

Electronic Supplementary Information for

**One-pot Synthesis of *N*-Heterocycles and Enimino Carbocycles by
Tandem Dehydrative Coupling - Reductive Cyclization of
Halo-*sec*-amides and Dehydrative Cyclization of Olefinic *sec*-Amides**

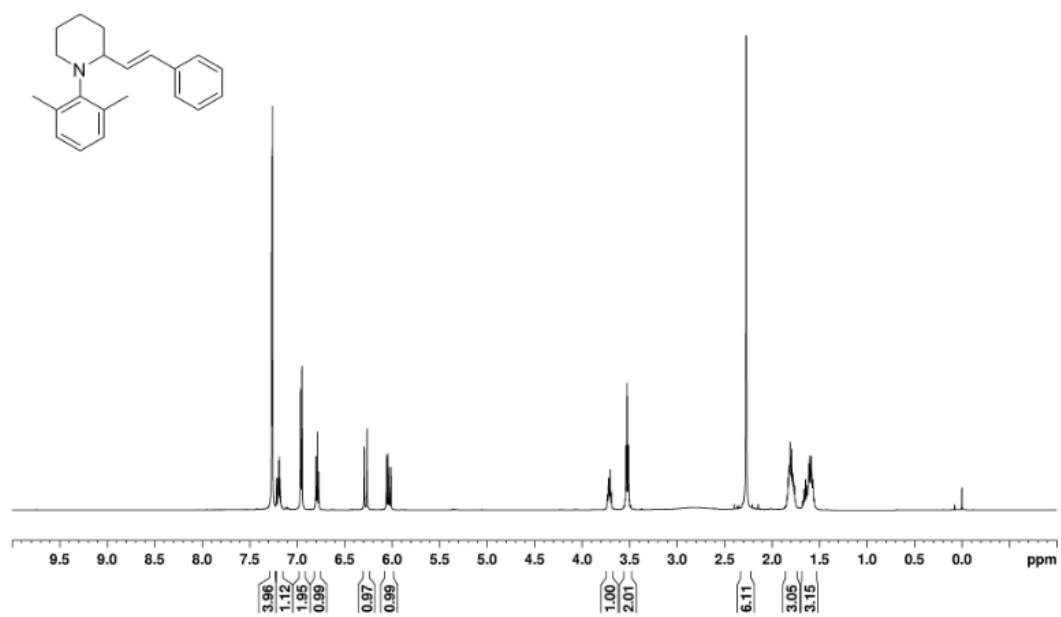
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iChEM (Collaborative Innovation Center of Chemistry for Energy Materials), College
of Chemistry and Chemical Engineering, Xiamen University, Xiamen, Fujian 361005,
P. R. China*

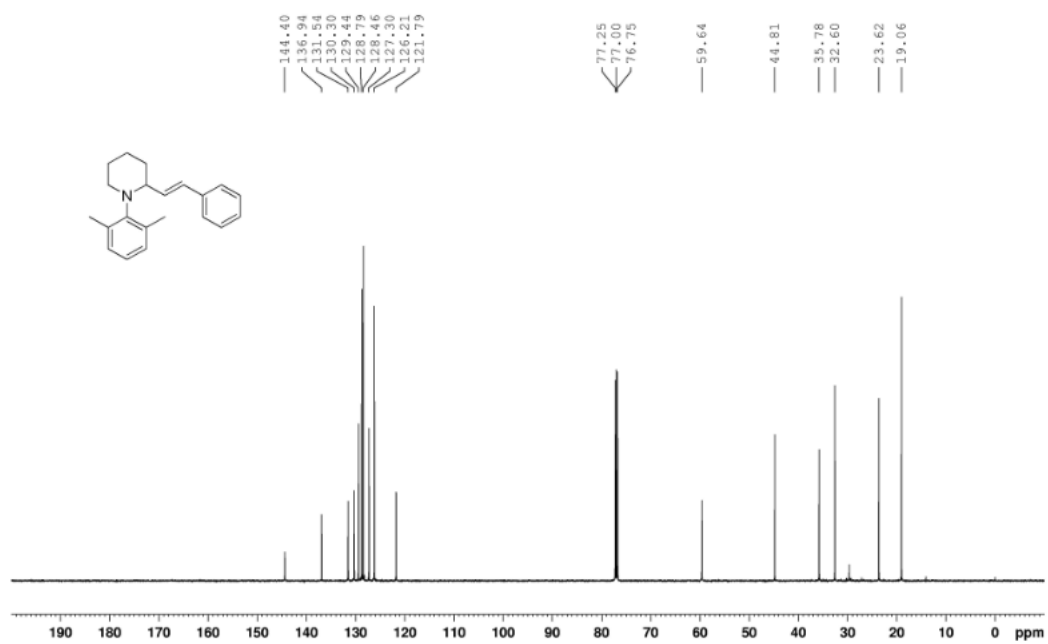
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¹H and ¹³C NMR Spectra of all products	S1-S30
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^1H NMR spectrum of **4a** (CDCl_3)

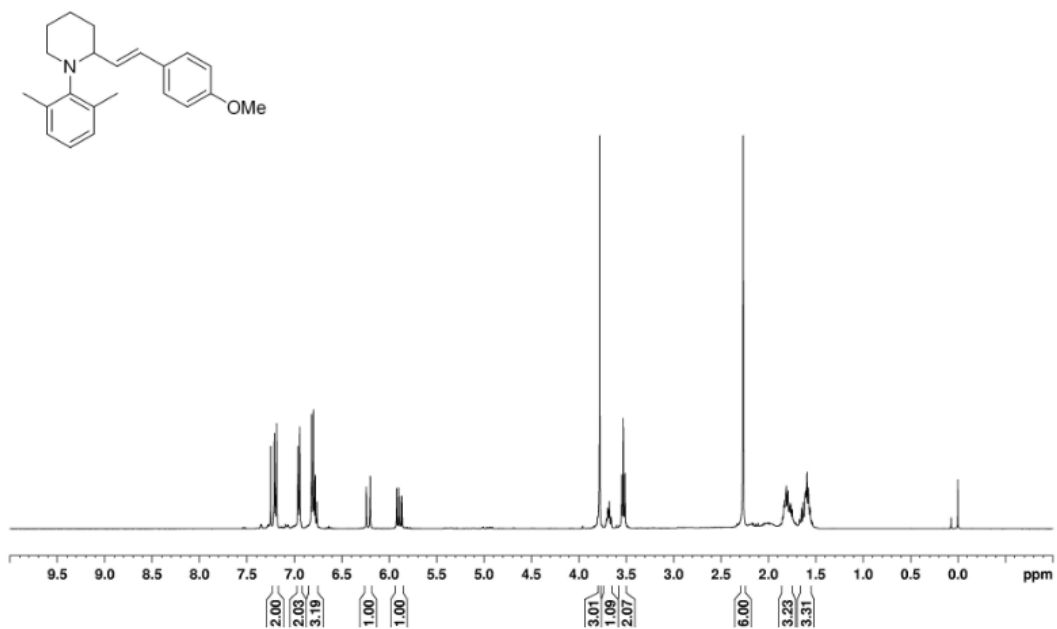


^{13}C NMR spectrum of **4a** (CDCl_3)



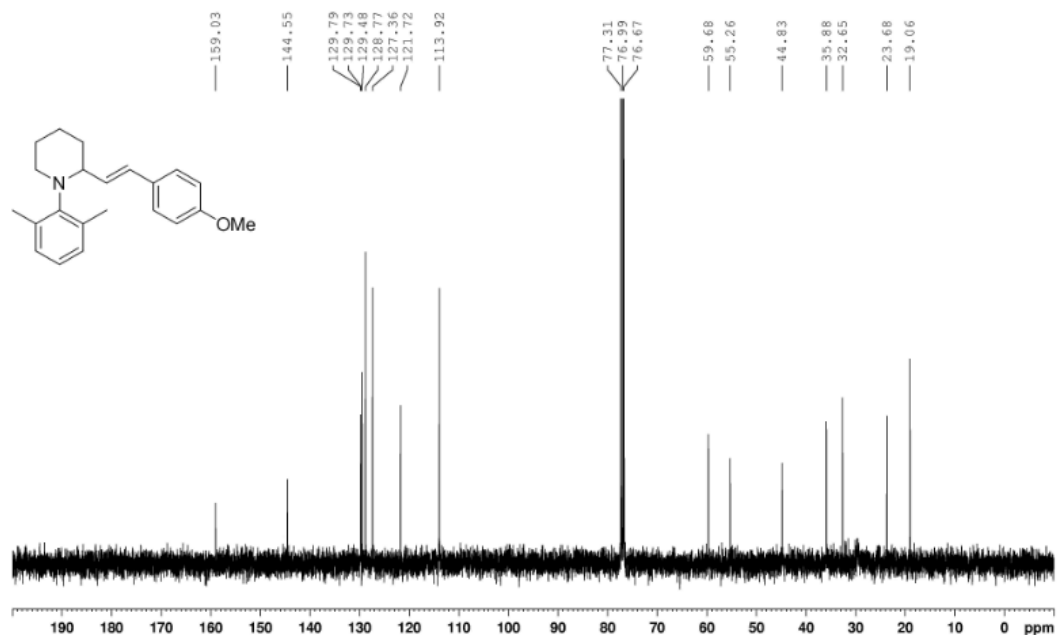
¹H NMR spectrum of **4b** (CDCl₃)

Sample:HYHD40-PROTON256
CDCl₃
Date:2013-06-26



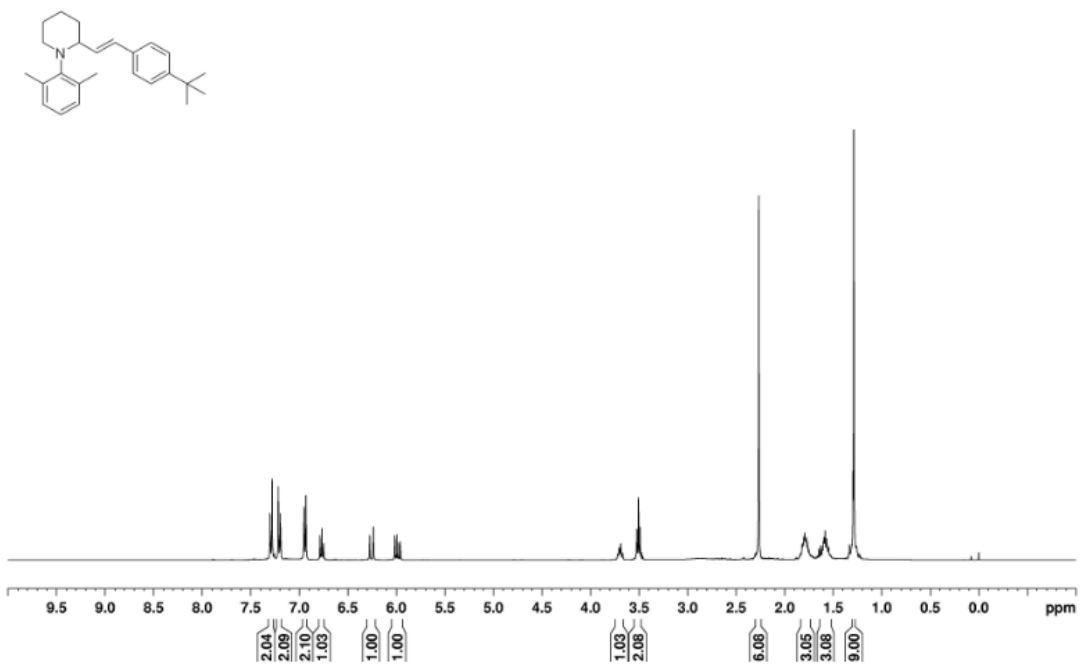
¹³C NMR spectrum of **4b** (CDCl₃)

Sample:HYHD4002-C13C
CDCl₃
Date:2013-06-26



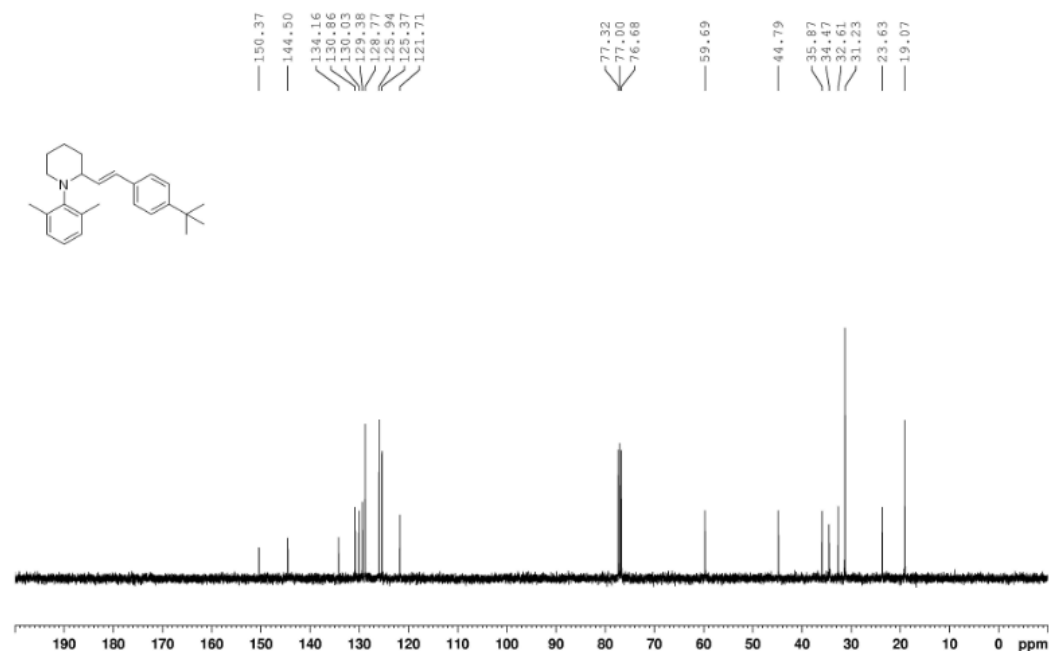
^1H NMR spectrum of **4c** (CDCl_3)

Sample:HYHD142-PROTON256
CDCl₃
Date:2013-10-23



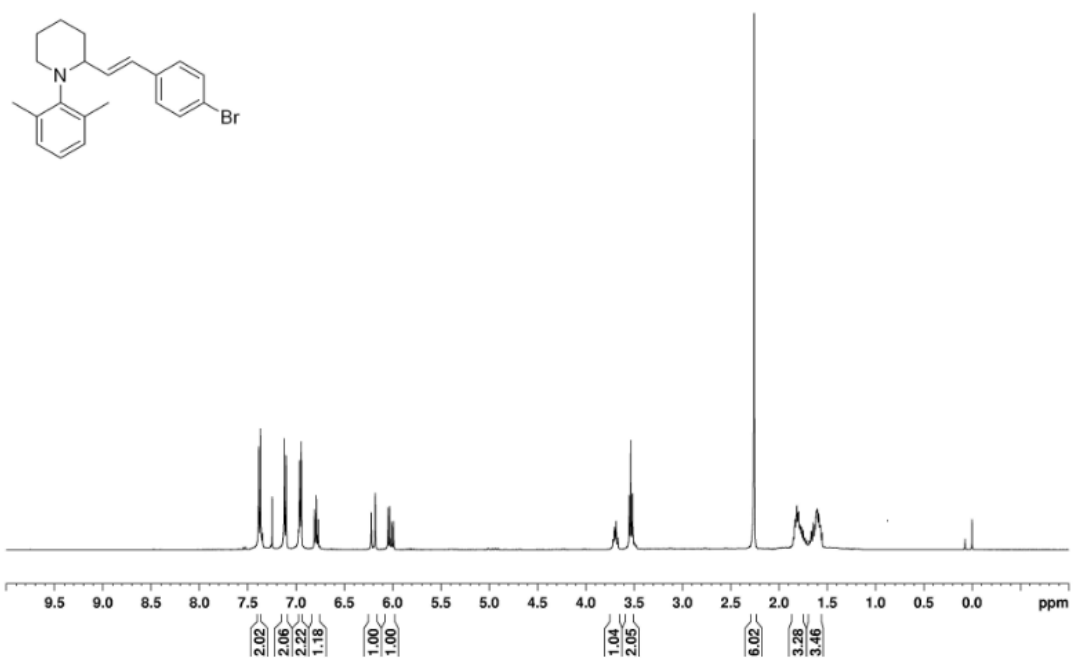
^{13}C NMR spectrum of **4c** (CDCl_3)

Sample:HYHD142-C-C13
CDCl₃
Date:2013-10-23



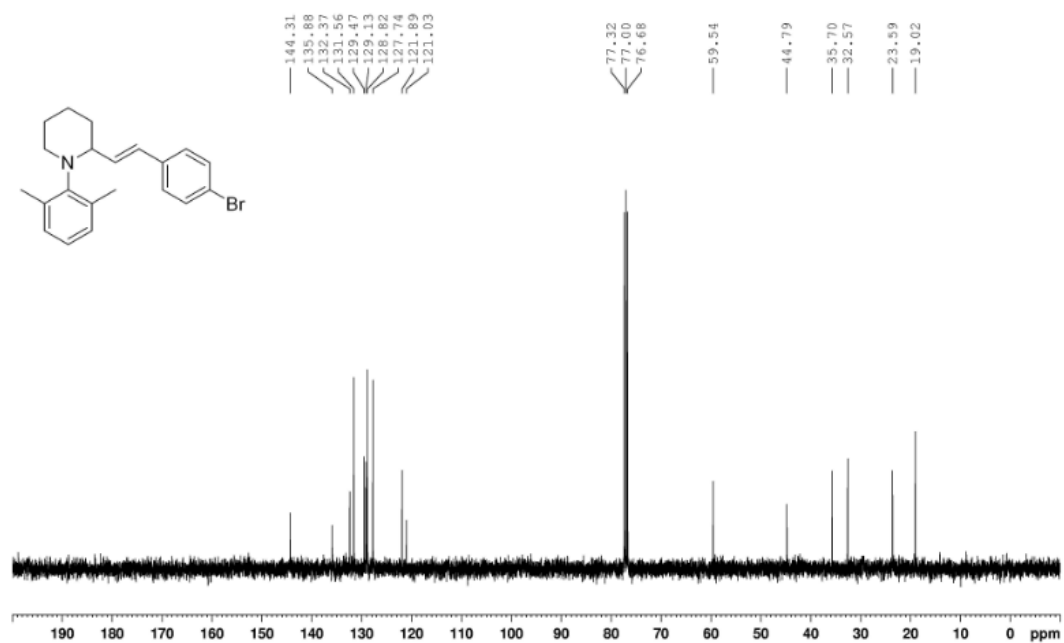
¹H NMR spectrum of **4d** (CDCl₃)

Sample:HYHD39-PROTON256
CDCl₃
Date:2013-06-26



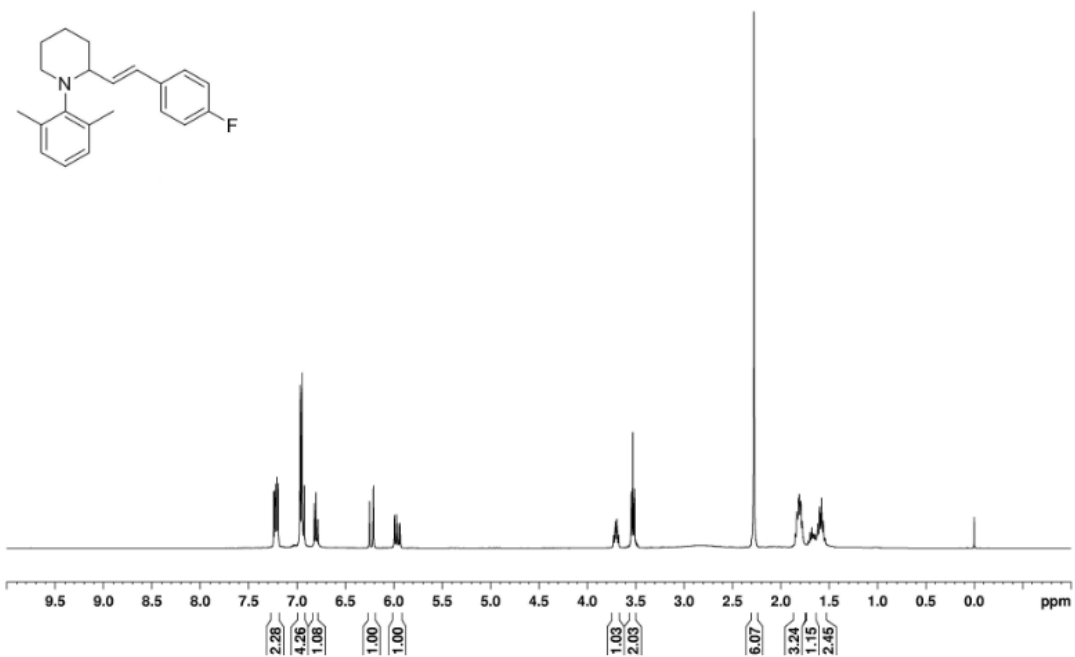
¹³C NMR spectrum of **4d** (CDCl₃)

Sample:HYHD39-C13CPD
CDCl₃
Date:2013-06-26



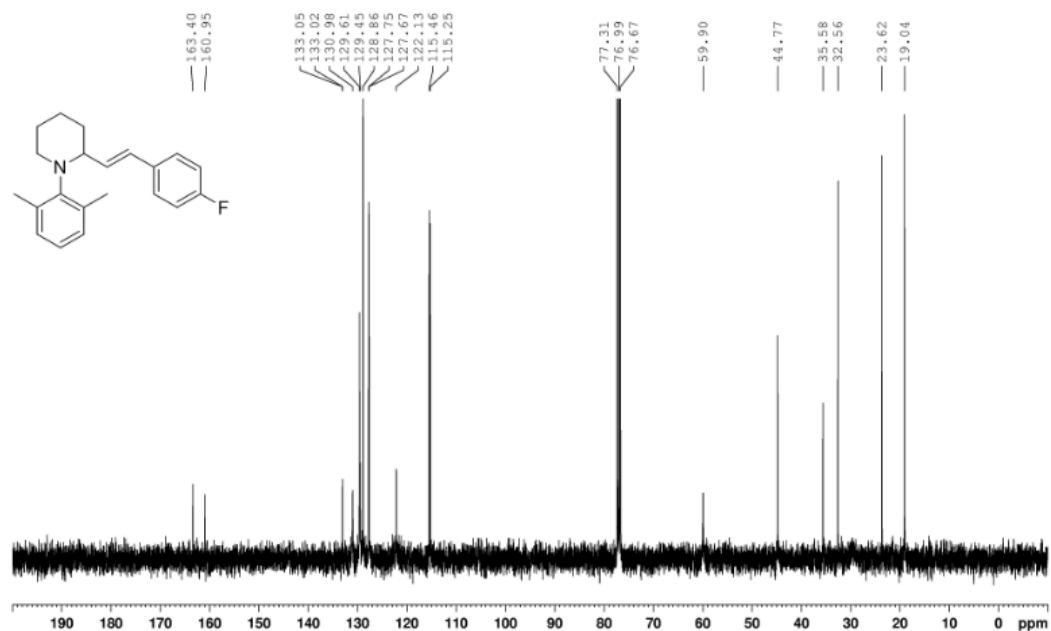
^1H NMR spectrum of **4e** (CDCl_3)

Sample:HYHD38-PROTON256
CDCl₃
Date:2013-06-26



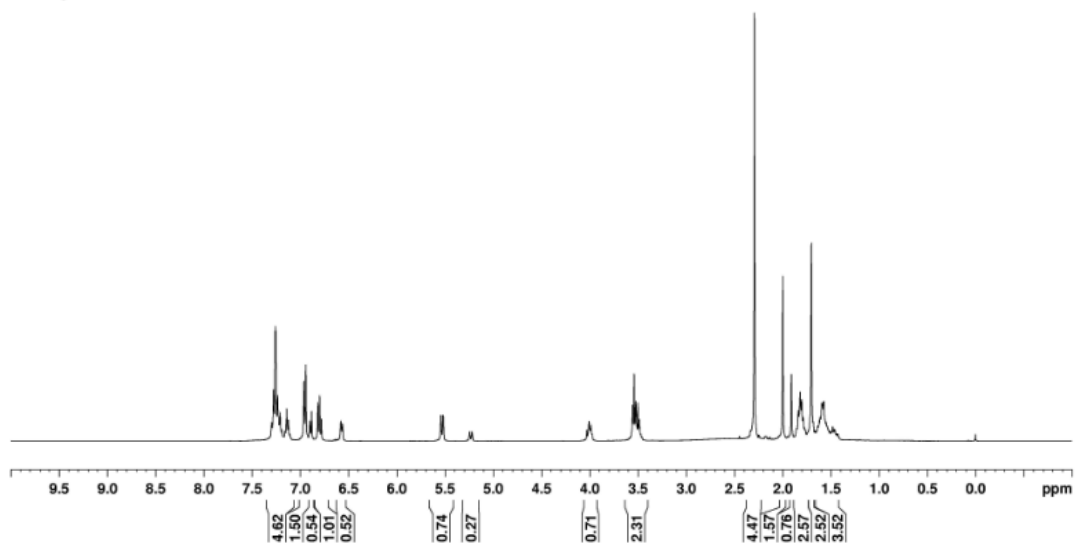
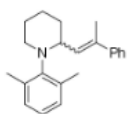
^{13}C NMR spectrum of **4e** (CDCl_3)

Sample:HYHD38-C13CPD
CDCl₃
Date:2013-06-26



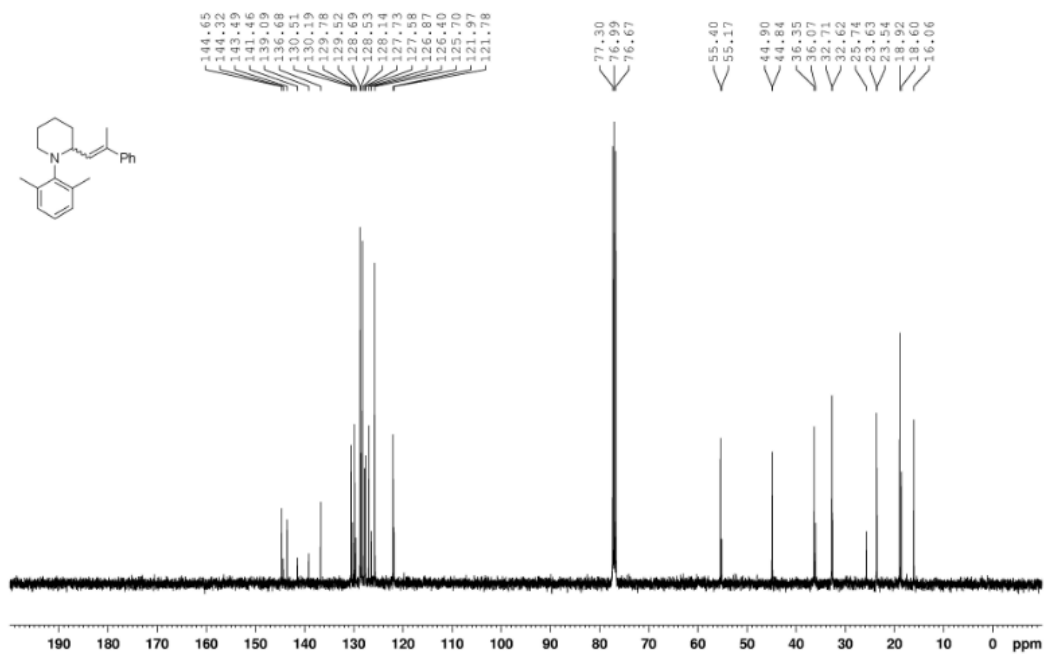
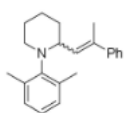
^1H NMR spectrum of **4f** (CDCl_3)

Sample:HYHD127-PROTON25
CDCl₃
Date:2013-10-13



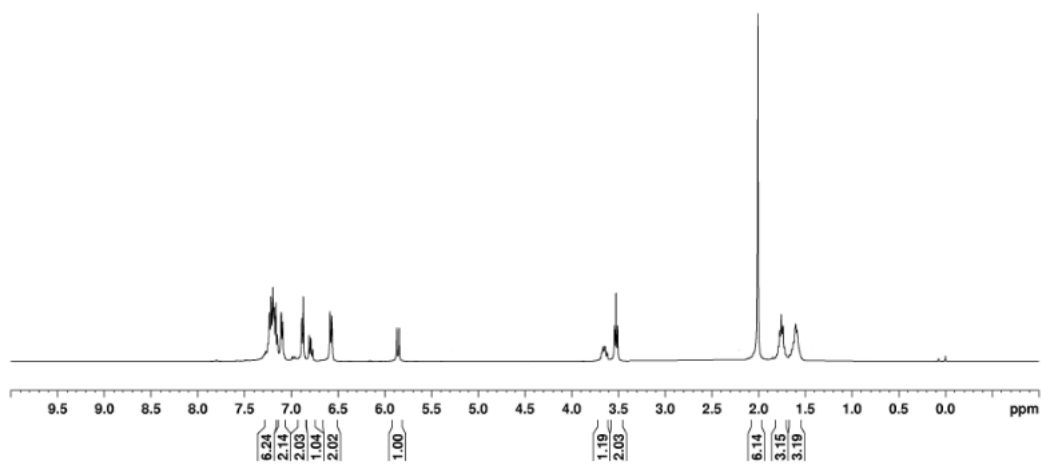
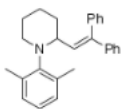
^{13}C NMR spectrum of **4f** (CDCl_3)

Sample:HYHD127-C13CPD
CDCl₃
Date:2013-10-13



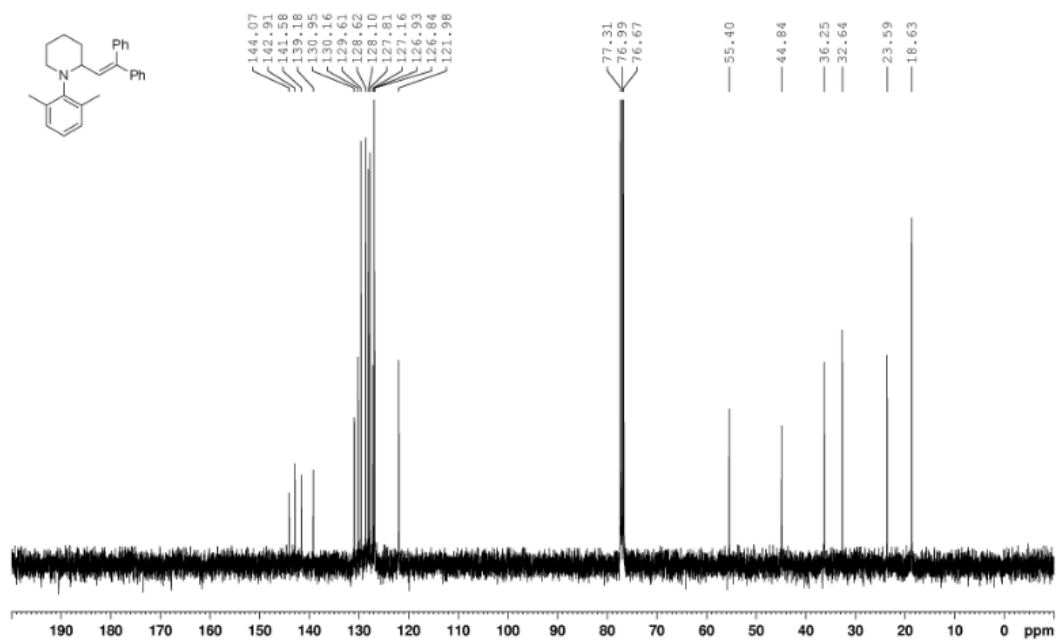
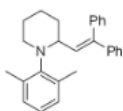
^1H NMR spectrum of **4g** (CDCl_3)

Sample:HYHD128-PROTON256
CDCl₃
Date:2013-10-13



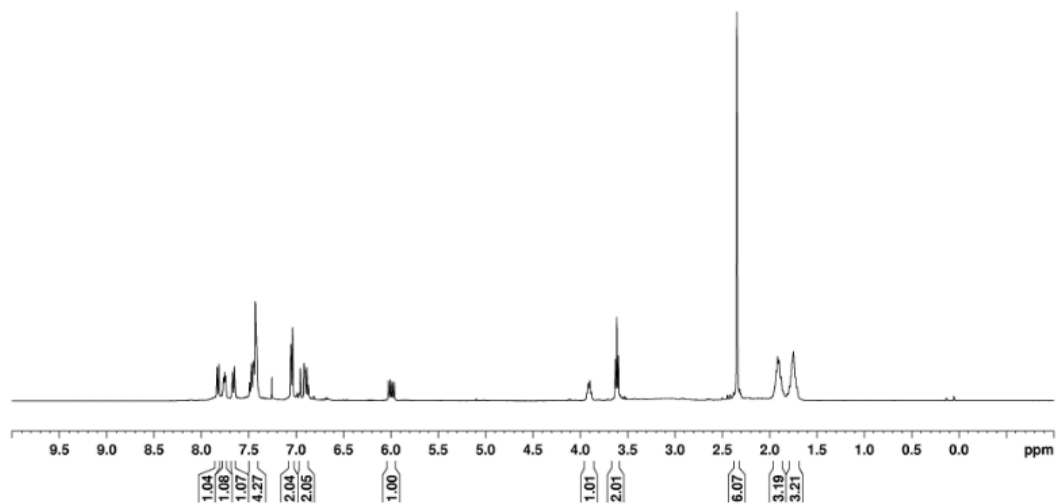
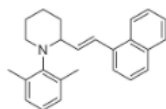
^{13}C NMR spectrum of **4g** (CDCl_3)

Sample:HYHD128-C13CP
CDCl₃
Date:2013-10-13



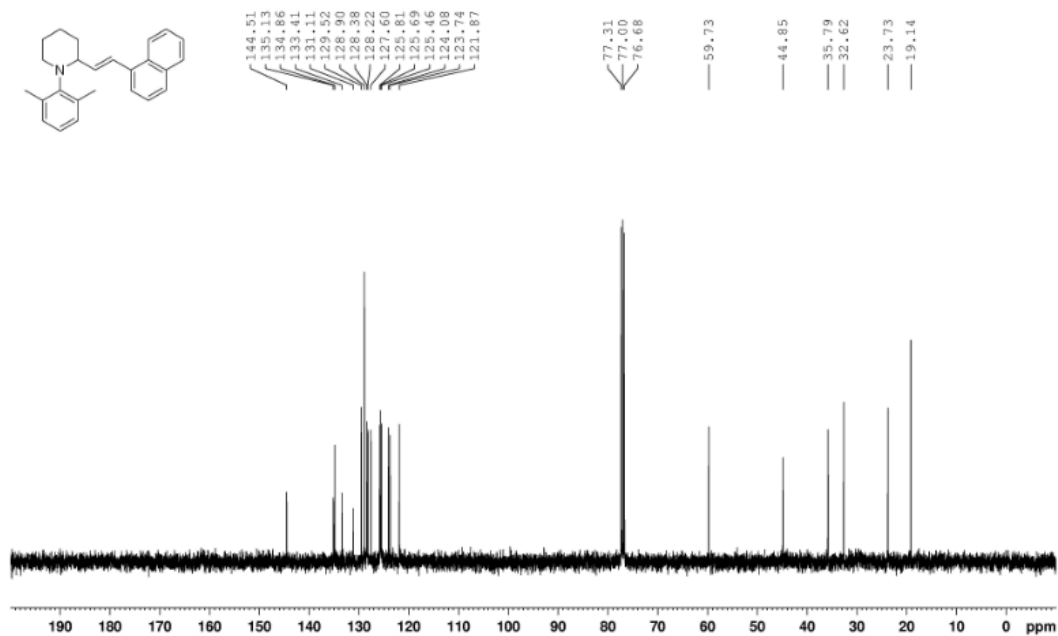
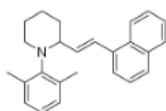
¹H NMR spectrum of **4h** (CDCl₃)

Sample:HYHD129-PROTON25
CDCl₃
Date:2013-10-12



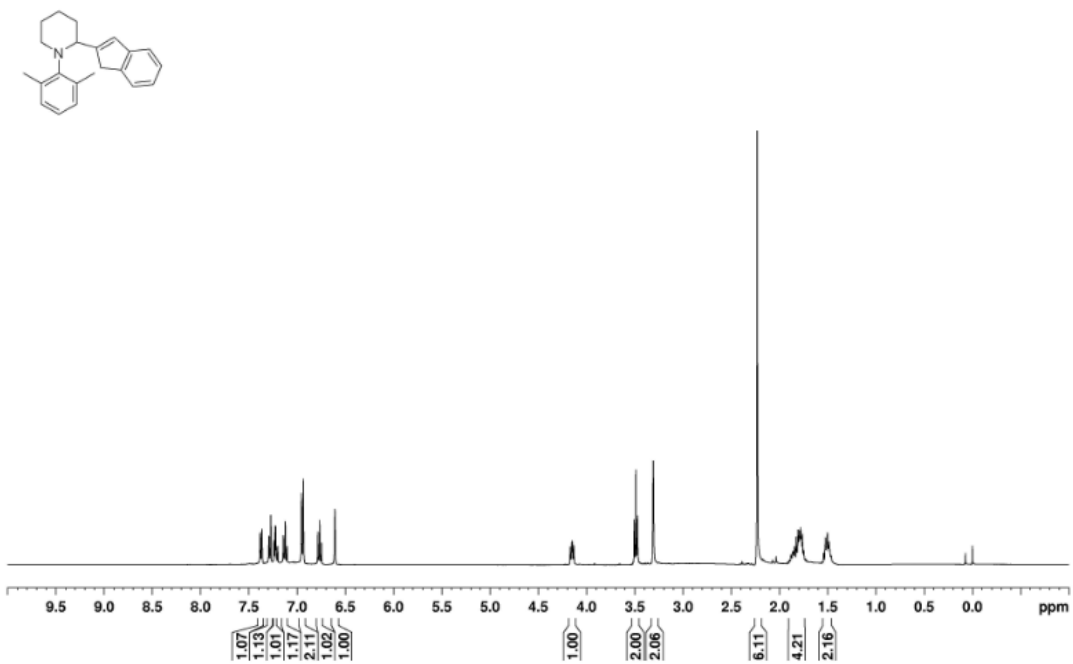
¹³C NMR spectrum of **4h** (CDCl₃)

Sample:HYHD129-C13CP
CDCl₃
Date:2013-10-12



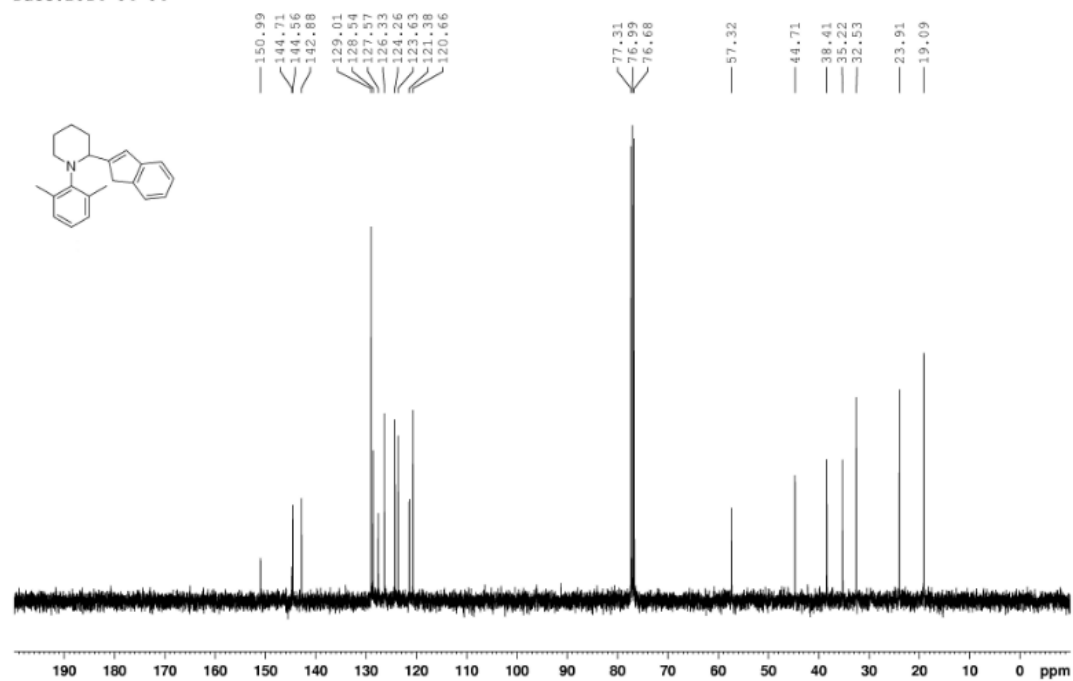
^1H NMR spectrum of **4i** (CDCl_3)

Sample:HYHF41-PROTON256
CDCl₃
Date:2014-04-04



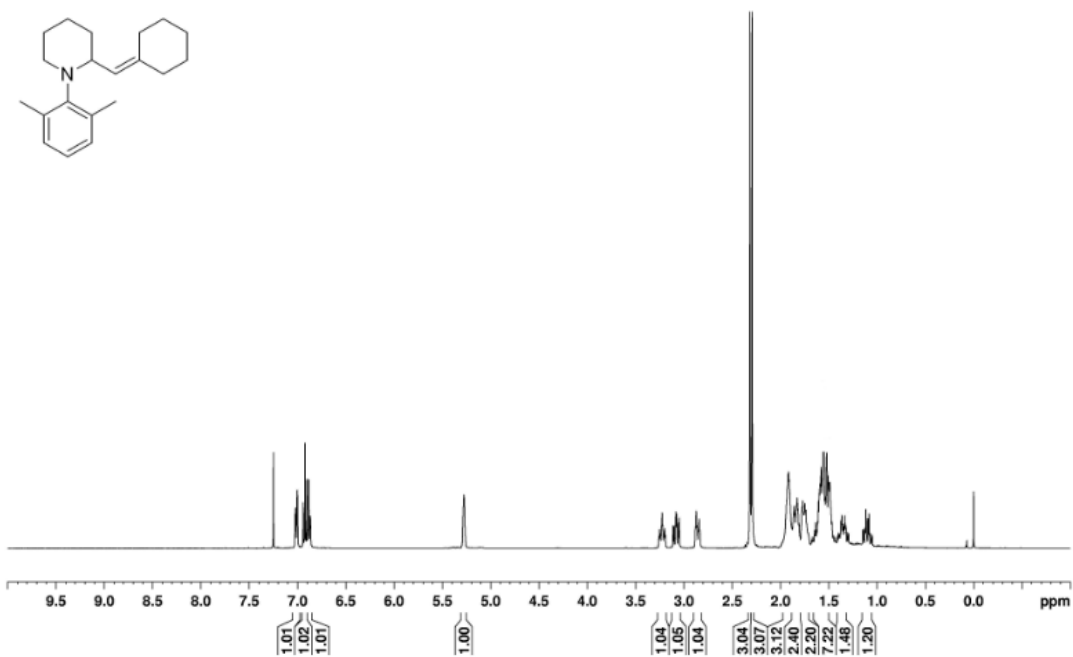
^{13}C NMR spectrum of **4i** (CDCl_3)

Sample:HYHF41-C13CPD
CDCl₃
Date:2014-04-04



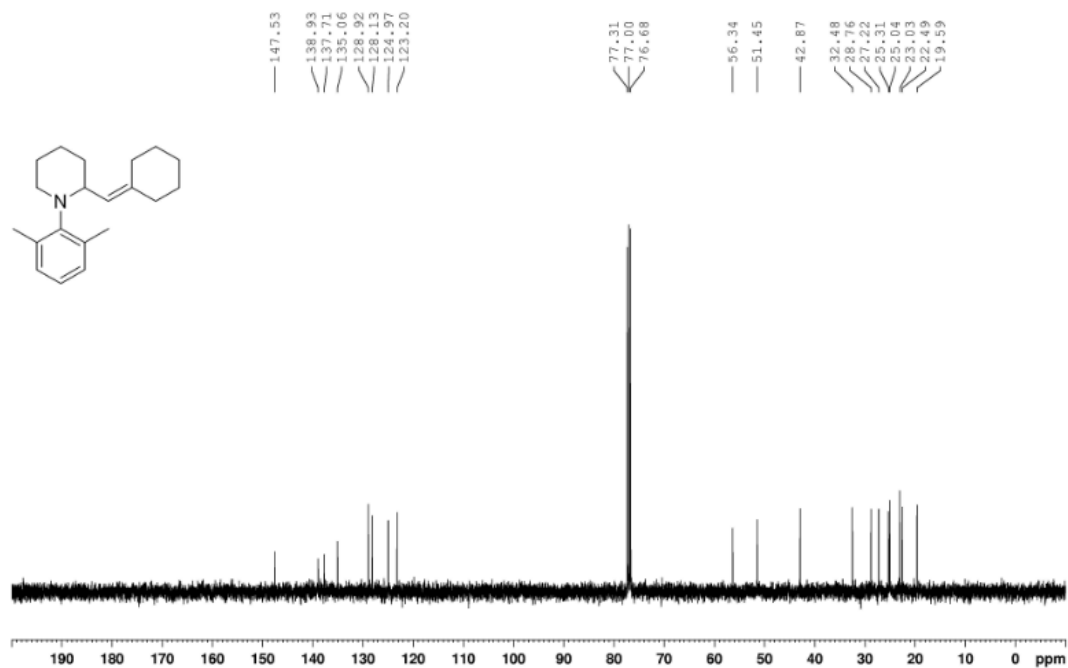
^1H NMR spectrum of **4j** (CDCl_3)

Sample: HYHD41-PROTON256
CDCl₃
Date: 2013-06-26



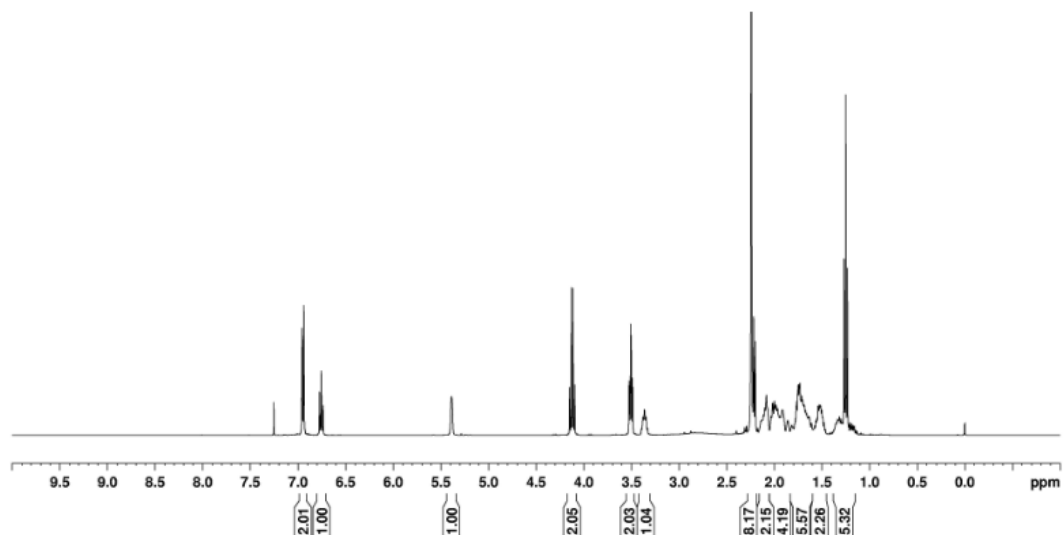
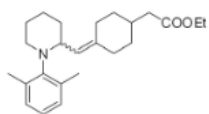
^{13}C NMR spectrum of **4j** (CDCl_3)

Sample: HYHD41-C13CPD
CDCl₃
Date: 2013-06-26



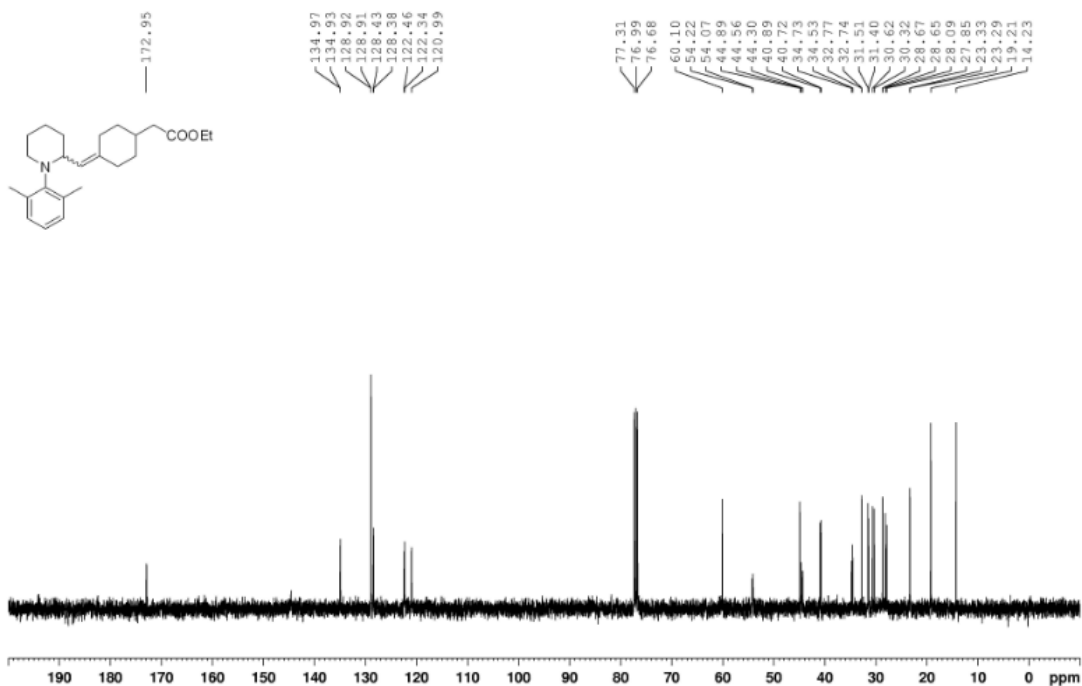
^1H NMR spectrum of **4k** (CDCl_3)

Sample:HYHF43-PROTON256
CDCl₃
Date:2014-04-04



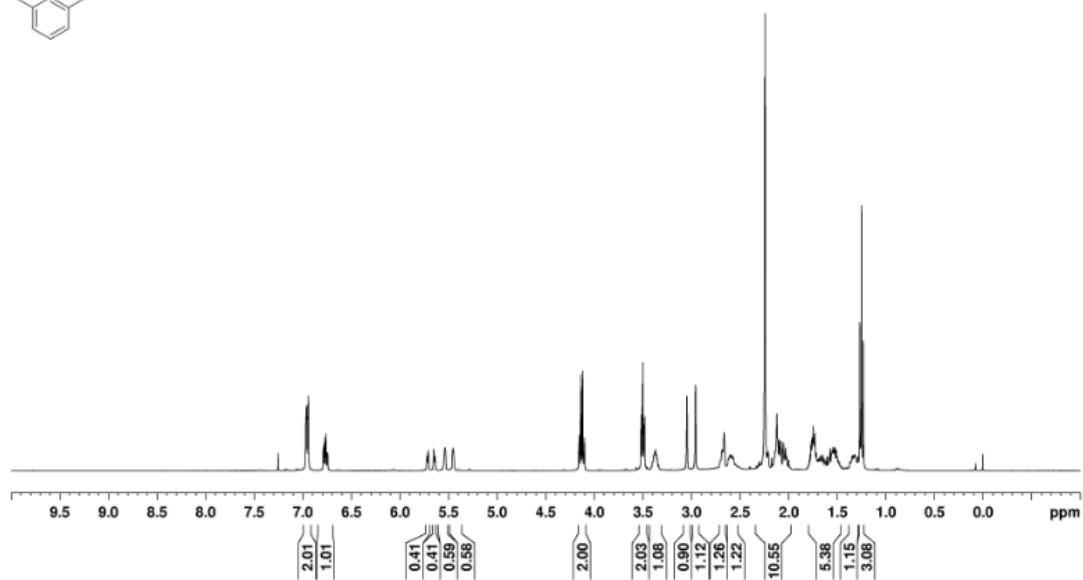
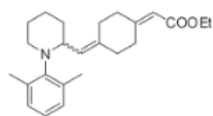
^{13}C NMR spectrum of **4k** (CDCl_3)

Sample:HYHF43-C13CPD
CDCl₃
Date:2014-04-04



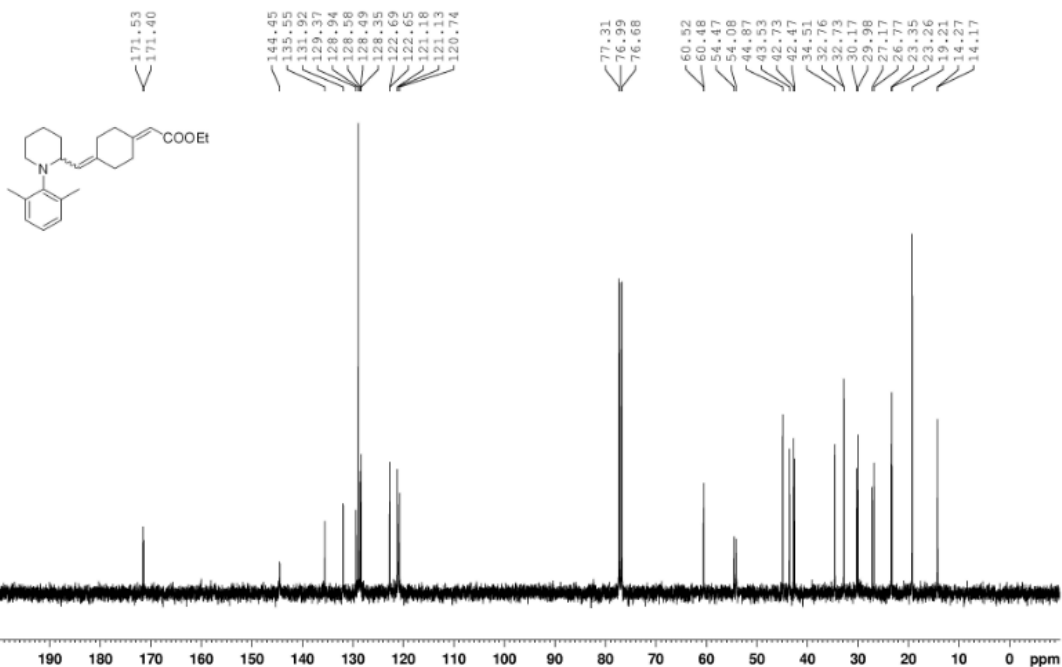
¹H NMR spectrum of **4I** (CDCl₃)

Sample:HYHF42-PROTON256
CDCl₃
Date:2014-04-04

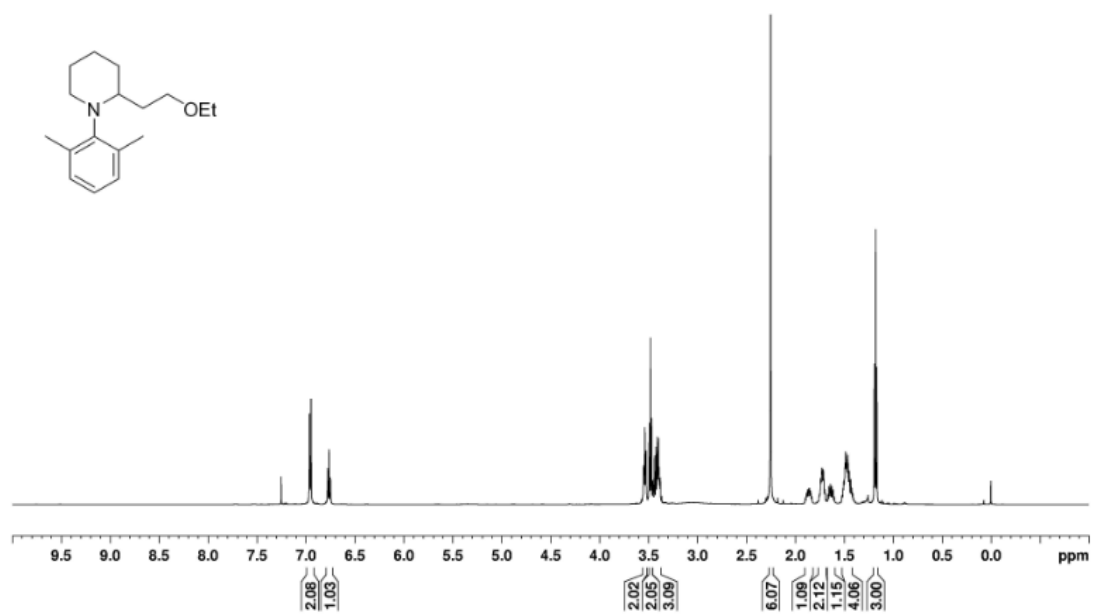


¹³C NMR spectrum of **4I** (CDCl₃)

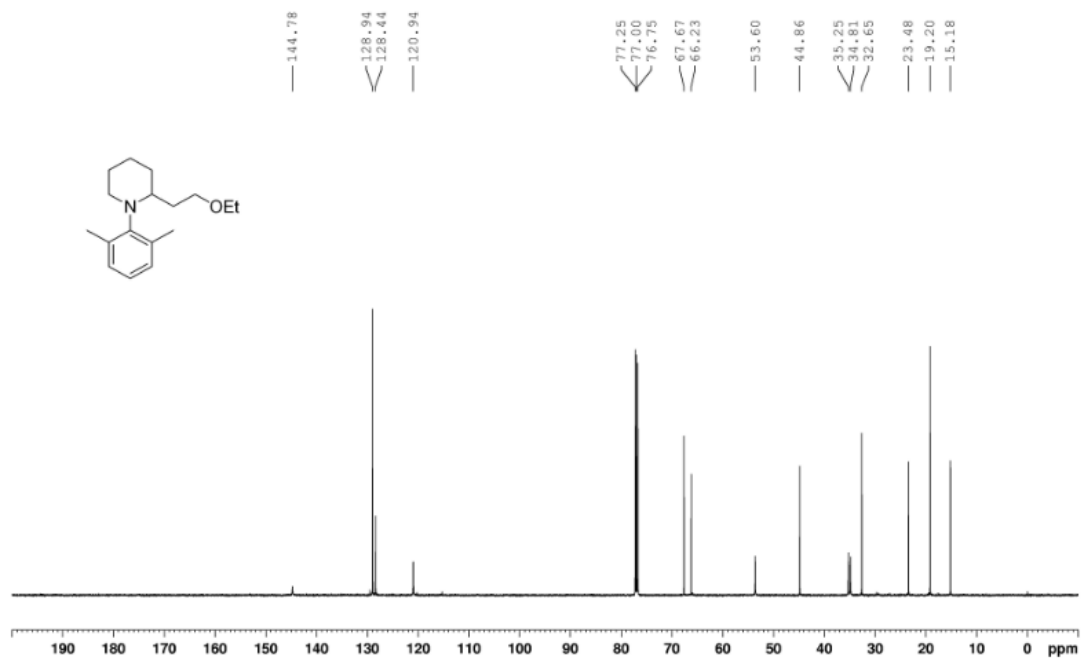
Sample:HYHF42-C13CPD
CDCl₃
Date:2014-04-04



^1H NMR spectrum of **4A₁** (CDCl_3)

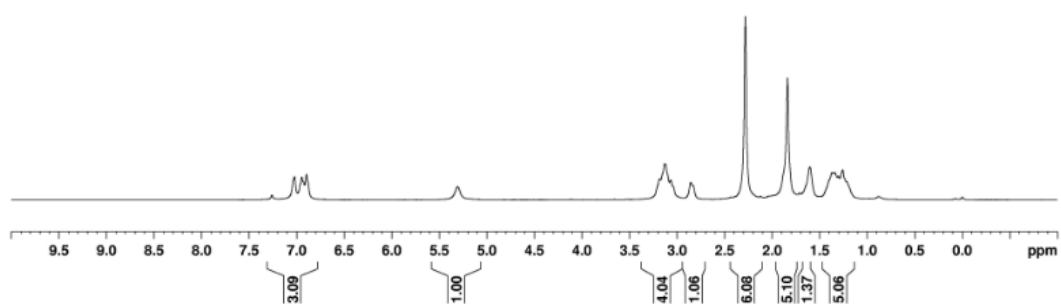
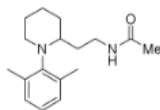


^{13}C NMR spectrum of **4A₁** (CDCl_3)



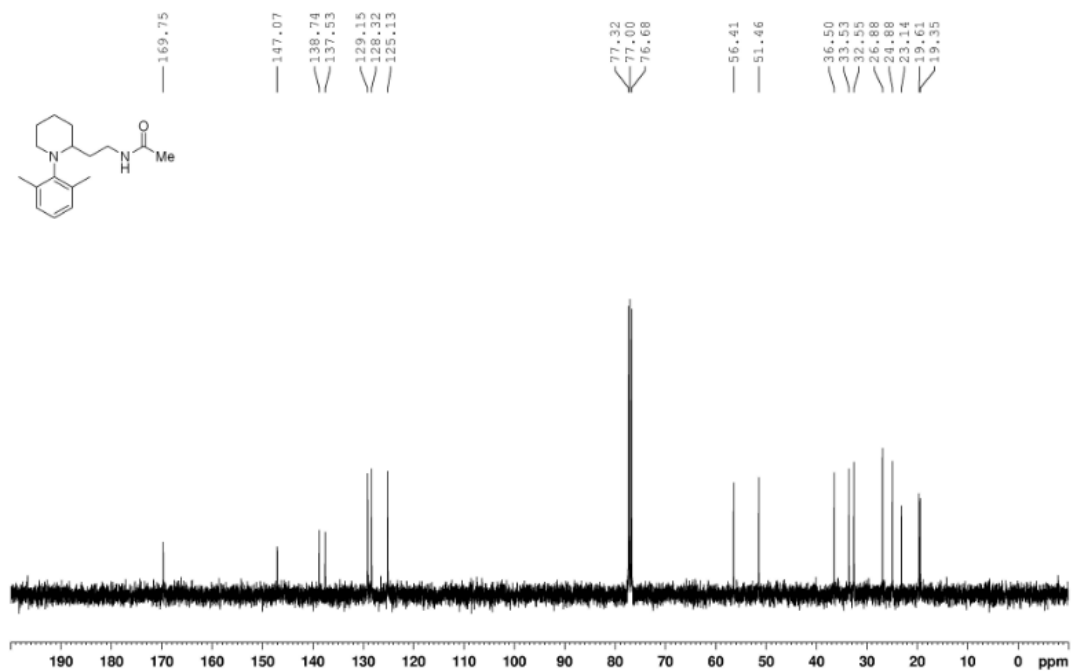
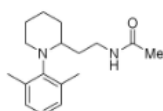
¹H NMR spectrum of **4A₂** (CDCl₃)

Sample:HYHD136-A-PROTON256
CDCl₃
Date:2013-11-09



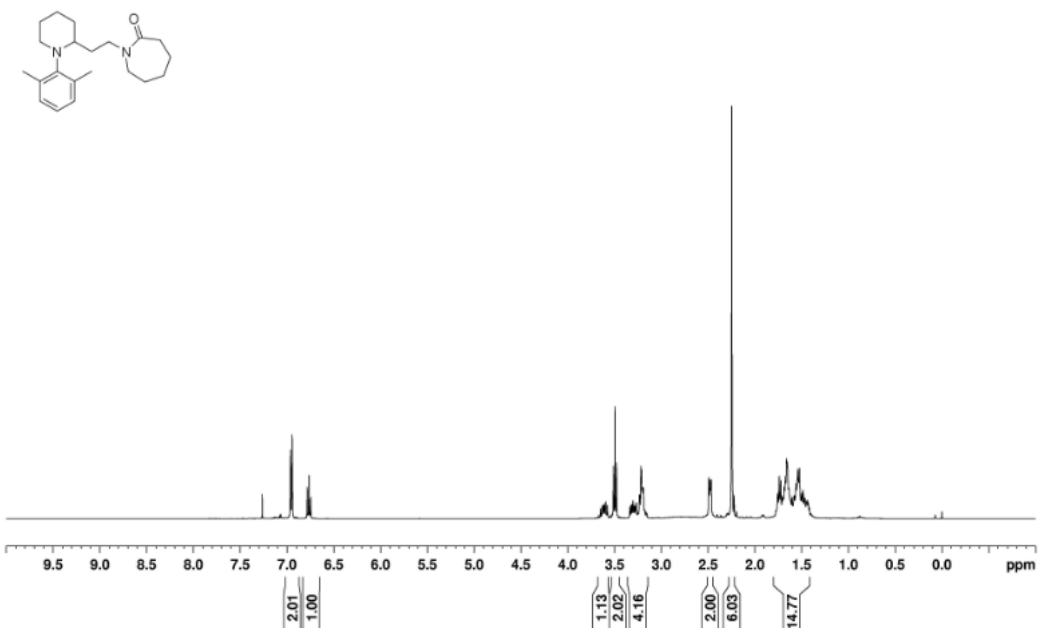
¹³C NMR spectrum of **4A₂** (CDCl₃)

Sample:HYHD136-C13CPD
CDCl₃
Date:2013-11-09



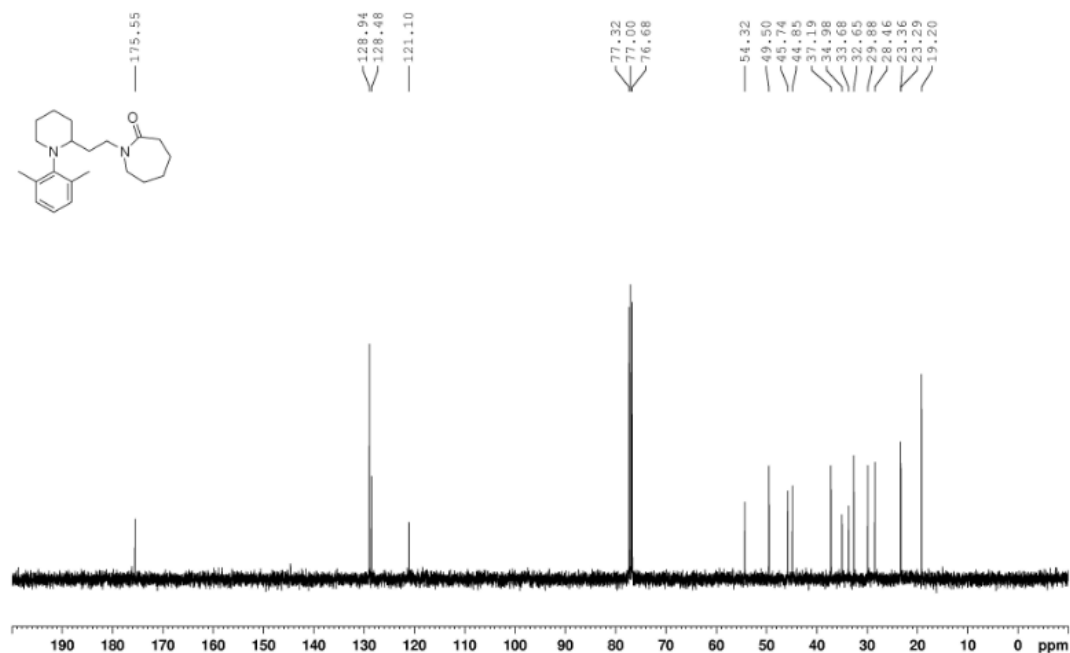
^1H NMR spectrum of **4A₃** (CDCl_3)

Sample:HYHF44-PROTON256
CDCl₃
Date:2014-04-15



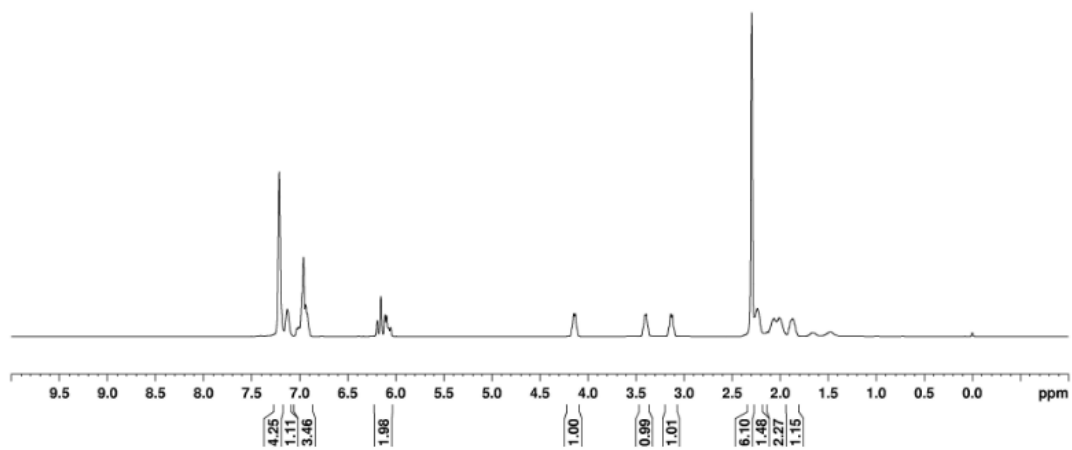
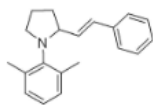
^{13}C NMR spectrum of **4A₃** (CDCl_3)

Sample:HYHF44-C13CPD
CDCl₃
Date:2014-04-15



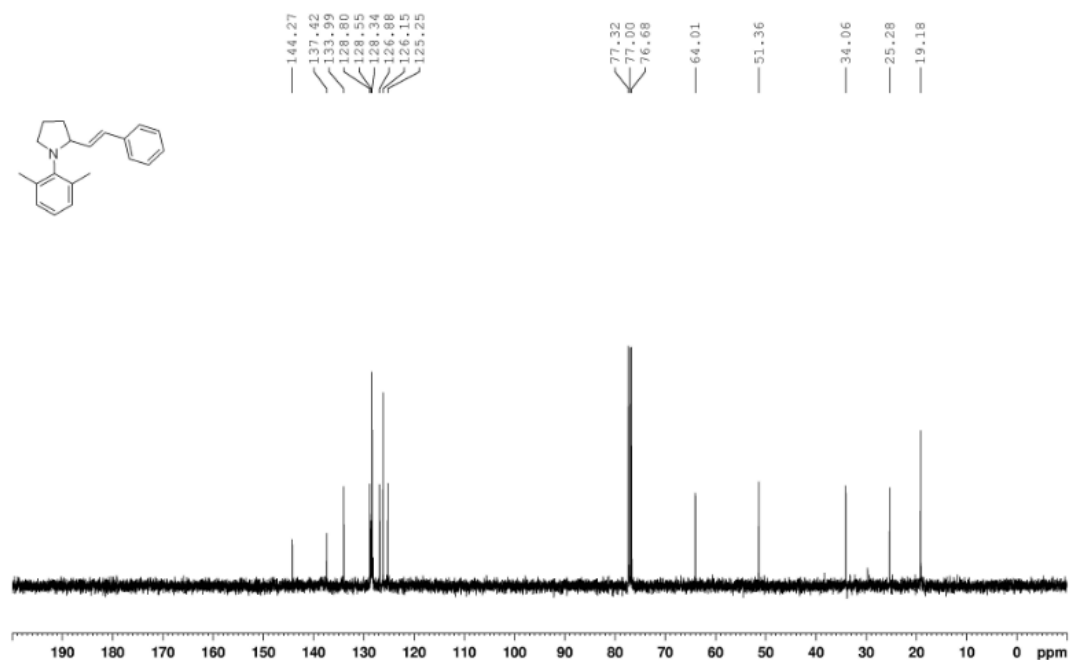
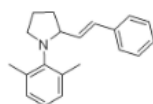
¹H NMR spectrum of **3a** (CDCl₃)

Sample:HYHD28-PROTON256
CDCl₃
Date:2013-06-17



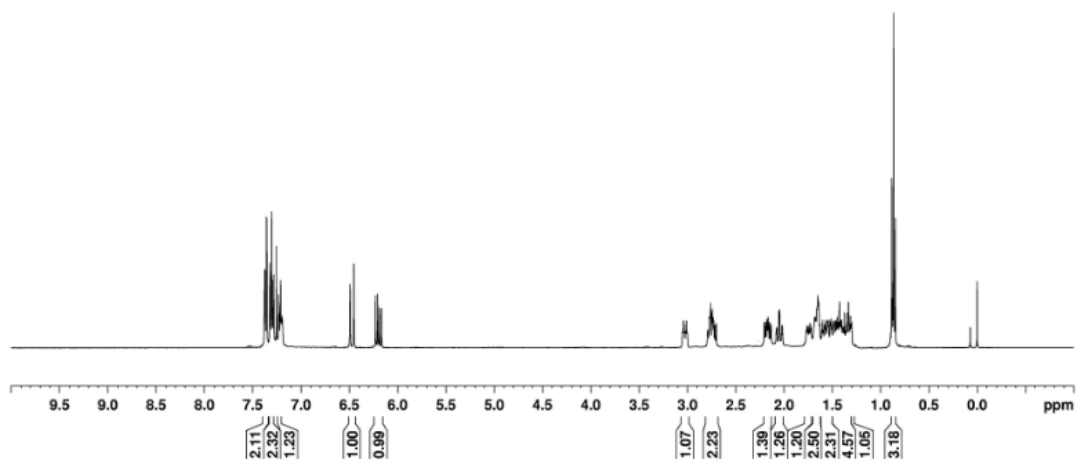
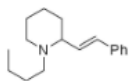
¹³C NMR spectrum of **3a** (CDCl₃)

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CDCl₃
Date:2013-06-17



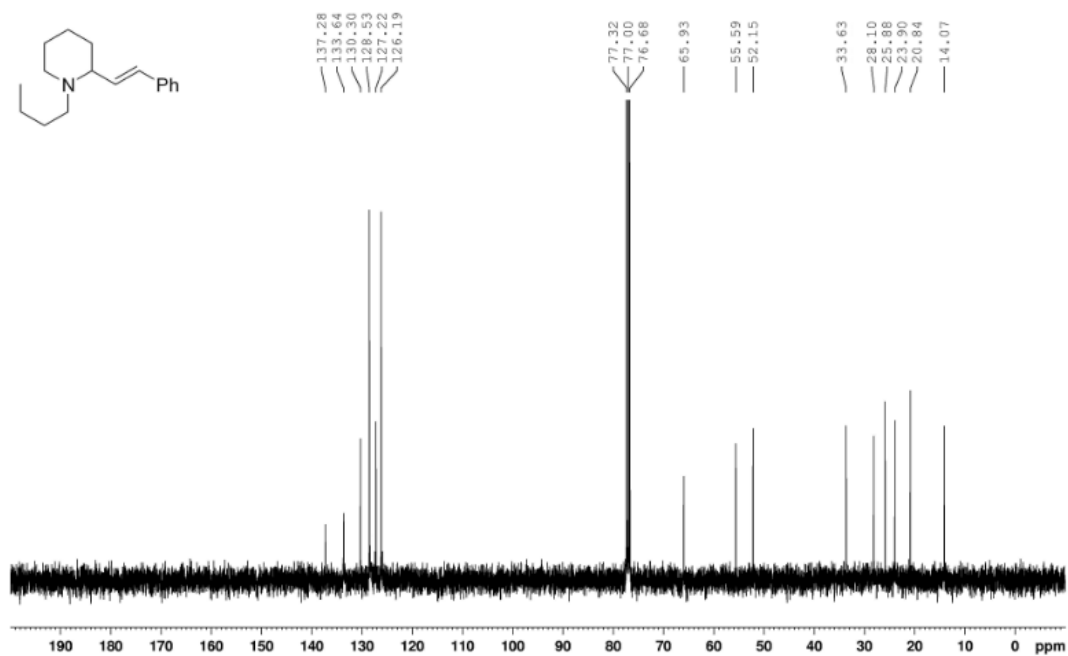
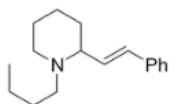
¹H NMR spectrum of **4m** (CDCl₃)

Sample:HYHD26-PROTON256
CDCl₃
Date:2013-06-16



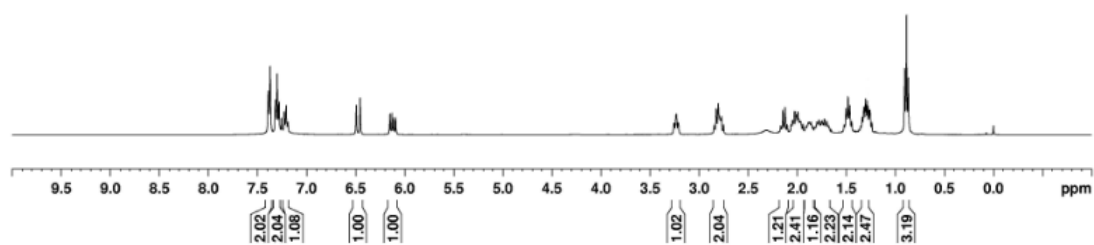
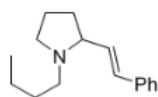
¹³C NMR spectrum of **4m** (CDCl₃)

Sample:HYHD26-C13CPD
CDCl₃
Date:2013-06-16



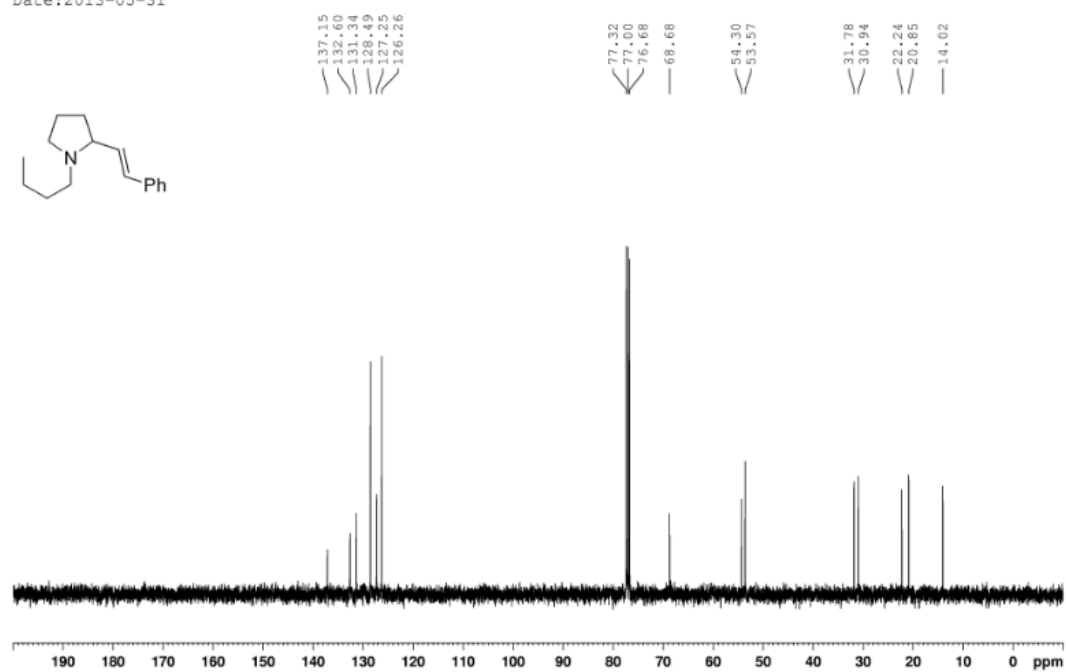
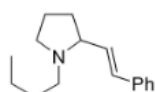
^1H NMR spectrum of **3b** (CDCl_3)

Sample:HYHD8-PROTON256
CDCl₃
Date:2013-05-31



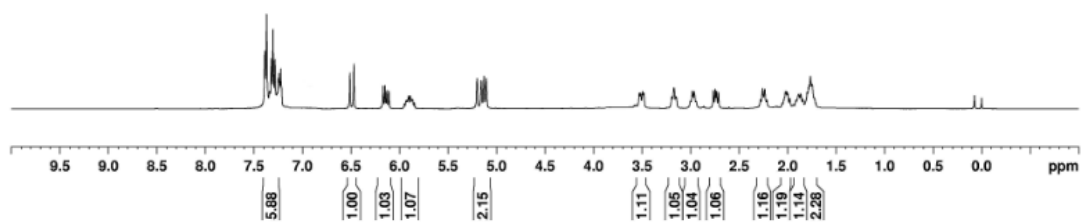
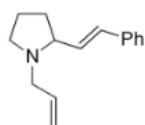
^{13}C NMR spectrum of **3b** (CDCl_3)

Sample:HYHD8-C13CPD
CDCl₃
Date:2013-05-31



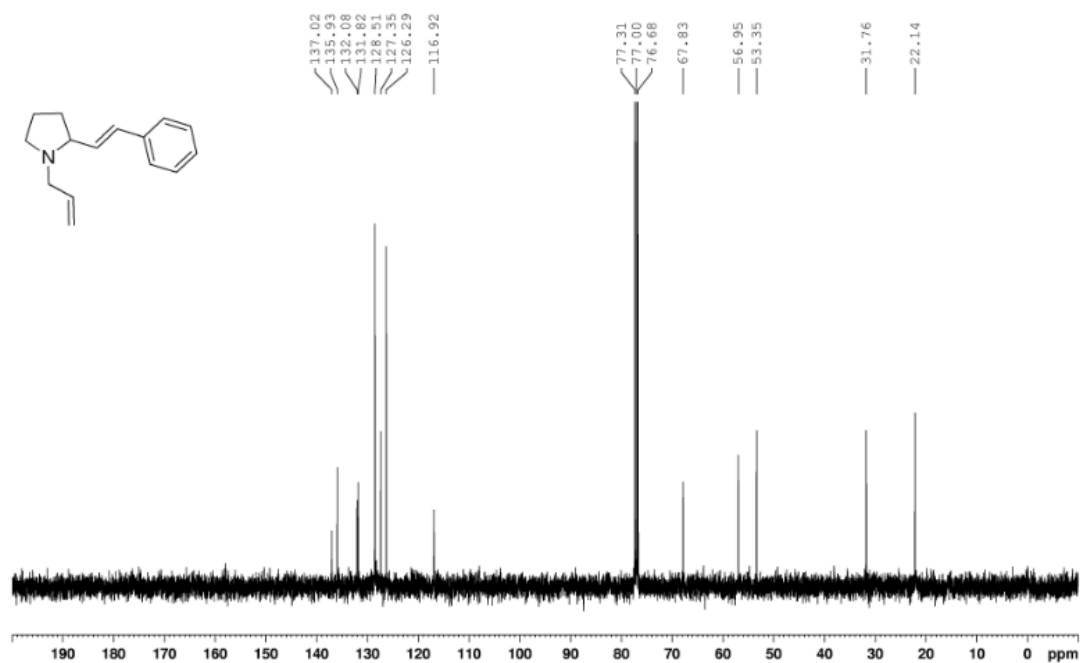
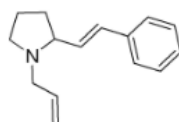
^1H NMR spectrum of **3c** (CDCl_3)

Sample: HYHD23-PROTON256
CDCl₃
Date: 2013-06-08



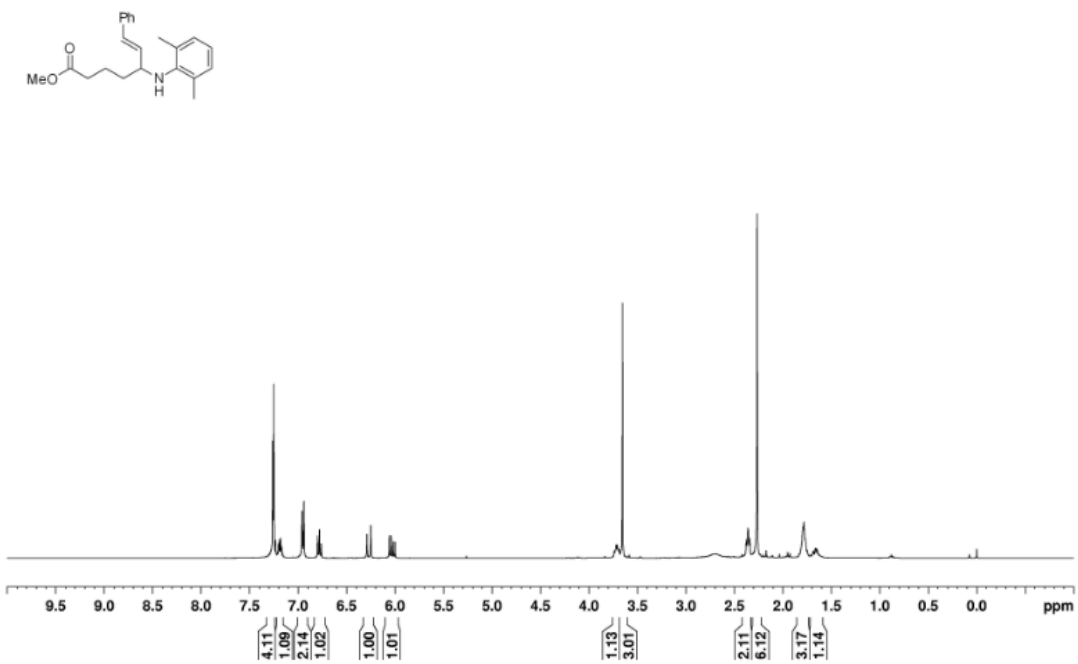
^{13}C NMR spectrum of **3c** (CDCl_3)

Sample: HYHD23-C13CPD
CDCl₃
Date: 2013-07-03



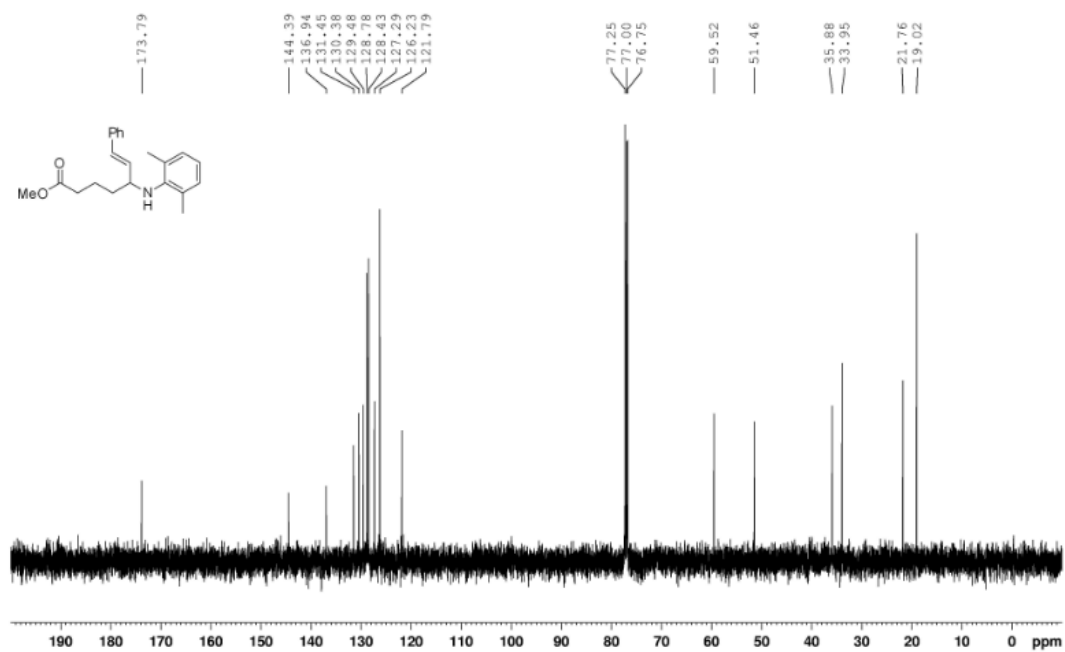
^1H NMR spectrum of **27** (CDCl_3)

Sample: HYHF23-B-PROTON256
CDCl₃
Date: 2014-03-26



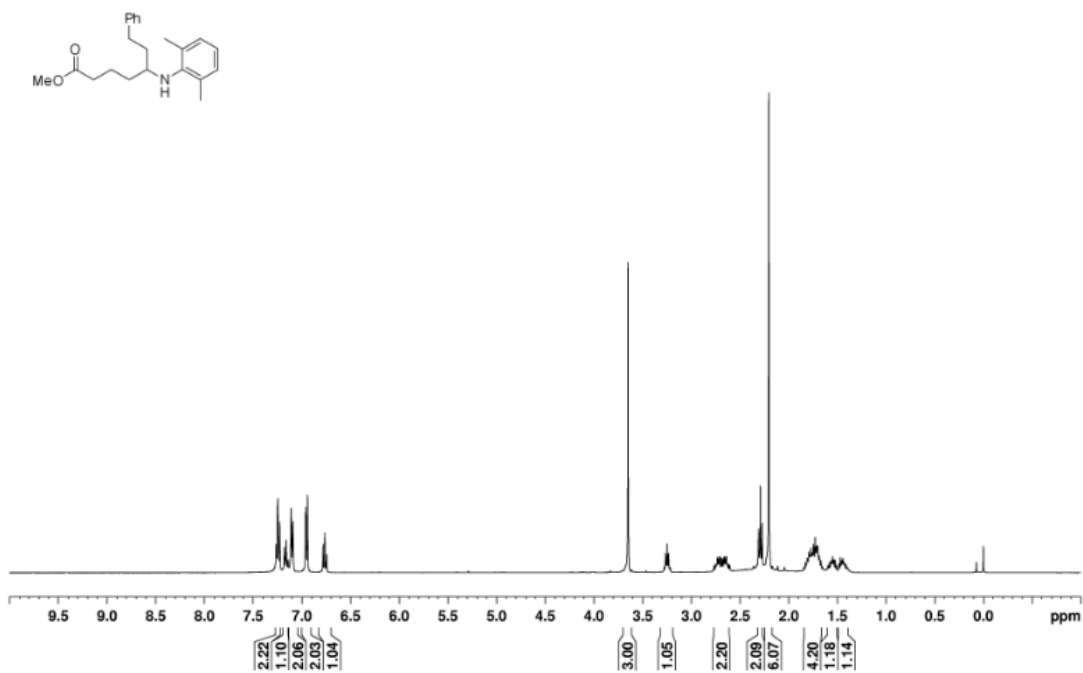
^{13}C NMR spectrum of **27** (CDCl_3)

HYHF23-B-C13CPD
CDCl₃
2014-03-27



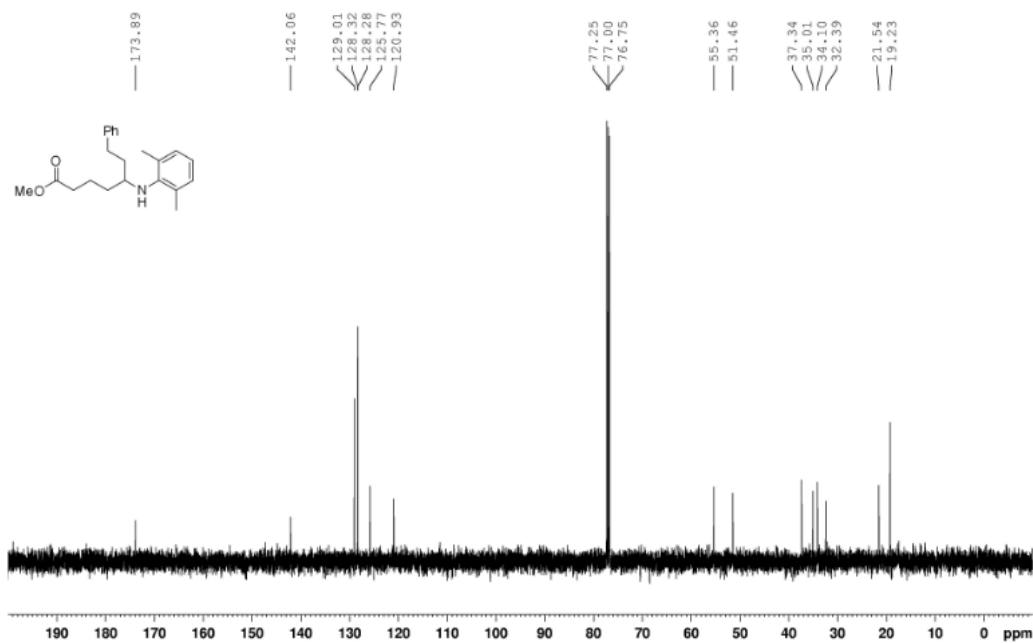
^1H NMR spectrum of **27'** (CDCl_3)

Sample:HYHF23-A-PROTON256
CDCl₃
Date:2014-03-26

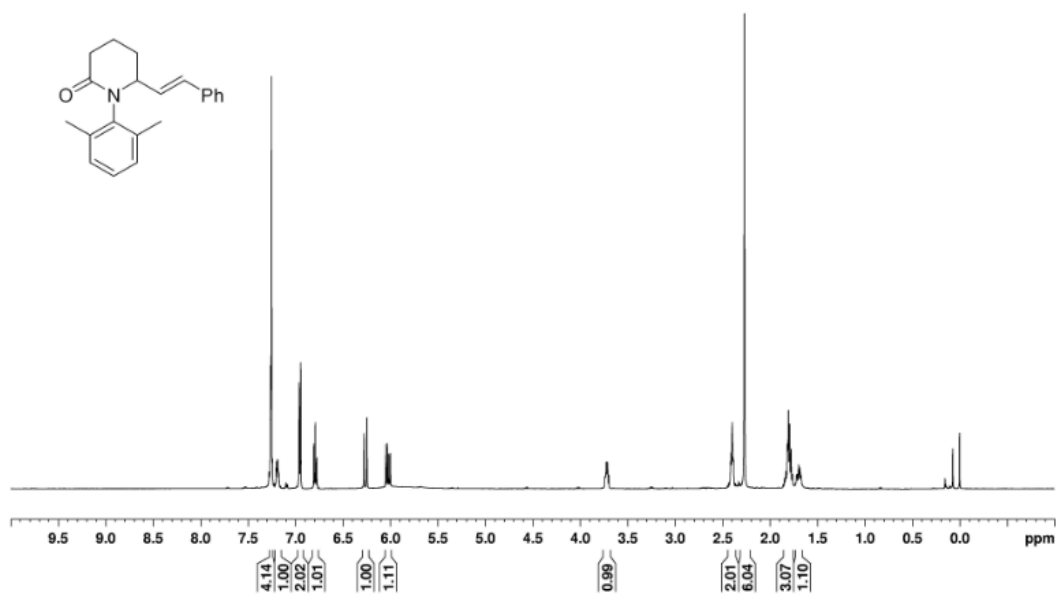


^{13}C NMR spectrum of **27'** (CDCl_3)

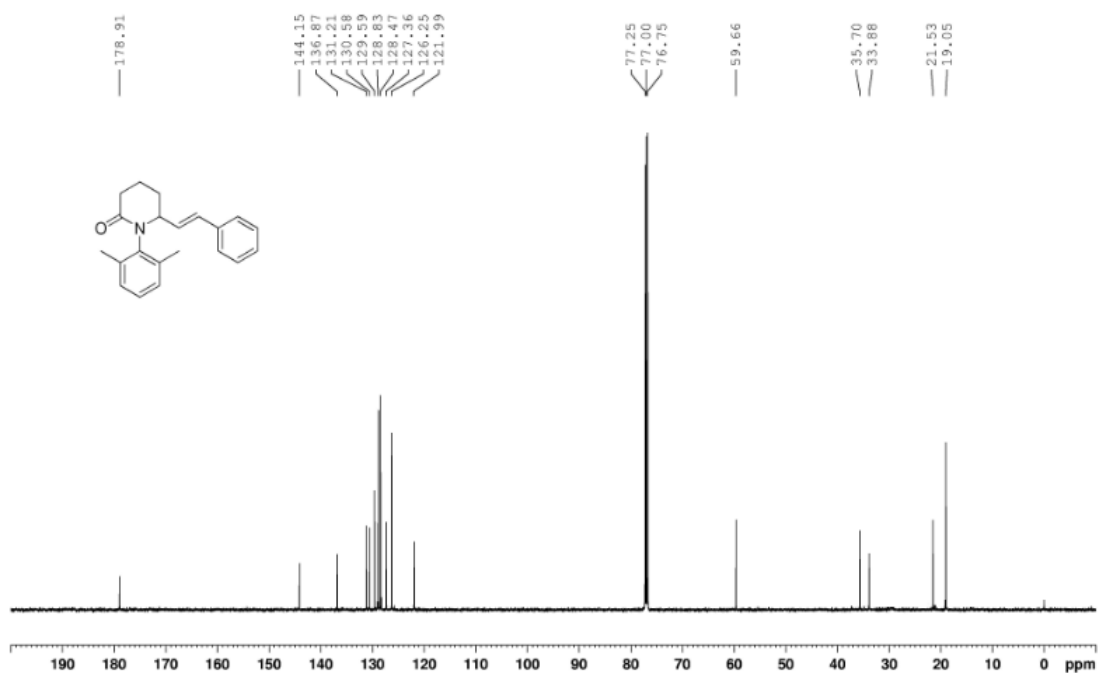
HYHF23-A-C13CPD
CDCl₃
2014-03-27



^1H NMR spectrum of **28** (CDCl_3)

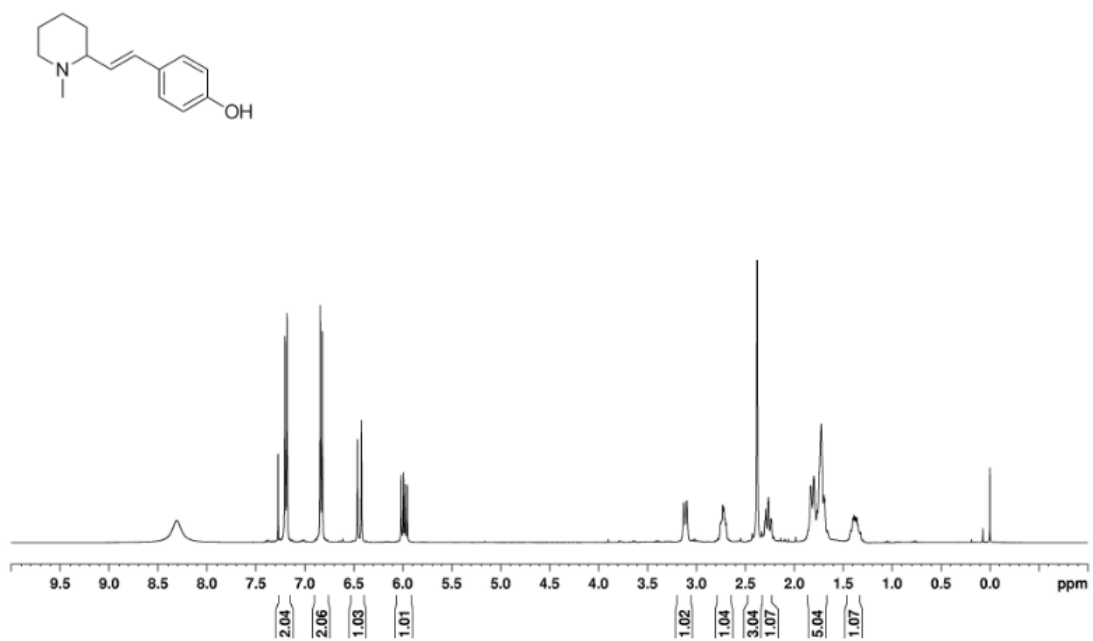


^{13}C NMR spectrum of **28** (CDCl_3)



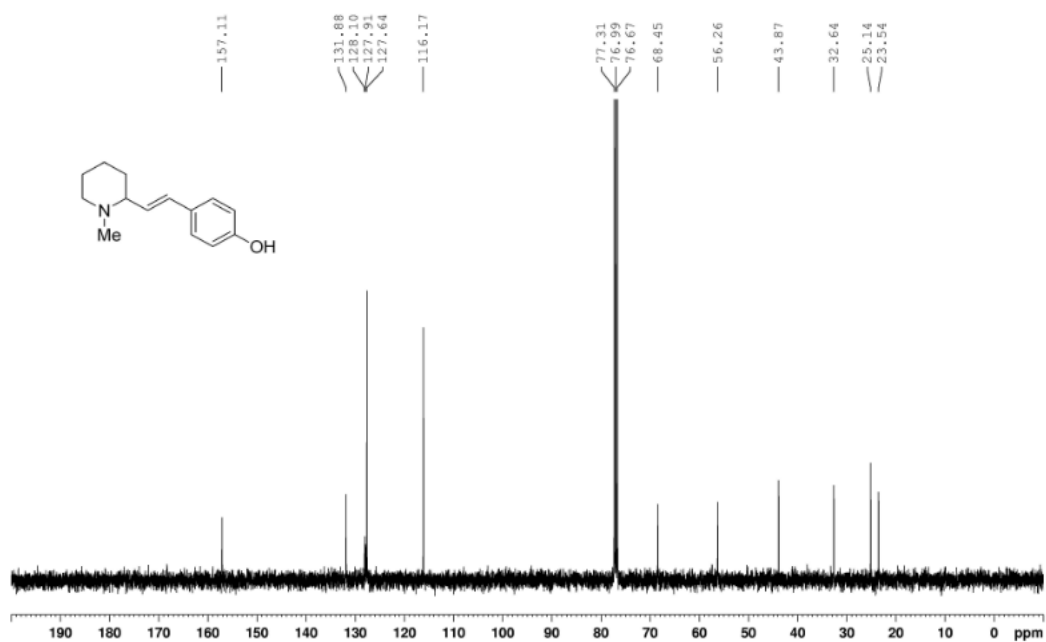
^1H NMR spectrum of **5** (CDCl_3)

Sample:HYHH87-PROTON256
CDCl₃
Date:2015-04-14



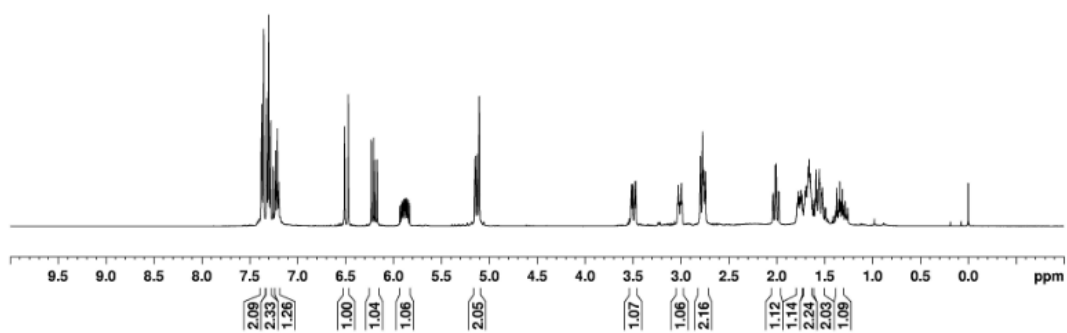
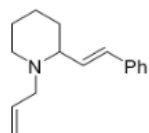
^{13}C NMR spectrum of **5** (CDCl_3)

Sample:HYHH87-C13CPD
CDCl₃
Date:2015-04-12



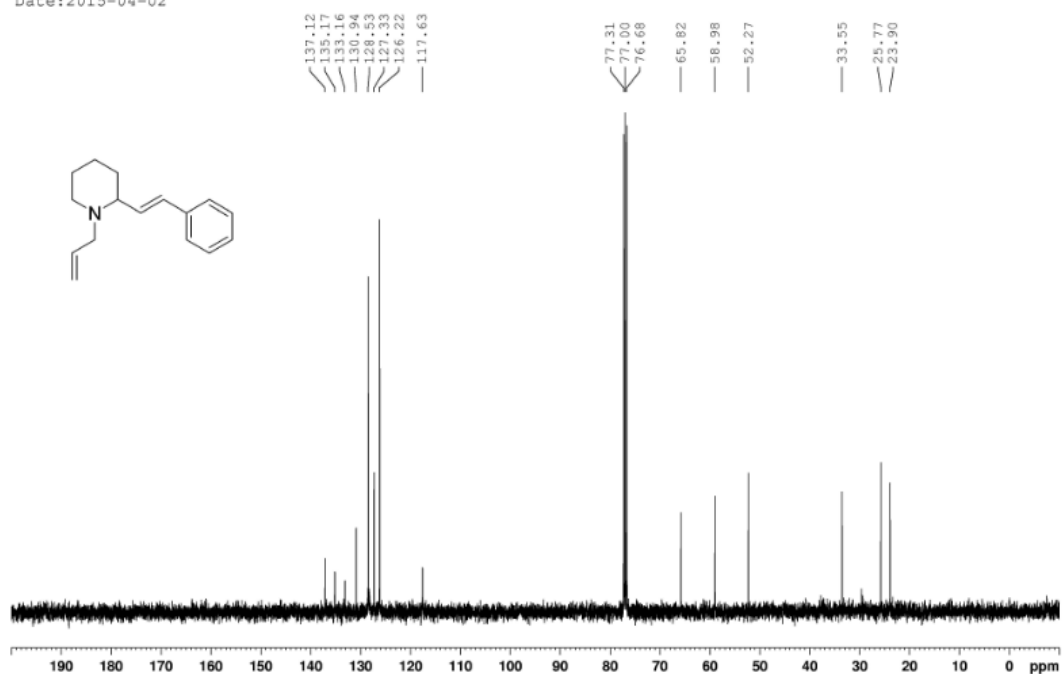
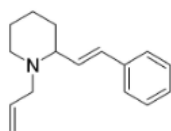
^1H NMR spectrum of **4o** (CDCl_3)

Sample:HYHH67-PROTON256
CDCl₃
Date:2015-04-04

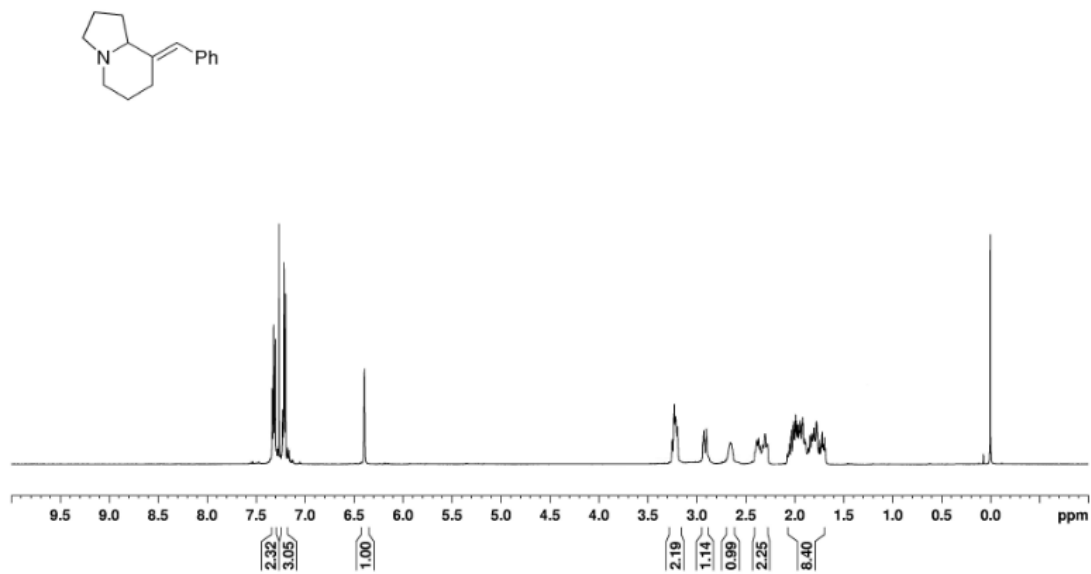


^{13}C NMR spectrum of **4o** (CDCl_3)

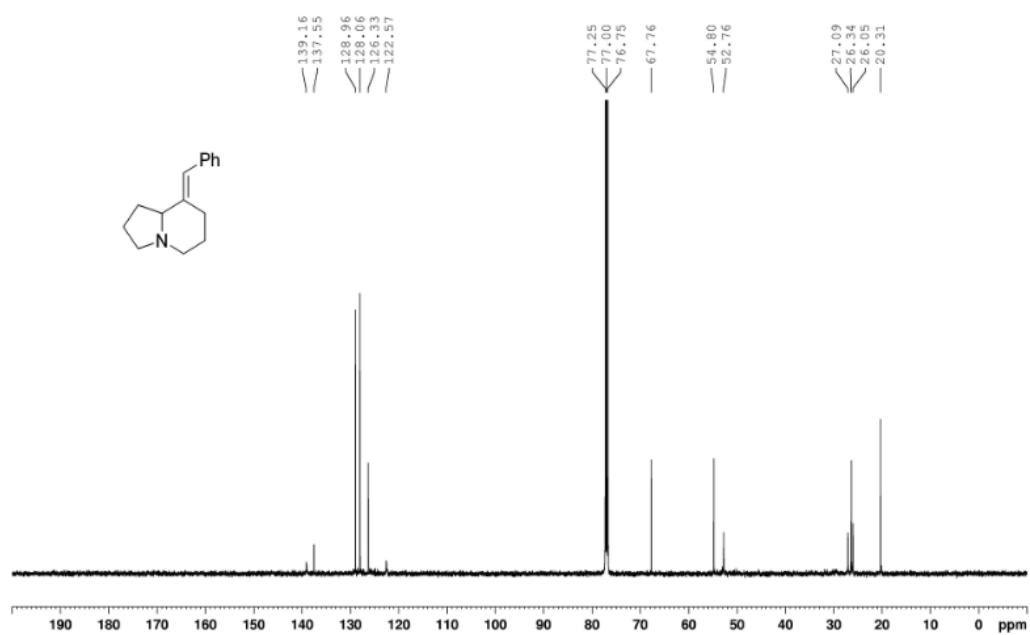
Sample:HYHH69-C13CPD
CDCl₃
Date:2015-04-02



^1H NMR spectrum of **3e** (CDCl_3)

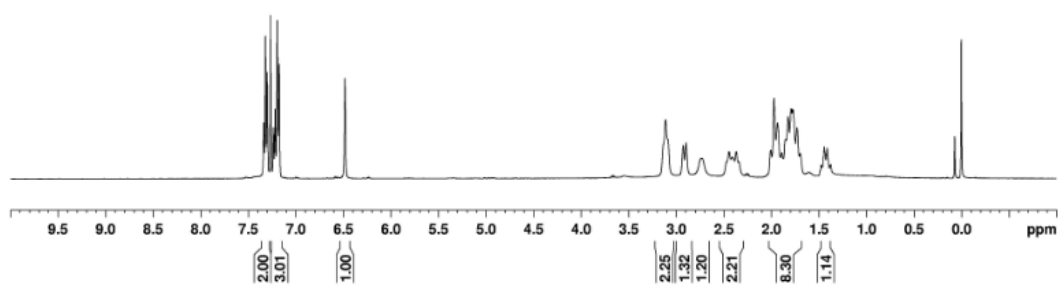
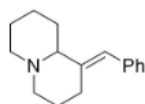


^{13}C NMR spectrum of **3e** (CDCl_3)

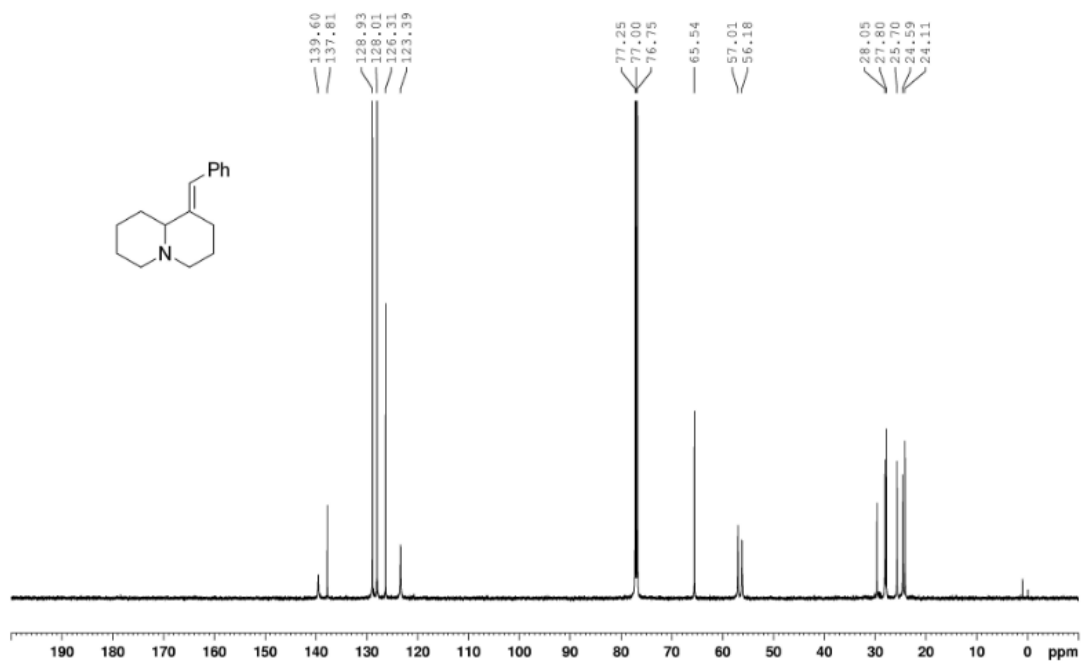


^1H NMR spectrum of **4p** (CDCl_3)

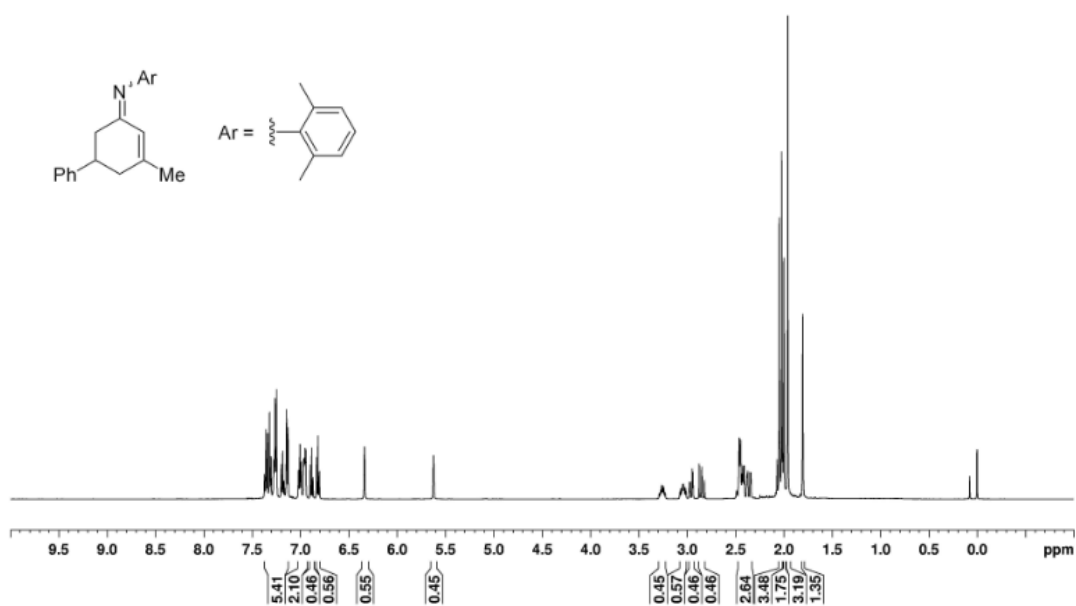
Sample:HYHH86B-PROTON256
CDCl₃
Date:2015-04-11



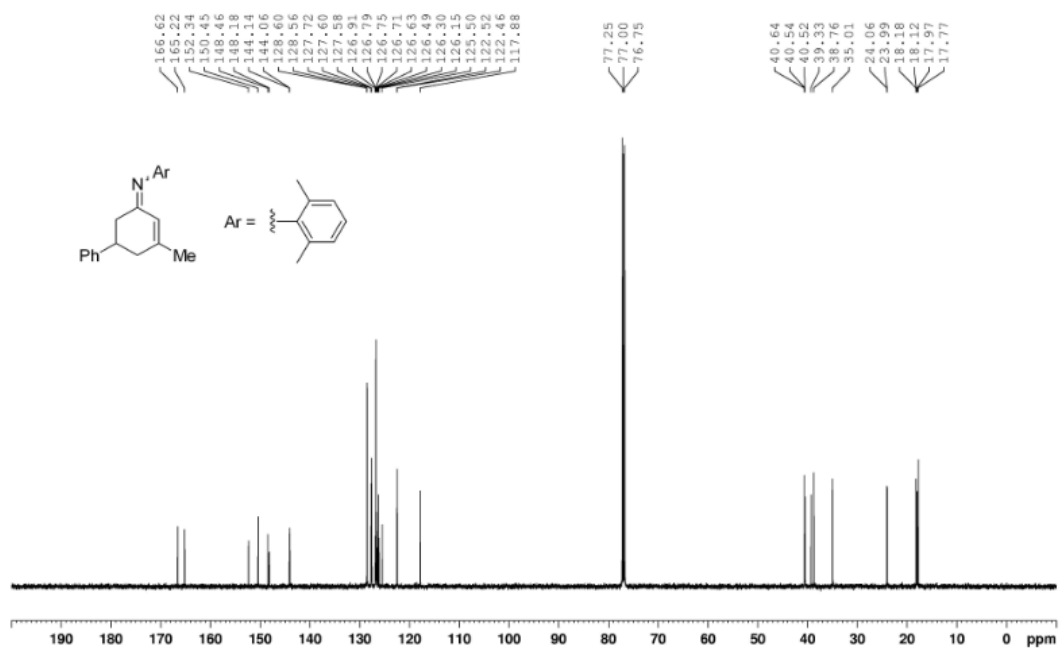
^{13}C NMR spectrum of **4p** (CDCl_3)



^1H NMR spectrum of **22a** (CDCl_3)

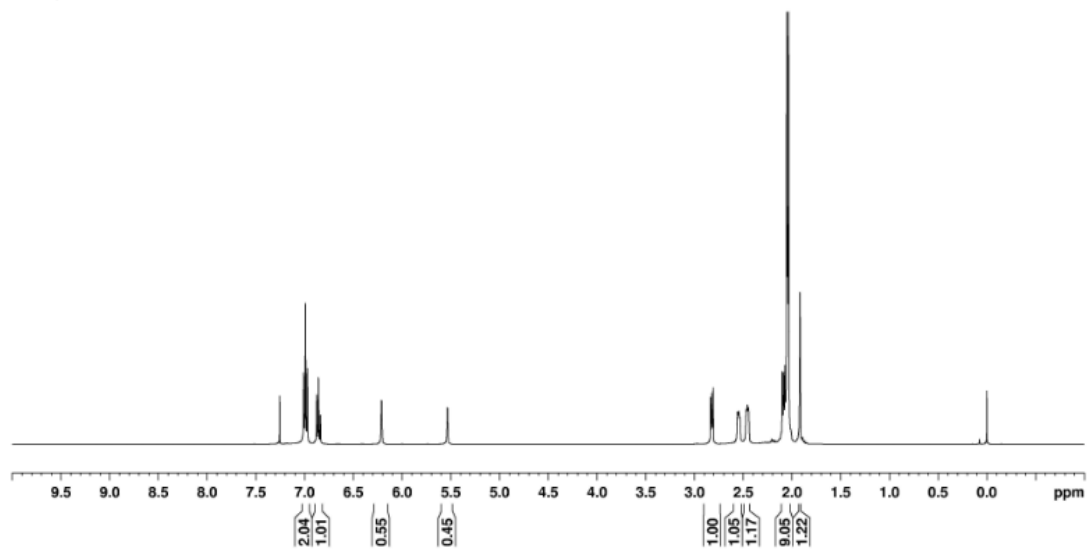
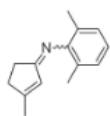


^{13}C NMR spectrum of **22a** (CDCl_3)



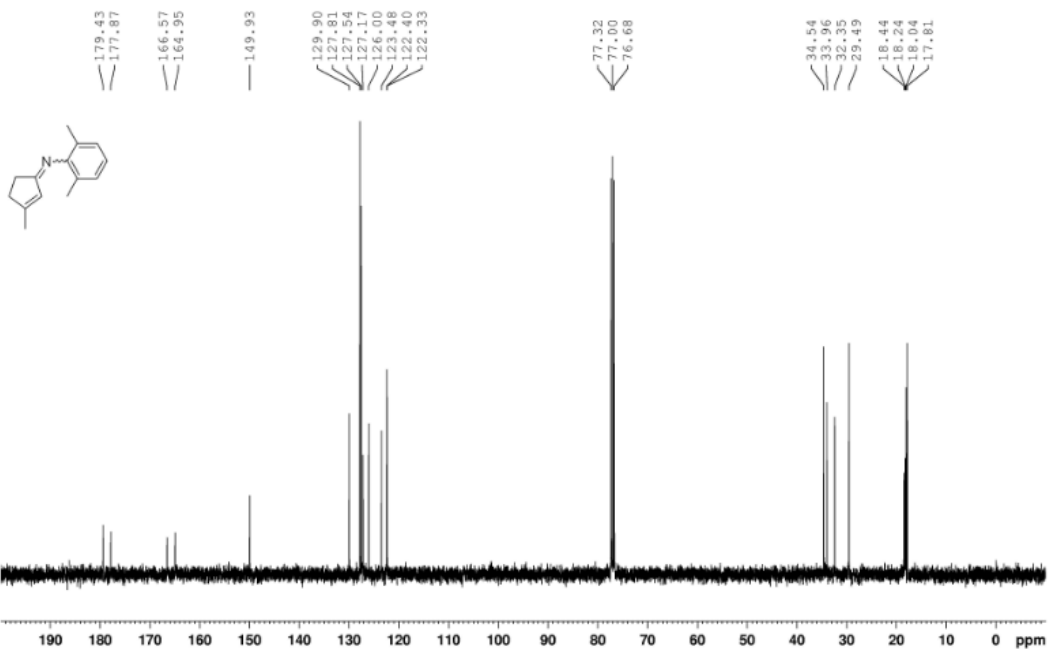
¹H NMR spectrum of **22b** (CDCl₃)

Sample:HYHF66-PROTON256
CDCl₃
Date:2014-05-21

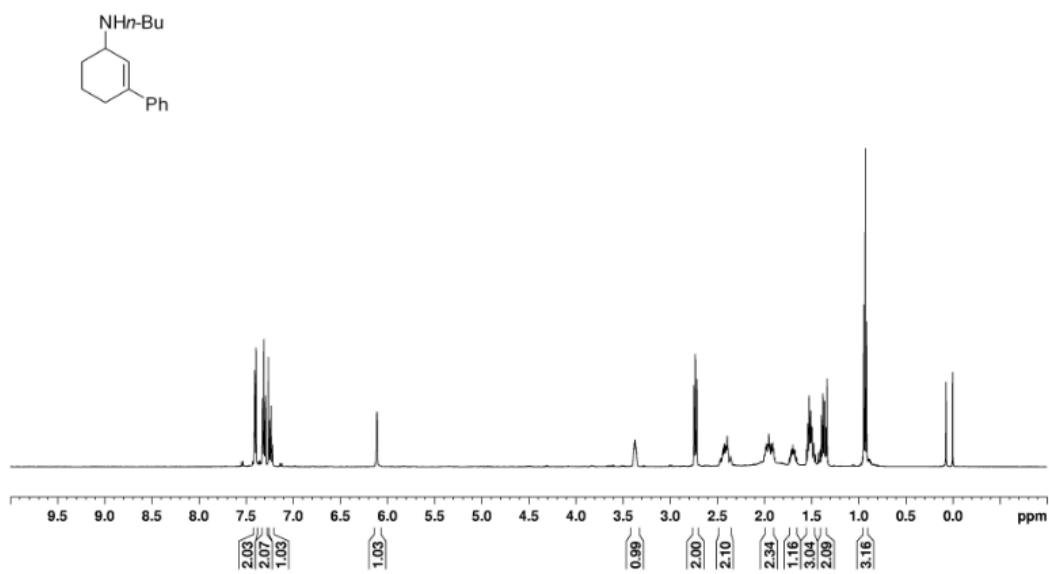


¹³C NMR spectrum of **22b** (CDCl₃)

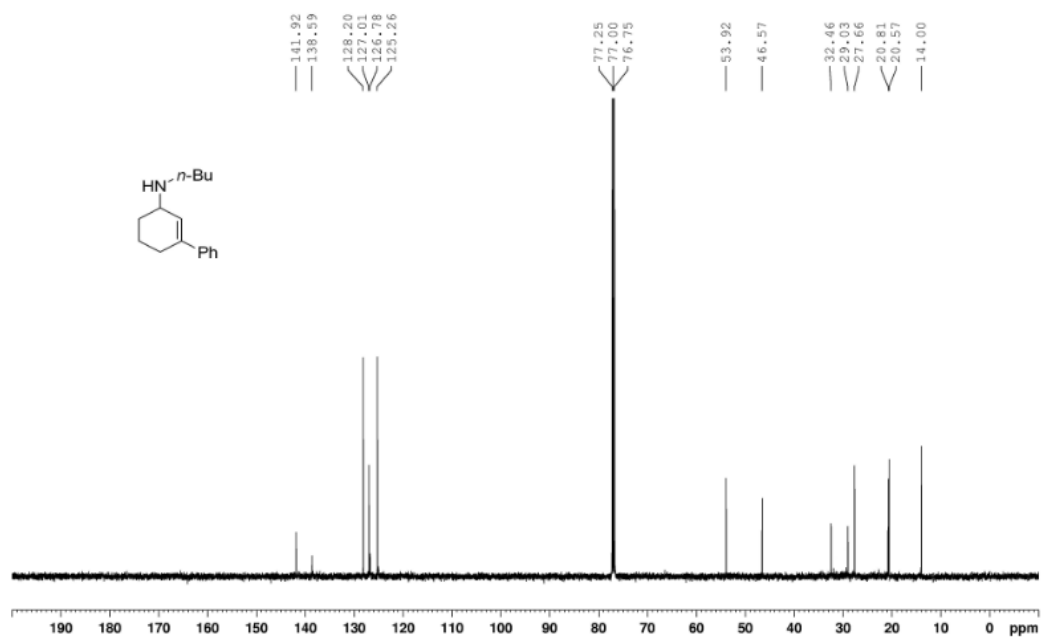
Sample:HYHF66-C13CPD
CDCl₃
Date:2014-05-21



^1H NMR spectrum of **33** (CDCl_3)

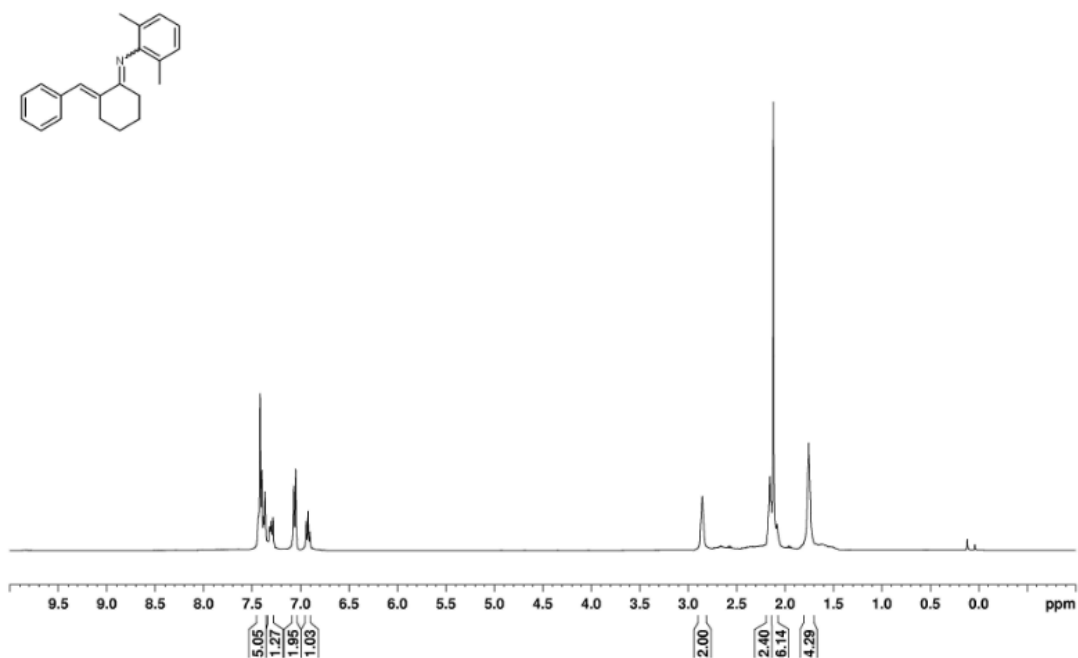


^{13}C NMR spectrum of **33** (CDCl_3)



¹H NMR spectrum of **23** (CDCl₃)

Sample:HYHC108-PROTON256
CDCl₃
Date:2013-05-08



¹³C NMR spectrum of **23** (CDCl₃)

Sample:HYHC108-C13CPD
CDCl₃
Date:2013-05-08

