

Enantioselective Alkylation of 2-Alkyl Pyridines Controlled by Organolithium Aggregation

Joshua J. Gladfelder,[†] Santanu Ghosh,[†] Maša Podunavac,[†] Andrew W. Cook,[†] Yun Ma,[†] Ryan A. Woltornist,[‡] Ivan Keresztes,[‡] Trevor W. Hayton,^{*,†} David B. Collum,^{*,‡} Armen Zakarian^{*,†}

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

[‡]Department of Chemistry and Chemical Biology, Cornell University, Ithaca, New York 14853, United States

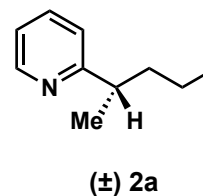
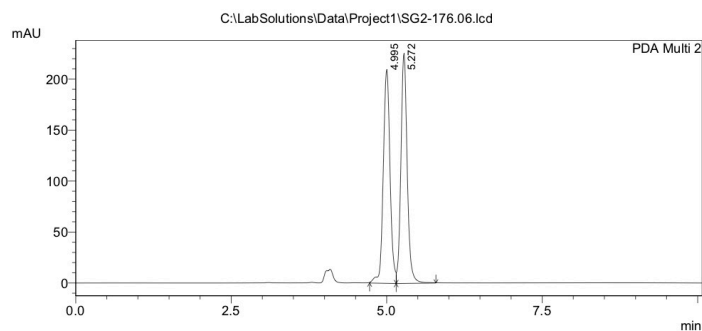
Supplementary Information III

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

2/3/2018 16:24:07 1 / 1

C:\LabSolutions\Data\Project1\SG2-176.06.lcd
 Acquired by : Josh G
 Sample Name : SG2-176
 Sample ID : SG2-176
 Vial # :
 Injection Volume : 10 uL
 Data File Name : SG2-176.06.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 2/3/2018 4:12:44 PM
 Data Processed : 2/3/2018 4:22:49 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

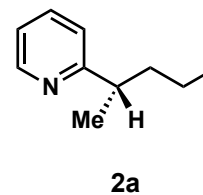
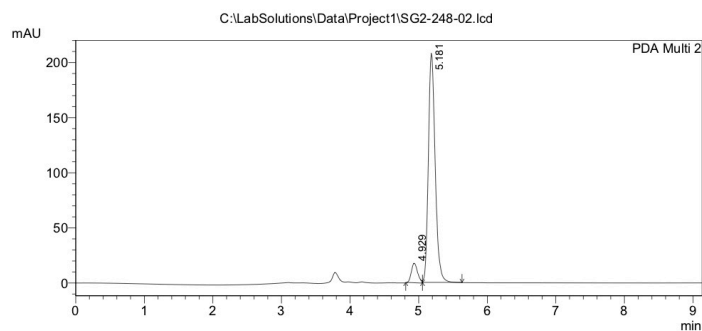
PeakTable						
Peak#	Ret. Time	Area	Height	Area %	Height %	
1	4.995	1588871	209816	50.013	48.160	
2	5.272	1588066	225849	49.987	51.840	
Total		3176937	435665	100.000	100.000	

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

4/4/2018 17:33:49 1 / 1

C:\LabSolutions\Data\Project1\SG2-248-02.lcd
 Acquired by : Kai Yu
 Sample Name : SG2-248
 Sample ID : SG2-248
 Vial # :
 Injection Volume : 10 uL
 Data File Name : SG2-248-02.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/4/2018 5:22:27 PM
 Data Processed : 4/4/2018 5:31:36 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

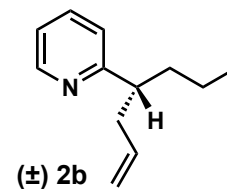
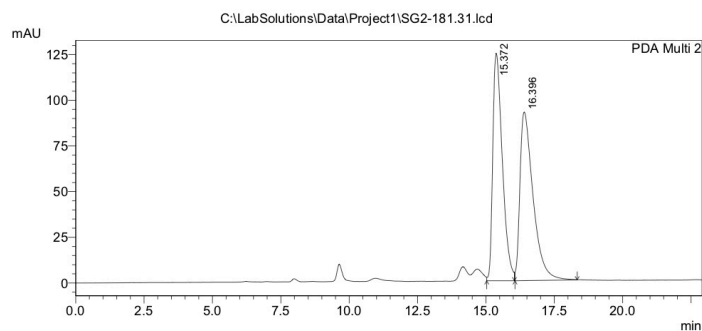
PeakTable						
Peak#	Ret. Time	Area	Height	Area %	Height %	
1	4.929	112657	17648	7.321	7.825	
2	5.181	1426247	207871	92.679	92.175	
Total		1538904	225519	100.000	100.000	

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

4/5/2018 14:48:33 1 / 1

C:\LabSolutions\Data\Project1\SG2-181.31.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-181
 Sample ID : SG2-181
 Vail # :
 Injection Volume : 10 uL
 Data File Name : SG2-181.31.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/5/2018 2:24:34 PM
 Data Processed : 4/5/2018 2:47:30 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

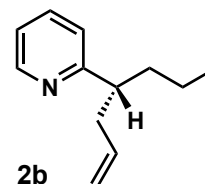
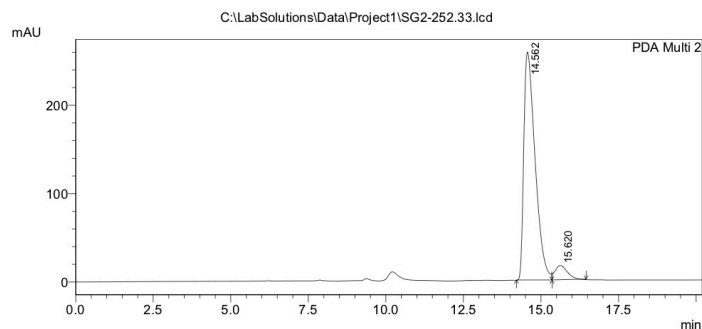
Peak#	Ret. Time	Area	Height	Area %	Height %
1	15.372	3028218	124566	49.512	57.425
2	16.396	3087855	92354	50.488	42.575
Total		6116074	216919	100.000	100.000

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

4/5/2018 16:45:26 1 / 1

C:\LabSolutions\Data\Project1\SG2-252.33.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-252
 Sample ID : SG2-252
 Vail # :
 Injection Volume : 10 uL
 Data File Name : SG2-252.33.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/5/2018 4:23:40 PM
 Data Processed : 4/5/2018 4:43:54 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

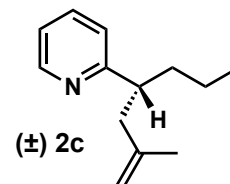
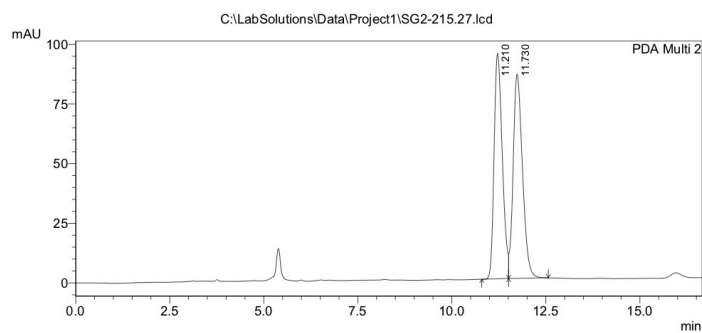
Peak#	Ret. Time	Area	Height	Area %	Height %
1	14.562	6520699	257812	93.714	94.085
2	15.620	437990	16209	6.286	5.915
Total		6967689	274021	100.000	100.000

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

3/30/2018 16:57:02 1 / 1

C:\LabSolutions\Data\Project1\SG2-215.27.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-215
 Sample ID : SG2-215
 Vial # :
 Injection Volume : 10 uL
 Data File Name : SG2-215.27.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/30/2018 4:39:24 PM
 Data Processed : 3/30/2018 4:56:04 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

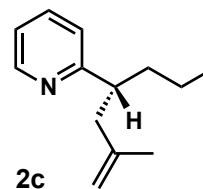
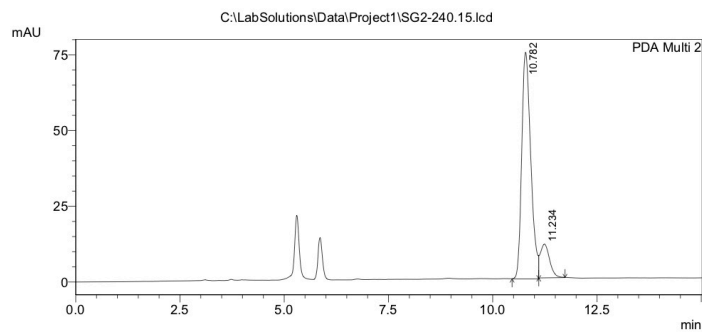
Peak#	Ret. Time	Area	Height	Area %	Height %
1	11.210	1431254	94335	49.300	52.434
2	11.730	1471899	85576	50.700	47.566
Total		2903153	179911	100.000	100.000

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

4/7/2018 14:18:46 1 / 1

C:\LabSolutions\Data\Project1\SG2-240.15.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-240
 Sample ID : SG2-240
 Vial # :
 Injection Volume : 10 uL
 Data File Name : SG2-240.15.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/24/2018 4:26:48 PM
 Data Processed : 3/24/2018 4:41:51 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

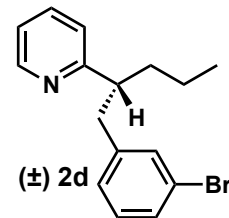
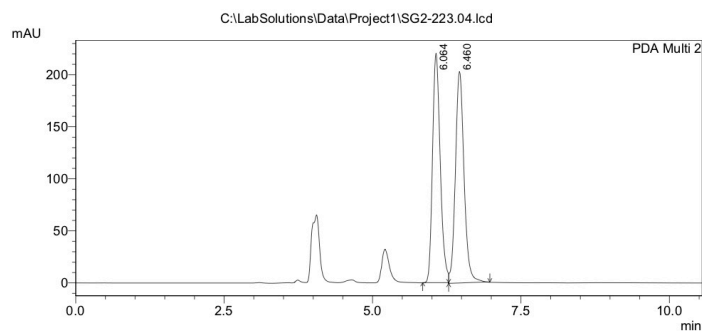
Peak#	Ret. Time	Area	Height	Area %	Height %
1	10.782	1132190	74832	86.857	87.081
2	11.234	171325	11102	13.143	12.919
Total		1303515	85934	100.000	100.000

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

3/10/2018 15:33:40 1 / 1

C:\LabSolutions\Data\Project1\SG2-223.04.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-223
 Sample ID : SG2-223
 Vail # :
 Injection Volume : 10 uL
 Data File Name : SG2-223.04.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name :
 Data Acquired : 3/10/2018 1:39:26 PM
 Data Processed : 3/10/2018 1:50:37 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

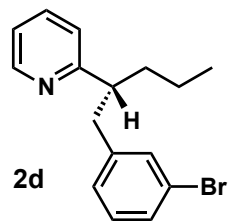
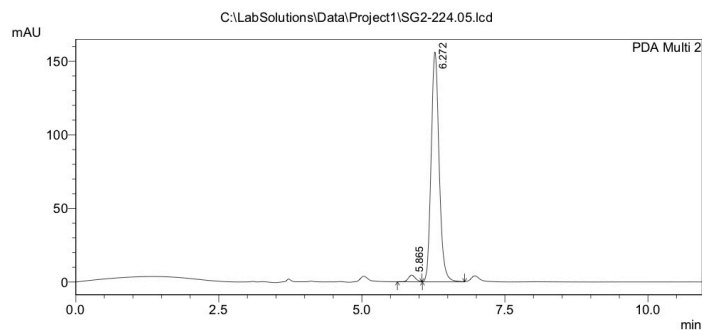
Peak#	Ret. Time	Area	Height	Area %	Height %
1	6.064	1990731	220388	49.216	52.029
2	6.460	2054177	203199	50.784	47.971
Total		4044908	423587	100.000	100.000

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

3/10/2018 15:45:00 1 / 1

C:\LabSolutions\Data\Project1\SG2-224.05.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-224
 Sample ID : SG2-224
 Vail # :
 Injection Volume : 10 uL
 Data File Name : SG2-224.05.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/10/2018 3:32:20 PM
 Data Processed : 3/10/2018 3:43:18 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	5.865	39625	4571	2.544	2.845
2	6.272	1518105	156075	97.456	97.155
Total		1557730	160646	100.000	100.000

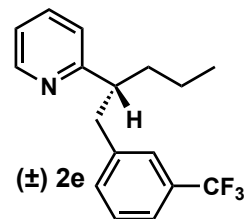
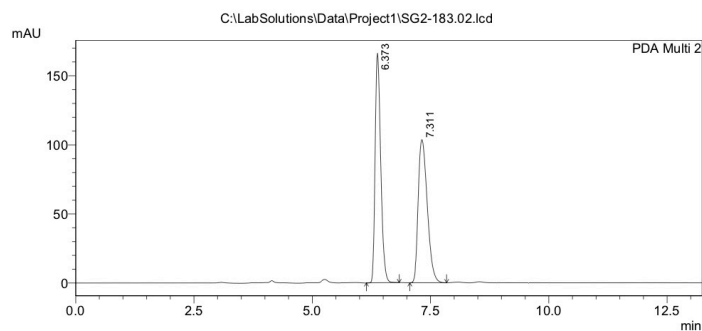
C:\LabSolutions\Data\Project1\SG2-224.05.lcd

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

2/9/2018 09:45:58 1 / 1

C:\LabSolutions\Data\Project1\SG2-183.02.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-183
 Sample ID : SG2-183
 Vial # :
 Injection Volume : 10 uL
 Data File Name : SG2-183.02.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 2/9/2018 9:31:48 AM
 Data Processed : 2/9/2018 9:45:02 AM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

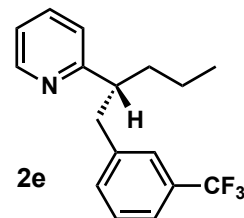
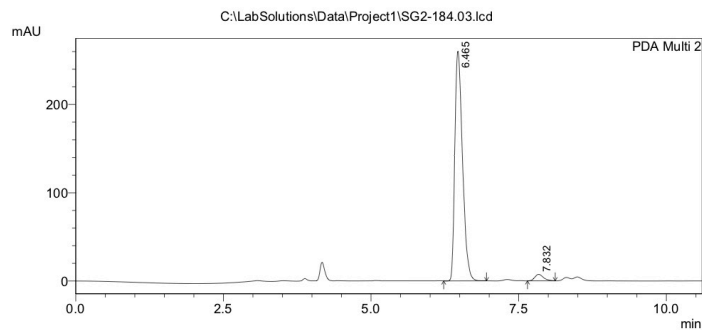
PeakTable					
Peak#	Ret. Time	Area	Height	Area %	Height %
1	6.373	1362861	166173	49.696	61.581
2	7.311	1379516	103673	50.304	38.419
Total		2742377	269846	100.000	100.000

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

2/9/2018 10:00:33 1 / 1

C:\LabSolutions\Data\Project1\SG2-184.03.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-184
 Sample ID : SG2-184
 Vial # :
 Injection Volume : 10 uL
 Data File Name : SG2-184.03.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 2/9/2018 9:47:45 AM
 Data Processed : 2/9/2018 9:58:23 AM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable					
Peak#	Ret. Time	Area	Height	Area %	Height %
1	6.465	2349371	260317	96.937	97.264
2	7.832	74238	7323	3.063	2.736
Total		2423609	267641	100.000	100.000

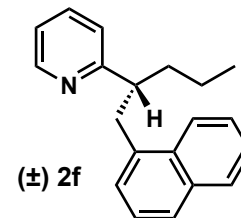
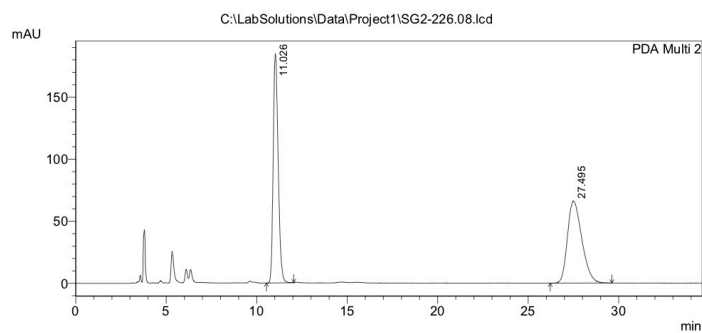
C:\LabSolutions\Data\Project1\SG2-184.03.lcd

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

3/17/2018 17:31:19 1 / 1

C:\LabSolutions\Data\Project1\SG2-226.08.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-226
 Sample ID : SG2-226
 Vial # :
 Injection Volume : 10 uL
 Data File Name : SG2-226.08.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/17/2018 4:55:20 PM
 Data Processed : 3/17/2018 5:29:58 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

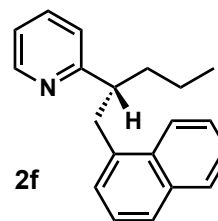
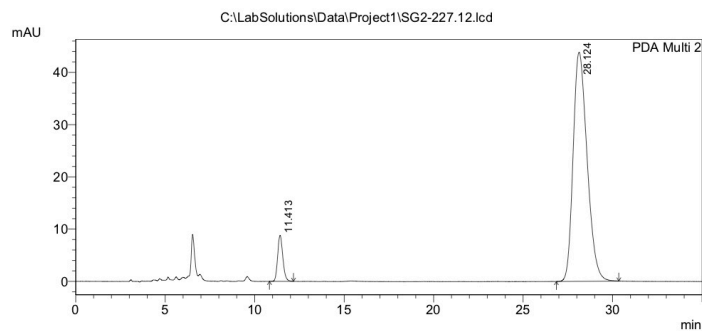
Peak#	Ret. Time	Area	Height	Area %	Height %
1	11.026	3505920	184599	48.974	73.623
2	27.495	3652771	66137	51.026	26.377
Total		7158690	250736	100.000	100.000

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

3/23/2018 12:17:35 1 / 1

C:\LabSolutions\Data\Project1\SG2-227.12.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-227
 Sample ID : SG2-227
 Vial # :
 Injection Volume : 10 uL
 Data File Name : SG2-227.12.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/23/2018 11:41:11 AM
 Data Processed : 3/23/2018 12:16:13 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	11.413	177646	8822	6.946	16.745
2	28.124	2379850	43863	93.054	83.255
Total		2557496	52685	100.000	100.000

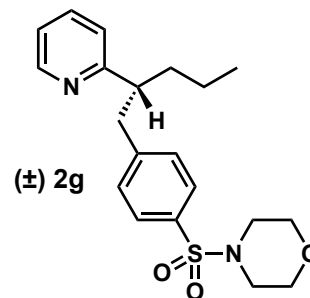
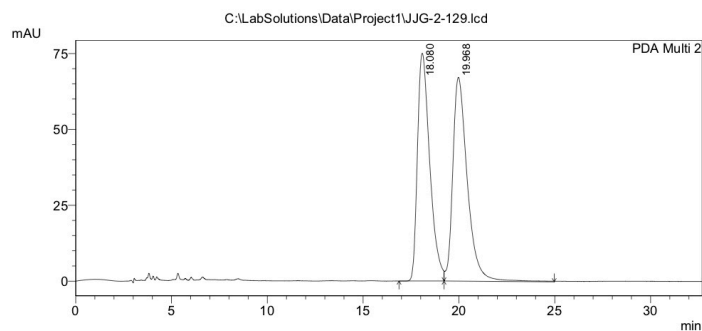
C:\LabSolutions\Data\Project1\SG2-227.12.lcd

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

4/24/2018 14:30:30 1 / 1

Acquired by : Josh G
 Sample Name : JJG-2-129
 Sample ID : JJG-2-129
 Vail # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-129.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/24/2018 1:56:55 PM
 Data Processed : 4/24/2018 2:29:38 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

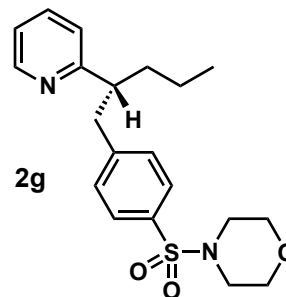
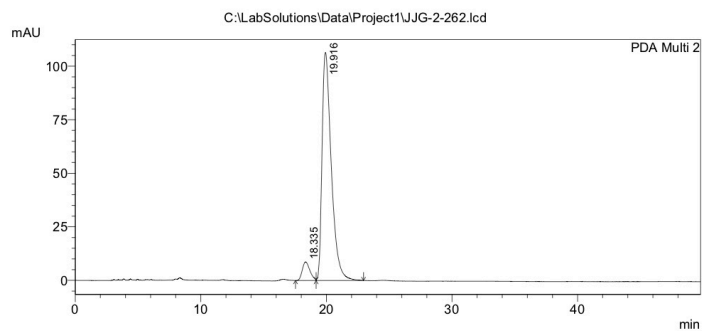
Peak#	Ret. Time	Area	Height	Area %	Height %
1	18.080	3330233	75036	48.425	52.797
2	19.968	3546855	67087	51.575	47.203
Total		6877088	142123	100.000	100.000

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

7/26/2018 16:18:30 1 / 1

Acquired by : Josh G
 Sample Name : JJG-2-262
 Sample ID : JJG-2-262
 Vail # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-262.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 7/26/2018 3:27:47 PM
 Data Processed : 7/26/2018 4:17:37 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	18.335	363766	8688	6.266	7.541
2	19.916	5441395	106517	93.734	92.459
Total		5805161	115205	100.000	100.000

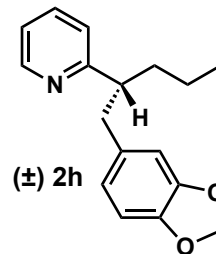
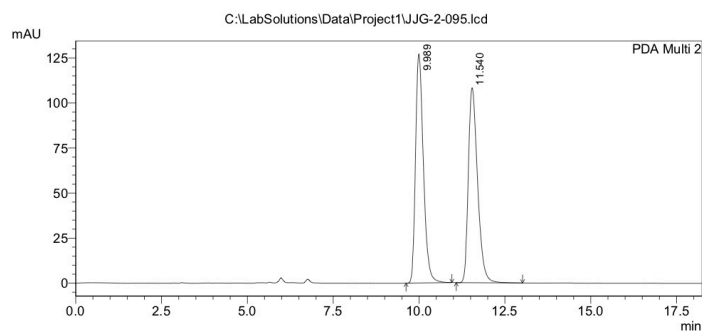
C:\LabSolutions\Data\Project1\JJG-2-262.lcd

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

4/7/2018 16:53:16 1 / 1

C:\LabSolutions\Data\Project1\JJG-2-095.lcd
 Acquired by : Josh G
 Sample Name : JJG-2-095
 Sample ID : JJG-2-095
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-095.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/7/2018 4:33:38 PM
 Data Processed : 4/7/2018 4:51:55 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

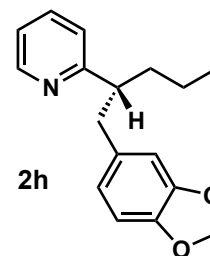
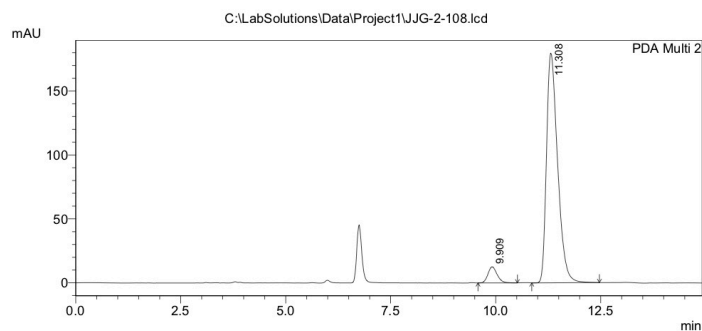
Peak#	Ret. Time	Area	Height	Area %	Height %
1	9.889	2021870	127213	50.002	54.045
2	11.540	2021739	108170	49.998	45.955
Total		4043609	235383	100.000	100.000

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

4/7/2018 17:14:03 1 / 1

C:\LabSolutions\Data\Project1\JJG-2-108.lcd
 Acquired by : Josh G
 Sample Name : JJG-2-108
 Sample ID : JJG-2-108
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-108.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/7/2018 4:58:05 PM
 Data Processed : 4/7/2018 5:13:00 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

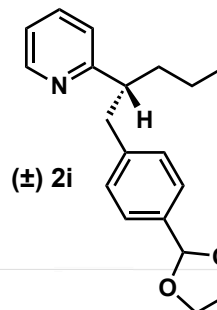
Peak#	Ret. Time	Area	Height	Area %	Height %
1	9.909	191796	12585	5.488	6.547
2	11.308	3303083	179629	94.512	93.453
Total		3494879	192214	100.000	100.000

C:\LabSolutions\Data\Project1\JJG-2-108.lcd

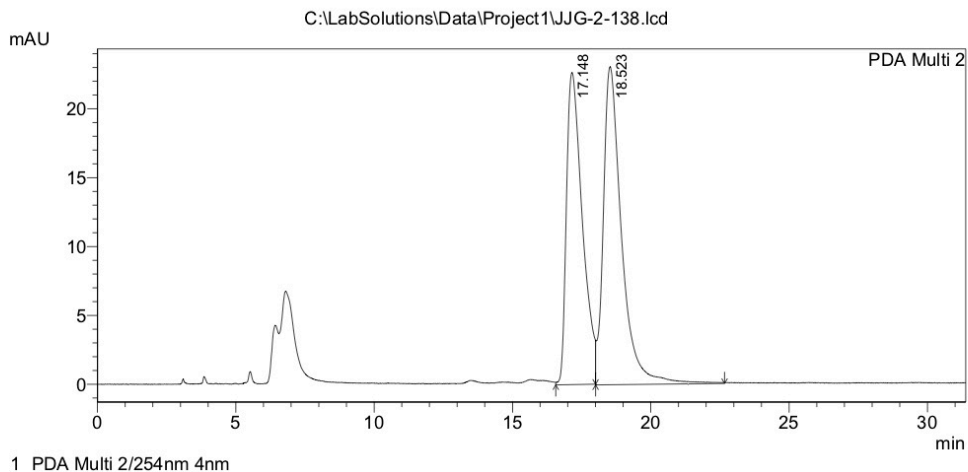
==== Shimadzu LCsolution Analysis Report ====

Acquired by : Josh G
 Sample Name : JJG-2-138
 Sample ID : JJG-2-138
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-138.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/28/2018 1:35:57 PM
 Data Processed : 4/28/2018 2:07:22 PM

C:\LabSolutions\Data\Project1\JJG-2-138.lcd



<Chromatogram>



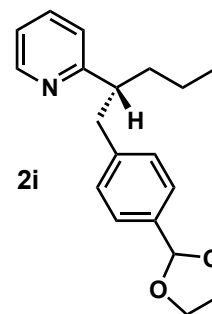
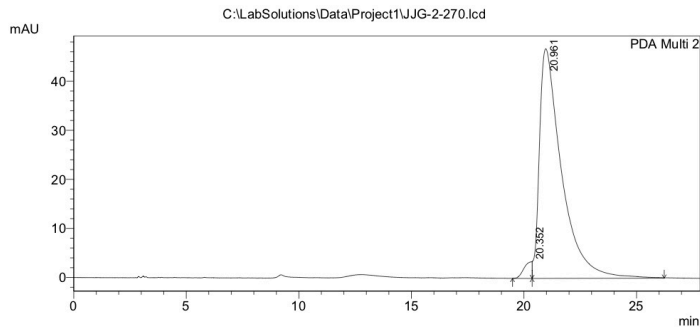
==== Shimadzu LCsolution Analysis Report ====

8/1/2018 10:53:43 1 / 1

Acquired by : Josh G
 Sample Name : JJG-2-270
 Sample ID : JJG-2-270
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-270.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 8/1/2018 10:24:57 AM
 Data Processed : 8/1/2018 10:52:47 AM

C:\LabSolutions\Data\Project1\JJG-2-270.lcd

<Chromatogram>



PeakTable

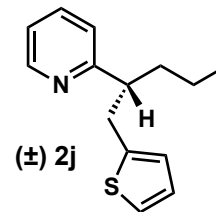
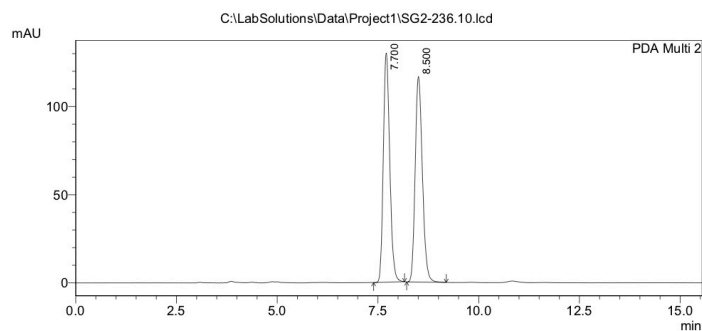
Peak#	Ret. Time	Area	Height	Area %	Height %
1	20.352	84979	3425	2.582	6.816
2	20.961	3206857	46827	97.418	93.184
Total		3291836	50252	100.000	100.000

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

3/23/2018 11:12:20 1 / 1

C:\LabSolutions\Data\Project1\SG2-236.10.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-236
 Sample ID : SG2-236
 Vail # :
 Injection Volume : 10 uL
 Data File Name : SG2-236.10.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/23/2018 10:55:47 AM
 Data Processed : 3/23/2018 11:11:21 AM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

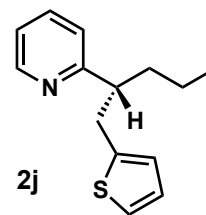
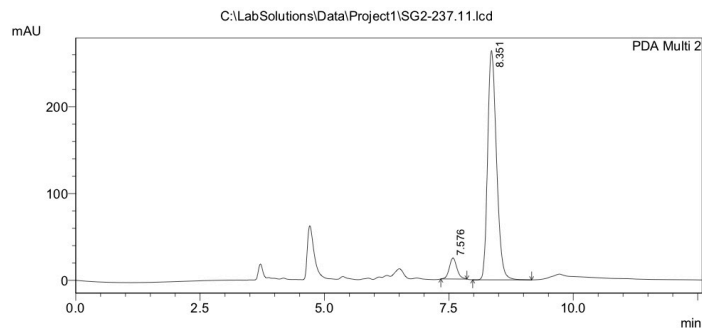
Peak#	Ret. Time	Area	Height	Area %	Height %
1	7.700	1440472	129872	49.842	52.700
2	8.500	1449619	116564	50.158	47.300
Total		2890091	246436	100.000	100.000

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

3/23/2018 11:29:39 1 / 1

C:\LabSolutions\Data\Project1\SG2-237.11.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-237
 Sample ID : SG2-237
 Vail # :
 Injection Volume : 10 uL
 Data File Name : SG2-237.11.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/23/2018 11:13:55 AM
 Data Processed : 3/23/2018 11:26:30 AM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	7.576	256976	24121	7.289	8.377
2	8.351	3268728	263818	92.711	91.623
Total		3525704	287940	100.000	100.000

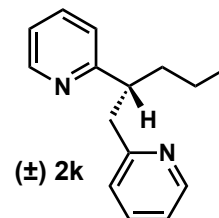
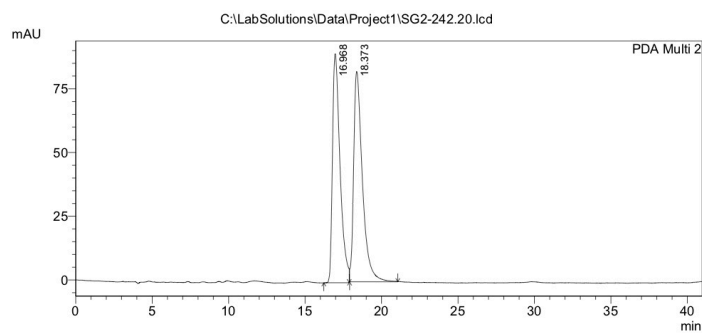
C:\LabSolutions\Data\Project1\SG2-237.11.lcd

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

3/26/2018 16:07:09 1 / 1

C:\LabSolutions\Data\Project1\SG2-242.20.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-242
 Sample ID : SG2-242
 Vial # :
 Injection Volume : 10 uL
 Data File Name : SG2-242.20.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/26/2018 3:25:06 PM
 Data Processed : 3/26/2018 4:06:05 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

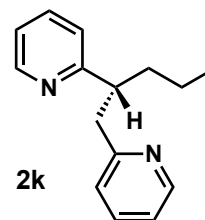
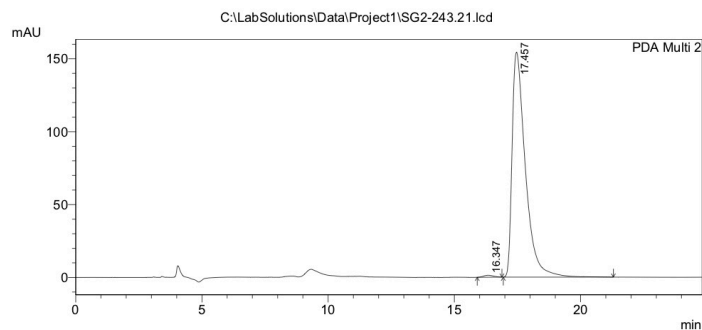
Peak#	Ret. Time	Area	Height	Area %	Height %
1	16.968	3076123	89835	48.312	52.117
2	18.373	3291080	82536	51.688	47.883
Total		6367204	172371	100.000	100.000

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

3/26/2018 17:19:01 1 / 1

C:\LabSolutions\Data\Project1\SG2-243.21.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-243
 Sample ID : SG2-243
 Vial # :
 Injection Volume : 10 uL
 Data File Name : SG2-243.21.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/26/2018 4:52:41 PM
 Data Processed : 3/26/2018 5:17:32 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	16.347	37093	1364	0.654	0.876
2	17.457	5633880	154320	99.346	99.124
Total		5670973	155684	100.000	100.000

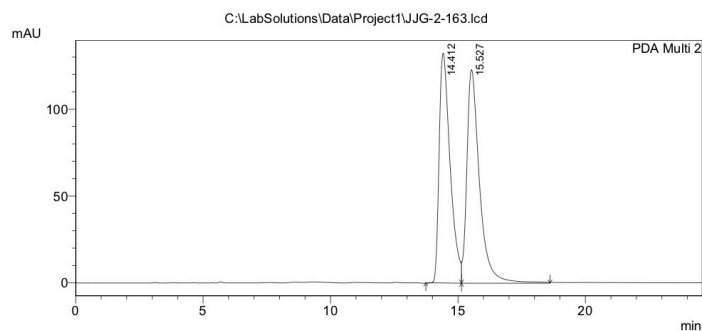
C:\LabSolutions\Data\Project1\SG2-243.21.lcd

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

5/16/2018 10:07:07 1 / 1

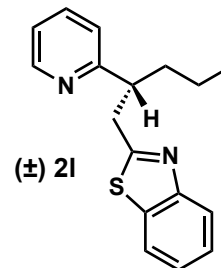
Acquired by : Josh G
 Sample Name : JJG-2-163
 Sample ID : JJG-2-163
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-163.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/16/2018 9:41:38 AM
 Data Processed : 5/16/2018 10:06:14 AM

<Chromatogram>



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	14.412	3949521	132246	48.107	51.833
2	15.527	4260394	122893	51.893	48.167
Total		8209916	255139	100.000	100.000

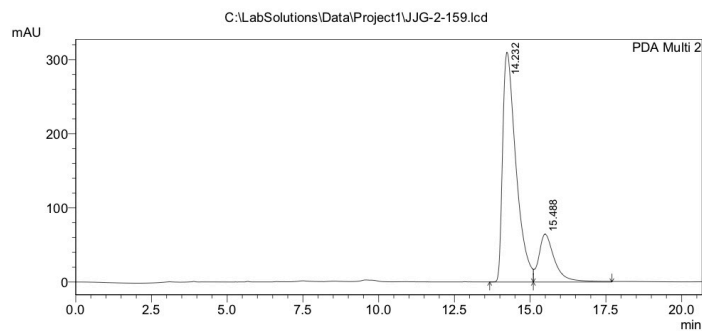


==== Shimadzu LCsolution Analysis Report ====

5/16/2018 10:30:37 1 / 1

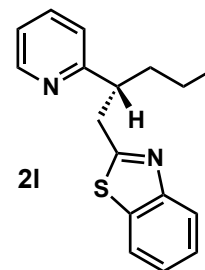
Acquired by : Josh G
 Sample Name : JJG-2-159
 Sample ID : JJG-2-159
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-159.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 5/16/2018 10:09:03 AM
 Data Processed : 5/16/2018 10:29:44 AM

<Chromatogram>



PeakTable

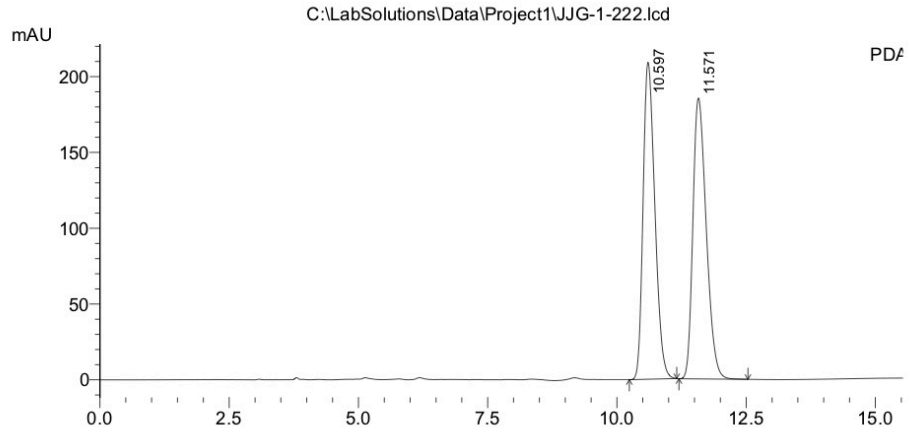
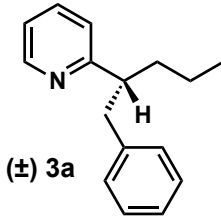
Peak#	Ret. Time	Area	Height	Area %	Height %
1	14.232	9498653	309934	80.113	82.757
2	15.488	2357901	64578	19.887	17.243
Total		11856554	374512	100.000	100.000



C:\LabSolutions\Data\Project1\JJG-2-159.lcd

Injection Volume : 10 uL
 Data File Name : JJG-1-222.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 11/29/2017 5:29:52 PM
 Data Processed : 11/29/2017 5:46:41 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

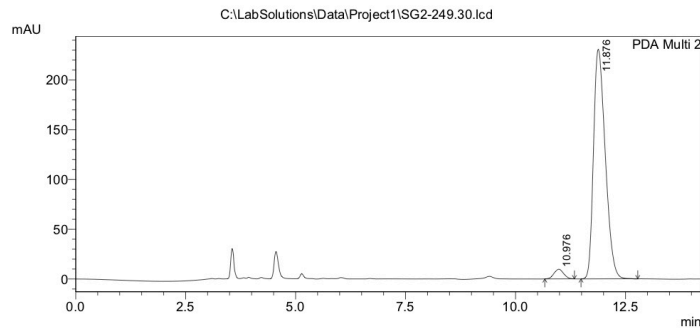
Peak#	Ret. Time	Area	Height	Area %	Height %
1	10.597	3305879	209221	49.833	53.037
2	11.571	3328074	185264	50.167	46.963
Total		6633953	394485	100.000	100.000

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

3/31/2018 16:19:34 1 / 1

C:\LabSolutions\Data\Project1\SG2-249.30.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-249
 Sample ID : SG2-249
 Vial # :
 Injection Volume : 10 uL
 Data File Name : SG2-249.30.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/31/2018 4:04:02 PM
 Data Processed : 3/31/2018 4:18:17 PM

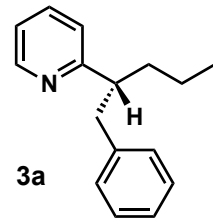
<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	10.976	147327	9672	3.320	4.022
2	11.876	4289694	230813	96.680	95.978
Total		4437021	240485	100.000	100.000

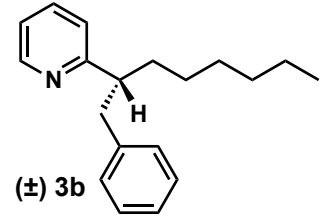
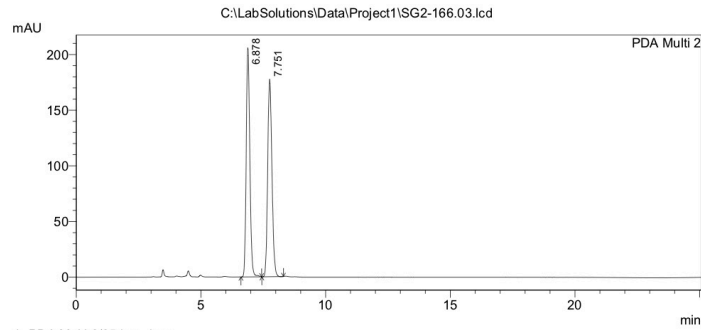


==== Shimadzu LCsolution Analysis Report ====

2/3/2018 13:43:32 1 / 1

C:\LabSolutions\Data\Project1\SG2-166.03.lcd
 Acquired by : Josh G
 Sample Name : SG2-166
 Sample ID : SG2-166
 Vial # :
 Injection Volume : 10 uL
 Data File Name : SG2-166.03.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 2/3/2018 1:16:52 PM
 Data Processed : 2/3/2018 1:41:58 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

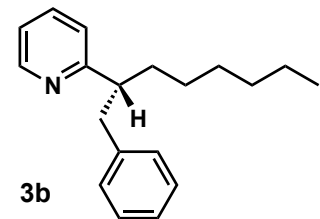
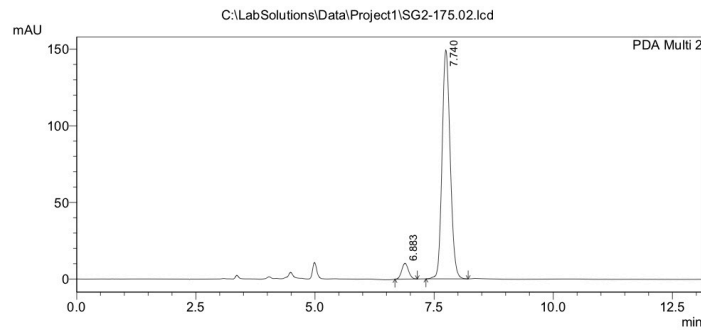
Peak#	Ret. Time	Area	Height	Area %	Height %
1	6.878	2106327	205917	50.119	53.700
2	7.751	2096288	177539	49.881	46.300
Total		4202615	383456	100.000	100.000

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

2/3/2018 11:48:29 1 / 1

C:\LabSolutions\Data\Project1\SG2-175.02.lcd
 Acquired by : Josh G
 Sample Name : SG2-175
 Sample ID : SG2-175
 Vial # :
 Injection Volume : 10 uL
 Data File Name : SG2-175.02.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 2/3/2018 11:34:08 AM
 Data Processed : 2/3/2018 11:47:17 AM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	6.883	101321	10303	5.416	6.446
2	7.740	1769303	149518	94.584	93.554
Total		1870623	159821	100.000	100.000

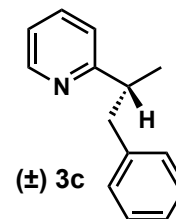
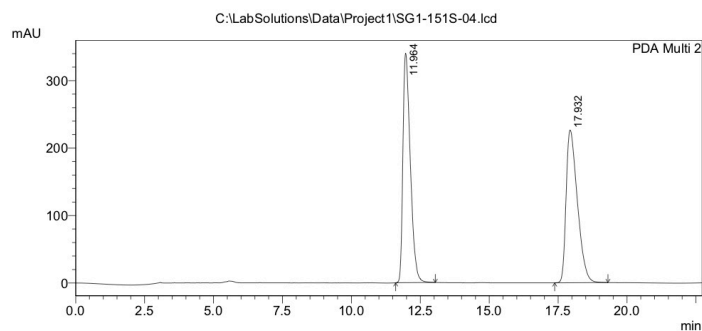
C:\LabSolutions\Data\Project1\SG2-175.02.lcd

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

6/12/2017 19:38:59 1 / 1

C:\LabSolutions\Data\Project1\SG1-151S-04.lcd
 Acquired by : Kai Yu
 Sample Name : SG1-151S
 Sample ID : SG1-151S
 Vial # :
 Injection Volume : 1 uL
 Data File Name : SG1-151S-04.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 6/12/2017 7:15:03 PM
 Data Processed : 6/12/2017 7:37:49 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

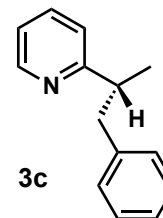
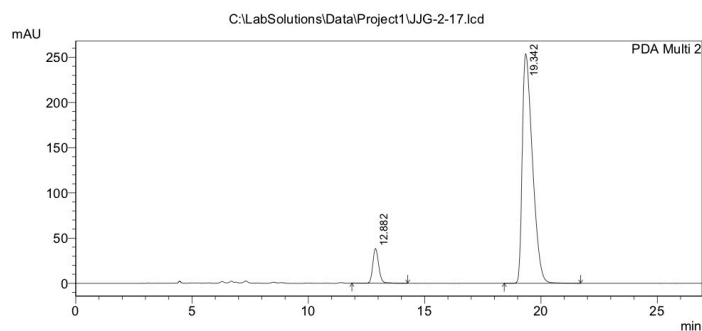
Peak#	Ret. Time	Area	Height	Area %	Height %
1	11.964	6342121	340206	49.656	60.049
2	17.932	6429888	226345	50.344	39.951
Total		12772009	566551	100.000	100.000

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

2/6/2018 13:41:57 1 / 1

C:\LabSolutions\Data\Project1\JJG-2-17.lcd
 Acquired by : Josh G
 Sample Name : JJG-2-017
 Sample ID : JJG-2-017
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-17.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 2/6/2018 1:14:19 PM
 Data Processed : 2/6/2018 1:41:16 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	12.882	665544	38145	7.942	13.067
2	19.342	7714032	253768	92.058	86.933
Total		8379575	291913	100.000	100.000

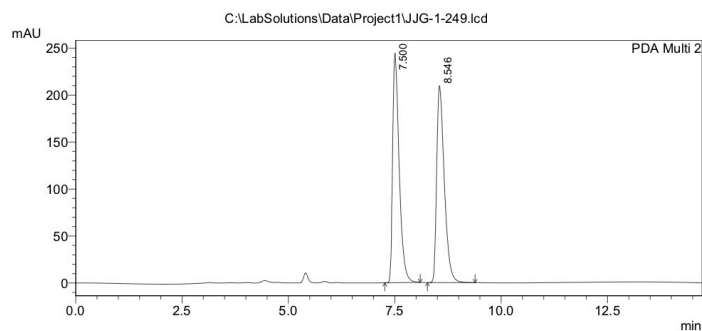
C:\LabSolutions\Data\Project1\JJG-2-17.lcd

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

12/19/2017 14:37:34 1 / 1

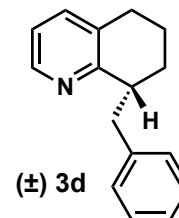
C:\LabSolutions\Data\Project1\JJG-1-249.lcd
 Acquired by : Josh G
 Sample Name : JJG-1-248
 Sample ID : JJG-1-248
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-1-249.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 12/19/2017 2:22:04 PM
 Data Processed : 12/19/2017 2:36:49 PM

<Chromatogram>



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	7.500	2606658	244228	49.858	53.796
2	8.546	2621505	209764	50.142	46.204
Total		5228162	453991	100.000	100.000

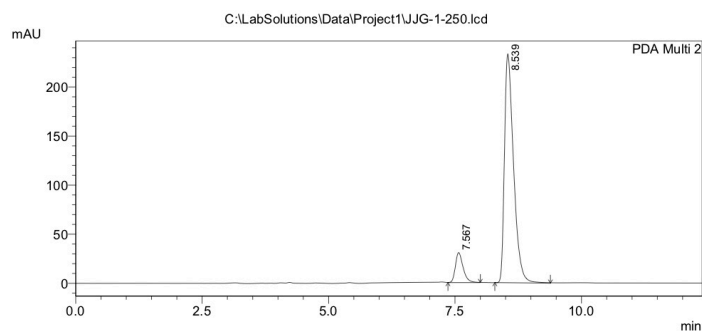


==== Shimadzu LCsolution Analysis Report ====

12/19/2017 14:56:36 1 / 1

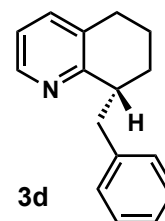
C:\LabSolutions\Data\Project1\JJG-1-250.lcd
 Acquired by : Josh G
 Sample Name : JJG-1-250
 Sample ID : JJG-1-250
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-1-250.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 12/19/2017 2:42:56 PM
 Data Processed : 12/19/2017 2:55:19 PM

<Chromatogram>



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	7.567	325375	30516	10.034	11.567
2	8.539	2917207	233291	89.966	88.433
Total		3242581	263807	100.000	100.000



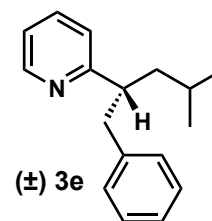
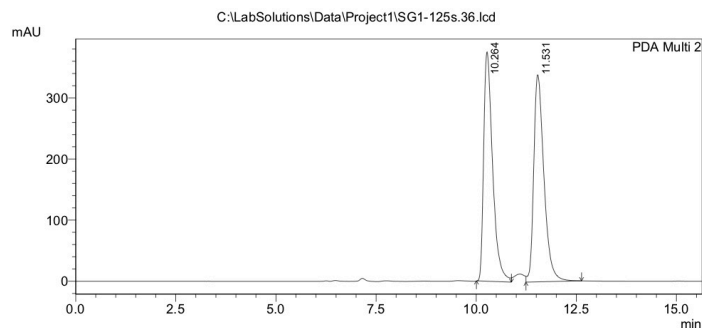
C:\LabSolutions\Data\Project1\JJG-1-250.lcd

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

6/9/2017 12:30:02 1 / 1

C:\LabSolutions\Data\Project1\SG1-125s.36.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG1-125s
 Sample ID : SG1-125s
 Vial # :
 Injection Volume : 10 uL
 Data File Name : SG1-125s.36.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 6/9/2017 11:54:07 AM
 Data Processed : 6/9/2017 12:09:47 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

Peak Table

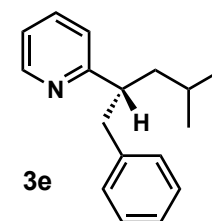
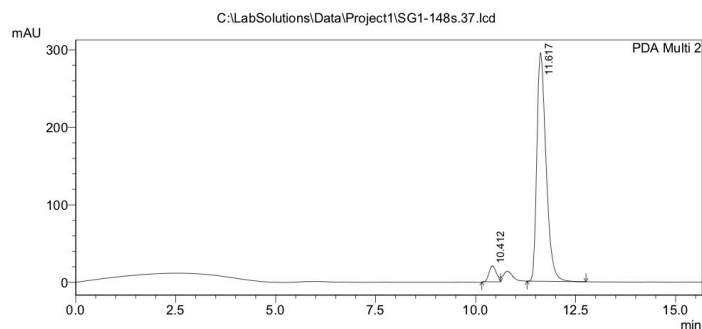
Peak#	Ret. Time	Area	Height	Area %	Height %
1	10.264	5832614	375480	49.247	52.573
2	11.531	6010924	338725	50.753	47.427
Total		11843538	714206	100.000	100.000

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

6/9/2017 12:32:06 1 / 1

C:\LabSolutions\Data\Project1\SG1-148s.37.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG1-148s
 Sample ID : SG1-148s
 Vial # :
 Injection Volume : 10 uL
 Data File Name : SG1-148s.37.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 6/9/2017 12:13:34 PM
 Data Processed : 6/9/2017 12:29:15 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

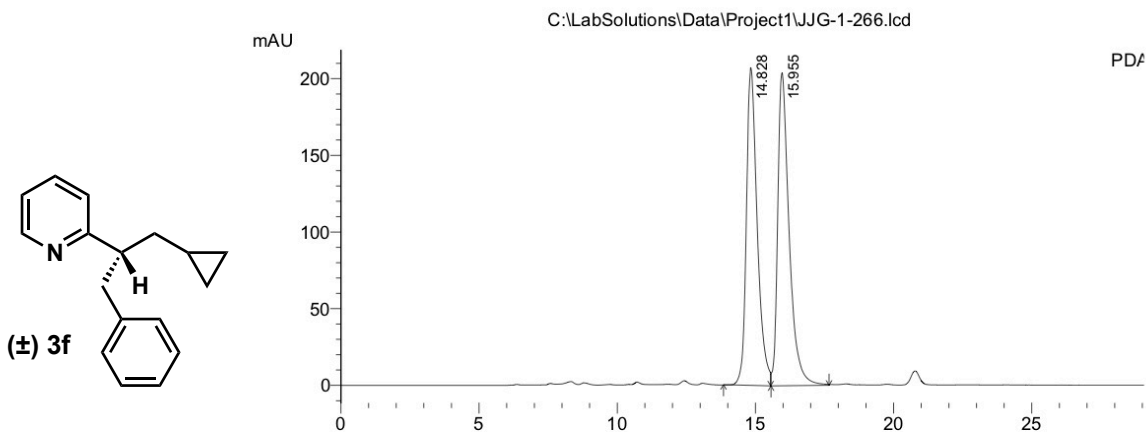
Peak Table

Peak#	Ret. Time	Area	Height	Area %	Height %
1	10.412	262774	20480	5.262	6.494
2	11.617	4730869	294910	94.738	93.506
Total		4993642	315390	100.000	100.000

C:\LabSolutions\Data\Project1\SG1-148s.37.lcd

Injection Volume : 10 uL
 Data File Name : JJG-1-266.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 1/4/2018 2:07:57 PM
 Data Processed : 1/4/2018 2:39:22 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

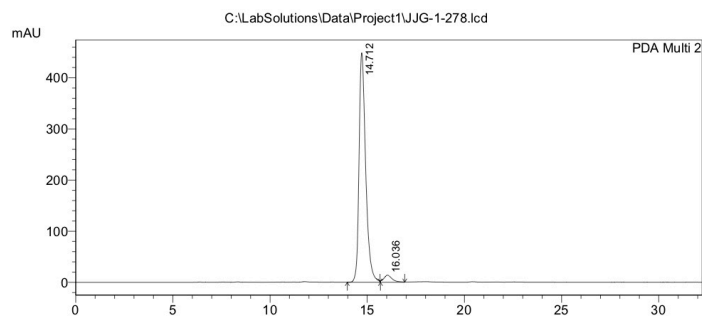
Peak#	Ret. Time	Area	Height	Area %	Height %
1	14.828	5628817	207045	48.999	50.378
2	15.955	5858800	203939	51.001	49.622
Total		11487618	410983	100.000	100.000

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

1/10/2018 14:34:25 1 / 1

C:\LabSolutions\Data\Project1\JJG-1-278.lcd
 Acquired by : Josh G
 Sample Name : JJG-1-274
 Sample ID : JJG-1-274
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-1-278.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 1/10/2018 2:01:20 PM
 Data Processed : 1/10/2018 2:33:34 PM

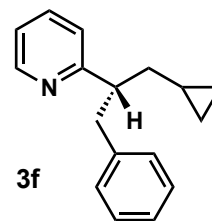
<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	14.712	10621108	448826	96.225	97.005
2	16.036	416653	13856	3.775	2.995
Total		11037762	462682	100.000	100.000

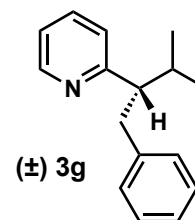
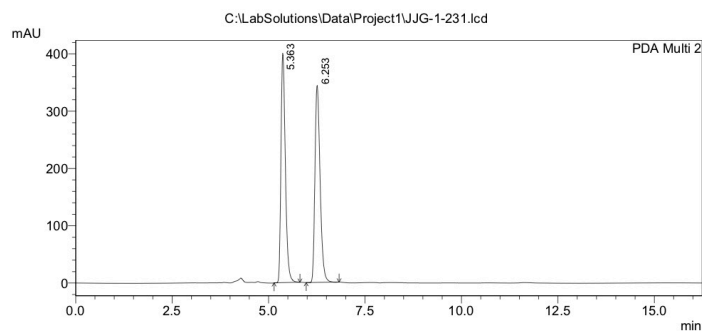


==== Shimadzu LCsolution Analysis Report ====

12/6/2017 16:45:42 1 / 1

Acquired by : Josh G
 Sample Name : JJG-1-231
 Sample ID : JJG-1-231
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-1-231.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 12/6/2017 4:28:29 PM
 Data Processed : 12/6/2017 4:44:45 PM

<Chromatogram>



PeakTable

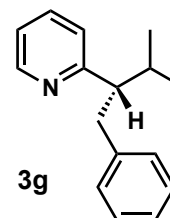
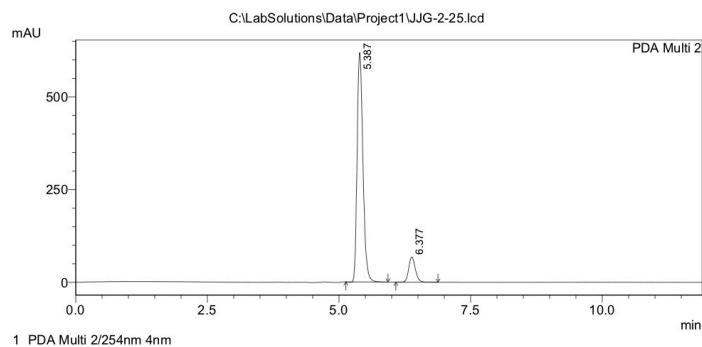
Peak#	Ret. Time	Area	Height	Area %	Height %
1	5.363	3173492	400627	49.875	53.800
2	6.253	3189409	344035	50.125	46.200
Total		6362900	744662	100.000	100.000

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

2/12/2018 16:38:31 1 / 1

Acquired by : Josh G
 Sample Name : JJG-2-025
 Sample ID : JJG-2-025
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-25.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 2/12/2018 4:25:48 PM
 Data Processed : 2/12/2018 4:37:43 PM

<Chromatogram>



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	5.387	4755990	618032	88.909	90.090
2	6.377	593261	67982	11.091	9.910
Total		5349252	686014	100.000	100.000

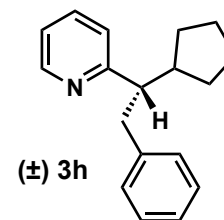
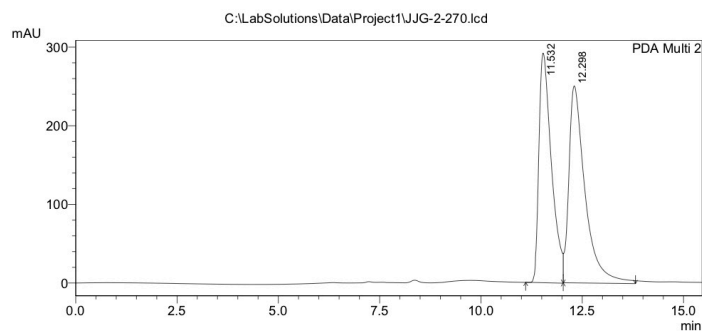
C:\LabSolutions\Data\Project1\JJG-2-25.lcd

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

4/25/2019 14:55:39 1 / 1

Acquired by : Josh G
 Sample Name : JJG-2-232
 Sample ID : JJG-2-232
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-270.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/25/2019 2:38:48 PM
 Data Processed : 4/25/2019 2:54:17 PM

<Chromatogram>



PeakTable

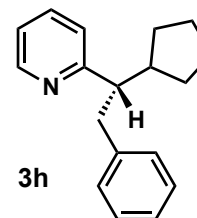
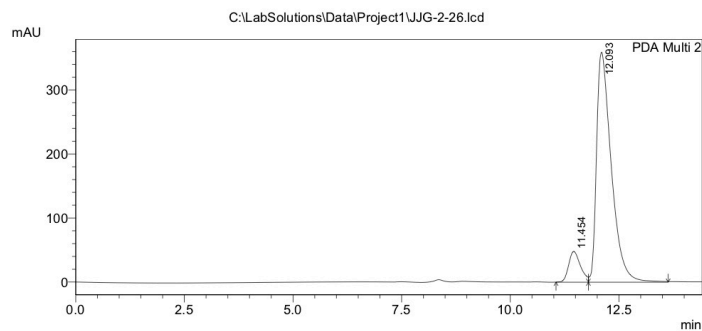
Peak#	Ret. Time	Area	Height	Area %	Height %
1	11.532	6278818	291854	47.377	53.831
2	12.298	6974064	250316	52.623	46.169
Total		13252882	542169	100.000	100.000

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

2/12/2018 13:42:36 1 / 1

Acquired by : Josh G
 Sample Name : JJG-2-026
 Sample ID : JJG-2-026
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-26.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 2/12/2018 1:27:13 PM
 Data Processed : 2/12/2018 1:41:38 PM

<Chromatogram>



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	11.454	906210	47987	9.681	11.785
2	12.093	8454078	359192	90.319	88.215
Total		9360288	407179	100.000	100.000

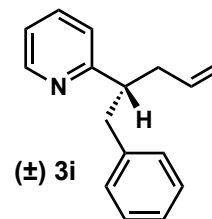
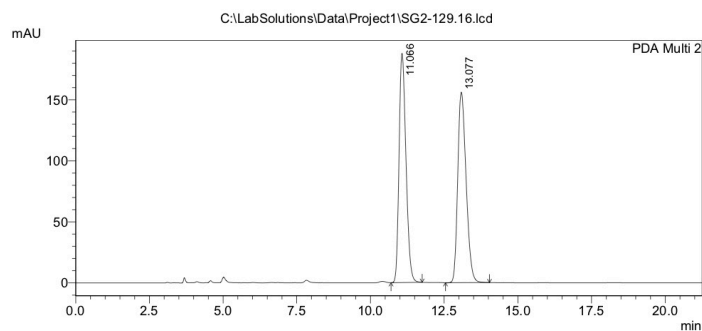
C:\LabSolutions\Data\Project1\JJG-2-26.lcd

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

12/22/2017 17:44:25 1 / 1

C:\LabSolutions\Data\Project1\SG2-129.16.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-129
 Sample ID : SG2-129
 Vail # :
 Injection Volume : 10 uL
 Data File Name : SG2-129.16.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 12/22/2017 5:22:01 PM
 Data Processed : 12/22/2017 5:43:17 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

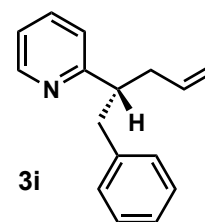
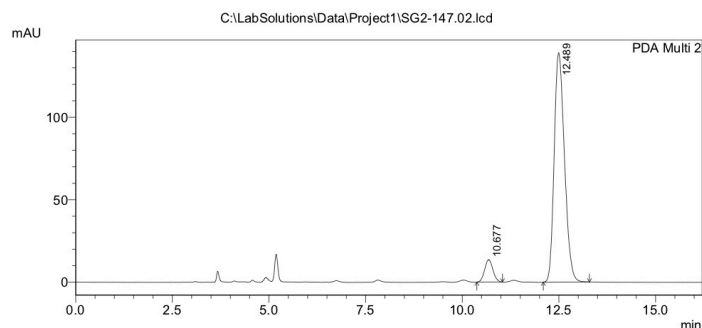
Peak#	Ret. Time	Area	Height	Area %	Height %
1	11.066	3056021	187862	49.829	54.621
2	13.077	3076941	156074	50.171	45.379
Total		6132962	343936	100.000	100.000

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

1/15/2018 14:24:32 1 / 1

C:\LabSolutions\Data\Project1\SG2-147.02.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-147
 Sample ID : SG2-147
 Vail # :
 Injection Volume : 10 uL
 Data File Name : SG2-147.02.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 1/15/2018 2:04:38 PM
 Data Processed : 1/15/2018 2:20:53 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	10.677	200392	13504	7.223	8.850
2	12.489	2573845	139091	92.777	91.150
Total		2774237	152595	100.000	100.000

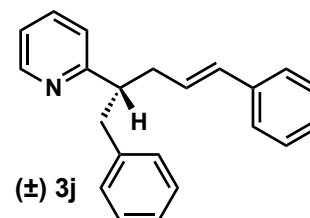
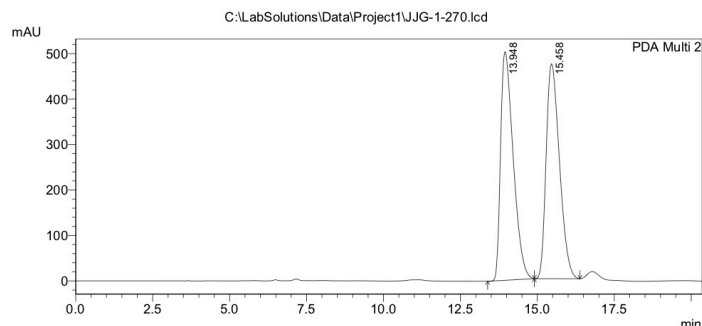
C:\LabSolutions\Data\Project1\SG2-147.02.lcd

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

1/6/2018 15:53:17 1 / 1

C:\LabSolutions\Data\Project1\JJG-1-270.lcd
 Acquired by : Santanu Ghosh
 Sample Name : JJG-1-267
 Sample ID : JJG-1-267
 Vail # :
 Injection Volume : 10 uL
 Data File Name : JJG-1-270.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 1/6/2018 3:32:15 PM
 Data Processed : 1/6/2018 3:52:37 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

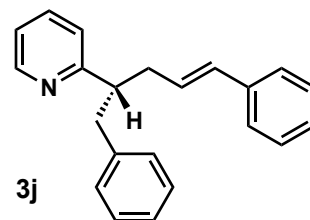
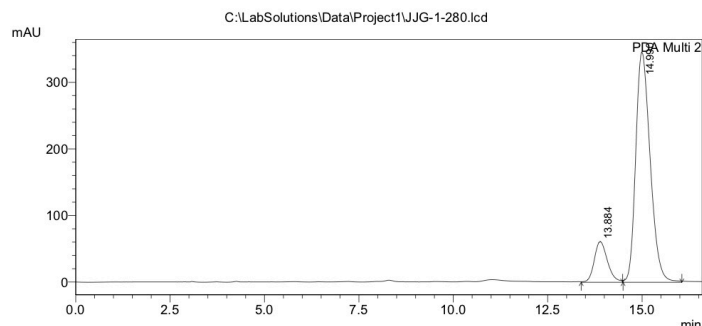
Peak#	Ret. Time	Area	Height	Area %	Height %
1	13.948	14316261	502739	50.162	51.549
2	15.458	14223746	472524	49.838	48.451
Total		28540008	975263	100.000	100.000

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

1/12/2018 13:29:13 1 / 1

C:\LabSolutions\Data\Project1\JJG-1-280.lcd
 Acquired by : Santanu Ghosh
 Sample Name : JJG-1-278
 Sample ID : JJG-1-278
 Vail # :
 Injection Volume : 10 uL
 Data File Name : JJG-1-280.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 1/12/2018 1:11:40 PM
 Data Processed : 1/12/2018 1:28:17 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	13.884	1479539	61112	13.858	15.027
2	14.990	9196872	345577	86.142	84.973
Total		10676412	406689	100.000	100.000

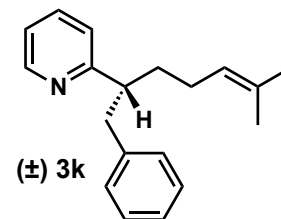
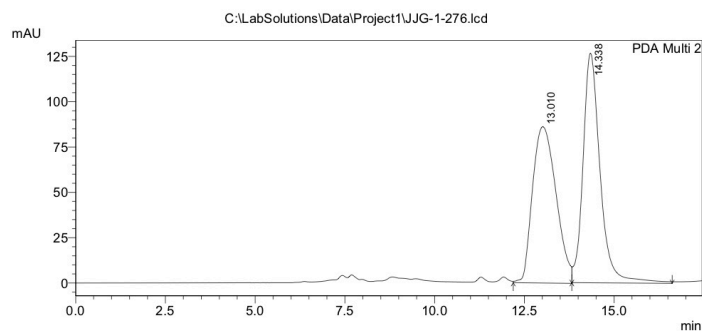
C:\LabSolutions\Data\Project1\JJG-1-280.lcd

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

1/9/2018 10:41:49 1 / 1

Acquired by : Josh G
 Sample Name : JJG-1-260
 Sample ID : JJG-1-260
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-1-276.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 1/9/2018 10:23:28 AM
 Data Processed : 1/9/2018 10:40:56 AM

<Chromatogram>



PeakTable

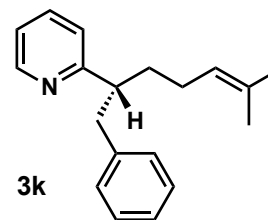
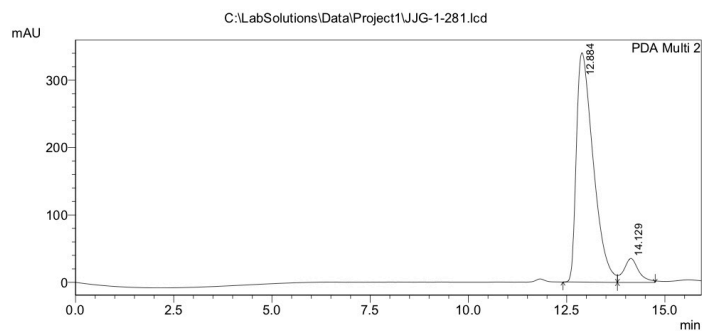
Peak#	Ret. Time	Area	Height	Area %	Height %
1	13.010	3934269	86231	48.363	40.512
2	14.338	4200612	126619	51.637	59.488
Total		8134881	212850	100.000	100.000

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

1/13/2018 16:22:15 1 / 1

Acquired by : Santanu Ghosh
 Sample Name : JJG-1-277
 Sample ID : JJG-1-277
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-1-281.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 1/13/2018 4:05:01 PM
 Data Processed : 1/13/2018 4:20:58 PM

<Chromatogram>



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	12.884	10163247	340320	91.520	90.506
2	14.129	941754	35698	8.480	9.494
Total		11105001	376018	100.000	100.000

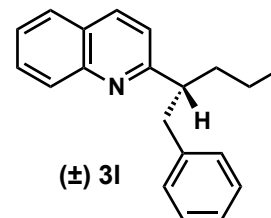
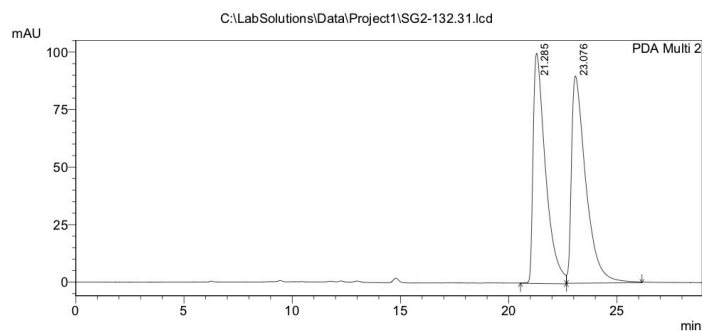
C:\LabSolutions\Data\Project1\JJG-1-281.lcd

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

1/6/2018 14:08:02 1 / 1

C:\LabSolutions\Data\Project1\SG2-132.31.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-132
 Sample ID : SG2-132
 Vail # :
 Injection Volume : 10 uL
 Data File Name : SG2-132.31.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 1/6/2018 1:37:38 PM
 Data Processed : 1/6/2018 2:06:35 PM

<Chromatogram>



PeakTable

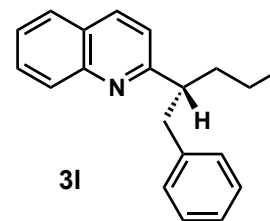
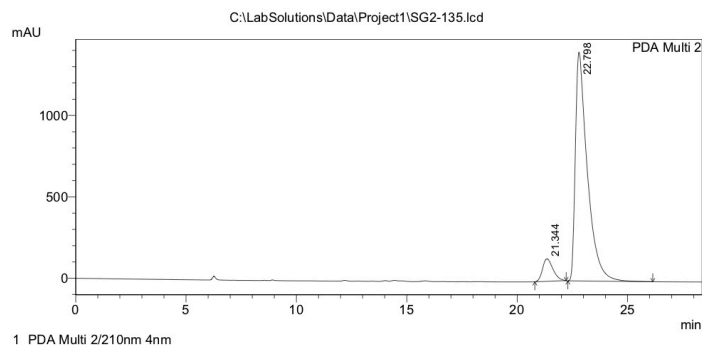
Peak#	Ret. Time	Area	Height	Area %	Height %
1	21.285	3986779	100090	48.967	52.654
2	23.076	4155032	89999	51.033	47.346
Total		8141811	190090	100.000	100.000

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

1/6/2018 18:08:22 1 / 1

C:\LabSolutions\Data\Project1\SG2-135.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-135
 Sample ID : SG2-135
 Vail # :
 Injection Volume : 10 uL
 Data File Name : SG2-135.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 1/6/2018 5:28:02 PM
 Data Processed : 1/6/2018 5:56:25 PM

<Chromatogram>



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	21.344	4563260	138937	7.933	8.995
2	22.798	52962230	1405671	92.067	91.005
Total		57525490	1544607	100.000	100.000

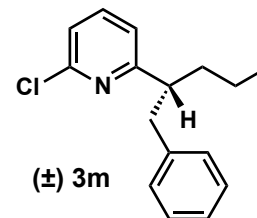
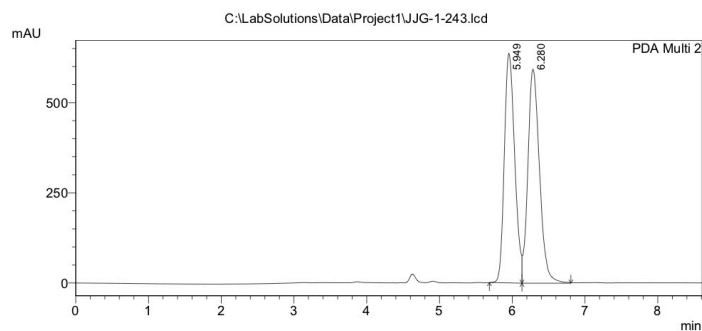
C:\LabSolutions\Data\Project1\SG2-135.lcd

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

12/17/2017 14:33:35 1 / 1

Acquired by : Josh G
 Sample Name : JJG-1-243
 Sample ID : JJG-1-243
 Vail # :
 Injection Volume : 10 uL
 Data File Name : JJG-1-243.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 12/17/2017 2:24:08 PM
 Data Processed : 12/17/2017 2:32:46 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

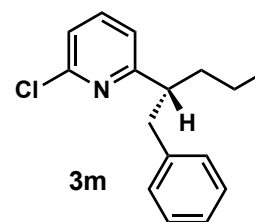
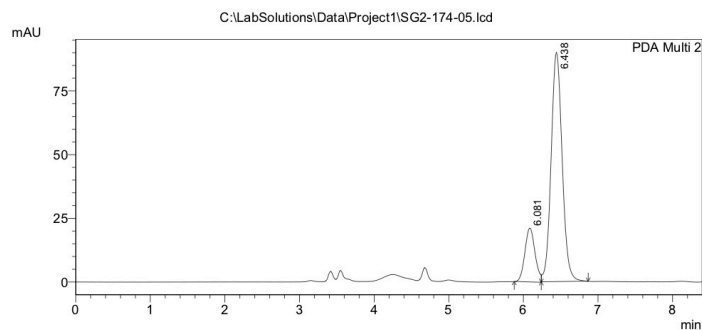
Peak#	Ret. Time	Area	Height	Area %	Height %
1	5.949	6314221	636710	48.980	51.740
2	6.280	6577205	593875	51.020	48.260
Total		12891426	1230585	100.000	100.000

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

2/2/2018 11:41:26 1 / 1

Acquired by : Kai Yu
 Sample Name : SG2-174
 Sample ID : SG2-174
 Vail # :
 Injection Volume : 10 uL
 Data File Name : SG2-174-05.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 2/2/2018 11:31:05 AM
 Data Processed : 2/2/2018 11:39:30 AM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	6.081	198977	21153	17.754	19.015
2	6.438	921764	90089	82.246	80.985
Total		1120741	111241	100.000	100.000

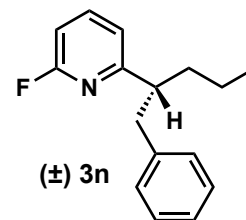
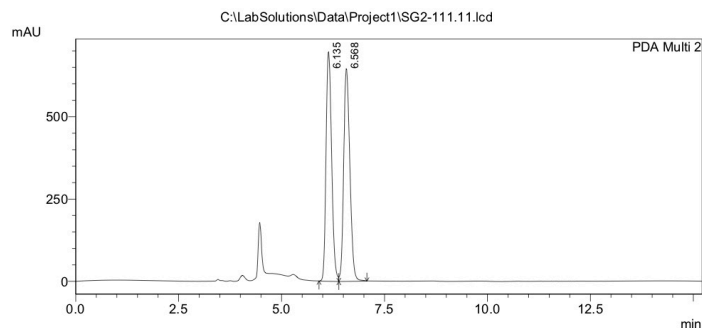
C:\LabSolutions\Data\Project1\SG2-174-05.lcd

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

12/21/2017 11:28:34 1 / 1

C:\LabSolutions\Data\Project1\SG2-111.11.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-111
 Sample ID : SG2-111
 Vial # :
 Injection Volume : 10 uL
 Data File Name : SG2-111.11.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 12/21/2017 10:41:23 AM
 Data Processed : 12/21/2017 10:56:37 AM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

Peak Table

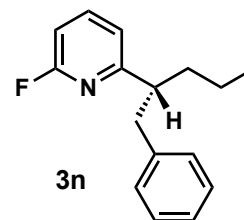
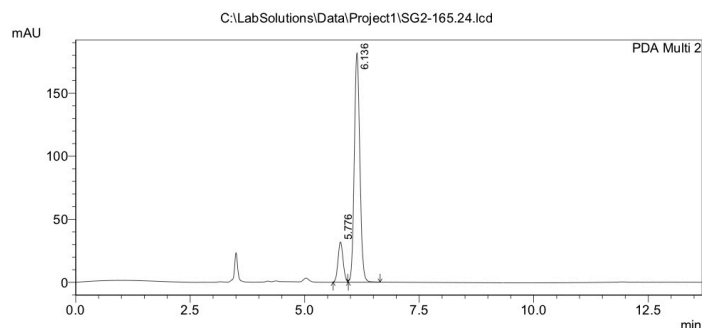
Peak#	Ret. Time	Area	Height	Area %	Height %
1	6.135	6591238	697127	49.363	51.865
2	6.568	6761373	646995	50.637	48.135
Total		13352611	1344122	100.000	100.000

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

3/27/2018 16:39:54 1 / 1

C:\LabSolutions\Data\Project1\SG2-165.24.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-165
 Sample ID : SG2-165
 Vial # :
 Injection Volume : 10 uL
 Data File Name : SG2-165.24.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/27/2018 4:25:01 PM
 Data Processed : 3/27/2018 4:38:42 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

Peak Table

Peak#	Ret. Time	Area	Height	Area %	Height %
1	5.776	246541	31998	13.853	14.962
2	6.136	1533104	181867	86.147	85.038
Total		1779645	213865	100.000	100.000

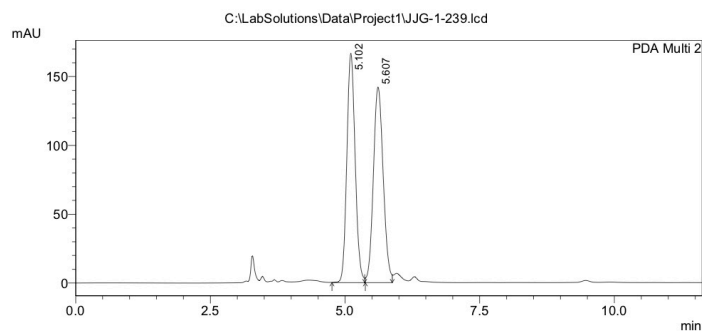
C:\LabSolutions\Data\Project1\SG2-165.24.lcd

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

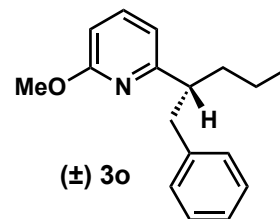
12/14/2017 18:52:14 1 / 1

Acquired by : Josh G
 Sample Name : JJG-1-236
 Sample ID : JJG-1-236
 Vial # :
 Injection Volume : 10 μ L
 Data File Name : JJG-1-239.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 12/14/2017 6:39:42 PM
 Data Processed : 12/14/2017 6:51:21 PM

<Chromatogram>



Peak#	Ret. Time	Area	Height	Area %	Height %
1	5.102	1788724	166759	49.746	53.962
2	5.607	1806960	142274	50.254	46.038
Total		3595684	309032	100.000	100.000

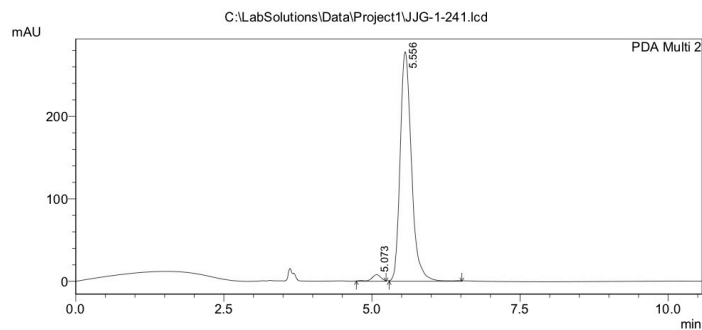


==== Shimadzu LCsolution Analysis Report ====

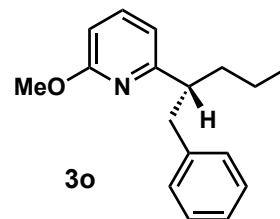
12/14/2017 19:09:11 1 / 1

Acquired by : Josh G
 Sample Name : JJG-1-241
 Sample ID : JJG-1-241
 Vial # :
 Injection Volume : 10 μ L
 Data File Name : JJG-1-241.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 12/14/2017 6:57:16 PM
 Data Processed : 12/14/2017 7:07:51 PM

<Chromatogram>



Peak#	Ret. Time	Area	Height	Area %	Height %
1	5.073	87648	7936	2.316	2.774
2	5.556	3696791	278158	97.684	97.226
Total		3784439	286093	100.000	100.000



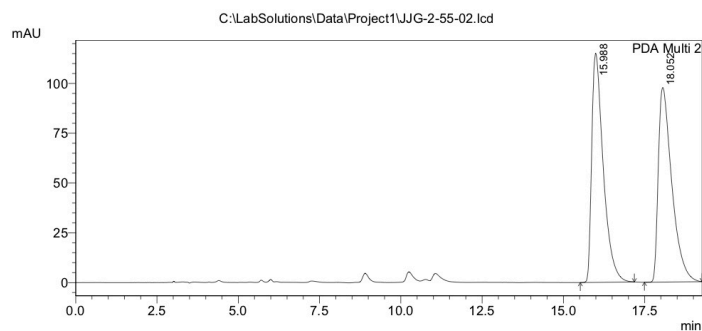
C:\LabSolutions\Data\Project1\JJG-1-241.lcd

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

3/12/2018 15:50:40 1 / 1

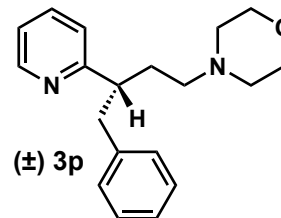
C:\LabSolutions\Data\Project1\JJG-2-55-02.lcd
 Acquired by : Josh G
 Sample Name : JJG-2-055-2
 Sample ID : JJG-2-055-2
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-55-02.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/12/2018 3:30:30 PM
 Data Processed : 3/12/2018 3:49:46 PM

<Chromatogram>



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	15.988	2843099	115056	50.129	54.078
2	18.052	2828468	97705	49.871	45.922
Total		5671567	212761	100.000	100.000

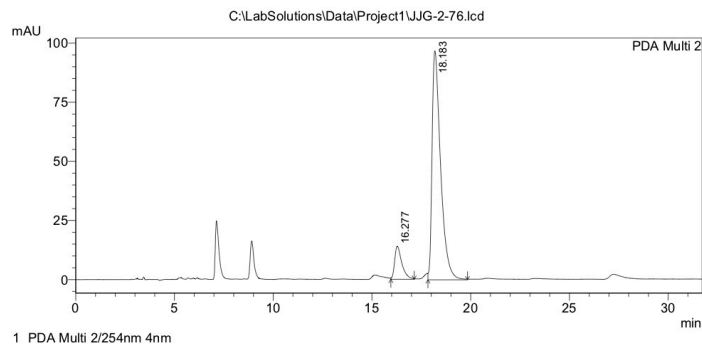


==== Shimadzu LCsolution Analysis Report ====

3/22/2018 15:54:45 1 / 1

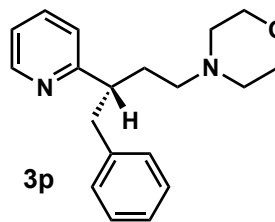
C:\LabSolutions\Data\Project1\JJG-2-76.lcd
 Acquired by : Josh G
 Sample Name : JJG-2-076
 Sample ID : JJG-2-076
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-76.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/22/2018 3:20:41 PM
 Data Processed : 3/22/2018 3:52:25 PM

<Chromatogram>



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	16.277	354918	13956	10.895	12.594
2	18.183	2902829	96857	89.105	87.406
Total		3257748	110812	100.000	100.000



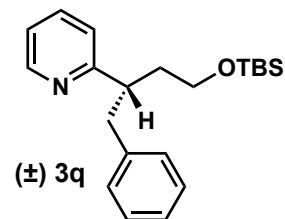
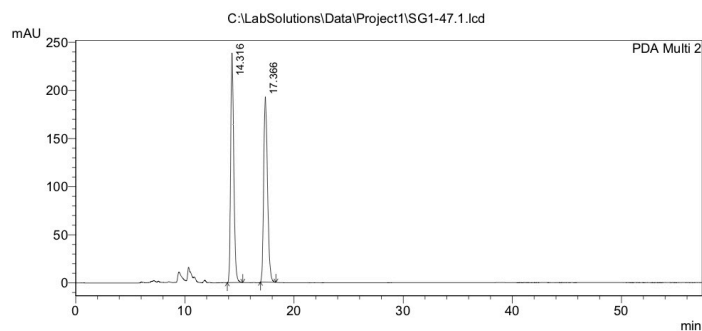
C:\LabSolutions\Data\Project1\JJG-2-76.lcd

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

4/6/2017 15:29:00 1 / 1

C:\LabSolutions\Data\Project1\SG1-47.1.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG1-47
 Sample ID : SG1-47
 Vial # :
 Injection Volume : 10 µL
 Data File Name : SG1-47.1.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/5/2017 10:18:58 AM
 Data Processed : 4/5/2017 11:16:23 AM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

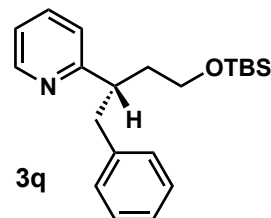
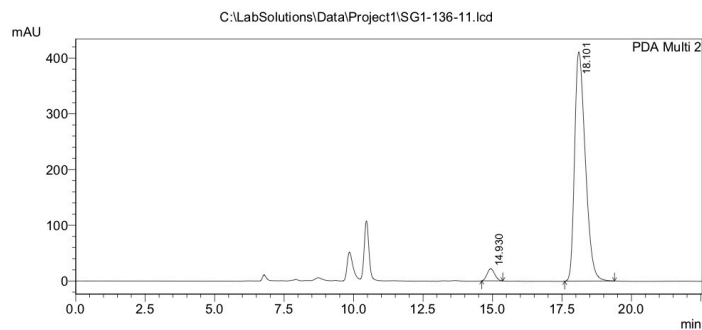
Peak#	Ret. Time	Area	Height	Area %	Height %
1	14.316	4699303	238345	50.054	55.317
2	17.366	4689170	192529	49.946	44.683
Total		9388473	430874	100.000	100.000

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

6/1/2017 15:42:03 1 / 1

C:\LabSolutions\Data\Project1\SG1-136-11.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG1-136
 Sample ID : SG1-136
 Vial # :
 Injection Volume : 10 µL
 Data File Name : SG1-136-11.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 6/1/2017 3:15:30 PM
 Data Processed : 6/1/2017 3:38:05 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	14.930	413788	21852	3.615	5.042
2	18.101	11031668	411580	96.385	94.958
Total		11445456	433433	100.000	100.000

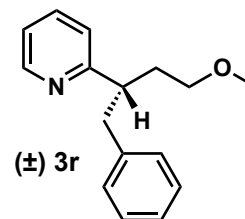
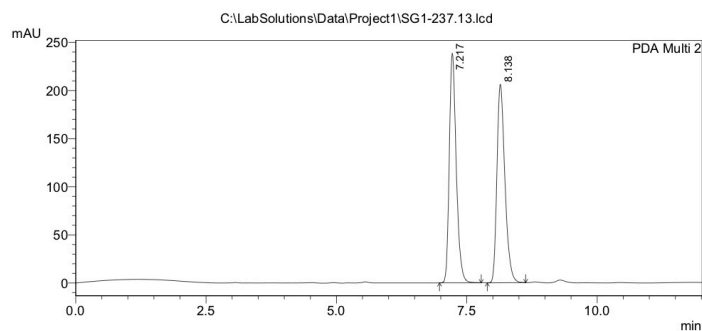
C:\LabSolutions\Data\Project1\SG1-136-11.lcd

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

12/16/2017 13:05:01 1 / 1

C:\LabSolutions\Data\Project1\SG1-237.13.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG1-237
 Sample ID : SG1-237
 Vail # :
 Injection Volume : 10 uL
 Data File Name : SG1-237.13.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 12/16/2017 12:51:51 PM
 Data Processed : 12/16/2017 1:03:53 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

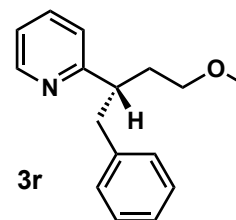
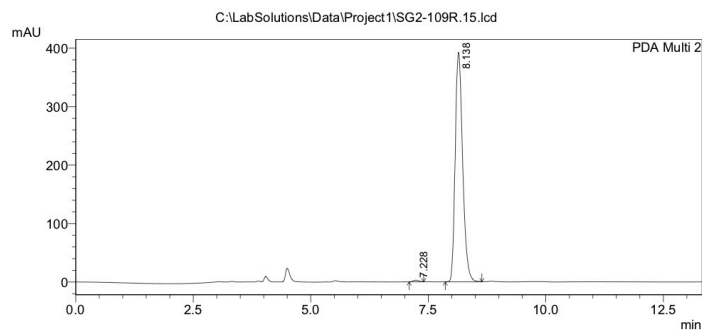
Peak#	Ret. Time	Area	Height	Area %	Height %
1	7.217	2208923	238668	50.102	53.671
2	8.138	2199947	206015	49.898	46.329
Total		4408870	444683	100.000	100.000

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

12/16/2017 14:04:16 1 / 1

C:\LabSolutions\Data\Project1\SG2-109R.15.lcd
 Acquired by : Santanu Ghosh
 Sample Name : SG2-109R
 Sample ID : SG2-109R
 Vail # :
 Injection Volume : 10 uL
 Data File Name : SG2-109R.15.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 12/16/2017 1:49:33 PM
 Data Processed : 12/16/2017 2:02:54 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	7.228	24702	2914	0.567	0.736
2	8.138	4330951	392902	99.433	99.264
Total		4355653	395815	100.000	100.000

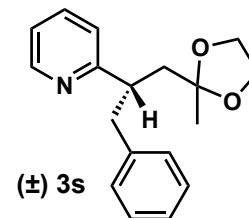
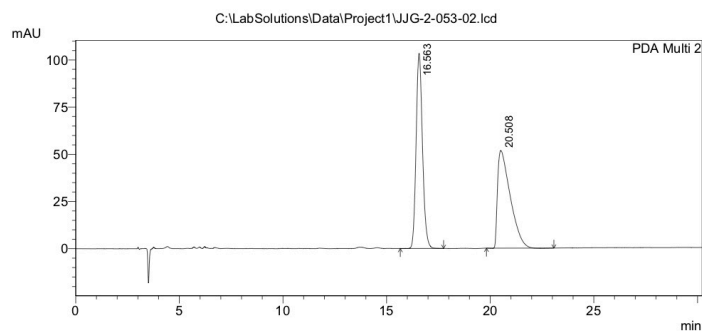
C:\LabSolutions\Data\Project1\SG2-109R.15.lcd

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

3/12/2018 14:58:34 1 / 1

C:\LabSolutions\Data\Project1\JJG-2-053-02.lcd
 Acquired by : Josh G
 Sample Name : JJG-2-053-2
 Sample ID : JJG-2-053-2
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-053-02.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/12/2018 2:27:32 PM
 Data Processed : 3/12/2018 2:57:47 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

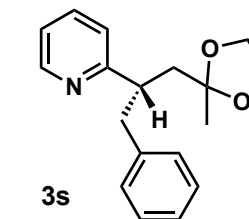
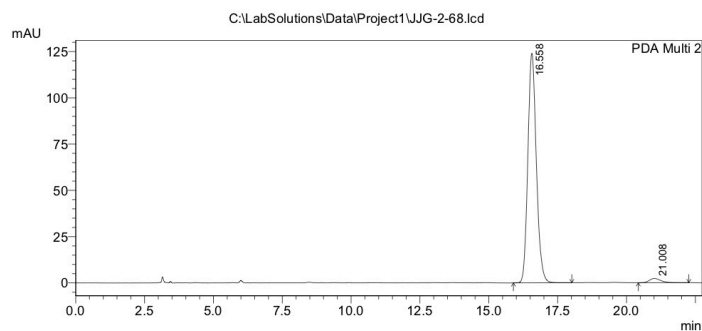
Peak#	Ret. Time	Area	Height	Area %	Height %
1	16.563	2207032	103453	50.176	66.693
2	20.508	2191519	51666	49.824	33.307
Total		4398551	155120	100.000	100.000

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

3/12/2018 14:25:33 1 / 1

C:\LabSolutions\Data\Project1\JJG-2-68.lcd
 Acquired by : Josh G
 Sample Name : JJG-2-068
 Sample ID : JJG-2-068
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-68.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/12/2018 2:01:50 PM
 Data Processed : 3/12/2018 2:24:35 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	16.558	2651435	124056	97.574	98.180
2	21.008	65920	2299	2.426	1.820
Total		2717355	126355	100.000	100.000

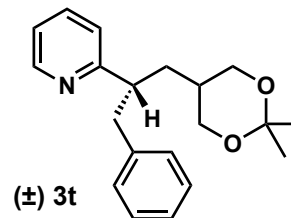
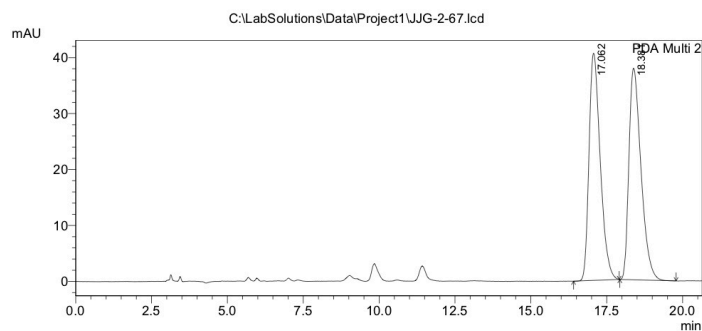
C:\LabSolutions\Data\Project1\JJG-2-68.lcd

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

3/12/2018 13:59:24 1 / 1

C:\LabSolutions\Data\Project1\JJG-2-67.lcd
 Acquired by : Josh G
 Sample Name : JJG-2-067
 Sample ID : JJG-2-067
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-67.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/12/2018 1:37:52 PM
 Data Processed : 3/12/2018 1:58:33 PM

<Chromatogram>



PeakTable

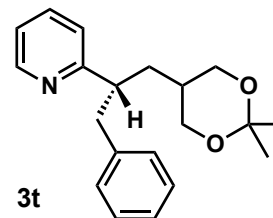
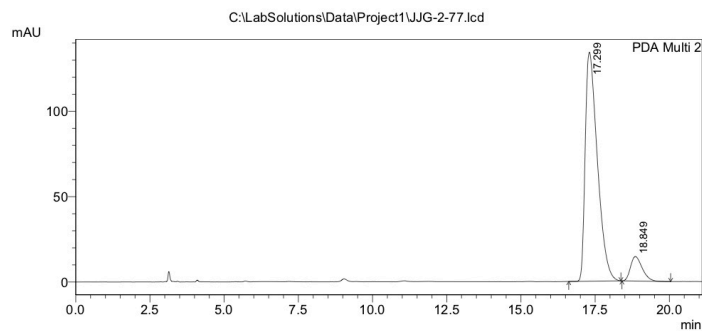
Peak#	Ret. Time	Area	Height	Area %	Height %
1	17.062	1041969	40612	49.955	51.795
2	18.381	1043855	37797	50.045	48.205
Total		2085824	78409	100.000	100.000

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

3/22/2018 16:18:37 1 / 1

C:\LabSolutions\Data\Project1\JJG-2-77.lcd
 Acquired by : Josh G
 Sample Name : JJG-2-077
 Sample ID : JJG-2-077
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-77.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 3/22/2018 3:56:23 PM
 Data Processed : 3/22/2018 4:17:30 PM

<Chromatogram>



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	17.299	3815872	134183	90.636	90.325
2	18.849	394253	14372	9.364	9.675
Total		4210125	148555	100.000	100.000

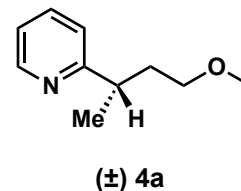
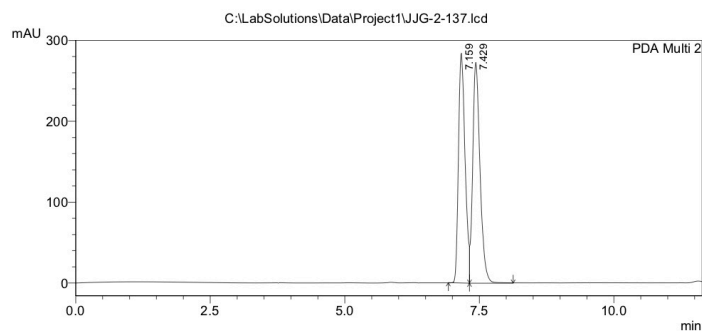
C:\LabSolutions\Data\Project1\JJG-2-77.lcd

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

4/28/2018 10:15:47 1 / 1

Acquired by : Josh G
 Sample Name : JJG-2-137
 Sample ID : JJG-2-137
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-137.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 4/28/2018 10:03:17 AM
 Data Processed : 4/28/2018 10:14:58 AM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

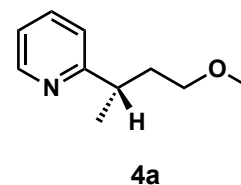
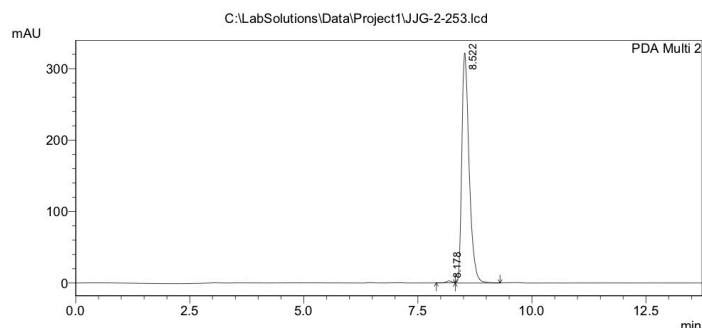
Peak#	Ret. Time	Area	Height	Area %	Height %
1	7.159	2432837	284226	48.510	51.000
2	7.429	2582259	273083	51.490	49.000
Total		5015096	557310	100.000	100.000

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

7/21/2018 10:09:21 1 / 1

Acquired by : Josh G
 Sample Name : JJG-2-253
 Sample ID : JJG-2-253
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-253.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 7/21/2018 9:54:42 AM
 Data Processed : 7/21/2018 10:08:27 AM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	8.178	22601	2742	0.623	0.845
2	8.522	3607365	321715	99.377	99.155
Total		3629966	324457	100.000	100.000

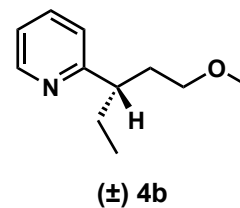
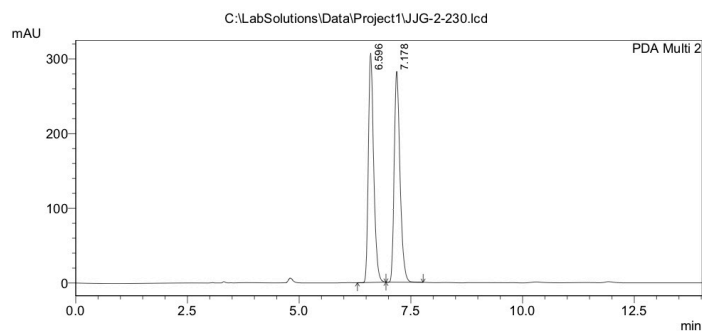
C:\LabSolutions\Data\Project1\JJG-2-253.lcd

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

6/29/2018 14:09:17 1 / 1

Acquired by : Josh G
 Sample Name : JJG-2-230
 Sample ID : JJG-2-230
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-230.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 6/29/2018 1:54:29 PM
 Data Processed : 6/29/2018 2:08:32 PM

<Chromatogram>



PeakTable

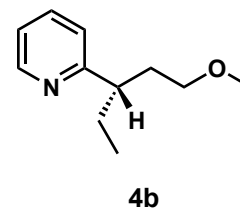
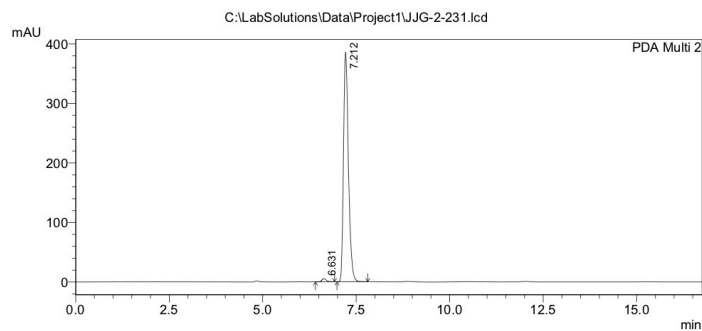
Peak#	Ret. Time	Area	Height	Area %	Height %
1	6.596	2542840	307049	49.865	52.133
2	7.178	2556601	281927	50.135	47.867
Total		5099441	588977	100.000	100.000

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

6/29/2018 14:52:00 1 / 1

Acquired by : Josh G
 Sample Name : JJG-2-231
 Sample ID : JJG-2-231
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-231.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 6/29/2018 2:34:13 PM
 Data Processed : 6/29/2018 2:51:00 PM

<Chromatogram>



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	6.631	44215	5414	1.236	1.385
2	7.212	3532690	385642	98.764	98.615
Total		3576904	391057	100.000	100.000

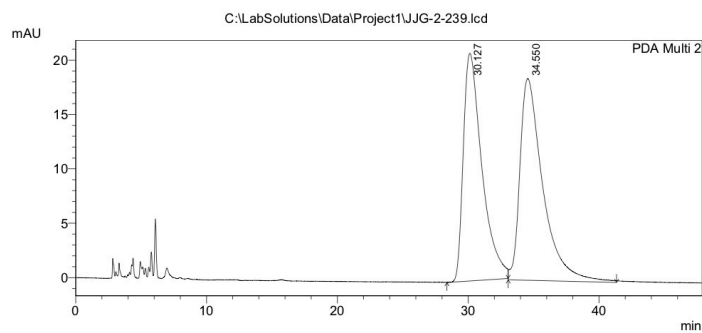
C:\LabSolutions\Data\Project1\JJG-2-231.lcd

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

7/7/2018 10:56:12 1 / 1

C:\LabSolutions\Data\Project1\JJG-2-239.lcd
 Acquired by : Josh G
 Sample Name : JJG-2-239
 Sample ID : JJG-2-239
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-239.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 7/7/2018 10:07:29 AM
 Data Processed : 7/7/2018 10:55:24 AM

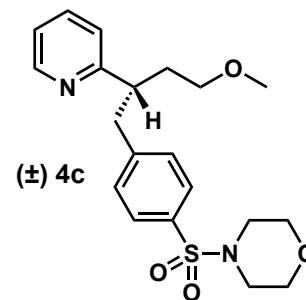
<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	30.127	2068176	20947	47.773	53.030
2	34.550	2260957	18553	52.227	46.970
Total		4329134	39500	100.000	100.000

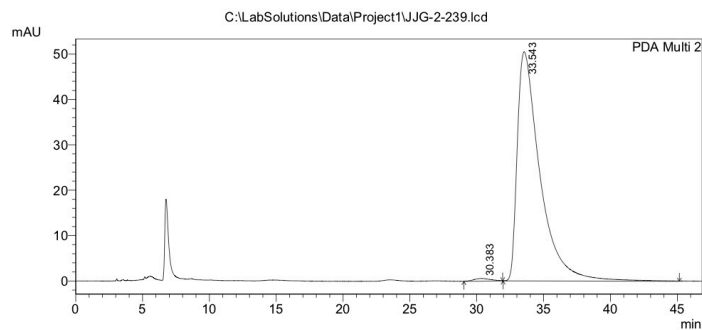


==== Shimadzu LCsolution Analysis Report ====

7/7/2018 11:52:17 1 / 1

C:\LabSolutions\Data\Project1\JJG-2-239.lcd
 Acquired by : Josh G
 Sample Name : JJG-2-239
 Sample ID : JJG-2-239
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-239.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 7/7/2018 11:04:10 AM
 Data Processed : 7/7/2018 11:51:02 AM

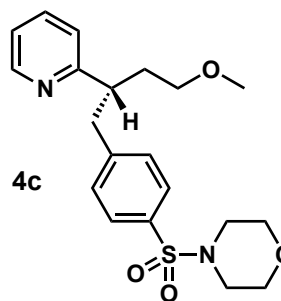
<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	30.383	51424	585	0.852	1.144
2	33.543	5985037	50516	99.148	98.856
Total		6036461	51100	100.000	100.000



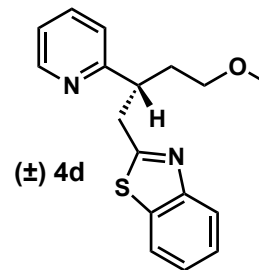
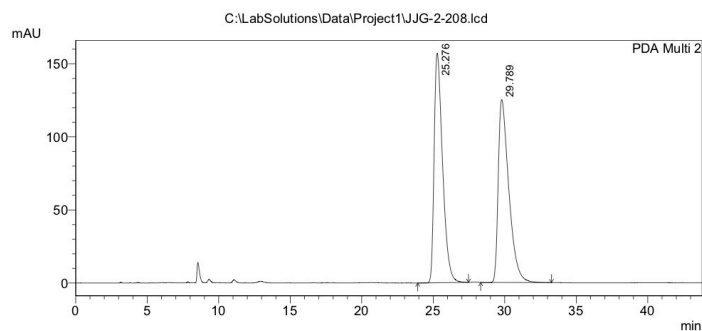
C:\LabSolutions\Data\Project1\JJG-2-239.lcd

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

7/2/2018 11:20:22 1 / 1

Acquired by : Josh G
 Sample Name : JJG-2-208
 Sample ID : JJG-2-208
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-208.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 7/2/2018 10:35:49 AM
 Data Processed : 7/2/2018 11:19:38 AM

<Chromatogram>



PeakTable

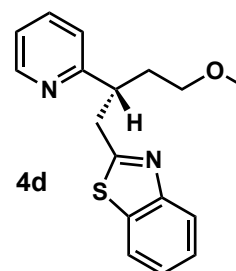
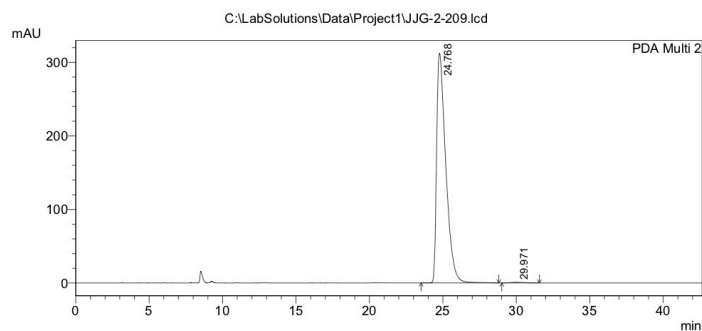
Peak#	Ret. Time	Area	Height	Area %	Height %
1	25.276	6440152	157091	50.053	55.662
2	29.789	6426386	125132	49.947	44.338
Total		12866538	282223	100.000	100.000

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

7/2/2018 12:10:26 1 / 1

Acquired by : Josh G
 Sample Name : JJG-2-209
 Sample ID : JJG-2-209
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-209.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 7/2/2018 11:26:46 AM
 Data Processed : 7/2/2018 12:09:26 PM

<Chromatogram>



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	24.768	13506069	312386	99.639	99.701
2	29.971	48938	938	0.361	0.299
Total		13555007	313324	100.000	100.000

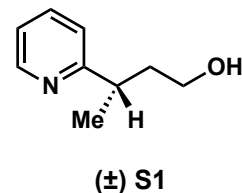
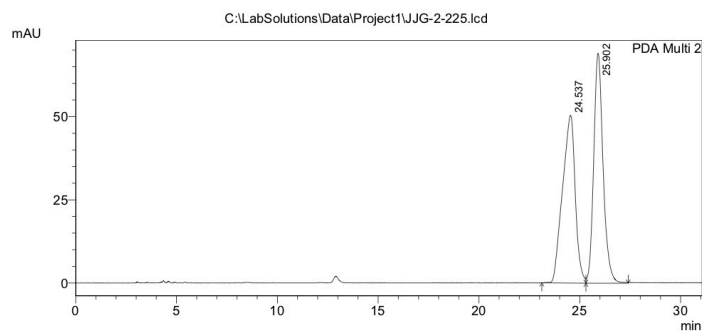
C:\LabSolutions\Data\Project1\JJG-2-209.lcd

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

1/25/2019 15:21:16 1 / 1

Acquired by : Josh G
 Sample Name : JJG-2-225
 Sample ID : JJG-2-225
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-225.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 1/25/2019 2:49:06 PM
 Data Processed : 1/25/2019 3:20:11 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

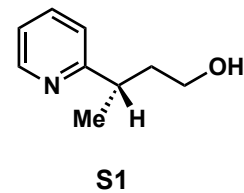
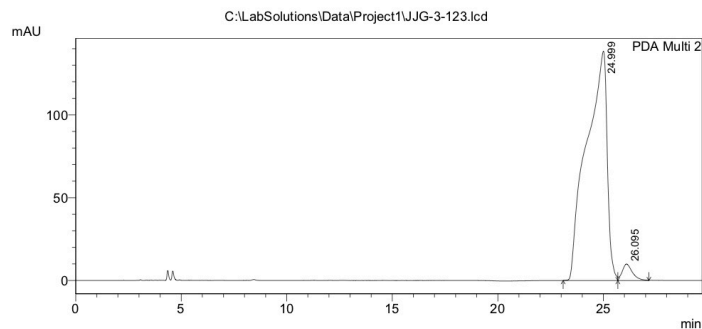
Peak#	Ret. Time	Area	Height	Area %	Height %
1	24.537	2213705	50432	49.825	42.183
2	25.902	2229239	69124	50.175	57.817
Total		4442944	119555	100.000	100.000

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

1/25/2019 14:11:40 1 / 1

Acquired by : Josh G
 Sample Name : JJG-3-123
 Sample ID : JJG-3-123
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-3-123.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 1/25/2019 1:40:57 PM
 Data Processed : 1/25/2019 2:10:39 PM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	24.999	9358165	138517	96.516	93.284
2	26.095	337824	9973	3.484	6.716
Total		9695989	148491	100.000	100.000

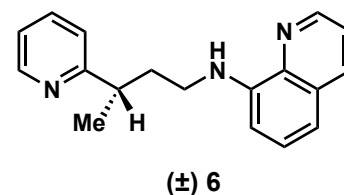
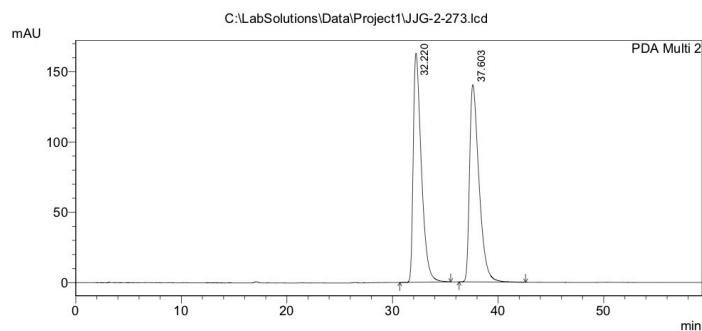
C:\LabSolutions\Data\Project1\JJG-3-123.lcd

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

8/24/2018 09:23:06 1 / 1

Acquired by : Josh G
 Sample Name : JJG-2-273
 Sample ID : JJG-2-273
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-273.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 8/24/2018 8:22:59 AM
 Data Processed : 8/24/2018 9:22:20 AM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

PeakTable

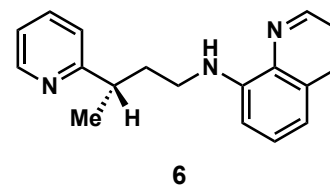
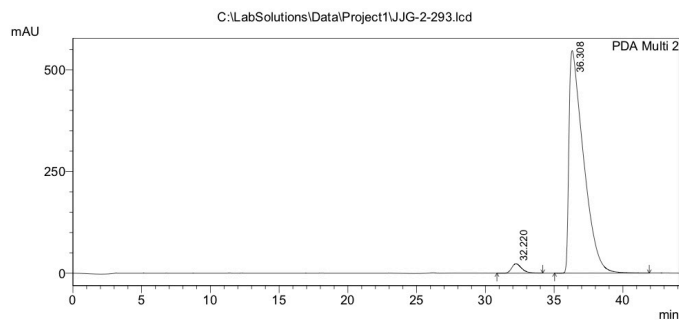
Peak#	Ret. Time	Area	Height	Area %	Height %
1	32.220	8693461	162918	49.914	53.738
2	37.603	8723486	140255	50.086	46.262
Total		17416948	303173	100.000	100.000

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

8/24/2018 10:14:05 1 / 1

Acquired by : Josh G
 Sample Name : JJG-2-293
 Sample ID : JJG-2-293
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-293.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 8/24/2018 9:29:07 AM
 Data Processed : 8/24/2018 10:13:18 AM

<Chromatogram>



1 PDA Multi 2/254nm 4nm

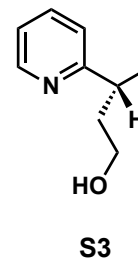
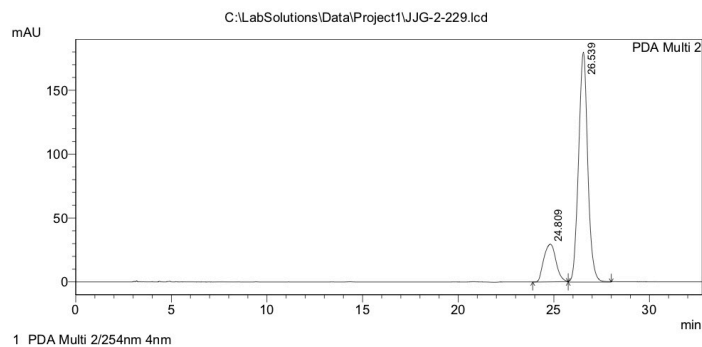
PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	32.220	1170608	23247	2.825	4.078
2	36.308	40272643	546753	97.175	95.922
Total		41443252	570000	100.000	100.000

C:\LabSolutions\Data\Project1\JJG-2-293.lcd

Acquired by : Josh G
 Sample Name : JJG-2-229
 Sample ID : JJG-2-229
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-2-229.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 6/28/2018 2:50:48 PM
 Data Processed : 6/28/2018 3:23:35 PM

<Chromatogram>

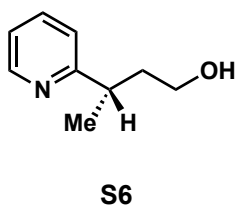
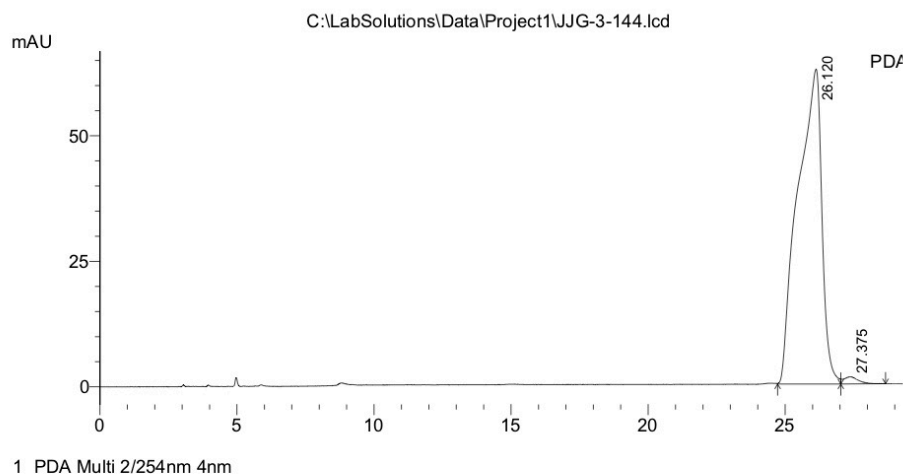


PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	24.809	1307151	29483	17.862	14.079
2	26.539	6010964	179932	82.138	85.921
Total		7318115	209415	100.000	100.000

C:\LabSolutions\Data\Project1\JJG-3-144.lcd
 Acquired by : Josh G
 Sample Name : JJG-3-144
 Sample ID : JJG-3-144
 Vial # :
 Injection Volume : 10 uL
 Data File Name : JJG-3-144.lcd
 Method File Name : brad.lcm
 Batch File Name :
 Report File Name : Default.lcr
 Data Acquired : 2/9/2019 3:01:40 PM
 Data Processed : 2/9/2019 3:33:22 PM

<Chromatogram>



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	26.120	3794287	62725	98.656	97.798
2	27.375	51693	1412	1.344	2.202
Total		3845981	64137	100.000	100.000