# **Supporting Information**

# Quinine bis-Conjugates with Quinolone Antibiotics and Peptides: Synthesis and Antimalarial Bioassay

Siva S. Panda, a Kiran Bajaj, Marvin J. Meyers, Francis M. Sverdrup and Alan R. Katritzky, Alan R. Katritzky

<sup>a</sup>Center for Heterocyclic Compounds, Department of Chemistry, University of
Florida, Gainesville, FL 32611-7200 (USA); Email: katritzky@chem.ufl.edu

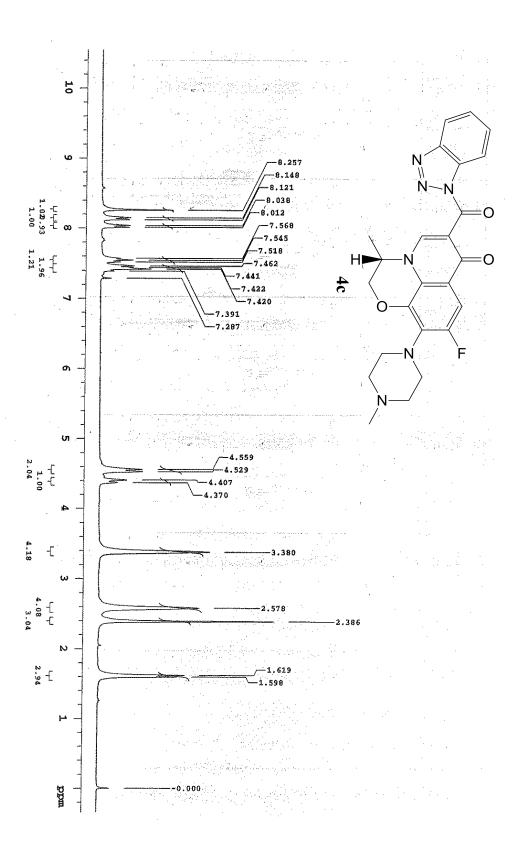
<sup>b</sup>Center for World Health & Medicine, Saint Louis University, Saint Louis, MO 63104 (USA)

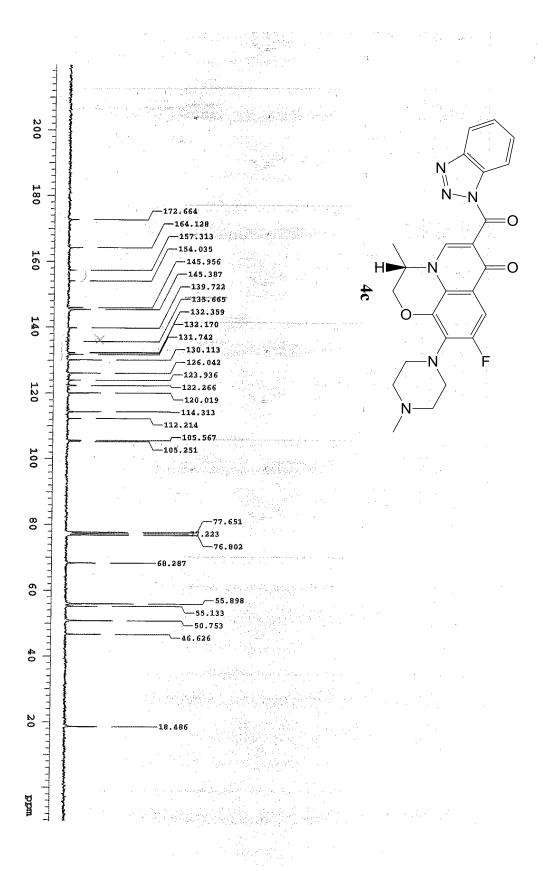
<sup>c</sup>Department of Chemistry, King Abdulaziz University, Jeddah, 21589 Saudi Arabia

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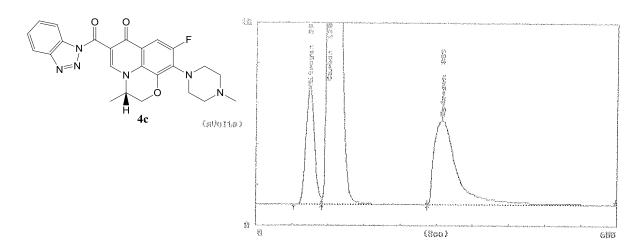




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Sample Ident. : 30 Levo-Bt Filename :262530

Analysed : 09-14-11 09:36:35 Printed :09-14-2011 09:46:38



#### Integration Report

Instrument name : Instrument #1 Bline drift (fV): 1 Company Name : U of Florida Operator Ident. : KOU

Printed : 09-14-2011 09:46:38 Sample Ident.

: 30 Levo-Bt : 2.127 Filename : 262530

Sample Weight Calc.method: using 'K. Factors'

No. (非)		Start (Sec)	End (Sec)	Ret Time (Sec)	Height (fV)	Area (fV*Sec)	Area %	Name
1	EU	63	109	89	5801.7	89721	7.97	Nitrogen
2	FU	109	284	120	49962.6	849475	75.47	Carbon
1,7	RS	284	598	309	4124.0	186329	16,55	Hydrogen
no or more made	N. C. B. C. S. C. S. C. C.		and the control of	men was more may ame not got done	and has some sign and ages with the best finite.	who will gold after any time and the analysis with more offer	or or their think which was read-	Section 2015 Section Seeds was now made made made and and

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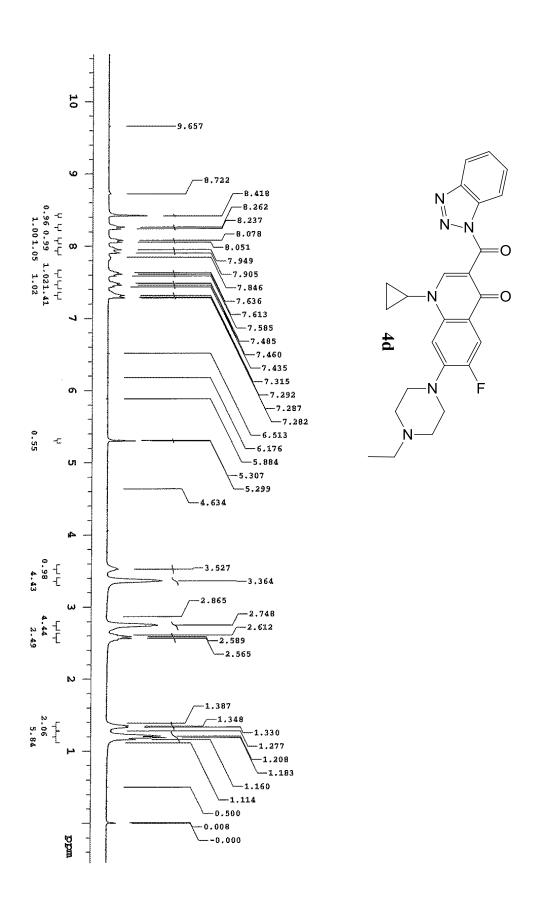
Instrument name : Instrument #1 Bline drift (fV): 1 Company Name : U of Florida Operator Ident. : KOU

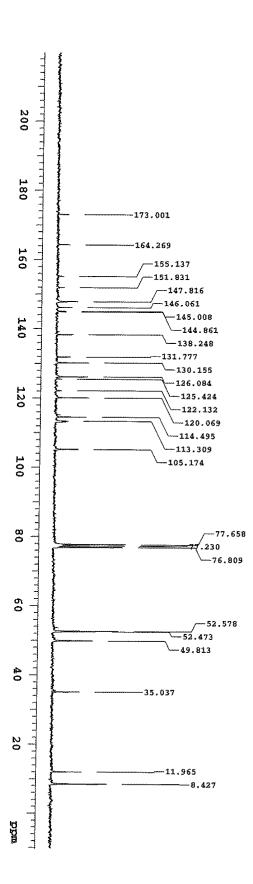
: 09-14-11 09:36:35 Analysed Printed

Sample Ident. : 30 Levo-Bt Filename

Sample Weight : 2,127 Calc.method: using 'K. Factors'

Pk.	Ret Time	Area	Element %	Area Ratio	Name
(#)	(Sec)	(fV*Sec)	(%)		
Т,	200	89721	18.208	.9468016401	Mitrogen
147	130	849475	62.194	.100000E+01	Carbon
13	309	186329	5.154	.455901E+01	Hydrogen
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Sample Ident.

: 26 EN-BT

Filename

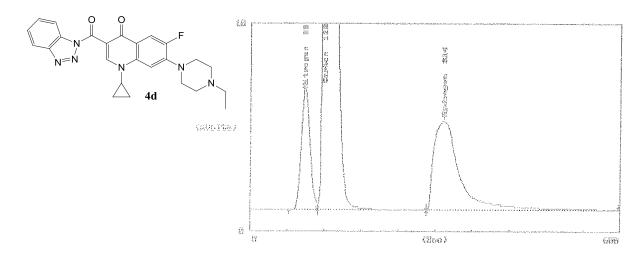
:262726

Analysed

: 09-21-11 09:00:31

Printed

:09-21-2011 09:10:34



#### EAGER 200 Peak I rotegration Paspart

Instrument name : Instrument #1

Analysed

Analysed

Company Name : U of Florida

: 09-21-11 09:00:31

Sample Ident. : 26 EN-BT

Sample Weight : 2.14 Bline drift (fV): .9 Operator Ident. : KOU

Printed : 09-21-2011 09:10:34

Filename : 262726

Calc.method: using 'K. Factors'

No.	Туре	Start	End	Ret Time	Height	Area	Area %	Name
(#)	(#)	(Sec)	(Sec)	(Sec)	( fV )	(fV*Sec)	(%)	
3.	FU	63	109	88	5809.5	89953	7.59	Nitrogen
2	FU	109	285	120	51610.3	886945	74.81	Carbon
14	1429	200	598	31.4	4267.7	208718	17.60	Hydrogen
			Sec. 100 111 111 1111		A site of the total and restrict as in a constraint way	And the standard and the control to the action of the		بالرياد ويتداعيته عليه عدد دينه عليا أدياد سيا عائد بينا دياد

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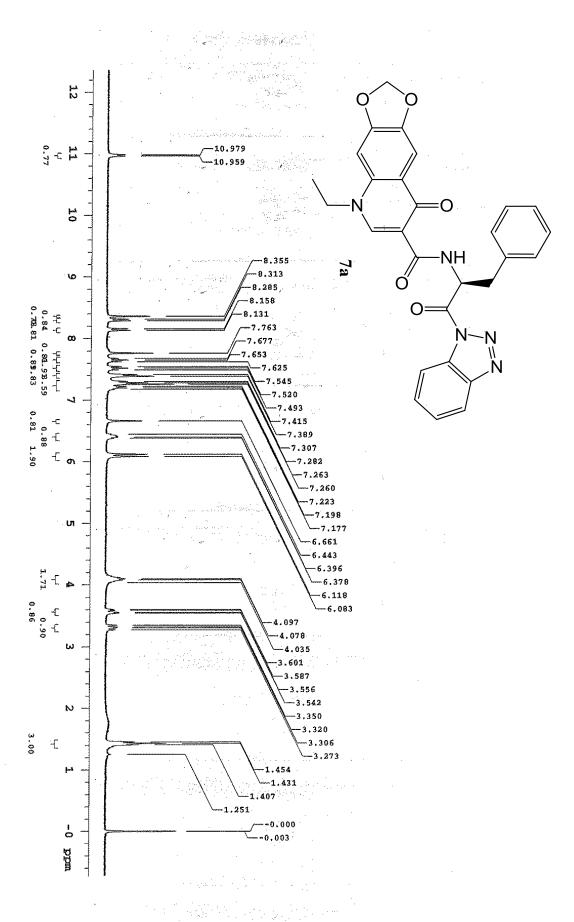
Instrument name : Instrument #1 Company Name : U of Florida

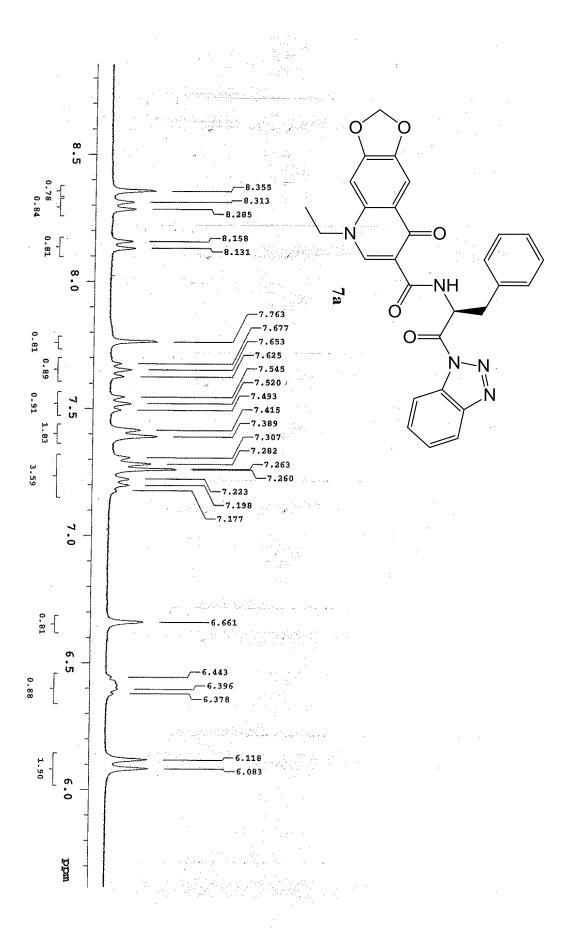
Bline drift (fv): .9 Operator Ident. : KOU

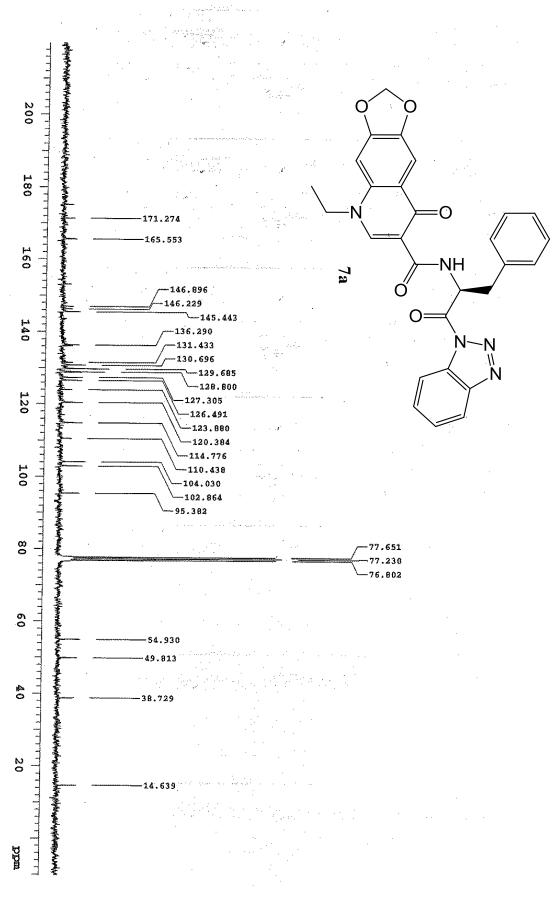
: 09-21-11 09:00:31 Printed : 09-21-2011 09:10:34 Sample Ident. : 26 EN-BT Filename : 262726

Sample Weight : 2.14 Calc.method: using 'K. Factors'

Рk. (#)	Ret Time (Sec)	Area (fV*Sec)	Element % (%)	Area Ratio	Name
1	88	89953	18.166	.986009E+01	Nitrogen
2	120	886945	64.949	.100000E+01	Carbon
3	314	208718	5.905	.424948E+01	Hydrogen
	9,000,000,000,000,000,000	the first and a second some some some space specially and	take age for the same agencies the same and		

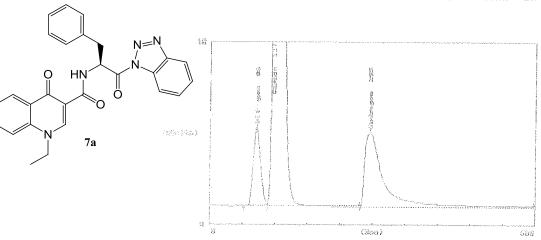






#### EAGER 200 Stripchart

Sample Ident. : 28 OXO-Pho-Bt Filename : 25892R Analysed : 06-14-11 09:14:37 Printed :06-14-2011 11:23:09



# EAGER 200 Peak Integration Report

Instrument name : Instrument #1 Bline drift (fV):-3.6 Company Name : U of Florida Operator Ident, : KOU Analysed

\* 06-14-11 09:14:37 Printed : 06-14-2011 11:23:10 Sample Ident. : 28 OXO-Phe-Bt

: 258928 Filename

Sample Weight : 2.066 Calc.method: using 'K. Factors'

No :	Type	Start	End	Ret Time	Heisht	Area	AFSA %	Nama
(非)	(日)	(\$00)	(Søc)	(Sec)	( fV)	( fV*Sec )	(%)	3 7500115
-	FU	63	106	86	4789.6	63205	5.95	Mitrogen
- 1	1717	106	277	117	51047.2	837355	78.82	Carbon
3	Rev	277	598	295	4040.5	161767	15.23	Hydrogen
** *	1 1 10 10 10			mental to the same proper		and the second second second second		

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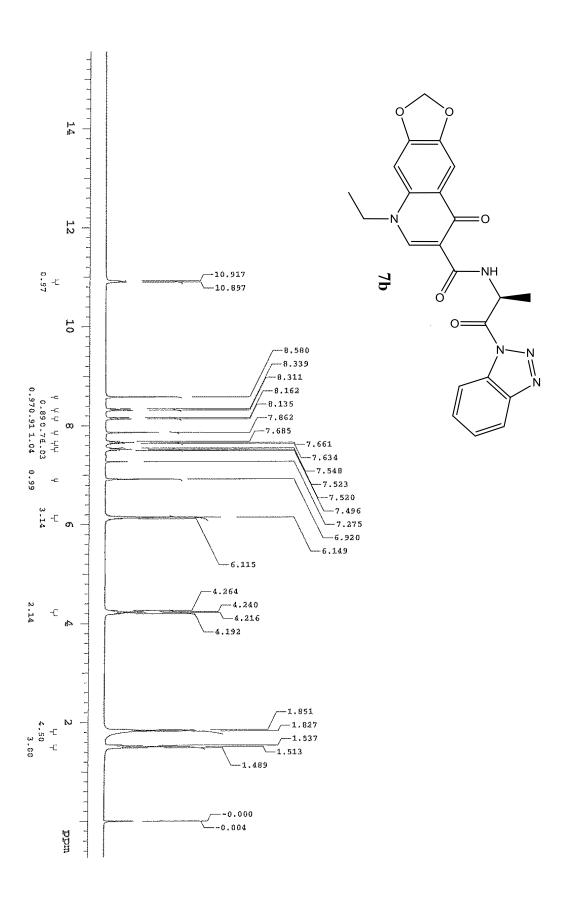
#### EAGER 200 Unk Report

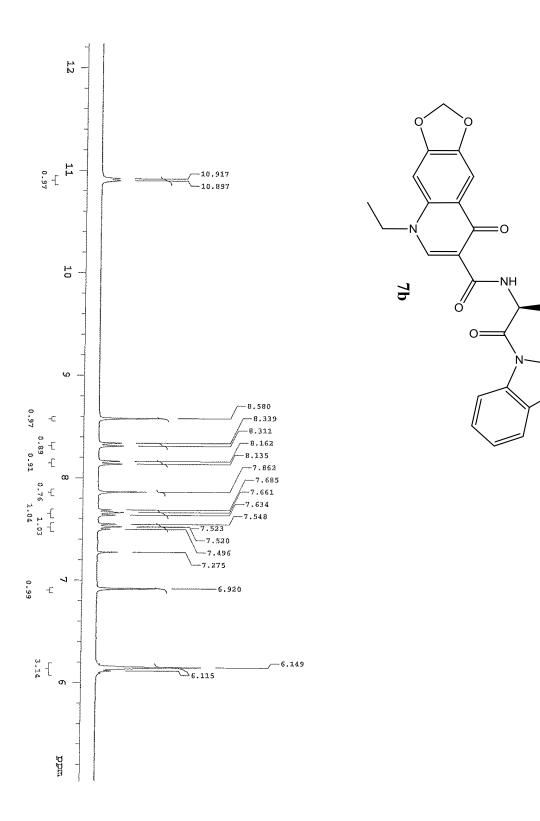
inchrument name : Instrument #1 Bline drift (fV):-3.6 Company Name : U of Florida Operator ident. : KOU

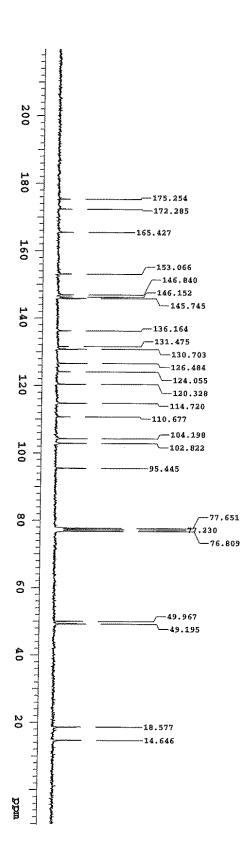
Analysed : 06-14-11 09:14:37 Printed : 06-14-2011 11:23:10 : 28 OXO-Phe-Bt : 258928 Sample ident. Filename

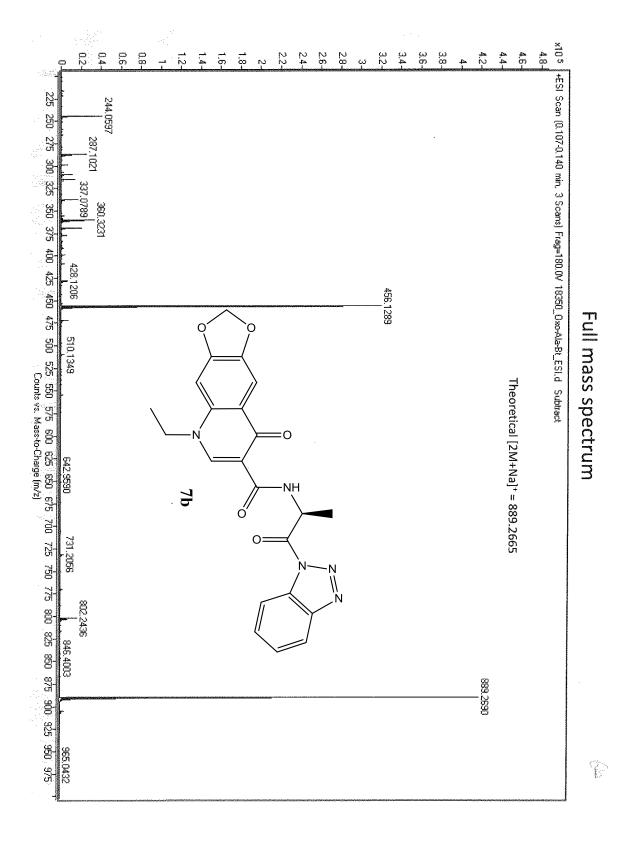
Sample Weight 1 2.066 Calc.method: using 'K. Factors'

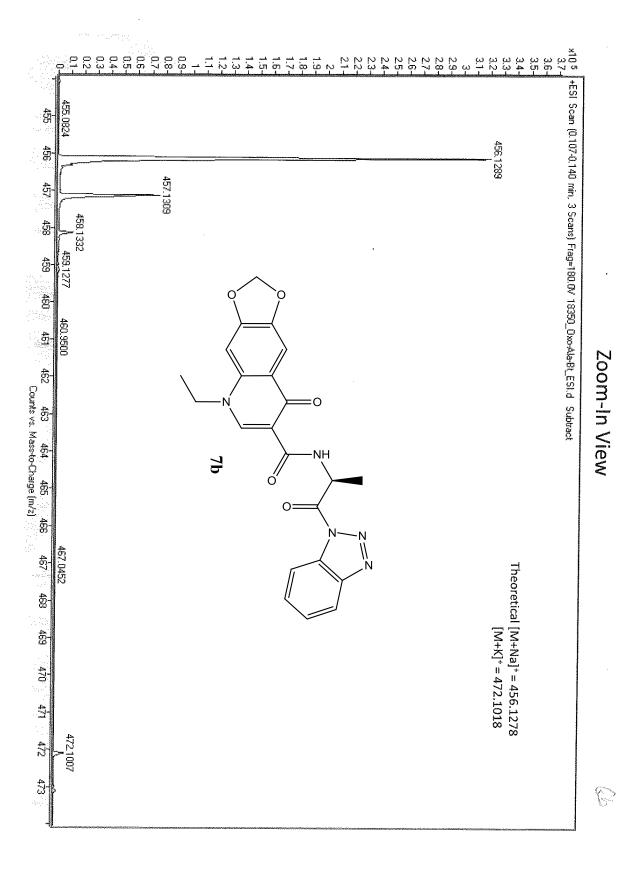
Pk. (#)	Ret Time (Sec)	Area (fV*Sec)	Element % (%)	Area Ratio	Name
L	747 ·	63205	13.642	.132483E+02	Nitrogen
18	1.1.7	337355	65.779	.10000008+01	Carbon
13	225	161767	4,400	.5176316+01	Hydrogen
			200 to minimum 12 ma 200 mm 14		

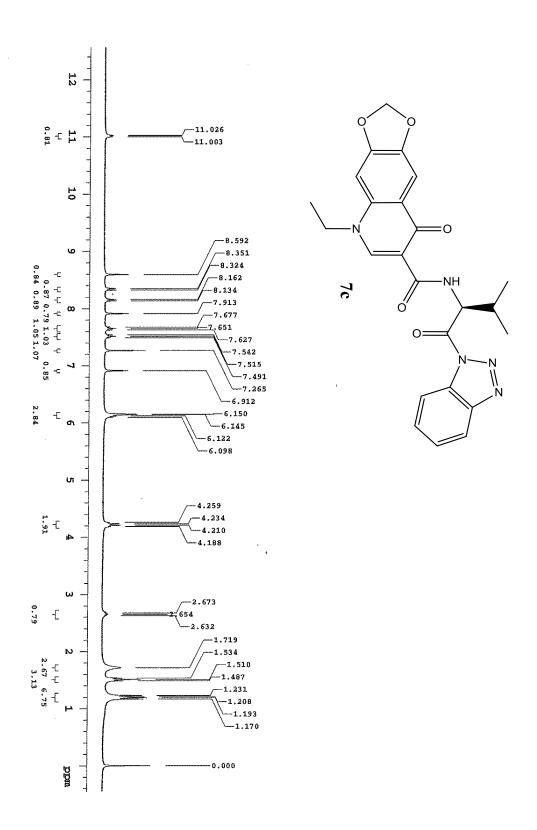


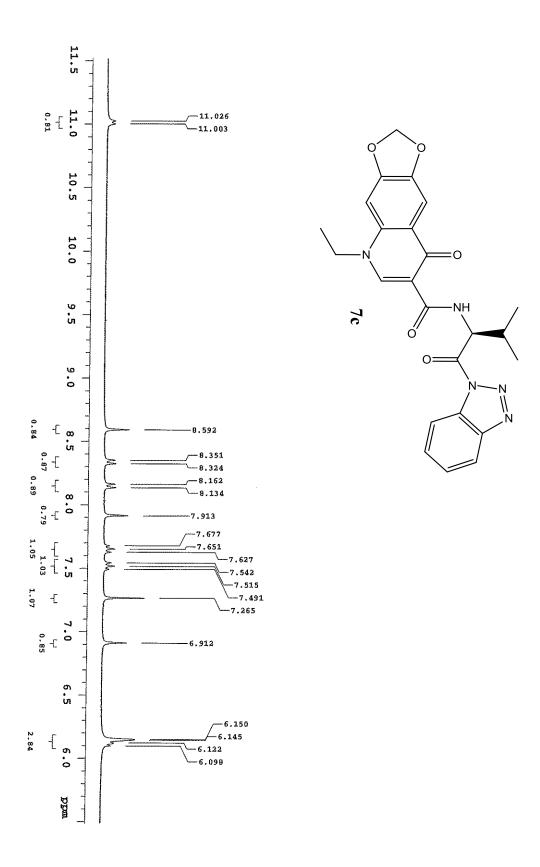


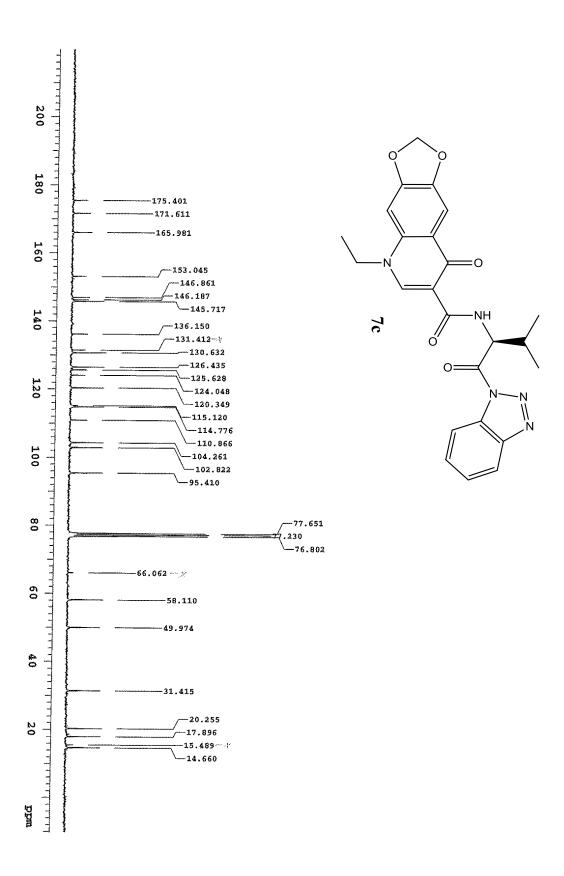


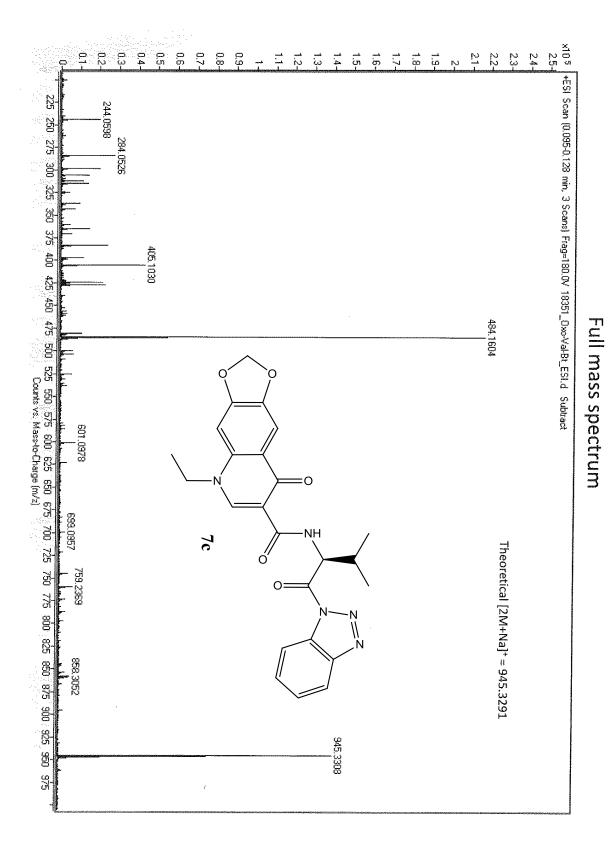






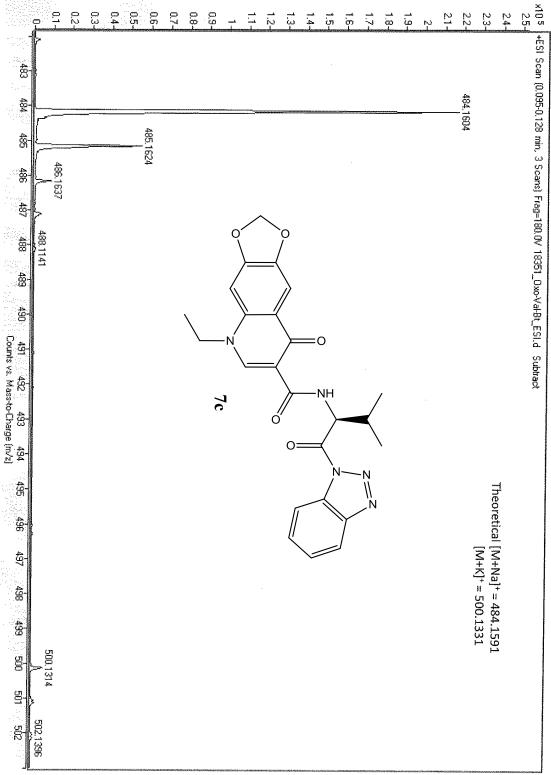


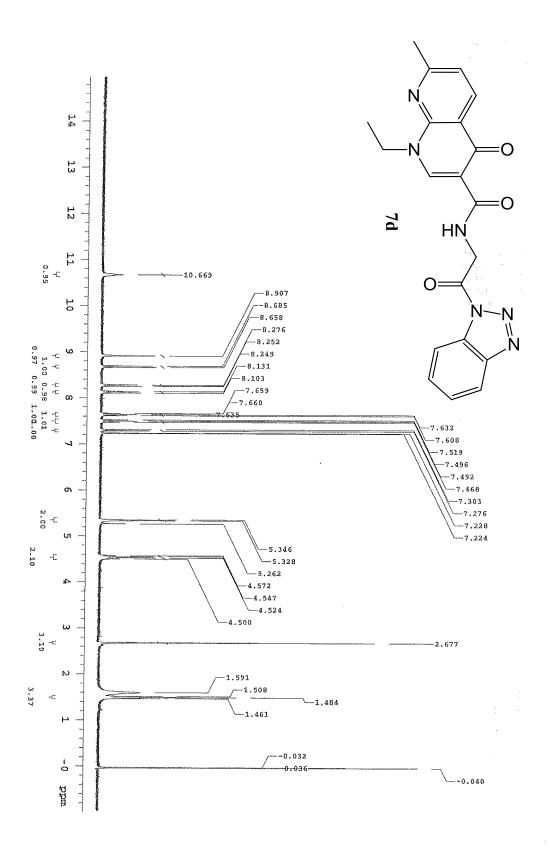


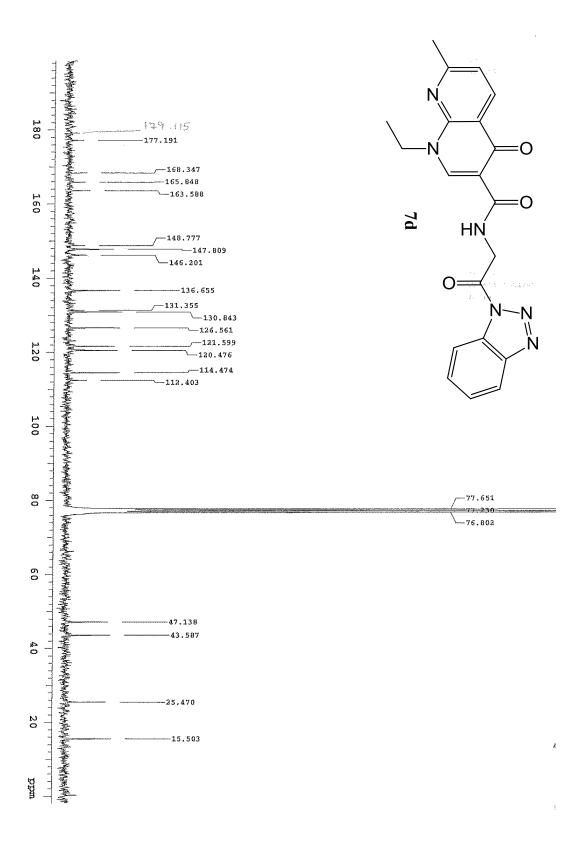




Zoom-In View



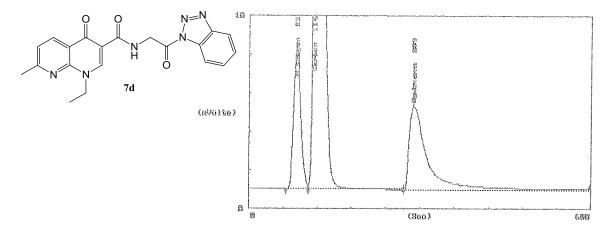




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Sample Ident. : 19 NGB Filename :267019

Analysed : 02-10-12 08:22:11 Printed :02-10-2012 08:32:14



#### Escile 200 Deak Integration Report

Instrument name : Instrument #1 Bline drift (fV):-4.7Company Name : U of Florida Operator Ident. : KOU

: 02-10-12 08:22:11 Analysed Printed : 02-10-2012 08:32:14

Sample Ident. : 19 NGB Filename : 267019

: 2.115 Sample Weight Calc.method: using 'K. Factors'

No. (#)	Туре (#)	Start (Sec)	End (Sec)	Ret Time (Sec)	Height ( <i>f</i> V)	Area ( <i>f</i> V*Sec)	Area %	Name
I.	$F \cup I$	65	104	83	7263.9	98884	9,52	Nitrogen
2	FU	104	271	114	51093.1	782265	75.28	Carbon
3	RS	271	598	289	4286.6	158011	15.21	Hydrogen
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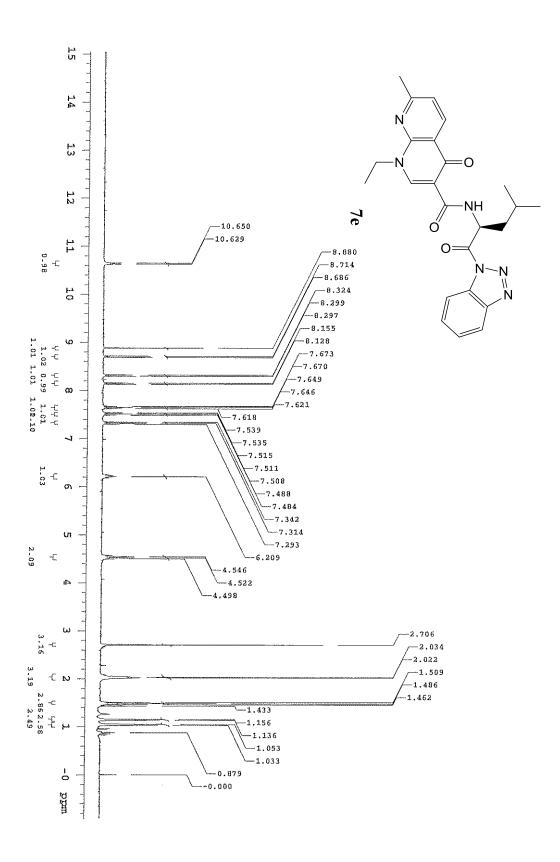
Instrument name : Instrument #1 Bline drift (fV):-4.7 Company Name : U of Florida Operator Ident. : KOU

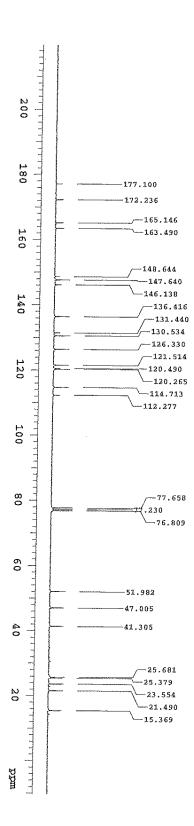
Analysed : 02-10-12 08:22:11 Printed : 02-10-2012 08:32:14

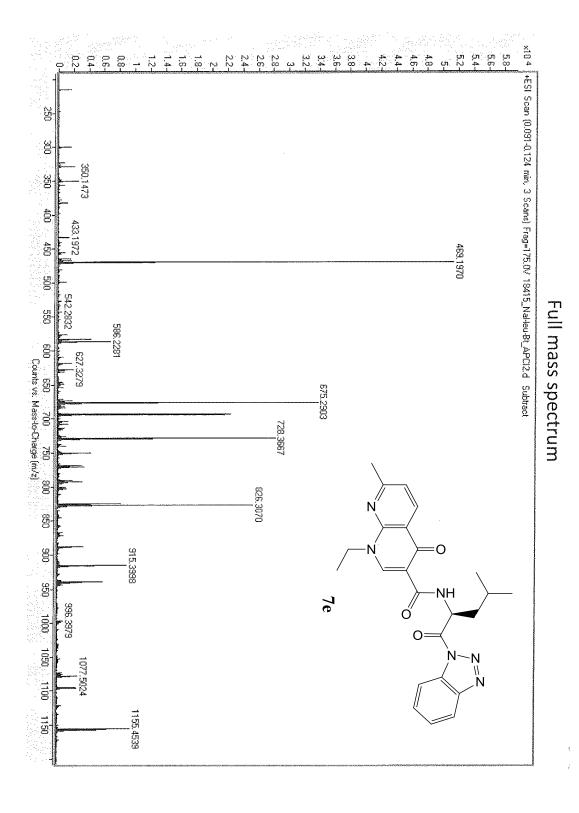
: 19 NGB Filename : 267019

Sample Ident. Sample Weight : 2.115 Calc.method: using 'K. Factors'

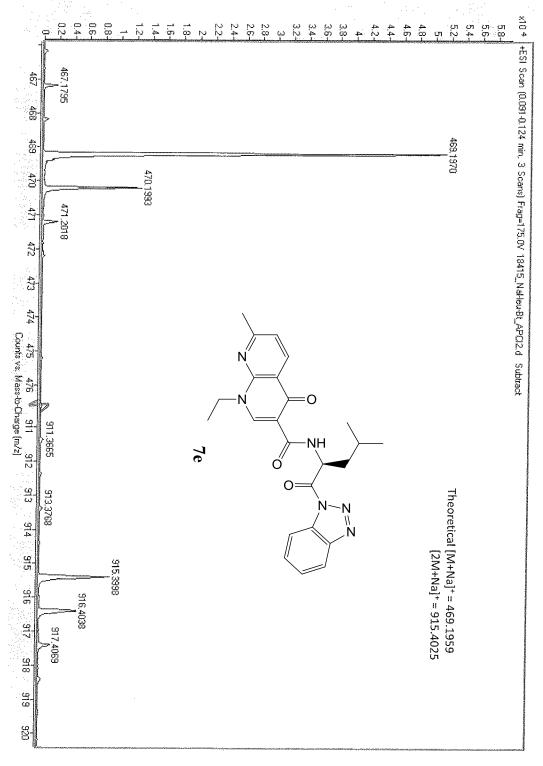
P1 (+		Area ( fV*Sec )	Element % (%)	Area Ratio	Name
1	l 83	98884	21.254	.791093E+01	Nitrogen
2	2 114	782265	61.160	.100000E+01	Carbon
Ş	3 289	158011	4,653	.495069E+01	Hydrogen
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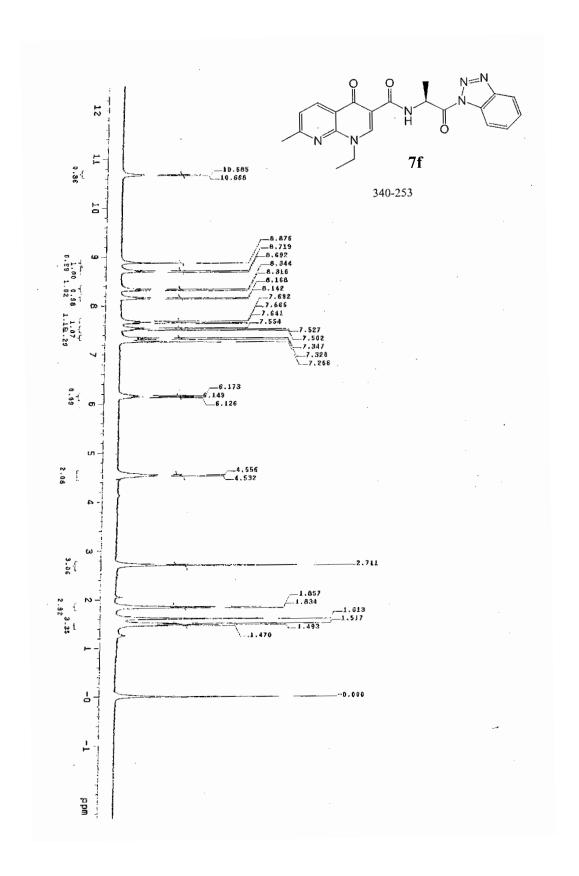


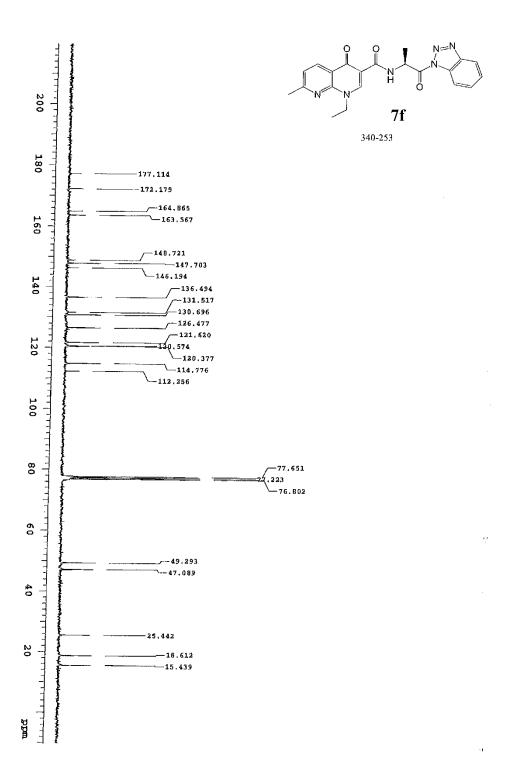






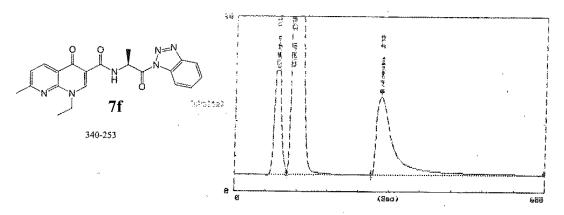






#### EAGER 200 Stripchart

Sampla Ident. : 27 Nal-AB-1 Filename :265327 Analysed : 12-02-11 09:24:28 Printed :12-02-2011 11:45:16



### EAGER 200 Peak Integration Report

Instrument name : Instrument #1 .Bline drift (fV): 3.7 Company Name : U of Florida Operator Ident. : KOU

Analysed : 12-02-11 09:24:28 Printed : 12-02-2011 11:45:16 Sample Ident. : 27 Nal-AB-1 Filenamo : 265327

Sample Weight : 2.174 Calc.method: using 'K, Factors'

Type Ctart End (3) (500) (500) 00 001 101 005 Ret Time Height Area Area % . Name (Sec)  $(f \lor)$ (fV#Sec)

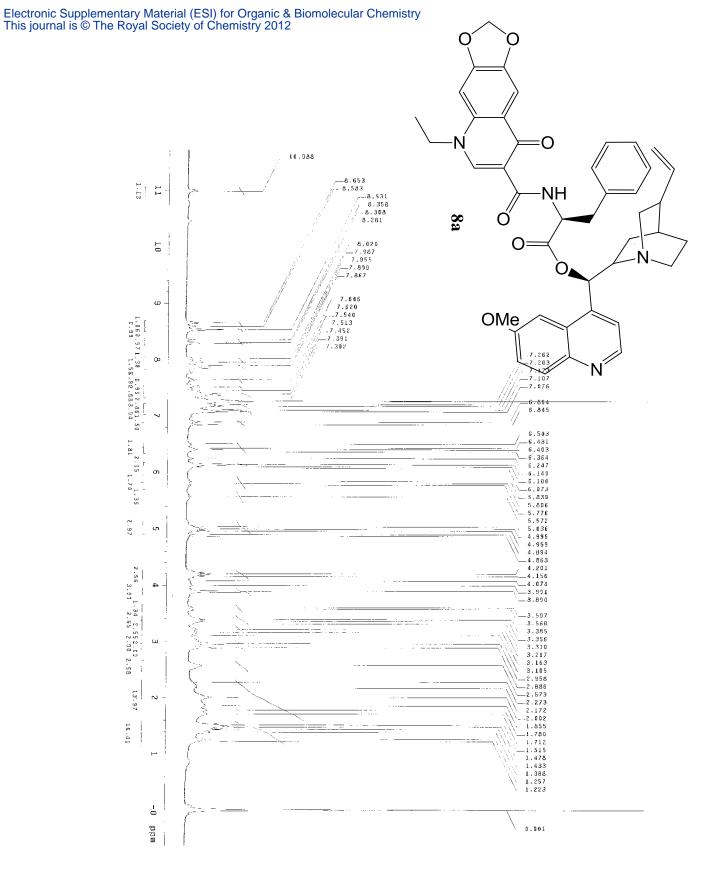
(\$) 0.00 0.00 75041 701397 172030 - 51 110 7290.2 53234.5 Mith Span Con bon 4404.0 Hydrogen

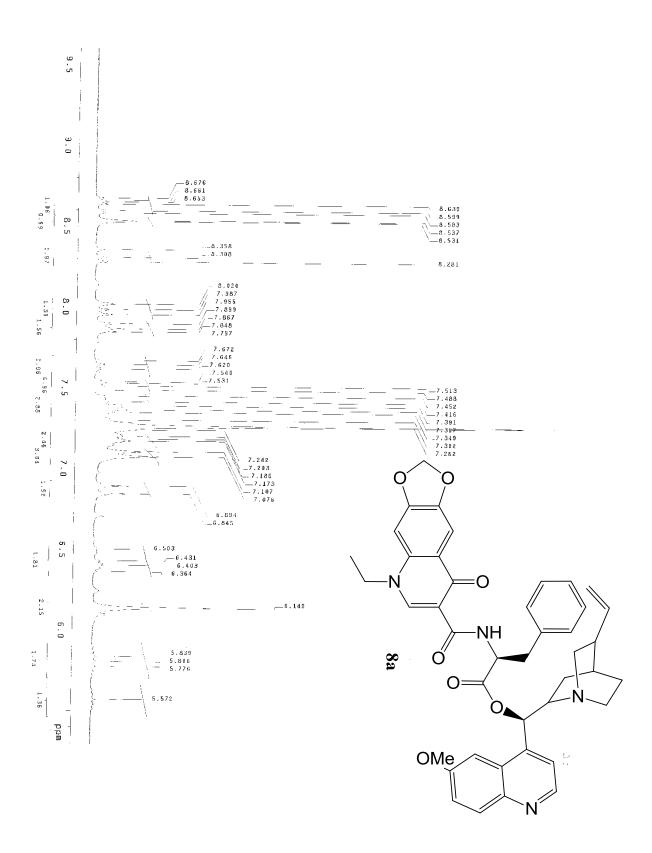
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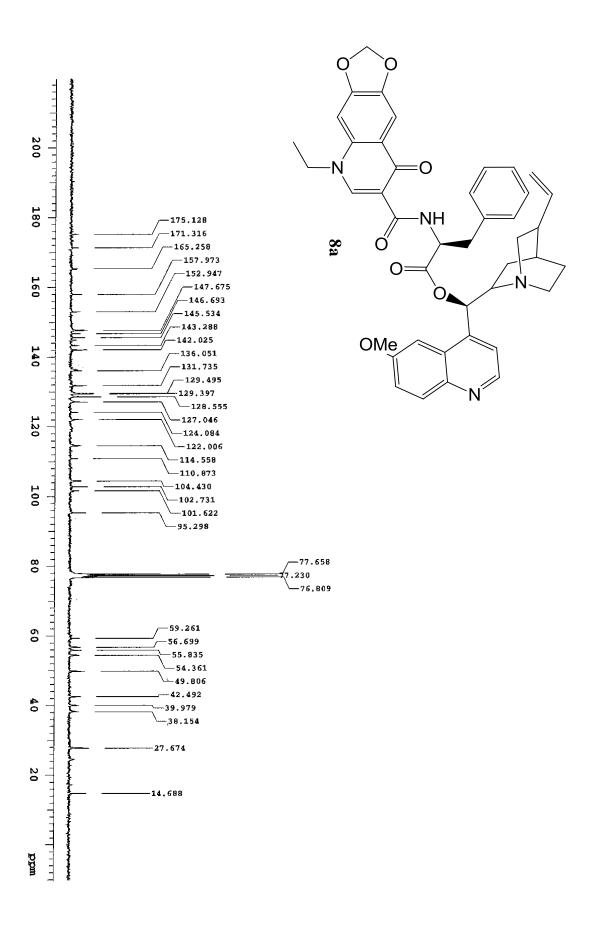
#### EAGER 200 Unk Report

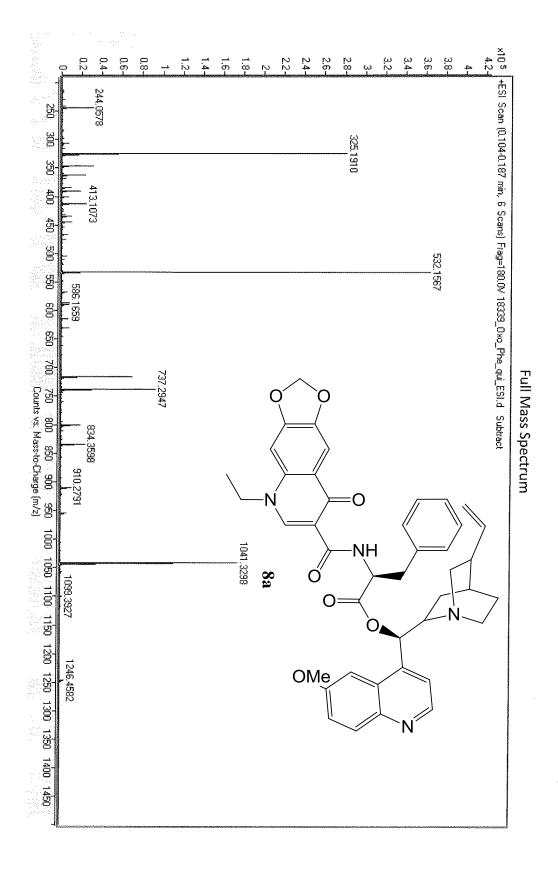
Instrument name : Instrument #1 Bline drift (fV): 3.7 Operator Ident: KOU
Printed: 12-02-2011 11:45:16
Filename: 265327 Company Name : U of Florida Analysed : 12-02-11 09:24:28 Sample Ident. : 27 Nal-AB-1 Sample Weight : 2.174 Calc.method: using 'K. Factors'

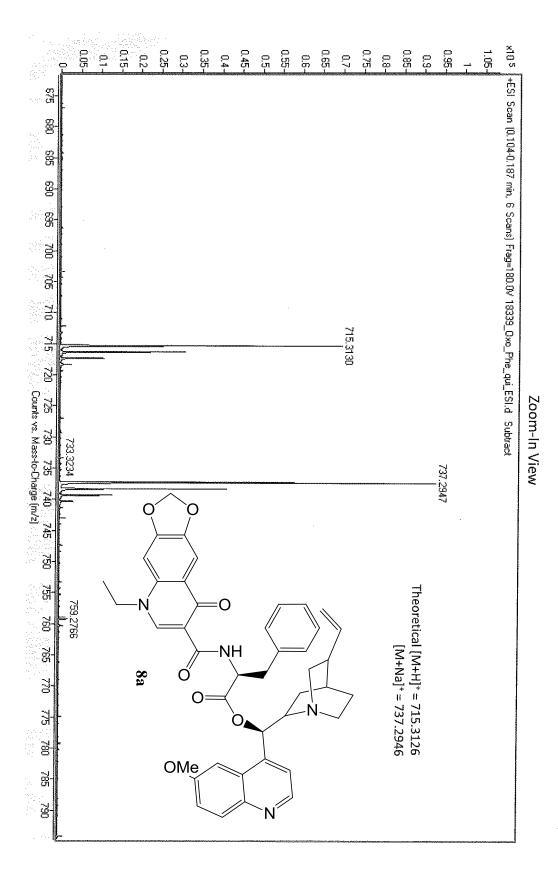
F.A.	Ret Time	Area	Element %	Area Ratio	Name
(#)	(Sec)	(fV*Sec)	(%)		
:	** <u>*</u>	7.54.51	20.667	.022171E:01	Milliosan
	h ,	Mary State of the Control of the Con	62,029	.10000001:01	Sunton
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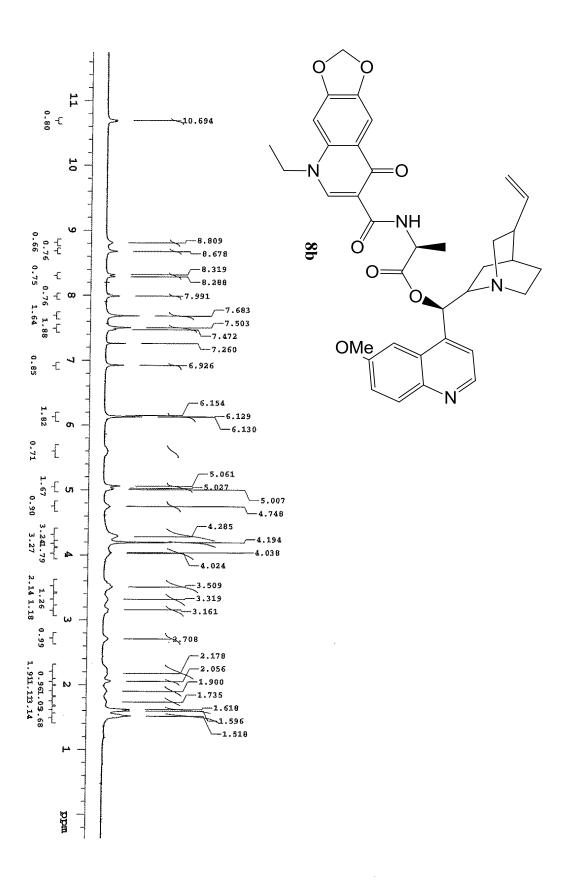


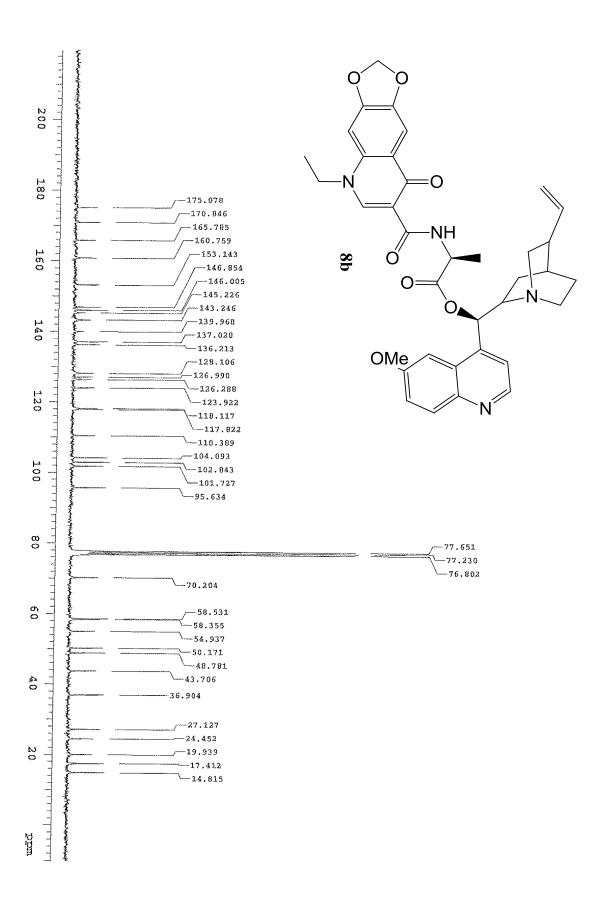




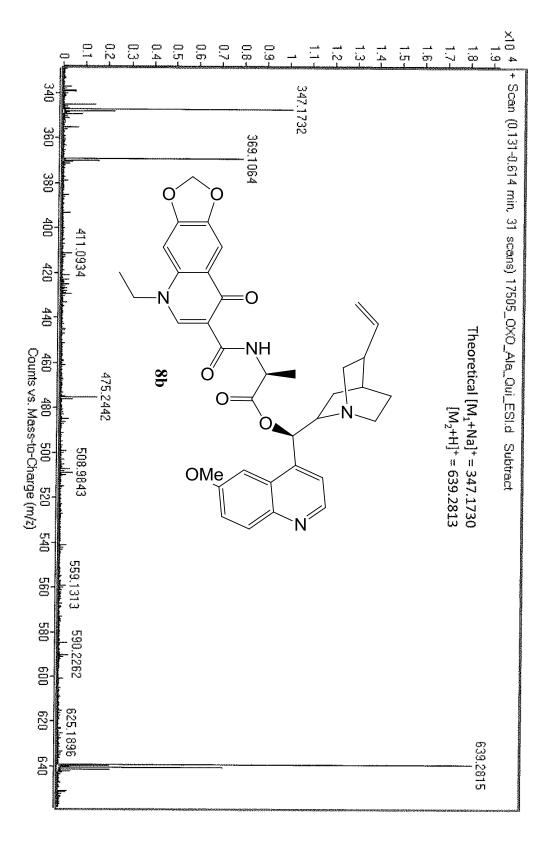


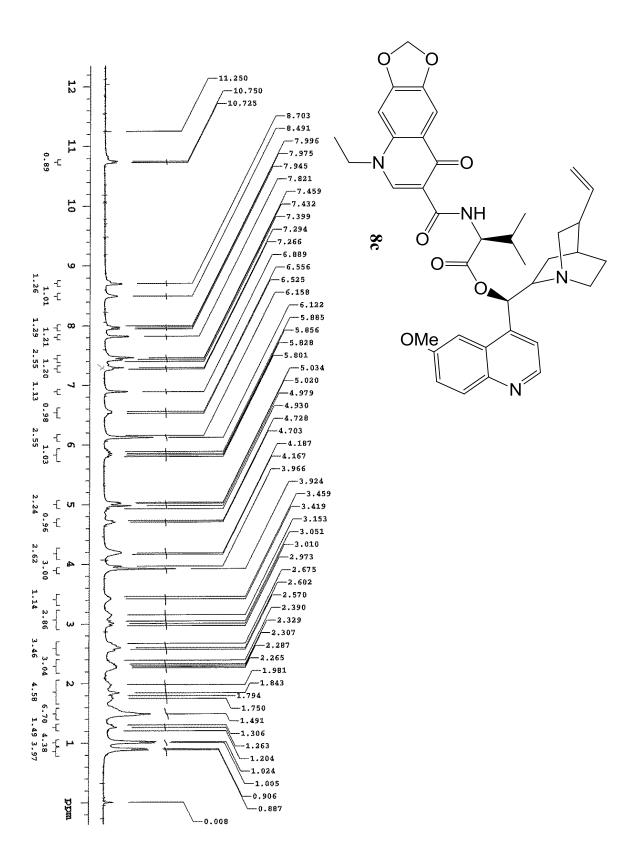


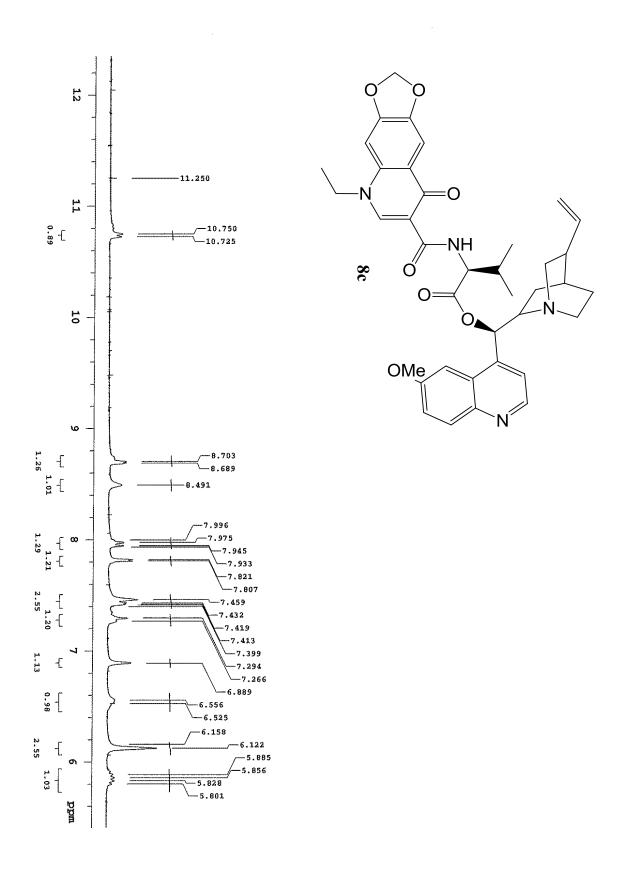


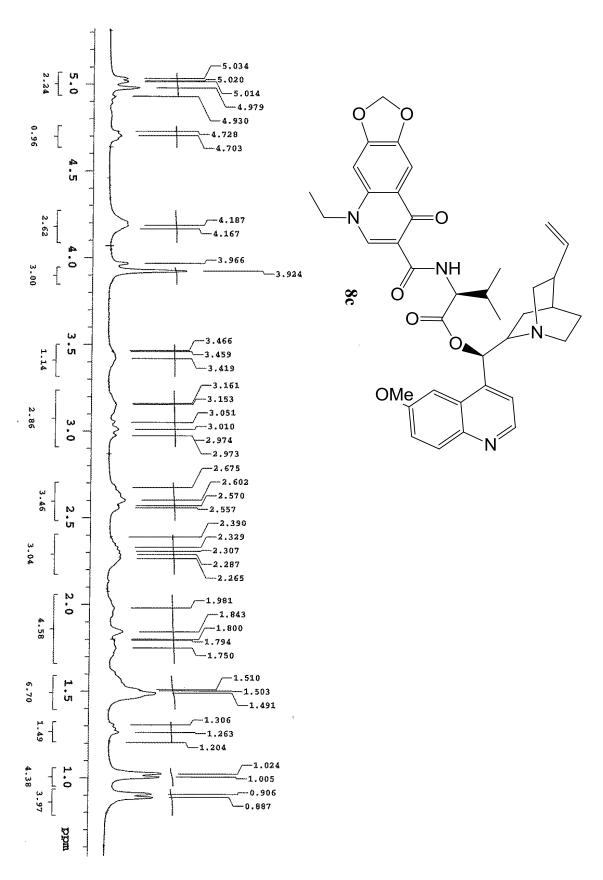


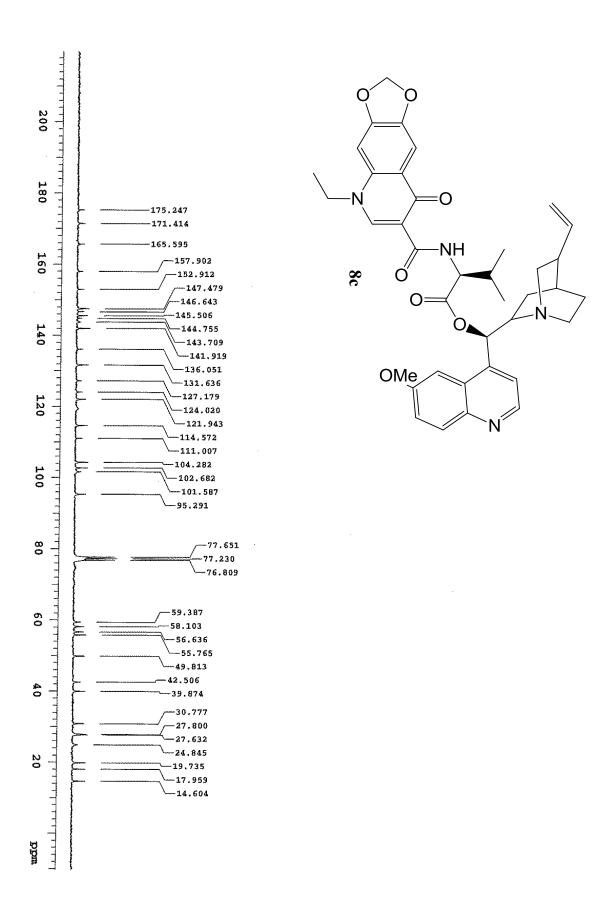






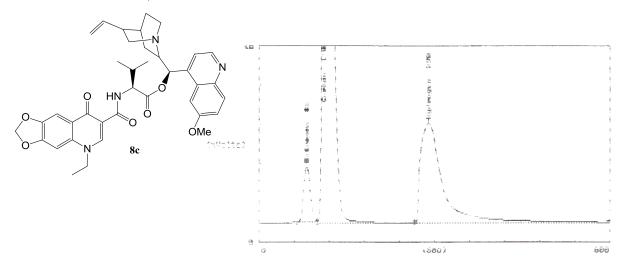






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Amalyuul :265331 :12-02-2011 11:45:28



#### CAGER 200 Peak Integration Report

Bline drift (fV):-2.6 Instrument name : Instrument #1 Company Name : U of Florida Analysed : 12-02-11 10: Operator Ident. : KOU

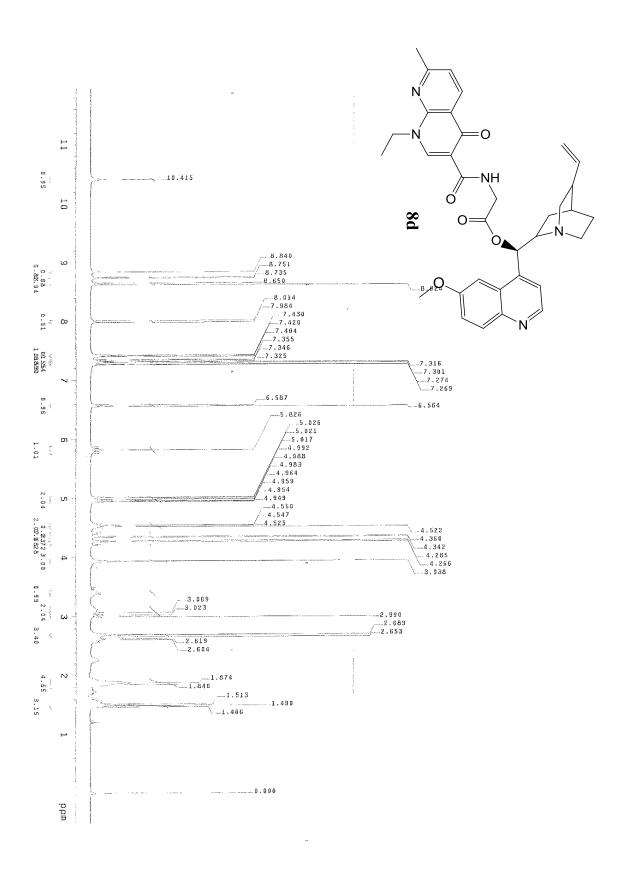
Analysed : 12-02-11 10:04:39 Printed Sample Ident. : 31 OXO-Val-Qui (B) Filename Cample Weight : 2.104 Calc.meth Printed : 12-02-2011 11:45:29 : 265331

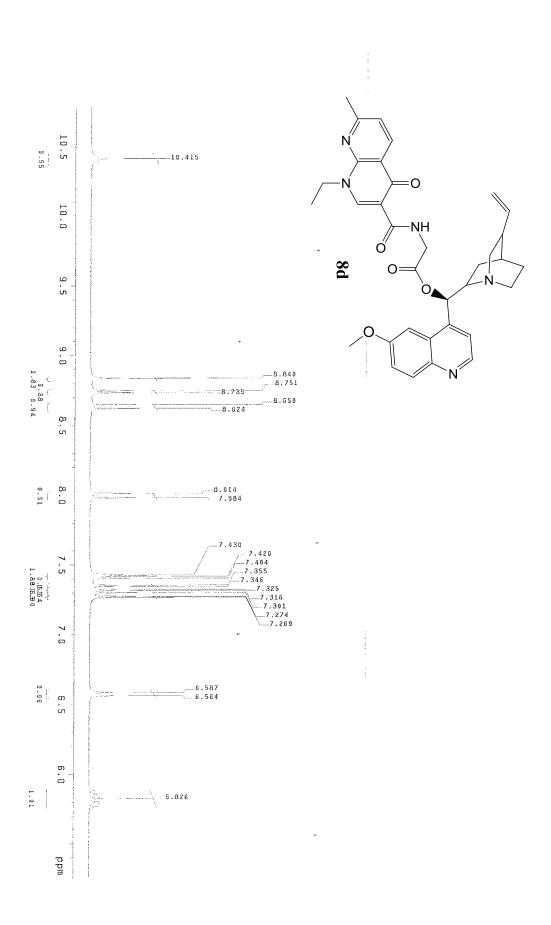
Calc.method: using 'K. Factors'

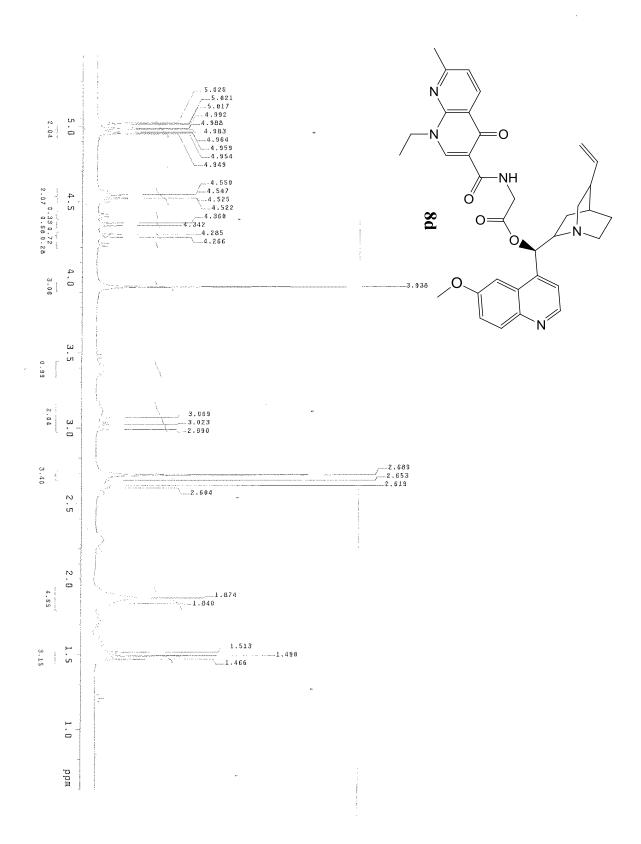
No.		Start (Sec)		Ret Time (Sac)	Height (fV)	Area ( <i>f</i> V*Sec)	Area % (%)	Name
<u>1</u>	C.60	.98 200	100 597	81 140 290	2026.9 50245.0 5050.4	06760 027625 221446	0.30 76.26 20.36	Nitrogen Carbon Hydrogen
						1087839	100.00	

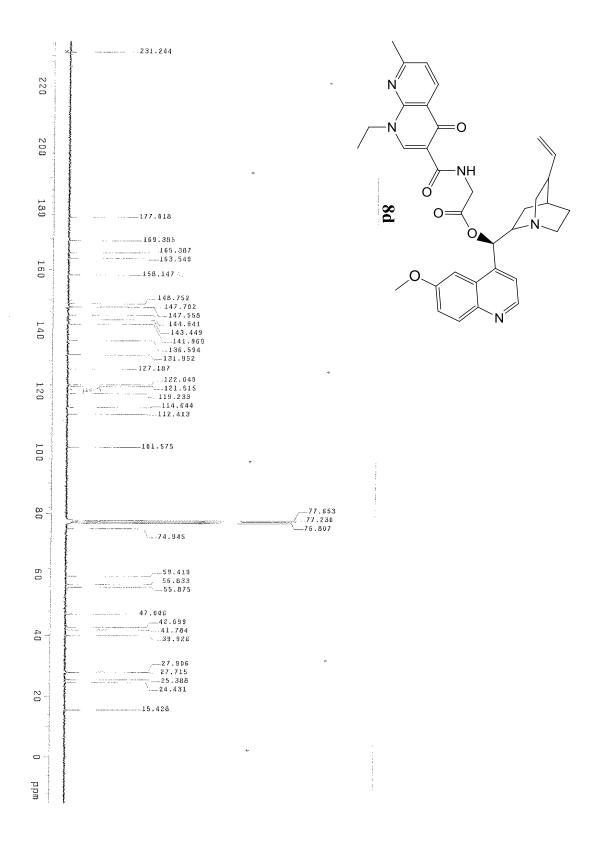
#### TAGER 200 Unk Report

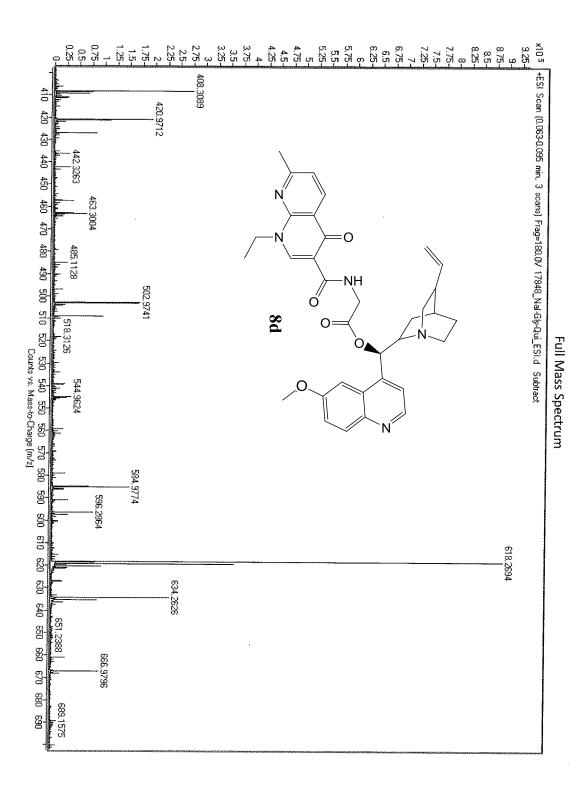
7 9 3	Sol Time	Area (fV*Sec)	Element %	Area Ratio	Name
**	i i i		0.230	2250070102	11.50
~	2.2.2	029625	43.050	.100000E+01	Carbon
	in the second se	221440	0.470	.0716412:01	Hy droson

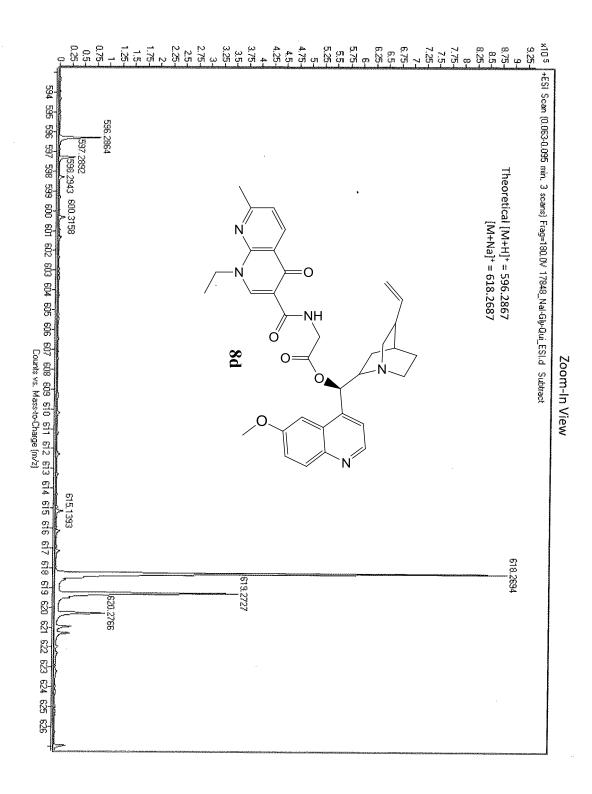


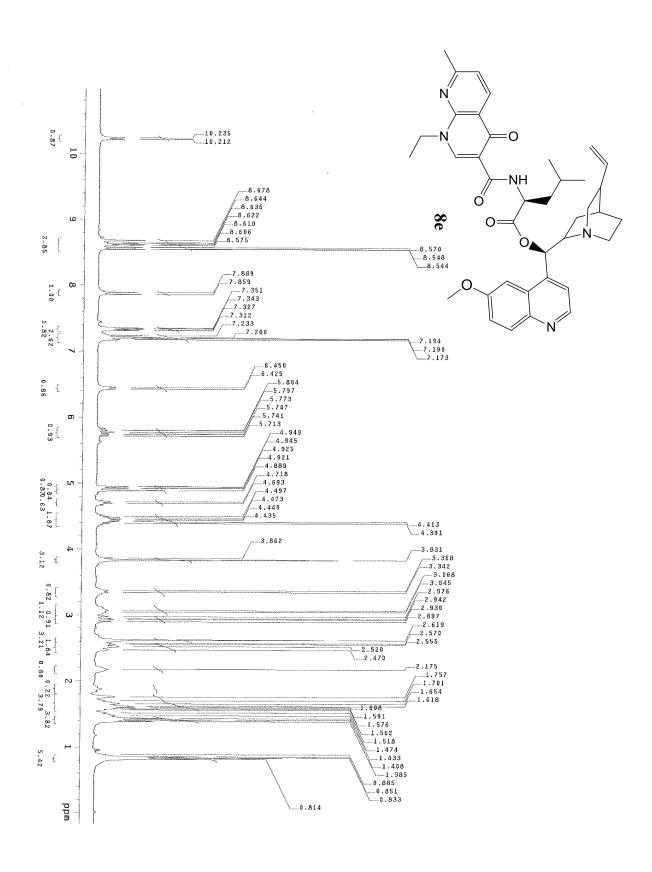


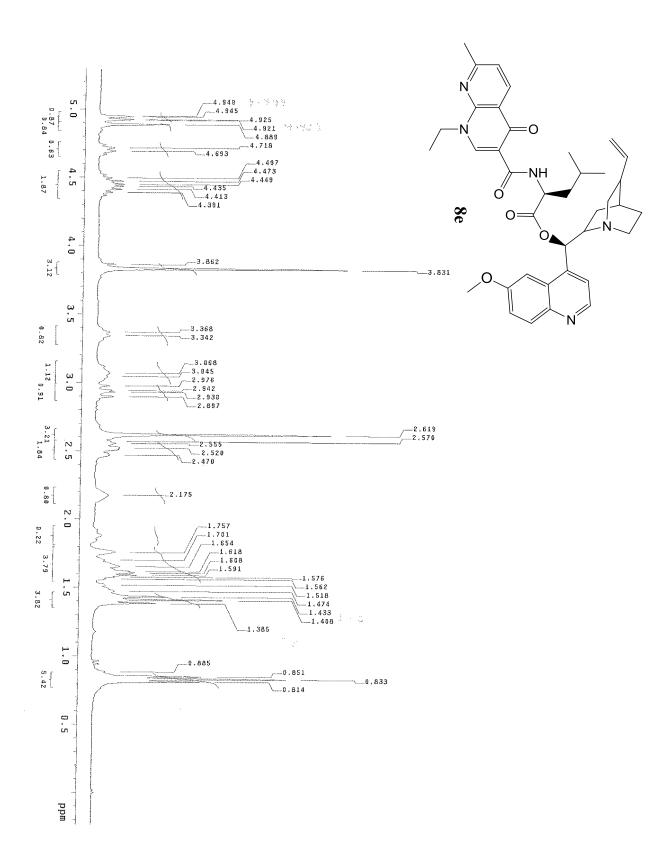


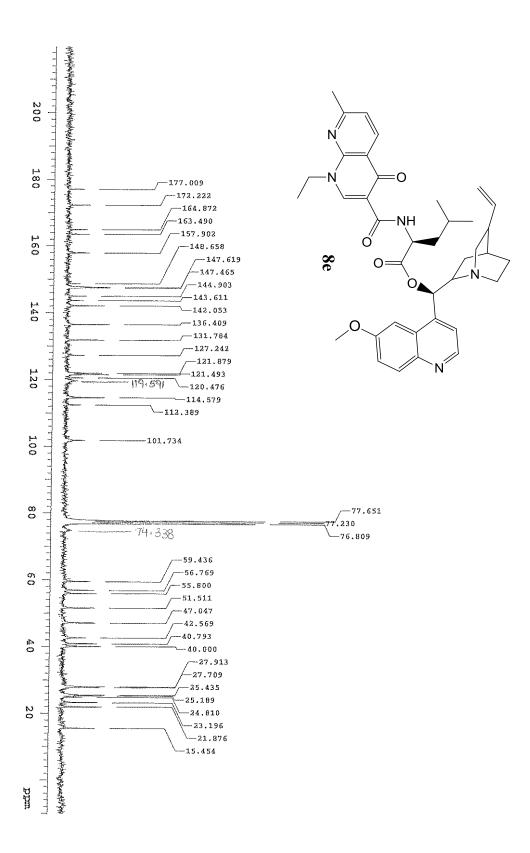








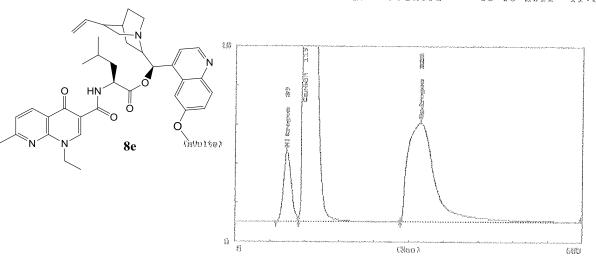




#### Eache 200 Stripchart

Sample Ident, : 24 NallQ Filename :261124

: 08-05-11 08:35:19 Analysed Printed :08-05-2011 11:26:45



# EAGER 200 Peak Integration Report

Instrument name : Instrument #1 Bline drift (fV): 7.4 Company Name : U of Florida Operator Ident. : KOU

: 08-05-11 08:35:19 Analysed : 08-05-2011 11:26:45 Printed

Sample Ident. : 24 NalLQ Filename : 261124

Sample Weight : 2.141 Calc.method: using 'K. Factors'

No. (#)	Тура (#)	Start (Sec)	End (Sec)	Ret Time (Sec)	Height ( <i>f</i> V)	Area (fV*Sec)	Area %	Name
Ţ	FU	70	109	89	3549.7	52508	4.10	Nitrogen
2	FU	109	285	119	57494.4	954752	74.48	Carbon
3	RS	285	598	320	5027.2	274600	21.42	Hydrogen
707 805 W.F	\$100 mer som som	Seas above more and with	**** *** *** *** ***	NAME AND ADDRESS OF THE PART OF PART AND	not see the second of the second	who were wint true one bod both loss from who have give	44 mile non-ben som med	The state and and are such that are says against again

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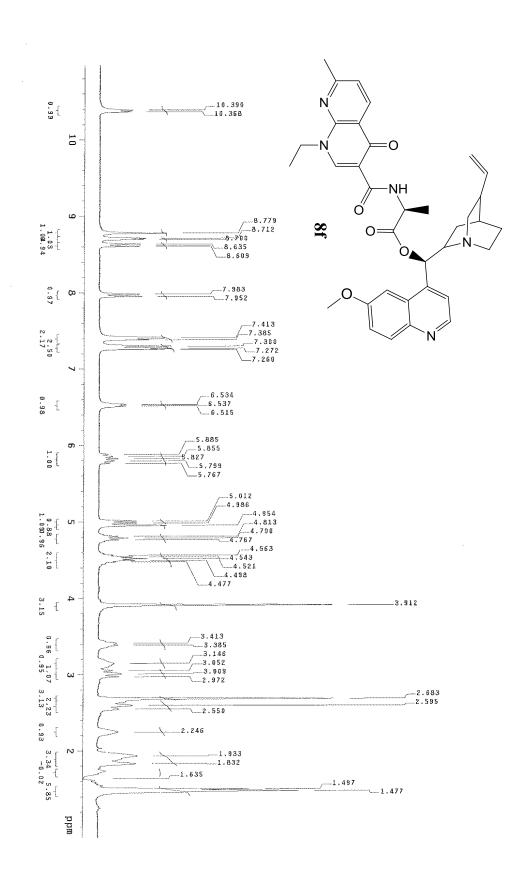
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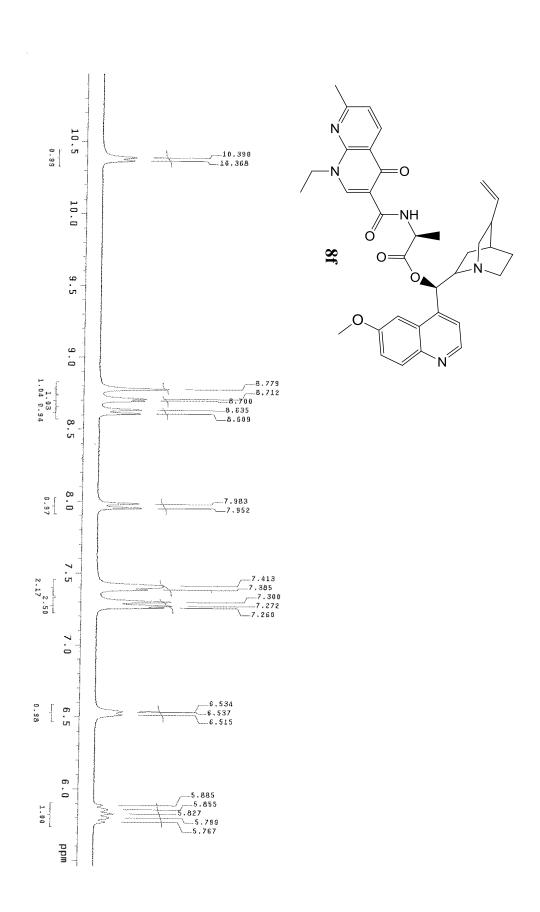
Instrument name : Instrument #1 Bline drift (fV): 7.4 Company Name : U of Florida Operator Ident. : KOU Analysed : 08-05-11 08:35:19

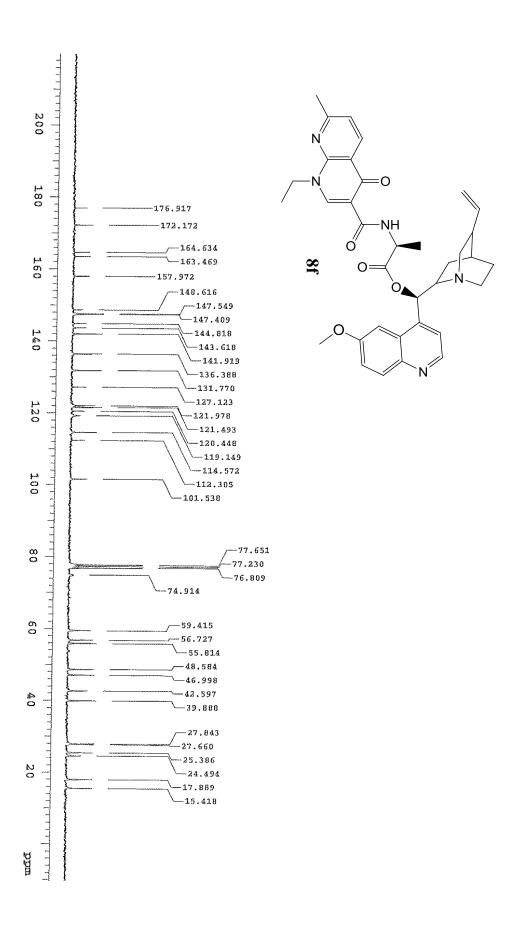
Printed : 08-05-2011 11:26:45 Sample Ident. : 24 NalLQ Filename : 261124

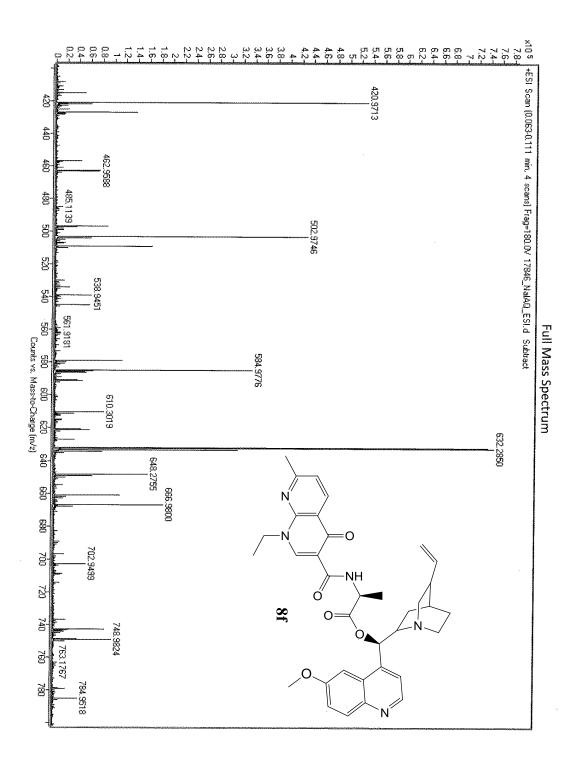
Sample Weight : 2.141 Calc.method: using 'K. Factors'

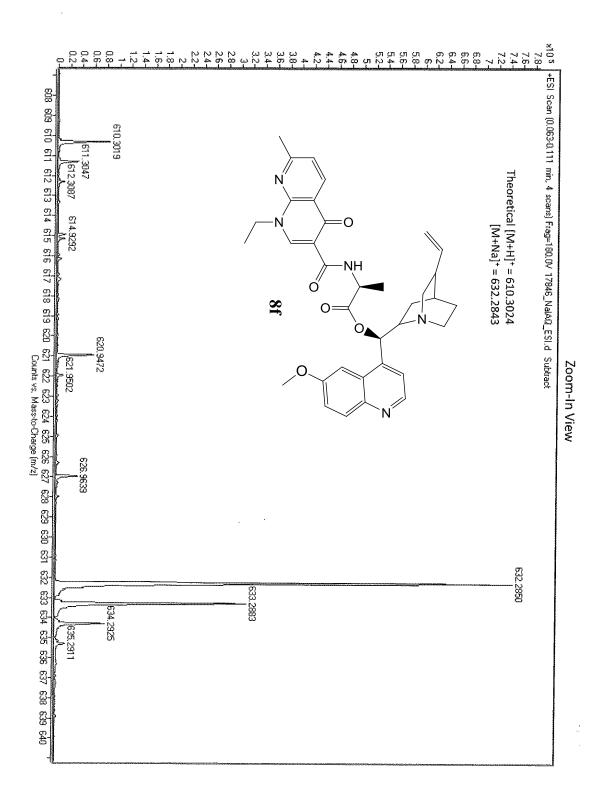
₽k. (#)	Ret Time (Sec)	Area ( fV*Sec )	Element %	Area Ratio	Name
***	89	52508	10.543	.181829E+02	Nitrogen
3	119	954752	69.724	.10000000401	Carbon
3	320	274600	7.145	.347688E+01	Hydrogen
5 mg 50 t 50 g	Selection and the decision of the selection of the selection	ness their radional rest and severage arms approximately	AND THE WATER THAT THE WAY THE WAY AND THE WAY		

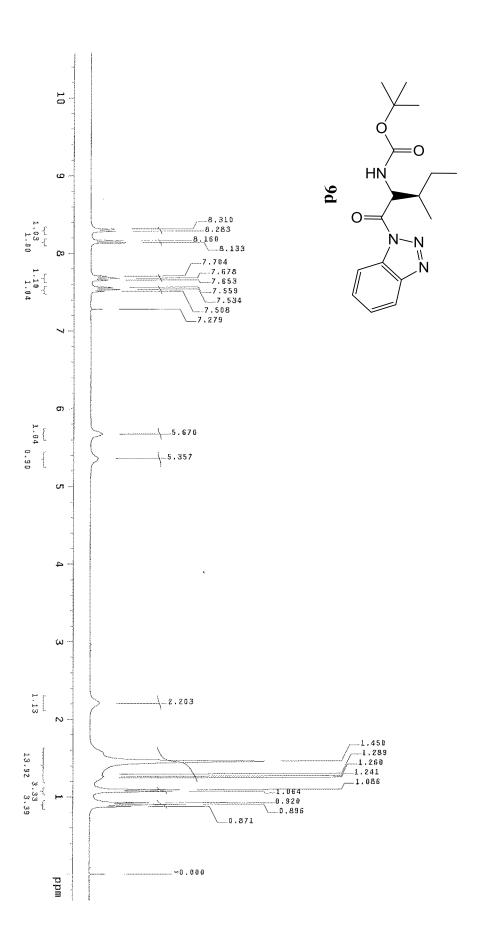


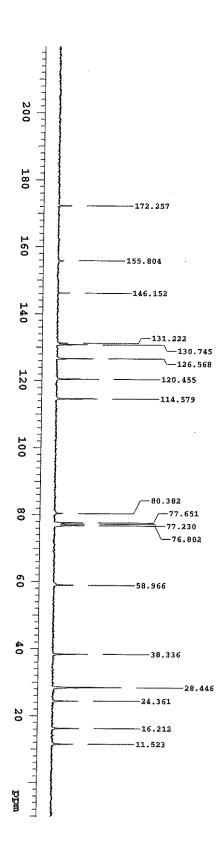


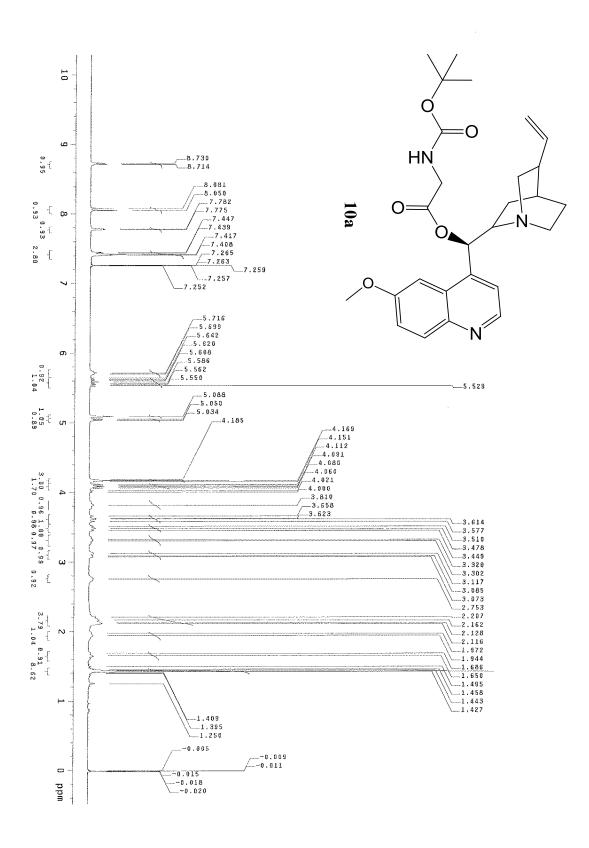


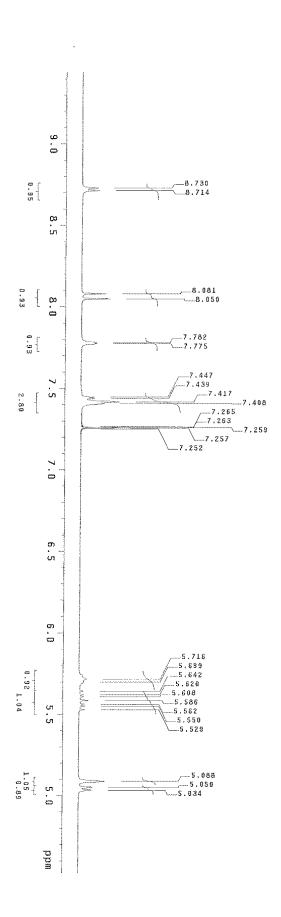


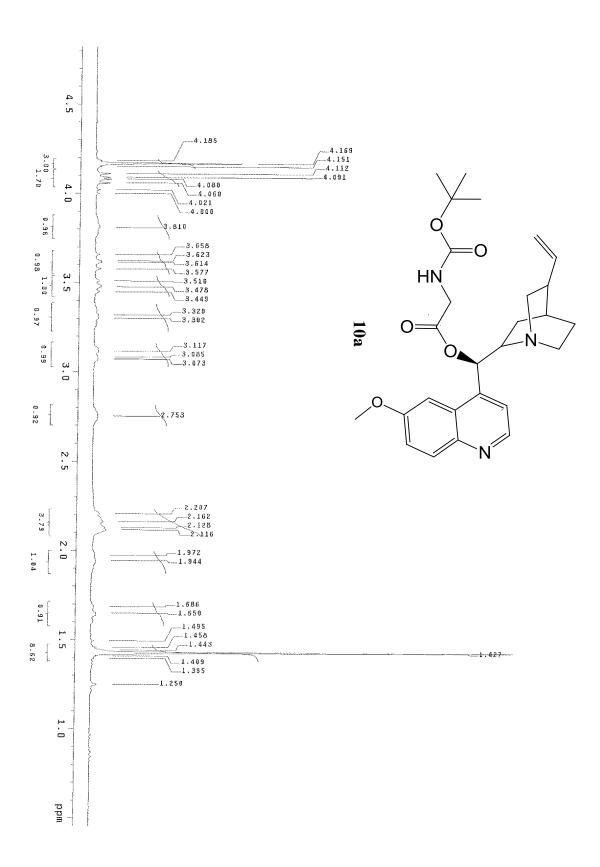


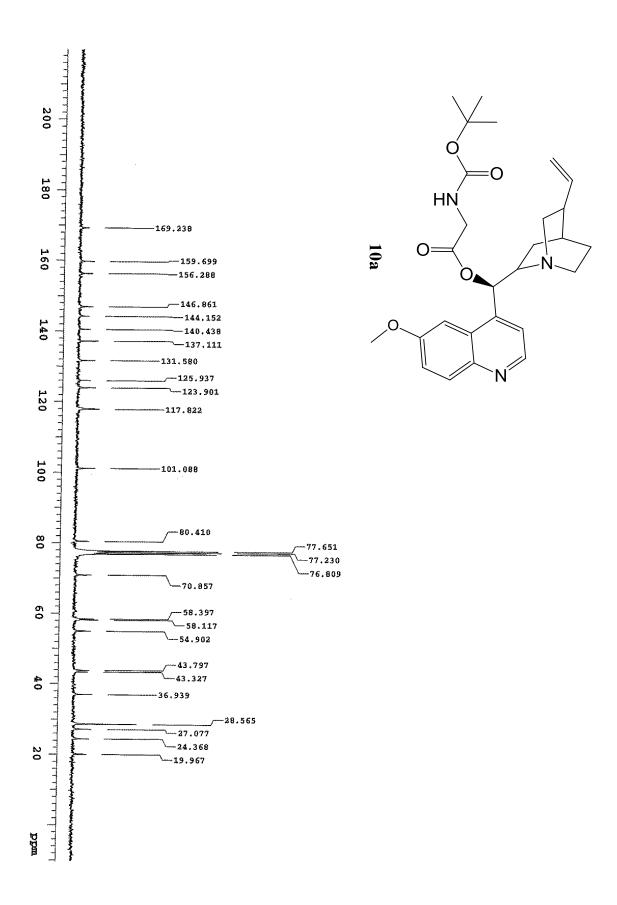


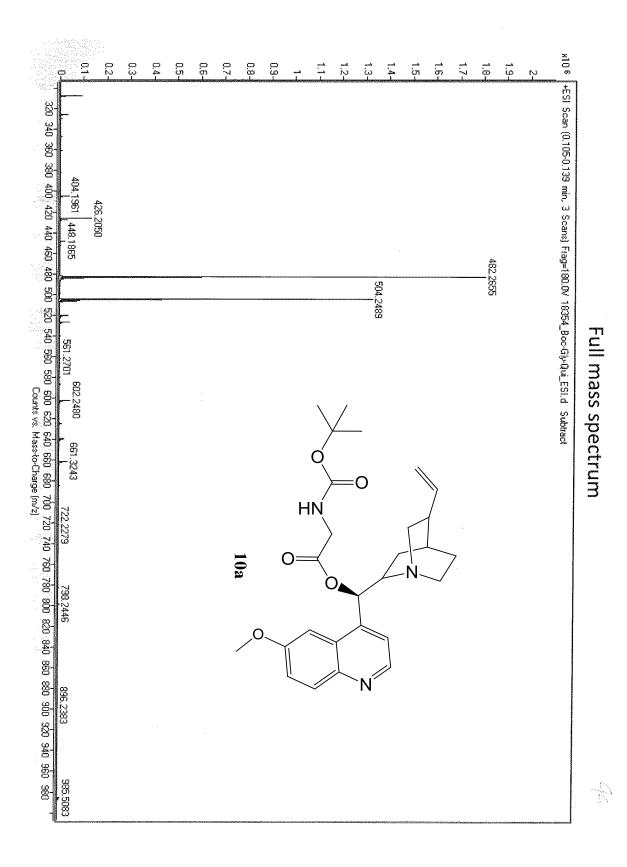




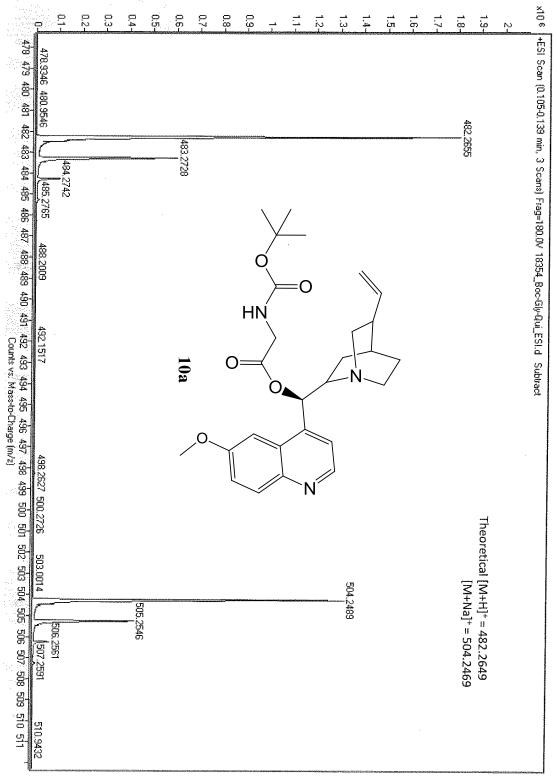




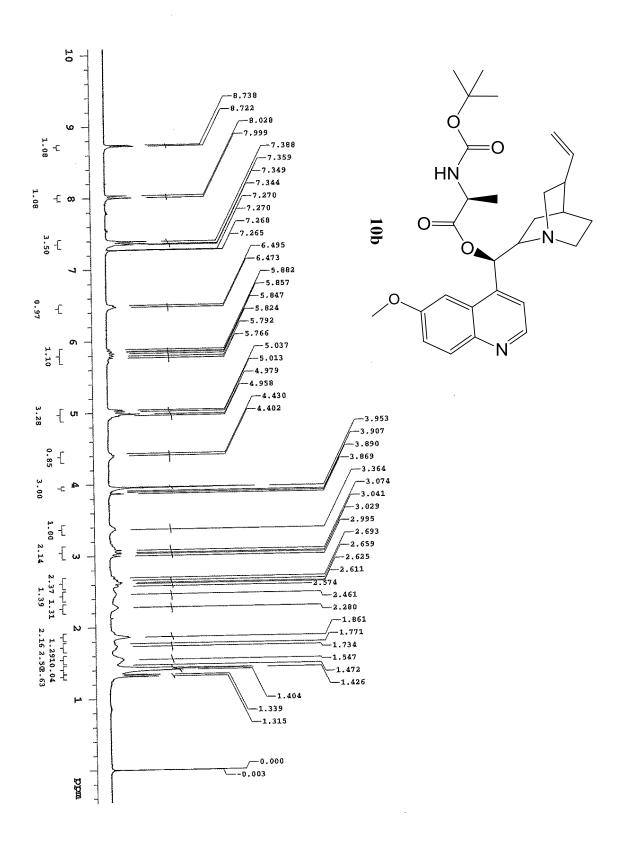


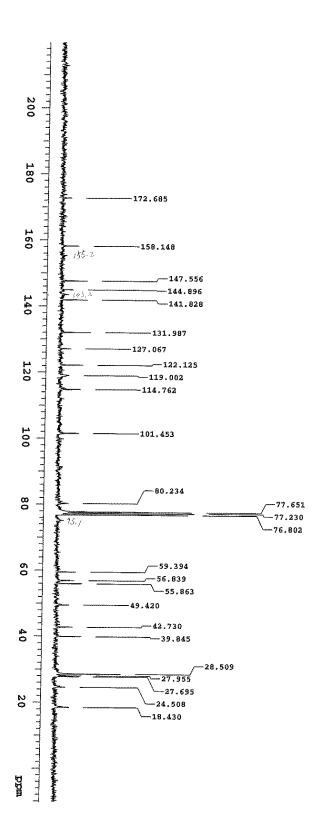


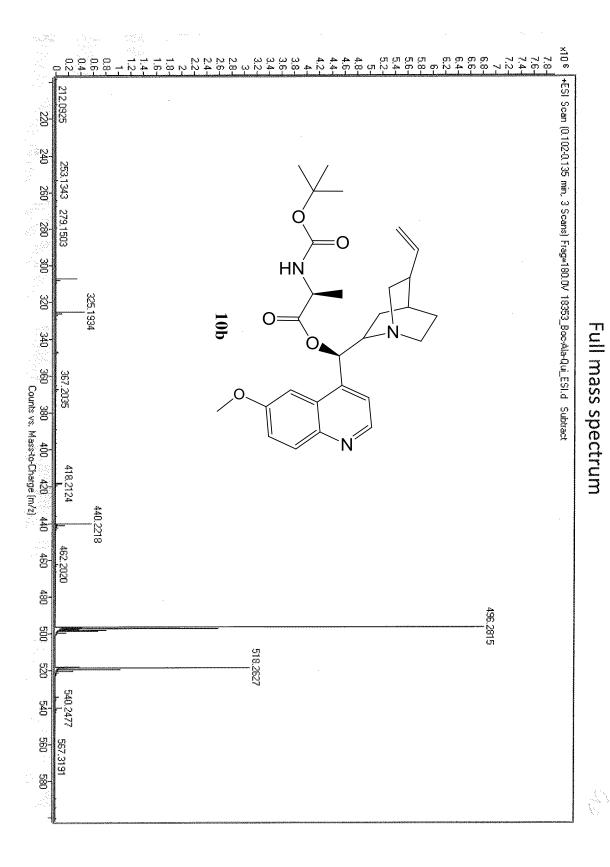


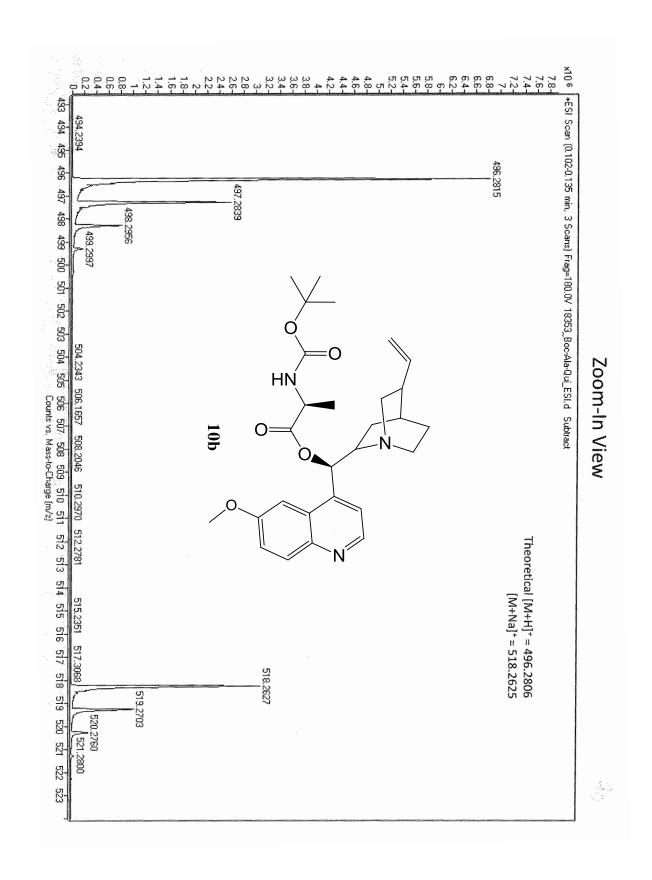


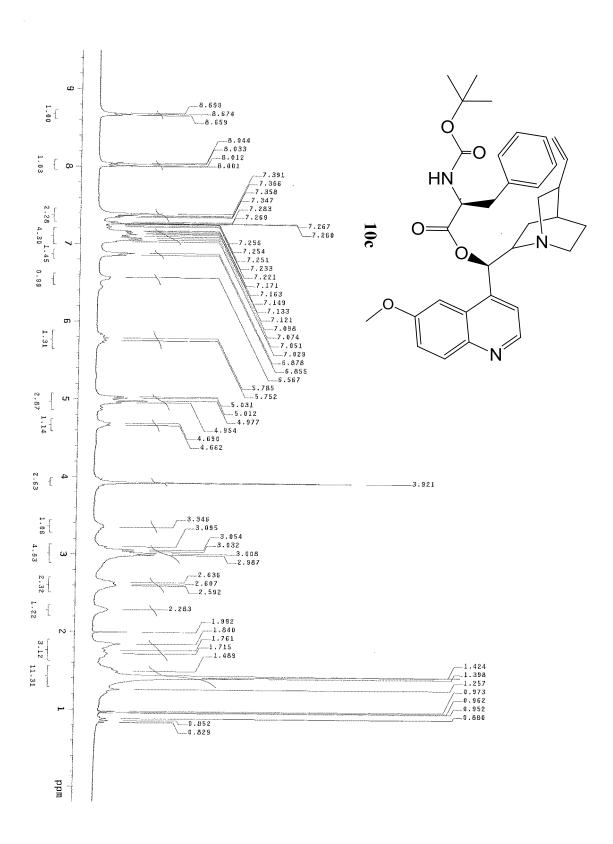
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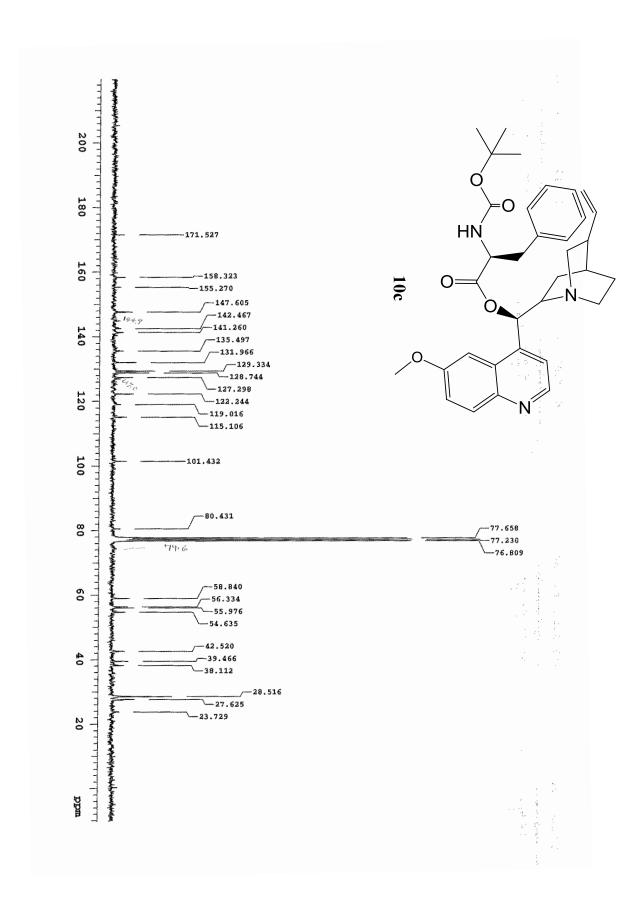


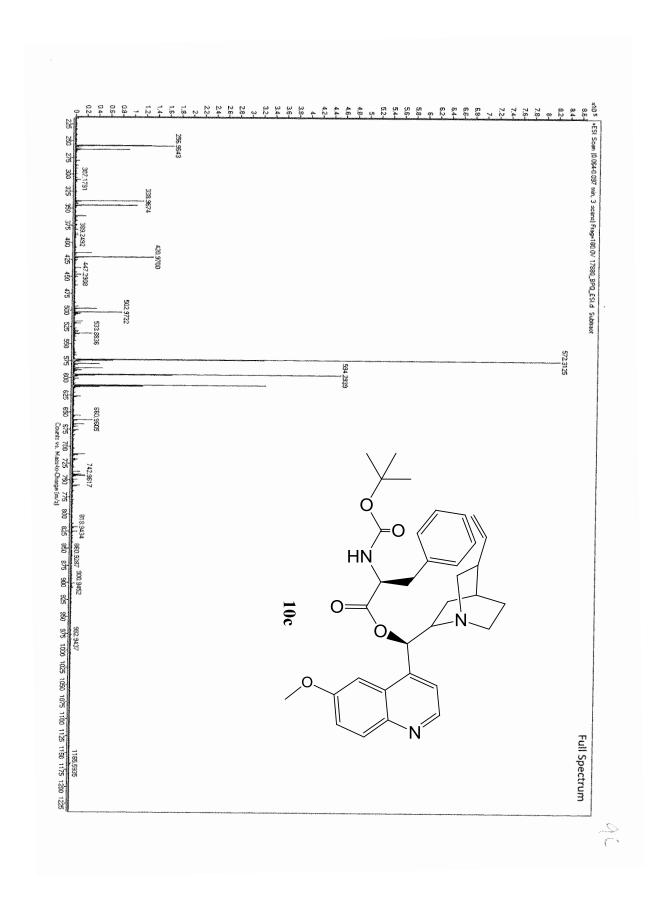


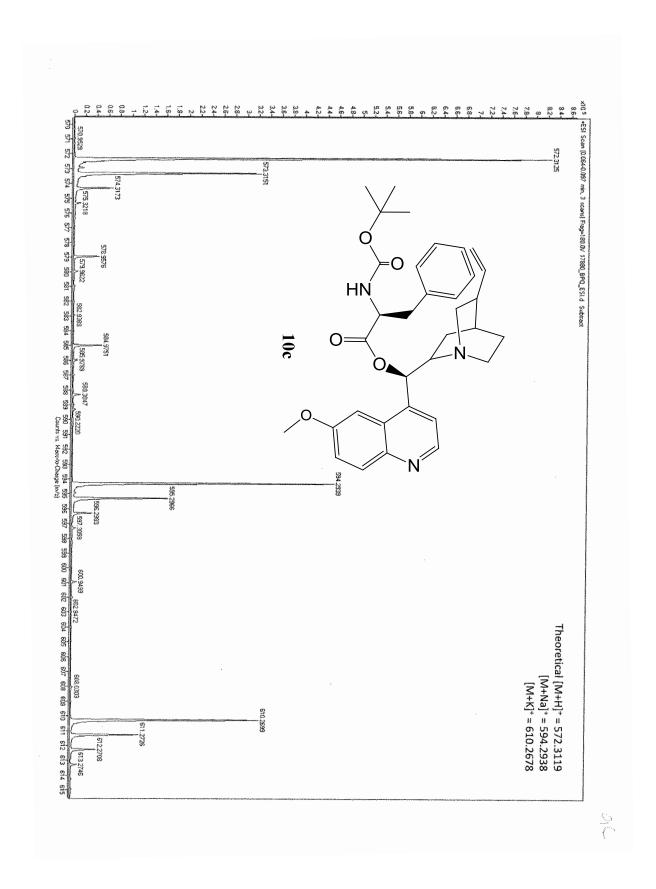


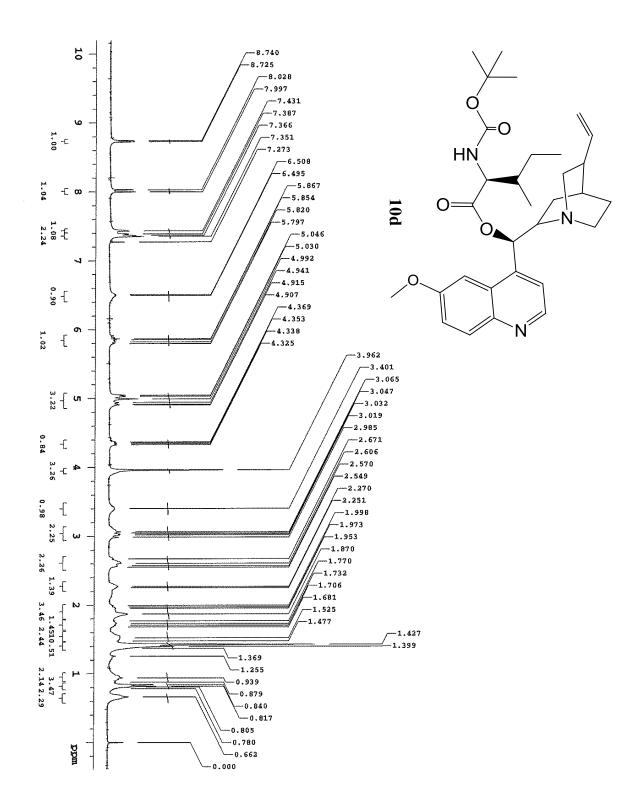


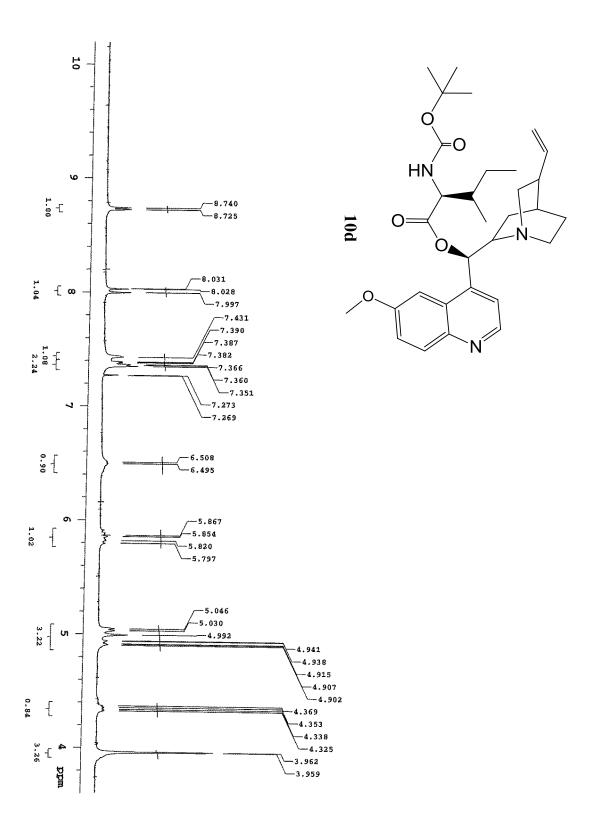


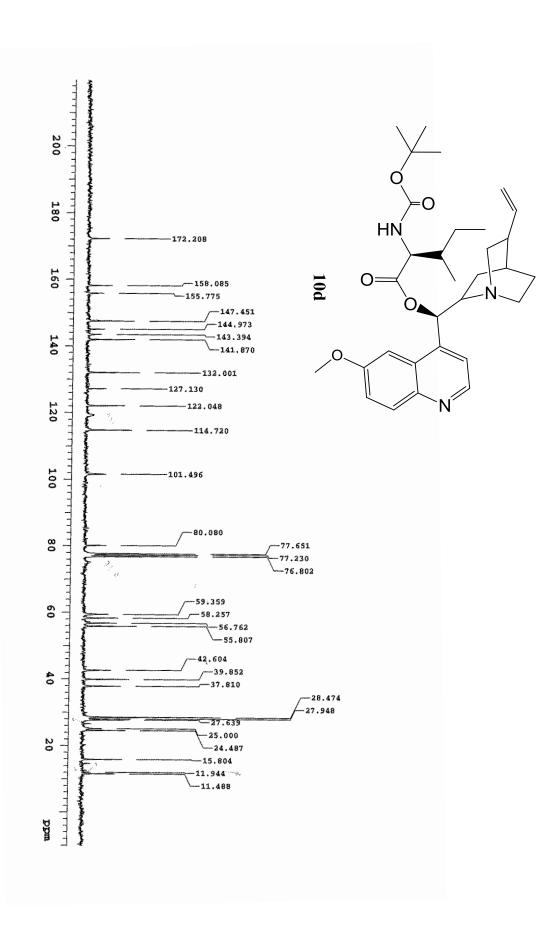


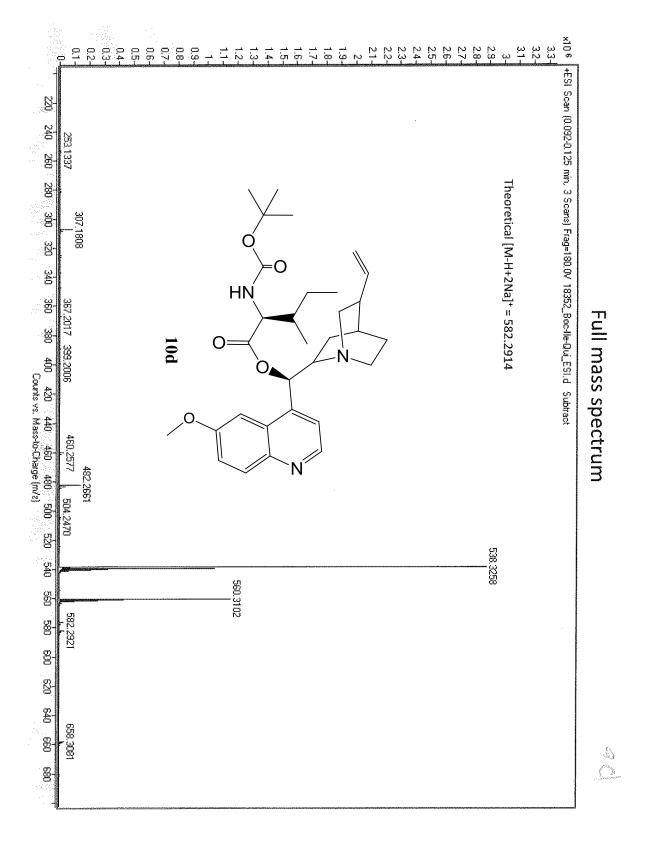


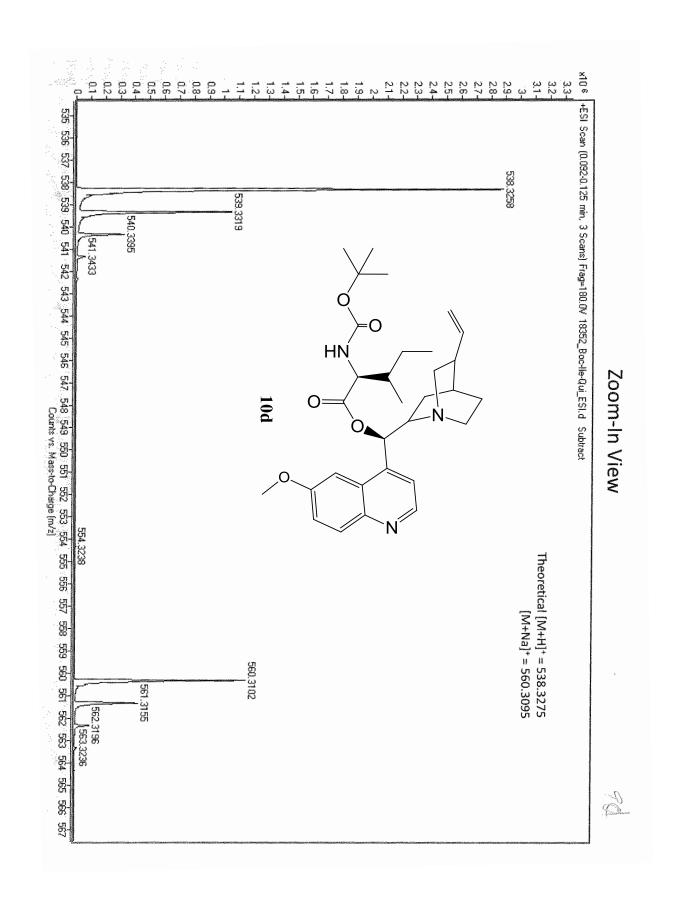


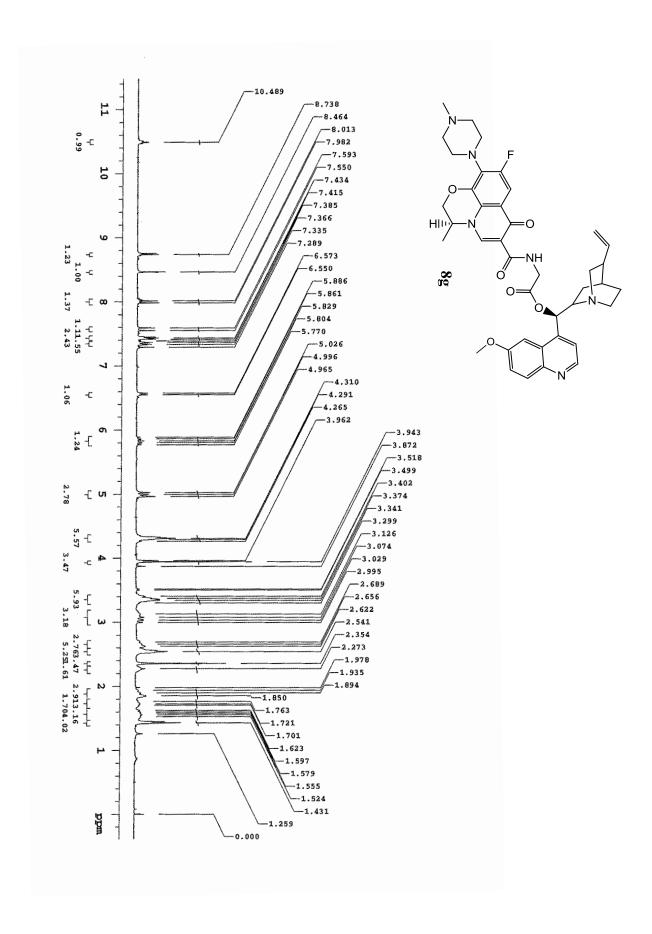


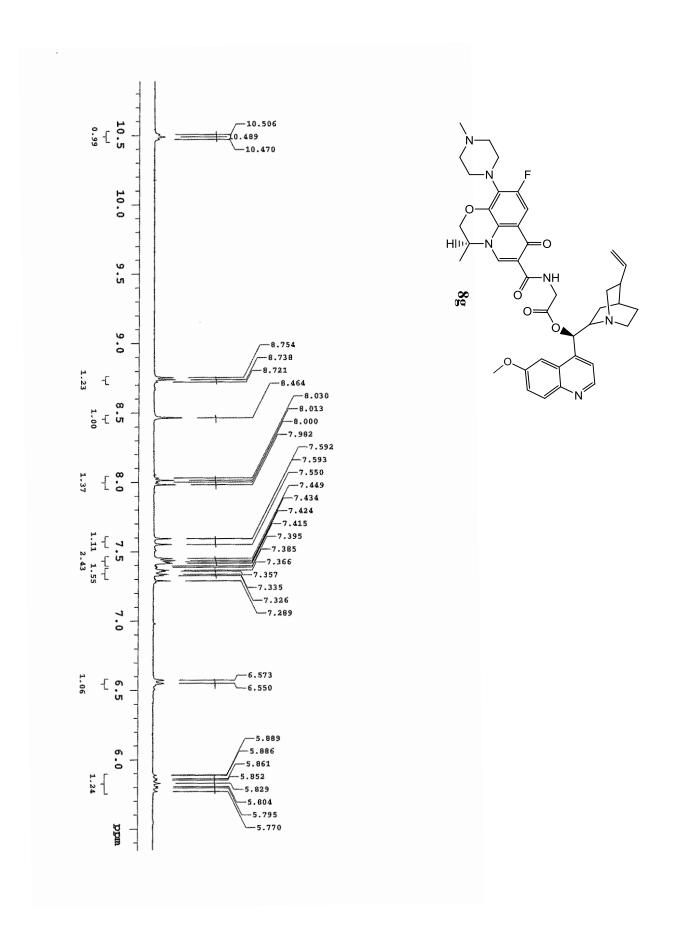


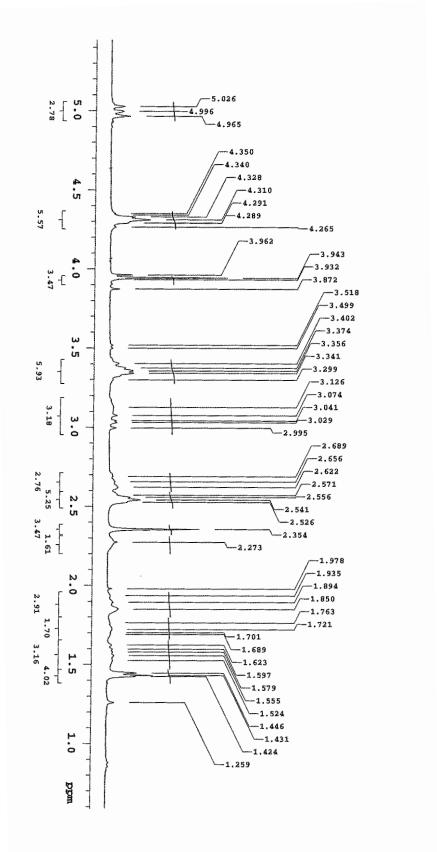


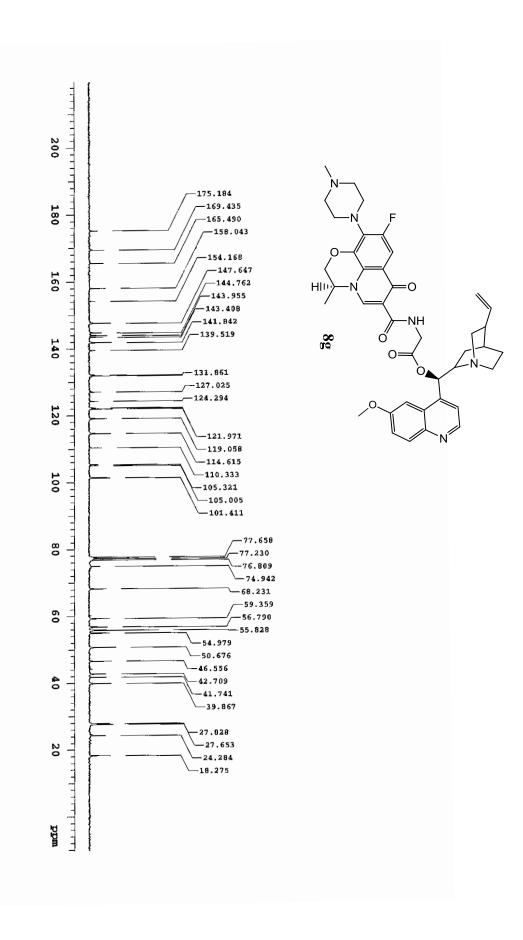


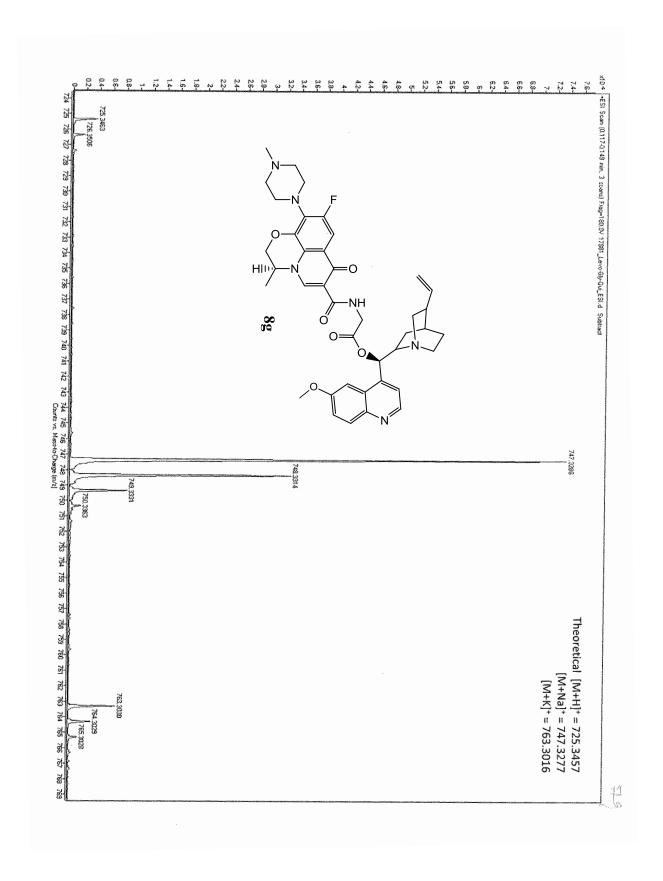


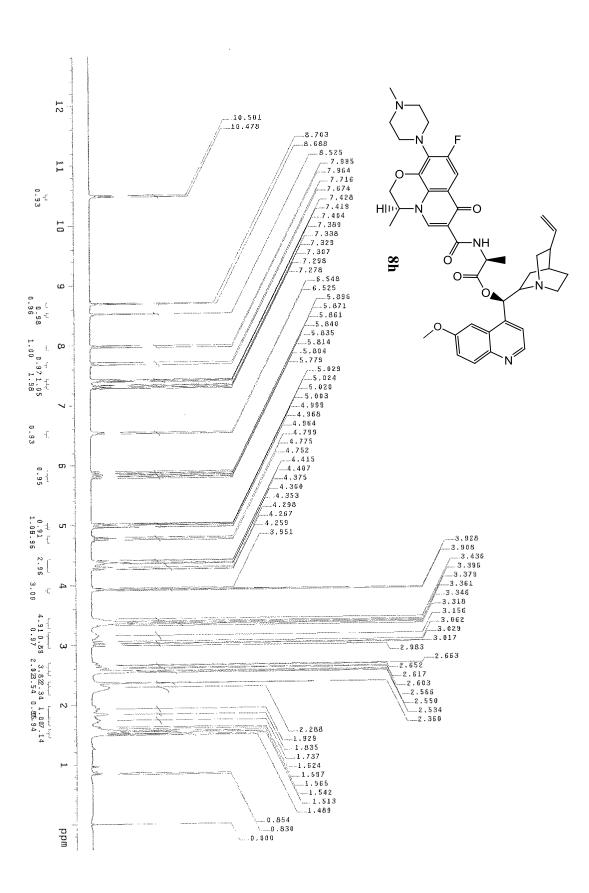


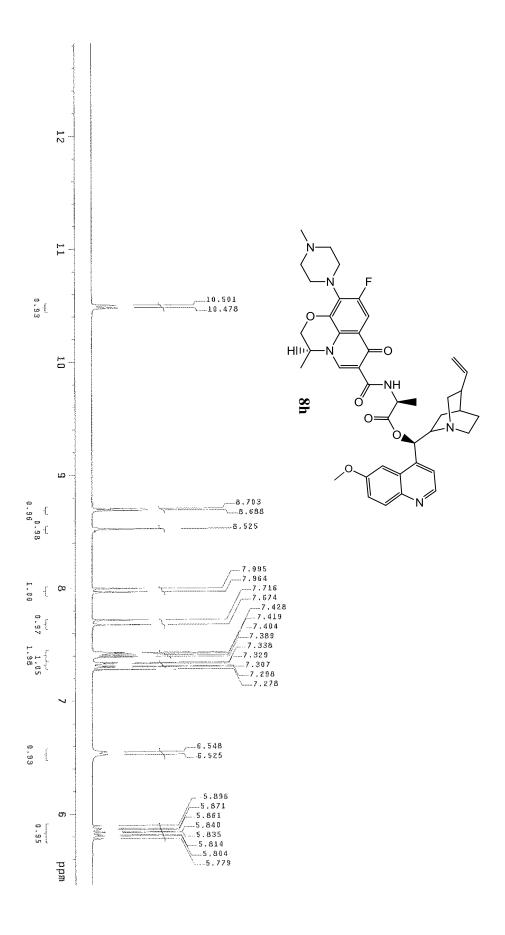


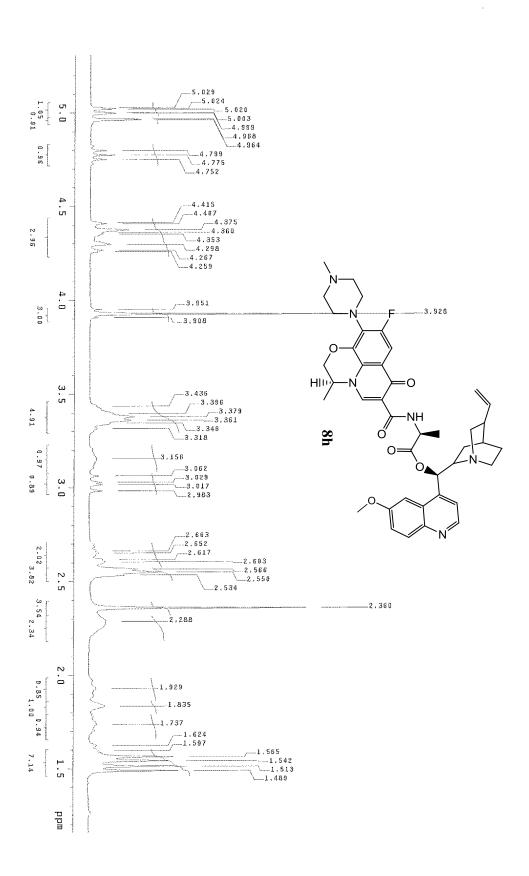


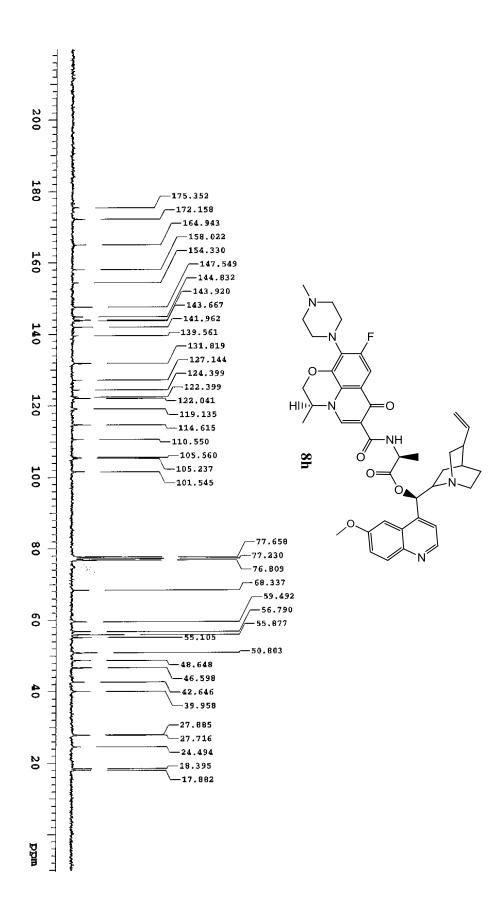


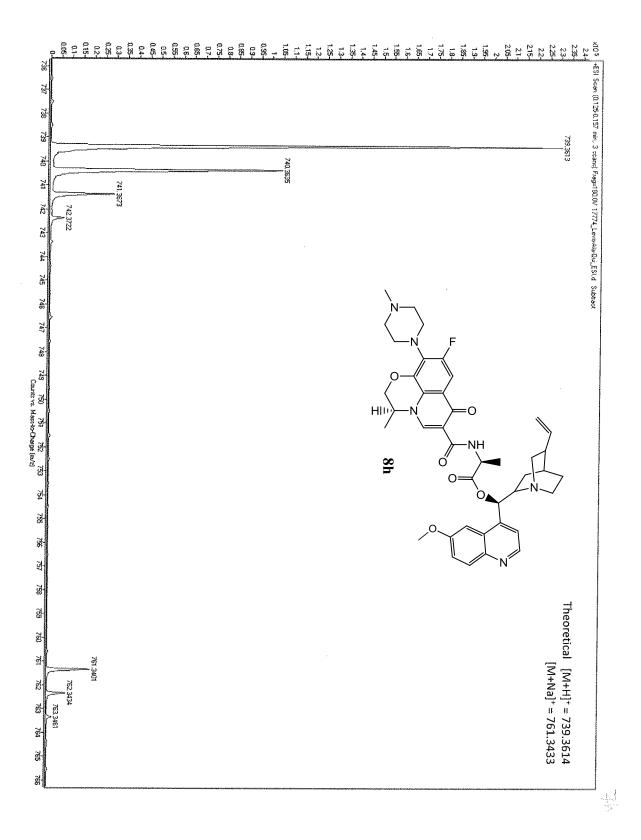


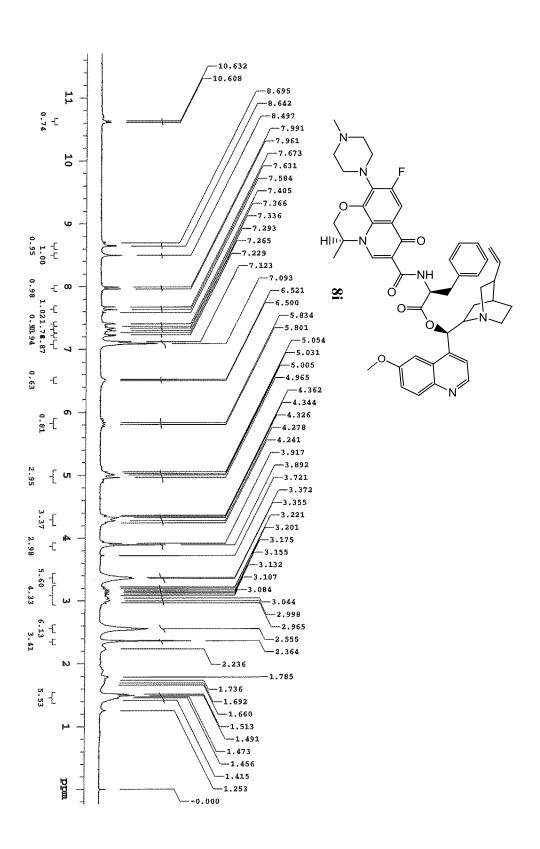


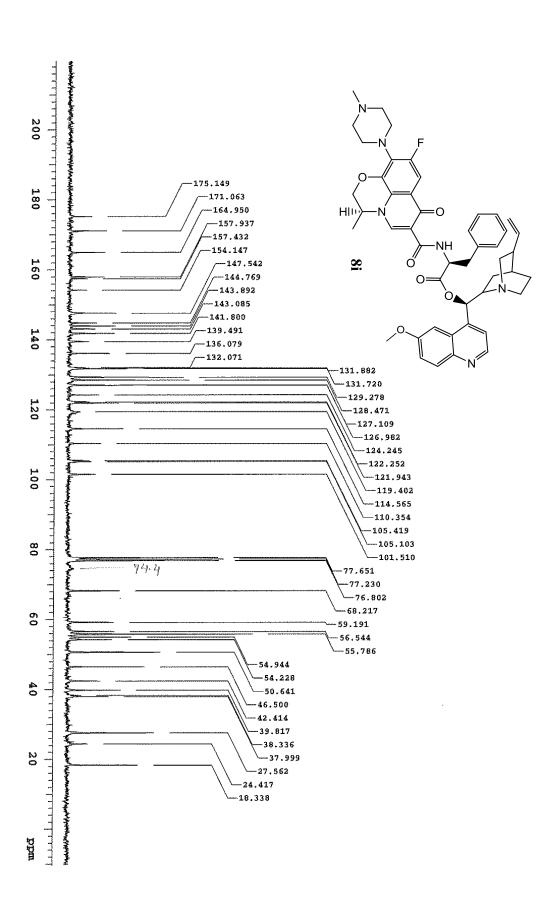


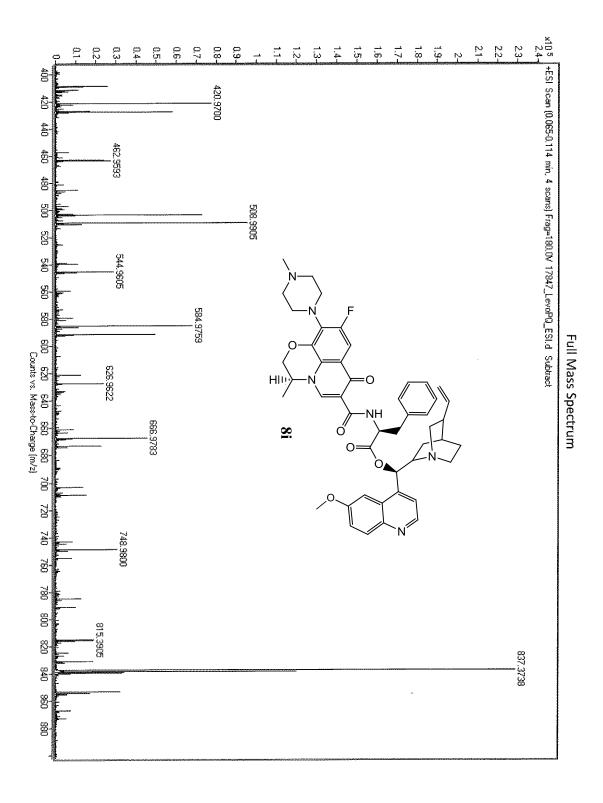


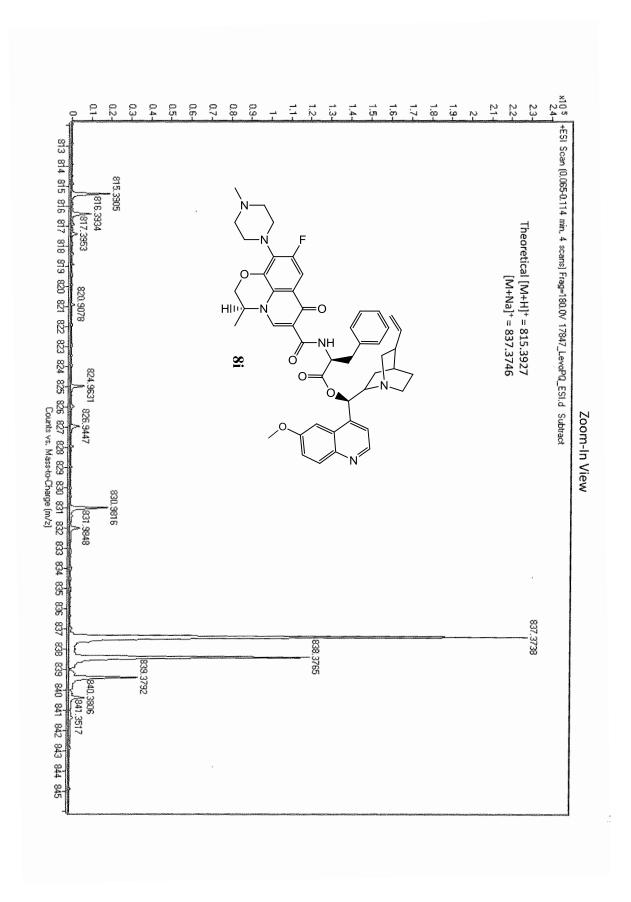


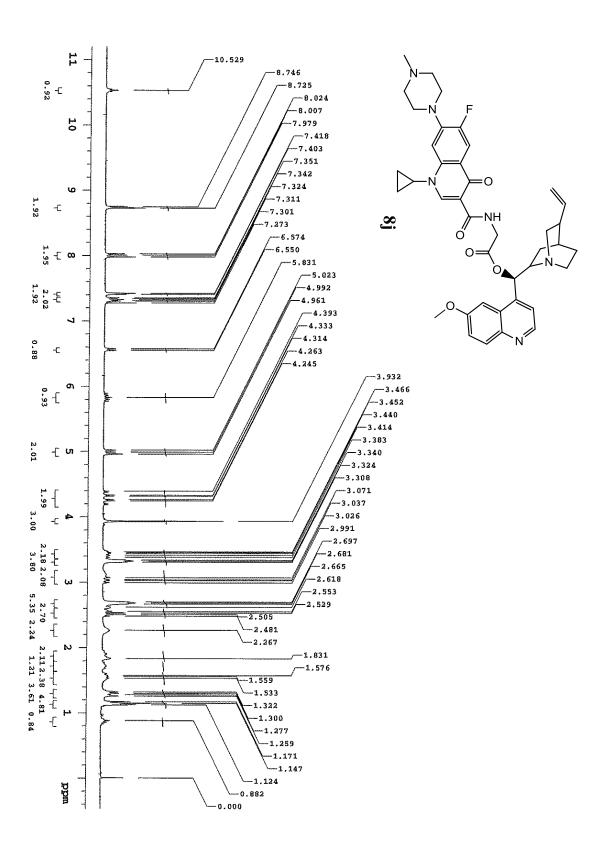


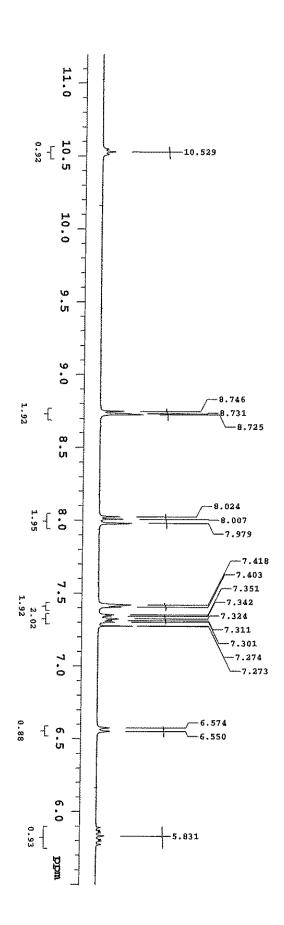


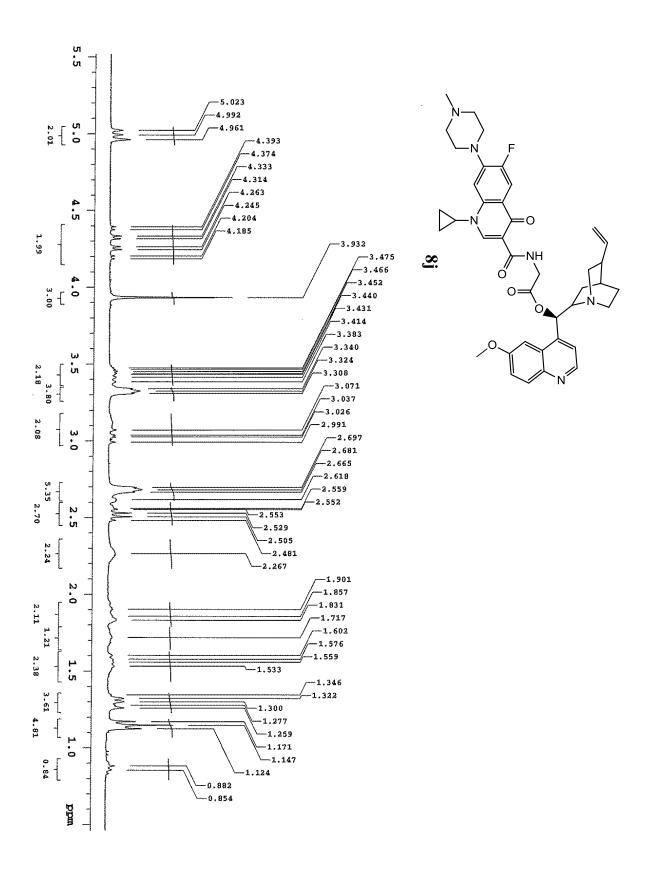


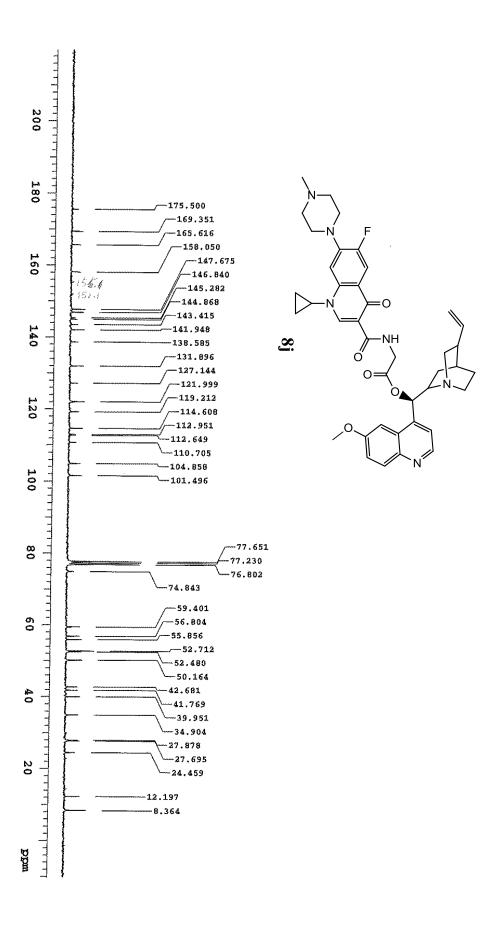


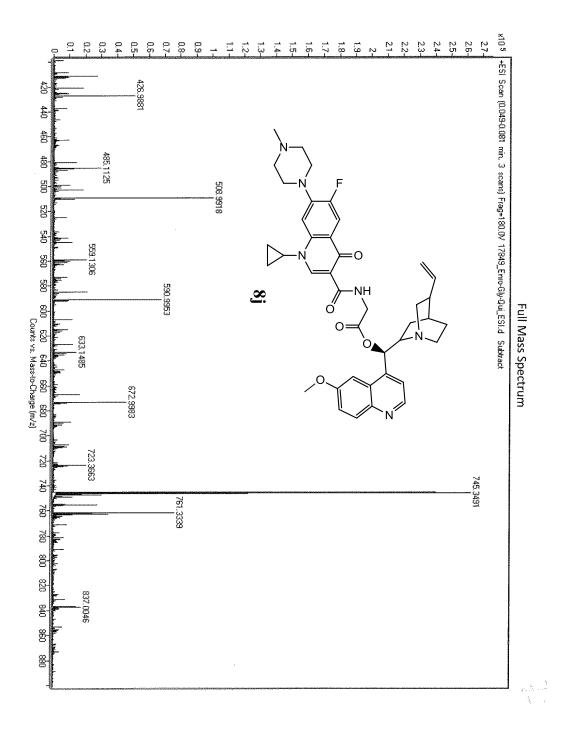


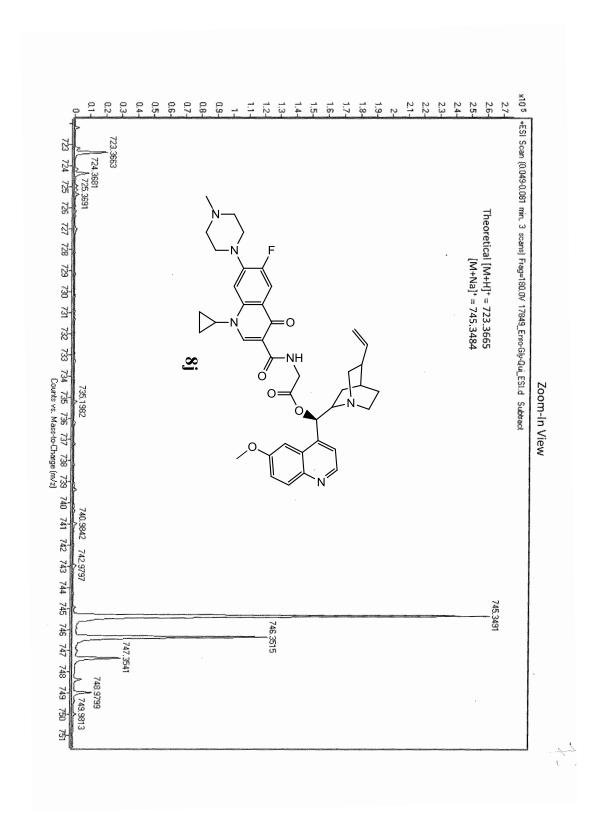


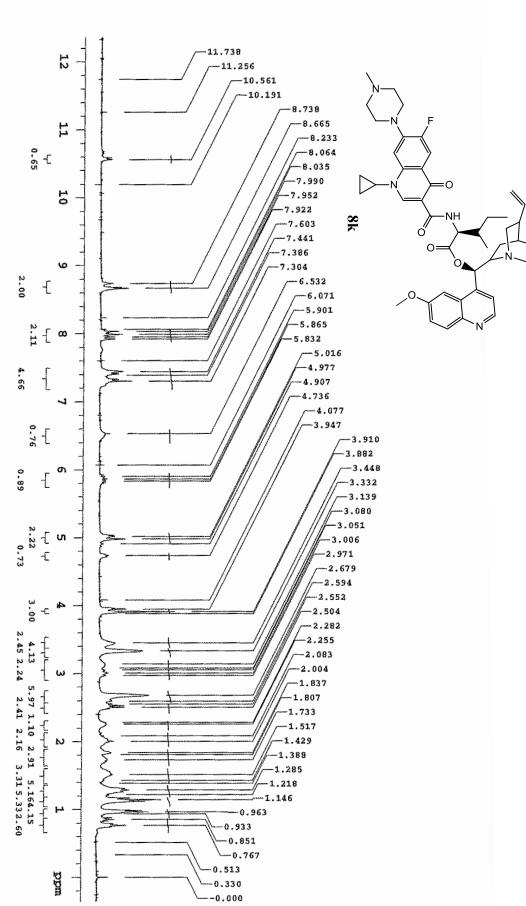


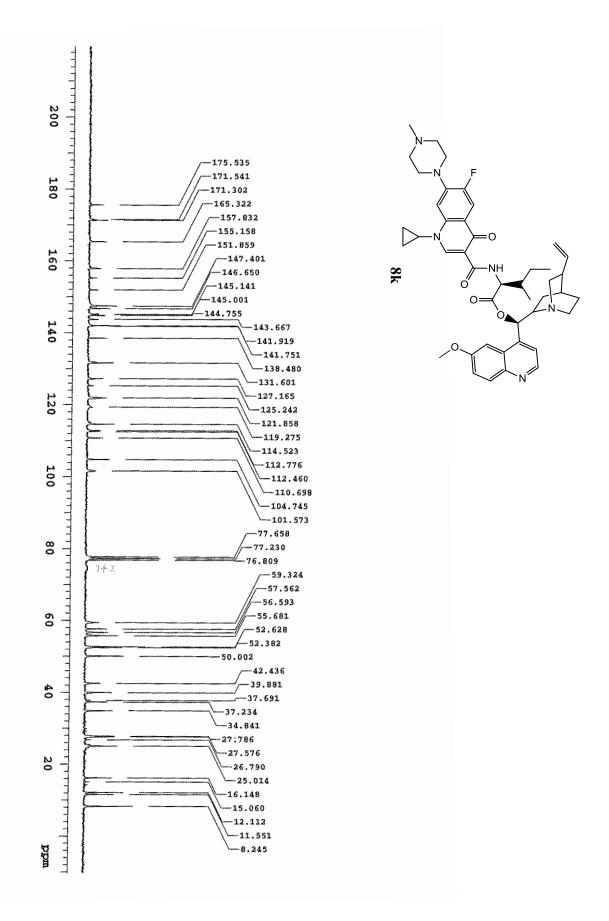


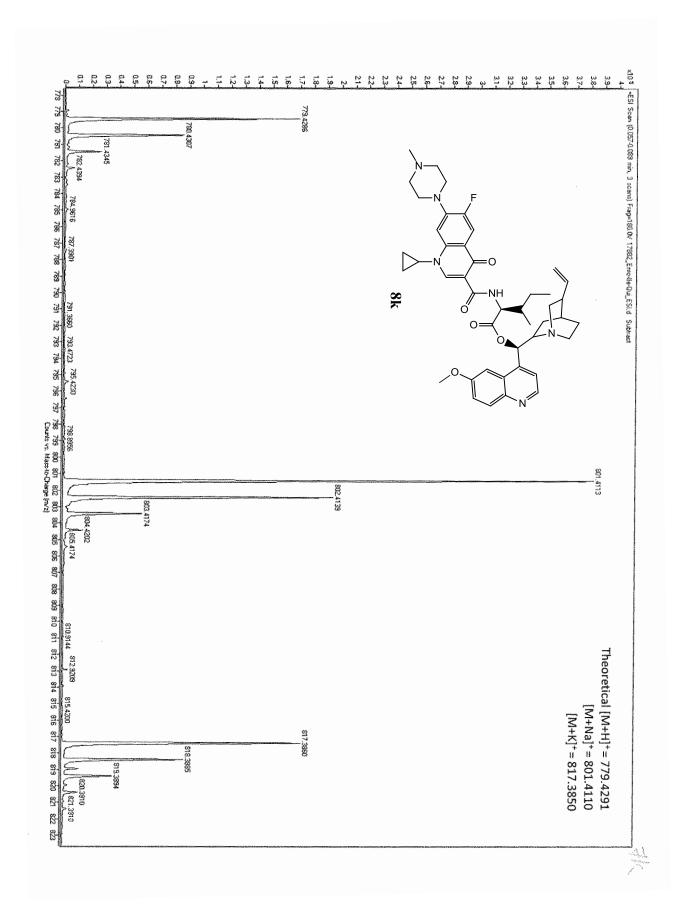






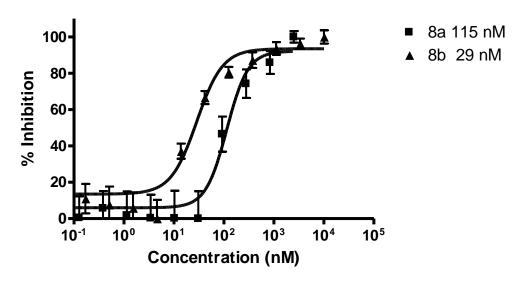




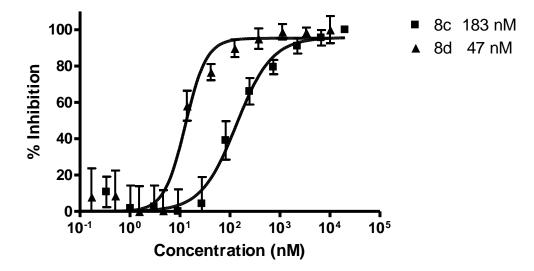


#### **Graphs shown with % Inhibition.**

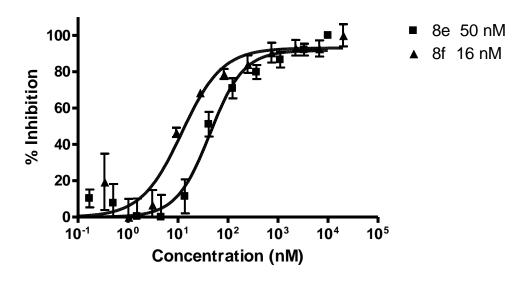
# Antimalarial activity against *P. falciparum* strain 3D7



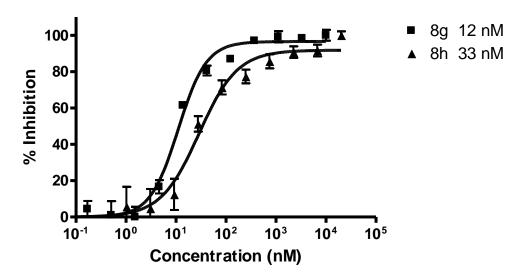
# Antimalarial activity against P. falciparum strain 3D7



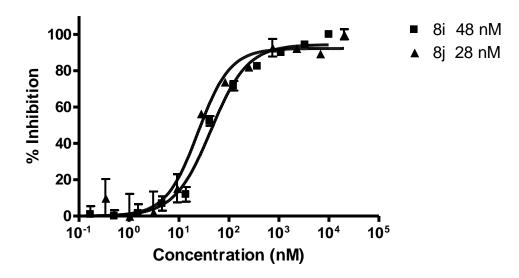
# Antimalarial activity against P. falciparum strain 3D7



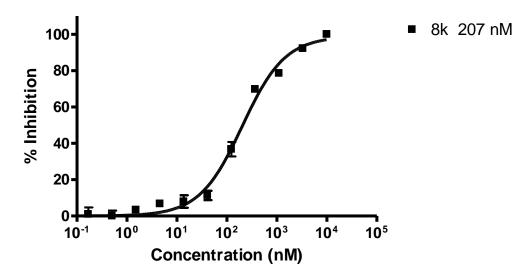
### Antimalarial activity against P. falciparum strain 3D7



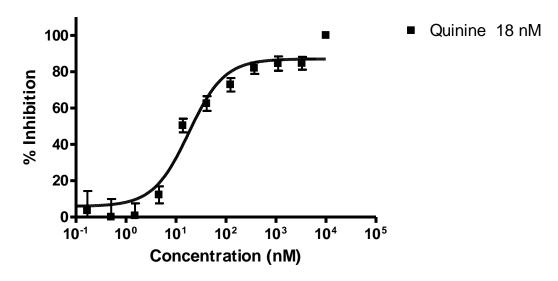
# Antimalarial activity against P. falciparum strain 3D7



### Antimalarial activity against P. falciparum strian 3D7



# Antimalarial activity against P. falciparum strain 3D7



### Antimalarial activity against P. falciparum strain 3D7

