

Electronic Supplementary Material (ESI) for RSC Advances.

This journal is © The Royal Society of Chemistry 2016

Supporting Information

Novel Dihydroisoxazoline-Alkyl Carbon Chain Hybrid Artemisinin Analogues (Artemalogs): Synthesis and Antitumor Activities

Gang Liu,^{†,§} Shanshan Song,^{‡,§} Xiaohua Liu,[†] Ao Zhang,^{†,‡} Zehong Miao,^{‡,‡,*} and
Chunyong Ding^{†,*}

[†] CAS Key Laboratory of Receptor Research, and Synthetic Organic & Medicinal Chemistry Laboratory, Shanghai
Institute of Materia Medica (SIMM), Chinese Academy of Sciences, Shanghai, 201203, China;

[‡] State Key Laboratory of Drug Research, Shanghai Institute of Materia Medica (SIMM), Chinese Academy of
Sciences, Shanghai, 201203, China;

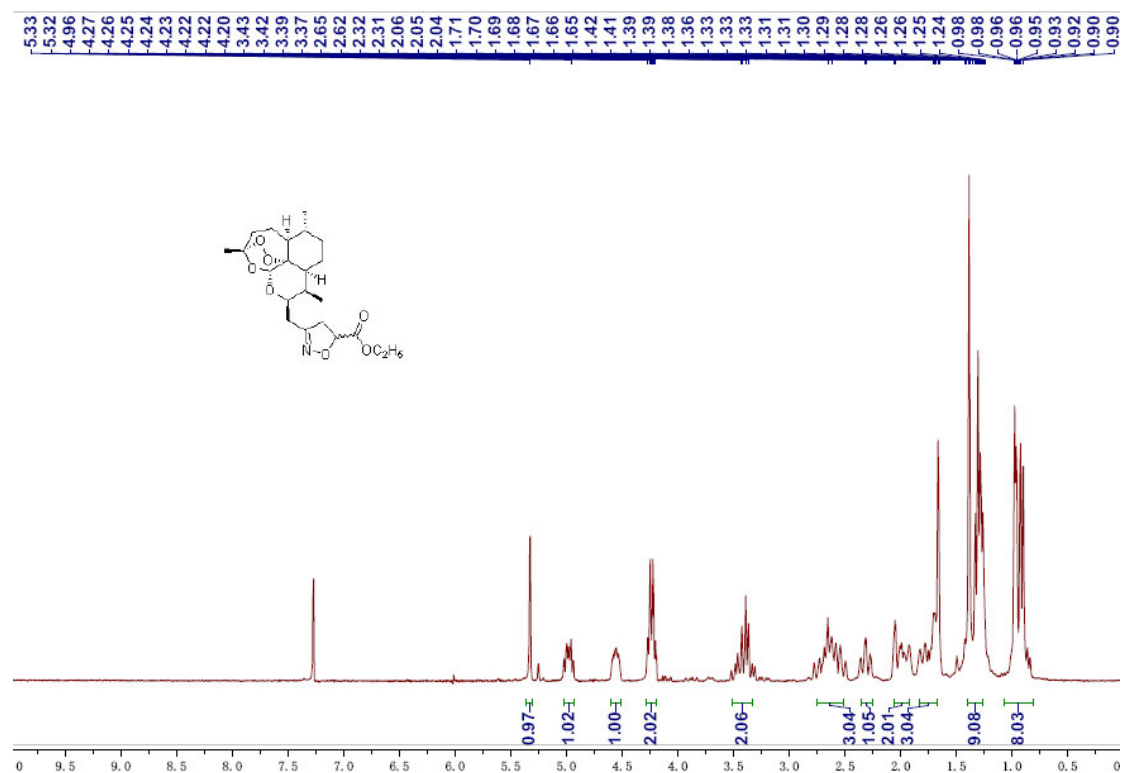
[‡] University of Chinese Academy of Sciences, Beijing 100049, China

Contents

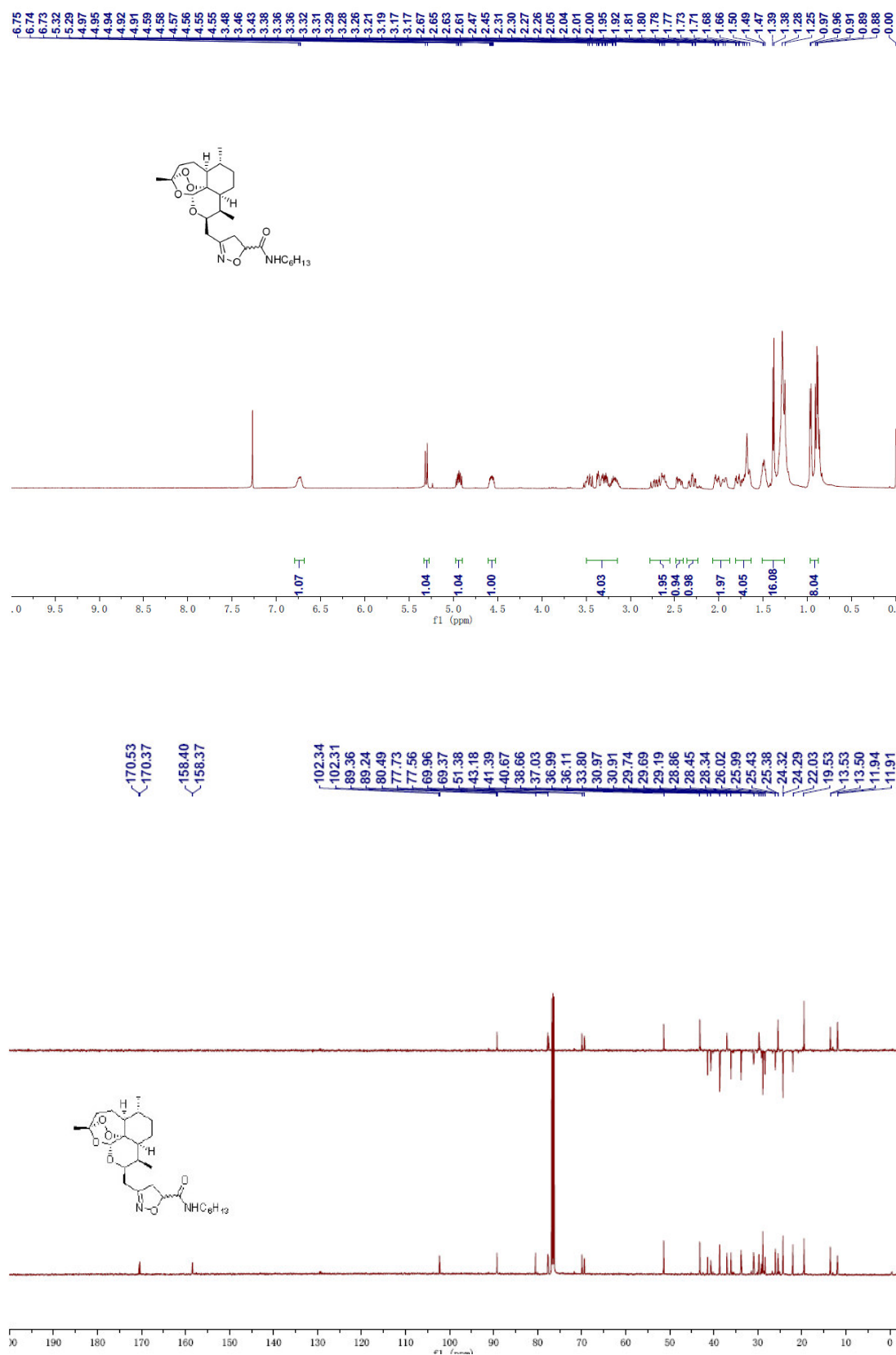
NMR spectra for all the new compounds.....2-25

HPLC data for all the new compounds.....26-56

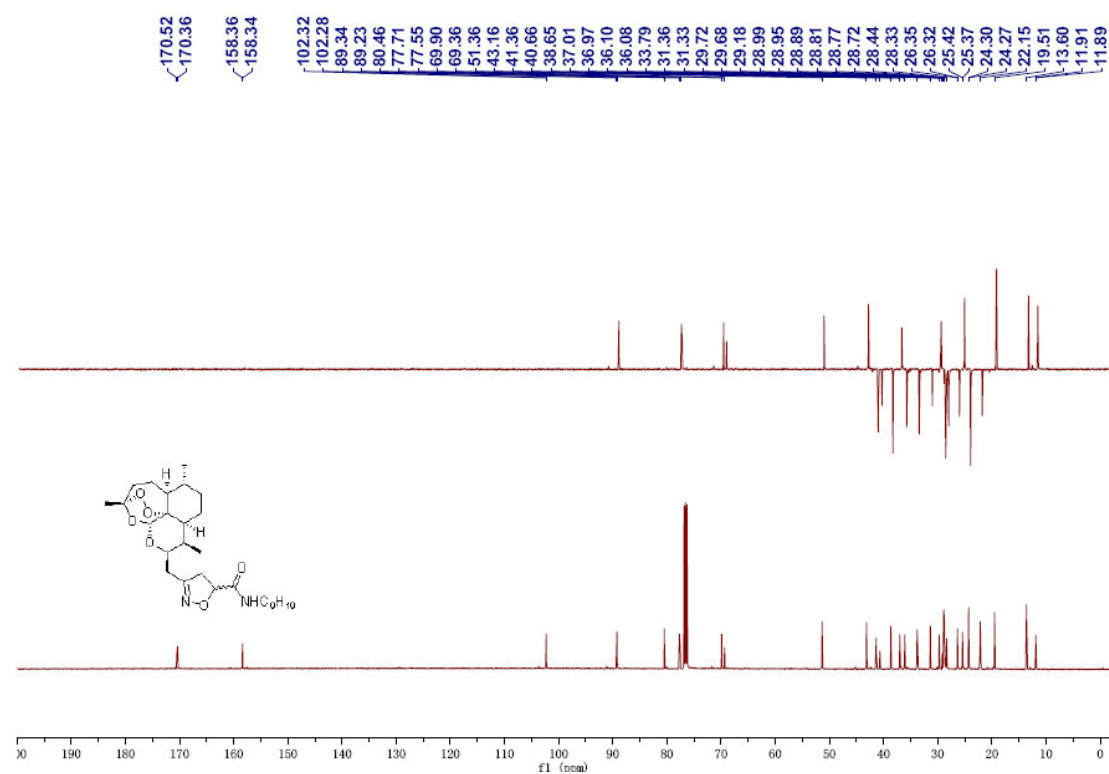
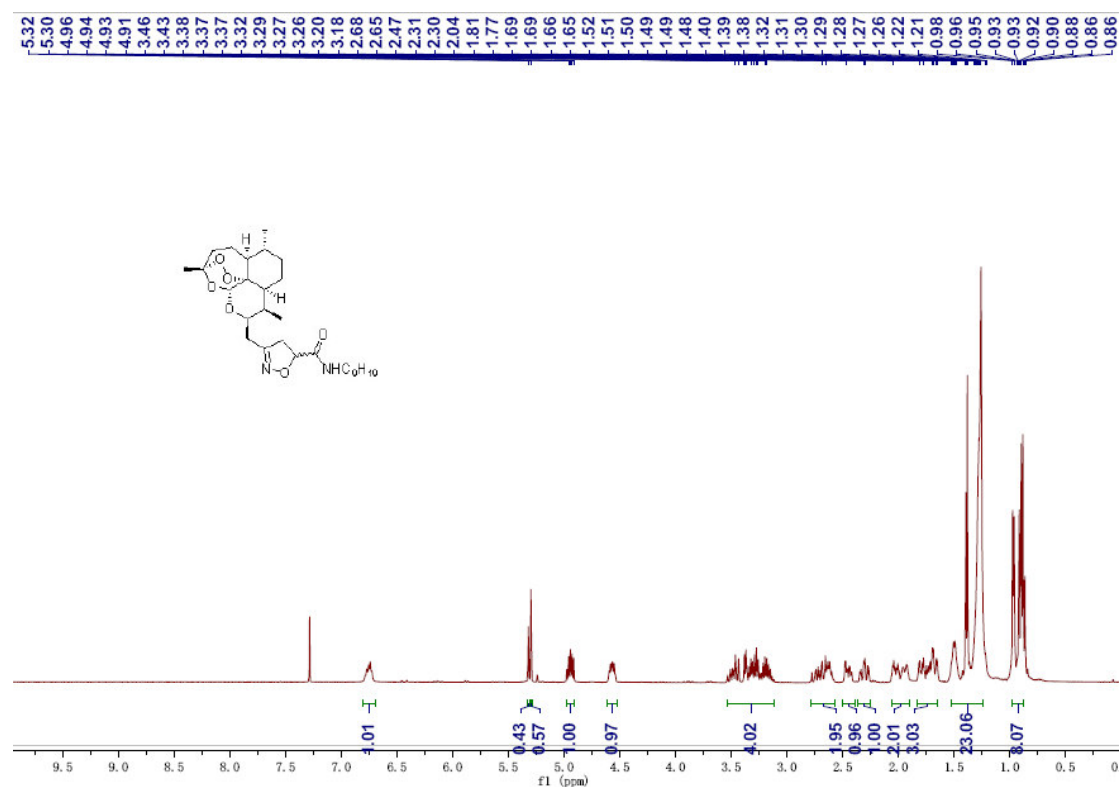
^1H NMR (300 MHz) spectra of compound 5.



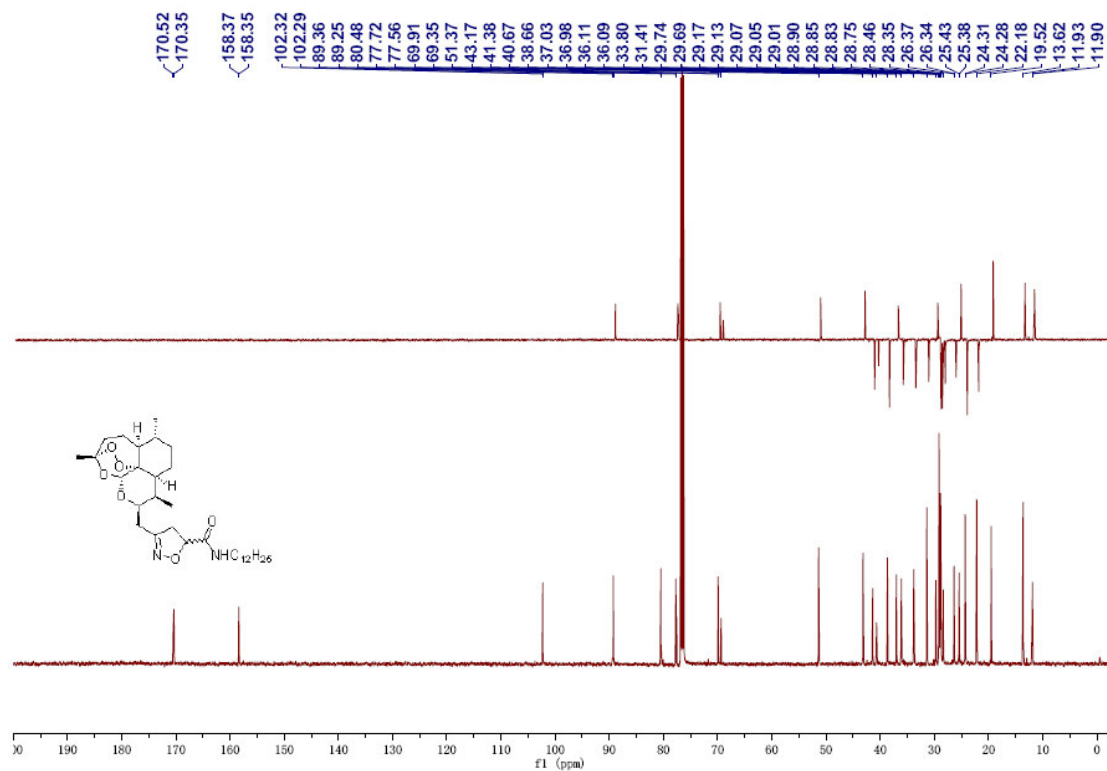
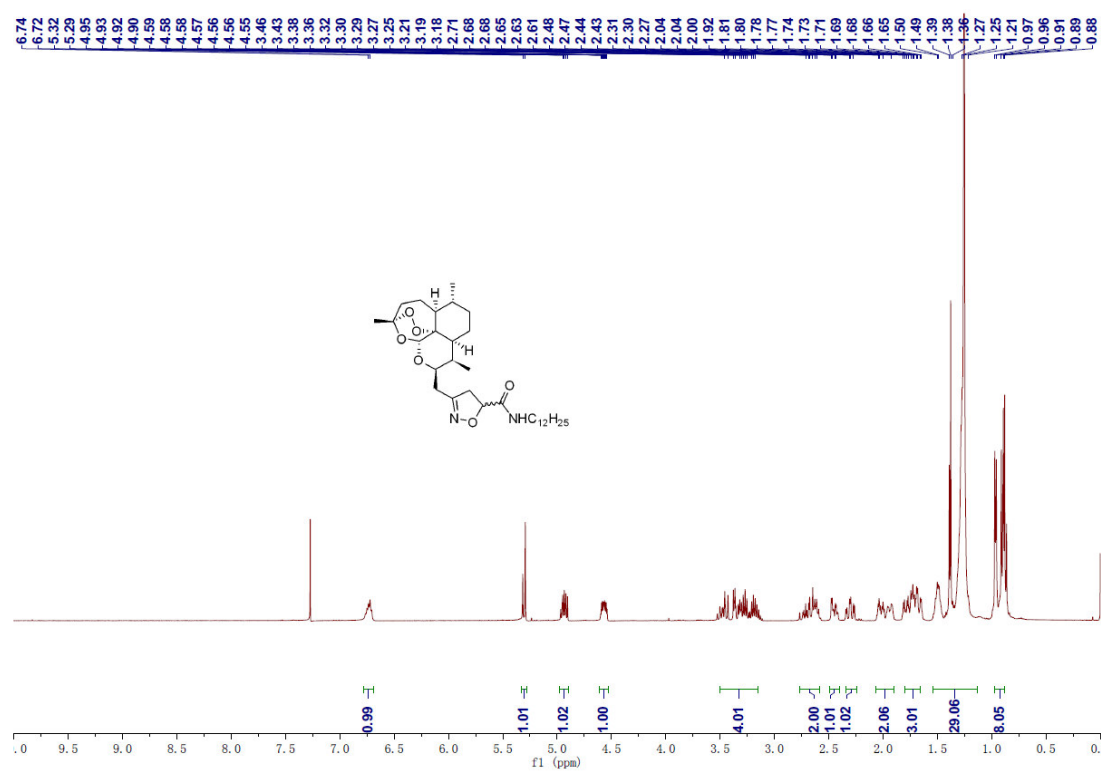
^1H NMR (400 MHz) and ^{13}C NMR (126 MHz) spectra of compound **7a**.



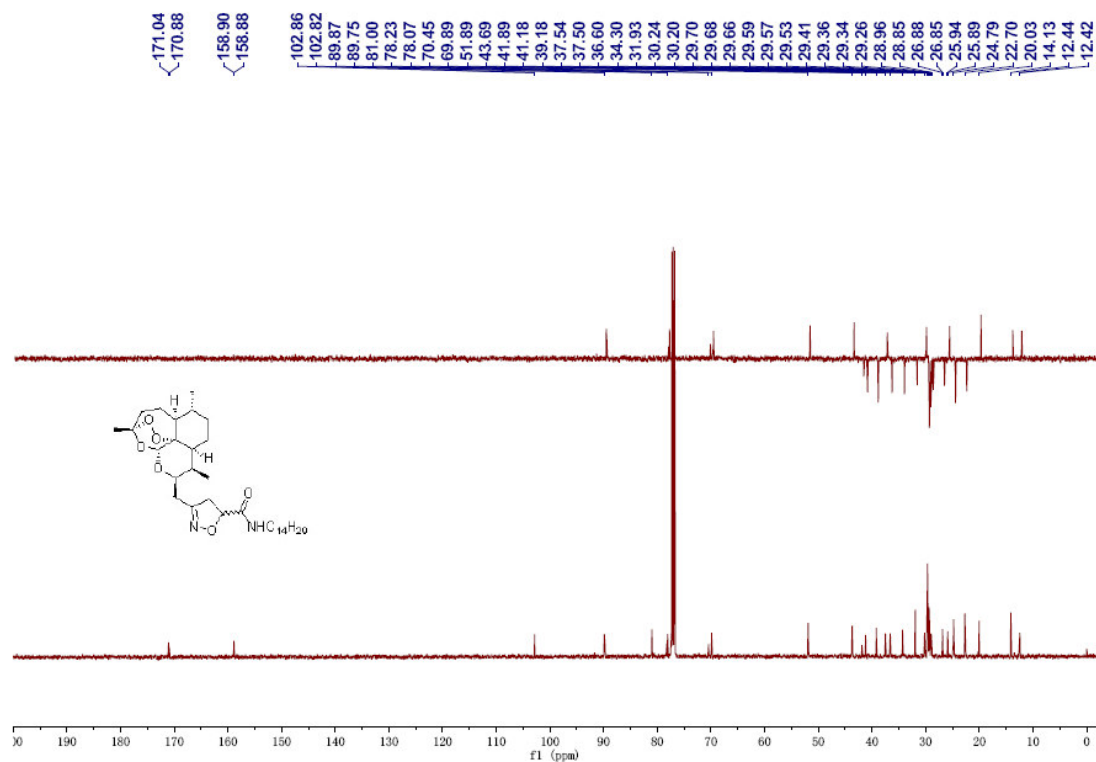
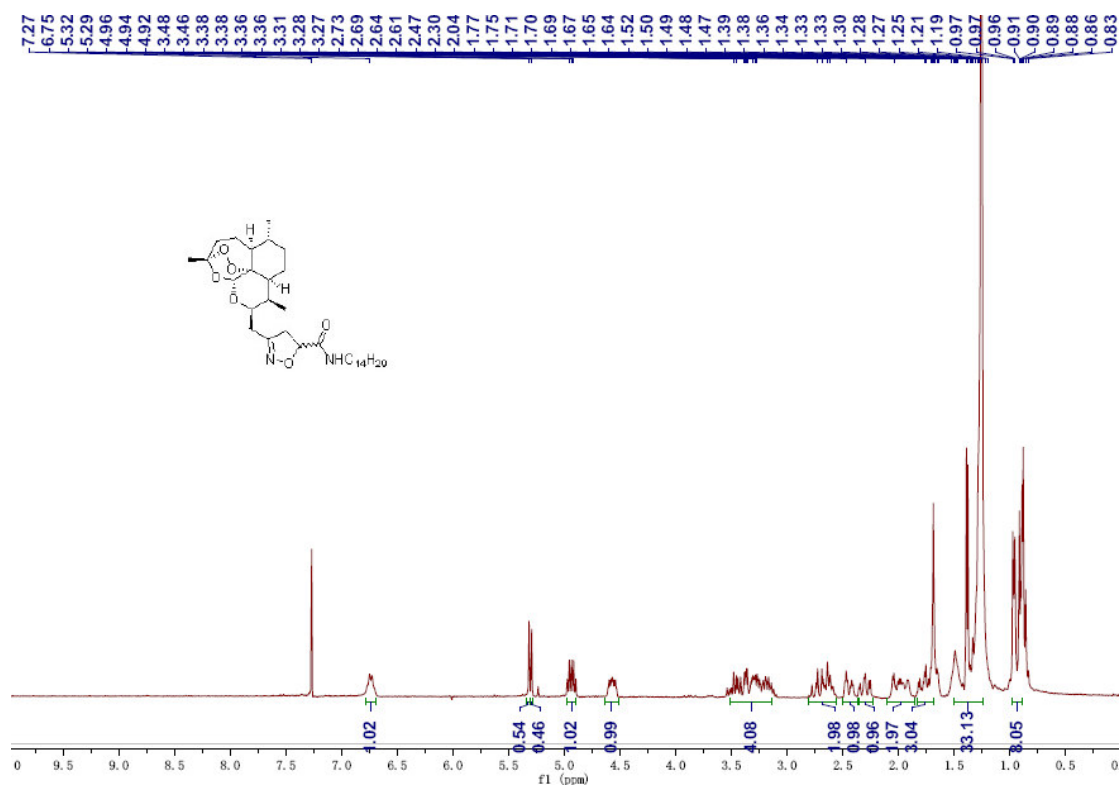
^1H NMR (400 MHz) and ^{13}C NMR (126 MHz) spectra of compound **7b**.

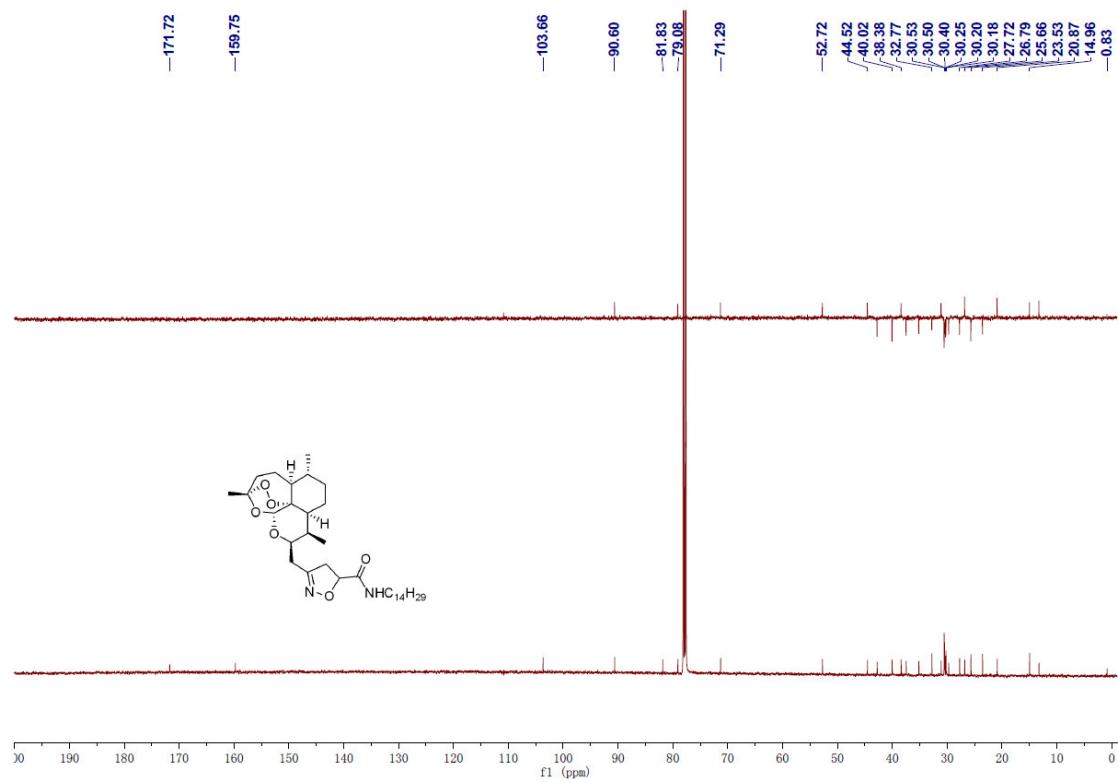
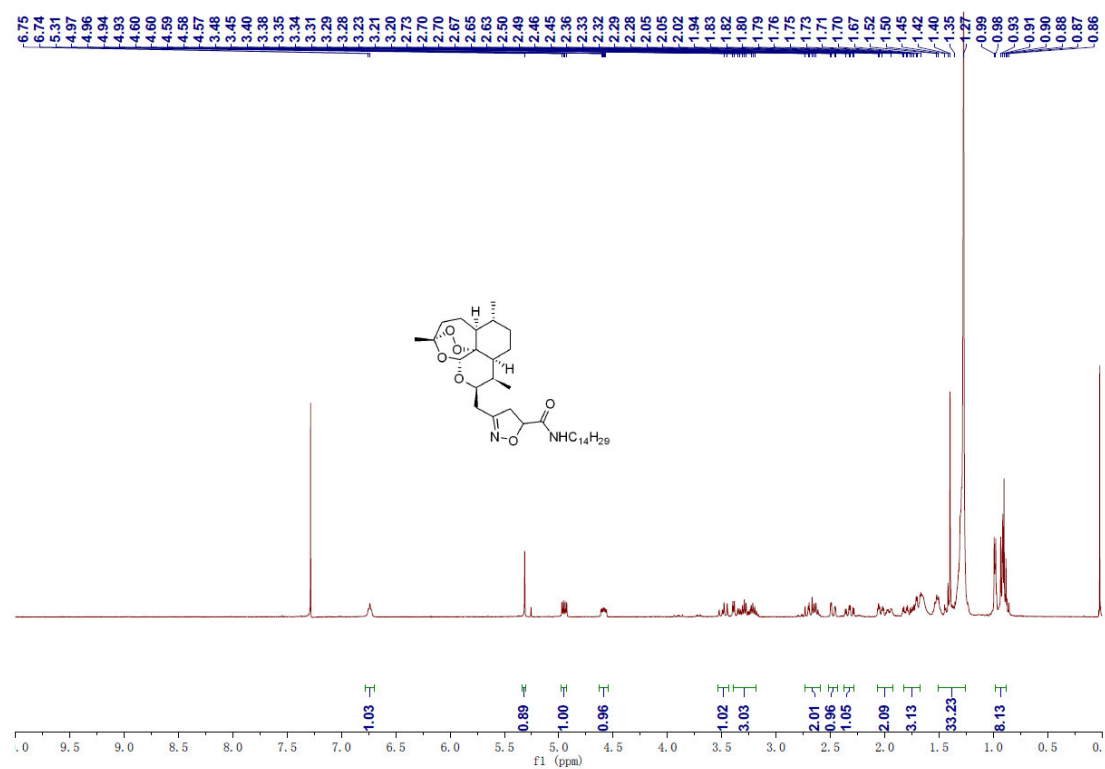


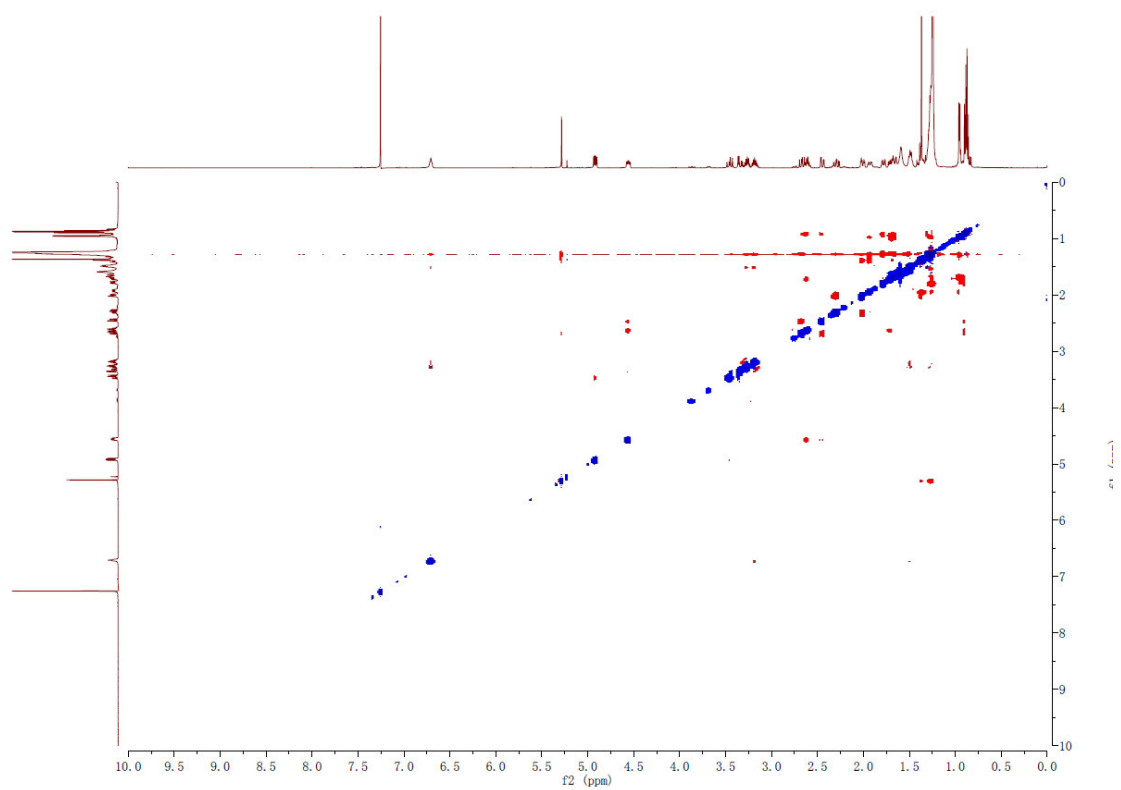
^1H NMR (400 MHz) and ^{13}C NMR (126 MHz) spectra of compound **7c**.

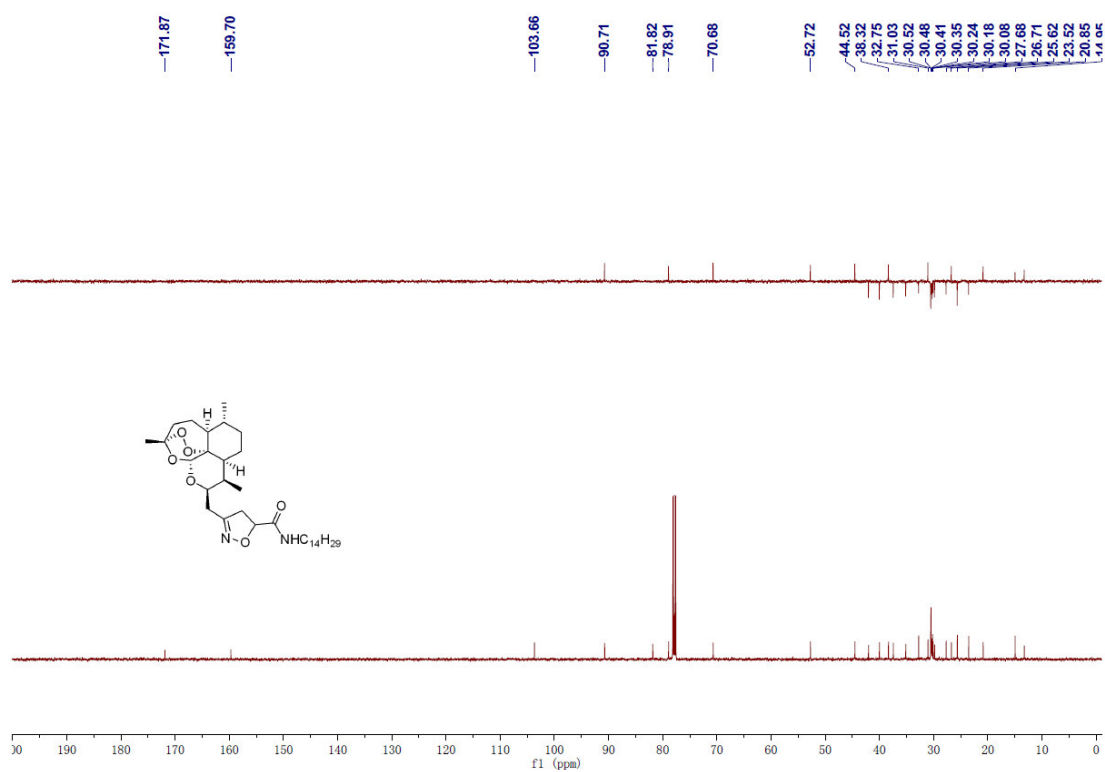
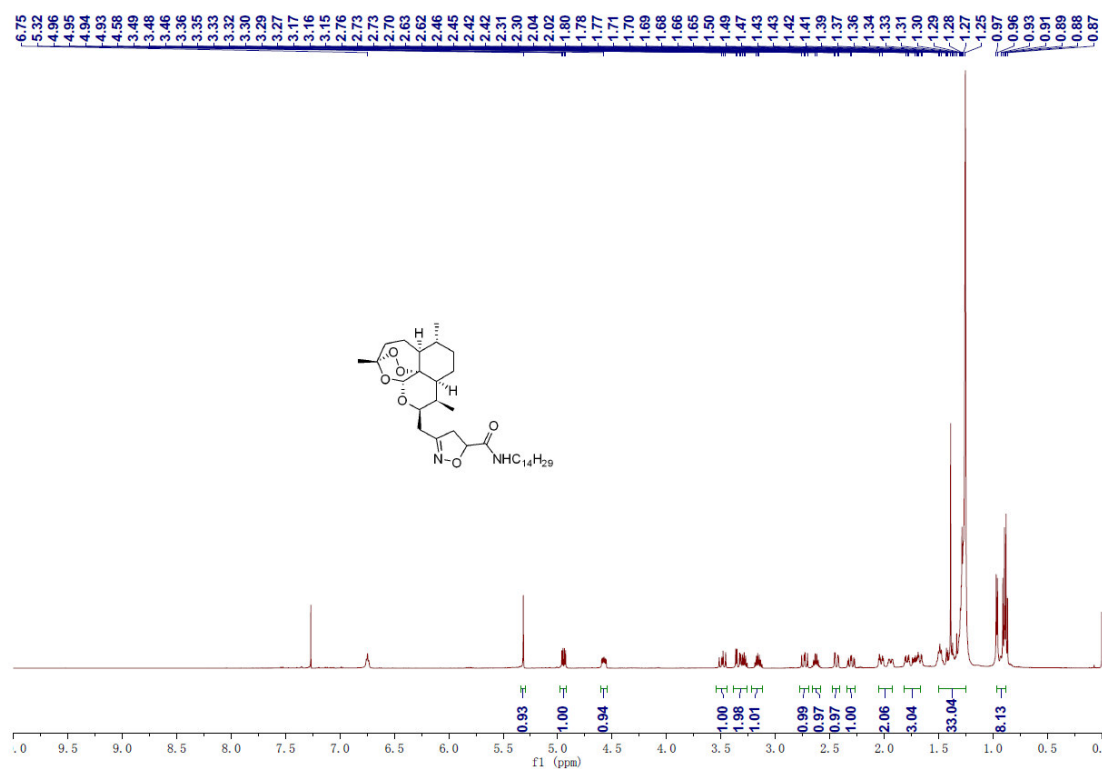


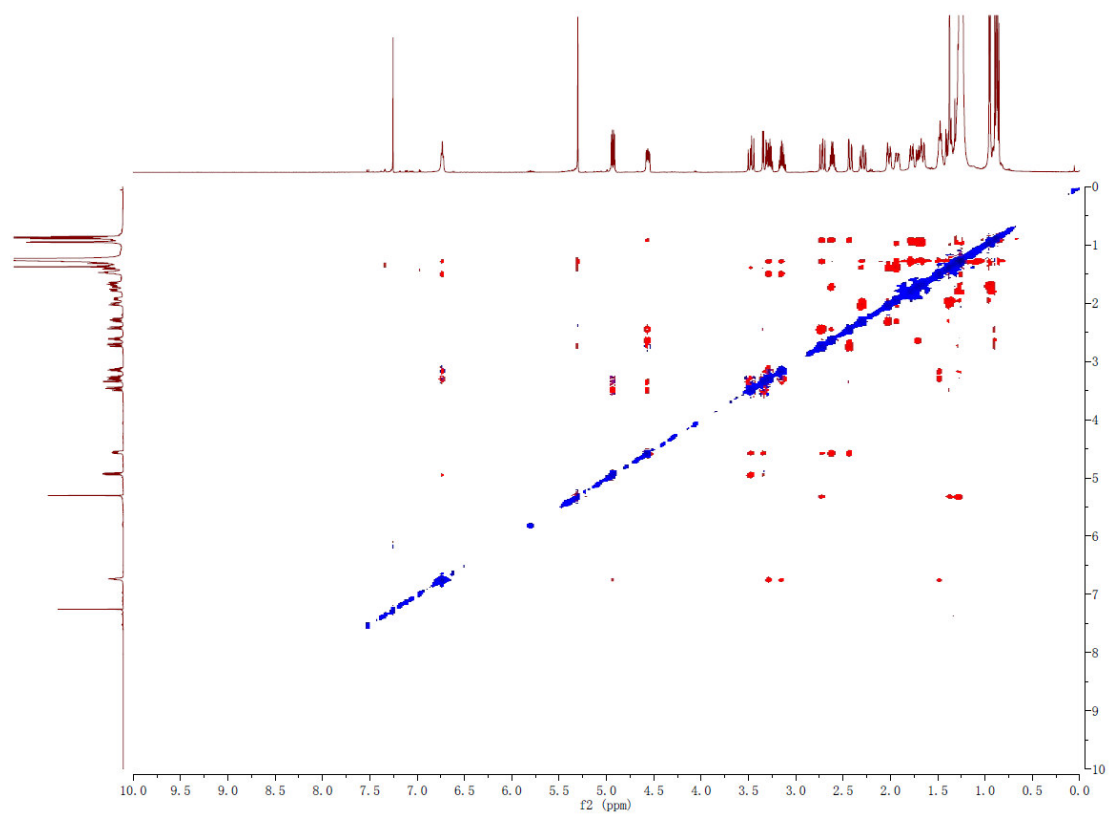
^1H NMR (300 MHz) and ^{13}C NMR (126 MHz) spectra of compound **7d**.



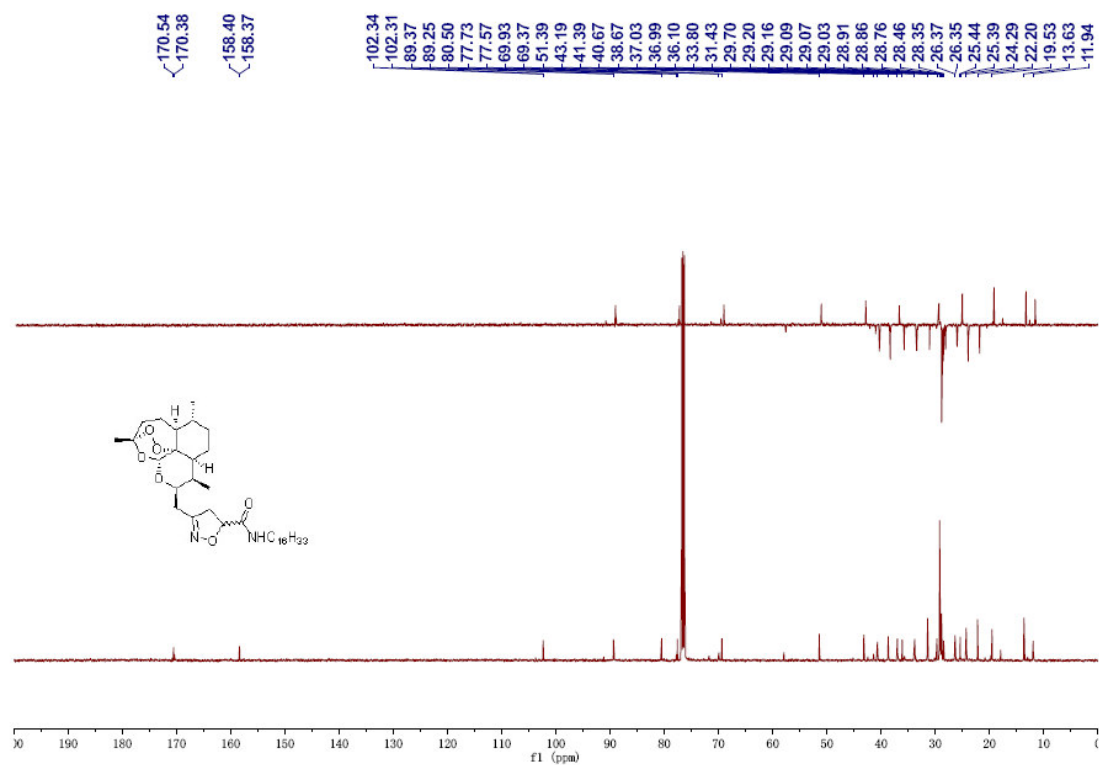
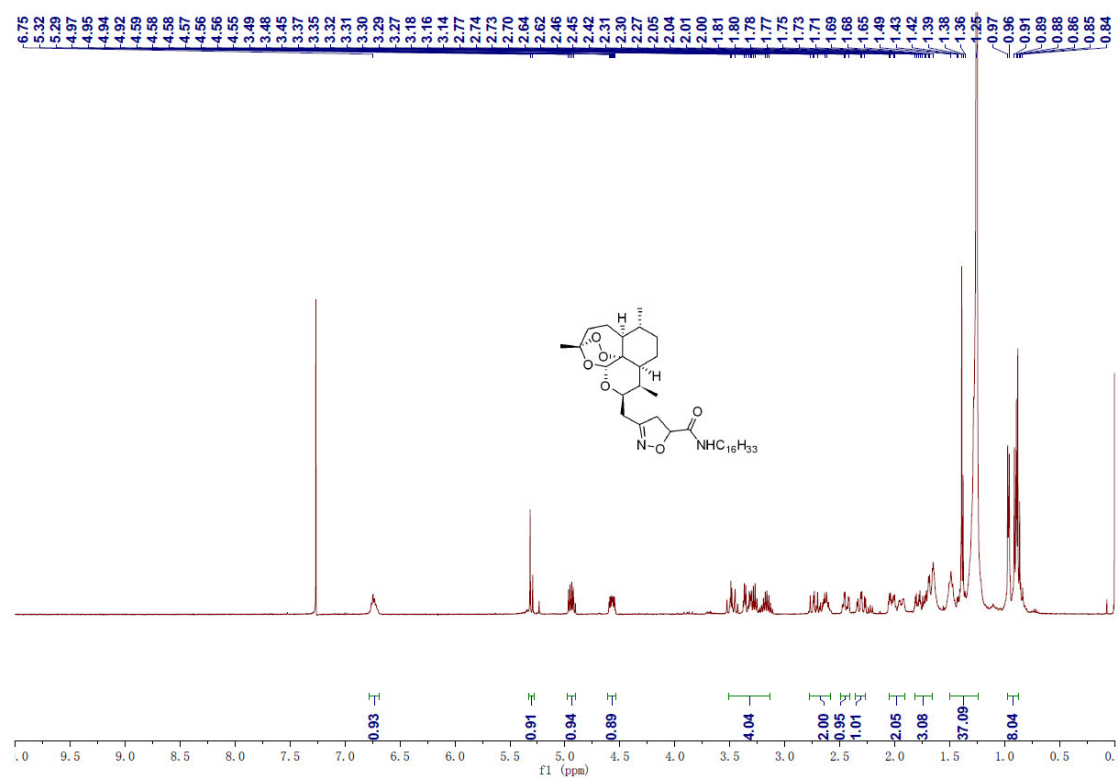
¹H NMR (400 MHz) and ¹³C NMR (126 MHz) and NOESY spectra of compound **7d-1**.



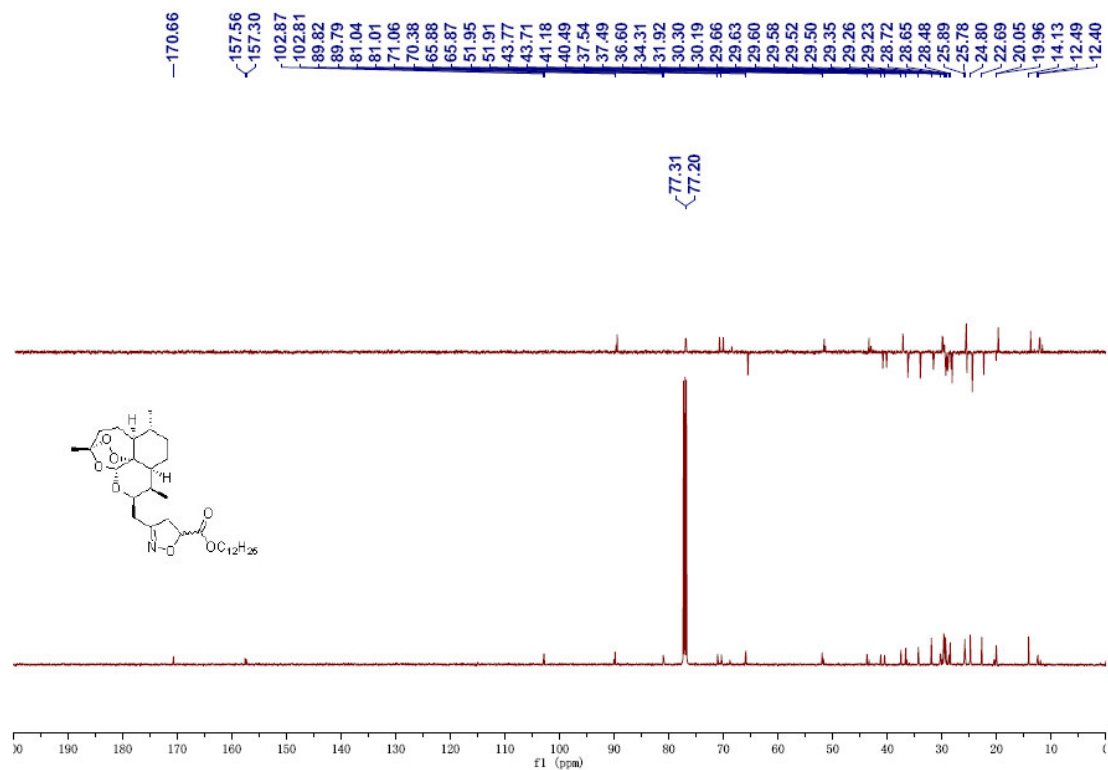
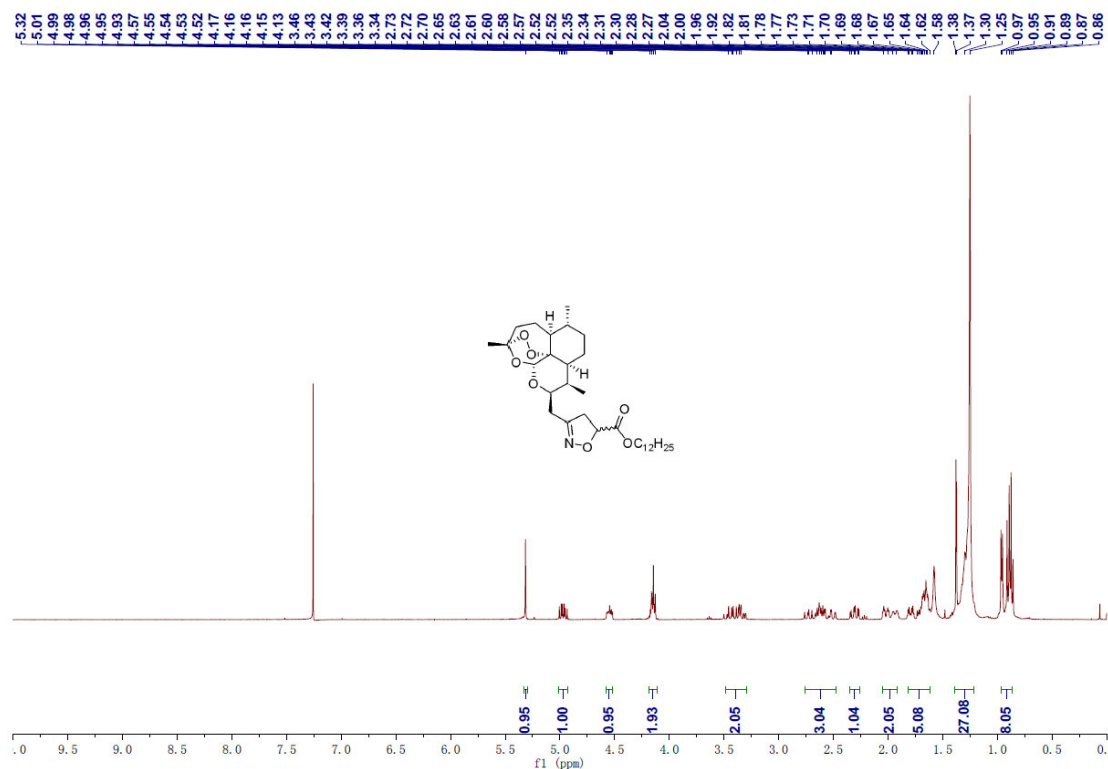
¹H NMR (500 MHz) and ¹³C NMR (126 MHz) and NOESY spectra of compound **7d-2**.



¹H NMR (400 MHz) and ¹³C NMR (126 MHz) spectra of compound **7e**.



^1H NMR (400 MHz) and ^{13}C NMR (126 MHz) spectra of compound **7f**.



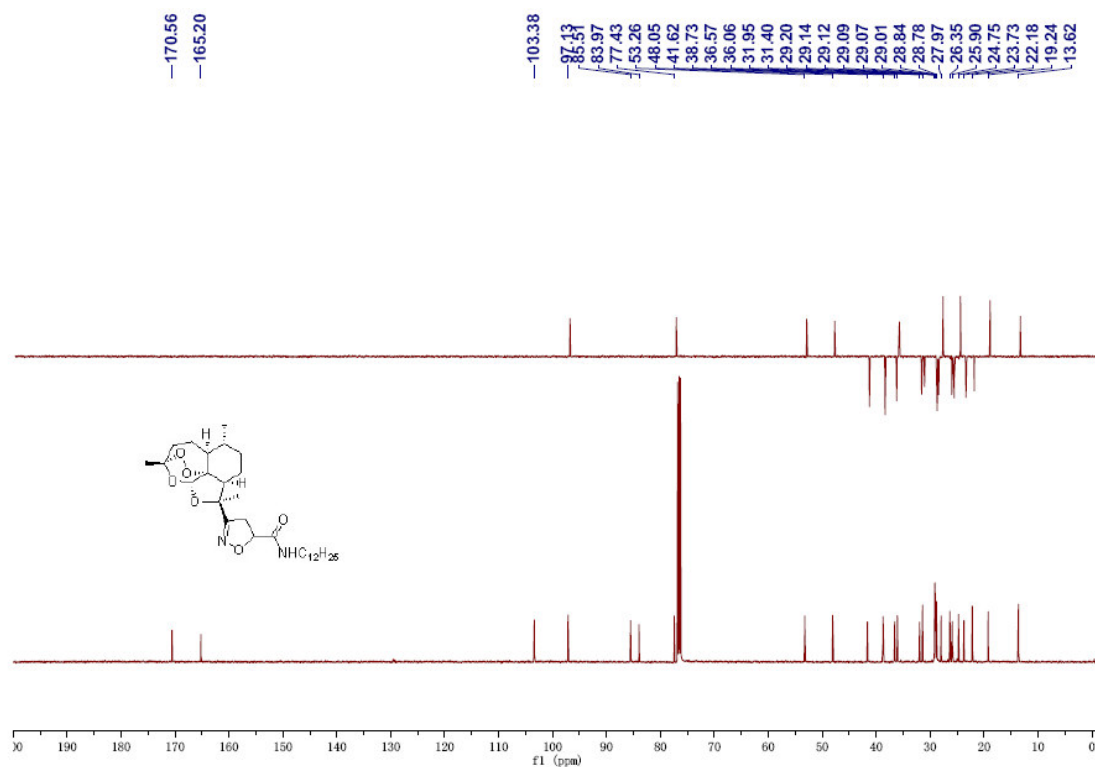
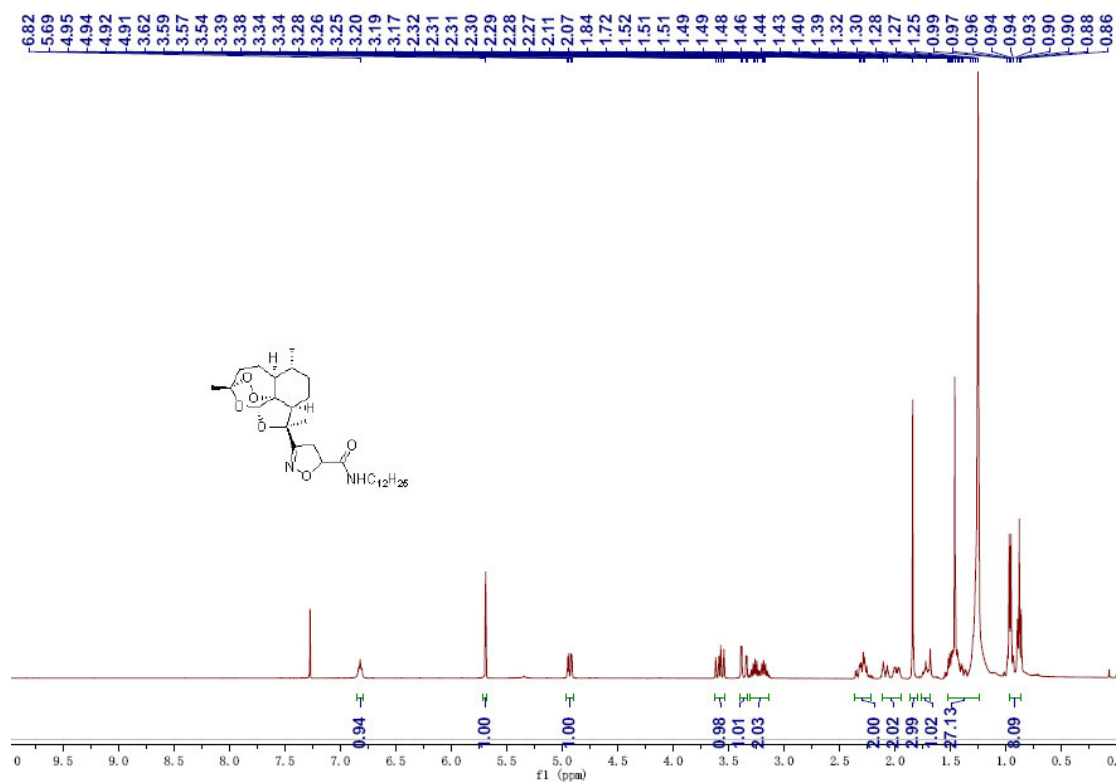
Chemical structure of compound 10 is shown above the spectrum. The structure is a complex polycyclic molecule with a fused ring system, including a cyclohexane ring, a cyclopentane ring, and a cyclobutane ring. It features a methyl group, a hydroxyl group, and a carboxylate group (COOCH₃).

¹H NMR spectrum (CDCl₃) of compound 10. The x-axis represents the chemical shift in ppm, ranging from 0.97 to 5.71. The spectrum shows several peaks, with integration values indicated below the baseline.

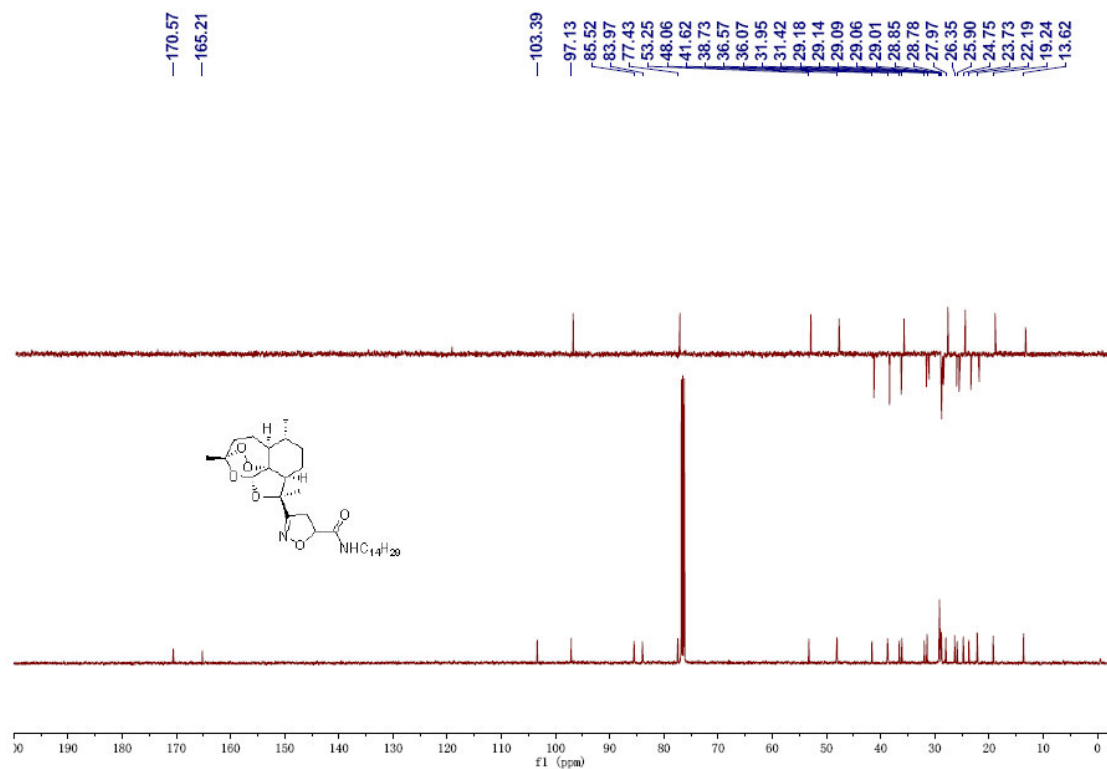
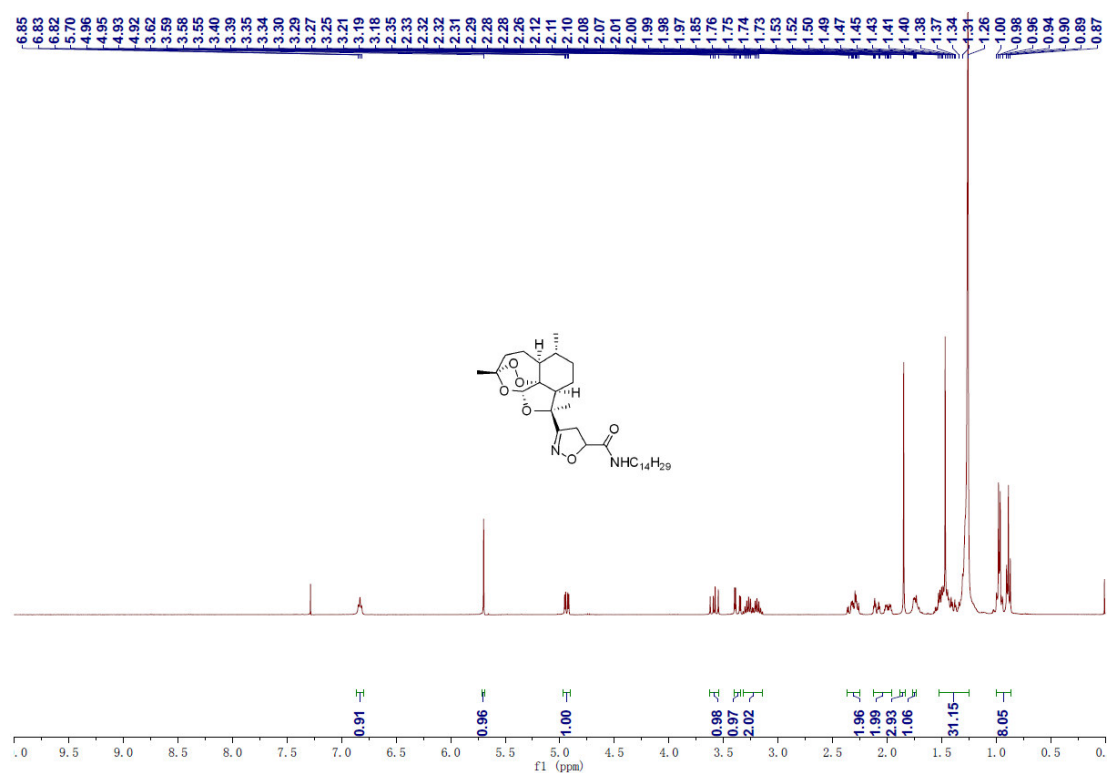
Integration values (from left to right): 1.00, 1.00, 2.01, 1.02, 1.04, 2.03, 3.03, 3.02, 5.00, 5.07, 5.02.

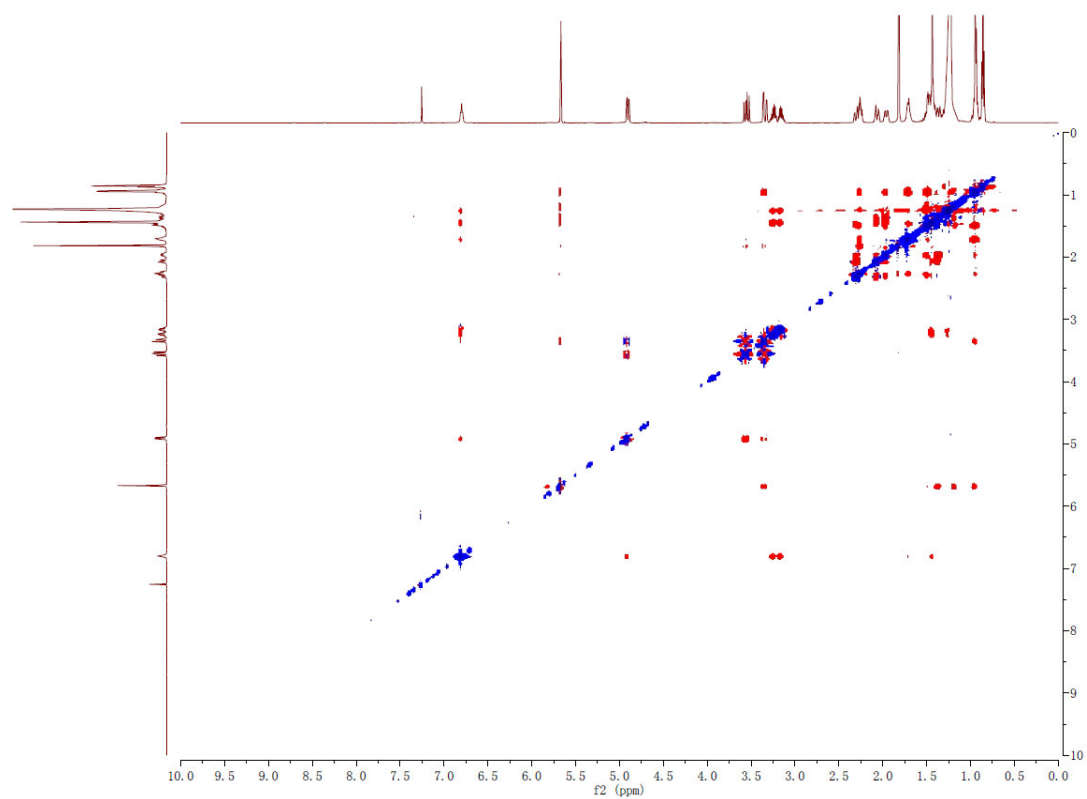
Chemical structure of compound 10 is shown above the spectrum. The spectrum displays peaks from 0.86 to 5.63 ppm. Integration values are provided below the baseline: 1.02, 1.02, 2.00, 0.99, 1.00, 2.03, 3.03, 3.00, 5.03, 5.02, and 5.00. A list of peak chemical shifts is shown on the right side of the spectrum.

^1H NMR (400 MHz) and ^{13}C NMR (126 MHz) spectra of compound **13**.

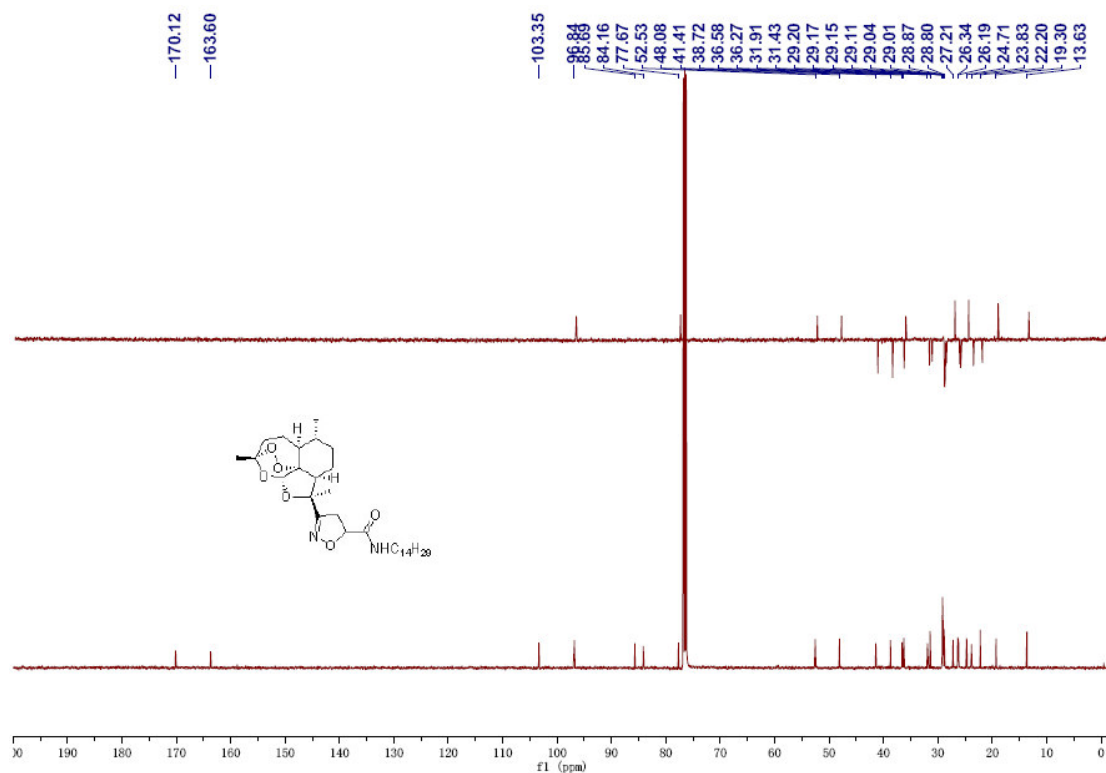
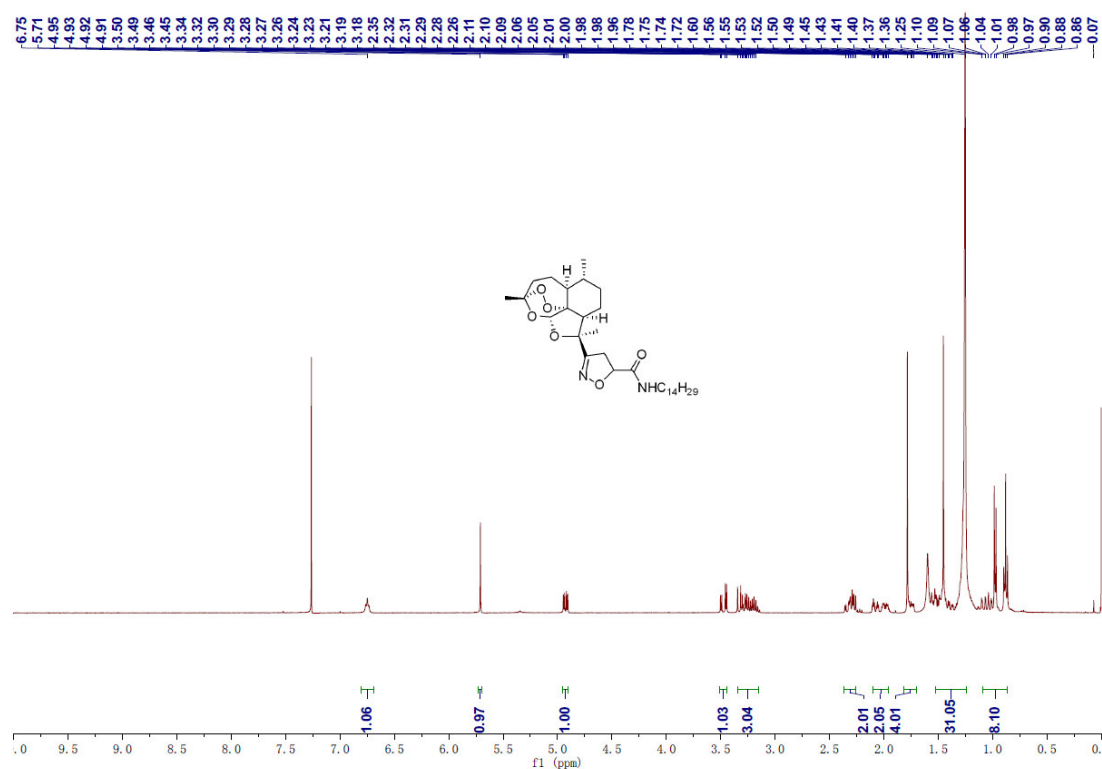


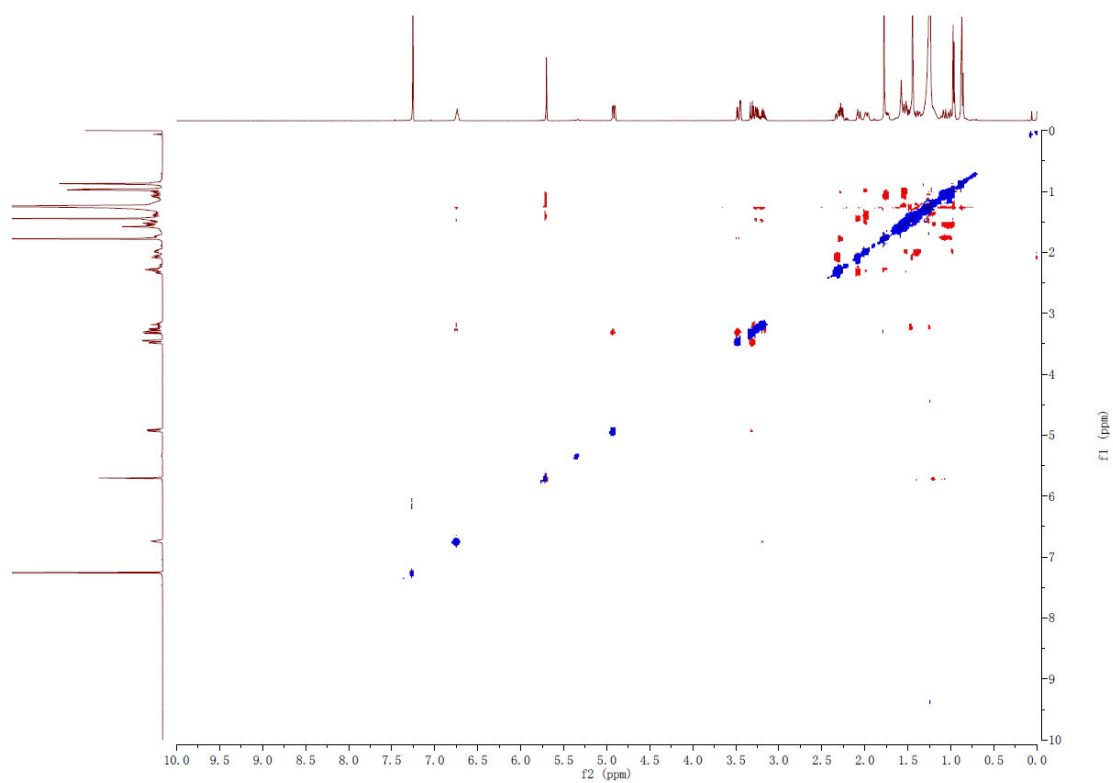
^1H NMR (400 MHz) and ^{13}C NMR (126 MHz) NOESY spectra of compound **14**.



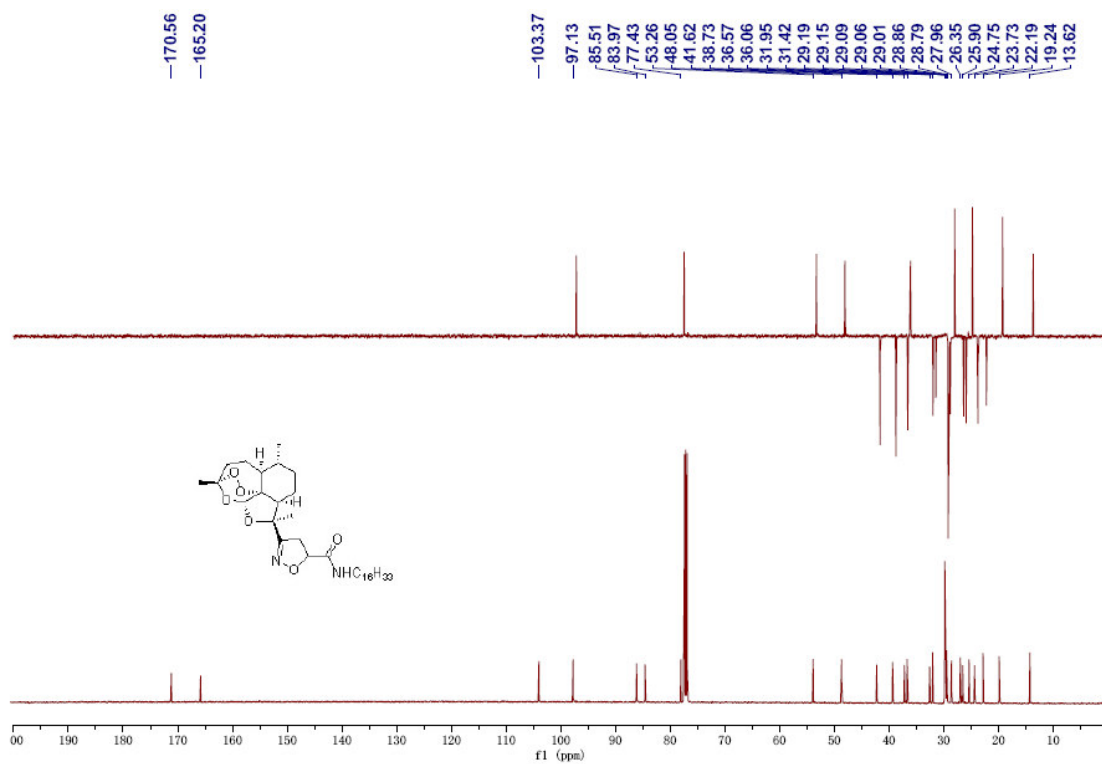
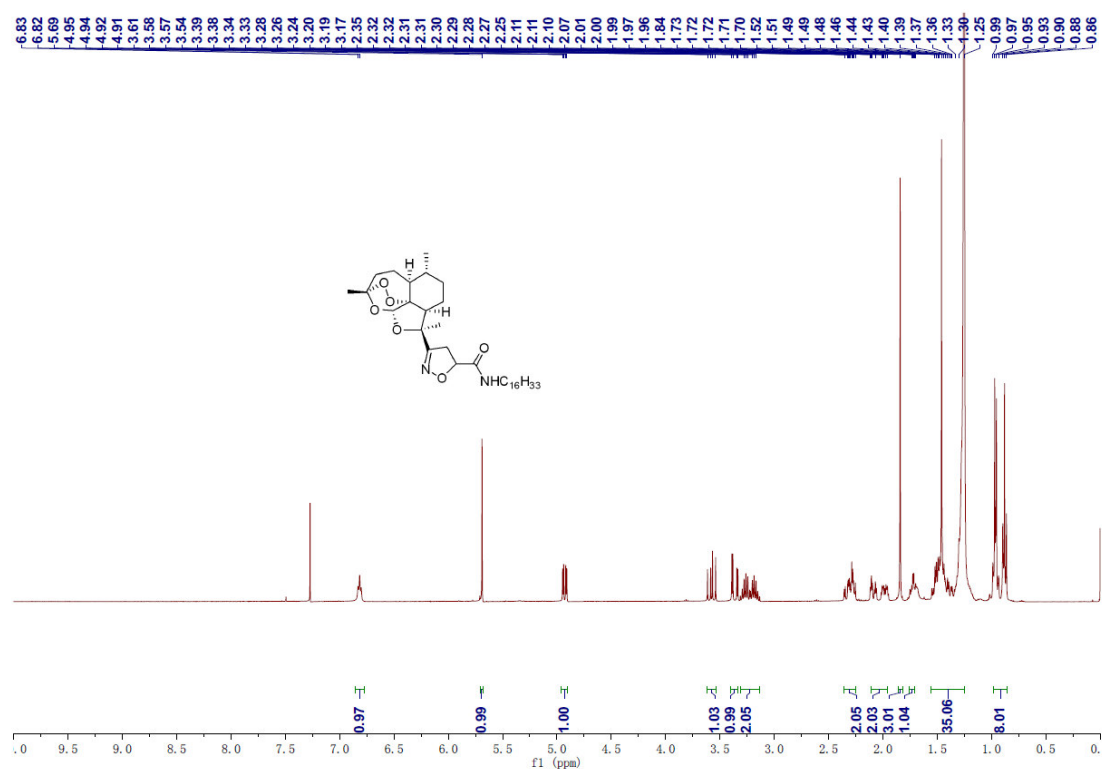


^1H NMR (400 MHz) and ^{13}C NMR (126 MHz) NOESY spectra of compound **14'**.

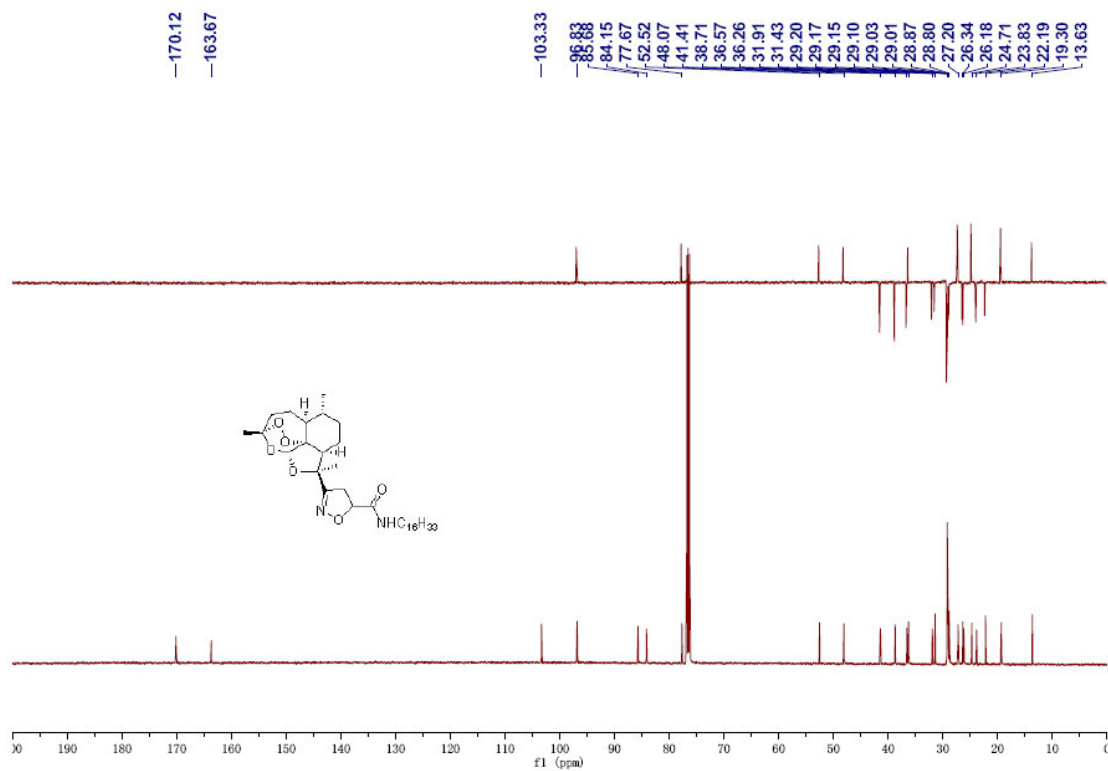
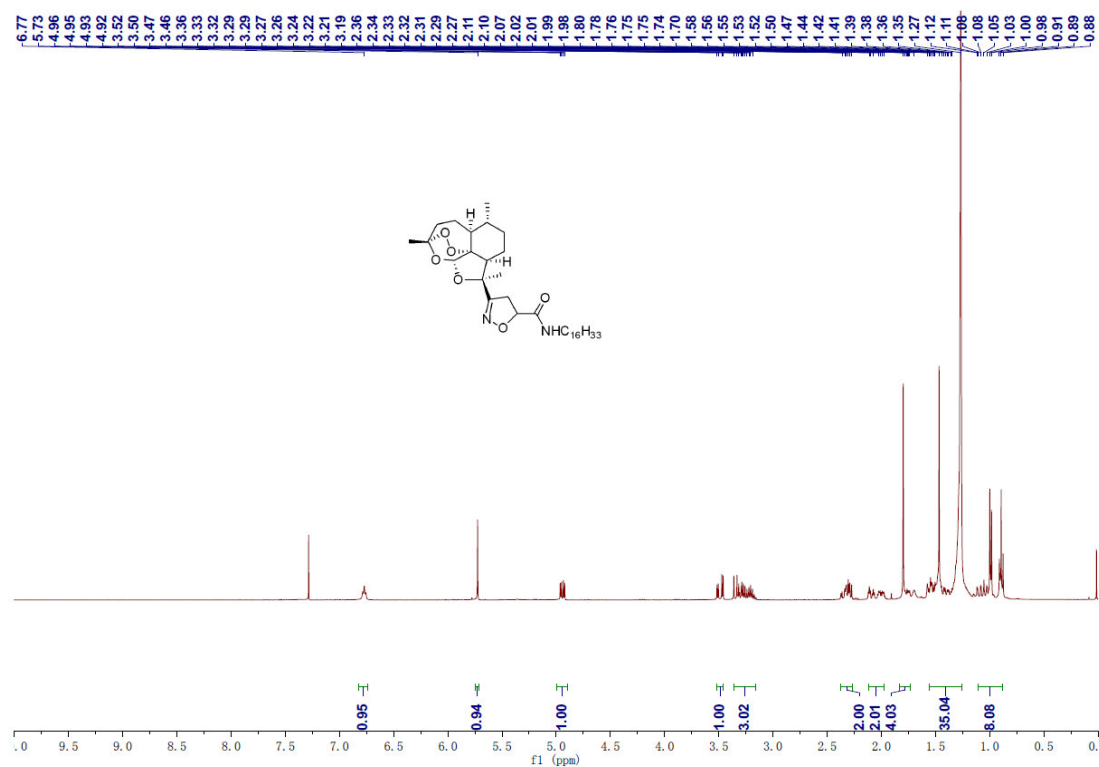




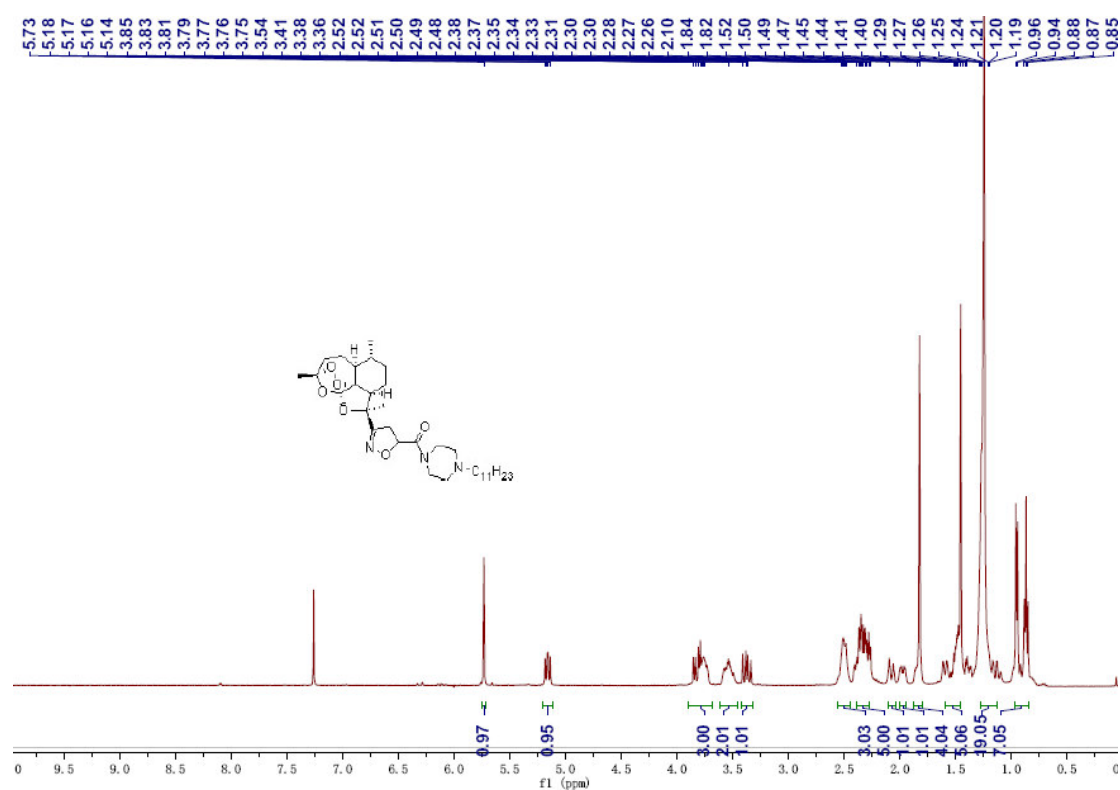
¹H NMR (400 MHz) and ¹³C NMR (126 MHz) spectra of compound **15**.



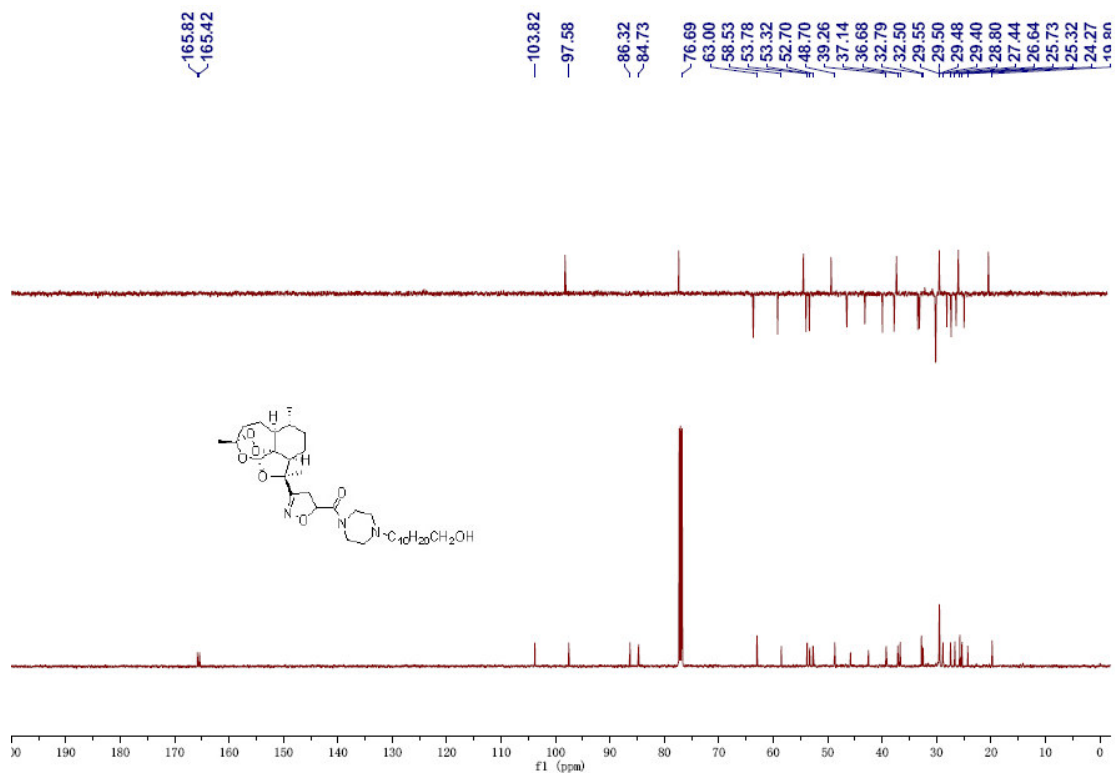
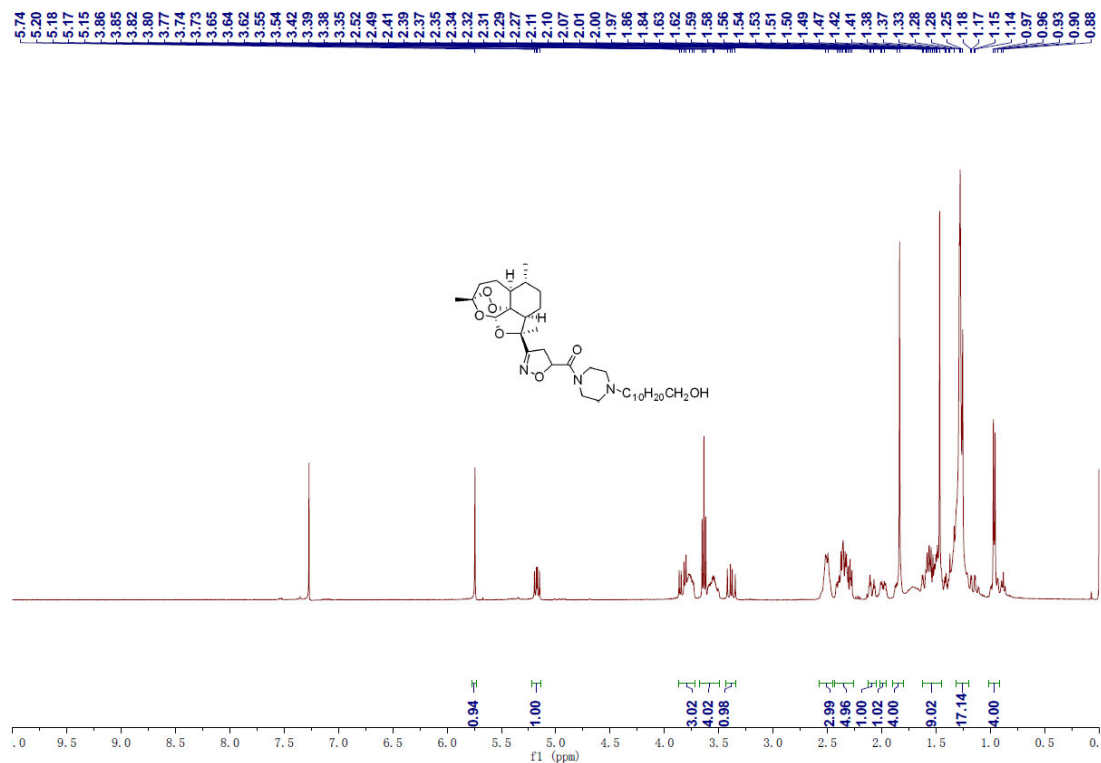
^1H NMR (400 MHz) and ^{13}C NMR (126 MHz) spectra of compound **15'**.



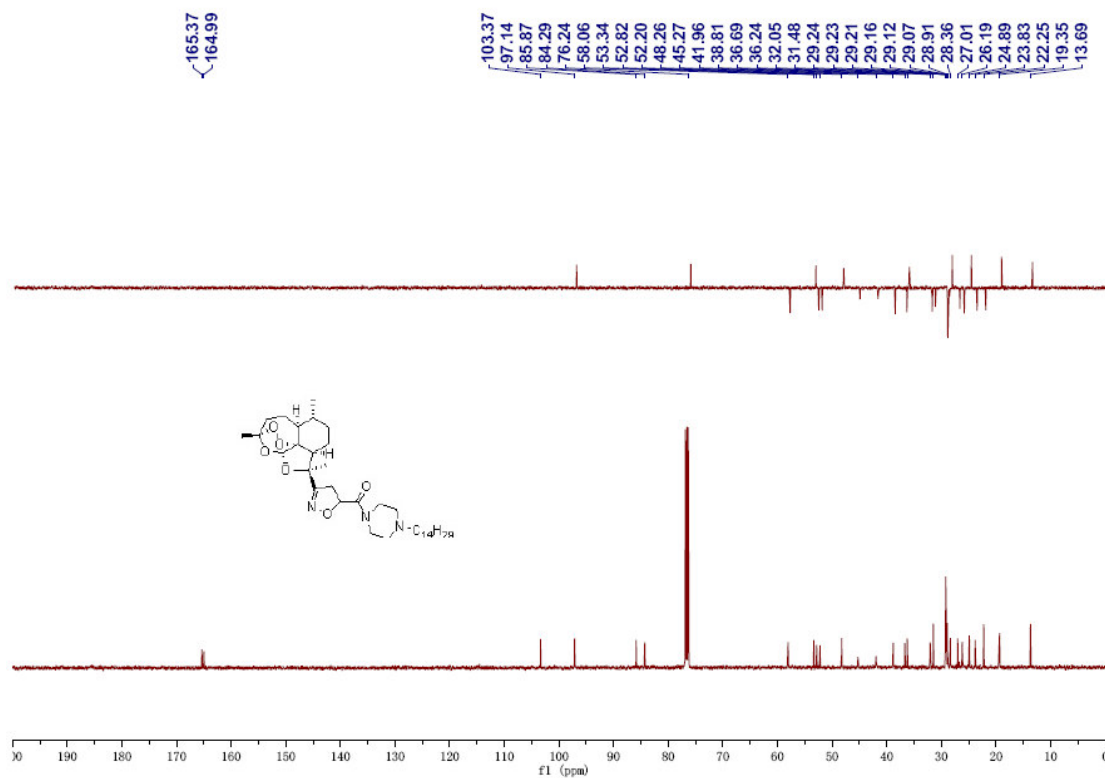
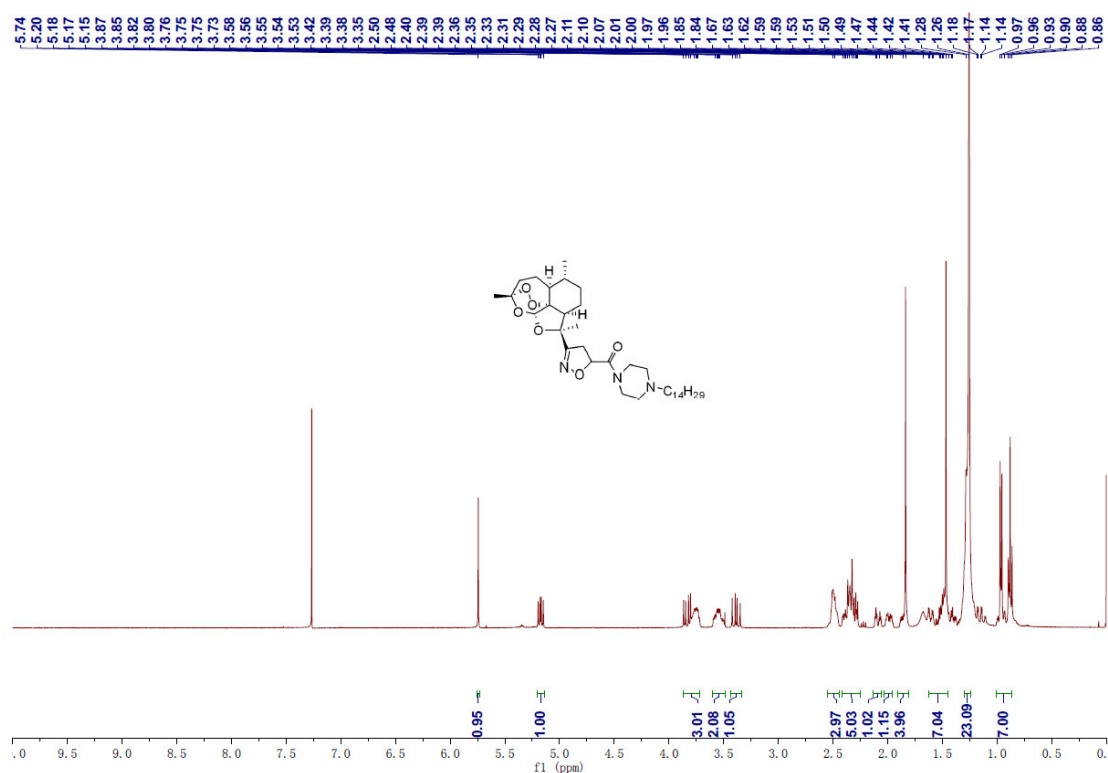
^1H NMR (400 MHz) and ^{13}C NMR (126 MHz) spectra of compound **18a**.



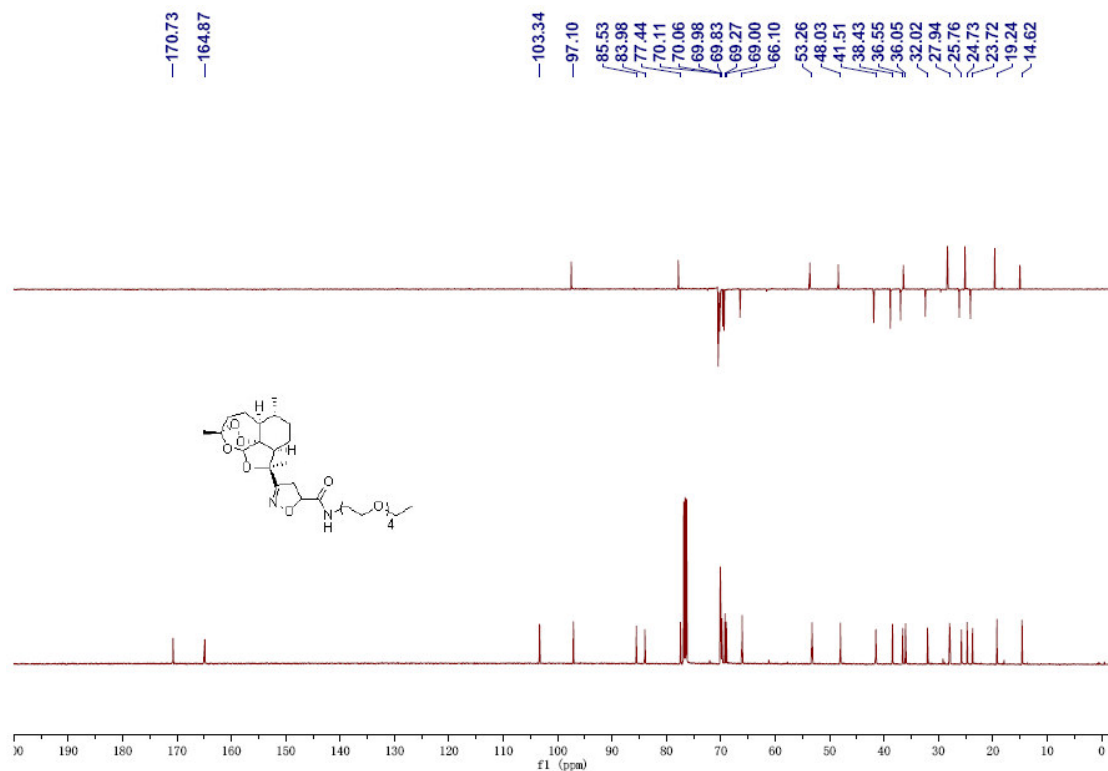
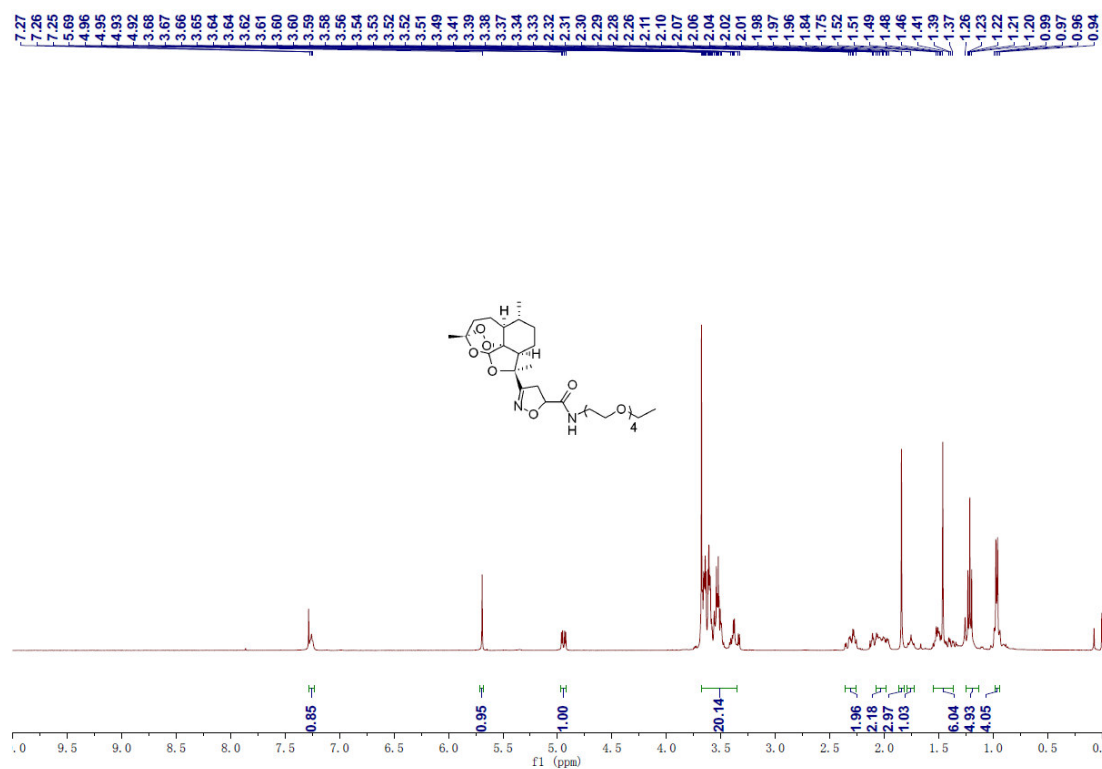
¹H NMR (400 MHz) and ¹³C NMR (126 MHz) spectra of compound **18b**.



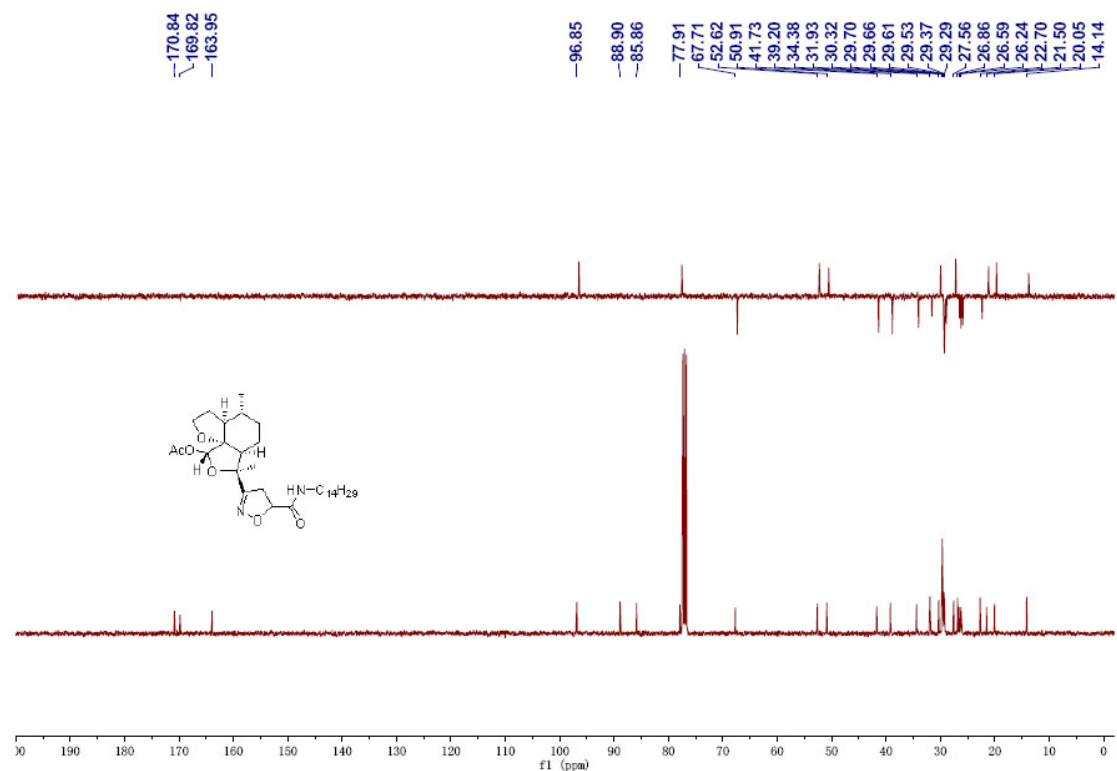
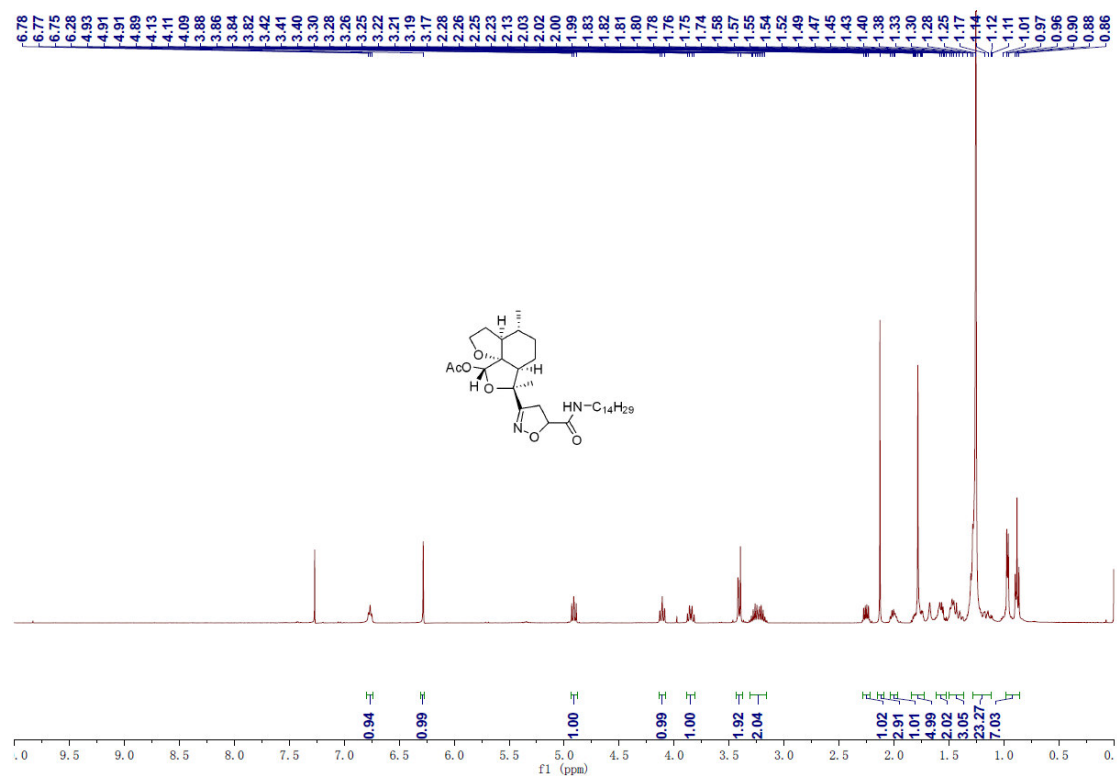
¹H NMR (400 MHz) and ¹³C NMR (126 MHz) spectra of compound **18c**.



^1H NMR (400 MHz) and ^{13}C NMR (126 MHz) spectra of compound **22**.



^1H NMR (400 MHz) and ^{13}C NMR (126 MHz) spectra of compound **23**.



Sample Name: **Blank control**

=====

Acq. Operator : Gang Liu
Acq. Instrument : 仪器 1 Location : Vial 1
Injection Date : 8/31/2016 2:11:42 PM Inj Volume : 2.000 µl

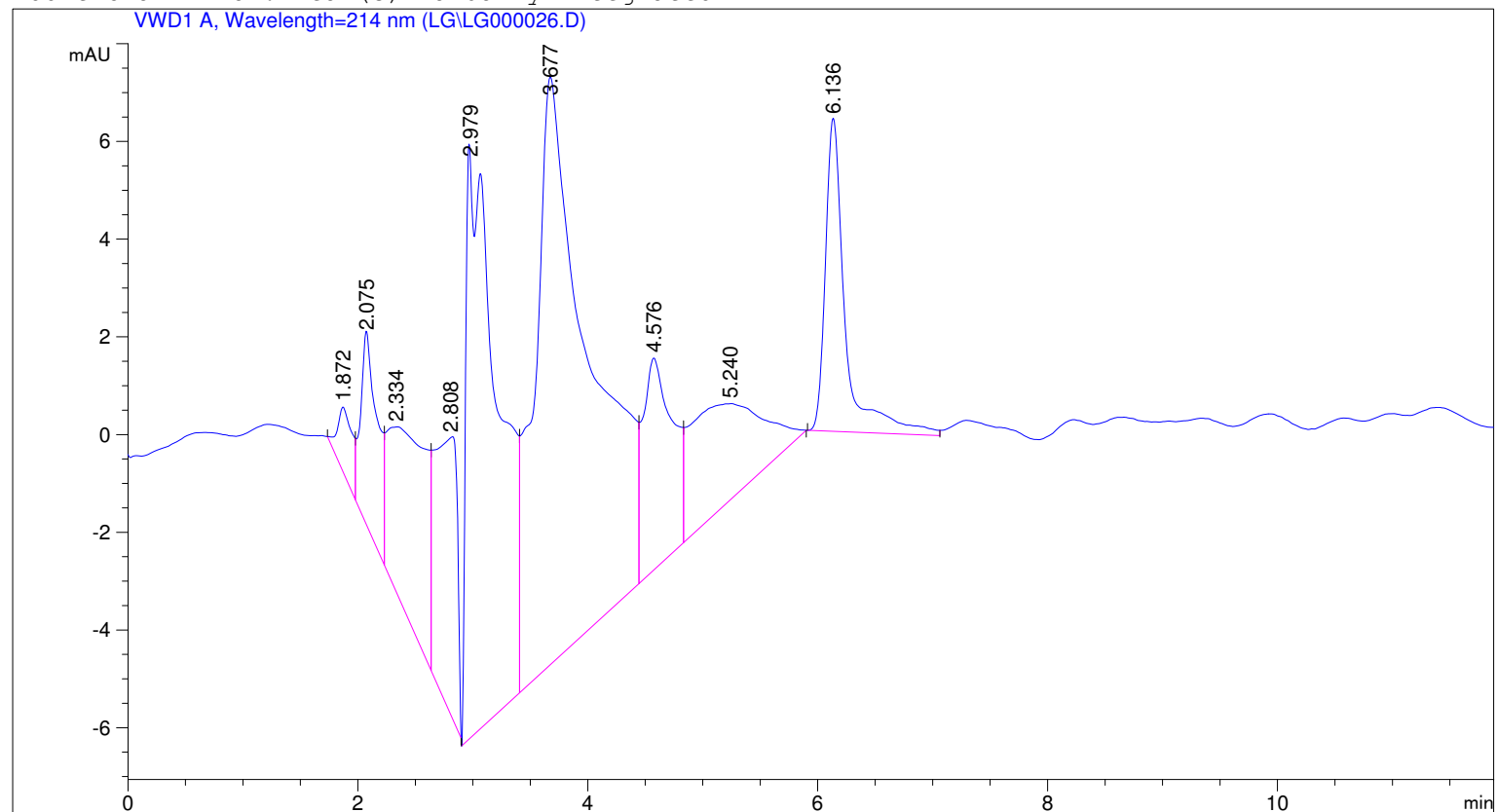
Acq. Method : D:\METHODS\GANG LIU-SB-C18.M
Last changed : 8/31/2016 2:08:44 PM by Gang Liu
(modified after loading)

Analysis Method : D:\METHODS\GANG LIU-SB-C18.M
Last changed : 8/31/2016 2:23:40 PM by Gang Liu
(modified after loading)

Method Info : Gang Liu

Sample Info : SB-C18, 0.5 ml/min, 2µl, 214 nm, Water: MeOH=5:95

Additional Info : Peak(s) manually integrated



=====

Area Percent Report

=====

Sorted By : Signal
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=214 nm

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	1.872	BV	0.1266	12.38621	1.32465	1.1363
2	2.075	VV	0.1481	41.31381	3.86069	3.7902
3	2.334	VV	0.3587	90.21381	3.37270	8.2764
4	2.808	VB	0.1836	75.00474	5.66296	6.8811
5	2.979	BV	0.2456	230.41232	11.78284	21.1384
6	3.677	VV	0.4308	395.40277	12.00533	36.2749
7	4.576	VV	0.2422	76.90004	4.32919	7.0549

Sample Name: **Blank control**

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
8	5.240	VB	0.5778	91.64238	1.96953	8.4074
9	6.136	BV	0.1754	76.74107	6.37599	7.0404

Totals : 1090.01714 50.68388

*** End of Report ***

Sample Name: 7a

=====

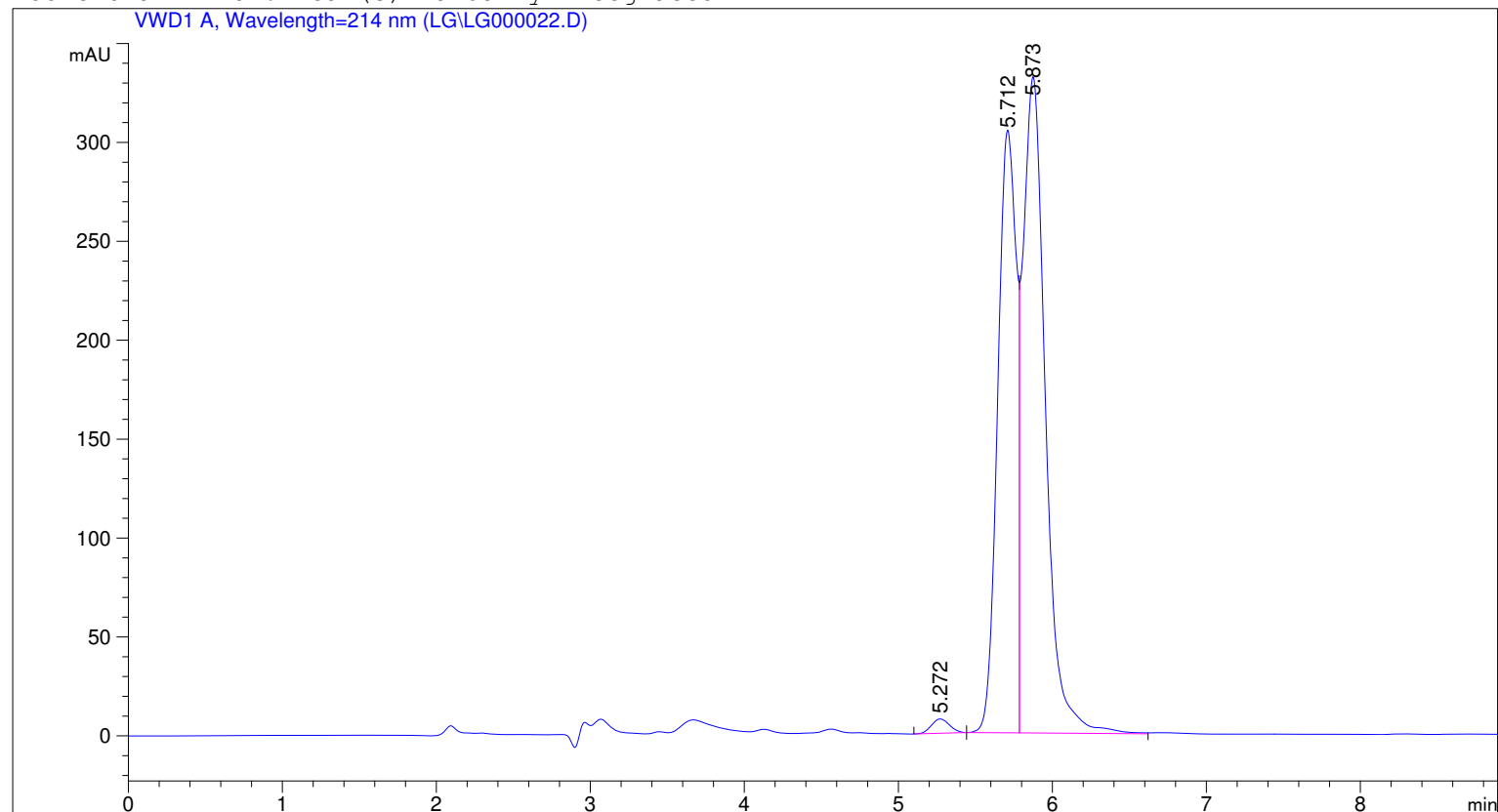
Acq. Operator : Gang Liu
Acq. Instrument : 仪器 1 Location : Vial 1
Injection Date : 8/31/2016 12:29:19 PM Inj Volume : 2.000 µl

Acq. Method : D:\METHODS\GANG LIU-SB-C18.M
Last changed : 8/31/2016 12:24:55 PM by Gang Liu
(modified after loading)

Analysis Method : D:\METHODS\GANG LIU-SB-C18.M
Last changed : 8/30/2016 4:19:09 PM by zhoulongfan
Method Info : Gang Liu

Sample Info : SB-C18, 0.5 ml/min, 2µl, 214 nm, Water: MeOH=5:95

Additional Info : Peak(s) manually integrated



=====

Area Percent Report

=====

Sorted By : Signal
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=214 nm

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	5.272	BB	0.1303	59.19155	7.23880	0.9827
2	5.712	BV	0.1283	2576.46533	303.06107	42.7754
3	5.873	VV	0.1545	3387.58887	330.45102	56.2419

Totals : 6023.24575 640.75089

=====

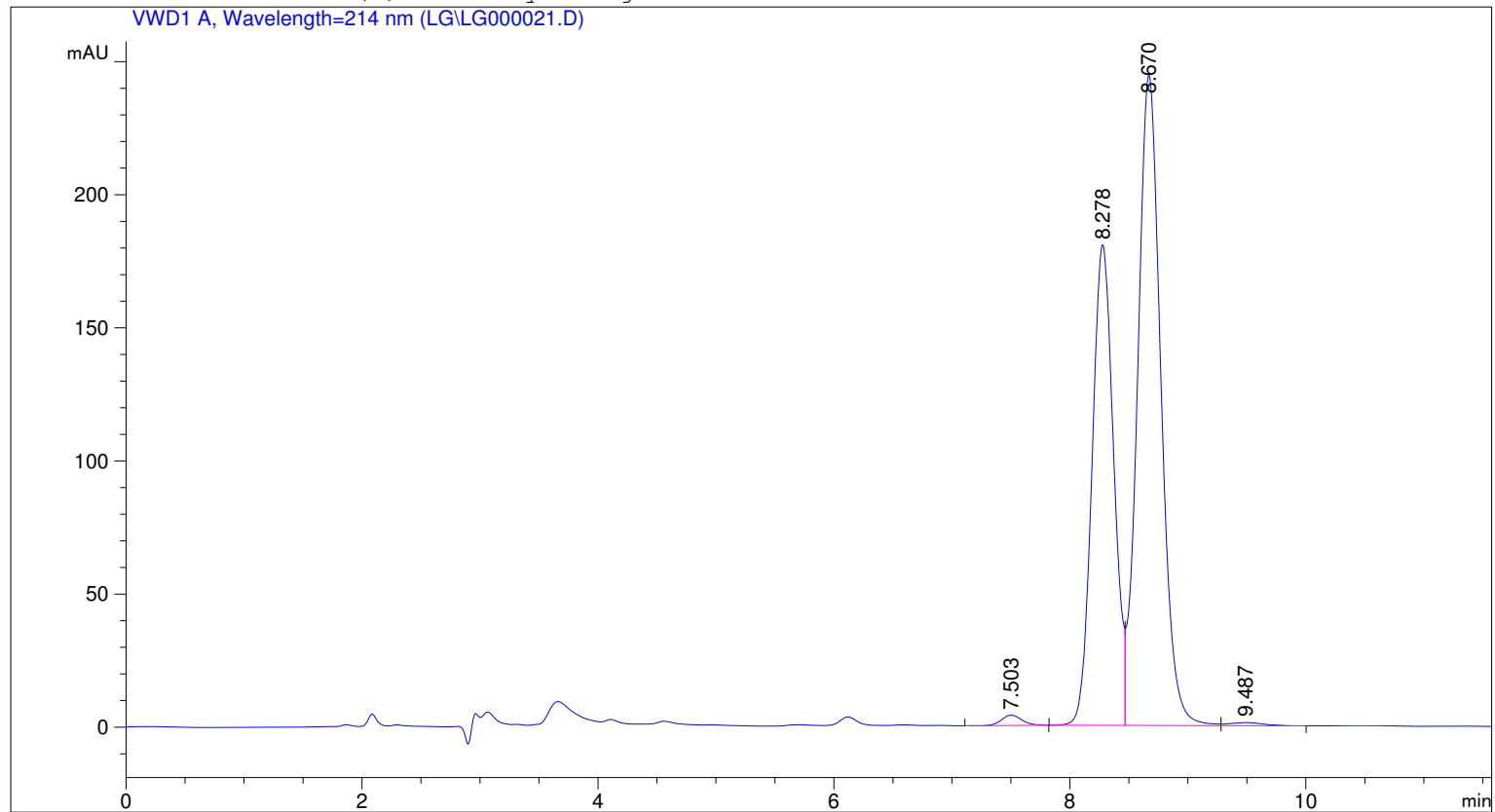
Sample Name: 7b

```
=====
Acq. Operator   : Gang Liu
Acq. Instrument : 仪器 1                      Location : Vial 1
Injection Date  : 8/31/2016 12:13:14 PM
                                           Inj Volume : 2.000 µl

Acq. Method     : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/31/2016 12:10:51 PM by Gang Liu
                  (modified after loading)
Analysis Method : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/31/2016 12:24:55 PM by Gang Liu
                  (modified after loading)
Method Info     : Gang Liu

Sample Info      : SB-C18, 0.5 ml/min, 2µl, 214 nm, Water: MeOH=5:95
=====
```

Additional Info : Peak(s) manually integrated



```
=====
                          Area Percent Report
=====
```

```
Sorted By           :      Signal
Multiplier:          :      1.0000
Dilution:            :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: VWD1 A, Wavelength=214 nm

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	7.503	BB	0.1863	46.62280	3.89239	0.8126
2	8.278	BV	0.2015	2302.61890	180.14957	40.1351
3	8.670	VV	0.2134	3364.13184	243.86938	58.6375
4	9.487	VB	0.2946	23.79747	1.20409	0.4148

```
Totals :                      5737.17100  429.11543
```

=====

*** End of Report ***

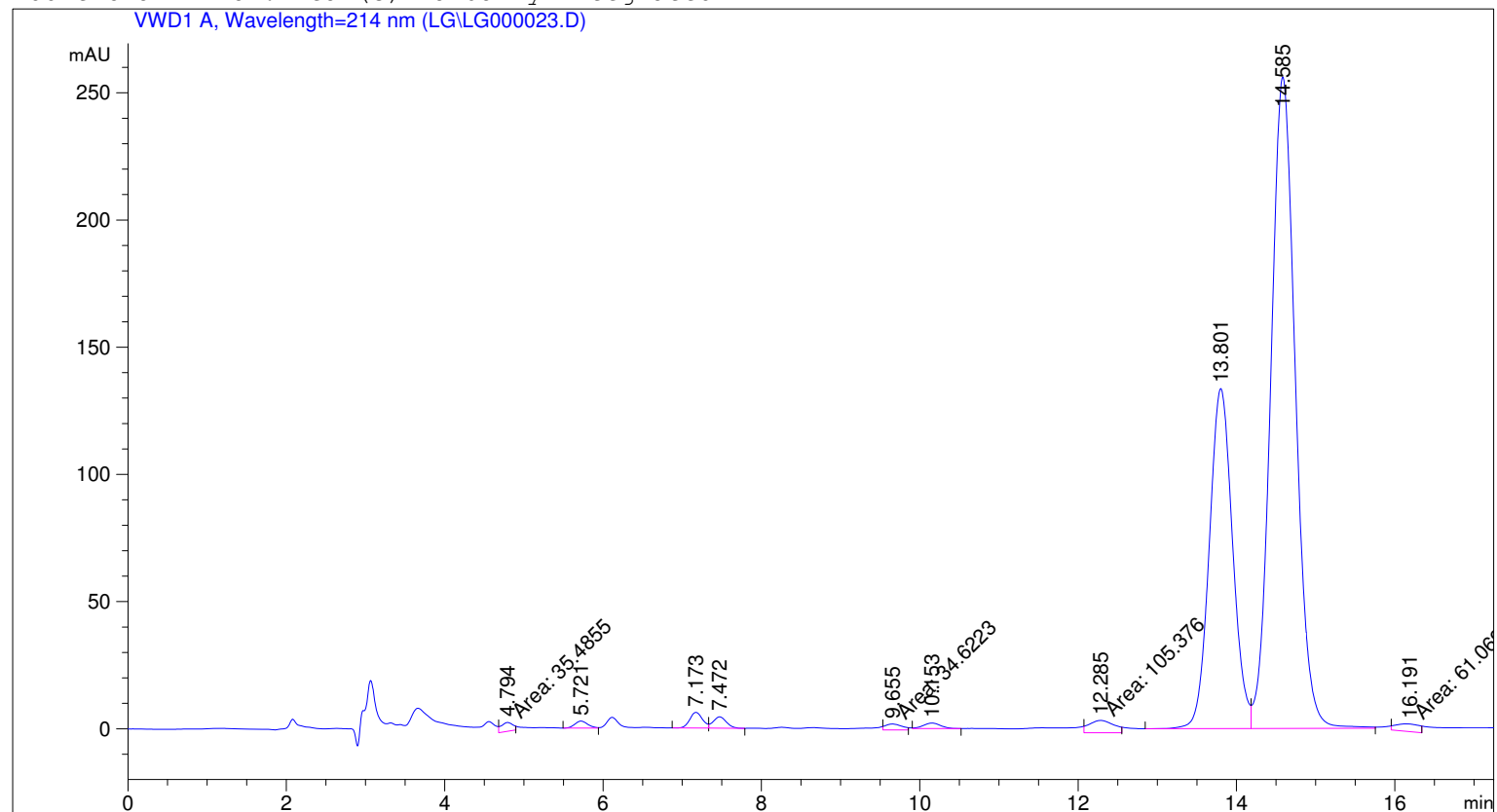
Sample Name: 7c

```
=====
Acq. Operator   : Gang Liu
Acq. Instrument : 仪器 1                      Location : Vial 1
Injection Date  : 8/31/2016 12:40:39 PM      Inj Volume : 2.000 µl

Acq. Method     : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/31/2016 12:38:16 PM by Gang Liu
                  (modified after loading)
Analysis Method : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/31/2016 12:57:59 PM by Gang Liu
                  (modified after loading)
Method Info     : Gang Liu

Sample Info      : SB-C18, 0.5 ml/min, 2µl, 214 nm, Water: MeOH=5:95
=====
```

Additional Info : Peak(s) manually integrated



```
=====
                          Area Percent Report
=====
```

```
Sorted By           :      Signal
Multiplier:          :      1.0000
Dilution:            :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: VWD1 A, Wavelength=214 nm

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	4.794	MM	0.1672	35.48547	3.53656	0.4086
2	5.721	BV	0.1734	31.17906	2.74316	0.3590
3	7.173	BV	0.1707	68.84745	6.17966	0.7927
4	7.472	VB	0.1767	51.69456	4.43844	0.5952
5	9.655	MM	0.2428	34.62228	2.37664	0.3986
6	10.153	VB	0.2348	32.99289	2.18025	0.3799
7	12.285	MM	0.3610	105.37637	4.86467	1.2133

Sample Name: 7c

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
8	13.801	BV	0.3205	2734.62207	133.53040	31.4856
9	14.585	VV	0.3337	5529.42480	255.84703	63.6641
10	16.191	MM	0.3385	61.06927	3.00682	0.7031

Totals : 8685.31423 418.70362

*** End of Report ***

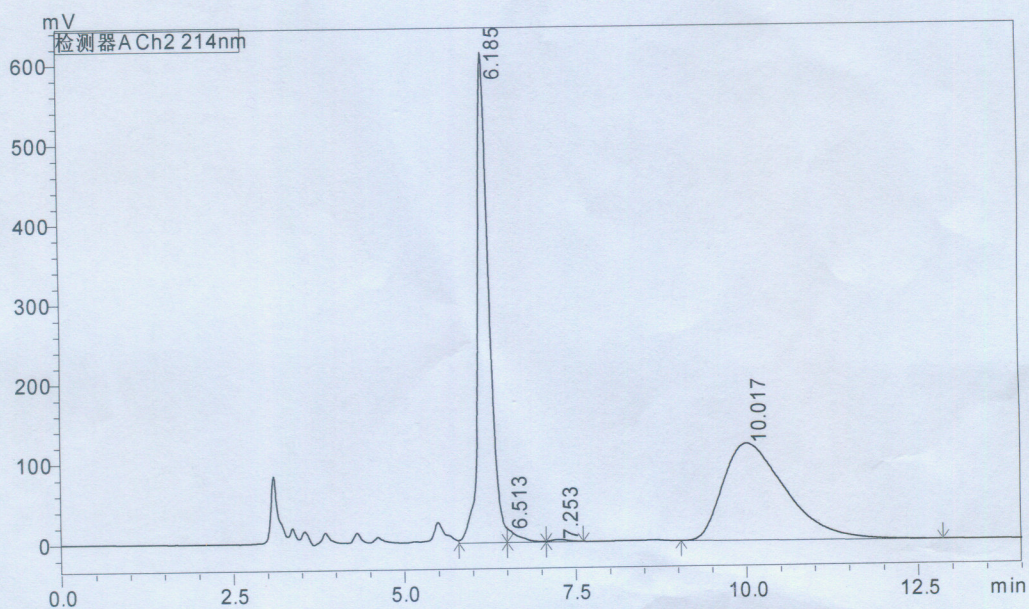


大赛璐鲁物手性技术(上海)有限公司
DAICEL CHIRAL TECHNOLOGIES (CHINA) CO., LTD.

CHIRAL CHROMATOGRAPHY REPORT

Column	: CHIRALPAK AD-H
Column size	: 0.46 cm I.D. × 25 cm L
Injection	: 5.0 ul
Mobile phase	: Hexane/EtOH=70/30(V/V)
Flow rate	: 1.0 ml/min
Wave length	: UV 214 nm
Temperature	: 35 °C
Sample name	: Raw Material

<Chromatogram>



<Column Performance Report>

Peak#	Ret. Time	Area	Area%	T.Plate#	Tailing.F	Resolution
1	6.185	7278373	48.000	6780	1.041	--
2	6.513	176809	1.166	--	--	--
3	7.253	44054	0.291	3922	--	--
4	10.017	7663979	50.543	548	1.561	2.542

Testing date: 2016/08/26

Tested by: Chen Wanying

Confirmed by: Xiang Qin

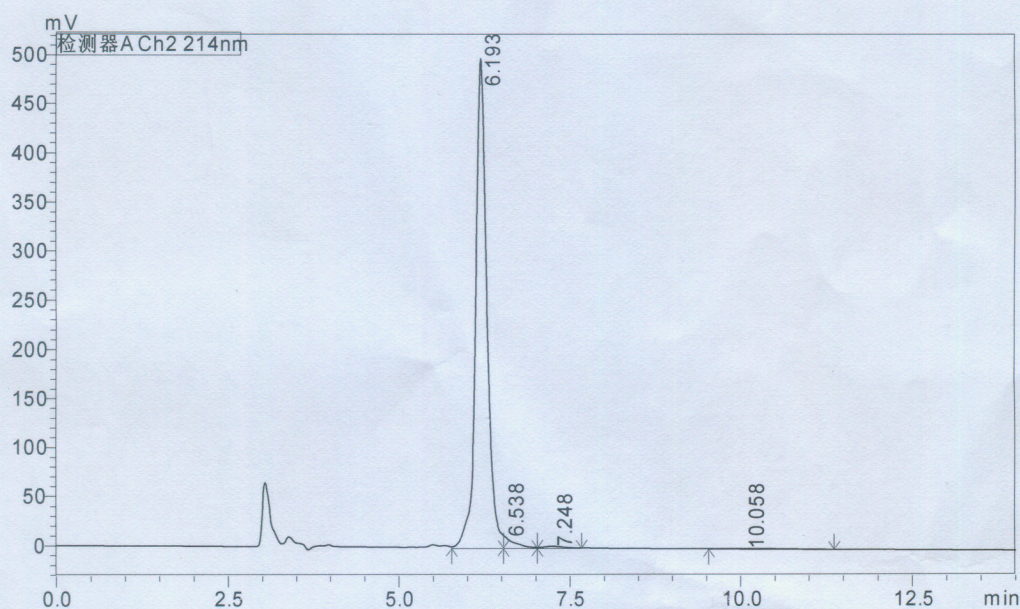


大赛璐药物手性技术(上海)有限公司
DAICEL CHIRAL TECHNOLOGIES (CHINA) CO., LTD.

CHIRAL CHROMATOGRAPHY REPORT

Column	: CHIRALPAK AD-H
Column size	: 0.46 cm I.D. × 25 cm L
Injection	: 5.0 ul
Mobile phase	: Hexane/EtOH=70/30(V/V)
Flow rate	: 1.0 ml/min
Wave length	: UV 214 nm
Temperature	: 35 °C
Sample name	: Peak 1

<Chromatogram>



<Column Performance Report>

Peak#	Ret. Time	Area	Area%	T.Plake#	Tailing.F	Resolution
1	6.193	5851404	96.571	6959	1.064	--
2	6.538	135540	2.237	--	--	--
3	7.248	45342	0.748	2587	--	--
4	10.058	26880	0.444	714	--	2.707

Testing date: 2016/08/26

Tested by: Chen Wanying

Confirmed by: Xiang Qin

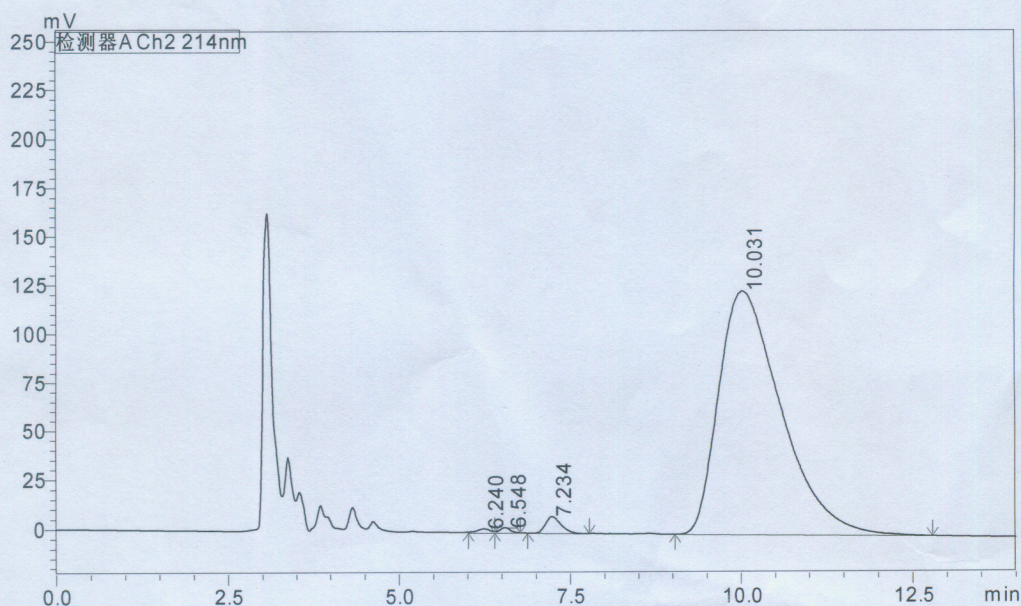


大赛璐药物手性技术(上海)有限公司
DAICEL CHIRAL TECHNOLOGIES (CHINA) CO., LTD.

CHIRAL CHROMATOGRAPHY REPORT

Column	: CHIRALPAK AD-H
Column size	: 0.46 cm I.D. × 25 cm L
Injection	: 10.0 ul
Mobile phase	: Hexane/EtOH=70/30(V/V)
Flow rate	: 1.0 ml/min
Wave length	: UV 214 nm
Temperature	: 35 °C
Sample name	: Peak 2

<Chromatogram>



<Column Performance Report>

Peak#	Ret. Time	Area	Area%	T.Plate#	Tailing.F	Resolution
1	6.240	28960	0.357	4265	--	--
2	6.548	27628	0.340	8593	--	0.927
3	7.234	131126	1.616	4676	1.315	1.943
4	10.031	7928851	97.687	578	1.561	2.675

Testing date: 2016/08/26

Tested by: Chen Wanying

Confirmed by: Xiang Qin

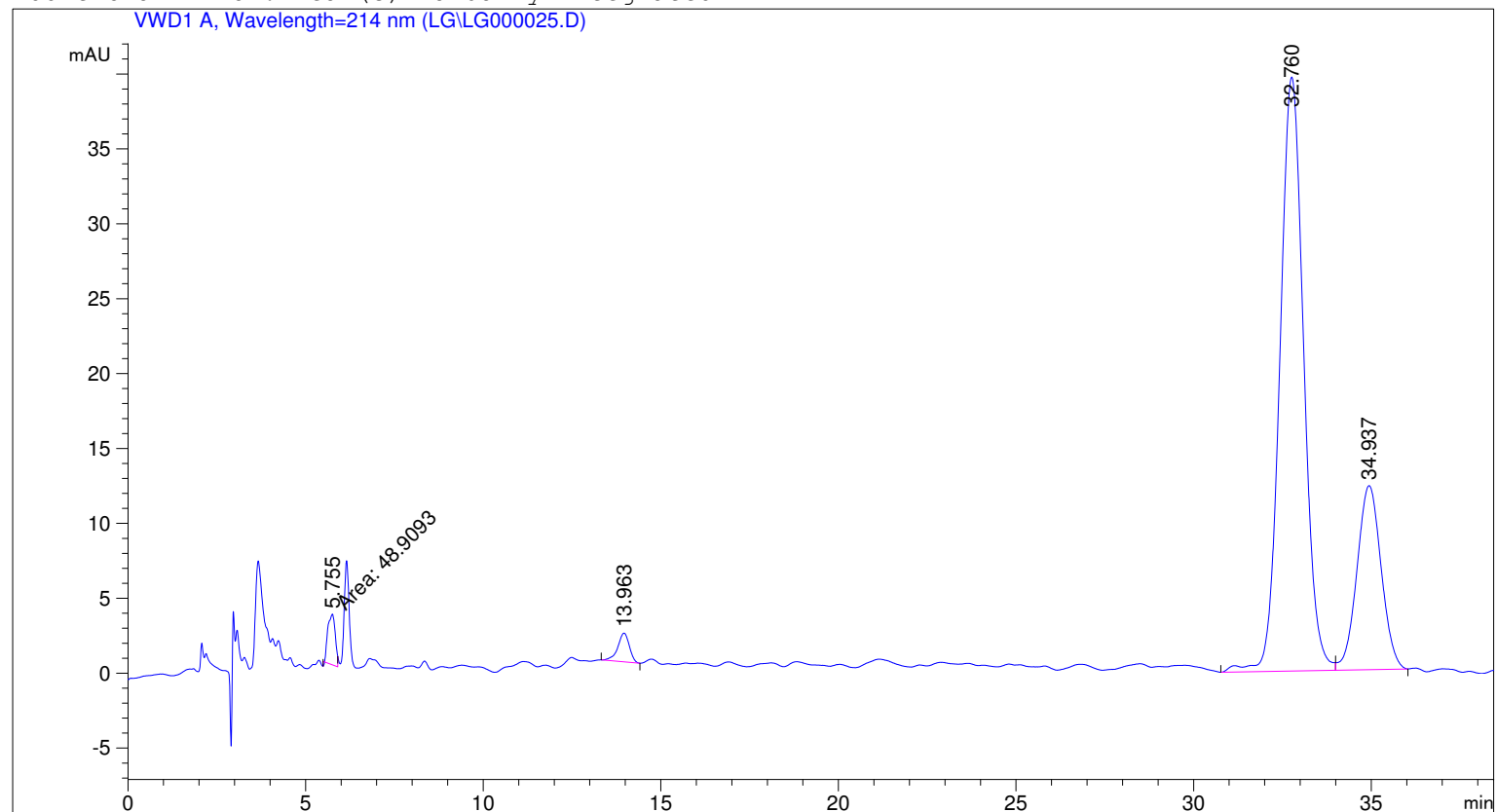
Sample Name: 7e

```
=====
Acq. Operator   : Gang Liu
Acq. Instrument : 仪器 1                      Location : Vial 1
Injection Date  : 8/31/2016 1:30:12 PM
                                           Inj Volume : 2.000 µl

Acq. Method     : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/31/2016 1:27:26 PM by Gang Liu
                  (modified after loading)
Analysis Method : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/31/2016 2:08:44 PM by Gang Liu
                  (modified after loading)
Method Info     : Gang Liu

Sample Info      : SB-C18, 0.5 ml/min, 2µl, 214 nm, Water: MeOH=5:95
=====
```

Additional Info : Peak(s) manually integrated



```
=====
                        Area Percent Report
=====
```

```
Sorted By           :      Signal
Multiplier:          :      1.0000
Dilution:            :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: VWD1 A, Wavelength=214 nm

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	5.755	MM	0.2410	48.90929	3.38220	1.9442
2	13.963	BB	0.3510	43.23640	1.91364	1.7187
3	32.760	BV	0.7162	1840.18909	39.64605	73.1478
4	34.937	VB	0.7406	583.37793	12.28098	23.1894

```
Totals :                      2515.71271    57.22287
```


=====

*** End of Report ***

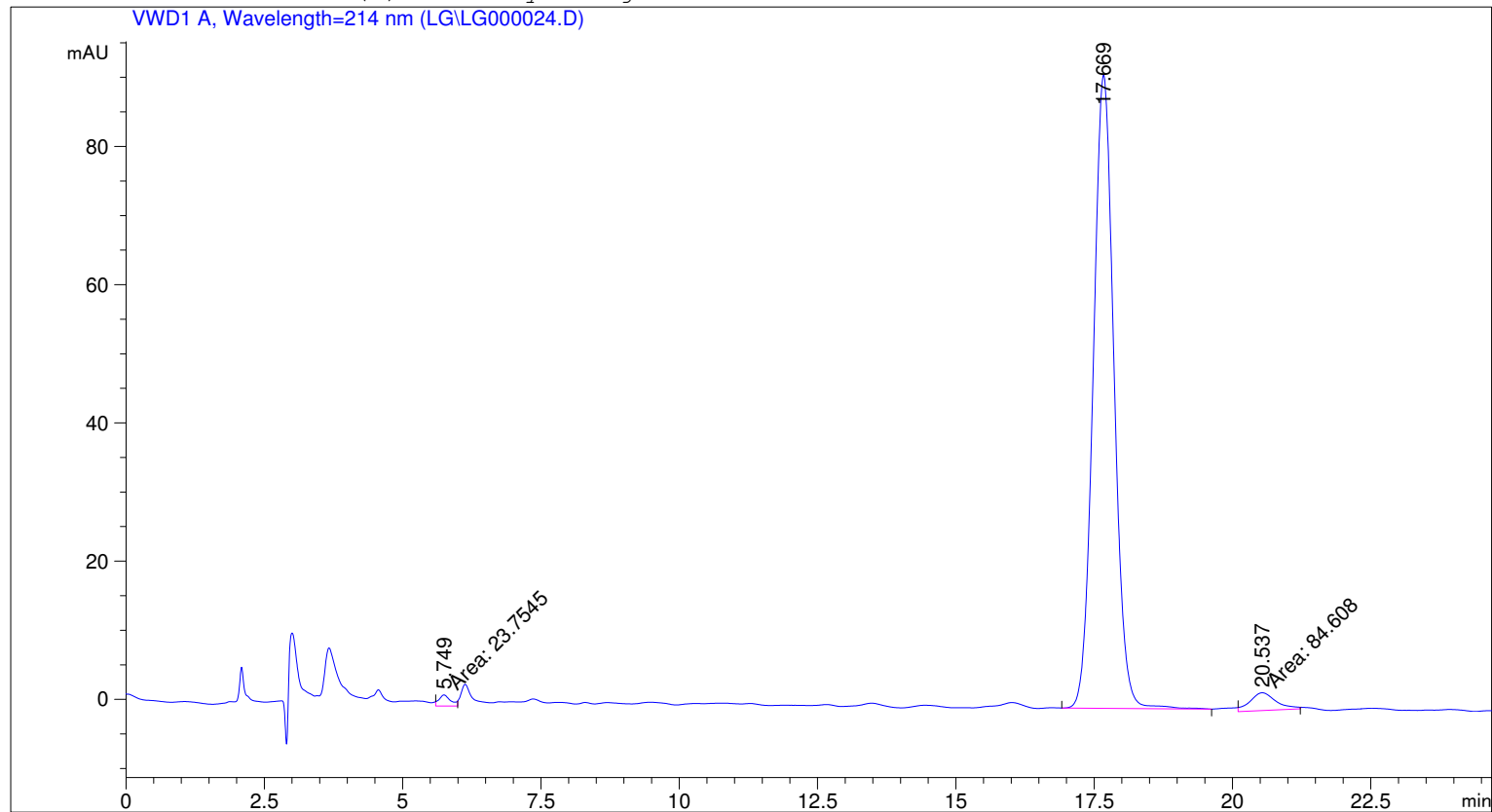
Sample Name: 7f

```
=====
Acq. Operator   : Gang Liu
Acq. Instrument : 仪器 1                      Location : Vial 1
Injection Date  : 8/31/2016 1:02:38 PM
                                           Inj Volume : 2.000 µl

Acq. Method     : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/31/2016 12:57:59 PM by Gang Liu
                  (modified after loading)
Analysis Method : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/31/2016 1:27:26 PM by Gang Liu
                  (modified after loading)
Method Info     : Gang Liu

Sample Info     : SB-C18, 0.5 ml/min, 2µl, 214 nm, Water: MeOH=5:95
=====
```

Additional Info : Peak(s) manually integrated



```
=====
                          Area Percent Report
=====
```

```
Sorted By           :      Signal
Multiplier:          :      1.0000
Dilution:            :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: VWD1 A, Wavelength=214 nm

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	5.749	MM	0.2439	23.75447	1.62352	0.9527
2	17.669	BB	0.4029	2385.07471	91.57438	95.6541
3	20.537	MM	0.5475	84.60802	2.57546	3.3932

```
Totals :                      2493.43720    95.77336
```

=====

*** End of Report ***

Sample Name: 13

=====

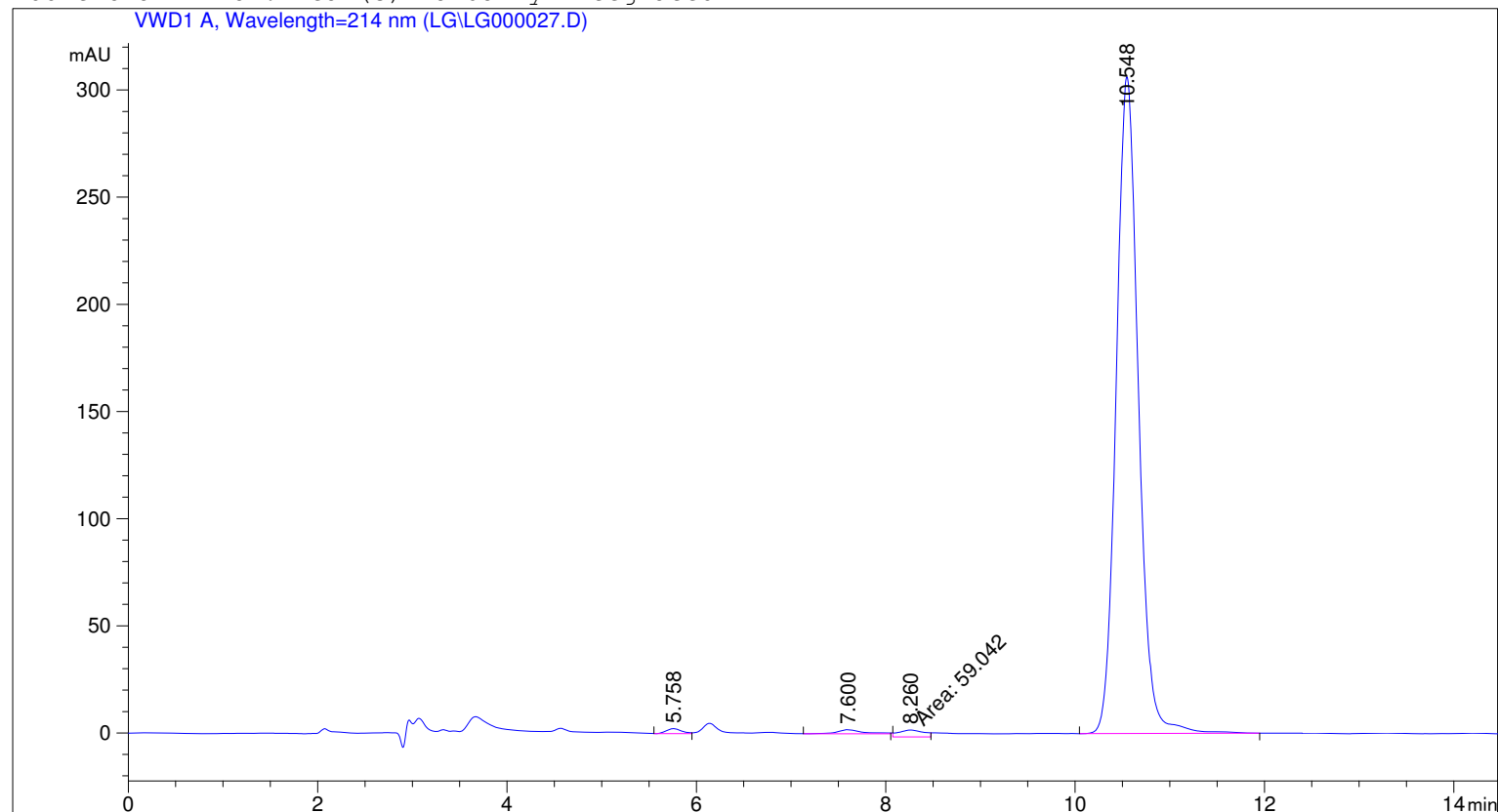
Acq. Operator : Gang Liu
Acq. Instrument : 仪器 1 Location : Vial 1
Injection Date : 8/31/2016 2:28:53 PM Inj Volume : 2.000 µl

Acq. Method : D:\METHODS\GANG LIU-SB-C18.M
Last changed : 8/31/2016 2:23:40 PM by Gang Liu
(modified after loading)

Analysis Method : D:\METHODS\GANG LIU-SB-C18.M
Last changed : 8/30/2016 4:19:09 PM by zhoulongfan
Method Info : Gang Liu

Sample Info : SB-C18, 0.5 ml/min, 2µl, 214 nm, Water: MeOH=5:95

Additional Info : Peak(s) manually integrated



=====

Area Percent Report

=====

Sorted By : Signal
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=214 nm

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	5.758	BV	0.1740	27.17901	2.38002	0.5323
2	7.600	BV	0.2594	35.49228	1.94606	0.6951
3	8.260	MM	0.3090	59.04195	3.18459	1.1563
4	10.548	BB	0.2541	4984.35693	305.98889	97.6163

Totals : 5106.07017 313.49956

=====

*** End of Report ***

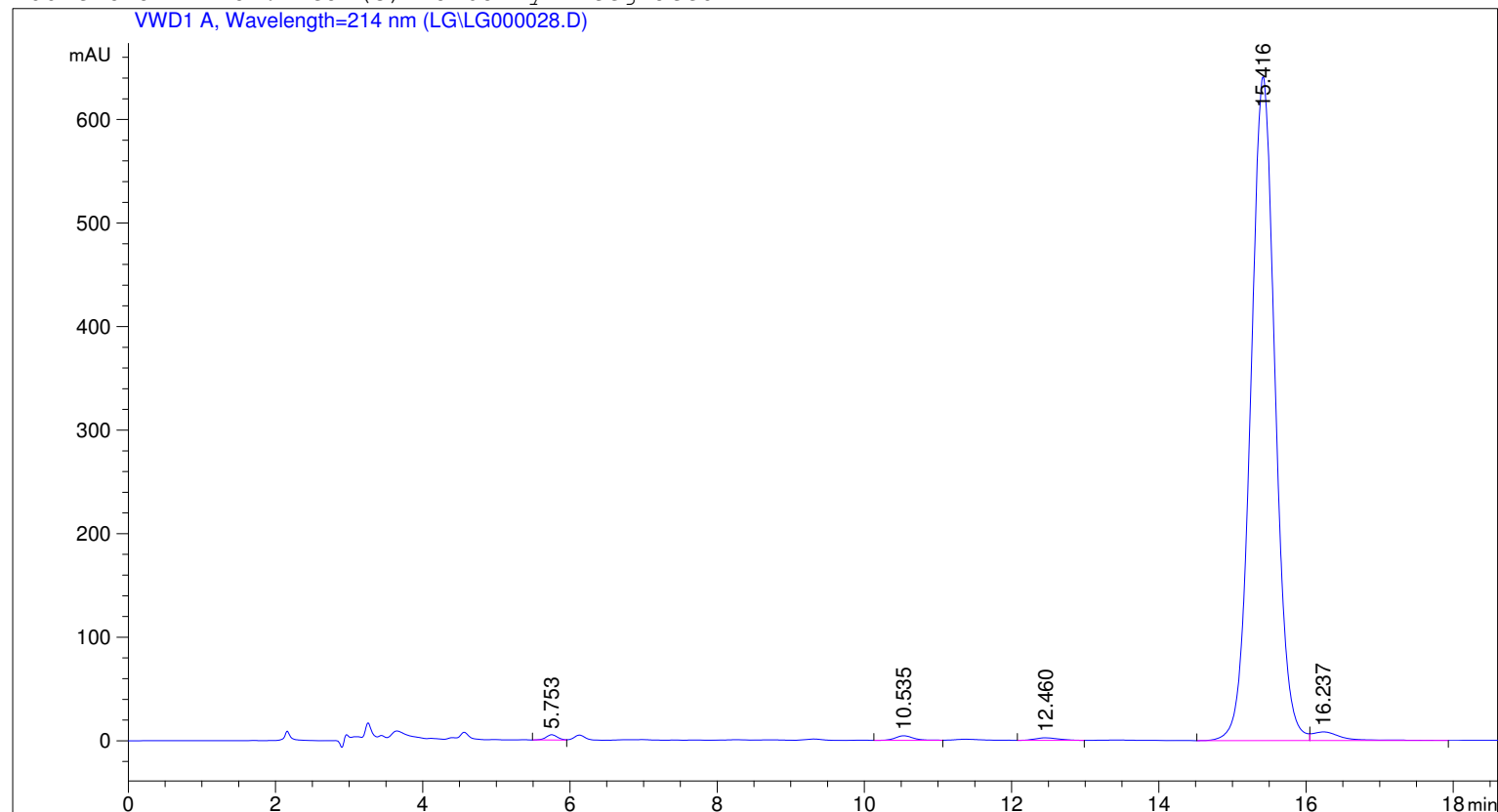
Sample Name: 14

```
=====
Acq. Operator   : Gang Liu
Acq. Instrument : 仪器 1                      Location : Vial 1
Injection Date  : 8/31/2016 2:44:54 PM
                                           Inj Volume : 2.000 µl

Acq. Method     : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/31/2016 2:43:26 PM by Gang Liu
                  (modified after loading)
Analysis Method : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/30/2016 4:19:09 PM by zhoulongfan
Method Info     : Gang Liu

Sample Info      : SB-C18, 0.5 ml/min, 2µl, 214 nm, Water: MeOH=5:95
=====
```

Additional Info : Peak(s) manually integrated



```
=====
                          Area Percent Report
=====
```

```
Sorted By           :      Signal
Multiplier:         :      1.0000
Dilution:           :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: VWD1 A, Wavelength=214 nm

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	5.753	BV	0.1666	55.41055	5.13863	0.3667
2	10.535	BV	0.2640	74.95151	4.37334	0.4960
3	12.460	VB	0.3386	53.13723	2.41164	0.3516
4	15.416	BV	0.3550	1.46961e4	640.56549	97.2482
5	16.237	VB	0.4061	232.35097	8.35266	1.5375

```
Totals :                      1.51120e4    660.84176
```

=====

*** End of Report ***

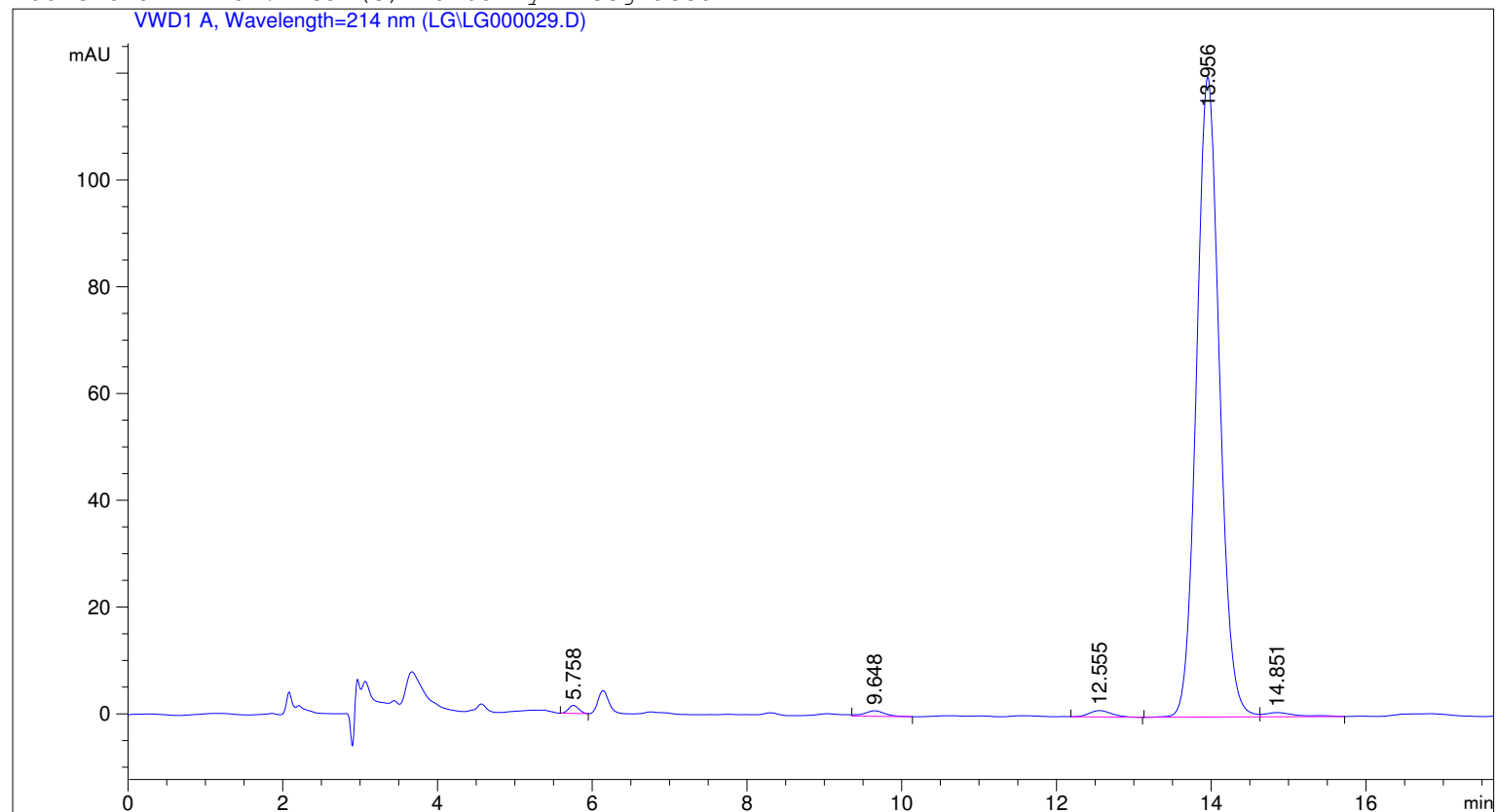
Sample Name: 14'

```
=====
Acq. Operator   : Gang Liu
Acq. Instrument : 仪器 1                      Location : Vial 1
Injection Date  : 8/31/2016 3:05:02 PM
                                           Inj Volume : 2.000 µl

Acq. Method     : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/31/2016 3:03:36 PM by Gang Liu
                  (modified after loading)
Analysis Method : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/31/2016 3:22:45 PM by Gang Liu
                  (modified after loading)
Method Info     : Gang Liu

Sample Info      : SB-C18, 0.5 ml/min, 2µl, 214 nm, Water: MeOH=5:95
=====
```

Additional Info : Peak(s) manually integrated



```
=====
                          Area Percent Report
=====
```

```
Sorted By           :      Signal
Multiplier:         :      1.0000
Dilution:           :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: VWD1 A, Wavelength=214 nm

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	5.758	VB	0.1496	14.00110	1.50136	0.5483
2	9.648	VB	0.2775	19.55137	1.04016	0.7657
3	12.555	BB	0.3090	23.67988	1.18447	0.9273
4	13.956	BV	0.3225	2474.17969	119.79324	96.8920
5	14.851	VB	0.3972	22.13225	7.88975e-1	0.8667

```
Totals :                      2553.54429  124.30820
```

=====
*** End of Report ***

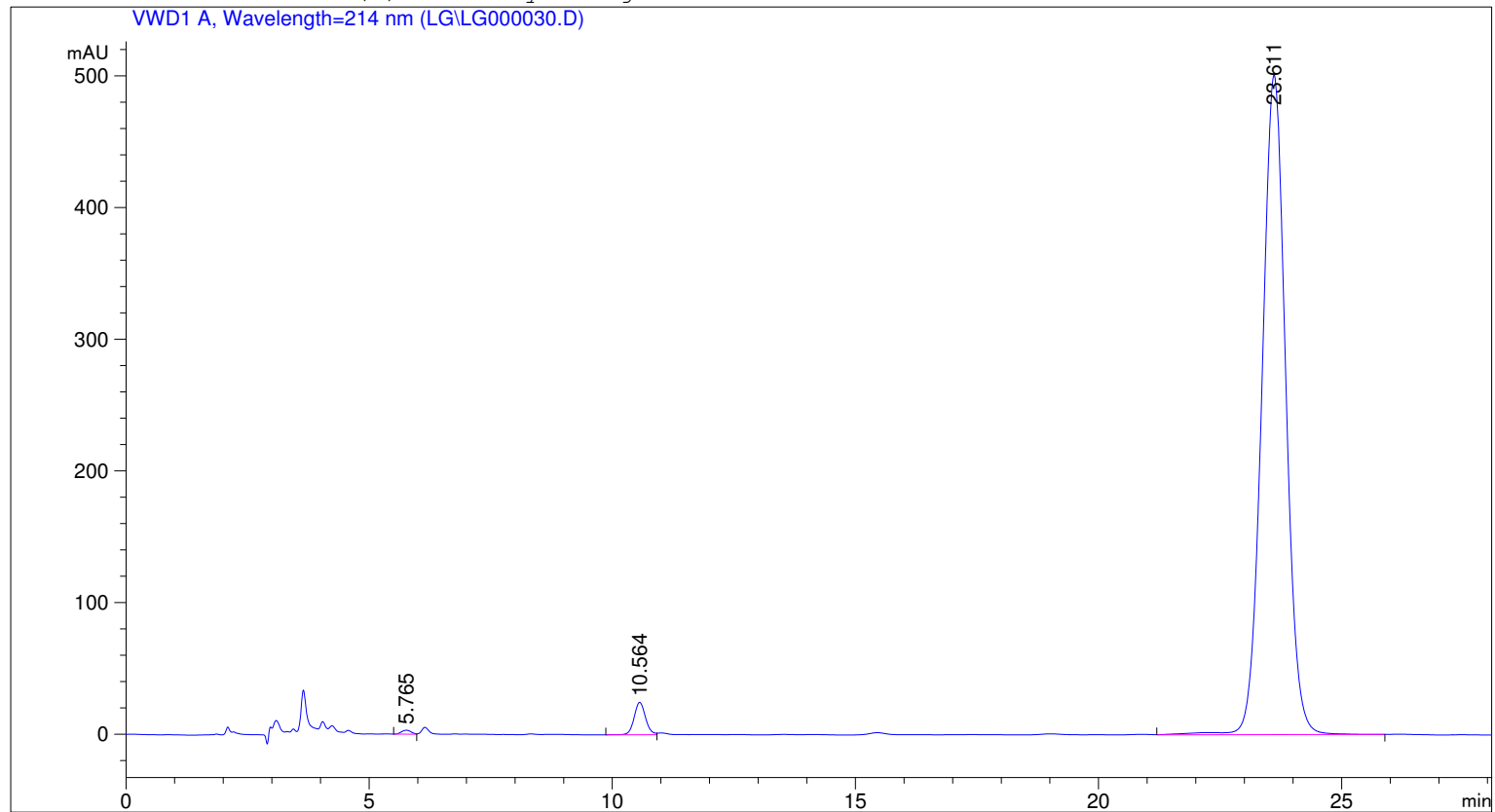
Sample Name: 15

```
=====
Acq. Operator   : Gang Liu
Acq. Instrument : 仪器 1                      Location : Vial 1
Injection Date  : 8/31/2016 3:25:56 PM
                                           Inj Volume : 2.000 µl

Acq. Method     : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/31/2016 3:22:45 PM by Gang Liu
                  (modified after loading)
Analysis Method : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/31/2016 3:54:06 PM by Gang Liu
                  (modified after loading)
Method Info     : Gang Liu

Sample Info      : SB-C18, 0.5 ml/min, 2µl, 214 nm, Water: MeOH=5:95
=====
```

Additional Info : Peak(s) manually integrated



```
=====
                        Area Percent Report
=====
```

```
Sorted By           :      Signal
Multiplier:         :      1.0000
Dilution:           :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: VWD1 A, Wavelength=214 nm

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	5.765	BV	0.2240	41.28980	3.01174	0.2369
2	10.564	BV	0.2478	399.40445	24.57932	2.2917
3	23.611	VB	0.5239	1.69875e4	500.73096	97.4714

```
Totals :                      1.74282e4  528.32202
```

=====

*** End of Report ***

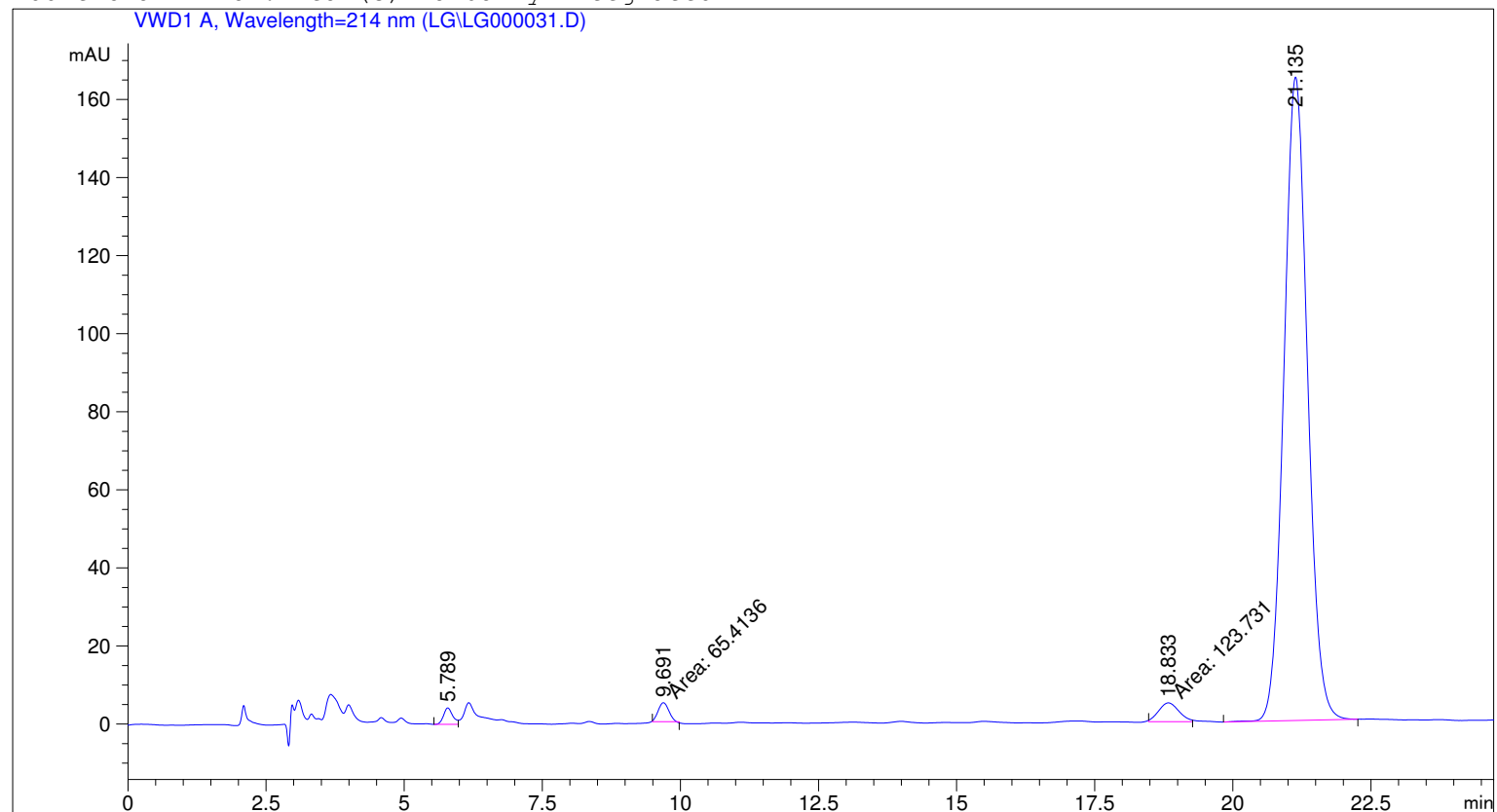
Sample Name: 15'

```
=====
Acq. Operator   : Gang Liu
Acq. Instrument : 仪器 1                      Location : Vial 1
Injection Date  : 8/31/2016 3:56:38 PM
                                           Inj Volume : 2.000 µl

Acq. Method     : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/31/2016 3:54:06 PM by Gang Liu
                  (modified after loading)
Analysis Method : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/31/2016 4:21:26 PM by Gang Liu
                  (modified after loading)
Method Info     : Gang Liu

Sample Info      : SB-C18, 0.5 ml/min, 2µl, 214 nm, Water: MeOH=5:95
=====
```

Additional Info : Peak(s) manually integrated



```
=====
                          Area Percent Report
=====
```

```
Sorted By           :      Signal
Multiplier:          :      1.0000
Dilution:            :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: VWD1 A, Wavelength=214 nm

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	5.789	BV	0.1758	48.40520	4.18093	0.9430
2	9.691	MM	0.2224	65.41364	4.90304	1.2743
3	18.833	MM	0.4263	123.73070	4.83694	2.4104
4	21.135	BB	0.4631	4895.55273	164.78709	95.3722

```
Totals :                      5133.10228  178.70801
```

=====

*** End of Report ***

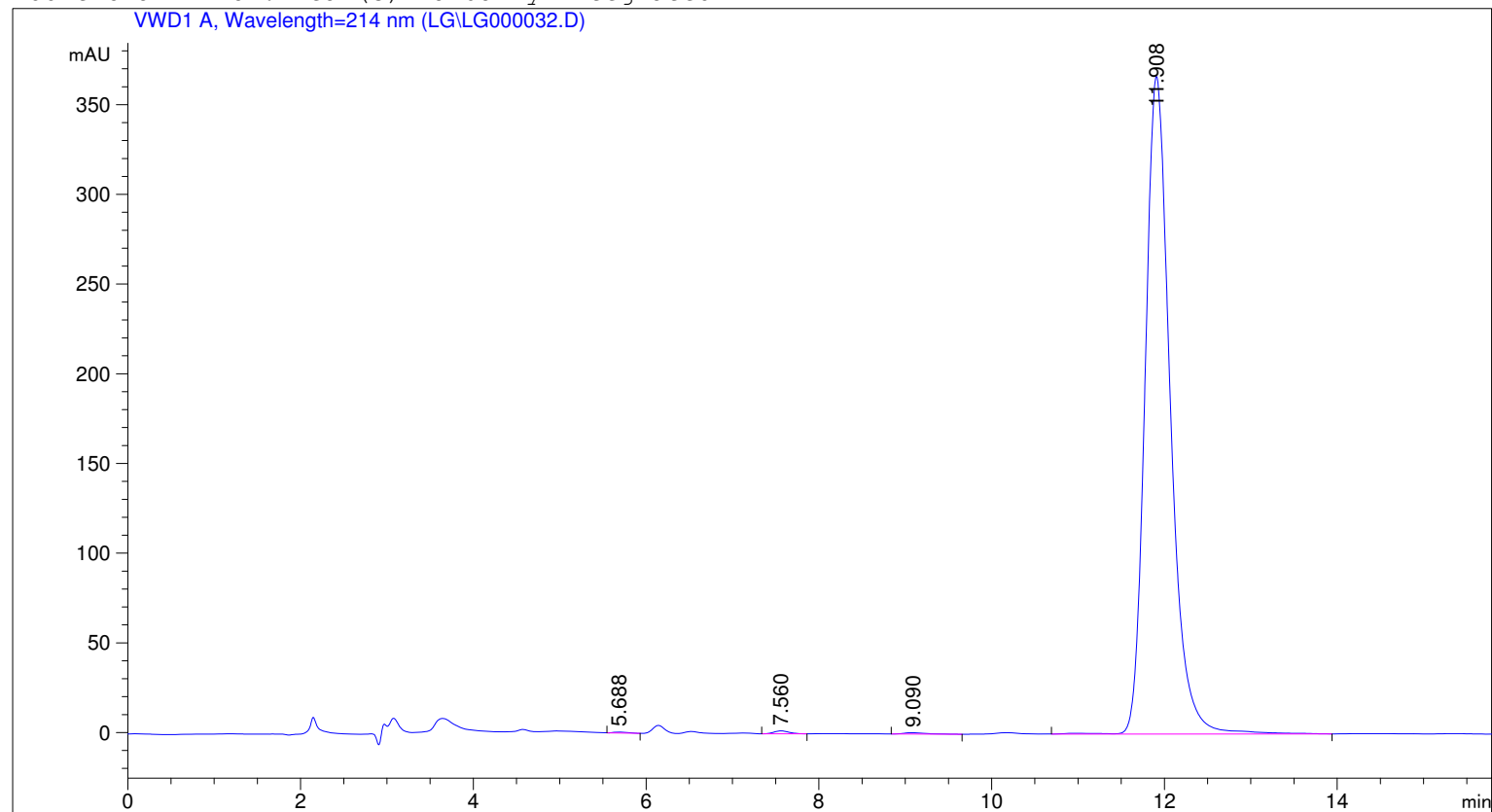
Sample Name: 18a

```
=====
Acq. Operator   : Gang Liu
Acq. Instrument : 仪器 1                      Location : Vial 1
Injection Date  : 8/31/2016 4:24:24 PM
                                           Inj Volume : 2.000 µl

Acq. Method     : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/31/2016 4:21:26 PM by Gang Liu
                  (modified after loading)
Analysis Method : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/30/2016 4:19:09 PM by zhoulongfan
Method Info     : Gang Liu

Sample Info      : SB-C18, 0.5 ml/min, 2µl, 214 nm, Water: MeOH=5:95
=====
```

Additional Info : Peak(s) manually integrated



```
=====
                        Area Percent Report
=====
```

```
Sorted By           :      Signal
Multiplier:         :      1.0000
Dilution:           :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: VWD1 A, Wavelength=214 nm

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	5.688	BB	0.1776	6.48229	5.77296e-1	0.0870
2	7.560	BB	0.1957	20.34134	1.65647	0.2729
3	9.090	BB	0.2592	13.25023	7.69337e-1	0.1778
4	11.908	VB	0.3118	7412.57764	366.25162	99.4623

```
Totals :                      7452.65151  369.25472
```

=====

*** End of Report ***

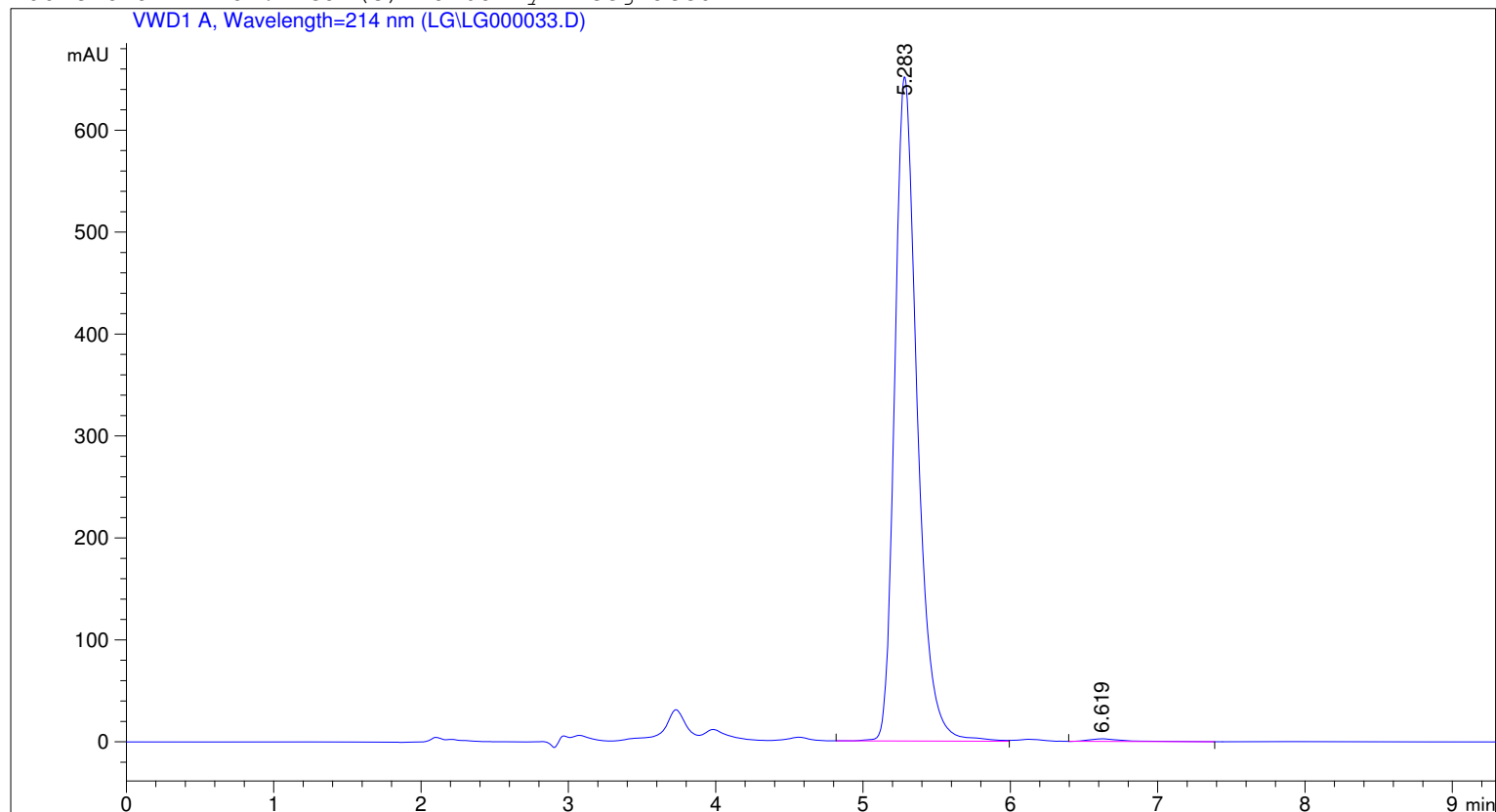
Sample Name: 18b

```
=====
Acq. Operator   : Gang Liu
Acq. Instrument : 仪器 1                      Location : Vial 1
Injection Date  : 8/31/2016 4:41:39 PM
                                           Inj Volume : 2.000 µl

Acq. Method     : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/31/2016 4:40:15 PM by Gang Liu
                  (modified after loading)
Analysis Method : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/30/2016 4:19:09 PM by zhoulongfan
Method Info     : Gang Liu

Sample Info      : SB-C18, 0.5 ml/min, 2µl, 214 nm, Water: MeOH=5:95
=====
```

Additional Info : Peak(s) manually integrated



```
=====
                        Area Percent Report
=====
```

```
Sorted By           :      Signal
Multiplier:          :      1.0000
Dilution:            :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: VWD1 A, Wavelength=214 nm

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	5.283	BV	0.1654	6926.60938	648.63525	99.3978
2	6.619	VB	0.2324	41.96500	2.63558	0.6022

```
Totals :                      6968.57438  651.27084
```

```
=====
*** End of Report ***
```

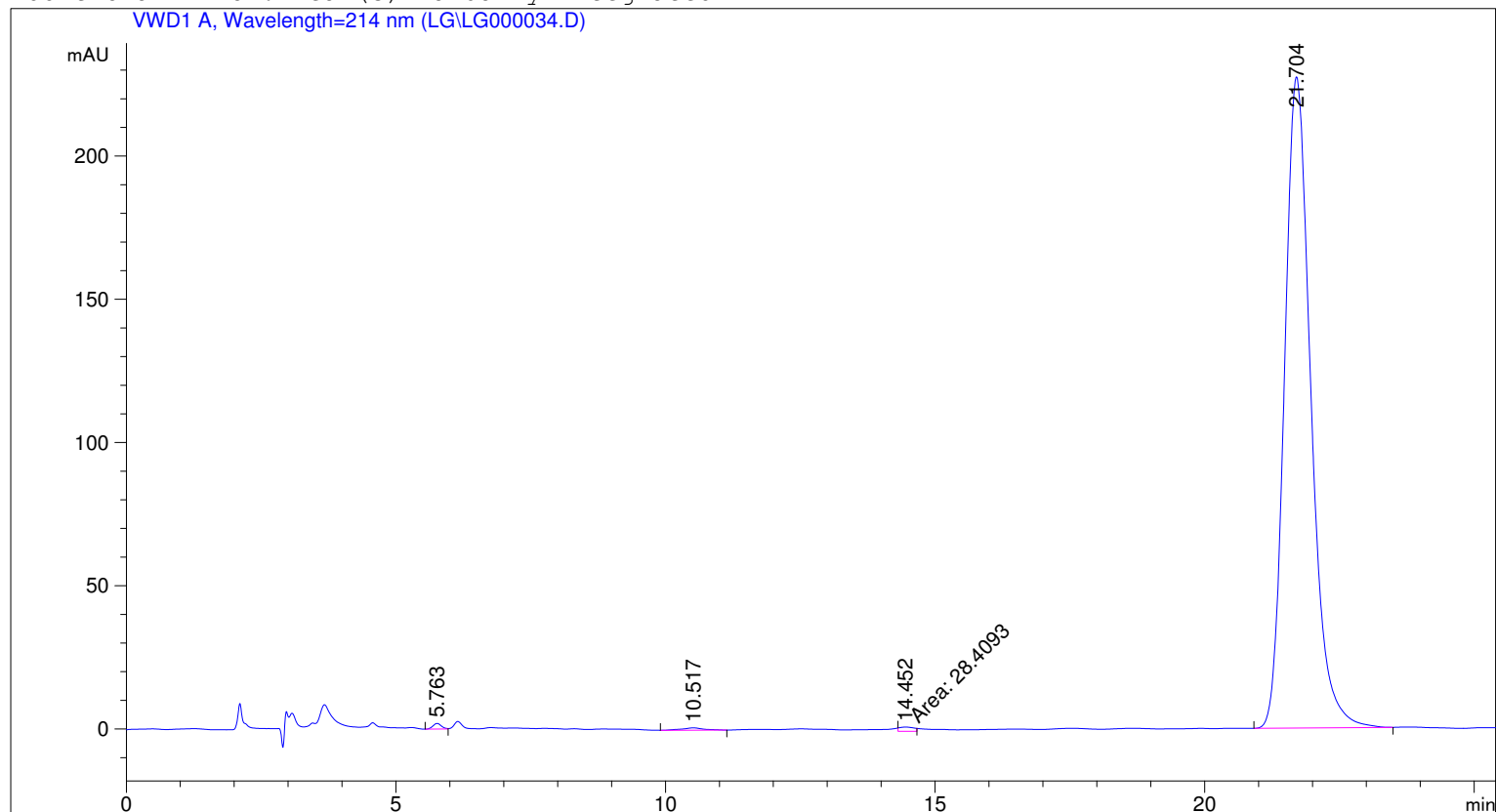
Sample Name: 18c

```
=====
Acq. Operator   : Gang Liu
Acq. Instrument : 仪器 1                      Location : Vial 1
Injection Date  : 8/31/2016 4:52:22 PM
                                           Inj Volume : 2.000 µl

Acq. Method     : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/31/2016 4:51:02 PM by Gang Liu
                  (modified after loading)
Analysis Method : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/30/2016 4:19:09 PM by zhoulongfan
Method Info     : Gang Liu

Sample Info      : SB-C18, 0.5 ml/min, 2µl, 214 nm, Water: MeOH=5:95
=====
```

Additional Info : Peak(s) manually integrated



```
=====
                          Area Percent Report
=====
```

```
Sorted By           :      Signal
Multiplier:          :      1.0000
Dilution:            :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: VWD1 A, Wavelength=214 nm

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	5.763	BV	0.1694	21.57109	1.95581	0.2777
2	10.517	BB	0.3992	23.82213	8.29210e-1	0.3067
3	14.452	MM	0.3147	28.40934	1.50464	0.3657
4	21.704	BB	0.5231	7693.86523	227.25076	99.0499

```
Totals :                      7767.66780  231.54042
```

=====

*** End of Report ***

Sample Name: 22

=====

Acq. Operator : Gang Liu

Location : Vial 1

Injection Date : 8/31/2016 5:53:07 PM

Acq. Method : GANG LIU-SB-C18.M

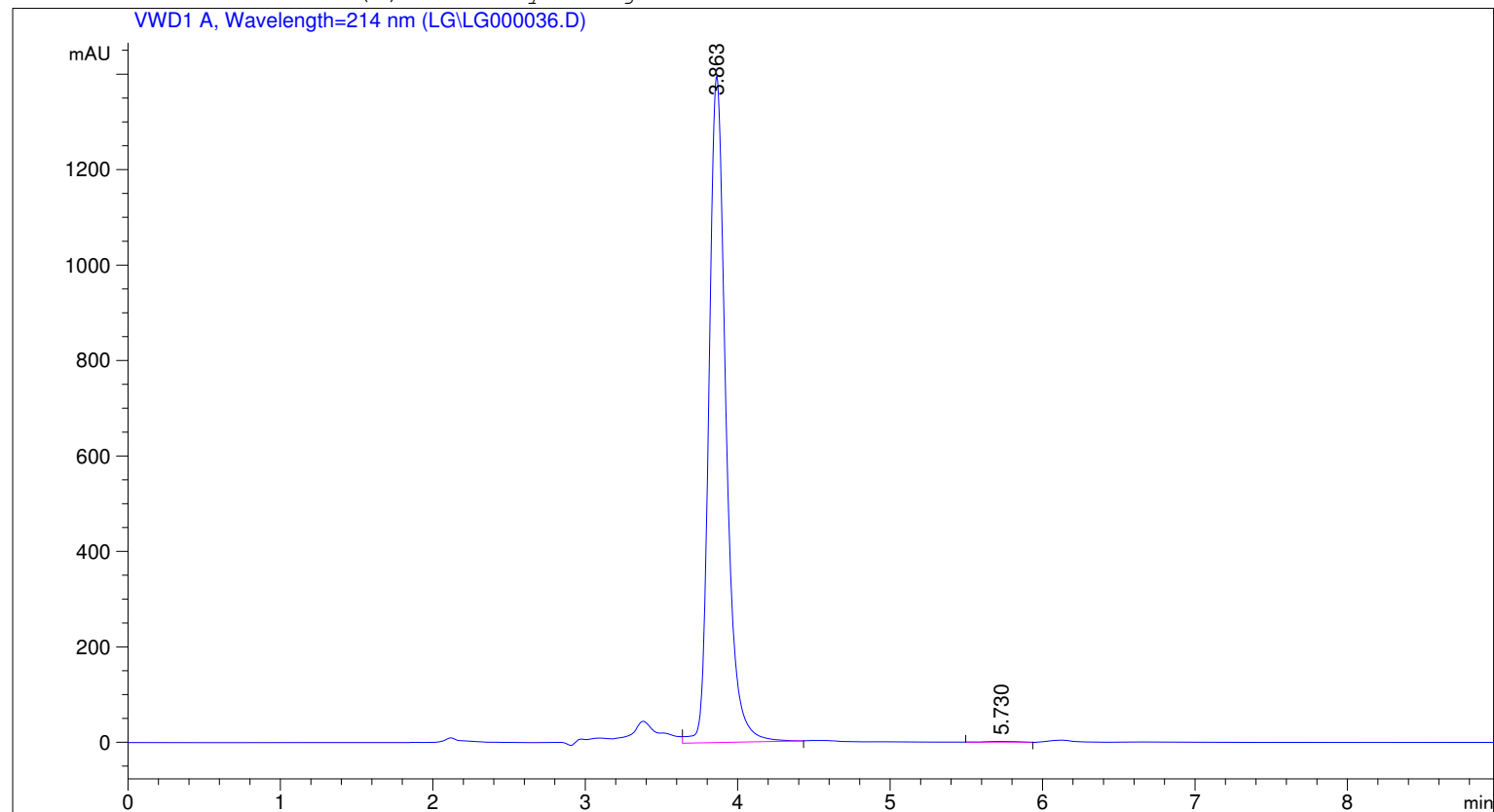
Analysis Method : D:\METHODS\GANG LIU-SB-C18.M

Last changed : 8/30/2016 4:19:09 PM by zhoulongfan

Method Info : Gang Liu

Sample Info : SB-C18, 0.5 ml/min, 2ul, 214 nm, Water: MeOH=5:95

Additional Info : Peak(s) manually integrated



=====

Area Percent Report

=====

Sorted By : Signal

Multiplier: : 1.0000

Dilution: : 1.0000

Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=214 nm

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	3.863	VB	0.1262	1.08021e4	1380.31287	99.8314
2	5.730	BB	0.1602	18.24042	1.78168	0.1686

Totals : 1.08203e4 1382.09455

=====

*** End of Report ***

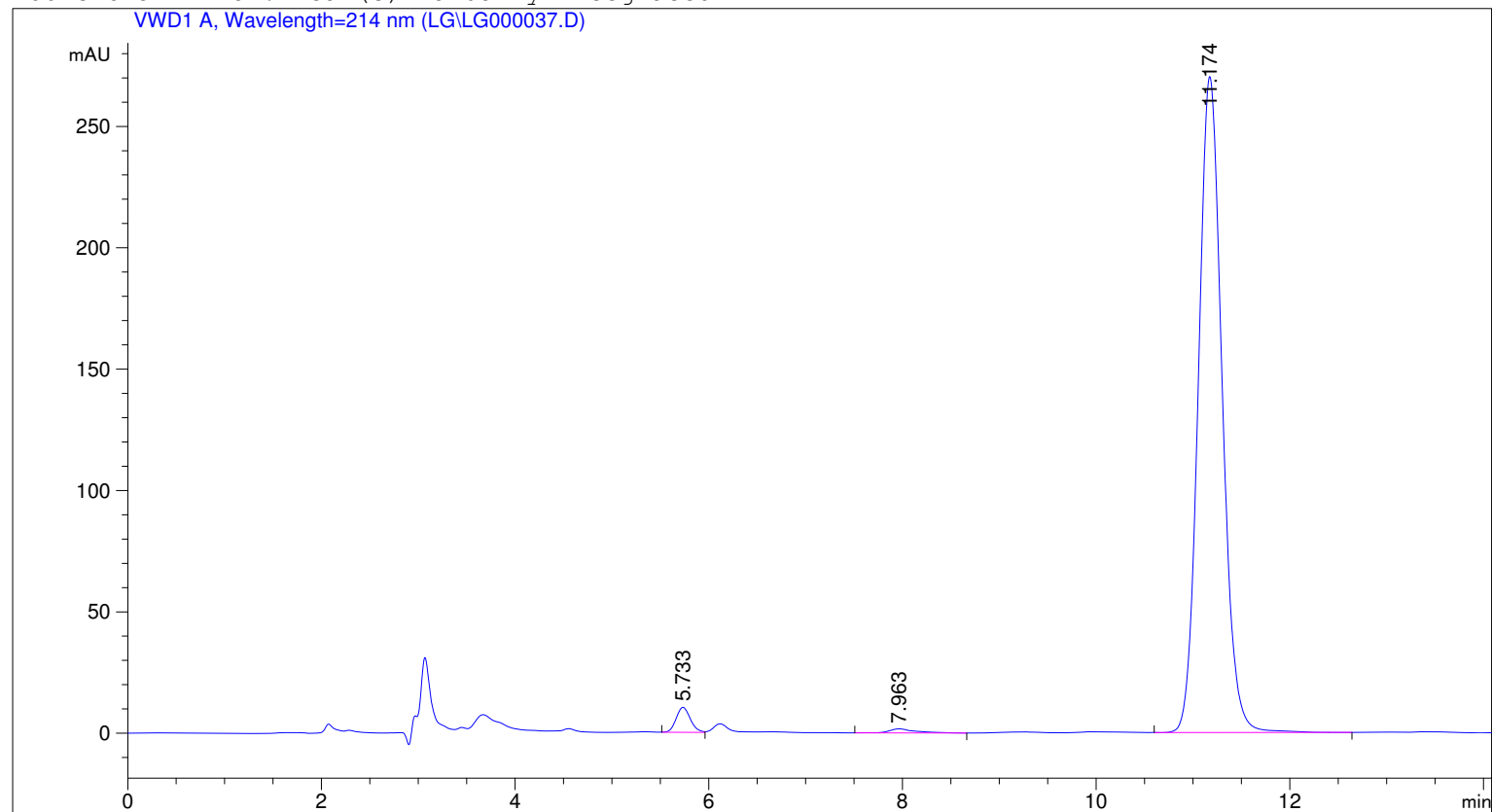
Sample Name: 23

```
=====
Acq. Operator   : Gang Liu
Acq. Instrument : 仪器 1                      Location : Vial 1
Injection Date  : 8/31/2016 6:03:27 PM
                                           Inj Volume : 2.000 µl

Acq. Method     : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/31/2016 6:02:09 PM by Gang Liu
                  (modified after loading)
Analysis Method : D:\METHODS\GANG LIU-SB-C18.M
Last changed    : 8/30/2016 4:19:09 PM by zhoulongfan
Method Info     : Gang Liu

Sample Info      : SB-C18, 0.5 ml/min, 2µl, 214 nm, Water: MeOH=5:95
=====
```

Additional Info : Peak(s) manually integrated



```
=====
                        Area Percent Report
=====
```

```
Sorted By           :      Signal
Multiplier:         :      1.0000
Dilution:           :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: VWD1 A, Wavelength=214 nm

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	5.733	BV	0.1583	103.29018	10.25034	2.1907
2	7.963	BB	0.2644	31.75657	1.70071	0.6735
3	11.174	BB	0.2620	4579.83008	269.95795	97.1357

```
Totals :                      4714.87683  281.90899
=====
```