

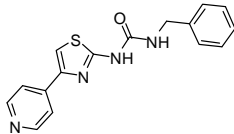
## **Supplementary Material:**

### **Pyridylthiazole-Based Ureas as Inhibitors of Rho Associated Protein Kinases (ROCK1 and 2)**

Roberta Pireddu,<sup>1</sup> Kara Forinash,<sup>1</sup> Nan N. Sun,<sup>2</sup> Mathew P. Martin,<sup>1</sup> Shen-Shu Sung,<sup>2</sup> Brian Alexander,<sup>1</sup>  
Jin-Yi Zhu,<sup>1</sup> Wayne C. Guida,<sup>1,2,4</sup> Ernst Schönbrunn,<sup>1,3</sup> Saïd M. Sebt<sup>1,3,5</sup> and Nicholas J. Lawrence<sup>1,3\*</sup>

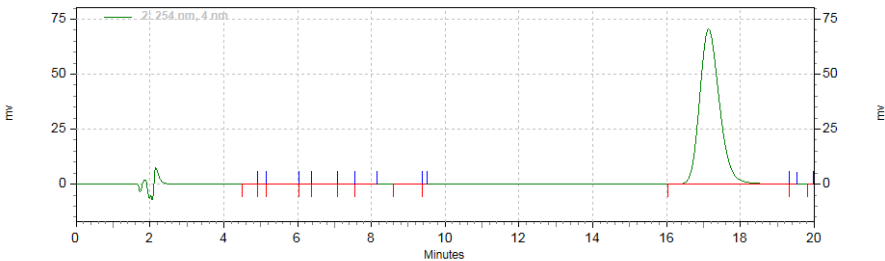
*From* The <sup>1</sup>Department of Drug Discovery, and <sup>2</sup>Chemical Biology Core Facility, Moffitt Cancer Center;  
Departments of <sup>3</sup>Oncological Sciences, <sup>4</sup>Chemistry and <sup>5</sup>Molecular Medicine, University of South  
Florida, Tampa, Florida, 33612

HPLC trace1 of **5a**



Area % Report

Data File: C:\EZChrom Elite\Data\Roberta\RPM1199MeOH40 0.1%TFA H2O60 20min 1ml.met  
1-30-2009 1-12-44 PM.dat  
Method: C:\EZChrom Elite\Methods\Roberta\MeOH40 0.1%TFA H2O60 20min 1ml.met  
Acquired: 1/30/2009 1:15:03 PM  
Printed: 1/30/2009 1:45:55 PM  
Vial: 20



2: 254 nm, 4 nm Results				
Pk #	Retention Time	Area	Area Percent	
1	4.613	1690	0.063	
2	5.027	495	0.019	
3	5.893	2542	0.096	
4	6.120	1068	0.040	
5	6.960	2575	0.097	
6	7.387	1020	0.038	
7	7.853	2199	0.083	
8	8.907	5688	0.214	
9	9.427	215	0.008	
10	17.133	2643509	99.316	
11	19.400	482	0.018	
12	19.853	242	0.009	
Totals		2661725	100.000	

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---< General Method Parameters >-----  
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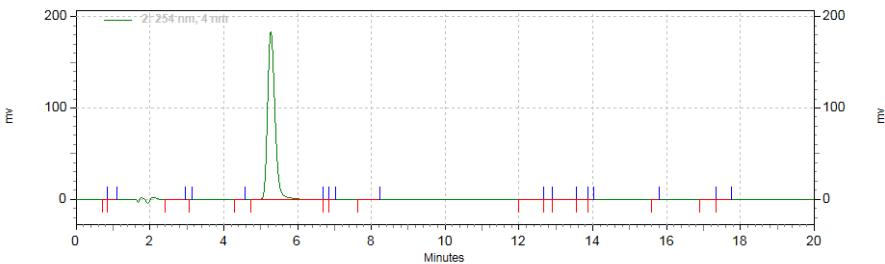
Jasco Pumps  
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Model: PU-2086

HPLC trace2 of **5a**

Area % Report

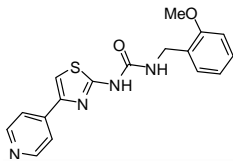
Data File: C:\EZChrom Elite\Data\Roberta\RPM1199 CH3CN30 H2O70 0.1TFA 1mL 20min.met  
1-28-2009 1-59-50 AM  
Method: C:\EZChrom Elite\Methods\Xin\CH3CN30 H2O70 0.1TFA 1mL 20min.met  
Acquired: 1/28/2009 2:00:31 AM  
Printed: 1/28/2009 10:23:45 AM  
Vial: 32



2: 254 nm, 4 nm Results				
Pk #	Retention Time	Area	Area Percent	
1	0.773	349	0.014	
2	0.933	535	0.021	
3	2.680	3809	0.148	
4	3.133	99	0.004	
5	4.387	1028	0.040	
6	5.280	2560605	99.307	
7	6.760	581	0.023	
8	6.907	277	0.011	
9	7.813	1790	0.069	
10	12.400	4320	0.168	
11	12.707	337	0.013	
12	13.413	1918	0.074	
13	13.560	924	0.036	
14	13.920	249	0.010	
15	15.627	298	0.012	
16	17.240	883	0.034	
17	17.667	483	0.019	
Totals		2578485	100.000	

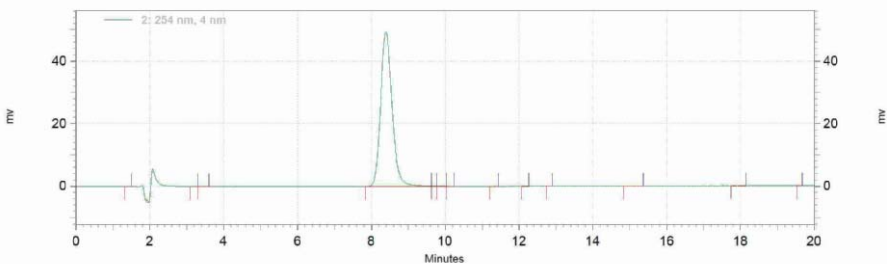
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HPLC trace1 of **5e**



Area % Report

Data File: C:\EZChrom Elite\Data\Roberta\RPM1238MeOH50 0.1%TFA H2O50 20min 1mL.mct 2-2-2009 7-00-30 PM  
Method: C:\EZChrom Elite\Methods\Roberta\MeOH50 0.1%TFA H2O50 20min 1mL.mct  
Acquired: 2/2/2009 7:01:12 PM  
Printed: 2/3/2009 9:16:33 AM  
Vial: 11



2: 254 nm, 4 nm Results				
	Pk #	Retention Time	Area	Area Percent
	1	1.360	191	0.018
	2	3.133	209	0.020
	3	3.440	435	0.041
	4	8.400	1064379	99.436
	5	9.640	954	0.089
	6	9.827	1218	0.114
	7	10.093	368	0.034
	8	11.347	415	0.039
	9	12.160	279	0.026
	10	12.827	215	0.020
	11	15.200	929	0.087
	12	17.933	671	0.063
	13	19.600	154	0.014
Totals			1070417	100.000

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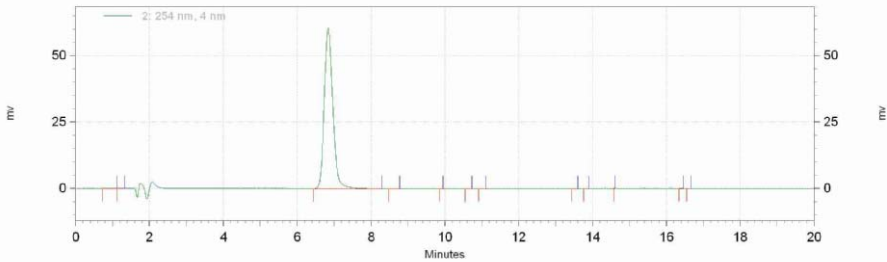
Jasco Pumps  
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HPLC trace2 of 5e

Area % Report

Data File: C:\EZChrom Elite\Data\Roberta\RPM1238 CH3CN30 H2O70 0.1TFA 1mL 20min.met  
1-28-2009 3:22:59 AM  
Method: C:\EZChrom Elite\Methods\Xin\CH3CN30 H2O70 0.1TFA 1mL 20min.met  
Acquired: 1/28/2009 3:23:40 AM  
Printed: 1/28/2009 10:29:31 AM  
Vial: 34



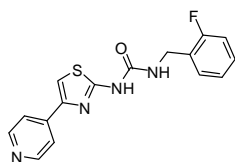
2: 254 nm, 4 nm Results				
Pk #	Retention Time	Area	Area Percent	
1	0.960	780	0.080	
2	1.160	554	0.057	
3	6.840	977008	99.698	
4	8.493	299	0.031	
5	9.920	115	0.012	
6	10.560	279	0.028	
7	11.027	246	0.025	
8	13.520	199	0.020	
9	13.813	164	0.017	
10	14.587	24	0.002	
11	16.400	135	0.014	
12	16.560	166	0.017	
Totals		979969	100.000	

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--< General Method Parameters >-----  
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Jasco Pumps  
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Model:	PU-2086
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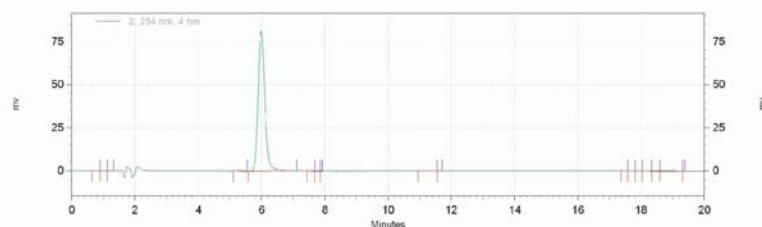
# HPLC trace1 of 5r



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## Area % Report

Data File: C:\EZChrom Elite\Data\Roberta\RPM1237 CH3CN30 H2O70 0.1TFA 1mL 20min.met  
1-28-2009 2:41-25 AM  
Method: C:\EZChrom Elite\Methods\Xim\CH3CN30 H2O70 0.1TFA 1mL 20min.met  
Acquired: 1/28/2009 2:42:05 AM  
Printed: 1/28/2009 10:27:00 AM  
Vial: 33



## 2: 254 nm, 4 nm Results

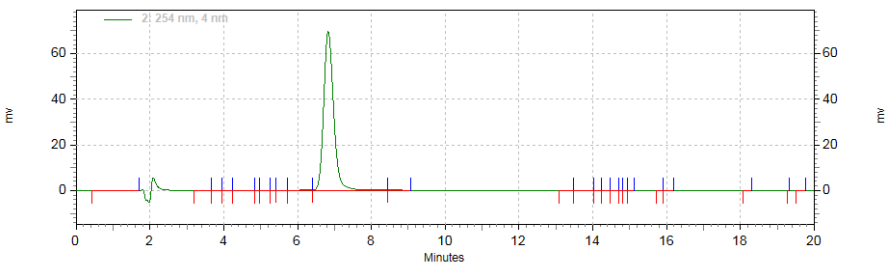
Pk #	Retention Time	Area	Area Percent
1	0.760	420	0.035
2	0.933	443	0.037
3	1.187	525	0.043
4	5.293	4086	0.337
5	5.987	1200777	99.028
6	7.520	326	0.027
7	7.787	167	0.014
8	7.907	110	0.009
9	11.253	1748	0.144
10	11.573	224	0.018
11	17.387	256	0.021
12	17.627	317	0.026
13	17.880	302	0.025
14	18.080	412	0.034
15	18.347	483	0.040
16	18.933	1871	0.154
17	19.347	95	0.008
Totals		1212562	100.000

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HPLC trace2 of **5r**

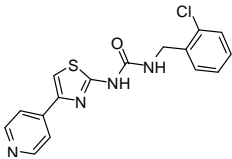
Area % Report

Data File: C:\EZChrom Elite\Data\Roberta\RPM1237MeOH50 0.1%TFA H2O50 20min 1ml.met 2-2-2009 9-46-52 PM  
Method: C:\EZChrom Elite\Methods\Roberta\MeOH50 0.1%TFA H2O50 20min 1ml.met  
Acquired: 2/2/2009 9:47:33 PM  
Printed: 2/3/2009 9:23:46 AM  
Vial: 15



2: 254 nm, 4 nm Results				
Pk #	Retention Time	Area	Area Percent	
1	1.640	6737	0.506	
2	3.227	740	0.056	
3	3.707	821	0.062	
4	4.000	712	0.053	
5	4.747	1969	0.148	
6	4.853	621	0.047	
7	5.147	1288	0.097	
8	5.320	646	0.049	
9	5.520	1325	0.100	
10	6.253	6465	0.486	
11	6.827	1301656	97.761	
12	8.707	2354	0.177	
13	13.173	483	0.036	
14	13.920	1622	0.122	
15	14.040	853	0.064	
16	14.267	700	0.053	
17	14.547	367	0.028	
18	14.747	168	0.013	
19	14.880	182	0.014	
20	15.053	231	0.017	
21	15.787	213	0.016	
22	16.093	597	0.045	
23	18.147	245	0.018	

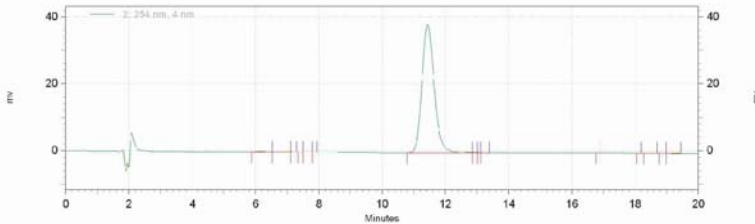
HPLC trace1 of **5u**



Area % Report

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Data File: C:\EZChrom Elite\Data\Roberta\RPM1239MeOH50 0.1%TFA H2O50 20min 1ml.met 2-3-2009  
10-21-27 AM.dat  
Method: C:\EZChrom Elite\Methods\Roberta\MeOH50 0.1%TFA H2O50 20min 1ml.met  
Acquired: 2/3/2009 10:23:44 AM  
Printed: 2/3/2009 10:55:43 AM  
Vial: 26



2: 254 nm, 4 nm Results				
Pk #	Retention Time	Area	Area Percent	
1	6.133	3268	0.312	
2	6.707	1976	0.189	
3	7.133	327	0.031	
4	7.360	231	0.022	
5	7.560	458	0.044	
6	7.827	186	0.018	
7	11.440	1037509	99.047	
8	12.880	694	0.066	
9	13.027	295	0.028	
10	13.147	318	0.030	
11	16.800	226	0.022	
12	18.133	178	0.017	
13	18.507	713	0.068	
14	18.827	362	0.035	
15	19.013	747	0.071	
Totals		1047488	100.000	

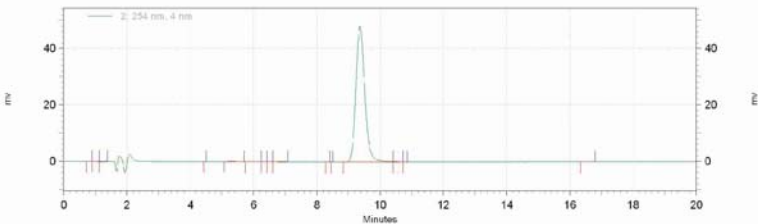
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HPLC trace2 of **5u**

Area % Report

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Data File: C:\EZChrom Elite\Data\Roberta\RPM1239 CH3CN30 H2O70 0.1TFA 1mL 20min.met  
1-28-2009 4:04:34 AM  
Method: C:\EZChrom Elite\Methods\Xim\CH3CN30 H2O70 0.1TFA 1mL 20min.met  
Acquired: 1/28/2009 4:05:16 AM  
Printed: 1/28/2009 10:32:00 AM  
Vial: 35

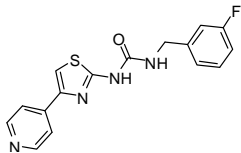


2: 254 nm, 4 nm Results

Pk #	Retention Time	Area	Area Percent
1	0.773	197	0.021
2	0.987	294	0.031
3	1.200	520	0.054
4	4.493	76	0.008
5	5.307	3450	0.361
6	5.960	1326	0.139
7	6.293	182	0.019
8	6.507	186	0.019
9	6.893	978	0.102
10	8.293	170	0.018
11	8.467	66	0.007
12	9.360	946628	98.991
13	10.453	752	0.079
14	10.613	549	0.057
15	10.760	306	0.032
16	16.587	598	0.063
Totals		956278	100.000

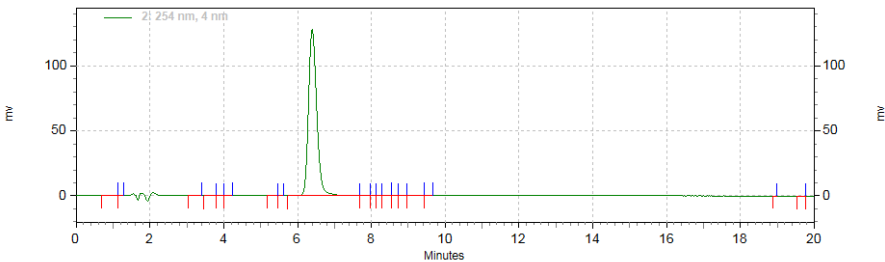
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HPLC trace1 of **5q**



Area % Report

Data File: C:\EZChrom Elite\Data\Roberta\RPM1299 CH3CN30 H2O70 0.1TFA 1mL 20min.met  
1-28-2009 5-27-39 AM  
Method: C:\EZChrom Elite-Methods\Xin\CH3CN30 H2O70 0.1TFA 1mL 20min.met  
Acquired: 1/28/2009 5:28:21 AM  
Printed: 1/28/2009 11:01:31 AM  
Vial: 37



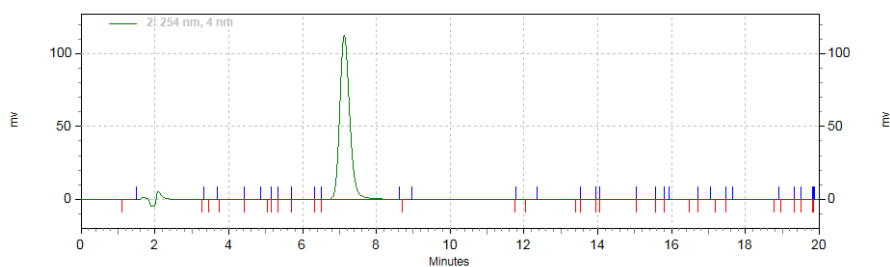
2: 254 nm, 4 nm Results				
Pk #	Retention Time	Area	Area Percent	
1	0.960	635	0.032	
2	1.187	276	0.014	
3	3.160	3257	0.162	
4	3.507	330	0.016	
5	3.827	468	0.023	
6	4.013	438	0.022	
7	5.387	599	0.030	
8	5.547	126	0.006	
9	6.400	1993205	99.278	
10	7.760	2212	0.110	
11	8.013	875	0.044	
12	8.173	811	0.040	
13	8.307	1103	0.055	
14	8.627	728	0.036	
15	8.760	751	0.037	
16	9.200	1100	0.055	
17	9.493	380	0.019	
18	18.920	126	0.006	
19	19.627	282	0.014	
20	19.760	0	0.000	
Totals		2007702	100.000	

## HPLC trace2 of 5q

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### Area % Report

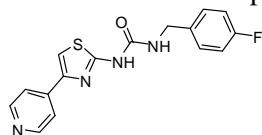
Data File: C:\EZChrom Elite\Data\Roberta\RPM1299MeOH50 0.1%TFA H2O50 20min 1ml.met 2-2-2009  
5-36-12 PM.dat  
Method: C:\EZChrom Elite\Methods\Roberta\MeOH50 0.1%TFA H2O50 20min 1ml.met  
Acquired: 2/2/2009 5:38:31 PM  
Printed: 2/2/2009 6:01:06 PM  
Vial: 18



### 2: 254 nm, 4 nm Results

PK #	Retention Time	Area	Area Percent
1	1.347	549	0.026
2	3.307	46	0.002
3	3.493	228	0.011
4	4.120	3796	0.179
5	4.453	1003	0.047
6	5.107	207	0.010
7	5.280	321	0.015
8	5.467	761	0.036
9	6.133	1509	0.071
10	6.453	305	0.014
11	7.133	2107438	99.119
12	8.747	318	0.015
13	11.760	28	0.001
14	12.253	529	0.025
15	13.427	171	0.008
16	13.667	1051	0.049
17	14.000	179	0.008
18	14.973	2157	0.101
19	15.240	1495	0.070
20	15.640	613	0.029
21	15.853	197	0.009
22	16.587	285	0.013
23	16.867	461	0.022

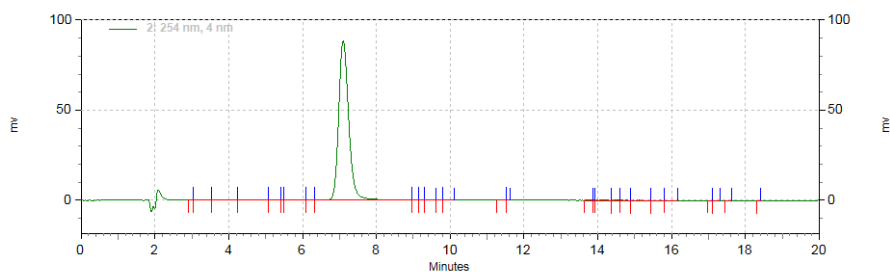
# HPLC trace1 of compound **5s**



Page 1 of 4

## Area % Report

Data File: C:\EZChrom Elite\Data\Roberta\RPM1300MeOH50 0.1%TFA H2O50 20min 1ml.met  
1-30-2009 4-51-41 PM.dat  
Method: C:\EZChrom Elite\Methods\Roberta\MeOH50 0.1%TFA H2O50 20min 1ml.met  
Acquired: 1/30/2009 4:54:00 PM  
Printed: 1/30/2009 5:16:39 PM  
Vial: 16



## 2: 254 nm, 4 nm Results

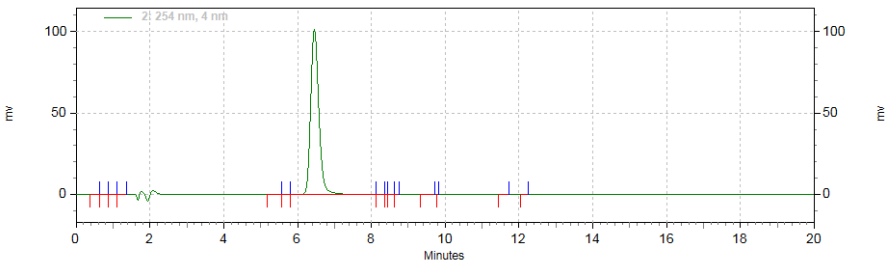
Pk #	Retention Time	Area	Area Percent
1	2.920	93	0.006
2	3.400	1358	0.081
3	3.827	2013	0.119
4	4.787	3048	0.181
5	5.307	1858	0.110
6	5.440	405	0.024
7	6.040	3495	0.207
8	6.173	1451	0.086
9	7.093	1660207	98.540
10	8.987	1047	0.062
11	9.200	784	0.047
12	9.320	1182	0.070
13	9.667	472	0.028
14	9.867	439	0.026
15	11.293	70	0.004
16	11.520	163	0.010
17	13.680	570	0.034
18	13.907	104	0.006
19	14.093	1142	0.068
20	14.560	647	0.038
21	14.680	697	0.041
22	15.160	1289	0.077
23	15.693	775	0.046



HPLC trace2 of compound 5s

Area % Report

Data File: C:\EZChrom Elite\Data\Roberta\RPM1300 CH3CN30 H2O70 0.1TFA 1mL 20min.met  
1-27-2009 8-27-17 PM  
Method: C:\EZChrom Elite\Methods\Xin\CH3CN30 H2O70 0.1TFA 1mL 20min.met  
Acquired: 1/27/2009 8:27:59 PM  
Printed: 1/28/2009 11:03:02 AM  
Vial: 24



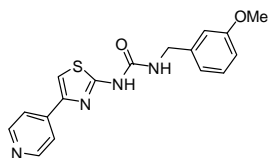
2: 254 nm, 4 nm Results

Pk #	Retention Time	Area	Area Percent
1	0.413	294	0.019
2	0.760	883	0.056
3	0.933	1289	0.082
4	1.213	864	0.055
5	5.320	1140	0.073
6	5.613	499	0.032
7	6.453	1556280	99.498
8	8.147	692	0.044
9	8.400	186	0.012
10	8.507	250	0.016
11	8.653	168	0.011
12	9.373	1006	0.064
13	9.787	54	0.003
14	11.520	296	0.019
15	12.107	234	0.015

Totals	1564135	100.000
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---< General Method Parameters >-----  
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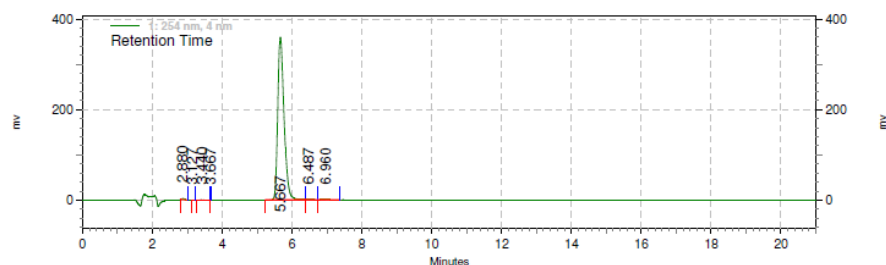
# HPLC trace1 of 5b



Page 1 of 4

## Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1240Batch23Feb2009  
CH3CN 30% TFA 0.1 in H2O 70% 1ml 20 min.met 3-12-2009 11-50-41 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min.met  
Acquired: 3/12/2009 11:52:10 PM  
Printed: 3/13/2009 10:16:44 AM



## 1: 254 nm, 4 nm Results

Retention Time	Area	Area %	Height	Height %
2.880	12580	0.28	2398	0.66
3.127	224	0.00	36	0.01
3.440	2986	0.07	306	0.08
3.667	50	0.00	40	0.01
5.667	4499536	98.94	359528	98.70
6.487	13493	0.30	864	0.24
6.960	18897	0.42	1101	0.30
Totals	4547766	100.00	364273	100.00

## < General Method Parameters >

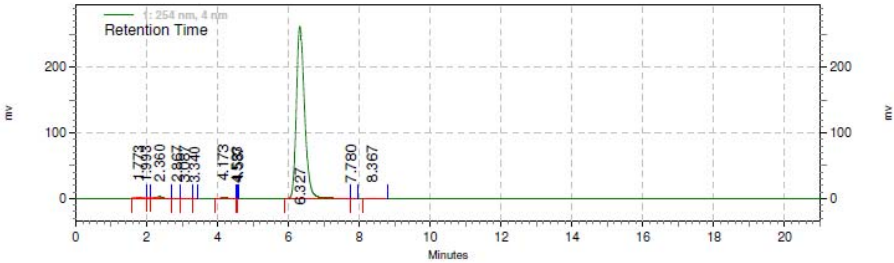
### Jasco Pumps

Model: PU-2086  
Control mode: Binary HPG  
Solvent A: 0.1 TFA in Water  
Solvent B: CH3CN  
Solvent C: N/A  
Solvent D: N/A  
Pressure range  
Min. pressure: 3.0 MPa  
Max. pressure: 50.0 MPa

HPLC trace2 of **5b**

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1240Batch23Feb2009  
MeOH 50 TFA 0.1 in H2O 50 1ml 20 min.met 3-10-2009 8-39-56 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min.met  
Acquired: 3/10/2009 8:41:24 PM  
Printed: 3/11/2009 9:48:39 AM



1: 254 nm, 4 nm  
Results

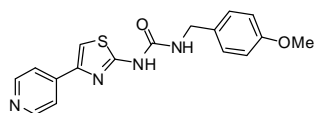
Retention Time	Area	Area %	Height	Height %
1.773	14426	0.33	1493	0.55
1.993	1362	0.03	252	0.09
2.360	36703	0.84	3017	1.12
2.867	989	0.02	116	0.04
3.087	2320	0.05	225	0.08
3.340	238	0.01	49	0.02
4.173	20116	0.46	1567	0.58
4.533	54	0.00	26	0.01
4.587	55	0.00	36	0.01
6.327	4262319	97.99	261972	97.22
7.780	681	0.02	120	0.04
8.367	10500	0.24	579	0.21
Totals	4349763	100.00	269452	100.00

-----< General Method Parameters >-----

Jasco Pumps  
=====

Model:	PU-2086
Control mode:	Binary HPG
Solvent A:	0.1 TFA in Water
Solvent B:	MeOH

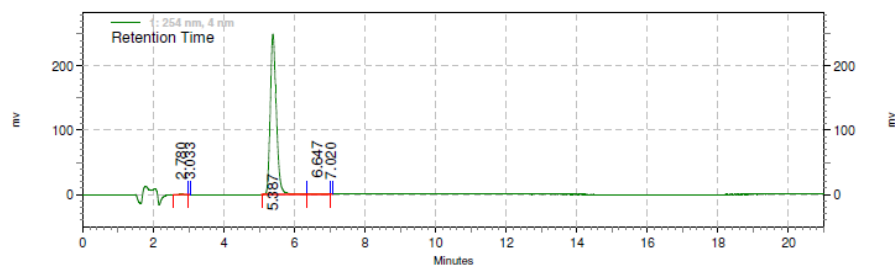
# HPLC trace1 of **5d**



Page 1 of 4

## Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1313 CH3CN 30%  
TFA 0.1 in H2O 70% 1ml 20 min.met 3-13-2009 4-21-48 AM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min.met  
Acquired: 3/13/2009 4:23:19 AM  
Printed: 3/13/2009 10:36:26 AM



## 1: 254 nm, 4 nm Results

Retention Time	Area	Area %	Height	Height %
2.780	8230	0.27	1063	0.42
3.033	178	0.01	58	0.02
5.387	2968436	99.15	249493	99.13
6.647	16876	0.56	992	0.39
7.020	164	0.01	64	0.03
Totals	2993884	100.00	251670	100.00

## ---< General Method Parameters >---

### Jasco Pumps

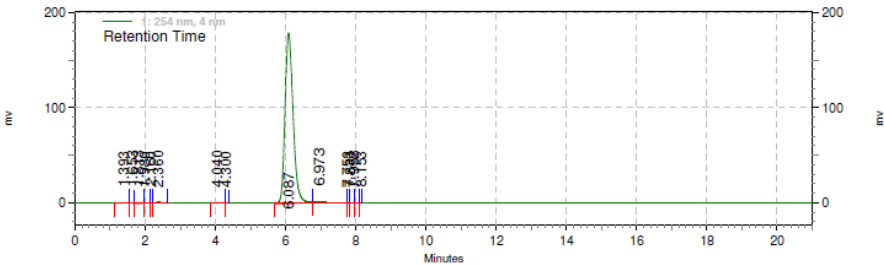
=====  
Model: PU-2086  
Control mode: Binary HPG  
Solvent A: 0.1 TFA in Water  
Solvent B: CH3CN  
Solvent C: N/A  
Solvent D: N/A  
Pressure range  
Min. pressure: 3.0 MPa  
Max. pressure: 50.0 MPa

Time program:

HPLC trace2 of 5d

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1313 MeOH 50 TFA  
0.1 in H2O 50 1ml 20 min.met 3-11-2009 1-11-02 AM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min.met  
Acquired: 3/11/2009 1:12:34 AM  
Printed: 3/11/2009 10:08:27 AM



1: 254 nm, 4 nm  
Results

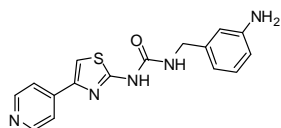
Retention Time	Area	Area %	Height	Height %
1.393	1117	0.04	93	0.05
1.653	713	0.02	151	0.08
1.813	6991	0.24	741	0.40
1.980	1492	0.05	181	0.10
2.160	400	0.01	119	0.06
2.360	9411	0.32	948	0.52
4.040	6467	0.22	513	0.28
4.300	196	0.01	53	0.03
6.087	2836699	97.74	178743	97.49
6.973	37761	1.30	1560	0.85
7.753	331	0.01	89	0.05
7.833	376	0.01	81	0.04
7.953	225	0.01	39	0.02
8.153	56	0.00	33	0.02
Totals	2902235	100.00	183344	100.00

-----  
< General Method Parameters >  
-----

Jasco Pumps  
=====

Model:	PU-2086
Control mode:	Binary HPG

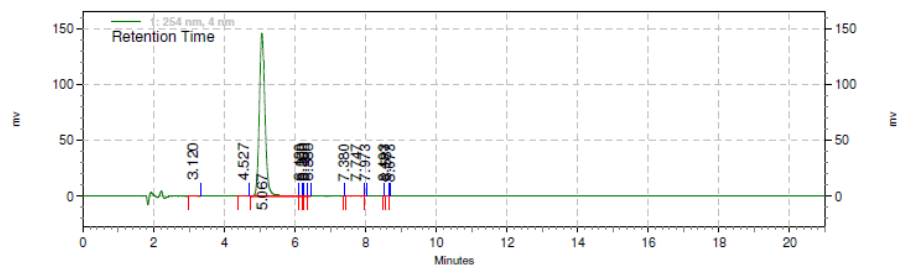
# HPLC trace1 of 5e



Page 1 of 8

## Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1332 CH3CN 15%  
TFA 0.1 in H2O 85% 1ml 20 min TEMP.met 6-9-2010 5-11-46 PM.dat  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% H2O 50%  
1ml 20 min TEMPL.met  
Acquired: 6/9/2010 5:14:01 PM  
Printed: 6/10/2010 11:27:51 AM



### 1: 254 nm, 4 nm Results

Retention Time	Area	Area %	Height	Height %
3.120	3259	0.20	378	0.26
4.527	5255	0.32	565	0.38
5.067	1627459	99.19	145749	98.81
6.120	679	0.04	173	0.12
6.200	288	0.02	115	0.08
6.280	422	0.03	54	0.04
6.380	164	0.01	59	0.04
7.380	37	0.00	43	0.03
7.747	2710	0.17	180	0.12
7.973	136	0.01	68	0.05
8.493	36	0.00	27	0.02
8.587	247	0.02	57	0.04
8.673	42	0.00	39	0.03

Totals	1640734	100.00	147507	100.00
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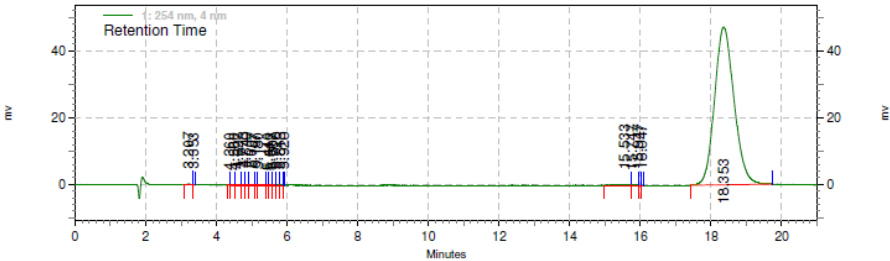
### Spectrum Max Plot Results

Retention Time	Area	Area %	Height	Height %
0.140	2835	0.10	586	0.17
0.287	2732	0.10	670	0.20
0.360	1429	0.05	826	0.24
0.433	2686	0.09	1028	0.30

HPLC trace2 of **5e**

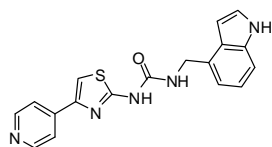
Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1332 MeOH 20% TFA  
0.1 in H2O 80% 1ml 20 min TEMPL.met 6-9-2010 1-27-01 PM.dat  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% H2O 50%  
1ml 20 min TEMPL.met  
Acquired: 6/9/2010 1:29:16 PM  
Printed: 6/10/2010 11:25:13 AM



1: 254 nm, 4 nm				
Results				
Retention Time	Area	Area %	Height	Height %
3.207	1713	0.09	224	0.46
3.353	107	0.01	43	0.09
4.360	54	0.00	38	0.08
4.500	247	0.01	57	0.12
4.627	351	0.02	58	0.12
4.773	507	0.03	107	0.22
4.840	469	0.03	108	0.22
5.007	922	0.05	125	0.25
5.107	351	0.02	112	0.23
5.180	1369	0.08	104	0.21
5.440	234	0.01	75	0.15
5.513	285	0.02	74	0.15
5.607	221	0.01	71	0.14
5.720	295	0.02	67	0.14
5.813	175	0.01	68	0.14
5.920	91	0.00	61	0.12
15.533	6284	0.34	237	0.48
15.747	1099	0.06	173	0.35
15.947	204	0.01	64	0.13
16.047	104	0.01	62	0.13
18.353	1807016	99.17	47235	96.08
Totals				
	1822098	100.00	49163	100.00

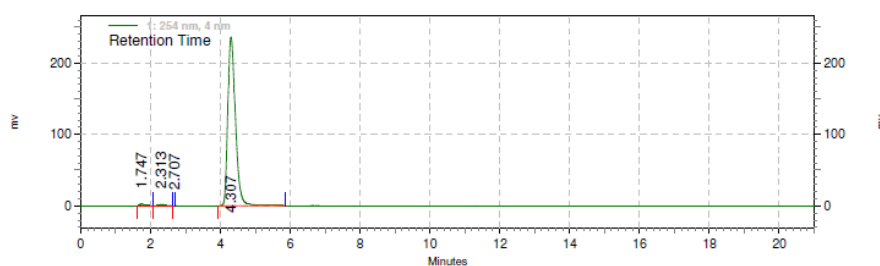
# HPLC trace1 of 5f



Page 1 of 7

## Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1446 MeOH 50% TFA  
0.1 in H2O 50% 1ml 20 min TEMPL.met 1-6-2010 11-14-23 AM.dat  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min TEMPL.met  
Acquired: 1/6/2010 11:16:41 AM  
Printed: 1/6/2010 12:07:12 PM



### 1: 254 nm, 4 nm Results

Retention Time	Area	Area %	Height	Height %
1.747	29667	0.81	2726	1.13
2.313	24951	0.68	2189	0.91
2.707	134	0.00	41	0.02
4.307	3599745	98.50	236252	97.95
Totals	3654497	100.00	241208	100.00

### Spectrum Max Plot Results

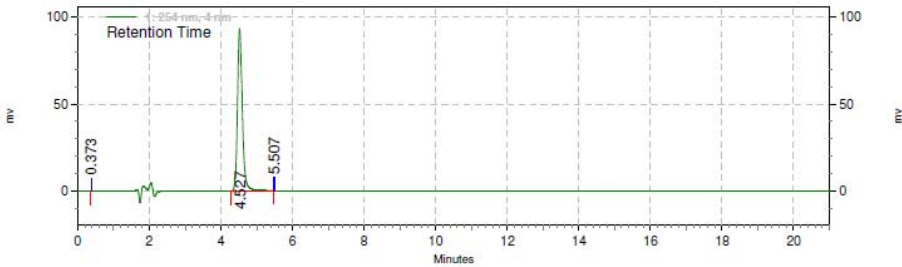
Retention Time	Area	Area %	Height	Height %
0.107	821	0.01	472	0.06
0.160	936	0.01	487	0.07
0.267	527	0.01	364	0.05
0.340	832	0.01	337	0.05
0.420	1478	0.02	628	0.09
0.473	182	0.00	401	0.06
0.553	2500	0.03	766	0.11
0.680	1229	0.02	600	0.08
0.713	439	0.01	722	0.10
0.780	1208	0.02	597	0.08
0.827	526	0.01	403	0.06
0.973	1659	0.02	693	0.10
1.060	1651	0.02	451	0.06



HPLC trace2 of **5f**

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1446 CH3CN 30%  
TFA 0.1 in H2O 70% 1ml 20 min TEMP.met 6-8-2010 12-38-37 PM.dat  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% H2O 50%  
1ml 20 min TEMPL.met  
Acquired: 6/8/2010 12:40:53 PM  
Printed: 6/10/2010 2:39:17 PM



1: 254 nm, 4 nm

Results

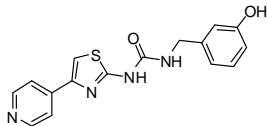
Retention Time	Area	Area %	Height	Height %
0.373	20	0.00	22	0.02
4.527	886352	99.99	93095	99.92
5.507	59	0.01	48	0.05
Totals				
	886431	100.00	93165	100.00

Spectrum Max

Plot Results

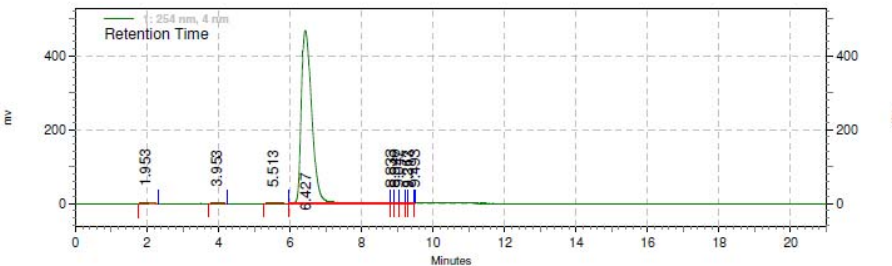
Retention Time	Area	Area %	Height	Height %
0.200	1452	0.05	0	0.00
0.300	1345	0.05	428	0.08
0.413	4077	0.14	1076	0.21
0.467	2927	0.10	1151	0.22
0.527	4939	0.17	1083	0.21
0.607	6394	0.22	1315	0.25
0.680	5888	0.20	1782	0.34
0.740	5826	0.20	1860	0.36
0.807	10250	0.35	1989	0.38
0.933	16170	0.55	2267	0.44
1.020	7670	0.26	2549	0.49
1.067	8037	0.28	2524	0.48
1.147	15410	0.53	2833	0.54
1.220	11902	0.41	3046	0.59

HPLC trace1 of **5g**



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1447 Batch 12.10.2009  
MeOH 40% TFA 0.1 in H2O 60% 1ml 20 min TEMPL.met 12-15-2009 3-26-06 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 40% TFA 0.1 in  
H2O 60% 1ml 20 min TEMPL.met  
Acquired: 12/15/2009 3:27:37 PM  
Printed: 12/15/2009 3:50:26 PM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
1.953	59120	0.61	3480	0.73
3.953	21647	0.22	1694	0.36
5.513	26563	0.28	1512	0.32
6.427	9531861	98.83	467699	98.39
8.833	1730	0.02	290	0.06
8.940	1408	0.01	232	0.05
9.047	1443	0.01	201	0.04
9.267	476	0.00	113	0.02
9.313	546	0.01	95	0.02
9.493	28	0.00	33	0.01

Totals	9644822	100.00	475349	100.00
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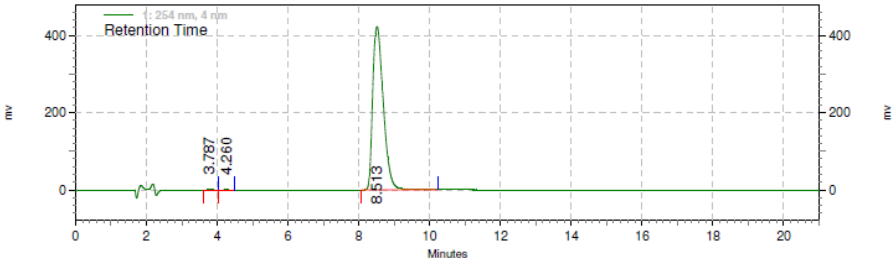
Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.200	1229	0.01	466	0.05
0.313	487	0.00	678	0.07
0.407	1194	0.01	356	0.04
0.487	147	0.00	152	0.02
0.533	501	0.00	345	0.04
0.687	1105	0.01	501	0.05
0.760	533	0.00	653	0.07

HPLC trace2 of **5g**

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1447 CH3CN 20%  
TFA 0.1 in H2O 80% 1ml 20 min TEMP.met 12-3-2009 1-12-02 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 20% TFA 0.1 in  
H2O 80% 1ml 20 min TEMP.met  
Acquired: 12/3/2009 1:13:34 PM  
Printed: 12/3/2009 1:37:05 PM



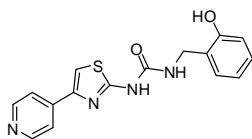
1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
3.787	10990	0.12	1188	0.28
4.260	5299	0.06	466	0.11
8.513	8834572	99.82	422750	99.61
Totals				
	8850861	100.00	424404	100.00

Spectrum Max  
Plot Results

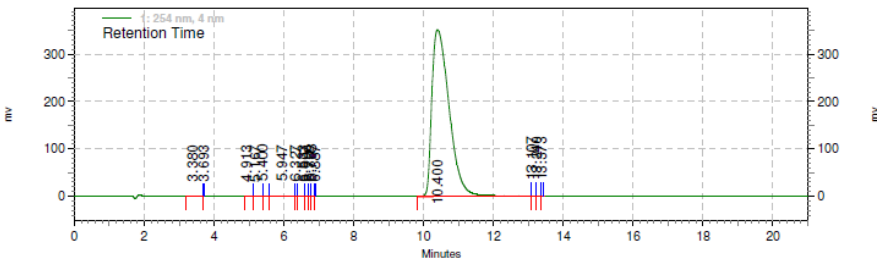
Retention Time	Area	Area %	Height	Height %
0.373	476	0.00	425	0.03
0.500	1092	0.01	548	0.04
0.607	826	0.00	530	0.04
0.693	782	0.00	310	0.02
0.827	1282	0.01	448	0.03
0.920	1993	0.01	558	0.04
1.113	2982	0.02	710	0.05
1.213	1310	0.01	534	0.04
1.273	1880	0.01	702	0.05
1.347	773	0.00	566	0.04
1.393	1292	0.01	566	0.04
1.447	2775	0.01	516	0.03
1.740	1556971	8.25	293241	19.83
1.847	78950	0.42	11450	0.77

HPLC trace1 of **5h**



Area % Report

Data File: CAEZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1448 MeOH 40% TFA  
0.1 in H2O 60% 1ml 20 min TEMPL.met 1-5-2010 10:48:57 PM  
Method: CAEZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 40% TFA 0.1 in  
H2O 60% 1ml 20 min TEMPL.met  
Acquired: 1/5/2010 10:50:30 PM  
Printed: 1/6/2010 9:57:42 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
3.380	3310	0.03	276	0.08
3.693	66	0.00	40	0.01
4.913	602	0.00	64	0.02
5.167	632	0.01	61	0.02
5.400	421	0.00	66	0.02
5.947	5952	0.05	326	0.09
6.327	163	0.00	61	0.02
6.533	729	0.01	97	0.03
6.607	453	0.00	94	0.03
6.720	102	0.00	54	0.02
6.793	199	0.00	54	0.02
6.887	67	0.00	62	0.02
10.400	12067135	99.87	351453	99.50
13.107	1563	0.01	253	0.07
13.240	843	0.01	156	0.04
13.373	315	0.00	90	0.03

Totals	12082552	100.00	353207	100.00
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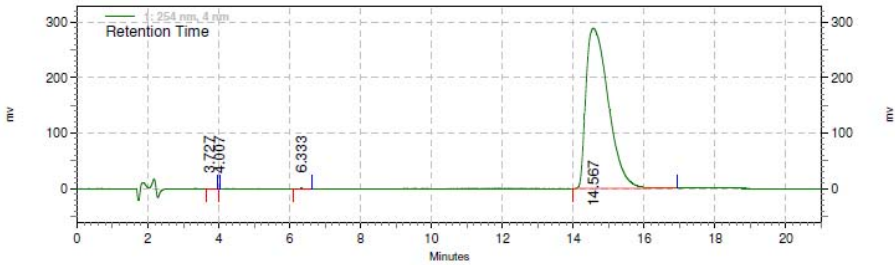
Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.153	104	0.00	69	0.01

HPLC trace2 of 5h

Area % Report

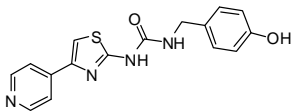
Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1448 CH3CN 20%  
TFA 0.1 in H2O 80% 1ml 20 min TEMP.met 12-31-2009 3-54-50 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 20% TFA 0.1 in  
H2O 80% 1ml 20 min TEMP.met  
Acquired: 12/31/2009 3:56:21 PM  
Printed: 1/5/2010 9:44:20 AM



1: 254 nm, 4 nm				
Results				
Retention Time	Area	Area %	Height	Height %
3.727	2541	0.02	278	0.10
4.007	15	0.00	30	0.01
6.333	5296	0.04	366	0.13
14.567	12661259	99.94	289021	99.77
Totals	12669111	100.00	289695	100.00

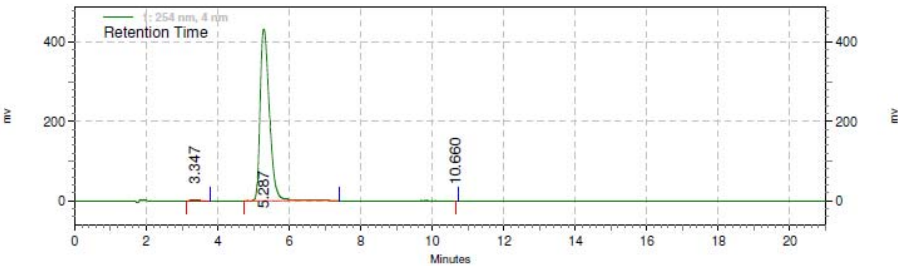
Spectrum Max				
Plot Results				
Retention Time	Area	Area %	Height	Height %
0.247	1374	0.01	843	0.05
0.273	850	0.00	686	0.04
0.380	937	0.00	550	0.04
0.453	442	0.00	467	0.03
0.600	437	0.00	603	0.04
0.673	590	0.00	556	0.04
0.713	193	0.00	201	0.01
0.793	891	0.00	522	0.03
0.893	1386	0.01	570	0.04
1.020	1158	0.00	50	0.00
1.293	2479	0.01	785	0.05
1.347	1431	0.01	628	0.04
1.433	1670	0.01	147	0.01

HPLC trace1 of **5i**



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1333 MeOH 40% TFA  
0.1 in H2O 60% 1ml 20 min TEMPL.met 1-5-2010 9-18-35 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 40% TFA 0.1 in  
H2O 60% 1ml 20 min TEMPL.met  
Acquired: 1/5/2010 9:20:06 PM  
Printed: 1/6/2010 9:54:04 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
3.347	33284	0.42	2533	0.58
5.287	7825463	99.58	433348	99.41
10.660	108	0.00	22	0.01
Totals	7858855	100.00	435903	100.00

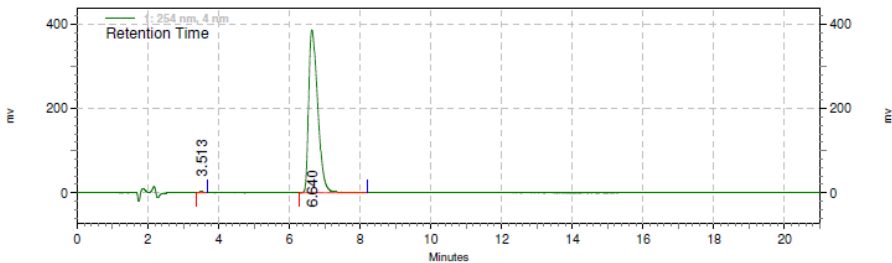
Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.207	572	0.00	480	0.06
0.300	885	0.01	496	0.06
0.367	967	0.01	436	0.05
0.460	615	0.01	444	0.06
0.513	603	0.01	273	0.03
0.647	963	0.01	544	0.07
0.773	506	0.00	442	0.05
0.820	401	0.00	412	0.05
0.840	662	0.01	29	0.00
0.993	421	0.00	481	0.06
1.067	958	0.01	444	0.06
1.173	375	0.00	175	0.02
1.260	589	0.00	385	0.05
1.327	610	0.01	449	0.06

HPLC trace2 of **5i**

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1333 CH3CN 20%  
TFA 0.1 in H2O 80% 1ml 20 min TEMP.met 12-31-2009 6-55-36 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 20% TFA 0.1 in  
H2O 80% 1ml 20 min TEMP.met  
Acquired: 12/31/2009 6:57:07 PM  
Printed: 1/5/2010 9:48:26 AM



1: 254 nm, 4 nm

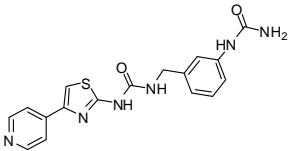
Results

Retention Time	Area	Area %	Height	Height %
3.513	20746	0.30	2472	0.64
6.640	6916161	99.70	386800	99.36
Totals	6936907	100.00	389272	100.00

Spectrum Max  
Plot Results

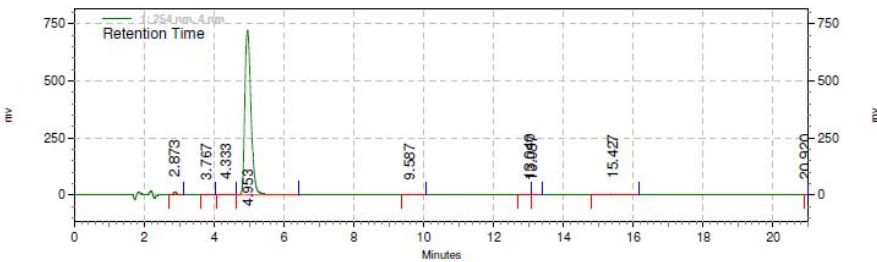
Retention Time	Area	Area %	Height	Height %
0.113	796	0.01	556	0.04
0.267	901	0.01	479	0.04
0.333	717	0.01	0	0.00
0.460	74	0.00	91	0.01
0.487	89	0.00	100	0.01
0.547	368	0.00	460	0.04
0.607	573	0.00	586	0.05
0.660	387	0.00	302	0.02
0.747	509	0.00	221	0.02
0.827	346	0.00	185	0.01
0.980	715	0.01	403	0.03
1.027	563	0.00	451	0.04
1.100	430	0.00	0	0.00
1.220	379	0.00	403	0.03
1.313	198	0.00	298	0.02

HPLC trace1 of **5j**



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1499 CH3CN 20%  
TFA 0.1 in H2O 80% 1ml 20 min TEMP.met 12-3-2009 12-26-51 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 20% TFA 0.1 in  
H2O 80% 1ml 20 min TEMP.met  
Acquired: 12/3/2009 12:28:19 PM  
Printed: 12/3/2009 12:59:18 PM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
2.873	84478	0.93	11364	1.54
3.767	5495	0.06	564	0.08
4.333	26217	0.29	2207	0.30
4.953	8823030	97.62	721449	97.62
9.587	7902	0.09	375	0.05
13.040	3079	0.03	239	0.03
13.087	2043	0.02	219	0.03
15.427	85950	0.95	2591	0.35
20.920	159	0.00	34	0.00
Totals	9038353	100.00	739042	100.00

Spectrum Max  
Plot Results

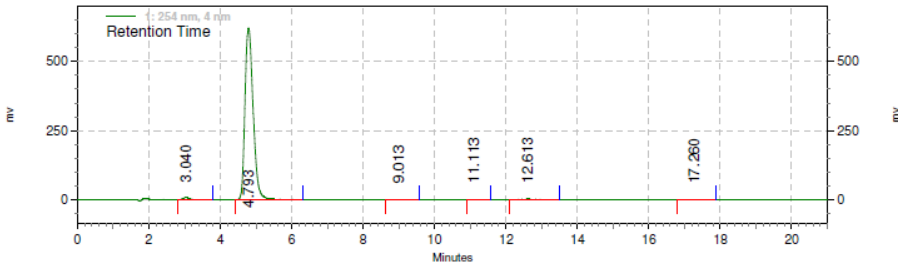
Retention Time	Area	Area %	Height	Height %
0.173	361	0.00	237	0.01
0.293	376	0.00	281	0.01
0.327	191	0.00	144	0.01
0.407	280	0.00	211	0.01
0.487	455	0.00	489	0.03
0.540	110	0.00	129	0.01
0.627	304	0.00	173	0.01
0.720	355	0.00	181	0.01



HPLC trace2 of 5j

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1499 MeOH 40% TFA  
0.1 in H2O 60% 1ml 20 min TEMPL.met 12-1-2009 2:44:17 PM.dat  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 40% TFA 0.1 in  
H2O 60% 1ml 20 min TEMPL.met  
Acquired: 12/1/2009 2:46:34 PM  
Printed: 12/1/2009 4:02:12 PM



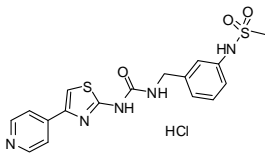
1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
3.040	107454	1.06	7796	1.23
4.793	9886770	97.75	620447	98.18
9.013	14870	0.15	541	0.09
11.113	4046	0.04	192	0.03
12.613	93501	0.92	2777	0.44
17.260	7529	0.07	196	0.03
Totals	10114170	100.00	631949	100.00

Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.200	229	0.00	368	0.03
0.340	1025	0.01	317	0.02
0.453	616	0.00	387	0.03
0.513	304	0.00	300	0.02
0.593	380	0.00	428	0.03
0.667	566	0.00	21	0.00
0.740	1249	0.01	615	0.05
0.960	458	0.00	377	0.03
1.027	230	0.00	301	0.02
1.087	698	0.00	703	0.06
1.153	390	0.00	539	0.04

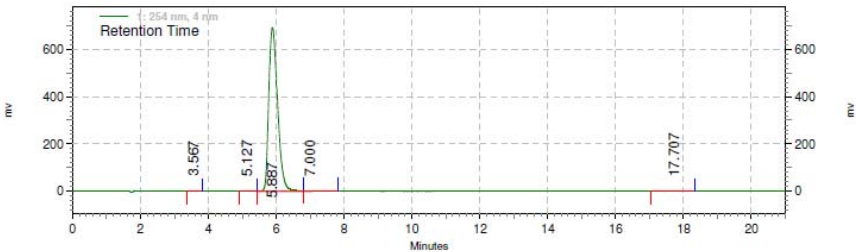
HPLC trace1 of **5k**



Page 1 of 7

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1490 MeOH 40% TFA  
0.1 in H2O 60% 1ml 20 min TEMPL.met 12-1-2009 12:42:33 PM.dat  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 40% TFA 0.1 in  
H2O 60% 1ml 20 min TEMPL.met  
Acquired: 12/1/2009 12:44:51 PM  
Printed: 12/1/2009 1:22:05 PM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
3.567	7252	0.06	613	0.09
5.127	26353	0.21	1785	0.26
5.887	12549519	99.06	691818	99.23
7.000	69484	0.55	2594	0.37
17.707	15665	0.12	410	0.06
Totals				
	12668273	100.00	697220	100.00

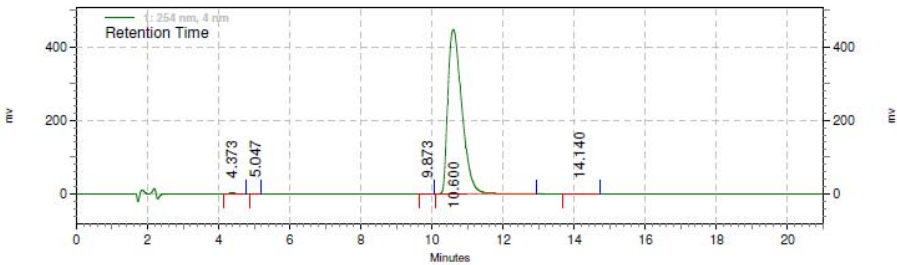
Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.480	204	0.00	142	0.01
0.647	186	0.00	95	0.01
0.713	220	0.00	141	0.01
0.773	356	0.00	183	0.01
0.867	197	0.00	103	0.01
0.927	393	0.00	695	0.05
0.973	221	0.00	107	0.01
1.040	213	0.00	184	0.01
1.080	186	0.00	118	0.01
1.233	425	0.00	186	0.01
1.353	774	0.00	536	0.04
1.427	549	0.00	143	0.01

HPLC trace2 of 5k

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1490 CH3CN 20%  
TFA 0.1 in H2O 80% 1ml 20 min TEMP.met 12-3-2009 10-56-25 AM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 20% TFA 0.1 in  
H2O 80% 1ml 20 min TEMP.met  
Acquired: 12/3/2009 10:57:56 AM  
Printed: 12/3/2009 11:41:14 AM



1: 254 nm, 4 nm

Results

Retention Time	Area	Area %	Height	Height %
4.373	30737	0.25	2859	0.63
5.047	5454	0.04	564	0.12
9.873	2401	0.02	173	0.04
10.600	12224471	99.48	447924	99.01
14.140	25413	0.21	900	0.20

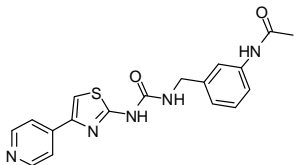
Totals	12288476	100.00	452420	100.00
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Spectrum Max

Plot Results

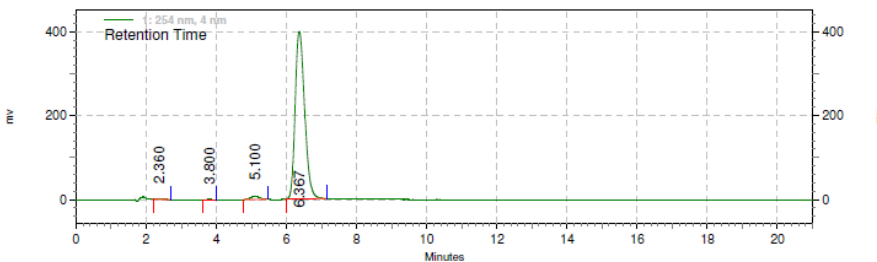
Retention Time	Area	Area %	Height	Height %
0.107	591	0.00	237	0.01
0.187	216	0.00	113	0.01
0.327	1119	0.00	231	0.01
0.447	1260	0.00	232	0.01
0.680	3258	0.01	517	0.03
0.840	1740	0.01	445	0.03
0.920	1665	0.01	316	0.02
1.027	628	0.00	317	0.02
1.107	2592	0.01	446	0.03
1.193	980	0.00	336	0.02
1.260	1760	0.01	763	0.05
1.340	2348	0.01	490	0.03

HPLC trace1 of **51**



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1492 MeOH 40% TFA  
0.1 in H2O 60% 1ml 20 min TEMPL.met 12-1-2009 1-31-22 PM.dat  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 40% TFA 0.1 in  
H2O 60% 1ml 20 min TEMPL.met  
Acquired: 12/1/2009 1:33:40 PM  
Printed: 12/1/2009 2:03:06 PM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
2.360	23528	0.31	1923	0.47
3.800	2673	0.03	239	0.06
5.100	126131	1.65	7653	1.87
6.367	7489016	98.01	398880	97.60
Totals	7641348	100.00	408695	100.00

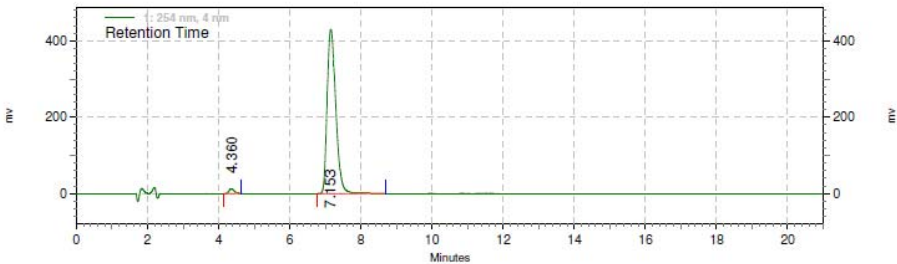
Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.293	247	0.00	232	0.03
0.393	394	0.00	150	0.02
0.580	590	0.01	103	0.02
0.753	304	0.00	52	0.01
0.847	793	0.01	0	0.00
1.067	96	0.00	89	0.01
1.107	361	0.00	387	0.06
1.247	489	0.00	195	0.03
1.433	749	0.01	166	0.02
1.620	549	0.00	116	0.02
1.760	606072	5.46	89287	13.18
2.347	31199	0.28	2235	0.33
2.887	1601	0.01	367	0.05

HPLC trace2 of 51

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1492 CH3CN 20%  
TFA 0.1 in H2O 80% 1ml 20 min TEMP.met 12-3-2009 11-41-38 AM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 20% TFA 0.1 in  
H2O 80% 1ml 20 min TEMP.met  
Acquired: 12/3/2009 11:43:09 AM  
Printed: 12/3/2009 12:33:09 PM



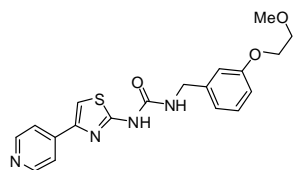
1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
4.360	121059	1.64	11732	2.65
7.153	7276752	98.36	430165	97.35
Totals	7397811	100.00	441897	100.00

Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.160	232	0.00	466	0.03
0.393	1444	0.01	360	0.03
0.467	279	0.00	433	0.03
0.533	658	0.00	370	0.03
0.620	546	0.00	357	0.03
0.707	793	0.01	268	0.02
0.800	761	0.01	59	0.00
0.967	1517	0.01	606	0.04
1.047	891	0.01	457	0.03
1.087	526	0.00	311	0.02
1.233	1524	0.01	619	0.05
1.300	1919	0.01	689	0.05
1.453	3130	0.02	631	0.05
1.747	1581069	11.27	280648	20.77
2.207	2270825	16.19	387348	28.67

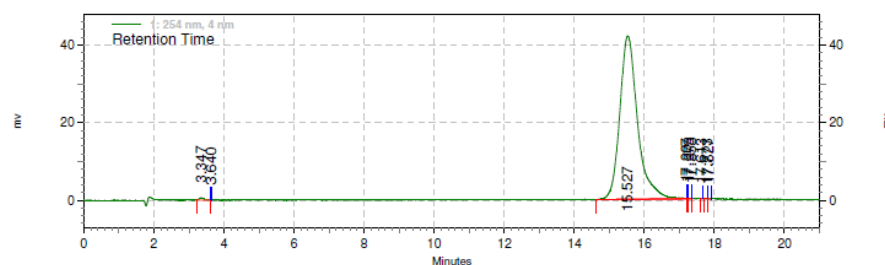
# HPLC trace of **5m**



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## Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1445 MeOH 40% TFA  
0.1 in H2O 60% 1ml 20 min TEMPL.met 6-8-2010 6:49:42 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% H2O 50%  
1ml 20 min TEMPL.met  
Acquired: 6/8/2010 6:51:09 PM  
Printed: 6/10/2010 2:36:22 PM



## 1: 254 nm, 4 nm Results

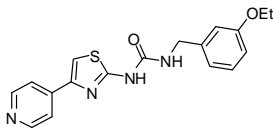
Retention Time	Area	Area %	Height	Height %
3.347	5412	0.36	588	1.36
3.640	99	0.01	48	0.11
15.527	1482080	99.57	42124	97.78
17.207	184	0.01	88	0.20
17.273	253	0.02	69	0.16
17.353	29	0.00	45	0.10
17.613	67	0.00	25	0.06
17.773	160	0.01	44	0.10
17.827	236	0.02	49	0.11

Totals	1488520	100.00	43080	100.00
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## Spectrum Max Plot Results

Retention Time	Area	Area %	Height	Height %
0.120	700	0.02	554	0.21
0.220	523	0.01	479	0.18
0.260	187	0.01	185	0.07
0.487	750	0.02	344	0.13
0.593	629	0.02	286	0.11
0.647	627	0.02	506	0.19
0.753	1048	0.03	490	0.19
0.900	885	0.02	517	0.20

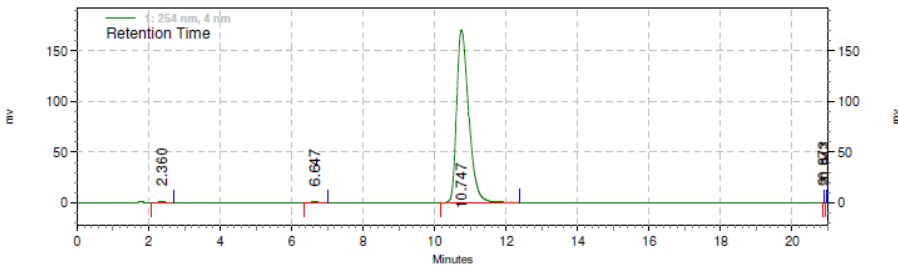
HPLC trace1 of **5n**



Page 1 of 8

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1461 MeOH 50% TFA  
0.1 in H2O 50% 1ml 20 min TEMPL.met 10-1-2009 4-34-58 AM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min TEMPL.met  
Acquired: 10/1/2009 4:36:27 AM  
Printed: 10/1/2009 10:00:18 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
2.360	17365	0.43	1529	0.88
6.647	15695	0.39	983	0.57
10.747	4014400	99.18	170751	98.51
20.873	59	0.00	27	0.02
20.947	69	0.00	46	0.03

Totals	4047588	100.00	173336	100.00
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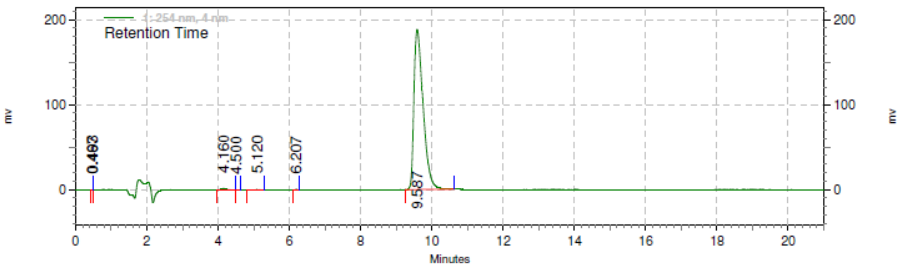
Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.207	448	0.01	842	0.16
0.300	389	0.00	335	0.06
0.353	494	0.01	192	0.04
0.433	229	0.00	182	0.03
0.533	458	0.01	248	0.05
0.580	616	0.01	0	0.00
0.693	158	0.00	299	0.06
0.907	504	0.01	365	0.07
0.967	172	0.00	210	0.04
1.013	187	0.00	263	0.05
1.073	189	0.00	87	0.02
1.133	419	0.00	590	0.11

HPLC trace2 of 5n

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1461 CH3CN 30%  
TFA 0.1 in H2O 70% 1ml 20 min TEMP.met 9-30-2009 2-03-18 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min TEMP.met  
Acquired: 9/30/2009 2:04:49 PM  
Printed: 10/1/2009 10:51:38 AM



1: 254 nm, 4 nm  
Results

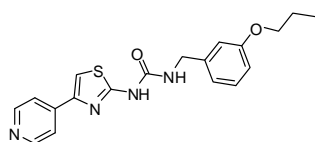
Retention Time	Area	Area %	Height	Height %
0.467	105	0.00	50	0.03
0.493	0	0.00	0	0.00
4.160	14759	0.44	1628	0.86
4.500	132	0.00	32	0.02
5.120	2122	0.06	165	0.09
6.207	515	0.02	88	0.05
9.587	3372352	99.48	188225	98.97
Totals	3389985	100.00	190188	100.00

Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.113	747	0.01	662	0.07
0.180	5010	0.04	707	0.07
0.353	5037	0.04	1658	0.17
0.407	6348	0.05	1626	0.17
0.480	5060	0.04	1781	0.18
0.553	7174	0.06	1955	0.20
0.587	27193	0.23	2451	0.25
0.767	15459	0.13	3183	0.33
0.927	41995	0.36	3787	0.39
1.187	50460	0.43	5048	0.52



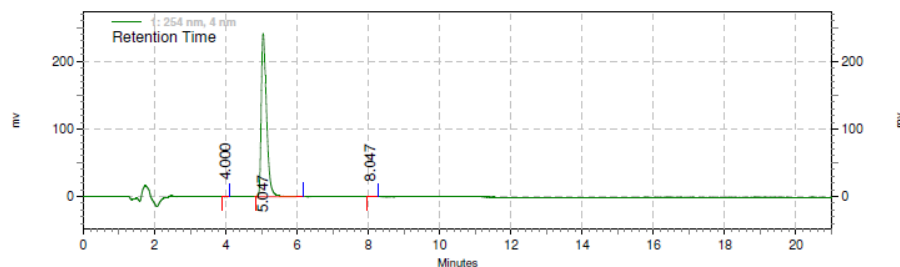
# HPLC trace1 of 5o



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## Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1462 CH3CN 40%  
TFA 0.1 in H2O 60% 1ml 20 min TEMPL.met 9-30-2009 10:30:57 AM.dat  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 40% TFA 0.1 in  
H2O 60% 1ml 20 min TEMPL.met  
Acquired: 9/30/2009 10:33:14 AM  
Printed: 9/30/2009 11:18:44 AM



## 1: 254 nm, 4 nm Results

Retention Time	Area	Area %	Height	Height %
4.000	831	0.03	119	0.05
5.047	2502653	99.94	241375	99.92
8.047	763	0.03	81	0.03

Totals	2504247	100.00	241575	100.00
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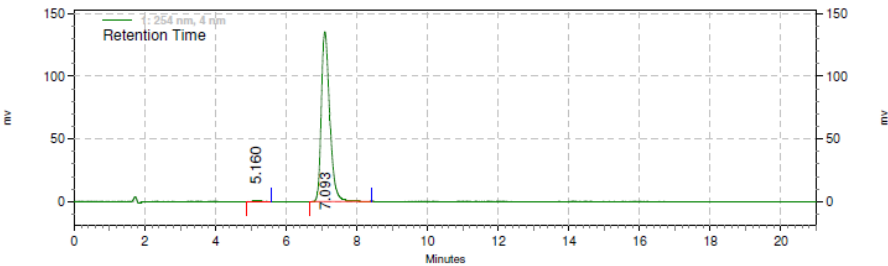
## Spectrum Max Plot Results

Retention Time	Area	Area %	Height	Height %
0.187	50	0.00	0	0.00
0.240	982	0.01	403	0.04
0.320	1794	0.02	408	0.04
0.407	2653	0.02	760	0.07
0.447	4558	0.04	733	0.07
0.640	10172	0.09	1475	0.14
0.747	19490	0.18	2045	0.19
0.947	32121	0.30	2694	0.25
1.140	16580	0.15	2793	0.26
1.207	11081	0.10	2758	0.26
1.440	323838	3.02	39618	3.70
1.520	175175	1.63	53414	4.99
1.740	192668	1.80	20589	1.92
1.960	4607674	42.99	398421	37.19

HPLC trace2 of **5o**

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1462 MeOH 60% TFA  
0.1 in H2O 40% 1ml 20 min TEMPL.met 10-1-2009 11-23-33 AM.dat  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 60% TFA 0.1 in  
H2O 40% 1ml 20 min TEMPL.met  
Acquired: 10/1/2009 11:25:50 AM  
Printed: 10/1/2009 1:04:34 PM



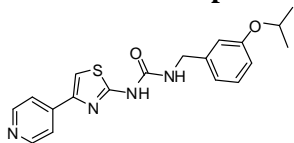
1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
5.160	14567	0.64	954	0.70
7.093	2251309	99.36	135430	99.30
Totals				
	2265876	100.00	136384	100.00

Spectrum Max  
Plot Results

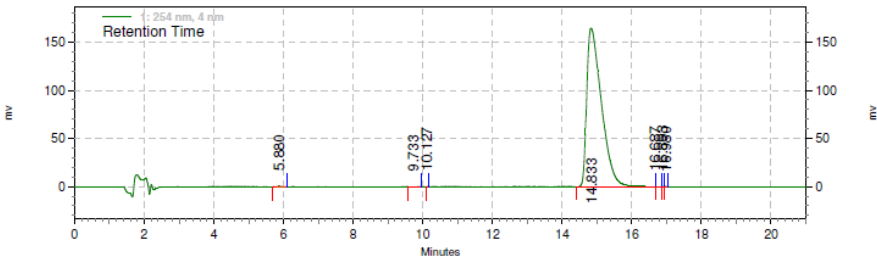
Retention Time	Area	Area %	Height	Height %
0.093	670	0.01	398	0.09
0.180	440	0.01	456	0.11
0.353	1128	0.02	410	0.09
0.560	3228	0.07	599	0.14
0.647	1340	0.03	1090	0.25
0.687	965	0.02	684	0.16
0.787	3413	0.07	1011	0.23
0.820	3414	0.07	862	0.20
0.967	4543	0.09	1092	0.25
1.087	3899	0.08	1301	0.30
1.153	3709	0.07	1274	0.29
1.227	1933	0.04	1076	0.25
1.293	3935	0.08	1547	0.36
1.340	2957	0.06	1204	0.28
1.433	5080	0.10	1095	0.25

HPLC trace1 of **5p**



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1454 CH3CN 30%  
TFA 0.1 in H2O 70% 1ml 20 min TEMP.met 9-30-2009 2-48-30 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min TEMP.met  
Acquired: 9/30/2009 2:49:59 PM  
Printed: 10/1/2009 10:54:15 AM



1: 254 nm, 4 nm

Results

Retention Time	Area	Area %	Height	Height %
5.880	5094	0.11	500	0.30
9.733	1627	0.03	123	0.07
10.127	111	0.00	50	0.03
14.833	4821017	99.83	164629	99.43
16.687	1112	0.02	143	0.09
16.893	200	0.00	77	0.05
16.980	138	0.00	49	0.03
Totals	4829299	100.00	165571	100.00

Spectrum Max

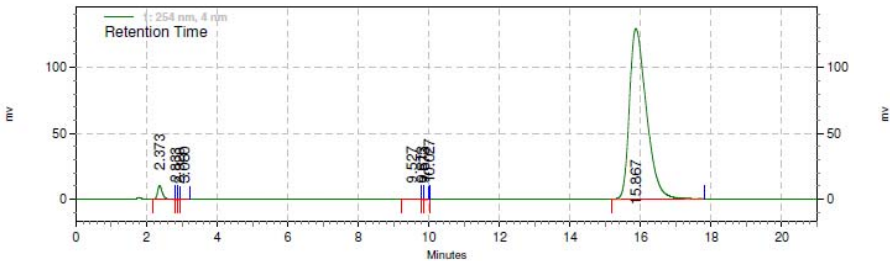
Plot Results

Retention Time	Area	Area %	Height	Height %
0.060	393	0.00	553	0.06
0.180	210	0.00	173	0.02
0.233	120	0.00	67	0.01
0.280	118	0.00	192	0.02
0.340	383	0.00	380	0.04
0.493	612	0.00	232	0.02
0.640	620	0.00	424	0.05
0.793	838	0.01	486	0.05
0.853	302	0.00	145	0.02
0.960	825	0.01	275	0.03

HPLC trace2 of 5p

Area % Report

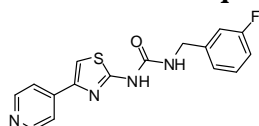
Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1454 MeOH 50% TFA  
0.1 in H2O 50% 1ml 20 min TEMPL.met 10-1-2009 5-20-09 AM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min TEMPL.met  
Acquired: 10/1/2009 5:21:38 AM  
Printed: 10/1/2009 10:01:44 AM



1: 254 nm, 4 nm				
Results				
Retention Time	Area	Area %	Height	Height %
2.373	95348	2.16	10267	7.31
2.833	182	0.00	52	0.04
2.920	95	0.00	45	0.03
3.080	742	0.02	90	0.06
9.527	4485	0.10	234	0.17
9.813	273	0.01	70	0.05
9.873	213	0.00	51	0.04
10.027	5	0.00	14	0.01
15.867	4321372	97.71	129591	92.29
Totals	4422715	100.00	140414	100.00

Spectrum Max				
Plot Results				
Retention Time	Area	Area %	Height	Height %
0.140	522	0.01	293	0.06
0.253	420	0.00	244	0.05
0.300	827	0.01	522	0.11
0.480	1060	0.01	641	0.13
0.547	253	0.00	361	0.07
0.600	661	0.01	769	0.16
0.800	1150	0.01	541	0.11
0.873	636	0.01	30	0.01

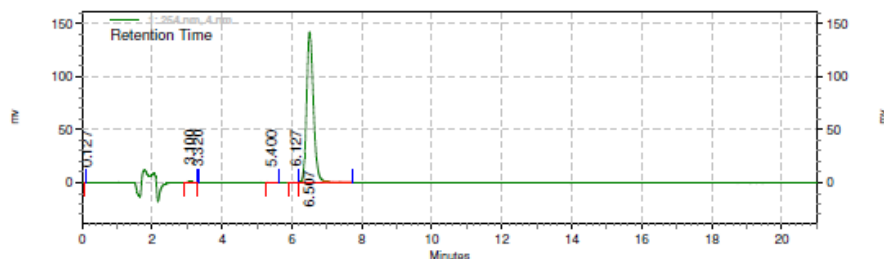
# HPLC trace1 of 5q



Page 1 of 4

## Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1299Batch9Feb2009  
CH3CN 30% TFA 0.1 in H2O 70% 1ml 20 min.met 3-12-2009 9:35-08 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min.met  
Acquired: 3/12/2009 9:36:36 PM  
Printed: 3/13/2009 10:19:16 AM



1: 254 nm, 4 nm

### Results

Retention Time	Area	Area %	Height	Height %
0.127	62	0.00	40	0.03
3.100	10211	0.53	1407	0.98
3.320	46	0.00	34	0.02
5.400	1292	0.07	105	0.07
6.127	3686	0.19	410	0.28
6.507	1929205	99.21	142084	98.61

Totals	1944502	100.00	144080	100.00
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--< General Method Parameters >--

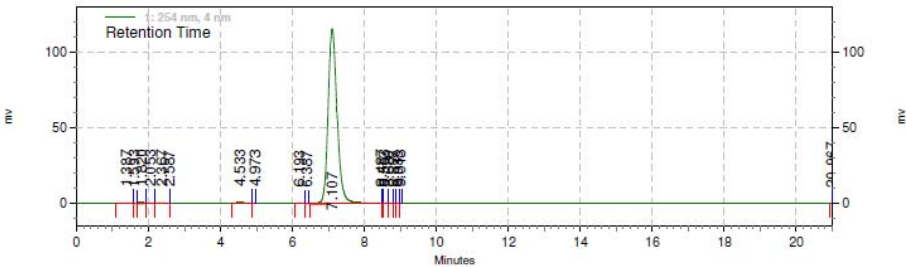
### Jasco Pumps

=====  
Model: PU-2086  
Control mode: Binary HPG  
Solvent A: 0.1 TFA in Water  
Solvent B: CH3CN  
Solvent C: N/A  
Solvent D: N/A  
Pressure range  
Min. pressure: 3.0 MPa  
Max. pressure: 50.0 MPa

HPLC trace2 of 5q

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1299Batch9Feb2009  
MeOH 50 TFA 0.1 in H2O 50 1ml 20 min.met 3-10-2009 6-24-19 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min.met  
Acquired: 3/10/2009 6:25:50 PM  
Printed: 3/11/2009 9:50:49 AM

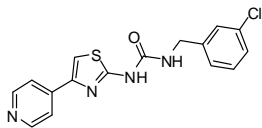


1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
1.387	3526	0.17	231	0.20
1.593	911	0.04	165	0.14
1.820	6495	0.32	705	0.60
2.053	1709	0.08	155	0.13
2.367	4109	0.20	362	0.31
2.587	3	0.00	0	0.00
4.533	10144	0.50	759	0.64
4.973	97	0.00	6	0.01
6.193	525	0.03	77	0.07
6.387	72	0.00	34	0.03
7.107	2003740	98.54	115172	97.43
8.487	295	0.01	143	0.12
8.553	796	0.04	120	0.10
8.680	553	0.03	97	0.08
8.827	168	0.01	78	0.07
8.933	94	0.00	44	0.04
9.013	55	0.00	33	0.03
20.967	80	0.00	33	0.03
Totals	2033372	100.00	118214	100.00

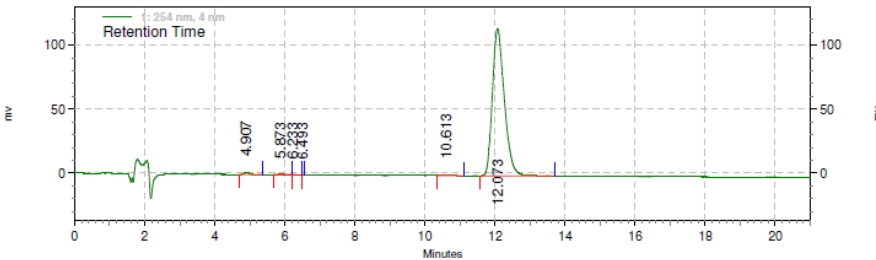
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---< General Method Parameters >-----  
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HPLC trace1 of 5t



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1314 CH3CN 30%  
TFA 0.1 in H2O 70% 1ml 20 min.met 3-12-2009 7-19-31 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min.met  
Acquired: 3/12/2009 7:21:02 PM  
Printed: 3/13/2009 10:38:09 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
4.907	14841	0.54	1394	1.18
5.873	6626	0.24	531	0.45
6.233	649	0.02	62	0.05
6.493	53	0.00	31	0.03
10.613	16504	0.60	848	0.72
12.073	2728024	98.60	115209	97.57
Totals	2766697	100.00	118075	100.00

-----< General Method Parameters >-----

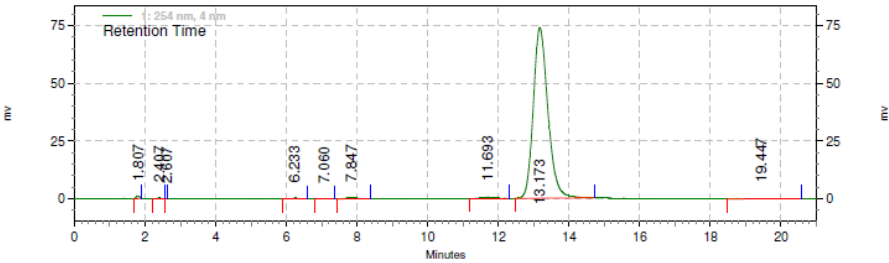
Jasco Pumps

=====  
Model: PU-2086  
Control mode: Binary HPG  
Solvent A: 0.1 TFA in Water  
Solvent B: CH3CN  
Solvent C: N/A  
Solvent D: N/A  
Pressure range  
Min. pressure: 3.0 MPa  
Max. pressure: 50.0 MPa

HPLC trace2 of **5t**

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1314 MeOH 50 TFA  
0.1 in H2O 50 1ml 20 min.met 3-10-2009 12-56-41 PM.dat  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min.met  
Acquired: 3/10/2009 12:58:58 PM  
Printed: 3/11/2009 11:07:25 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
1.807	7157	0.33	975	1.27
2.407	2616	0.12	278	0.36
2.607	68	0.00	45	0.06
6.233	5880	0.27	367	0.48
7.060	1862	0.09	111	0.14
7.847	11391	0.52	585	0.76
11.693	14594	0.67	580	0.75
13.173	2119627	97.43	73872	95.96
19.447	12443	0.57	172	0.22
Totals	2175638	100.00	76985	100.00

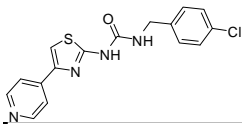
---< General Method Parameters >---

Jasco Pumps

Model: PU-2086  
Control mode: Binary HPG  
Solvent A: 0.1 TFA in Water  
Solvent B: MeOH  
Solvent C: N/A  
Solvent D: N/A  
Pressure range



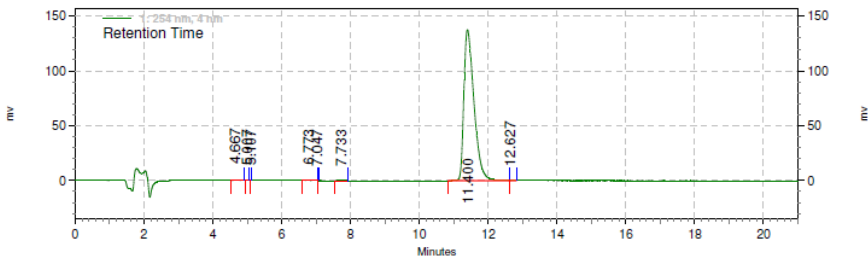
HPLC trace1 of **5v**



Page 1 of 7

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1234Batvh3Sept2009  
CH3CN 30% TFA 0.1 in H2O 70% 1ml 20 min TEMP.met 9-30-2009 3-33-42 PM.dat  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min TEMP.met  
Acquired: 9/30/2009 3:36:47 PM  
Printed: 10/1/2009 10:48:51 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
4.667	5589	0.20	582	0.42
5.007	188	0.01	54	0.04
5.107	50	0.00	51	0.04
6.773	4790	0.17	397	0.29
7.047	1	0.00	0	0.00
7.733	1928	0.07	174	0.13
11.400	2813928	99.52	137716	98.97
12.627	1142	0.04	174	0.13
Totals	2827616	100.00	139148	100.00

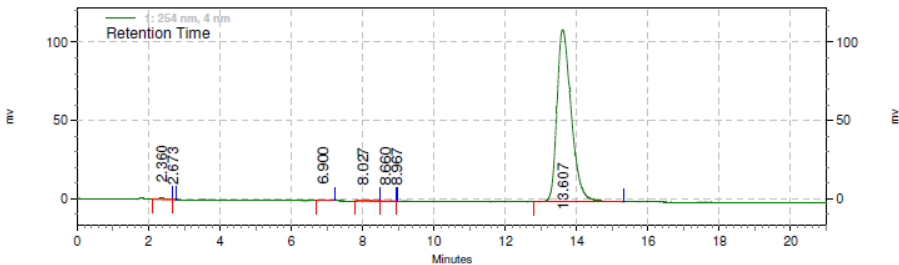
Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.327	438	0.01	607	0.08
0.393	352	0.00	236	0.03
0.460	1039	0.01	533	0.07
0.527	416	0.00	422	0.06
0.607	1028	0.01	538	0.07
0.800	6222	0.07	990	0.14
0.907	9678	0.11	1654	0.23
1.027	17270	0.20	2405	0.33
1.187	31422	0.37	3458	0.48

HPLC trace2 of **5v**

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1234Batch3Sept2009  
MeOH 50% TFA 0.1 in H2O 50% 1ml 20 min TEMPL.met 10-1-2009 10-30-52 AM.dat  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min TEMPL.met  
Acquired: 10/1/2009 10:33:09 AM  
Printed: 10/1/2009 10:56:37 AM



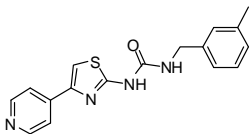
1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
2.360	11772	0.38	1065	0.95
2.673	207	0.01	58	0.05
6.900	3850	0.12	261	0.23
8.027	6061	0.20	325	0.29
8.660	2176	0.07	150	0.13
8.967	80	0.00	45	0.04
13.607	3062370	99.22	109941	98.30
Totals	3086516	100.00	111845	100.00

Spectrum Max  
Plot Results

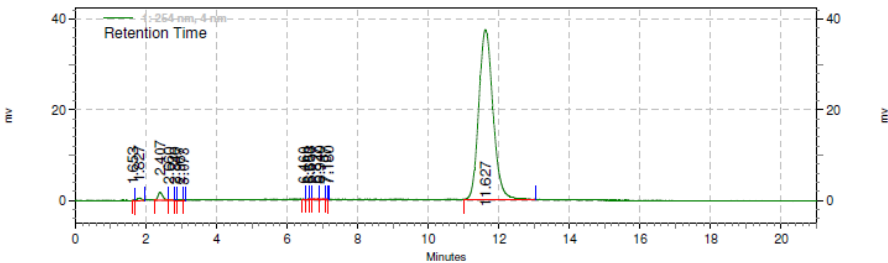
Retention Time	Area	Area %	Height	Height %
0.153	480	0.01	342	0.07
0.227	409	0.01	345	0.07
0.280	646	0.01	385	0.08
0.473	281	0.01	235	0.05
0.693	1894	0.03	758	0.16
0.753	1997	0.04	671	0.14
0.880	881	0.02	472	0.10
0.960	1389	0.03	1115	0.24
1.033	368	0.01	421	0.09
1.093	917	0.02	600	0.13

HPLC trace of **5w**



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1337 MeOH 50% TFA  
0.1 in H2O 50% 1ml 20 min.met 4-7-2009 9-19-48 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min.met  
Acquired: 4/7/2009 9:21:20 PM  
Printed: 5/6/2009 5:05:40 PM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
1.653	325	0.03	116	0.29
1.827	4756	0.45	596	1.47
2.407	16132	1.51	1768	4.35
2.660	501	0.05	75	0.18
2.840	130	0.01	72	0.18
2.967	522	0.05	74	0.18
3.073	156	0.01	72	0.18
6.460	95	0.01	32	0.08
6.600	121	0.01	40	0.10
6.653	130	0.01	46	0.11
6.827	674	0.06	77	0.19
6.940	519	0.05	82	0.20
7.107	149	0.01	50	0.12
7.180	38	0.00	24	0.06
11.627	1044117	97.73	37481	92.31

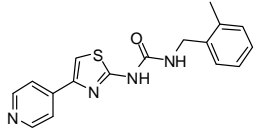
Totals	1068365	100.00	40605	100.00
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-----< General Method Parameters >-----  
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Jasco Pumps  
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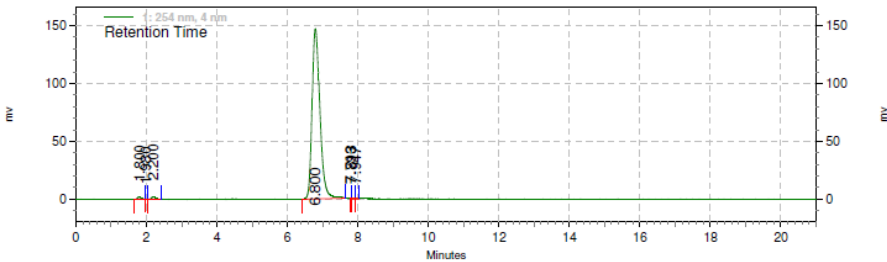
Model: PU-2086

HPLC trace of Compound 5x



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1452MeOH 50% TFA  
0.1 in H2O 50% 1ml 20 min TEMPL.met7-30-2011 9-11-37 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Harsukh\New-GLEPP HPLC  
Method 0.1%H2O 0.07%CH3CN (100-0 %) 2ml 20 min 290 nm.met  
Acquired: 7/30/2011 9:13:08 PM  
Printed: 8/1/2011 9:41:29 AM



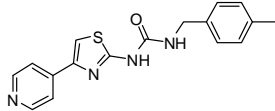
1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
1.800	15324	0.66	2157	1.41
1.980	517	0.02	260	0.17
2.200	18606	0.80	2306	1.51
6.800	2276594	98.38	147028	96.24
7.793	531	0.02	397	0.26
7.813	1594	0.07	380	0.25
7.947	936	0.04	246	0.16
Totals	2314102	100.00	152774	100.00

Spectrum Max  
Plot Results

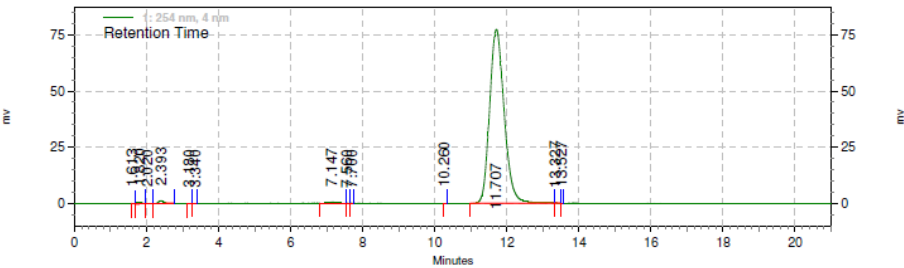
Retention Time	Area	Area %	Height	Height %
0.140	708	0.02	351	0.08
0.293	932	0.02	332	0.07
0.360	418	0.01	214	0.05
0.413	546	0.01	157	0.03
0.480	150	0.00	175	0.04
0.573	657	0.02	263	0.06
0.653	855	0.02	1333	0.29
0.687	354	0.01	395	0.08
0.820	2059	0.05	1247	0.27
0.867	771	0.02	376	0.08

HPLC trace of Compound 5y



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1338 MeOH 50% TFA  
0.1 in H2O 50% 1ml 20 min.met 4-7-2009 8-34-34 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min.met  
Acquired: 4/7/2009 8:36:06 PM  
Printed: 5/6/2009 5:09:30 PM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
1.613	354	0.02	66	0.08
1.820	6059	0.27	679	0.84
2.020	1375	0.06	134	0.17
2.393	13762	0.62	1340	1.67
3.180	209	0.01	48	0.06
3.340	247	0.01	65	0.08
7.147	10882	0.49	543	0.67
7.560	290	0.01	60	0.07
7.700	166	0.01	54	0.07
10.260	90	0.00	38	0.05
11.707	2170977	98.46	77314	96.09
13.327	541	0.02	89	0.11
13.527	71	0.00	33	0.04

Totals	2205023	100.00	80463	100.00
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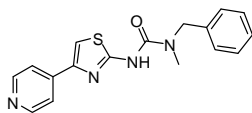
-----< General Method Parameters >-----

Jasco Pumps

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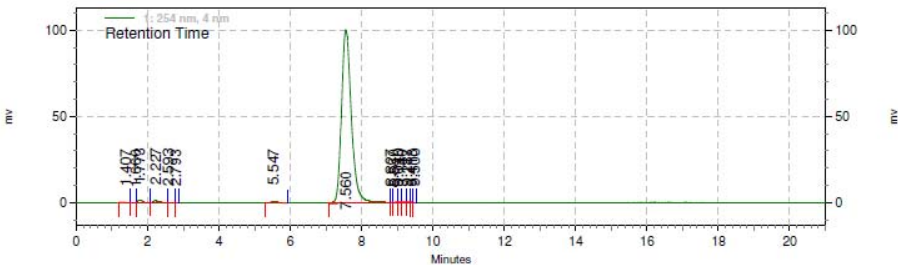
Model: PU-2086  
Control mode: Binary HPG  
Solvent A: 0.1 TFA in Water

HPLC trace1 of **5z**



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1330 MeOH 50 TFA  
0.1 in H2O 50 1ml 20 min.met 3-11-2009 2-41-24 AM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min.met  
Acquired: 3/11/2009 2:42:54 AM  
Printed: 3/11/2009 10:11:25 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
1.407	1439	0.07	126	0.12
1.660	581	0.03	93	0.09
1.773	14019	0.71	1454	1.39
2.227	14609	0.74	1215	1.16
2.593	538	0.03	60	0.06
2.793	166	0.01	50	0.05
5.547	9870	0.50	657	0.63
7.560	1924028	97.68	100395	95.67
8.827	602	0.03	235	0.22
8.880	1734	0.09	214	0.20
9.040	647	0.03	156	0.15
9.140	831	0.04	127	0.12
9.287	283	0.01	74	0.07
9.413	203	0.01	54	0.05
9.500	89	0.00	34	0.03
Totals	1969639	100.00	104944	100.00

---< General Method Parameters >---

Jasco Pumps

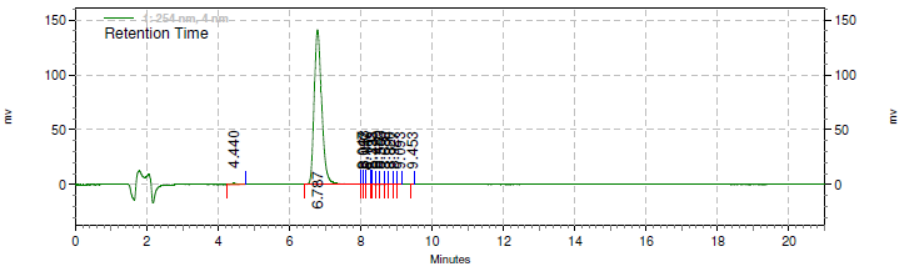
=====

Model: PU-2086

HPLC trace2 of **5z**

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1330 CH3CN 30%  
TFA 0.1 in H2O 70% 1ml 20 min.met 3-13-2009 5-52-12 AM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min.met  
Acquired: 3/13/2009 5:53:43 AM  
Printed: 3/13/2009 10:43:53 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
4.440	10861	0.52	1061	0.74
6.787	2075133	99.19	140782	98.35
8.047	903	0.04	200	0.14
8.093	590	0.03	185	0.13
8.147	1308	0.06	174	0.12
8.293	185	0.01	120	0.08
8.333	647	0.03	127	0.09
8.480	591	0.03	109	0.08
8.553	489	0.02	97	0.07
8.680	489	0.02	86	0.06
8.820	340	0.02	66	0.05
8.927	167	0.01	54	0.04
9.093	170	0.01	39	0.03
9.453	151	0.01	50	0.03
Totals	2092024	100.00	143150	100.00

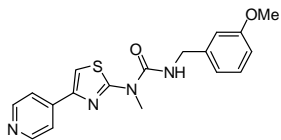
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---< General Method Parameters >-----  
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Jasco Pumps

=====

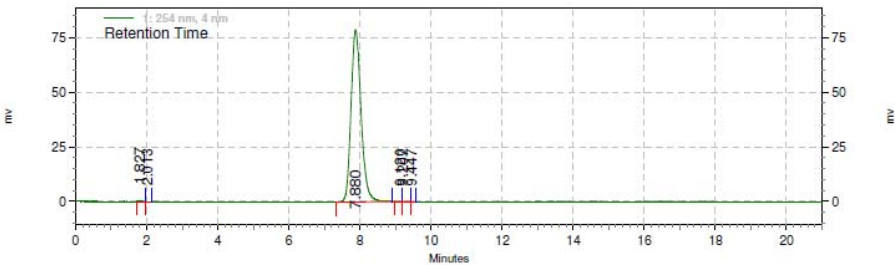
Model: PU-2086  
Control mode: Binary HPG

HPLC trace of **5aa**



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1336 MeOH 50% TFA  
0.1 in H2O 50% 1ml 20 min.met 4-7-2009 4:48-30 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min TEMPL.met  
Acquired: 4/7/2009 4:50:02 PM  
Printed: 5/6/2009 5:01:26 PM



1: 254 nm, 4 nm  
Results

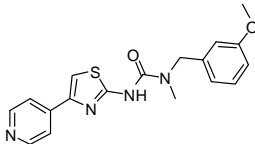
Retention Time	Area	Area %	Height	Height %
1.827	5073	0.33	594	0.75
2.013	748	0.05	102	0.13
7.880	1548799	99.49	78783	98.82
9.120	752	0.05	96	0.12
9.207	1003	0.06	95	0.12
9.447	365	0.02	55	0.07
Totals	1556740	100.00	79725	100.00

PDA-199 nm  
Results

Retention Time	Area	Area %	Height	Height %
0.087	3831	0.02	973	0.04
0.227	4596	0.03	1123	0.05
0.280	3512	0.02	1676	0.07
0.393	3548	0.02	1027	0.04
0.460	5985	0.04	1031	0.04
0.600	2261	0.01	1072	0.05
0.653	4162	0.03	1120	0.05
0.740	2435	0.02	1288	0.06
0.840	7802	0.05	1495	0.06
0.953	3353	0.02	1195	0.05
1.020	3052	0.02	903	0.04

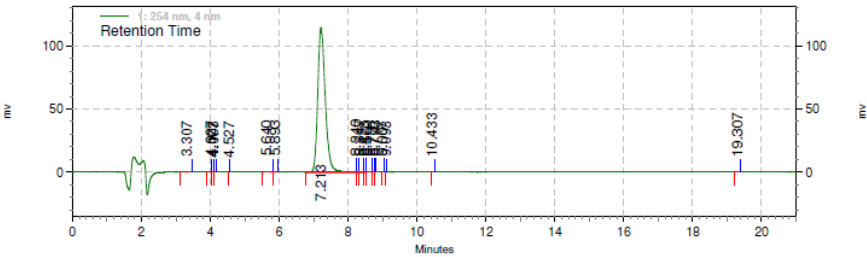


HPLC trace of **5ab**



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1363 CH3CN 30%  
TFA 0.1 in H2O 70% 1ml 20 min TEMPL.met 5-13-2009 11-05-17 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min TEMPL.met  
Acquired: 5/13/2009 11:06:47 PM  
Printed: 5/14/2009 10:22:01 AM

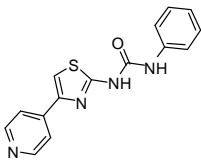


1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
3.307	1664	0.10	183	0.16
4.027	283	0.02	56	0.05
4.073	87	0.01	61	0.05
4.107	74	0.00	37	0.03
4.527	50	0.00	45	0.04
5.640	955	0.06	90	0.08
5.893	249	0.01	55	0.05
7.213	1721771	99.59	114302	98.86
8.240	799	0.05	172	0.15
8.347	1020	0.06	154	0.13
8.473	405	0.02	124	0.11
8.560	618	0.04	93	0.08
8.720	194	0.01	67	0.06
8.793	82	0.00	52	0.04
9.007	59	0.00	27	0.02
9.093	28	0.00	36	0.03
10.433	85	0.00	14	0.01
19.307	395	0.02	56	0.05
Totals	1728818	100.00	115624	100.00

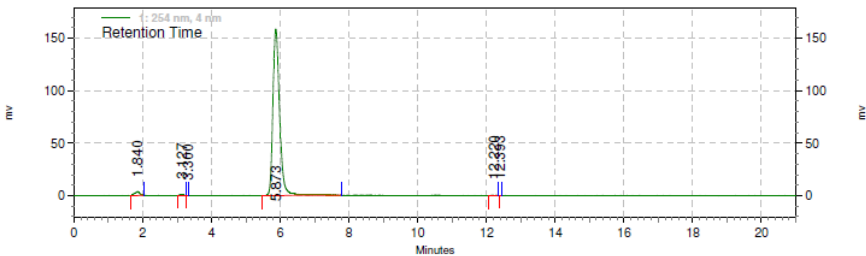
Spectrum Max  
Plot Results

HPLC trace of **12**



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1188MeOH 50% TFA  
0.1 in H2O 50% 1ml 20 min TEMPL.met9-9-2011 8-02-03 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 40% TFA 0.1 in  
H2O 60% 1ml 20 min TEMPL.met  
Acquired: 9/9/2011 8:03:34 PM  
Printed: 9/11/2011 1:22:36 PM



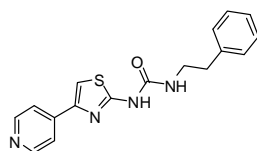
1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
1.840	36585	1.65	3660	2.23
3.127	7887	0.36	1082	0.66
3.300	420	0.02	199	0.12
5.873	2163573	97.84	158579	96.74
12.220	2850	0.13	299	0.18
12.393	110	0.00	109	0.07
Totals	2211425	100.00	163928	100.00

Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.220	844	0.02	822	0.13
0.380	1304	0.04	852	0.13
0.413	1054	0.03	0	0.00
0.507	2175	0.06	1430	0.22
0.773	686	0.02	838	0.13
0.827	678	0.02	371	0.06
0.907	1628	0.04	1999	0.31
0.987	2875	0.08	2948	0.45
1.080	1487	0.04	2692	0.41
1.133	1877	0.05	1346	0.21
1.213	678	0.02	408	0.06

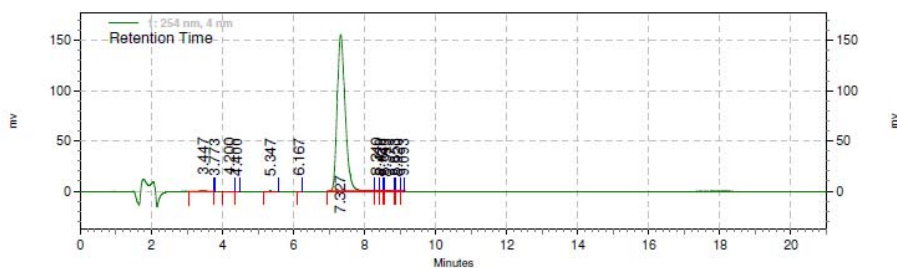
# HPLC trace1 of 13



Page 1 of 4

## Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1325 CH3CN 30%  
TFA 0.1 in H2O 70% 1ml 20 min.met 3-13-2009 2-51-27 AM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min.met  
Acquired: 3/13/2009 2:52:58 AM  
Printed: 3/13/2009 10:41:23 AM



### 1: 254 nm, 4 nm

#### Results

Retention Time	Area	Area %	Height	Height %
3.447	13587	0.55	1533	0.96
3.773	79	0.00	35	0.02
4.200	1382	0.06	158	0.10
4.400	185	0.01	48	0.03
5.347	4507	0.18	409	0.26
6.167	216	0.01	41	0.03
7.327	2437843	98.95	155855	97.95
8.340	1454	0.06	253	0.16
8.420	1317	0.05	226	0.14
8.540	593	0.02	195	0.12
8.593	1819	0.07	188	0.12
8.853	236	0.01	69	0.04
8.920	309	0.01	61	0.04
9.093	140	0.01	44	0.03

Totals	2463667	100.00	159115	100.00
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---< General Method Parameters >-----  
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#### Jasco Pumps

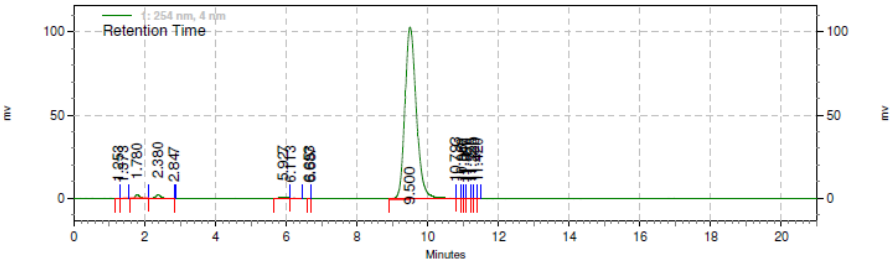
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Model: PU-2086  
Control mode: Binary HPG

HPLC trace2 of 13

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1325 MeOH 50 TFA  
0.1 in H2O 50 1ml 20 min.met 3-10-2009 11-40-39 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min.met  
Acquired: 3/10/2009 11:42:10 PM  
Printed: 3/11/2009 10:04:27 AM

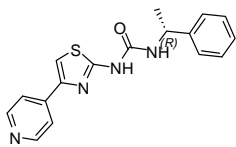


1: 254 nm, 4 nm				
Results				
Retention Time	Area	Area %	Height	Height %
1.253	390	0.02	69	0.06
1.373	685	0.03	92	0.08
1.780	18523	0.78	1995	1.83
2.380	23886	1.01	2219	2.03
2.847	99	0.00	53	0.05
5.927	10368	0.44	681	0.62
6.113	3664	0.15	362	0.33
6.653	114	0.00	35	0.03
6.687	0	0.00	0	0.00
9.500	2302555	97.38	102844	94.21
10.793	1747	0.07	220	0.20
10.960	521	0.02	156	0.14
11.047	357	0.02	120	0.11
11.080	724	0.03	114	0.10
11.220	348	0.01	86	0.08
11.320	261	0.01	64	0.06
11.420	251	0.01	51	0.05
Totals				
	2364493	100.00	109161	100.00

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---< General Method Parameters >-----  
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Jasco Pumps

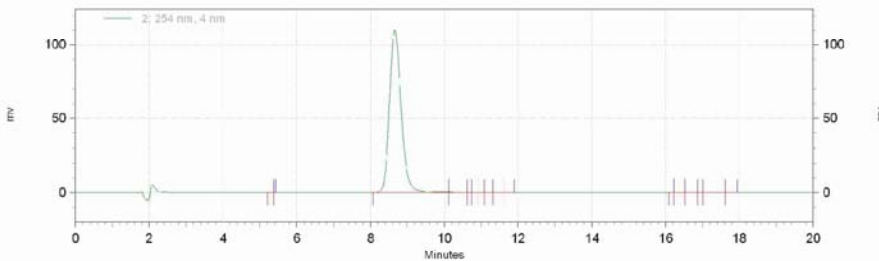
HPLC trace1 of (R)-14a.



Page 1 of 4

Area % Report

Data File: C:\EZChrom Elite\Data\Roberta\RPM1242MeOH50 0.1%TFA H2O50 20min 1ml.met 2-2-2009 7:42:06 PM  
Method: C:\EZChrom Elite\Methods\Roberta\MeOH50 0.1%TFA H2O50 20min 1ml.met  
Acquired: 2/2/2009 7:42:46 PM  
Printed: 2/3/2009 9:18:23 AM  
Vial: 12



2: 254 nm, 4 nm Results			
Pk #	Retention Time	Area	Area Percent
1	5.253	257	0.011
2	5.400	107	0.004
3	8.653	2429451	99.516
4	10.147	4518	0.185
5	10.707	704	0.029
6	10.813	881	0.036
7	10.947	629	0.026
8	11.120	712	0.029
9	11.333	758	0.031
10	11.693	431	0.018
11	16.147	159	0.007
12	16.360	494	0.020
13	16.800	422	0.017
14	16.920	193	0.008
15	17.440	911	0.037
16	17.867	641	0.026
Totals		2441268	100.000

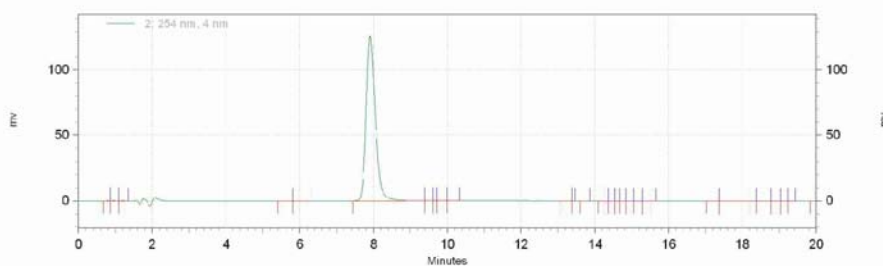
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---< General Method Parameters >-----  
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# HPLC trace2 of (*R*)-14a.

Page 1 of 4

## Area % Report

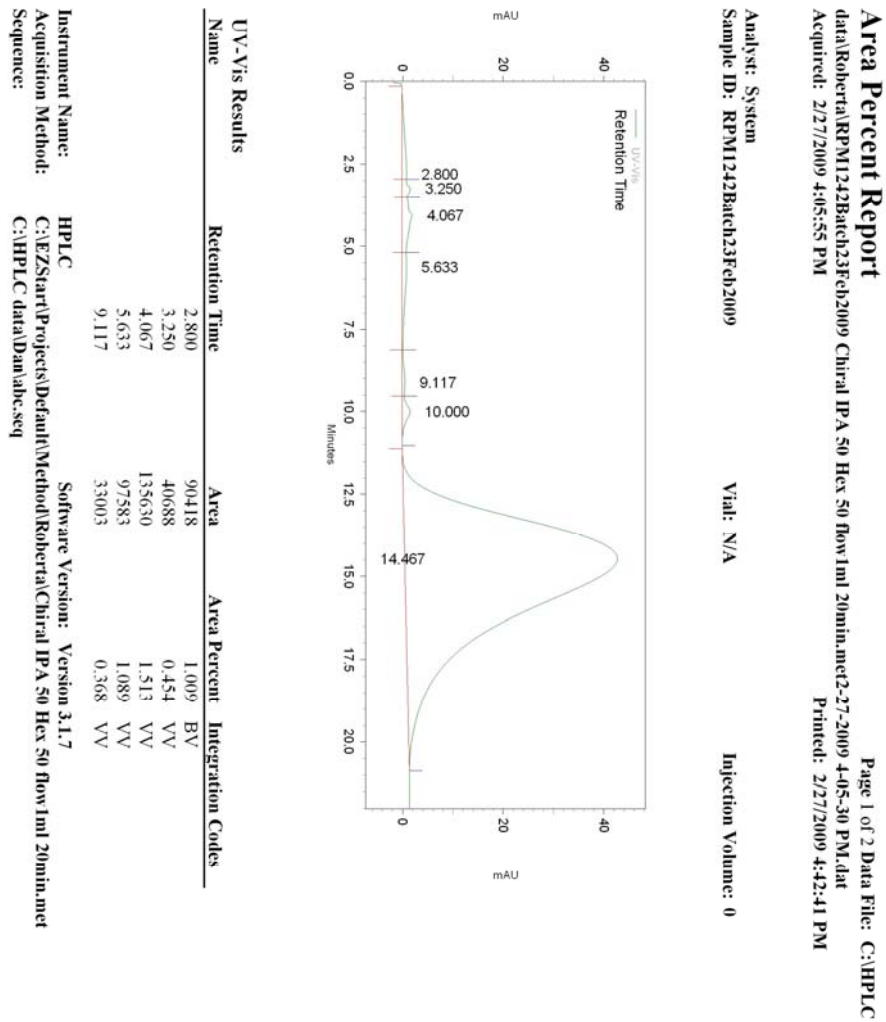
Data File: C:\EZChrom Elite\Data\Roberta\RPM1242 CH3CN30 H2O70 0.1TFA 1mL 20min.met  
1-27-2009 7:04:07 PM  
Method: C:\EZChrom Elite\Methods\Xin\CH3CN30 H2O70 0.1TFA 1mL 20min.met  
Acquired: 1/27/2009 7:04:47 PM  
Printed: 1/28/2009 10:46:07 AM  
Vial: 22



## 2: 254 nm, 4 nm Results

Pk #	Retention Time	Area	Area Percent
1	0.773	799	0.036
2	0.947	1213	0.055
3	1.187	963	0.043
4	5.507	737	0.033
5	5.960	767	0.034
6	7.907	2206200	99.224
7	9.413	1755	0.079
8	9.640	670	0.030
9	9.773	1169	0.053
10	10.067	912	0.041
11	13.120	526	0.024
12	13.387	138	0.006
13	13.667	253	0.011
14	14.173	239	0.011
15	14.320	131	0.006
16	14.400	229	0.010
17	14.653	231	0.010
18	14.773	292	0.013
19	14.947	308	0.014
20	15.067	505	0.023
21	15.360	436	0.020
22	15.627	253	0.011
23	17.067	457	0.021

HPLC trace3 of (R)-14a.

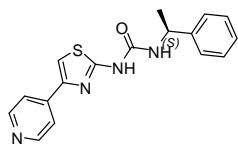


Area Percent Report				Page 2 of 2 Data File: C:\HPLC	
data\Roberta\RP\1242Batch23Feb2009 Chiral IPA 50 Hex 50 Flow1ml 20min.met2-27-2009 4-05-30 PM.dat				Printed: 2/27/2009 4:42:41 PM	
Acquired: 2/27/2009 4:05:55 PM					
	10.000	56958	0.635	VB	
	14.467	8510396	94.933	BB	
Totals		8964676	100.000		

Instrument Name: HPLC      Software Version: Version 3.1.7  
Acquisition Method: C:\EZStart\Projects\Default\Method\Roberta\Chiral IPA 50 Hex 50 Flow1ml 20min.met  
Sequence: C:\HPLC data\Danabc.seq



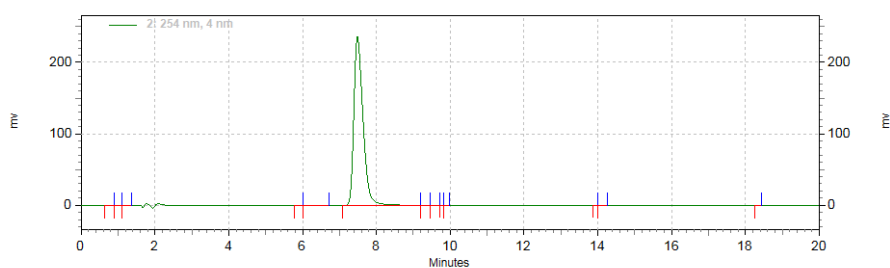
HPLC trace1 of (S)-14a.



Page 1 of 4

Area % Report

Data File: C:\EZChrom Elite\Data\Roberta\RPM1243 CH3CN30 H2O70 0.1TFA 1mL 20min.met  
1-27-2009 7:45:41 PM  
Method: C:\EZChrom Elite-Methods\Xin\CH3CN30 H2O70 0.1TFA 1mL 20min.met  
Acquired: 1/27/2009 7:46:23 PM  
Printed: 1/28/2009 10:48:13 AM  
Vial: 23



2: 254 nm, 4 nm Results

Pk #	Retention Time	Area	Area Percent
1	0.773	934	0.023
2	0.947	1023	0.025
3	1.187	939	0.023
4	5.867	407	0.010
5	6.520	1236	0.030
6	7.480	4055942	99.745
7	9.213	2449	0.060
8	9.467	1667	0.041
9	9.773	434	0.011
10	9.907	423	0.010
11	13.893	224	0.006
12	14.160	388	0.010
13	18.293	238	0.006

Totals	4066304	100.000
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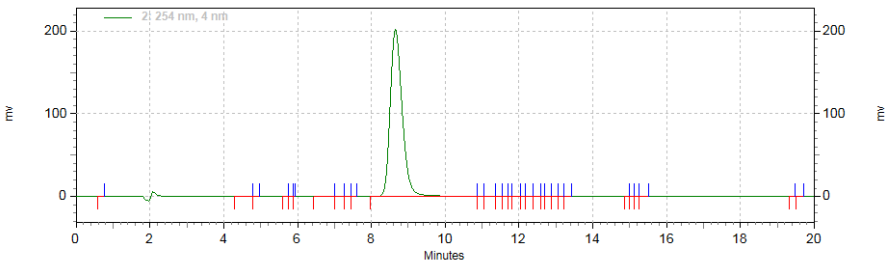
---< General Method Parameters >---

Jasco Pumps

HPLC trace2 of (S)-14a.

Area % Report

Data File: C:\EZChrom Elite\Data\Roberta\RPM1243MeOH50 0.1%TFA H2O50 20min 1ml.met 2-2-2009  
9-05-17 PM  
Method: C:\EZChrom Elite\Methods\Roberta\MeOH50 0.1%TFA H2O50 20min 1ml.met  
Acquired: 2/2/2009 9:05:58 PM  
Printed: 2/3/2009 9:22:10 AM  
Vial: 14

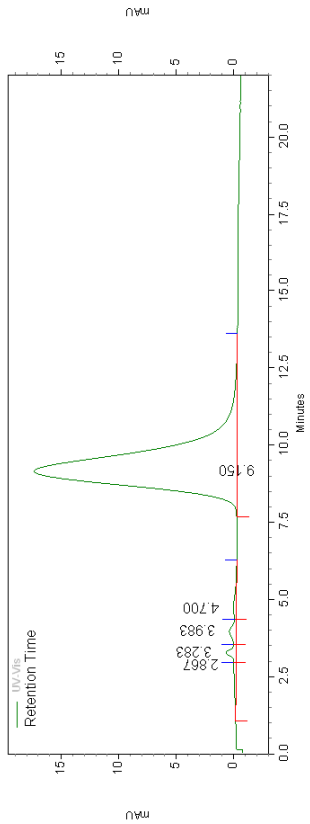


2: 254 nm, 4 nm Results				
Pk #	Retention Time	Area	Area Percent	
1	0.680	372	0.008	
2	4.573	1020	0.022	
3	4.787	304	0.007	
4	5.667	201	0.004	
5	5.787	144	0.003	
6	5.907	76	0.002	
7	6.640	1182	0.026	
8	7.080	423	0.009	
9	7.333	282	0.006	
10	7.453	209	0.005	
11	8.653	4556346	99.545	
12	10.920	2051	0.045	
13	11.067	3293	0.072	
14	11.427	1403	0.031	
15	11.573	1117	0.024	
16	11.733	740	0.016	
17	11.960	1483	0.032	
18	12.093	775	0.017	
19	12.227	1037	0.023	
20	12.453	959	0.021	
21	12.600	445	0.010	
22	12.733	678	0.015	
23	12.893	419	0.009	

HPLC trace3 of (S)-14a.

**Area Percent Report**  
data\Roberta\RPM1243B\ch23Feb2009 Chiral IPA 50 Hex 50 flow\ml 20min.met2-25-2009 5:26:17 PM.dat  
Acquired: 2/25/2009 5:26:41 PM  
Page 1 of 2 Data File: C:\HPLC  
Printed: 2/25/2009 5:50:10 PM

Analyst: System  
Sample ID: RPM1243B\ch23Feb2009  
Vial: N/A  
Injection Volume: 0



UV-Vis Results			
Name	Retention Time	Area	Area Percent Integration Codes
	2.867	12411	0.905 BV
	3.283	15891	1.159 VV
	3.983	18796	1.371 VV
	4.700	13529	0.987 VB
	9.150	1310264	95.578 BB
Instrument Name: HPLC			
Acquisition Method: C:\EZStart\Projects\Default\Method\Roberta\Chiral IPA 50 Hex 50 flow\ml 20min.met			
Sequence: C:\HPLC\data\Dom\abc.seq			
Software Version: Version 3.1.7			

**Area Percent Report**

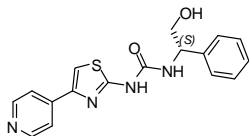
data\Roberta RPM1243Bch23Feb2009 Chiral IPA 50 Hex 50 flow1ml 20min.met  
Acquired: 2/25/2009 5:26:41 PM

Page 2 of 2 Data File: C:\HPLC  
2-25-2009 5:26-17 PM.dat  
Printed: 2/25/2009 5:50:10 PM

Totals	1370891	100.000
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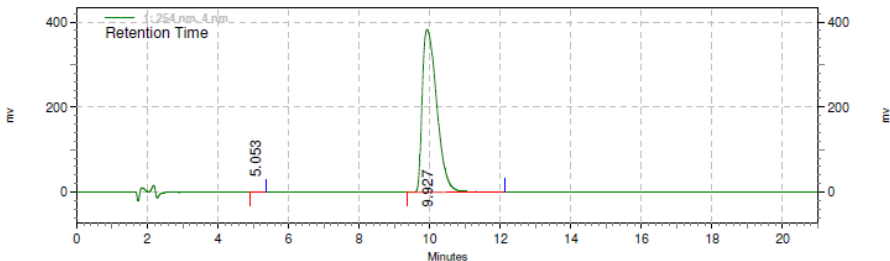
Instrument Name: HPLC      Software Version: Version 3.1.7  
Acquisition Method: C:\EZStart\Projects\Default\Method Roberta Chiral IPA 50 Hex 50 flow1ml 20min.met  
Sequence: C:\HPLC\data\Dan\abc.seq

HPLC trace1 of (S)-14b



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1329 CH3CN 20%  
TFA 0.1 in H2O 80% 1ml 20 min TEMP.met 12-31-2009 4:40:01 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 20% TFA 0.1 in  
H2O 80% 1ml 20 min TEMP.met  
Acquired: 12/31/2009 4:41:32 PM  
Printed: 1/5/2010 9:42:58 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
5.053	7155	0.07	557	0.15
9.927	10921804	99.93	382382	99.85
Totals	10928959	100.00	382939	100.00

Spectrum Max  
Plot Results

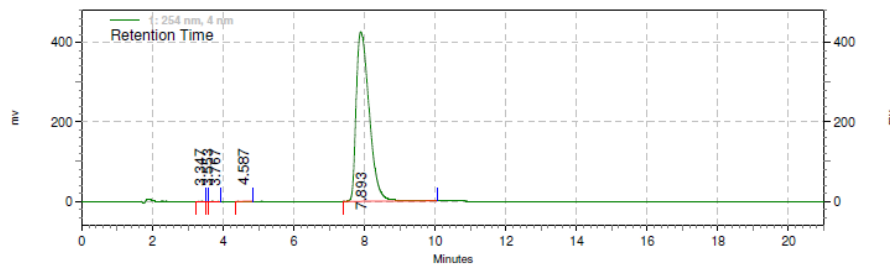
Retention Time	Area	Area %	Height	Height %
0.060	476	0.00	240	0.02
0.127	397	0.00	254	0.02
0.207	259	0.00	125	0.01
0.273	568	0.00	168	0.01
0.333	877	0.00	152	0.01
0.433	1792	0.01	199	0.01
0.620	799	0.00	273	0.02
0.780	3341	0.02	390	0.03
0.893	2754	0.02	479	0.04
1.033	1860	0.01	433	0.03
1.133	4662	0.03	557	0.04
1.287	5558	0.03	625	0.05
1.447	3307	0.02	622	0.05
1.753	1673506	9.20	314481	23.32
1.853	84812	0.47	11572	0.86

# HPLC trace2 of (S)-14b

Page 1 of 4

## Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1329 MeOH 40% TFA  
0.1 in H2O 60% 1ml 20 min TEMPL.met 1-5-2010 7-48-13 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 40% TFA 0.1 in  
H2O 60% 1ml 20 min TEMPL.met  
Acquired: 1/5/2010 7:49:42 PM  
Printed: 1/6/2010 9:49:51 AM



## 1: 254 nm, 4 nm Results

Retention Time	Area	Area %	Height	Height %
3.347	1399	0.01	144	0.03
3.553	124	0.00	62	0.01
3.767	1469	0.01	153	0.04
4.587	5721	0.05	414	0.10
7.893	10925296	99.92	426403	99.82

Totals	Area	Area %	Height	Height %
	10934009	100.00	427176	100.00

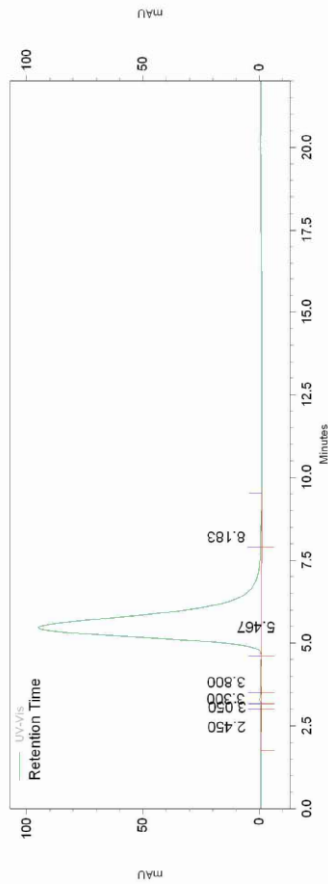
## Spectrum Max Plot Results

Retention Time	Area	Area %	Height	Height %
0.153	221	0.00	242	0.04
0.253	390	0.00	197	0.03
0.780	369	0.00	340	0.05
0.900	291	0.00	74	0.01
0.993	189	0.00	92	0.01
1.067	349	0.00	124	0.02
1.193	293	0.00	168	0.03
1.287	212	0.00	77	0.01
1.373	217	0.00	89	0.01
1.473	483	0.00	121	0.02
1.767	646594	4.56	92285	14.33
2.267	644	0.00	189	0.03

HPLC trace3 of (S)-14b

**Area Percent Report**  
data\Roberta\RPM1329 OJ Col 20microl Chiral IPA 70 Hex 30 flow 1ml 20min.met2-26-2009 5-02-52 PM.dat  
Acquired: 2/26/2009 5:03:34 PM  
Page 1 of 2 Data File: C:\HPLC  
Printed: 2/26/2009 5:27:38 PM

Analyst: System  
Sample ID: RPM1329 OJ Col 20microl  
Vial: N/A  
Injection Volume: 0



UV-Vis Results			
Name	Retention Time	Area	Area Percent
	2.450	7955	0.169
	3.050	1080	0.023
	3.300	8286	0.176
	3.800	18787	0.399
	5.467	4650900	98.777

Instrument Name: HPLC  
Acquisition Method: C:\EZStart\Projects\Default\Method\Roberta\Chiral IPA 70 Hex 30 flow 1ml 20min.met  
Sequence: C:\HPLC data\Dan\abc.seq  
Software Version: Version 3.1.7

**Area Percent Report**

data\Roberta\RPM1329 OJ Col 20microl Chiral IPA 70 Hex 30 flow 1ml 20min.met2-26-2009 5-02-52 PM.dat  
Acquired: 2/26/2009 5:03:34 PM

Page 2 of 2 Data File: C:\HPLC

Printed: 2/26/2009 5:27:38 PM

8.183 21487 0.456 VB

Totals		4708495	100.000
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Instrument Name: HPLC

Software Version: Version 3.1.7

Acquisition Method:

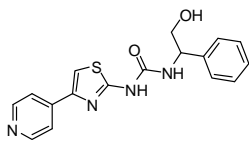
C:\EZStart\Projects\Default\Method\Roberta\Chiral IPA 70 Hex 30 flow 1ml 20min.met

Sequence:

C:\HPLC data\Dan\abc.seq



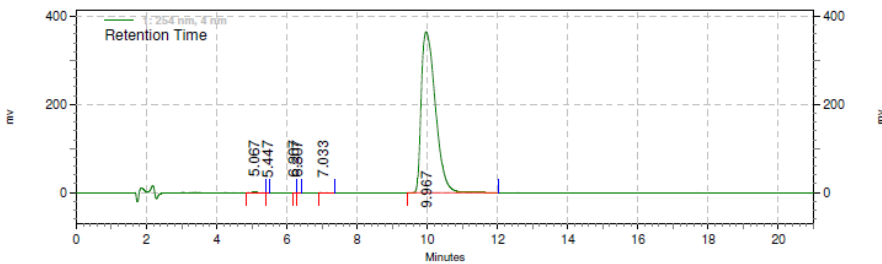
HPLC1 trace of (RS)-14b



Page 1 of 7

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1324 CH3CN 20%  
TFA 0.1 in H2O 80% 1ml 20 min TEMP.met 12-31-2009 12-54-01 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 20% TFA 0.1 in  
H2O 80% 1ml 20 min TEMP.met  
Acquired: 12/31/2009 12:55:33 PM  
Printed: 12/31/2009 1:33:07 PM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
5.067	14447	0.14	1083	0.29
5.447	169	0.00	43	0.01
6.207	286	0.00	79	0.02
6.307	280	0.00	57	0.02
7.033	3298	0.03	235	0.06
9.967	10226775	99.82	365654	99.59
Totals	10245255	100.00	367151	100.00

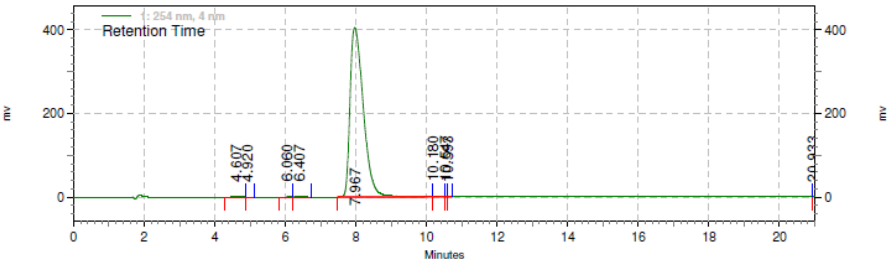
Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.213	4133	0.02	856	0.06
0.400	1795	0.01	58	0.00
0.440	1137	0.01	861	0.06
0.467	1307	0.01	711	0.05
0.533	1162	0.01	521	0.04
0.647	983	0.01	632	0.05
0.687	1133	0.01	222	0.02
0.867	1089	0.01	464	0.03
0.920	1672	0.01	651	0.05
1.047	798	0.00	792	0.06
1.220	1415	0.01	642	0.05

HPLC2 trace of (RS)-14b

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1324 MeOH 40% TFA  
0.1 in H2O 60% 1ml 20 min TEMPL.met 1-5-2010 10-03-47 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 40% TFA 0.1 in  
H2O 60% 1ml 20 min TEMPL.met  
Acquired: 1/5/2010 10:05:18 PM  
Printed: 1/6/2010 9:56:12 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
4.607	14575	0.14	919	0.23
4.920	1499	0.01	116	0.03
6.060	2873	0.03	224	0.05
6.407	5741	0.05	297	0.07
7.967	10565396	99.72	405155	99.48
10.180	4818	0.05	347	0.09
10.547	280	0.00	125	0.03
10.593	403	0.00	100	0.02
20.933	0	0.00	0	0.00
Totals	10595585	100.00	407283	100.00

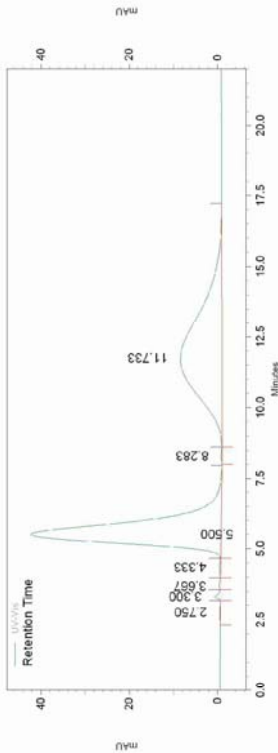
Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.087	295	0.00	483	0.08
0.167	182	0.00	283	0.05
0.360	857	0.01	289	0.05
0.573	256	0.00	155	0.03
0.847	875	0.01	230	0.04
0.980	274	0.00	147	0.02
1.073	387	0.00	179	0.03
1.213	306	0.00	224	0.04

HPLC3 trace of (RS)-14b

**Area Percent Report**  
data\Roberta\RPM1324 OJcolumn 20microl Chiral IPA 70 Hex 30 flow 1ml 20min.mn2-26-2009 11-31-28 AM.dat  
Acquired: 2/26/2009 11:31:53 AM  
Page 1 of 2 Data File: C:\HPLC

Analyst: System  
Sample ID: RPM1324 OJcolumn 20microl  
Injection Volume: 0  
Vial: N/A



UV-Vis Results			
Name	Retention Time	Area	Area Percent Integration Codes
	2.750	3358	0.081 BV
	3.300	13754	0.333 VV
	3.667	6336	0.153 VV
	4.333	10907	0.264 VV
	5.500	2170601	52.583 VB
Instrument Name: HPLC Software Version: Version 3.1.7			
Acquisition Method: C:\EZStart\Projects\Default\Method\Roberta\Chiral IPA 70 Hex 30 flow 1ml 20min.mn			
Sequence: C:\HPLC\data\Dan\abc.seq			

Area Percent Report

data\Roberta\RPMT1324 OJcolumn 20microl Chiral IPA 70 Hex 30 flow 1ml 20min.met2-26-2009 11-31-28 AM.dat

Acquired: 2/26/2009 11:31:53 AM

Page 2 of 2 Data File: C:\HPLC

Printed: 2/26/2009 11:54:31 AM

8.283

3169

0.077

BV

11.733

1919859

46.508

VB

Totals		4127984	100.000
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Instrument Name: HPLC

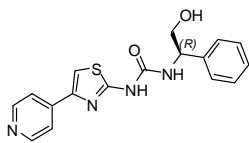
Acquisition Method: C:\EZStart\Projects\Default\Method\Roberta\Chiral IPA 70 Hex 30 flow 1ml 20min.met

Sequence: C:\HPLC\data\Banabc.seq

Software Version: Version 3.1.7

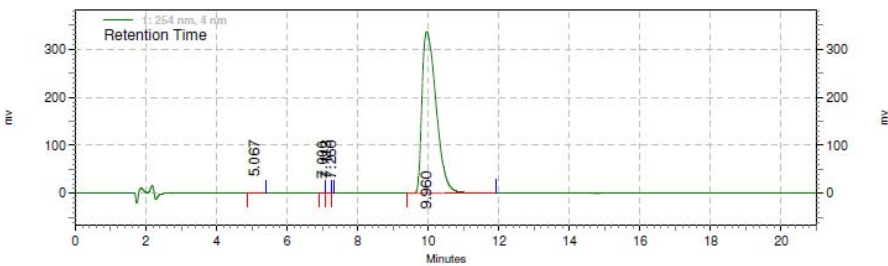
72

HPLC trace1 of (R)-14b.



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1327 CH3CN 20%  
TFA 0.1 in H2O 80% 1ml 20 min TEMP.met 12-31-2009 5-25-13 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 20% TFA 0.1 in  
H2O 80% 1ml 20 min TEMP.met  
Acquired: 12/31/2009 5:26:44 PM  
Printed: 1/5/2010 9:45:31 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
5.067	8625	0.09	686	0.20
7.000	1030	0.01	123	0.04
7.113	666	0.01	107	0.03
7.260	128	0.00	62	0.02
9.960	9376331	99.89	336362	99.71
Totals	9386780	100.00	337340	100.00

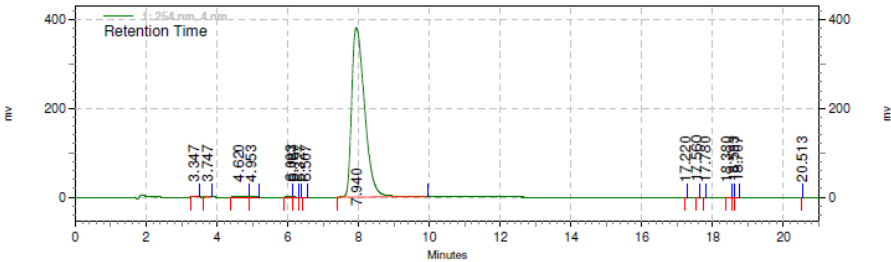
Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.160	587	0.00	425	0.03
0.220	578	0.00	18	0.00
0.300	642	0.00	697	0.05
0.433	1393	0.01	421	0.03
0.527	347	0.00	342	0.03
0.613	910	0.01	784	0.06
0.727	1243	0.01	625	0.05
0.773	476	0.00	873	0.06
0.987	751	0.00	661	0.05
1.113	860	0.01	662	0.05
1.180	661	0.00	477	0.04
1.220	801	0.00	283	0.02

HPLC trace2 of (R)-14b.

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1327 MeOH 40% TFA  
0.1 in H2O 60% 1ml 20 min TEMPL.met 1-5-2010 8-33-22 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 40% TFA 0.1 in  
H2O 60% 1ml 20 min TEMPL.met  
Acquired: 1/5/2010 8:34:54 PM  
Printed: 1/6/2010 9:52:02 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
3.347	1320	0.01	150	0.04
3.747	664	0.01	92	0.02
4.620	8839	0.09	560	0.15
4.953	1586	0.02	163	0.04
6.093	966	0.01	125	0.03
6.167	524	0.01	91	0.02
6.327	116	0.00	54	0.01
6.507	262	0.00	55	0.01
7.940	9698072	99.84	382149	99.58
17.220	112	0.00	34	0.01
17.560	182	0.00	60	0.02
17.780	160	0.00	42	0.01
18.380	332	0.00	44	0.01
18.593	197	0.00	57	0.01
18.707	195	0.00	61	0.02
20.513	91	0.00	43	0.01
Totals	9713618	100.00	383780	100.00

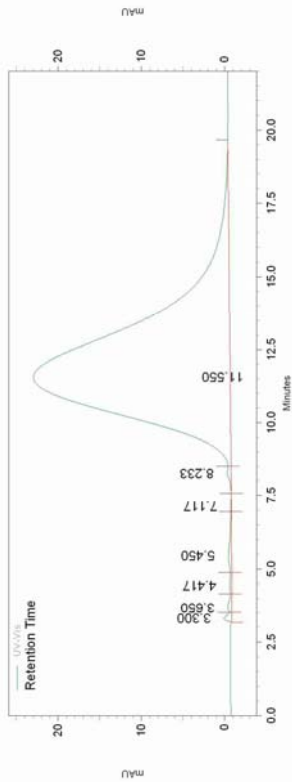
Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.307	352	0.00	321	0.05

HPLC trace3 of (R)-14b.

**Area Percent Report**  
data\Roberta\RPM1327 Chiral IPA 70 Hex 30 flow 1ml 20min.met2-26-2009 5:48:25 PM.dat  
Acquired: 2/26/2009 5:48:49 PM  
Page 1 of 2 Data File: C:\HPLC  
Printed: 2/26/2009 6:11:39 PM

Analyst: System  
Sample ID: RPM1327  
Vial: N/A  
Injection Volume: 0



UV-Vis Results

Name	Retention Time	Area	Area Percent	Integration Codes
	3.300	11448	0.228	BV
	3.650	12001	0.239	VV
	4.417	8868	0.177	VV
	5.450	25847	0.516	VV
	7.117	1585	0.032	VB

Instrument Name: HPLC  
Acquisition Method: C:\EZStart\Projects\Default\Method\Roberta\Chiral IPA 70 Hex 30 flow 1ml 20min.met  
Sequence: C:\HPLC\data\Danabc.seq  
Software Version: Version 3.1.7

**Area Percent Report**  
data\Roberta\RPM1327 Chiral IPA 70 Hex 30 flow 1ml 20min.met2-26-2009 5:48-25 PM.dat  
Acquired: 2/26/2009 5:48:49 PM  
Page 2 of 2 Data File: C:\HPLC  
Printed: 2/26/2009 6:11:39 PM

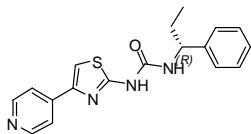
8.233 13074 0.261 BV  
11.550 4939475 98.547 VB

Totals		5012298	100.000
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Instrument Name: HPLC  
Acquisition Method: C:\EZStart\Projects\Default\Method\Roberta\Chiral IPA 70 Hex 30 flow 1ml 20min.met  
Sequence: C:\HPLC\data\Dan\abc.seq  
Software Version: Version 3.1.7

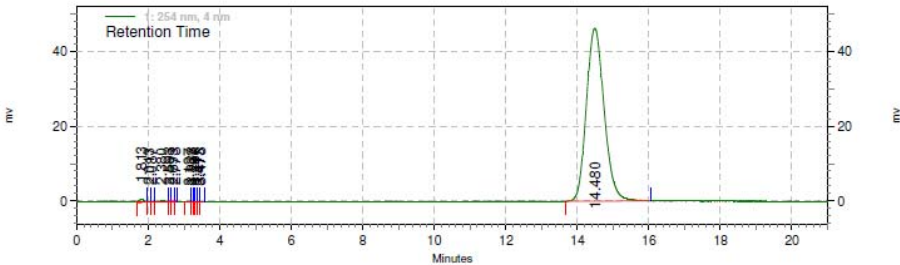


HPLC trace1 of (R)-14c



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1344 MeOH 50% TFA  
0.1 in H2O 50% 1ml 20 min.met 4-7-2009 11-35-25 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min.met  
Acquired: 4/7/2009 11:36:57 PM  
Printed: 5/6/2009 5:26:28 PM



1: 254 nm, 4 nm  
Results

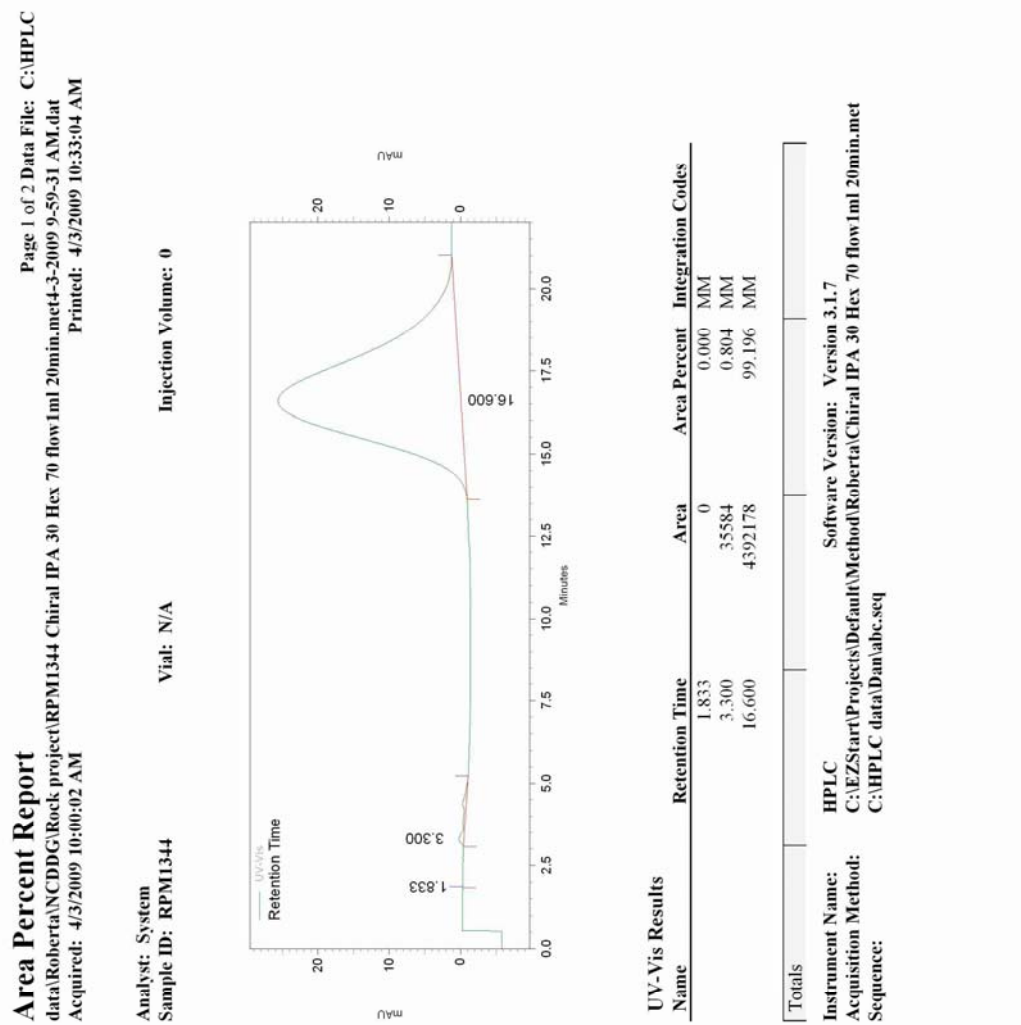
Retention Time	Area	Area %	Height	Height %
1.813	6107	0.38	692	1.44
2.013	1066	0.07	183	0.38
2.087	656	0.04	139	0.29
2.380	3100	0.19	229	0.48
2.593	363	0.02	99	0.21
2.693	290	0.02	79	0.16
2.773	168	0.01	54	0.11
3.127	402	0.02	68	0.14
3.233	130	0.01	64	0.13
3.287	111	0.01	55	0.11
3.347	114	0.01	47	0.10
3.413	99	0.01	44	0.09
3.473	224	0.01	54	0.11
14.480	1595968	99.20	46189	96.24
Totals	1608798	100.00	47996	100.00

---< General Method Parameters >---

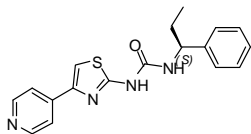
Jasco Pumps

=====  
Model: PU-2086  
Control mode: Binary HPG

HPLC trace2 of (R)-14c

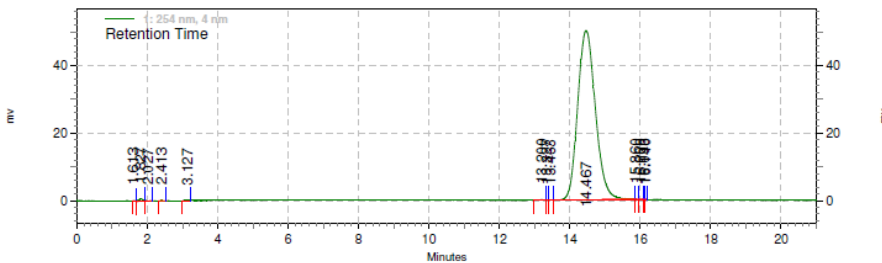


HPLC trace1 of (S)-14c



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1345 MeOH 50% TFA  
0.1 in H2O 50% 1ml 20 min.met 4-8-2009 3-21-25 AM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min.met  
Acquired: 4/8/2009 3:22:56 AM  
Printed: 5/6/2009 5:25:24 PM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
1.613	428	0.02	73	0.14
1.827	5594	0.32	635	1.22
2.027	770	0.04	99	0.19
2.413	480	0.03	77	0.15
3.127	937	0.05	116	0.22
13.200	1428	0.08	125	0.24
13.327	385	0.02	102	0.20
13.433	311	0.02	78	0.15
14.467	1756195	99.32	50200	96.74
15.860	893	0.05	153	0.29
16.000	520	0.03	93	0.18
16.093	84	0.00	81	0.16
16.140	173	0.01	58	0.11

Totals	1768198	100.00	51890	100.00
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---< General Method Parameters >-----  
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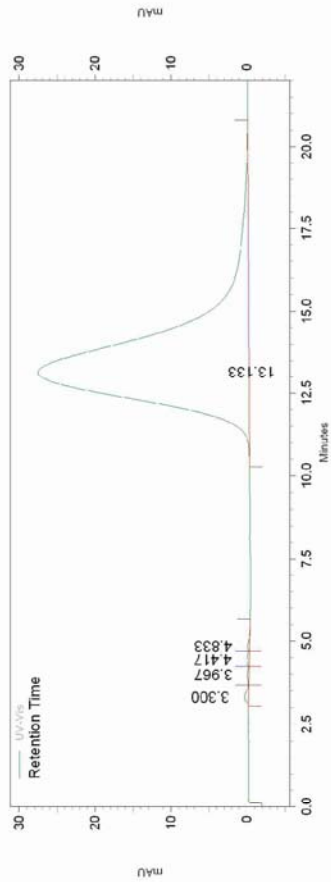
Jasco Pumps

=====  
Model: PU-2086  
Control mode: Binary HPG  
Solvent A: 0.1 TFA in Water

HPLC trace2 of (S)-14c

**Area Percent Report**  
data\Roberta\NCDDG\Rock project\RPM1345 Chiral IPA 30 Hex 70 flow1ml 20min.met 4-3-2009 10:58:57 AM.dat  
Acquired: 4/3/2009 10:59:16 AM  
Page 1 of 2 Data File: C:\HPLC  
Printed: 4/3/2009 11:38:00 AM

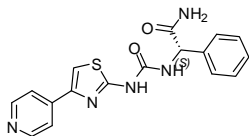
Analyst: System  
Sample ID: RPM1345  
Vial: N/A  
Injection Volume: 0



UV-Vis Results			
Name	Retention Time	Area	Integration Codes
	3.300	10366	0.277 BV
	3.967	4517	0.121 VV
	4.417	6149	0.164 VV
	4.833	4574	0.122 VB
	13.133	3722514	99.317 BB

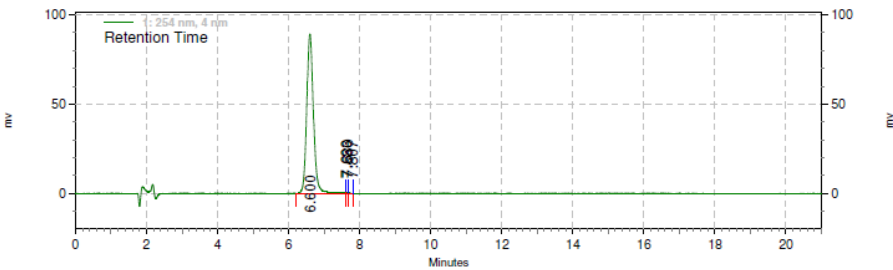
Instrument Name: HPLC  
Acquisition Method: C:\EZStart\Projects\Default\Method\Roberta\Chiral IPA 30 Hex 70 flow1ml 20min.met  
Sequence: C:\HPLC data\Dan\abc.seq  
Software Version: Version 3.1.7

HPLC trace1 of (S)-14d



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1392 CH3CN 20%  
TFA 0.1 in H2O 80% 1ml 20 min TEMP.met 6-8-2010 11-01-16 AM.dat  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% H2O 50%  
1ml 20 min TEMPL.met  
Acquired: 6/8/2010 11:03:30 AM  
Printed: 6/10/2010 2:40:47 PM



1: 254 nm, 4 nm

Results

Retention Time	Area	Area %	Height	Height %
6.600	1166907	99.94	89257	99.78
7.633	283	0.02	101	0.11
7.680	360	0.03	95	0.11
7.807	0	0.00	0	0.00
Totals				
	1167550	100.00	89453	100.00

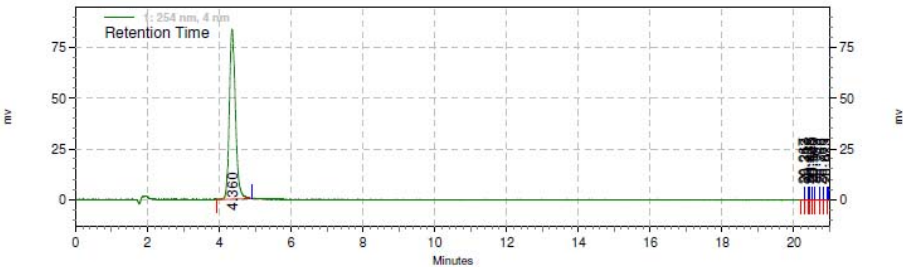
Spectrum Max

Plot Results

Retention Time	Area	Area %	Height	Height %
0.087	251	0.01	407	0.12
0.200	270	0.01	331	0.10
0.253	357	0.01	136	0.04
0.440	336	0.01	216	0.06
0.487	403	0.02	153	0.04
0.600	312	0.01	155	0.04
0.720	491	0.02	343	0.10
0.947	567	0.02	108	0.03
1.027	73	0.00	81	0.02
1.427	1954	0.07	448	0.13
1.627	5210	0.20	933	0.27
1.813	518785	19.59	110370	31.82
2.187	409461	15.46	67092	19.34

Area % Report

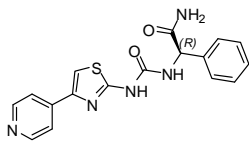
Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1392MeOH 40% TFA  
0.1 in H2O 60% 1ml 20 min TEMPL.met 7-30-2011 8-03-30 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Harsukh\New-GLEPP HPLC  
Method 0.1% H2O 0.07% CH3CN (100-0 %) 2ml 20 min 290 nm.met  
Acquired: 7/30/2011 8:04:58 PM  
Printed: 7/30/2011 8:32:58 PM



1: 254 nm, 4 nm Results				
Retention Time	Area	Area %	Height	Height %
4.360	997818	99.50	84047	98.28
20.267	621	0.06	160	0.19
20.313	854	0.09	157	0.18
20.433	351	0.04	79	0.09
20.493	530	0.05	208	0.24
20.540	430	0.04	180	0.21
20.593	799	0.08	145	0.17
20.760	617	0.06	188	0.22
20.873	620	0.06	199	0.23
20.933	157	0.02	158	0.18
Totals	1002797	100.00	85521	100.00

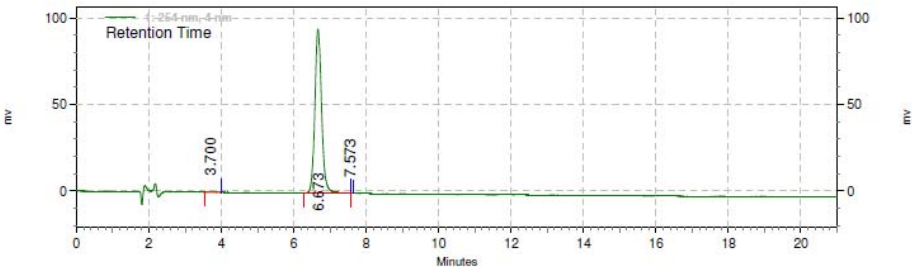
Spectrum Max Plot Results				
Retention Time	Area	Area %	Height	Height %
0.060	324	0.01	583	0.12
0.153	523	0.02	618	0.13
0.227	786	0.03	289	0.06
0.300	830	0.03	477	0.10
0.340	1412	0.05	523	0.11
0.473	3252	0.11	1026	0.22
0.633	1128	0.04	91	0.02

HPLC trace1 of (R)-14d



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1323 CH3CN 20%  
TFA 0.1 in H2O 80% 1ml 20 min TEMP.met 6-8-2010 10-05-42 AM.dat  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% H2O 50%  
1ml 20 min TEMPL.met  
Acquired: 6/8/2010 10:07:55 AM  
Printed: 6/10/2010 2:42:02 PM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
3.700	4628	0.37	467	0.49
6.673	1233731	99.61	94912	99.42
7.573	208	0.02	83	0.09

Totals	1238567	100.00	95462	100.00
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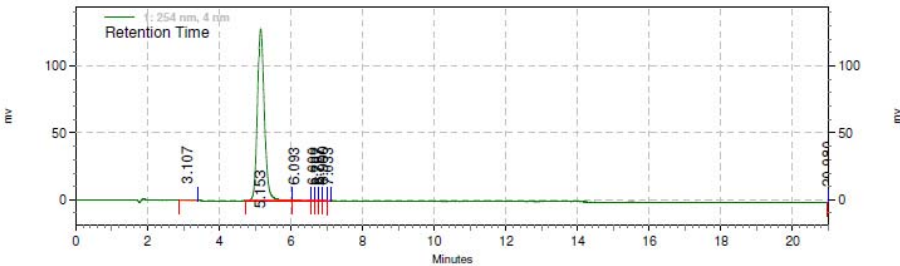
Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.060	1302	0.05	564	0.15
0.187	4001	0.14	913	0.24
0.333	940	0.03	514	0.14
0.400	953	0.03	353	0.09
0.520	1915	0.07	933	0.25
0.573	711	0.03	843	0.22
0.620	469	0.02	332	0.09
0.693	1107	0.04	546	0.14
0.760	615	0.02	841	0.22
0.847	1629	0.06	685	0.18
0.927	1305	0.05	732	0.19
1.013	3540	0.13	885	0.23
1.080	1434	0.05	873	0.23
1.180	2024	0.07	913	0.24

HPLC trace2 of (R)-14d

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1323 MeOH 40% TFA  
0.1 in H2O 60% 1ml 20 min TEMPL.met 6-9-2010 10-43-45 AM.dat  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% H2O 50%  
1ml 20 min TEMPL.met  
Acquired: 6/9/2010 10:45:58 AM  
Printed: 6/10/2010 11:37:59 AM



1: 254 nm, 4 nm  
Results

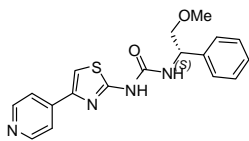
Retention Time	Area	Area %	Height	Height %
3.107	6116	0.35	525	0.40
5.153	1753978	99.02	128282	98.84
6.093	9060	0.51	458	0.35
6.600	588	0.03	128	0.10
6.707	523	0.03	120	0.09
6.787	450	0.03	103	0.08
6.900	363	0.02	75	0.06
7.033	151	0.01	42	0.03
20.980	71	0.00	54	0.04
Totals	1771300	100.00	129787	100.00

Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.100	3056	0.08	1151	0.24
0.213	2579	0.07	1036	0.22
0.313	2310	0.06	1044	0.22
0.447	2921	0.08	842	0.18
0.567	3989	0.11	1011	0.21
0.627	1253	0.03	690	0.14
0.720	1129	0.03	1144	0.24
0.913	2113	0.06	1382	0.29

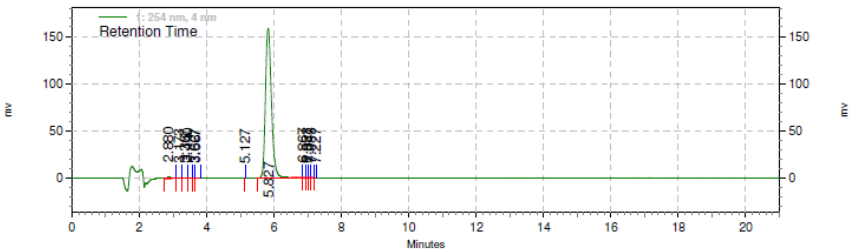


HPLC trace of compound (S)-14e.



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1393 CH3CN 30%  
TFA 0.1 in H2O 70% 1ml 20 min TEMPL.met 5-13-2009 11:50-28 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min TEMPL.met  
Acquired: 5/13/2009 11:51:59 PM  
Printed: 5/14/2009 10:23:34 AM



1: 254 nm, 4 nm

Results

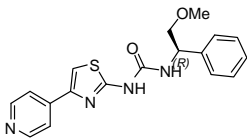
Retention Time	Area	Area %	Height	Height %
2.880	8638	0.44	1125	0.70
3.173	931	0.05	141	0.09
3.367	941	0.05	118	0.07
3.440	627	0.03	101	0.06
3.627	176	0.01	68	0.04
3.667	314	0.02	48	0.03
5.127	29	0.00	36	0.02
5.827	1960718	99.35	158670	98.76
6.867	431	0.02	102	0.06
6.953	385	0.02	96	0.06
7.047	151	0.01	65	0.04
7.093	185	0.01	65	0.04
7.227	58	0.00	34	0.02
Totals	1973584	100.00	160669	100.00

Spectrum Max

Plot Results

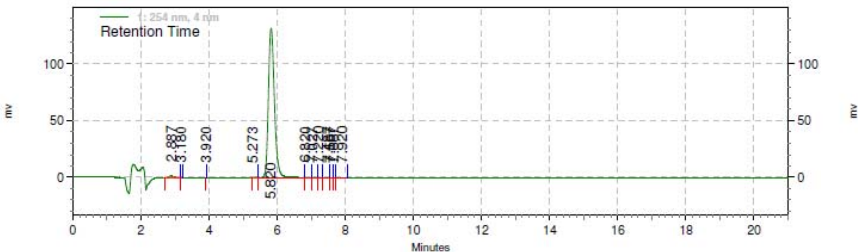
Retention Time	Area	Area %	Height	Height %
0.093	243	0.00	241	0.03
0.180	478	0.01	214	0.03
0.313	643	0.01	210	0.03
0.460	392	0.01	161	0.02

HPLC trace of (R)-14e



Area % Report

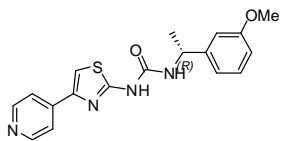
Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1394 CH3CN 30%  
TFA 0.1 in H2O 70% 1ml 20 min TEMPL.met 5-14-2009 12:35:40 AM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min TEMPL.met  
Acquired: 5/14/2009 12:37:12 AM  
Printed: 5/14/2009 10:24:53 AM



1: 254 nm, 4 nm				
Results				
Retention Time	Area	Area %	Height	Height %
2.887	11137	0.68	1469	1.09
3.180	209	0.01	63	0.05
3.920	29	0.00	22	0.02
5.273	244	0.01	33	0.02
5.820	1617529	98.90	131846	98.24
6.820	1743	0.11	178	0.13
7.027	1233	0.08	141	0.11
7.220	812	0.05	116	0.09
7.487	1010	0.06	113	0.08
7.567	356	0.02	83	0.06
7.667	250	0.02	61	0.05
7.920	1015	0.06	84	0.06
Totals	1635567	100.00	134209	100.00

Spectrum Max				
Plot Results				
Retention Time	Area	Area %	Height	Height %
0.507	113	0.00	59	0.01
0.720	435	0.01	169	0.02
0.847	288	0.00	231	0.03
0.933	572	0.01	252	0.03
1.027	414	0.01	446	0.06

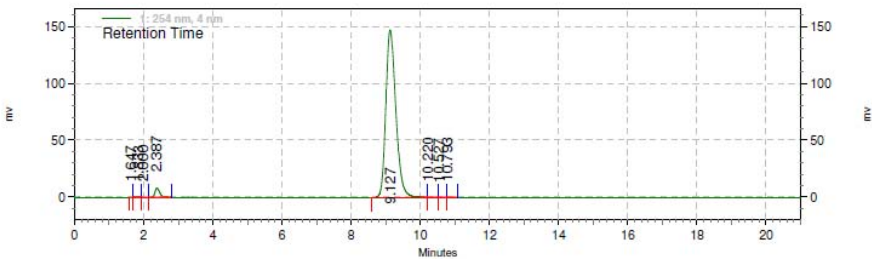
HPLC trace1 of (R)-14f



Page 1 of 4

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1342 MeOH 50% TFA  
0.1 in H2O 50% 1ml 20 min.met 4-8-2009 12-32-36 PM.dat  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min.met  
Acquired: 4/8/2009 12:34:53 PM  
Printed: 5/6/2009 5:24:02 PM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
1.647	500	0.02	137	0.09
1.833	7167	0.23	739	0.47
2.000	1877	0.06	203	0.13
2.387	79944	2.59	8149	5.18
9.127	2984859	96.84	147330	93.68
10.220	5051	0.16	431	0.27
10.527	1899	0.06	192	0.12
10.793	1047	0.03	94	0.06

Totals	3082344	100.00	157275	100.00
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---< General Method Parameters >---

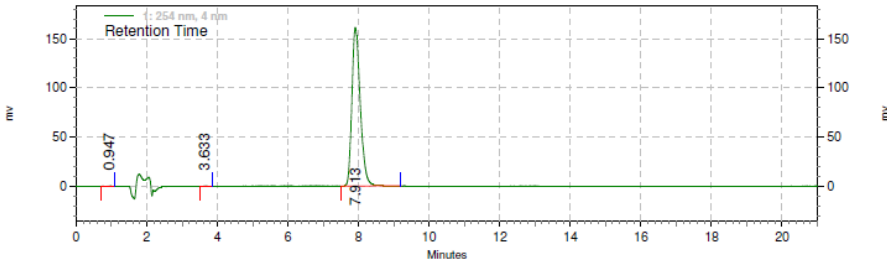
Jasco Pumps

=====  
Model: PU-2086  
Control mode: Binary HPG  
Solvent A: 0.1 TFA in Water  
Solvent B: MeOH  
Solvent C: N/A  
Solvent D: N/A  
Pressure range  
Min. pressure: 3.0 MPa

HPLC trace2 of (R)-14f

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1342 CH3CN 30%  
TFA 0.1 in H2O 70% 1ml 20 min TEMPL.met 5-13-2009 8-04-22 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min TEMPL.met  
Acquired: 5/13/2009 8:05:53 PM  
Printed: 5/14/2009 10:12:53 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
0.947	1069	0.04	104	0.06
3.633	1102	0.04	114	0.07
7.913	2659574	99.92	161196	99.86
Totals				
	2661745	100.00	161414	100.00

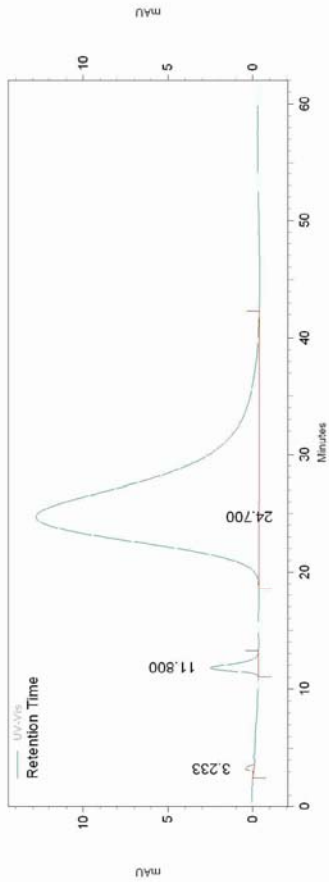
Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.253	372	0.00	327	0.04
0.487	740	0.01	288	0.03
0.573	497	0.01	248	0.03
0.620	18	0.00	0	0.00
0.880	2010	0.02	799	0.09
1.007	9961	0.10	2127	0.23
1.047	13511	0.14	2357	0.25
1.160	31546	0.33	3379	0.36
1.287	20182	0.21	4614	0.49
1.380	27780	0.29	5476	0.59
1.600	1186440	12.31	235266	25.22
1.780	200045	2.08	20193	2.16
2.087	2803435	29.08	280094	30.02
2.407	24888	0.26	2399	0.26

HPLC trace3 of (R)-14f

**Area Percent Report**  
data\Roberta\NCDDG\Rock project\RPM1342 Chiral IPA 40 Hex 60 flow1ml 60min.met 4-30-2009 2-18-44 PM.dat  
Acquired: 4/30/2009 2:19:19 PM  
Page 1 of 2 Data File: C:\HPLC  
Printed: 5/6/2009 11:40:42 AM

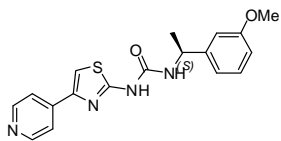
Analyst: System  
Sample ID: RPM1342  
Vial: N/A  
Injection Volume: 0



UV-Vis Results			
Name	Retention Time	Area	Area Percent
	3.233	11348	0.225 MM
	11.800	120890	2.402 MM
	24.700	4900649	97.373 MM

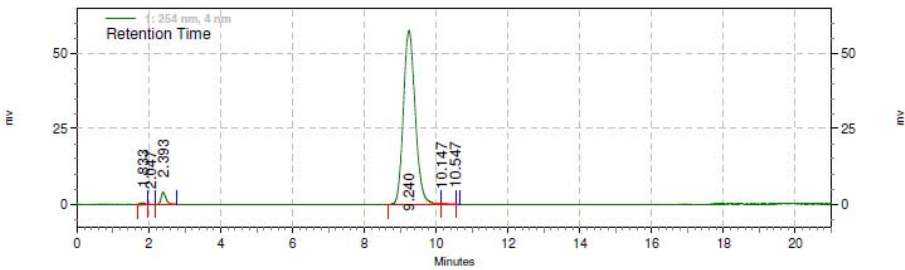
Totals			
Instrument Name:	HPLC	Software Version: Version 3.1.7	
Acquisition Method:	C:\EZStart\Projects\Default\Method\Roberta\Chiral IPA 40 Hex 60 flow1ml 60min.met		
Sequence:	C:\HPLC data\Dan\abc.seq		

HPLC1 trace of (S)-14f



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1340 MeOH 50% TFA  
0.1 in H2O 50% 1ml 20 min.met 4-8-2009 1-05-50 AM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min.met  
Acquired: 4/8/2009 1:07:21 AM  
Printed: 5/6/2009 5:20:10 PM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
1.833	6251	0.45	685	1.09
2.047	1779	0.13	160	0.25
2.393	39075	2.84	4010	6.38
9.240	1324126	96.33	57687	91.80
10.147	3136	0.23	240	0.38
10.547	241	0.02	57	0.09
Totals	1374608	100.00	62839	100.00

---< General Method Parameters >---

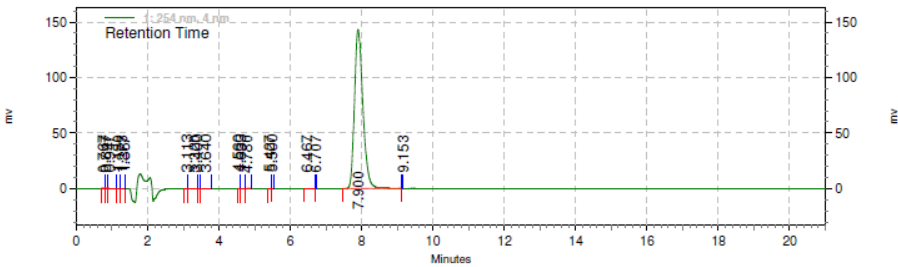
Jasco Pumps

=====  
Model: PU-2086  
Control mode: Binary HPG  
Solvent A: 0.1 TFA in Water  
Solvent B: MeOH  
Solvent C: N/A  
Solvent D: N/A  
Pressure range  
Min. pressure: 3.0 MPa  
Max. pressure: 50.0 MPa

HPLC2 trace of (S)-14f

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1340 CH3CN 30%  
TFA 0.1 in H2O 70% 1ml 20 min TEMPL.met 5-13-2009 8-49-34 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min TEMPL.met  
Acquired: 5/13/2009 8:51:07 PM  
Printed: 5/14/2009 10:18:02 AM



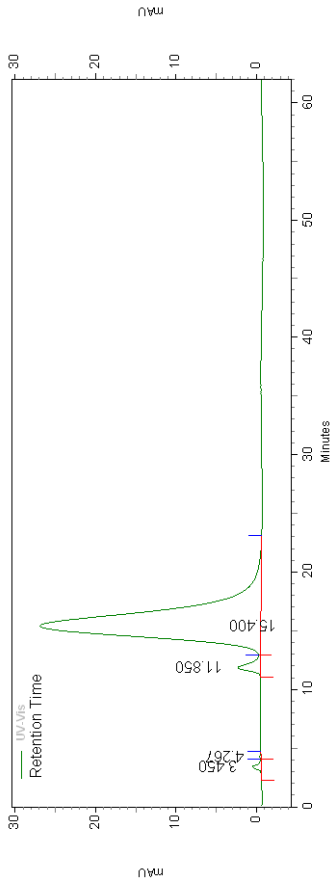
1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
0.767	328	0.01	75	0.05
0.847	150	0.01	52	0.04
0.947	1019	0.04	113	0.08
1.180	423	0.02	92	0.06
1.273	218	0.01	52	0.04
1.367	0	0.00	0	0.00
3.113	150	0.01	46	0.03
3.320	1055	0.04	104	0.07
3.400	186	0.01	67	0.05
3.640	1149	0.05	113	0.08
4.560	88	0.00	49	0.03
4.633	273	0.01	62	0.04
4.780	200	0.01	51	0.04
5.427	166	0.01	54	0.04
5.500	97	0.00	47	0.03
6.467	698	0.03	79	0.05
6.707	36	0.00	46	0.03
7.900	2343361	99.73	143101	99.22
9.153	25	0.00	29	0.02
Totals	2349622	100.00	144232	100.00

HPLC3 trace of (S)-14f

**Area Percent Report**  
data Roberta\NCDDG\Rock project\RPM1340 Chiral IPA 40 Hex 60 flow\ml 60min.met4-29-2009 1-21-10 PM.dat  
Acquired: 4/29/2009 1:21:59 PM  
Page 1 of 2 Data File: C:\HPLC  
Printed: 4/29/2009 2:27:37 PM

Analyst: System  
Sample ID: RPM1340  
Vial: N/A  
Injection Volume: 0



UV-Vis Results			
Name	Retention Time	Area	Area Percent
	3.450	30455	0.712
	4.267	3548	0.083
	11.850	123422	2.885
	15.400	4120531	96.320

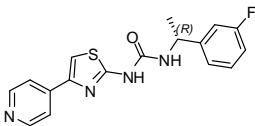
Instrument Name: HPLC  
Acquisition Method: C:\EZStart\Projects\Default\Method Roberta\Chiral IPA 40 Hex 60 flow\ml 60min.met  
Sequence: C:\HPLC\data\Dan abc.seq  
Software Version: Version 3.1.7



Area Percent Report				
Page 2 of 2 Data File: C:\HPLC				
data\Roberta\NCDDG\Rock project\RPNI1340 Chiral IPA 40 Hex 60 Flow1ml 60min.met4-29-2009 1-21-10 PM.dat				
Acquired: 4/29/2009 1:21:59 PM			Printed: 4/29/2009 2:27:37 PM	
Totals		4277956	100.000	

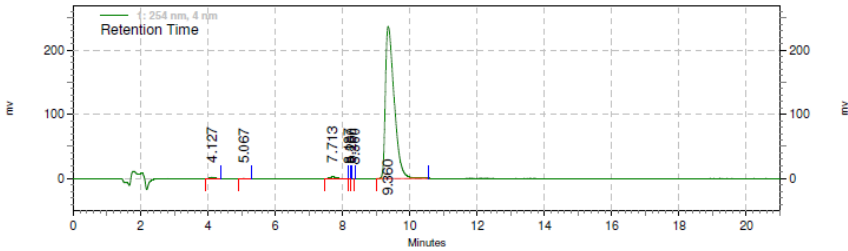
Instrument Name: HPLC      Software Version: Version 3.1.7  
Acquisition Method: C:\EZStart\Projects\Default\Method\Roberta\Chiral IPA 40 Hex 60 Flow1ml 60min.met  
Sequence: C:\HPLC\data\Dan abc.seq

HPLC trace1 of (R)-14g



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1472 CH3CN 30%  
TFA 0.1 in H2O 70% 1ml 20 min TEMP.met 9-29-2009 10-18-46 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min TEMP.met  
Acquired: 9/29/2009 10:20:15 PM  
Printed: 9/30/2009 9:36:46 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
4.127	18491	0.43	2137	0.88
5.067	2152	0.05	208	0.09
7.713	36930	0.85	2802	1.16
8.187	92	0.00	43	0.02
8.260	52	0.00	39	0.02
8.360	19	0.00	24	0.01
9.360	4272271	98.67	236421	97.83
Totals	4330007	100.00	241674	100.00

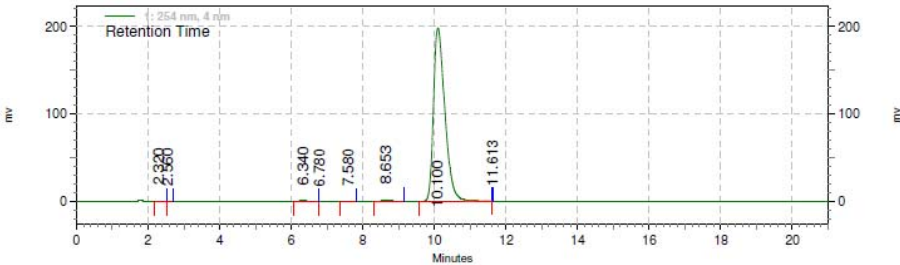
Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.087	124	0.00	41	0.00
0.147	320	0.00	70	0.01
0.260	0	0.00	0	0.00
0.440	1629	0.02	277	0.03
0.573	4477	0.05	952	0.12
0.660	6677	0.07	1421	0.17
0.740	6209	0.06	2002	0.24
0.807	14964	0.15	2159	0.26
0.900	33072	0.33	2903	0.35
1.067	20746	0.21	3564	0.43

HPLC trace2 of (R)-14g

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1472 MeOH 50% TFA  
0.1 in H2O 50% 1ml 20 min TEMPL.met 9-30-2009 10-33-25 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min TEMPL.met  
Acquired: 9/30/2009 10:34:56 PM  
Printed: 10/1/2009 9:48:56 AM



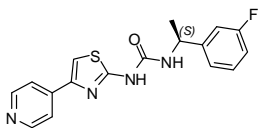
1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
2.320	1695	0.04	144	0.07
2.560	203	0.00	33	0.02
6.340	18566	0.42	1178	0.58
6.780	0	0.00	0	0.00
7.580	1523	0.03	113	0.06
8.653	36893	0.83	2031	1.01
10.100	4396941	98.68	198100	98.23
11.613	82	0.00	67	0.03
Totals	4455903	100.00	201666	100.00

Spectrum Max  
Plot Results

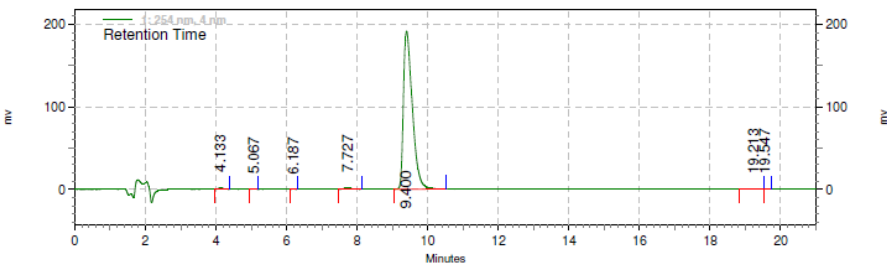
Retention Time	Area	Area %	Height	Height %
0.267	102	0.00	255	0.06
0.367	227	0.00	386	0.10
0.493	501	0.01	351	0.09
0.573	276	0.00	255	0.06
0.653	506	0.01	424	0.11
0.807	443	0.01	340	0.09
0.860	302	0.01	405	0.10
0.947	360	0.01	382	0.10
1.000	228	0.00	447	0.11

HPLC trace1 of (S)-14g



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1479 CH3CN 30%  
TFA 0.1 in H2O 70% 1ml 20 min TEMP.met 9-29-2009 9-33-33 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min TEMP.met  
Acquired: 9/29/2009 9:35:04 PM  
Printed: 9/30/2009 9:35:19 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
4.133	16767	0.49	1935	0.98
5.067	1375	0.04	167	0.08
6.187	969	0.03	128	0.07
7.727	28929	0.85	2188	1.11
9.400	3352751	98.43	191916	97.60
19.213	4909	0.14	202	0.10
19.547	622	0.02	104	0.05

Totals	3406322	100.00	196640	100.00
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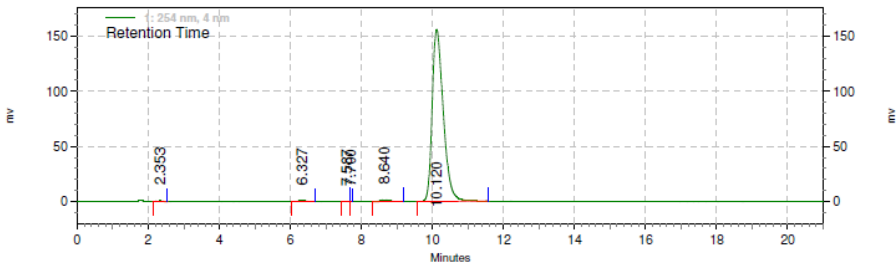
Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.293	8161	0.09	634	0.09
0.487	9387	0.11	1434	0.20
0.553	6067	0.07	1671	0.23
0.687	13999	0.16	2267	0.31
0.807	26949	0.31	2840	0.39
0.967	43605	0.50	3529	0.49
1.107	12903	0.15	4067	0.56
1.160	37092	0.43	4278	0.59
1.613	1236899	14.19	145170	19.99
1.787	190136	2.18	18330	2.52

HPLC trace2 of (S)-14g

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1479 MeOH 50% TFA  
0.1 in H2O 50% 1ml 20 min TEMPL.met 9-30-2009 9:48-12 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min TEMPL.met  
Acquired: 9/30/2009 9:49:43 PM  
Printed: 10/1/2009 9:47:33 AM



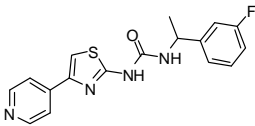
1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
2.353	7933	0.23	637	0.40
6.327	15885	0.46	1050	0.66
7.587	886	0.03	86	0.05
7.700	239	0.01	91	0.06
8.640	30288	0.88	1660	1.04
10.120	3396139	98.40	155966	97.79
Totals	3451370	100.00	159490	100.00

Spectrum Max  
Plot Results

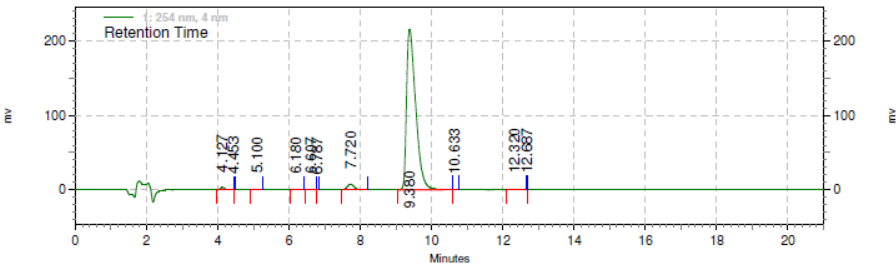
Retention Time	Area	Area %	Height	Height %
0.093	592	0.01	595	0.12
0.220	1493	0.03	805	0.17
0.273	1787	0.04	765	0.16
0.347	1016	0.02	400	0.08
0.480	3030	0.06	1374	0.29
0.560	1660	0.03	830	0.17
0.633	1778	0.03	702	0.15
0.787	6209	0.12	943	0.20
0.940	1507	0.03	906	0.19
1.007	2916	0.06	1039	0.22
1.080	1674	0.03	797	0.17

HPLC trace1 of (RS)-14g



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1470 CH3CN 30%  
TFA 0.1 in H2O 70% 1ml 20 min TEMP.met 9-29-2009 11-03-55 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min TEMP.met  
Acquired: 9/29/2009 11:05:26 PM  
Printed: 9/30/2009 9:39:59 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
4.127	29515	0.74	3338	1.47
4.453	62	0.00	57	0.03
5.100	1825	0.05	191	0.08
6.180	1742	0.04	174	0.08
6.607	1425	0.04	135	0.06
6.787	138	0.00	55	0.02
7.720	101132	2.55	7758	3.41
9.380	3831901	96.45	215685	94.69
10.633	541	0.01	112	0.05
12.320	4756	0.12	268	0.12
12.687	6	0.00	0	0.00

Totals	3973043	100.00	227773	100.00
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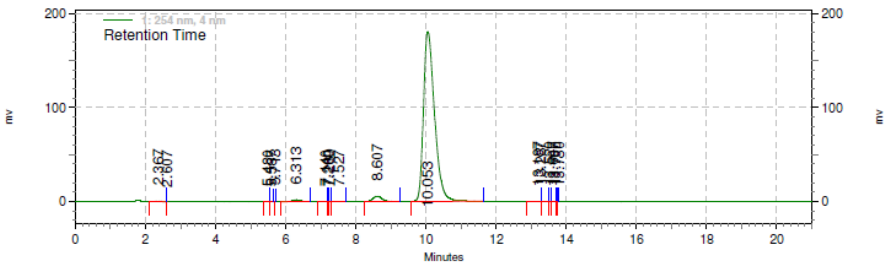
Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.273	1999	0.02	410	0.04
0.353	2503	0.02	762	0.08
0.407	5297	0.05	1026	0.11
0.567	15236	0.15	1931	0.21
0.653	9614	0.10	2686	0.29
0.707	3779	0.04	2424	0.27

HPLC trace2 of (RS)-14g

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1470 MeOH 50% TFA  
0.1 in H2O 50% 1ml 20 min TEMPL.met 9-30-2009 11-18-37 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min TEMPL.met  
Acquired: 9/30/2009 11:20:08 PM  
Printed: 10/1/2009 9:51:07 AM

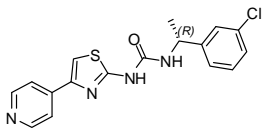


1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
2.367	7793	0.19	626	0.33
2.607	0	0.00	0	0.00
5.480	396	0.01	57	0.03
5.587	206	0.01	57	0.03
5.713	65	0.00	44	0.02
6.313	30572	0.75	1936	1.02
7.140	838	0.02	97	0.05
7.200	194	0.00	91	0.05
7.260	111	0.00	55	0.03
7.527	1471	0.04	115	0.06
8.607	104801	2.56	5728	3.02
10.053	3943576	96.30	180499	95.06
13.187	3153	0.08	211	0.11
13.287	1562	0.04	179	0.09
13.520	150	0.00	62	0.03
13.607	271	0.01	56	0.03
13.700	95	0.00	49	0.03
13.780	13	0.00	15	0.01
Totals	4095267	100.00	189877	100.00

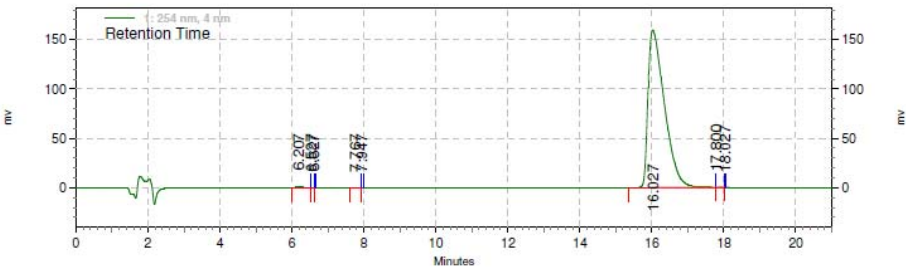
Spectrum Max  
Plot Results

HPLC trace1 of (R)-14h



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1474 CH3CN 30%  
TFA 0.1 in H2O 70% 1ml 20 min TEMP.met 9-30-2009 12-34-17 AM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min TEMP.met  
Acquired: 9/30/2009 12:35:49 AM  
Printed: 9/30/2009 9:46:05 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
6.207	12876	0.25	1078	0.67
6.527	184	0.00	52	0.03
6.627	78	0.00	48	0.03
7.767	1462	0.03	127	0.08
7.947	90	0.00	44	0.03
16.027	5060265	99.68	159699	99.03
17.800	1495	0.03	184	0.11
18.027	61	0.00	38	0.02

Totals	5076511	100.00	161270	100.00
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Spectrum Max  
Plot Results

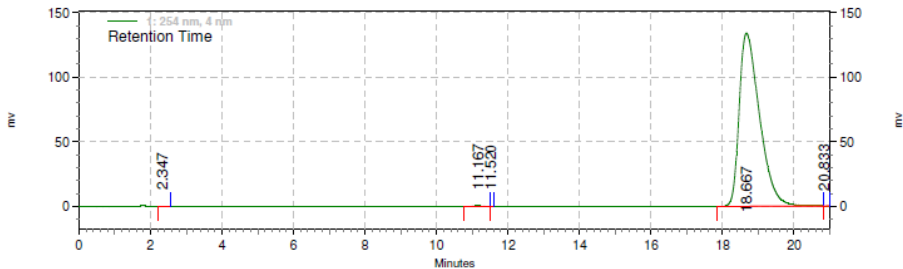
Retention Time	Area	Area %	Height	Height %
0.140	1116	0.01	374	0.04
0.293	1814	0.01	466	0.05
0.500	2788	0.02	526	0.06
0.627	3977	0.03	1319	0.15
0.653	1909	0.01	1345	0.15
0.753	21083	0.16	2222	0.25
0.987	38882	0.29	3686	0.41
1.067	8946	0.07	3775	0.42
1.140	25210	0.19	3913	0.43



HPLC trace2 of (R)-14h

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1471 MeOH 50% TFA  
0.1 in H2O 50% 1ml 20 min TEMPL.met 10-1-2009 12:49:02 AM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min TEMPL.met  
Acquired: 10/1/2009 12:50:31 AM  
Printed: 10/1/2009 9:54:08 AM



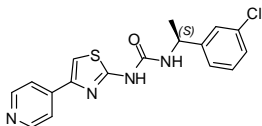
1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
2.347	1665	0.03	194	0.14
11.167	12521	0.24	544	0.40
11.520	280	0.01	103	0.08
18.667	5301385	99.72	134098	99.30
20.833	553	0.01	101	0.07
Totals	5316404	100.00	135040	100.00

Spectrum Max  
Plot Results

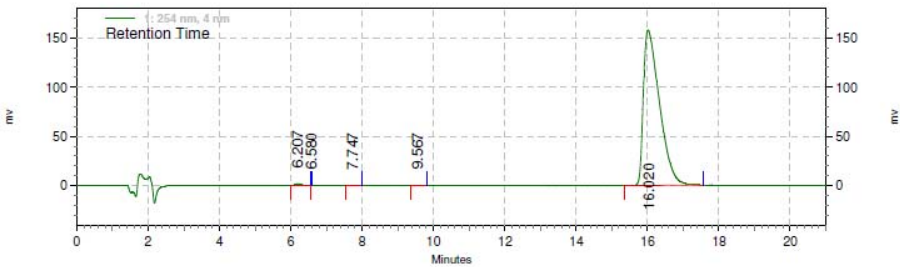
Retention Time	Area	Area %	Height	Height %
0.140	332	0.00	342	0.07
0.193	272	0.00	307	0.07
0.267	437	0.00	287	0.06
0.333	942	0.01	866	0.19
0.400	1982	0.02	983	0.21
0.493	213	0.00	228	0.05
0.560	817	0.01	521	0.11
0.600	833	0.01	467	0.10
0.793	543	0.01	203	0.04
0.933	615	0.01	482	0.10
0.987	336	0.00	270	0.06
1.040	846	0.01	394	0.09

HPLC trace1 of (S)-14h



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1478 CH3CN 30%  
TFA 0.1 in H2O 70% 1ml 20 min TEMP.met 9-29-2009 11-49-07 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min TEMP.met  
Acquired: 9/29/2009 11:50:38 PM  
Printed: 9/30/2009 9:41:51 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
6.207	23188	0.47	1962	1.23
6.580	45	0.00	55	0.03
7.747	2606	0.05	198	0.12
9.567	1337	0.03	106	0.07
16.020	4949680	99.45	157826	98.55
Totals	4976856	100.00	160147	100.00

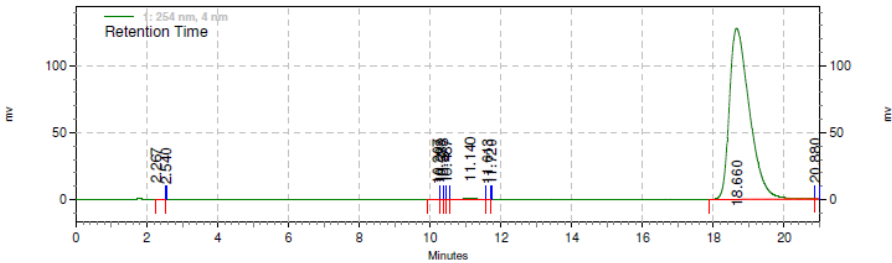
Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.173	120	0.00	120	0.01
0.287	1971	0.01	596	0.07
0.460	6588	0.05	1252	0.14
0.607	21266	0.16	2062	0.23
0.727	8667	0.06	2620	0.29
0.813	17105	0.13	3044	0.34
0.960	31180	0.23	3960	0.44
1.013	8050	0.06	4138	0.46
1.060	18702	0.14	4339	0.49
1.167	30110	0.22	5037	0.56
1.227	24564	0.18	5323	0.60
1.307	26225	0.19	5368	0.60

HPLC trace2 of (S)-14h

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1478 MeOH 50% TFA  
0.1 in H2O 50% 1ml 20 min TEMPL.met 10-1-2009 12-03-50 AM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 50% TFA 0.1 in  
H2O 50% 1ml 20 min TEMPL.met  
Acquired: 10/1/2009 12:05:19 AM  
Printed: 10/1/2009 9:52:30 AM



1: 254 nm, 4 nm  
Results

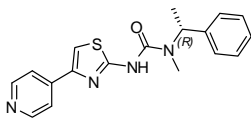
Retention Time	Area	Area %	Height	Height %
2.267	505	0.01	61	0.05
2.540	42	0.00	40	0.03
10.207	1299	0.03	113	0.09
10.293	449	0.01	95	0.07
10.373	239	0.00	94	0.07
10.487	187	0.00	57	0.04
11.140	23017	0.46	980	0.76
11.613	384	0.01	96	0.07
11.720	20	0.00	22	0.02
18.660	5029050	99.47	127796	98.72
20.880	413	0.01	102	0.08

Totals	5055605	100.00	129456	100.00
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Spectrum Max  
Plot Results

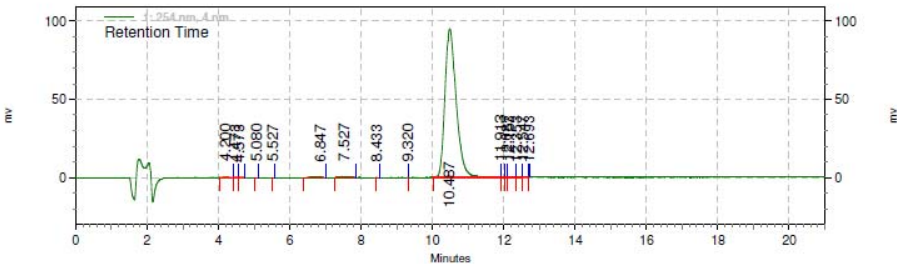
Retention Time	Area	Area %	Height	Height %
0.193	545	0.01	555	0.15
0.307	567	0.01	547	0.15
0.360	185	0.00	290	0.08
0.420	304	0.00	145	0.04
0.533	549	0.01	481	0.13
0.593	719	0.01	19	0.01

HPLC trace1 of (R)-14i



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1364 CH3CN 30%  
TFA 0.1 in H2O 70% 1ml 20 min TEMPL.met 5-14-2009 1-20-55 AM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min TEMPL.met  
Acquired: 5/14/2009 1:22:23 AM  
Printed: 5/14/2009 10:27:03 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
4.200	3638	0.17	384	0.40
4.473	233	0.01	45	0.05
4.573	271	0.01	52	0.05
5.080	180	0.01	44	0.05
5.527	102	0.00	41	0.04
6.847	2464	0.12	149	0.15
7.527	10739	0.51	716	0.74
8.433	122	0.01	61	0.06
9.320	6	0.00	16	0.02
10.487	2080484	98.96	94900	97.77
11.913	1307	0.06	183	0.19
12.087	605	0.03	161	0.17
12.153	1299	0.06	133	0.14
12.353	651	0.03	85	0.09
12.547	267	0.01	58	0.06
12.693	49	0.00	40	0.04
Totals	2102417	100.00	97068	100.00

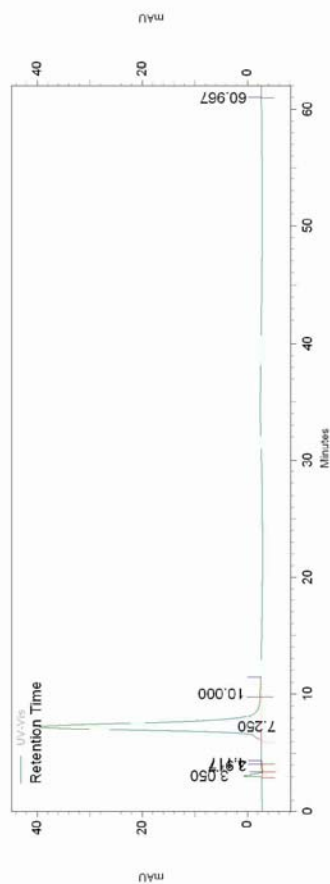
Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.647	342	0.00	261	0.04

Area Percent Report  
data\Roberta\NCDDG\Rock project\RP11364Batch25April2009 Chiral IPA 80 Hex 20 flow 1ml 60min.met4-27-2009 4-54-58 PM.dat  
Acquired: 4/27/2009 4:55:30 PM  
Printed: 4/27/2009 6:03:58 PM  
Page 1 of 2 Data File: C:\HPLC

Analyst: System  
Sample ID: RPM1364Batch25April2009

**Injection Volume: 0**

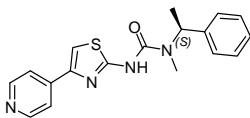


## UV-Vis Results

Name	Retention Time	Area	Area Percent	Integration Codes
	3.050	43958	2.222	BB
	3.917	4516	0.228	BV
	4.117	1011	0.051	VB
	7.250	1919234	97.019	BV
	10.000	9480	0.479	VB

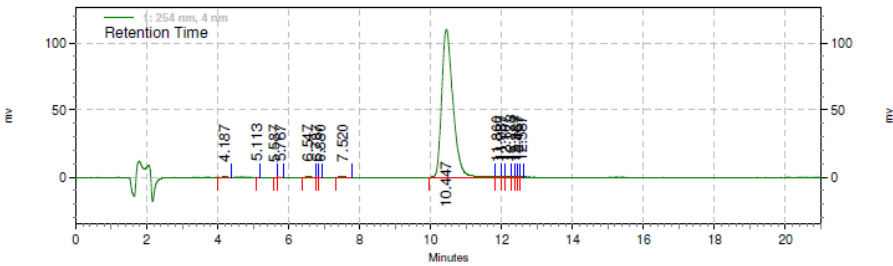
Instrument Name: HPLC  
Acquisition Method: C:\EZStart\Projects\Default\Method\Roberta\Chiral IPA 80 Hex 20 flow 1ml 60min.mn  
Sequence: C:\HPLC data\Dan\abc.seq  
Software Version: Version 3.1.7

HPLC trace1 of (S)-14i



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1365 CH3CN 30%  
TFA 0.1 in H2O 70% 1ml 20 min TEMPL.met 5-13-2009 10-20-03 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\CH3CN 30% TFA 0.1 in  
H2O 70% 1ml 20 min TEMPL.met  
Acquired: 5/13/2009 10:21:34 PM  
Printed: 5/14/2009 10:20:45 AM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
4.187	4013	0.17	413	0.37
5.113	158	0.01	47	0.04
5.587	148	0.01	29	0.03
5.767	228	0.01	47	0.04
6.547	2291	0.09	174	0.16
6.787	98	0.00	58	0.05
6.880	114	0.00	38	0.03
7.520	2262	0.09	179	0.16
10.447	2410531	99.43	110192	98.42
11.860	1719	0.07	218	0.19
11.987	970	0.04	157	0.14
12.107	926	0.04	147	0.13
12.273	478	0.02	102	0.09
12.387	227	0.01	60	0.05
12.467	128	0.01	61	0.05
12.587	134	0.01	41	0.04
Totals	2424425	100.00	111963	100.00

Spectrum Max  
Plot Results

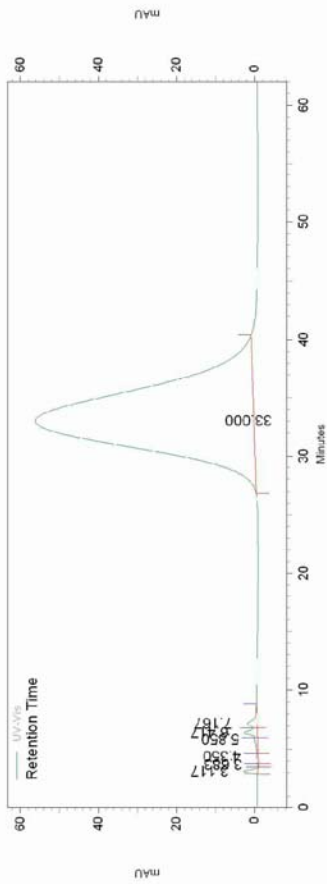
Retention Time	Area	Area %	Height	Height %
0.333	2418	0.03	171	0.02

HPLC trace2 of (S)-14i

**Area Percent Report**  
data\Roberta\NCDDB\Rock project\RPM1365 Chiral IPA 80 Hex 20 flow1ml 60min.met4-27-2009 3-07-26 PM.dat  
Acquired: 4/27/2009 3:07:48 PM

Page 1 of 2 Data File: C:\HPLC  
Printed: 4/27/2009 4:13:09 PM

Analyst: System  
Sample ID: RPM1365  
Vial: N/A  
Injection Volume: 0



UV-Vis Results			
Name	Retention Time	Area	Integration Codes
	3.117	71670	0.375 BB
	3.683	4176	0.022 BV
	4.350	22901	0.120 VV
	5.850	48617	0.255 VV
	6.417	98816	0.517 VV

Instrument Name: HPLC  
Acquisition Method: C:\EZStart\Projects\Default\Method\Roberta\Chiral IPA 80 Hex 20 flow1ml 60min.met  
Sequence: C:\HPLC data\Dan\abc.seq

Software Version: Version 3.1.7

**Area Percent Report**  
data\Roberta\NCDDC\Rock project\RPM1365 Chiral IPA 80 Hex 20 flow1ml 60min.met 4-27-2009 3-07-26 PM.dat  
Acquired: 4/27/2009 3:07:48 PM  
Page 2 of 2 Data File: C:\HPLC  
Printed: 4/27/2009 4:13:09 PM

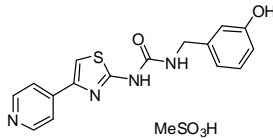
7.167  
33.000  
94501  
18756654  
0.495 VB  
98.216 mm

Totals		19097335	100.000
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Instrument Name: HPLC  
Acquisition Method: C:\EZStart\Projects\Default\Method\Roberta\Chiral IPA 80 Hex 20 flow1ml 60min.met  
Sequence: C:\HPLC\data\Dan\abc.seq  
Software Version: Version 3.1.7

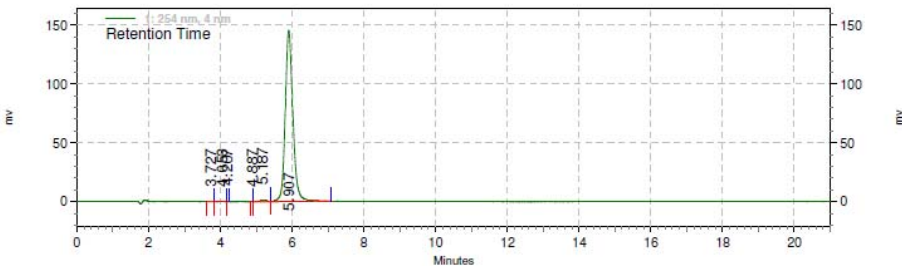


HPLC trace of **5g-Mes**



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick  
Lawrence\Data\Roberta\RPM1447MesBatch20July2010 MeOH 40% TFA 0.1 in H<sub>2</sub>O 60% 1ml 20 min  
TEMPL.met 7-21-2010 7:53:16 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 40% TFA 0.1 in  
H<sub>2</sub>O 60% 1ml 20 min TEMPL.met  
Acquired: 7/21/2010 7:54:44 PM  
Printed: 7/22/2010 9:32:52 AM



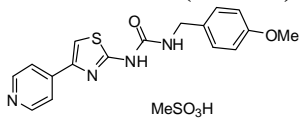
1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
3.727	432	0.02	82	0.06
4.053	1199	0.06	114	0.08
4.207	112	0.01	54	0.04
4.887	151	0.01	78	0.05
5.187	15781	0.73	974	0.66
5.907	2155745	99.19	145339	99.11
Totals	2173420	100.00	146641	100.00

Spectrum Max  
Plot Results

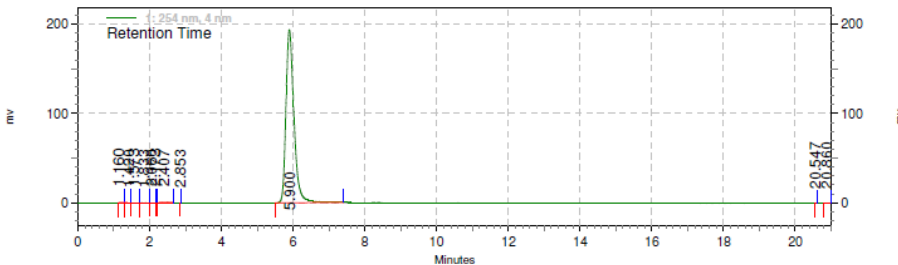
Retention Time	Area	Area %	Height	Height %
0.200	714	0.02	273	0.06
0.347	709	0.02	586	0.13
0.420	954	0.02	449	0.10
0.547	1181	0.03	598	0.13
0.600	669	0.02	876	0.20
0.647	983	0.02	635	0.14
0.747	1232	0.03	490	0.11
0.813	1294	0.03	848	0.19
0.907	1038	0.02	448	0.10
1.033	1214	0.03	497	0.11

HPLC trace of (5d-Mes)



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1538 MeOH 50% TFA  
0.1 in H<sub>2</sub>O 50% 1ml 20 min TEMPL.met 2-9-2010 2:42:40 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 40% TFA 0.1 in  
H<sub>2</sub>O 60% 1ml 20 min TEMPL.met  
Acquired: 2/9/2010 2:44:08 PM  
Printed: 2/9/2010 6:51:06 PM



1: 254 nm, 4 nm  
Results

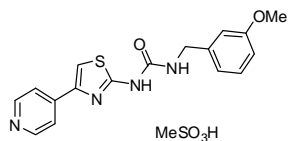
Retention Time	Area	Area %	Height	Height %
1.160	453	0.01	70	0.04
1.420	1012	0.03	133	0.07
1.573	1748	0.06	156	0.08
1.833	4848	0.16	559	0.29
2.060	1117	0.04	150	0.08
2.173	314	0.01	110	0.06
2.407	4867	0.16	426	0.22
2.853	50	0.00	56	0.03
5.900	3012633	99.51	193636	99.10
20.547	133	0.00	53	0.03
20.860	308	0.01	55	0.03

Totals	3027483	100.00	195404	100.00
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Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.133	180	0.00	304	0.06
0.207	323	0.01	571	0.11
0.293	24	0.00	85	0.02
0.340	798	0.01	394	0.08
0.453	209	0.00	222	0.04
0.527	778	0.01	314	0.06

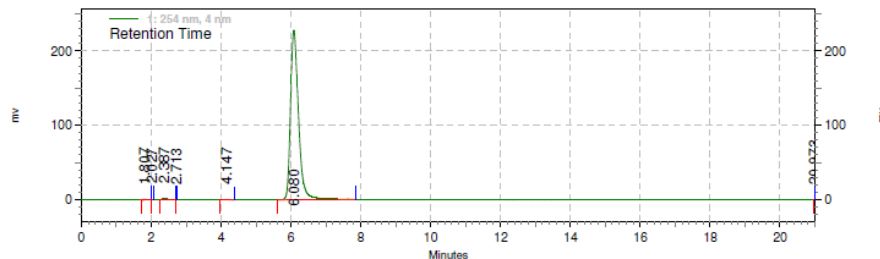
HPLC trace of **5b-Mes**



Page 1 of 8

Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1539 MeOH 50% TFA  
0.1 in H<sub>2</sub>O 50% 1ml 20 min TEMPL.met 2-9-2010 3-27-48 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 40% TFA 0.1 in  
H<sub>2</sub>O 60% 1ml 20 min TEMPL.met  
Acquired: 2/9/2010 3:29:19 PM  
Printed: 2/9/2010 6:49:26 PM



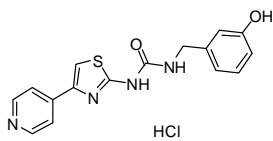
1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
1.807	6615	0.18	805	0.35
2.027	274	0.01	116	0.05
2.387	14150	0.39	1437	0.62
2.713	44	0.00	33	0.01
4.147	4926	0.14	414	0.18
6.080	3622550	99.29	227857	98.76
20.973	63	0.00	47	0.02
Totals	3648622	100.00	230709	100.00

Spectrum Max  
Plot Results

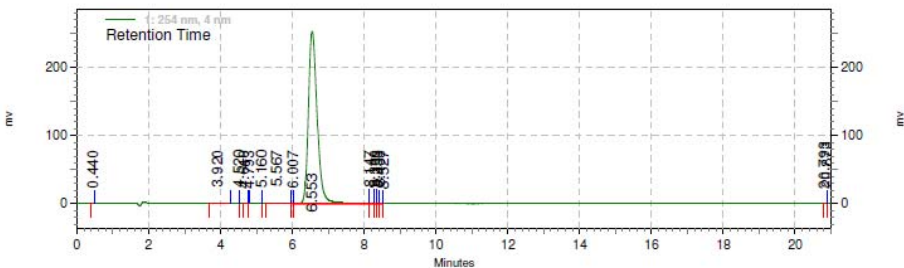
Retention Time	Area	Area %	Height	Height %
0.380	462	0.01	291	0.06
0.660	747	0.01	438	0.09
0.760	270	0.00	51	0.01
0.873	339	0.00	149	0.03
1.140	610	0.01	244	0.05
1.200	617	0.01	477	0.09
1.287	319	0.00	196	0.04
1.400	367	0.01	99	0.02
1.613	806	0.01	113	0.02
1.753	376872	5.49	63513	12.39

HPLC trace of compound **5g-HCl**



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1542 MeOH 40% TFA 0.1 in H2O 60% 1ml 20 min TEMPL.met 2-9-2010 7-18-41 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 40% TFA 0.1 in H2O 60% 1ml 20 min TEMPL.met  
Acquired: 2/9/2010 7:20:09 PM  
Printed: 2/10/2010 9:41:42 AM



1: 254 nm, 4 nm

Results

Retention Time	Area	Area %	Height	Height %
0.440	98	0.00	44	0.02
3.920	10576	0.24	841	0.33
4.520	15	0.00	37	0.01
4.640	254	0.01	55	0.02
4.793	58	0.00	61	0.02
5.160	18	0.00	26	0.01
5.567	13690	0.32	830	0.33
6.007	153	0.00	42	0.02
6.553	4290794	99.35	252738	98.97
8.147	1663	0.04	229	0.09
8.300	431	0.01	165	0.06
8.353	526	0.01	126	0.05
8.433	275	0.01	74	0.03
8.527	36	0.00	39	0.02
20.793	183	0.00	55	0.02
20.873	0	0.00	0	0.00

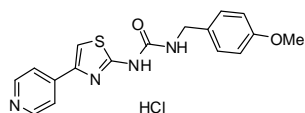
Totals	4318770	100.00	255362	100.00
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Spectrum Max

Plot Results

Retention Time	Area	Area %	Height	Height %
0.167	378	0.00	603	0.11

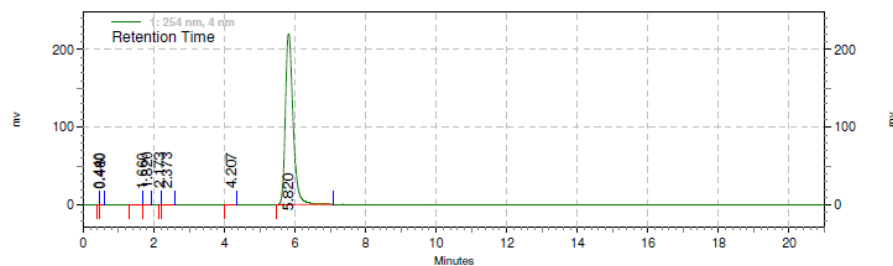
# HPLC trace of **5d-HCl**



Page 1 of 10

## Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1518 MeOH 50% TFA  
0.1 in H<sub>2</sub>O 50% 1ml 20 min TEMPL.met 2-9-2010 4-12-56 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 40% TFA 0.1 in  
H<sub>2</sub>O 60% 1ml 20 min TEMPL.met  
Acquired: 2/9/2010 4:14:24 PM  
Printed: 2/9/2010 6:47:58 PM



### 1: 254 nm, 4 nm

#### Results

Retention Time	Area	Area %	Height	Height %
0.440	128	0.00	59	0.03
0.480	189	0.01	36	0.02
1.660	1927	0.06	155	0.07
1.820	3271	0.10	499	0.23
2.173	80	0.00	37	0.02
2.373	4052	0.12	382	0.17
4.207	1074	0.03	89	0.04
5.820	3351678	99.68	220319	99.43

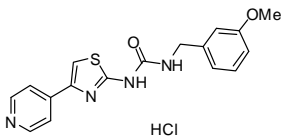
Totals	3362399	100.00	221576	100.00
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### Spectrum Max

#### Plot Results

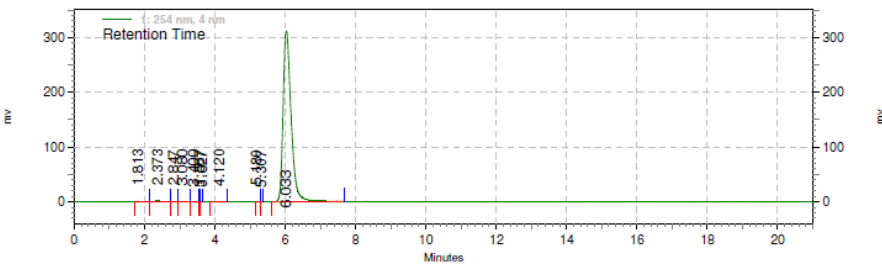
Retention Time	Area	Area %	Height	Height %
0.107	1453	0.02	1024	0.14
0.167	941	0.01	608	0.09
0.207	1290	0.02	790	0.11
0.267	4095	0.06	1093	0.15
0.347	1735	0.03	1292	0.18
0.400	2115	0.03	868	0.12
0.493	3251	0.05	1187	0.17
0.627	4549	0.07	983	0.14
0.813	7022	0.11	1492	0.21

HPLC trace of **5b-HCl**



Area % Report

Data File: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Data\Roberta\RPM1541 MeOH 50% TFA  
0.1 in H2O 50% 1ml 20 min TEMPL.met 2-9-2010 4:58:05 PM  
Method: C:\EZChrom Elite\Enterprise\Projects\Nick Lawrence\Method\Roberta\MeOH 40% TFA 0.1 in  
H2O 60% 1ml 20 min TEMPL.met  
Acquired: 2/9/2010 4:59:34 PM  
Printed: 2/9/2010 6:46:22 PM



1: 254 nm, 4 nm  
Results

Retention Time	Area	Area %	Height	Height %
1.813	10294	0.21	1109	0.35
2.373	21268	0.43	1994	0.63
2.847	1233	0.02	131	0.04
3.080	2999	0.06	264	0.08
3.400	611	0.01	79	0.03
3.567	124	0.00	61	0.02
3.627	152	0.00	52	0.02
4.120	7187	0.14	544	0.17
5.180	304	0.01	54	0.02
5.307	94	0.00	33	0.01
6.033	4920700	99.11	311510	98.63
Totals	4964966	100.00	315831	100.00

Spectrum Max  
Plot Results

Retention Time	Area	Area %	Height	Height %
0.160	2246	0.02	945	0.13
0.287	1721	0.02	450	0.06
0.407	895	0.01	643	0.09
0.460	844	0.01	456	0.06
0.547	1837	0.02	744	0.10
0.693	1844	0.02	699	0.09