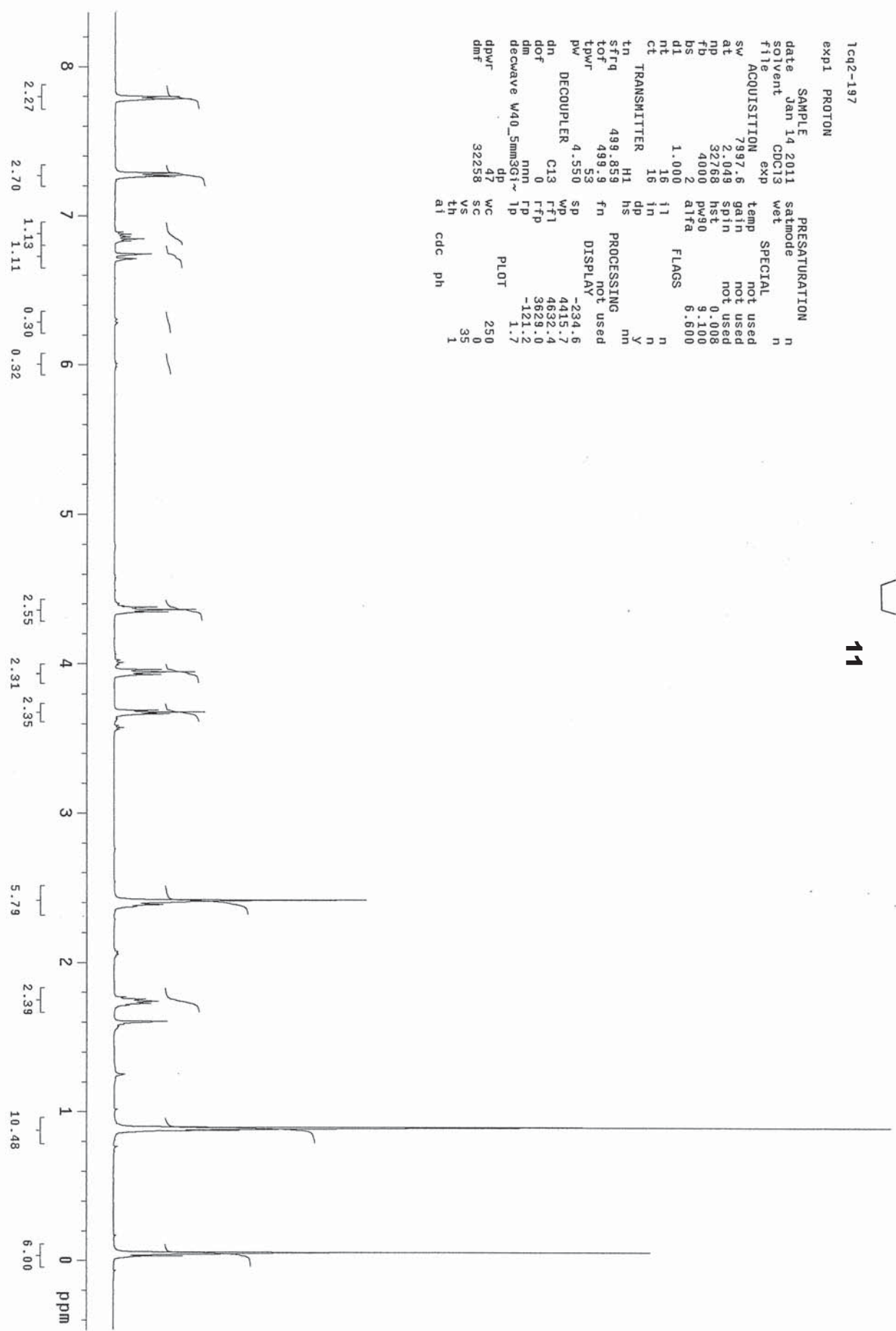
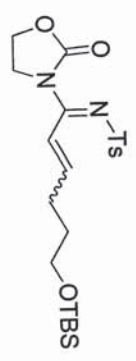
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1c42-197

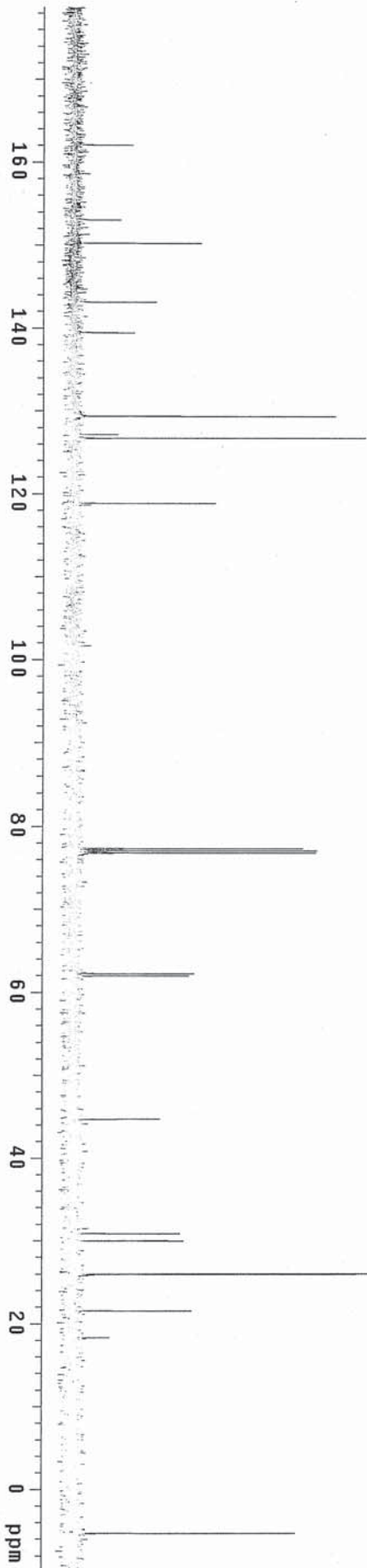
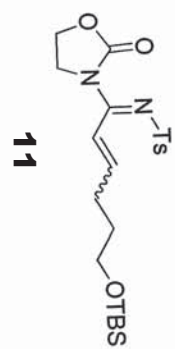
exp1 PROTON

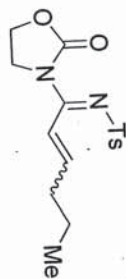
SAMPLE	Jan 14 2011	PRESATURATION	satmode	n
solvent	CDCl3	wet	wt	n
file	exp	SPECIAL		n
ACQUISITION		temp	not used	
sw	7997.6	gain	not used	
at	2.049	spin	not used	
np	32768	hst	0.008	
fb	4000	pw90	9.100	
bs	2	atfa	6.500	
dl	1.000	FLAGS		
nt	16	i1	n	
ct	16	in	n	
TRANSMITTER	H1	dp	y	
tn	499.859	hs	nn	
sfrq	499.859	fn	not used	
tof	499.9	DISPLAY	not used	
tpwr	53	SP	-234.6	
pw	4.550	WP	4415.7	
DECOUPLER	C13	TT1	4632.4	
dn	0	TFP	3629.0	
dof	0	TP	-121.2	
dm	nnn	PLT	1.7	
decwave	W40_5mm3G1~	WC	250	
dpwr	47	SC	0	
dmf	32258	VS	35	
		th	1	
		ai	cdc	ph



1c93-126-13C
exp2 CARBON

date	Dec 30 2010	SAMPLE	temp	not used
solvent	cdc13	solvent	gain	54
file	exp	exp	sp1n	not used
ACQUISITION	28258.6	sw	hst	0.008
at	1.300	at	pw90	9.200
np	73498	np	alfa	10.000
fb	16000	fb	FLAGS	
di	2	di	i1	n
nt	3.000	nt	in	n
ct	10000	ct	dp	y
	216		hs	nm
TRANSMITTER		PROCESSING		0.50
tn	C13	1b	1s	fid
stfq	125.702	fn		not used
lof	865.4	sp		DISPLAY
tpwr	56	wp		-1224.6
pw	13.500	rf1		23686.2
DECOUPLER	H1	rfp		11035.5
dn	0	tp		9678.0
dof	0	TP		30.0
dm	my	TP		-945.2
decwave		PLOT		
dpwr	36	WC		250
dmf	11101	SC		0
		VS		1318
		th		0
		ai	cdc	ph
				4

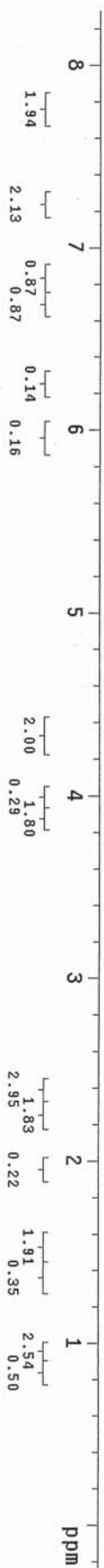


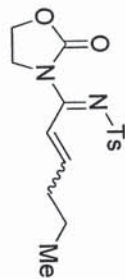


14a

1cq3-14-H
 exp2 PROTON

SAMPLE	Dec 30 2010	PRESATURATION	n
date	Dec 30 2010	satmode	n
solvent	/home/Zhang/CDC13	wet	n
f1le	q1/1cq3-14-2-H-f1~	temp	not used
q1/1cq3-14-2-H-f1~	d	gain	not used
ACQUISITION	7997.6	spn	not used
sw	2.049	pw90	9.100
at	32788	atfa	6.600
np	4000	FLAGS	
fb	2	f1	n
bs	1.000	in	n
d1	16	dp	y
nt	16	hs	nm
ct		PROCESSING	not used
tn	H1	fn	
TRANSMITTER	H1	DISPLAY	-131.1
sfrq	499.859	sp	4280.0
tof	499.9	wp	4651.9
tpwr	53	rf1	3829.0
pw	4.550	rfp	150.9
DECOUPLER	C13	tp	3.4
dn	0	PLOT	
dof	0	WC	250
dm	nm	dp	0
decwave	W40_5mmSG1~	vs	32
dpwr	47	th	2
dmf	32258	ai	cdc
		ph	





14a

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1cq3-14a
exp2 CARBON

SAMPLE
date Nov 16 2010
solvent cdc13
file /home/Zhang/cv
q11/1cq3-14a13C.f1~

SPECIAL
temp not used
gain 54
spin not used
nst 0.008
pw90 9.200
atfa 10.000

ACQUISITION
sv 28258.6
at 1.300
mp 73498
fb 16000
bs 2
d1 3.000
nt 1000
ct 172

PROCESSING
lb 1.00
tsfid 2
fn not used

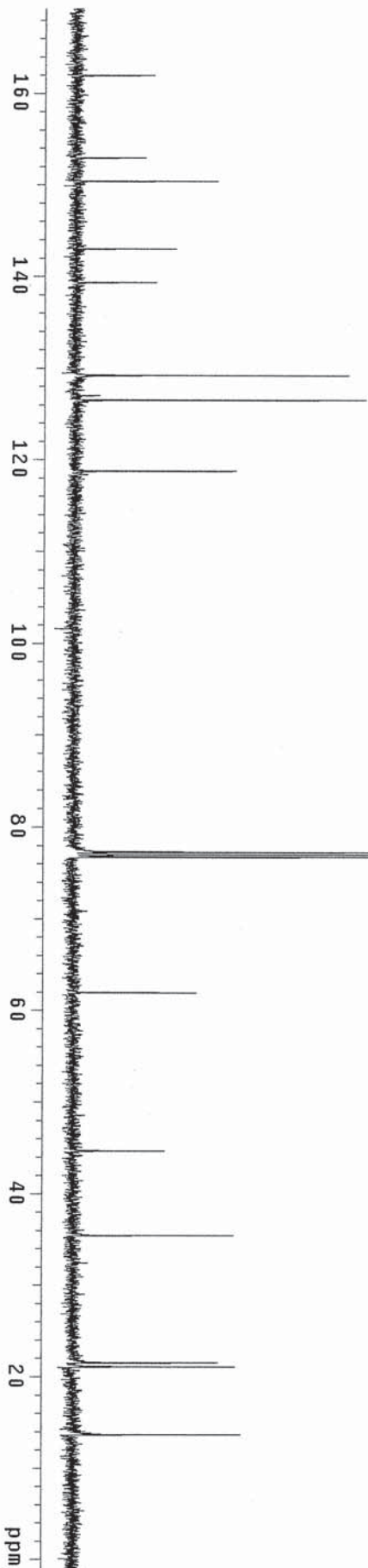
TRANSMITTER
tn C13
sfrq 125.702
tof 865.4
tpwr 56
pw 6.000

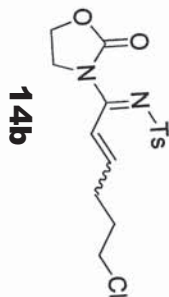
DECOUPLER
dn H1
dn dof 0
dm nny
decwve WC
dpwr 36
dmf 11101

DISPLAY
-194.1
21466.3
11094.1
9678.0
1.2
-938.3

PLOT
WC 250
SC 0
VS 1696
th 6
ai cdc ph

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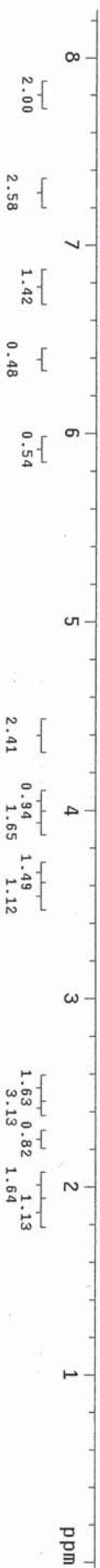




1c43-113
 exp1 PROTON

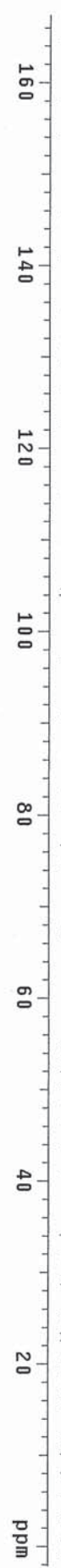
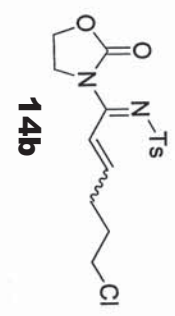
SAMPLE	Jan 14 2011	satmode	n
solvent	CDCl3	wet	n
file	exp	SPECIAL	n

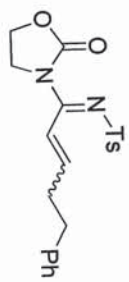
ACQUISITION	temp	not used	
sw	7997.6	gain	not used
at	2.049	spin	not used
np	32768	hst	0.008
fb	4000	pw90	9.100
bs	2	atfa	6.500
dl	1.000	FLAGS	
nt	16	i1	n
ct	16	in	n
TRANSMITTER	dp	hs	y
tn	H1	fn	not used
sfrq	499.859	PROCESSING	
tof	499.9	fn	not used
tpwr	53	DISPLAY	
pw	4.550	SP	-28.2
DECOUPLER	C13	WP	4153.1
dn	0	TF1	4632.4
dof	0	TFP	3629.0
dm	nmn	TP	-126.0
decwave	W40_5mm3G1~	PL0T	
dpwr	47	WC	250
dmf	32258	SC	0
		VS	71
		th	2
		ai	cdc
			ph



1c93-113-13C
exp2 CARBON

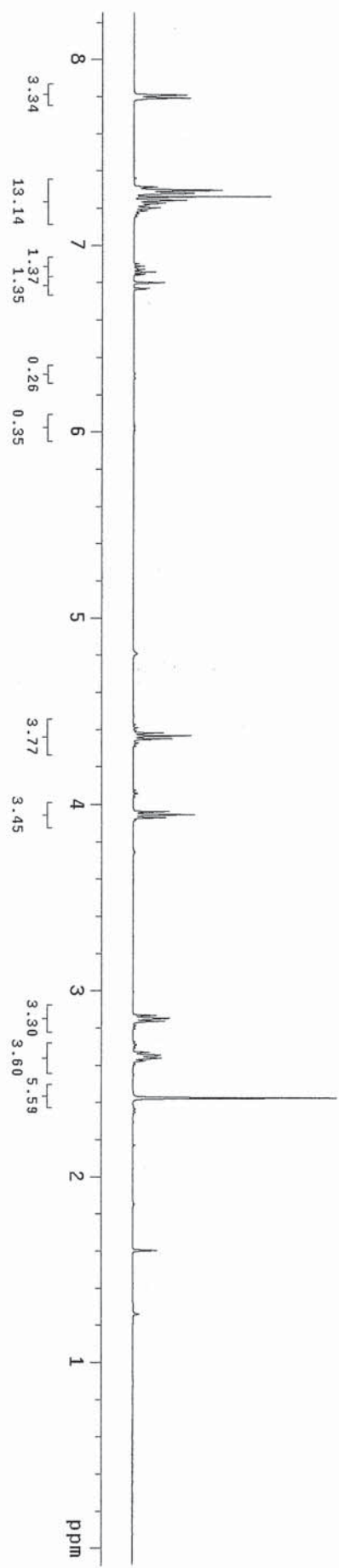
SAMPLE	date	Dec 28 2010	temp	not used
solvent	cdc13	gain	54	
file	exp	spin	not used	
ACQUISITION	sw	28258.6	pw90	0.008
at	1.300	atfa	10.000	
np	73498			
fb	16000			
bs	2			
d1	3.000			
nt	10000			
ct	216			
TRANSMITTER	C13	1b	0.50	
tn	125.702	fn	not used	
sfrq	865.4	sfid	not used	
tof	56	DISPLAY	-265.7	
tpwr	13.500	wd	21800.9	
pw	DECOUPLER	rf1	11004.0	
dn	H1	rffp	96781.0	
dof	0	tp	-866.5	
dm	mny	PLOT	250	
deconvave		vc	0	
dpwr	11101	sc	1695	
dmf		th	4	
		ai	cdc ph	





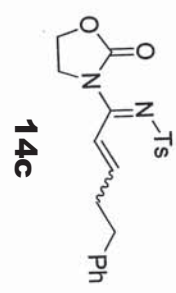
1c93-78
 exp1 PROTON

SAMPLE	date	Jan 16 2011	PRESATURATION	satmode	n
solvent	file	CDC13	wet		n
ACQUISITION	exp		SPECIAL		
sw	7997.6	temp	gain	not used	
at	2.049	spin	not used		
np	32768	hsf	0.008		
fb	4000	pw90	9.100		
bs	2	atfa	8.600		
di	1.000	flags			
nt	16	i1	n		
ct	16	i2	n		
TRANSMITTER	hs	dp	y		
tn	H1	fn	nm		
sfrq	499.859	PROCESSING			
tof	499.9	not used			
tpwr	53	DISPLAY			
pw	4.550	SP	-46.2		
DECOUPLER	WD	WT	4171.6		
dn	G13	FT1	4631.9		
dof	0	rTp	3629.0		
dm	nnn	rp	-121.0		
decwawe	W40_5mm3G1~	TP	1.2		
dpvr	47	WC	250		
dmf	32258	SC	0		
		VS	13		
		th	7		
		ai	cdc		
			ph		



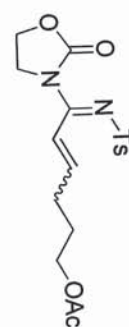
1c43-78

exp2 CARBON



SAMPLE	Dec 7 2010	temp	not used
solvent	cdcl3	gain	54
file	exp	spin	not used
ACQUISITION	28258.6	hst	0.008
sw	1.300	pw90	9.200
at	73498	atfa	10.000
np	16000	FLAGS	n
fb	2	in	n
bs	3.000	dp	y
dl	10000	hs	nm
nt	472	PROCESSING	0.50
ct	TRANSMITTER	lb	1sfid
in	C13	fn	not used
sfreq	125.702	DISPLAY	-438.1
tof	865.4	SP	22613.0
tpwr	56	WP	11040.7
PW	13.500	RF1	9678.0
DECOUPLER	H1	TFP	-9.3
dn	0	TP	-951.9
dof	nny	PLOT	250
dm	0	WC	0
decwave		SC	1695
dpwr	36	VS	2
dmf	11101	TH	
		AI	cdc ph





1c43-101
 exp1 PROTON

SAMPLE date Jan 16 2011
 solvent CDC13

ACQUISITION
 file exp
 sw 7997.6 gain not used
 at 2.049 sp1n not used
 np 32758 hsf 0.008
 fd 4000 pw30 9.100
 bs 2 dtfa 6.000
 dl 1.000

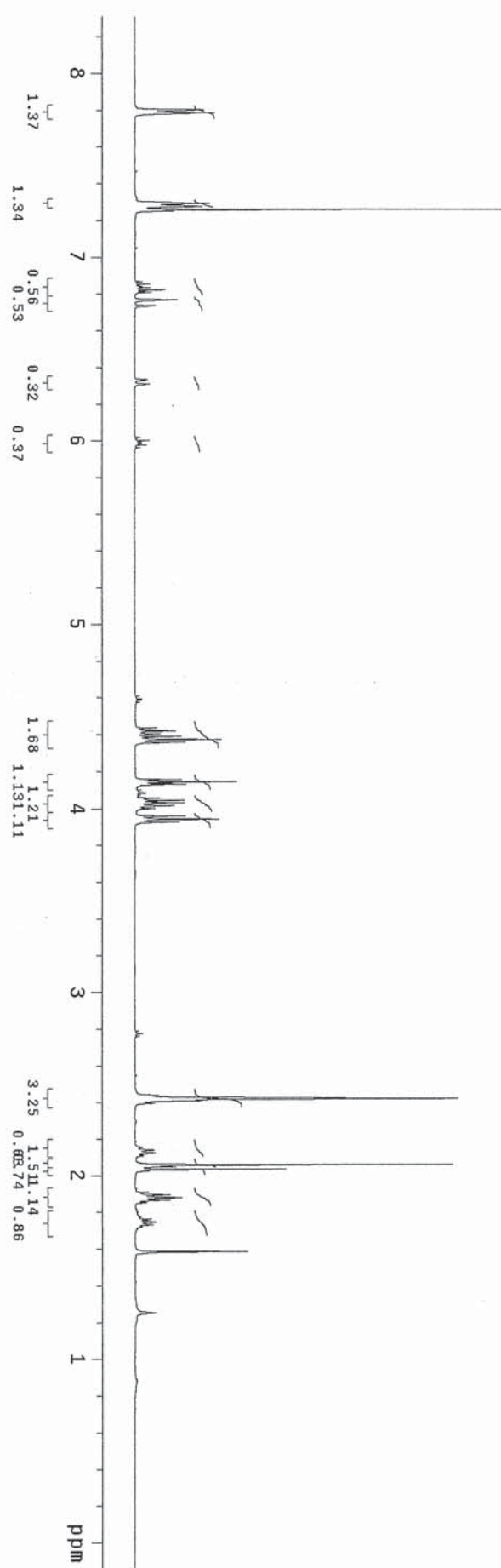
TRANSITTER
 tn H1
 sfra 499.859 fn not used
 tof 499.9
 tpwr 53

DECOUPLER C13
 dn 0
 dof nnn
 dm nnn
 decwave W40_5mm3G1~

PLLOT
 dpwr 47 WC 250
 dmf 32258 VS 0
 th ai cdc ph 60
 3

PRESATURATION
 satmode n
 wet n
 SPECIAL
 temp not used
 gain not used
 sp1n not used
 hsf 0.008
 pw30 9.100
 dtfa 6.000

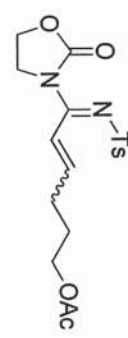
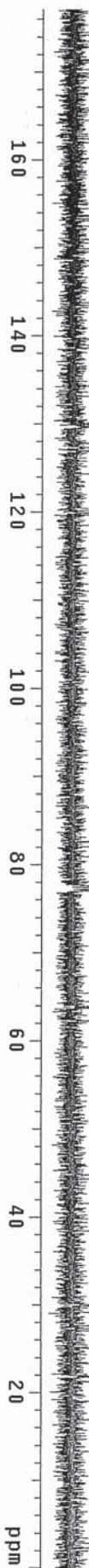
FLAGS
 i1 n
 i2 n
 i3 n
 i4 n
 i5 n
 i6 n
 i7 n
 i8 n
 i9 n
 i10 n
 i11 n
 i12 n
 i13 n
 i14 n
 i15 n
 i16 n
 i17 n
 i18 n
 i19 n
 i20 n
 i21 n
 i22 n
 i23 n
 i24 n
 i25 n
 i26 n
 i27 n
 i28 n
 i29 n
 i30 n
 i31 n
 i32 n
 i33 n
 i34 n
 i35 n
 i36 n
 i37 n
 i38 n
 i39 n
 i40 n
 i41 n
 i42 n
 i43 n
 i44 n
 i45 n
 i46 n
 i47 n
 i48 n
 i49 n
 i50 n
 i51 n
 i52 n
 i53 n
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 i55 n
 i56 n
 i57 n
 i58 n
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 i60 n
 i61 n
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 i77 n
 i78 n
 i79 n
 i80 n
 i81 n
 i82 n
 i83 n
 i84 n
 i85 n
 i86 n
 i87 n
 i88 n
 i89 n
 i90 n
 i91 n
 i92 n
 i93 n
 i94 n
 i95 n
 i96 n
 i97 n
 i98 n
 i99 n
 i100 n



1cq-1-217-C13

exp2 CARBON

SAMPLE	date	Dec 28 2010	SPECIAL	temp	not used
solvent	cdc13		gain	54	
file	exp		spin	not used	
ACQUISITION	sw	28258.6	hst	0.008	
at	1.300		pw90	9.200	
np	73498		atfa	10.000	
fb	16000		FLAGS		
bs	2		i1	n	
di	3.000		in	n	
nt	10000		dp	y	
ct	174		hs	nn	
TRANSMITTER	1b	0.50	PROCESSING		
tn	G13		fn	not used	
sfrq	125.702		tsfid	2	
tof	865.4		DISPLAY		
tpwr	56		sp	-67.7	
pw	13.500		wd	22328.0	
DECOUPLER	H1		rfl	11004.9	
dn	0		rfd	9678.0	
dof	0		tp	62.1	
dm	mny		ip	-971.3	
decouple			PLOT		
dpwr	36		wc	250	
dmf	11101		sc	0	
			vs	1695	
			th	5	
			ai	cdc ph	



1c93-117
 exp1 PROTON

SAMPLE

date Jan 16 2011
 solvent CDCl3
 file exp

ACQUISITION
 sw 7997.6
 at 2.049
 np 32788
 fb 4000
 bs 2
 ds 1.000
 dl 16
 nt 16
 ct 16

TRANSMITTER
 tn H1
 sfreq 499.859
 tof 499.9
 tpwr 53

DECOUPLER
 dn C13
 dof 0
 dm nnn
 decwave W40_5mm
 SGI~ 1p

dpwr 47
 dmf 32258

PRESATURATION
 satmode n
 wet n

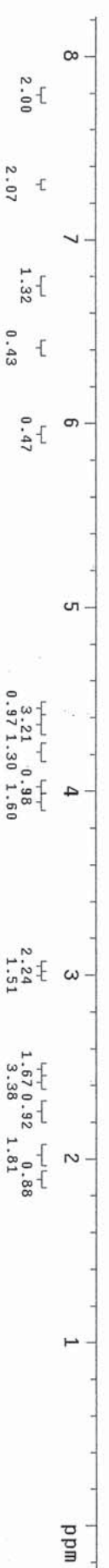
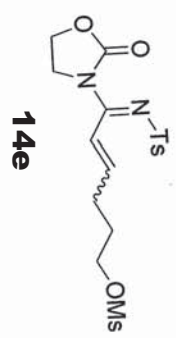
SPECIAL
 temp not used
 gain not used
 spin not used
 hst 0.008
 pw30 9.100
 atfa 6.500

PROCESSING
 not used
 fn not used

DISPLAY
 -121.9
 4228.2
 4632.4
 3629.0
 -124.1
 -1.17

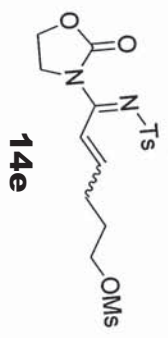
PLOT
 250
 0
 47
 2

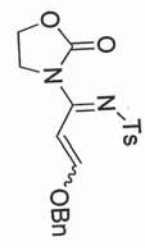
ai cdc ph



1cq3-117-13C
exp2 CARBON

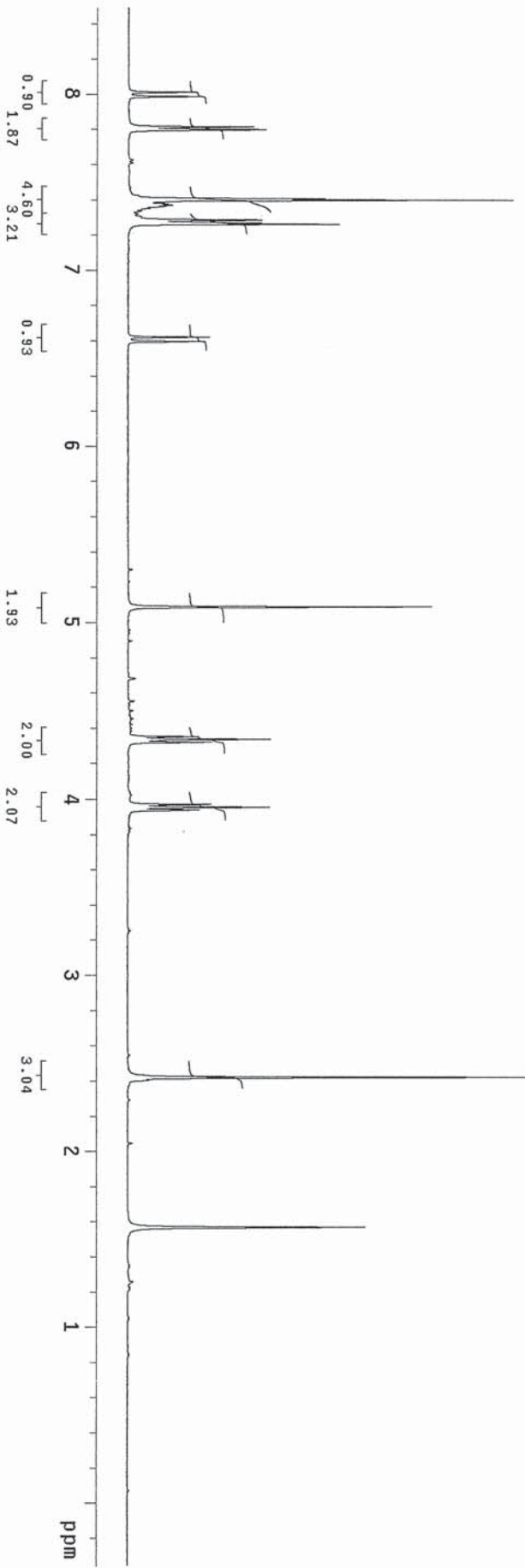
date	Dec 30 2010	SAMPLE	temp	not used
solvent	cdcl3	cdcl3	gain	54
file	exp	sp1n	not used	
ACQUISITION		hst	0.008	
sw	28258.6	pw90	9.200	
at	1.300	atfa	10.000	
np	73498	flags		
fb	16000	i1	n	
bs	2	in	n	
d1	3.000	dp	y	
nt	10000	hs	nm	
ct	250	PROCESSING	nm	
tn	TRANSMITTER	1b	0.50	
stfrq	G13	1sfrid	2	
tof	125.702	fn	not used	
tpwr	865.4	DISPLAY		
pw	56	sp	-631.3	
DECOUPLER	13.500	wp	22626.3	
dn	H1	rfl	11005.3	
dof	0	rfd	9678.0	
dm	ny	tp	83.8	
decave		tp	-1014.7	
dpr	36	WC	250	
dmf	11101	SC	0	
		VS	1911	
		th	5	
		at	cdc ph	





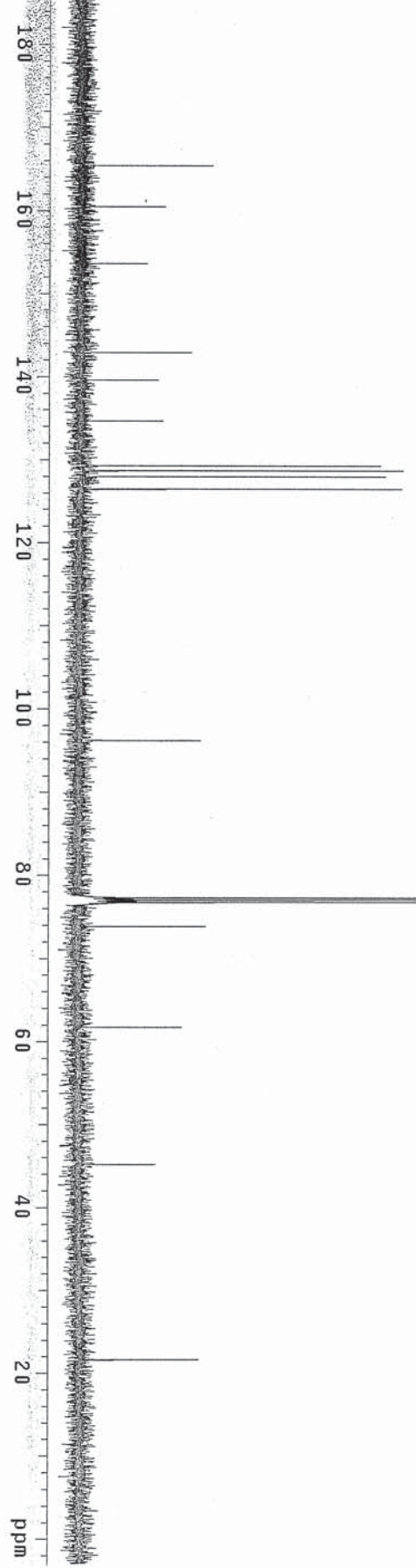
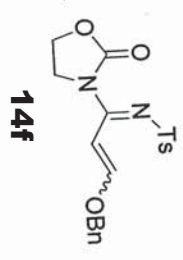
1c42-303-H
exp25 s2pu1

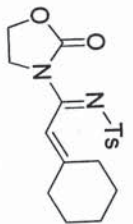
SAMPLE	Dec 10 2010	dn	C13
date	Dec 10 2010	dof	0
solvent	CDCl3	dm	mm
file	exp	dmm	c
ACQUISITION	499.859	dmf	200
sfrq	H1	PROCESSING	0.20
tn	2.500	1b	32768
at	42518	fn	1
np	8503.4	math	
sw	not used		
fb	2	werr	
bs	7.8	wexp	
pw	7.8	wbs	
tpwr	57	wnt	
di	4.800	sp	-181.1
tof	0	wp	4425.6
nt	16	vs	73
ct	16	sc	0
alock	not used	hzmm	250
gain		wc	0
FLAGS		is	17.70
il	n	rs	259.57
in	n	rfl	5385.2
dp	y	rffp	3629.0
hs	nm	th	3
		ins	2.000
		aj	



1c42-303-13C
 exp25 CARBON

date	Dec 10 2010	temp	not used
solvent	cdcl3	gain	54
file	exp	spin	not used
ACQUISITION		hst	0.008
sw	28258.6	pw90	9.200
at	1.300	atfa	10.000
np	73498	FLAGS	
fb	16000	i1	n
bs	4	in	n
di	3.000	dp	y
nt	10000	hs	nn
ct	600	PROCESSING	
TRANSMITTER		lb	0.50
tn	C13	1sfid	2
sfrq	125.702	fn	not used
lof	865.4	DISPLAY	
tpwr	56	SP	-396.3
pw	13.500	WD	24050.6
DECOUPLER		rf1	11035.5
dn	H1	rtp	9678.0
dof	0	tp	-99.0
dm	nny	TP	-958.5
decwvave		PLOT	
dpwr	36	wc	250
dmf	11101	sc	0
		vs	2557
		th	6
		ai	cdc ph

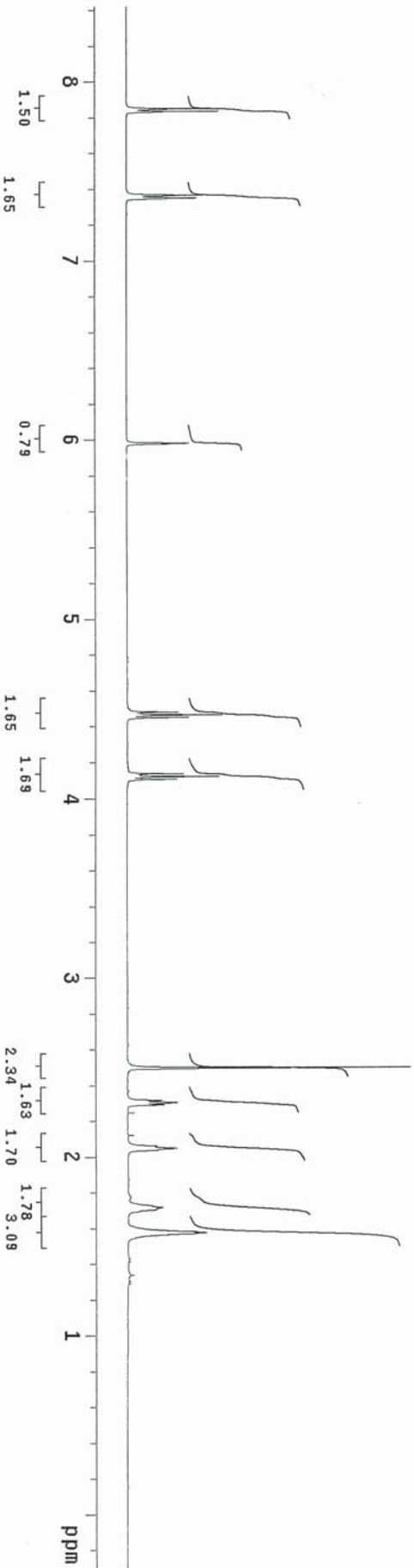




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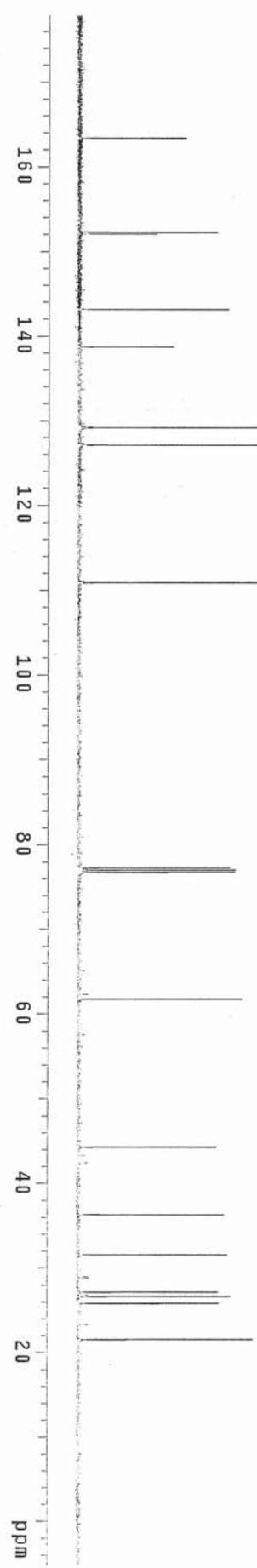
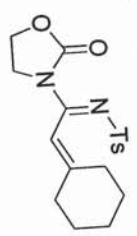
1c42-265-H
 exp25 PROTON

SAMPLE	Dec 27 2010	PRESATURATION	n
date	Dec 27 2010	satmode	n
solvent	CDCl3	wet	n
file	exp	SPECIAL	
ACQUISITION		temp	not used
sw	7997.6	gain	not used
at	2.049	spin	not used
np	32788	hst	0.008
fb	4000	pw90	9.100
bs	2	atfa	6.600
d1	1.000	FLAGS	
nt	12	i1	n
ct	12	in	n
TRANSMITTER	dp	dp	y
tn	H1	hs	nm
sfrq	499.859	fn	not used
tof	499.9	DISPLAY	
tpwr	53	SP	-159.0
pw	4.550	wp	4368.8
DECOUPLER	C13	rfl	4363.1
dn	0	rfp	3629.0
dof	nm	rp	157.1
dm	nm	lp	-1.3
decwave	W40_5mmSG1~	PLOT	
dpwr	47	wc	250
dmf	32258	sc	0
		vs	22
		th	4
		ai	cdc
		ph	



1c42-285-13C
 exp25 CARBON

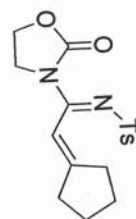
SAMPLE	Dec 27 2010	temp	not used
solvent	cdcl3	gain	54
file	exp	spin	not used
ACQUISITION	28258.6	hst	0.008
sw	1.300	pw90	9.200
at	73498	atfa	10.000
np	16000	FLAGS	
fb	2	in	n
bs	3.000	dp	n
di	10000	hs	y
nt	296	PROCESSING	nm
ct	TRANSMITTER	lb	0.50
tn	G13	1s	fid
sfreq	125.702	fn	not used
lof	865.4	DISPLAY	
tpwr	56	sp	-668.4
pw	13.500	wp	23023.9
DECOUPLER	H1	rf1	11042.4
dn	0	rfp	9676.0
dof	0	tp	29.8
dm	nmv	1p	-928.8
decwave		PLOT	
dpwr	36	wc	250
dmf	11101	sc	0
		vs	630
		th	4
		ai	cdc ph



1cq2-266-2-H

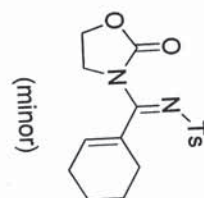
exp25 PROTON

```
SAMPLE      PRESATURATION
date      Dec 28 2010      satmode      n
solvent    CDC13          wet          n
file       exp           SPECIAL      n
ACQUISITION
sw         7997.6        temp        not used
at         2.049        gain        not used
np         32768        spin        not used
fb         4000         hst         0.008
bs         2           pw90        9.100
d1         1.000        alfa        6.600
nt         16          FLAGS
ct         16          f1         n
TRANSMITTER H1         f2         n
sfreq      499.859      fn         y
tof         499.9      hs         m
tpwr       53         dp         y
pw         4.550      ds         y
DECOUPLER  C13         DISPLAY   -72.9
dn         0           wd         4331.2
dof        0           tf1        3844.6
dm         nmn        tfp        2990.1
decwave    W40_5mm3G1~ tp         156.1
dpcwr      dp         PLOT      2.7
dmf        47         wc         250
          32258      vs         0
          ai         th         41
          cdc      ph         1
```

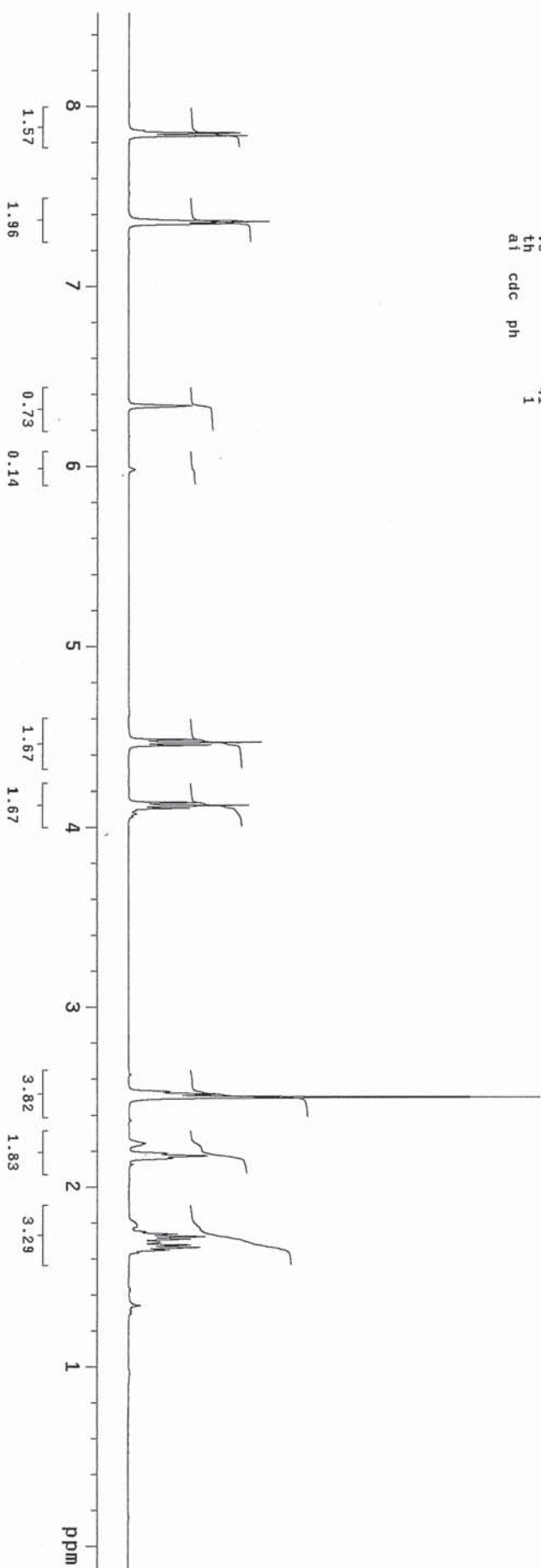


14h

(major)



(minor)



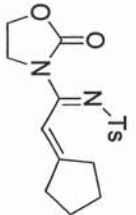
1cq2-266-13C
exp25 CARBON

date	Dec 27 2010	SAMPLE	temp	not used
solvent	cdcl3	solvent	gain	54
file	exp	file	spin	not used
ACQUISITION	28258.6	sw	hst	0.008
at	1.300	at	pw90	9.200
np	73498	atfa	atfa	10.000
fb	16000	np	flags	n
bs	2	fb	i1	n
d1	3.000	bs	in	n
nt	10000	d1	dp	y
ct	96	nt	hs	nn
TRANSMITTER	96	ct	PROCESSING	nn
tn	C13	tn	lb	0.50
stfq	125.702	stfq	lfrid	2
tof	865.4	tof	fn	not used
tpwr	56	tpwr	DISPLAY	-337.7
pw	13.500	pw	sp	21798.0
DECOUPLER	H1	pw	wd	11009.6
dn	0	dn	rfl	9678.0
dof	0	dof	rfp	9628.1
dm	ny	dm	tp	-902.4
deceive		dm	PLOT	
dpmf	36	dpmf	wc	250
	11101		sc	0
			vs	821
			th	4
			ai	cdc ph

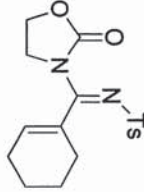


14h

(major)

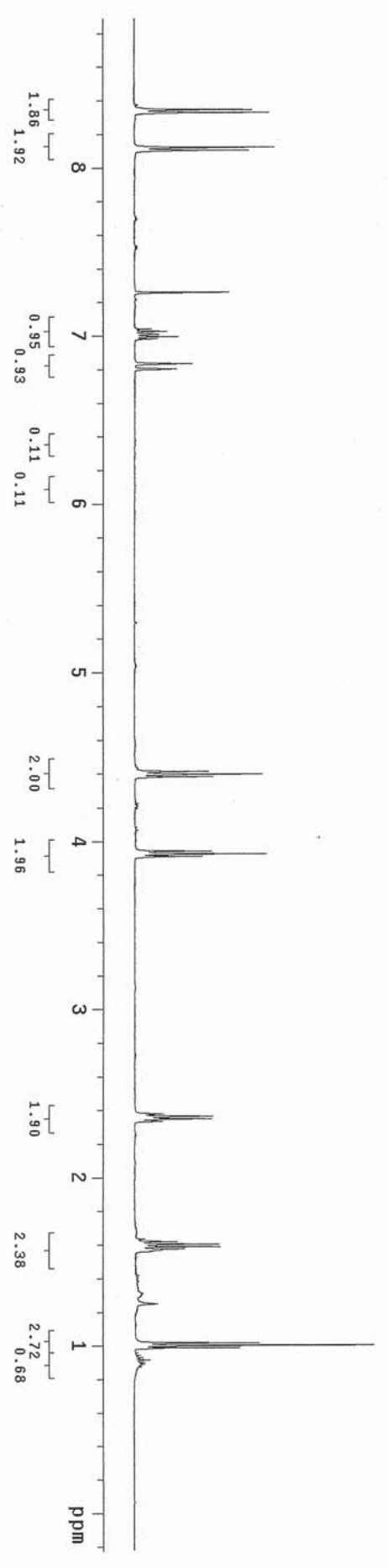
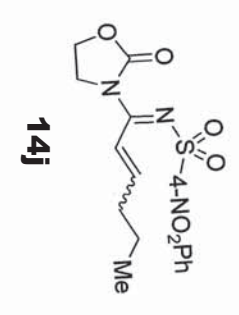


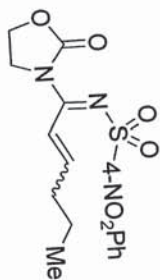
(minor)



1cq2-242-H
exp2 PROTON

date	Dec 30 2010	PRESATURATION	satmode	n
solvent	CDCl3	wet		n
file	exp	SPECIAL		
sw	7997.6	temp	not used	
at	2.049	gain	not used	
np	32758	spin	not used	
fb	4000	pw90	9.100	
bs	2	atfa	6.600	
d1	1.000	FLAGS		
nt	18	i1	n	
ct	16	in	n	
tn	18	dp	y	
tr	16	hs	nm	
tn	H1	fn	not used	
sfreq	499.859	PROCESSING		
tof	499.9	DISPLAY		
tpwr	53			
pw	4.550	SP	-113.1	
DECOUPLER	C13	WP	4556.3	
dn	0	rf1	4632.9	
dof	0	rfp	3623.0	
dm	nm	tp	138.0	
decwave	W40_5mm3G1~	ip	-8.6	
dpwr	47	PLOT		
dmf	32258	WC	250	
		SC	0	
		VS	21	
		th	2	
		ai	cdc	
			ph	





14j

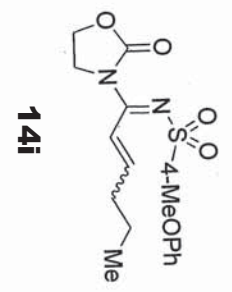
1c92-242-13C
 exp25 CARBON

SAMPLE	date	Dec 27 2010	temp	not used
SOLVENT	solvent	cdcl3	gain	54
FILE	exp		spin	not used
ACQUISITION	sw	28258.6	hst	0.008
	at	1.300	pw90	9.200
	np	73498	atfa	10.000
	fb	16000	flags	
	bs	2		n
	d1	3.000	in	n
	nt	10000	dp	y
	ct	524	hs	nn
TRANSMITTER	tn	C13	lb	PROCESSING 0.50
	sfreq	125.702	lrfid	2
	tof	865.4	fn	not used
	tpwr	56	sp	DISPLAY
	pw	13.500	wd	-1292.3
DECOUPLER	dn	H1	rf1	24613.7
	dof	0	rfd	11003.6
	dm	nmv	tp	9678.0
	decouple			18.8
	dpwr	36	WC	PLOT -924.6
	dmf	11101	SC	250
			th	0
			ai	2504
				3



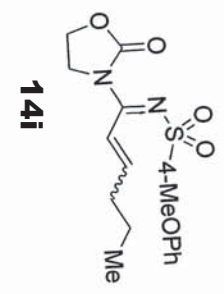
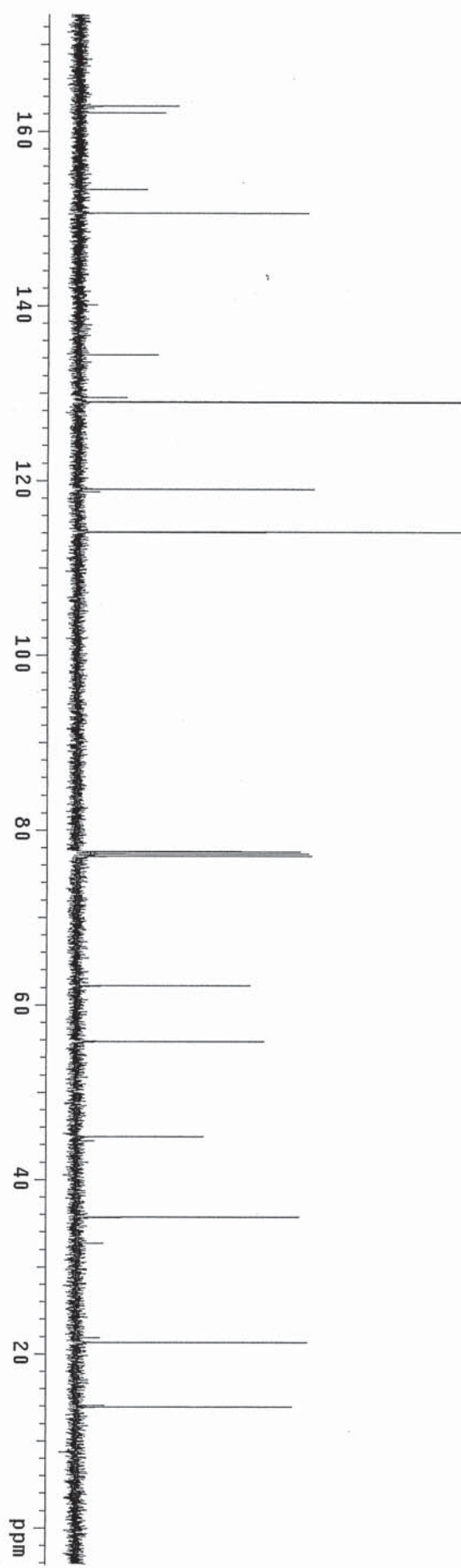
1c93-121-H
exp25 s2pu1

SAMPLE	Dec 28 2010	dn	H1
date	Dec 28 2010	dof	-1425.0
solvent	cdcl3	dm	nm
file	exp	dmf	C
ACQUISITION		dmf	200
sfrq	399.951	dmf	200
in	H1	PROCESSING	
at	2.502	1b	0.10
np	36008	fn	65536
sw	7196.8	math	f
fb	not used		
bs	not used		
pw	8.0	weff	
weff	8.0	weff	
pw	8.0	wexp	
wexp	8.0	wbs	
wbs	8.0	wnt	
tpwr	57		
di	3.000	DISPLAY	
sp	-6.9		-78.7
nt	16	wp	3396.4
ct	16	vs	72
alock	n	sc	0
gain	not used	vc	250
h1	n	h1zmm	13.59
in	n	h2	257.71
dp	n	ft1	4504.2
th	nm	rft1	2903.6
ins	nm	th	1
ai	ns	ins	2.000
		ph	



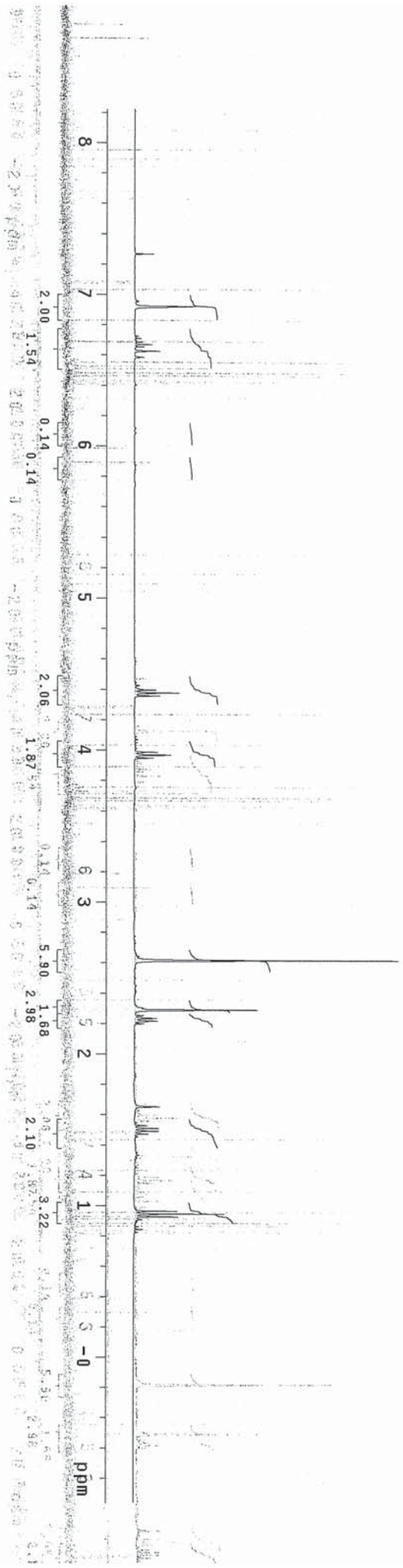
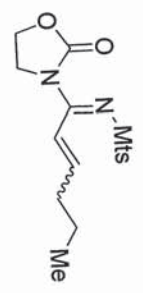
1c93-121-13C
 exp2 CARBON

date	Dec 28 2010	SAMPLE	temp	not used
solvent	cdcl3	solvent	gain	54
file	exp	file	spin	not used
ACQUISITION	23258.6	sw	hst	0.008
at	1.300	pw	pw90	9.200
np	73498	atfa	atfa	10.000
fb	16000	flags	flags	10.000
bs	3.000	in	in	n
di	3.000	dp	dp	n
nt	10000	hs	hs	Y
ct	100	PROCESSING	PROCESSING	nn
TRANSMITTER	100	lb	lb	0.50
tn	C13	tsfid	tsfid	2
sfrq	125.702	fn	fn	not used
tof	865.4	DISPLAY	DISPLAY	not used
tpwr	56	SP	SP	-531.7
pw	13.500	WD	WD	22328.0
DECOUPLER	H1	RF1	RF1	11009.9
dn	0	TFP	TFP	9678.0
dof	0	TP	TP	32.7
dm	nny	PLOT	PLOT	-954.6
deccave		WC	WC	250
dpwr	36	SC	SC	0
dmf	11101	VS	VS	819
		th	th	0
		ai	ai	cdc ph

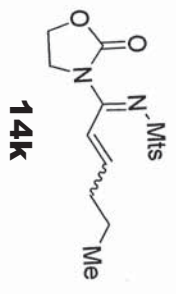


1cdq3-170b
exp25 szpu1

date	Jan 18 2011	dn	G13
solvent	cdcl3	dof	-1425.0
file	exp	dm	nmn
ACQUISITION		dmm	C
sfrq	399.951	dmf	200
in	H1	PROCESSING	
at	2.500	lb	0.20
np	40016	fn	65536
sw	8003.2	math	j
fb	not used		
bs	2	WEFT	
pw	11.7	weXP	
tpwr	11.7	wbs	
d1	60	wnt	
tof	4.800	sp	-386.1
nt	0	wp	3674.1
ct	16	vs	17
alock	n	sc	0
gain	not used	WC	250
FLAGS		h2mm	14.70
l1	n	ls	211.16
l2	n	rfl	1994.5
dp	y	rtp	0
hs	nm	th	5
		ins	2.000
		ai	ph



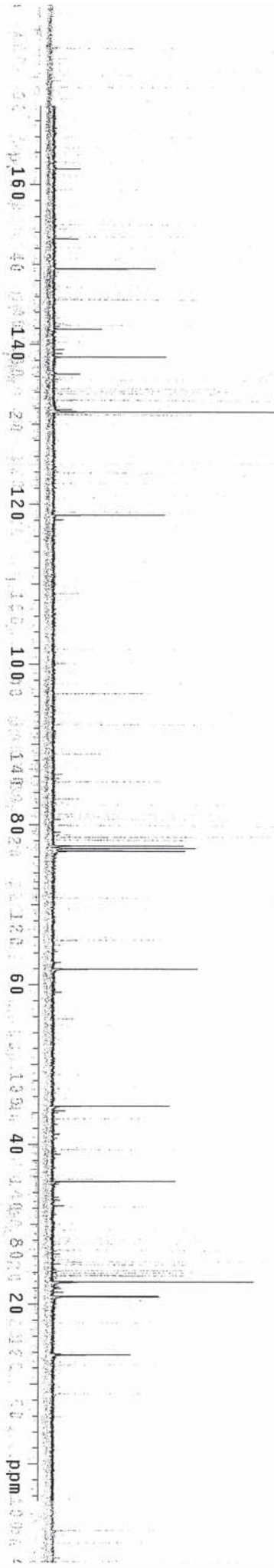
1cq3-170b-13c
exp25 std13c

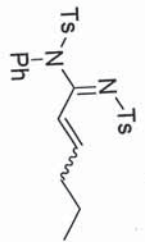


SAMPLE DEC. & VT
 date Jan 18 2011 dfrq 399.951
 solvent cdcl3 dn HI
 file cdcl3 exp 40
 ACQUISITION dof 0
 sfrq 100.577 dm YYY
 tn C13 dmm W
 at 0.701 dmf 6700
 np 39216 dseq 90.0
 sw 27972.0 dres
 fb not used homo n
 bs 2 PROCESSING 1.00
 ss 4 lb write
 tpwr 58 wfile ft
 pw 7.0 proc 65536
 di 1.000 fn
 tof 525.7 math f
 nt 100000
 ct 1400 werr
 atlock n wexp
 gain n wds
 44 wnt

FLAGS
 i1 n
 in n
 dp y
 hs nn

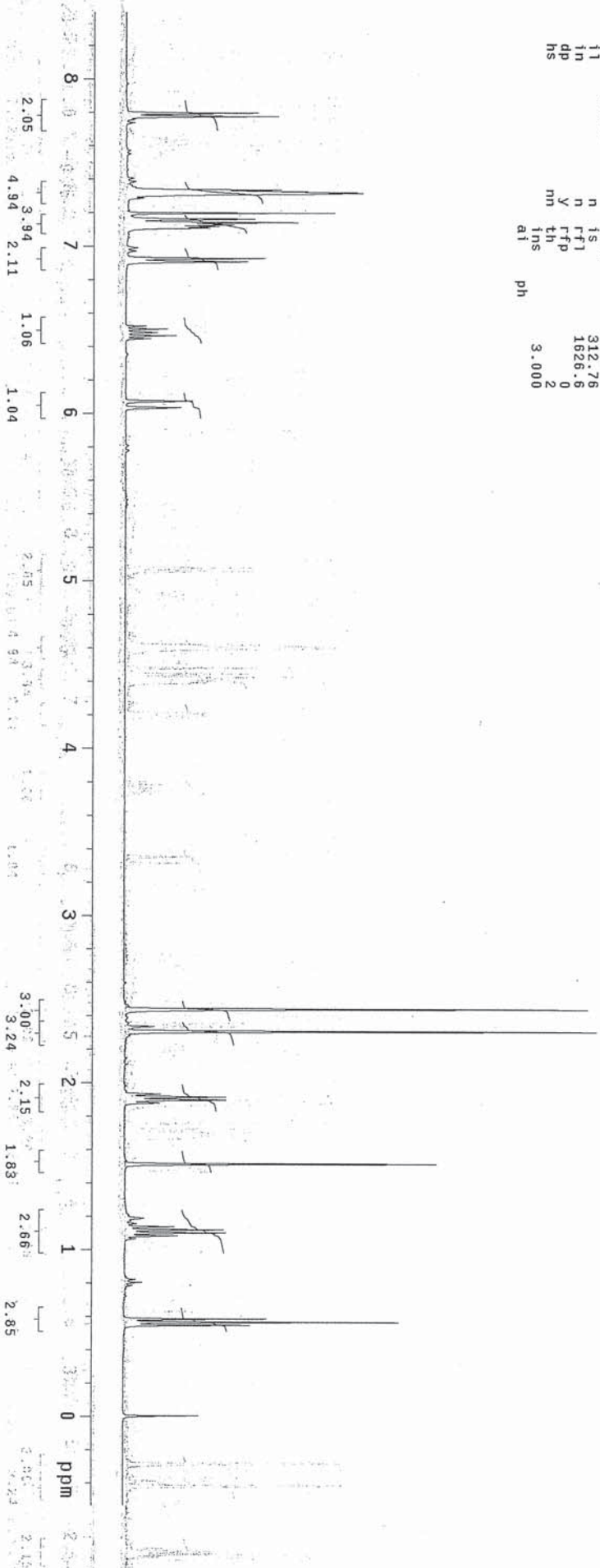
DISPLAY
 sp -468.3
 wp 17546.5
 vs 3026
 sc 0
 wc 250
 hzmm 70.19
 is 500.00
 rfi 11676.1
 rfp 7749.7
 th 2
 ins 100.000
 al ph





1cq3-65-4
exp25 szpu1

SAMPLE	2 2010	DEC. & VT	H1
date	Dec 2 2010	dn	-1425.0
solvent	cdcl3	dof	nmn
file	exp	dm	C
ACQUISITION	399.951	dmm	200
sfrq	H1	dmf	
tn	2.500	lb	0.20
at	35384	fn	65536
np	7196.8	math	f
sw	not used		
fb	not used		
bs	Z	werr	
pw	6.7	wexp	
tpwr	6.7	wds	
tpwr	57	wnt	
dl	4.800	sp	-214.1
tof	-5.9	wp	3572.9
nt	10	vs	101
ct	10	sc	0
atlock	n	wc	250
gain	not used	h2mm	14.29
fl	FLAGS	ls	312.78
in	n	rtf	1626.6
dp	Y	th	0
hs	nn	ins	2
		at	3.000
		ph	



1cq-3-65-4
 exp1 CARBON

date	Dec 2 2010	SAMPLE	2	temp	not used
solvent	cdc13	file	exp	gain	54
file	exp	ACQUISITION	28258.6	spn	20
sw	28258.6	at	1.300	hst	0.008
np	73498	fb	16000	pw90	9.200
bs	16000	di	3.000	alfa	10.000
dl	3.000	nt	10000	flags	n
nt	10000	ct	764	PROCESSING	nn
ct	764	TRANSMITTER	G13	lb	0.50
tn	125.702	sfrq	865.4	fn	not used
tof	865.4	tpwr	56	sp	DISPLAY
pw	13.500	DECOUPLER	H1	wd	-403.6
dn	0	dof	0	rfl	23570.2
dm	0	dm	ny	rfp	11035.0
decouple	ny	dm	1p	tp	9707.0
dpmv	36	decouple	ny	tp	-943.7
dmf	11101	dmf	36	WC	250
				SC	0
				VS	3341
				TH	0
				AI	cdc ph
					4

