

Supporting Information

for

Chromium(II)-catalyzed enantioselective arylation of

ketones

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**Experimental procedures, analytical data for products, copies of NMR
spectra and HPLC chromatograms**

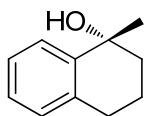
Contents

General methods	S2
Analytical data for products	S3
References	S9
¹H and ¹³C NMR Spectra	S10
HPLC data	S22

General methods

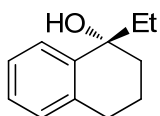
Proton (^1H NMR) and carbon (^{13}C NMR) nuclear magnetic resonance spectra were recorded at 400 MHz and 100 MHz, respectively. The chemical shifts are given in parts per million (ppm) on the delta (δ) scale. The solvent peak was used as a reference value, for ^1H NMR: CDCl_3 δ 7.27, $\text{DMSO-}d_6$ δ 2.50; for ^{13}C NMR: CDCl_3 at 77.23 ppm, $\text{DMSO-}d_6$ at 39.51 ppm. Analytical TLC was performed on precoated silica gel GF254 plates. Column chromatography was carried out on silica gel or alumina (200–300 mesh). HRMS were carried out on an Orbitrap analyzer. Optical rotations were measured using a 1.0 mL cell with a 10 cm path length on ANTON PAAR MCP 200 polarimeter and concentrations (c) were reported in $\text{g}\times(100\text{ mL})^{-1}$. Enantiomeric excesses were determined by HPLC using a Daicel Chiralpak AD-H, AS-H or OD-H column with hexane/*i*PrOH as the eluent. Reaction vessels were oven-dried, and all reactions were conducted in a glove-box. CrCl_2 , LiCl, proton sponge, Mn powder and super-dry solvent MeCN, THF, DME were purchased from Aldrich and used as supplied. The sulfonamide ligands were synthesized using the same method as literature reported [5].

Analytical data for products



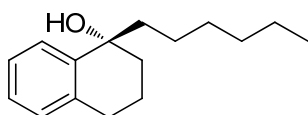
(R)-1-Methyl-1,2,3,4-tetrahydronaphthalen-1-ol (2a)

It was prepared following the general procedure at -20°C . 13.1mg, 81% yield, colorless oil. ^1H NMR (400 MHz, CDCl_3) δ 7.47 (d, $J = 7.6$ Hz, 1H), 7.16–7.02 (m, 2H), 6.96 (d, $J = 7.4$ Hz, 1H), 2.77–2.58 (m, 2H), 1.91 (s, 1H), 1.86–1.66 (m, 4H), 1.44 (s, 3H); ^{13}C NMR (101 MHz, CDCl_3) δ 143.0, 136.4, 128.9, 127.2, 126.5, 126.5, 70.7, 39.9, 30.9, 30.0, 20.5. These data are consistent with literature report [1]. HPLC: the ee value was determined by HPLC analysis (Chiralcel AD-H, *i*-PrOH/Hexane = 10/90, 0.5 mL/min, 265 nm), retention time: $t_{\text{minor}} = 11.867$ min, $t_{\text{major}} = 12.950$ min, ee = 97%; $[\alpha]_{\text{D}}^{20} = -28.3$ ($c = 0.51$, CHCl_3)[lit.:^[2] $[\alpha]_{\text{D}}^{20} = -29.5$ ($c = 3.8$, CHCl_3), and the absolute configuration of the chiral center can also be assigned as *R*]



(R)-1-Ethyl-1,2,3,4-tetrahydronaphthalen-1-ol (2b)

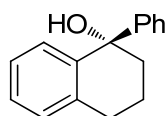
It was prepared following the general procedure at -20°C . 13.2 mg, 75% yield, colorless oil. ^1H NMR (400 MHz, CDCl_3) δ 7.45 (d, $J = 7.5$ Hz, 1H), 7.17–7.06 (m, 2H), 7.01 (d, $J = 7.4$ Hz, 1H), 2.79–2.59 (m, 2H), 2.00–1.90 (m, 1H), 1.86–1.69 (m, 5H), 1.64 (s, 1H), 0.82 (t, $J = 7.5$ Hz, 3H); ^{13}C NMR (101 MHz, CDCl_3) δ 142.5, 137.1, 129.1, 127.2, 126.5, 72.9, 35.6, 35.1, 30.2, 19.9, 8.8. These data are consistent with literature report [1]. HPLC: the ee value was determined by HPLC analysis (Chiralcel AD-H, *i*-PrOH/Hexane = 10/90, 1.0 mL/min, 220 nm), retention time: $t_{\text{minor}} = 6.174$ min, $t_{\text{major}} = 6.988$ min, ee = 91%; $[\alpha]_{\text{D}}^{20} = -0.98$ ($c = 0.18$, MeOH).



(R)-1-Hexyl-1,2,3,4-tetrahydronaphthalen-1-ol (2c)

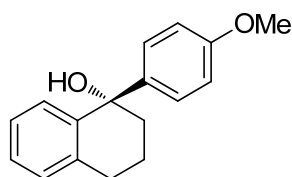
It was prepared following the general procedure at 0°C and purified on basic alumina. 12.3 mg, 53% yield, colorless oil. ^1H NMR (400 MHz, $\text{DMSO}-d_6$) δ 6.68 (dd, $J = 7.7$,

1.2 Hz, 1H), 6.37–6.26 (m, 2H), 6.25–6.22 (m, 1H), 2.04–1.85 (m, 2H), 1.24–0.88 (m, 6H), 0.55–0.38 (m, 8H), 0.07 (dd, $J = 8.5, 5.0$ Hz, 3H); ^{13}C NMR (101 MHz, DMSO- d_6) δ 134.0, 128.5, 120.2, 118.2, 118.1, 117.4, 63.7, 34.4, 27.5, 23.5, 21.5, 21.5, 15.8, 14.1, 11.3, 4.9. HRMS (EI) m/z $[\text{M} + \text{H}]^+$ calculated for $\text{C}_{16}\text{H}_{25}\text{O}$: 233.1900, found 233.1905. HPLC: the ee value was determined by HPLC analysis (Chiralcel AD-H, *i*-PrOH/Hexane = 3/97, 0.5 mL/min, 220 nm), retention time: $t_{\text{minor}} = 15.491$ min, $t_{\text{major}} = 17.776$ min, ee = 87%; $[\alpha]_{\text{D}}^{25} = -4.8$ ($c = 0.16$, MeOH).



(S)-1-Phenyl-1,2,3,4-tetrahydronaphthalen-1-ol (2d)

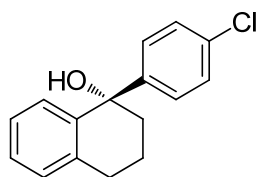
It was prepared following the general procedure at 0°C. 14.5 mg, 65% yield, colorless oil. ^1H NMR (400 MHz, CDCl_3) δ 7.39–7.30 (m, 4H), 7.29–7.12 (m, 4H), 7.12–7.05 (m, 1H), 2.97–2.88 (m, 2H), 2.24–2.14 (m, 3H), 2.10–1.99 (m, 1H), 1.88–1.77 (m, 1H); ^{13}C NMR (101 MHz, CDCl_3) δ 149.2, 142.3, 137.8, 129.1, 129.1, 128.0, 127.7, 126.8, 126.7, 126.6, 75.6, 41.7, 30.1, 19.9. These data are consistent with literature report [1]. HPLC: the ee value was determined by HPLC analysis (Chiralcel AD-H, *i*-PrOH/Hexane = 10/90, 1.0 mL/min, 260 nm), retention time: $t_{\text{minor}} = 7.394$ min, $t_{\text{major}} = 8.397$ min, ee = 88%; $[\alpha]_{\text{D}}^{20} = -28.1$ ($c = 0.60$, CHCl_3).



(S)-1-(4-Methoxyphenyl)-1,2,3,4-tetrahydronaphthalen-1-ol (2e)

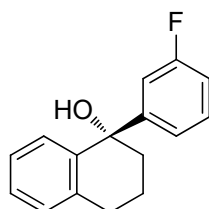
It was prepared following the general procedure at 0°C and purified on basic alumina. 13.2 mg, 52% yield, colorless oil. ^1H NMR (400 MHz, DMSO- d_6) δ 7.20–6.99 (m, 6H), 6.82 (d, $J = 8.8$ Hz, 2H), 5.45 (s, 1H), 3.72 (s, 3H), 2.80 (t, $J = 6.2$ Hz, 2H), 2.09–1.95 (m, 2H), 1.94–1.82 (m, 1H), 1.63–1.53 (m, 1H); ^{13}C NMR (101 MHz, DMSO- d_6) δ 158.0, 143.5, 142.7, 137.2, 129.6, 128.6, 127.9, 127.0, 126.0, 113.2, 73.9, 55.4, 41.5, 29.8, 19.7. These data are consistent with literature report [3]. HPLC: the ee value was determined by HPLC analysis (Chiralcel OD-H, *i*-PrOH/Hexane =

10/90, 1.0 mL/min, 275 nm), retention time: $t_{\text{minor}} = 6.900$ min, $t_{\text{major}} = 10.375$ min, ee = 78%; $[\alpha]_{\text{D}}^{20} = -23.3$ ($c = 0.45$, CHCl_3).



(S)-1-(4-Chlorophenyl)-1,2,3,4-tetrahydronaphthalen-1-ol (2f)

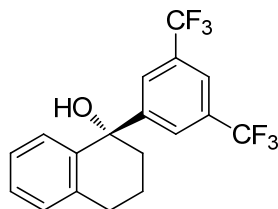
It was prepared following the general procedure at 0°C. 16.5 mg, 64% yield, colorless oil. ^1H NMR (400 MHz, CDCl_3) δ 7.34–7.27 (m, 4H), 7.27–7.20 (m, 2H), 7.19–7.12 (m, 1H), 7.05 (d, $J = 7.7$ Hz, 1H), 2.94 (t, $J = 5.9$ Hz, 2H), 2.45 (s, 1H), 2.20–1.97 (m, 3H), 1.89–1.78 (m, 1H); ^{13}C NMR (101 MHz, CDCl_3) δ 147.7, 141.6, 137.7, 132.5, 129.1, 129.0, 128.1, 127.9, 127.8, 126.7, 75.2, 41.5, 29.9, 19.7. These data are consistent with literature report [4]. HPLC: the ee value was determined by HPLC analysis (Chiralcel OD-H, *i*-PrOH/Hexane = 10/90, 1.0 mL/min, 265 nm), retention time: $t_{\text{minor}} = 5.288$ min, $t_{\text{major}} = 7.797$ min, ee = 90%; $[\alpha]_{\text{D}}^{20} = -26.9$ ($c = 0.33$, CHCl_3).



(S)-1-(3-Fluorophenyl)-1,2,3,4-tetrahydronaphthalen-1-ol (2g)

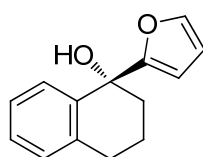
It was prepared following the general procedure at 0°C. 16.4 mg, 68% yield, colorless oil. ^1H NMR (400 MHz, CDCl_3) δ 7.34–7.14 (m, 5H), 7.13–7.05 (m, 2H), 7.01–6.95 (m, 1H), 2.95 (t, $J = 6.3$ Hz, 2H), 2.50 (s, 1H), 2.23–1.98 (m, 3H), 1.91–1.81 (m, 1H); ^{13}C NMR (101 MHz, CDCl_3) δ 163.9, 161.5, 152.1, 152.0, 141.5, 137.7, 129.3, 129.2, 129.1, 129.0, 127.8, 126.6, 122.3, 122.3, 113.9, 113.6, 113.6, 113.4, 75.2, 75.2, 41.4, 29.9, 19.6; HRMS (EI) m/z $[\text{M} + \text{H}]^+$ calculated for $\text{C}_{16}\text{H}_{16}\text{FO}$: 243.1180, found 243.1177. HPLC: the ee value was determined by HPLC analysis (Chiralcel OD-H,

i-PrOH/Hexane = 10/90, 1.0 mL/min, 263 nm), retention time: $t_{\text{minor}} = 5.183$ min, $t_{\text{major}} = 6.942$ min, ee = 90%; $[\alpha]_{\text{D}}^{20} = -29.5$ (c = 0.60, CHCl₃).



(S)-1-(3,5-Bis(trifluoromethyl)phenyl)-1,2,3,4-tetrahydronaphthalen-1-ol (2h)

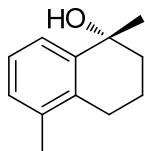
It was prepared following the general procedure at 0°C. 22.3 mg, 62% yield, colorless oil. ¹H NMR (400 MHz, CDCl₃) δ 7.94 (s, 2H), 7.87 (s, 1H), 7.33–7.23 (m, 2H), 7.20–7.14 (m, 1H), 6.94 (d, *J* = 7.8 Hz, 1H), 3.00 (s, 2H), 2.74–2.67 (m, 1H), 2.24–2.05 (m, 3H), 1.95–1.83 (m, 1H); ¹³C NMR (101 MHz, CDCl₃) δ 152.2, 140.5, 138.1, 131.8, 131.5, 131.2, 130.9, 129.6, 129.1, 128.5, 127.8, 127.1, 127.0, 126.9, 125.1, 122.4, 121.0, 121.0, 120.9, 120.9, 120.9, 119.7, 75.3, 41.7, 29.9, 19.6; HRMS (EI) *m/z* [M + H]⁺ calculated for C₁₈H₁₅F₆O: 361.1022, found 361.1019. HPLC: the ee value was determined by HPLC analysis (Chiralcel OD-H, *i*-PrOH/Hexane = 10/90, 0.5 mL/min, 233 nm), retention time: $t_{\text{minor}} = 9.764$ min, $t_{\text{major}} = 11.223$ min, ee = 86%; $[\alpha]_{\text{D}}^{20} = -25.6$ (c = 0.37, CHCl₃).



(R)-1-(Furan-2-yl)-1,2,3,4-tetrahydronaphthalen-1-ol (2i)

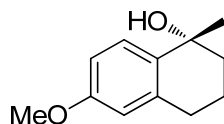
It was prepared following the general procedure at 0°C. 13.5 mg, 63% yield, colorless oil. ¹H NMR (400 MHz, CDCl₃) δ 7.49–7.37 (m, 2H), 7.30–7.16 (m, 3H), 6.33 (dd, *J* = 3.1, 1.8 Hz, 1H), 6.06 (d, *J* = 3.1 Hz, 1H), 2.96–2.81 (m, 2H), 2.76 (s, 1H), 2.52 (ddd, *J* = 12.7, 8.5, 2.8 Hz, 1H), 2.14–1.96 (m, 2H), 1.82–1.71 (m, 1H); ¹³C NMR (101 MHz, CDCl₃) δ 159.2, 142.0, 139.2, 137.2, 129.0, 128.0, 127.9, 126.2, 110.0, 107.8, 72.1, 37.2, 29.5, 19.7; HRMS (EI) *m/z* [M + H]⁺ calculated for C₁₄H₁₅O₂: 215.1067, found 215.1066. HPLC: the ee value was determined by HPLC analysis

(Chiralcel OD-H, *i*-PrOH/Hexane = 10/90, 1.0 mL/min, 233 nm), retention time: t_{minor} = 8.248 min, t_{major} = 10.407 min, ee = 78%; $[\alpha]_{\text{D}}^{20}$ = -6.8 (c = 0.10, CHCl₃).



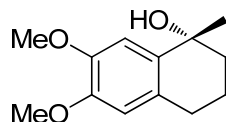
(R)-1,5-Dimethyl-1,2,3,4-tetrahydronaphthalen-1-ol (2j)

It was prepared following the general procedure at -20°C. 12.5 mg, 71% yield, colorless oil. ¹H NMR (400 MHz, CDCl₃) δ 7.50 (d, J = 7.8 Hz, 1H), 7.16 (t, J = 7.6 Hz, 1H), 7.08 (d, J = 7.3 Hz, 1H), 2.66 (t, J = 6.4 Hz, 2H), 2.24 (s, 3H), 2.04–1.82 (m, 4H), 1.77 (s, 1H), 1.58 (s, 3H); ¹³C NMR (101 MHz, CDCl₃) δ 143.3, 136.4, 135.0, 128.8, 126.1, 124.1, 71.0, 39.5, 31.0, 27.2, 20.3, 20.1; HRMS (EI) m/z $[M + H]^+$ calculated for C₁₂H₁₇O: 177.1274, found 177.1277. HPLC: the ee value was determined by HPLC analysis (Chiralcel AS-H, *i*-PrOH/Hexane = 3/97, 1.0 mL/min, 220 nm), retention time: t_{minor} = 6.824 min, t_{major} = 7.878 min, ee = 90%; $[\alpha]_{\text{D}}^{20}$ = -23.3 (c = 0.31, CHCl₃).



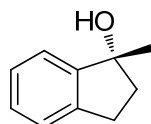
(R)-6-Methoxy-1-methyl-1,2,3,4-tetrahydronaphthalen-1-ol (2k)

It was prepared following the general procedure at -20°C and purified on basic alumina. 14.2 mg, 74% yield, colorless oil. ¹H NMR (400 MHz, DMSO-*d*₆) δ 7.42 (d, J = 8.6 Hz, 1H), 6.73 (dd, J = 8.6, 2.7 Hz, 1H), 6.56 (d, J = 2.5 Hz, 1H), 4.70 (s, 1H), 3.70 (s, 3H), 2.67 (dd, J = 11.8, 6.0 Hz, 2H), 1.91–1.62 (m, 4H), 1.36 (s, 3H); ¹³C NMR (101 MHz, DMSO-*d*₆) δ 158.0, 137.4, 137.0, 128.3, 112.7, 68.9, 55.4, 39.9, 32.0, 30.3, 20.6. These data are consistent with literature report [1]. HPLC: the ee value was determined by HPLC analysis (Chiralcel AS-H, *i*-PrOH/Hexane = 10/90, 1.0 mL/min, 265 nm), retention time: t_{minor} = 6.192 min, t_{major} = 7.803 min, ee = 88%; $[\alpha]_{\text{D}}^{20}$ = -11.5 (c = 0.20, CHCl₃).



(R)-6,7-Dimethoxy-1-methyl-1,2,3,4-tetrahydronaphthalen-1-ol (2l)

It was prepared following the general procedure. 16.9 mg at -20°C, 76% yield, colorless oil. ^1H NMR (400 MHz, CDCl_3) δ 7.09 (s, 1H), 6.54 (s, 1H), 3.89 (s, 3H), 3.85 (s, 3H), 2.78–2.64 (m, 2H), 1.97–1.79 (m, 4H), 1.76 (s, 1H), 1.55 (s, 3H); ^{13}C NMR (101 MHz, CDCl_3) δ 148.4, 147.9, 135.0, 128.8, 111.3, 109.3, 70.8, 56.2, 56.0, 40.2, 30.9, 29.9, 20.9; HRMS (EI) m/z $[\text{M} + \text{H}]^+$ calculated for $\text{C}_{13}\text{H}_{19}\text{O}_3$: 223.1329, found 223.1330. HPLC: the ee value was determined by HPLC analysis (Chiralcel AD-H, *i*-PrOH/Hexane = 10/90, 1.0 mL/min, 265 nm), retention time: t_{minor} = 21.005 min, t_{major} = 19.301 min, ee = 88%; $[\alpha]_{\text{D}}^{20}$ = -16.3 (c = 0.12, CHCl_3).



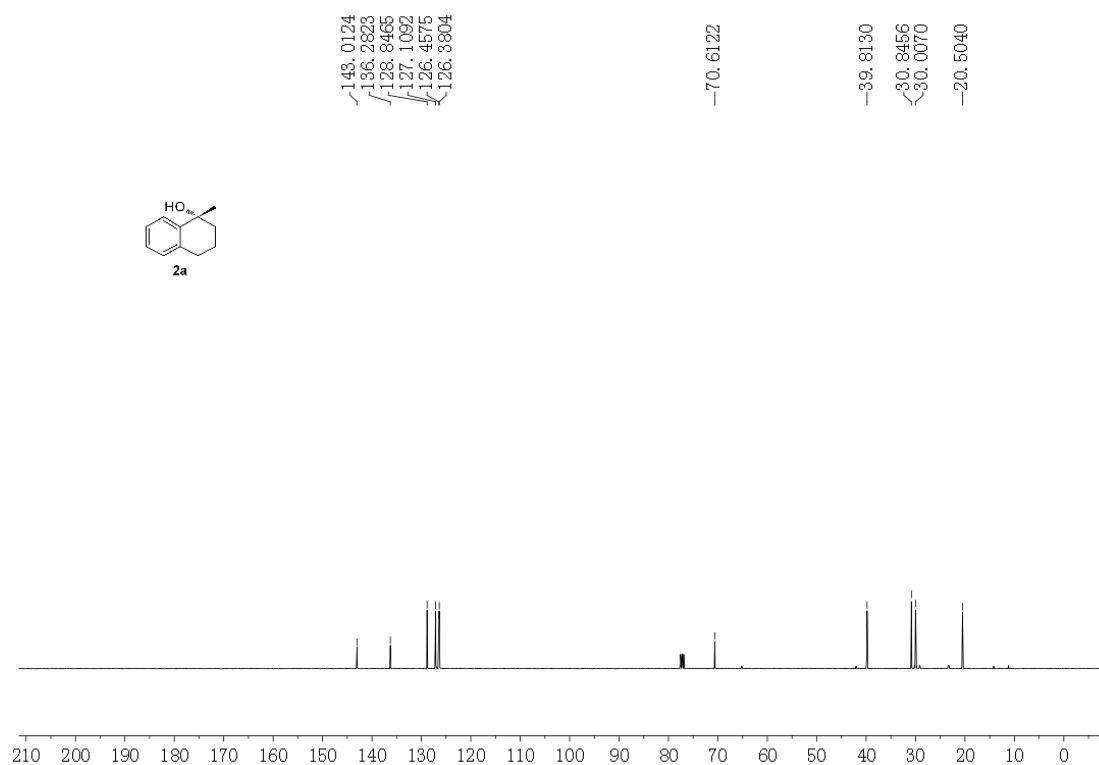
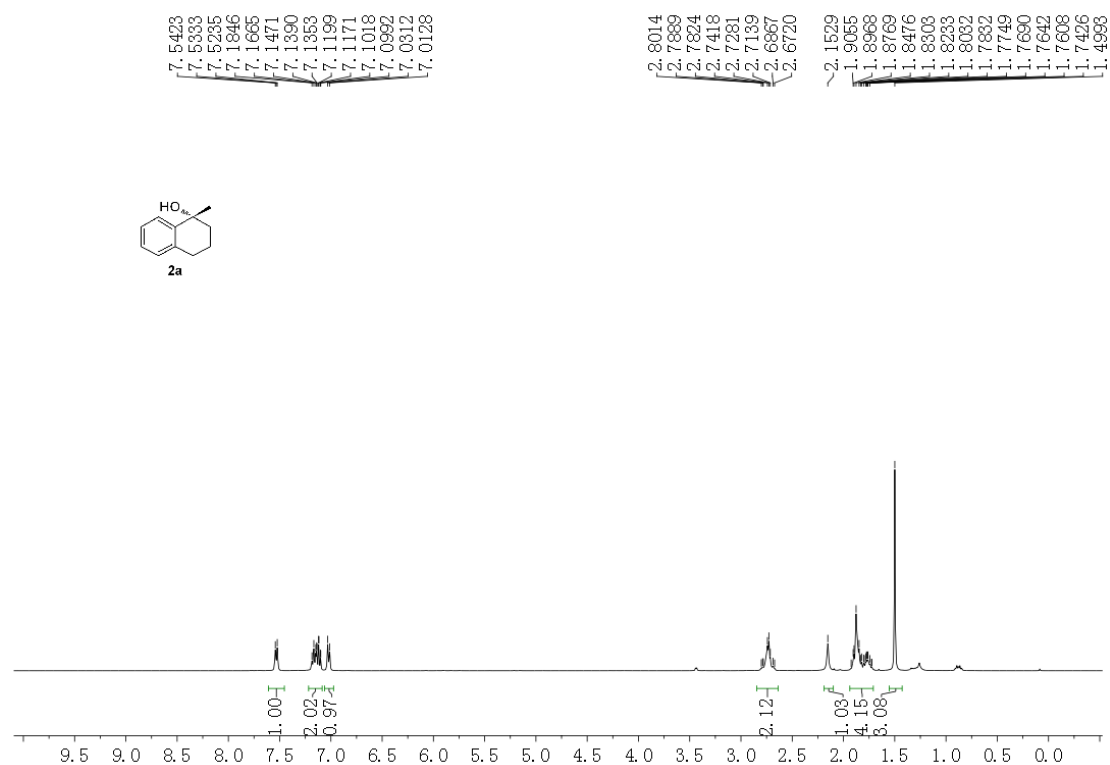
(R)-1-Methyl-2,3-dihydro-1H-inden-1-ol (2m)

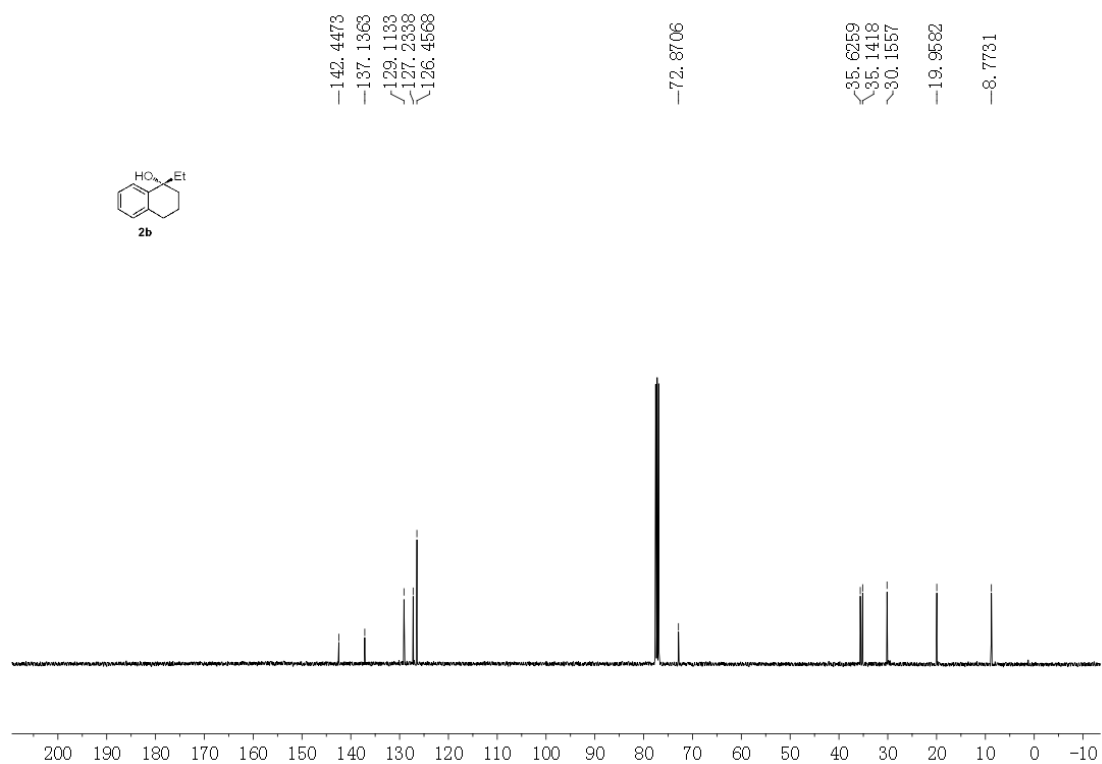
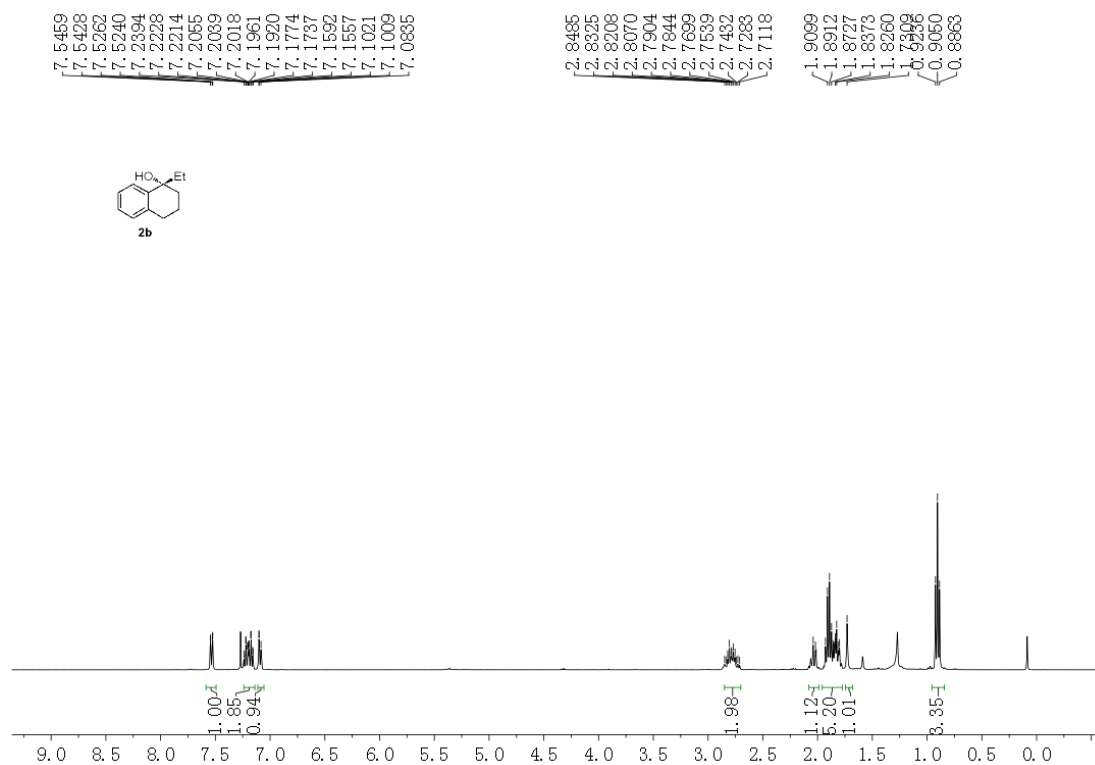
It was prepared following the general procedure. 16.9 mg at -20°C, 76% yield, colorless oil. ^1H NMR (400 MHz, CDCl_3) δ 7.43–7.34 (m, 1H), 7.30–7.21 (m, 3H), 3.12–2.98 (m, 1H), 2.90–2.79 (m, 2H), 2.35–2.14 (m, 2H), 1.89 (s, 1H), 1.59 (s, 3H); ^{13}C NMR (101 MHz, CDCl_3) δ 148.5, 142.8, 128.4, 127.0, 125.1, 122.4, 81.4, 42.5, 29.6, 27.5. These data are consistent with literature report [6]. HPLC: the ee value was determined by HPLC analysis (Chiralcel AD-H, *i*-PrOH/Hexane = 10/90, 0.5 mL/min, 273 nm), retention time: t_{minor} = 12.148 min, t_{major} = 13.191 min, ee = 82%.

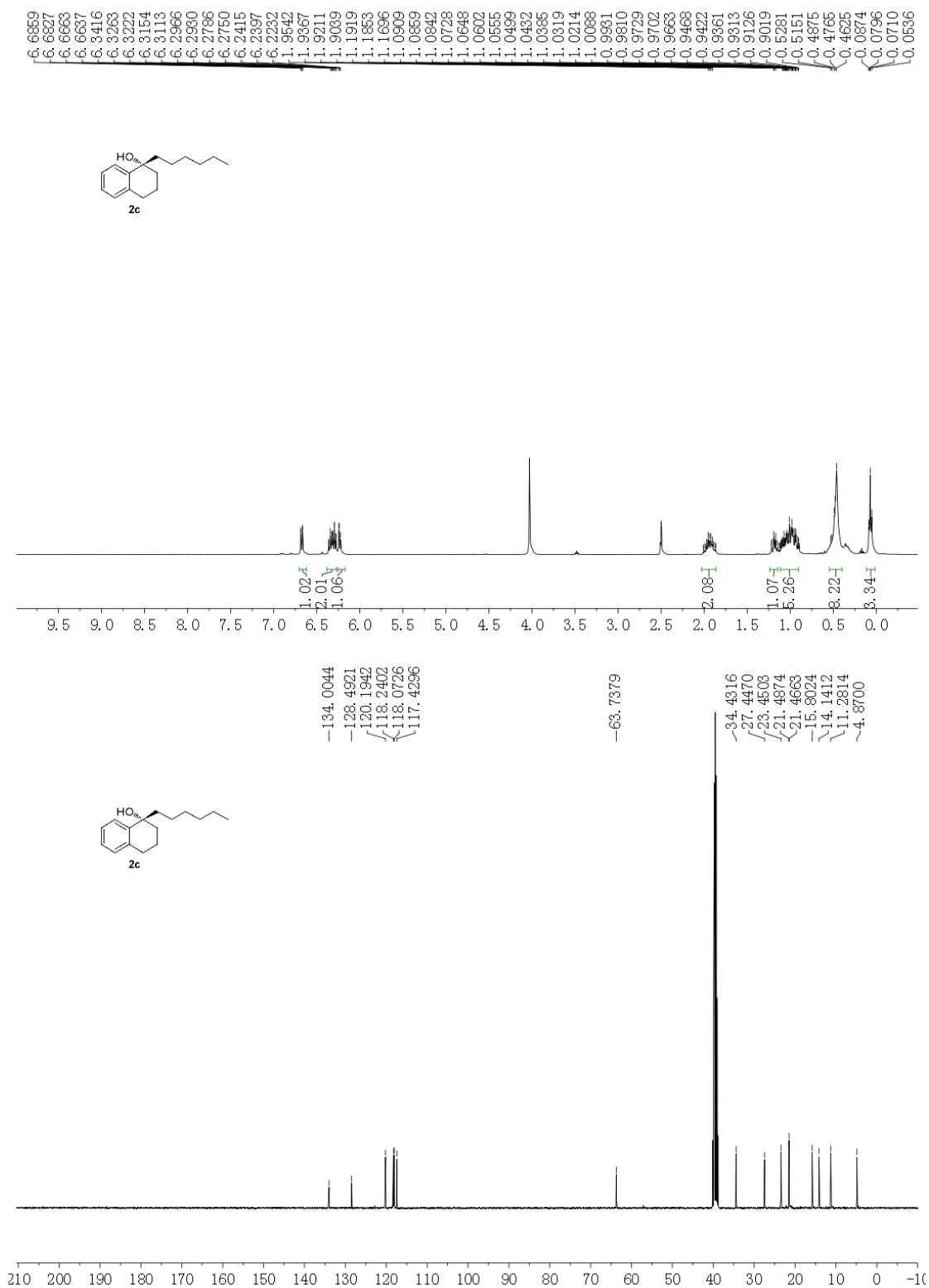
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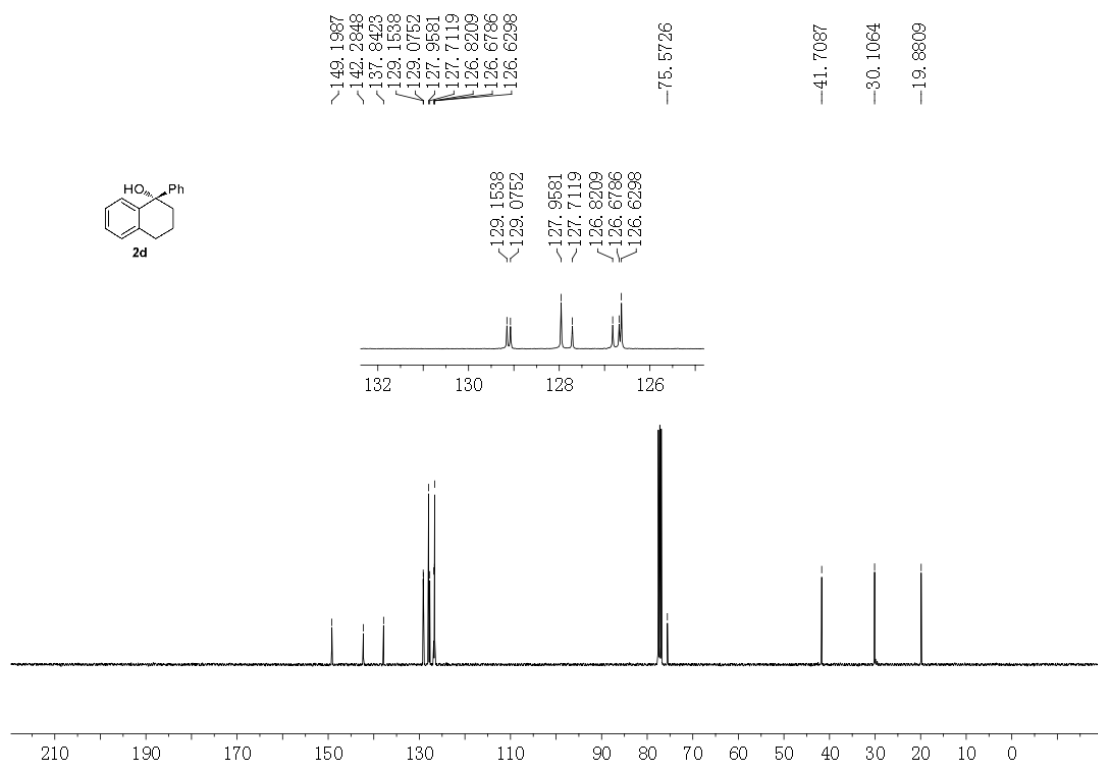
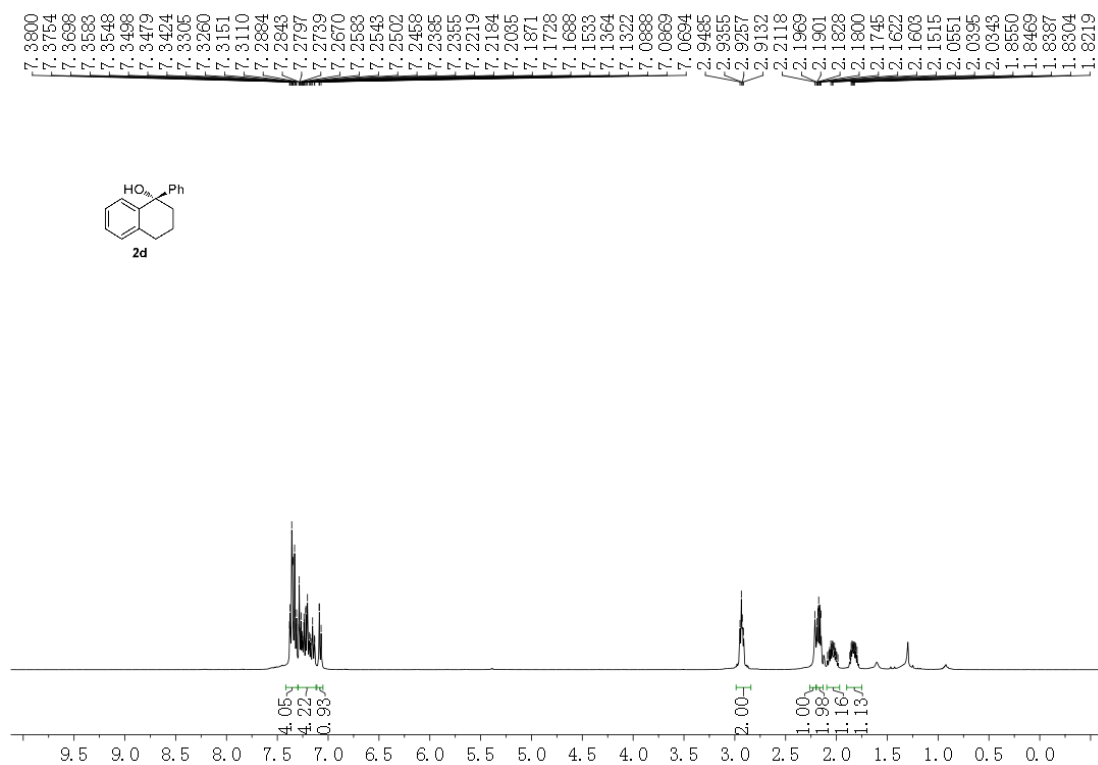
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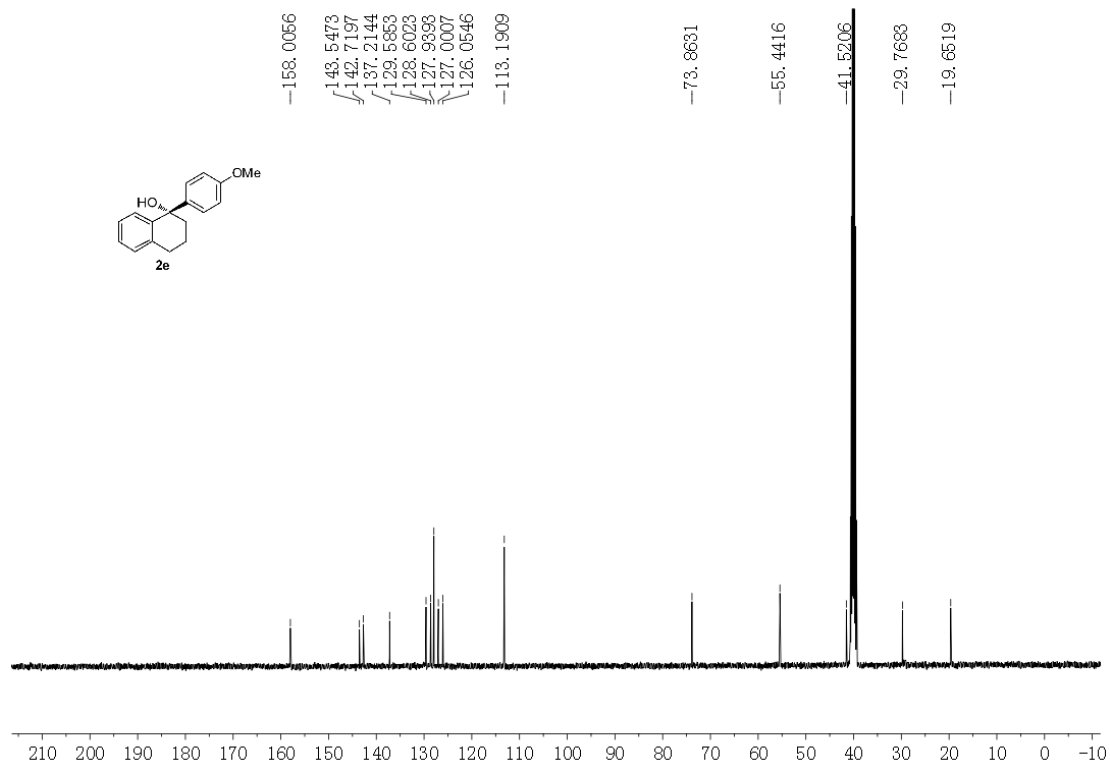
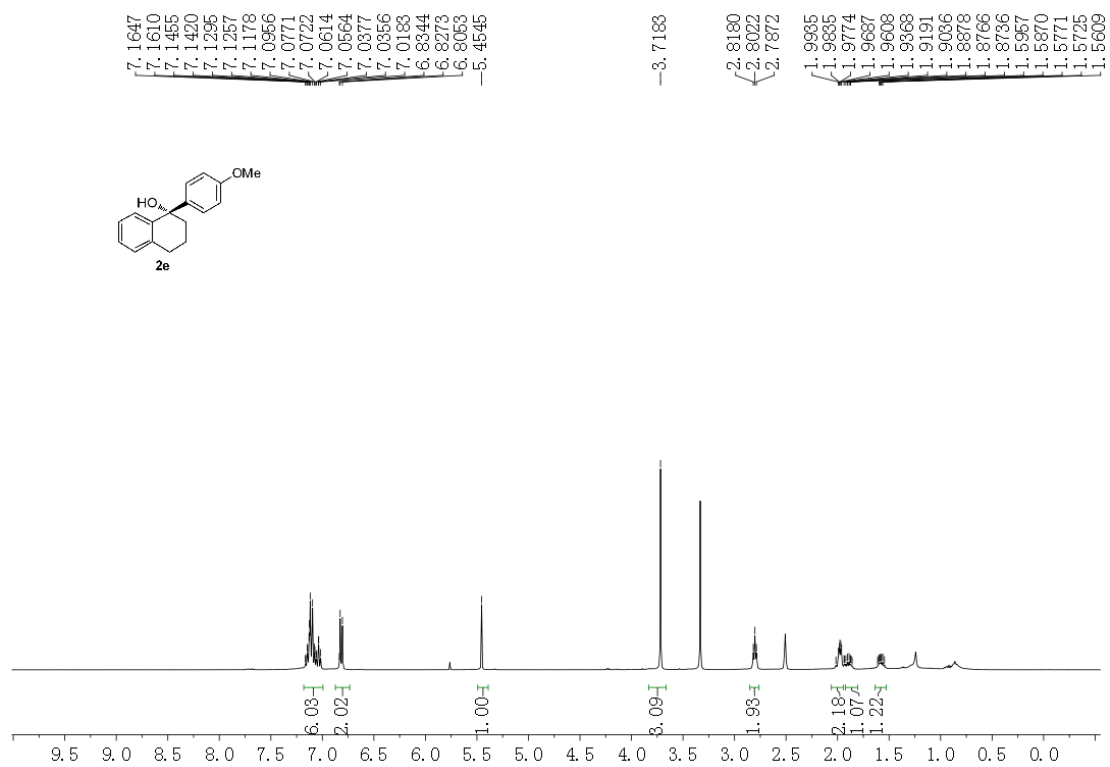
¹H and ¹³C NMR spectra

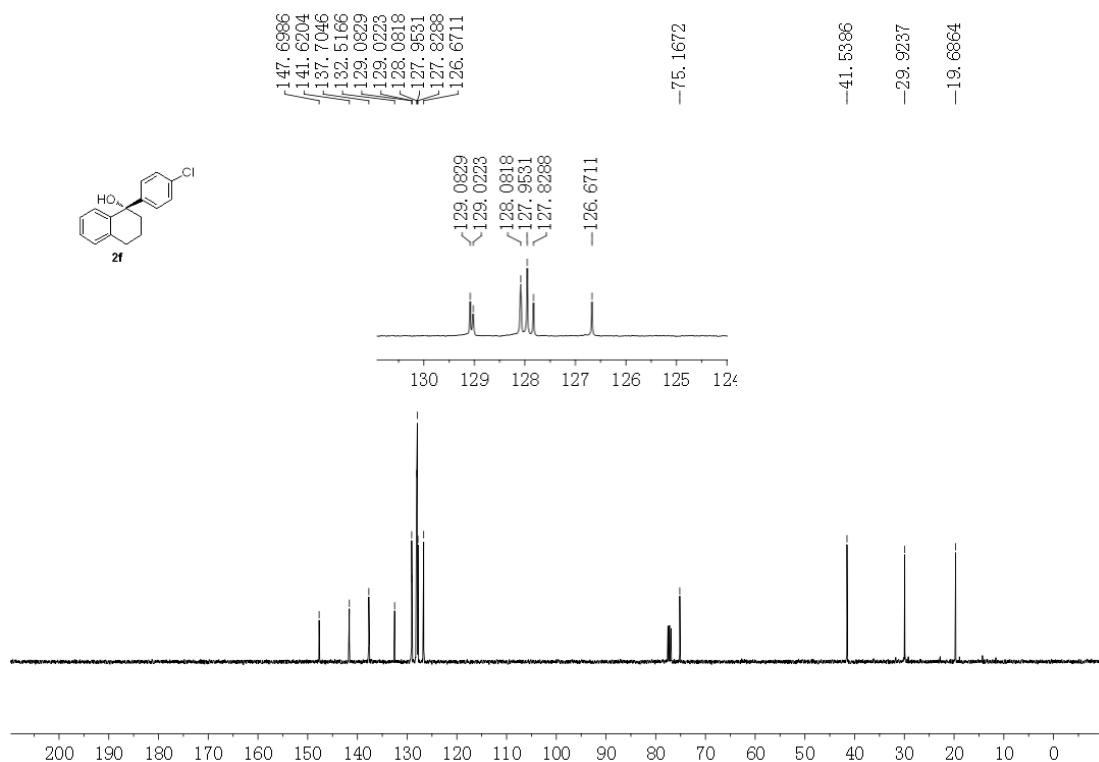
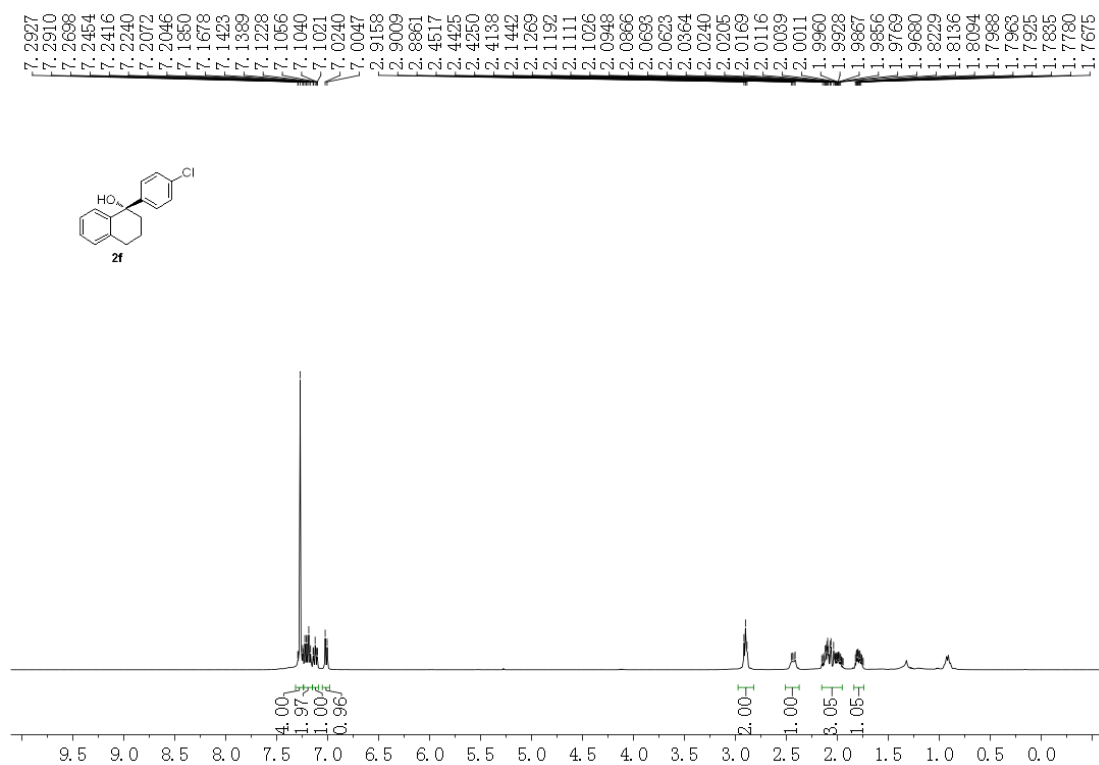


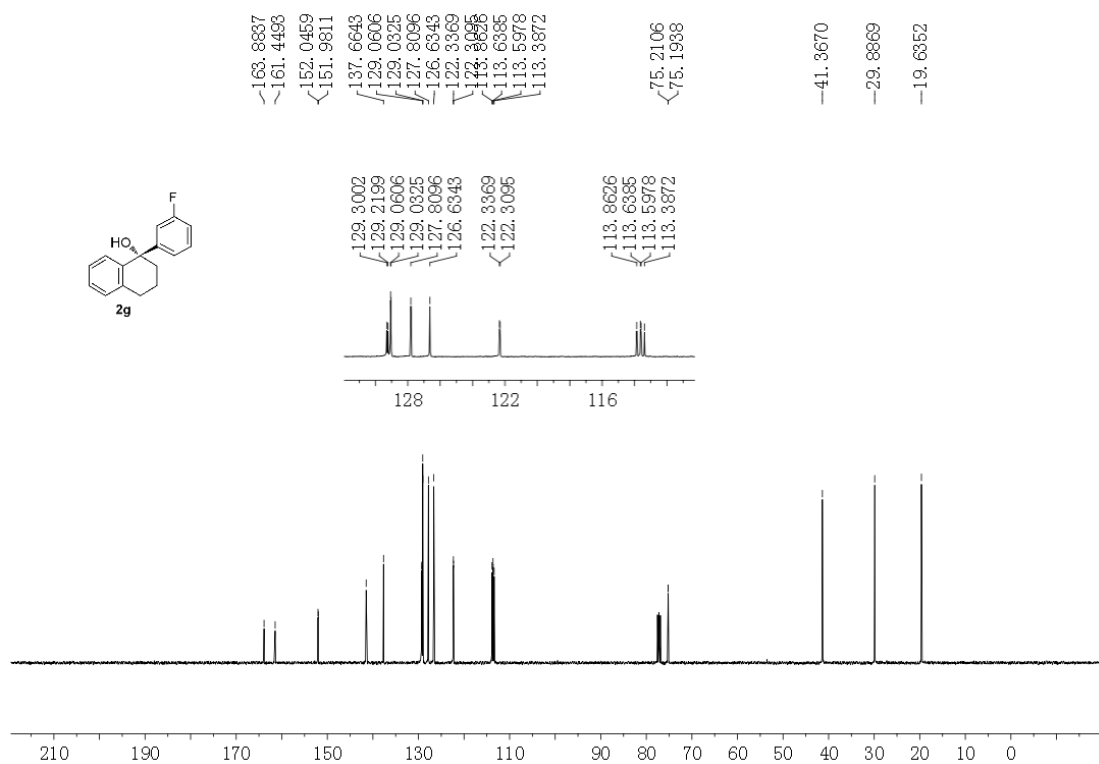
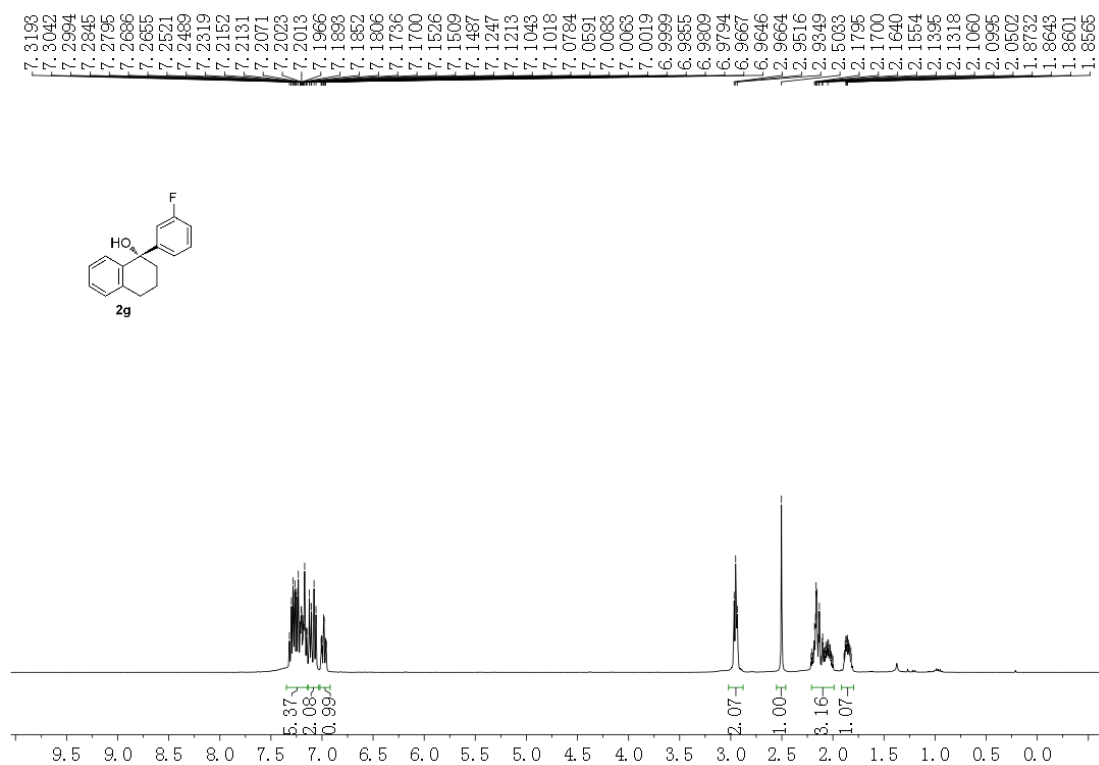


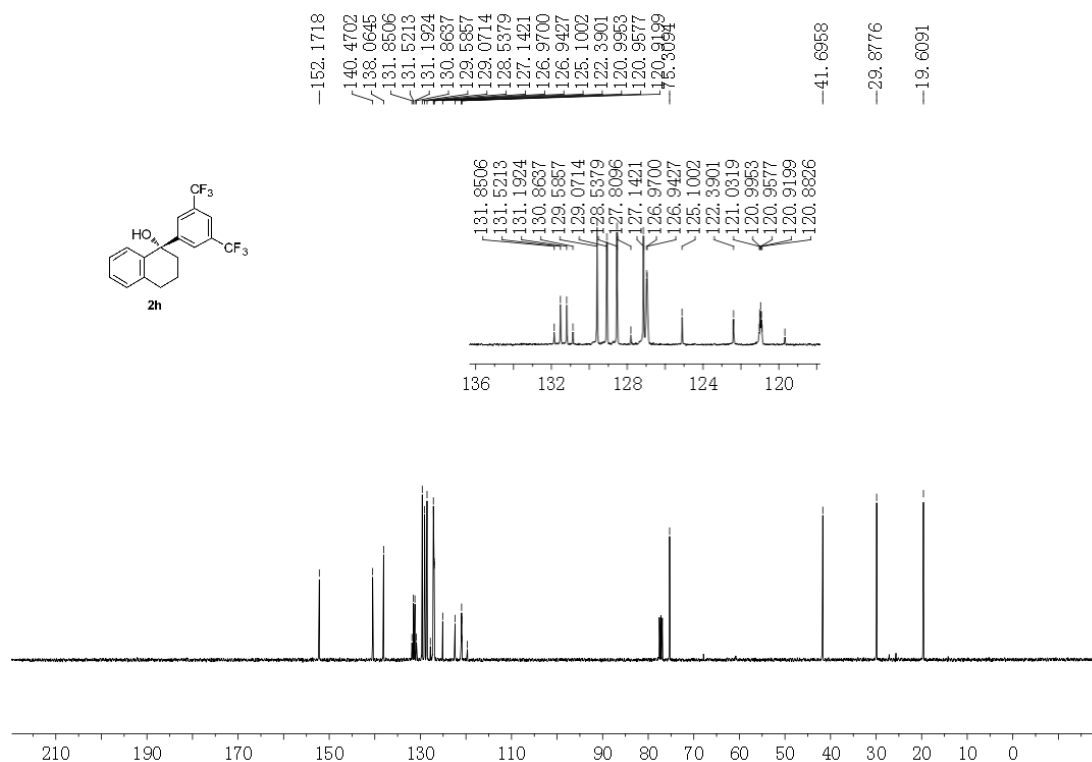
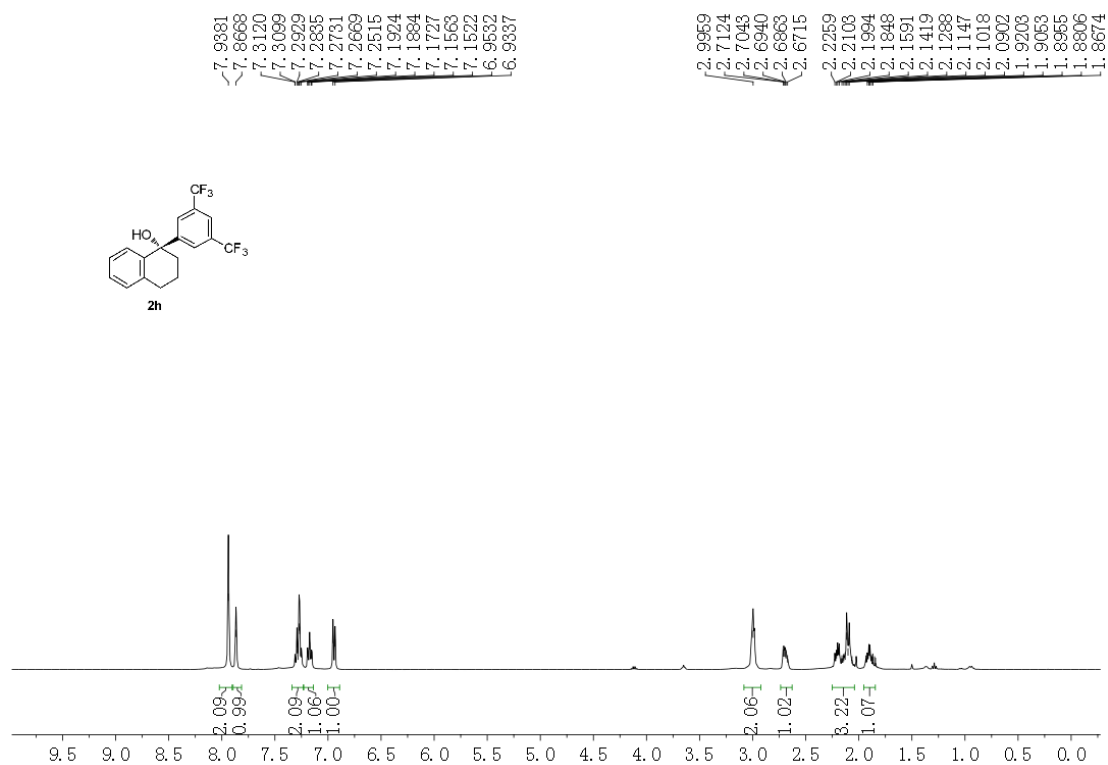


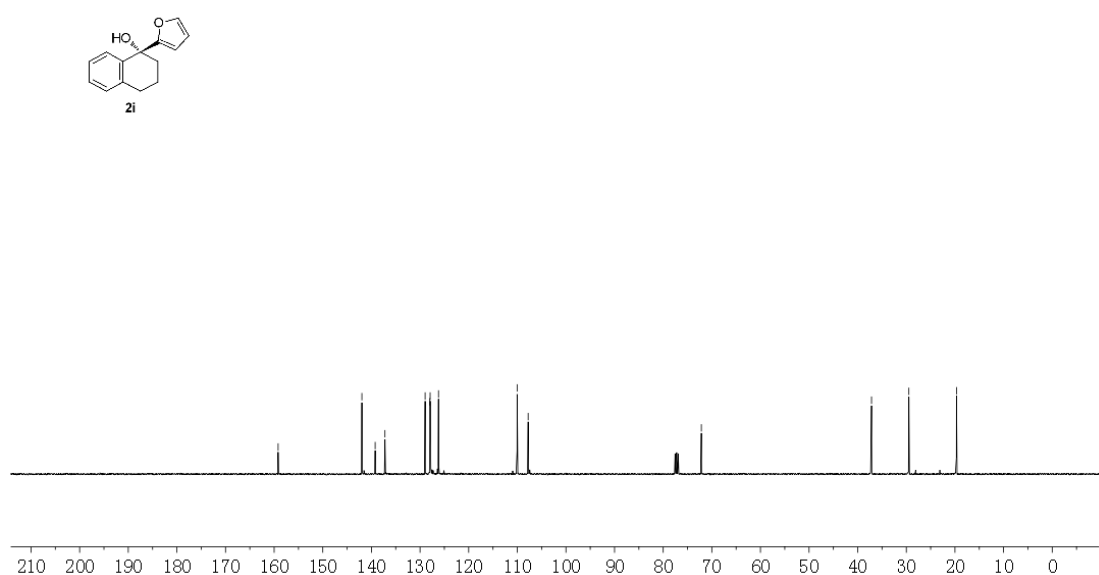
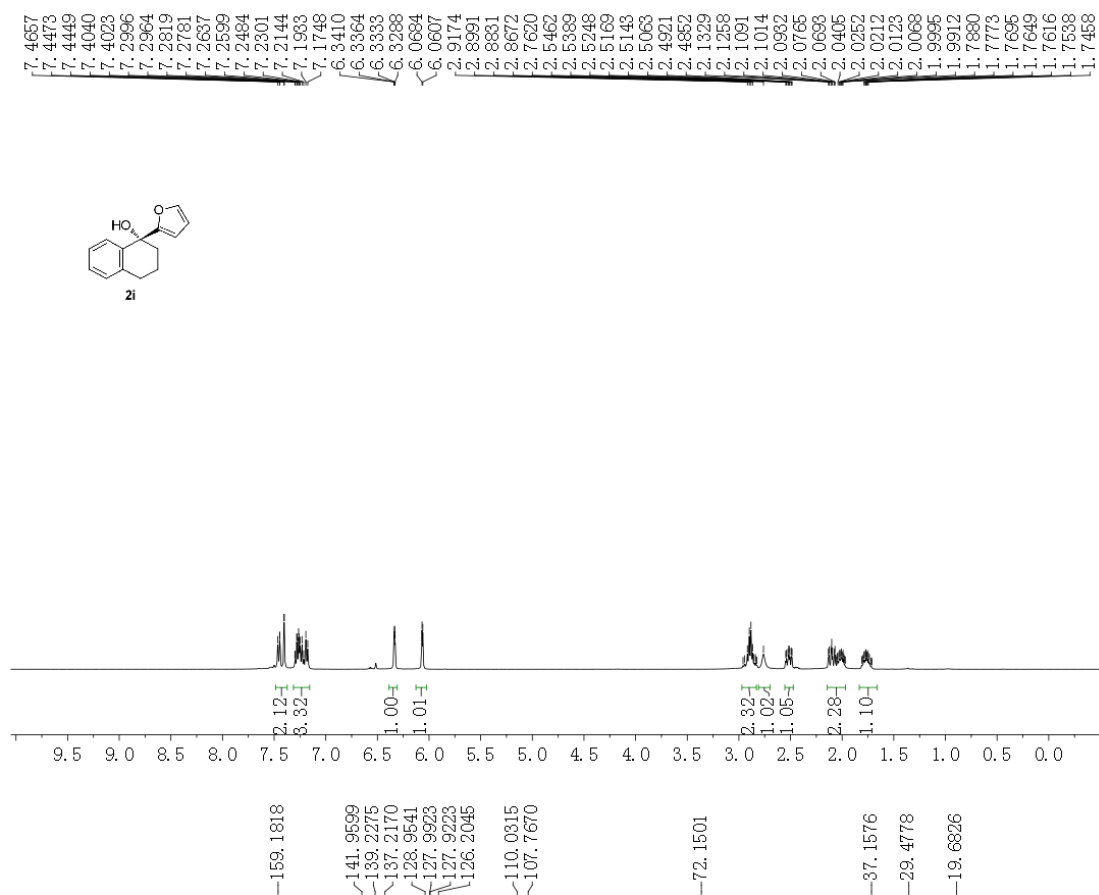


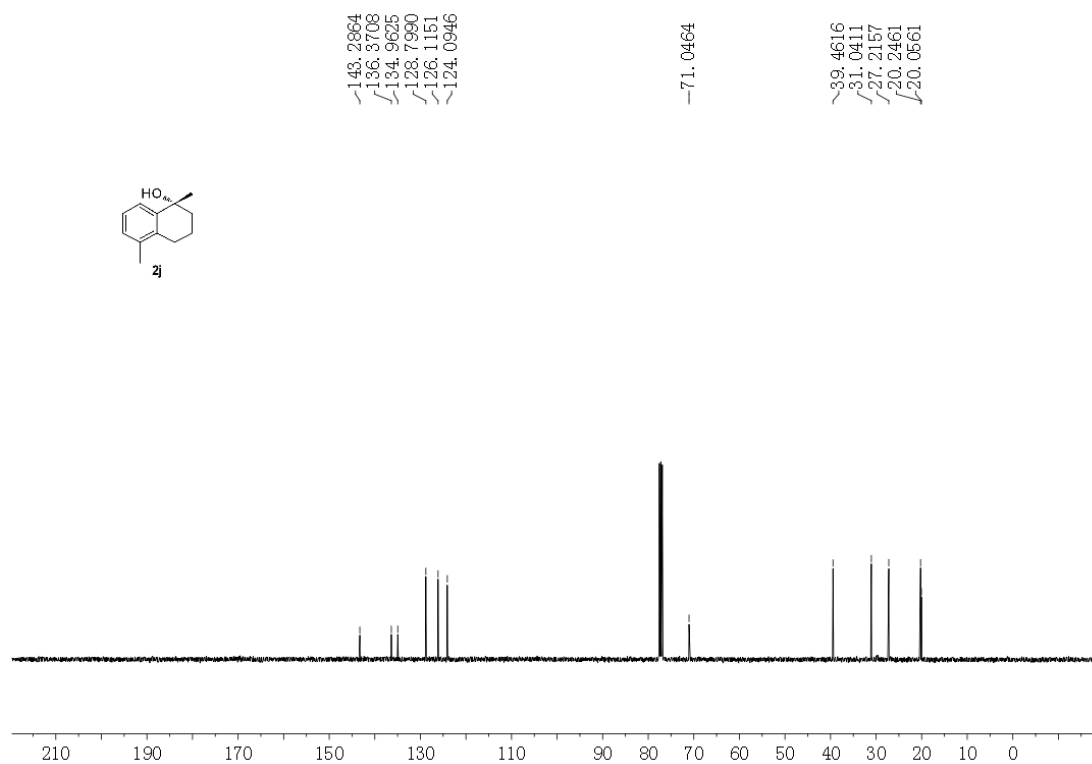
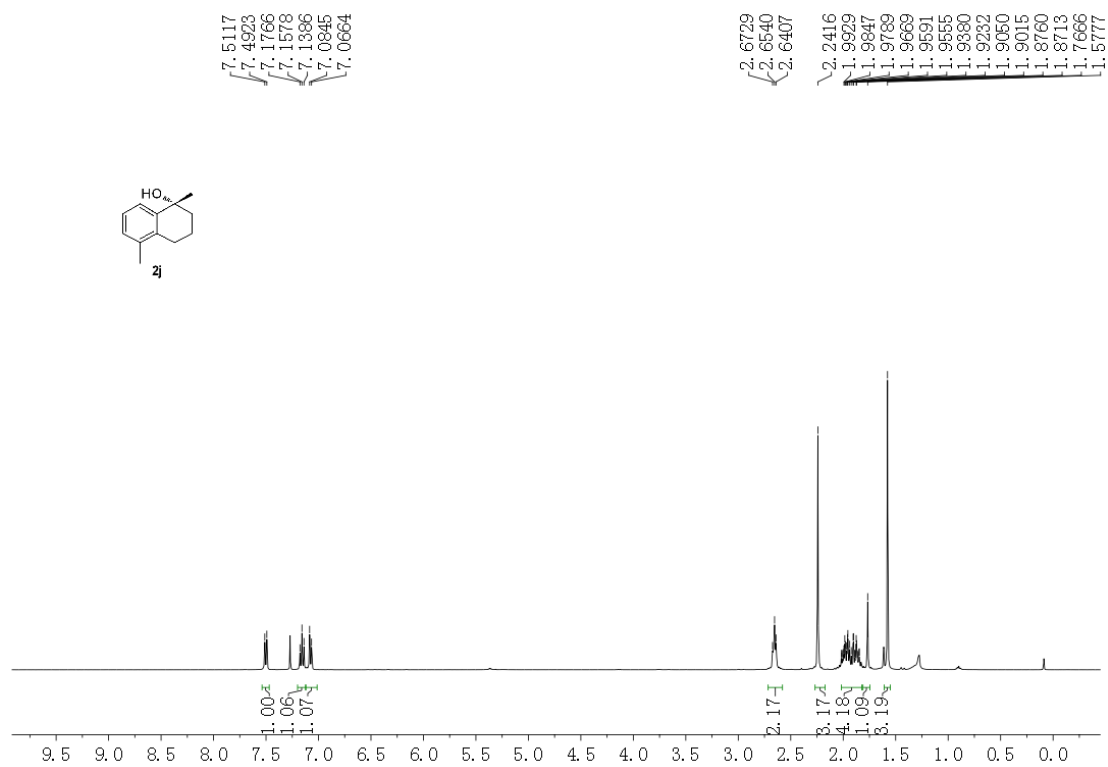


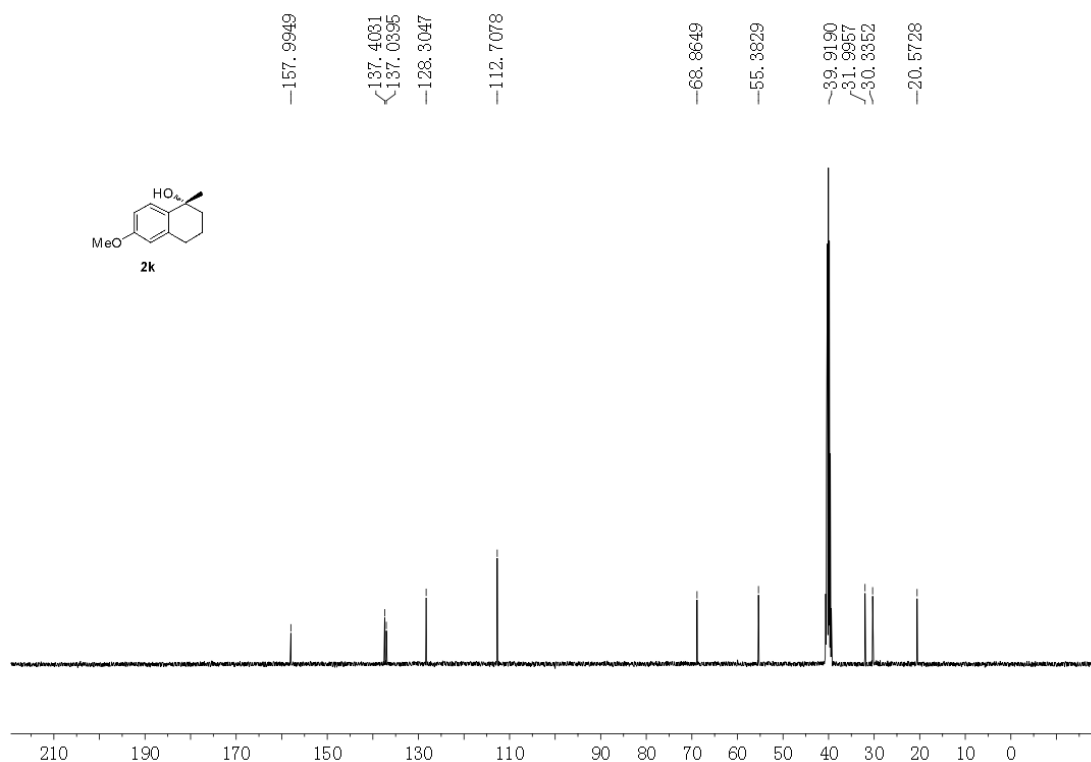
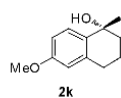
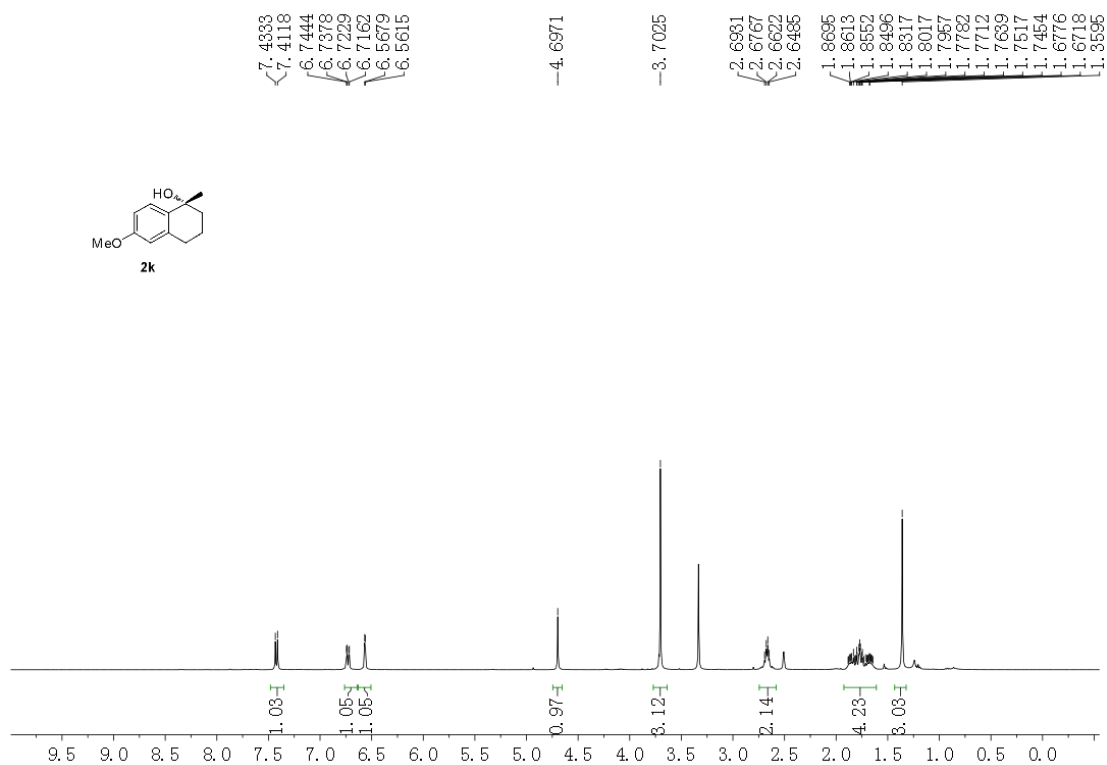
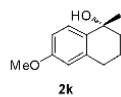


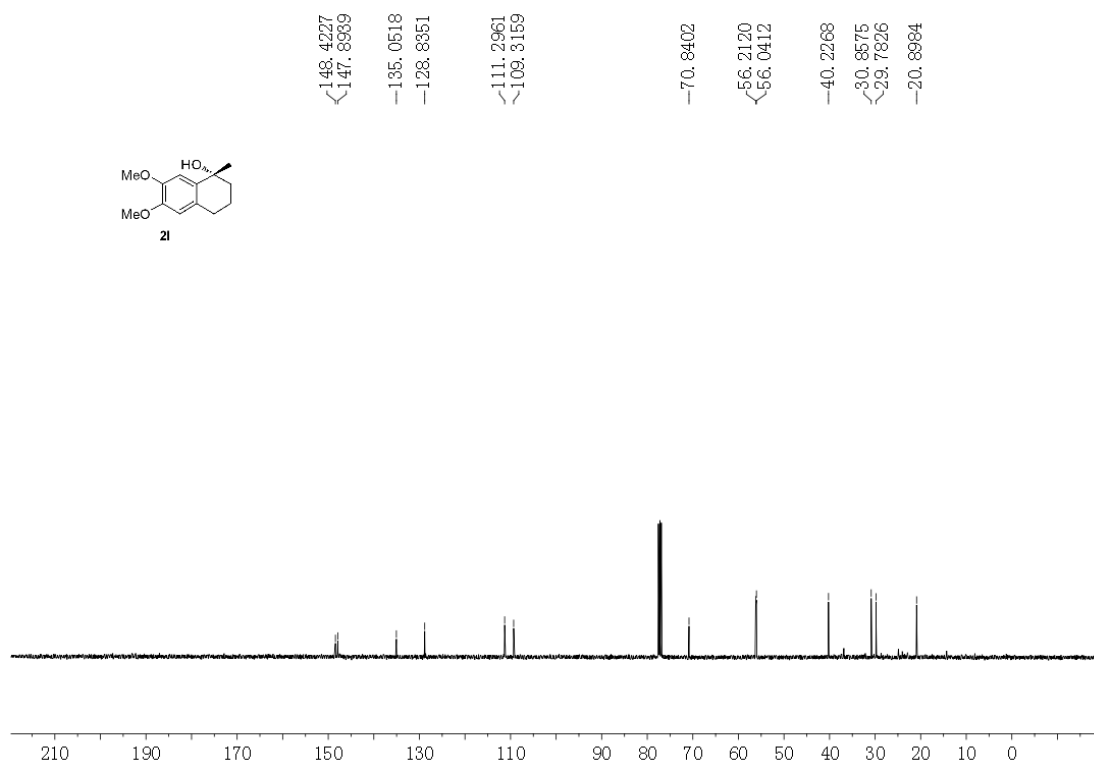
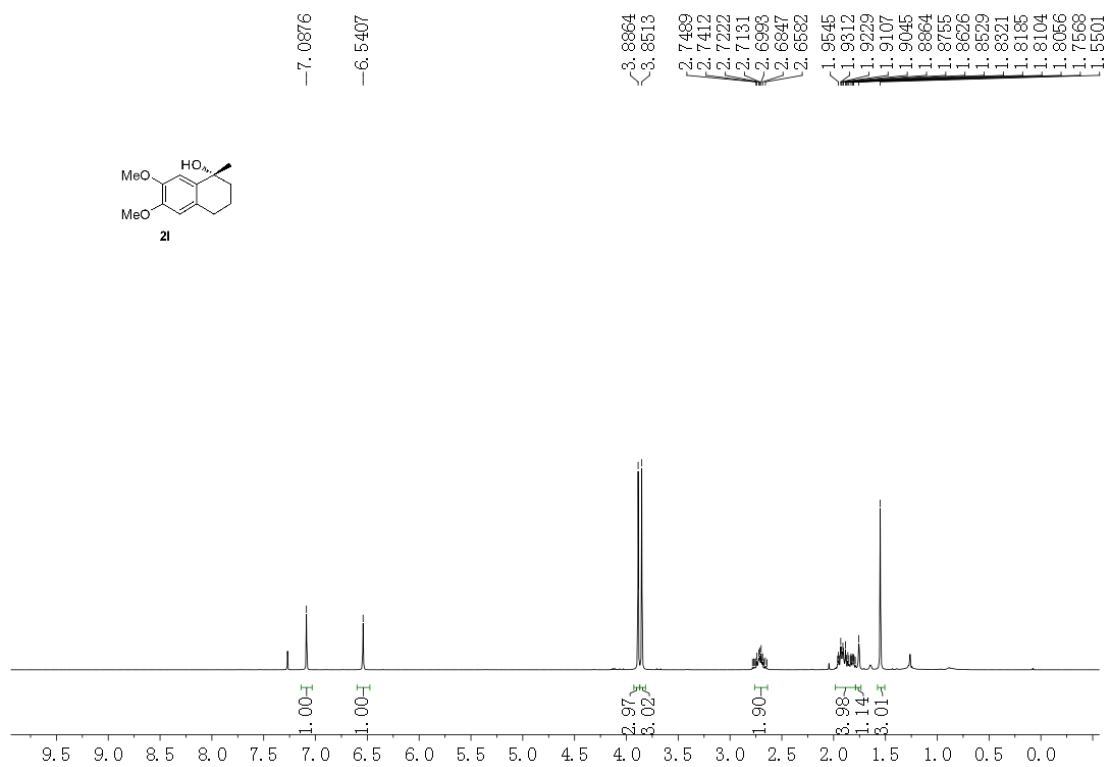


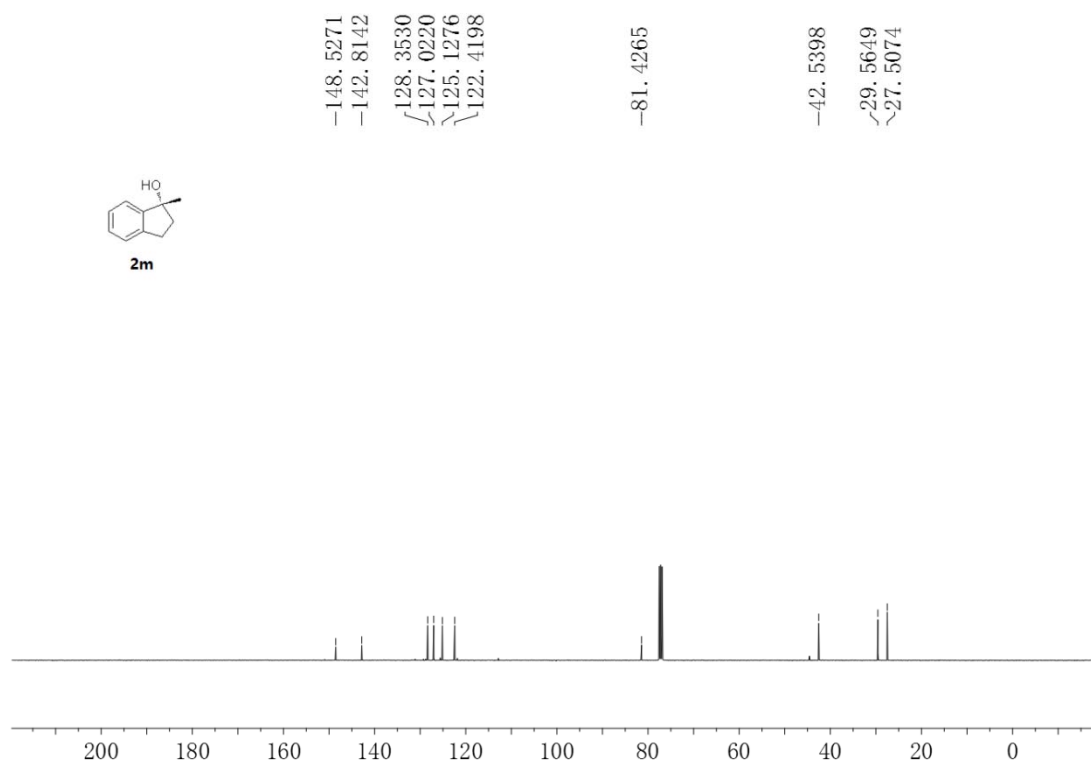
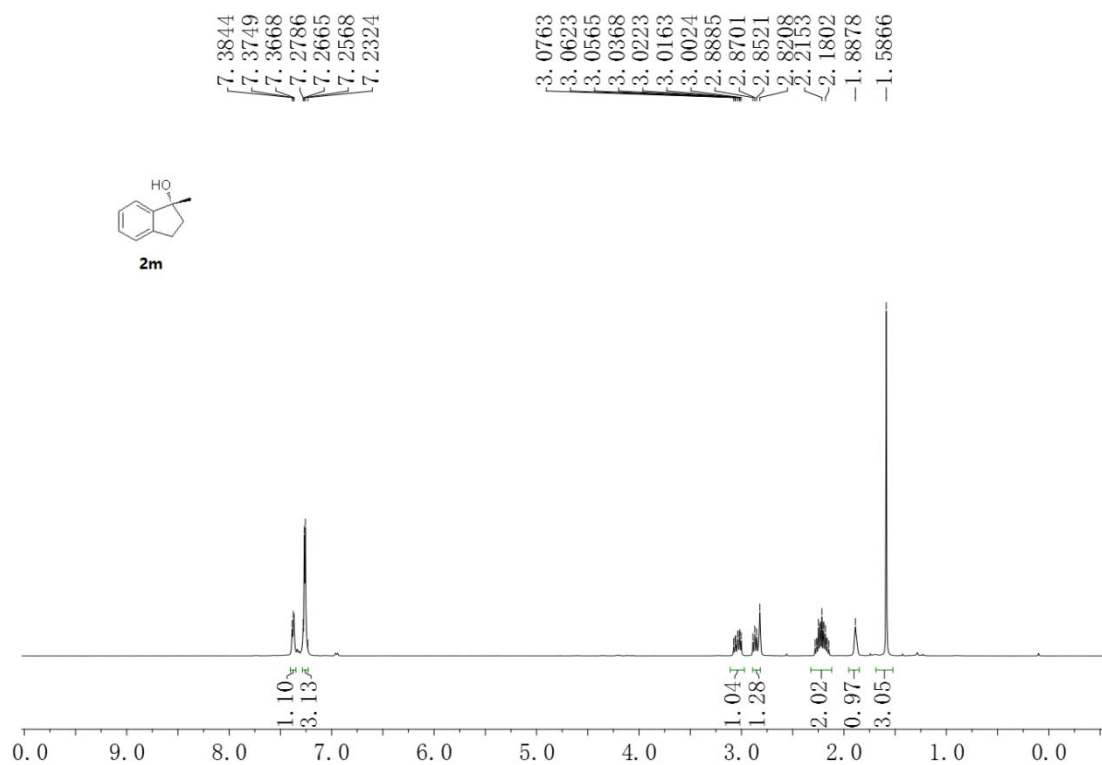




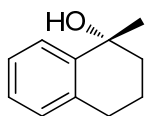




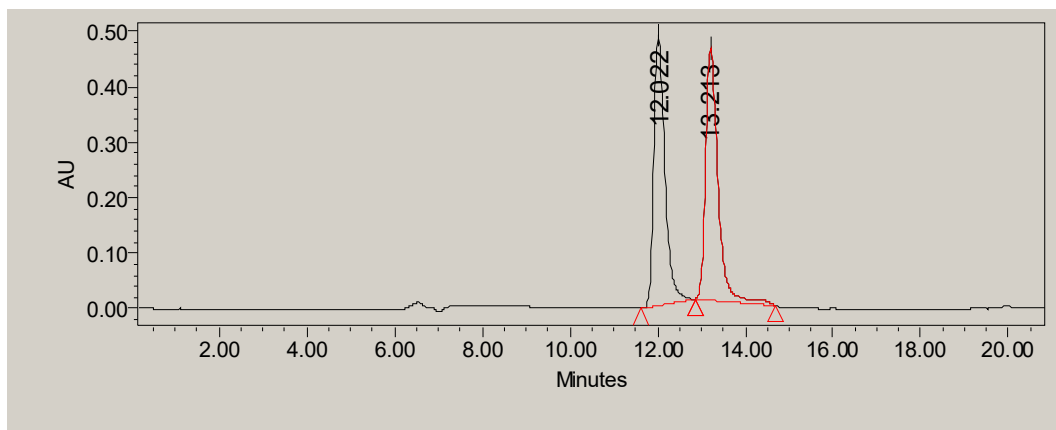




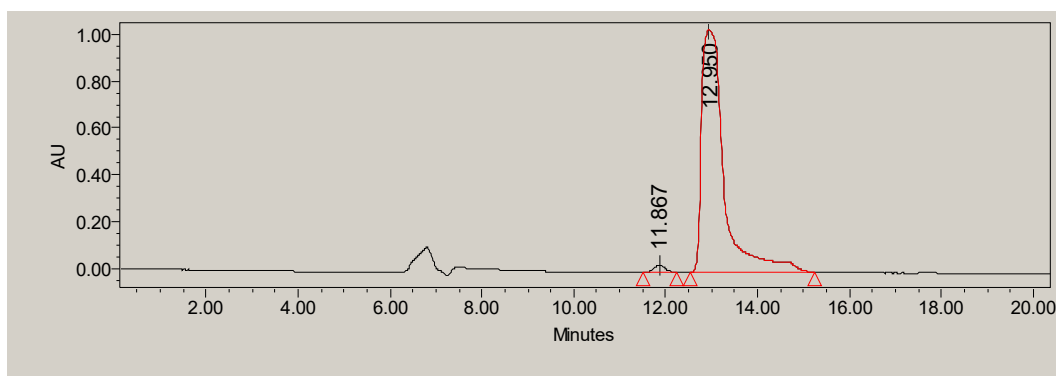
HPLC data



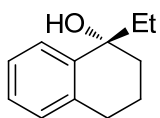
(R)-1-Methyl-1,2,3,4-tetrahydronaphthalen-1-ol (2a)



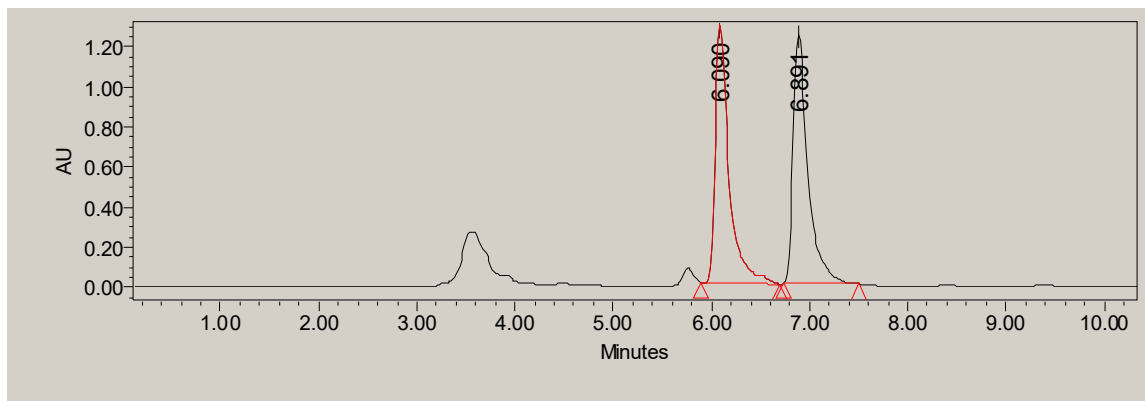
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		12.022	8634674	48.89	487825	bb	Unknown
2		13.213	9027463	51.11	454563	bb	Unknown



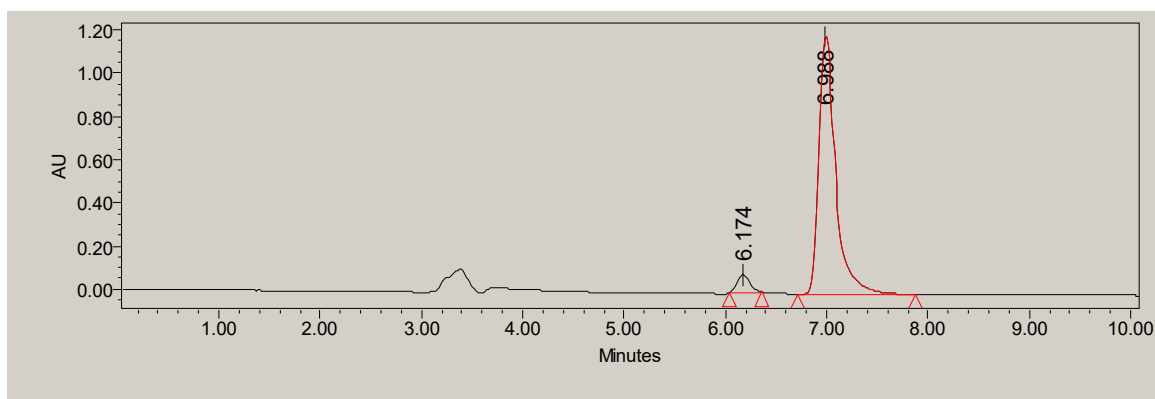
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		11.867	543992	1.52	32782	bb	Unknown
2		12.950	35253642	98.48	1034932	bb	Unknown



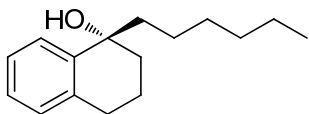
(R)-1-Ethyl-1,2,3,4-tetrahydronaphthalen-1-ol (2b)



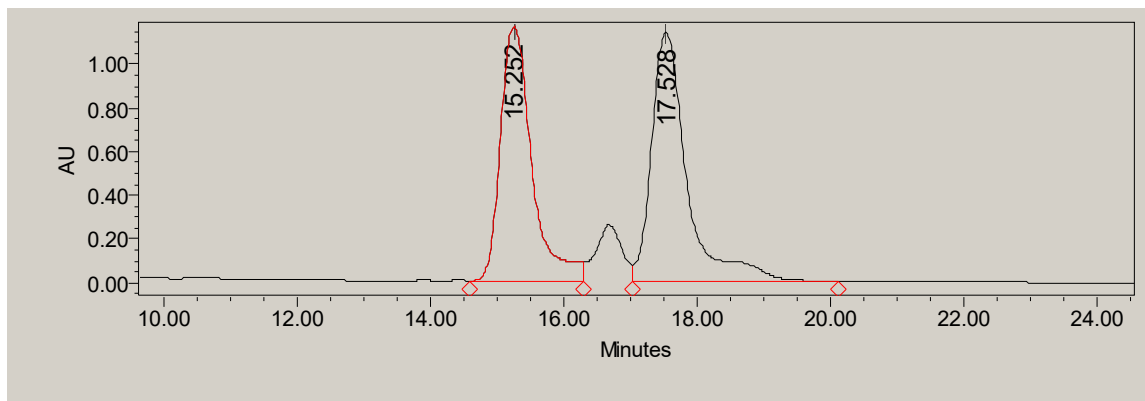
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		6.090	12774860	49.44	1287205	bb	Unknown
2		6.891	13065081	50.56	1244089	bb	Unknown



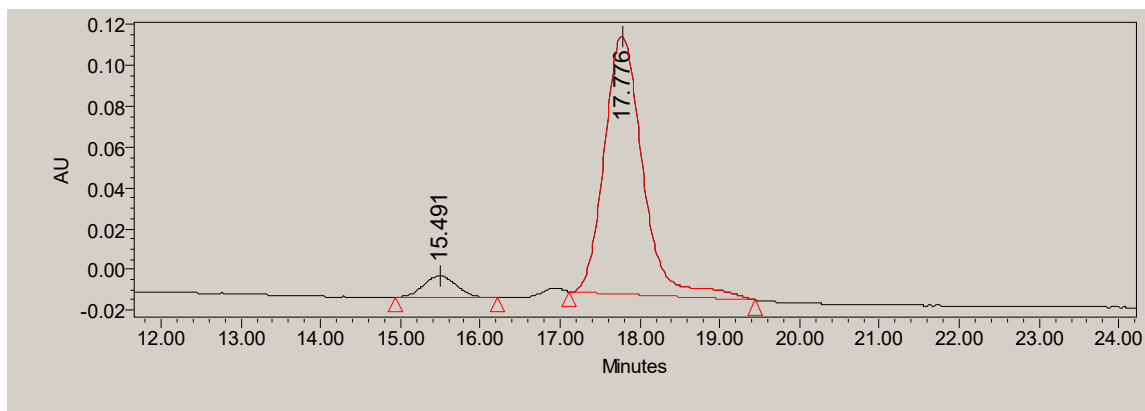
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		6.174	663459	4.42	78689	bb	Unknown
2		6.988	14334693	95.58	1194927	bb	Unknown



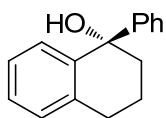
(R)-1-Hexyl-1,2,3,4-tetrahydronaphthalen-1-ol (2c)



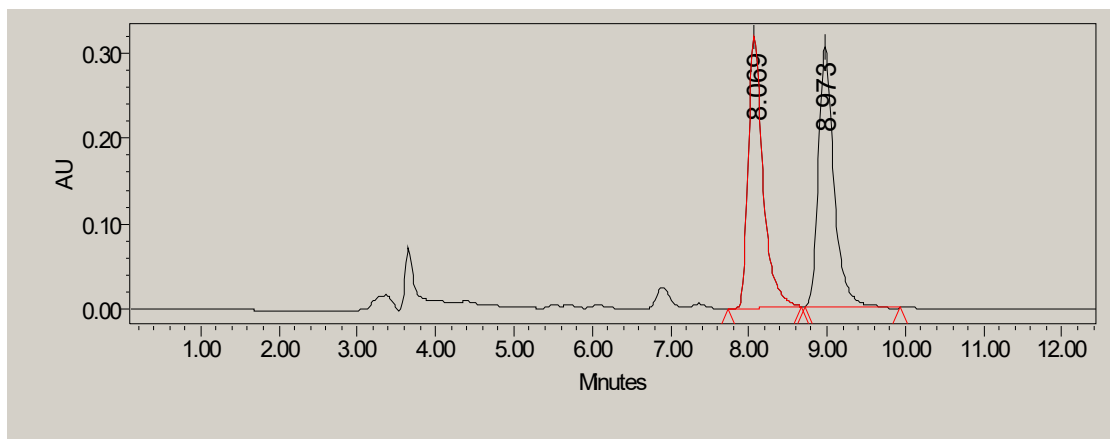
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		15.252	37442760	48.26	1164378	Vv	Unknown
2		17.528	40149503	51.74	1140411	vV	Unknown



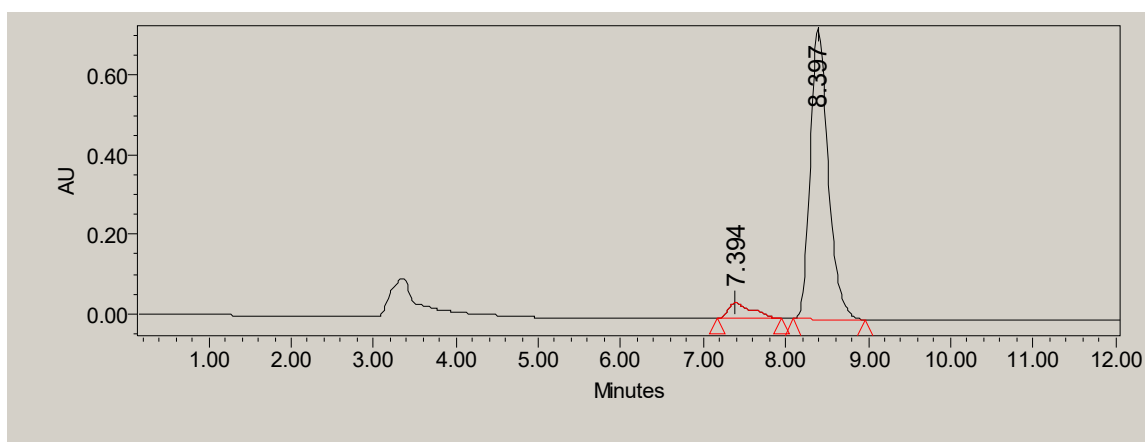
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		15.491	302328	6.74	10361	bb	Unknown
2		17.776	4185587	93.26	126314	bb	Unknown



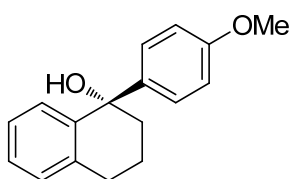
(S)-1-Phenyl-1,2,3,4-tetrahydronaphthalen-1-ol (2d)



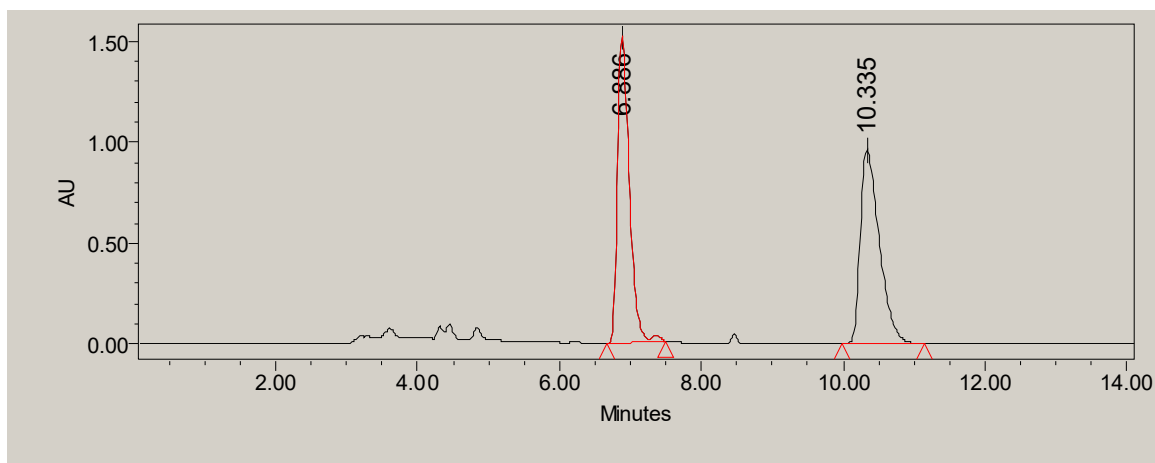
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		8.069	4197906	50.01	318813	bb	Unknown
2		8.973	4195467	49.99	303051	bb	Unknown



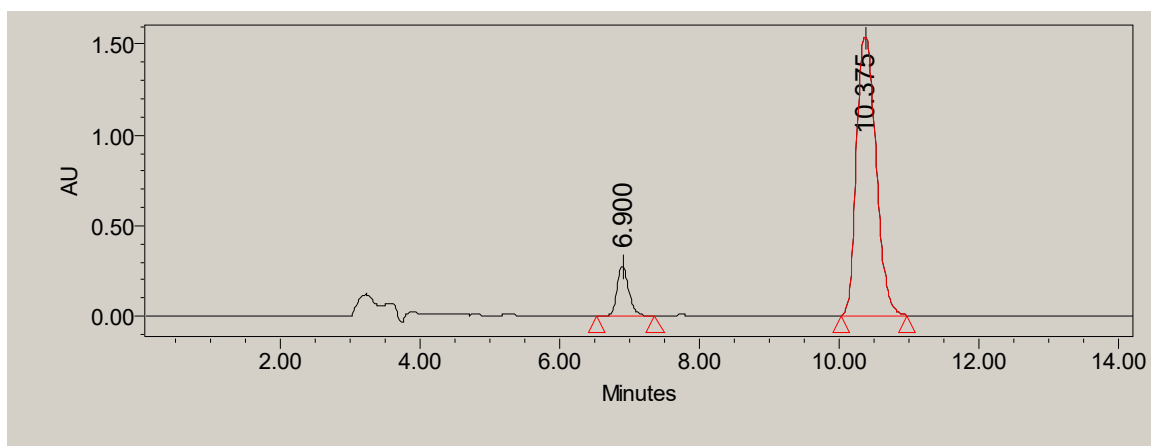
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		7.394	693978	5.88	36609	bb	Unknown
2		8.397	11112312	94.12	732600	bb	Unknown



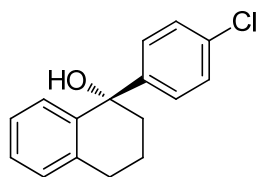
(S)-1-(4-Methoxyphenyl)-1,2,3,4-tetrahydronaphthalen-1-ol (2e)



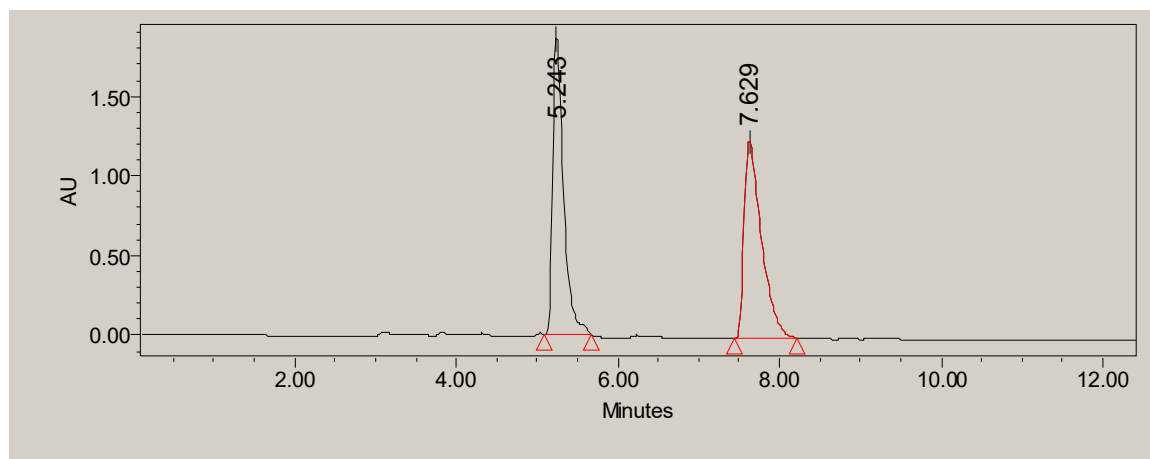
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		6.886	17920580	49.82	1526496	bb	Unknown
2		10.335	18048369	50.18	960718	bb	Unknown



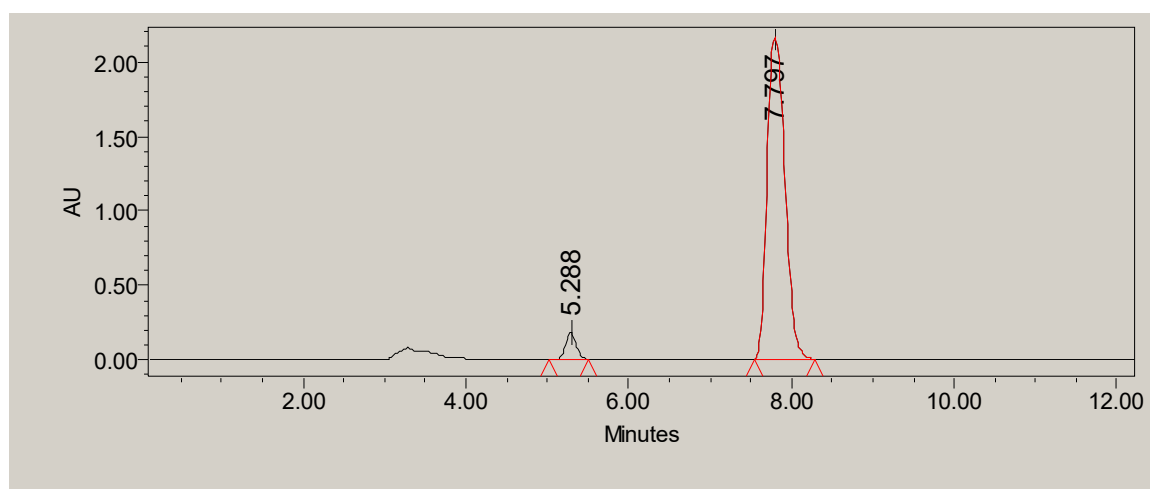
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		6.900	3215708	10.98	275885	bb	Unknown
2		10.375	26070472	89.02	1428651	bb	Unknown



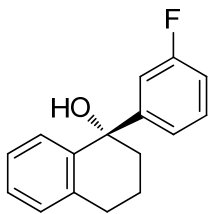
(S)-1-(4-Chlorophenyl)-1,2,3,4-tetrahydronaphthalen-1-ol (2f)



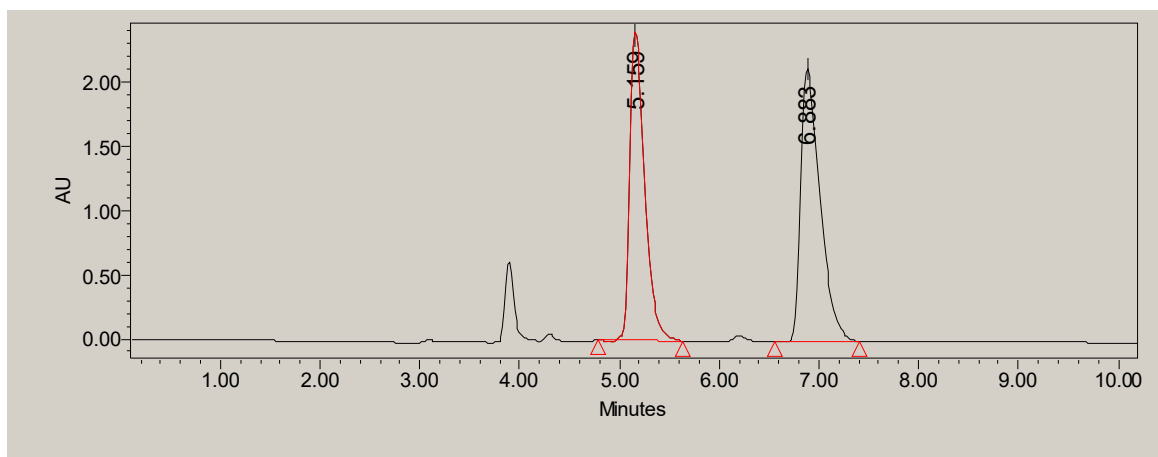
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		5.243	18558584	50.21	1898906	bb	Unknown
2		7.629	18405718	49.79	1230536	bb	Unknown



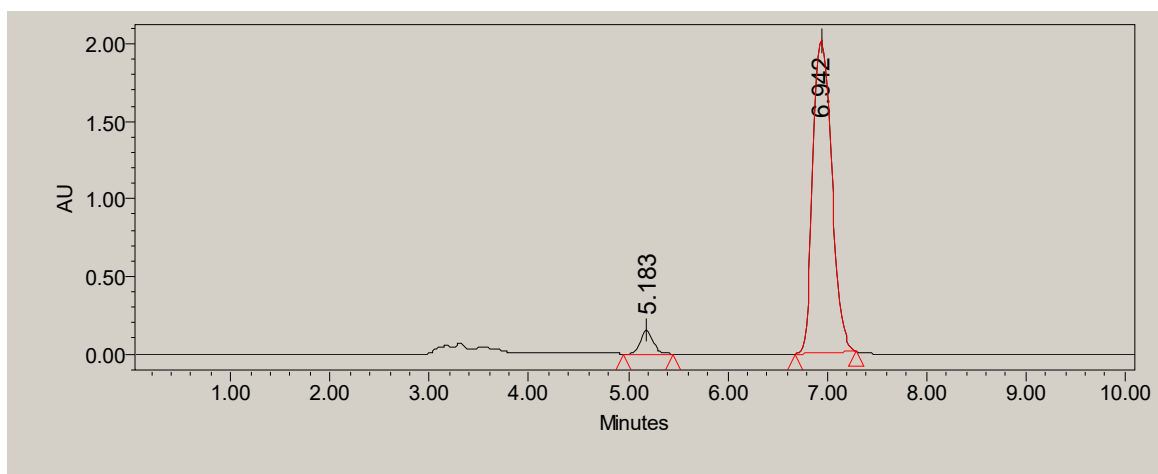
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		5.288	1608034	4.73	178159	bb	Unknown
2		7.797	32411250	95.27	2162109	bb	Unknown



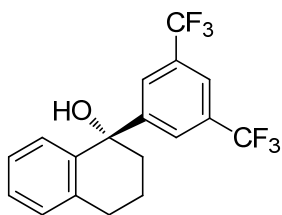
(S)-1-(3-Fluorophenyl)-1,2,3,4-tetrahydronaphthalen-1-ol (2g)



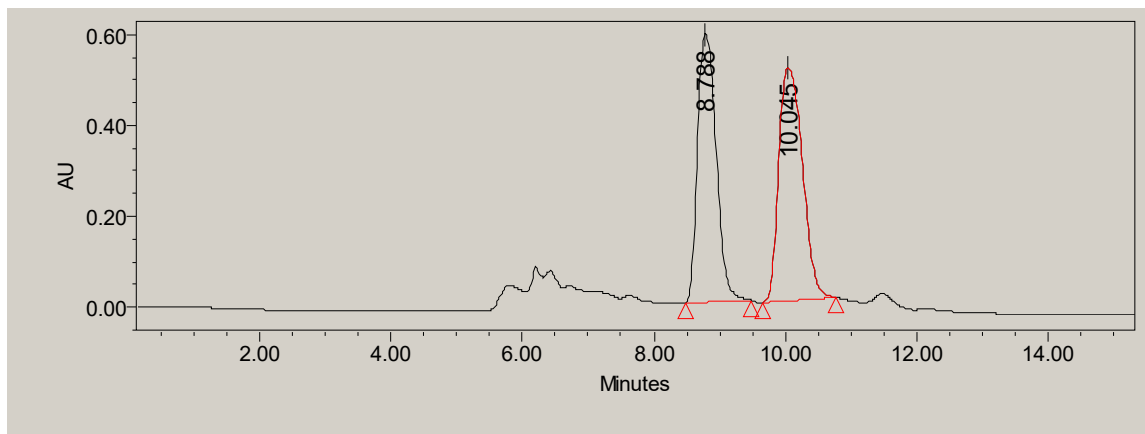
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		5.159	25063723	48.66	2417245	bb	Unknown
2		6.883	26439387	51.34	2071720	bb	Unknown



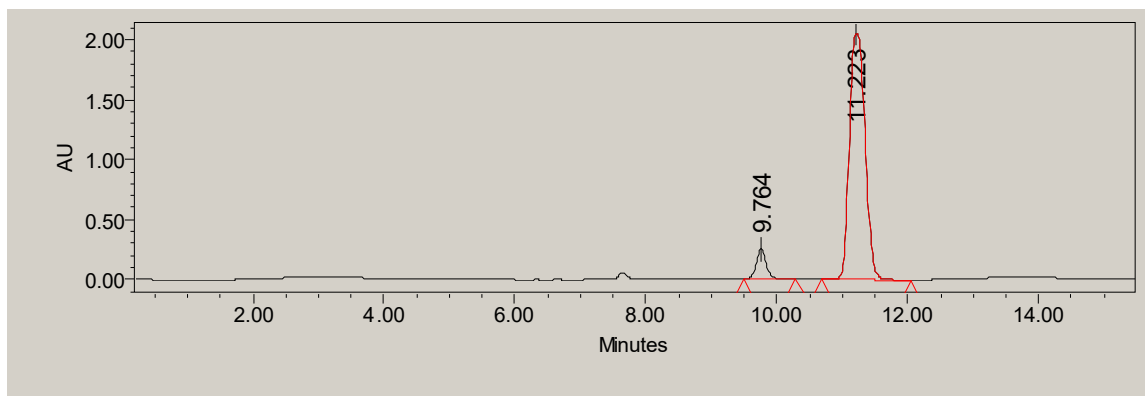
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		5.183	1353926	4.83	154699	bb	Unknown
2		6.942	26669541	95.17	2015777	bb	Unknown



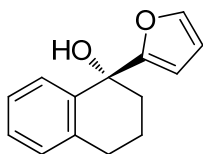
(S)-1-(3,5-Bis(trifluoromethyl)phenyl)-1,2,3,4-tetrahydronaphthalen-1-ol (2h)



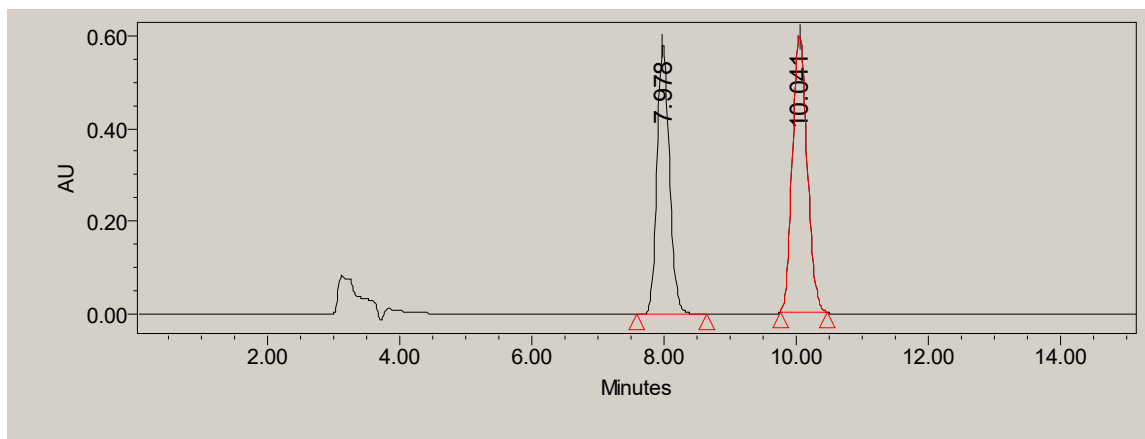
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		8.788	11628585	48.24	591291	bb	Unknown
2		10.045	12478281	51.76	506647	bb	Unknown



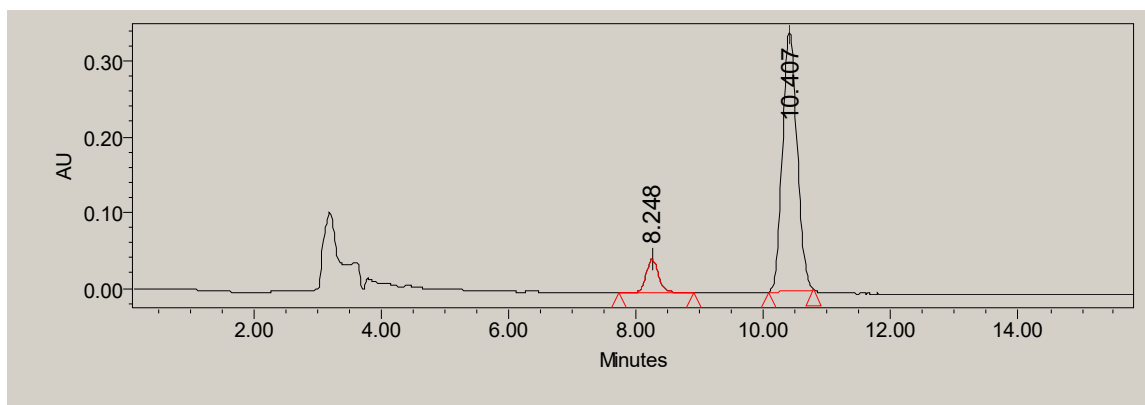
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		9.764	2531588	6.96	243663	bb	Unknown
2		11.223	33862381	93.04	2055586	bb	Unknown



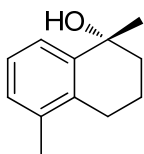
(R)-1-(Furan-2-yl)-1,2,3,4-tetrahydronaphthalen-1-ol (2i)



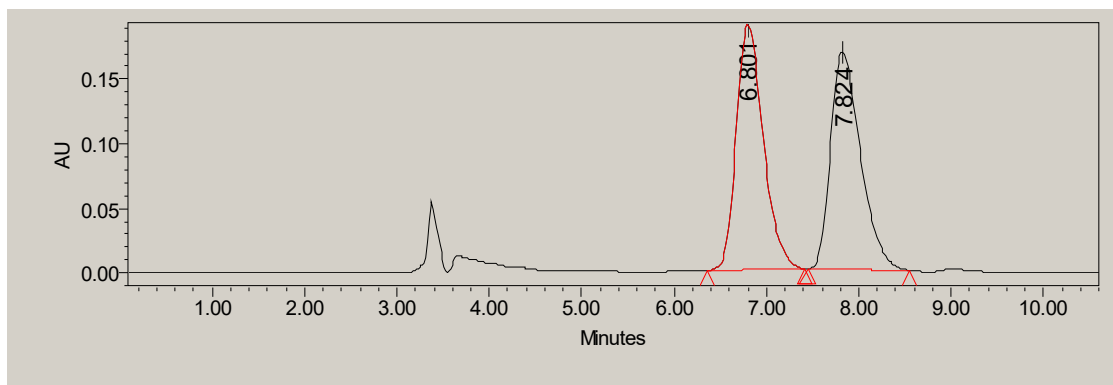
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		7.978	7529468	48.32	583186	bb	Unknown
2		10.041	8052134	51.68	560857	bb	Unknown



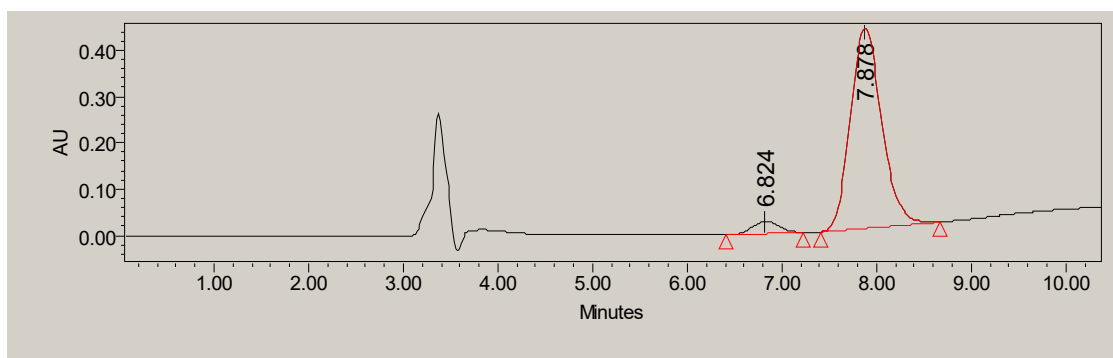
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		8.248	591824	10.68	43882	bb	Unknown
2		10.407	4950348	89.32	327360	bb	Unknown



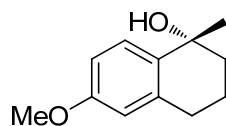
(R)-1,5-Dimethyl-1,2,3,4-tetrahydronaphthalen-1-ol (2j)



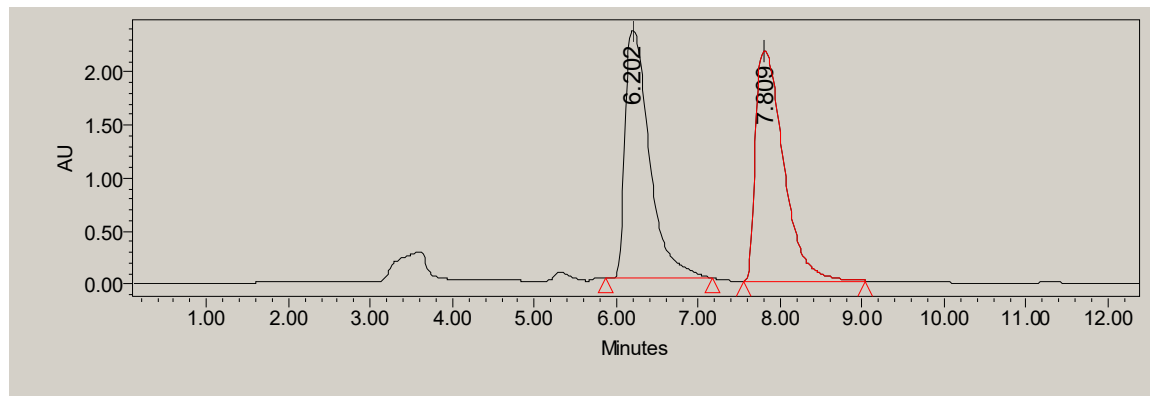
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		6.801	3847974	50.34	189483	bb	Unknown
2		7.824	3795404	49.66	168236	bb	Unknown



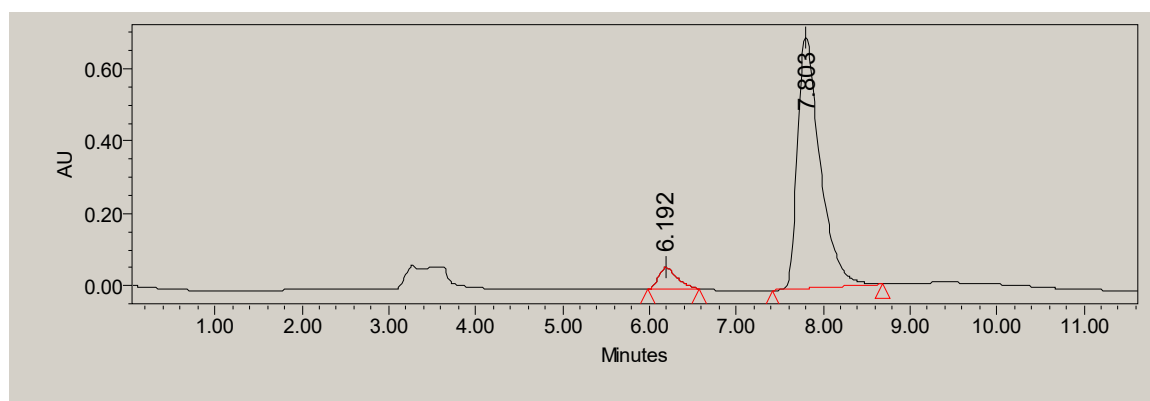
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		6.824	514100	4.93	25646	bb	Unknown
2		7.878	9911947	95.07	430828	bb	Unknown



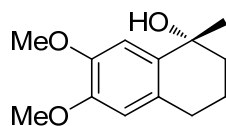
(R)-6-Methoxy-1-methyl-1,2,3,4-tetrahydronaphthalen-1-ol (2k)



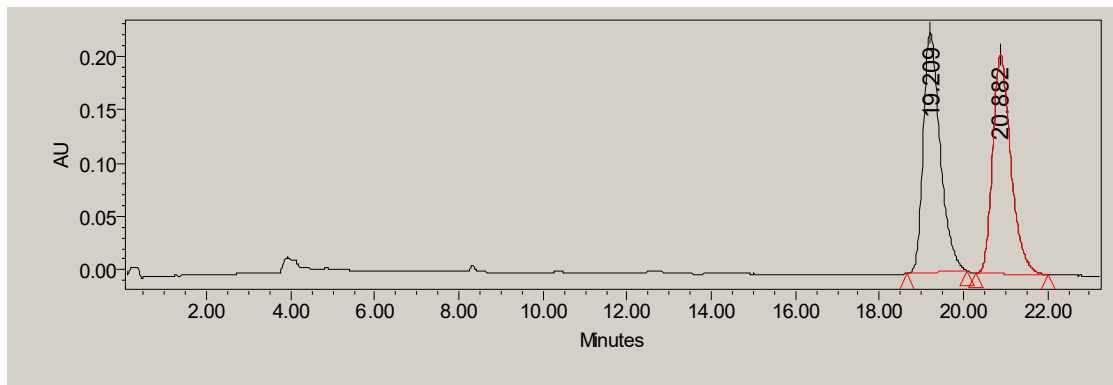
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		6.202	48895820	48.59	2335090	bb	Unknown
2		7.809	51730094	51.41	2173704	bb	Unknown



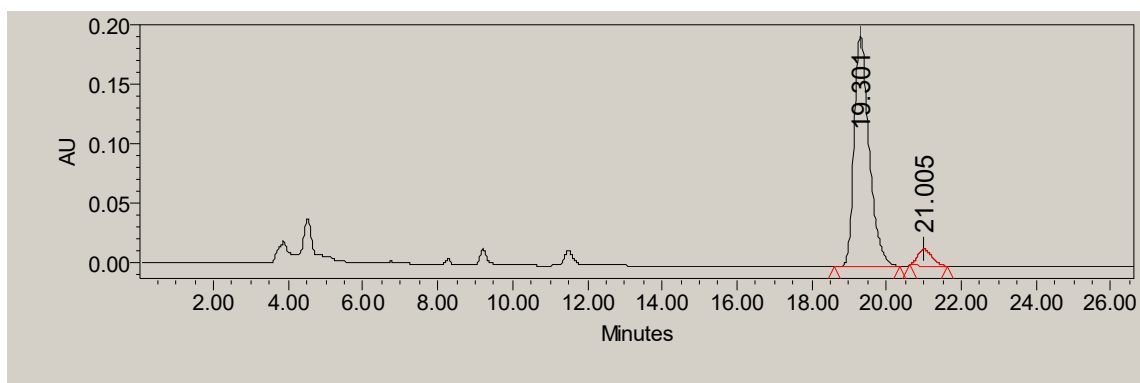
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		6.192	813848	6.07	58472	bb	Unknown
2		7.803	12600924	93.93	693669	bb	Unknown



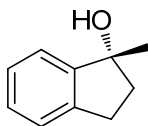
(R)-6,7-Dimethoxy-1-methyl-1,2,3,4-tetrahydronaphthalen-1-ol (2I)



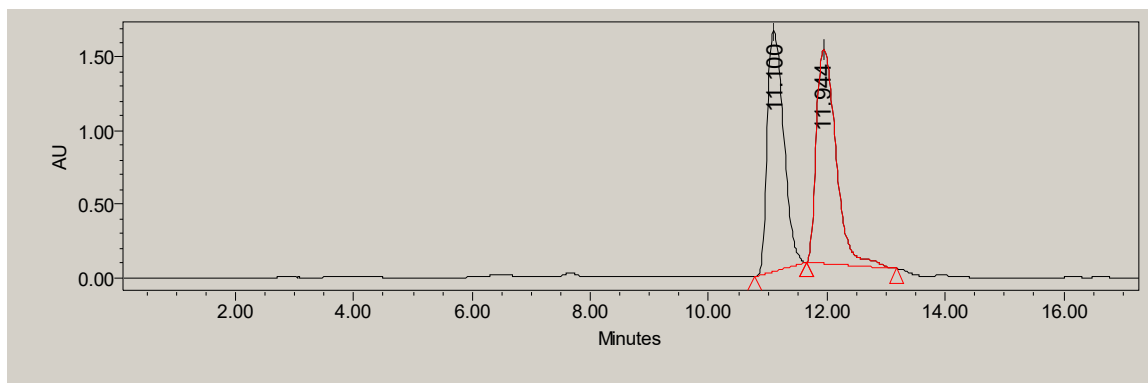
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		19.209	6183040	50.04	224492	bb	Unknown
2		20.882	6173105	49.96	204407	bb	Unknown



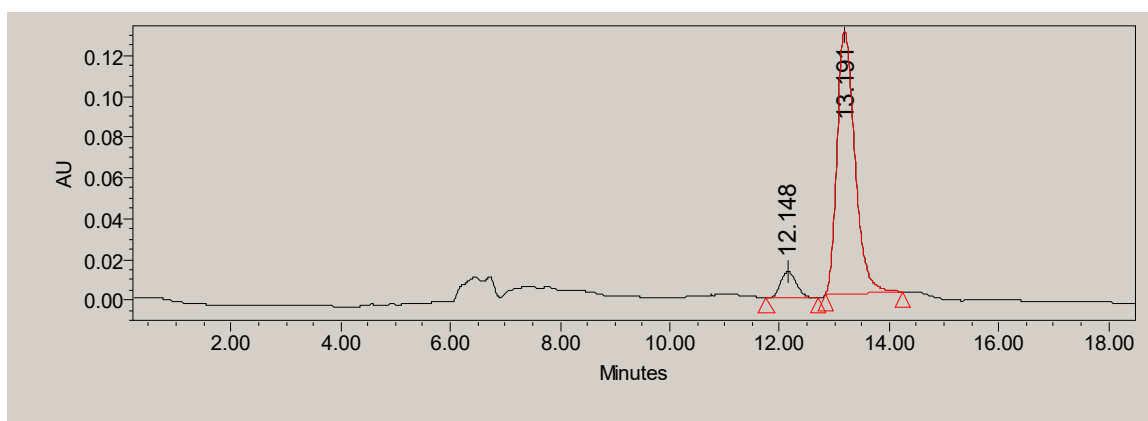
	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		19.301	5431089	93.93	194322	bb	Unknown
2		21.005	351189	6.07	13350	bb	Unknown



(R)-1-Methyl-2,3-dihydro-1H-inden-1-ol (2m)



	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		11.100	31360518	48.12	1640168	bb	Unknown
2		11.944	33813843	51.88	1455984	bb	Unknown



	Name	Retention Time	Area	% Area	Height	Int Type	Peak Type
1		12.148	250801	8.91	12774	bb	Unknown
2		13.191	2564291	91.09	121235	bb	Unknown