The Journal of Organic Chemistry

J. Org. Chem., 1997, 62(17), 5672-5673, DOI:10.1021/jo9708755

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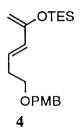
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## **Experimental Procedures and Compound Characterization Data**

**General Methods**. All reactions were carried out under argon or nitrogen in oven dried glassware using standard syringe, cannula, and septa techniques. Tetrahydrofuran and Et<sub>2</sub>O were distilled from Na/benzophenone ketyl under nitrogen. CH<sub>2</sub>Cl<sub>2</sub>, CH<sub>3</sub>CN, Et<sub>3</sub>N, and BF<sub>3</sub>•OEt<sub>2</sub> were distilled from CaH<sub>2</sub> under nitrogen. DMF was dried over activated 3Å molecular sieves. (*S*)-4- (4-Methoxybenzyloxy)butan-1,2-diol was prepared from (*S*)-malic acid as previously described for (*S*)-4-(benzyloxy)butan-1,2-diol. Flash chromatography was performed using Baker Flash silica gel 60 (40 µm) and the solvent systems indicated. Analytical and preparative TLC was performed with 0.25 mm or 0.50 mm EM silica gel 60 F<sub>254</sub> plates, respectively, and visualized by fluorescence upon 254 nm irradiation and/or staining with anisaldehyde reagent (450 mL of 95% EtOH, 25 mL of H<sub>2</sub>SO<sub>4</sub>, 15 mL of HOAc, and 25 mL of anisaldehyde). NMR spectra obtained in CDCl<sub>3</sub> are referenced to residual CHCl<sub>3</sub> at 7.25 ppm (<sup>1</sup>H) and 77.0 ppm (<sup>13</sup>C). The mass spectrometers used show deviations of less than 5 ppm.



# **Preparation of Diene 4.**

## 3-(4-Methoxybenzyloxy)-propan-1-ol (4a).

To a soln of *p*-anisaldehyde (27.5 g, 202 mmol) in benzene (700 mL) was added 1,3-propanediol (15.22 g, 200.0 mmol), and TsOH•H<sub>2</sub>O (90 mg, 500 µmol). The flask was equipped with a Dean-Stark trap and the mixture heated at reflux for 18 h. The mixture was cooled to rt, concentrated by rotary evaporation to a volume of 200 mL, and diluted with THF (300 mL). The soln was cooled to 0 °C and LiAlH<sub>4</sub> (7.6 g, 0.20 mol) followed by AlCl<sub>3</sub> (27 g, 0.20 mol) were added cautiously. The mixture was warmed to rt and stirred for 18 h. The reaction was quenched cautiously with water (150 mL) and 15% aqueous NaOH (150 mL). The mixture was extracted with Et<sub>2</sub>O (3 X 200 mL) and the combined organic phases were dried over MgSO<sub>4</sub>, filtered through a plug of silica gel and concentrated by rotary evaporation. The resultant pale yellow oil was distilled (bp 149-154 °C, 0.9 Torr) to give 3-(4-methoxybenzyloxy)-propan-1-ol (33.44 g, 170.4 mmol, 85%) as a colorless oil: <sup>1</sup>H NMR (CDCl<sub>3</sub>, 300 MHz):  $\delta$  7.24 (d, *J* = 8.6 Hz, 2H), 6.87 (d, *J* = 8.6 Hz, 2H), 3.80 (s, 3H), 3.77 (q, *J* = 5.7 Hz, 2H), 3.63 (t, *J* = 5.7 Hz, 2H), 2.27 (t, *J* = 5.7 Hz, 1H), 1.84 (p, *J* = 5.7 Hz, 2H).

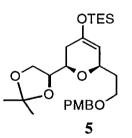
## 3-(4-Methoxybenzyloxy)-propanal (4b).

To a soln of oxalyl chloride (2.42 mL, 27.7 mmol) in CH<sub>2</sub>Cl<sub>2</sub> (75 mL) at -78 °C was added a soln of DMSO (3.94 mL, 55.5 mmol) in CH<sub>2</sub>Cl<sub>2</sub> (15 mL). The mixture was stirred at -78 °C for 5 min before a soln of **4a** (4.95 g, 25.2 mmol) in CH<sub>2</sub>Cl<sub>2</sub> (25 mL) was added. The mixture was stirred at -78 °C for 20 min before Et<sub>3</sub>N (17.6 mL, 126 mmol) was added and the mixture allowed to warm to rt. The mixture was diluted with Et<sub>2</sub>O (200 mL), washed with water (100 mL) and brine (100 mL), and the combined aqueous phases were extracted with Et<sub>2</sub>O (100 mL). The combined organic phases were dried over Na<sub>2</sub>SO<sub>4</sub>, filtered, and concentrated by rotary evaporation. The residue was dried by azeotropic removal of water with benzene to provide crude **4b** as a pale yellow oil which was used without further purification: <sup>1</sup>H NMR (CDCl<sub>3</sub>, 300 MHz):  $\delta$  9.77 (t, *J* = 1.8 Hz, 1H), 7.24 (d, *J* = 8.6 Hz, 2H), 6.87 (d, *J* = 8.6 Hz, 2H), 4.45 (s, 2H), 3.80 (s, 3H), 3.78 (t, *J* = 6.1 Hz, 2H), 2.67 (ddd, *J* = 6.1, 6.1, 1.8 Hz, 2H).

## (E)-6-(4-Methoxybenzyloxy)-3-hexen-2-one (4c).

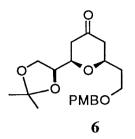
To a suspension of LiCl (1.28 g, 30.2 mmol) in CH<sub>3</sub>CN (280 mL) was added dimethyl (2oxopropyl)phosphonate (5.0 g, 30 mmol), *i*-Pr<sub>2</sub>NEt (4.40 mL, 25.2 mmol) and crude **4b** (ca. 5 g, 25 mmol). The mixture was stirred at rt for 18 h, then diluted with Et<sub>2</sub>O (200 mL), washed with water (70 mL) and brine (70 mL), and the combined aqueous phases were extracted with Et<sub>2</sub>O (150 mL). The combined organic phases were dried over Na<sub>2</sub>SO<sub>4</sub>, filtered and concentrated by rotary evaporation. Flash chromatography (3:1 hexanes-ethyl acetate) provided **4c** (4.88 g, 20.8 mmol, 83% for 2 steps) as a colorless oil: <sup>1</sup>H NMR (CDCl<sub>3</sub>, 300 MHz):  $\delta$  7.24 (d, *J* = 8.6 Hz, 2H), 6.87 (d, *J* = 8.6 Hz, 2H), 6.80 (ddd, *J* = 16.1, 6.8, 6.8 Hz, 1H), 6.11 (d, *J* = 16.1 Hz, 1H), 4.44 (s, 2H), 3.80 (s, 3H), 3.56 (t, *J* = 6.3 Hz, 2H), 2.50 (q, *J* = 6.5 Hz, 2H), 2.23 (s, 3H). (*E*)-2-(Triethylsilyl)oxy-6-(4-methoxybenzyl)oxy-1,3-hexadiene (4).

To a soln of diisopropylamine (6.50 mL, 49.6 mmol) in THF (80 mL) at 0 °C was added a soln of n-BuLi in hexanes (19.2 mL of a 2.58 M soln, 49.5 mmol). The soln was stirred at 0 °C for 15 min then cooled to -78 °C before a soln of 4c (10.54 g, 44.99 mmol) in THF (10 mL) was added over 15 min. The soln was stirred at -78 °C for 15 min before chlorotriethylsilane (8.30 mL, 49.4 mmol) was added. The resulting soln was stirred at -78 °C for 30 min and then warmed to -20 °C over 2.2 h. The reaction mixture was diluted with pentane (600 mL) and washed with cold, saturated aqueous NaHCO<sub>3</sub> (100 mL) and brine (100 mL), and the combined aqueous phases were extracted with pentane (150 mL). The combined pentane phases were dried over MgSO<sub>4</sub>, filtered and concentrated by rotary evaporation. Flash chromatography on silica gel neutralized with Et<sub>3</sub>N (20:1 hexanes-ethyl acetate) afforded 4 (11.64 g, 33.39 mmol, 74%) as a colorless oil: Rf 0.63 (5:1 hexanes-ethyl acetate); <sup>1</sup>H NMR (CDCl<sub>3</sub>, 300 MHz):  $\delta$  7.29 (d, *J* = 8.4 Hz, 2H), 6.90 (d, *J* = 8.4 Hz, 2H), 5.93-6.04 (m, 2H), 4.48 (s, 2H), 4.27 (s, 1H), 4.24 (s, 1H), 3.83 (s, 3H), 3.53 (t, *J* = 6.6 Hz, 2H), 2.44 (q, *J* = 6.6 Hz, 2H), 1.01 (t, *J* = 8.2 Hz, 9H), 0.74 (q, *J* = 8.2 Hz, 6H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 75 MHz):  $\delta$  159.1, 154.9, 130.5, 129.5, 129.3, 127.6, 113.8, 94.0, 72.6, 69.5, 55.3, 32.6, 6.8, 4.9; HRMS calcd for C<sub>20</sub>H<sub>32</sub>O<sub>3</sub>Si [M]<sup>+</sup>: 348.2121, found 348.2108.



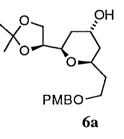
## Enol ether (5).

To a soln of 4 (4.638 g, 13.31 mmol) and (*S*)-glyceraldehyde acetonide (3.52 g, 27 mmol) in Et<sub>2</sub>O (90 mL) at -78 °C was added BF<sub>3</sub>•OEt<sub>2</sub> (330  $\mu$ L, 2.7 mmol). The soln was stirred at -78 °C for 30 min then quenched with saturated aqueous NaHCO<sub>3</sub> (10 mL). The mixture was diluted with ethyl acetate (120 mL), washed with water (40 mL) and brine (50 mL), and the combined aqueous phases were extracted with ethyl acetate (2 X 25 mL). The combined organic phases were dried over MgSO<sub>4</sub>, filtered and concentrated by rotary evaporation. Filtration through a plug of silica gel, neutralized with Et<sub>3</sub>N, and eluting with hexanes and 20:1 hexanes-ethyl acetate afforded **5** as a mixture of diastereomers (5.47 g, 11.4 mmol, 86%) which was used without further separation. Chromatographic purification provided an analytical sample of diastereomerically pure **5** as a colorless oil: R<sub>f</sub> 0.48 (5:1 hexanes-ethyl acetate); <sup>1</sup>H NMR (CDCl<sub>3</sub>, 300 MHz):  $\delta$  7.24 (d, *J* = 8.7 Hz, 2H), 6.87 (d, *J* = 8.7 Hz, 2H), 4.75 (s, 1H), 4.41 (s, 2H), 4.27 (m, 1H), 4.04 (m, 1H), 3.97 (m, 1H), 3.87 (m, 1H), 3.79 (s, 3H), 3.52 (m, 3H), 2.10 (m, 2H), 1.77 (m, 2H), 1.40 (s, 3H), 1.35 (s, 3H), 0.95 (t, *J* = 7.8 Hz, 9H), 0.64 (q, *J* = 7.8 Hz, 6H).



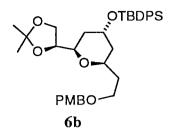
#### Ketone (6).

To a soln of **5** (5.47 g, 11.4 mmol) in THF (90 mL) at 0 °C was added a soln of tetra-*n*-butylammonium fluoride in THF neutralized (as indicated by pH paper) with TsOH•H<sub>2</sub>O (11.4 mL of a 1.0 M soln, 11 mmol). The soln was stirred for 10 min then diluted with Et<sub>2</sub>O (150 mL), washed with water (2 X 70 mL) and brine (70 mL), and the combined aqueous phases were extracted with Et<sub>2</sub>O (75 mL). The combined organic phases were dried over MgSO<sub>4</sub>, filtered and concentrated by rotary evaporation. Flash chromatography (3:1 hexanes-ethyl acetate) afforded **6** (2.903 g, 7.966 mmol, 60% from **4**) as a colorless oil: R<sub>f</sub> 0.32 (2:1 hexanes-ethyl acetate);  $[\alpha]^{23}_{D}$  = +16 (*c* 0.78, CHCl<sub>3</sub>); IR (neat): 2870, 1720, 1610, 1510, 1245 cm<sup>-1</sup>; <sup>1</sup>H NMR (CDCl<sub>3</sub>, 500 MHz):  $\delta$  7.24 (d, *J* = 8.5 Hz, 2H), 6.88 (d, *J* = 8.5 Hz, 2H), 4.44 (d, *J* = 11.8 Hz, 1H), 4.39 (d, *J* = 11.8 Hz, 1H), 4.07 (m, 2H), 3.80 (m, 5H), 3.58 (ddd, *J* = 8.8, 8.8, 5 Hz, 1H), 3.51 (m, 2H), 2.55 (ddd, *J* = 14.5, 2.3, 2.3 Hz, 1H), 2.38 (ddd, *J* = 14.5, 2.3, 2.3 Hz, 1H), 1.81 (dddd, *J* = 14.1, 8.5, 5.2, 5.2 Hz, 1H), 1.80 (dddd, *J* = 14.2, 8.4, 5.8, 4.1 Hz, 1H), 1.40 (s, 3H), 1.35 (s, 3H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 75 MHz):  $\delta$  206.6, 159.2, 130.3, 129.4, 113.8, 109.9, 77.6, 74.3, 72.7, 66.7, 65.5, 55.3, 47.8, 43.8, 36.4, 26.6, 25.1; HRMS calcd for C<sub>20</sub>H<sub>28</sub>O<sub>6</sub> [M]+: 364.1886, found 364.1895.



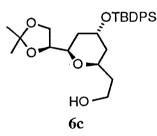
### Axial alcohol (6a).

To a soln of **6** (2.850 g, 7.820 mmol) in THF (260 mL) at -78 °C was added a soln of potassium tri-*sec*-butylborohydride in THF (11.7 mL of a 1.0 M soln, 12 mmol). The soln was stirred for 30 min below -70 °C then warmed to -25 °C over 2 h. The reaction was quenched with aqueous NaOH (47 mL of a 1.0 M soln, 47 mmol) and aqueous H<sub>2</sub>O<sub>2</sub> (21 mL, 30 wt%) then warmed to 0 °C and stirred for 20 min. The mixture was diluted with water (600 mL) and extracted with CH<sub>2</sub>Cl<sub>2</sub> (4 X 90 mL) and the combined organic phases were dried over MgSO<sub>4</sub>, filtered and concentrated by rotary evaporation. Flash chromatography (1:1 hexanes-ethyl acetate) afforded **6a** (2.785 g, 7.600 mmol, 97%) as a colorless oil: R<sub>f</sub> 0.34 (1:1 hexanes-ethyl acetate);  $[\alpha]^{23}$ D = +15.9 (*c* 1.12, CHCl<sub>3</sub>); IR (neat): 3450, 2900, 1510 cm<sup>-1</sup>; <sup>1</sup>H NMR (CDCl<sub>3</sub>, 300 MHz):  $\delta$  7.25 (d, *J* = 8.9 Hz, 2H), 6.87 (d, *J* = 8.9 Hz, 2H), 4.44 (d, *J* = 11.6 Hz, 1H), 4.40 (d, *J* = 11.6 Hz, 1H), 4.28 (m, 1H), 4.03 (dd, *J* = 8.1, 6.3 Hz, 1H), 3.92 (m, 2H), 3.81 (dd, *J* = 8.1, 5.4 Hz, 1H), 3.80 (s, 3H), 3.69 (ddd, *J* = 11.7, 6.9, 2.1 Hz, 1H), 3.53 (m, 2H), 1.84 (dddd, *J* = 14, 2.4, 2.4, 2.4 Hz, 1H) 1.59-1.76 (m, 3H), 1.42-1.55 (m, 2H), 1.40 (s, 3H), 1.34 (s, 3H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 75 MHz):  $\delta$  159.1, 130.5, 129.3, 113.7, 109.3, 78.1, 72.7, 72.6, 68.8, 67.0, 66.3, 64.1, 55.2, 38.7, 36.2, 34.8, 26.6, 25.3; HRMS calcd for C<sub>20</sub>H<sub>30</sub>O<sub>6</sub> [M+H]<sup>+</sup> 367.2121, found 367.2091.



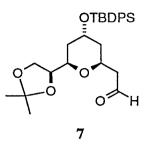
## TBDPS ether (6b).

To a soln of **6a** (2.497 g, 6.814 mmol) in DMF (34 mL) was added imidazole (3.71 g, 54.5 mmol), 4-dimethylaminopyridine (100 mg, 819 µmol) and *t*-butylchlorodiphenylsilane (7.10 mL, 27.3 mmol). The mixture was stirred at rt for 18 h then diluted with water (100 mL) and extracted with CH<sub>2</sub>Cl<sub>2</sub> (4 X 75 mL) and the combined organic phases were dried over MgSO<sub>4</sub>, filtered and concentrated by rotary evaporation. Flash chromatography (20:1-5:1 hexanes-ethyl acetate) afforded **6b** (3.853 g, 6.370 mmol, 93%) as a colorless oil: R<sub>f</sub> 0.32 (5:1 hexanes-ethyl acetate);  $[\alpha]^{23}_{D} = +7.9$  (*c* 1.26, CHCl<sub>3</sub>); IR (neat): 3090, 2900, 1510 cm<sup>-1</sup>; <sup>1</sup>H NMR (CDCl<sub>3</sub>, 300 MHz):  $\delta$  7.65 (m, 4H), 7.33-7.45 (m, 6H), 7.27 (d, *J* = 8.7 Hz, 2H), 6.87 (d, *J* = 8.7 Hz, 2H), 4.47 (d, *J* = 11.4 Hz, 1H), 4.41 (d, *J* = 11.4 Hz, 1H), 4.23 (m, 1H), 3.96-4.15 (m, 2H), 3.88 (m, 3H), 3.81 (s, 3H), 3.54 (m, 2H), 1.51-1.84 (m, 4H), 1.41 (s, 3H), 1.35 (s, 3H), 1.21-1.34 (m, 2H), 1.09 (s, 9H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 75 MHz):  $\delta$  159.1, 135.73, 135.69, 134.2, 134.0, 130.7, 129.67, 129.65, 129.2, 127.6, 113.7, 109.3, 78.2, 72.9, 72.6, 69.4, 66.8, 66.6, 65.7, 55.2, 39.1, 36.3, 35.2, 27.0, 26.7, 25.4, 19.3; HRMS calcd for C<sub>36</sub>H<sub>48</sub>O<sub>6</sub>Si [M-H]<sup>+</sup> 603.3143, found 603.3160.



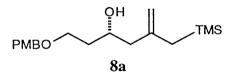
## Alcohol (6c).

To a soln of **6b** (547 mg, 949  $\mu$ mol) in CH<sub>2</sub>Cl<sub>2</sub> (48 mL) was added t-BuOH (4.8 mL), aq. phosphate buffer (480  $\mu$ L, pH 7) and DDQ (431 mg, 1.90 mmol). The mixture was stirred at rt for 30 min then additional phosphate buffer (400  $\mu$ L, pH 7) and DDQ (140 mg, 617  $\mu$ mol) were added and stirring continued for 30 min. The reaction mixture was diluted Et<sub>2</sub>O (200 mL), washed with aqueous NaHCO<sub>3</sub> (100 mL), water (75 mL) and brine (75 mL), and the combined aqueous phases were extracted with Et<sub>2</sub>O (75 mL). The combined organic phases were dried over MgSO<sub>4</sub>, filtered through a plug of silica gel and concentrated by rotary evaporation. Flash chromatography (3:1-2:1 hexanes-ethyl acetate) afforded **6c** (444 mg, 916  $\mu$ mol, 97%) as a colorless oil: Rf 0.35 (2:1 hexanes-ethyl acetate); <sup>1</sup>H NMR (CDCl<sub>3</sub>, 300 MHz):  $\delta$  7.64 (m, 4H), 7.39 (m, 6H), 4.21 (m, 2H), 3.90-4.05 (m, 4H), 3.76-3.90 (m, 2H), 2.65 (m, 1H), 1.46-1.78 (m, 4H), 1.43 (s, 3H), 1.35 (s, 3H), 1.22-1.41 (m, 2H), 1.08 (s, 9H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 75 MHz):  $\delta$  135.7, 135.6, 134.0, 133.8, 129.75, 129.73, 127.6, 109.3, 77.9, 72.9, 72.6, 66.1, 65.3, 61.6, 38.8, 37.6, 34.9, 27.0, 26.6, 25.2, 19.2; HRMS calcd for C<sub>28</sub>H<sub>40</sub>O<sub>5</sub>Si [M+H]<sup>+</sup> 485.2723, found 485.2734.



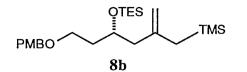
### Aldehyde (7).

To a soln of 6c (175 mg, 361 µmol) in CH<sub>2</sub>Cl<sub>2</sub> (4 mL) at 0 °C was added NaHCO<sub>3</sub> (300 mg, 3.57 mmol) and Dess-Martin periodinane (230 mg, 542 µmol). The mixture was warmed to rt and stirred for 45 min before additional NaHCO3 (150 mg, 1.79 mmol) and Dess-Martin periodinane (230 mg, 542 µmol) were added. Stirring was continued for 1.25 h before the reaction mixture was diluted Et<sub>2</sub>O (25 mL), saturated aqueous NaHCO<sub>3</sub> (10 mL) and 10% aqueous Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> (10 mL) and allowed to stir for an additional 30 min. The layers were separated and the organic phase was washed with water (15 mL) and brine (15 mL), and the combined aqueous phases were extracted with Et<sub>2</sub>O (20 mL). The combined organic phases were dried over MgSO<sub>4</sub>, filtered and concentrated by rotary evaporation. Flash chromatography (6:1 hexanesethyl acetate) afforded 7 (139 mg, 288 µmol, 80%) as a colorless oil: Rf 0.64 (2:1 hexanes-ethyl acetate); <sup>1</sup>H NMR (CDCl<sub>3</sub>, 300 MHz):  $\delta$  9.79, (t, J = 2.4 Hz, 1H), 7.66, (m, 4H), 7.39 (m, 6H), 4.52 (dddd, J = 11.1, 8.7, 4.5, 2.1 Hz, 1H), 4.26 (m, 1H), 3.85-4.05 (m, 4H), 2.53 (ddd, J = 16.2, 8.6, 2.8 Hz, 1H), 2.38 (ddd, J = 16.2, 4.5, 1.8 Hz, 1H), 1.83 (m, 1H), 1.59 (m, 1H), 1.42 (s 3H), 1.35 (s, 3H), 1.25-1.40 (m, 2H), 1.10 (s, 9H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 75 MHz): δ 201.2, 135.7, 135.6, 133.8, 133.6, 129.8, 127.6, 109.3, 77.9, 73.0, 67.7, 66.6, 65.3, 49.4, 38.5, 34.6, 27.0, 26.6, 25.3, 19.2; HRMS calcd for C<sub>28</sub>H<sub>38</sub>O<sub>5</sub>Si [M+H]<sup>+</sup> 483.2566, found 483.2564.



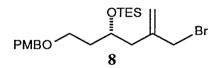
### Hydroxy silane (8a).

To a soln of (S)-4-(4-methoxybenzyloxy)butan-1,2-diol (1.076 g, 4.755 mmol) in THF (60 mL) at 0 °C was added NaH (285 mg, 11.9 mmol) and the mixture warmed to rt and stirred for 1 h. The mixture was cooled to 0 °C and N-tosylimidazole (1.057 g, 4.755 mmol) was added in three equal portions over 20 min. The mixture was warmed to rt and stirred for 40 min before CuI (90 mg, 470 µmol) was added and the mixture cooled to -40 °C. A soln of Grignard reagent prepared from 2-bromo-3-(trimethylsilyl)propene (2.87 mL, 16.6 mmol), magnesium (520 mg, 21.4 mmol) and THF (25 mL) was added. The mixture was warmed to -10 °C over 1.3 h and then quenched with aqueous NaHCO<sub>3</sub> (2 mL). The mixture was diluted with ethyl acetate (150 mL), washed with water (75 mL) and brine (75 mL), and the combined aqueous phases were extracted with ethyl acetate (75 mL). The combined organic phases were dried over MgSO4, filtered through a plug of silica gel and concentrated by rotary evaporation. Flash chromatography (5:1 hexanes-ethyl acetate) afforded 8a (838 mg, 2.60 mmol, 55%) as a colorless oil: <sup>1</sup>H NMR (C<sub>6</sub>D<sub>6</sub>, 500 MHz):  $\delta$  7.18 (d, J = 8.5 Hz, 2H), 6.78 (d, J = 8.5 Hz, 2H), 4.74 (m, 1H), 4.66 (m, 1H), 4.29 (d, J = 11.8 Hz, 1H), 4.26 (d, J = 11.8 Hz, 1H), 4.03 (m, 1H), 3.59 (ddd, J = 9.5, 5.8, 5.8Hz, 1H), 3.49 (ddd, J = 9.5, 6, 6 Hz, 1H), 3.29 (s, 3H), 2.52 (d, J = 3 Hz, 1H), 2.21 (ddd, J = 313.5, 8, 1 Hz, 1H), 2.14 (ddd, J = 13.5, 5, 1 Hz, 1H), 1.75 (m, 2H), 1.53 (dd, J = 13, 1 Hz, 1H), 1.49 (dd, J = 13, 1 Hz, 1H), 0.01 (s, 9H).



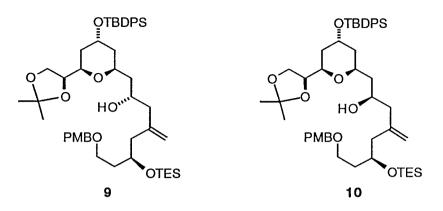
## TES ether silane (8b).

To a soln of **8a** (601 mg, 1.86 mmol) in CH<sub>2</sub>Cl<sub>2</sub> (15 mL) was added imidazole (387 mg, 5.68 mmol), 4-dimethylaminopyridine (16 mg, 130 µmol), and chlorotriethylsilane (410 µL, 2.44 mmol). The mixture was stirred at rt for 1 h, diluted with Et<sub>2</sub>O (80 mL), washed with water (25 mL) and brine (25 mL), and the combined aqueous phases were extracted with Et<sub>2</sub>O (20 mL). The combined organic phases were dried over MgSO<sub>4</sub>, filtered and concentrated by rotary evaporation. Flash chromatography (20:1 hexanes-ethyl acetate) afforded **8b** (753 mg, 1.72 mmol, 93%) as a colorless oil: <sup>1</sup>H NMR (CDCl<sub>3</sub>, 300 MHz):  $\delta$  7.26 (d, *J* = 8.7 Hz, 2H), 6.87 (d, *J* = 8.7 Hz, 2H), 4.61 (m, 1H), 4.56 (m, 1H), 4.44 (d, *J* = 11.4 Hz, 1H), 4.39 (d, *J* = 11.4 Hz, 1H), 3.97 (dddd, *J* = 7.5, 7.5, 5.7, 4.2 Hz, 1H), 3.80 (s, 3H), 3.53 (t, *J* = 6.6 Hz, 2H), 2.18 (ddd, *J* = 13.5, 5.7, 0.9 Hz, 1H), 2.06 (ddd, *J* = 13.5, 7.5, 0.6 Hz, 1H), 1.88 (dddd, *J* = 14, 7.1, 7.1, 4.1 Hz, 1H), 1.63 (dddd, *J* = 14, 7.7, 6.1, 6.1 Hz, 1H), 1.54 (dd, *J* = 13.5, 0.9 Hz, 1H), 1.48 (dd, *J* = 13.2, 0.9 Hz, 1H), 0.95 (t, *J* = 7.8 Hz, 9H), 0.59 (q, *J* = 7.8 Hz, 6H), 0.01 (s, 9H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 75 MHz):  $\delta$  159.1, 144.0, 130.7, 129.3, 113.7, 110.0, 72.6, 68.5, 66.9, 55.3, 46.9, 36.9, 27.1, 7.0, 5.0, -1.4.



## TES bromide (8).

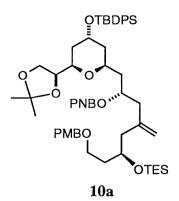
To a soln of **8b** (157 mg, 359 µmol) in ethyl acetate (35 mL) at ca. -50 °C was added bromine dropwise until a light yellow color persisted. A soln of imidazole (100 mg, 1.47 mmol) in ethyl acetate (3 mL) was added quickly and the yellow color dissipated. The reaction mixture was warmed to 0 °C, filtered through a plug of silica gel and washed with aqueous NaHCO<sub>3</sub> (15 mL) and brine (15 mL), and the combined aqueous phases were extracted with ethyl acetate (15 mL). The combined organic phases were dried over MgSO<sub>4</sub>, filtered and concentrated by rotary evaporation. Flash chromatography (25:1 hexanes-ethyl acetate) afforded **8** (122 mg, 275 µmol, 77%) as a colorless oil: R<sub>f</sub> 0.38 (10:1 hexanes-ethyl acetate); <sup>1</sup>H NMR (CDCl<sub>3</sub>, 300 MHz):  $\delta$  7.25 (d, *J* = 8.7 Hz, 2H), 6.88 (d, *J* = 8.7 Hz, 2H), 5.23 (d, *J* = 1.2 Hz, 1H), 4.98 (d, *J* = 1.2 Hz, 1H), 4.44 (d, *J* = 11.4 Hz, 1H), 4.39 (d, *J* = 11.4 Hz, 1H), 3.95-4.05 (m, 3H), 3.81 (s, 3H), 3.51 (t, *J* = 6.3 Hz, 2H), 2.39 (dd, *J* = 6.3, 0.9 Hz, 2H), 1.61-1.83 (m, 2H), 0.95 (t, *J* = 8 Hz, 9H), 0.60 (q, *J* = 8 Hz, 6H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 75 MHz):  $\delta$  159.1, 142.6, 130.6, 129.3, 118.0, 113.7, 72.7, 68.1, 66.6, 55.3, 41.4, 37.4, 36.9, 6.9, 5.0; HRMS calcd for C<sub>21</sub>H<sub>35</sub>O<sub>3</sub>SiBr [M-H]<sup>+</sup> 441.1471, found 441.1453.



# Coupled products (9 and 10).

To a suspension of CrCl<sub>2</sub> (containing 1% w/w NiCl<sub>2</sub>, 370 mg, 3.01 mmol) in THF (2 mL) was added a soln of 8 (446 mg, 1.01 mmol) in THF (4 mL) followed by a soln of 7 (200 mg, 414 µmol) in THF (4 mL). The mixture was stirred for 3.5 h then quenched with saturated aqueous NaHCO<sub>3</sub> (2 mL). The mixture was diluted with ethyl acetate (75 mL), washed with water (25 mL) and brine (30 mL), and the combined aqueous phases were extracted with ethyl acetate (2 X 20 mL). The combined organic phases were dried over MgSO<sub>4</sub>, filtered through a plug of silica gel and concentrated by rotary evaporation. Flash chromatography (10:1-6:1 hexanes-ethyl acetate) afforded 9 (163 mg, 192  $\mu$ mol, 46%) and and 10 (117 mg, 138  $\mu$ mol, 33%) as colorless oils. Data for 9: Rf 0.24 (5:1 hexanes-ethyl acetate); <sup>1</sup>H NMR (CDCl<sub>3</sub>, 300 MHz): δ 7.65 (m, 4H), 7.39 (m, 6H), 7.26 (d, J = 8.4 Hz, 2H), 6.88 (d, J = 8.4 Hz, 2H), 4.90 (s, 2H), 4.45 (d, J =11.7 Hz, 1H), 4.40 (d, J = 11.7 Hz, 1H), 4.33 (m, 1H), 4.26 (m, 1H), 3.90-4.06 (m, 6H), 3.80 (s, 3H), 3.53 (t, J = 6.5 Hz, 2H), 2.82 (d, J = 3.3 Hz, 1H), 2.24 (m, 4H), 1.43 (s, 3H), 1.35 (s, 3H), 1.24-1.90 (m, 8H), 1.09 (s, 9H), 0.96 (t, J = 7.9 Hz, 9H), 0.60 (g, J = 7.9 Hz, 6H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 75 MHz): δ 159.0, 143.6, 135.7, 135.6, 134.0, 133.9, 130.6, 129.68, 129.66, 129.2, 127.6, 114.9, 113.7, 109.3, 78.0, 73.0, 72.6, 69.8, 68.5, 66.6, 66.5, 66.4, 65.6, 55.2, 44.8, 44.2, 41.8, 38.6, 36.9, 34.9, 27.0, 26.6, 25.2, 19.2, 6.9, 5.0; HRMS calcd for C<sub>49</sub>H<sub>74</sub>O<sub>8</sub>Si<sub>2</sub> [M+H]<sup>+</sup> 847.5003, found 847.4938.

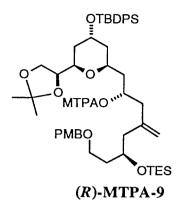
Data for **10**: R<sub>f</sub> 0.19 (5:1 hexanes-ethyl acetate); <sup>1</sup>H NMR (CDCl<sub>3</sub>, 300 MHz):  $\delta$  7.65 (m, 4H), 7.39 (m, 6H), 7.26 (d, J = 8.7 Hz, 2H), 6.87 (d, J = 8.7 Hz, 2H), 4.90 (s, 2H), 4.45 (d, J = 11.4 Hz, 1H), 4.40 (d, J = 11.4 Hz, 1H), 4.23 (m, 2H), 3.88-4.08 (m, 6H), 3.80 (s, 3H), 3.57 (s, 1H), 3.54 (t, J = 6.6 Hz, 2H), 2.10-2.34 (m, 4H), 1.47-1.91 (m, 6H), 1.43 (s, 3H), 1.35 (s, 3H), 1.29 (m, 2H), 1.09 (s, 9H), 0.96 (t, J = 7.8 Hz, 9H), 0.61 (q, J = 7.8 Hz, 6H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 75 MHz):  $\delta$  159.0, 143.3, 135.7, 135.6, 133.9, 133.7, 130.6, 129.75, 129.72, 129.2, 127.63, 127.62, 114.9, 113.7, 109.3, 77.8, 73.4, 72.8, 72.6, 69.9, 68.2, 66.7, 66.3, 65.2, 55.2, 44.5, 42.1, 39.2, 36.7, 34.9, 27.0, 26.6, 25.2, 19.2, 6.9, 5.0; HRMS calcd for C<sub>49</sub>H<sub>74</sub>O<sub>8</sub>Si<sub>2</sub> [M+H]<sup>+</sup> 847.5003, found 847.5033.



## p-Nitrobenzoate (10a).

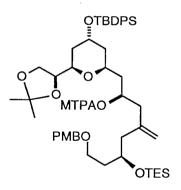
To a soln of 10 (78 mg, 92 µmol) in benzene (3 mL) was added PPh<sub>3</sub> (121 mg, 461 µmol), 4nitrobenzoic acid (69 mg, 410  $\mu$ mol) and diethyl azodicarboxylate (73  $\mu$ L, 460  $\mu$ mol). The mixture was stirred for 1.5 h then diluted with ethyl acetate (35 mL), washed with water (10 mL), and brine (10 mL), and the combined aqueous phases were extracted with ethyl acetate (10 mL). The combined organic phases were dried over MgSO<sub>4</sub>, filtered through a plug of silica gel and concentrated by rotary evaporation. Flash chromatography (7:1 hexanes-ethyl acetate) afforded samples of impure (42 mg) and pure 10a (60 mg, >100% combined) as colorless oils: Rf 0.70 (2:1 hexanes-ethyl acetate); <sup>1</sup>H NMR (CDCl<sub>3</sub>, 300 MHz):  $\delta$  8.25 (d, J = 8.9 Hz, 2H), 8.19 (d, J = 8.9 Hz, 2H), 7.56 (m, 4H), 7.39 (m, 2H), 7.32 (m, 4H), 7.24 (d, J = 8.6 Hz, 2H), 6.86 (d, J = 8.6 Hz, 2H), 5.60 (m, 1H), 4.85 (s, 1H), 4.82 (s, 1H), 4.43 (d, J = 11.6 Hz, 1H), 4.39 (d, J = 11.6 Hz, 1H), 4.23 (m, 1H), 3.82-4.08 (m, 5H), 3.79 (s, 3H), 3.74 (m, 1H), 3.52 (t, J = 6.8 Hz, 2H), 2.16-2.49 (m, 4H), 1.59-1.86 (m, 5H), 1.46 (m, 1H), 1.37 (s, 3H), 1.34 (s, 3H), 1.30 (m, 2H), 0.92 (m, 18H), 0.58 (q, J = 7.8 Hz, 6H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 75 MHz):  $\delta$  163.8, 159.0, 150.3, 142.0, 136.0, 135.6, 135.5, 133.9, 133.7, 130.64, 130.58, 129.71, 129.68, 129.2, 127.6, 123.4, 115.5, 113.7, 109.2, 77.9, 73.5, 72.6, 70.7, 68.5, 68.3, 67.1, 66.7, 65.6, 55.2, 44.3, 42.3, 40.8, 39.1, 36.9, 34.9, 26.8, 26.6, 25.2, 19.1, 6.9, 5.0.

To a soln of impure 10a (102 mg, ca. 92  $\mu$ mol) in MeOH (6 mL) and CH<sub>2</sub>Cl<sub>2</sub> (600  $\mu$ L) was added K<sub>2</sub>CO<sub>3</sub> (20 mg, 140  $\mu$ mol). The mixture was stirred for 22 h then diluted with ethyl acetate (60 mL), washed with water (10 mL) and brine (10 mL), and the combined aqueous phases were extracted with ethyl acetate (20 mL). The combined organic phases were dried over MgSO<sub>4</sub>, filtered and concentrated by rotary evaporation. Flash chromatography (7:1-6:1 hexanes-ethyl acetate) afforded 9 (59 mg, 70  $\mu$ mol, 76% from 10) that matched 9 prepared from 7 and 8 above.



## (R)-Mosher Ester of 9 ((R)-MTPA-9).

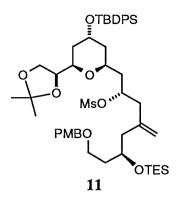
To a soln of **9** (6.1 mg, 7.2 µmol) in CH<sub>2</sub>Cl<sub>2</sub> (800 µL) was added 4-dimethylaminopyridine (13 mg, 110 µmol) and (*S*)- $\alpha$ -methoxy- $\alpha$ -(trifluoromethyl)phenylacetyl chloride (6 µL, 30 µmol). The mixture was stirred for 30 min and then diluted with ethyl acetate (10 mL), washed with water (3 mL) and brine (3 mL), and the combined aqueous phases were extracted with ethyl acetate (5 mL). The combined organic phases were dried over MgSO<sub>4</sub>, filtered and concentrated by rotary evaporation. Flash chromatography (6:1 hexanes-ethyl acetate) afforded (*R*)-**MTPA-9** (5.0 mg, 4.7 µmol, 65%) as a pale yellow oil: <sup>1</sup>H NMR (CDCl<sub>3</sub>, 300 MHz):  $\delta$  7.59 (m, 6H), 7.38 (m, 9H), 7.24 (d, *J* = 8.6 Hz, 2H), 6.85 (d, *J* = 8.6 Hz, 2H), 5.55 (m, 1H), 4.85 (s, 2H), 4.42 (d, *J* = 11.7 Hz, 1H), 4.38 (d, *J* = 11.7 Hz, 1H), 4.17 (m, 1H), 3.90-4.06 (m, 4H), 3.86 (m, 1H), 3.78 (s, 3H), 3.76 (m, 1H), 3.53 (s, 3H), 3.51 (m, 2H), 2.47 (dd, *J* = 13.8, 6.6 Hz, 1H), 2.14-2.31 (m, 3H), 1.79 (m, 2H), 1.64 (m, 3H), 1.45 (m, 1H), 1.41 (s, 3H), 1.34 (s, 3H), 1.26 (m, 2H), 1.02 (s, 9H), 0.93 (t, *J* = 7.9 Hz, 9H), 0.56 (q, *J* = 7.9 Hz, 6H).



(*R*)-MTPA-10

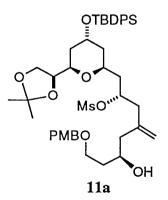
#### (R)-Mosher Ester of 10 ((R)-MTPA-10)

Compound **10** was treated as described above for **9** to afford (**R**)-**MTPA-10** (97%) as a pale yellow oil: <sup>1</sup>H NMR (CDCl<sub>3</sub>, 300 MHz):  $\delta$  7.62 (m, 4H), 7.52 (m, 2H), 7.38 (m, 9H), 7.24 (d, J = 8.4 Hz, 2H), 6.86 (d, J = 8.4 Hz, 2H), 5.40 (m, 1H), 4.76 (s, 2H), 4.43 (d, J = 11.4 Hz, 1H), 4.38 (d, J = 11.4 Hz, 1H), 4.20 (m, 1H), 3.81-4.10 (m, 6H), 3.79 (s, 3H), 3.51 (s, 3H), 3.49 (m, 2H), 2.32 (m, 2H), 2.17 (dd, J = 14.1, 6.3 Hz, 1H), 2.09 (dd, J = 13.8, 6.9 Hz, 1H), 1.54-1.91 (m, 6H), 1.40 (s, 3H), 1.33 (s, 3H), 1.26 (m, 2H), 1.05 (s, 9H), 0.94 (t, J = 7.9 Hz, 9H), 0.58 (q, J = 7.9 Hz, 6H).



### Mesylate (11).

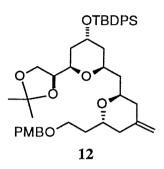
To a soln of **9** (160 mg, 189 µmol) in CH<sub>2</sub>Cl<sub>2</sub> (15 mL) at 0 °C was added Et<sub>3</sub>N (260 µL, 1.87 mmol) and MsCl (73 µL, 940 µmol). The mixture was stirred at 0 °C for 20 min and then quenched with saturated aqueous NaHCO<sub>3</sub> (3 mL). The mixture was diluted with ethyl acetate (70 mL), washed with water (15 mL) and brine (15 mL), and the combined aqueous phases were extracted with ethyl acetate (15 mL). The combined organic phases were dried over MgSO<sub>4</sub>, filtered and concentrated by rotary evaporation. Flash chromatography (7:1 hexanes-ethyl acetate) afforded **11** (168 mg, 182 µmol, 96%) as a colorless oil: R<sub>f</sub> 0.64 (2:1 hexanes-ethyl acetate); <sup>1</sup>H NMR (C<sub>6</sub>D<sub>6</sub>, 300 MHz):  $\delta$  7.72 (m, 4H), 7.21 (m, 8H), 6.78 (d, *J* = 8.4 Hz, 2H), 5.28 (m, 1H), 4.87 (s, 1H), 4.82 (s, 1H), 4.34 (m, 4H), 4.14 (m, 3H), 4.09 (dd, *J* = 8.4, 6.3 Hz, 1H), 3.89 (m, 1H), 3.44-3.61 (m, 2H), 3.27 (s, 3H), 2.55 (m, 1H), 2.51 (s, 3H), 2.24-2.40 (m, 3H), 1.70-1.98 (m, 3H), 1.54 (m, 1H), 1.45 (s, 3H), 1.30 (s, 3H), 1.16 (s, 9H), 1.01 (t, *J* = 7.8 Hz, 9H), 0.84-1.39 (m, 4H), 0.64 (q, *J* = 7.8 Hz, 6H); <sup>13</sup>C NMR (C<sub>6</sub>D<sub>6</sub>, 75 MHz):  $\delta$  159.3, 142.2, 135.8, 135.7, 134.3, 134.0, 130.9, 129.7, 129.2, 127.8, 127.7, 115.9, 113.7, 108.9, 78.4, 77.1, 73.0, 72.5, 68.2, 67.1, 66.3, 65.8, 54.4, 44.2, 43.0, 40.9, 39.0, 37.7, 37.5, 35.7, 26.9, 26.6, 25.5, 19.2, 7.0, 5.2; HRMS calcd for C<sub>50</sub>H<sub>76</sub>O<sub>10</sub>Si<sub>2</sub>S [M+Na]<sup>+</sup> 947.45954, found 947.4560.



### Hydroxy mesylate (11a).

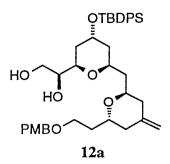
To a soln of **11** (167 mg, 180 µmol) in THF (8 mL) at 0 °C was added a soln of tetra-*n*-butylammonium fluoride in THF (270 µL of a 1.0 M soln, 270 µmol). The soln was stirred at 0 °C for 45 min then diluted with ethyl acetate (60 mL), washed with water (10 mL) and brine (10 mL), and the combined aqueous phases were extracted with ethyl acetate (10 mL). The combined organic phases were dried over MgSO<sub>4</sub>, filtered and concentrated by rotary evaporation. Flash chromatography (2:1 hexanes-ethyl acetate); <sup>1</sup>H NMR (C<sub>6</sub>D<sub>6</sub>, 300 MHz):  $\delta$  7.72 (m, 4H), 7.17 (m, 8H), 6.75 (d, *J* = 8.4 Hz, 2H), 5.31 (m, 1H), 4.84 (s, 1H), 4.81 (s, 1H), 4.35 (m, 1H), 4.28 (dd, *J* = 8.4, 6 Hz, 1H), 4.10-4.22 (m, 4H), 4.03 (dd, *J* = 8.1, 6.6 Hz, 1H), 3.97 (m, 1H), 3.86 (q, *J* =

6.4 Hz, 1H), 3.36-3.52 (m, 2H), 3.27 (s, 3H), 2.73 (m, 1H), 2.61 (m, 1H), 2.56 (s, 3H), 2.10-2.36 (m, 3H), 1.88 (m, 1H), 1.48-1.70 (m, 3H), 1.46 (s, 3H), 1.28 (s, 3H), 1.15 (s, 9H), 0.84-1.41 (m, 4H); <sup>13</sup>C NMR (C<sub>6</sub>D<sub>6</sub>, 75 MHz):  $\delta$  159.4, 142.6, 135.8, 135.7, 134.3, 134.0, 130.4, 129.7, 129.1, 127.8, 127.7, 115.6, 113.8, 108.9, 78.3, 77.4, 72.8, 72.7, 69.0, 68.3, 67.1, 66.8, 65.8, 54.4, 44.1, 42.9, 40.6, 38.9, 37.7, 36.7, 35.7, 26.9, 26.6, 25.4, 19.2; HRMS calcd for C<sub>44</sub>H<sub>62</sub>O<sub>10</sub>SiS [M+Na]<sup>+</sup> 833.3731, found 833.3718.



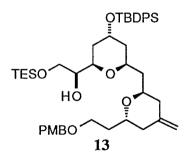
#### Bispyran acetonide (12).

A soln of **11a** (136 mg, 168 µmol) in CH<sub>3</sub>CN (11 mL) and Et<sub>3</sub>N (1 mL) was heated to reflux for 47 h. The soln was cooled to rt, diluted with ethyl acetate (60 mL), washed with water (10 mL), and brine (10 mL), and the combined aqueous phases were extracted with ethyl acetate (2 X 10 mL). The combined organic phases were dried over MgSO<sub>4</sub>, filtered, and concentrated by rotary evaporation. Flash chromatography (6:1 hexanes-ethyl acetate) afforded **12** (103 mg, 144 µmol, 86%) as a pale yellow oil: Rf 0.69 (2:1 hexanes-ethyl acetate); <sup>1</sup>H NMR (CDCl<sub>3</sub>, 500 MHz):  $\delta$  7.67 (m, 4H), 7.43 (m, 2H), 7.38 (t, *J* = 7.5 Hz, 4H), 7.25 (d, *J* = 8.5 Hz, 2H), 6.87 (d, *J* = 8.5 Hz, 2H), 4.79 (s, 1H), 4.77 (s, 1H), 4.43 (d, *J* = 11.5 Hz, 1H), 4.39 (d, *J* = 11.5 Hz, 1H), 4.25 (m, 1H), 4.03 (m, 3H), 3.92 (m, 4H), 3.80 (s, 3H), 3.52 (m, 2H), 2.42 (dd, *J* = 13.5, 4.5 Hz, 1H), 2.34 (dd, *J* = 13.0, 4 Hz, 1H), 2.07 (dd, *J* = 13.5, 5.5 Hz, 1H), 2.02 (dd, *J* = 13.5, 7.5 Hz, 1H), 1.88 (m, 2H), 1.74 (m, 2H), 1.55 (m, 2H), 1.44 (s, 3H), 1.37 (s, 3H), 1.31 (m, 2H), 1.09 (s, 9H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 75 MHz):  $\delta$  159.0, 142.1, 135.7, 134.0, 133.9, 130.6, 129.7, 129.1, 127.6, 113.7, 110.2, 109.2, 78.1, 73.1, 72.6, 69.04, 68.96, 68.92, 66.9, 66.7, 65.7, 55.2, 40.0, 39.1, 38.8, 35.2, 34.1, 27.0, 26.7, 25.3, 19.2; HRMS calcd for C4<sub>3</sub>H<sub>58</sub>O<sub>7</sub>Si [M+H]<sup>+</sup> 715.4032, found 715.3990.



## Bispyran diol (12a).

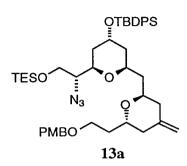
To a soln of 12 (103 mg, 144  $\mu$ mol) in MeOH (10 mL) was added TsOH•H<sub>2</sub>O (5 mg, 30  $\mu$ mol). The soln was stirred at rt for 7 h, then diluted with ethyl acetate (90 mL), washed with saturated aqueous NaHCO<sub>3</sub> (10 mL), water (10 mL), and brine (10 mL), and the combined aqueous phases were extracted with ethyl acetate (2 X 10 mL). The combined organic phases were dried over MgSO<sub>4</sub>, filtered and concentrated by rotary evaporation. Flash chromatography (1:1 hexanesethyl acetate) afforded 12a (94.6 mg, 140  $\mu$ mol, 97%) as a pale yellow oil: Rf 0.03 (2:1 hexanesethyl acetate); <sup>1</sup>H NMR (CDCl<sub>3</sub>, 500 MHz):  $\delta$  7.66 (d, J = 7.5 Hz, 4H), 7.43 (m, 2H), 7.38 (t, J = 7.5 Hz, 4H), 7.25 (d, J = 8.8 Hz, 2H), 6.87 (d, J = 8.8 Hz, 2H), 4.78 (s, 1H), 4.76 (s, 1H), 4.44 (d, J = 11.5 Hz, 1H), 4.40 (d, J = 11.5 Hz, 1H), 4.26 (m, 1H), 4.06 (m, 2H), 3.97 (m, 2H), 3.80(s, 3H), 3.64 (m, 2H), 3.54 (m, 3H), 2.66 (m, 2H), 2.38 (dd, J = 13.5, 4.5 Hz, 1H), 2.34 (dd, J = 13.5, 4.5 Hz, 2H), 2H 13.5, 4 Hz, 1H), 2.02 (m, 2H), 1.90 (dddd, J = 14, 6.7, 6.7, 6.7 Hz, 1H), 1.80 (ddd, J = 14.3, 7.3, 7.3 Hz, 1H), 1.72 (dddd, J = 13.1, 6.6, 6.6, 6.6 Hz, 1H), 1.59 (m, 2H), 1.47 (ddd, J = 14, 5.8, 5.8 Hz, 1H), 1.39 (ddd, J = 13.5, 11.5, 2.5 Hz, 1H), 1.28 (m, 1H), 1.10 (s, 9H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 75 MHz): δ 159.0, 141.9, 135.7, 133.9, 130.6, 129.7, 129.2, 127.6, 113.7, 110.3, 74.3, 73.5, 72.5, 69.8, 69.3, 69.2, 66.6, 65.7, 63.5, 55.2, 39.7, 39.4, 39.3, 39.0, 34.3, 33.7, 27.0, 19.2; HRMS calcd for C<sub>40</sub>H<sub>54</sub>O<sub>7</sub>Si [M+H]<sup>+</sup> 675.3719, found 675.3685.



## **Bispyran TES ether (13).**

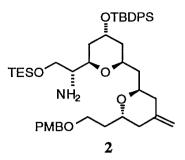
To a soln of **12a** (94.4 mg, 140  $\mu$ mol) in CH<sub>2</sub>Cl<sub>2</sub> (5 mL) was added imidazole (28 mg, 410  $\mu$ mol). The soln was cooled to -78 °C, chlorotriethylsilane (28  $\mu$ L, 170  $\mu$ mol) was added and the mixture was stirred for 30 min. The mixture was diluted with Et<sub>2</sub>O (30 mL), washed with water (5 mL) and brine (5 mL), and the combined aqueous phases were extracted with Et<sub>2</sub>O (2 X 5 mL). The combined organic phases were dried over MgSO<sub>4</sub>, filtered and concentrated by rotary evaporation. Flash chromatography (6:1 hexanes-ethyl acetate) afforded **13** (91.5 mg, 116  $\mu$ mol, 83%) as a colorless oil: R<sub>f</sub> 0.56 (2:1 hexanes-ethyl acetate); <sup>1</sup>H NMR (CDCl<sub>3</sub>, 500 MHz):  $\delta$  7.67 (d, *J* = 8 Hz, 4H), 7.43 (m, 2H), 7.38 (t, *J* = 8 Hz, 4H), 7.24 (d, *J* = 8.5 Hz, 2H), 6.87 (d, *J* = 8.5 Hz, 2H), 4.80 (s, 1H), 4.76 (s, 1H), 4.42 (d, *J* = 11.5 Hz, 1H), 4.39 (d, *J* = 11.5 Hz, 1H), 4.27 (m, 1H), 3.90-4.06 (m, 4H), 3.80 (s, 3H), 3.71 (dd, *J* = 10, 4.5 Hz, 1H), 3.68 (dd, *J* = 10, 5.5 Hz, 1H), 3.52 (m, 3H), 2.49 (d, *J* = 5 Hz, 1H), 2.41 (dd, *J* = 13.5, 4.5 Hz, 1H), 2.34 (dd, *J* = 13, 4 Hz, 1H), 2.08 (dd, *J* = 13.5, 5.5 Hz, 1H), 2.04 (dd, *J* = 13, 7.5 Hz, 1H), 1.86 (m, 2H), 1.73 (m, 2H),

1.55 (m, 2H), 1.39 (ddd, J = 13.5, 11.5, 2.5 Hz, 1H), 1.29 (ddd, J = 13.5, 11.5, 2.5 Hz, 1H), 1.10 (s, 9H), 0.99 (t, J = 8 Hz, 9H), 0.64 (q, J = 8 Hz, 6H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 75 MHz):  $\delta$  159.0, 142.2, 135.70, 135.68, 134.2, 134.0, 130.6, 129.6, 129.2, 127.6, 113.7, 110.2, 73.8, 72.6, 71.8, 69.05, 68.97, 68.8, 66.7, 65.9, 62.9, 55.2, 40.0, 39.1, 38.7, 34.5, 34.1, 27.0, 19.3, 6.7, 4.3; HRMS calcd for C<sub>46</sub>H<sub>68</sub>O<sub>7</sub>Si<sub>2</sub> [M+H]<sup>+</sup> 789.4584, found 789.4521.



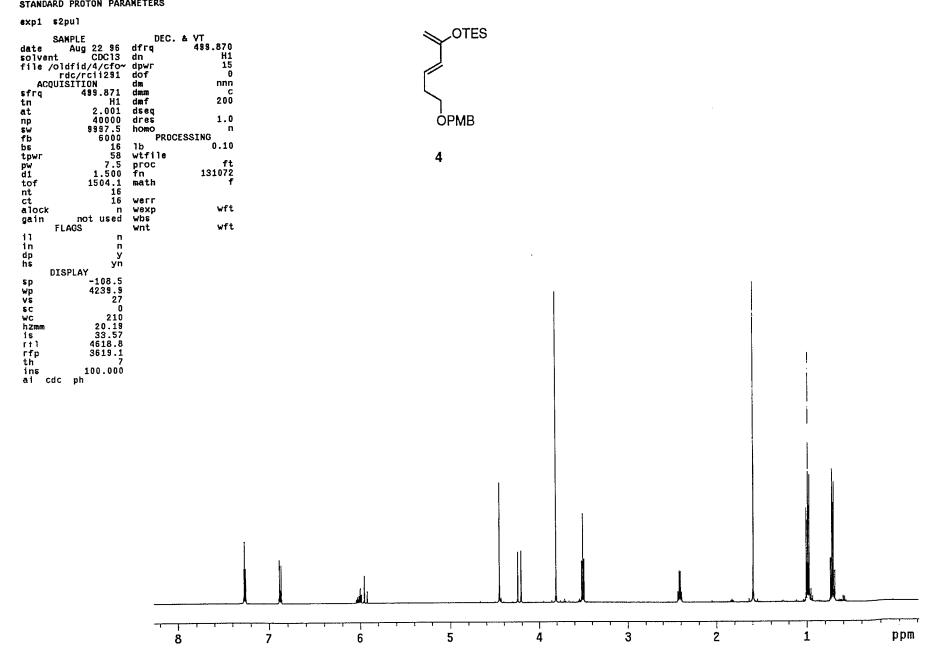
### Bispyran azide (13a).

To a soln of 13 (91.3 mg, 116 µmol) in THF (5 mL) was added PPh<sub>3</sub> (152 mg, 580 µmol), diethyl azodicarboxylate (91 µL, 580 µmol), and diphenylphosphoryl azide (120 µL, 557 µmol). The reaction was stirred for 30 min, then concentrated by rotary evaporation, and filtered through a plug of silica gel eluting with 5:1 hexanes-ethyl acetate. The filtrate was concentrated by rotary evaporation and the residue was dissolved in ethyl acetate (40 mL), washed with water (5 mL), and brine (5 mL), and the combined aqueous phases were extracted with ethyl acetate (10 mL). The combined organic phases were dried over MgSO<sub>4</sub>, filtered and concentrated by rotary evaporation. Flash chromatography (15:1 hexanes-ethyl acetate) afforded 13a (82.5 mg, 101 µmol, 88%) as a colorless oil: Rf 0.69 (2:1 hexanes-ethyl acetate); <sup>1</sup>H NMR (CDCl<sub>3</sub>, 500 MHz):  $\delta$  7.66 (d, J = 8 Hz, 4H), 7.44 (m, 2H), 7.39 (t, J = 8 Hz, 4H), 7.25 (d, J = 8.5 Hz, 2H), 6.87 (d, J = 8.5 Hz, 2H), 4.79 (s, 2H), 4.43 (d, J = 11.5 Hz, 1H), 4.39 (d, J = 11.5 Hz, 1H), 4.27 (m, 1H), 4.14 (ddd, J = 11.5, 3.3, 3.3 Hz, 1H), 4.0 (m, 3H), 3.82 (dd, J = 10.5, 4.5 Hz, 1H), 3.80 (s, 3H), 3.77 (dd, J = 10.5, 7.0 Hz, 1H), 3.51 (m, 2H), 3.22 (ddd, J = 6.3, 4.8, 4.8 Hz, 1H), 2.41 (dd, J = 10.5, 7.0 Hz, 1H), 3.51 (m, 2H), 3.22 (ddd, J = 6.3, 4.8, 4.8 Hz, 1H), 3.51 (m, 2H), 3.22 (ddd, J = 6.3, 4.8, 4.8 Hz, 1H), 3.51 (dd,13, 4.5 Hz, 1H), 2.36 (dd, J = 13, 4 Hz, 1H), 2.07 (dd, J = 13, 6 Hz, 1H), 2.03 (dd, J = 13, 6.5 Hz, 1H), 1.91 (m, 1H), 1.79 (ddd, J = 14, 6, 8 Hz, 1H), 1.71 (m, 1H), 1.54 (m, 4H), 1.32 (ddd, J = 13.5, 11.5, 2.5 Hz, 1H), 1.10 (s, 9H), 1.0 (t, J = 8 Hz, 9H), 0.65 (q, J = 8 Hz, 6H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 75 MHz): δ 159.0, 142.1, 135.6, 133.9, 130.6, 129.7, 129.2, 127.6, 113.6, 110.2, 72.6, 71.1, 69.2, 69.1, 68.6, 66.7, 66.6, 65.9, 62.7, 55.2, 39.8, 39.2, 38.8, 38.7, 35.5, 33.6, 27.0, 19.3, 6.7.4.3.



## **Bispyran amine (2).**

To a soln of 13a (82.3 mg, 101  $\mu$ mol) in THF (4 mL) was added PPh<sub>3</sub> (53 mg, 200  $\mu$ mol) and water (18 µL, 1.0 mmol). The soln was heated at reflux for 13 h, cooled to rt, additional water (35  $\mu$ L, 1.9 mmol) was added and the soln was heated at reflux for an additional 3 h. The soln was cooled to rt and concentrated by rotary evaporation. Flash chromatography on silica gel neutralized with Et<sub>3</sub>N (1:1 hexanes-ethyl acetate) afforded 2 (70.3 mg, 89.2 µmol, 88%) as a pale yellow oil: Rf 0.23 (1:2 hexanes-ethyl acetate);  $[\alpha]^{23}D = -17.7$  (c 0.975, CHCl<sub>3</sub>); IR (neat): 3390, 3080, 2950, 1515, 1245 cm<sup>-1</sup>; <sup>1</sup>H NMR (CDCl<sub>3</sub>, 500 MHz): δ 7.65 (m, 4H), 7.43 (m, 2H), 7.37 (m, 4H), 7.24 (d, J = 8.5 Hz, 2H), 6.86 (d, J = 8.5 Hz, 2H), 4.79 (s, 1H), 4.76 (s, 1H), 4.42 (d, J =11.5 Hz, 1H), 4.39 (d, J = 11.5 Hz, 1H), 4.25 (m, 1H), 4.06 (m, 1H), 4.0 (m, 1H), 3.92 (m, 2H), 3.79 (s, 3H), 3.60 (dd, J = 10, 5 Hz, 1H), 3.52 (m, 2H), 3.47 (dd, J = 9.5, 7 Hz, 1H), 2.66 (q, J = 10, 5 Hz, 5.7 Hz, 1H), 2.41 (dd, J = 13, 4.5 Hz, 1H), 2.33 (dd, J = 13, 4 Hz, 1H), 2.09 (dd, J = 13, 5 Hz, 1H), 2.02 (dd, J = 13, 7.5 Hz, 1H), 1.88 (m, 1H), 1.71 (m, 2H), 1.65 (m, 2H), 1.44-1.59 (m, 4H), 1.28 (ddd, J = 13.5, 11.5, 2 Hz, 1H), 1.09 (s, 9H), 0.98 (t, J = 8 Hz, 9H), 0.62 (q, J = 8 Hz, 6H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 75 MHz): δ 159.0, 142.2, 135.7, 134.1, 130.6, 129.6, 129.2, 127.6, 113.7, 110.2, 72.6, 72.2, 69.1, 69.0, 68.6, 66.7, 66.1, 64.7, 57.0, 55.2, 40.0, 39.2, 39.1, 38.7, 35.4, 34.1, 27.0, 19.2, 6.8, 4.4; HRMS calcd for C<sub>46</sub>H<sub>69</sub>O<sub>6</sub>NSi<sub>2</sub> [M+H]<sup>+</sup> 788.4744, found 788.4777.

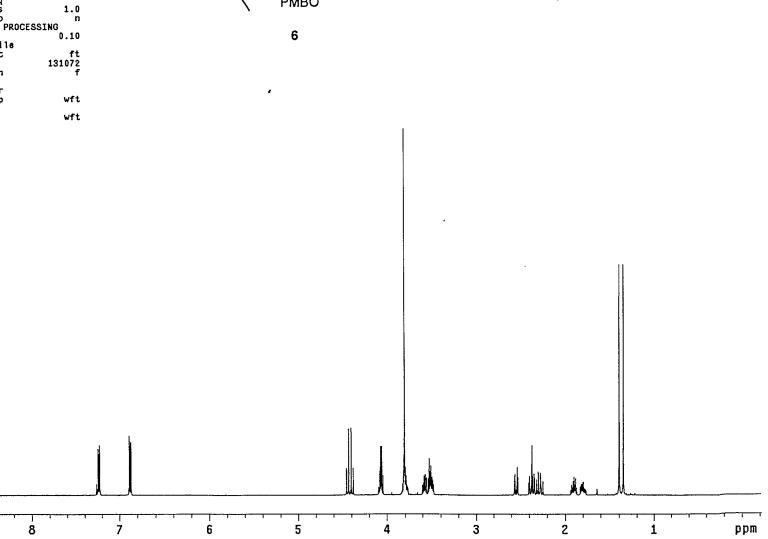


#### STANDARD PROTON PARAMETERS

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sw	9997.5	homo	n
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di	1.500	fn	131072
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DISPLA			
sp	-108.5		
wp	4287.9		
VS	19		
S C	0		
wc	210		
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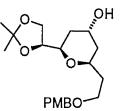
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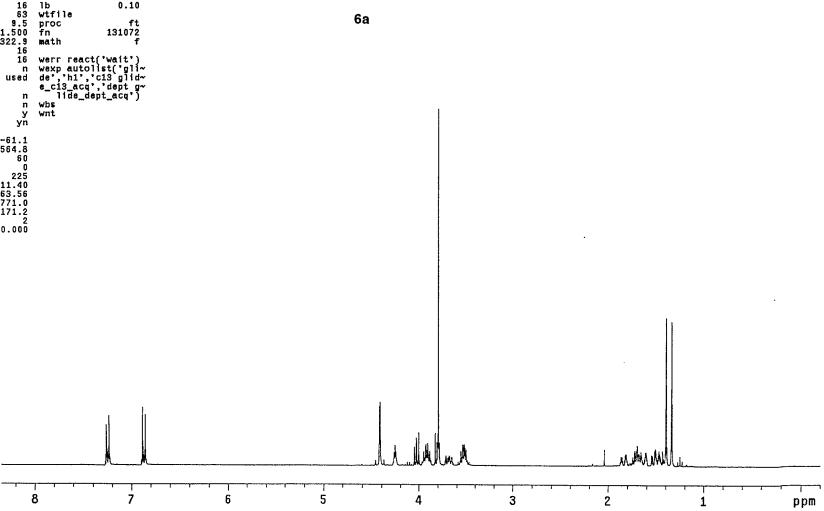


RC-III-18

exp1 std1h

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date         Sep 25 %6         dfrq         2%%.88%           solvent         CDC13         dn         H1           close         dpwr         %0           rdc/rcii118_H1         dof         0           ACQUISITION         dmm         nnn           sfrq         28%.8%1         dmm         c           tn         H1         dmf         200           at         2.001         dseq         undefined           p         24000         dres         undefined           sw         5987.%         homo         n           fb         3400         PROCESSING         pw           sw         55%7.%         homo         n           fb         3400         PROCESSING         n           pw         9.5         proc         ft           di1         1.500         fn         131072           tof         1322.%         math         f           nt         16         werr react('wait')         a           gain         not used         de', 'h1', 'c13 glid~         e_c13_acq', 'dept g~           in         n         wbs         wot         bs	date         Sep 25 \$6         dfrq         2\$8.88           solvent         CDC13         dn         H1           file /oldfid/4/cfo~         dpwr         30           rdc/rcii118_H1         dof         0           ACQUISITION         dmm         nnn           sfrq         289.891         dmm         c           tn         H1         dmf         200           at         2.001         dseq         undefined           sw         5997.5         homo         n           fb         3400         PROCESSING         bs           fb         3400         PROCESSING         bt           fbw         9.5         proc         ft           flit         1.500         fn         131072           tof         1322.9         math         f           flt         16         werr react('wait')           alock         n         wexp autolist('gli~           gain         not used         e_c13_acq', 'dept g~           in         n         wbt         ws           dp         y         wst         f0           gain         not used         e_c13_acq', 'dept g~ </td <td>date         Sep 25 %6         dfrq         2%%.88%           solvent         CDC13         dn         H1           file         /olfid//cfo~         dpwr         %0           rdc/rcii118_H1         dof         0           ACQUISITION         dmm         C           sfrq         29%.8%1         dmm         C           tn         H1         dmf         200           at         2.001         dseq         undefined           mp         24000         dres         undefined           sw         5%97.%         homo         n           fb         3400         PROCESSING         b%           bs         16         1b         0.10           tpwr         63         wtfile         ft           pW         9.5         proc         ft           di1         1.500         fn         131072           tof         1322.9         math         f           ct         16         werr react('wait')         wexp autolist('gli~           gain         not used         e_'13_aca(', 'dept g'')         wexp           gain         not used         '146_dept_acag')         wht</td> <td>date         Sep 25 %6         dfrq         2%%.88%           solvent         CDC13         dn         H1           file         /01did/4/cfo~         dpwr         %0           rdc/rcii118_H1         dof         0           ACQUISITION         dmm         C           sfrq         2%%.8%1         dmm         C           tn         H1         dmf         200           at         2.001         dseq         undefined           sw         5%97.%         homo         n           fb         3400         PROCESSING         n           fb         3400         PROCESSING         n           fb         3400         PROCESSING         n           fb         3400         PROCESSING         n           ft         1.500         fn         131072           tof         1322.9         math         f           nt         16         b         0.10           typ         9.5         proc         ft           alock         n         wexp autolist('gli~           gain         not used         e_'13_acq','dept g''           in         n         <t< td=""><td>date         Sep 25 \$6         dfrq         288.88           solvent         CDC13         dn         H1           close         dpwr         30           rdc/rcills         dn         dm         n1           drop         dpwr         30         rdc/rcills           rdc/rcills         dm         dof         0           ACQUISITION         dmm         c         dmm         nnn           sfrq         293.891         dmm         c         c           tn         H1         dmf         200         ac         c           at         2.001         dseq         undefined         p         24000         dres         undefined           str         2.001         dseq         undefined         p         200         ac         c           at         2.001         dseq         undefined         p         con         n         n           str         3400         PROCESSING         p         p         n         n         n         n         n         n         n         n         n         n         n         n         n         n         n         n         n<!--</td--><td>date         Sep 25 %6         dfrq         2%%.88%           solvent         CDC13         dn         H1           ordc/rcili18_H1         dof         0           ACQUISITION         dmm         nnn           sfrq         28%.8%1         dmm         C           tn         H1         dmf         200           at         2.001         dseq         undefined           p         24000         dres         undefined           sw         5597.%         homo         n           fb         3400         PROCESSING         pw           sw         5597.%         homo         n           fb         3400         PROCESSING         n           pw         9.5         proc         ft           d1         1.500         fn         131072           tof         1322.%         math         f           nt         16         werr react('wait')         a           gain         not used         de', 'h1', 'c13 glid~         e_c13_acq', 'dept g~           in         n         wbs         wnt         bs           gain         not used         de', 'h1', 'c13 glid~</td><td>SAMPLE</td><td></td><td></td><td></td></td></t<></td>	date         Sep 25 %6         dfrq         2%%.88%           solvent         CDC13         dn         H1           file         /olfid//cfo~         dpwr         %0           rdc/rcii118_H1         dof         0           ACQUISITION         dmm         C           sfrq         29%.8%1         dmm         C           tn         H1         dmf         200           at         2.001         dseq         undefined           mp         24000         dres         undefined           sw         5%97.%         homo         n           fb         3400         PROCESSING         b%           bs         16         1b         0.10           tpwr         63         wtfile         ft           pW         9.5         proc         ft           di1         1.500         fn         131072           tof         1322.9         math         f           ct         16         werr react('wait')         wexp autolist('gli~           gain         not used         e_'13_aca(', 'dept g'')         wexp           gain         not used         '146_dept_acag')         wht	date         Sep 25 %6         dfrq         2%%.88%           solvent         CDC13         dn         H1           file         /01did/4/cfo~         dpwr         %0           rdc/rcii118_H1         dof         0           ACQUISITION         dmm         C           sfrq         2%%.8%1         dmm         C           tn         H1         dmf         200           at         2.001         dseq         undefined           sw         5%97.%         homo         n           fb         3400         PROCESSING         n           fb         3400         PROCESSING         n           fb         3400         PROCESSING         n           fb         3400         PROCESSING         n           ft         1.500         fn         131072           tof         1322.9         math         f           nt         16         b         0.10           typ         9.5         proc         ft           alock         n         wexp autolist('gli~           gain         not used         e_'13_acq','dept g''           in         n <t< td=""><td>date         Sep 25 \$6         dfrq         288.88           solvent         CDC13         dn         H1           close         dpwr         30           rdc/rcills         dn         dm         n1           drop         dpwr         30         rdc/rcills           rdc/rcills         dm         dof         0           ACQUISITION         dmm         c         dmm         nnn           sfrq         293.891         dmm         c         c           tn         H1         dmf         200         ac         c           at         2.001         dseq         undefined         p         24000         dres         undefined           str         2.001         dseq         undefined         p         200         ac         c           at         2.001         dseq         undefined         p         con         n         n           str         3400         PROCESSING         p         p         n         n         n         n         n         n         n         n         n         n         n         n         n         n         n         n         n<!--</td--><td>date         Sep 25 %6         dfrq         2%%.88%           solvent         CDC13         dn         H1           ordc/rcili18_H1         dof         0           ACQUISITION         dmm         nnn           sfrq         28%.8%1         dmm         C           tn         H1         dmf         200           at         2.001         dseq         undefined           p         24000         dres         undefined           sw         5597.%         homo         n           fb         3400         PROCESSING         pw           sw         5597.%         homo         n           fb         3400         PROCESSING         n           pw         9.5         proc         ft           d1         1.500         fn         131072           tof         1322.%         math         f           nt         16         werr react('wait')         a           gain         not used         de', 'h1', 'c13 glid~         e_c13_acq', 'dept g~           in         n         wbs         wnt         bs           gain         not used         de', 'h1', 'c13 glid~</td><td>SAMPLE</td><td></td><td></td><td></td></td></t<>	date         Sep 25 \$6         dfrq         288.88           solvent         CDC13         dn         H1           close         dpwr         30           rdc/rcills         dn         dm         n1           drop         dpwr         30         rdc/rcills           rdc/rcills         dm         dof         0           ACQUISITION         dmm         c         dmm         nnn           sfrq         293.891         dmm         c         c           tn         H1         dmf         200         ac         c           at         2.001         dseq         undefined         p         24000         dres         undefined           str         2.001         dseq         undefined         p         200         ac         c           at         2.001         dseq         undefined         p         con         n         n           str         3400         PROCESSING         p         p         n         n         n         n         n         n         n         n         n         n         n         n         n         n         n         n         n </td <td>date         Sep 25 %6         dfrq         2%%.88%           solvent         CDC13         dn         H1           ordc/rcili18_H1         dof         0           ACQUISITION         dmm         nnn           sfrq         28%.8%1         dmm         C           tn         H1         dmf         200           at         2.001         dseq         undefined           p         24000         dres         undefined           sw         5597.%         homo         n           fb         3400         PROCESSING         pw           sw         5597.%         homo         n           fb         3400         PROCESSING         n           pw         9.5         proc         ft           d1         1.500         fn         131072           tof         1322.%         math         f           nt         16         werr react('wait')         a           gain         not used         de', 'h1', 'c13 glid~         e_c13_acq', 'dept g~           in         n         wbs         wnt         bs           gain         not used         de', 'h1', 'c13 glid~</td> <td>SAMPLE</td> <td></td> <td></td> <td></td>	date         Sep 25 %6         dfrq         2%%.88%           solvent         CDC13         dn         H1           ordc/rcili18_H1         dof         0           ACQUISITION         dmm         nnn           sfrq         28%.8%1         dmm         C           tn         H1         dmf         200           at         2.001         dseq         undefined           p         24000         dres         undefined           sw         5597.%         homo         n           fb         3400         PROCESSING         pw           sw         5597.%         homo         n           fb         3400         PROCESSING         n           pw         9.5         proc         ft           d1         1.500         fn         131072           tof         1322.%         math         f           nt         16         werr react('wait')         a           gain         not used         de', 'h1', 'c13 glid~         e_c13_acq', 'dept g~           in         n         wbs         wnt         bs           gain         not used         de', 'h1', 'c13 glid~	SAMPLE			
solvent       CDC13       dn       H1         file /oldfid/4/cfor       dpwr       30         rdc/ulfilkH1       dof       0         ACQUISITION       dm       nnn         sfrq       293.891       dmm       c         tn       H1       dmf       200         at       2.001       dseq       undefined         np       24000       dres       undefined         sw       597.5       homo       n       n         fib       3400       PROCESSING       b       b         pw       9.5       proc       ft       d         alock       n       werr react('wait')       a <tr< td=""><td>solvent       CDC13       dn       H1         file /oldfid/4/cfor       dpwr       30         rdc/QUISITION       dm       nnn         sfrq       299.891       dmm       c         tn       H1       dmf       200         at       2.001       dseq       undefined         np       24000       dres       undefined         fb       3400       PROCESSING       b         bs       16       b       0.10         tdi       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')       a         gain       not&lt;</td><td>solvent       CDC13       dn       H1         file /oldfid/4/cfor       dpwr       30         rdc/ulfilk       dn       0         ACQUISITION       dm       nnn         sfrq       293.891       dmm       c         tn       H1       dmf       200         at       2.001       dseq       undefined         np       24000       dres       undefined         star       16       b       0.10         th       1.500       fn       131072         tof       1.520.9       math       f         alock       n       wexp autolist('gli~         gain       not used       e_i3_acq','dep</td><td>solvent       CDC13       dn       H1         file /oldfid/4/cfor       dpwr       30         rdc/ulfilk       dn       0         ACQUISITION       dm       nnn         sfrq       293.891       dmm       c         tn       H1       dmf       200         at       2.001       dseq       undefined         np       24000       dres       undefined         star       16       b       0.10         th       1.500       fn       131072         tof       1.520.9       math       f         alock       n       wexp autolist('gli~         gain       not used       e_i3_acq','dep</td><td>solvent       CDC13       dn       H1         file /oldfid/4/cfor       dpwr       30         rdc/ulfilkH1       dof       0         ACQUISITION       dm       nnn         sfrq       293.891       dmm       c         tn       H1       dmf       200         at       2.001       dseq       undefined         np       24000       dres       undefined         sw       597.5       homo       n       n         fib       3400       PROCESSING       b       b         pw       9.5       proc       ft       d         alock       n       werr react('wait')       a      <tr< td=""><td>solvent       CDC13       dn       H1         file /oldfid/4/cfor       dpwr       30         rdc/ulfilkH1       dof       0         ACQUISITION       dm       nnn         sfrq       235.891       dmm       c0         at       2.001       dseq       undefined         np       24000       dres       undefined         nf       0.10       tp       0.10         tpwr       6.3       wtfile       0.10         pwr       5.5       proc       ft         dtof       1.520       fn       131072         tof       1.322.9       math       ft         nt       16       werr</td><td></td><td></td><td></td><td>.889</td></tr<></td></tr<>	solvent       CDC13       dn       H1         file /oldfid/4/cfor       dpwr       30         rdc/QUISITION       dm       nnn         sfrq       299.891       dmm       c         tn       H1       dmf       200         at       2.001       dseq       undefined         np       24000       dres       undefined         fb       3400       PROCESSING       b         bs       16       b       0.10         tdi       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')       a         gain       not<	solvent       CDC13       dn       H1         file /oldfid/4/cfor       dpwr       30         rdc/ulfilk       dn       0         ACQUISITION       dm       nnn         sfrq       293.891       dmm       c         tn       H1       dmf       200         at       2.001       dseq       undefined         np       24000       dres       undefined         star       16       b       0.10         th       1.500       fn       131072         tof       1.520.9       math       f         alock       n       wexp autolist('gli~         gain       not used       e_i3_acq','dep	solvent       CDC13       dn       H1         file /oldfid/4/cfor       dpwr       30         rdc/ulfilk       dn       0         ACQUISITION       dm       nnn         sfrq       293.891       dmm       c         tn       H1       dmf       200         at       2.001       dseq       undefined         np       24000       dres       undefined         star       16       b       0.10         th       1.500       fn       131072         tof       1.520.9       math       f         alock       n       wexp autolist('gli~         gain       not used       e_i3_acq','dep	solvent       CDC13       dn       H1         file /oldfid/4/cfor       dpwr       30         rdc/ulfilkH1       dof       0         ACQUISITION       dm       nnn         sfrq       293.891       dmm       c         tn       H1       dmf       200         at       2.001       dseq       undefined         np       24000       dres       undefined         sw       597.5       homo       n       n         fib       3400       PROCESSING       b       b         pw       9.5       proc       ft       d         alock       n       werr react('wait')       a <tr< td=""><td>solvent       CDC13       dn       H1         file /oldfid/4/cfor       dpwr       30         rdc/ulfilkH1       dof       0         ACQUISITION       dm       nnn         sfrq       235.891       dmm       c0         at       2.001       dseq       undefined         np       24000       dres       undefined         nf       0.10       tp       0.10         tpwr       6.3       wtfile       0.10         pwr       5.5       proc       ft         dtof       1.520       fn       131072         tof       1.322.9       math       ft         nt       16       werr</td><td></td><td></td><td></td><td>.889</td></tr<>	solvent       CDC13       dn       H1         file /oldfid/4/cfor       dpwr       30         rdc/ulfilkH1       dof       0         ACQUISITION       dm       nnn         sfrq       235.891       dmm       c0         at       2.001       dseq       undefined         np       24000       dres       undefined         nf       0.10       tp       0.10         tpwr       6.3       wtfile       0.10         pwr       5.5       proc       ft         dtof       1.520       fn       131072         tof       1.322.9       math       ft         nt       16       werr				.889
file /01dfid/4/cfo~ dpwr       30         rdc/rciii8_H1       dof       0         ACQUISITION       dm       nnn         sfrq       299.891       dmm       c         tn       H1       dmf       200         tn       H1       dmf       200         at       2.001       dseq       undefined         sw       5997.5       homo       n         fb       3400       PROCESSING       ps         bs       16       b       0.10         tpwr       63       wtfile       pw         pw       9.5       proc       ft         d1       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')       werr react('wait')         alock       n       werr react('wait')       werr react('wait')         alock       n       ustrigation       to       11de_dept_acq')         in       n       werr react('wait')       werr       werr         gain       not used       de', 'h1', 'c13 glid~       to         flag       2564.8       wert       werr	file /01dfid/4/cfo~ dpwr       30         rdc/rciii18_H1       dof       0         ACQUISITION       dm       nnn         sfrq       259.8%1       dmm       C         tn       H1       dmf       200         tn       H1       dmf       200         dat       2.001       dseq       undefined         np       24000       dres       undefined         sw       5587.5       homo       n         fb       3400       PROCESSING       ps         bs       16       b       0.10         tpwr       63.5       proc       ft         d1       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')       a         ct       16       werr react('wait')       a         gain       not used       de', h1', rid's fild       glid         fl f       n       lide_dept_acq')       wit         gain       not used       de', h1', rid's fild       y         fl f       n       wis       s         gain       not used       wit	file /01dfid /4/cfo~ dpwr 30 rdc/rcii18_H1 dof 0 ACQUISITION dm nnn sfrq 299.891 dmm c tn H1 dmf 200 at 2.001 dseq undefined sw 5997.9 homo n fb 3400 PROCESSING bs 16 lb 0.10 tpwr 63 wtfile 0.10 tpwr 63 wtfile 0.10 tpwr 63 wtfile file 0.10 tpwr 63 wtfile 1500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n werp autolist('gli~ gain not used de','h1','c13 glid~ FLAGS $e_c13_acq','dept g~$ in n lide_dept_acq') in wbs dp y wnt bS 0 c 0 wc 225 hzmm 11.40 is 1365.56 rfl 2771.0 rfp 2171.2	file /01dfid/4/cfo~ dpwr       30         rdc/rcii18_H1       dof       0         ACQUISITION       dm       nnn         sfrq       299.891       dmm       c         tn       H1       dmf       200         tn       H1       dmf       200         at       2.001       dseq       undefined         sw       5997.9       homo       n         fb       3400       PROCESSING       bs         bs       16       b       0.10         tpwr       63       wtfile       0.10         tpwr       5.5       proc       ft         di1       1.500       fn       131072         tof       1322.9       math       f         atos       n       werr react('wait')         gain       not used       e_c13_acq', 'dept gw         in       n<	file /01dfid/4/cfo~ dpwr       30         rdc/rciii18_H1       dof       0         ACQUISITION       dm       nnn         sfrq       299.891       dmm       c         tn       H1       dmf       200         tn       H1       dmf       200         at       2.001       dseq       undefined         sw       5997.9       homo       n         fb       3400       PROCESSING       ps         bs       16       b       0.10         tpwr       63       wtfile       pw         pw       9.5       proc       ft         d1       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')       werr react('wait')         alock       n       werr react('wait')       werr react('wait')         alock       n       ustright       e_c13_acq','dept g~         in       n       werr       werr       werr         yn       yn       b       yn       b         bs       -61.1       werr       werr         wc       2564.8<	file /01dfid/4/cfo~ dpwr       30         rdc/rciii8_H1       dof       0         ACQUISITION       dm       nnn         sfrq       299.891       dmm       c         tn       H1       dmf       200         tn       H1       dmf       200         at       2.001       dseq       undefined         np       24000       dres       undefined         sw       5997.9       homo       n         sw       5997.9       homo       n         fb       3400       PROCESSING       ps         bs       16       b       0.10         tpwr       6.3       wtfile       pw         pw       9.5       proc       ft         d1       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')       alock         ct1       16       werr react('wait')       alock         gain       not used       de', 'h1', 'c13 glid       e_c13_acq', 'dept g         in       n       wert       not used       de', 'h1', c13 glid         gain       y			200	
ridc,/rciii18_H1 dof 0 ACQUISITION dm nnn sfrq 293.891 dmm c tn H1 dmf 200 at 2.001 dseq undefined p 24000 dres undefined sw 5597.9 homo n fb 3400 PROCESSING bs 16 lb 0.10 tpwr 63 wtfile pw 9.5 proc ft d1 1.500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n werp autolist('gli~ FLAGS e_c13_acq','dept g~ in n wbs de','h1','c13 glid~ FLAGS 0 sc 0 wr 2255 hzmm 11.40 is 1363.56 rf1 2771.0 rfp 2171.2 th 2771.0	ridc/rciii18_H1       dof       0         ACQUISITION       dm       nnn         sfrq       298.891       dmma       c         tn       H1       dmf       200         at       2.001       dseq       undefined         pp       24000       dres       undefined         sw       5997.5       homo       n         fb       3400       PROCESSING       ps         bs       16       1b       0.10         tpwr       63       wtfile       pw         pw       9.5       proc       ft         di       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')         alock       n       wexp autolist('gli~         gain       not used       de', 'h1', 'c13 glid~         gain       not used       e_c13_acq', 'dept g~         in       n       wbt         dp       y       wst         bdp       y       wst         bdp       y       wst         bdp       2564.8       s         vs       136	ridc/rciii18_H1 dof 0 ACQUISITION dm nnn sfrq 299.891 dmm c tn H1 dmf 200 at 2.001 dseq undefined p 24000 dres undefined sw 5997.5 homo n fb 3400 PROCESSING bs 16 lb 0.10 tpwr 63 wtfile pw 9.5 proc ft d1 1.500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n wexp autolist('gli~ gain not used de','h1','c13 glid~ FLAGS e_c13_acq','dept g~ in n wbs wnt bs 50 cc 0 wc 2255 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2	ridc/rciii18_H1 dof 0 ACQUISITION dm nnn sfrq 299.891 dmm c tn H1 dmf 200 at 2.001 dseq undefined p 24000 dres undefined sw 5997.5 homo n fb 3400 PROCESSING bs 16 lb 0.10 tpwr 63 wtfile pw 9.5 proc ft d1 1.500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n wexp autolist('gli~ gain not used de','h1','c13 glid~ FLAGS e_c13_acq','dept g~ in n wbs wnt bs 50 cc 0 wc 2255 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2	ridc,/rciii18_H1 dof 0 ACQUISITION dm nnn sfrq 293.891 dmm c tn H1 dmf 200 at 2.001 dseq undefined p 24000 dres undefined sw 5597.9 homo n fb 3400 PROCESSING bs 16 lb 0.10 tpwr 63 wtfile pw 9.5 proc ft d1 1.500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n werp autolist('gli~ FLAGS e_c13_acq','dept g~ in n wbs de','h1','c13 glid~ FLAGS 0 sc 0 wr 2255 hzmm 11.40 is 1363.56 rf1 2771.0 rfp 2171.2 th 2771.0	ridc/rciii18_H1 dof 0 ACQUISITION dm nnn sfrq 293.891 dma c tn H1 dmf 200 at 2.001 dseq undefined np 24000 dres undefined sw 5997.9 homo n fb 3400 PROCESSING bs 16 lb 0.10 tpwr 63 wtfile pw 9.5 proc ft d1 1.500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n wery autolist('gli~ FLAGS e_13_acq','dept g~ i1 n n wbs gain not used de','h1','c13 glid~ FLAGS nlide_dept_acq') in n wbs bs 2664.8 vs 60 sc 0 wc 2255 hzmm 11.40 is 1363.56 rf1 2771.0 rfp 2171.2 th 2771.0 rfp 2171.2 th 2771.0				
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	ACQUISITION         dm         nnn           sfrq         299.891         dmm         C           tn         H1         dmf         200           at         2.001         dseq         undefined           np         24000         dres         undefined           sw         5957.3         homo         n         n           fb         3400         PROCESSING         b         0.10           type         53         proc         ft         ft           tof         1322.9         math         ft         ft           alock         n         werr         react('wait')         alock           alock         n         werr         react('wait')         werr           alock         n         werr         ct3_acq', 'detgr         de', 'h1', 'c13 glidw           fl <td< td=""><td>ACQUISITION         dm         nnn           sfrq         299.891         dmm         C           tn         H1         dmf         200           at         2.001         dseq         undefined           np         24000         dres         undefined           np         24000         dres         undefined           np         24000         dres         undefined           sw         5957.5         homo         n         n           fb         3400         PROCESSING         bs         16           bs         16         lb         0.10         t           tpwr         5.5         proc         ft           di1         1.500         fn         131072           tof         1322.9         math         ft           nt         16         werr react('wait')         alock           alock         n         werr react('wait')         glid~           gain         not used         e_'11','c13 glid~           in         n         ws         glid~           flAGS         e_13_acq','dept_q~         wth           bs         Yn         ws     &lt;</td><td>ACQUISITION         dm         nnn           sfrq         299.891         dmm         C           tn         H1         dmf         200           at         2.001         dseq         undefined           np         24000         dres         undefined           np         24000         dres         undefined           np         24000         dres         undefined           sw         597.3         homo         n           fb         3400         PROCESSING         bs           bs         16         lb         0.10           tpwr         6.3         ytfile         pwrstile           pw         9.5         proc         ft           d1         1.500         fn         131072           tof         1322.9         math         ft           alock         n         werr react('wait')         alock           alock         n         werr react('wait')         glid~           gain         not used         e_'ih'.''ci3 glid~           in         n         ws         stacq','dept g~           in         n         ws         glid</td><td>ACQUISITION         dm         nnn           sfrq         299.891         dmm         C           tn         H1         dmf         200           at         2.001         dseq         undefined           np         24000         dres         undefined           sw         5973         homo         n           fb         3400         PROCESSING         b           bs         16         b         0.10           tpw         5.5         proc         ft           dif         1.500         fn         131072           tof         1.322.9         math         ft           alock         n         wexp autolist('gli~           gain         not used         e_c13_acq','dept g~           in</td><td>ACQUISITION         dm         nnn           sfrq         299.891         dmm         C           tn         H1         dmf         200           at         2.001         dseq         undefined           np         24000         dres         undefined           nf         5975         homo         n           fb         3400         PROCESSING         b           bs         16         b         0.10           tof         1322.9         math         ft           nt         16         werr react('wait')         a           alcck         n         wexp autolist('gli~         gain           gain         not used         e_C13_acq','dept g~         y           in         n         lide_dept_acq')</td><td></td><td></td><td></td><td></td></td<>	ACQUISITION         dm         nnn           sfrq         299.891         dmm         C           tn         H1         dmf         200           at         2.001         dseq         undefined           np         24000         dres         undefined           np         24000         dres         undefined           np         24000         dres         undefined           sw         5957.5         homo         n         n           fb         3400         PROCESSING         bs         16           bs         16         lb         0.10         t           tpwr         5.5         proc         ft           di1         1.500         fn         131072           tof         1322.9         math         ft           nt         16         werr react('wait')         alock           alock         n         werr react('wait')         glid~           gain         not used         e_'11','c13 glid~           in         n         ws         glid~           flAGS         e_13_acq','dept_q~         wth           bs         Yn         ws     <	ACQUISITION         dm         nnn           sfrq         299.891         dmm         C           tn         H1         dmf         200           at         2.001         dseq         undefined           np         24000         dres         undefined           np         24000         dres         undefined           np         24000         dres         undefined           sw         597.3         homo         n           fb         3400         PROCESSING         bs           bs         16         lb         0.10           tpwr         6.3         ytfile         pwrstile           pw         9.5         proc         ft           d1         1.500         fn         131072           tof         1322.9         math         ft           alock         n         werr react('wait')         alock           alock         n         werr react('wait')         glid~           gain         not used         e_'ih'.''ci3 glid~           in         n         ws         stacq','dept g~           in         n         ws         glid	ACQUISITION         dm         nnn           sfrq         299.891         dmm         C           tn         H1         dmf         200           at         2.001         dseq         undefined           np         24000         dres         undefined           sw         5973         homo         n           fb         3400         PROCESSING         b           bs         16         b         0.10           tpw         5.5         proc         ft           dif         1.500         fn         131072           tof         1.322.9         math         ft           alock         n         wexp autolist('gli~           gain         not used         e_c13_acq','dept g~           in	ACQUISITION         dm         nnn           sfrq         299.891         dmm         C           tn         H1         dmf         200           at         2.001         dseq         undefined           np         24000         dres         undefined           nf         5975         homo         n           fb         3400         PROCESSING         b           bs         16         b         0.10           tof         1322.9         math         ft           nt         16         werr react('wait')         a           alcck         n         wexp autolist('gli~         gain           gain         not used         e_C13_acq','dept g~         y           in         n         lide_dept_acq')				
sfrq       299.891       dmm       c         tn       H1       dmf       200         at       2.001       dseq       undefined         np       24000       dres       undefined         sw       5997.9       homo       n         fb       3400       PROCESSING         bs       16       1b       0.10         tpwr       63       wtfile       wtfile         pw       9.5       proc       ft         d1       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')       alock         ct       16       werr react('wait')       alock         gain       not used       de', 'h1', 'c13 glid~         rELAGS       e_c13_acq', 'dept g~       in         in       n       witd_dept_acq')       with         bg       yn       yn       bg       sec         yn       2564.8       wert       wert       sec         vc       225       yn       yn       yn         bg       2564.8       wert       sec       yn	sfrq       299.891       dmm       c         tn       H1       dmf       200         tn       2001       dseq       undefined         np       24000       dres       undefined         sw       5997.5       homo       n         sw       5997.5       homo       n         fb       3400       PROCESSING         bs       16       b       0.10         tpwr       63       wtfile       wtfile         pw       9.5       proc       ft         d1       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')         ct       16       werr react('wait')         gain       not used       de', 'h1', 'c13 glid~         gain       not used       de', 'h1', 'c13 glid~         flaget       yn       bis       utbe         jin       n       wbs       wtb         DISPLAY       sp       -61.1       wts         wc       225       hzmm       11.40         is       1363.56       rf1       2771.0	sfrq       299.891       dmm       c         tn       H1       dmf       200         at       2.001       dseq       undefined         np       24000       dres       undefined         sw       5997.9       homo       n         fb       3400       PROCESSING         bs       16       1b       0.10         tpwr       6.3       wtfile       0         pw       9.5       proc       ft         d1       1.500       fn       131072         tof       1322.9       math       ft         ct       16       werr react('wait')         alock       wexp autolist('gli~         gain       not used       e_c13_acq','dept g~         in       n       lide_dept_acq')         in       n       wst         dp       y       wnt         bp       2564.8       vs         vs       60       c         vc       225       1s         hzmm       11.40       1s         is       1365.56       rfl         rfl       2771.0       rfp         rfp <td>sfrq       299.891       dmm       c         tn       H1       dmf       200         tn       2.001       dseq       undefined         np       24000       dres       undefined         sw       5997.9       homo       n         fb       3400       PROCESSING         bs       16       1b       0.10         tpwr       6.3       wtfile       0.10         tpwr       5.5       proc       ft         d1       1.500       fn       131072         tof       1322.9       math       ft         ato       16       werr react('wait')       ato         gain       not used       e_c13_acq','dept g~       iide_dept_acq')         in       n       ide_dept_acq','dept g~       wont         bs       yn       yn       yn         bs</td> <td>sfrq       299.891       dmm       c         tn       H1       dmf       200         tn       2.001       dseq       undefined         np       24000       dres       undefined         sw       5997.9       homo       n         fb       3400       PROCESSING       psoc         bs       16       0.10       tot       131072         tof       1322.9       math       f       f         nt       16       werr react('wait')       werr react('wait')       i         alock       n       werr react('wait')       werr react('wait')       i         spain       not used       de', 'h1', 'c13 glid~       e_c13_acd', 'dept g~         in       n       werr       werr       werr         yn       DISPLAY       s       s       s<td>sfrq       299.891       dmm       c         tn       H1       dmf       200         tn       2001       dseq       undefined         np       24000       dres       undefined         sw       5997.9       homo       n         bs       16       b       0.10         tpwr       63       wtfile       pw         pw       9.5       proc       ft         d1       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')       werr react('wait')         gain       not used       de', 'h1', 'c13 glid       e_c13_acq*, 'dept g         tin       n       wide_dept_acq')       in       n         th       0       2564.8       wert       wert</td><td></td><td></td><td></td><td></td></td>	sfrq       299.891       dmm       c         tn       H1       dmf       200         tn       2.001       dseq       undefined         np       24000       dres       undefined         sw       5997.9       homo       n         fb       3400       PROCESSING         bs       16       1b       0.10         tpwr       6.3       wtfile       0.10         tpwr       5.5       proc       ft         d1       1.500       fn       131072         tof       1322.9       math       ft         ato       16       werr react('wait')       ato         gain       not used       e_c13_acq','dept g~       iide_dept_acq')         in       n       ide_dept_acq','dept g~       wont         bs       yn       yn       yn         bs	sfrq       299.891       dmm       c         tn       H1       dmf       200         tn       2.001       dseq       undefined         np       24000       dres       undefined         sw       5997.9       homo       n         fb       3400       PROCESSING       psoc         bs       16       0.10       tot       131072         tof       1322.9       math       f       f         nt       16       werr react('wait')       werr react('wait')       i         alock       n       werr react('wait')       werr react('wait')       i         spain       not used       de', 'h1', 'c13 glid~       e_c13_acd', 'dept g~         in       n       werr       werr       werr         yn       DISPLAY       s       s       s <td>sfrq       299.891       dmm       c         tn       H1       dmf       200         tn       2001       dseq       undefined         np       24000       dres       undefined         sw       5997.9       homo       n         bs       16       b       0.10         tpwr       63       wtfile       pw         pw       9.5       proc       ft         d1       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')       werr react('wait')         gain       not used       de', 'h1', 'c13 glid       e_c13_acq*, 'dept g         tin       n       wide_dept_acq')       in       n         th       0       2564.8       wert       wert</td> <td></td> <td></td> <td></td> <td></td>	sfrq       299.891       dmm       c         tn       H1       dmf       200         tn       2001       dseq       undefined         np       24000       dres       undefined         sw       5997.9       homo       n         bs       16       b       0.10         tpwr       63       wtfile       pw         pw       9.5       proc       ft         d1       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')       werr react('wait')         gain       not used       de', 'h1', 'c13 glid       e_c13_acq*, 'dept g         tin       n       wide_dept_acq')       in       n         th       0       2564.8       wert       wert				
tn H1 dmf 200 at 2.001 dseq undefined np 24000 dres undefined sw 5597.5 homo n fb 3400 PROCESSING bs 16 lb 0.10 tpwr 63 wtfile pw 9.5 proc ft d1 1.500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n wexp autolist('gli~ gain not used de', 'h1', 'c13 glid~ FLAGS e_c13_acq', 'dept g~ in n wbs dp y wnt DISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2771.0 rfp 2171.2 th 2	tn       Hi dmf       200         at       2.001       dseq       undefined         np       24000       dres       undefined         sw       5997.5       homo       n         fb       3400       PROCESSING       bs         bs       16       1b       0.10         tpwr       63       wtfile       pwr         pw       9.5       proc       ft         di       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')         alock       n       wexp autolist('gli~         gain       not used       e_c13_acqt', 'dept g~         ii       n       lide_dept_acq')         in       n       wst         off       90       y         ws       60       sc         sc       0       sc         wc       225       hzmm         hzmm       11.40       is         is       1363.56       rf1         rf1       2771.0       rfp	tn       H1       dmf       200         at       2.001       dseq       undefined         np       24000       dres       undefined         sw       5997.5       homo       n         fb       3400       PROCESSING       n         bs       16       1b       0.10         tpwr       63       wtfile       nt         pw       9.5       proc       ft         dil       1.500       fn       131072         tof       1322.9       math       f         ct       16       werr react('wait')         alock       n       wexp autolist('gli~         gain       not used       e', 'hi', 'ci3 glid~         FLAGS       e_ci3_acc', 'dept g~         in       n       lide_dept_accq')         wth       ws       yn         DISPLAY       yn         vs       60       sc         sc       0       yn         vs       60       sc         vs       60       sc         vs       60       sc         vs       11.40       st         is       1368.5	tn       Hi dmf       200         at       2.001       dseq       undefined         np       24000       dres       undefined         sw       5997.5       homo       n         fb       3400       PROCESSING       n         bs       16       1b       0.10         tpwr       63       wtfile       nt         pw       9.5       proc       ft         dil       1.500       fn       131072         tof       1322.9       math       f         alock       n       werr react('wait')         alock       n       wexp autolist('gli~         gain       not used       e', 'hi', 'ci3 glid~         FLAGS       e_ci3_acci', 'dept g~         in       n       lide_dept_accq')         wts       yn       yn         DISPLAY       yn       yn         vs       60       sc       0         vc       2255       hzmm       11.40         is       1368.56       rfl       2771.0         rfp       2171.2       th       2	tn H1 dmf 200 at 2.001 dseq undefined np 24000 dres undefined sw 5997.9 homo n fb 3400 PROCESSING bs 16 lb 0.10 tpwr 63 wtfile pw 9.5 proc ft d1 1.500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n wexp autolist('gli~ gain not used de','h1','c13 glid~ FLAGS e_c13_acq','dept g~ 11 n lide_dept_acq') whs yn DISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2171.2	tn H1 dmf 200 at 2.001 dseq undefined np 24000 dres undefined sw 5597.5 homo n fb 3400 PROCESSING bs 16 lb 0.10 tpwr 63 wtfile pw 9.5 proc ft d1 1.500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n wexp autolist('gli~ gain not used de','h1','c13 glid~ FLAGS e_c13_acq','dept g~ in n wbs dp y wnt bISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2171.2 th 2171.2		91 dmm		
np         24000         dres         undefined           sw         5997.5         homo         n           fb         3400         PROCESSING           bs         16         b         0.10           tpwr         63         wtfile         wtfile           pw         9.5         proc         ft           d1         1.500         fn         131072           tof         1322.9         math         f           nt         16         werr react('wait')         werr gain           alock         n         werr react('wait')         werr gain           gain         not used         de', 'h1', 'c13 glid~         e_c13 acq', 'dept g~           in         n         werr         lide_dept_acq')         wert           yb         yy         yb         wert         wert         wert           yb         yy         wert         wert         wert         wert           yb         yy         wert         wert         wert         wert           yb         yy         wert         wert         wert         wert         wert           yb         yy         wert         we	np       24000       dres       undefined         sw       5997.5       homo       n         fb       3400       PROCESSING         bs       16       b       0.10         tpwr       63       wtfile       pw         gw       9.5       proc       ft         d1       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')         alock       n       wexp autolist('gli~         alock       n       wexp autolist('gli~         gain       not used       de', h1', rcl3 glid~         gain       not used       de', h1', rcl3 glid~         flags       y       with         DISPLAY       y       wnt         bs       60       sc       0         sc       0       sc       0         wc       225       hzmm       11.40         is       1363.56       rfl       2771.0         rfp       2171.2       x       1363.56	np     24000     dres     undefined       sw     5997.5     homoon     n       fb     3400     PROCESSING       bs     16     1b     0.10       tpwr     6.3     wtfile       pw     9.5     proc     ft       d1     1.500     fn     131072       tof     1322.9     math     f       nt     16     werr react('wait')       ct     16     werr react('wait')       gain     not used     e_c13_acq','dept g~       in     n     lide_dept_acq')       in     n     wsp       dp     y     wnt       bs     -61.1       wp     2564.8       vs     60       sc     0       wc     225       hzmm     11.40       is     1365.56       rfl     2771.0       rfp     2171.2       th     2	np       24000       dres       undefined         sw       5997.5       homoon       n         fb       3400       PROCESSING       n         bs       16       1b       0.10         tpwr       63       wtfile       n         pw       9.5       proc       ft         d1       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')         ct       16       werr react('wait')         gain       not used       e_c13_acq','dept g~         in       n       lide_dept_acq')         in       n       with         dp       y       wnt         bs       -61.1       ws         wp       2564.8       vs         vs       60       vc         vs       1.40       1.40 <t< td=""><td>np         24000         dres         undefined           sw         5597.5         homo         n           fb         3400         PROCESSING           bs         16         b         0.10           tpwr         63         wtfile         pw           pw         9.5         proc         ft           d1         1.500         fn         131072           tof         1322.9         math         f           nt         16         werr react('wait')         alock           ct         16         werr react('wait')         alock           gain         not used         de', 'h1', 'c13 glid~         e_c13_acq', 'dept g~           in         n         lide_dept_acq')         in         hide_dept_acq')           in         n         work         work         work           bs         50         sc         0         sc           vw         2564.8         work         sc         0           sc         0         sc         0         sc           vw         2564.8         sc         sc         0           vc         225         sc         0</td><td>np       24000       dres       undefined         sw       5597.5       homo       n         fb       3400       PROCESSING         bs       16       b       0.10         tpwr       63       wtfile       p         pw       9.5       proc       ft         d1       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')         ct       16       werr react('wait')         alock       n       werr autolist('gli~         gain       not used       de', 'h1', 'c13 glid~         fLAGS       e_c13_acq', 'dept g~         in       n       lide_dept_acq')         in       n       whs         yn       2564.8       wert         owc       225       prodes         homo       11.40       s         is       1363.56       rfl         rfl       2771.0       rfp         rfp       2171.2       th         th       2       1         ins       100.000       100    </td><td></td><td>li dmf</td><td></td><td>200</td></t<>	np         24000         dres         undefined           sw         5597.5         homo         n           fb         3400         PROCESSING           bs         16         b         0.10           tpwr         63         wtfile         pw           pw         9.5         proc         ft           d1         1.500         fn         131072           tof         1322.9         math         f           nt         16         werr react('wait')         alock           ct         16         werr react('wait')         alock           gain         not used         de', 'h1', 'c13 glid~         e_c13_acq', 'dept g~           in         n         lide_dept_acq')         in         hide_dept_acq')           in         n         work         work         work           bs         50         sc         0         sc           vw         2564.8         work         sc         0           sc         0         sc         0         sc           vw         2564.8         sc         sc         0           vc         225         sc         0	np       24000       dres       undefined         sw       5597.5       homo       n         fb       3400       PROCESSING         bs       16       b       0.10         tpwr       63       wtfile       p         pw       9.5       proc       ft         d1       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')         ct       16       werr react('wait')         alock       n       werr autolist('gli~         gain       not used       de', 'h1', 'c13 glid~         fLAGS       e_c13_acq', 'dept g~         in       n       lide_dept_acq')         in       n       whs         yn       2564.8       wert         owc       225       prodes         homo       11.40       s         is       1363.56       rfl         rfl       2771.0       rfp         rfp       2171.2       th         th       2       1         ins       100.000       100		li dmf		200
sw       5997.5       homo       n         fb       3400       PROCESSING       n         bs       16       1b       0.10         tpwr       63       wtfile       n         pw       9.5       proc       ft         di       1.500       fn       131072         tof       1322.9       math       f         ct       16       werr react('wait')         alock       n       werr react('wait')         alock       n       werr react('wait')         gain       not used       de', 'h1', 'c13 glid~         flAGS       e_c13_acq', 'dept g~         in       n       lide_dept_acq')         wnt       ws         sp       -61.1         wp       2564.8         vs       60         sc       0         wc       225         hzman       11.40         is       1363.56         rfl       2771.0         rfp       2171.2         th       2         ins       100.000	sw       5997.5       homo       n         fb       3400       PROCESSING       bs         fb       3400       PROCESSING         bs       16       lb       0.10         tpwr       63       wtfile       10         pw       9.5       proc       ft         pw       9.5       proc       ft         ful       1.500       fn       131072         tof       1322.9       math       f         ct       16       werr react('wait')         alock       n       wexp autolist('gli~         gain       not used       e_c13_acq', 'dept g~         il       n       wide_dept_acq')         in       n       wst         dp       y       wst         DISPLAY       sp       -61.1         wp       2564.8       vs       60         sc       0       sc       0         wc       225       hzmm       11.40         is       1363.56       rf1       2771.0         rfp       2171.2       sc       sc	sw       5997.5       homo       n         fb       3400       PROCESSING       n         bs       16       1b       0.10         tpwr       63       wtfile       nt         pw       9.5       proc       ft         di       1.500       fn       131072         tof       1322.9       math       f         ct       16       werr react('wait')         alock       n       wexp autolist('gli~         gain       not used       de','hi','ci3 glid~         FLAGS       e_ci3_acq','dept g~         in       n       wbs         wn       bid_dept_acq')       wt         bis       yn       yn         DISPLAY       sp       -61.1         wp       2564.8       vs       60         sc       0       yn       11.40         is       1365.56       rfl       2771.0         rfp       2171.2       th       2	sw       5997.5       homo       n         fb       3400       PROCESSING       n         bs       16       1b       0.10         tpwr       63       wtfile       nt         pw       9.5       proc       ft         di       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')         alock       n       wexp autolist('gli~         gain       not used       de','hi','ci3 glid~         FLAGS       e_ci3_acq','dept g~         in       n       ws         yn       yn       ws         bp       y       wnt         bs       yn       ws         bs       yn       ws         yn       p       2564.8         vs       60       ys         s       1368.56       rfl         rfl       2771.0       rfp         rfp       2171.2       th	sw       5997.5       homo       n         fb       3400       PROCESSING         bs       16       1b       0.10         tpwr       63       wtfile         pw       9.5       proc       ft         pd       9.5       proc       ft         di       1.500       fn       131072         tof       1322.9       math       f         ct       16       werr react('wait')         alock       n       wexp autolist('gli~         gain       not used       de','h1','c13 glid~         gain       not used       e_c13_acq','dept g~         in       n       lide_dept_acq')         in       n       wexp         py       y       wexp         bis       y       wnt         bis       y       wnt         st       1363.56       or         rfl       2771.0       rfp       2171.2         th       2       1       1         ins       100.000       uotoo       uotoo	sw       5997.5       homo       n         fb       3400       PROCESSING         bs       16       1b       0.10         tpwr       63       wtfile         pw       9.5       proc       ft         pd       9.5       proc       ft         tof       1322.9       math       f         ct       16       werr react('wait')         alock       n       wexp autolist('gli~         gain       not used       de','h1','c13 glid~         gain       not used       de','h1','c13 glid~         in       n       lide_dept_acq','dept g~         in       n       wexp         py       yw       wht         bs       yn         DISPLAY       yn         psp       -61.1         wp       2564.8         vs       60         wc       225         hzmm       11.40         is       1363.56         rfl       2771.0         rfp       2171.2         th       2         ins       100.000	at 2.00	Di dseq	undef	ined
sw         5997.5         homo         n           fb         3400         PROCESSING           bs         16         1b         0.10           tpwr         63         wtfile         1           pw         9.5         proc         ft           di         1.500         fn         131072           tof         1322.9         math         f           nt         16         werr react('wait')           alock         n         wexp autolist('gil~           gain         not used         de', 'h1', 'c13 glid~           FLAGS         e_c13_acq', 'dept g~           in         n         wexp autolist('gil~           gil         n         lide_dept_acq')           hs         yn         DISPLAY           sp         -61.1         wnt           sc         0         wc           sc         0         wc           sc         0         wc           sc         0         wc           sc         0         wot           is         1363.56         rfl           rfl         2771.0         rfp           rfp         <	sw       5997.5       homo       n         fb       3400       PROCESSING         bs       16       1b       0.10         tpwr       63       wtfile       proc         pw       9.5       proc       ft         di       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')         alock       n       wexp autolist('gli~         gain       not used       de', 'h1', 'cl3 glid~         gain       not used       de', 'h1', 'cl3 glid~         fl       n       lide_dept_acq')         in       n       wbs         dp       y       wnt         DISPLAY       sp       -61.1         wp       2564.8       vs         vs       60       sc         sc       0       sc         wc       225       hzmm         hzmm       11.40       is         is       1363.56       rf1         rfl       2771.0       rf1	sw     5997.5     homo     n       fb     3400     PROCESSING       bs     16     1b     0.10       tpwr     63     wtfile       pw     9.5     proc     ft       di     1.500     fn     131072       tof     1322.9     math     f       ct     16     werr react('wait')       alock     n     wexp autolist('gli~       gain     not used     de','h1','c13 glid~       fLAGS     e_c13_acq', dept_acq')     int       in     n     wst       gb     y     wnt       bs     yn     bs       DISPLAY     yn       s     11.40       is     1363.56       rfl     2771.0       rfp     2171.2       th     2	sw     5997.5     homo     n       fb     3400     PROCESSING       bs     16     1b     0.10       tpwr     63     wtfile       pw     9.5     proc     ft       di     1.500     fn     131072       tof     1322.9     math     f       ct     16     werr react('wait')       alock     n     wexp autolist('gli~       gain     not used     de','h1','c13 glid~       fLAGS     e_c13_acq', dept_acq')     int       in     n     wst       dp     y     wnt       bs     yn     bs       USPLAY     sp       sp     -61.1       wp     2564.8       vs     60       sc     0       wc     225       hzmm     11.40       is     1365.56       rfl     2771.0       rfp     2171.2       th     2	sw         5997.8         homo         n           fb         3400         PROCESSING           bs         16         1b         0.10           tpwr         63         wtfile         1           pw         9.5         proc         ft           di         1.500         fn         131072           tof         1322.9         math         f           ct         16         werr react('wait')           alock         n         wexp autolist('gli~           gain         not used         de', 'h1', 'c13 glid~           flAGS         e_c13_acq', 'dept g~           in         n         wsp           wth         wsp         vnt           bs         yn         DISPLAY           sp         -61.1         wnt           vs         60         wc           sc         0         wc           sc         1.40         sc <td>sw         5997.5         homo         n           fb         3400         PROCESSING           bs         16         1b         0.10           tpwr         63         wtfile         1           pw         9.5         proc         ft           di         1.500         fn         131072           tof         1322.9         math         f           nt         16         werr react('wait')           alock         n         wexp autolist('gli~           gain         not used         de', 'h1', 'c13 glid~           flAGS         e_c13_acq', 'dept g~           in         n         wexp autolist('gli~           gil         n         lide_dept_acq')           in         n         wexp autolist('gli~           gil         n         lide_dept_acq')           in         n         wexp autolist('gli~           growth         yn         bs           fb         yn         bide_dept_acq')           wexp         2564.8         vs           s         1365.56         c           rfl         2771.0         rfp           rfp         2171.2</td> <td>np 2400</td> <td>)0 dres</td> <td>undef</td> <td>ined</td>	sw         5997.5         homo         n           fb         3400         PROCESSING           bs         16         1b         0.10           tpwr         63         wtfile         1           pw         9.5         proc         ft           di         1.500         fn         131072           tof         1322.9         math         f           nt         16         werr react('wait')           alock         n         wexp autolist('gli~           gain         not used         de', 'h1', 'c13 glid~           flAGS         e_c13_acq', 'dept g~           in         n         wexp autolist('gli~           gil         n         lide_dept_acq')           in         n         wexp autolist('gli~           gil         n         lide_dept_acq')           in         n         wexp autolist('gli~           growth         yn         bs           fb         yn         bide_dept_acq')           wexp         2564.8         vs           s         1365.56         c           rfl         2771.0         rfp           rfp         2171.2	np 2400	)0 dres	undef	ined
bs 16 lb 0.10 tpwr 63 wtfile pw 9.5 proc ft d1 1.500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n werp autolist('gli~ FLAGS e_c13_acq','dept g~ in n wbs dp y h bs 2564.8 vs 60 sc 0 wc 225 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2 th 2 10 s 100.000	bs       16       1b       0.10         tpwr       63       wtfile         pw       9.5       proc       ft         d1       1.500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')         ct       16       werr react('wait')         alock       n       werr autolist('gli~         gain       not used       de','h1','c13 glid~         FLAGS       e_c13_acq','dept g~         i1       n       lide_dept_acq')         in       n       wbs         DISPLAY       yn         bx       60         sc       0         wc       225         hzmm       11.40         is       1363.56         rf1       2771.0         rfp       2171.2	bs       16       1b       0.10         tpwr       63       wtfile         pw       9.5       proc       ft         d1       1.500       fn       131072         tof       1322.9       math       f         nt       16       ft       ft         ctof       1322.9       math       f         nt       16       werr react('wait')       alock         ctot       16       werr react('wait')       alock         gain       not used       de','h1','c13 glid~         gain       not used       de','h1','c13 glid~         fl       n       lide_dept_acq','dept g~         in       n       bide_dept_acq')         in       n       ws       ws         dp       y       wnt         bs       yn       yn         DISPLAY       s       60         sc       0       wc         vs       60       s         sc       11.40       is         is       1363.56       rfl         rfl       2771.0       rfp         rfp       2171.2       th	bs 16 lb 0.10 tpwr 63 wtfile pw 9.5 proc ft d1 1.500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n wexp autolist('gli~ gain not used de','h1','c13 glid~ FLAGS e_c13_acq','dept g~ il n lide_dept_acq') in n wbs dp y wnt bs yn DISPLAY \$p -61.1 wp 2564.8 vs 60 sc 0 wc 2255 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2	bs 16 lb 0.10 tpwr 63 wtfile pw 9.5 proc ft d1 1.500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n wexp autolist('gli~ FLAGS e_c13_acq','dept g~ i1 n lide_dept_acq') in n wbs dp y wnt bs 2564.8 vs 60 sc 0 wc 225 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2 10.000	bs 16 lb 0.10 tpwr 63 wtfile pw 9.5 proc ft d1 1.500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n wexp autolist('gli~ FLAGS e_c13_acq','dept g~ i1 n lide_dept_acq') in n wbs dp y wnt hs yn DISPLAY \$p -61.1 wp 2564.8 vs 60 \$c 0 wc 225 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2771.7	sw 5997			
tpwr 63 wtfile pw 9.5 proc ft d1 1.500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n wexp autolist('gli~ gain not used de','h1','c13 glid~ FLAGS e_c13_acq','dept g~ i1 n n ide_dept_acq') in n n wbs dp y wnt bISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzman 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2171.2	tpwr       63       wtfile         pw       9.5       proc       ft         pw       1500       fn       131072         tof       1322.9       math       f         nt       16       werr react('wait')         alock       n       wexp autolist('gli~         gain       not used       de','h1','c13 glid~         fil       n       lide_dept_acq')         ide       y       wnt         bide_dept_acq'       with         gain       -61.1         wp       2564.8         vs       60         sc       0         wc       225         hzmm       11.40         is       1363.56         rfl       2771.0         rfp       2171.2	tpwr 63 wtfile pw 9.5 proc ft d1 1.500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n wexp autolist('gli~ gain not used de','h1','c13 glid~ FLAGS e_c13_acq','dept g~ i1 n 1ide_dept_acq') in n wbs blSPLAY p -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2	tpwr 63 wtfile pw 9.5 proc ft d1 1.500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n wexp autolist('gli~ gain not used de','h1','c13 glid~ FLAGS e_c13_acq','dept g~ i1 n 1 ide_dept_acq') in n wbs bs yn DISPLAY yn p -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2	tpwr 63 wtfile pw 9.5 proc ft d1 1.500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n wexp autolist('gli~ gain not used de','h1','c13 glid~ FLAGS e_c13_acq','dept g~ in n lide_dept_acq') in n ide_dept_acq') wt bISPLAY v p 2564.8 vs 60 sc 0 wc 225 hzman 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2 100.000	tpwr 63 wtfile pw 9.5 proc ft d1 1.500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n wexp autolist('gli~ gain not used de','h1','c13 glid~ fLAGS e_c13_acq','dept g~ in n wbs dp y wnt hs yn DISPLAY sp p -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzman 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2 10.000	fb 340	00	PROCESSING	;
pw     9.5     proc     ft       d1     1.500     fn     131072       tof     1322.9     math     f       nt     16     fill     fill       ct     16     werr react('wait')       alock     n     wexp autolist('gli~       gain     not used     de','h1','c13 glid~       rELAGS     e_c13_acq','dept g~       in     n     lide_dept_acq')       in     n     wbs       dp     y     wnt       bs     yn       DISPLAY     sp       sp     -61.1       wp     2564.8       vs     60       sc     0       wc     225       hzmmn     11.40       is     1363.56       rfl     2771.0       rfp     2171.2       th     2       ins     100.000	pw     9.5     proc     ft       d1     1.500     fn     131072       d1     1.500     fn     131072       tof     1322.9     math     f       nt     16     werr react('wait')       ct     16     werr react('wait')       gain     not used     de','h1','c13 glid~       gain     not used     de','h1','c13 glid~       ril     n     lide_dept_acq')       in     n     wbs       dp     y     wnt       bs     yn     yn       DISPLAY     60     60       sc     0       wc     225       hzmm     11.40       1s     1363.56       rfl     2771.0       rfp     2171.2	pw     9.5     proc     ft       d1     1.500     fn     131072       tof     1322.9     math     f       nt     16     werr react('wait')       alock     n     wexp autolist('gli~       gain     not used     de','h1','c13 glid~       riAGS     e_c13_acq','dept g~       in     n     lide_dept_acq')       in     n     wss       dp     y     wnt       blsPLAY     yn       sp     -61.1       wp     2564.8       vs     60       sc     0       wc     225       hzmm     11.40       is     1363.56       rfl     2771.0       rfp     2171.2       th     2	pw     9.5     proc     ft       d1     1.500     fn     131072       tof     1322.9     math     f       nt     16     werr react('wait')       alock     n     wexp autolist('gli~       gain     not used     de','h1','c13 glid~       rLAGS     e_c13_acq','dept g~       in     n     lide_dept_acq')       in     n     wss       dp     y     wnt       blsPLAY     yn       sp     -61.1       wp     2564.8       vs     60       sc     0       wc     225       hzmm     11.40       is     1585.56       rfl     2771.0       rfp     2171.2       th     2	pw     9.5     proc     ft       d1     1.500     fn     131072       dot     fn     131072       tof     1322.9     math     f       nt     16     werr react('wait')       alock     n     wexp autolist('gli~       gain     not used     de','h1','c13 glid~       rELAGS     e_c13_acq','dept g~       in     n     lide_dept_acq')       in     n     ws       dp     y     wnt       bs     yn       DISPLAY     sp       vs     60       sc     0       wc     225       hzmm     11.40       is     1363.56       rfl     2771.0       rfp     2171.2       th     2       ins     100.000	pw     9.5     proc     ft       d1     1.500     fn     131072       d1     1.500     fn     131072       tof     1322.9     math     f       nt     16     werr react('wait')       alock     n     wexp autolist('gli~       gain     not used     de','h1','c13 glid~       rELAGS     e_c13_acq','dept g~       in     n     lide_dept_acq')       in     n     wst       dp     y     wnt       bs     yn       DISPLAY     sp       sc     0       wc     225       hzmm     11.40       is     1363.56       rfl     2771.0       rfp     2171.2       th     2       ins     100.000				0.10
di       1.500       fn       131072         tof       1322.9       math       f         nt       16       f       f         ct       16       werr react('wait')       alock         alock       n       werr autolist('gli~         gain       not used       de','h1','c13 glid*         gain       not used       de','h1','c13 glid*         flags       lide_dept_acq')       lide_dept_acq')         in       n       wbs         gp       -61.1       wn         ps       2564.8       vs         sc       0       sc         sc       0       sc         st       1363.56       rfl         rfl       2771.0       rfp         rfp       2171.2       ins         th       2       ins	di       1.500       fn       131072         tof       1322.9       math       f         nt       16       fn       fn         ct       16       werr react('wait')       alock       n         alock       n       wexp autolist('gliw')       gain       not used       de','h1','c13 glid'         gain       not used       de','h1','c13 glid'       e_c13_acq','dept gw'       il         fl       n       lide_dept_acq')       with         dp       y       wnt       sp       -61.1         wp       2564.8       sv       60       sc       0         sc       0       sc       0       sc       fn       il 40       is       1363.56         rfl       2771.0       rfp       2171.2       ff       ff       ff       ff	di 1.500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n wexp autolist('gli~ gain not used de','h1','c13'glid~ FLAGS e_c13_acq','dept g~ i1 n lide_dept_acq') in n wbs dp y wnt bs yn DISPLAY \$p -61.1 wp 2564.8 vs 60 sc 0 wc 2225 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2	di 1.500 fn 131072 tof 1322.9 math f nt 16 ct 16 werr react('wait') alock n wexp autolist('gli~ gain not used de','h1','c13'glid~ FLAGS e_c13_acq','dept g~ i1 n lide_dept_acq') in n wbs dp y wnt bs yn DISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 2225 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2	di       1.500       fn       131072         tof       1322.9       math       f         nt       16       f       f         ct       16       werr react('wait')       alock         alock       n       werr react('wait')         alock       n       werr react('wait')         gain       not used       de','h1','c13 glid*         e_c13_acq','dept g*       i       lide_dept_acq')         in       n       wbs         dp       y       wnt         DISPLAY       sp       ~61.1         wp       2564.8       vs         vs       60       sc         sc       0       sc         wc       225         hzmm       11.40         is       1363.56         rfl       2771.0         rfp       2171.2         th       2         ins       100.000	di       1.500       fn       131072         tof       1322.9       math       f         nt       16       f       f         ct       16       werr react('wait')       alock         alock       n       werr autolist('gli~         gain       not used       de','h1','c13 glid*         gain       not used       de','h1','c13 glid*         il       n       nbs         il       n       nbs         dp       y       with         bp       y       with         bs       yn       DISPLAY         sp       ~61.1       ws         wc       225         hzmm       11.40         is       1363.56         rfl       2771.0         rfp       2171.2         th       2         ins       100.000				
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ct     16     werr react('wait')       alock     n     wexp autolist('gli~       gain     not used     de',h1',fcl3 glid~       e_cl3_acq','dept g~     lide_dept_acq')       in     n     wbs       dp     yn       DISPLAY     wn       sp     -61.1       wp     2564.8       vs     60       sc     0       wc     225       hzmm     11.40       is     1363.56       rfl     2771.0       rfp     2171.2       th     2       ins     100.000	ci     16     werr react('wait')       alock     n     wexp autolist('gli~       gain     not used     de', h1', rcl3 glid~       gain     FLAGS     e_ci3_acq','dept g~       il     n     lide_dept_acq')       in     n     wbs       dp     y     wnt       DISPLAY     50     60       sc     0     60       sc     0     60       sc     0     11.40       is     1363.56     rfl       rfl     2771.0     rfp	ct     16     werr react('wait')       alock     n     wexp autolist('gli~       gain     not used     de','h1','c13 glid~       FLAGS     e_c13_acq','dept g~       il     n     lide_dept_acq')       in     n     wbs       dp     y     wnt       DISPLAY     \$0       vs     60       sc     0       wc     2255       hzman     11.40       is     1363.56       rfl     2771.0       rfp     2171.2       th     2	ct     16     werr react('wait') alock       alock     n     wexp autolist('gliw wexp autolist('gliw fLAGS       FLAGS     e_ci3_acq','dept gw il       n     n       ide_dept_acq')       in     n       wbs       dp     y       blsPLAY       \$p     -61.1       wp     2564.8       vs     60       sc     0       wc     225       hzmm     11.40       is     1363.56       rfl     2771.0       rfp     2171.2       th     2	ct     16     werr react('wait')       alock     n     wezp autolist('gli~       gain     not used     de','h1','c13 glid~       FLAGS     e_c13_acq','dept g~       i1     n     lide_dept_acq')       in     n     wbs       dp     y     wnt       DISPLAY     50       sc     0       sc     0       sc     0       sc     11.40       is     1363.56       rfl     2771.0       rfp     2171.2       th     2       ins     100.000	ct     16     werr react('wait')       alock     n     werp autolist('gli~       gain     not used     de',h1',rc13 glid~       FLAGS     e_c13_acq','dept g~       i1     n     lide_dept_acq')       in     n     wbs       dp     y     wnt       DISPLAY     sp     -61.1       wp     2564.8     vs       sc     0       wc     225       hzmm     11.40       is     1363.56       rfl     2771.0       rfp     2171.2       th     2       ins     100.000				f
alock n wexp autolist('gli~ gain not used de','hi','ci3 glid~ FLAGS e_ci3_acq','dept g~ in n wbs dp y wnt hs yn DISPLAY yn bs -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzman 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2 th 2 ins 100.000	alock n wexp autolist('gli~ gain not used de','hi','ci3 glid~ FLAGS e_c13_acq','dept g~ il n bide_dept_acq') hs yn DISPLAY \$p -61.1 Wp 2564.8 Vs 60 \$c 0 Wc 225 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2	alock n wexp autolist('gli~ gain not used de','h1','c13 glid~ FLAGS e_c13_acq','deptg~ in n wbs dp y wnt hs yn DISPLAY \$p -61.1 wp 2564.8 v\$ 60 \$c 0 wc 2255 hzmm 11.40 is 1368.56 rfl 2771.0 rfp 2171.2 th 2	alock n wexp autolist('gli~ gain not used de','hi','ci3 glid~ FLAGS e_ci3_acq','deptg~ il n lide_dept_acq') in n wbs dp y wnt hs yn DISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 2255 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2	alock n wexp autolist('gli~ gain not used de','hi','ci3 glid~ FLAGS e_ci3_acq','dept g~ in n wbs dp y wnt bs yn DISPLAY yn p -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzman 11.40 is 1365.56 rfl 2771.0 rfp 2171.2 th 2171.2 th 2171.2	alock n wexp autolist('gli~ gain not used de','hi','ci3 glid~ FLAGS e_c13_acq','dept g in n wes dp y wnt bs yn DISPLAY yn bs - 61.1 wp 2564.8 vs 60 sc 0 wc 225 hzman 11.40 is 1366.56 rfl 2771.0 rfp 2171.2 th 2 th 2 100.000				
gain         not used         de','hl','c13'glid~           FLAGS         e_c13_acq','deptg~           in         n         lide_dept_acq')           in         n         ws           dp         y         wnt           blsPLAY         sp         -61.1           wp         2564.8         vs           vc         225           hzmma         11.40           is         1363.56           rfl         2771.0           rfp         2171.2           th         2           ins         100.000	gain not used de','h1','c13`gĪid~ FLAGS e_c13_acq','dept g~ il n lide_dept_acq') in n wbs dp y wnt bs yn DISPLAY \$p -61.1 wp 2564.8 vs 60 \$c 0 wc 225 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2	gain         not         used         de','hl','c13'glid~           FLAGS         e_c13_acq','deptg~           in         n         lide_dept_acq')           in         n         wss           dp         y         wnt           DISPLAY         sp         -61.1           wp         2564.8         vs           vc         225           hzmum         11.40           is         1365.56           rfl         2771.0           rfp         2171.2           th         2	gain         not         used         de','hl','c13'gid~           FLAGS         e_c13_acq','deptg~           il         n         lide_dept_acq')           in         n         wss           dp         y         wnt           bISPLAY         sp         -61.1           wp         2564.8         vs           vc         225         bzmum           hzmum         11.40         is           is         1365.56         rfl           rfl         2771.0         rfp           rfp         2171.2         th	gain         not         used         de','hl','c13'glid~           FLAGS         e_c13_acq','deptg~           in         n         lide_dept_acq')           in         n         wss           dp         y         wnt           blsPLAY         sp         -61.1           wp         2564.8         vs           vs         60         sc           sc         0         vc           sc         11.40         sc           is         1363.56         rfl           rfl         2771.0         rfp           rfp         2171.2         1           th         2         1	gain         not         used         de','hl','c13'glid~           FLAGS         e_c13_acq','deptg~           in         n         lide_dept_acq')           in         n         ws           dp         y         wnt           blsPLAY         yn           DISPLAY         sp           sp         -61.1           wp         2564.8           vs         60           sc         0           wc         225           hzman         11.40           is         1363.56           rfl         2771.0           rfp         2171.2           th         2           ins         100.000				
FLAGS     e_cis_acq`,'dept_g~       i1     n     lide_dept_acq`)       in     n     wbs       dp     y     wnt       DISPLAY     sp     -61.1       wp     2564.8     vs     60       sc     0     sc     0       wc     225     1.40     is       hzmm     11.40     is     1363.56       rfl     2771.0     rfp     2171.2       th     2     1     ins	FLAGS         e_ci3_acq','deptg~           i1         n         lide_dept_acq')           in         n         wbs           dp         y         wnt           bs         -61.1         wp           vp         -654.8         vs           sp         -61.4         -60           sc         0         -62           sc         0         -61           st         1363.56         -61           rfl         2771.0         -77	FLAGS     e_ci3_acid','deptg~       i1     n     lide_dept_acq')       in     n     wbs       dp     y     wnt       bs     yn       DISPLAY       sp     ~61.1       wp     2564.8       vs     60       sc     0       wc     225       hzmm     11.40       is     1363.56       rfl     2771.0       rfp     2171.2       th     2	FLAGS     e_ci3_acq','deptg~       i1     n     lide_dept_acq')       in     n     wbs       dp     y     wnt       bs     yn       DISPLAY       sp     ~61.1       wp     2564.8       vs     60       sc     0       wc     225       hzmm     11.40       is     1363.56       rfl     2771.0       rfp     2171.2       th     2	FLAGS     e_ci3_acq','deptg~       i1     n     lide_dept_acq')       in     n     wbs       dp     y     wnt       bs     -61.1       wp     2564.8       vs     60       sc     0       sc     225       hzmm     11.40       is     1363.56       rfl     2771.0       rfp     2171.2       th     2       ins     100.000	FLAGS         e_ci3_acq`,`deptg~           i1         n         lide_dept_acq`)           in         n         wbs           dp         y         wnt           DISPLAY         sp         ~61.1           wp         2564.8         vs           sc         0         sc           sc         11.40         sc           sc         11.40         sc           sc         11.40         sc           sc         1255         sc           sc         12.25         sc           sc         12.40         sc           sc         11.40         sc           sc         12.25         sc           h         12.771.0         rfl           rfp         2171.2         1           th         2         1           ins         100.000         sc		n wexp	autolist	g11~
11 n lide_dept_acq') 1n n wbs dp y wnt hs yn DISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzman 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2 th 2 10.000	il n lide_dept_acq') in n wbs dp y wnt bs yn Sp61.1 Wp 2564.8 Vs 60 sc 0 Wc 225 hzmwn 11.40 is 1363.56 rfl 2771.0 rfp 2171.2	il     n     lide_dept_sicq')       in     n     wbs       dp     y     wnt       hs     yn       DISPLAY     p       \$p     -61.1       Wp     2564.8       vs     60       sc     0       wc     225       hzmma     11.40       is     1365.56       rfl     2771.0       rfp     2171.2       th     2	il     n     lide_dept_scq')       in     n     wbs       dp     y     wnt       hs     yn       DISPLAY        sp     -61.1       wp     2564.8       vs     60       sc     0       wc     225       hzman     11.40       is     1365.56       rfl     2771.0       rfp     2171.2       th     2	il n lide_dept_acq*) in n wbs dp y wnt hs yn DISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzmwn 11.40 is 1365.56 rfl 2771.0 rfp 2171.2 th 2 1ns 100.000	il n lide_dept_acq') in n wbs dp y wnt hs yn DISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzmwn 11.40 is 1365.56 rfl 2771.0 rfp 2171.2 th 2 1ns 100.000				
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dp y wnt hs yn DISPLAY \$p -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzmwn 11.40 is 1368.56 rfl 2771.0 rfp 2171.2 th 2171.2 th 2171.2	dp y wnt hs yn DISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2	dp y wnt hs yn DISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2	dp y wnt hs yn DISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2	dp     y     wnt       hs     yn       DISPLAY       sp     -61.1       wp     2564.8       vs     60       sc     0       wc     225       hzmm     11.40       is     1368.56       rfl     2771.0       rfp     2171.2       th     2       1ns     100.000	dp         y         wnt           hs         yn           DISPLAY           sp         -61.1           wp         2564.8           vs         60           sc         0           wc         225           hzmmn         11.40           is         1363.56           rfl         2771.0           rfp         2171.2           th         2           ins         100.000			Ino_acht_a	icy j
hs yn DISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzman 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2171.2 th 2171.2	hs yn DISPLAY sp61.1 wp 2564.8 vs 60 sc 0 wc 225 hzman 11.40 1s 1363.56 rfl 2771.0 rfp 2171.2	hs yn DISPLAY \$p -61.1 Wp 2564.8 Vs 60 sc 0 Wc 225 hzmwn 11.40 1s 1368.56 rfl 2771.0 rfp 2171.2 th 2	hs yn DISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzmwn 11.40 1s 1363.56 rfl 2771.0 rfp 2171.2 th 2	hs yn DISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzmun 11.40 is 1366.56 rfl 2771.0 rfp 2171.2 th 2171.2 th 100.000	hs yn DISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzmun 11.40 is 1366.56 rfl 2771.0 rfp 2171.2 th 2171.2 th 100.000				
DISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2171.2 th 10.000	DISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzmm 11.40 1s 1363.56 rfl 2771.0 rfp 2171.2	DISPLAY \$p -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2	DISPLAY \$p -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2	DISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzman 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2171.2 th 2171.2	DISPLAY sp -61.1 wp 2564.8 vs 60 sc 0 wc 225 hzman 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2171.2 th 10.000		•		
sp         -61.1           wp         2564.8           vs         60           sc         0           wc         225           hzman         11.40           is         1368.56           rfl         2771.0           rfp         2171.2           th         2           ins         100.000	Sp         -61.1           Wp         2564.8           Vs         60           sc         0           wc         225           hzmm         11.40           is         1363.56           rfl         2771.0           rfp         2171.2	sp     -61.1       wp     2564.8       vs     60       sc     0       wc     225       hzmm     11.40       is     1363.56       rfl     2771.0       rfp     2171.2       th     2	sp         -61.1           wp         2564.8           vs         60           sc         0           wc         225           hzmm         11.40           is         1363.56           rfl         2771.0           rfp         2171.2           th         2	sp         -61.1           wp         2564.8           vs         60           sc         0           wc         225           hzman         11.40           is         1363.56           rfl         2771.0           rfp         2171.2           th         2           ins         100.000	sp         -61.1           wp         2564.8           vs         60           sc         0           wc         225           hzman         11.40           is         1363.56           rfl         2771.0           rfp         2171.2           th         2           ins         100.000				
wp         2564.8           vs         60           sc         0           wc         225           hzmm         11.40           is         1363.56           rfl         2771.0           rfp         2171.2           th         2           ins         100.000	wp 2564.8 vs 60 sc 0 wc 225 hzman 11.40 is 1363.56 rfl 2771.0 rfp 2171.2	wp     2564.8       vs     60       sc     0       wc     225       hzman     11.40       is     1363.56       rfl     2771.0       rfp     2171.2       th     2	wp         2564.8           vs         60           sc         0           wc         225           hzman         11.40           1s         1363.56           rfl         2771.0           rfp         2171.2           th         2	wp         2564.8           vs         60           sc         0           wc         225           hzmm         11.40           is         1365.56           rfl         2771.0           rfp         2171.2           th         2           ins         100.000	wp         2564.8           vs         60           sc         0           wc         225           hzmm         11.40           is         1365.56           rfl         2771.0           rfp         2171.2           th         2           ins         100.000		.1		
sc 0 wc 225 hzman 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2 ins 100.000	sc 0 wc 225 hzmwn 11.40 is 1363.56 rfl 2771.0 rfp 2171.2	sc         0           wc         225           hzmm         11.40           is         1363.56           rfl         2771.0           rfp         2171.2           th         2	sc 0 wc 225 hzmm 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2	SC         0           wc         225           hzman         11.40           is         1363.56           rfl         2771.0           rfp         2171.2           th         2           ins         100.000	sc         0           wc         225           hzman         11.40           is         1363.56           rfl         2771.0           rfp         2171.2           th         2           ins         100.000		.8		
wc 225 hzman 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2 ins 100.000	wc 225 hzman 11.40 is 1363.56 rfl 2771.0 rfp 2171.2	wc 225 hzmwn 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2	wc 225 hzman 11.40 is 1368.56 rfl 2771.0 rfp 2171.2 th 2	wc         225           hzmun         11.40           is         1365.56           rfl         2771.0           rfp         2171.2           th         2           is         100.000	wc         225           hzmun         11.40           is         1365.56           rfl         2771.0           rfp         2171.2           th         2           ins         100.000	vs i	50		
hzman 11.40 is 1363.56 rfl 2771.0 rfp 2171.2 th 2171.2 ins 100.000	hzman 11.40 1s 1363.56 rfl 2771.0 rfp 2171.2	hzman 11.40 1s 1363.56 rfl 2771.0 rfp 2171.2 th 2	hzman 11.40 1s 1363.56 rfl 2771.0 rfp 2171.2 th 2	hzmm         11.40           is         1363.56           rfl         2771.0           rfp         2171.2           th         2           ins         100.000	hzmm         11.40           is         1363.56           rfl         2771.0           rfp         2171.2           th         2           ins         100.000				
is         1363.56           rfl         2771.0           rfp         2171.2           th         2           ins         100.000	is 1363.56 rfl 2771.0 rfp 2171.2	1s 1363.56 rfl 2771.0 rfp 2171.2 th 2	1s 1363.56 rfl 2771.0 rfp 2171.2 th 2	is         1363.56           rfl         2771.0           rfp         2171.2           th         2           ins         100.000	is         1363.56           rfl         2771.0           rfp         2171.2           th         2           ins         100.000				
rf1 2771.0 rfp 2171.2 th 2 1ក្នុន 100.000	rfl 2771.0 rfp 2171.2	rfl 2771.0 rfp 2171.2 th 2	rfl 2771.0 rfp 2171.2 th 2	rfl 2771.0 rfp 2171.2 th 2 1ŋs 100.000	rfl 2771.0 rfp 2171.2 th 2 1ŋs 100.000				
rfp 2171.2 th 2 ins 100.000	rfp 2171.2	rfp 2171.2 th 2	rfp 2171.2 th 2	rfp 2171.2 th 2 ins 100.000	rfp 2171.2 th 2 ins 100.000				
th 2 ins 100.000		th 2	th 2	th 2 ins 100.000	th 2 ins 100.000				
ins 100.000				ins 100.000	ins 100.000				
			1110 100.000						





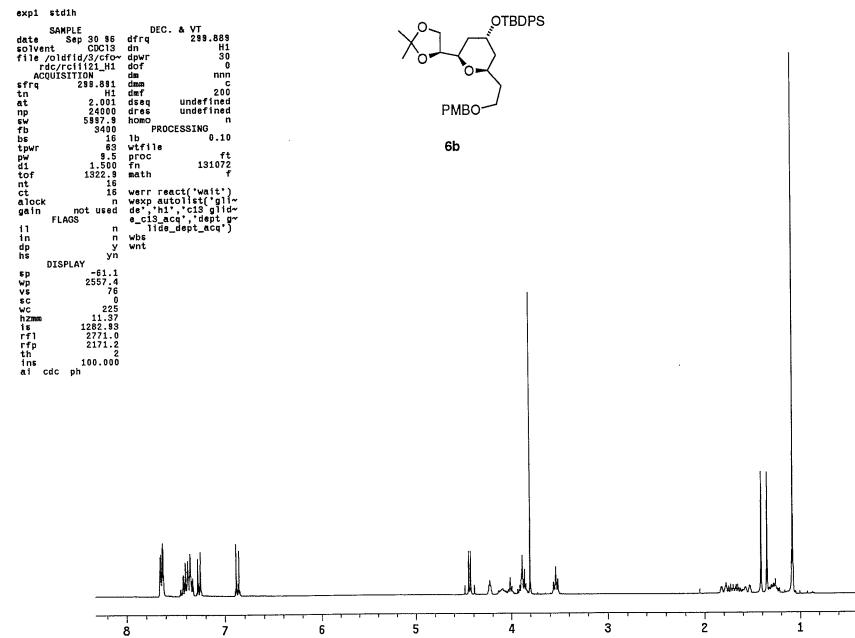
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RC-III-21



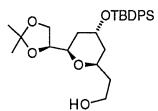
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ppm

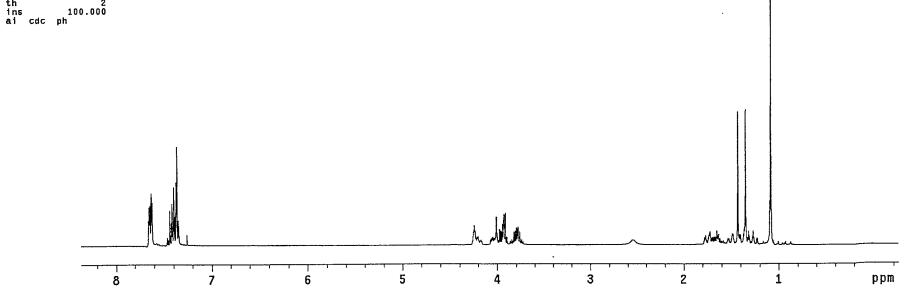
RC-II-229

exp1 std1h

	0.4401 5	DEO	& VT
	SAMPLE		299.889
date	Jul 10 96	dfrq	233.003 H1
solve		dn	
	/oldfid/5/cfo~	dpwr	30
	dc/rcii229_H1	dof	0
	QUISITION	da	nnn
sfrq	299.891	dam	C
tn	H1	dmf	200
at	2.001	dseq	undefined
np	24000	dres	undefined
sw	5997.9	homo	n
fb	3400	PROC	ESSING
bs	16	16	0.10
tpwr	63	wtfile	
pW	9.5	proc	ft
dï	1.500	fn	131072
tof	1322.9	math	f
nt	16		•
ct	16	werr rea	<pre>('wait')</pre>
alock			olist('gli~
gain	not used		,'c13 glid~
yam	FLAGS	A C19 A	; cis giid
11	r LHOS n		_dept_acq')
in	n	wbs	"nohe"acd )
		wnt	
dp	У	whe	
hs	yn yn		
	DISPLAY		
sp	-76.0		
wp	2587.1		
VS	78		
S C	0		
wc	225		
hzmm	11.50		
is	1167.86		
rf1	2771.0		
rfp	2171.2		
th	2		
ins	100.000		



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RC-II-251

exp1 std1h DEC. & VT 299.889 H1 99 
 SAMPLE
 D

 date
 Jul 11 96 dfrq

 solvent
 CDCl3 dn

 file
 /oldfid/5/cfor

 dof
 dof

 ACQUISITION
 dm

 sfrq
 299.881

 tn
 H1 dmf

 at
 2.001

 sw
 5997.5

 bomo
 3400
 0 30 0 Ò. nnn sfrq tn at np sw fb bs tpwr pw d1 tof nt ct alock gain 200 undefined undefined n 5997.9 3400 16 63 9.5 1.500 1322.9 16 16 16 PROCESSING PRO lb wtfile proc fn math 0.10 ft 131072 f 15
16 werr react('wait')
n wexp autolist('gli~
ied de','hi','cl3 glid~
e\_cl3\_acq','dept g~
n lide\_dept\_acq')
n wbs
v wnt not used FLAGS 11 10 dp hs y yn wnt DISPLAY 
 DISPLAY

 sp
 -61.1

 wp
 3150.5

 vs
 91

 sc
 0

 wc
 225

 hzmam
 14.00

 is
 1126.85

 rfp
 2171.0

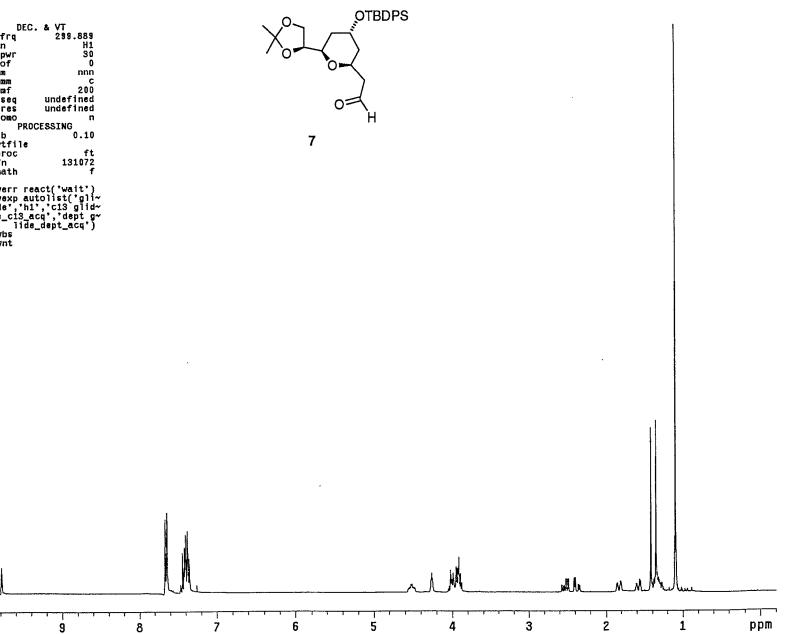
 rfp
 2171.2

 th
 2

 ins
 100.000

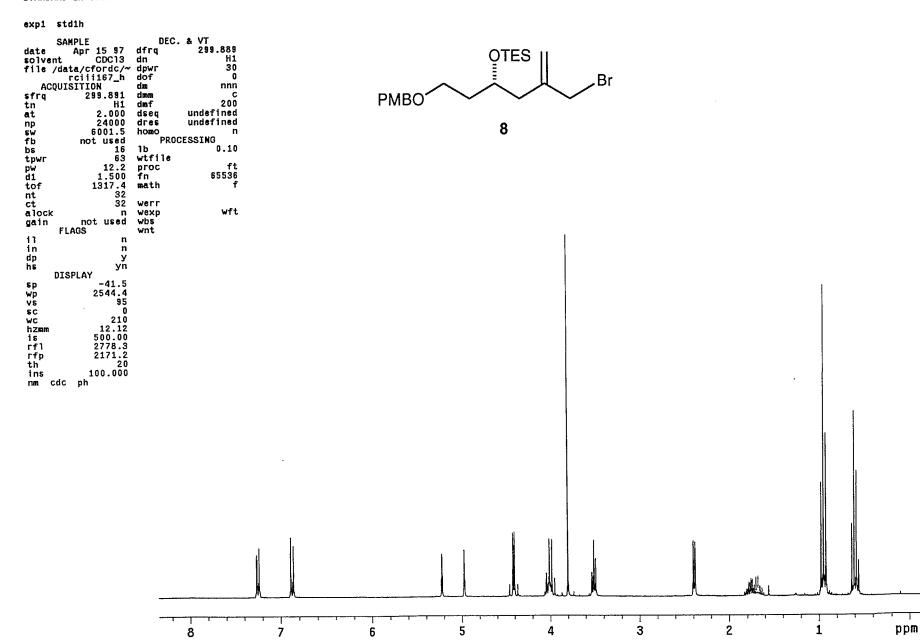
 ai
 cdc

10



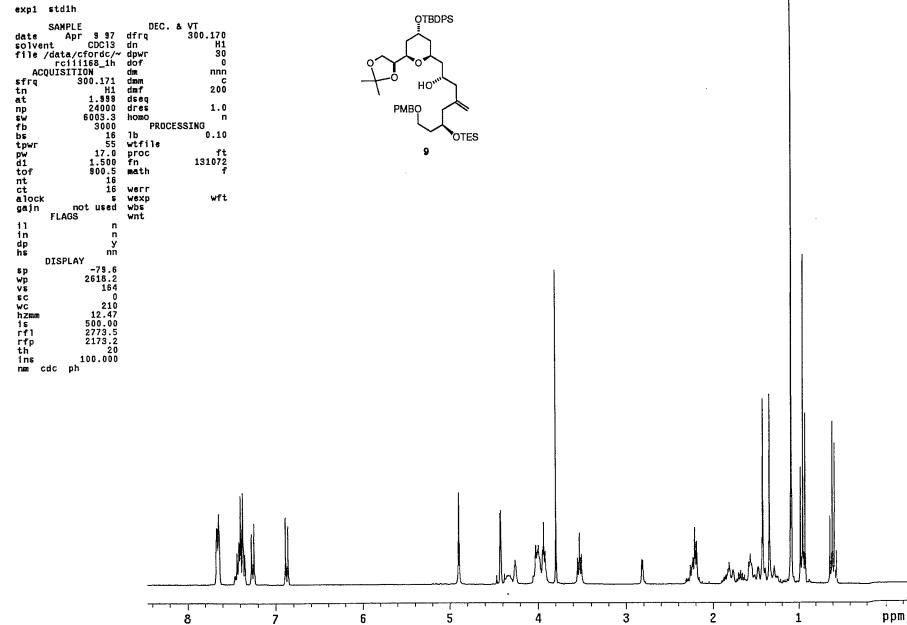
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STANDARD 1H OBSERVE



exp1 std1h

th ins

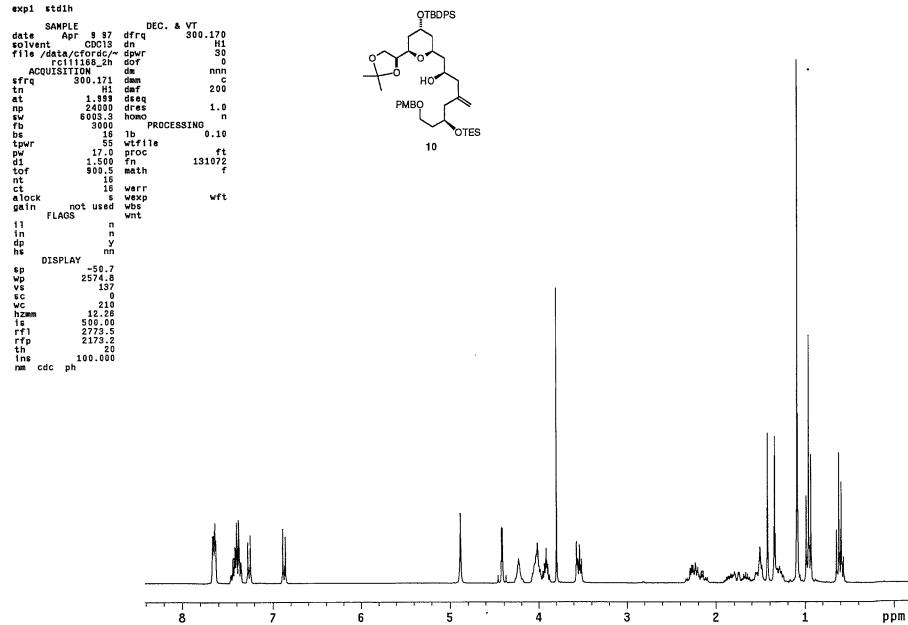


STANDARD 1H OBSERVE

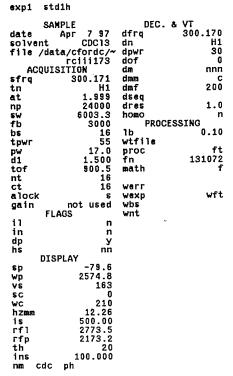
exp1 std1h

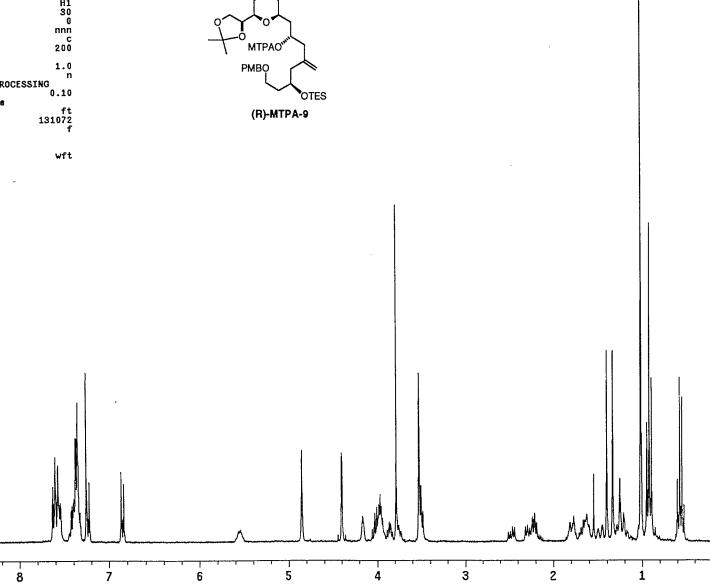
il in dp hS

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exp1 std1h





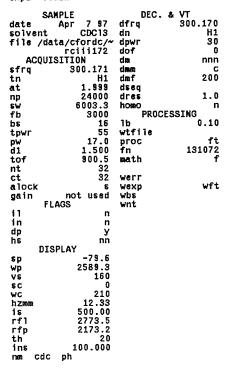
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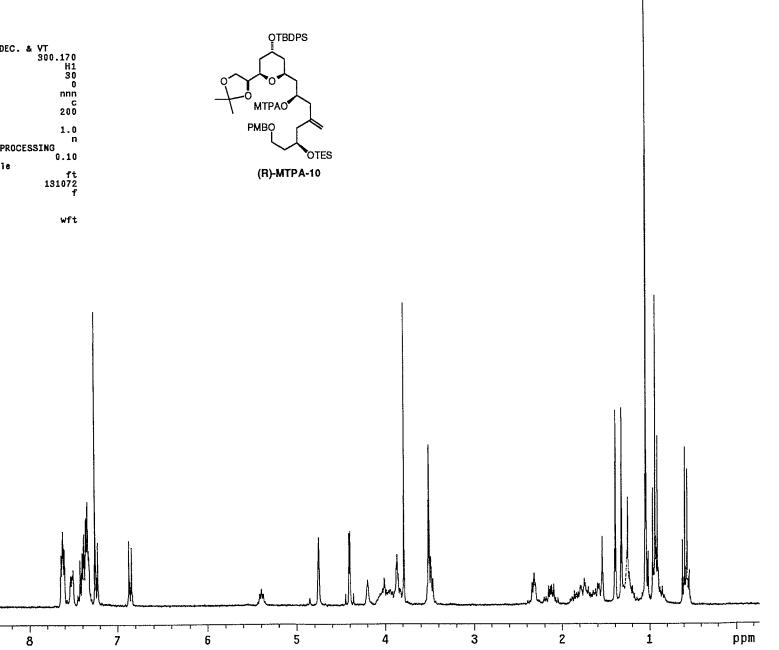
ppm

**OTBDPS** 

STANDARD 1H OBSERVE

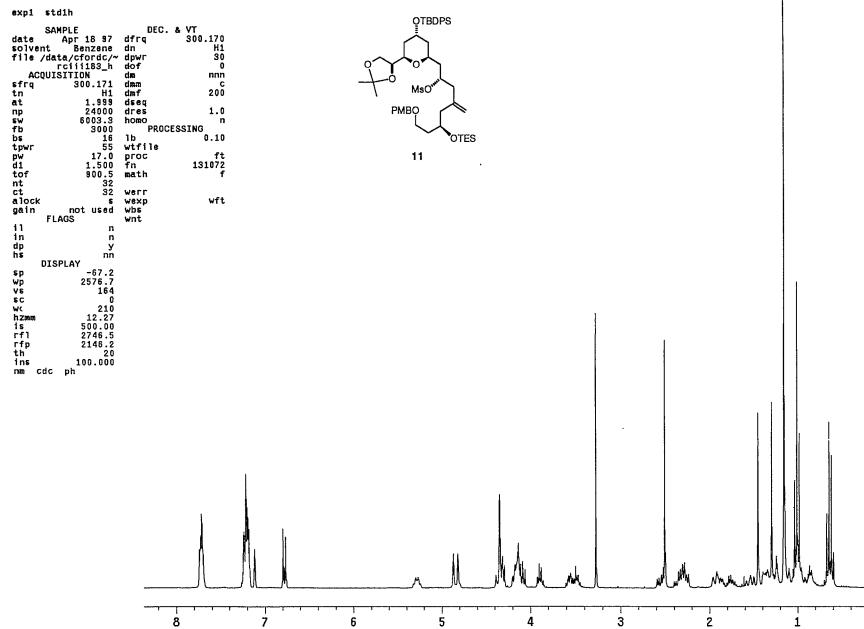
exp1 std1h





exp1 std1h

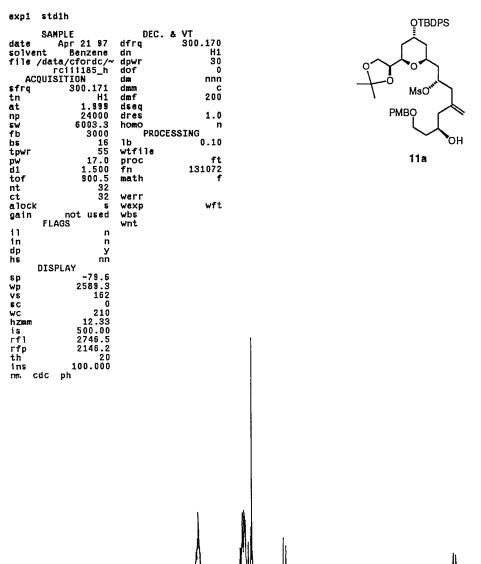
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ppm

STANDARD 1H OBSERVE



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ppm



exp1 \$2pul

exp1	\$2pul					
date solv file Af th at sw fb bs tpwr pwr d1 tof ct ct alon il in	SAMPLE Apr 23 97 Pht CDC13 /data/cfordc/~ rcii1187_h CQUISITION 499.871 40000 9997.5 6000 16 58 7.5 1.500 1504.1 32 32 K n	dn H1 dpwr 15 dof 0 dm nnn dmm c dmf 200 dseq dres 1.0 howo n PROCESSING 1b 0.10 wtfile proc ft fn 131072 math f werr		о 		
dp sp wp vs vs rfp th is i i i	yn DISPLAY -104.1 4264.0 41 0 210					
		8	7			A.MN

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ppm

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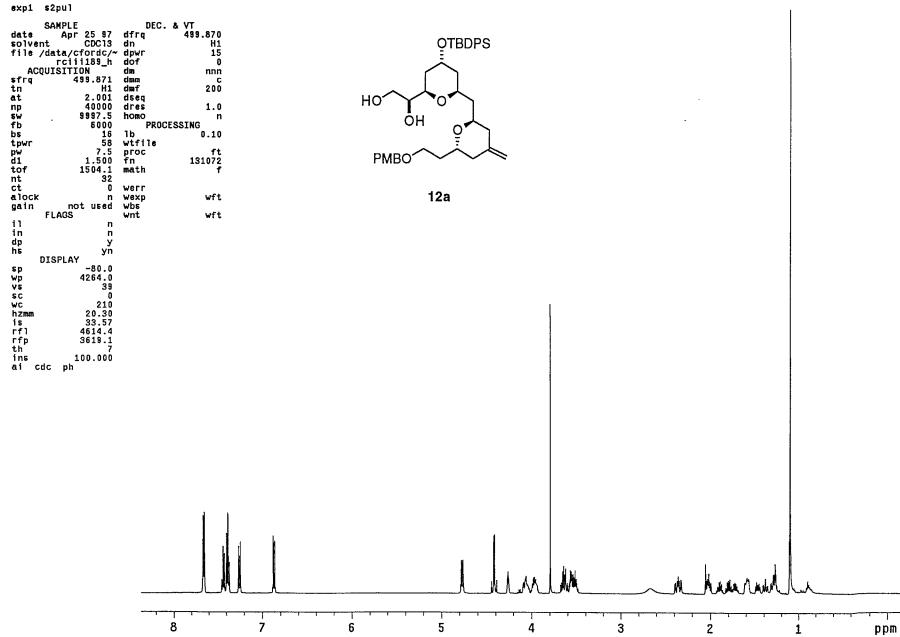
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#### STANDARD PROTON PARAMETERS

exp1 \$2pu]

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exp1 \$2pul

SAMPL	F	DEC	. & VT
	r 28 97	dfrq	499.870
solvent	CDC13	dn	H1
file /data/			15
	ii191_h	dof	Ō
ACOUISIT	TON	da.	nnn
	499.871	dam	C
tn	H1	daaf	200
at	2.001	dseq	200
np	40000	dres	1.0
sw	9997.5	homo	1.0 n
sw fb	6000		CESSING
bs	16	1b	0.10
tpwr	58	wtfile	0.10
	7.5		. ft
pW d1	1.500	proc fn	131072
	1504 1		
tof	1504.1	math	f
nt	32	LIAPP	
ct alock	32	werr	wft
	n	wexp	Wit
gain n FLAGS	ot used	wbs wnt	wft
i]		wnt	WIL
in	n		
	n		
dp	У		
hs DISPLA	J yn		
	-104.1		
sp Wp	4287.9		
vs	4207.3		
SC SC	0		
WC	210		
hzma	20.42		
12.000	33.57		
rfl	4614.4		
rfp	3619.1		
th	7		
th	7		
ins	100.000		
	100.000		
ins	100.000		

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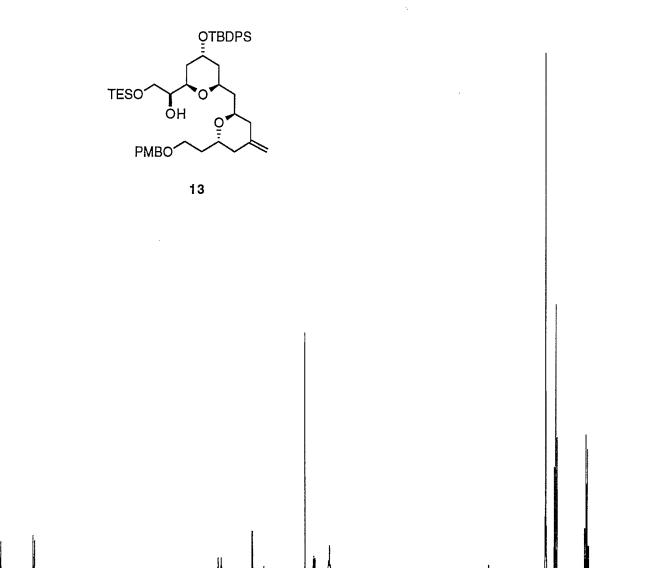
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ppm

STANDARD PROTON PARAMETERS

exp1 s2pul

DEC. & VT 498.870 H1 15 0 
 SAMPLE
 D

 date
 Apr 29 97 dfrq

 solvent
 CDC13 dn

 file
 /data/cfordc/~ dpwr

 rcii193\_h
 dof

 ACQUISITION
 dm

 sfrq
 499.871 dimm

 tn
 H1 dmf

 at
 2.001 dseq

 np
 40000 dres

 sw
 9997.5 homo

 fb
 6000
 OTBDPS 0 nnn С tn at np sw fb bs 200 TESO Ó N<sub>3</sub> 1.0 00 7.5 hom 6000 Pkc 16 lb 58 wffile 7.5 proc 1.500 fn 1504.1 math 32 32 werr n wexp not used whs FLAGS wht y yn n ō. PROCESSING 0.10 tpwr pw d1 tof nt ct alock ft PMBO' 131072 f 13a wft gain wft il in dp hs уň DISPLAY Sp Wp VS SC WC hZmm -80.0 4239.9 59 0 210 20.19 33.57 4614.4 3619.1 7 is rf1 rfp th ins 100.000 ai cdc ph

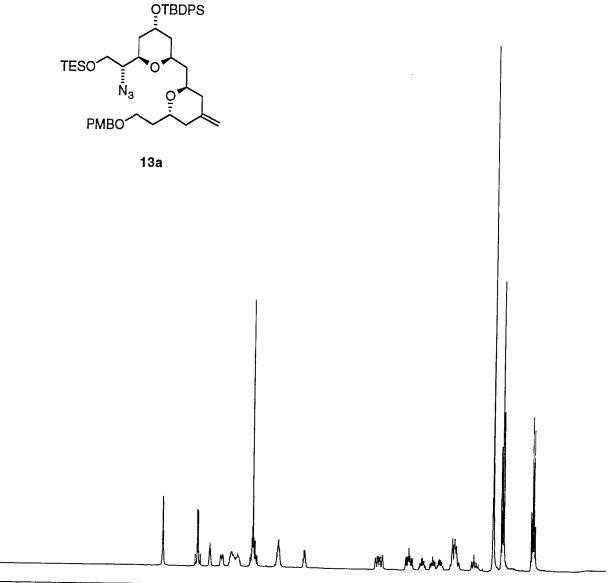
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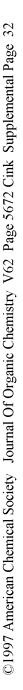
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ppm

exp1 \$2pu]

exp1 \$2pul			
SAMPLE           date         Apr 30 97 dr           solvent         CDC13 dr           file /data/cfordc/~ dr         dr           rcii1194_h dr         ccii1194_h dr           ACQUISITION         dr           sfrq         499.871 dr           tn         H1 dr           at         2.001 dr           np         40000 dr           sw         \$957.5 dr           fb         6000           bs         16 11           tpwr         7.5 pr           d1         1.500 fr           tof         1504.1 mr           nt         32           ct         32           ct         32           alock         n wr	n H1 pwr 15 of 0 ma nnn mm C mf 200 seq res 1.0 omo n PROCESSING b 0.10 tfile roc ft		
			MM_MA
	8 7	6 5 4	3 2



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