

Highly Enantioselective Direct Alkylation of Arylacetic Acids with Chiral Lithium Amides as Traceless Auxiliaries

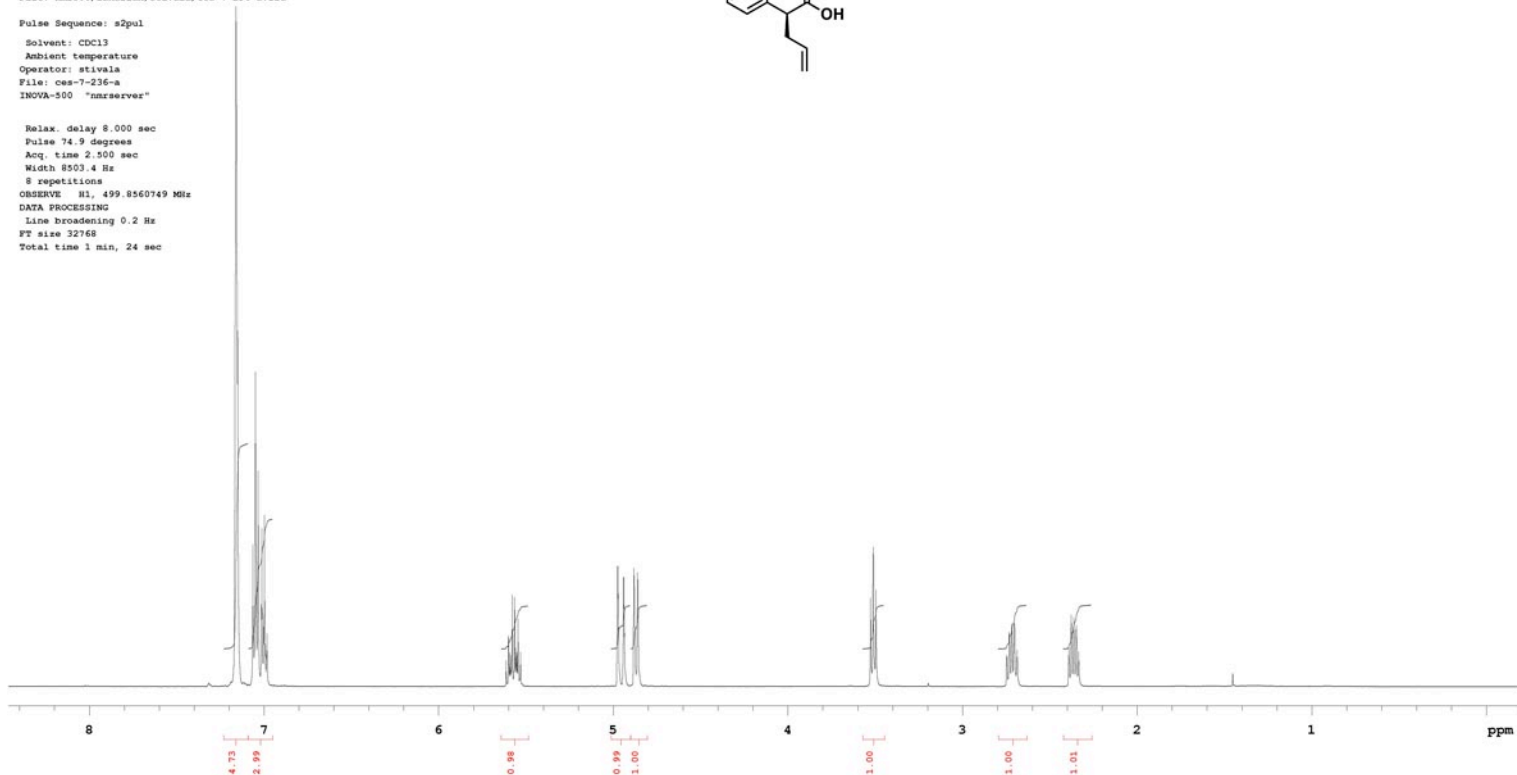
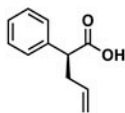
Craig E. Stivala and Armen Zakarian

Department of Chemistry and Biochemistry, University of California, Santa Barbara, California 93106, United States

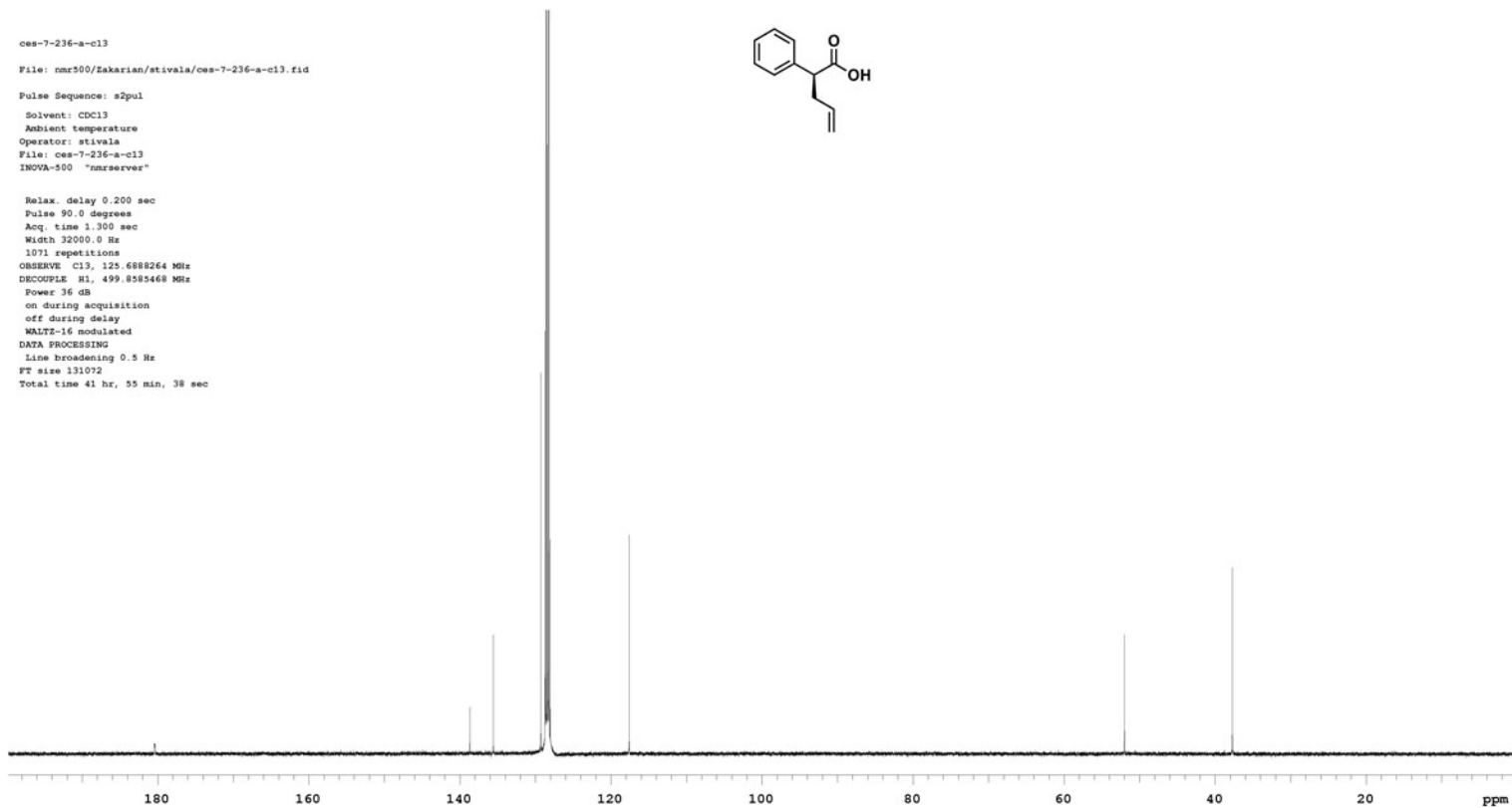
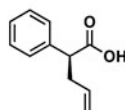
SUPPORTING INFORMATION 2

COPIES OF ^1H , ^{13}C NMR SPECTRA, HPLC TRACES

ces-7-236-a
 File: nmr500/Zakarian/stivala/ces-7-236-a.fid
 Pulse Sequence: s2pul
 Solvent: CDCl3
 Ambient temperature
 Operator: stivala
 File: ces-7-236-a
 INOVA-500 "nmrserver"
 Relax. delay 8.000 sec
 Pulse 74.9 degrees
 Acq. time 2.500 sec
 Width 8503.4 Hz
 8 repetitions
 OBSERVE H1, 499.8560749 MHz
 DATA PROCESSING
 Line Broadening 0.2 Hz
 FT size 32768
 Total time 1 min, 24 sec



ces-7-236-a-c13
 File: nmr500/Zakarian/stivala/ces-7-236-a-c13.fid
 Pulse Sequence: s2pul
 Solvent: CDCl3
 Ambient temperature
 Operator: stivala
 File: ces-7-236-a-c13
 INOVA-500 "nmrserver"
 Relax. delay 0.200 sec
 Pulse 90.0 degrees
 Acq. time 1.300 sec
 Width 32000.0 Hz
 1071 repetitions
 OBSERVE C13, 125.6888264 MHz
 DECOUPLE H1, 499.8560749 MHz
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 off during delay
 WALTZ-16 modulated
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 FT size 131072
 Total time 41 hr, 55 min, 38 sec



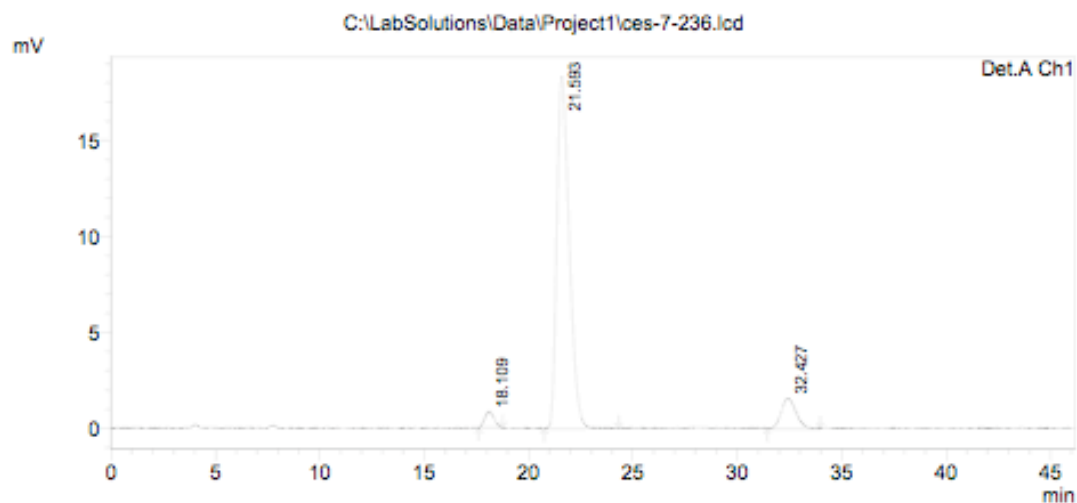
5/27/2011 09:36:34 1 / 1

==== Shimadzu LCsolution Analysis Report ====

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 Injection Volume : 20 uL
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 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
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<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	18.109	26947	851	3.114	4.094
2	21.593	760487	18346	87.873	88.293
3	32.427	78007	1582	9.014	7.612
Total		865441	20779	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-236.lcd

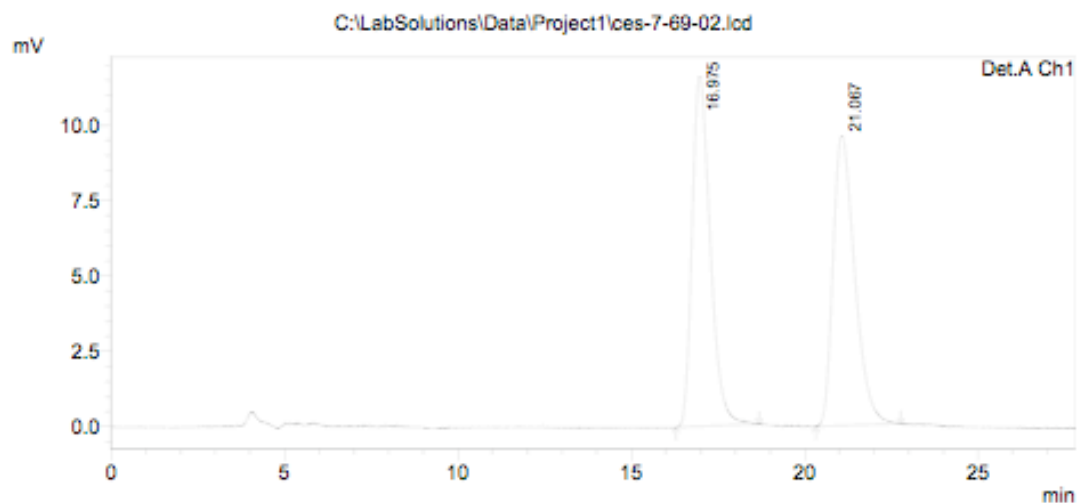
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==== Shimadzu LCsolution Analysis Report ====

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 Sample ID : ces-7-69
 Vial # :
 Injection Volume : 25 uL
 Data File Name : ces-7-69-02.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
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<Chromatogram>



1 Det.A Ch1/215nm

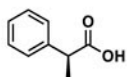
PeakTable

Detector A Ch1 215nm

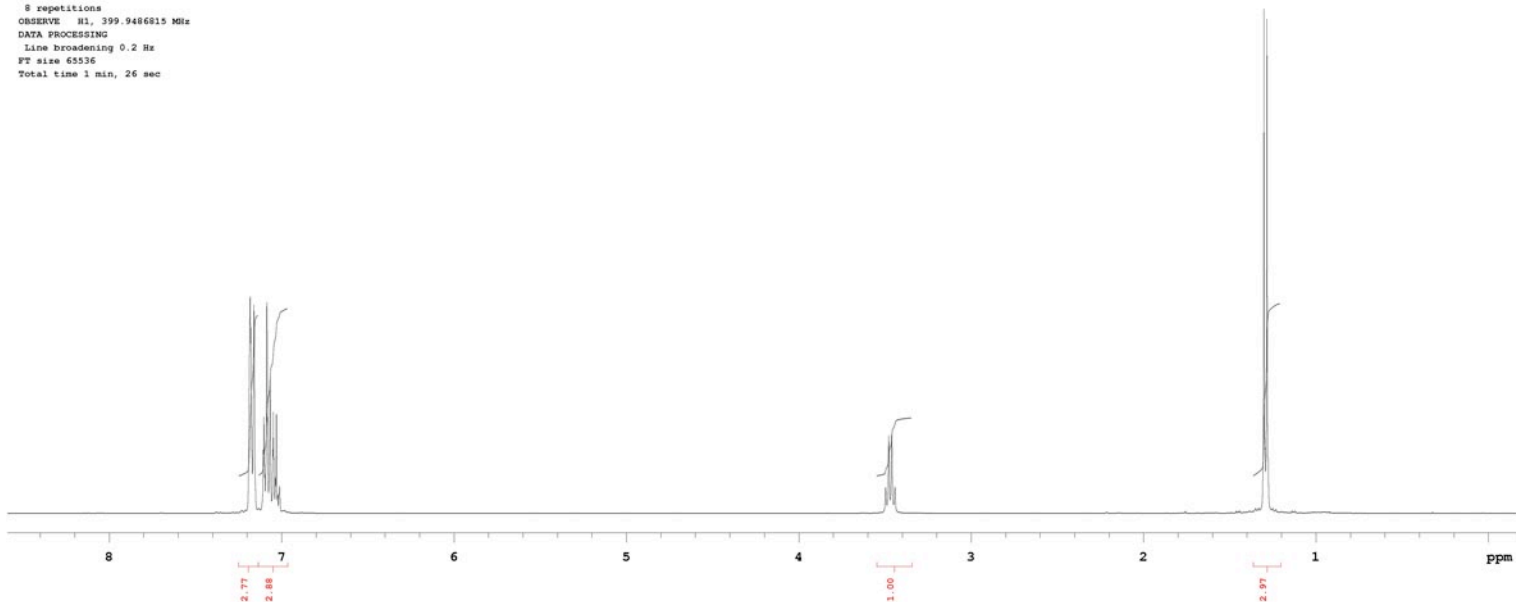
Peak#	Ret. Time	Area	Height	Area %	Height %
1	16.975	422650	11602	50.230	54.707
2	21.067	418773	9606	49.770	45.293
Total		841423	21208	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-69-02.lcd

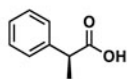
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 Ambient temperature
 Operator: stivala
 File: ces-7-227-a
 INOVA-500 "nmrserver"



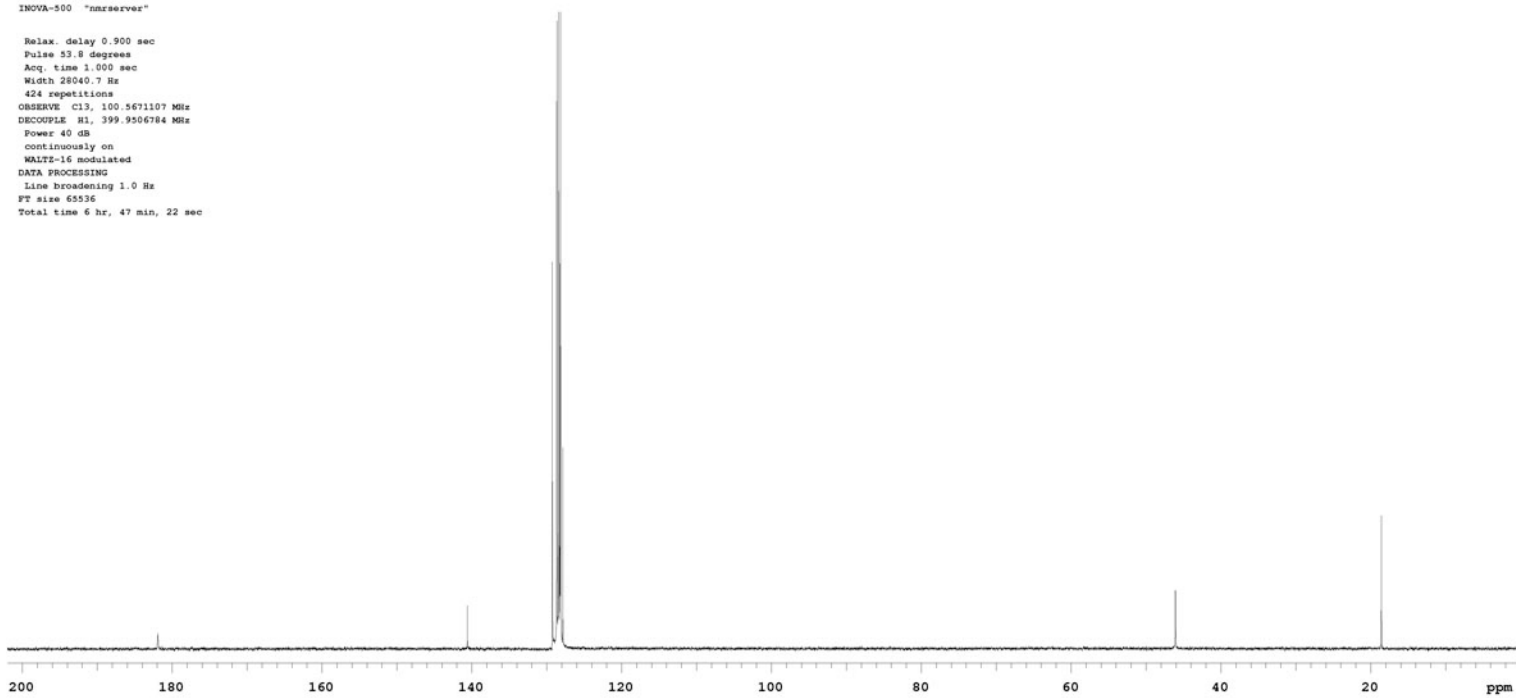
Relax. delay 8.000 sec
 Pulse 75.0 degrees
 Acq. time 2.500 sec
 Width 8002.4 Hz
 8 repetitions
 OBSERVE H1, 399.9486915 MHz
 DATA PROCESSING
 Line broadening 0.2 Hz
 FT size 65536
 Total time 1 min, 26 sec



ces-7-227-c13
 File: nmr400/Zakarian/stivala/ces-7-227-a-c13.fid
 Pulse Sequence: s2pul
 Solvent: cdcl3
 Ambient temperature
 Operator: stivala
 File: ces-7-227-a-c13
 INOVA-500 "nmrserver"



Relax. delay 0.900 sec
 Pulse 33.8 degrees
 Acq. time 1.000 sec
 Width 28040.7 Hz
 424 repetitions
 OBSERVE C13, 100.5671107 MHz
 DECOUPLE H1, 399.9566784 MHz
 Power 40 dB
 continuously on
 WALTZ-16 modulated
 DATA PROCESSING
 Line broadening 1.0 Hz
 FT size 65536
 Total time 6 hr, 47 min, 22 sec



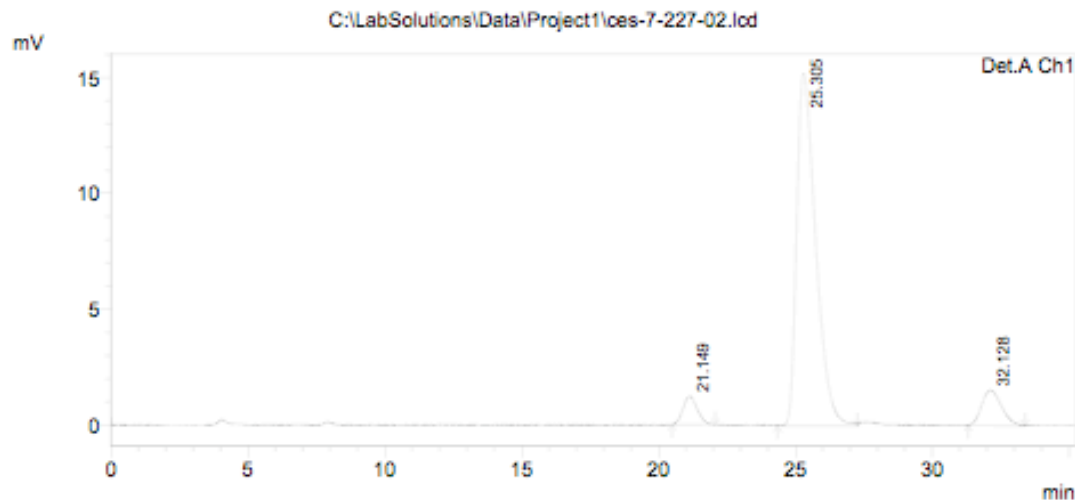
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==== Shimadzu LCsolution Analysis Report ====

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 Sample ID : ces-7-227-2
 Vial # :
 Injection Volume : 20 uL
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 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
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<Chromatogram>



PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	21.149	45238	1222	5.276	6.802
2	25.305	736151	15221	85.851	84.709
3	32.128	76090	1525	8.874	8.489
Total		857478	17968	100.000	100.000

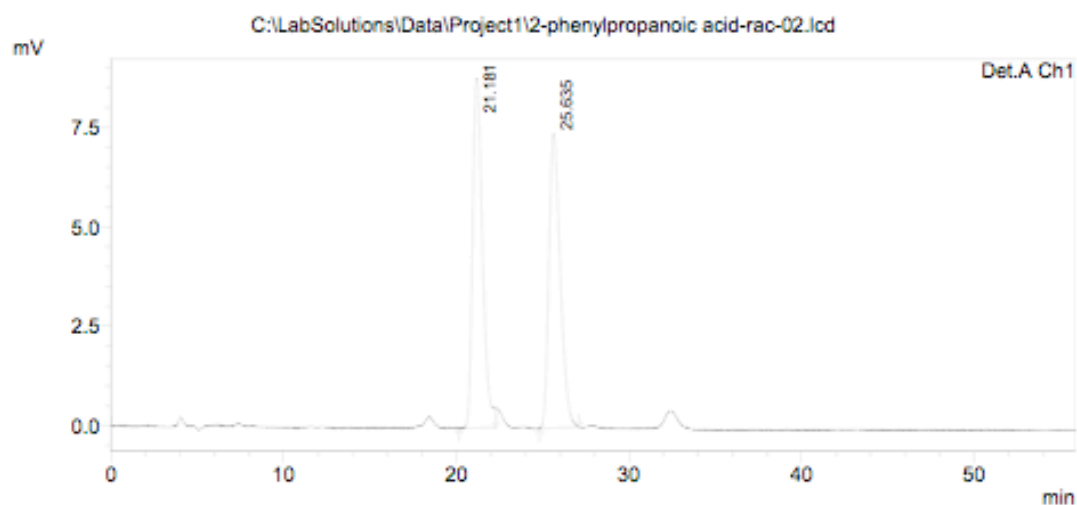
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5/27/2011 17:22:23 1 / 1

==== Shimadzu LCsolution Analysis Report ====

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 Sample ID : 2-phenylpropanoic acid-rac-2
 Vial # :
 Injection Volume : 20 uL
 Data File Name : 2-phenylpropanoic acid-rac-02.lcd
 Method File Name : ces-OD-H-analytical.lcm
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 Report File Name : Default.lcr
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 Data Processed : 1/28/2011 7:19:25 PM

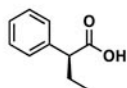
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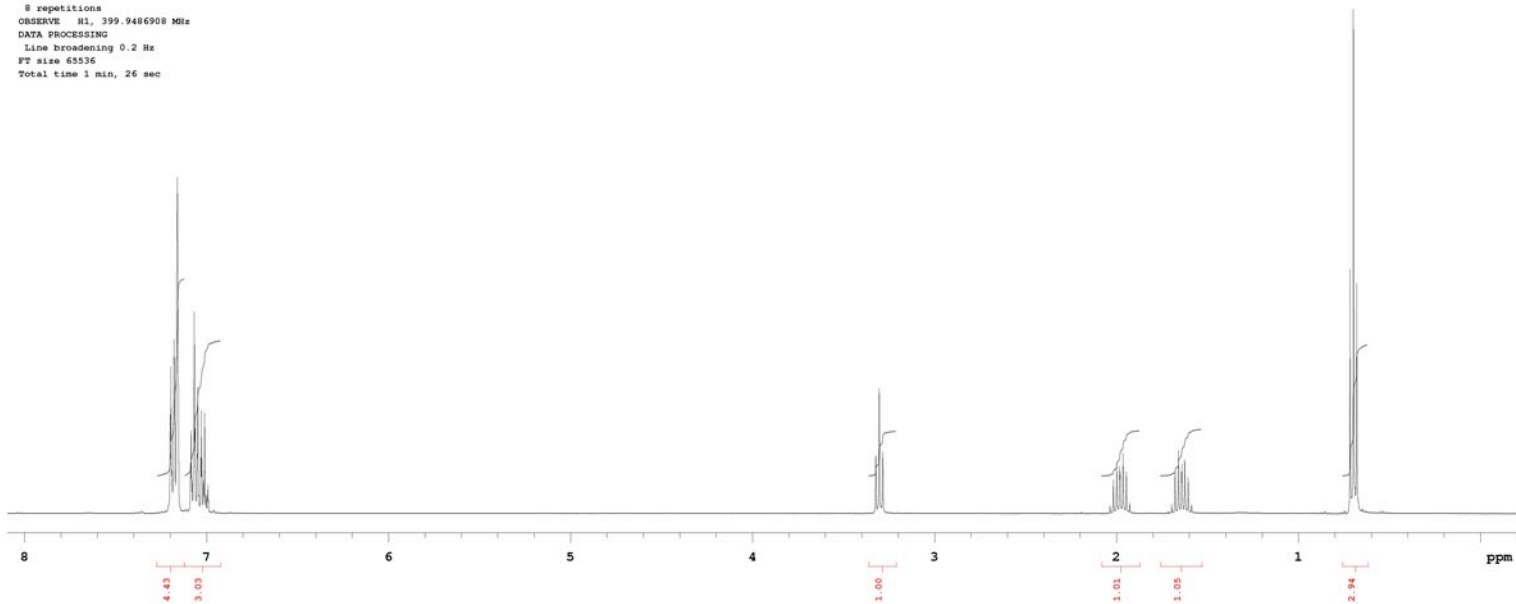
PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	21.181	350516	8791	50.930	54.301
2	25.635	337709	7399	49.070	45.699
Total		688225	16190	100.000	100.000

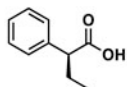
ces-7-223-a
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 Solvent: cdcl3
 Ambient temperature
 Operator: stivala
 File: ces-7-223-a
 INOVA-500 "nmrserver"



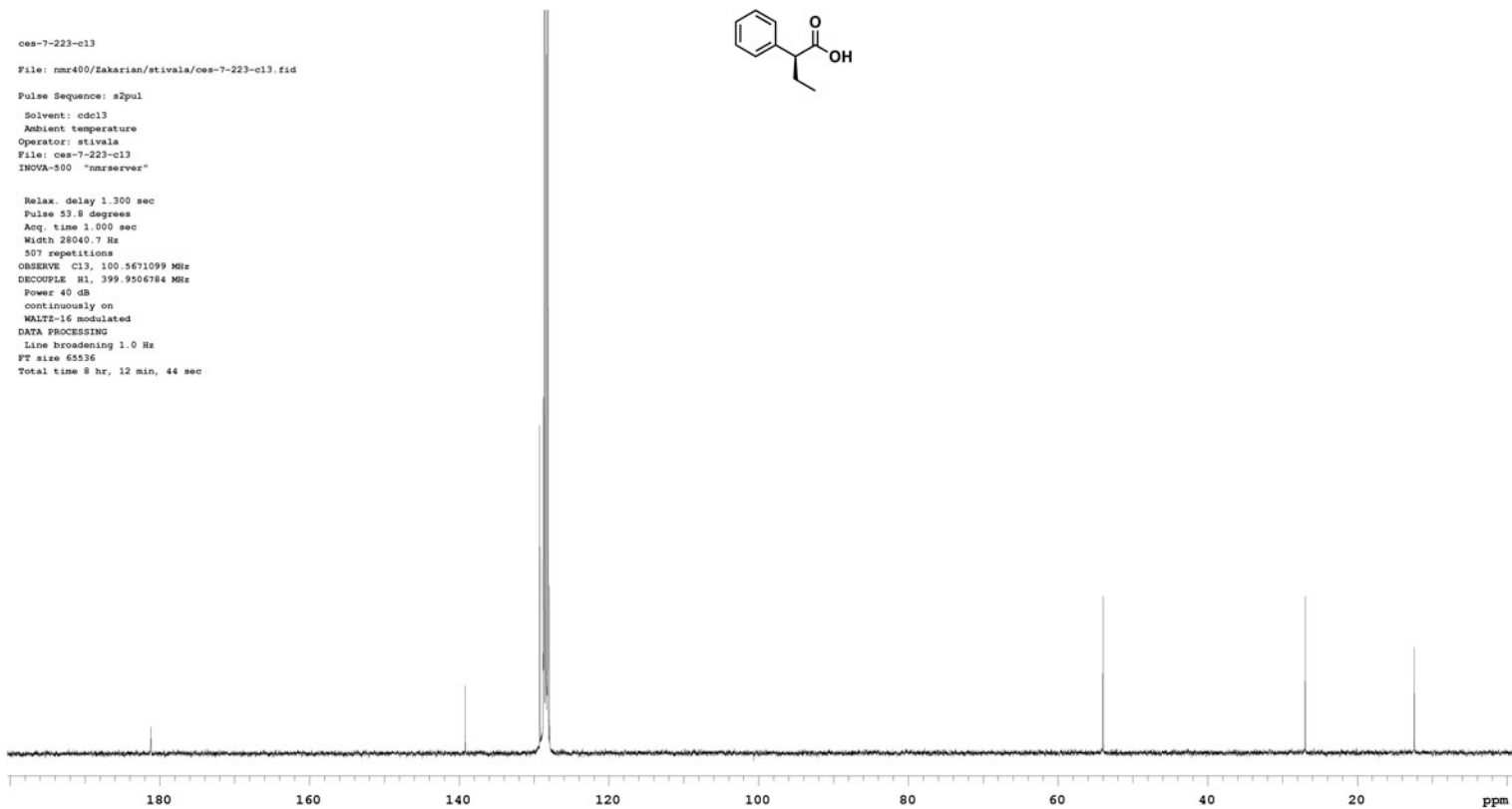
Relax. delay 8.000 sec
 Pulse 75.0 degrees
 Acq. time 2.500 sec
 Width 8002.4 Hz
 8 repetitions
 OBSERVE H1, 399.9486908 MHz
 DATA PROCESSING
 Line broadening 0.2 Hz
 FT size 65536
 Total time 1 min, 26 sec



ces-7-223-c13
 File: nmr400/Zakarian/stivala/ces-7-223-c13.fid
 Pulse Sequence: s2pul
 Solvent: cdcl3
 Ambient temperature
 Operator: stivala
 File: ces-7-223-c13
 INOVA-500 "nmrserver"



Relax. delay 1.300 sec
 Pulse 33.8 degrees
 Acq. time 1.000 sec
 Width 28040.7 Hz
 507 repetitions
 OBSERVE C13, 100.5671099 MHz
 DECOUPLE H1, 399.956784 MHz
 Power 40 dB
 continuously on
 WALTZ-16 modulated
 DATA PROCESSING
 Line broadening 1.0 Hz
 FT size 65536
 Total time 8 hr, 12 min, 44 sec



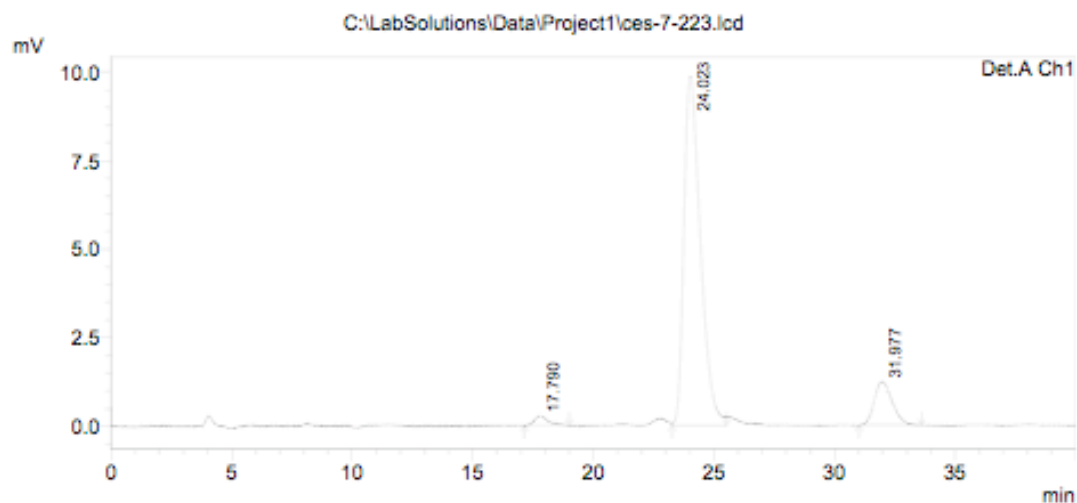
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==== Shimadzu LCsolution Analysis Report ====

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 Vial # :
 Injection Volume : 20 uL
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 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
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1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	17.790	10200	268	1.874	2.363
2	24.023	470403	9840	86.417	86.811
3	31.977	63736	1227	11.709	10.826
Total		544339	11335	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-223.lcd

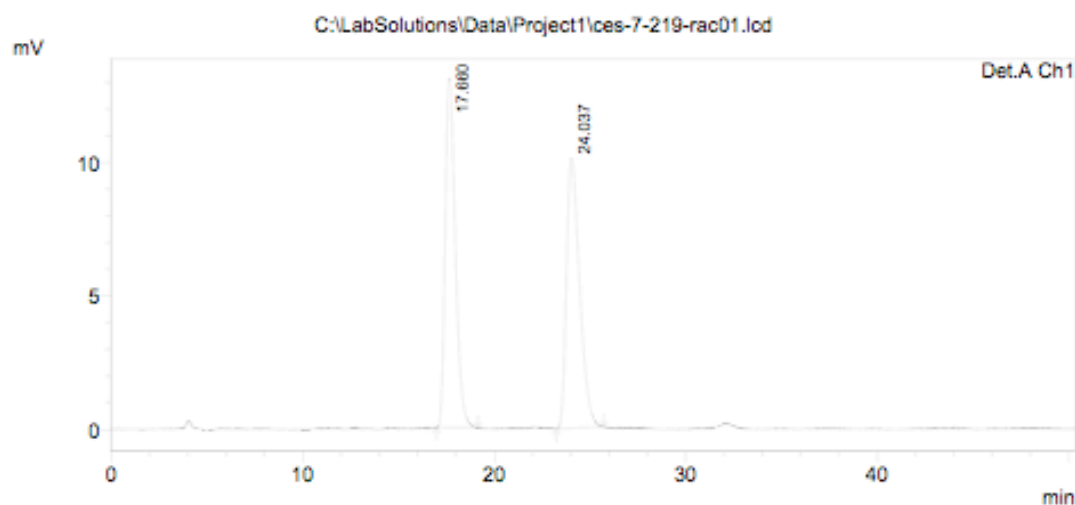
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==== Shimadzu LCsolution Analysis Report ====

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 Sample ID : ces-7-219-rac
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-7-219-rac01.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
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1 Det.A Ch1/215nm

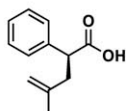
PeakTable

Detector A Ch1 215nm

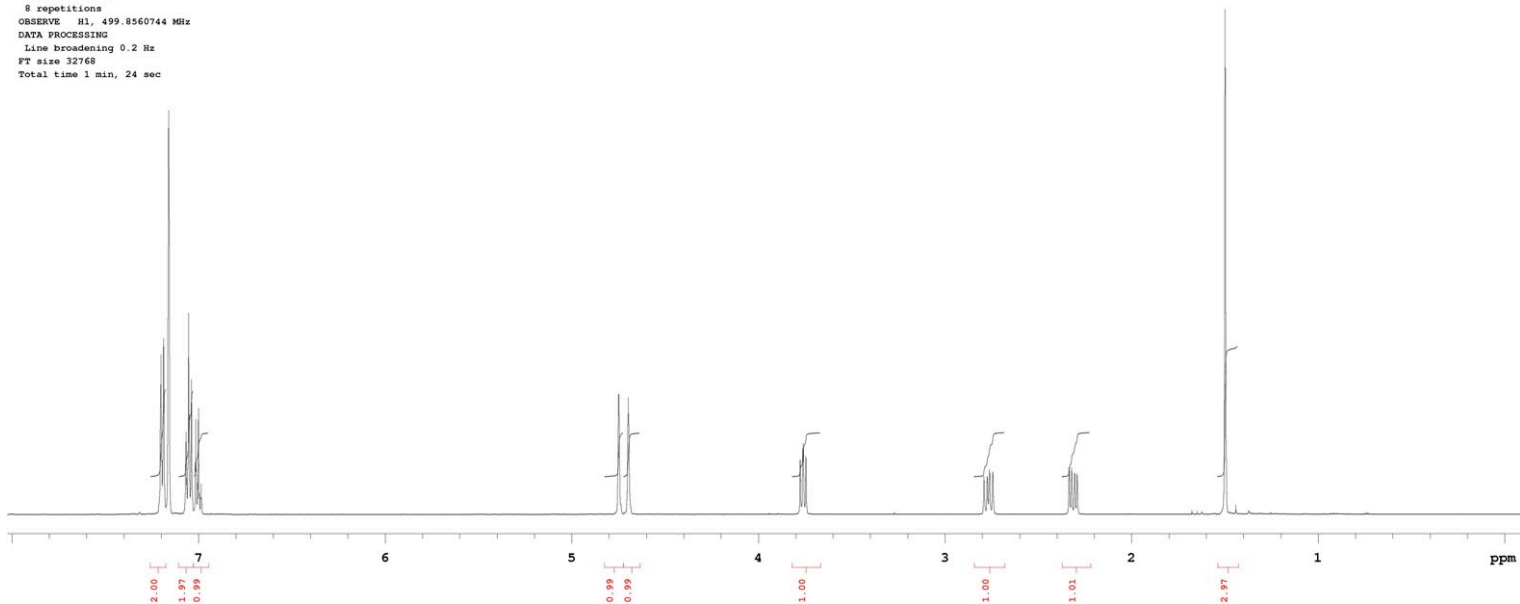
Peak#	Ret. Time	Area	Height	Area %	Height %
1	17.660	480361	13087	49.888	56.386
2	24.037	482509	10123	50.112	43.614
Total		962870	23209	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-219-rac01.lcd

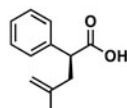
ces-7-263-a
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 Pulse Sequence: s2pul
 Solvent: CDCl3
 Ambient temperature
 Operator: stivala
 File: ces-7-263-a
 INOVA-500 "nmrserver"



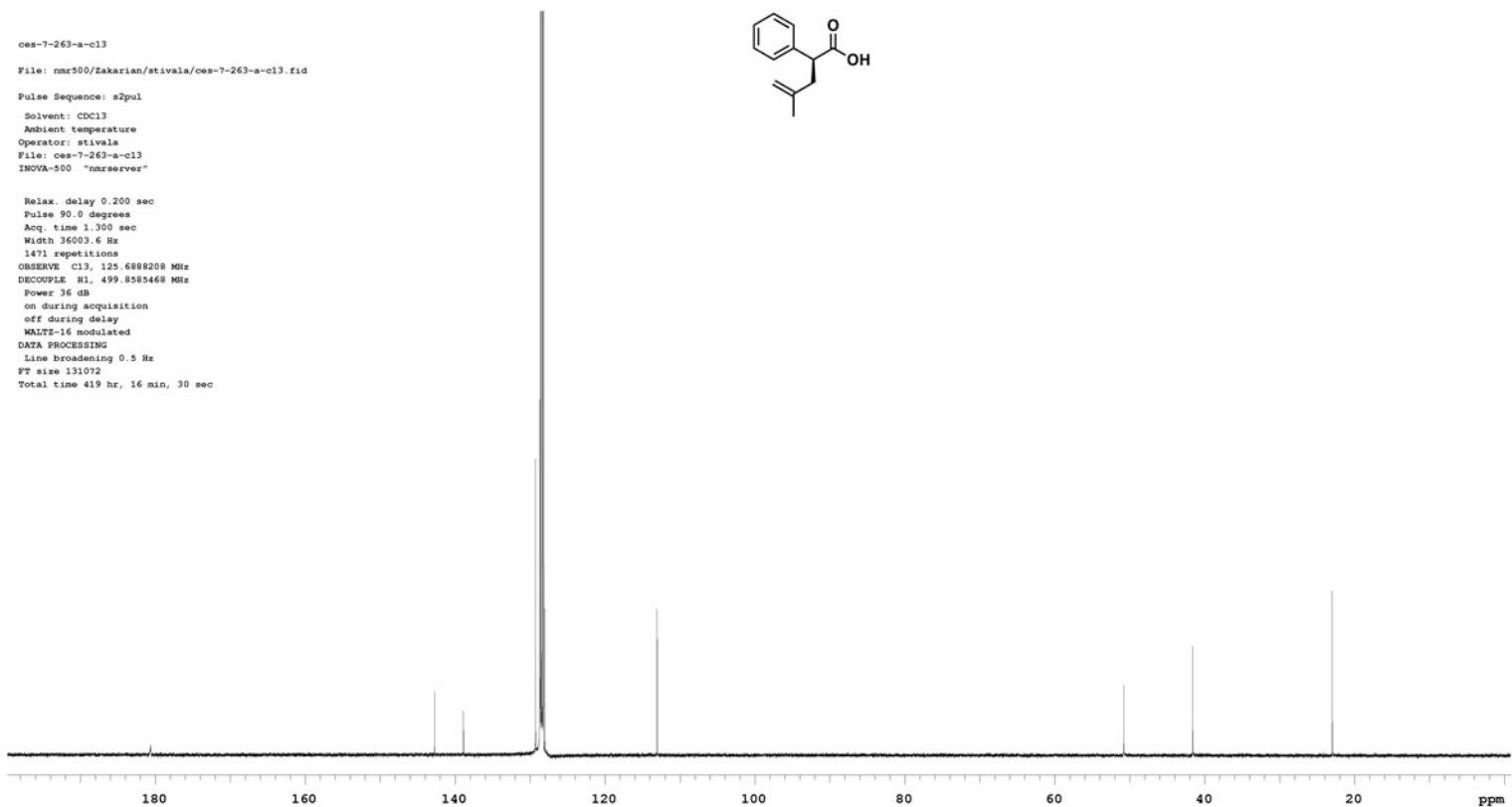
Relax. delay 8.000 sec
 Pulse 74.9 degrees
 Acq. time 2.500 sec
 Width 8503.4 Hz
 8 repetitions
 OBSERVE H1, 499.8560744 MHz
 DATA PROCESSING
 Line Broadening 0.2 Hz
 FT size 32768
 Total time 1 min, 24 sec



ces-7-263-a-c13
 File: nmr500/Zakarian/stivala/ces-7-263-a-c13.fid
 Pulse Sequence: s2pul
 Solvent: CDCl3
 Ambient temperature
 Operator: stivala
 File: ces-7-263-a-c13
 INOVA-500 "nmrserver"



Relax. delay 0.200 sec
 Pulse 90.0 degrees
 Acq. time 1.300 sec
 Width 36003.6 Hz
 1471 repetitions
 OBSERVE C13, 125.6888208 MHz
 DECOUPLE H1, 499.8560468 MHz
 Power 16 dB
 on during acquisition
 off during delay
 WALTZ-16 modulated
 DATA PROCESSING
 Line Broadening 0.5 Hz
 FT size 131072
 Total time 419 hr, 16 min, 30 sec



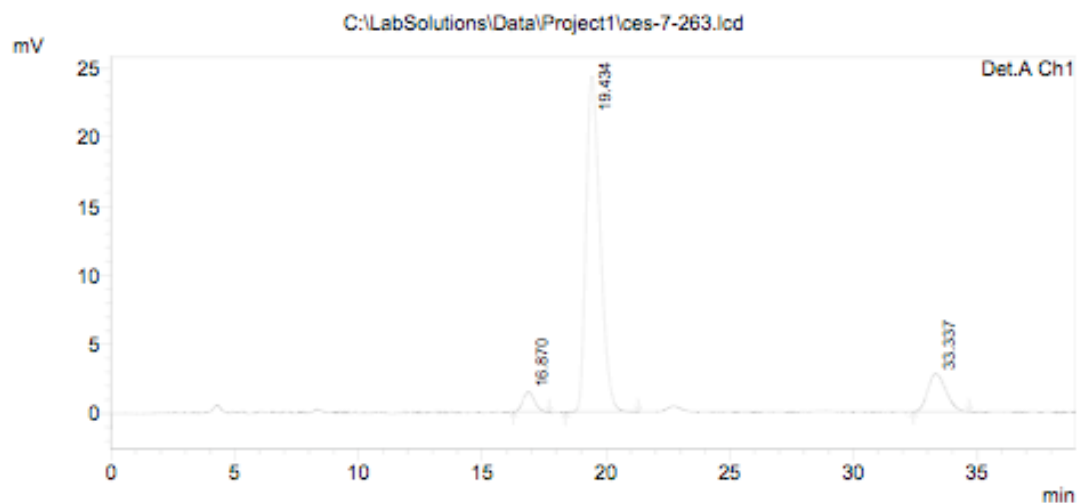
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==== Shimadzu LCsolution Analysis Report ====

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 Injection Volume : 25 uL
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 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 2/23/2011 9:38:29 PM
 Data Processed : 2/23/2011 10:18:56 PM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	16.870	48248	1473	4.162	5.161
2	19.434	969361	24306	83.610	85.158
3	33.337	141772	2763	12.228	9.681
Total		1159382	28542	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-263.lcd

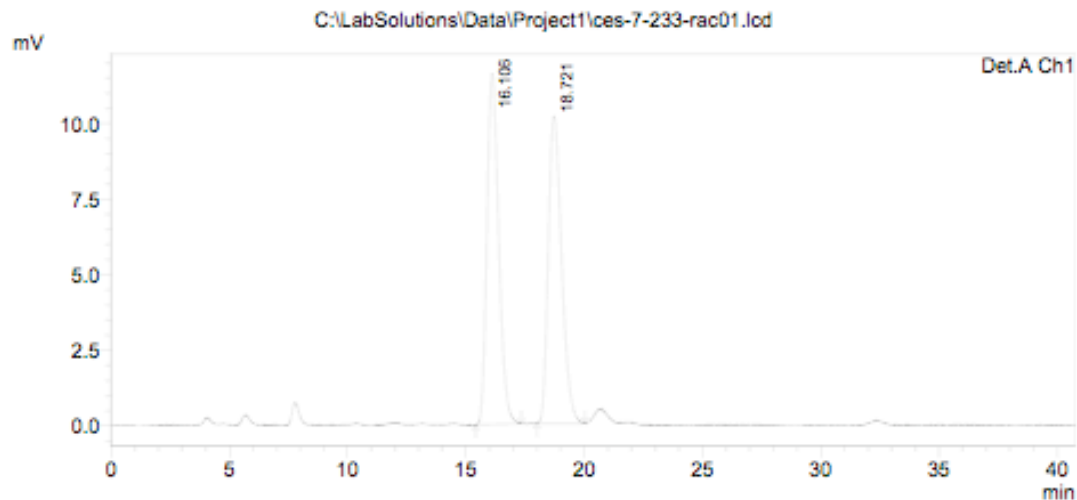
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==== Shimadzu LCsolution Analysis Report ====

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 Sample ID : ces-7-233-rac
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-7-233-rac01.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
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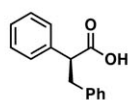
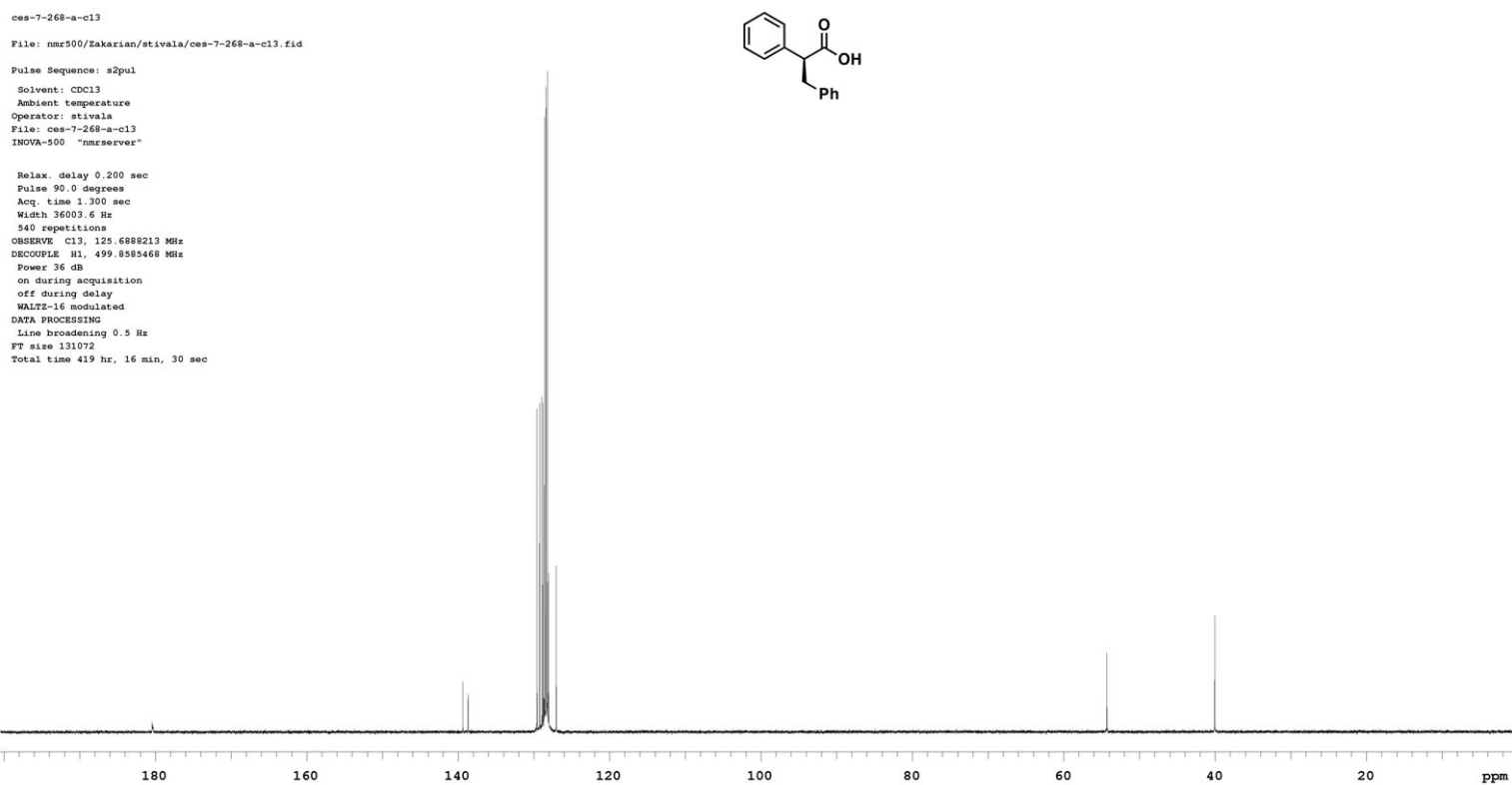
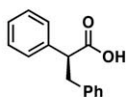
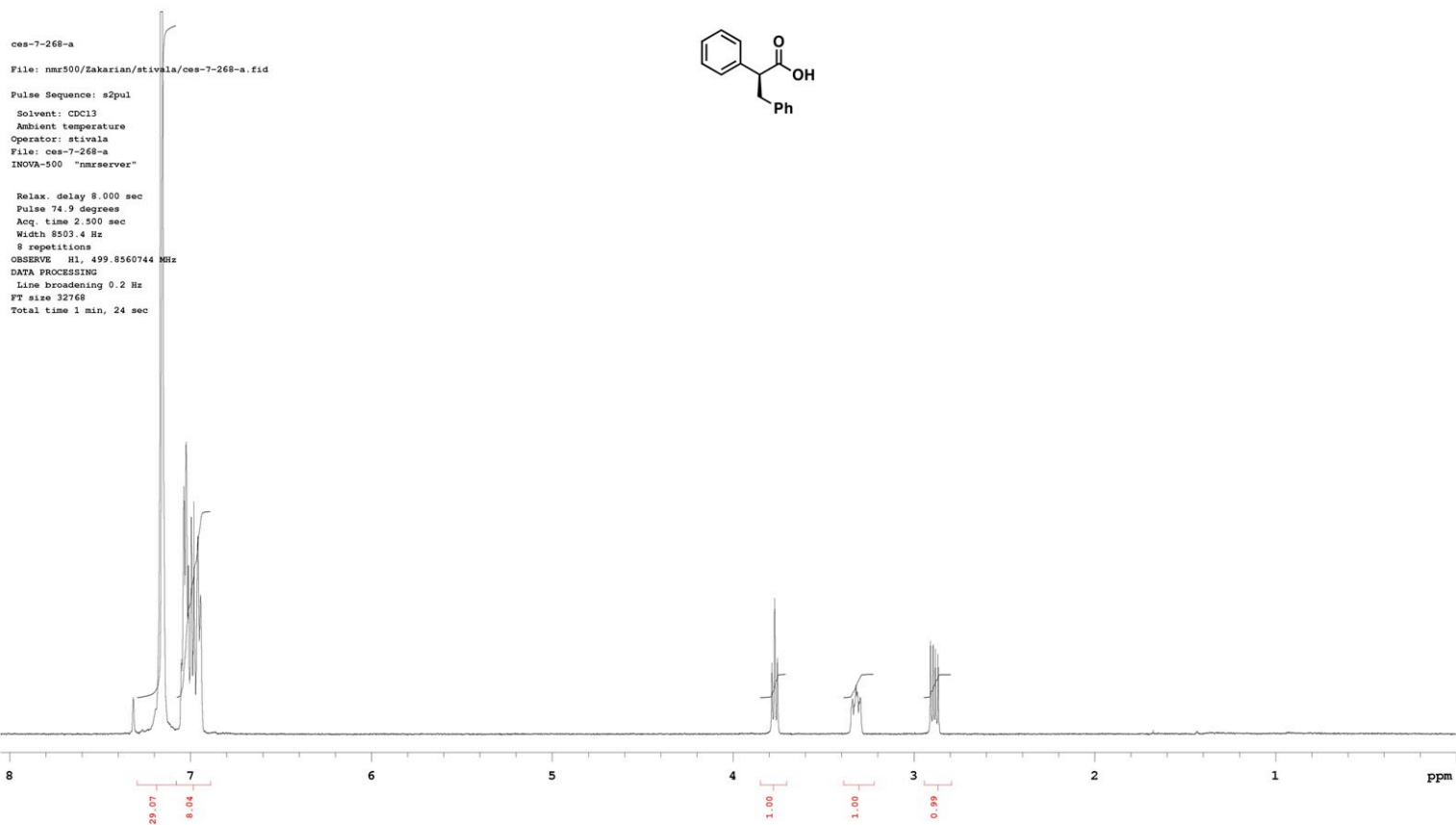
1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	16.106	402932	11607	50.332	53.360
2	18.721	397624	10145	49.668	46.640
Total		800556	21752	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-233-rac01.lcd



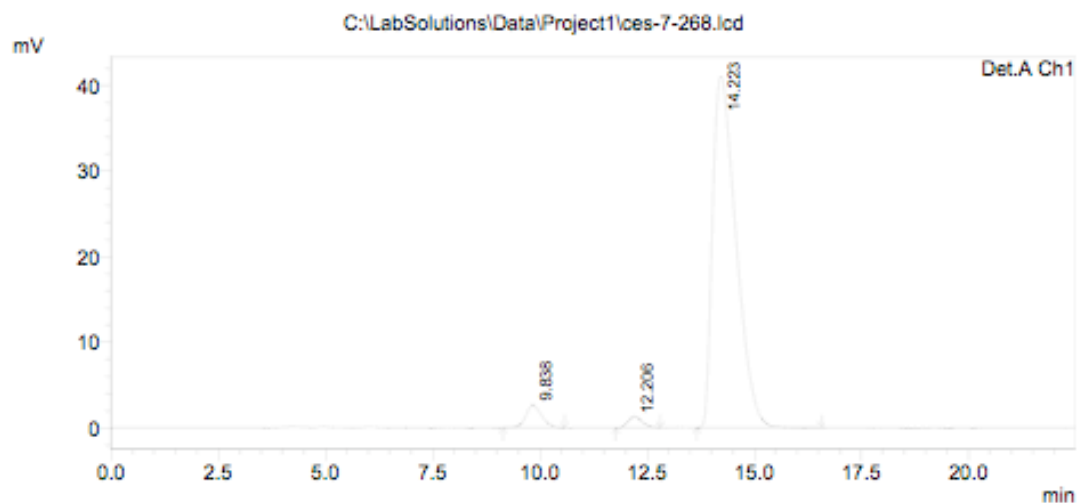
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==== Shimadzu LCsolution Analysis Report ====

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 Sample ID : ces-7-268
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-7-268.lcd
 Method File Name : ces-OJ-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 2/25/2011 8:43:09 PM
 Data Processed : 2/26/2011 12:13:10 PM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	9.838	69262	2628	4.164	5.847
2	12.206	30868	1286	1.856	2.861
3	14.223	1563036	41035	93.980	91.292
Total		1663166	44949	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-268.lcd

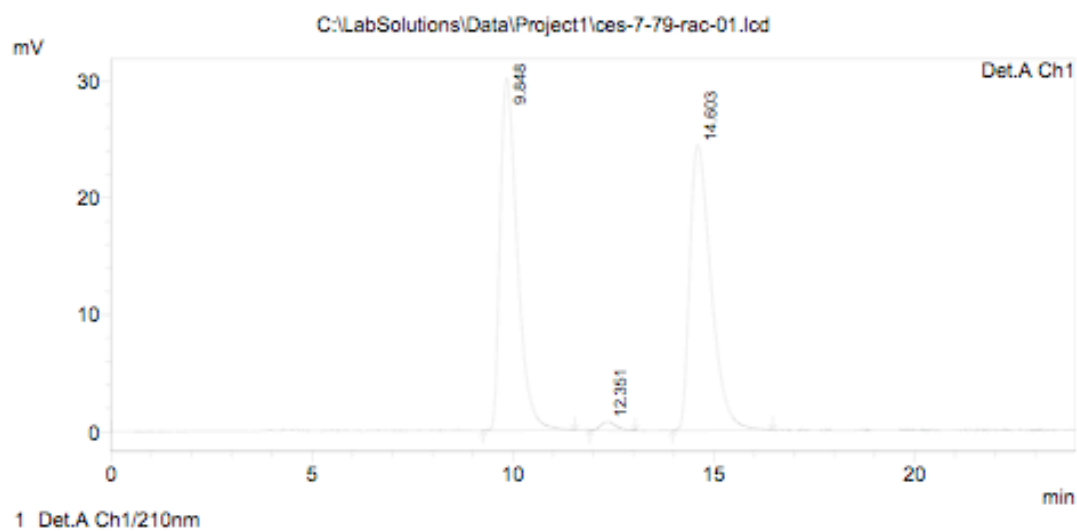
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==== Shimadzu LCsolution Analysis Report ====

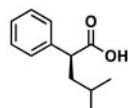
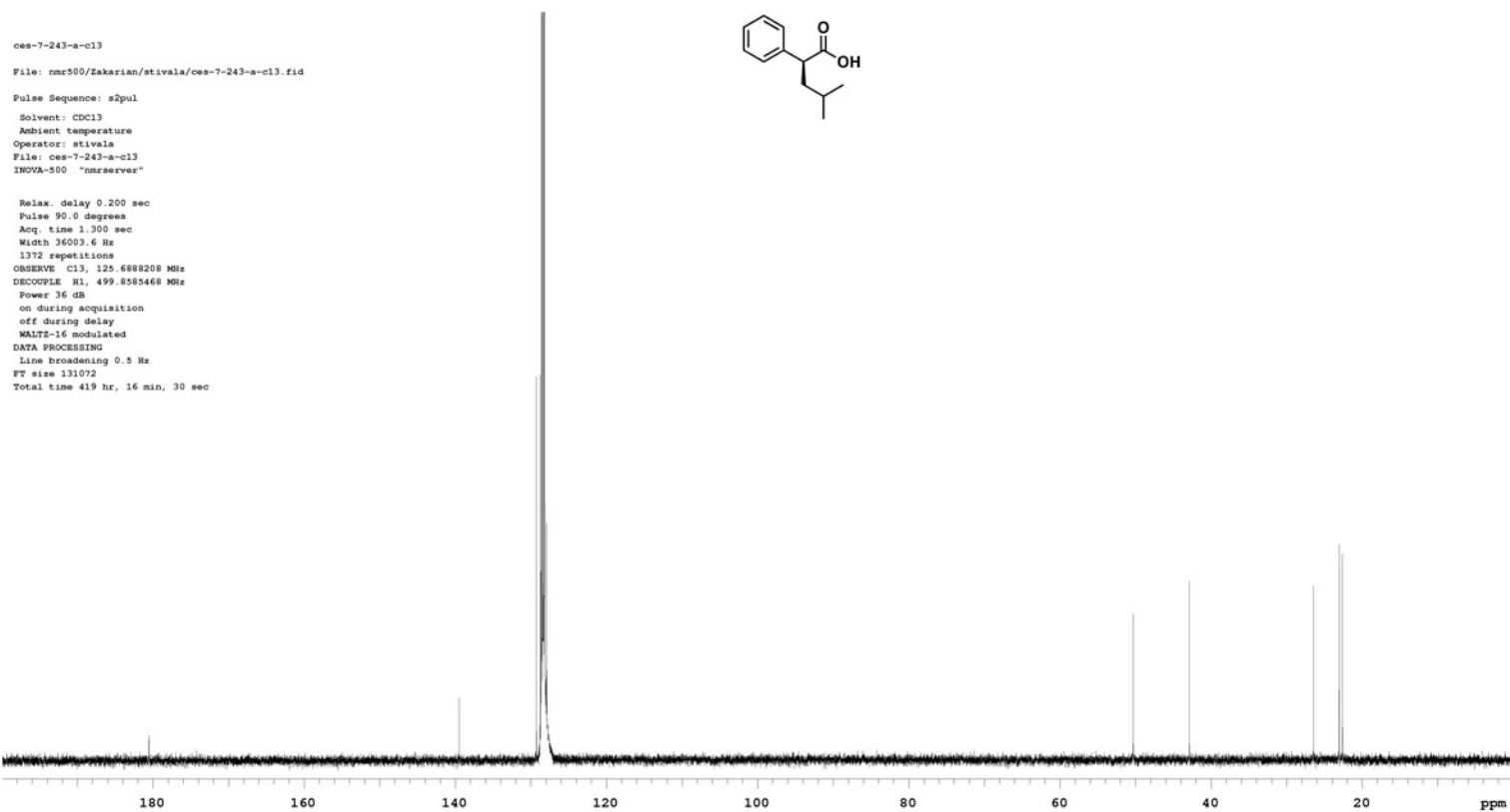
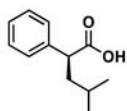
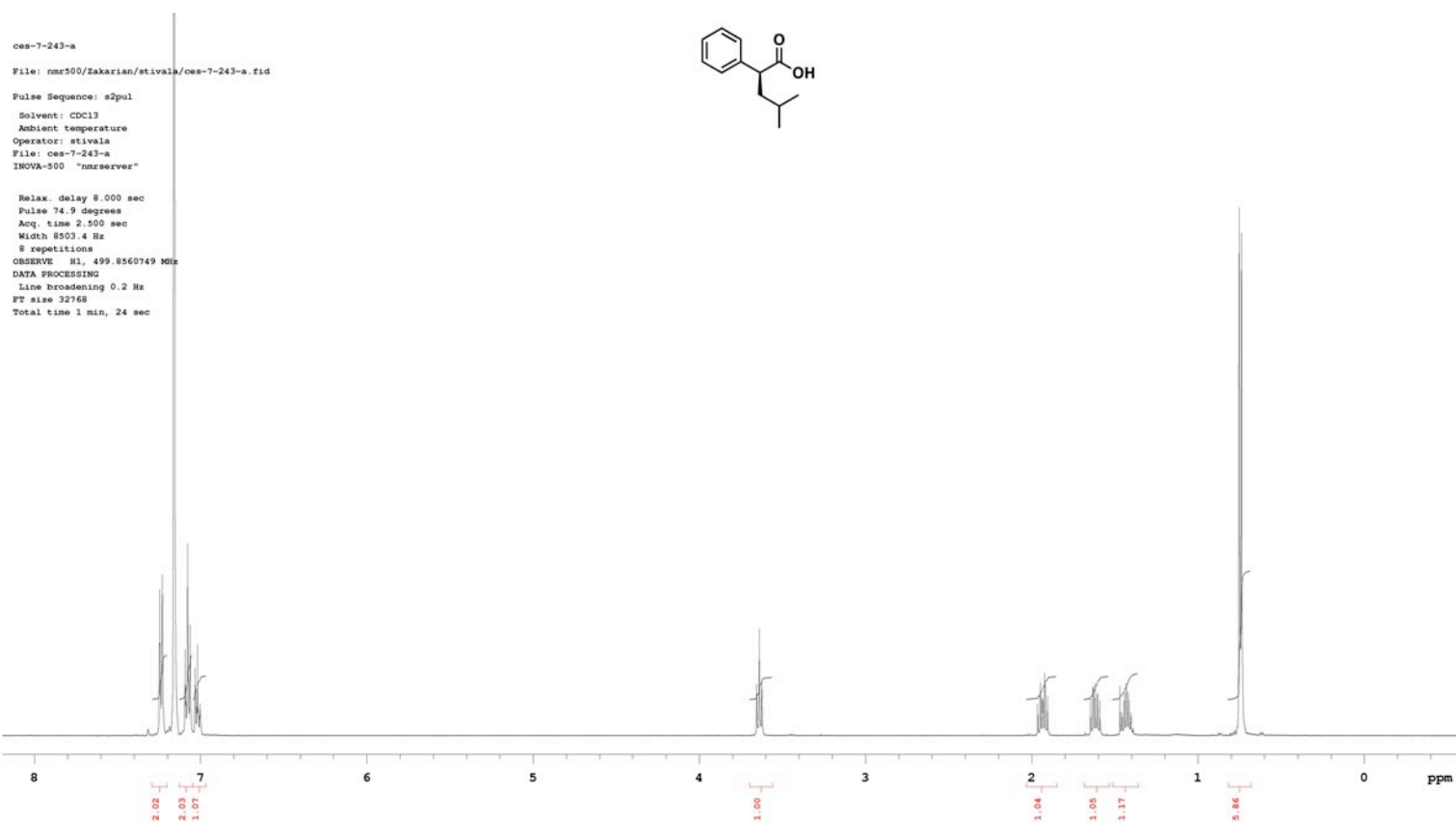
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Sample ID	: ces-7-79-rac
Vial #	:
Injection Volume	: 20 uL
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Method File Name	: ces-OJ-H-analytical.lcm
Batch File Name	:
Report File Name	: Default.lcr
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C:\LabSolutions\Data\Project1\ces-7-79-rac-01.lcd



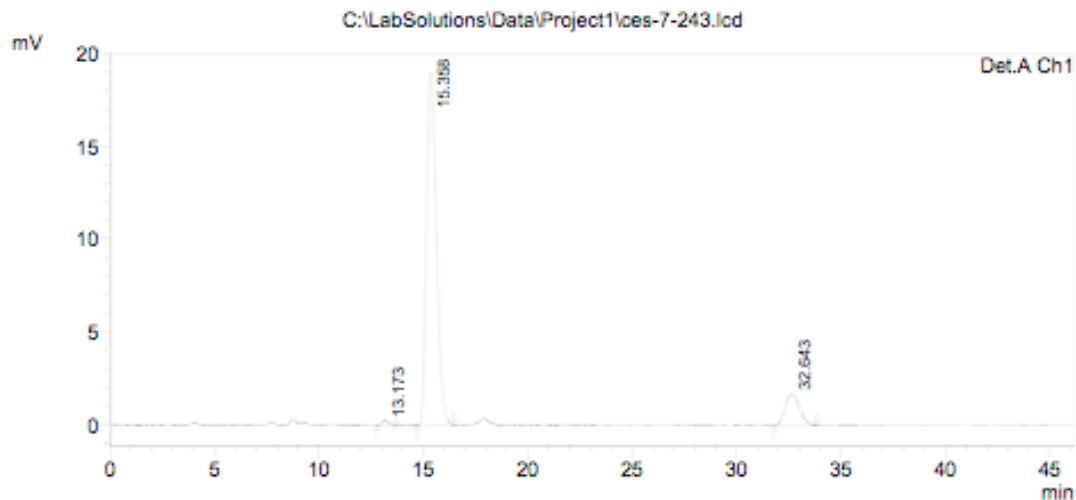
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==== Shimadzu LCsolution Analysis Report ====

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Acquired by : Admin
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 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-7-243.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 2/7/2011 6:37:22 PM
 Data Processed : 2/7/2011 7:24:38 PM

<Chromatogram>



PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	13.173	7098	274	0.996	1.304
2	15.358	621703	18980	87.232	90.485
3	32.643	83901	1722	11.772	8.211
Total		712702	20975	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-243.lcd

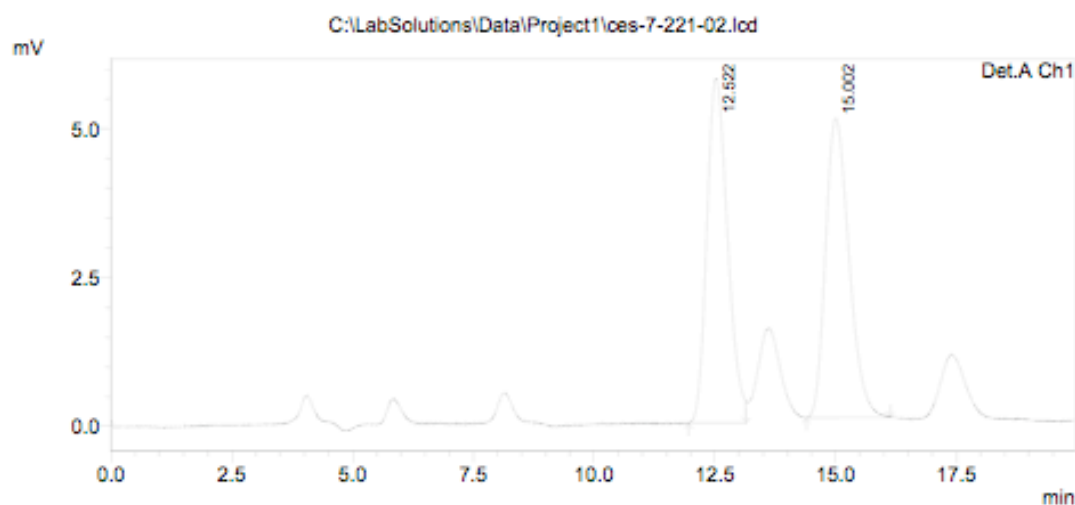
5/27/2011 14:33:50 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-7-221-02.lcd

Acquired by : Admin
 Sample Name : ces-7-221
 Sample ID : ces-7-221
 Vial # :
 Injection Volume : 25 uL
 Data File Name : ces-7-221-02.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/27/2011 2:12:54 PM
 Data Processed : 5/27/2011 2:32:53 PM

<Chromatogram>



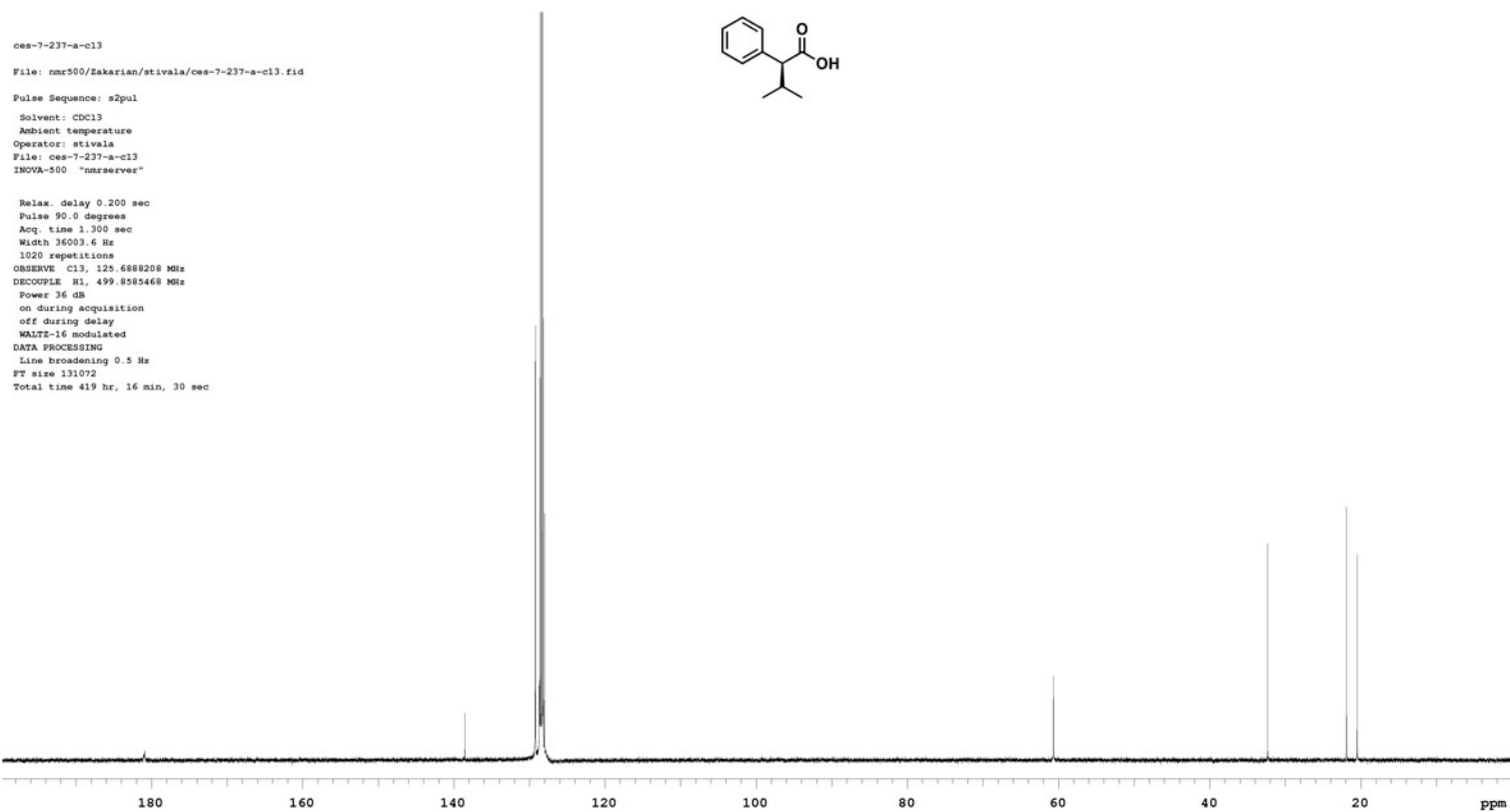
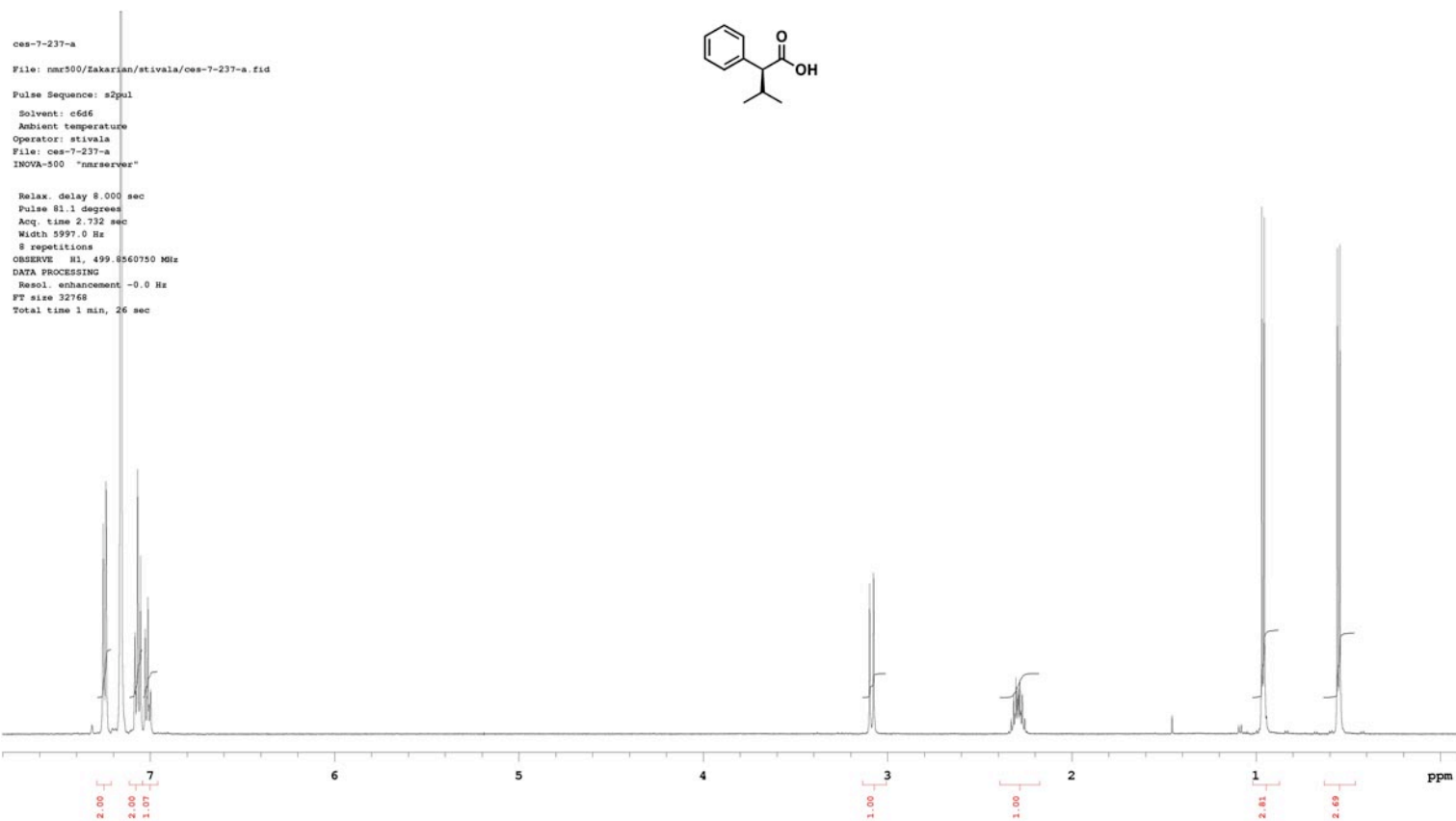
1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	12.522	172383	5782	50.362	53.525
2	15.002	169906	5021	49.638	46.475
Total		342289	10803	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-221-02.lcd



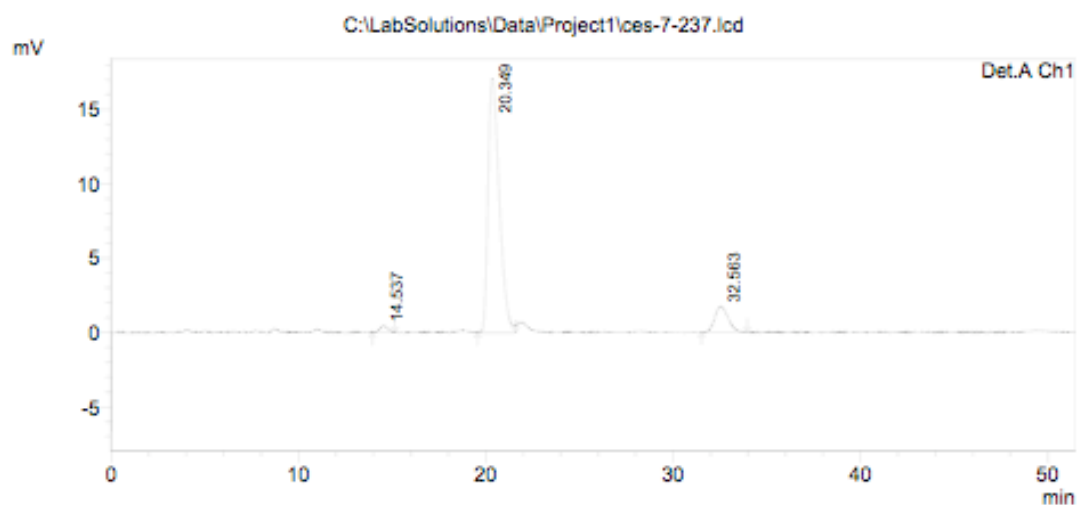
5/27/2011 09:47:11 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-7-237.lcd

Acquired by : Admin
 Sample Name : ces-7-237
 Sample ID : ces-7-237
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-7-237.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 2/5/2011 5:02:41 PM
 Data Processed : 2/5/2011 5:55:38 PM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	14.537	12138	432	1.491	2.243
2	20.349	716696	17091	88.035	88.750
3	32.563	85265	1734	10.474	9.006
Total		814100	19257	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-237.lcd

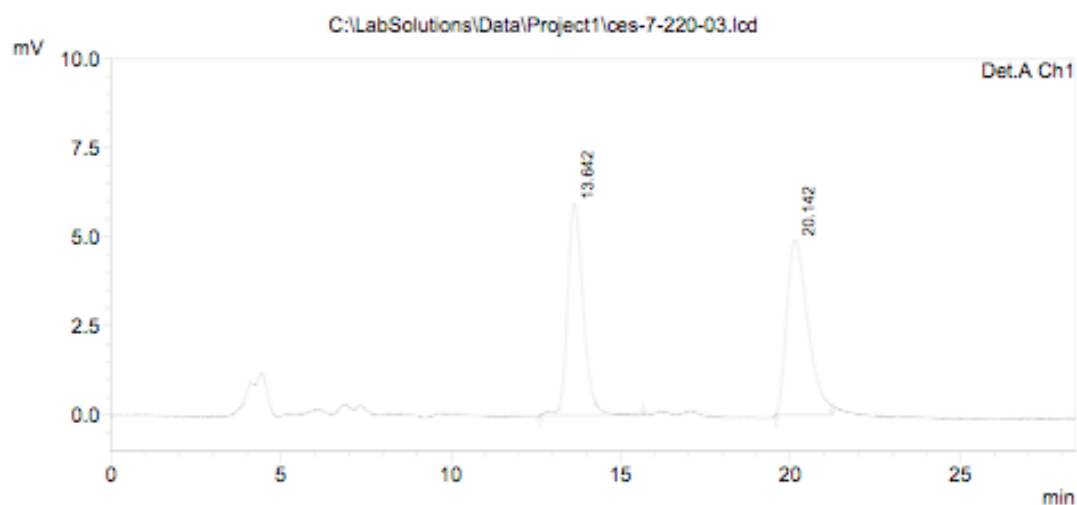
5/27/2011 18:48:48 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-7-220-03.lcd

Acquired by : Admin
 Sample Name : ces-7-220
 Sample ID : ces-7-220
 Vial # :
 Injection Volume : 25 uL
 Data File Name : ces-7-220-03.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/27/2011 6:15:00 PM
 Data Processed : 5/27/2011 6:43:23 PM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	13.642	189468	5920	47.164	54.720
2	20.142	212257	4899	52.836	45.280
Total		401725	10819	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-220-03.lcd

HPLC trace of (S)-3-methyl-2-phenylbutanoic acid, 10 gram scale:

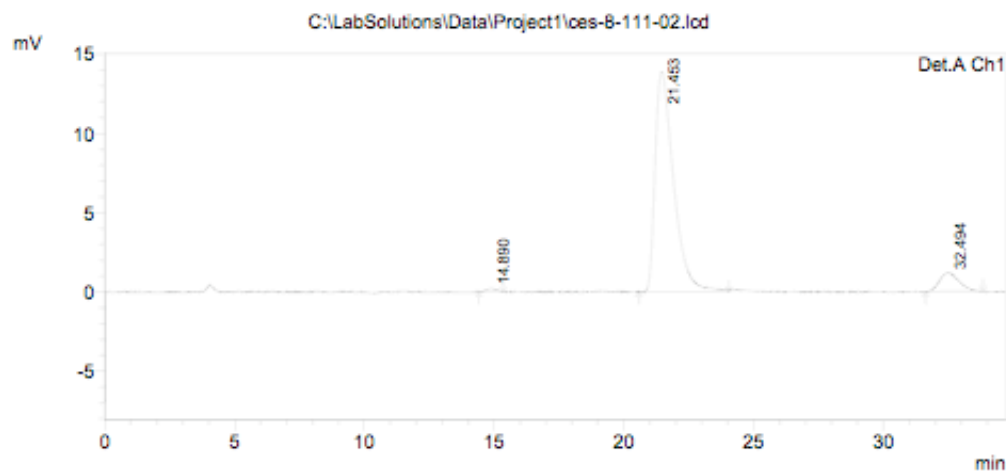
6/1/2011 10:15:10 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-111-02.lcd

Acquired by : Admin
 Sample Name : ces-8-111 (10 gram scale)
 Sample ID : ces-8-111 (10 gram scale)
 Vial # :
 Injection Volume : 25 uL
 Data File Name : ces-8-111-02.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/30/2011 12:06:44 PM
 Data Processed : 5/30/2011 12:41:27 PM

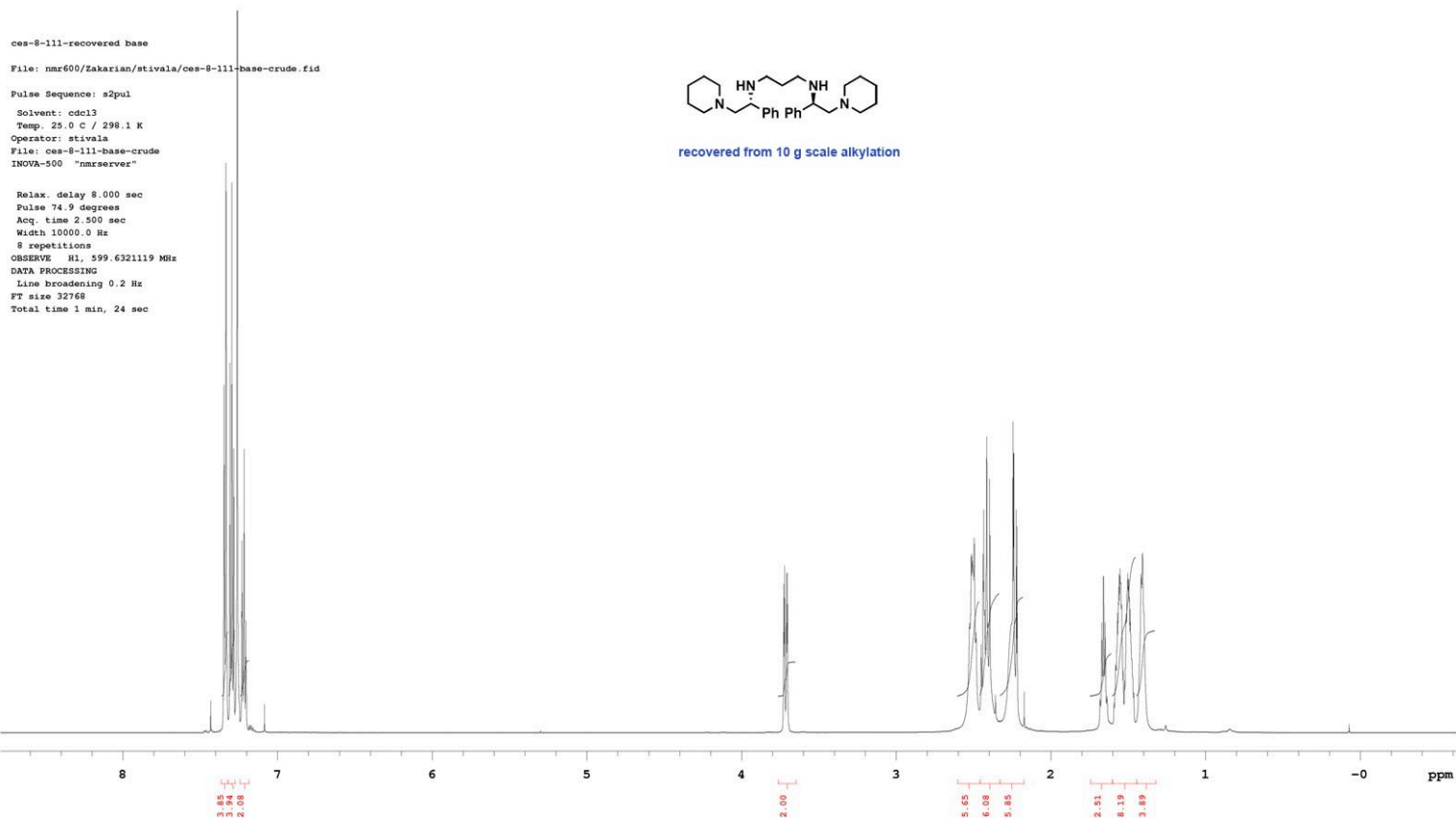
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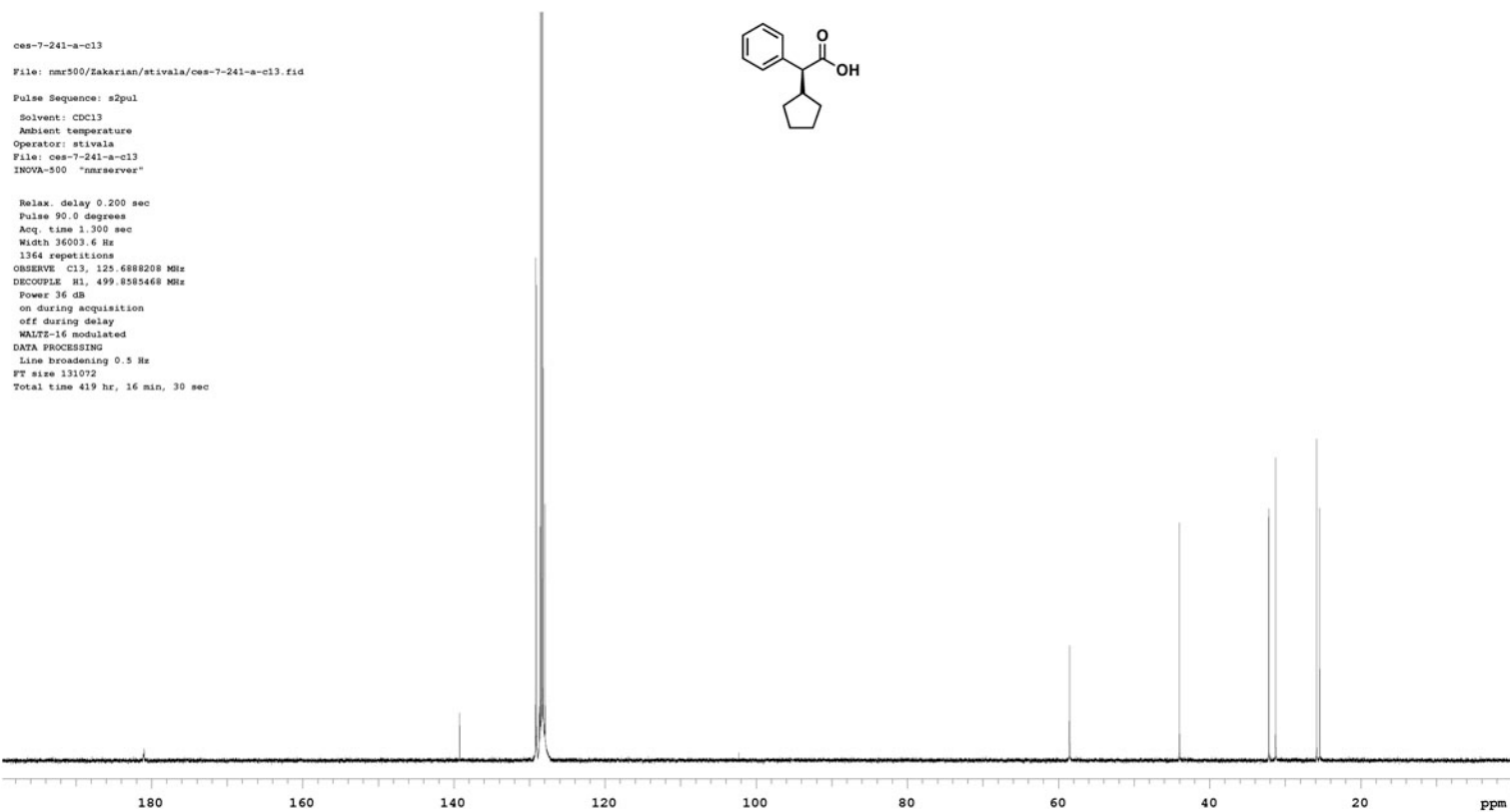
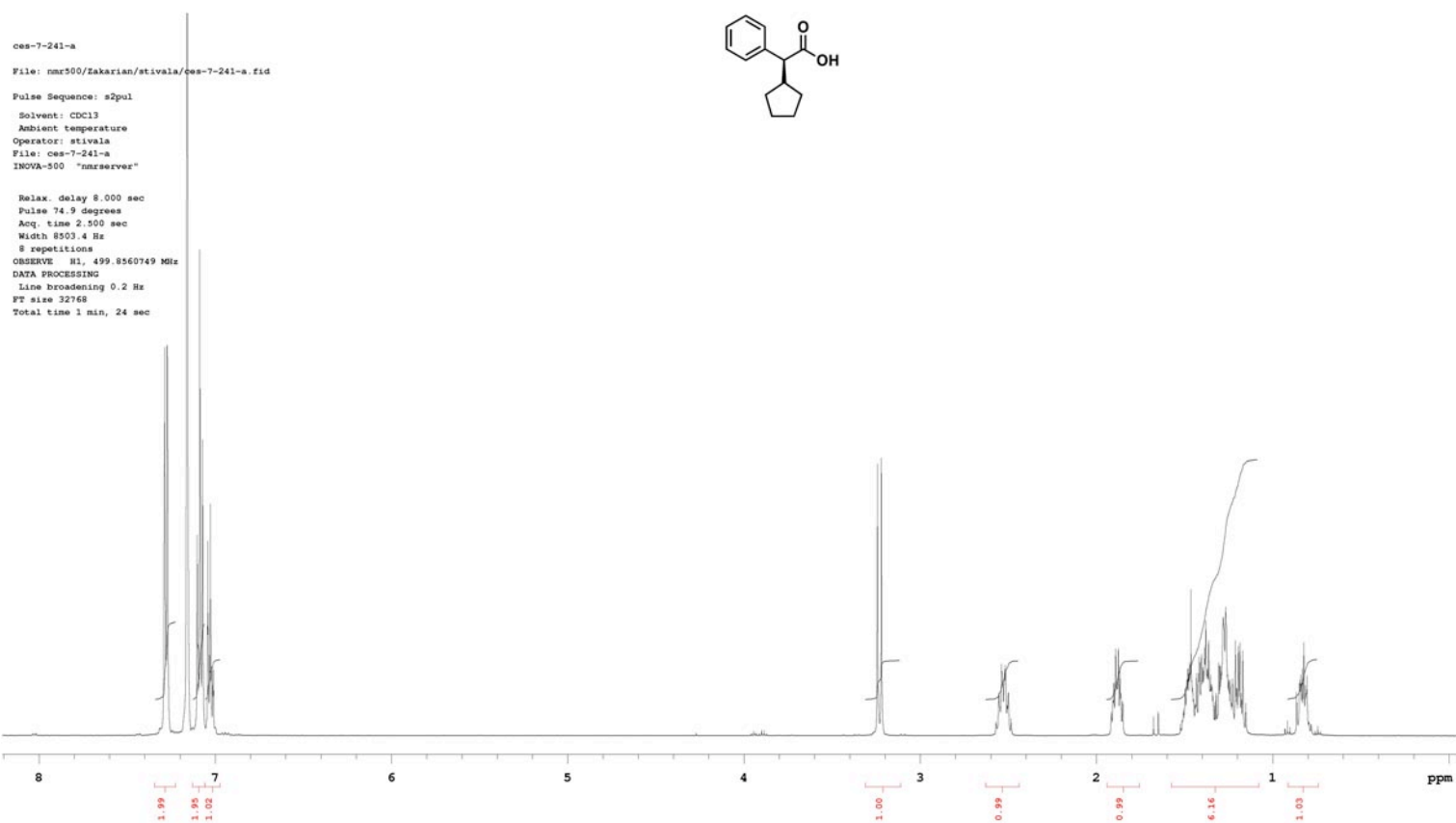


PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	14.890	5738	203	0.756	1.327
2	21.453	690514	13895	90.995	90.903
3	32.494	62595	1188	8.249	7.770
Total		758846	15285	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-111-02.lcd





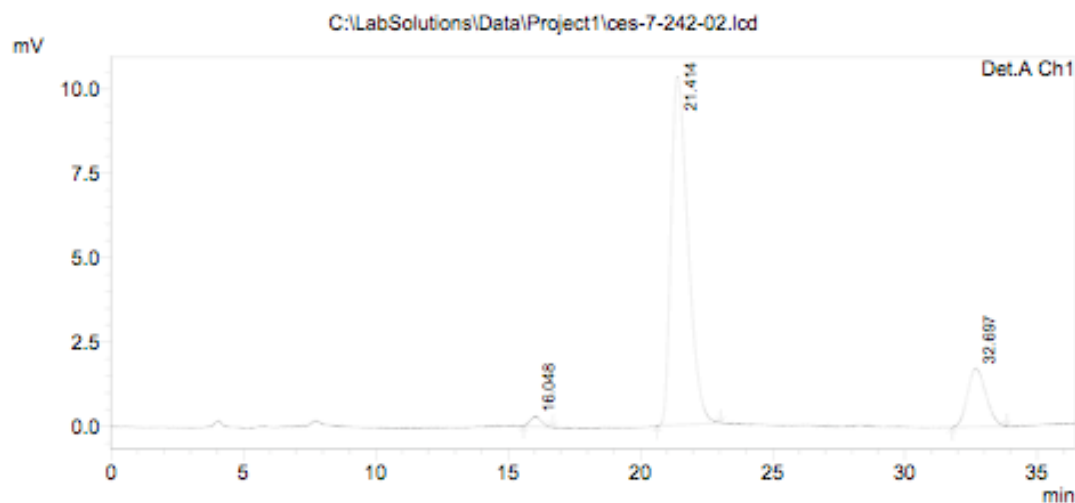
5/28/2011 17:11:11 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-7-242-02.lcd

Acquired by : Admin
 Sample Name : ces-7-241
 Sample ID : ces-7-241
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-7-241.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 2/7/2011 5:58:25 PM
 Data Processed : 2/7/2011 6:35:52 PM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	16.048	8608	289	1.554	2.344
2	21.414	461439	10316	83.280	83.694
3	32.697	84031	1721	15.166	13.962
Total		554079	12326	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-242-02.lcd

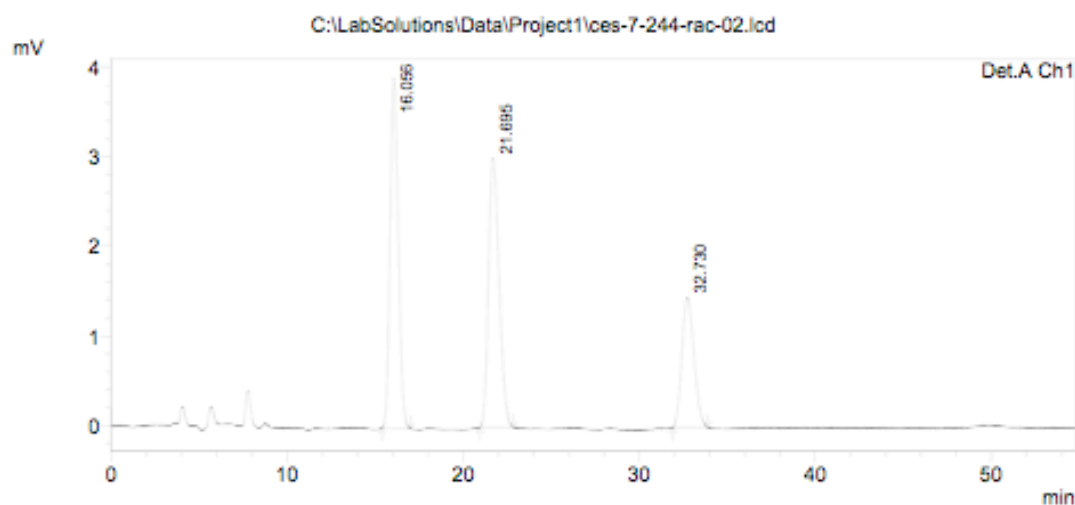
5/27/2011 11:15:52 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-7-244-rac-02.lcd

Acquired by : Admin
 Sample Name : ces-7-244-rac
 Sample ID : ces-7-244-rac
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-7-244-rac-02.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 2/7/2011 4:20:46 PM
 Data Processed : 2/7/2011 5:56:18 PM

<Chromatogram>



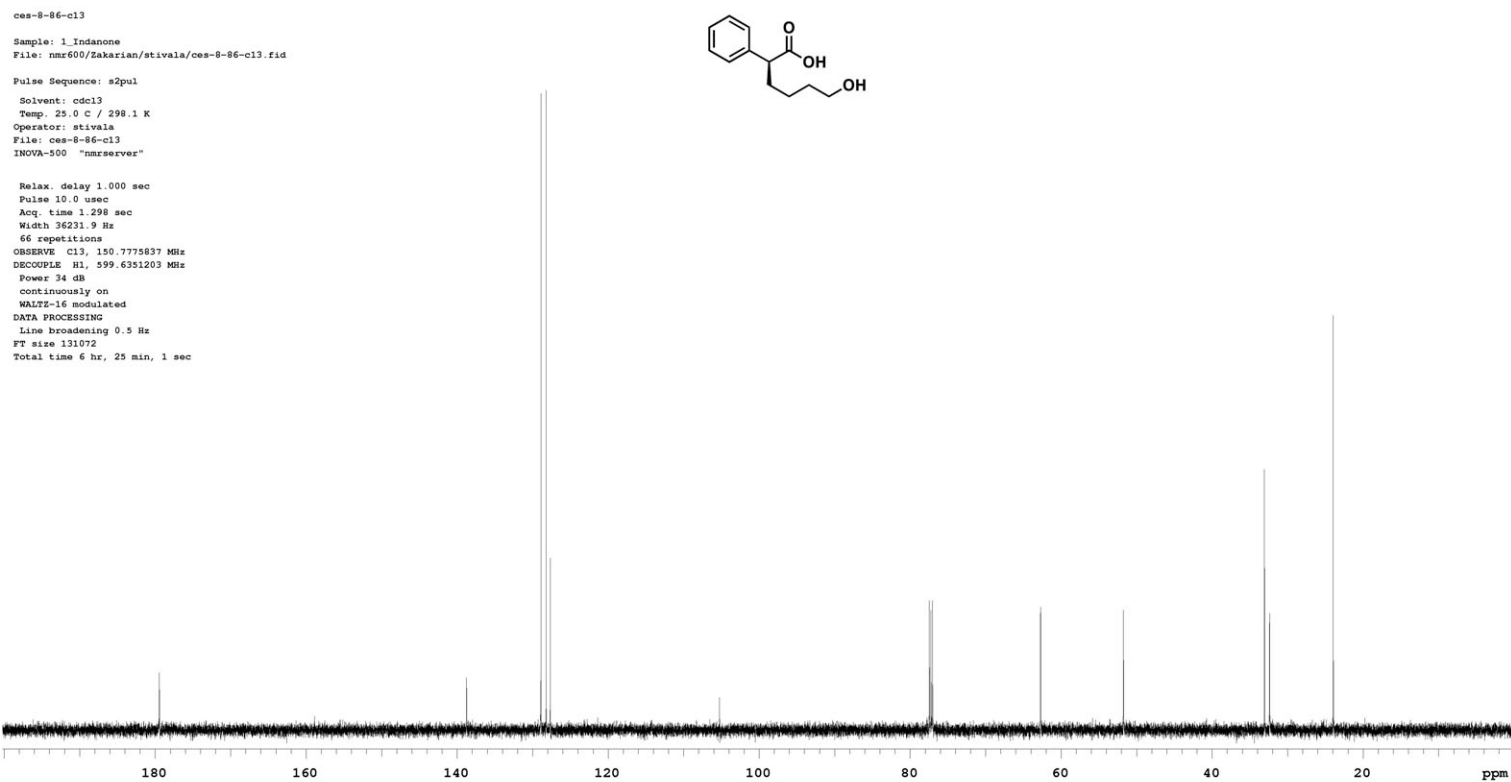
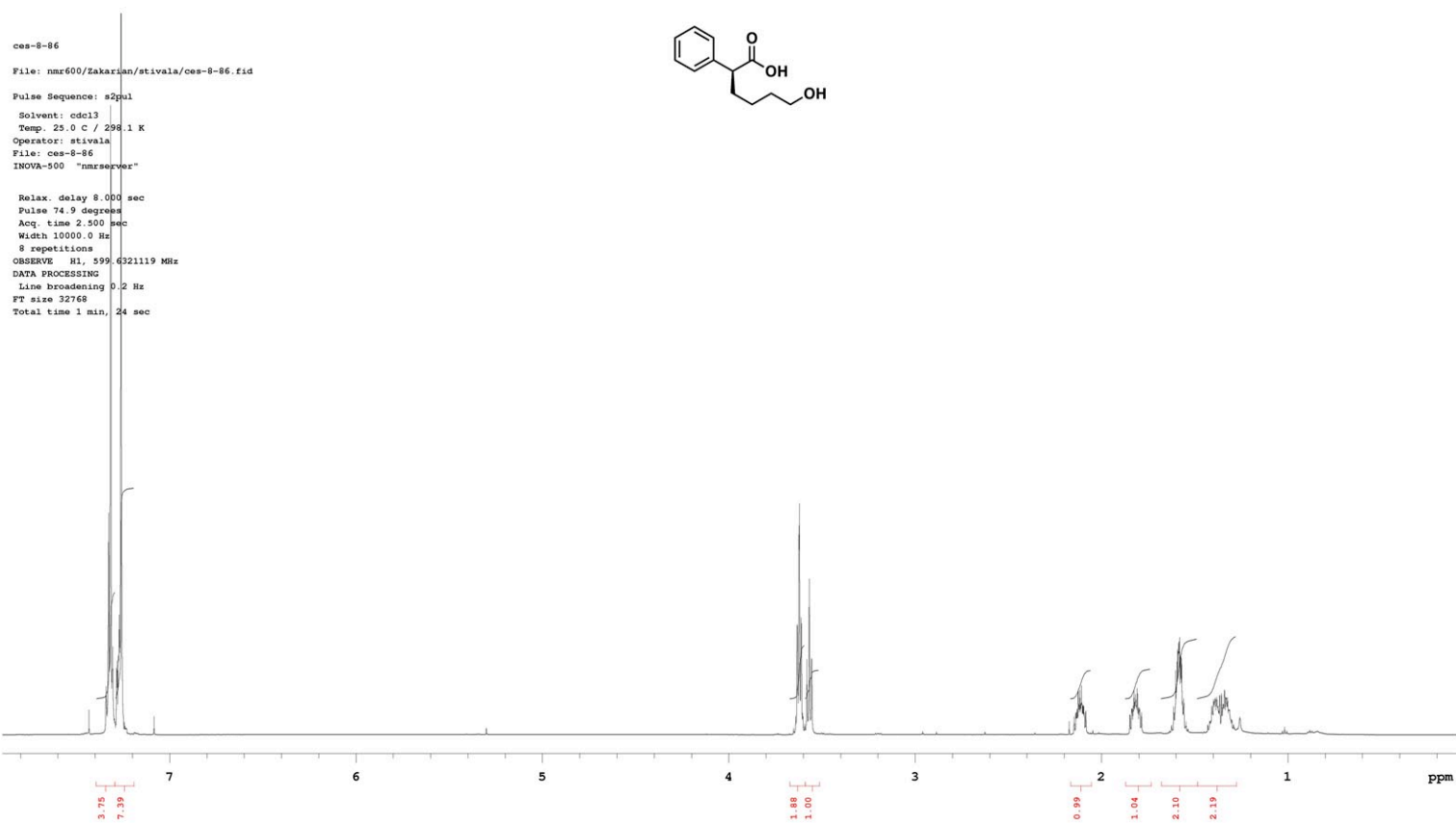
1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	16.056	127957	3907	39.330	46.680
2	21.695	127261	3008	39.117	35.942
3	32.730	70120	1455	21.553	17.378
Total		325338	8370	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-244-rac-02.lcd



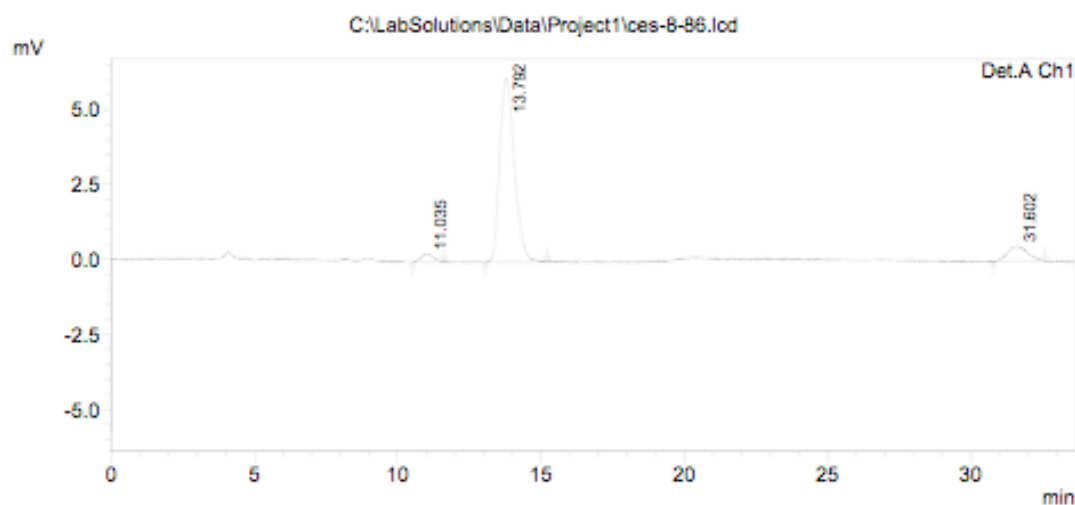
5/27/2011 09:50:31 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-86.lcd

Acquired by : Admin
 Sample Name : ces-8-86
 Sample ID : ces-8-86
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-86.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/26/2011 10:04:46 PM
 Data Processed : 4/26/2011 10:39:22 PM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	11.035	7937	261	3.171	3.798
2	13.792	218342	6127	87.242	89.030
3	31.602	23993	494	9.587	7.171
Total		250272	6882	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-86.lcd

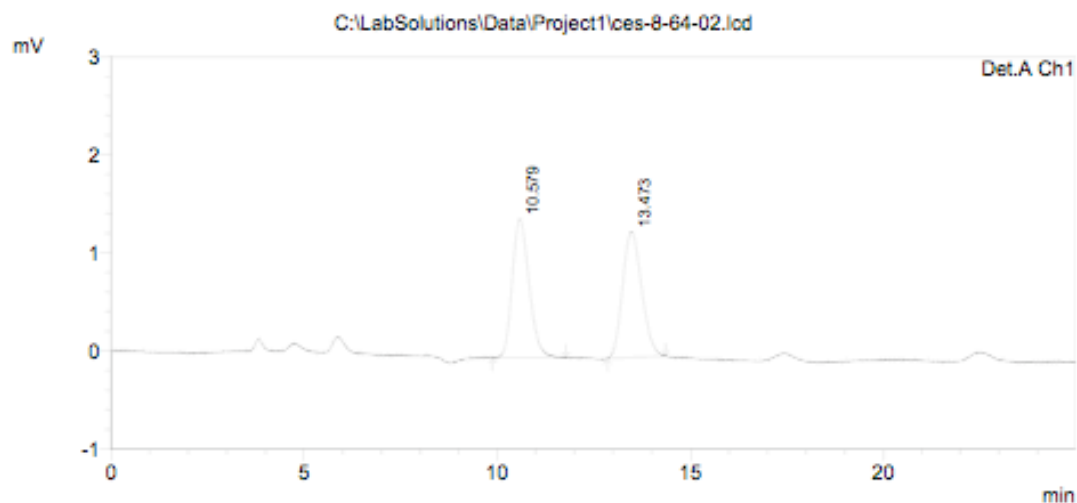
5/27/2011 13:25:25 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-64-02.lcd

Acquired by : Admin
 Sample Name : ces-8-64-2
 Sample ID : ces-8-64-2
 Vial # :
 Injection Volume : 25 uL
 Data File Name : ces-8-64-02.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/27/2011 12:58:04 PM
 Data Processed : 5/27/2011 1:23:04 PM

<Chromatogram>

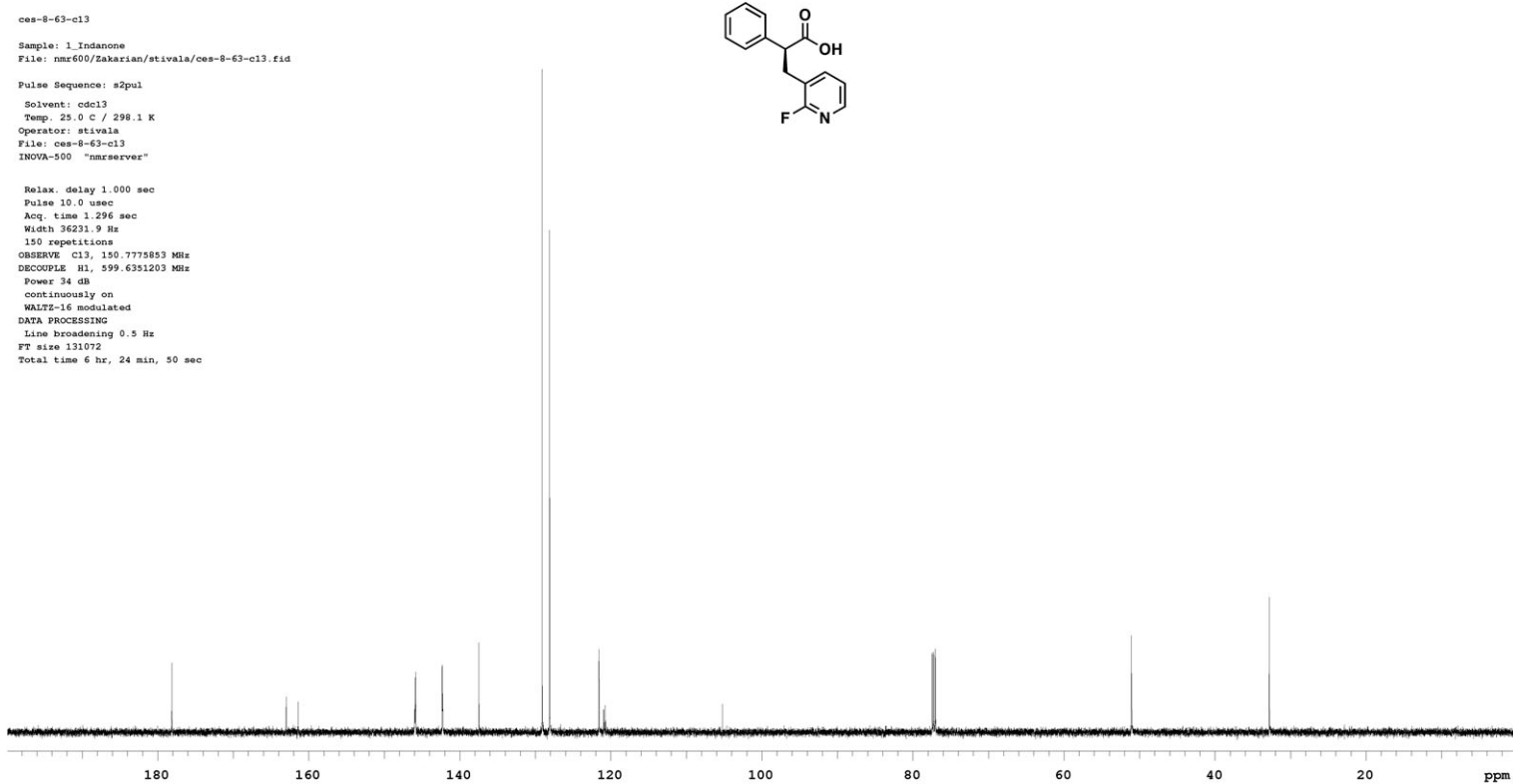
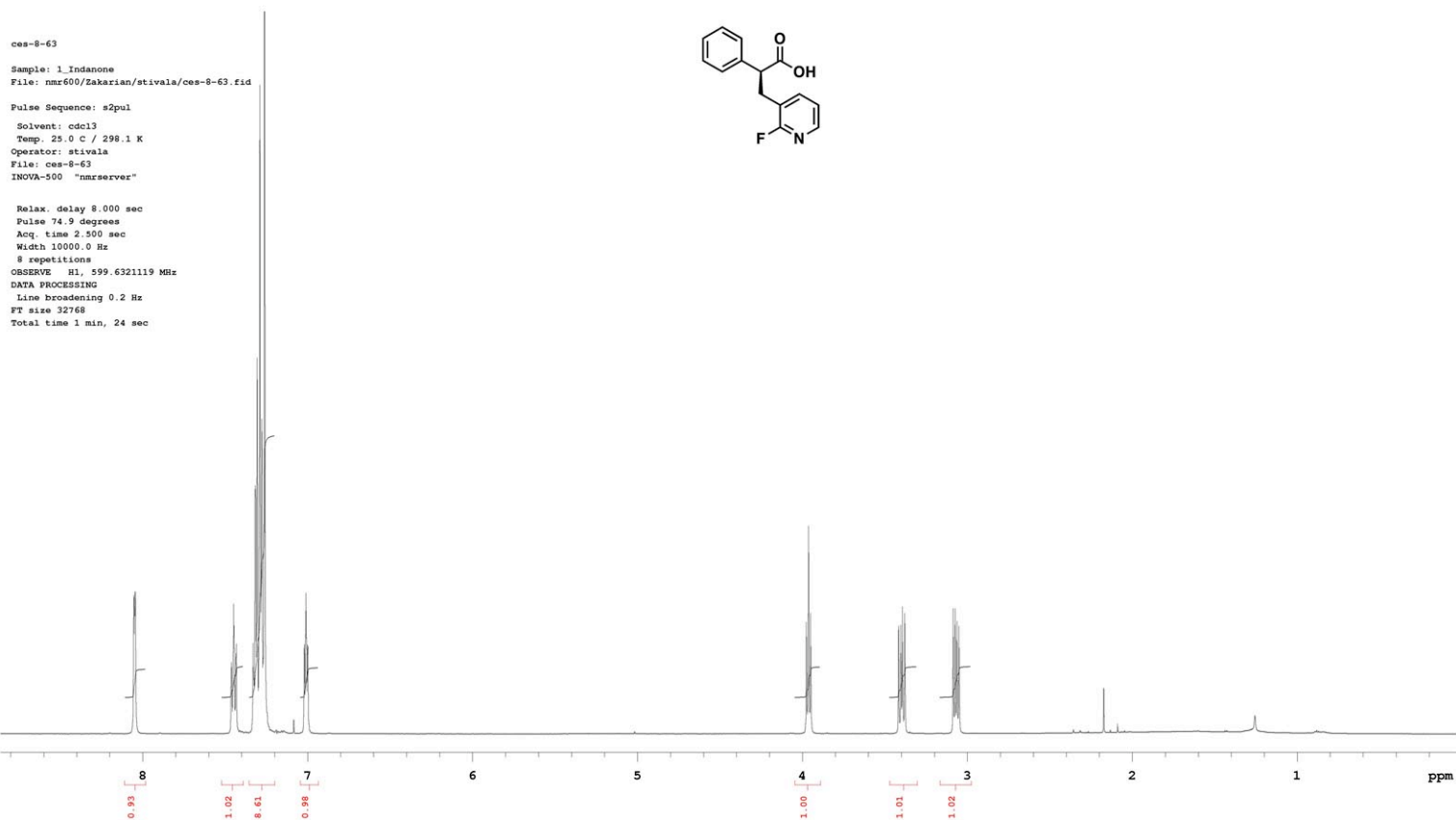


PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	10.579	43020	1412	49.429	52.423
2	13.473	44013	1281	50.571	47.577
Total		87033	2693	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-64-02.lcd



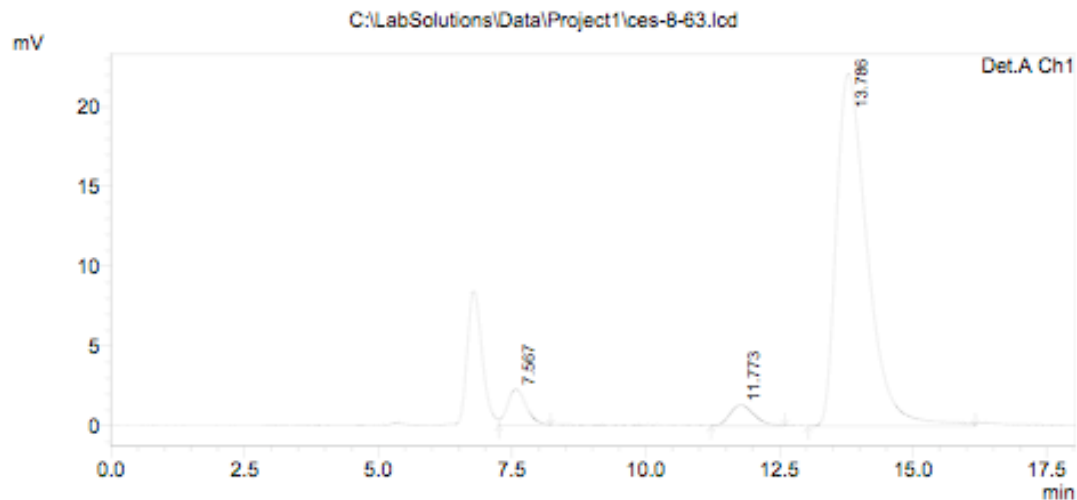
5/27/2011 09:52:29 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-63.lcd

Acquired by : Admin
 Sample Name : ces-8-63
 Sample ID : ces-8-63
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-63.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/15/2011 5:43:40 PM
 Data Processed : 4/15/2011 6:04:08 PM

<Chromatogram>



PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	7.567	56504	2278	5.722	8.870
2	11.773	40124	1297	4.063	5.053
3	13.786	890940	22103	90.216	86.077
Total		987568	25678	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-63.lcd

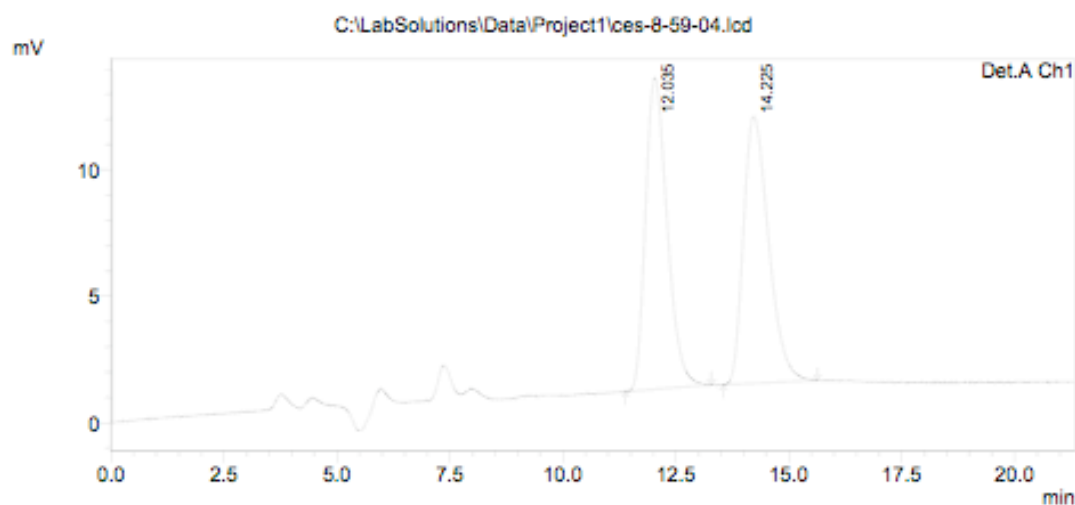
5/27/2011 11:42:23 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-59-04.lcd

Acquired by : Admin
 Sample Name : ces-8-59
 Sample ID : ces-8-59
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-59-04.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/14/2011 8:48:08 PM
 Data Processed : 4/14/2011 9:28:16 PM

<Chromatogram>



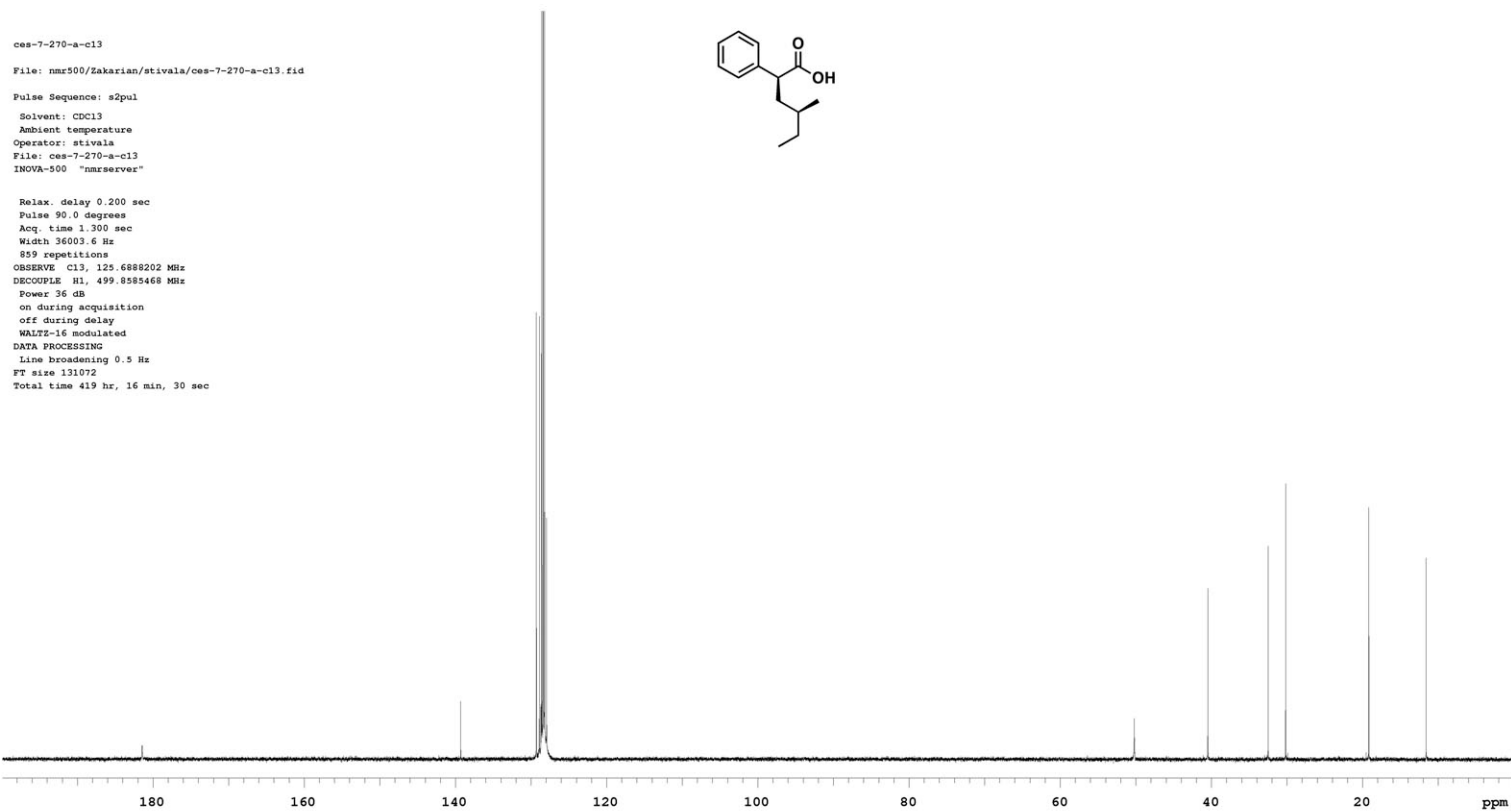
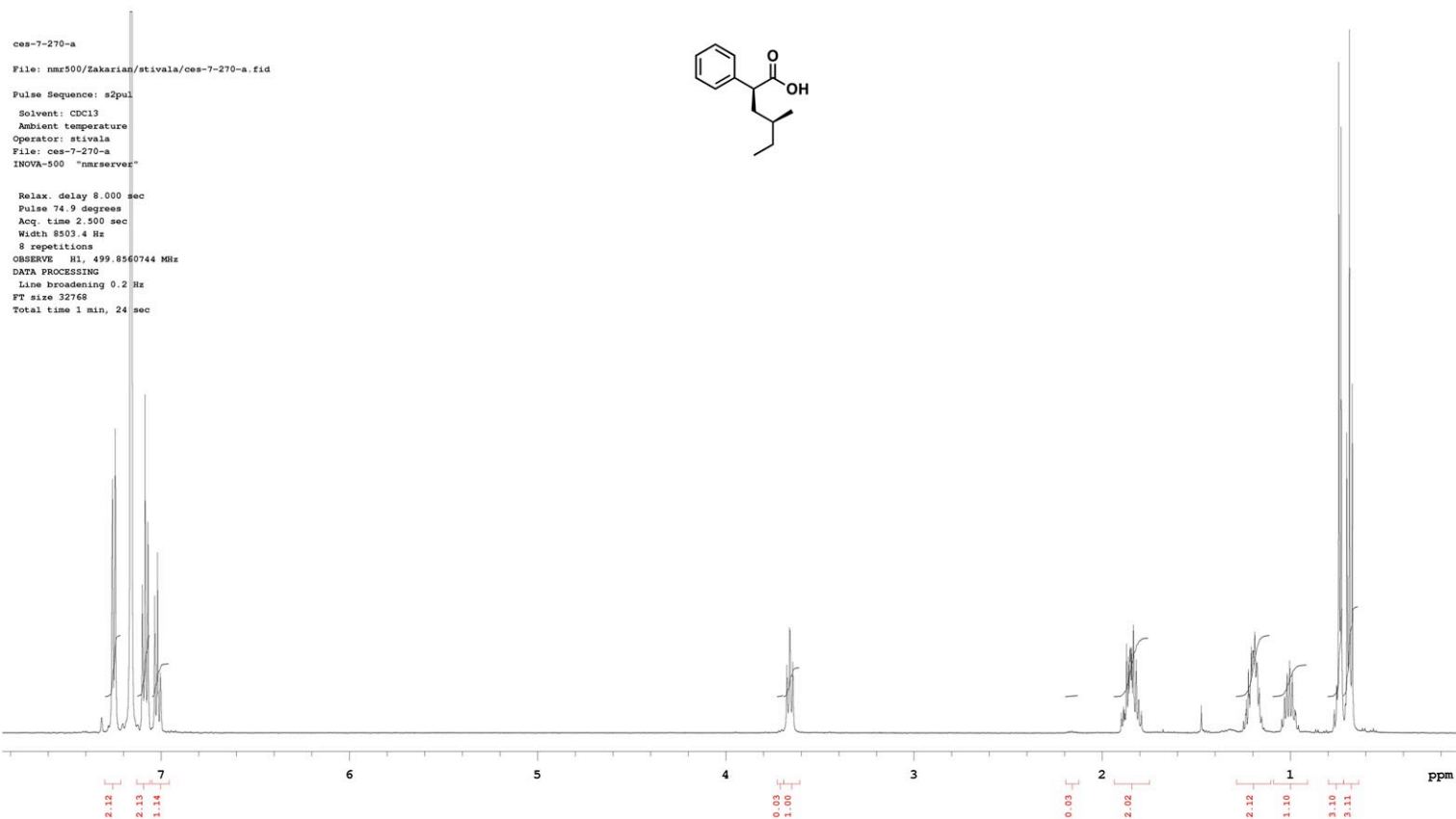
1 Det.A Ch1/215nm

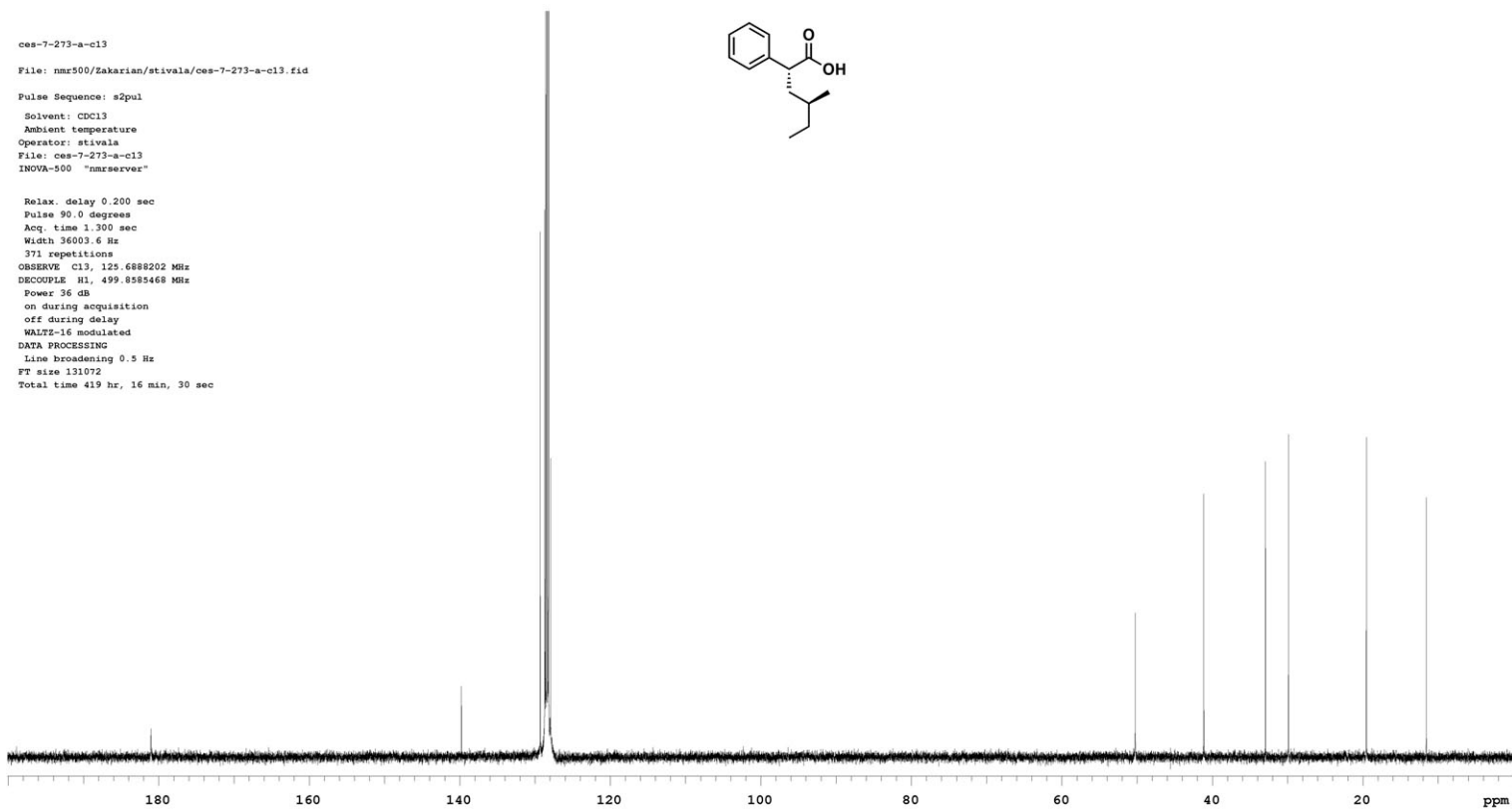
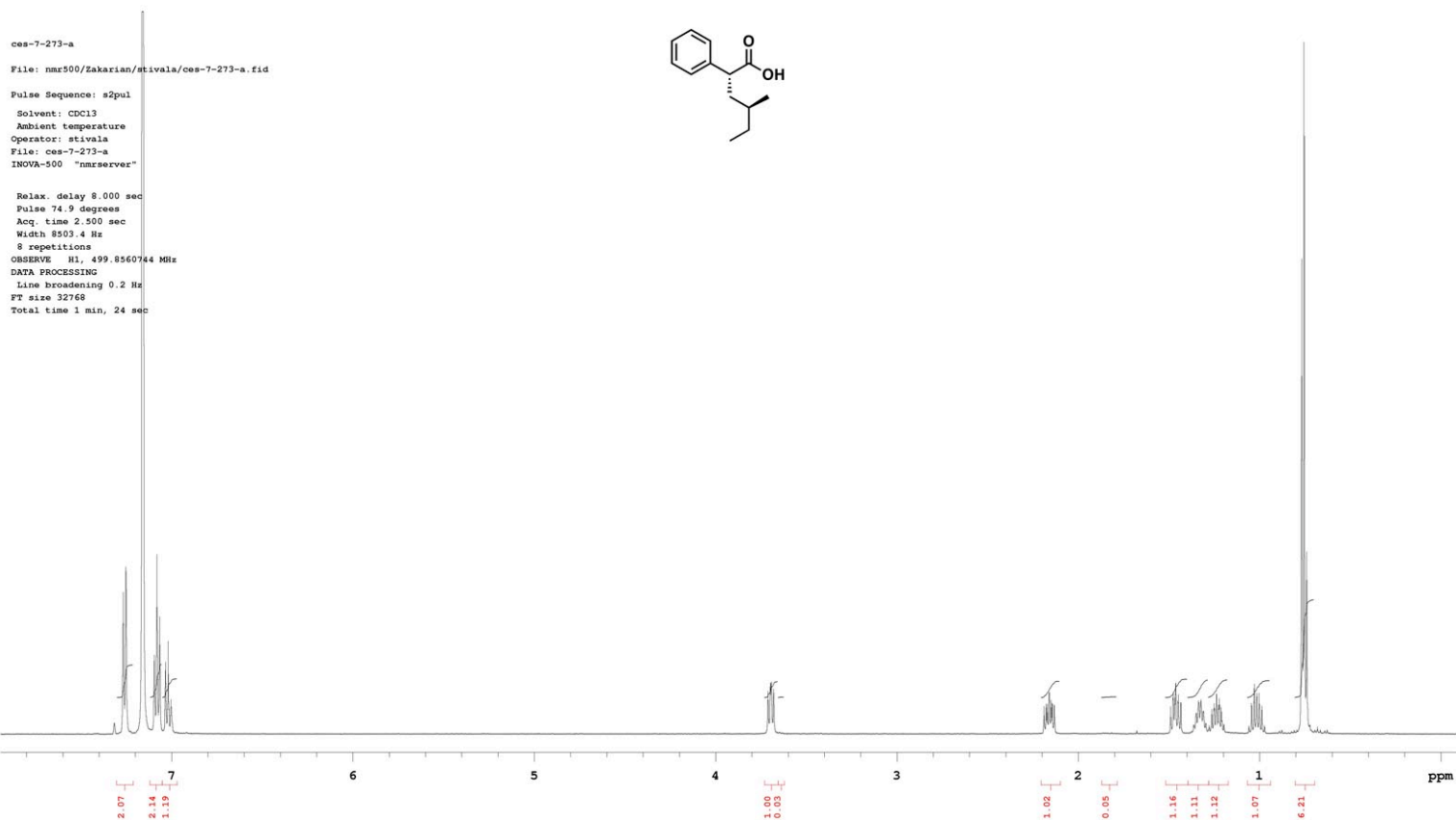
PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	12.035	410580	12302	50.062	53.788
2	14.225	409568	10569	49.938	46.212
Total		820149	22870	100.000	100.000

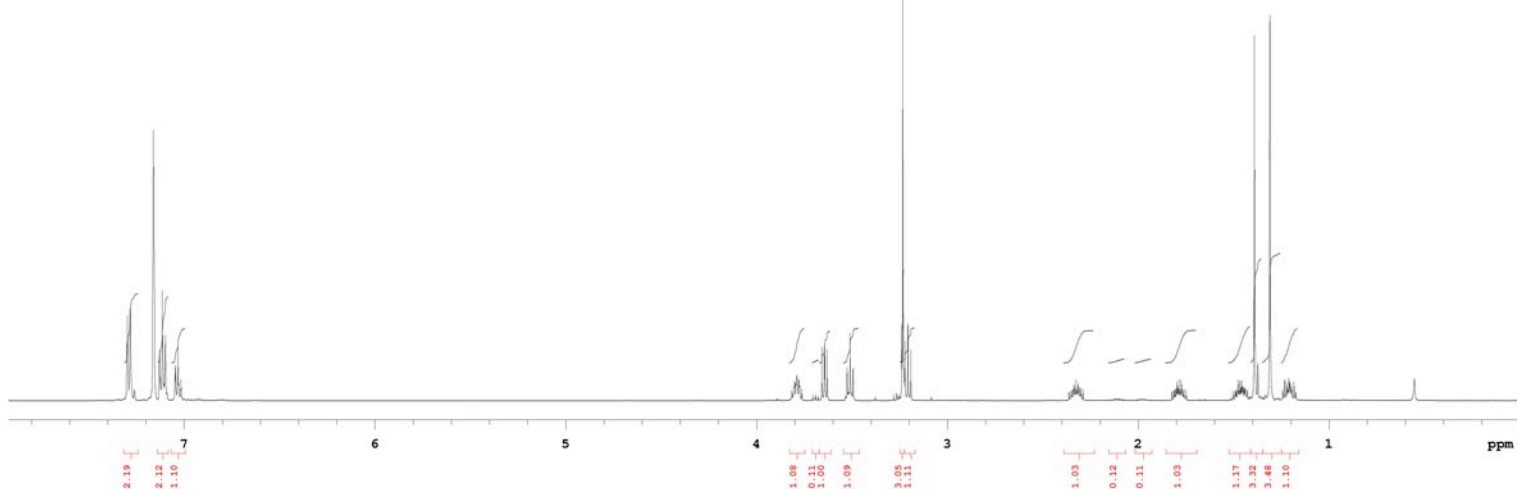
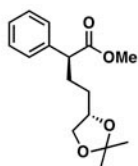
C:\LabSolutions\Data\Project1\ces-8-59-04.lcd





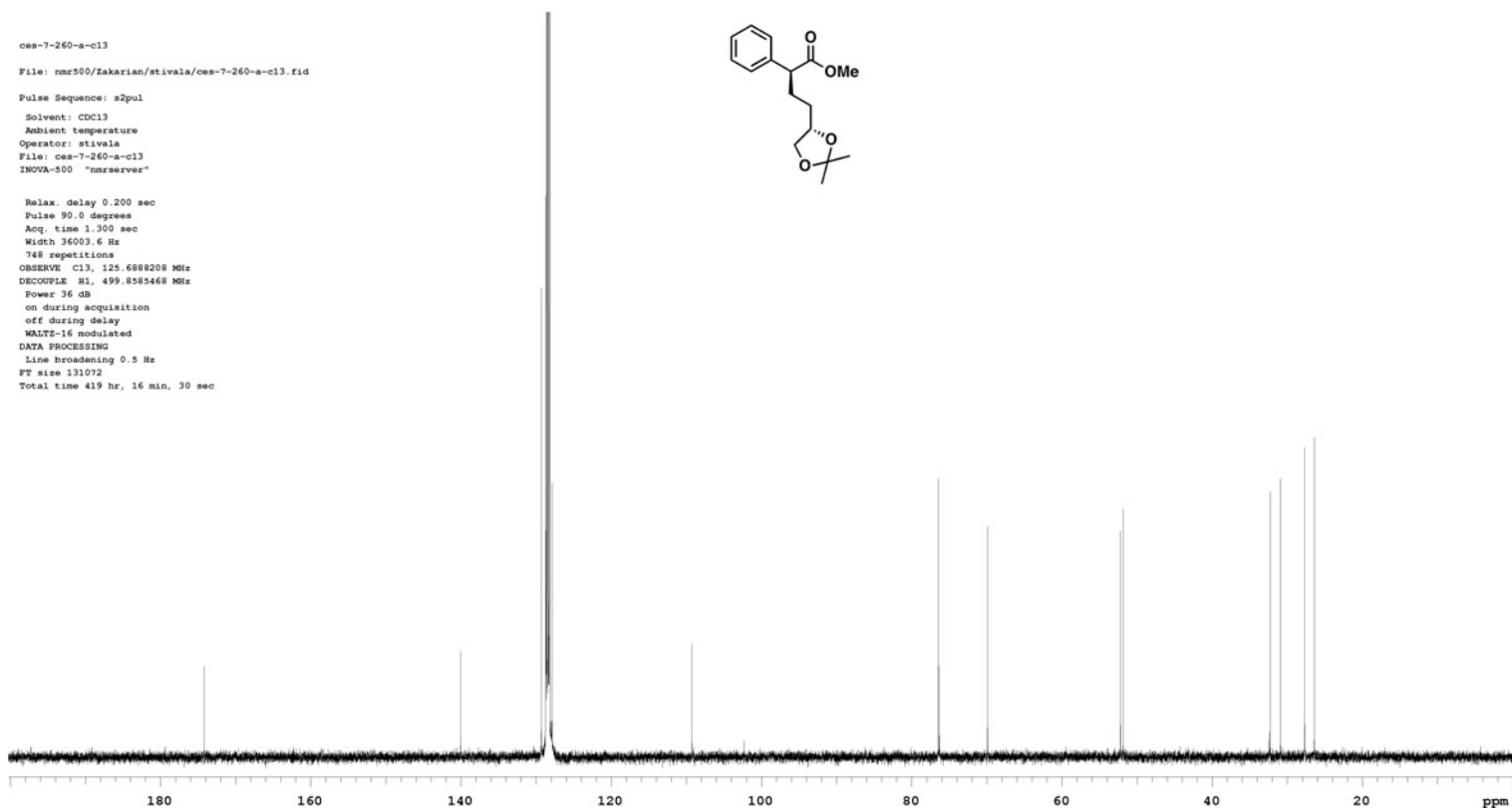
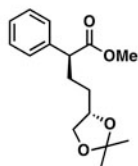
ces-7-260-a
 File: nmr500/Zakarian/stivala/ces-7-260-a.fid
 Pulse Sequence: s2pul
 Solvent: CDCl3
 Ambient temperature
 Operator: stivala
 File: ces-7-260-a
 INOVA-500 "nmrserver"

Relax. delay 8.000 sec
 Pulse 74.9 degrees
 Acq. time 2.500 sec
 Width 8503.4 Hz
 8 repetitions
 OBSERVE H1, 499.8560744 MHz
 DATA PROCESSING
 Line Broadening 0.2 Hz
 FT size 32768
 Total time 1 min, 24 sec

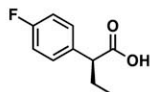


ces-7-260-a-c13
 File: nmr500/Zakarian/stivala/ces-7-260-a-c13.fid
 Pulse Sequence: s2pul
 Solvent: CDCl3
 Ambient temperature
 Operator: stivala
 File: ces-7-260-a-c13
 INOVA-500 "nmrserver"

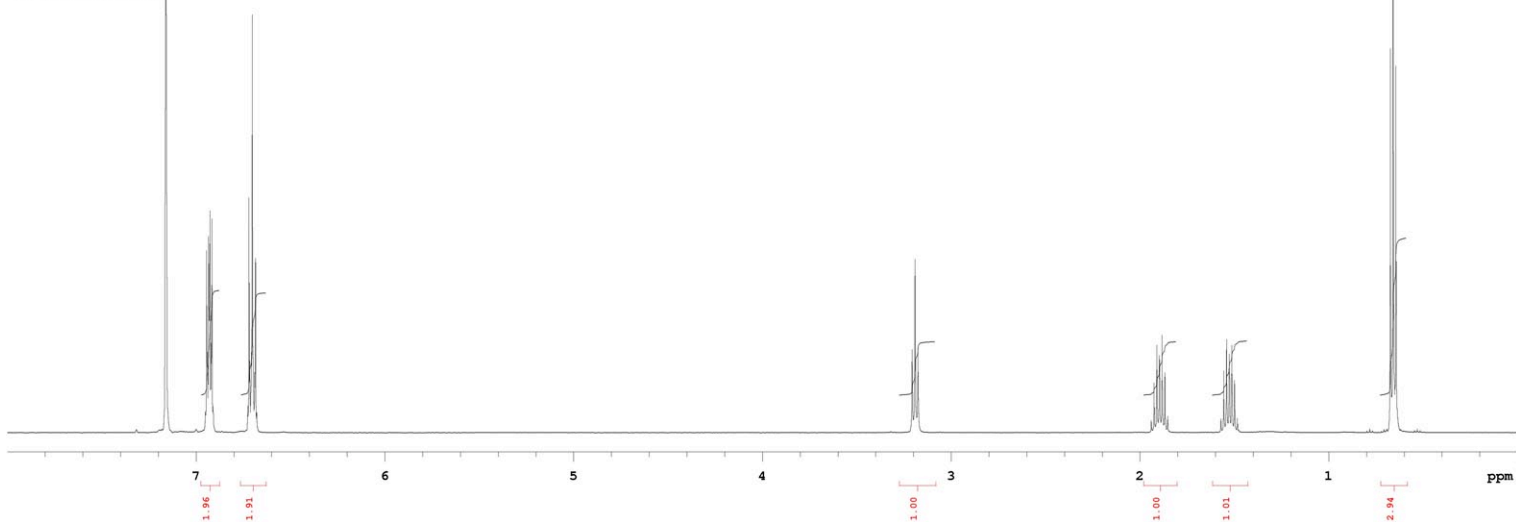
Relax. delay 0.200 sec
 Pulse 90.0 degrees
 Acq. time 1.300 sec
 Width 36003.6 Hz
 748 repetitions
 OBSERVE C13, 125.6888208 MHz
 DECOUPLE H1, 499.856468 MHz
 Power 36 dB
 on during acquisition
 off during delay
 WALTZ-16 modulated
 DATA PROCESSING
 Line Broadening 0.5 Hz
 FT size 131072
 Total time 419 hr, 16 min, 30 sec



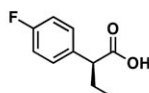
ces-8-13
 File: nmr500/Zakarian/stivala/ces-8-13.fid
 Pulse Sequence: s2pul
 Solvent: CDCl3
 Ambient temperature
 Operator: stivala
 File: ces-8-13
 INOVA-500 "nmrserver"



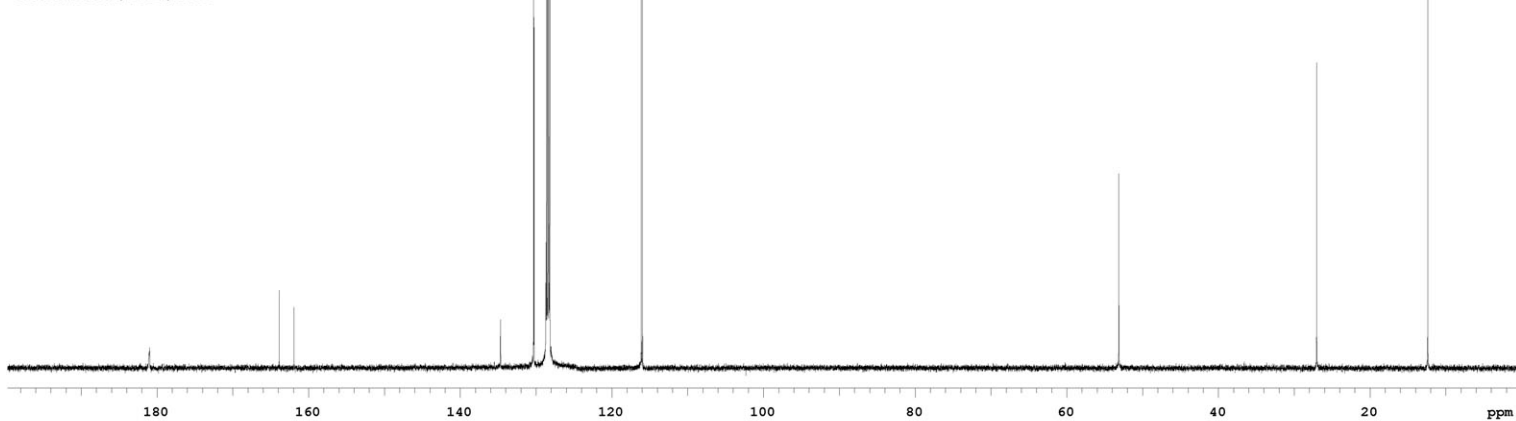
Relax. delay 8.000 sec
 Pulse 74.9 degrees
 Acq. time 2.500 sec
 Width 8503.4 Hz
 8 repetitions
 OBSERVE H1, 499.8560744 MHz
 DATA PROCESSING
 Line broadening 0.2 Hz
 FT size 32768
 Total time 1 min, 24 sec



ces-8-13-cl3
 File: nmr500/Zakarian/stivala/ces-8-13-cl3.fid
 Pulse Sequence: s2pul
 Solvent: CDCl3
 Ambient temperature
 Operator: stivala
 File: ces-8-13-cl3
 INOVA-500 "nmrserver"



Relax. delay 0.200 sec
 Pulse 90.0 degrees
 Acq. time 1.300 sec
 Width 36003.6 Hz
 1428 repetitions
 OBSERVE C13, 125.688202 MHz
 DECOUPLE H1, 499.8563468 MHz
 Power 36 dB
 on during acquisition
 off during delay
 WALTZ-16 modulated
 DATA PROCESSING
 Line broadening 0.5 Hz
 FT size 131072
 Total time 419 hr, 16 min, 30 sec



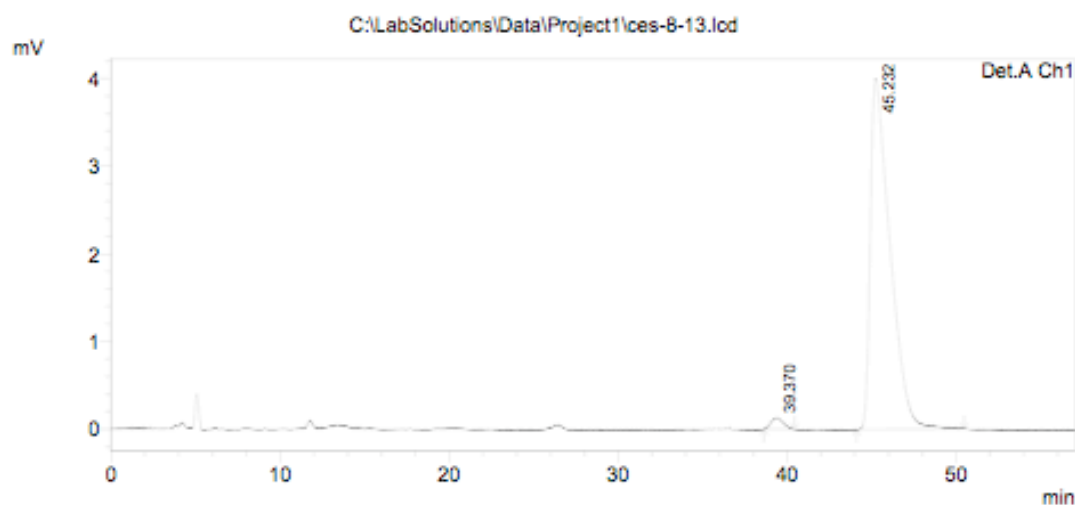
5/27/2011 09:56:20 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-13.lcd

Acquired by : Admin
 Sample Name : ces-8-13
 Sample ID : ces-8-13
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-13.lcd
 Method File Name : ces-OJ-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/28/2011 7:28:00 PM
 Data Processed : 3/28/2011 8:27:35 PM

<Chromatogram>



PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	39.370	6632	134	2.002	3.240
2	45.232	324644	4005	97.998	96.760
Total		331276	4139	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-13.lcd

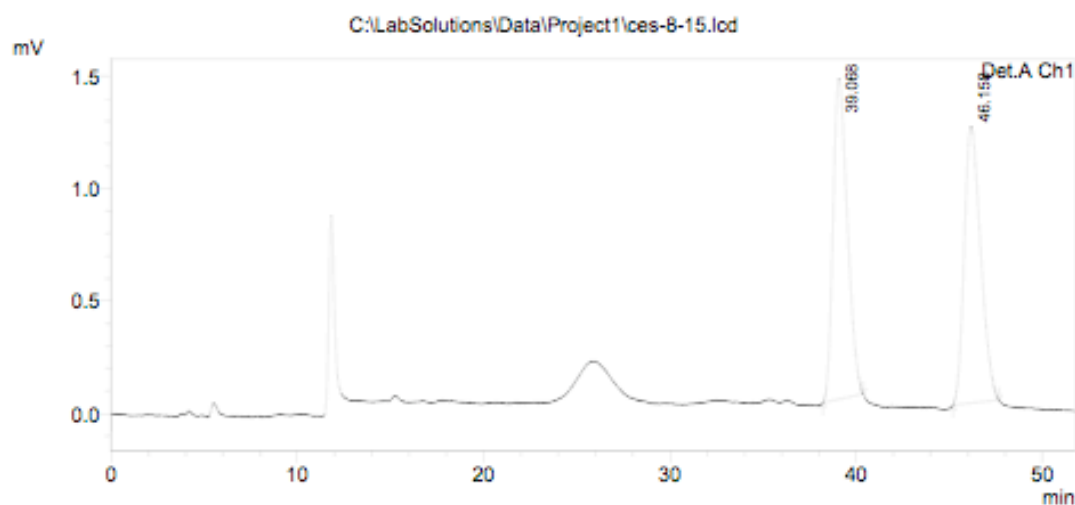
5/27/2011 11:44:26 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-15.lcd

Acquired by : Admin
 Sample Name : ces-8-15
 Sample ID : ces-8-15
 Vial # :
 Injection Volume : 10 uL
 Data File Name : ces-8-15.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/28/2011 8:32:15 PM
 Data Processed : 3/28/2011 8:25:19 PM

<Chromatogram>



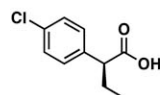
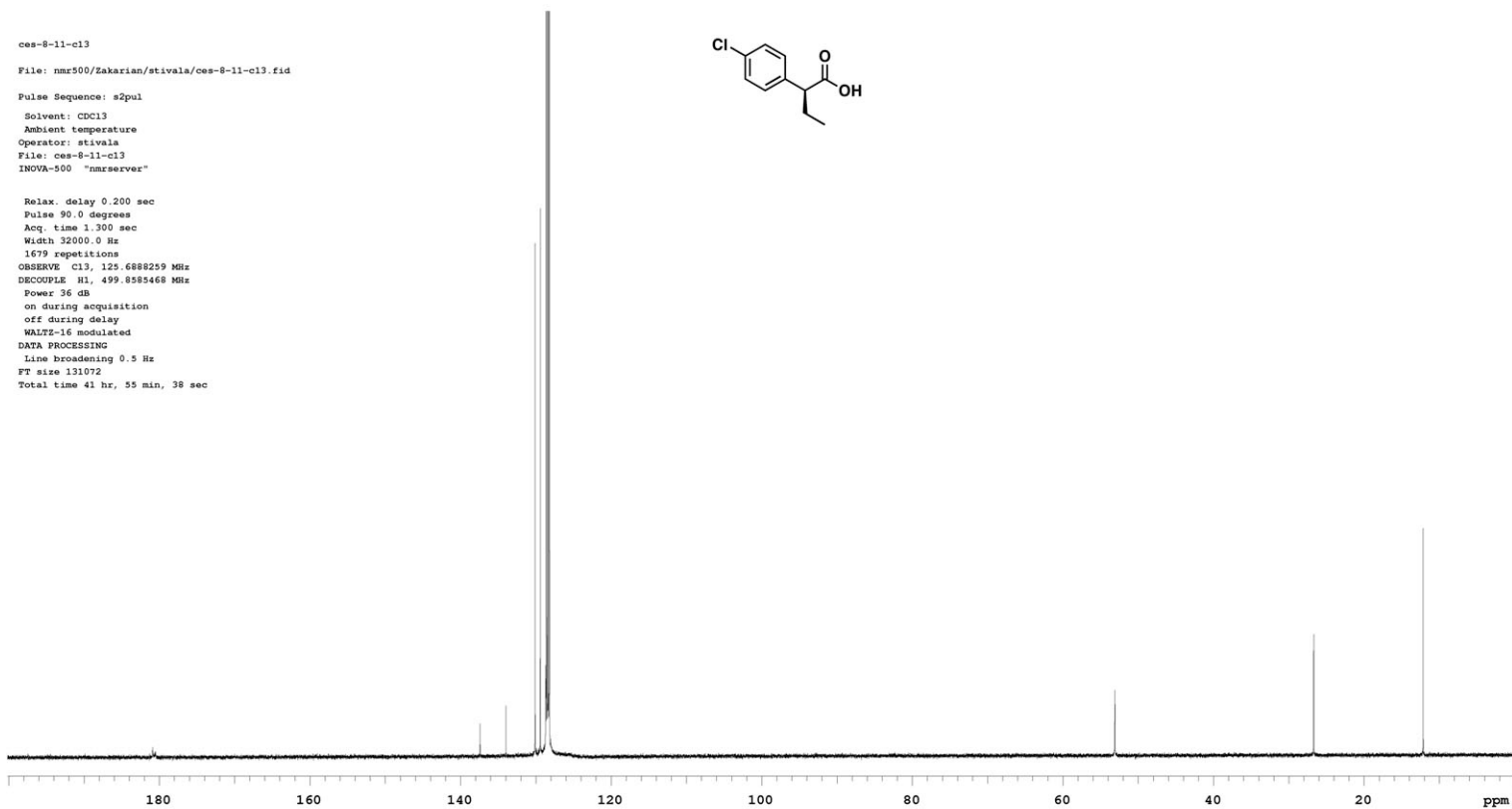
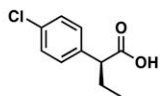
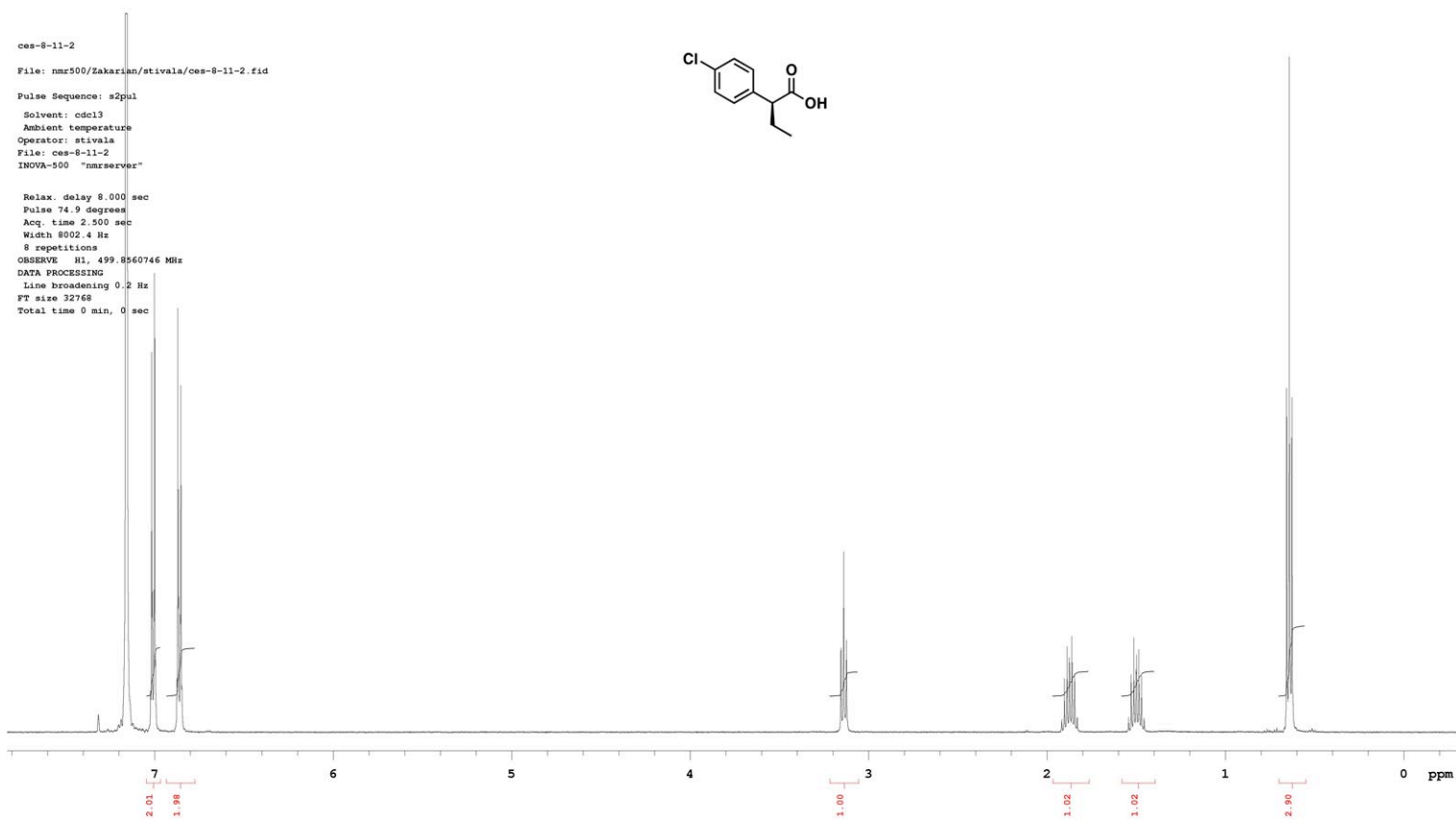
1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	39.068	76061	1427	50.100	53.650
2	46.158	75756	1233	49.900	46.350
Total		151817	2661	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-15.lcd



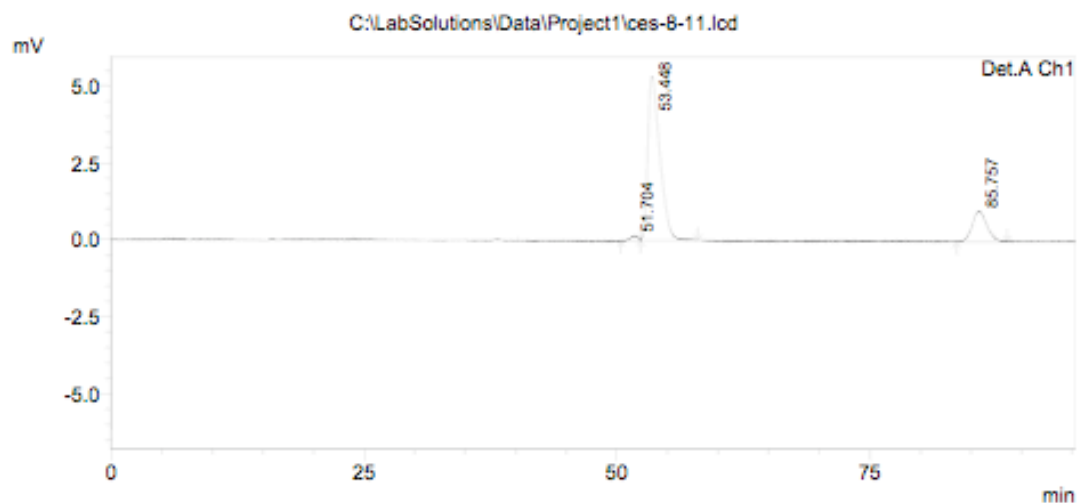
5/27/2011 09:57:49 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-11.lcd

Acquired by : Admin
 Sample Name : ces-8-11
 Sample ID : ces-8-11
 Vial # :
 Injection Volume : 10 uL
 Data File Name : ces-8-11.lcd
 Method File Name : ces-OJ-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/28/2011 11:46:49 AM
 Data Processed : 3/28/2011 1:25:23 PM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	51.704	8506	156	1.544	2.405
2	53.448	442522	5334	80.319	82.470
3	85.757	99924	978	18.137	15.125
Total		550953	6468	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-11.lcd

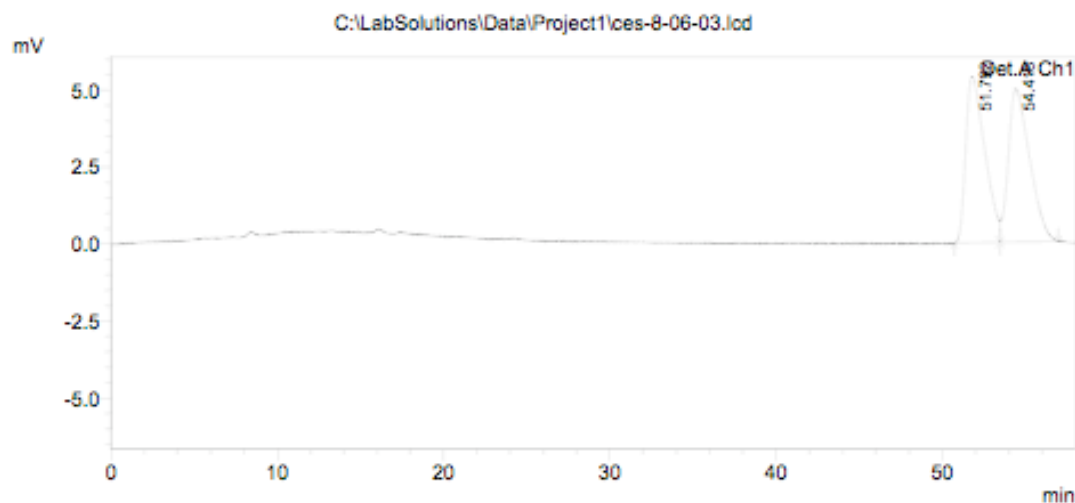
5/27/2011 11:43:35 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-06-03.lcd

Acquired by : Admin
 Sample Name : ces-8-6
 Sample ID : ces-8-6
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-06-03.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/26/2011 10:17:25 AM
 Data Processed : 3/26/2011 12:17:45 PM

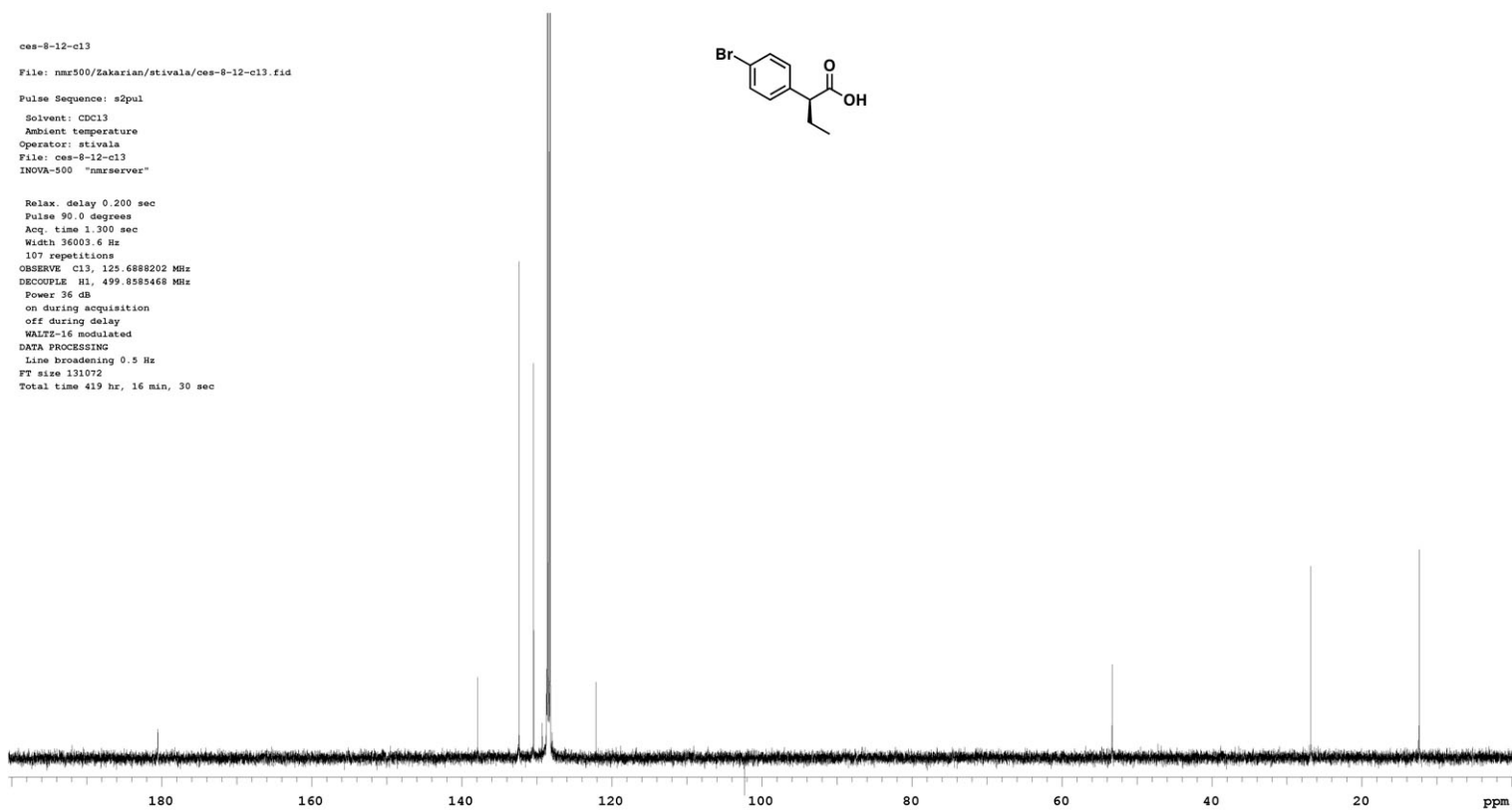
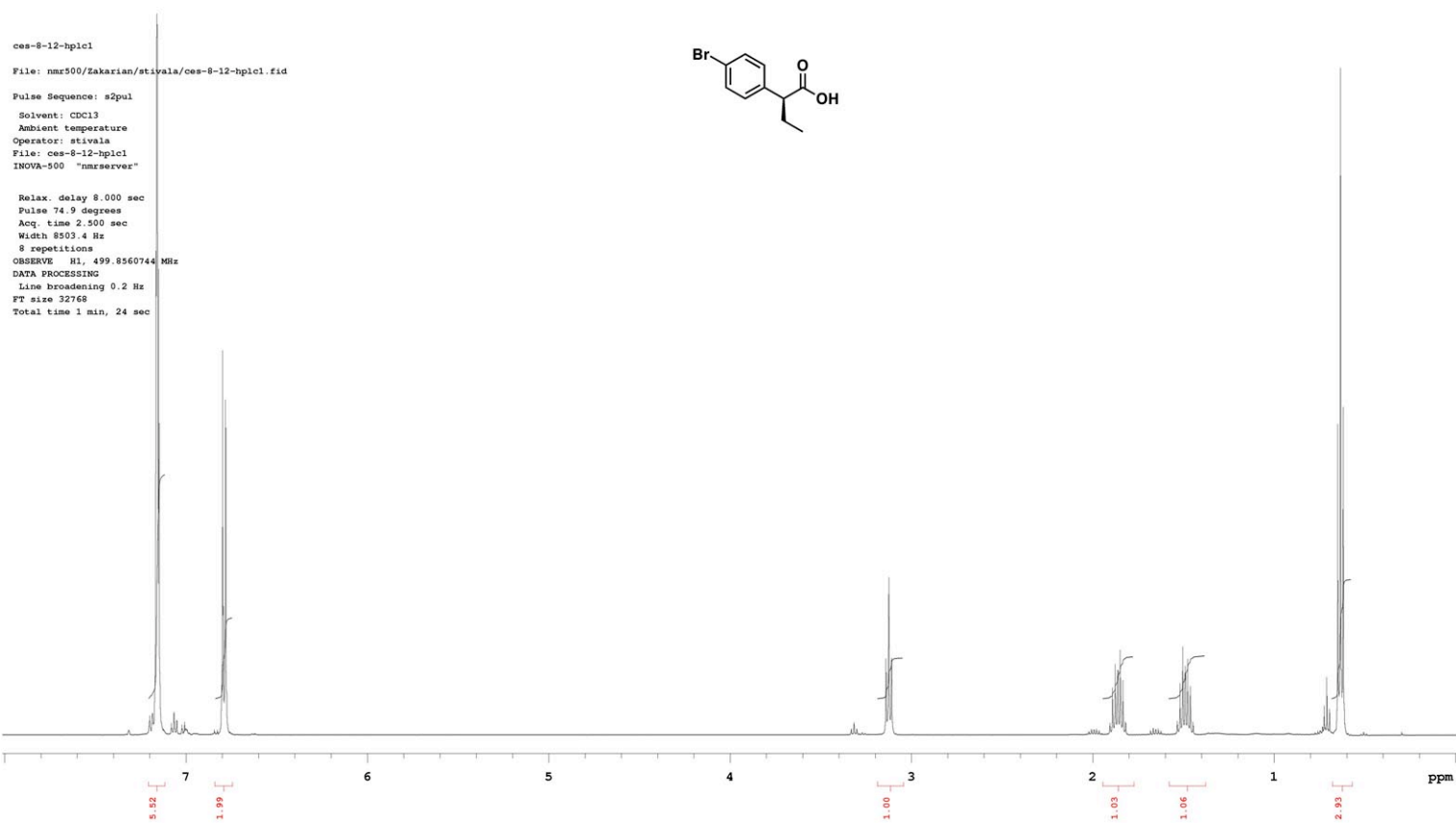
<Chromatogram>



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	51.792	431493	5409	49.315	52.099
2	54.418	443478	4973	50.685	47.901
Total		874971	10382	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-06-03.lcd



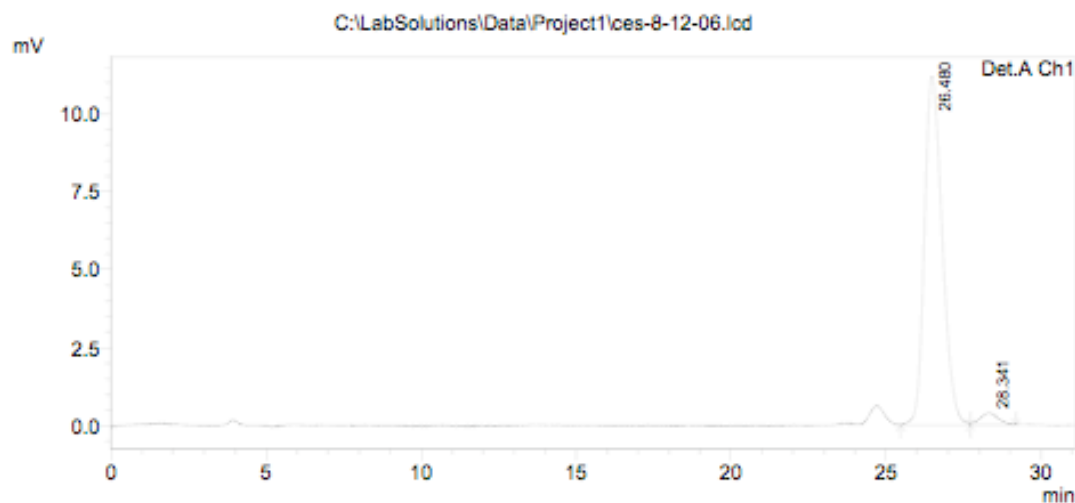
5/27/2011 10:01:16 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-12-06.lcd

Acquired by : Admin
 Sample Name : ces-8-12
 Sample ID : ces-8-12
 Vial # :
 Injection Volume : 15 uL
 Data File Name : ces-8-12-06.lcd
 Method File Name : ces-AD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/7/2011 4:42:27 PM
 Data Processed : 5/7/2011 5:58:26 PM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	26.480	447226	11185	96.646	96.742
2	28.341	15521	377	3.354	3.258
Total		462748	11562	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-12-06.lcd

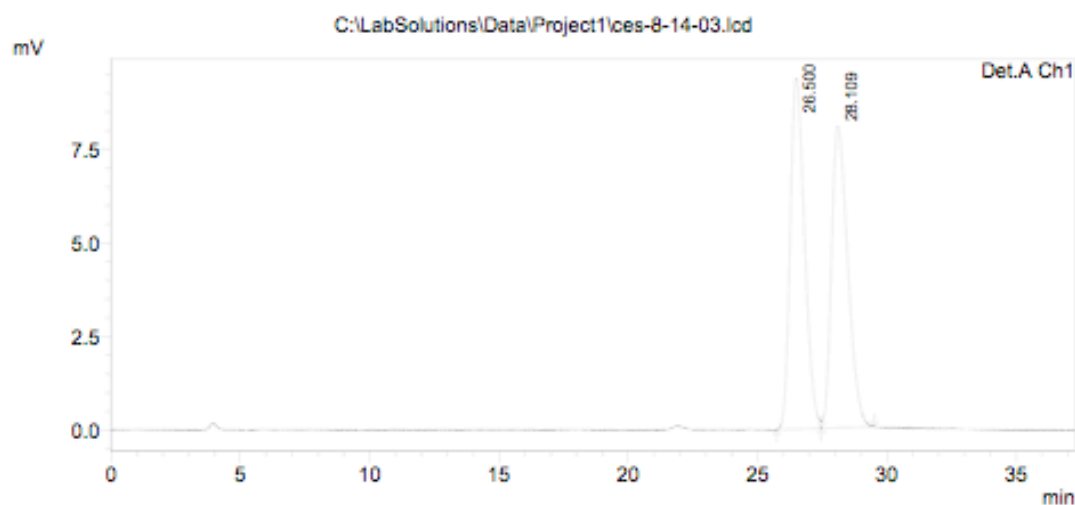
5/27/2011 11:45:18 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-14-03.lcd

Acquired by : Admin
 Sample Name : ces-8-14
 Sample ID : ces-8-14
 Vial # :
 Injection Volume : 15 uL
 Data File Name : ces-8-14-03.lcd
 Method File Name : ces-AD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/7/2011 5:19:13 PM
 Data Processed : 5/7/2011 6:59:01 PM

<Chromatogram>



1 Det.A Ch1/215nm

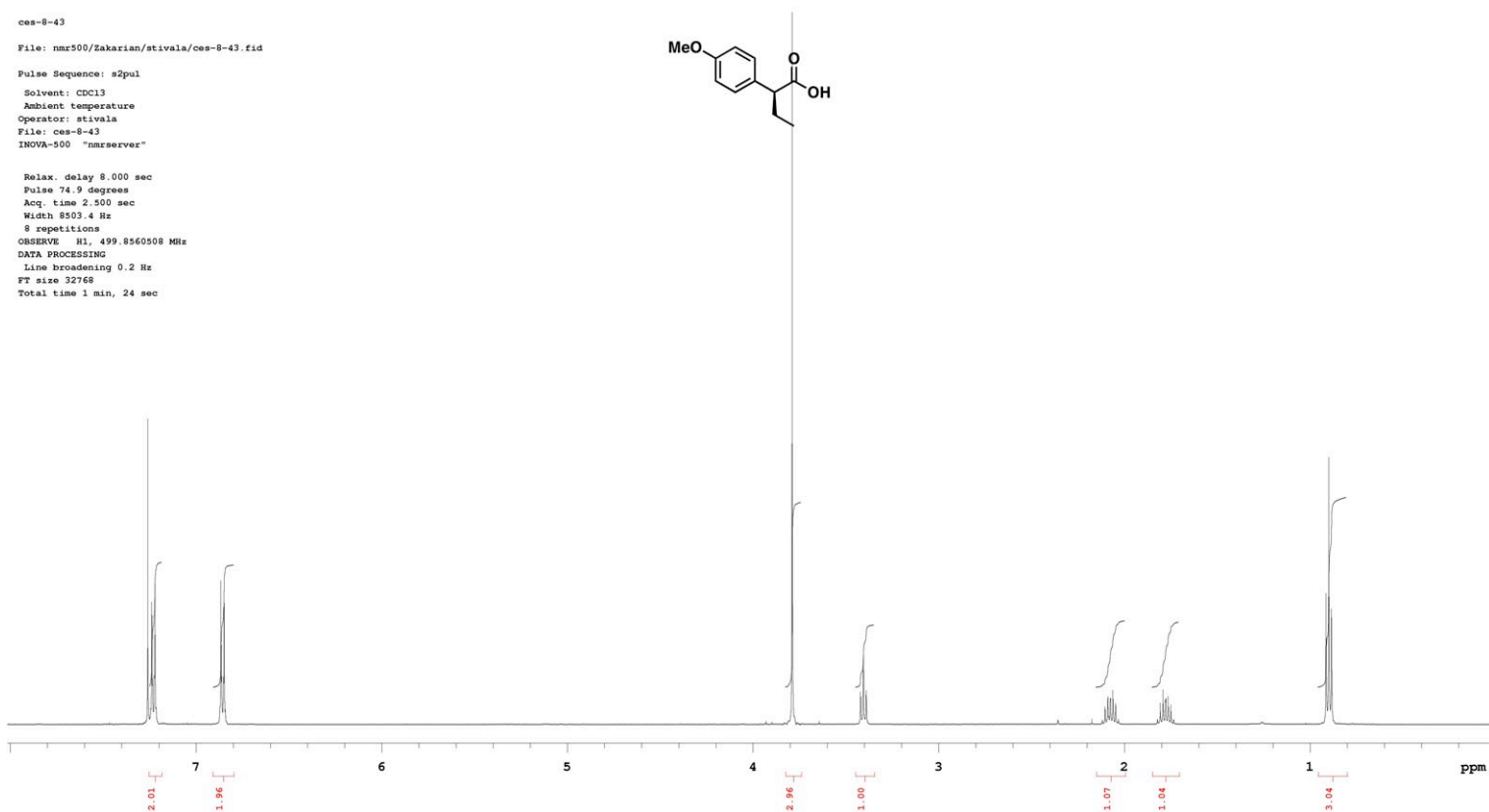
PeakTable

Detector A Ch1 215nm

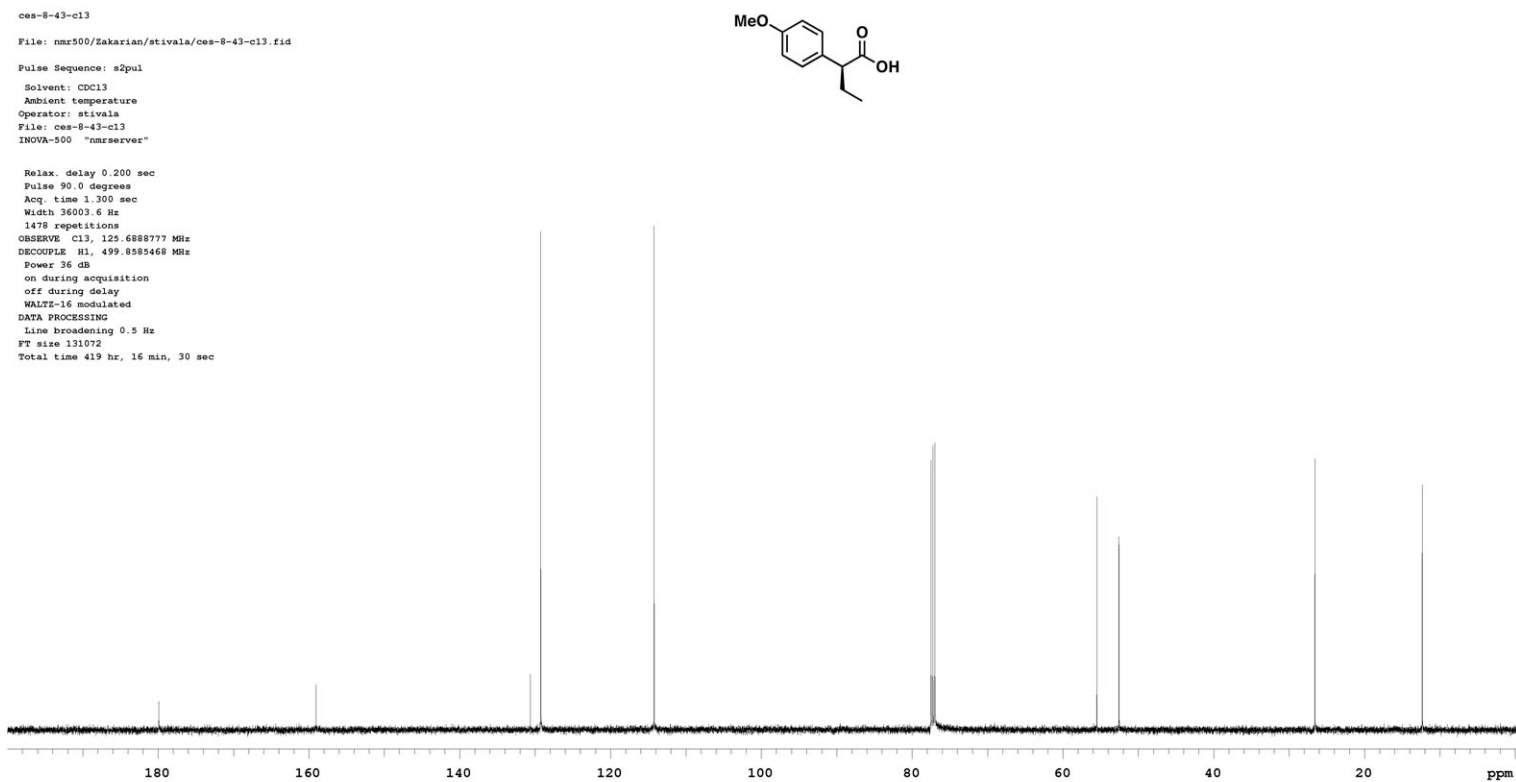
Peak#	Ret. Time	Area	Height	Area %	Height %
1	26.500	364163	9380	50.796	53.735
2	28.109	352754	8076	49.204	46.265
Total		716918	17455	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-14-03.lcd

ces-8-43
 File: nmr500/Zakarian/stivala/ces-8-43.fid
 Pulse Sequence: s2pul
 Solvent: CDCl3
 Ambient temperature
 Operator: stivala
 File: ces-8-43
 INOVA-500 "nmrserver"
 Relax. delay 8.000 sec
 Pulse 74.9 degrees
 Acq. time 2.500 sec
 Width 8503.4 Hz
 8 repetitions
 OBSERVE H1, 499.8560508 MHz
 DATA PROCESSING
 Line broadening 0.2 Hz
 FT size 32768
 Total time 1 min, 24 sec



ces-8-43-cl3
 File: nmr500/Zakarian/stivala/ces-8-43-cl3.fid
 Pulse Sequence: s2pul
 Solvent: CDCl3
 Ambient temperature
 Operator: stivala
 File: ces-8-43-cl3
 INOVA-500 "nmrserver"
 Relax. delay 0.200 sec
 Pulse 90.0 degrees
 Acq. time 1.300 sec
 Width 36003.6 Hz
 1478 repetitions
 OBSERVE C13, 125.6888777 MHz
 DECOUPLE H1, 499.855468 MHz
 Power 36 dB
 on during acquisition
 off during delay
 WALTZ-16 modulated
 DATA PROCESSING
 Line broadening 0.5 Hz
 FT size 131072
 Total time 419 hr, 16 min, 30 sec



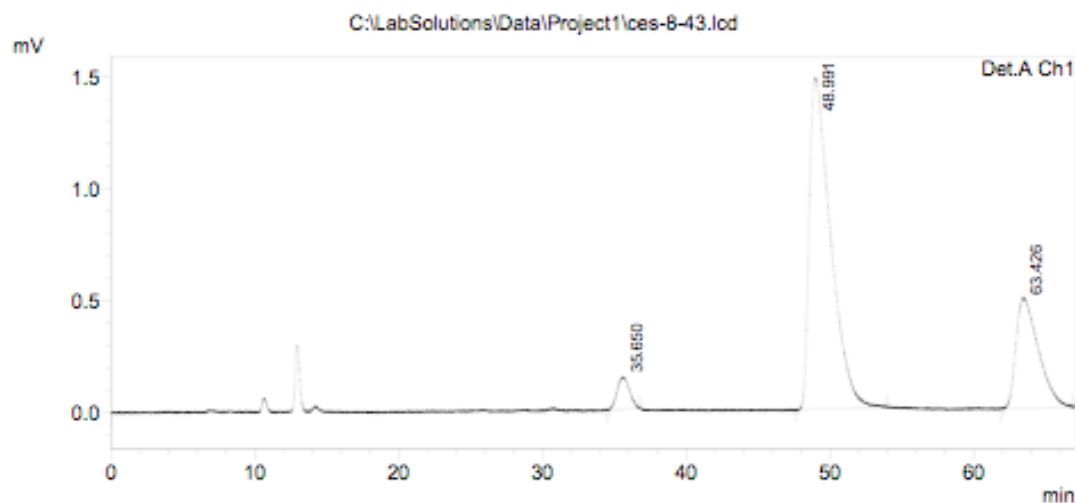
5/27/2011 10:02:14 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-43.lcd

Acquired by : Admin
 Sample Name : ces-8-43
 Sample ID : ces-8-43
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-43.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/7/2011 4:11:17 PM
 Data Processed : 4/7/2011 6:21:02 PM

<Chromatogram>



1 Det.A Ch1/275nm

PeakTable

Detector A Ch1 275nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	35.650	8653	146	4.014	6.886
2	48.991	153344	1480	71.140	69.813
3	63.426	53555	494	24.846	23.301
Total		215551	2120	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-43.lcd

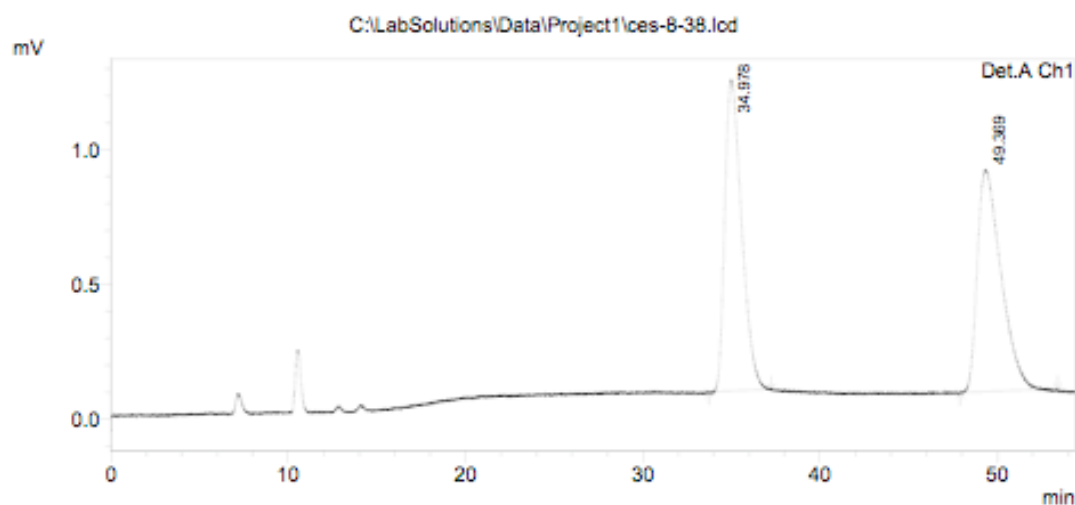
5/27/2011 11:55:08 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-38.lcd

Acquired by : Admin
 Sample Name : ces-8-38
 Sample ID : ces-8-38
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-38.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/6/2011 4:30:51 PM
 Data Processed : 4/7/2011 4:48:11 PM

<Chromatogram>



1 Det.A Ch1/275nm

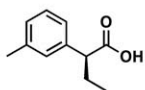
PeakTable

Detector A Ch1 275nm

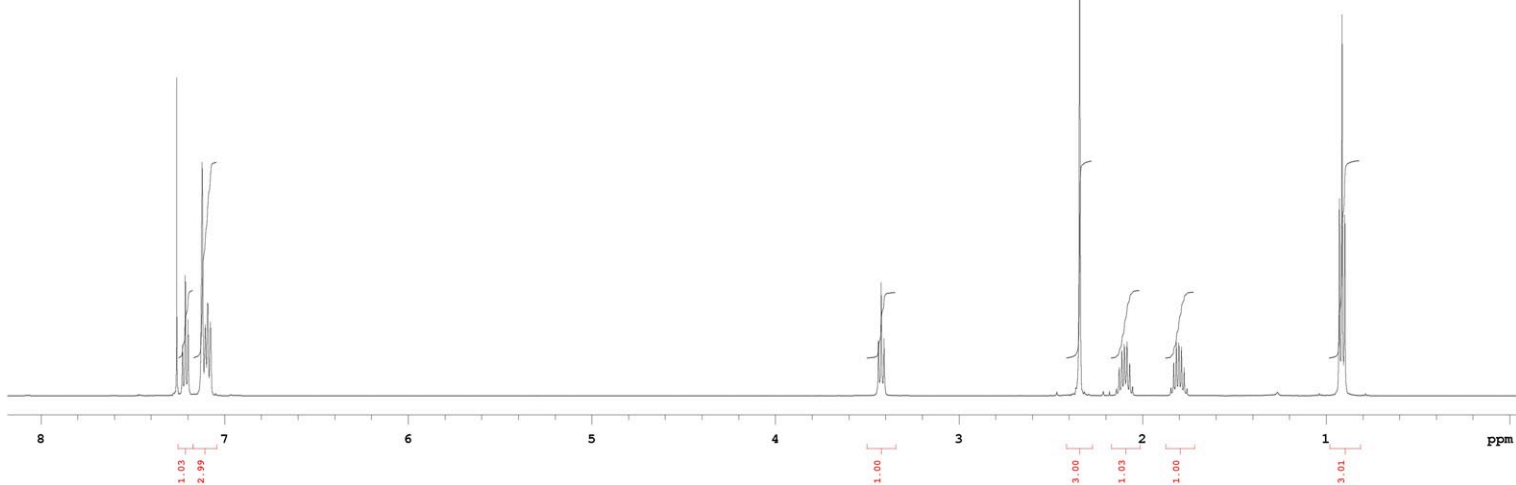
Peak#	Ret. Time	Area	Height	Area %	Height %
1	34.978	76163	1155	49.872	58.304
2	49.369	76556	826	50.128	41.696
Total		152719	1980	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-38.lcd

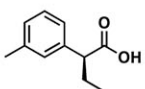
ces-8-42
 File: nmr500/Zakarian/stivala/ces-8-42.fid
 Pulse Sequence: s2pul
 Solvent: cdcl3
 Ambient temperature
 Operator: stivala
 File: ces-8-42
 INOVA-500 "nmrserver"



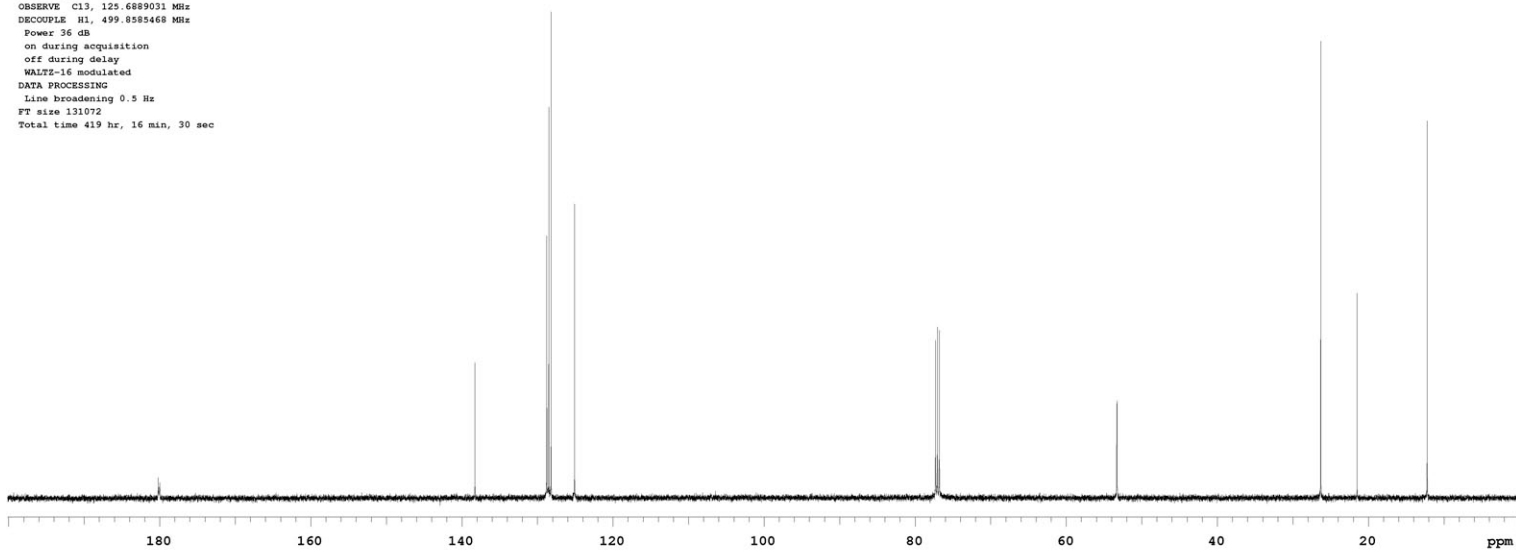
Relax. delay 8.000 sec
 Pulse 74.9 degrees
 Acq. time 2.500 sec
 Width 8002.4 Hz
 8 repetitions
 OBSERVE H1, 499.8560505 MHz
 DATA PROCESSING
 Line broadening 0.2 Hz
 FT size 32768
 Total time 0 min, 0 sec



ces-8-42-cl3
 File: nmr500/Zakarian/stivala/ces-8-42-cl3.fid
 Pulse Sequence: s2pul
 Solvent: CDCl3
 Ambient temperature
 Operator: stivala
 File: ces-8-42-cl3
 INOVA-500 "nmrserver"



Relax. delay 0.200 sec
 Pulse 90.0 degrees
 Acq. time 1.300 sec
 Width 36003.6 Hz
 1471 repetitions
 OBSERVE C13, 125.6889031 MHz
 DECOUPLE H1, 499.855468 MHz
 Power 36 dB
 on during acquisition
 off during delay
 WALTZ-16 modulated
 DATA PROCESSING
 Line broadening 0.5 Hz
 FT size 131072
 Total time 419 hr, 16 min, 30 sec



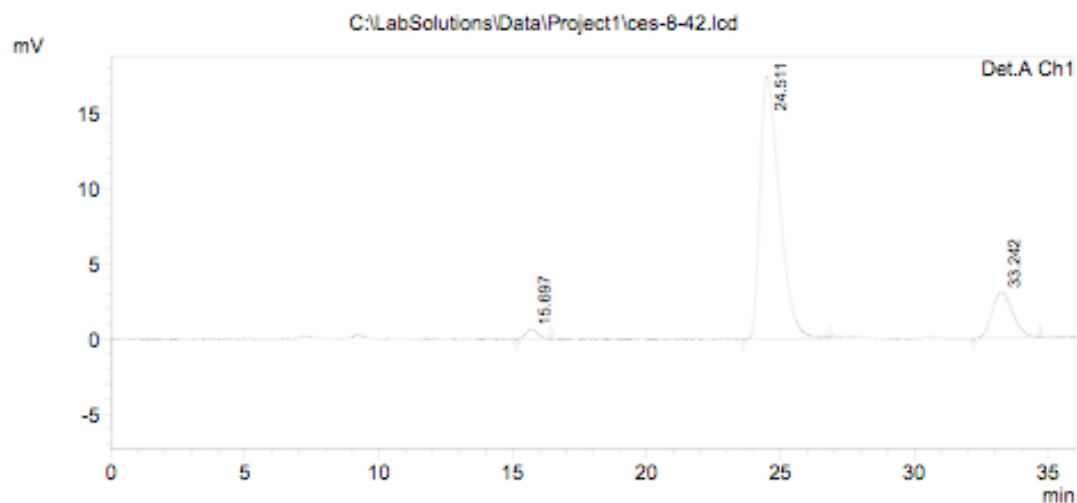
5/27/2011 10:02:56 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-42.lcd

Acquired by : Admin
 Sample Name : ces-8-42
 Sample ID : ces-8-42
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-42.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/7/2011 12:25:31 PM
 Data Processed : 4/7/2011 1:02:48 PM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	15.697	19861	635	1.855	3.005
2	24.511	885905	17466	82.764	82.613
3	33.242	164638	3041	15.381	14.383
Total		1070403	21142	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-42.lcd

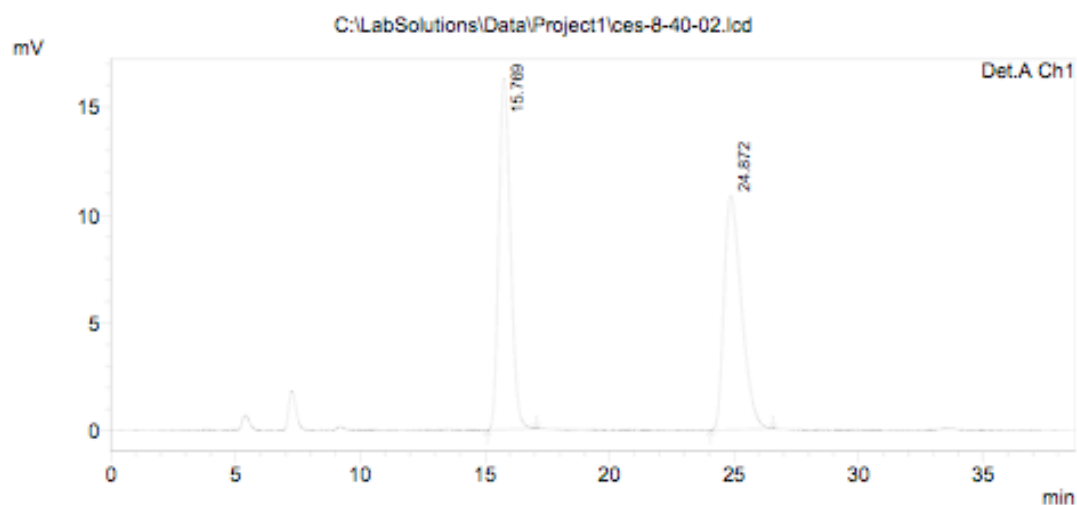
5/27/2011 11:56:23 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-40-02.lcd

Acquired by : Admin
 Sample Name : ces-8-40
 Sample ID : ces-8-40
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-40-02.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/6/2011 7:46:27 PM
 Data Processed : 4/7/2011 1:01:47 PM

<Chromatogram>



1 Det.A Ch1/215nm

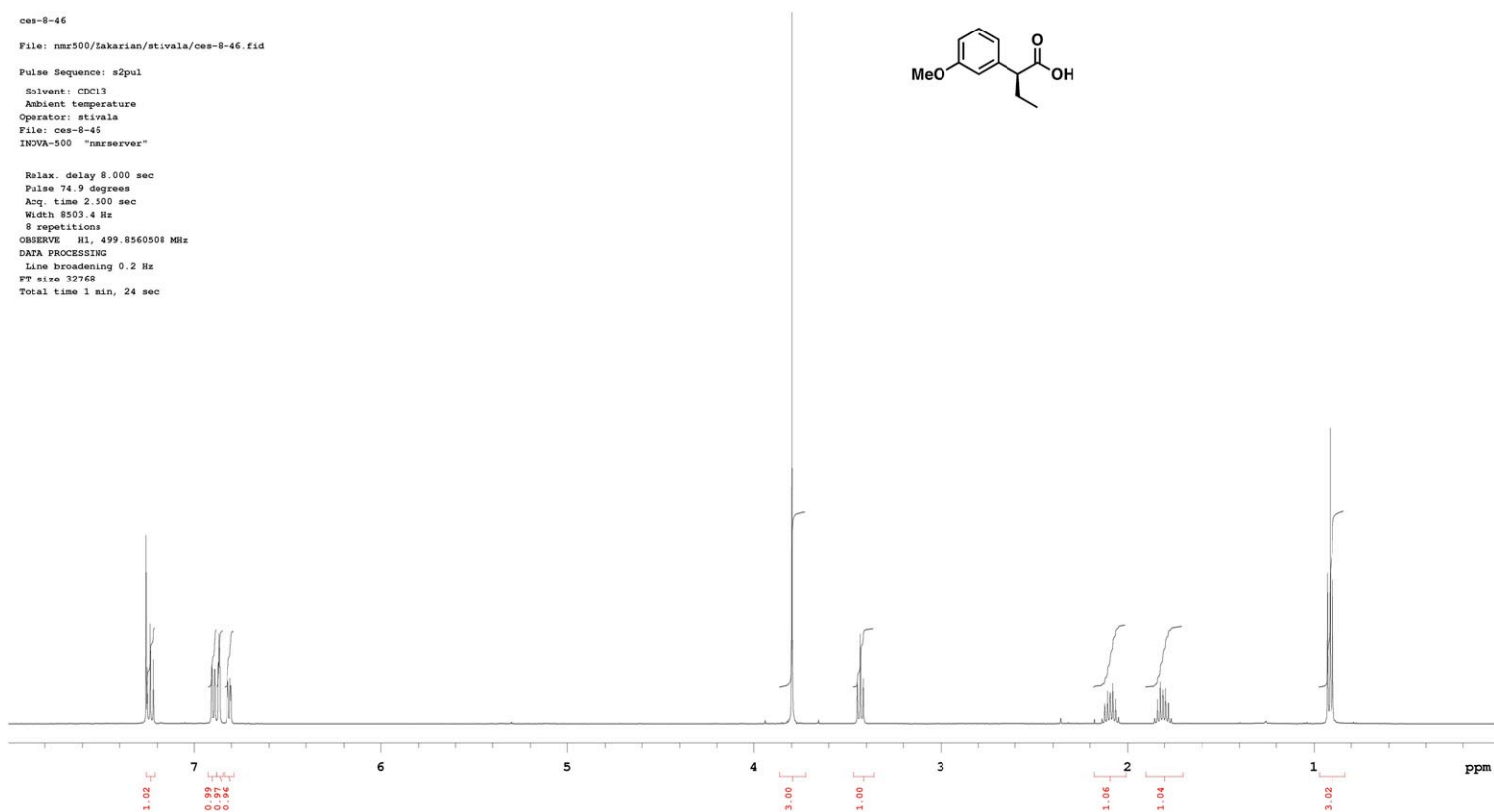
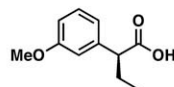
PeakTable

Detector A Ch1 215nm

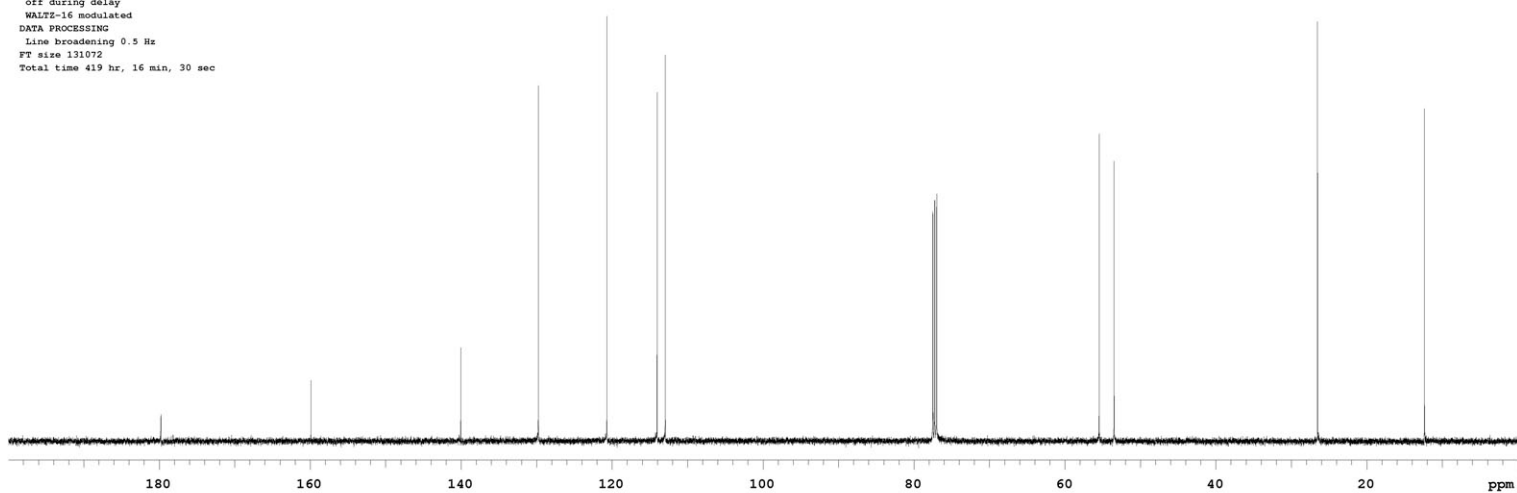
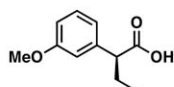
Peak#	Ret. Time	Area	Height	Area %	Height %
1	15.769	530148	16267	50.006	59.995
2	24.872	530020	10847	49.994	40.005
Total		1060169	27115	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-40-02.lcd

ces-8-46
 File: nmr500/Zakarian/stivala/ces-8-46.fid
 Pulse Sequence: s2pul
 Solvent: CDCl3
 Ambient temperature
 Operator: stivala
 File: ces-8-46
 INOVA-500 "nmrserver"
 Relax. delay 8.000 sec
 Pulse 74.9 degrees
 Acq. time 2.500 sec
 Width 8503.4 Hz
 8 repetitions
 OBSERVE H1, 499.8560508 MHz
 DATA PROCESSING
 Line broadening 0.2 Hz
 FT size 32768
 Total time 1 min, 24 sec



ces-8-46-cl3
 File: nmr500/Zakarian/stivala/ces-8-46-cl3.fid
 Pulse Sequence: s2pul
 Solvent: CDCl3
 Ambient temperature
 Operator: stivala
 File: ces-8-46-cl3
 INOVA-500 "nmrserver"
 Relax. delay 0.200 sec
 Pulse 90.0 degrees
 Acq. time 1.300 sec
 Width 36003.6 Hz
 1424 repetitions
 OBSERVE C13, 125.6888777 MHz
 DECOUPLE H1, 499.855468 MHz
 Power 36 dB
 on during acquisition
 off during delay
 WALTZ-16 modulated
 DATA PROCESSING
 Line broadening 0.5 Hz
 FT size 131072
 Total time 419 hr, 16 min, 30 sec



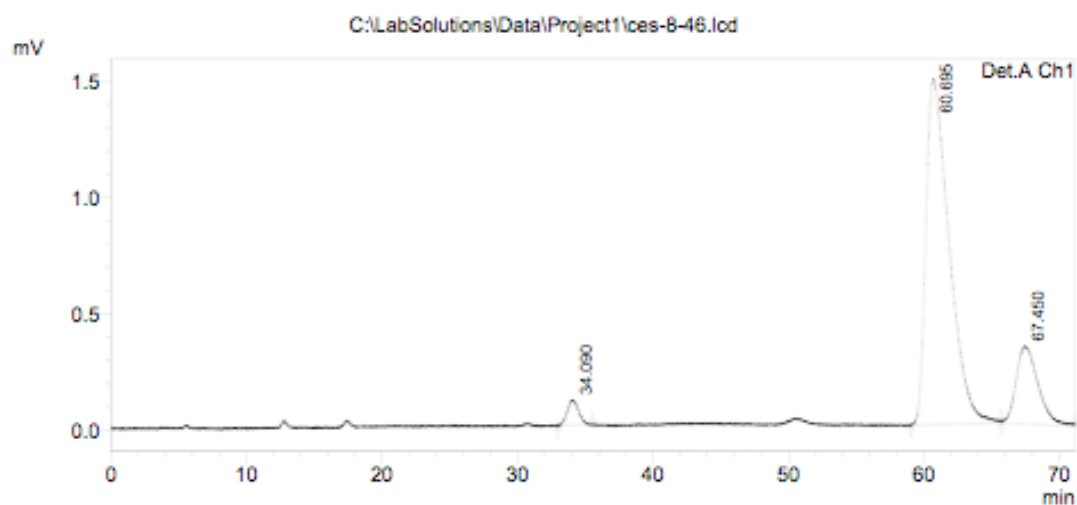
5/27/2011 10:03:40 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-46.lcd

Acquired by : Admin
 Sample Name : ces-8-46
 Sample ID : ces-8-46
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-46.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/7/2011 5:52:24 PM
 Data Processed : 4/7/2011 7:28:06 PM

<Chromatogram>



1 Det.A Ch1/275nm

PeakTable

Detector A Ch1 275nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	34.090	6285	113	2.824	5.809
2	60.695	178483	1493	80.178	76.772
3	67.450	37840	339	16.998	17.419
Total		222608	1944	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-46.lcd

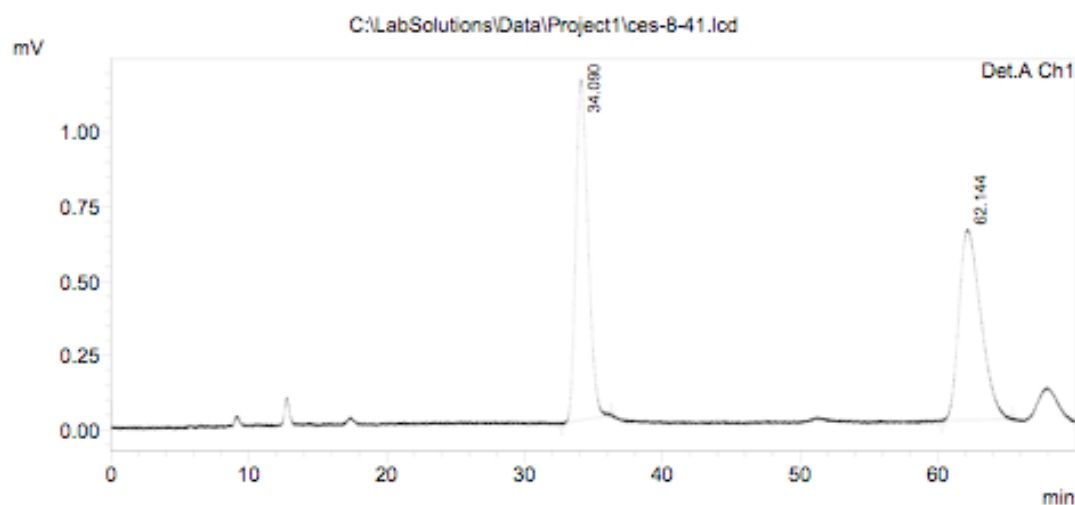
5/27/2011 11:54:18 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-41.lcd

Acquired by : Admin
 Sample Name : ces-8-41
 Sample ID : ces-8-41
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-41.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/6/2011 5:49:34 PM
 Data Processed : 4/7/2011 7:03:39 PM

<Chromatogram>



1 Det.A Ch1/275nm

PeakTable

Detector A Ch1 275nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	34.090	70895	1146	49.971	64.051
2	62.144	70978	643	50.029	35.949
Total		141872	1790	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-41.lcd

ces-7-287

File: nmr500/Zakarian/stivala/ces-7-287.fid

Pulse Sequence: s2pul

Solvent: CDCl3

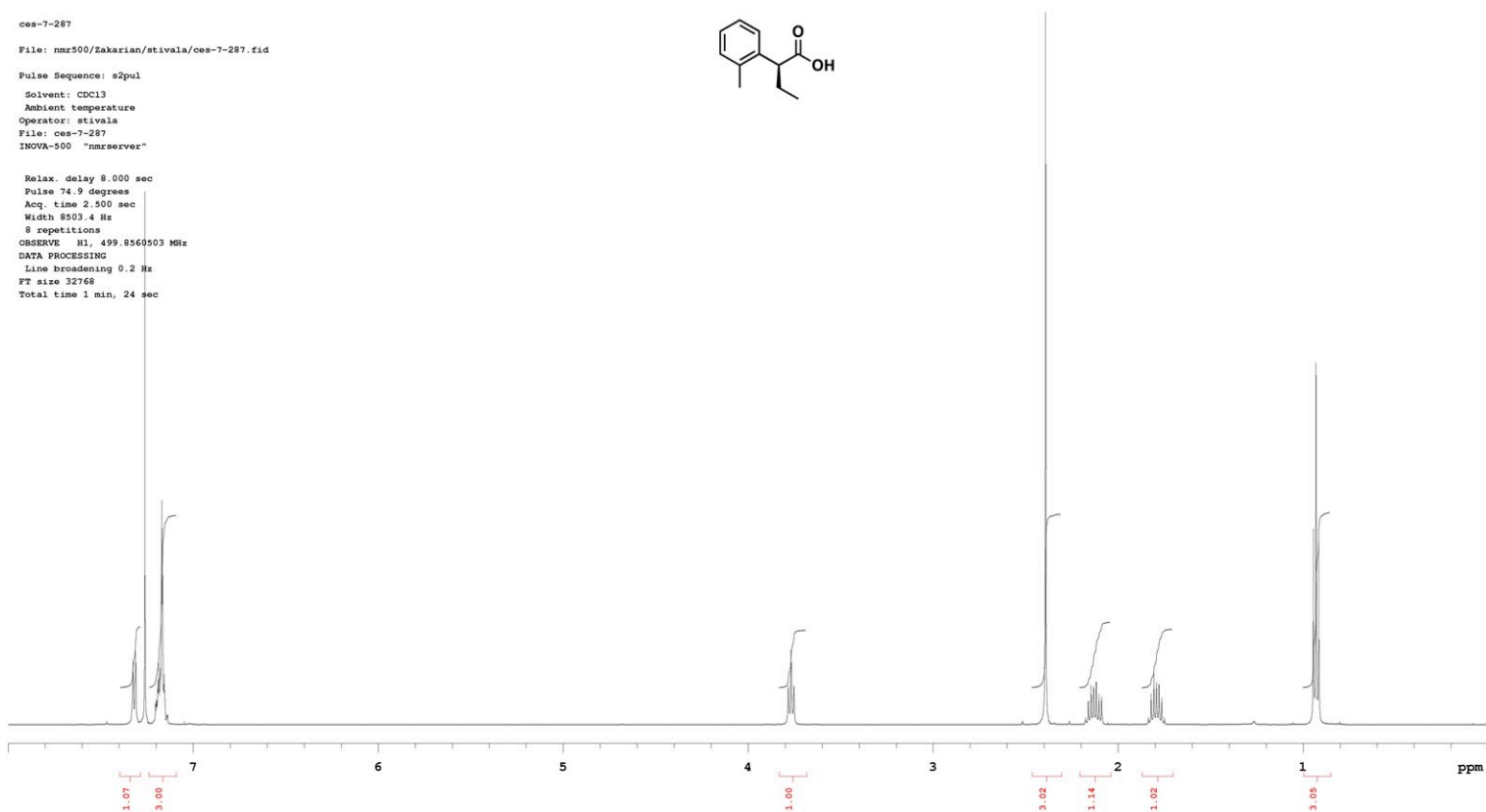
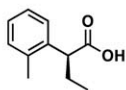
Ambient temperature

Operator: stivala

File: ces-7-287

INOVA-500 "nmrserver"

Relax. delay 8.000 sec
 Pulse 74.9 degrees
 Acq. time 2.500 sec
 Width 8503.4 Hz
 8 repetitions
 OBSERVE H1, 499.8560503 MHz
 DATA PROCESSING
 Line broadening 0.2 Hz
 FT size 32768
 Total time 1 min, 24 sec



ces-7-287-c13

File: nmr500/Zakarian/stivala/ces-7-287-c13.fid

Pulse Sequence: s2pul

Solvent: CDCl3

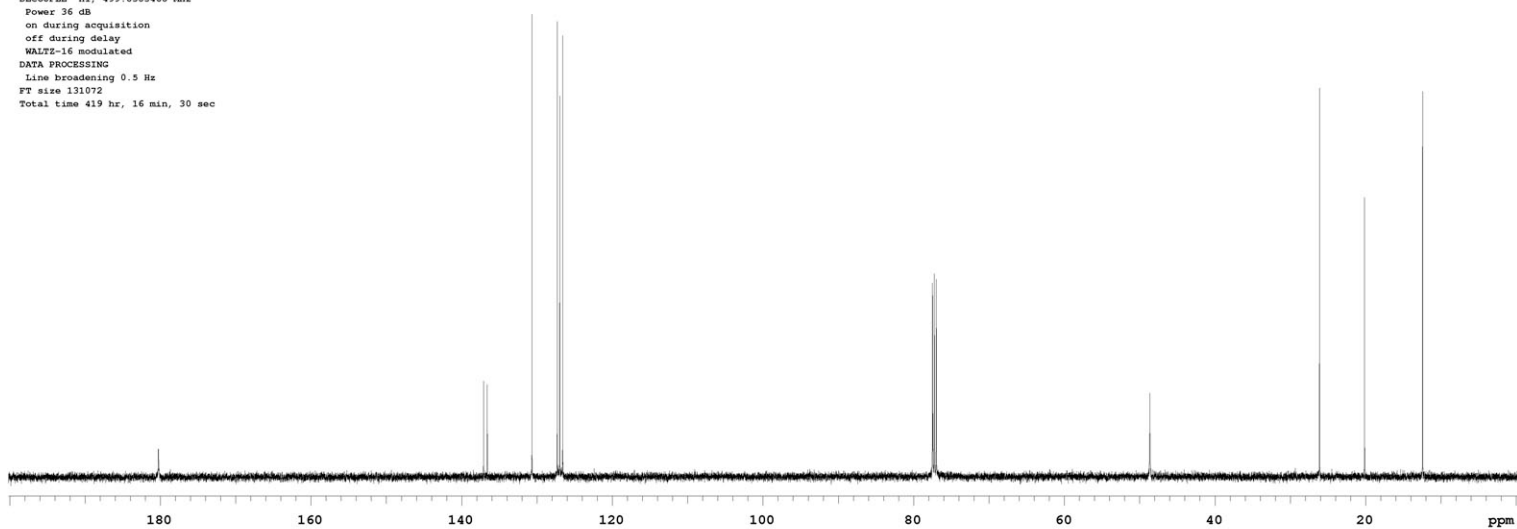
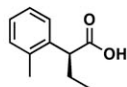
Ambient temperature

Operator: stivala

File: ces-7-287-c13

INOVA-500 "nmrserver"

Relax. delay 0.200 sec
 Pulse 90.0 degrees
 Acq. time 1.300 sec
 Width 36003.6 Hz
 700 repetitions
 OBSERVE C13, 125.6889788 MHz
 DECOUPLE H1, 499.856468 MHz
 Power 36 dB
 on during acquisition
 off during delay
 WALTZ-16 modulated
 DATA PROCESSING
 Line broadening 0.5 Hz
 FT size 131072
 Total time 419 hr, 16 min, 30 sec



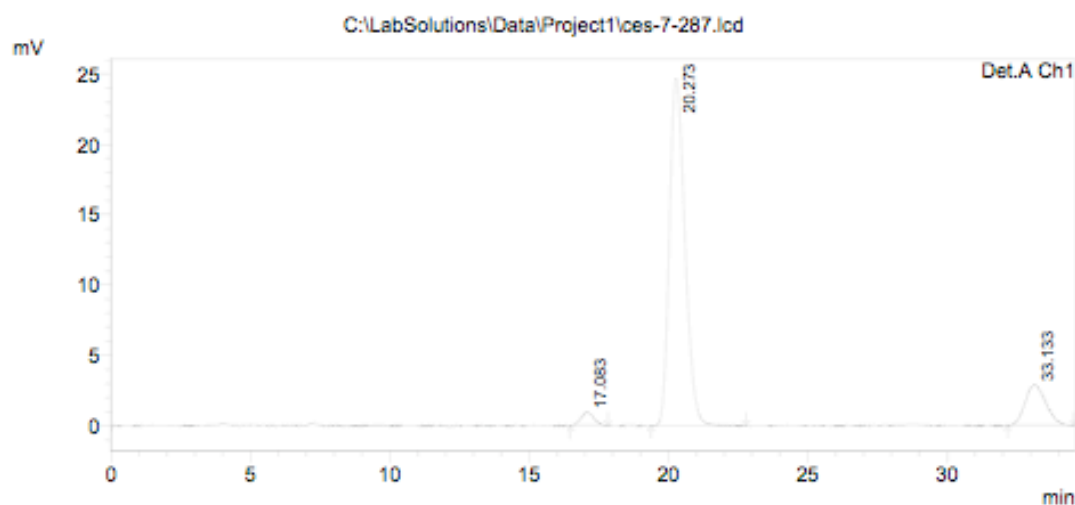
5/27/2011 10:04:36 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-7-287.lcd

Acquired by : Admin
 Sample Name : ces-7-287
 Sample ID : ces-7-287
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-7-287.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/17/2011 9:29:08 PM
 Data Processed : 3/17/2011 10:05:04 PM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	17.083	30480	941	2.683	3.302
2	20.273	954479	24662	84.016	86.546
3	33.133	151103	2893	13.301	10.152
Total		1136062	28496	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-287.lcd

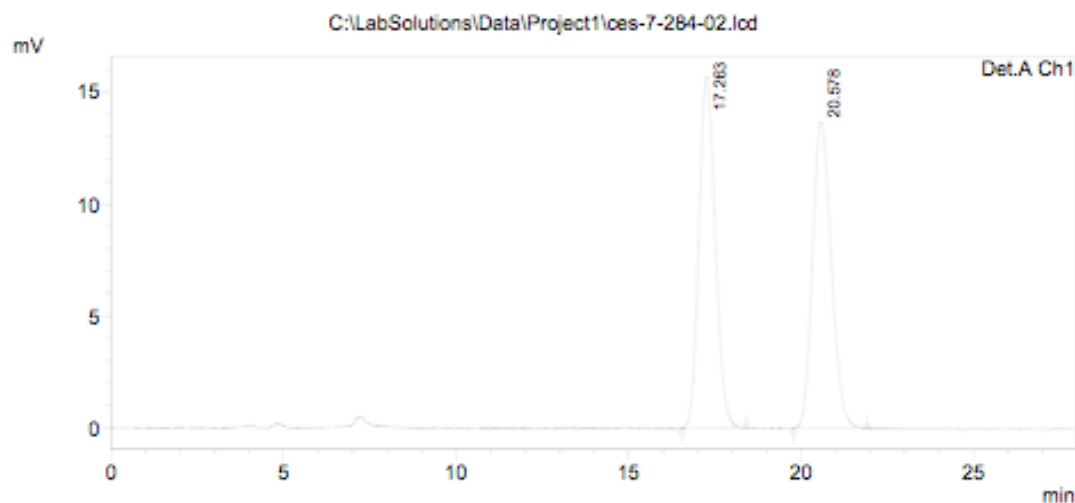
5/27/2011 11:19:52 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-7-284-02.lcd

Acquired by : Admin
 Sample Name : ces-7-284
 Sample ID : ces-7-284
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-7-284-02.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/17/2011 5:08:46 PM
 Data Processed : 3/17/2011 6:19:54 PM

<Chromatogram>



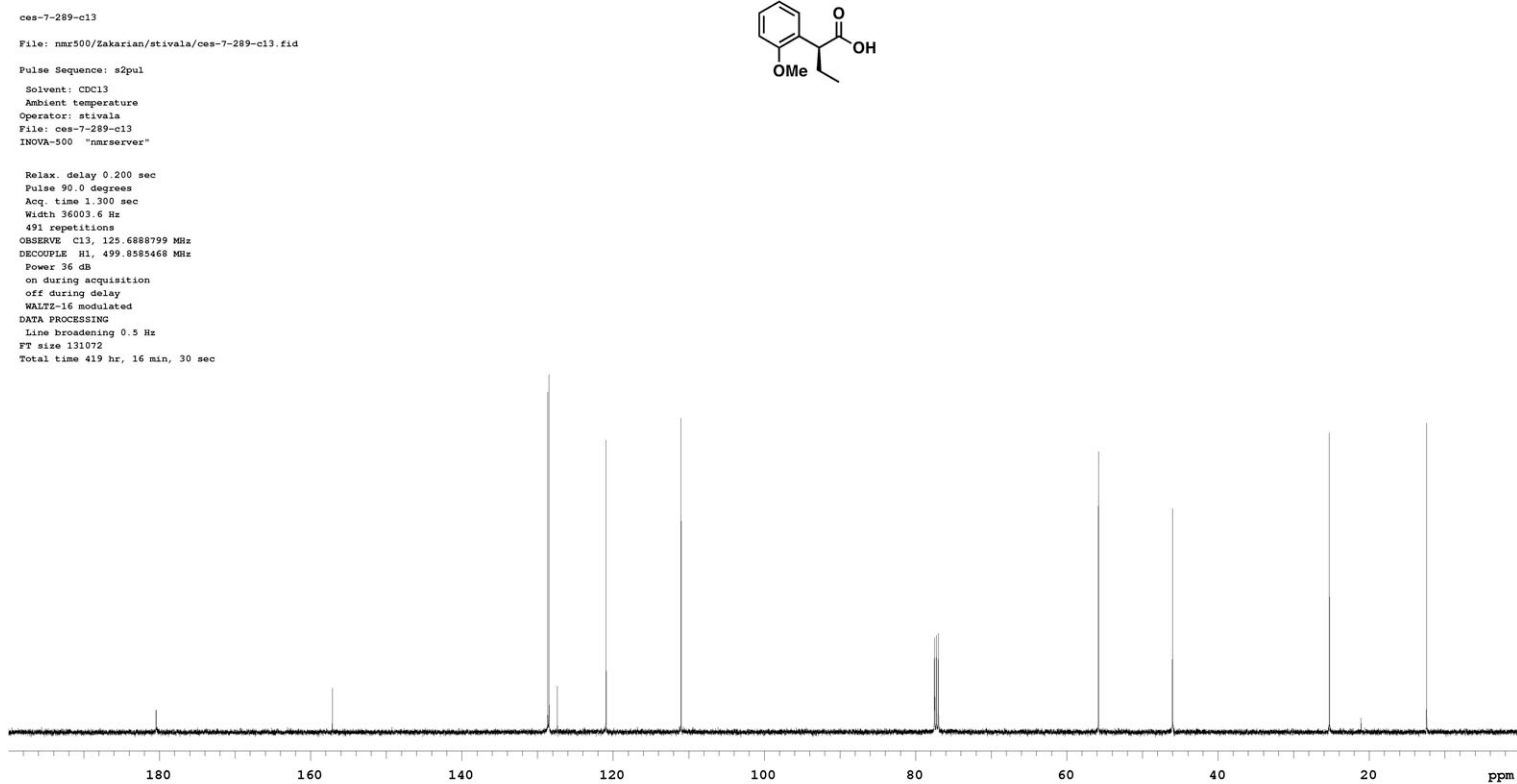
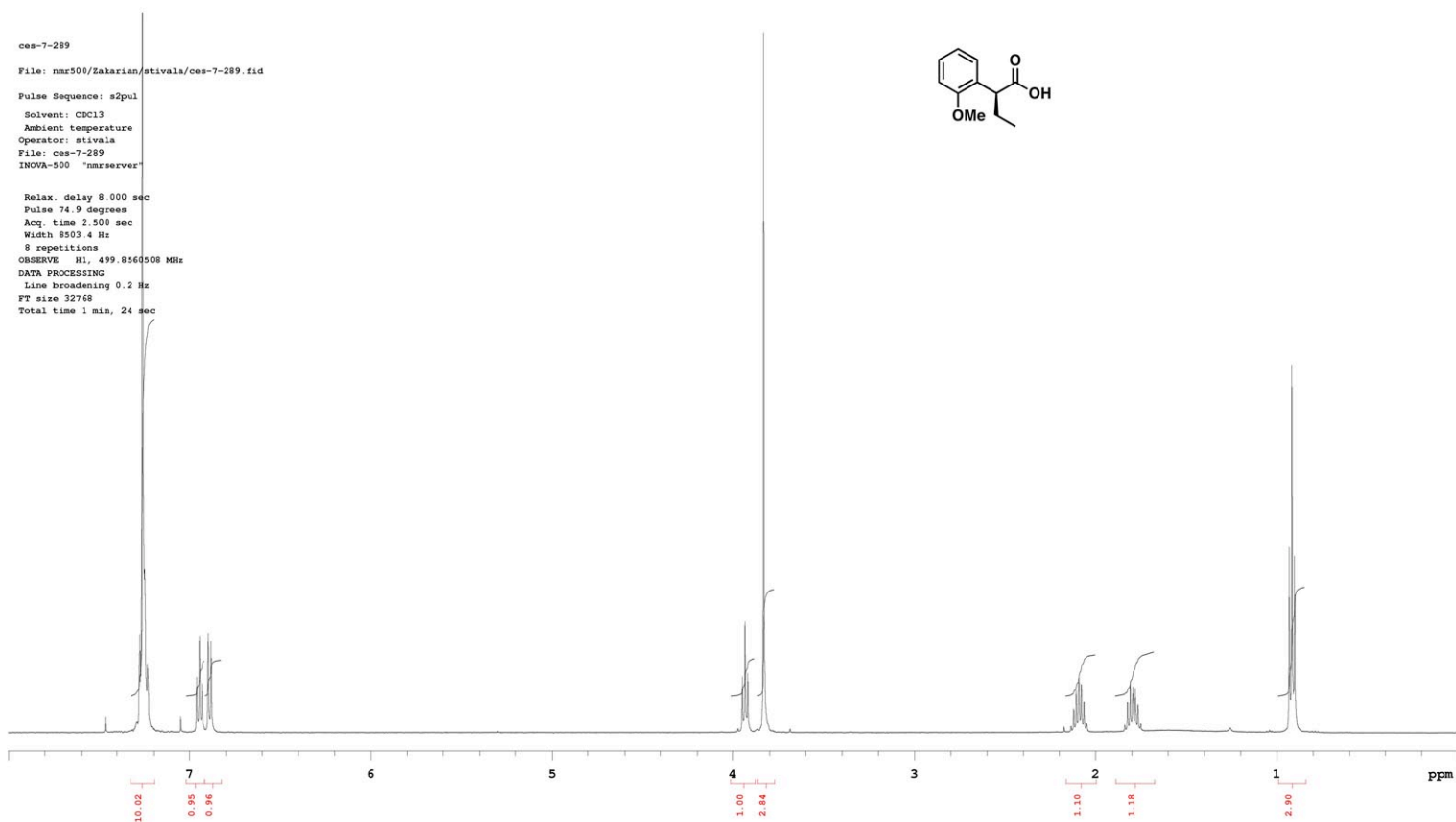
1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	17.263	516577	15724	49.854	53.491
2	20.578	519608	13672	50.146	46.509
Total		1036185	29395	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-284-02.lcd



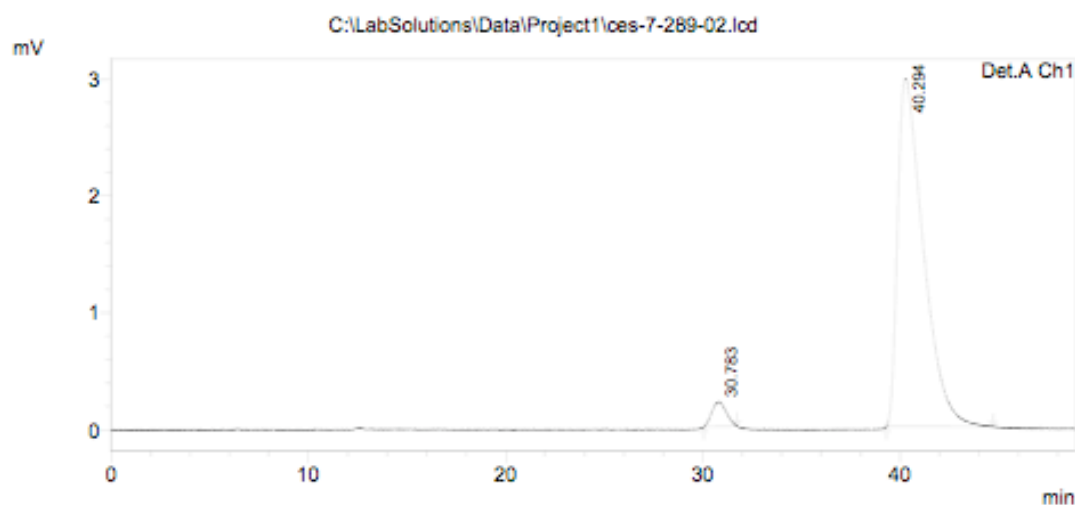
5/27/2011 16:45:35 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-7-289-02.lcd

Acquired by : Admin
 Sample Name : ces-7-289
 Sample ID : ces-7-289
 Vial # :
 Injection Volume : 25 uL
 Data File Name : ces-7-289-02.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/27/2011 3:53:12 PM
 Data Processed : 5/27/2011 4:42:06 PM

<Chromatogram>



1 Det.A Ch1/275nm

PeakTable

Detector A Ch1 275nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	30.783	10451	211	3.723	6.614
2	40.294	270278	2979	96.277	93.386
Total		280729	3190	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-289-02.lcd

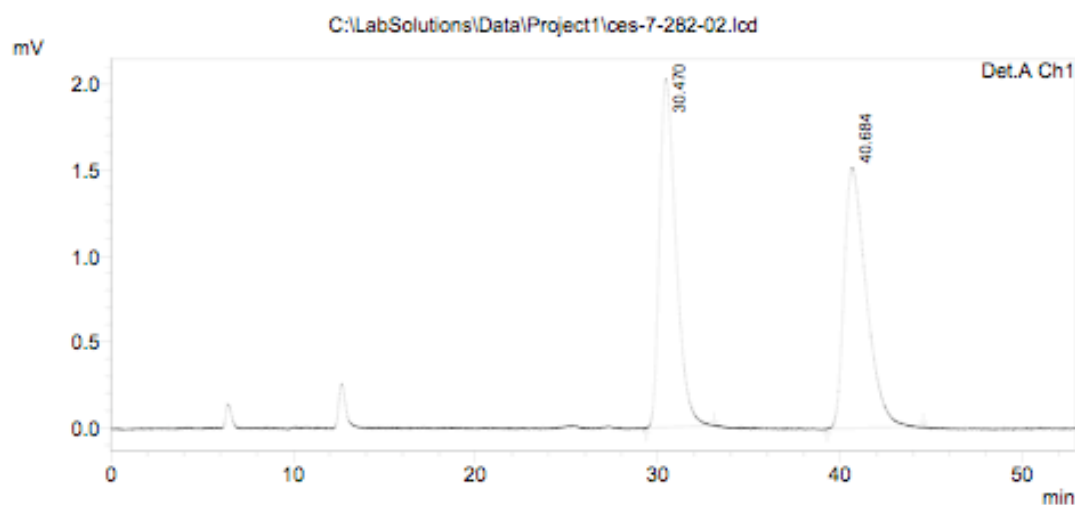
5/27/2011 16:31:54 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-7-282-02.lcd

Acquired by : Admin
 Sample Name : ces-7-282
 Sample ID : ces-7-282
 Vial # :
 Injection Volume : 25 uL
 Data File Name : ces-7-282-02.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/27/2011 2:45:12 PM
 Data Processed : 5/27/2011 3:38:08 PM

<Chromatogram>

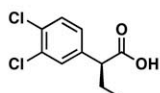
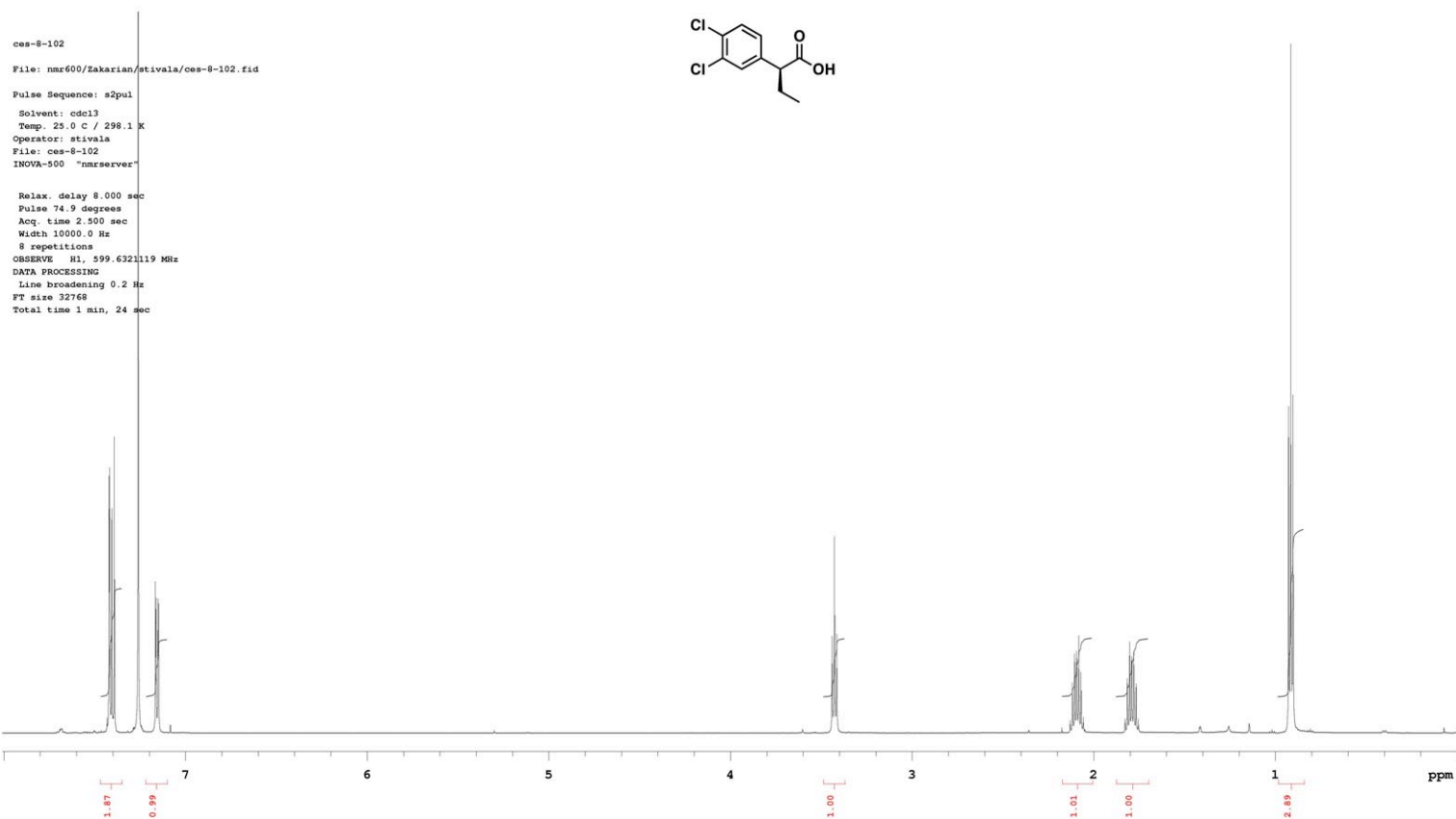


1 Det.A Ch1/275nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	30.470	127608	2026	49.782	57.188
2	40.684	128727	1516	50.218	42.812
Total		256335	3542	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-282-02.lcd



ces-8-102-c13

Sample: 1_Indanone

File: nmr600/Zakarian/stivala/ces-8-102-c13.fid

Pulse Sequence: s2pul

Solvent: cdcl3

Temp. 25.0 C / 298.1 K

Operator: stivala

File: ces-8-102-c13

INOVA-500 "nmrserver"

Relax. delay 1.000 sec

Pulse 10.0 usec

Acq. time 1.298 sec

Width 36231.9 Hz

263 repetitions

OBSERVE C13, 150.7775803 MHz

DECOUPLE H1, 599.6351203 MHz

Power 34 dB

continuously on

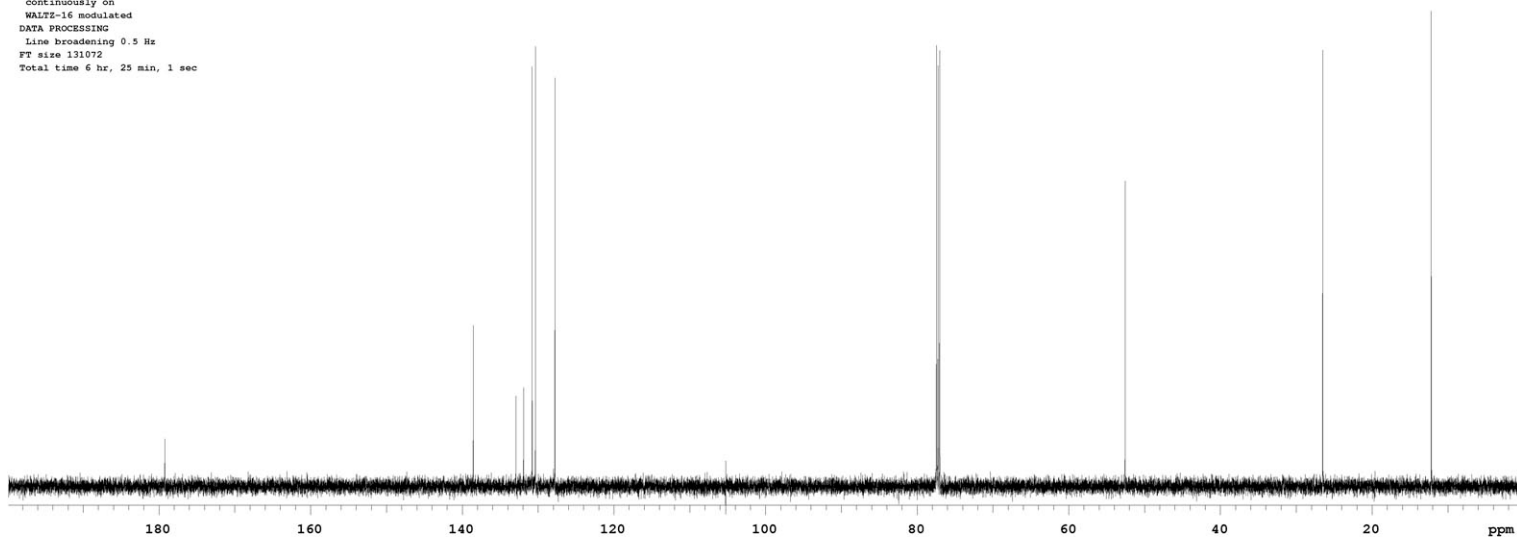
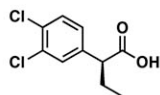
WALTZ-16 modulated

DATA PROCESSING

Line broadening 0.5 Hz

FT size 131072

Total time 6 hr, 25 min, 1 sec



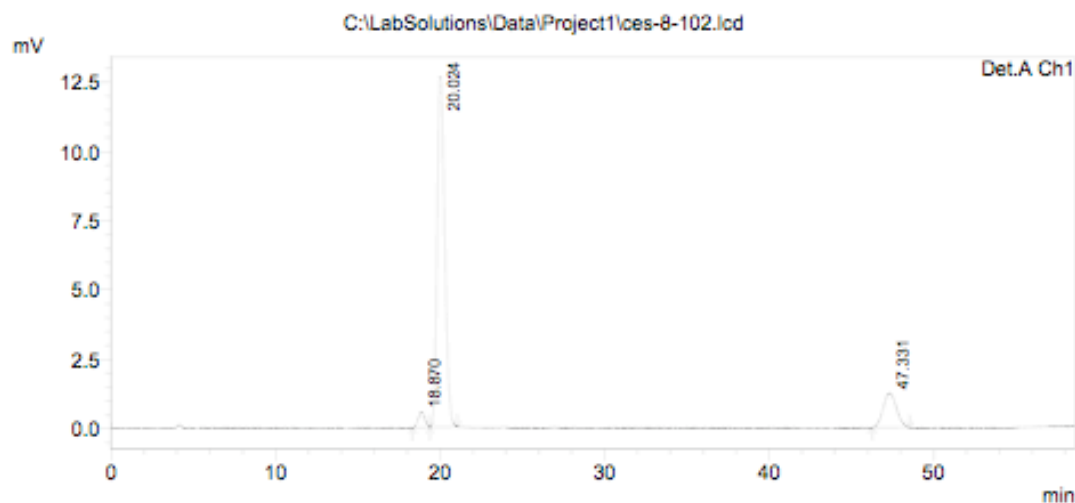
5/27/2011 10:06:02 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-102.lcd

Acquired by : Admin
 Sample Name : ces-8-102
 Sample ID : ces-8-102
 Vial # :
 Injection Volume : 10 uL
 Data File Name : ces-8-102.lcd
 Method File Name : ces-OJ-H-analytical 0.46cm x 25 cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/4/2011 3:18:28 PM
 Data Processed : 5/4/2011 4:19:06 PM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	18.870	16219	566	3.312	3.916
2	20.024	402088	12647	82.106	87.449
3	47.331	71413	1249	14.582	8.635
Total		489719	14462	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-102.lcd

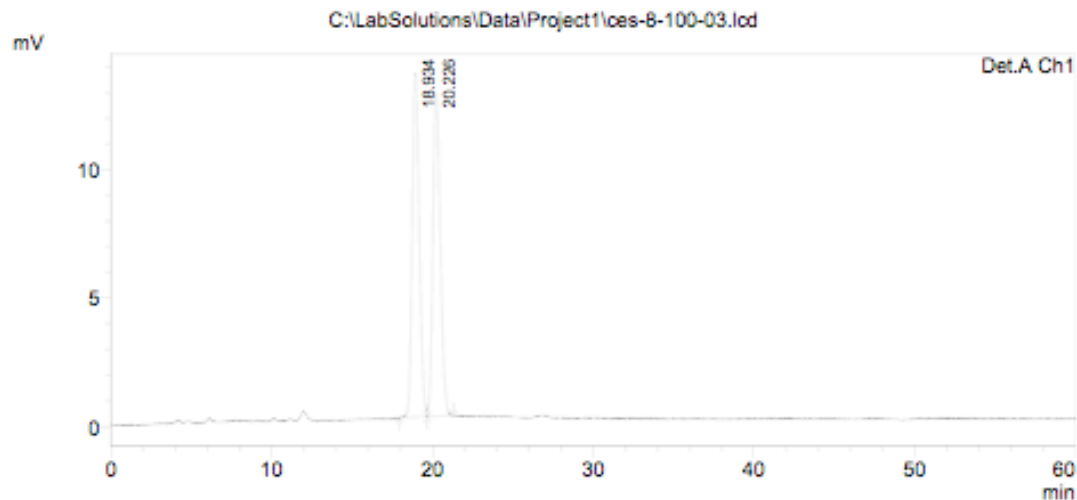
5/27/2011 11:57:32 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-100-03.lcd

Acquired by : Admin
 Sample Name : ces-8-100-2
 Sample ID : ces-8-100-2
 Vial # :
 Injection Volume : 10 uL
 Data File Name : ces-8-100-03.lcd
 Method File Name : ces-OJ-H-analytical 0.46cm x 25 cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/4/2011 11:58:48 AM
 Data Processed : 5/4/2011 4:17:51 PM

<Chromatogram>



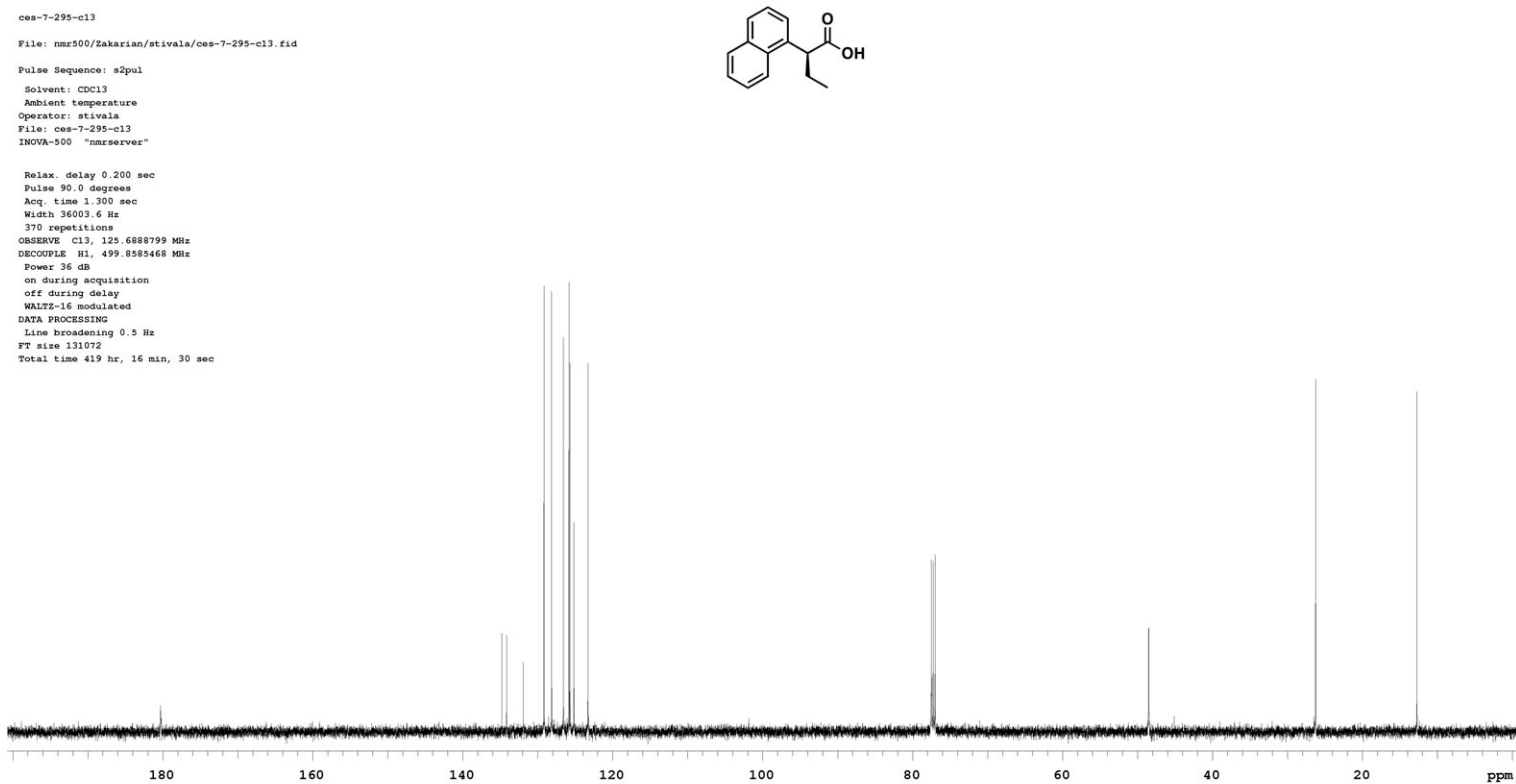
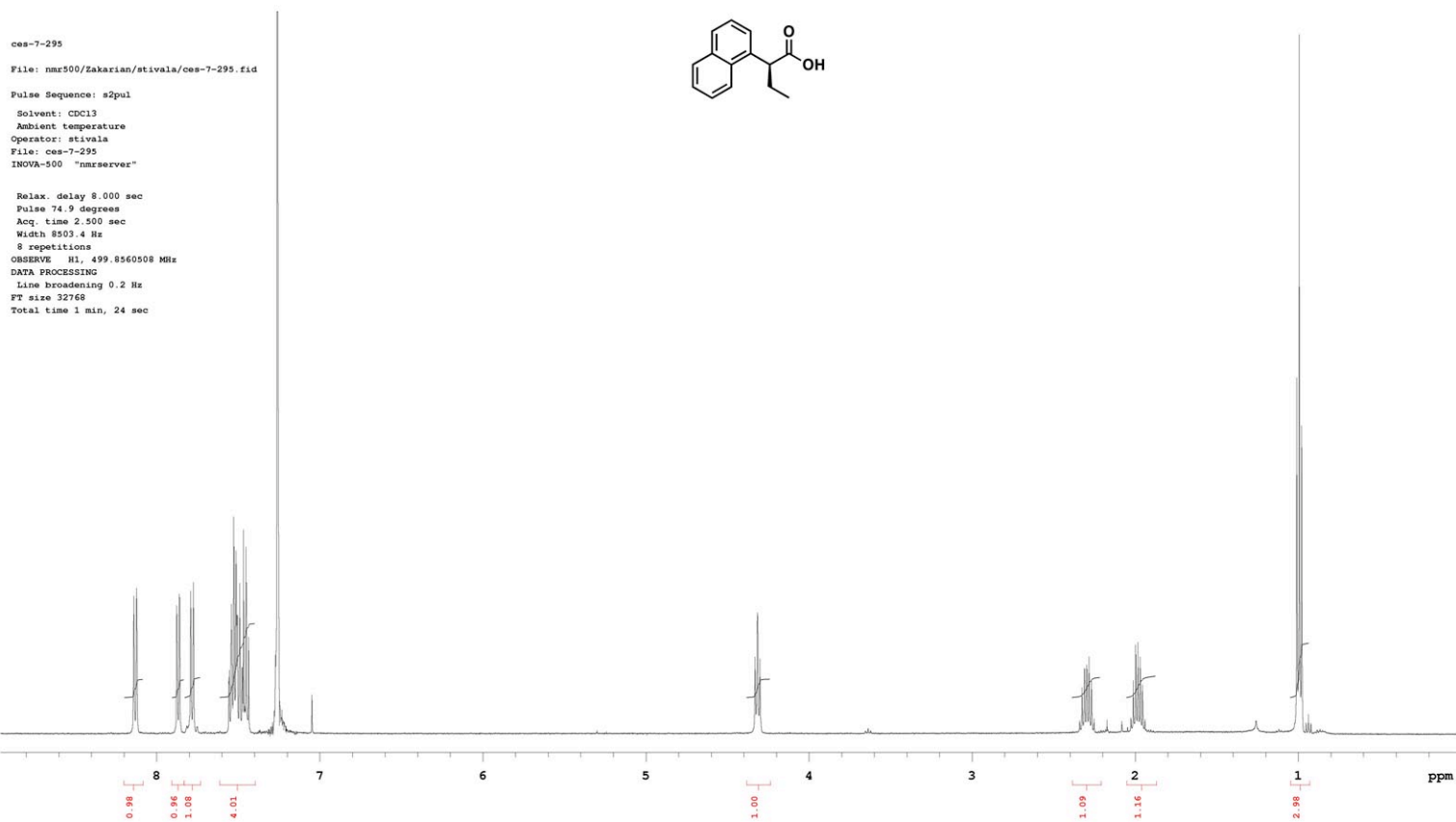
1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	18.934	407827	13393	50.253	51.653
2	20.226	403714	12536	49.747	48.347
Total		811541	25929	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-100-03.lcd



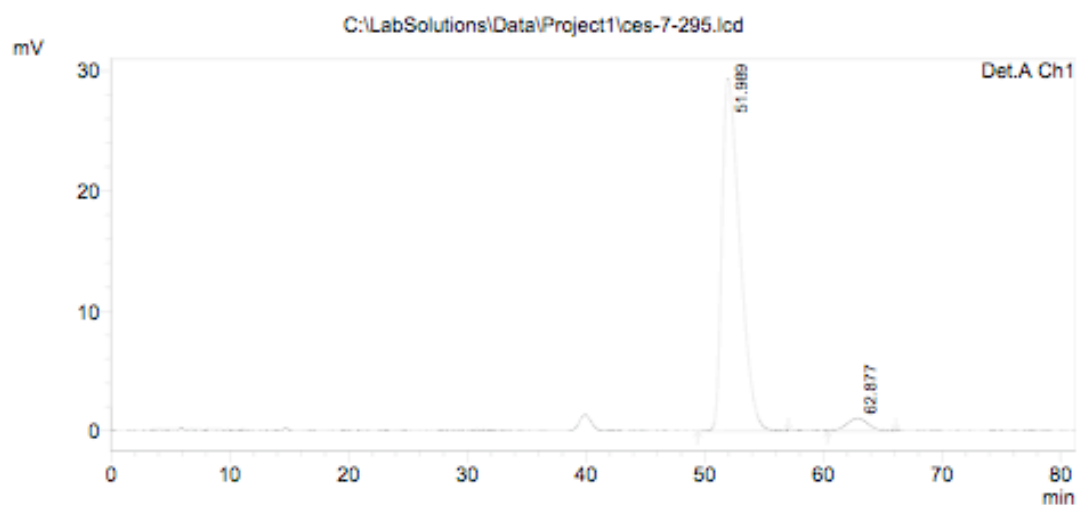
5/27/2011 10:06:49 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-7-295.lcd

Acquired by : Admin
 Sample Name : ces-7-295
 Sample ID : ces-7-295
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-7-295.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/22/2011 1:22:28 PM
 Data Processed : 3/22/2011 6:31:18 PM

<Chromatogram>



PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	51.989	3091074	29365	95.933	96.514
2	62.877	131052	1061	4.067	3.486
Total		3222126	30426	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-295.lcd

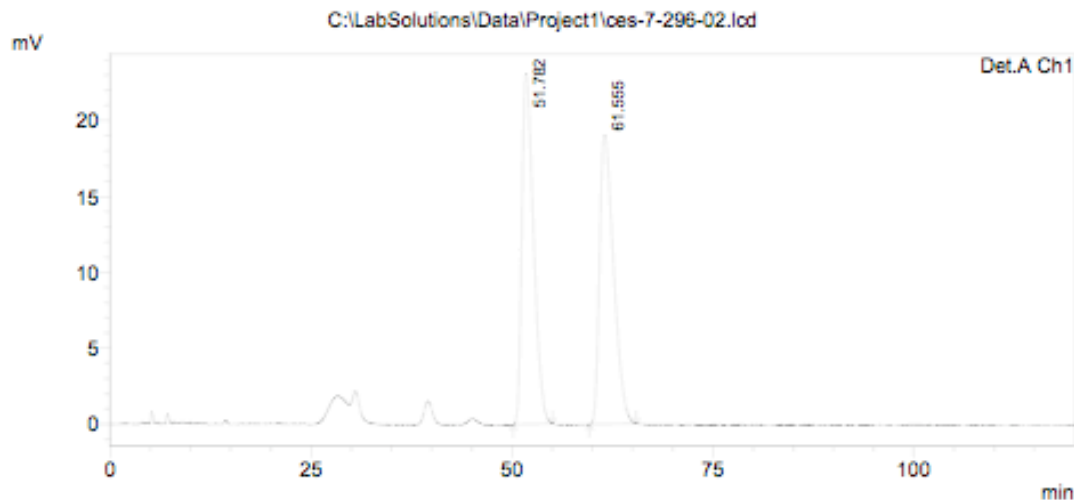
5/27/2011 11:35:33 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-7-296-02.lcd

Acquired by : Admin
 Sample Name : ces-7-296
 Sample ID : ces-7-296
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-7-296-02.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/22/2011 2:54:14 PM
 Data Processed : 3/22/2011 6:46:22 PM

<Chromatogram>

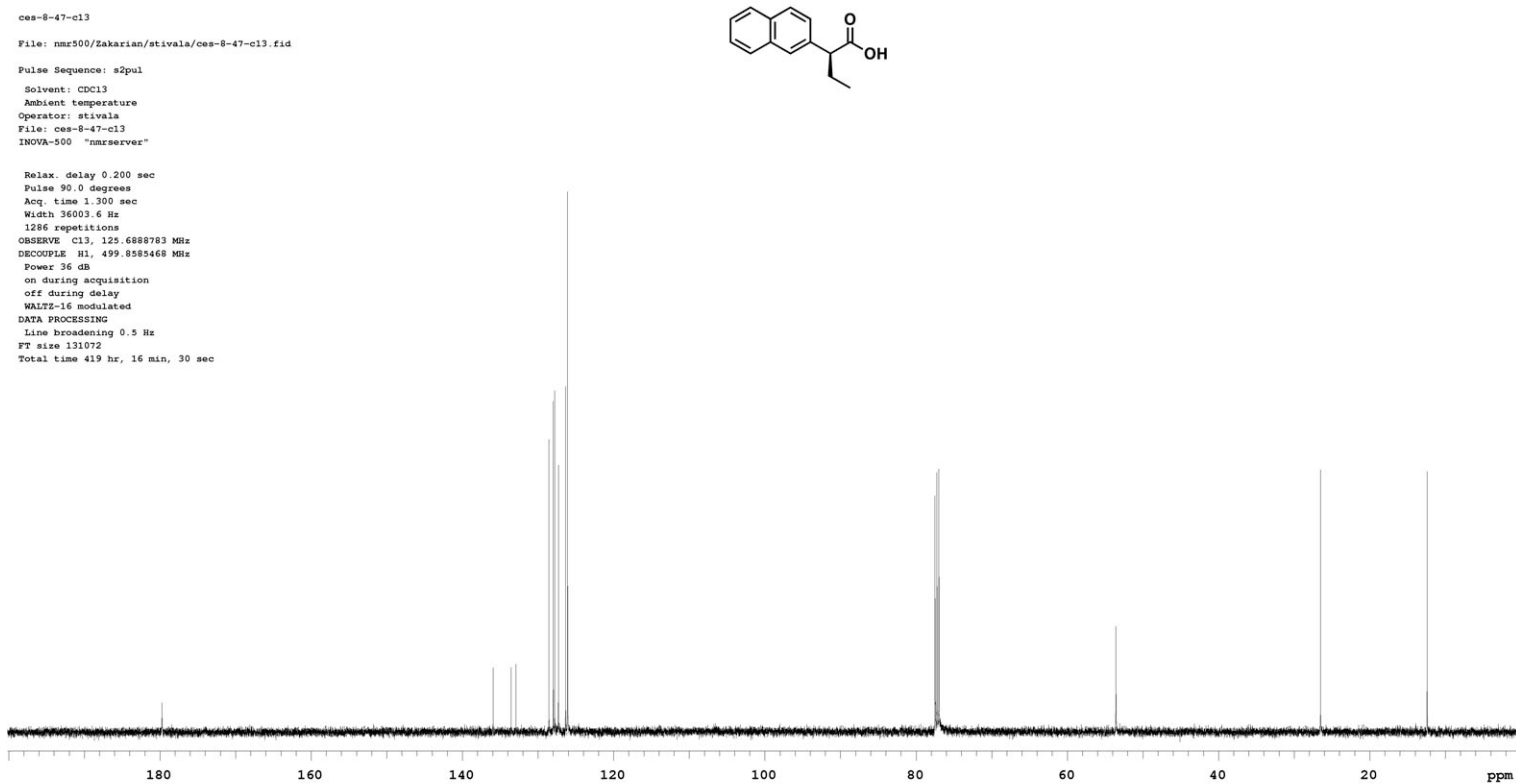
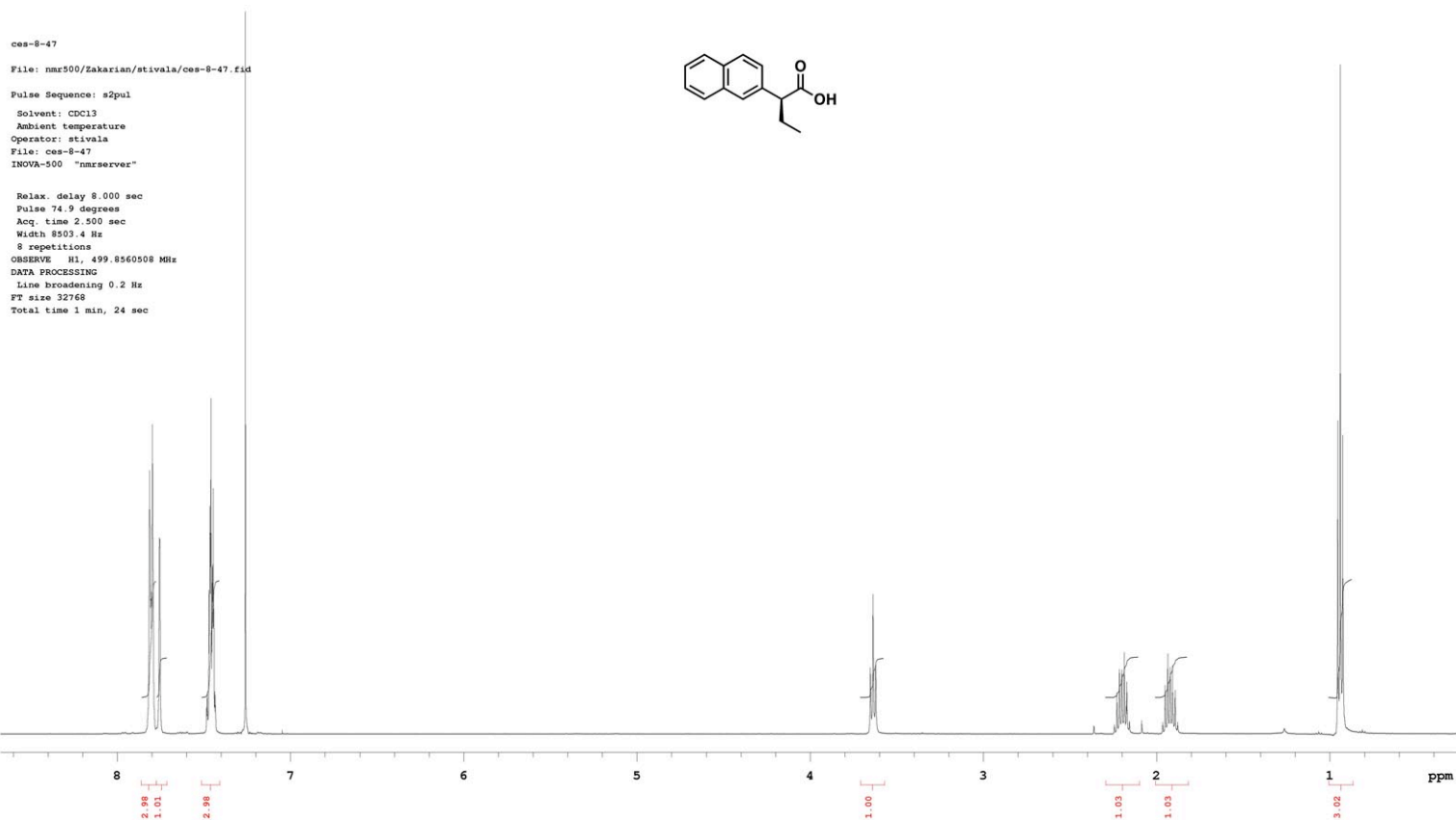


PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	51.782	2333824	23122	50.209	54.787
2	61.555	2314372	19081	49.791	45.213
Total		4648196	42203	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-296-02.lcd



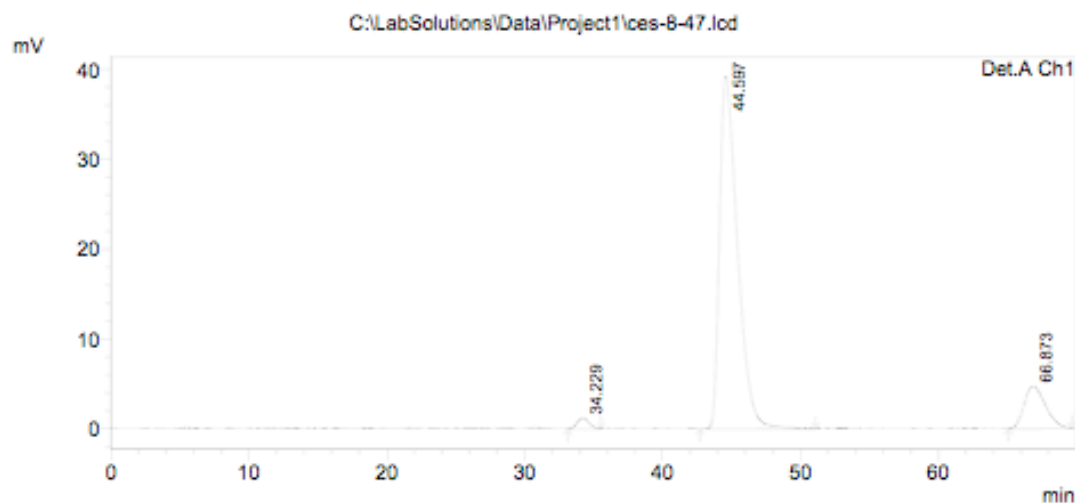
5/27/2011 10:07:26 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-47.lcd

Acquired by : Admin
 Sample Name : ces-8-47
 Sample ID : ces-8-47
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-47.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/7/2011 8:13:52 PM
 Data Processed : 4/7/2011 9:24:59 PM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	34.229	74078	1212	1.787	2.683
2	44.597	3562882	39236	85.957	86.851
3	66.873	508000	4729	12.256	10.467
Total		4144959	45177	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-47.lcd

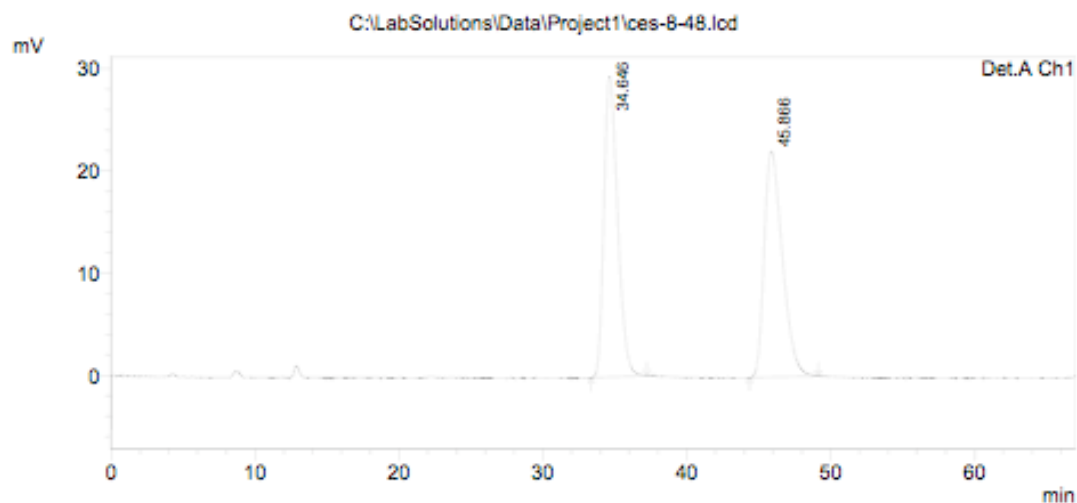
5/27/2011 11:33:46 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-48.lcd

Acquired by : Admin
 Sample Name : ces-8-48
 Sample ID : ces-8-48
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-48.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/8/2011 10:02:55 AM
 Data Processed : 4/8/2011 12:46:36 PM

<Chromatogram>



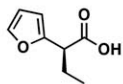
1 Det.A Ch1/215nm

PeakTable

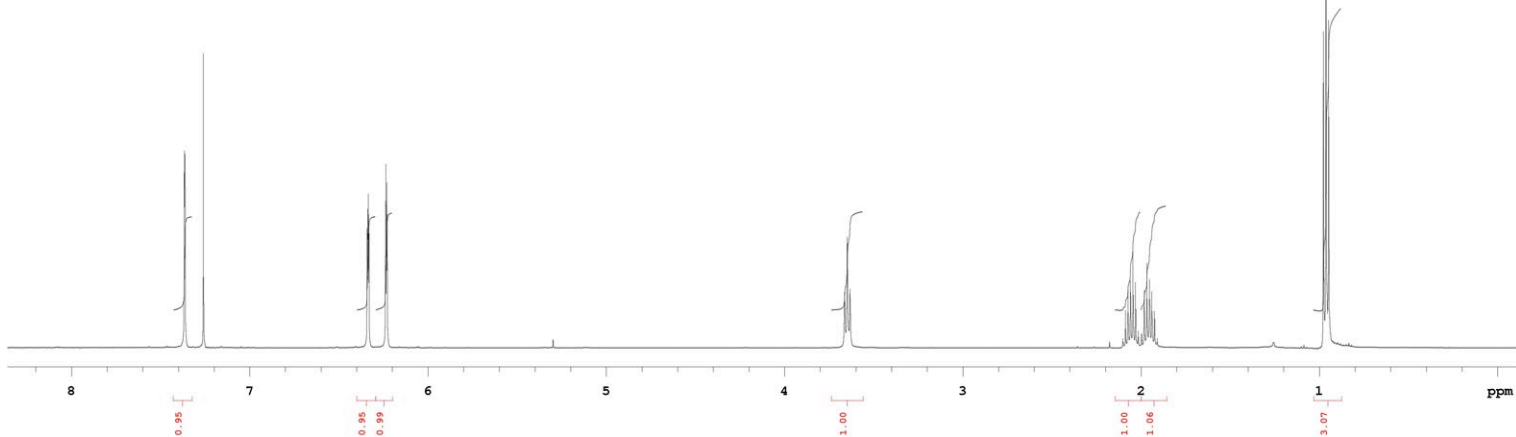
Peak#	Ret. Time	Area	Height	Area %	Height %
1	34.646	1940019	29406	49.972	57.087
2	45.866	1942174	22104	50.028	42.913
Total		3882193	51510	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-48.lcd

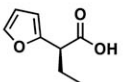
ces-8-35
 File: nmr500/Zakarian/stivala/ces-8-35.fid
 Pulse Sequence: s2pul
 Solvent: CDCl3
 Ambient temperature
 Operator: stivala
 File: ces-8-35
 INOVA-500 "nmrserver"



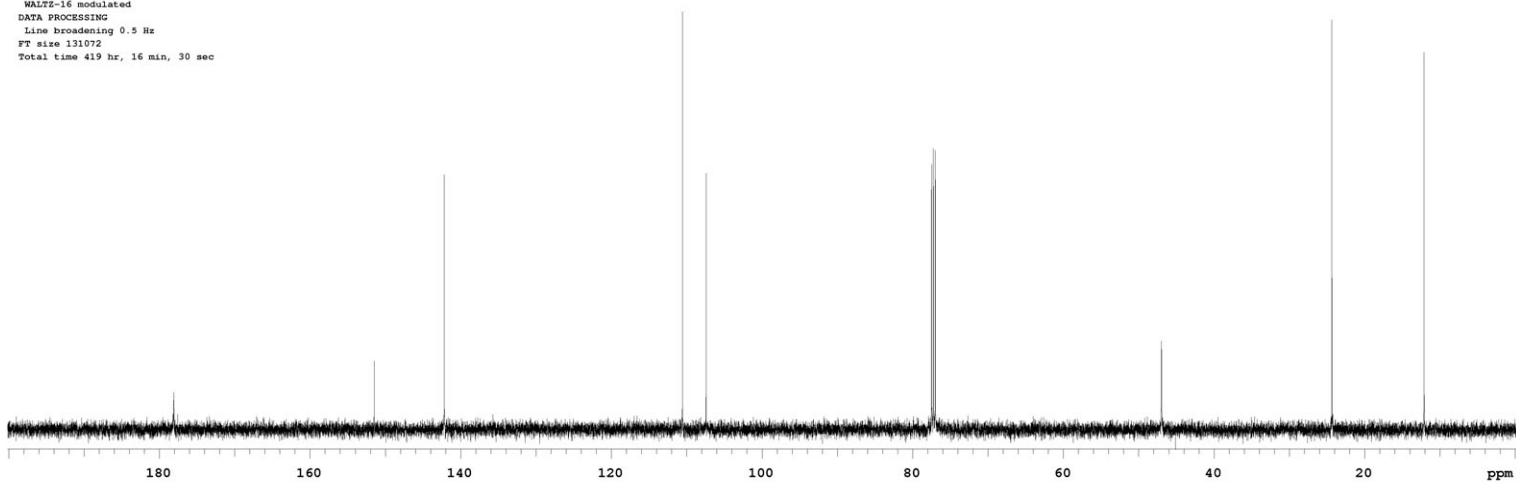
Relax. delay 8.000 sec
 Pulse 74.9 degrees
 Acq. time 2.500 sec
 Width 8503.4 Hz
 8 repetitions
 OBSERVE H1, 499.8560508 MHz
 DATA PROCESSING
 Line broadening 0.2 Hz
 FT size 32768
 Total time 1 min, 24 sec



ces-8-35-cl3
 File: nmr500/Zakarian/stivala/ces-8-35-cl3.fid
 Pulse Sequence: s2pul
 Solvent: CDCl3
 Ambient temperature
 Operator: stivala
 File: ces-8-35-cl3
 INOVA-500 "nmrserver"



Relax. delay 0.200 sec
 Pulse 90.0 degrees
 Acq. time 1.300 sec
 Width 36003.6 Hz
 227 repetitions
 OBSERVE C13, 125.6889783 MHz
 DECOUPLE H1, 499.853468 MHz
 Power 36 dB
 on during acquisition
 off during delay
 WALTZ-16 modulated
 DATA PROCESSING
 Line broadening 0.5 Hz
 FT size 131072
 Total time 419 hr, 16 min, 30 sec



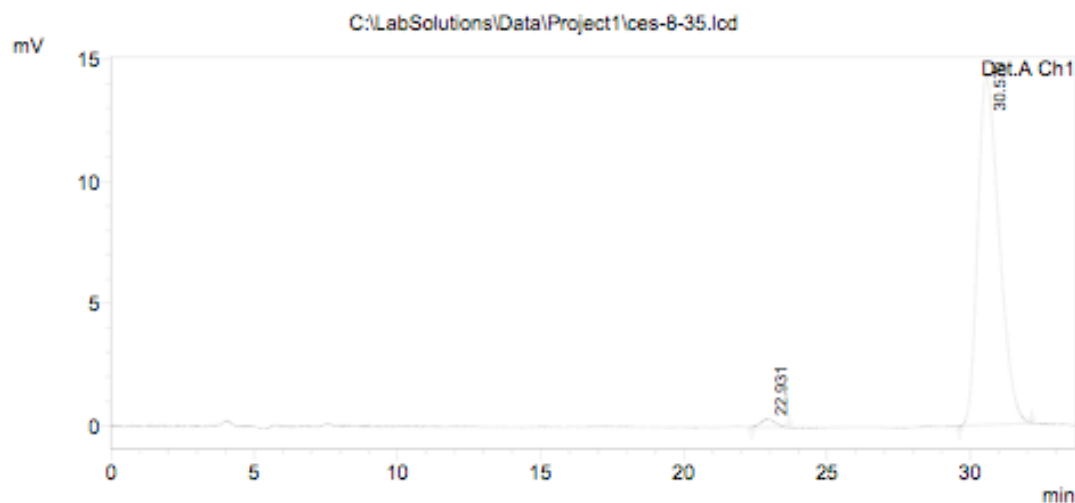
5/27/2011 10:08:10 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-35.lcd

Acquired by : Admin
 Sample Name : ces-8-35
 Sample ID : ces-8-35
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-35.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/5/2011 8:50:10 PM
 Data Processed : 4/5/2011 7:25:22 PM

<Chromatogram>



PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	22.931	11482	317	1.522	2.176
2	30.570	742825	14257	98.478	97.824
Total		754307	14575	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-35.lcd

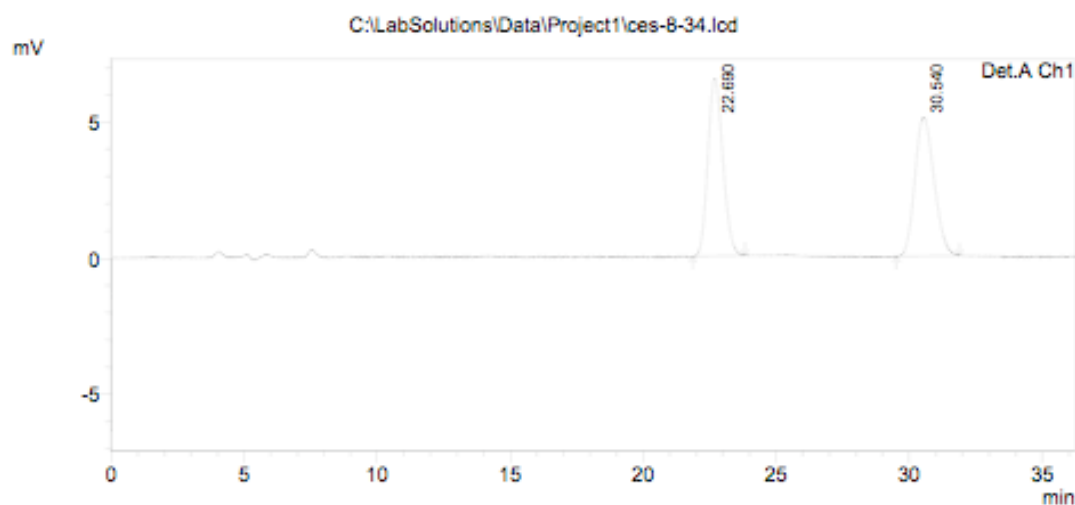
5/27/2011 11:58:28 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-34.lcd

Acquired by : Admin
 Sample Name : ces-8-34
 Sample ID : ces-8-34
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-34.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/5/2011 2:34:52 PM
 Data Processed : 4/5/2011 3:52:34 PM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	22.690	256349	6535	50.018	56.172
2	30.540	256164	5099	49.982	43.828
Total		512513	11634	100.000	100.000

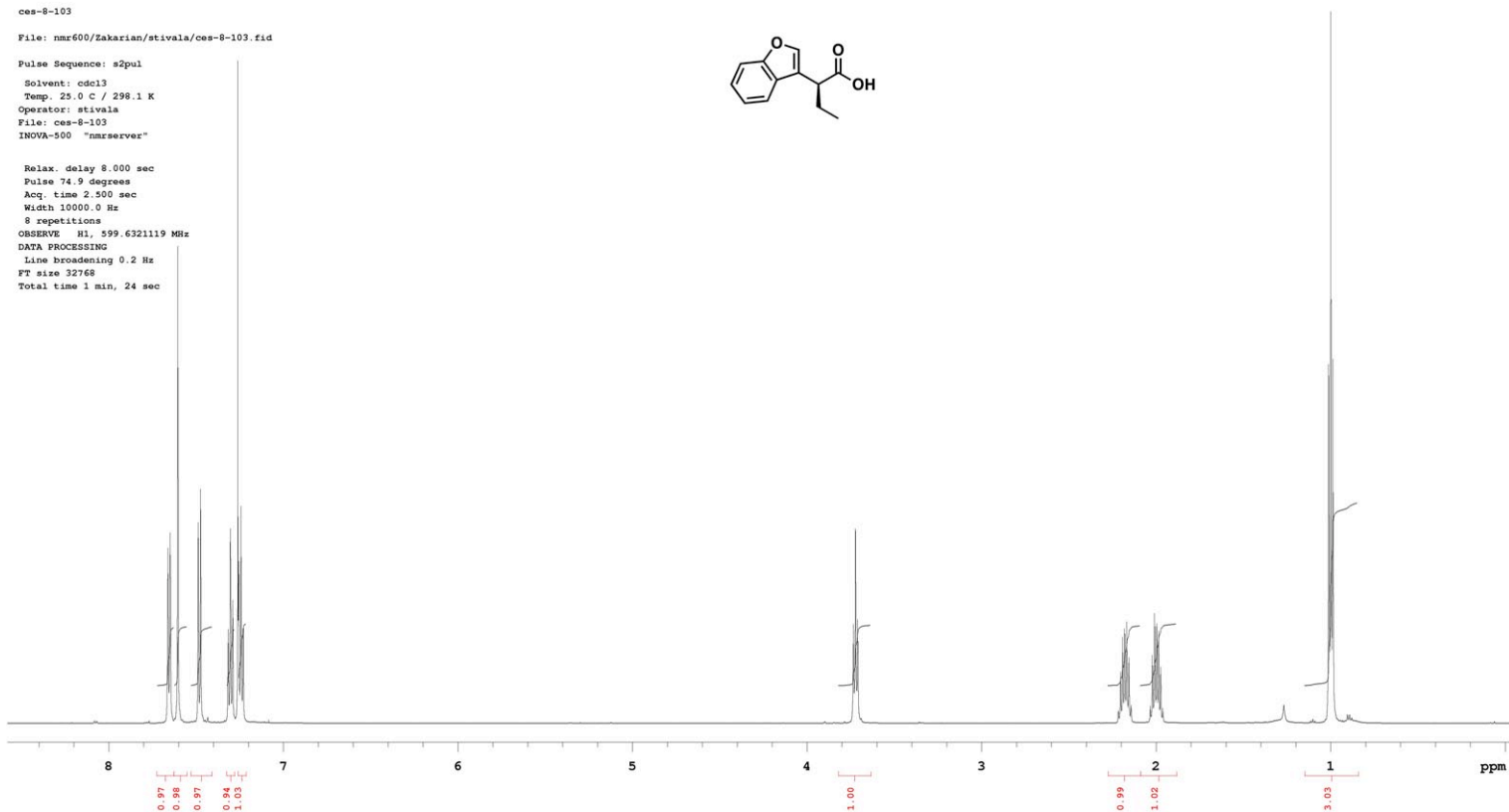
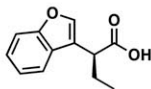
C:\LabSolutions\Data\Project1\ces-8-34.lcd

ces-8-103

File: nmr600/Zakarian/stivala/ces-8-103.fid

Pulse Sequence: s2pul
 Solvent: cdcl3
 Temp. 25.0 C / 298.1 K
 Operator: stivala
 File: ces-8-103
 INOVA-500 "nmrserver"

Relax. delay 8.000 sec
 Pulse 74.9 degrees
 Acq. time 2.500 sec
 Width 10000.0 Hz
 8 repetitions
 OBSERVE H1, 599.6321119 MHz
 DATA PROCESSING
 Line broadening 0.2 Hz
 FT size 32768
 Total time 1 min, 24 sec

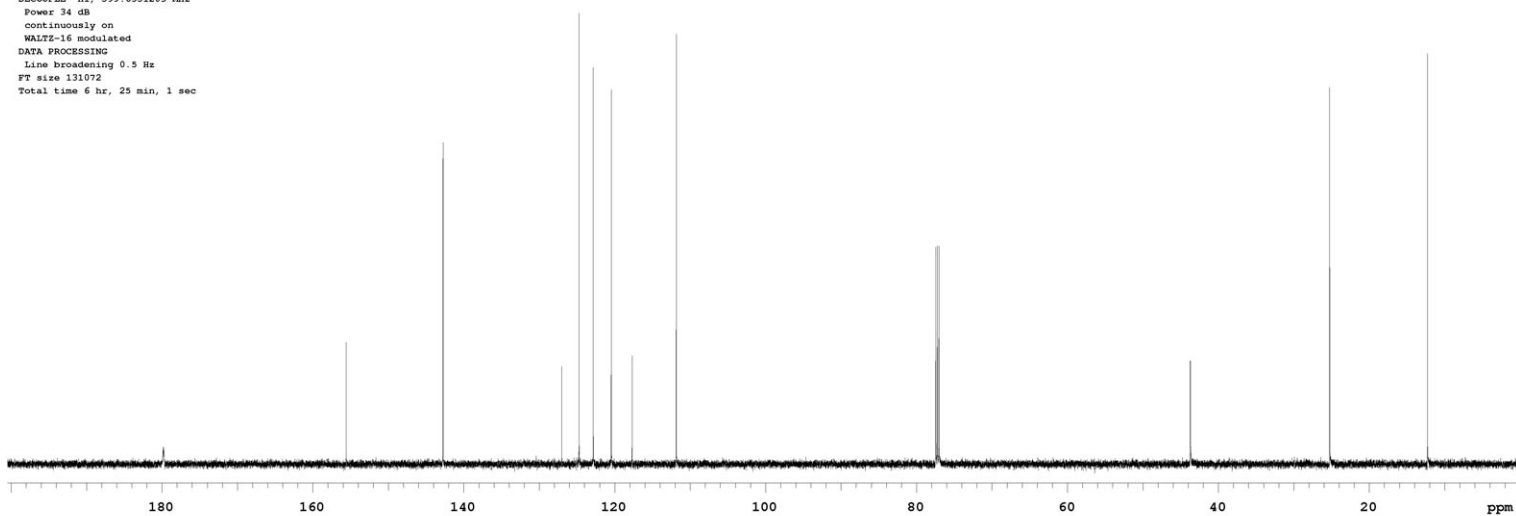
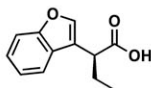


ces-8-103-c13

Sample: 1 Indanone
 File: nmr600/Zakarian/stivala/ces-8-103-c13.fid

Pulse Sequence: s2pul
 Solvent: cdcl3
 Temp. 25.0 C / 298.1 K
 Operator: stivala
 File: ces-8-103-c13
 INOVA-500 "nmrserver"

Relax. delay 1.000 sec
 Pulse 10.0 usec
 Acq. time 1.298 sec
 Width 36231.9 Hz
 408 repetitions
 OBSERVE C13, 150.775820 MHz
 DECOUPLE H1, 599.6381203 MHz
 Power 34 dB
 continuously on
 WALTZ-16 modulated
 DATA PROCESSING
 Line broadening 0.5 Hz
 FT size 131072
 Total time 6 hr, 25 min, 1 sec



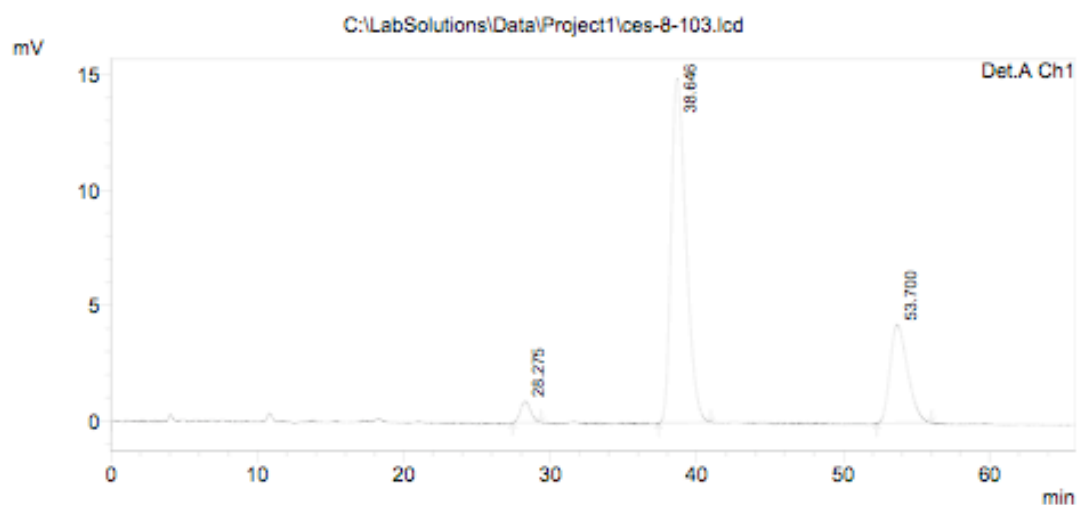
5/27/2011 10:08:54 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-103.lcd

Acquired by : Admin
 Sample Name : ces-8-103
 Sample ID : ces-8-103
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-103.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/6/2011 5:15:49 PM
 Data Processed : 5/7/2011 7:26:22 PM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	28.275	44899	919	3.081	4.572
2	38.646	1054661	14915	72.378	74.218
3	53.700	357605	4262	24.541	21.211
Total		1457165	20096	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-103.lcd

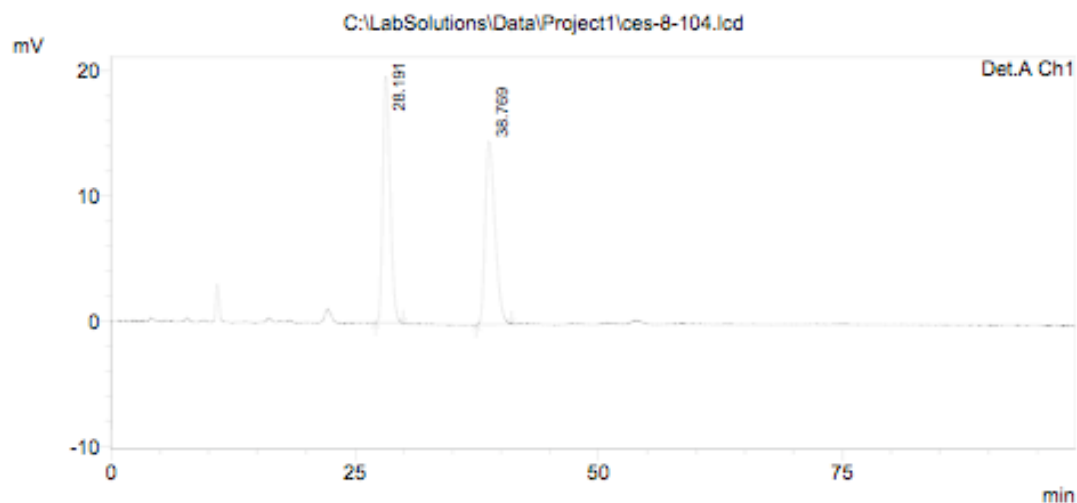
5/27/2011 12:06:29 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-104.lcd

Acquired by : Admin
 Sample Name : ces-8-104
 Sample ID : ces-8-104
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-104.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/6/2011 3:22:33 PM
 Data Processed : 5/27/2011 11:59:39 AM

<Chromatogram>



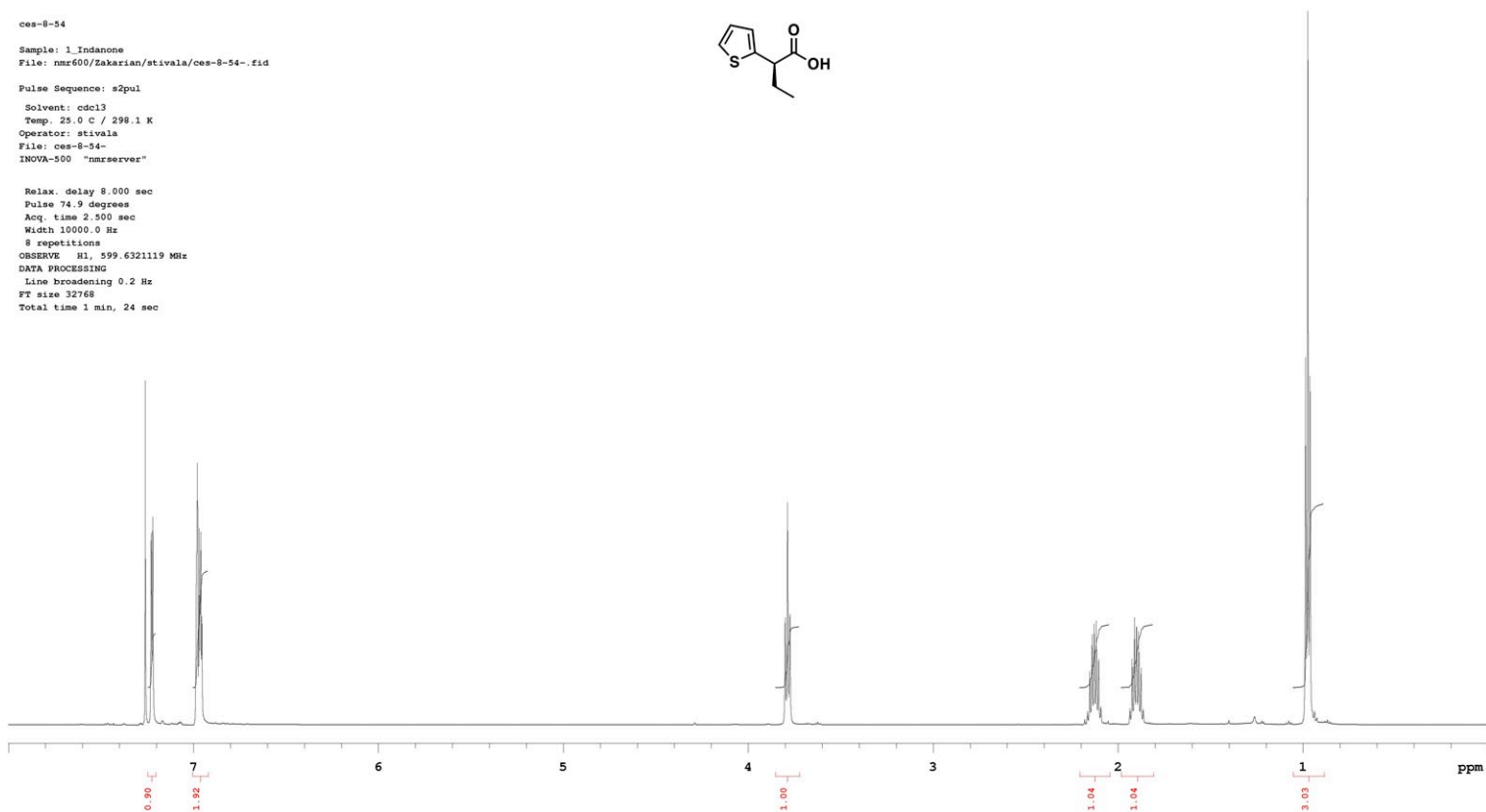
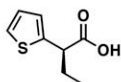
PeakTable

Detector A Ch1 215nm

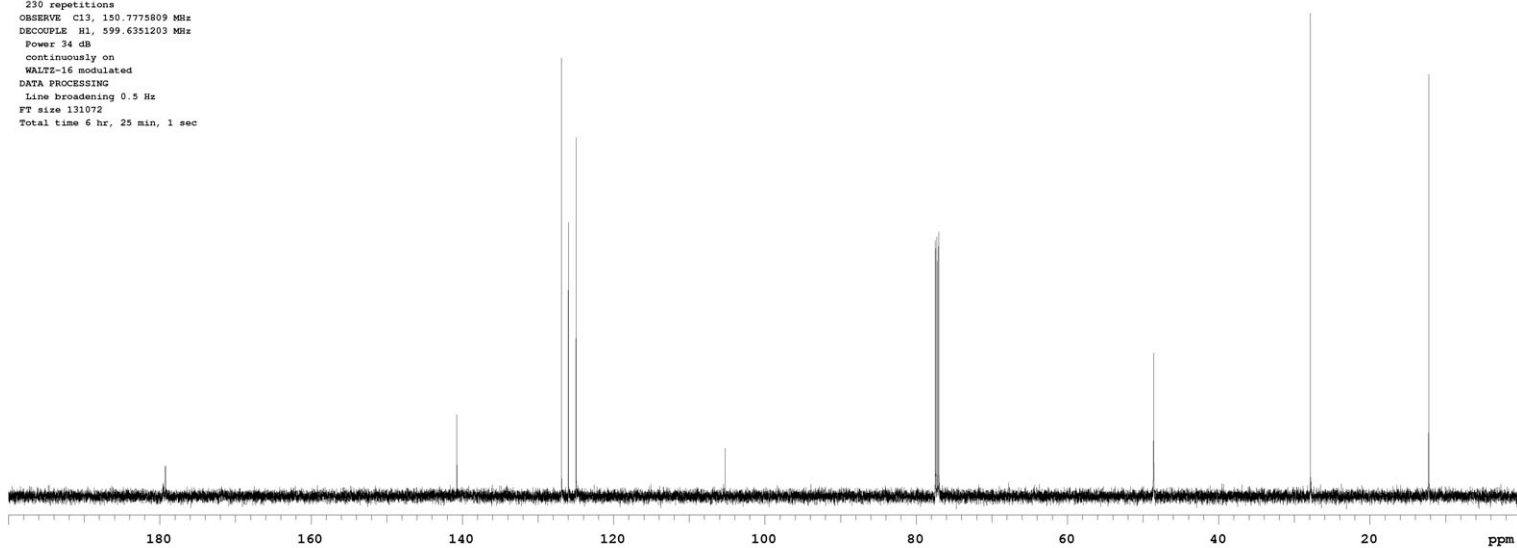
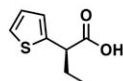
Peak#	Ret. Time	Area	Height	Area %	Height %
1	28.191	1027547	19679	49.975	57.412
2	38.769	1028575	14598	50.025	42.588
Total		2056122	34277	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-104.lcd

ces-8-54
 Sample: 1_Indanone
 File: nmr600/Zakarian/stivala/ces-8-54-.fid
 Pulse Sequence: s2pul
 Solvent: cdcl3
 Temp. 25.0 C / 298.1 K
 Operator: stivala
 File: ces-8-54-
 INOVA-500 "nmrserver"
 Relax. delay 8.000 sec
 Pulse 74.9 degrees
 Acq. time 2.500 sec
 Width 10000.0 Hz
 8 repetitions
 OBSERVE H1, 599.6321119 MHz
 DATA PROCESSING
 Line broadening 0.2 Hz
 FT size 32768
 Total time 1 min, 24 sec



ces-8-54-cl3
 Sample: 1_Indanone
 File: nmr600/Zakarian/stivala/ces-8-54-cl3.fid
 Pulse Sequence: s2pul
 Solvent: cdcl3
 Temp. 25.0 C / 298.1 K
 Operator: stivala
 File: ces-8-54-cl3
 INOVA-500 "nmrserver"
 Relax. delay 1.000 sec
 Pulse 10.0 usec
 Acq. time 1.298 sec
 Width 36231.9 Hz
 230 repetitions
 OBSERVE C13, 150.7775809 MHz
 DECOUPLE H1, 599.6381203 MHz
 Power 34 dB
 continuously on
 WALTZ-16 modulated
 DATA PROCESSING
 Line broadening 0.5 Hz
 FT size 131072
 Total time 6 hr, 25 min, 1 sec



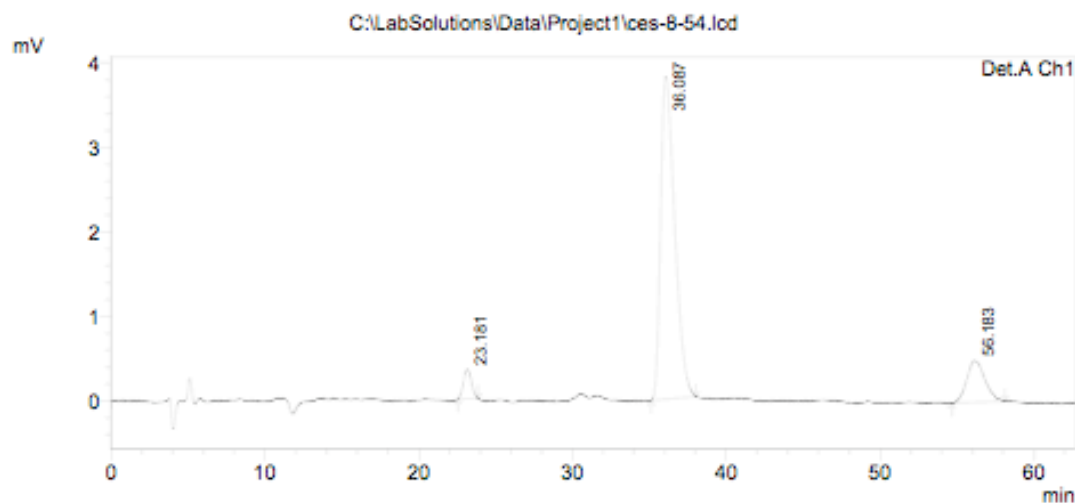
5/27/2011 10:09:35 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-54.lcd

Acquired by : Admin
 Sample Name : ces-8-54
 Sample ID : ces-8-54
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-54.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/12/2011 12:47:51 PM
 Data Processed : 4/12/2011 1:54:35 PM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	23.181	12711	346	4.273	7.416
2	36.087	243923	3820	82.005	81.975
3	56.183	40815	494	13.722	10.609
Total		297449	4660	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-54.lcd

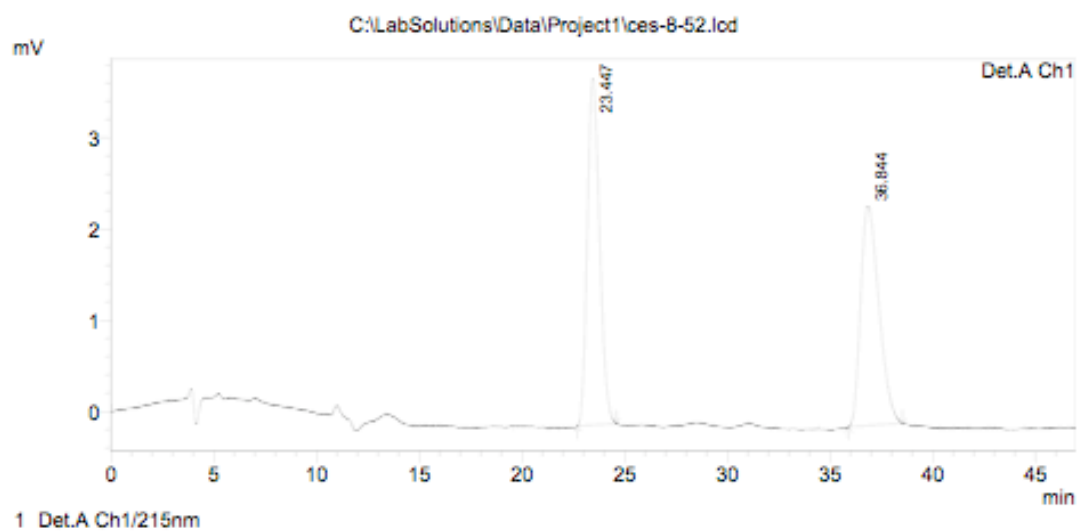
5/27/2011 12:00:38 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-52.lcd

Acquired by	: Admin
Sample Name	: ces-8-52
Sample ID	: ces-8-52
Vial #	:
Injection Volume	: 20 uL
Data File Name	: ces-8-52.lcd
Method File Name	: ces-OD-H-analytical 0.46cm x 25cm.lcm
Batch File Name	:
Report File Name	: Default.lcr
Data Acquired	: 4/11/2011 3:54:00 PM
Data Processed	: 4/11/2011 4:40:56 PM

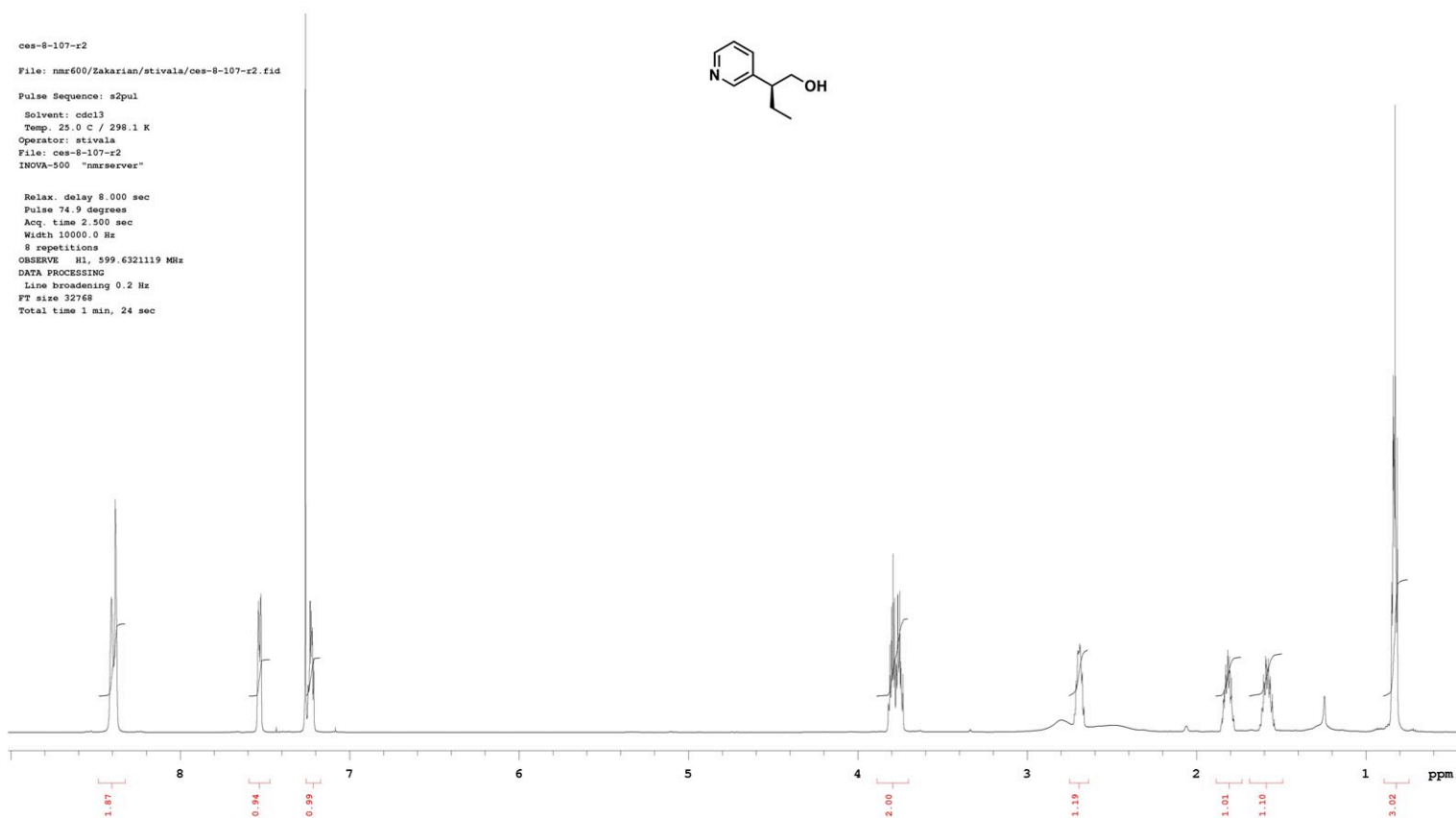
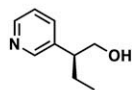
<Chromatogram>



C:\LabSolutions\Data\Project1\ces-8-52.lcd

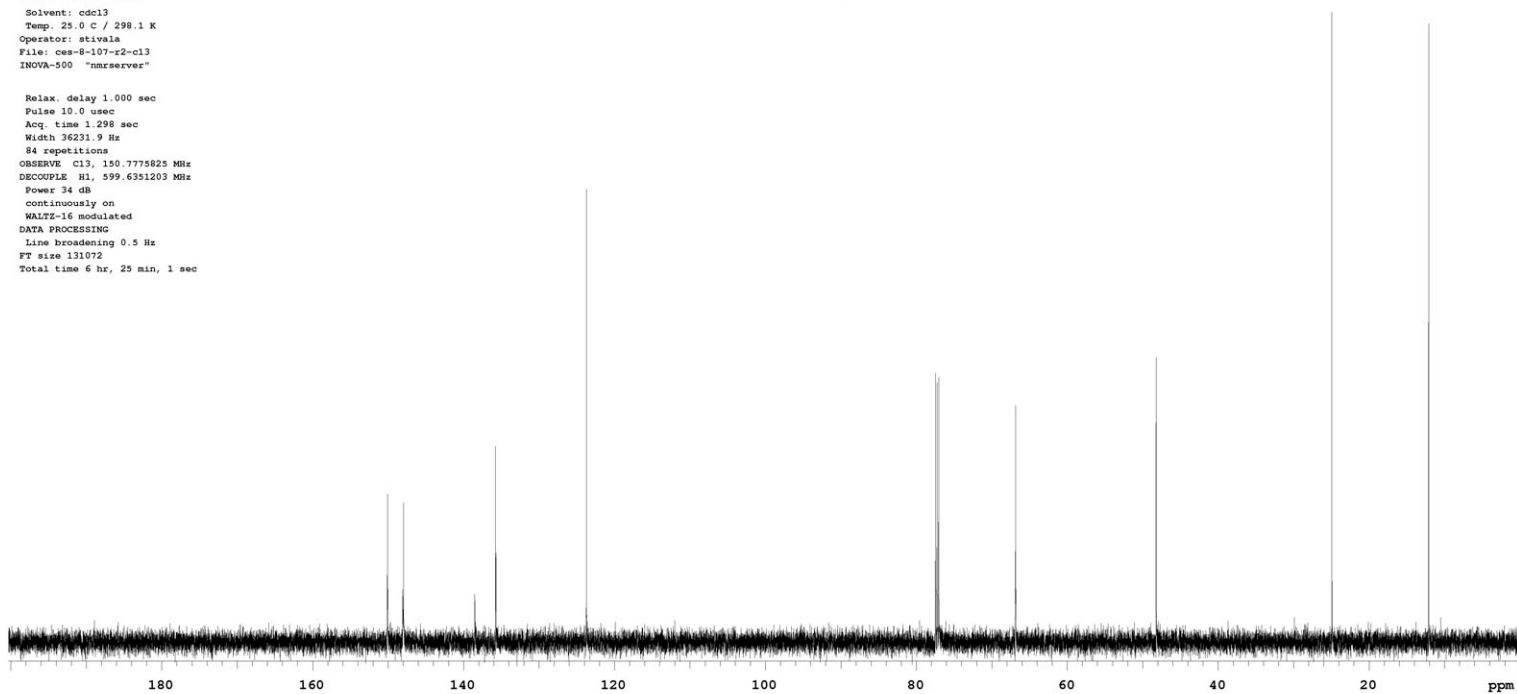
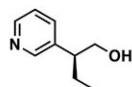
ces-8-107-r2
 File: nmr600/Zakarian/stivala/ces-8-107-r2.fid
 Pulse Sequence: s2pul
 Solvent: cdcl3
 Temp. 25.0 C / 298.1 K
 Operator: stivala
 File: ces-8-107-r2
 INOVA-500 "nmrserver"

Relax. delay 8.000 sec
 Pulse 74.9 degrees
 Acq. time 2.500 sec
 Width 10000.0 Hz
 8 repetitions
 OBSERVE H1, 599.6321119 MHz
 DATA PROCESSING
 Line broadening 0.2 Hz
 FT size 32768
 Total time 1 min, 24 sec



ces-8-107-r2-c13
 Sample: 1 Indanone
 File: nmr600/Zakarian/stivala/ces-8-107-r2-c13.fid
 Pulse Sequence: s2pul
 Solvent: cdcl3
 Temp. 25.0 C / 298.1 K
 Operator: stivala
 File: ces-8-107-r2-c13
 INOVA-500 "nmrserver"

Relax. delay 1.000 sec
 Pulse 10.0 usec
 Acq. time 1.298 sec
 Width 36231.9 Hz
 84 repetitions
 OBSERVE C13, 150.775825 MHz
 DECOUPLE H1, 599.6381203 MHz
 Power 34 dB
 continuously on
 WALTZ-16 modulated
 DATA PROCESSING
 Line broadening 0.5 Hz
 FT size 131072
 Total time 6 hr, 25 min, 1 sec



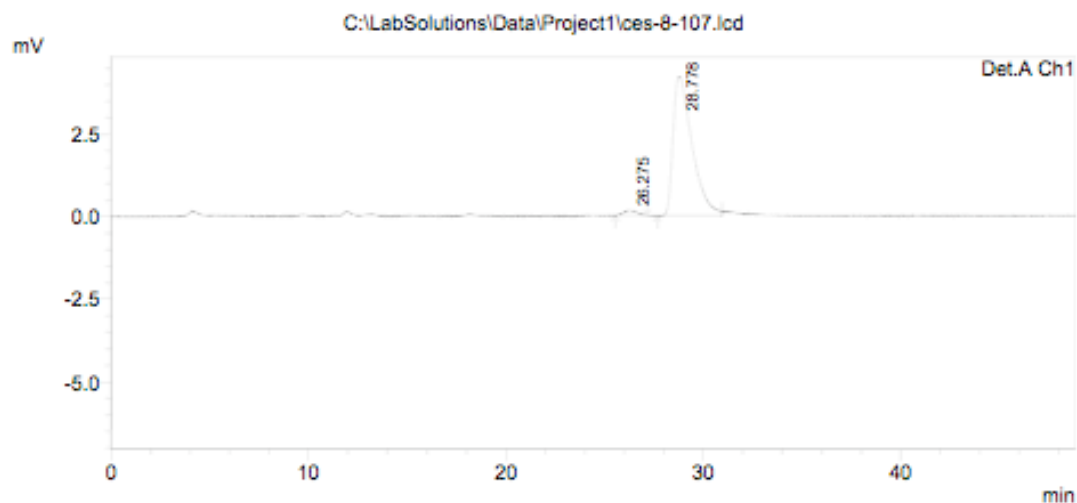
5/27/2011 10:10:04 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-107.lcd

Acquired by : Admin
 Sample Name : ces-8-107
 Sample ID : ces-8-107
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-107.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/11/2011 10:54:39 AM
 Data Processed : 5/20/2011 3:08:05 PM

<Chromatogram>



1 Det.A Ch1/248nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	26.275	6917	149	2.375	3.409
2	28.778	284314	4229	97.625	96.591
Total		291231	4378	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-107.lcd

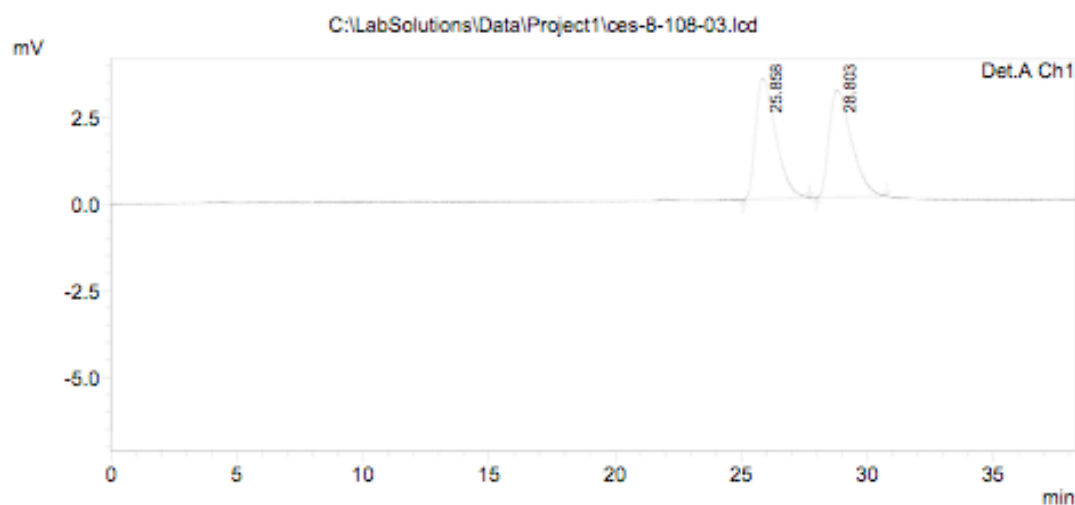
5/27/2011 12:01:47 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-108-03.lcd

Acquired by : Admin
 Sample Name : ces-8-108
 Sample ID : ces-8-108
 Vial # :
 Injection Volume : 25 uL
 Data File Name : ces-8-108-03.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/21/2011 1:09:38 PM
 Data Processed : 5/21/2011 1:48:33 PM

<Chromatogram>



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	25.858	193783	3488	50.215	52.935
2	28.803	192127	3101	49.785	47.065
Total		385911	6590	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-108-03.lcd

ces-8-26

File: nmr500/Zakarian/stivala/ces-8-26.fid

Pulse Sequence: s2pul

Solvent: CDCl3

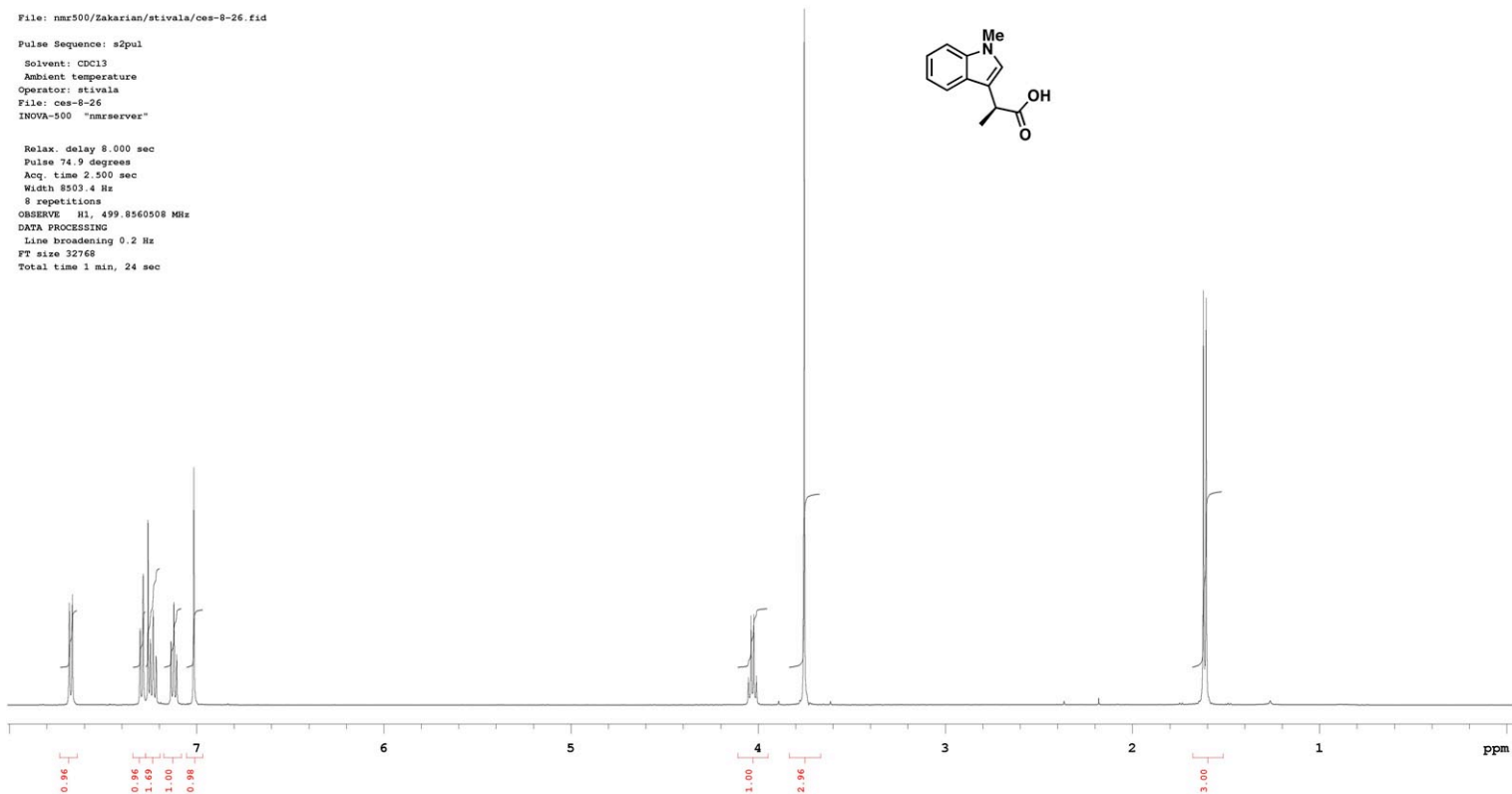
Ambient temperature

Operator: stivala

File: ces-8-26

INOVA-500 "nmrserver"

Relax. delay 8.000 sec
 Pulse 74.9 degrees
 Acq. time 2.500 sec
 Width 8503.4 Hz
 8 repetitions
 OBSERVE H1, 499.8560508 MHz
 DATA PROCESSING
 Line broadening 0.2 Hz
 FT size 32768
 Total time 1 min, 24 sec



ces-8-26-cl3

File: nmr500/Zakarian/stivala/ces-8-26-cl3.fid

Pulse Sequence: s2pul

Solvent: CDCl3

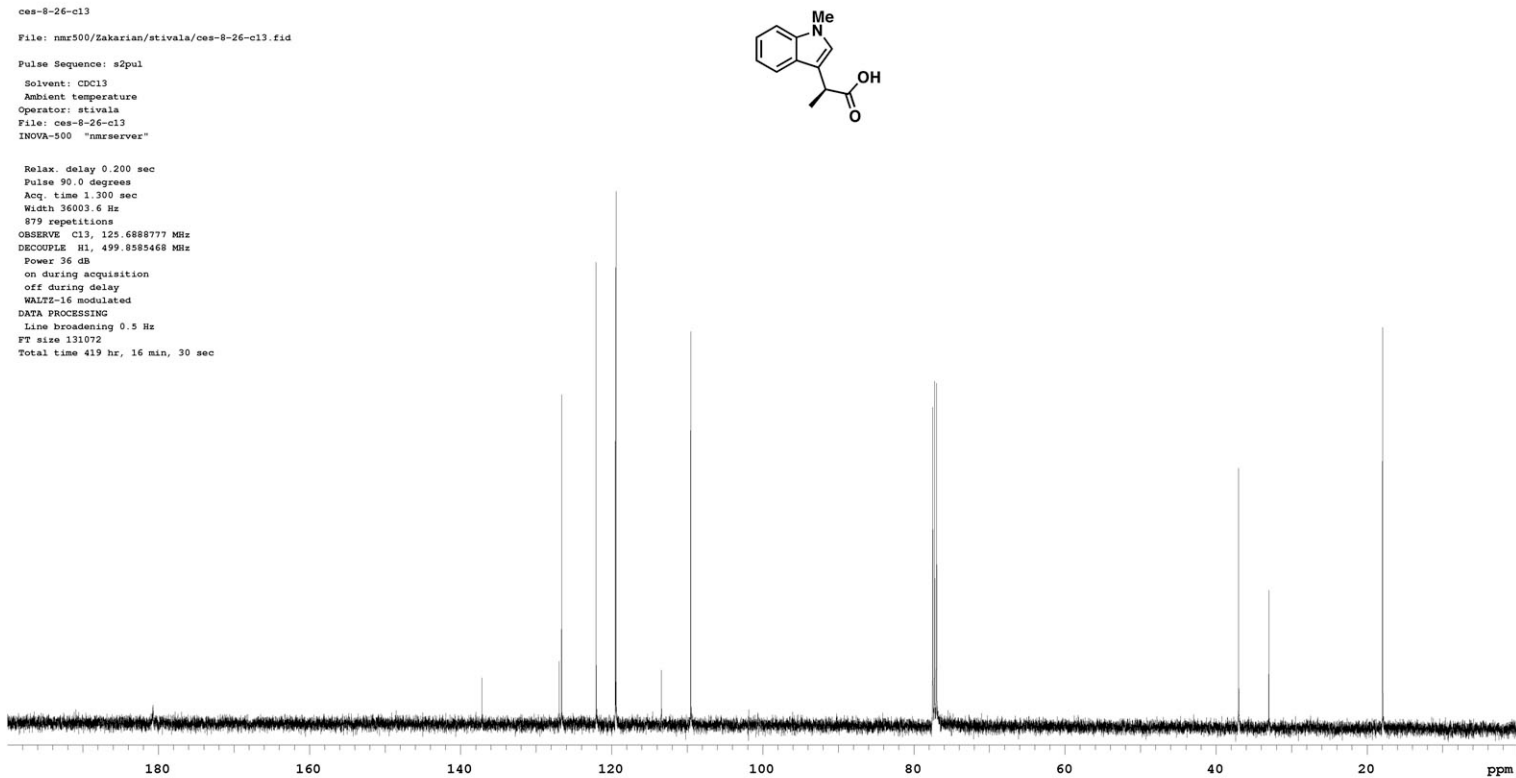
Ambient temperature

Operator: stivala

File: ces-8-26-cl3

INOVA-500 "nmrserver"

Relax. delay 0.200 sec
 Pulse 90.0 degrees
 Acq. time 1.300 sec
 Width 36003.6 Hz
 879 repetitions
 OBSERVE C13, 125.6888777 MHz
 DECOUPLE H1, 499.8563468 MHz
 Power 36 dB
 on during acquisition
 off during delay
 WALTZ-16 modulated
 DATA PROCESSING
 Line broadening 0.5 Hz
 FT size 131072
 Total time 419 hr, 16 min, 30 sec



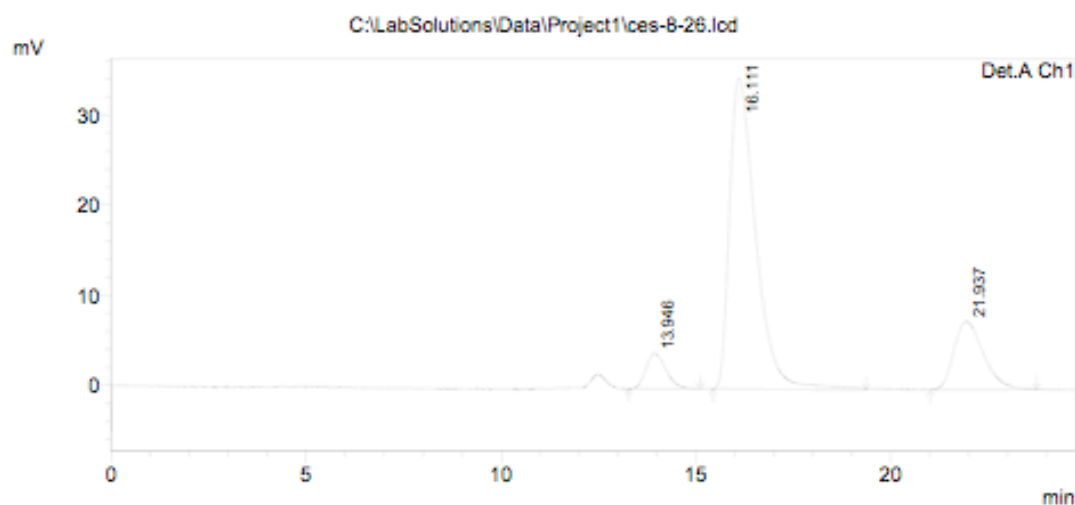
5/27/2011 10:11:45 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-26.lcd

Acquired by : Admin
 Sample Name : ces-8-26
 Sample ID : ces-8-26
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-26.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/31/2011 7:21:50 PM
 Data Processed : 4/4/2011 4:23:43 PM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	13.946	140852	3896	6.557	8.482
2	16.111	1608333	34468	74.869	75.040
3	21.937	399003	7569	18.574	16.478
Total		2148187	45933	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-26.lcd

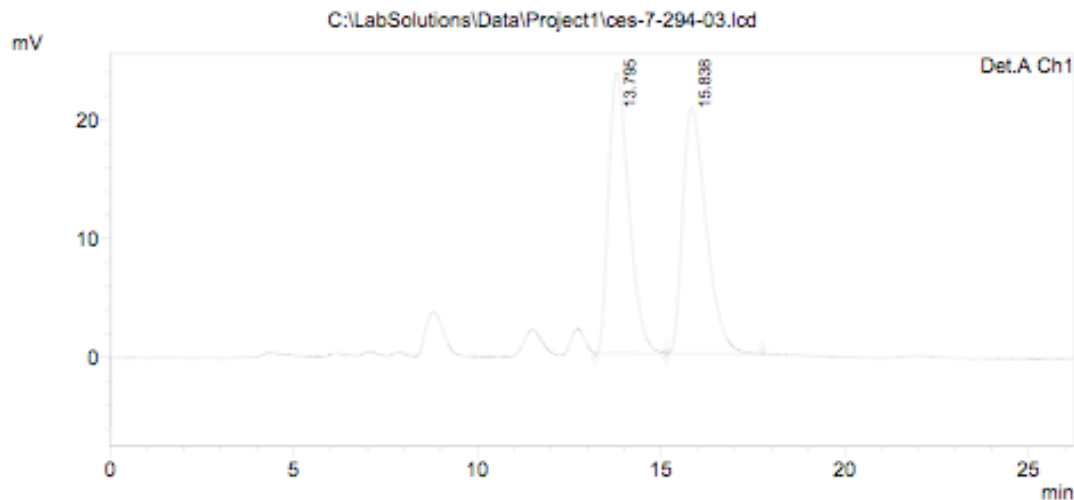
5/28/2011 11:37:30 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-7-294-03.lcd

Acquired by : Admin
 Sample Name : ces-7-294
 Sample ID : ces-7-294
 Vial # :
 Injection Volume : 25 uL
 Data File Name : ces-7-294-03.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/28/2011 11:10:28 AM
 Data Processed : 5/28/2011 11:36:44 AM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

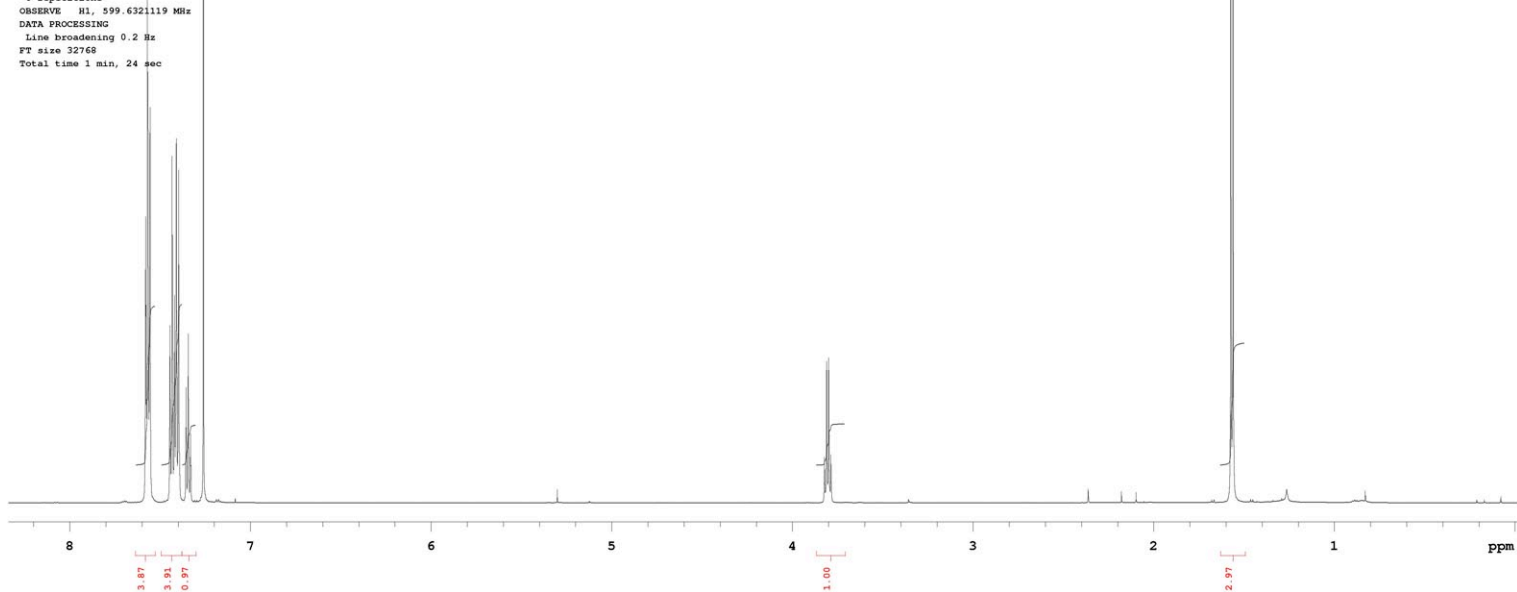
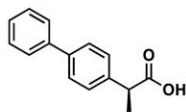
Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	13.795	910197	23583	49.602	53.266
2	15.838	924789	20692	50.398	46.734
Total		1834986	44275	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-294-03.lcd

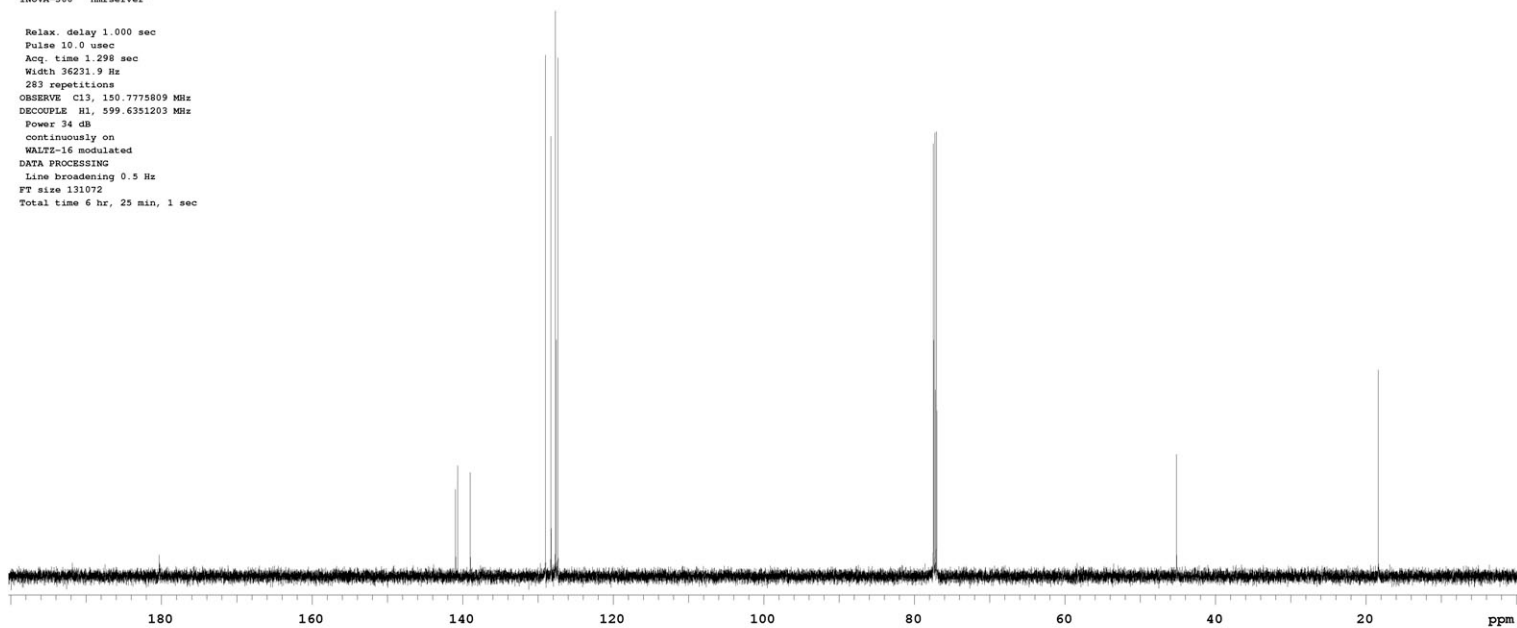
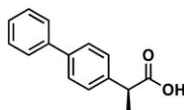
ces-8-83
 File: nmr600/Zakarian/stivala/ces-8-83.fid
 Pulse Sequence: s2pul
 Solvent: cdcl3
 Temp. 25.0 C / 298.1 K
 Operator: stivala
 File: ces-8-83
 INOVA-500 "nmrserver"

Relax. delay 8.000 sec
 Pulse 74.9 degrees
 Acq. time 2.500 sec
 Width 10000.0 Hz
 8 repetitions
 OBSERVE H1, 599.6321119 MHz
 DATA PROCESSING
 Line broadening 0.2 Hz
 FT size 32768
 Total time 1 min, 24 sec



ces-8-83-cl3
 Sample: 1 Indanone
 File: nmr600/Zakarian/stivala/ces-8-83-cl3.fid
 Pulse Sequence: s2pul
 Solvent: cdcl3
 Temp. 25.0 C / 298.1 K
 Operator: stivala
 File: ces-8-83-cl3
 INOVA-500 "nmrserver"

Relax. delay 1.000 sec
 Pulse 10.0 usec
 Acq. time 1.298 sec
 Width 36231.9 Hz
 283 repetitions
 OBSERVE C13, 150.7775809 MHz
 DECOUPLE H1, 599.6381203 MHz
 Power 34 dB
 continuously on
 WALTZ-16 modulated
 DATA PROCESSING
 Line broadening 0.5 Hz
 FT size 131072
 Total time 6 hr, 25 min, 1 sec



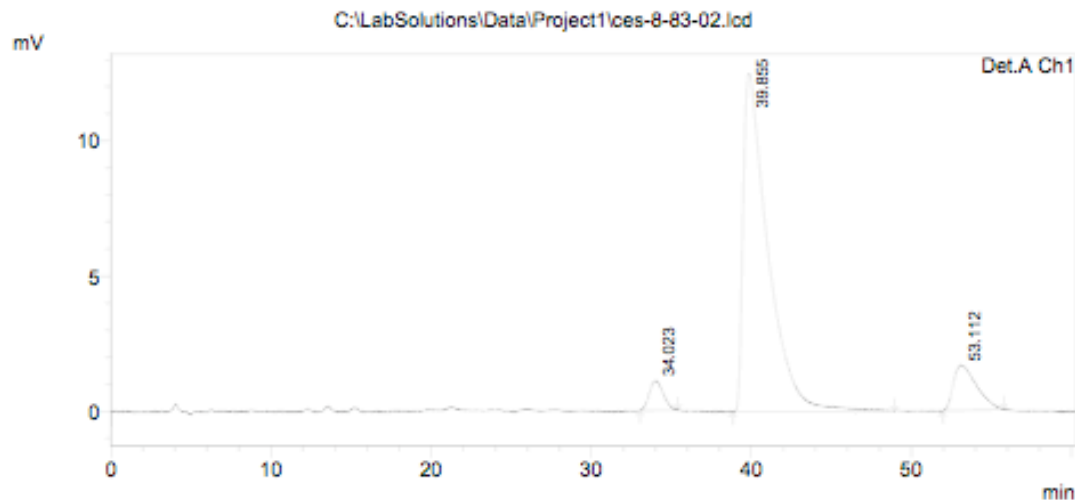
5/27/2011 10:13:05 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-83-02.lcd

Acquired by : Admin
 Sample Name : ces-8-83-2
 Sample ID : ces-8-83-2
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-83-02.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/23/2011 5:17:59 PM
 Data Processed : 4/23/2011 7:24:08 PM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	34.023	66212	1096	4.177	7.171
2	39.855	1351350	12512	85.244	81.896
3	53.112	167720	1670	10.580	10.932
Total		1585282	15278	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-83-02.lcd

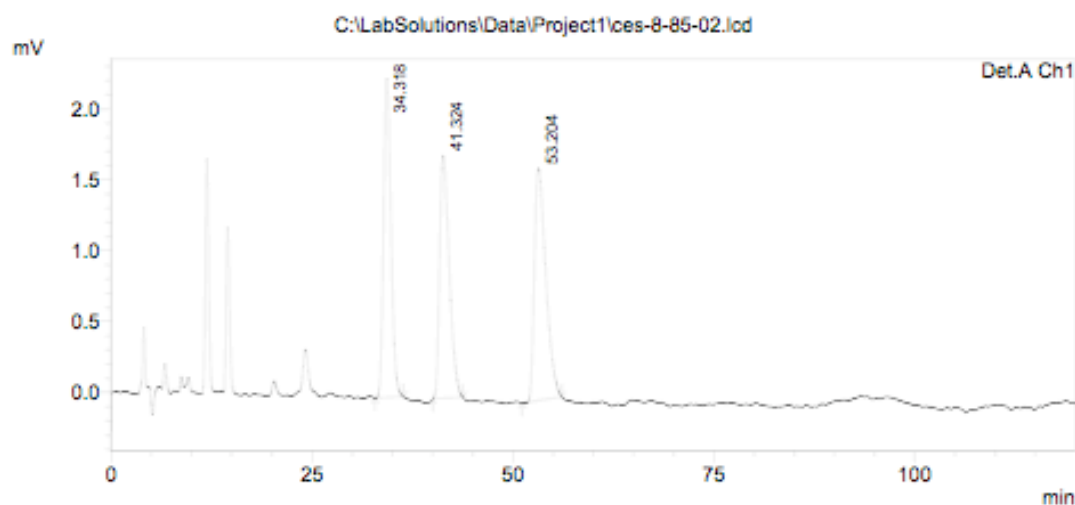
5/27/2011 12:03:04 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-85-02.lcd

Acquired by : Admin
 Sample Name : ces-8-85
 Sample ID : ces-8-85
 Vial # :
 Injection Volume : 50 uL
 Data File Name : ces-8-85-02.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/26/2011 3:22:57 PM
 Data Processed : 4/26/2011 10:19:11 PM

<Chromatogram>



1 Det.A Ch1/215nm

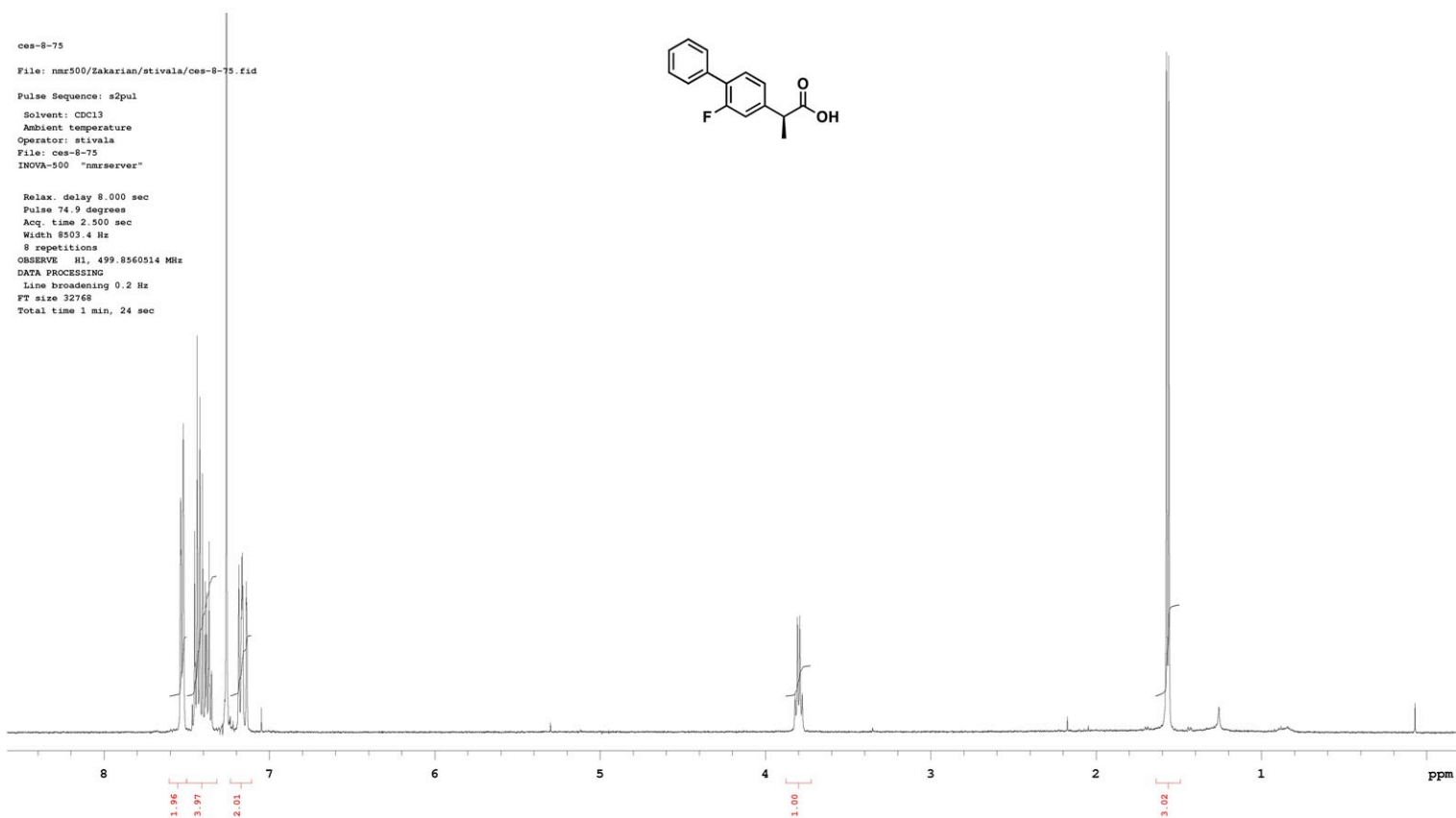
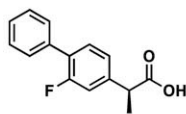
PeakTable

Detector A Ch1 215nm

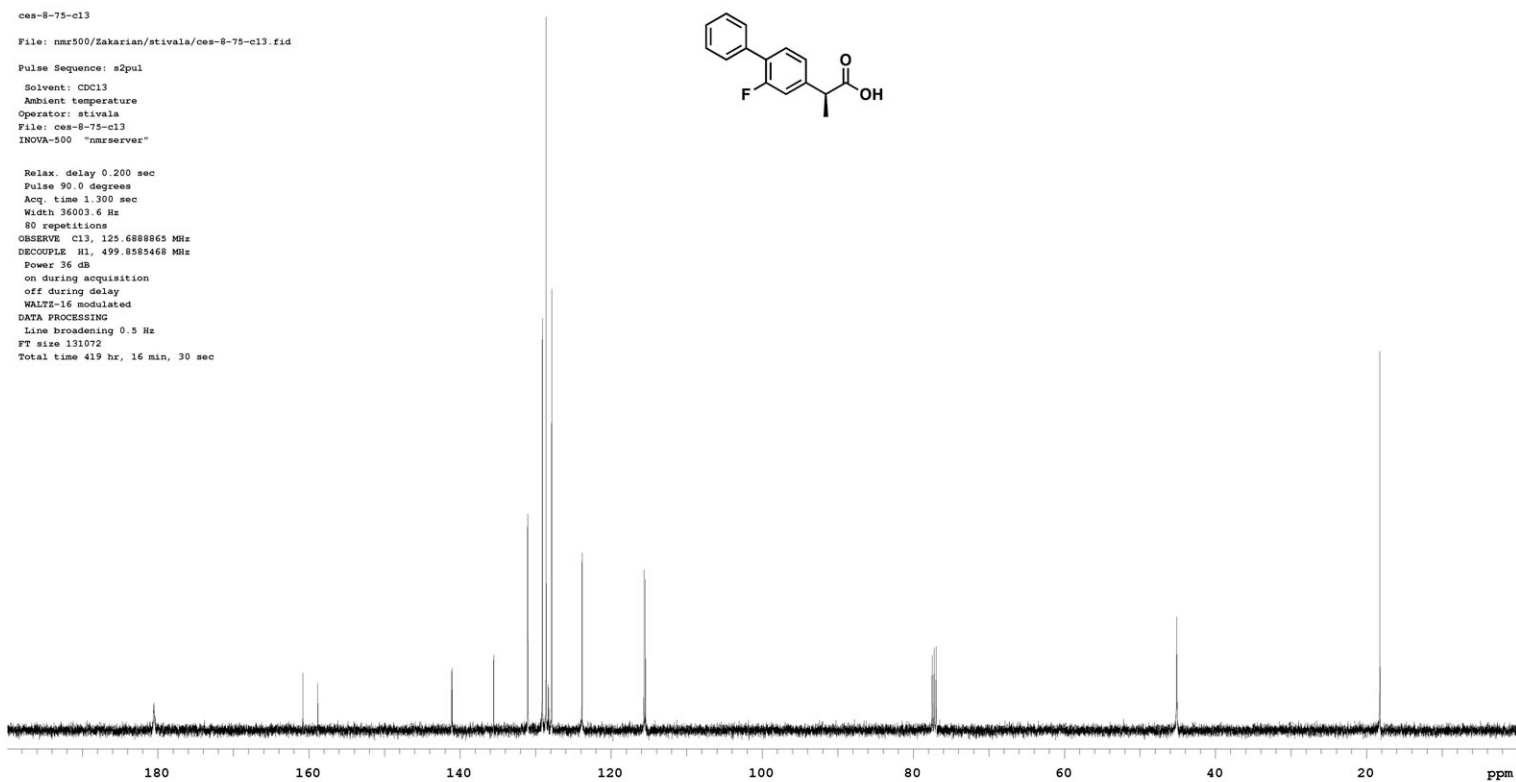
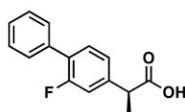
Peak#	Ret. Time	Area	Height	Area %	Height %
1	34.318	143746	2250	32.013	40.161
2	41.324	142707	1714	31.782	30.596
3	53.204	162571	1638	36.205	29.243
Total		449024	5602	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-85-02.lcd

ces-8-75
 File: nmr500/Zakarian/stivala/ces-8-75.fid
 Pulse Sequence: s2pul
 Solvent: CDCl3
 Ambient temperature
 Operator: stivala
 File: ces-8-75
 INOVA-500 "nmrserver"
 Relax. delay 8.000 sec
 Pulse 74.9 degrees
 Acq. time 2.500 sec
 Width 8503.4 Hz
 8 repetitions
 OBSERVE H1, 499.8560514 MHz
 DATA PROCESSING
 Line broadening 0.2 Hz
 FT size 32768
 Total time 1 min, 24 sec



ces-8-75-cl3
 File: nmr500/Zakarian/stivala/ces-8-75-cl3.fid
 Pulse Sequence: s2pul
 Solvent: CDCl3
 Ambient temperature
 Operator: stivala
 File: ces-8-75-cl3
 INOVA-500 "nmrserver"
 Relax. delay 0.200 sec
 Pulse 90.0 degrees
 Acq. time 1.300 sec
 Width 36003.6 Hz
 80 repetitions
 OBSERVE C13, 125.688865 MHz
 DECOUPLE H1, 499.8563468 MHz
 Power 36 dB
 on during acquisition
 off during delay
 WALTZ-16 modulated
 DATA PROCESSING
 Line broadening 0.5 Hz
 FT size 131072
 Total time 419 hr, 16 min, 30 sec



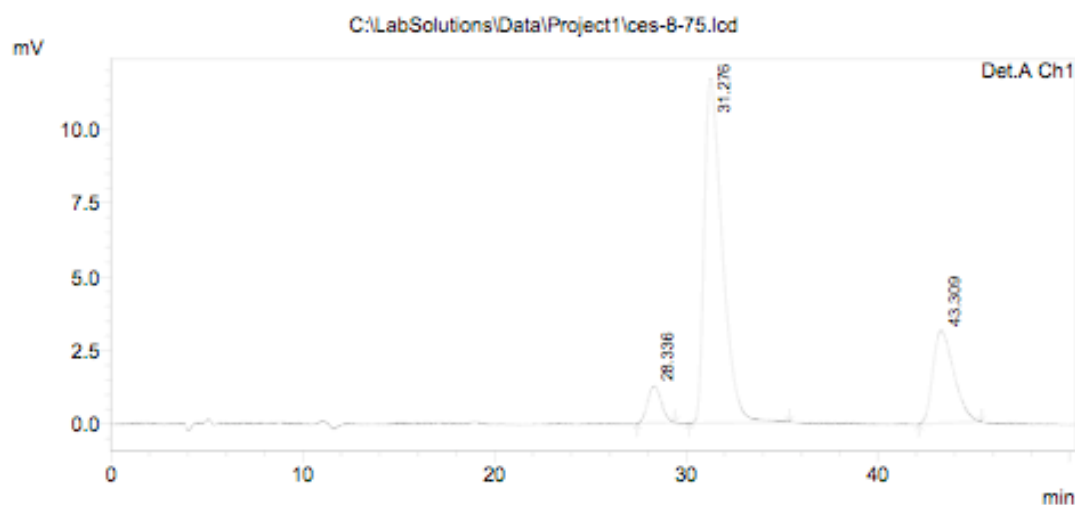
5/27/2011 10:13:42 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-75.lcd

Acquired by : Admin
 Sample Name : ces-8-75
 Sample ID : ces-8-75
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-75.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/21/2011 7:38:06 PM
 Data Processed : 4/22/2011 10:42:47 AM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	28.336	62846	1262	5.884	7.836
2	31.276	765652	11693	71.679	72.628
3	43.309	239676	3145	22.438	19.535
Total		1068173	16100	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-75.lcd

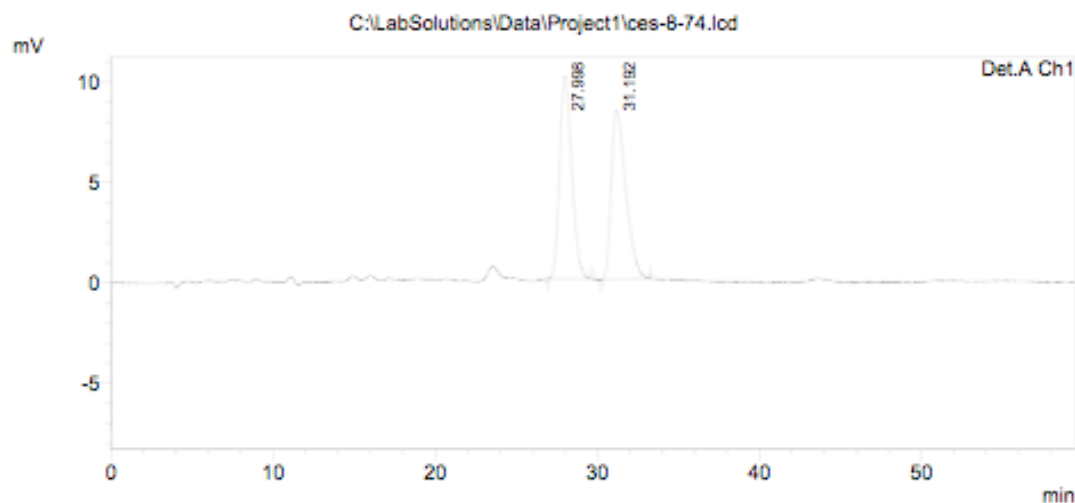
5/27/2011 12:03:58 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-74.lcd

Acquired by : Admin
 Sample Name : ces-8-74
 Sample ID : ces-8-74
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-74.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/21/2011 6:20:14 PM
 Data Processed : 4/21/2011 7:20:34 PM

<Chromatogram>

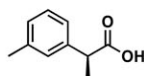
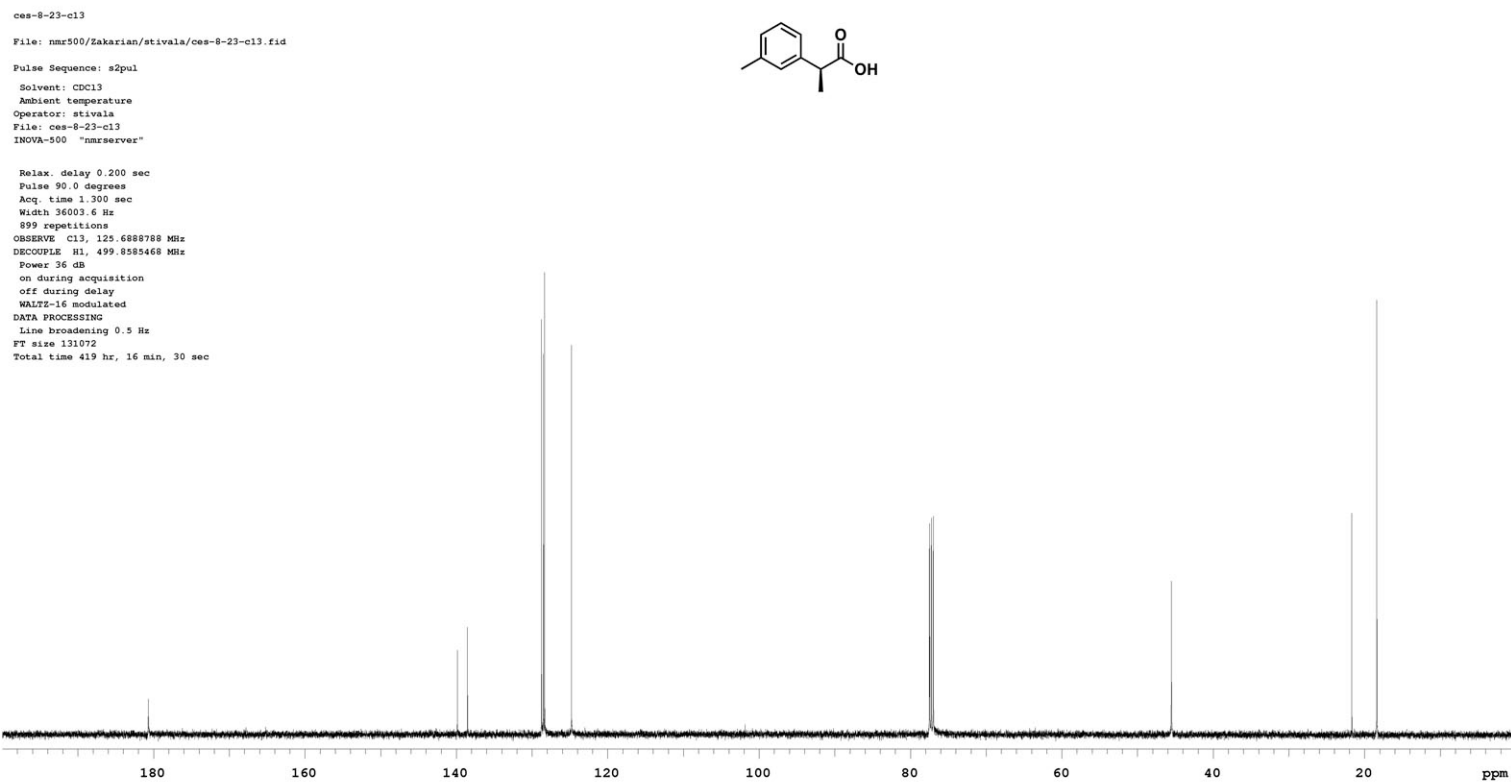
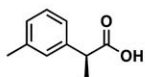
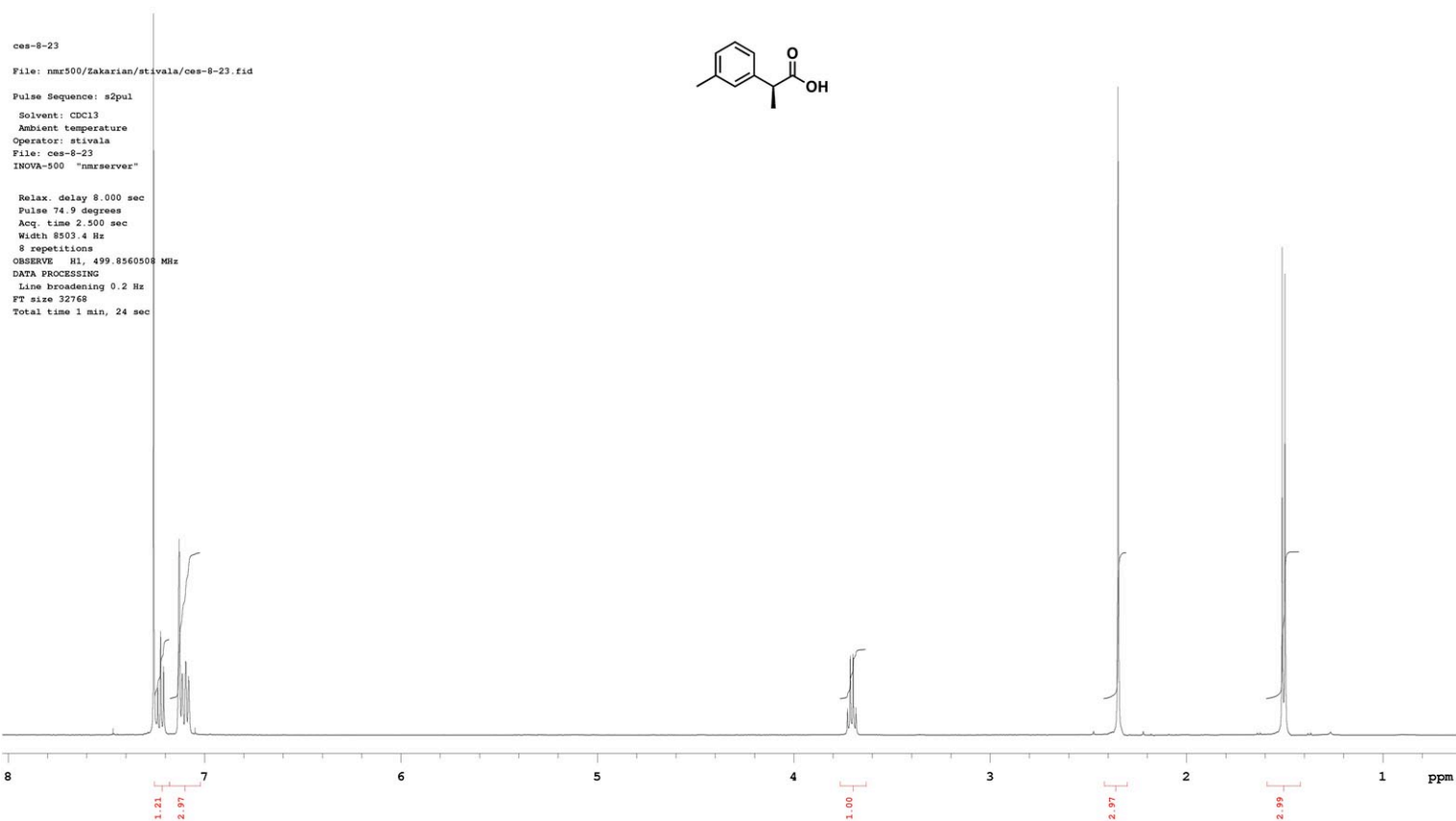


1 Det.A Ch1/215nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	27.998	530062	10094	50.119	54.579
2	31.192	527551	8400	49.881	45.421
Total		1057613	18494	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-74.lcd



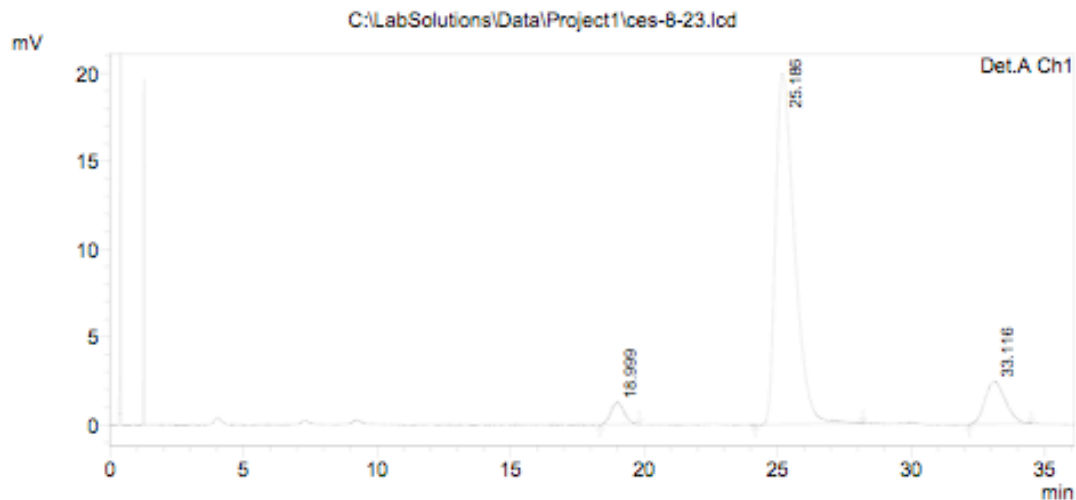
5/27/2011 10:14:26 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-23.lcd

Acquired by : Admin
 Sample Name : ces-8-23
 Sample ID : ces-8-23
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-23.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/31/2011 3:30:37 PM
 Data Processed : 3/31/2011 4:09:42 PM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	18.999	43484	1252	3.764	5.294
2	25.186	983197	19972	85.105	84.480
3	33.116	128599	2418	11.131	10.226
Total		1155281	23641	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-23.lcd

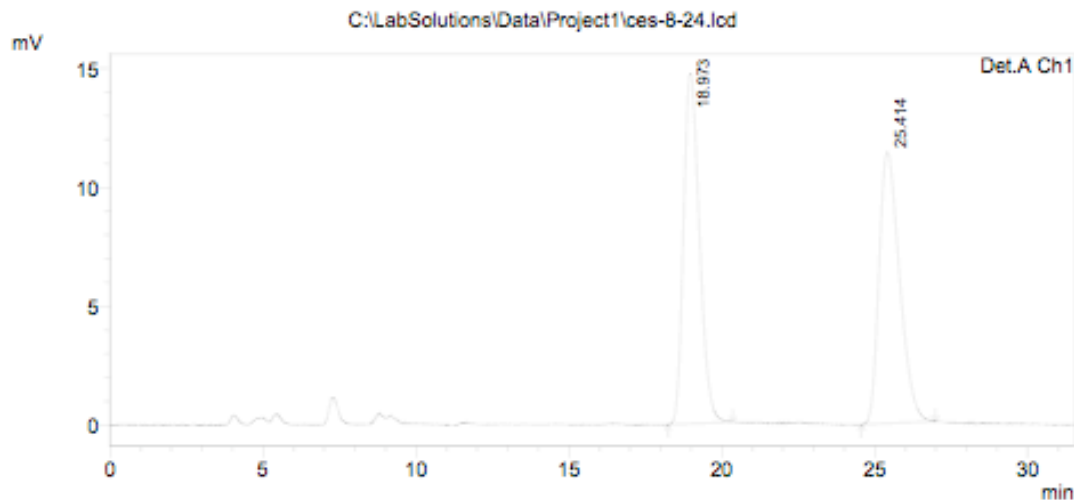
5/27/2011 12:05:58 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-24.lcd

Acquired by : Admin
 Sample Name : ces-8-24
 Sample ID : ces-8-24
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-24.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/31/2011 6:10:48 PM
 Data Processed : 3/31/2011 6:42:21 PM

<Chromatogram>



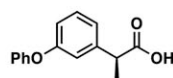
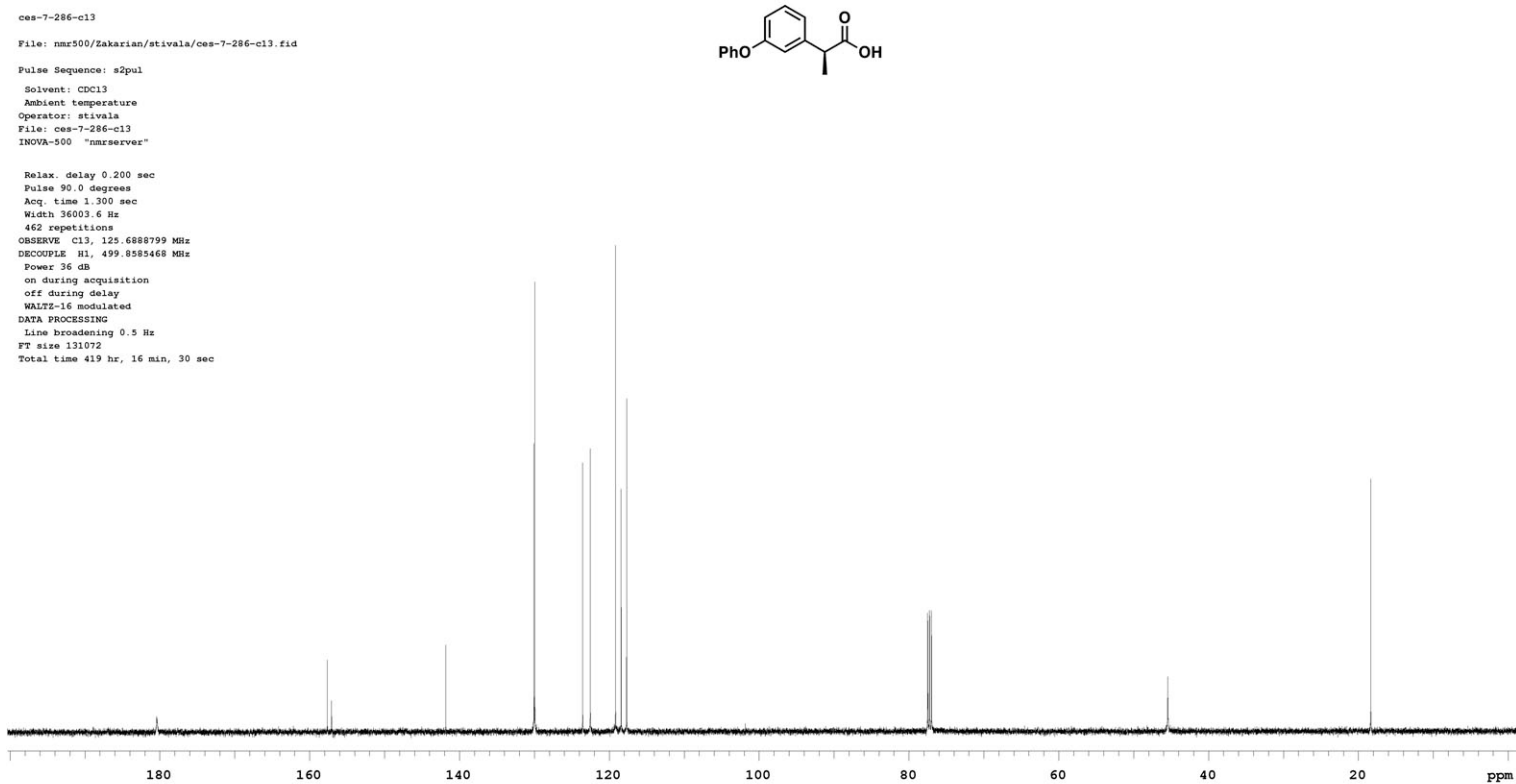
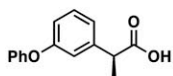
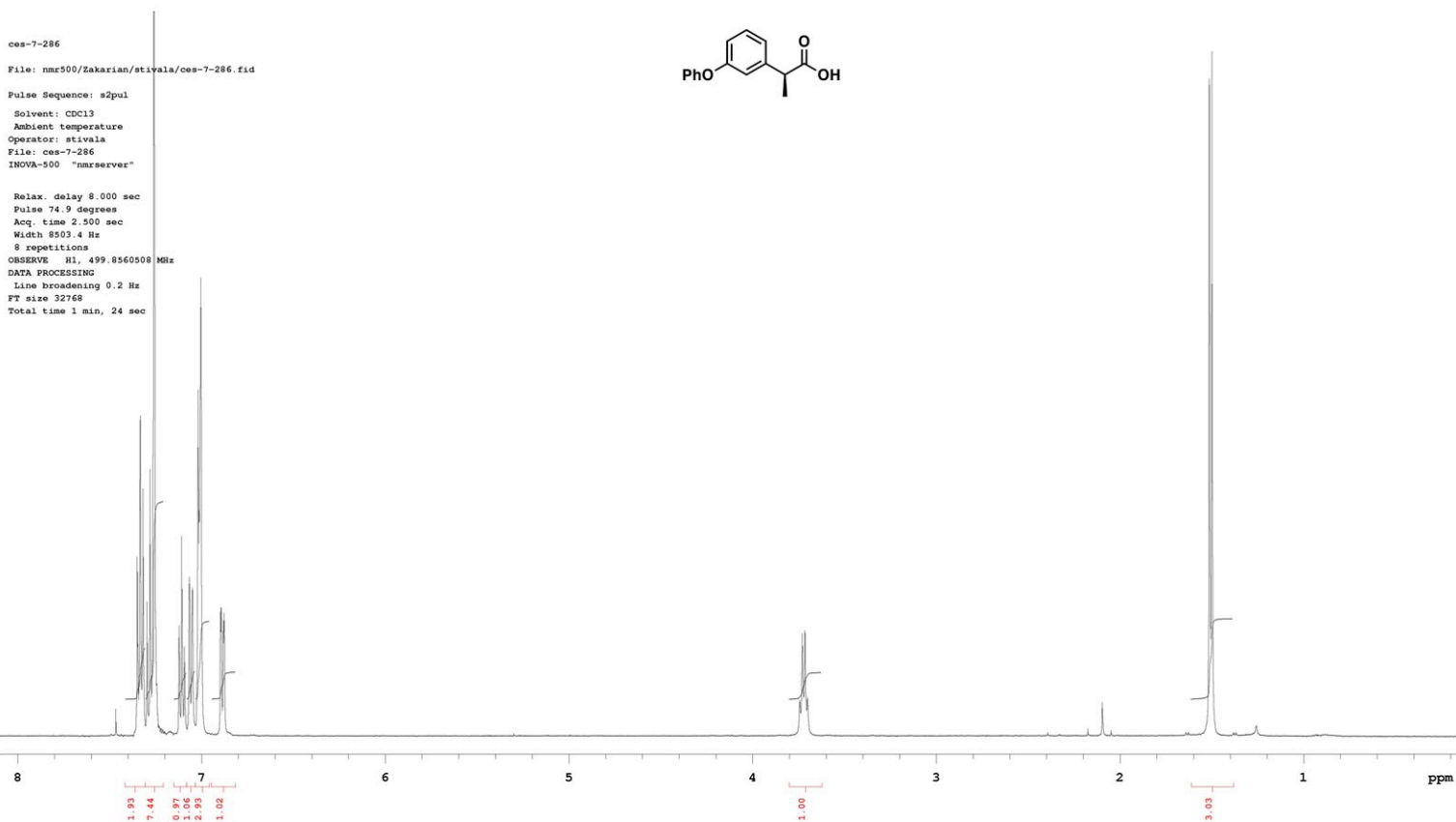
1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	18.973	535463	14735	50.095	56.345
2	25.414	533434	11416	49.905	43.655
Total		1068897	26151	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-24.lcd



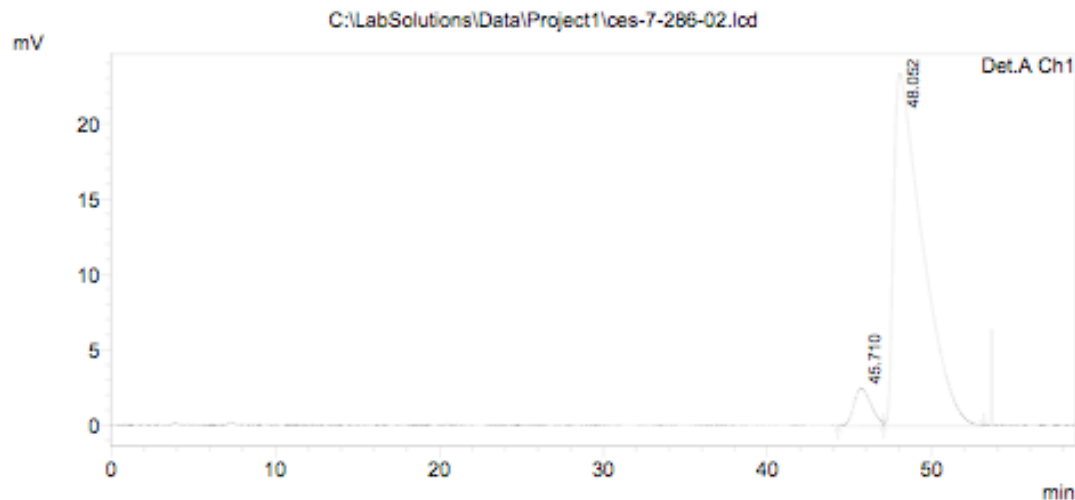
5/27/2011 10:15:23 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-7-286-02.lcd

Acquired by : Admin
 Sample Name : ces-7-286
 Sample ID : ces-7-286
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-7-286-02.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/19/2011 3:35:44 PM
 Data Processed : 3/19/2011 5:56:56 PM

<Chromatogram>



PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	45.710	182859	2503	6.031	9.683
2	48.052	2849290	23343	93.969	90.317
Total		3032149	25845	100.000	100.000

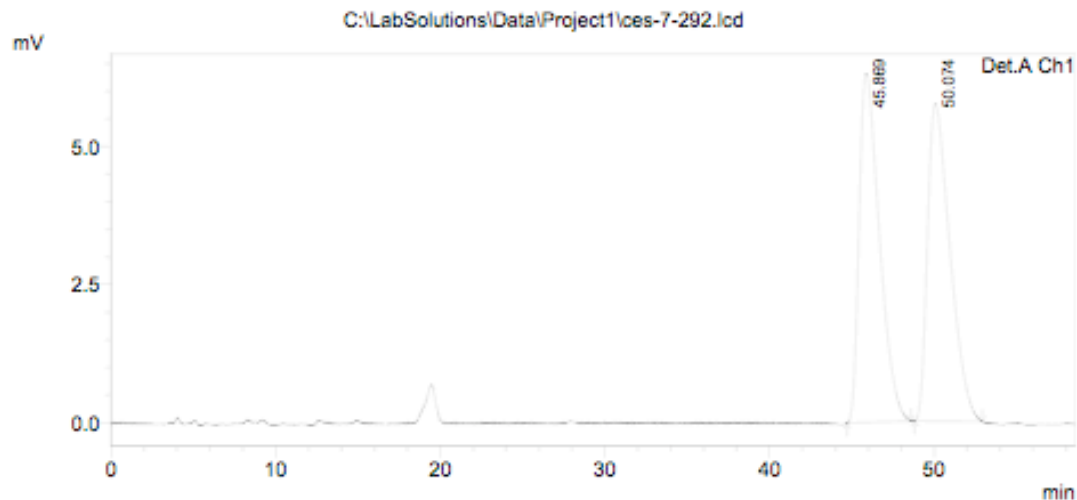
5/27/2011 11:26:07 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-7-292.lcd

Acquired by : Admin
 Sample Name : ces-7-292
 Sample ID : ces-7-292
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-7-292.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/19/2011 4:58:13 PM
 Data Processed : 3/19/2011 7:19:52 PM

<Chromatogram>



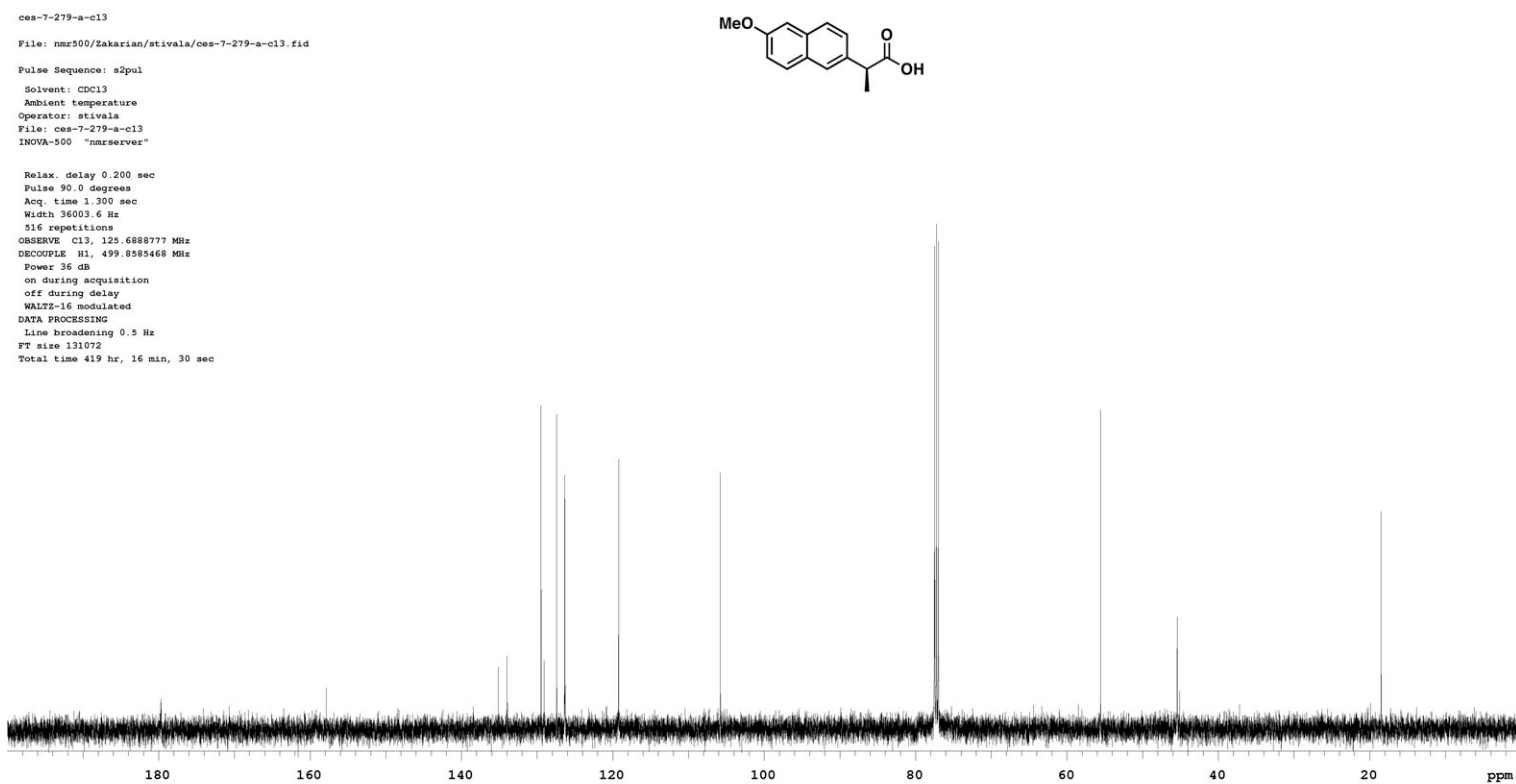
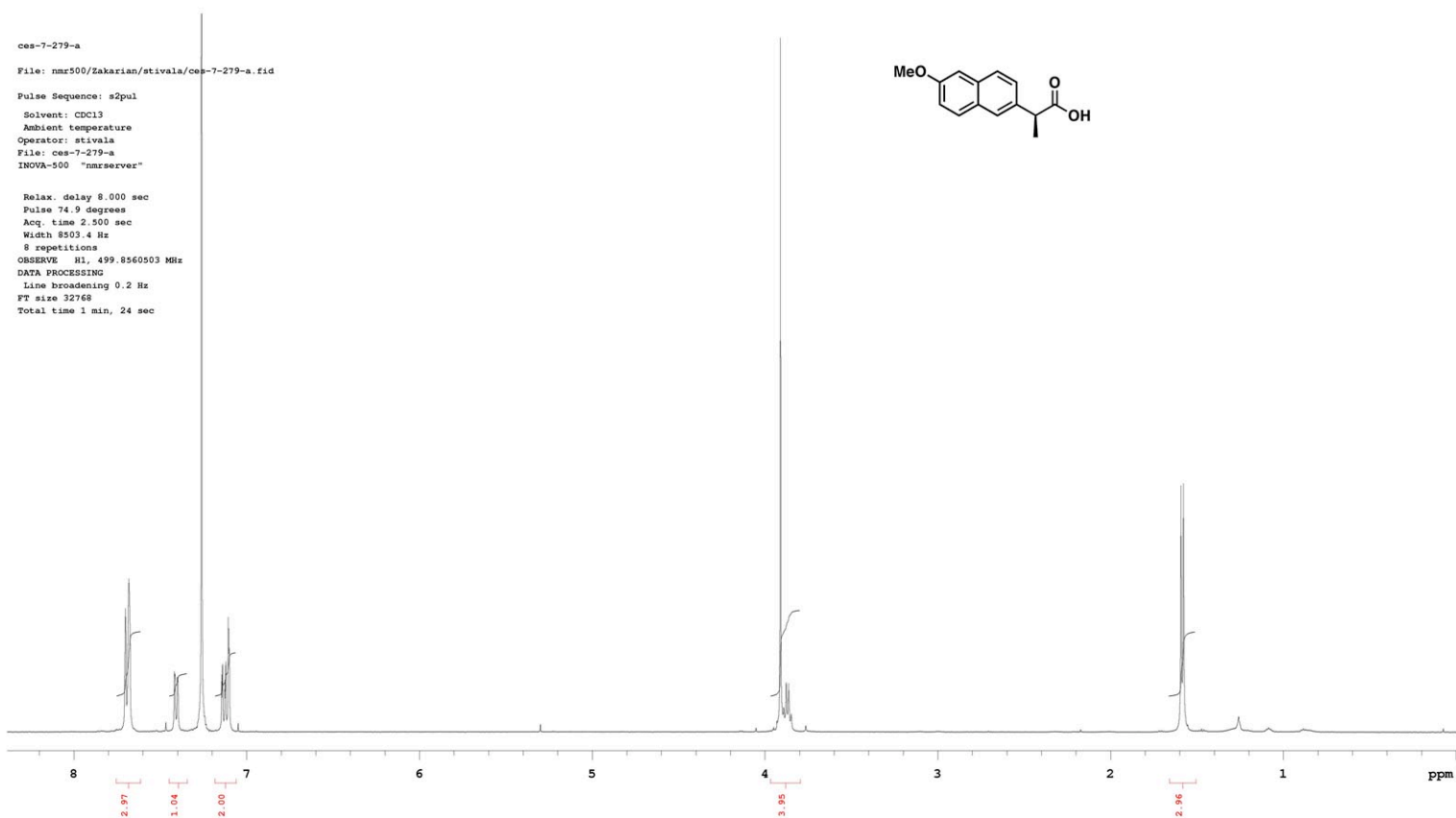
1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	45.869	542321	6318	49.881	52.424
2	50.074	544910	5734	50.119	47.576
Total		1087231	12052	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-292.lcd



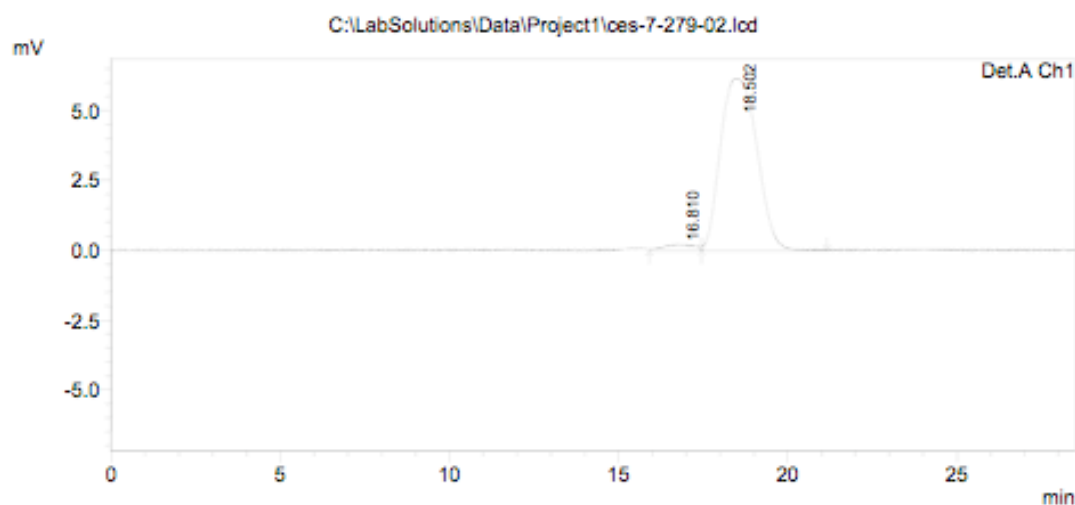
5/27/2011 10:16:53 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-7-279-02.lcd

Acquired by : Admin
 Sample Name : ces-7-279
 Sample ID : ces-7-279
 Vial # :
 Injection Volume : 10 uL
 Data File Name : ces-7-279-02.lcd
 Method File Name : ces-AD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/12/2011 1:49:56 PM
 Data Processed : 3/12/2011 2:20:44 PM

<Chromatogram>



1 Det.A Ch1/254nm

PeakTable

Detector A Ch1 254nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	16.810	13492	207	2.842	3.252
2	18.502	461203	6162	97.158	96.748
Total		474695	6370	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-279-02.lcd

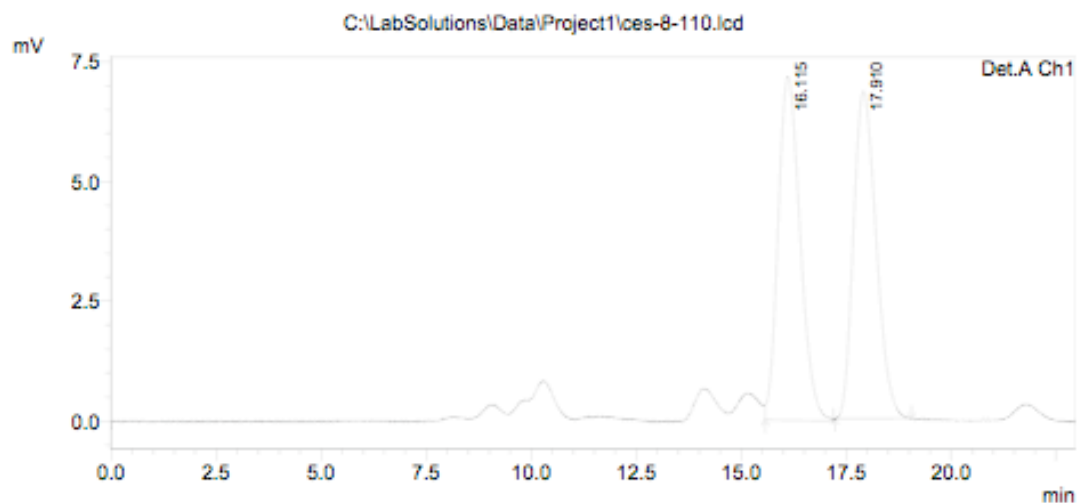
5/27/2011 20:03:45 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-110.lcd

Acquired by : Admin
 Sample Name : ces-8-109
 Sample ID : ces-8-109
 Vial # :
 Injection Volume : 25 uL
 Data File Name : ces-8-110.lcd
 Method File Name : ces-AD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/27/2011 7:40:04 PM
 Data Processed : 5/27/2011 8:03:01 PM

<Chromatogram>



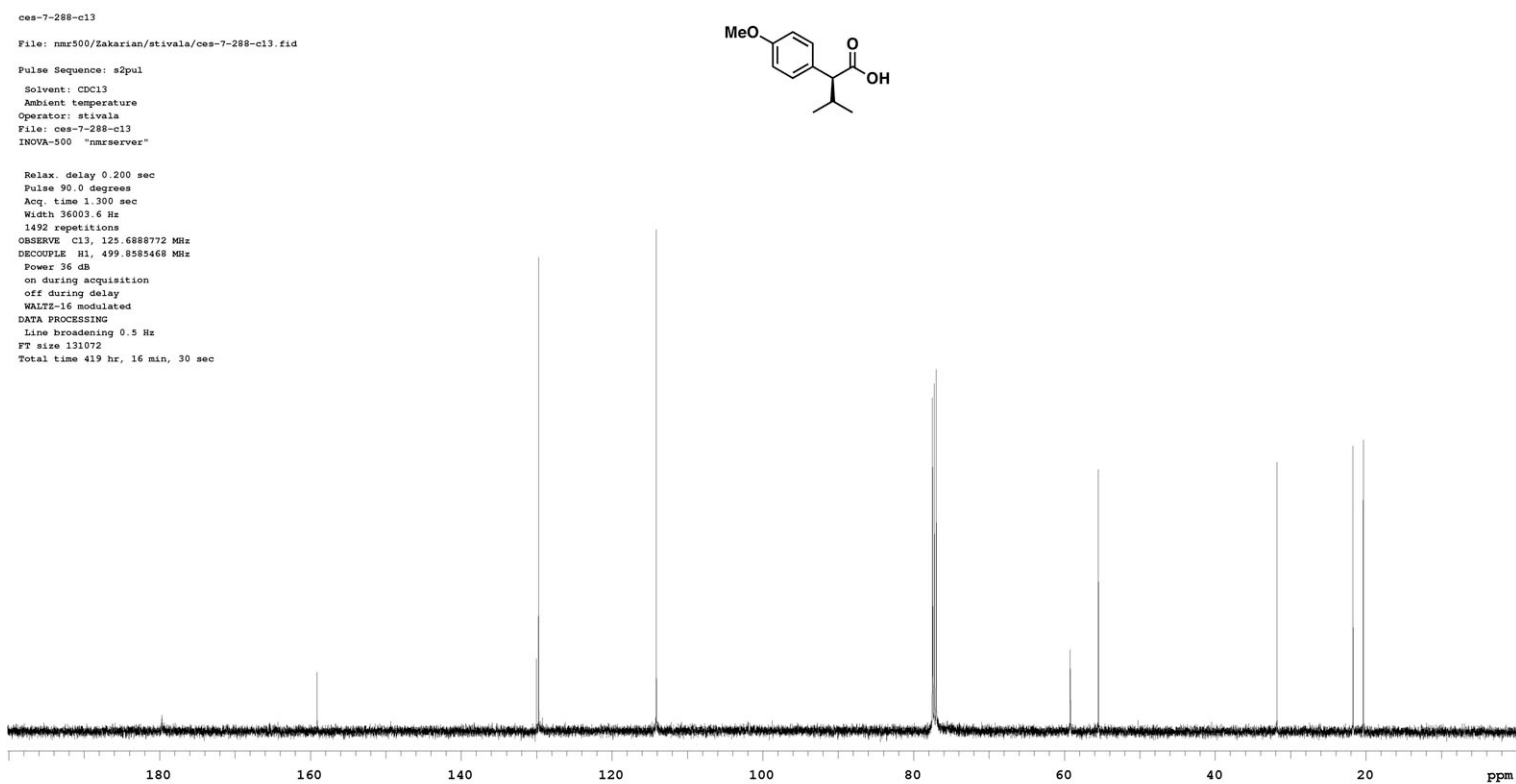
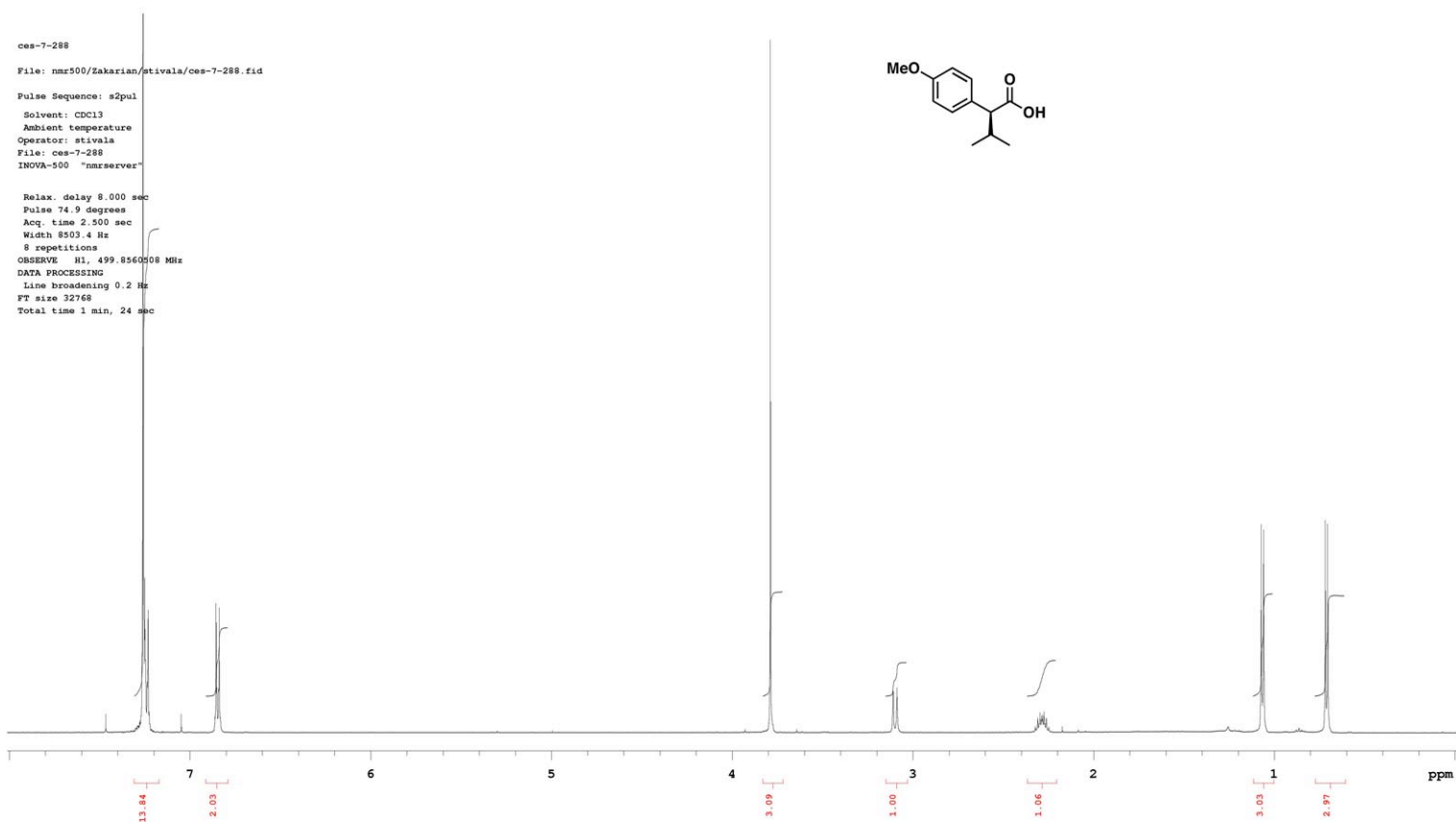
1 Det.A Ch1/254nm

PeakTable

Detector A Ch1 254nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	16.115	262080	7180	50.468	51.243
2	17.910	257223	6832	49.532	48.757
Total		519302	14012	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-110.lcd



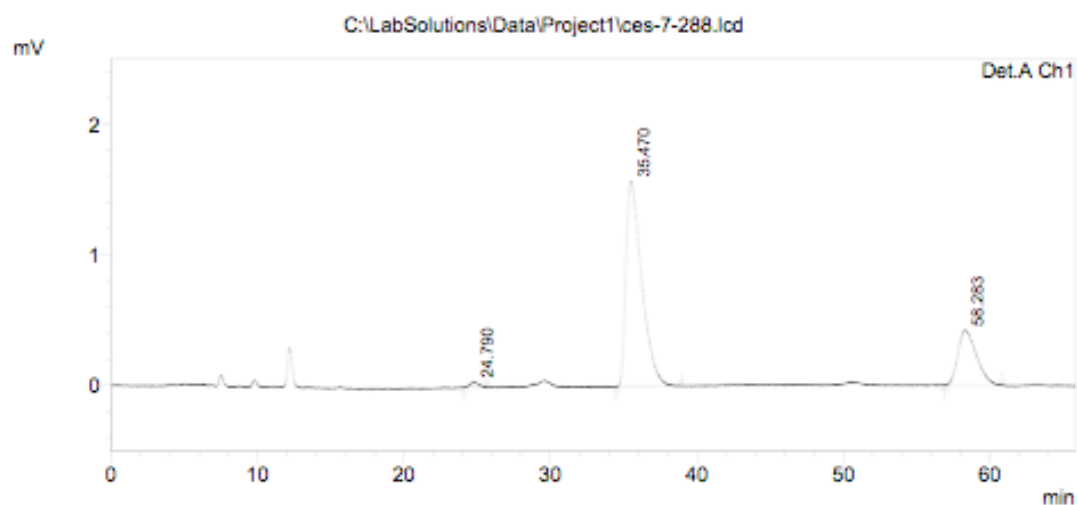
5/27/2011 10:25:08 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-7-288.lcd

Acquired by : Admin
 Sample Name : ces-7-288
 Sample ID : ces-7-288
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-7-288.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/19/2011 11:50:35 AM
 Data Processed : 3/19/2011 3:10:45 PM

<Chromatogram>



PeakTable

Detector A Ch1 275nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	24.790	1643	43	1.041	2.093
2	35.470	118377	1566	75.016	77.041
3	58.283	37783	424	23.943	20.865
Total		157803	2033	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-288.lcd

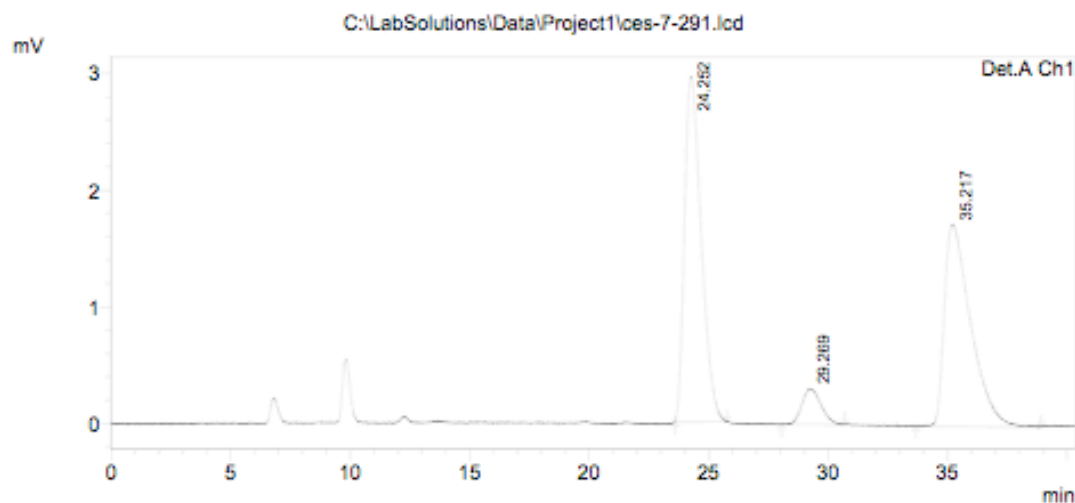
5/27/2011 11:24:45 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-7-291.lcd

Acquired by : Admin
 Sample Name : ces-7-291
 Sample ID : ces-7-291
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-7-291.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/19/2011 2:30:15 PM
 Data Processed : 3/19/2011 3:21:33 PM

<Chromatogram>

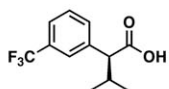
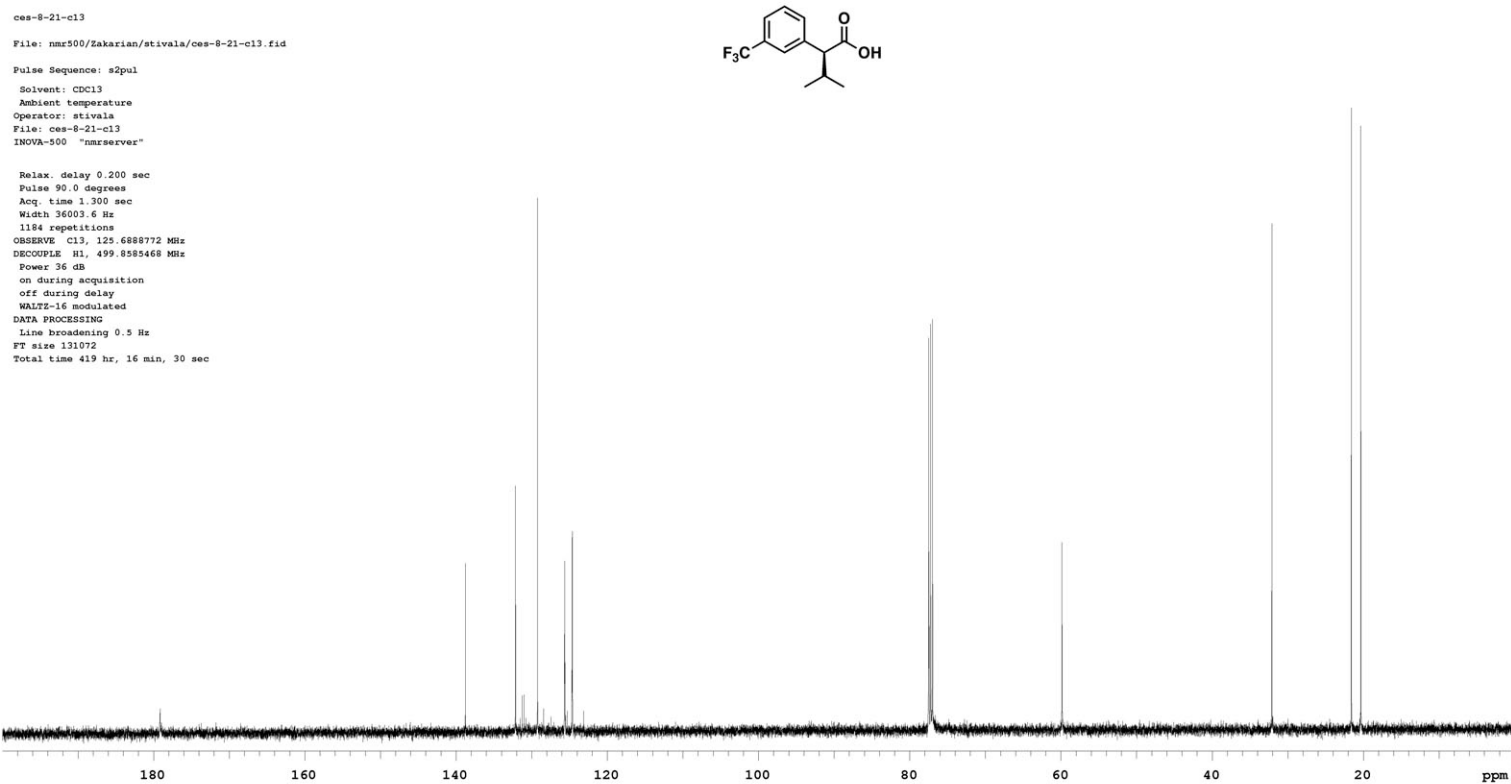
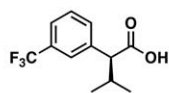
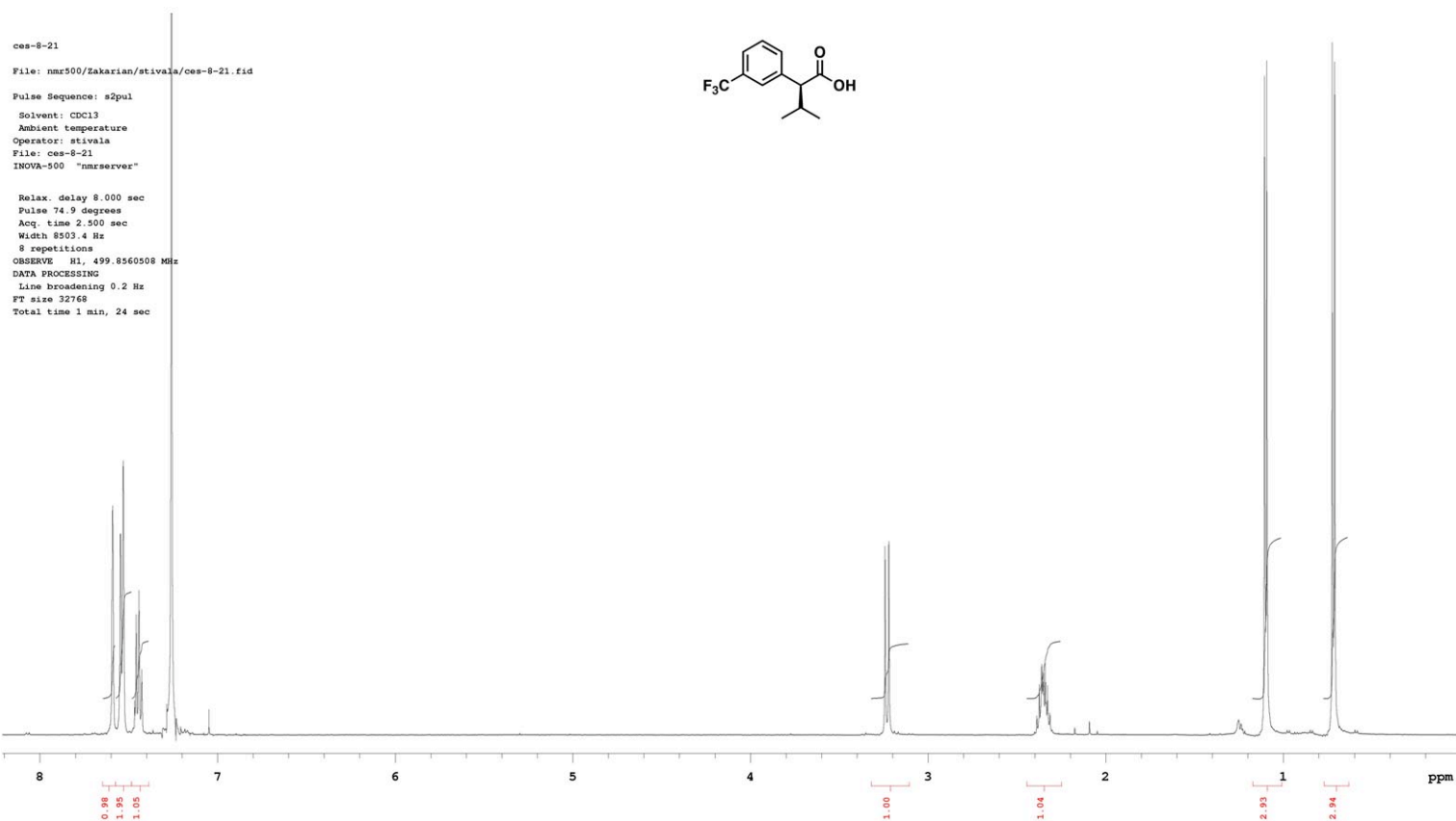


PeakTable

Detector A Ch1 275nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	24.252	144169	2953	49.004	59.165
2	29.269	17036	309	5.791	6.192
3	35.217	132991	1729	45.205	34.642
Total		294196	4991	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-291.lcd



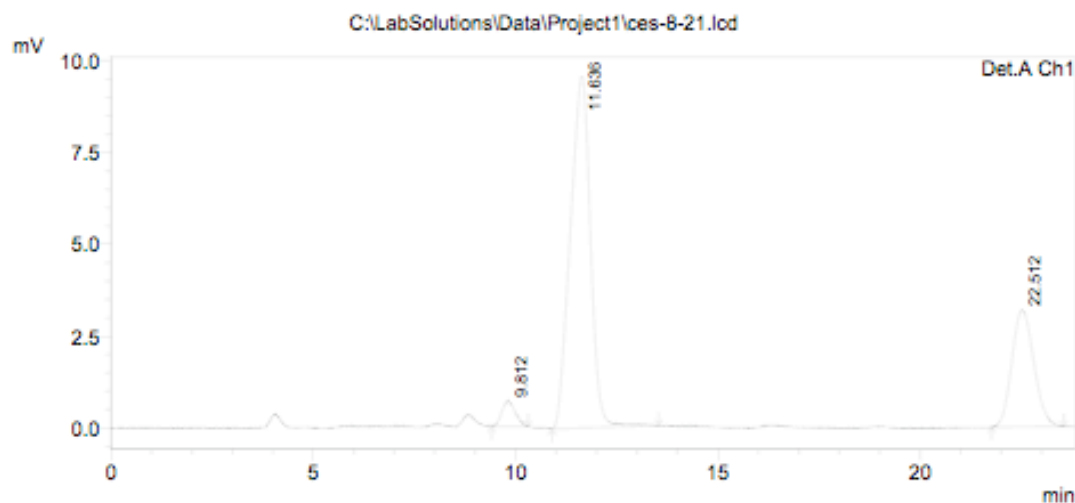
5/27/2011 10:27:15 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-21.lcd

Acquired by : Admin
 Sample Name : ces-8-21
 Sample ID : ces-8-21
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-21.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/31/2011 4:29:30 PM
 Data Processed : 3/31/2011 4:55:07 PM

<Chromatogram>



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	9.812	16039	686	3.432	5.101
2	11.636	331249	9576	70.880	71.241
3	22.512	120048	3180	25.688	23.658
Total		467336	13442	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-21.lcd

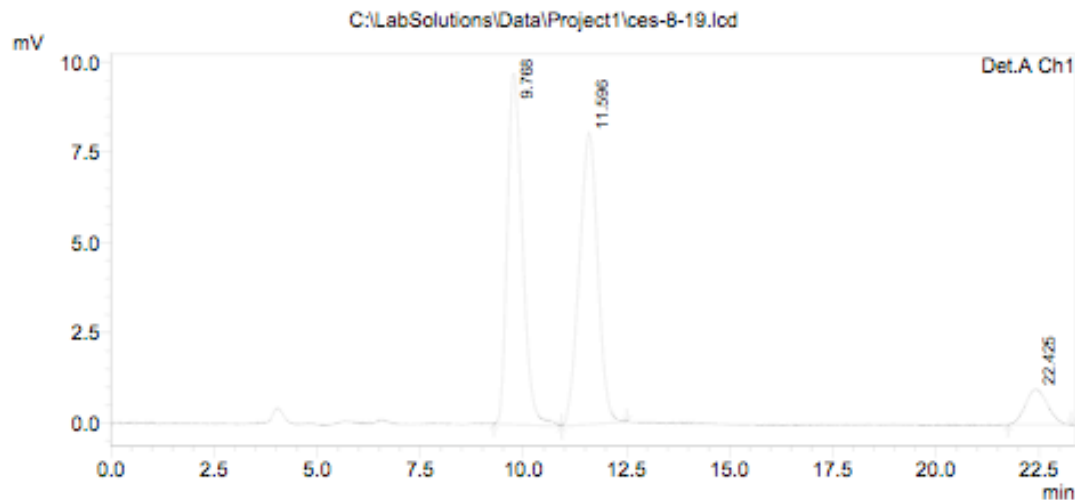
5/27/2011 12:07:18 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-19.lcd

Acquired by : Admin
 Sample Name : ces-8-19
 Sample ID : ces-8-19
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-19.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/30/2011 5:46:16 PM
 Data Processed : 3/30/2011 6:33:33 PM

<Chromatogram>



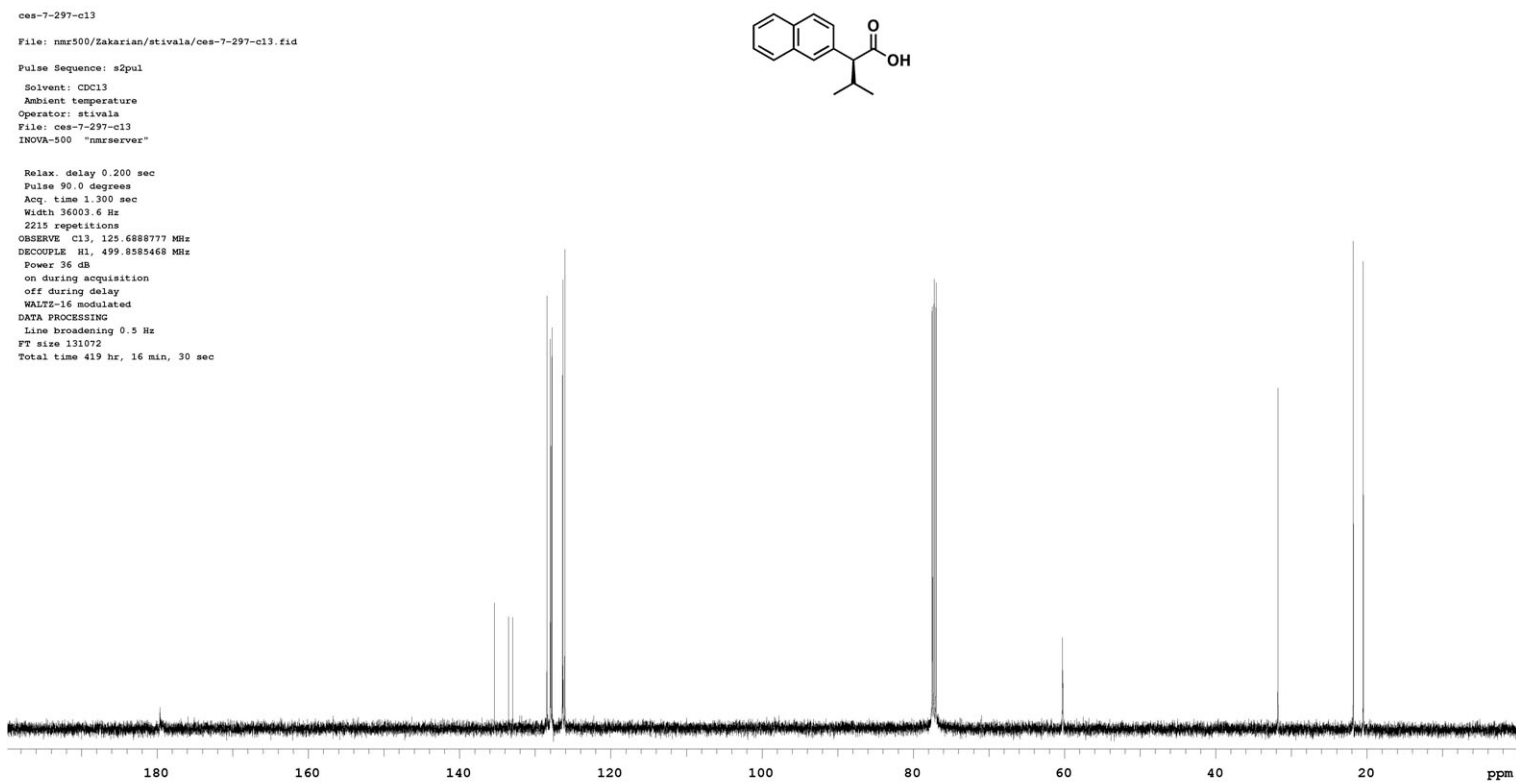
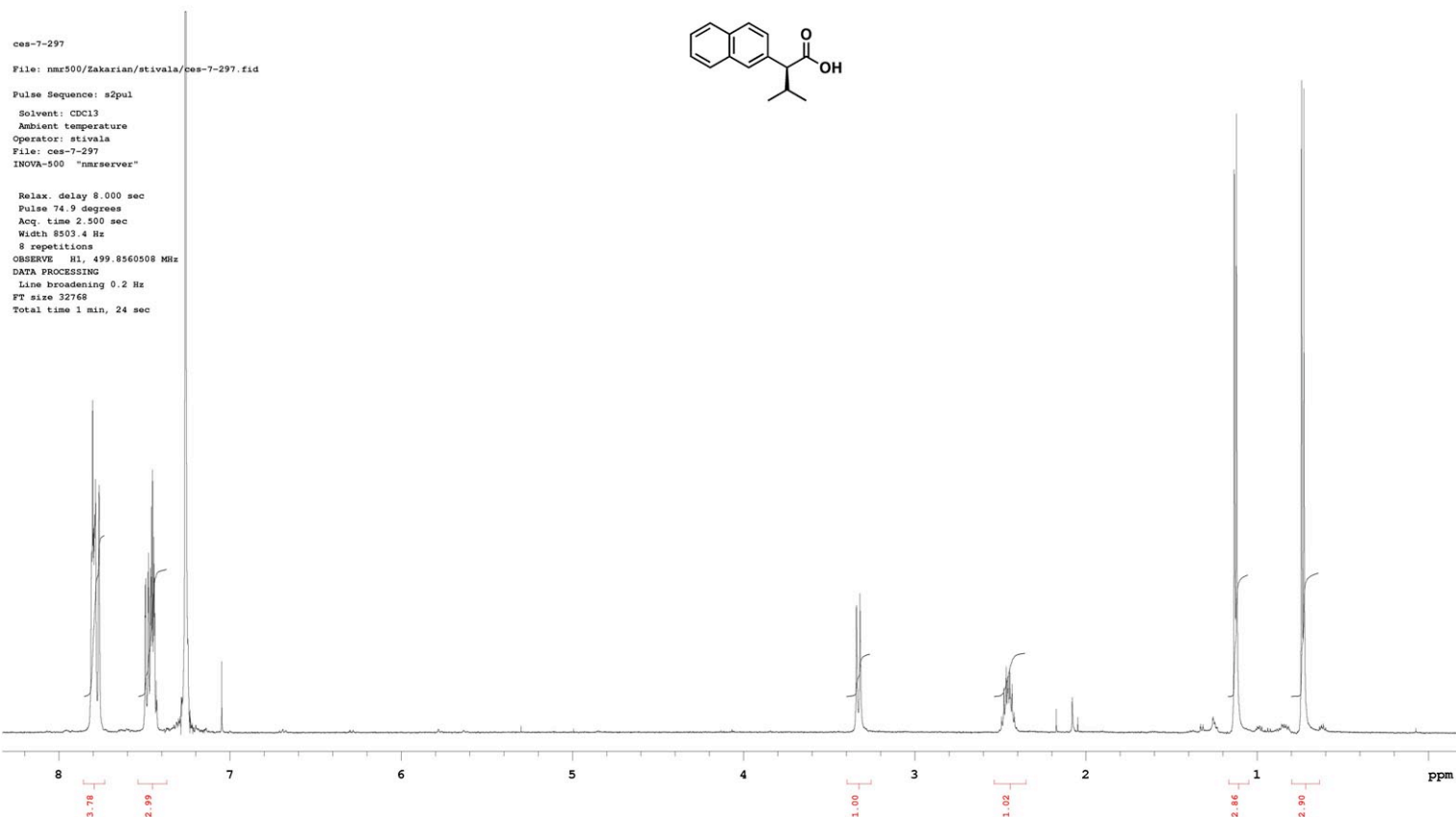
1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	9.768	249285	9735	46.372	51.877
2	11.596	251873	8060	46.854	42.954
3	22.425	36416	970	6.774	5.169
Total		537573	18765	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-19.lcd



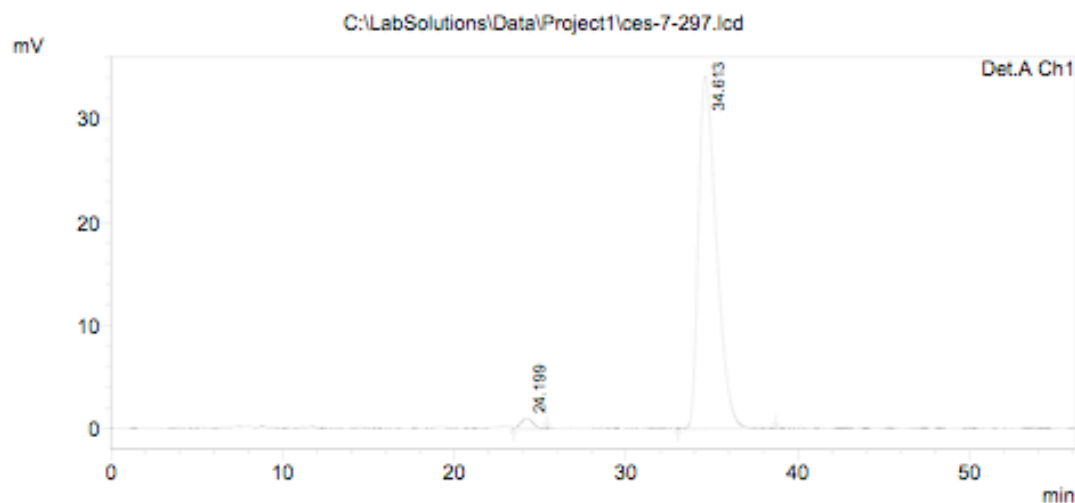
5/27/2011 10:28:05 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-7-297.lcd

Acquired by : Admin
 Sample Name : ces-7-297
 Sample ID : ces-7-297
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-7-297.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/22/2011 7:46:14 PM
 Data Processed : 3/23/2011 10:09:32 AM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	24.199	49009	1029	1.942	2.930
2	34.613	2474098	34107	98.058	97.070
Total		2523106	35137	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-297.lcd

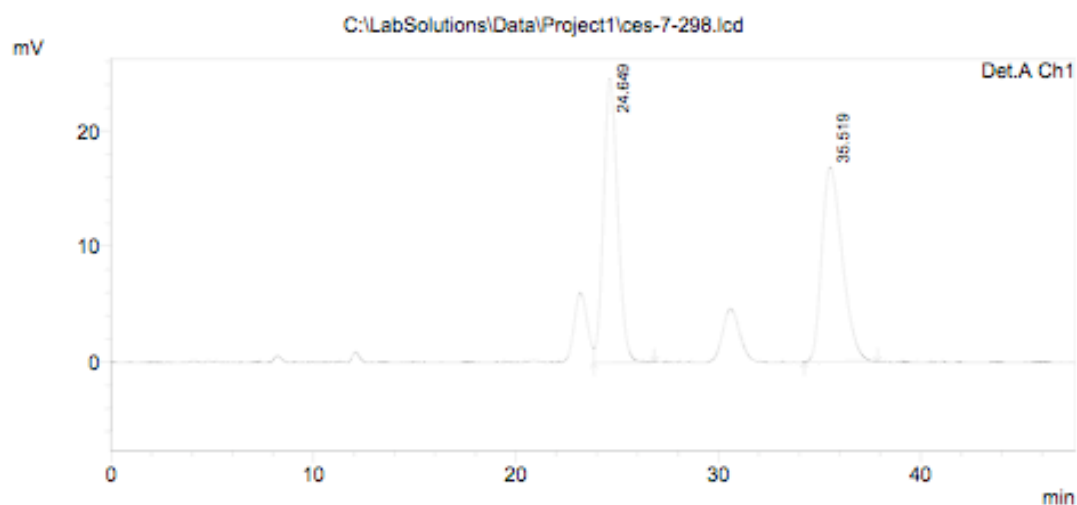
5/27/2011 11:37:21 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-7-298.lcd

Acquired by : Admin
 Sample Name : ces-7-298
 Sample ID : ces-7-298
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-7-298.lcd
 Method File Name : ces-OD-H-analytical.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/23/2011 12:05:08 PM
 Data Processed : 3/23/2011 12:53:54 PM

<Chromatogram>



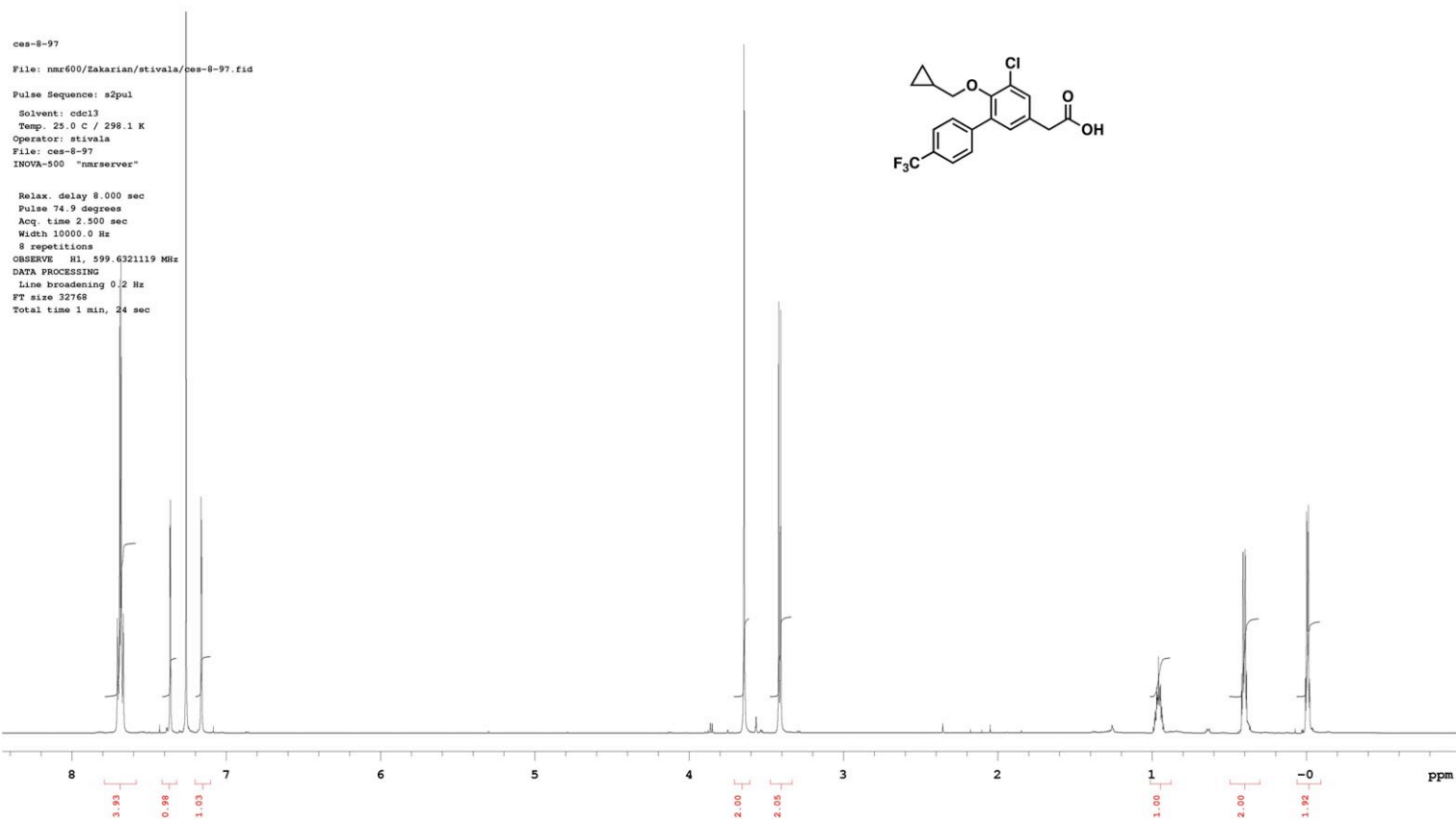
1 Det.A Ch1/215nm

PeakTable

Detector A Ch1 215nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	24.649	1199222	24588	50.234	59.361
2	35.519	1188031	16833	49.766	40.639
Total		2387253	41422	100.000	100.000

C:\LabSolutions\Data\Project1\ces-7-298.lcd



ces-8-97-cl3

Sample: 1. Indanone

File: nmr600/Zakarian/stivala/ces-8-97-cl3.fid

Pulse Sequence: s2pul

Solvent: cdcl3

Temp. 25.0 C / 298.1 K

Operator: stivala

File: ces-8-97-cl3

INOVA-500 "nmrserver"

Relax. delay 1.000 sec

Pulse 10.0 usec

Acq. time 1.298 sec

Width 36231.9 Hz

791 repetitions

OBSERVE C13, 150.775798 MHz

DECOUPLE H1, 599.6381203 MHz

Power 34 dB

continuously on

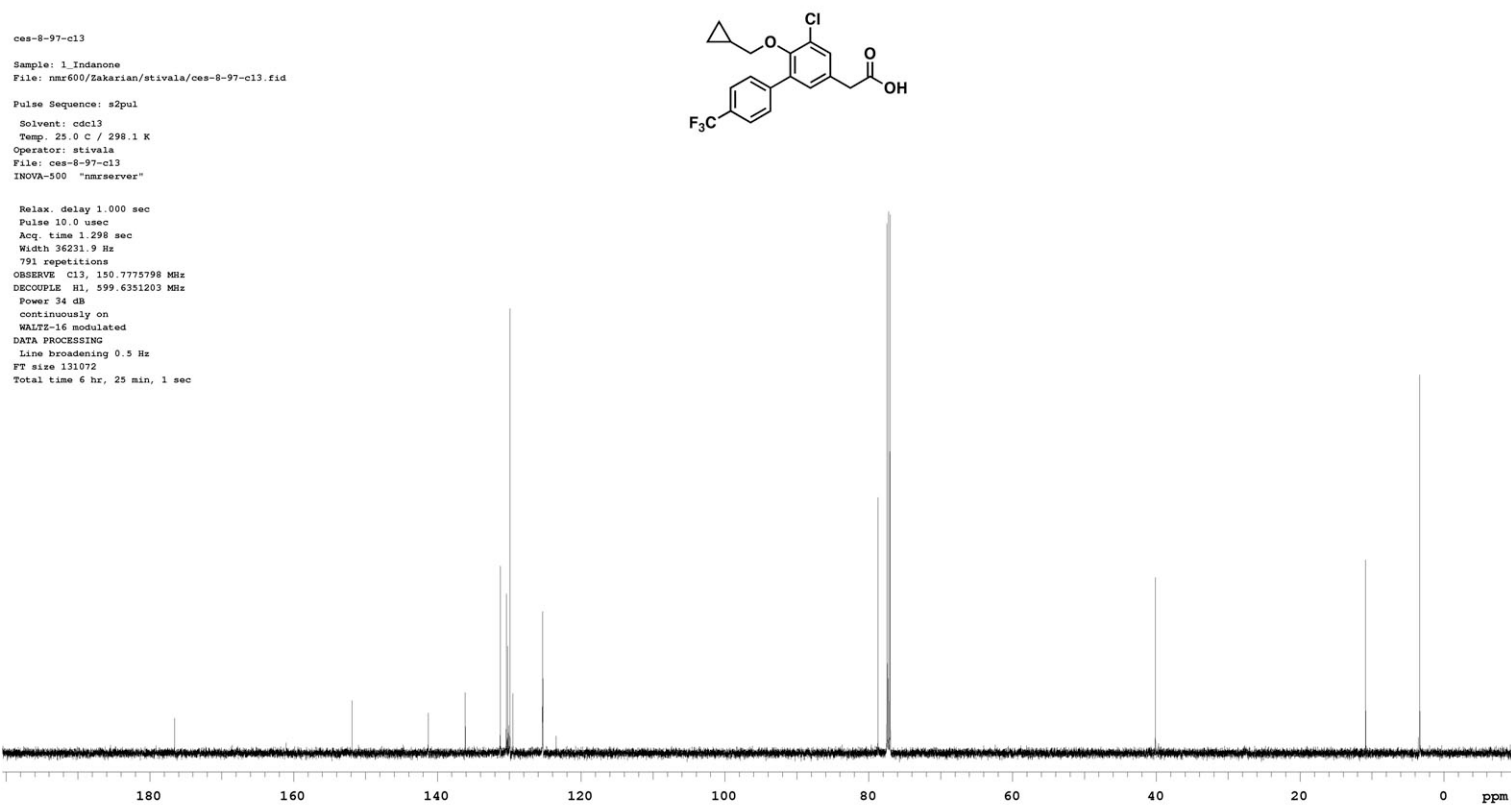
WALTZ-16 modulated

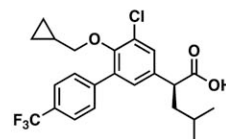
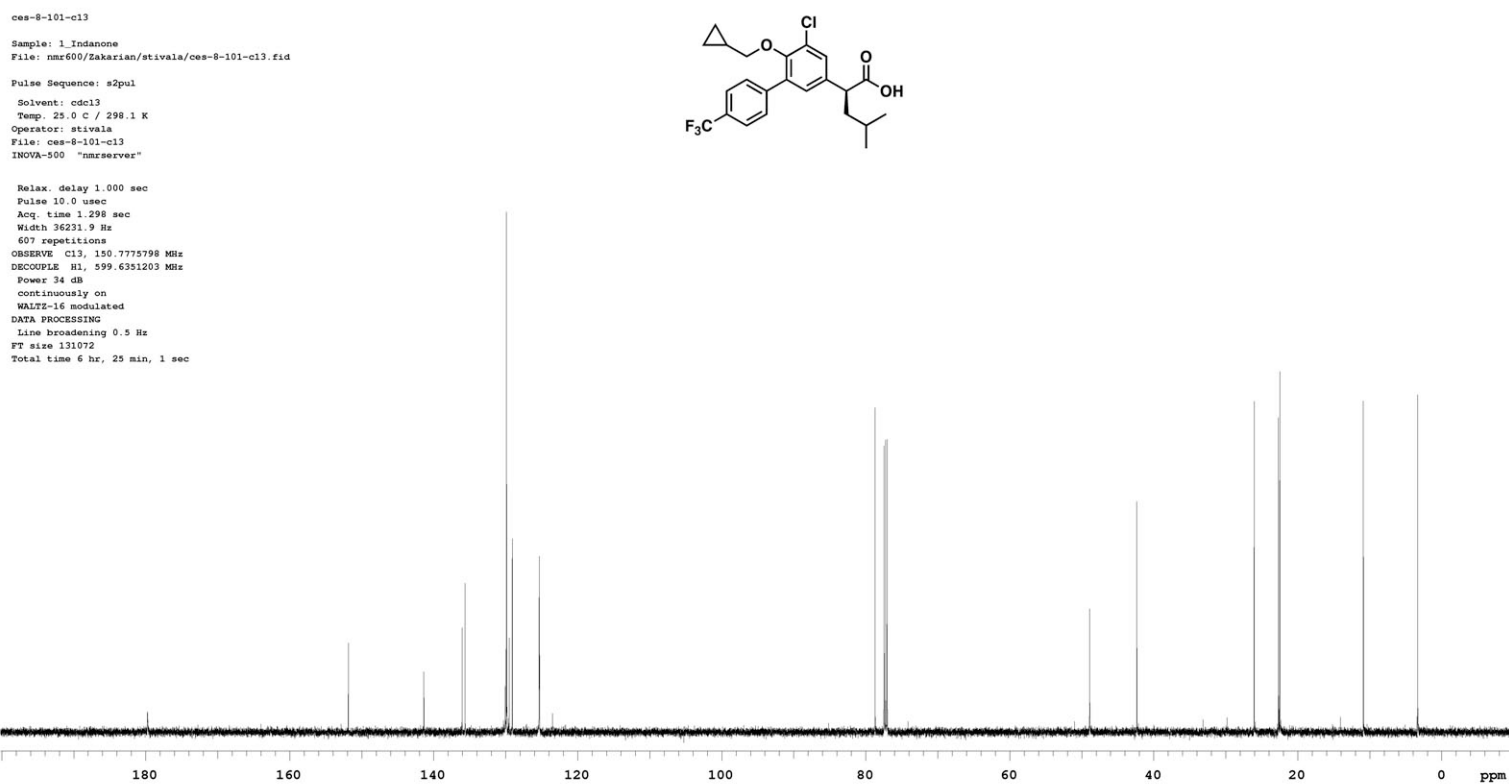
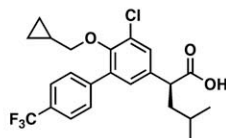
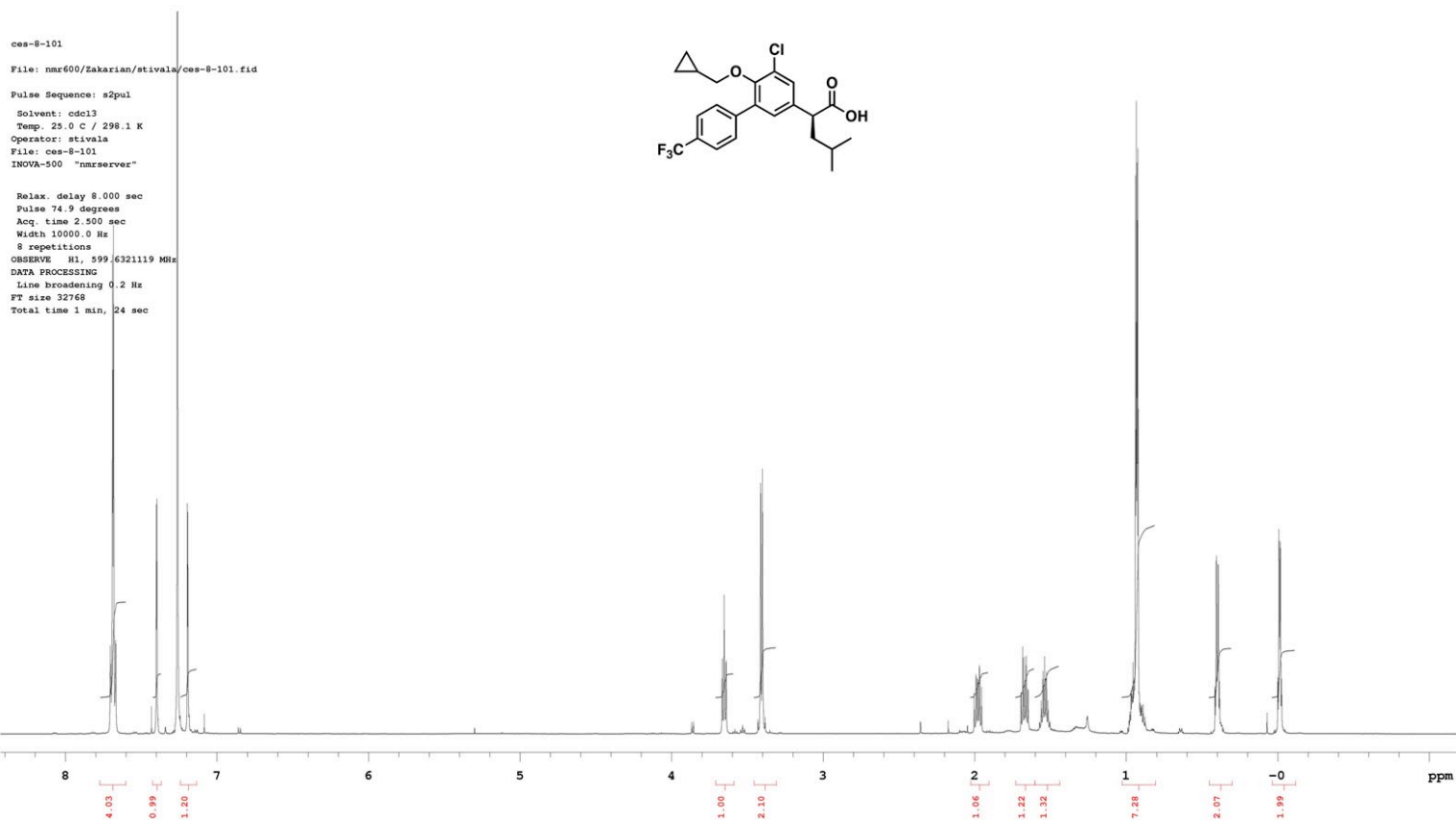
DATA PROCESSING

Line broadening 0.5 Hz

FT size 131072

Total time 6 hr, 25 min, 1 sec





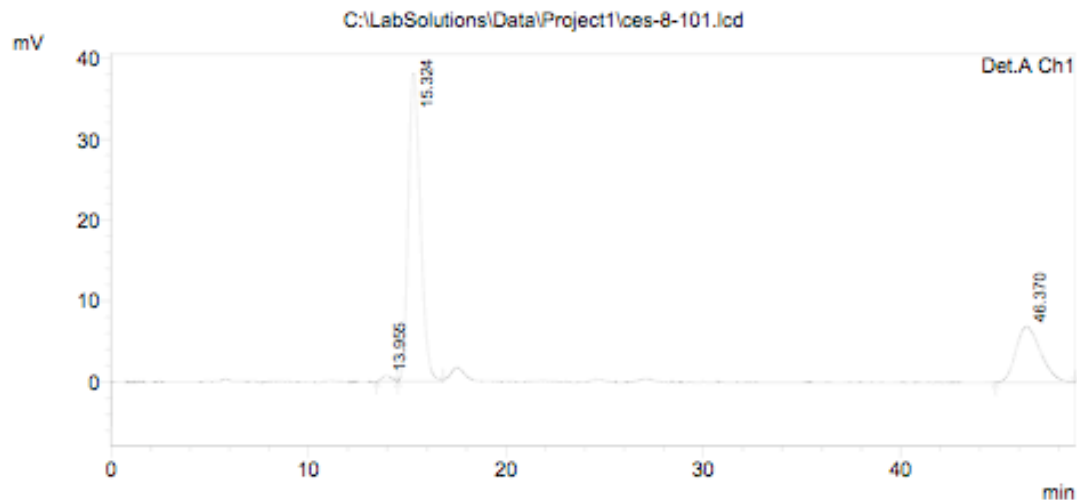
5/27/2011 10:30:11 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-101.lcd

Acquired by : Admin
 Sample Name : ces-8-101
 Sample ID : ces-8-101
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-101.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/4/2011 10:15:59 AM
 Data Processed : 5/4/2011 4:22:11 PM

<Chromatogram>



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	13.955	26619	733	1.174	1.604
2	15.324	1635977	38090	72.145	83.315
3	46.370	605032	6895	26.681	15.082
Total		2267628	45718	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-101.lcd

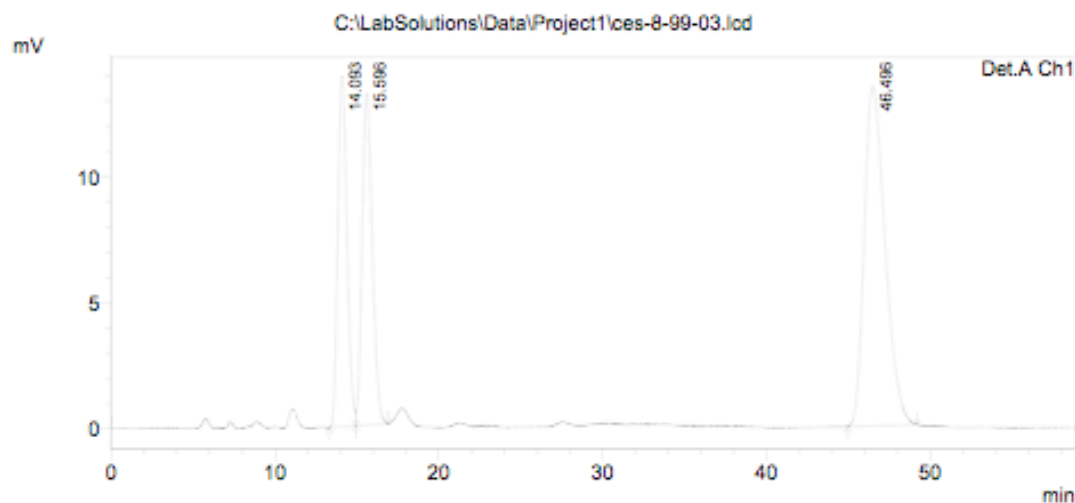
5/27/2011 12:08:15 1 / 1

==== Shimadzu LCsolution Analysis Report ====

C:\LabSolutions\Data\Project1\ces-8-99-03.lcd

Acquired by : Admin
 Sample Name : ces-8-99-2
 Sample ID : ces-8-99-2
 Vial # :
 Injection Volume : 20 uL
 Data File Name : ces-8-99-03.lcd
 Method File Name : ces-OD-H-analytical 0.46cm x 25cm.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/3/2011 2:30:16 PM
 Data Processed : 5/3/2011 5:20:28 PM

<Chromatogram>



1 Det.A Ch1/215nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	14.093	536686	13875	23.380	34.304
2	15.596	567405	13133	24.718	32.468
3	46.496	1191417	13440	51.902	33.228
Total		2295508	40448	100.000	100.000

C:\LabSolutions\Data\Project1\ces-8-99-03.lcd