

A Mild and Metal-Free Synthesis of 2 and 1-Alkyl/Aryl/Dialkyl- Aminoquinolines and Isoquinolines

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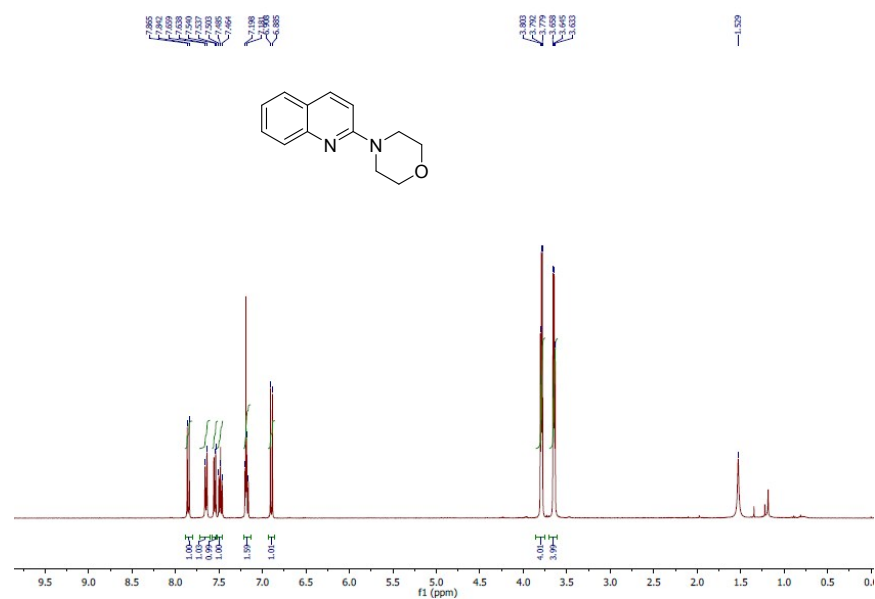
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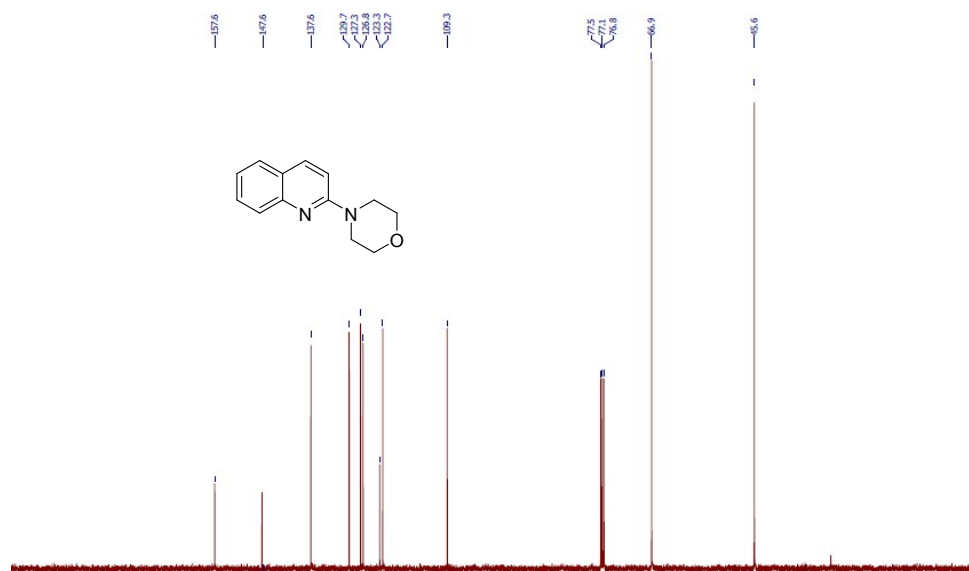
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¹H and ¹³C Spectra

4-(Quinolin-2-yl)morpholine 5a

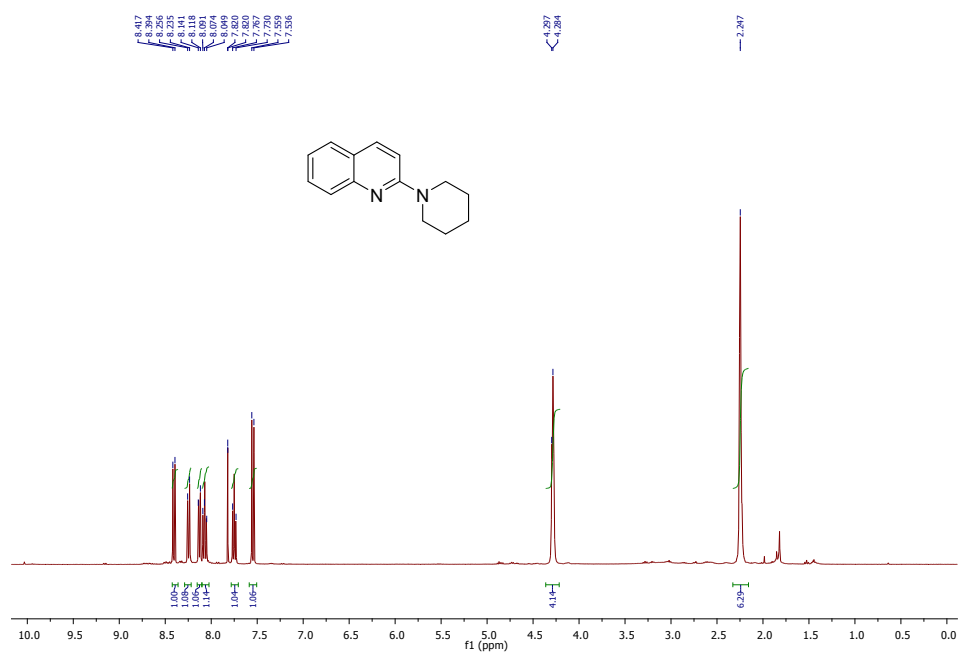


¹H NMR (400 MHz, CDCl₃) spectra of 4-(Quinolin-2-yl)morpholine 5a

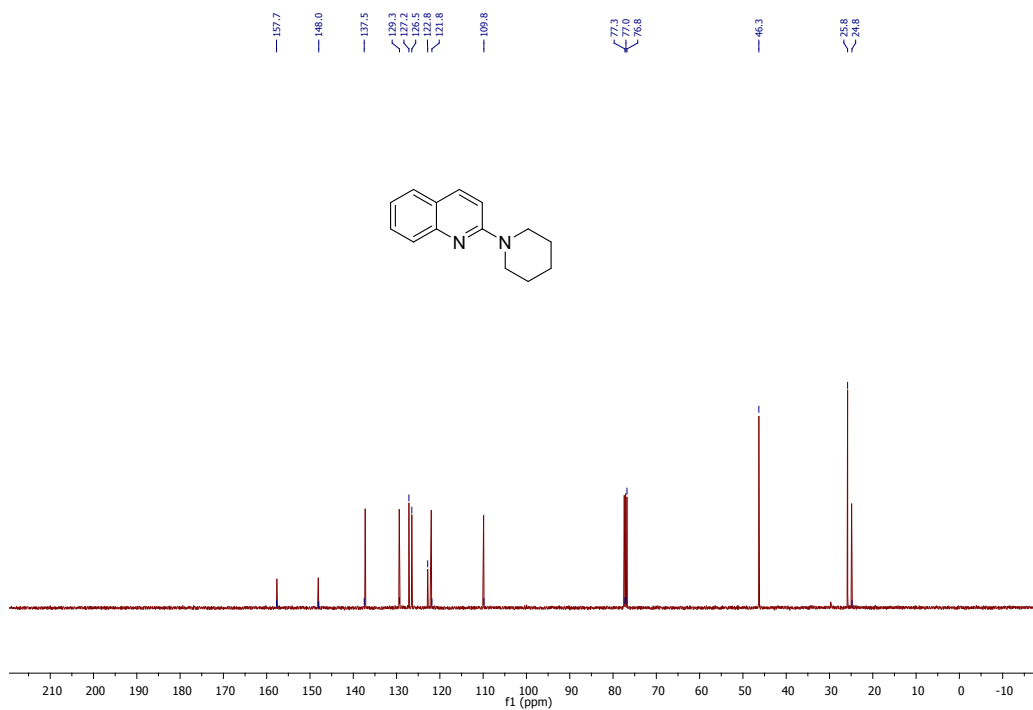


¹³C NMR (101 MHz, CDCl₃) spectra of 4-(Quinolin-2-yl)morpholine 5a

2-(Piperidin-1-yl)quinoline 5b

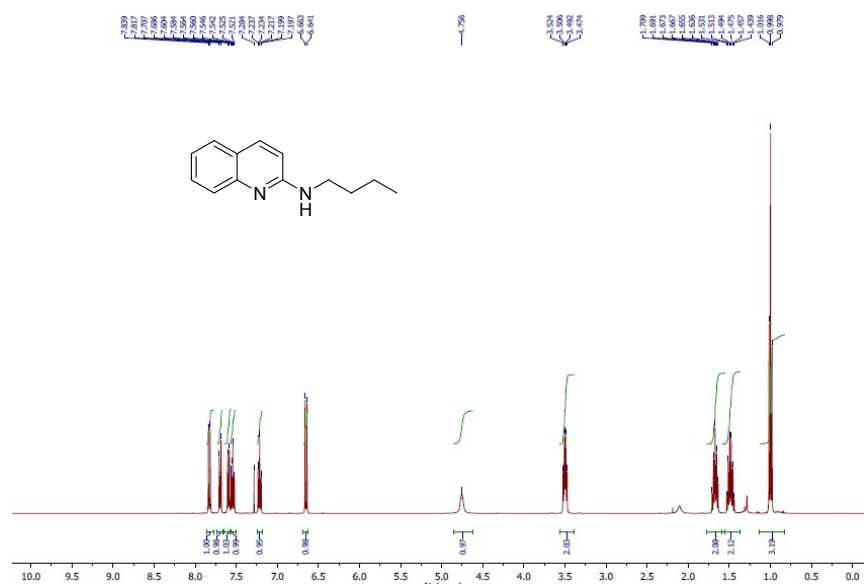


¹H NMR (400 MHz, CDCl₃) spectra of 2-(Piperidin-1-yl)quinoline 5b

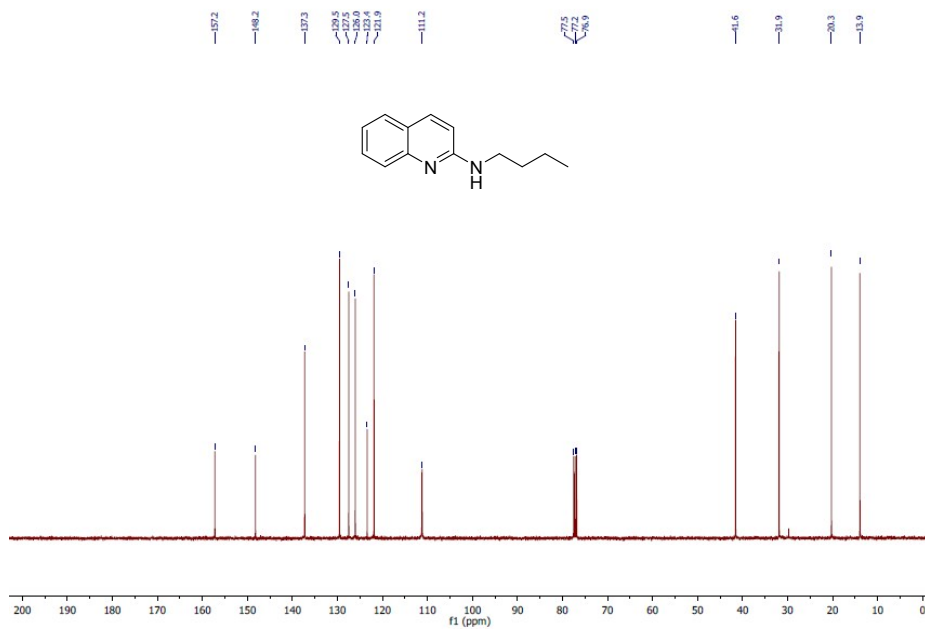


¹³C NMR (101 MHz, CDCl₃) spectra of 2-(Piperidin-1-yl)quinoline 5b

N-Butylquinolin-2-amine 5c

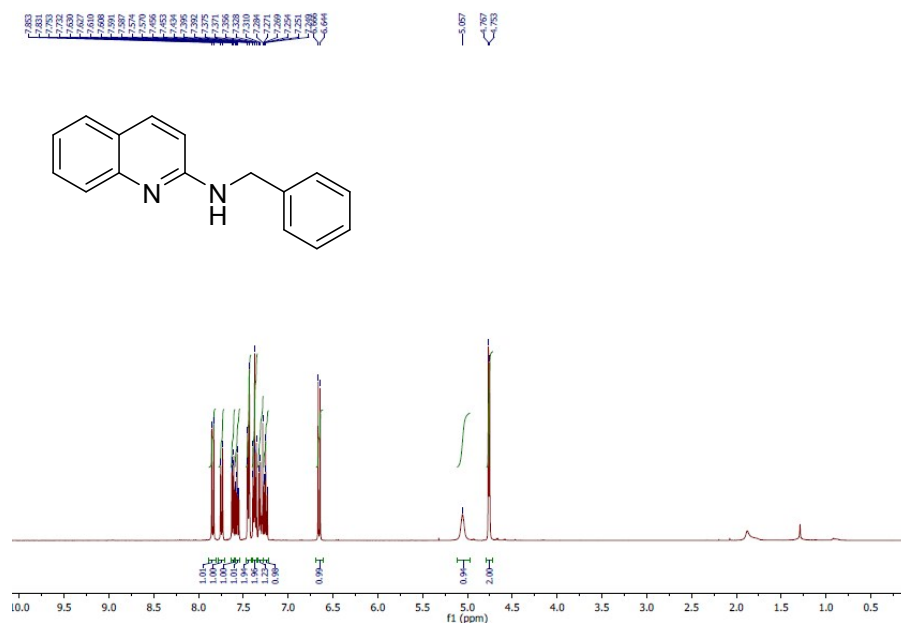


¹H NMR (400 MHz, CDCl₃) spectra of *N*-Butylquinolin-2-amine 5c

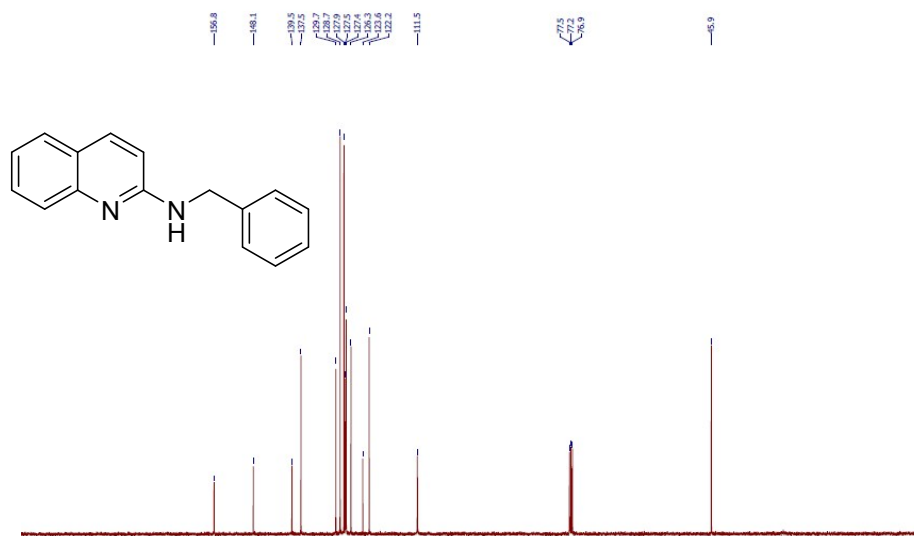


¹³C NMR (101 MHz, CDCl₃) spectra of *N*-Butylquinolin-2-amine 5c

***N*-Benzylquinolin-2-amine 5d**

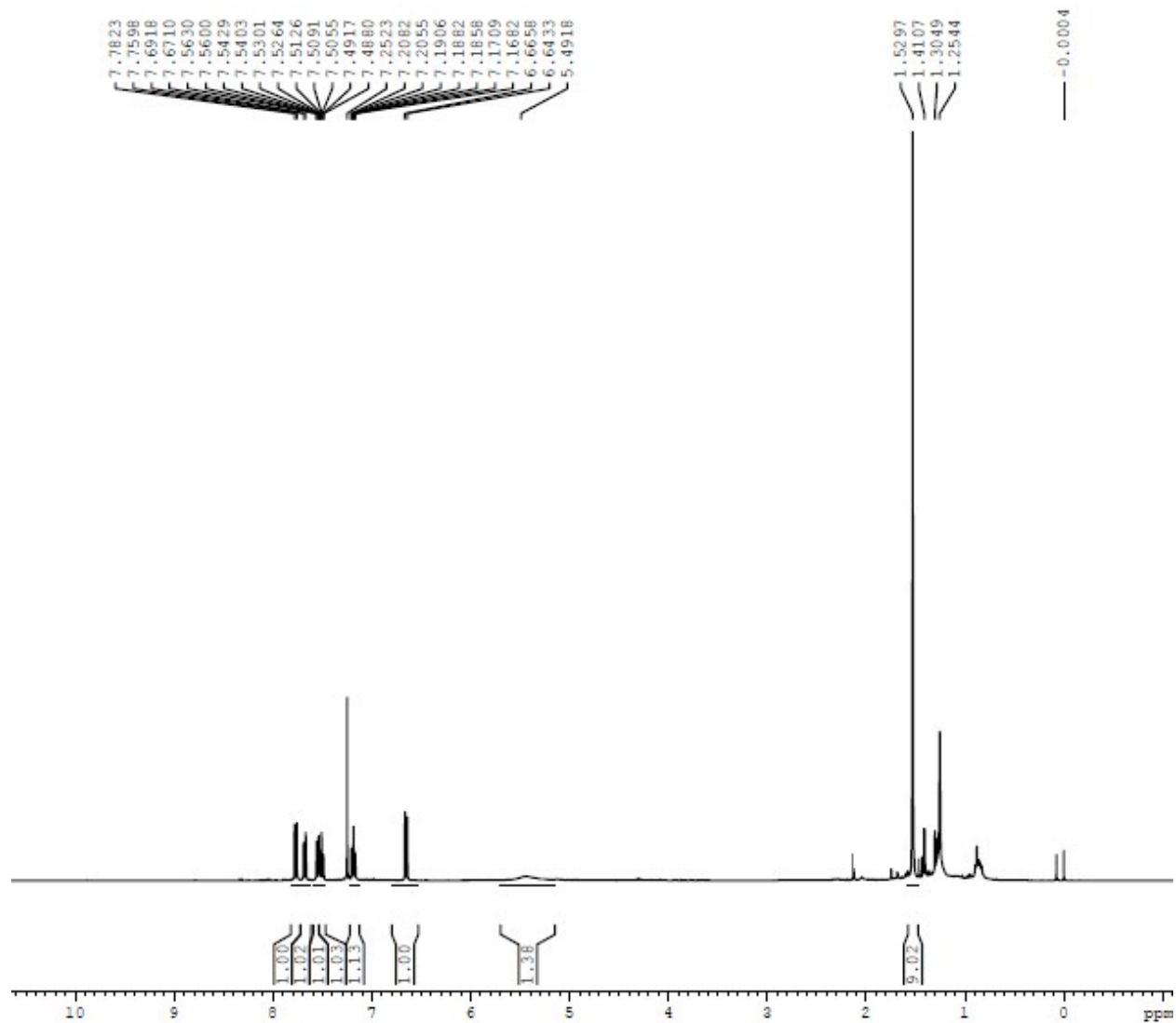


¹H NMR (400 MHz, CDCl₃) spectra of *N*-Benzylquinolin-2-amine 5d



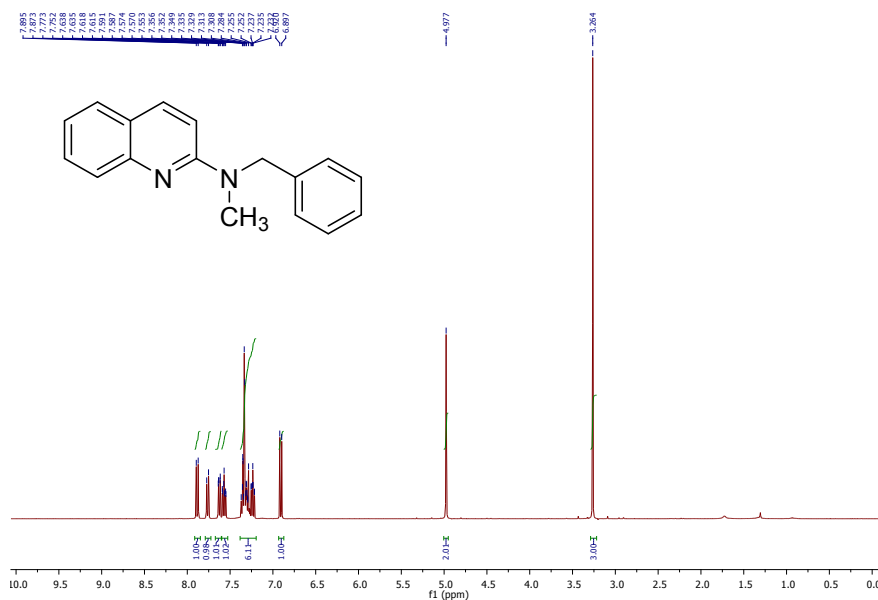
¹³C NMR (101 MHz, CDCl₃) spectra of *N*-Benzylquinolin-2-amine 5d

N-t-Butylquinolin-2-amine **5e**

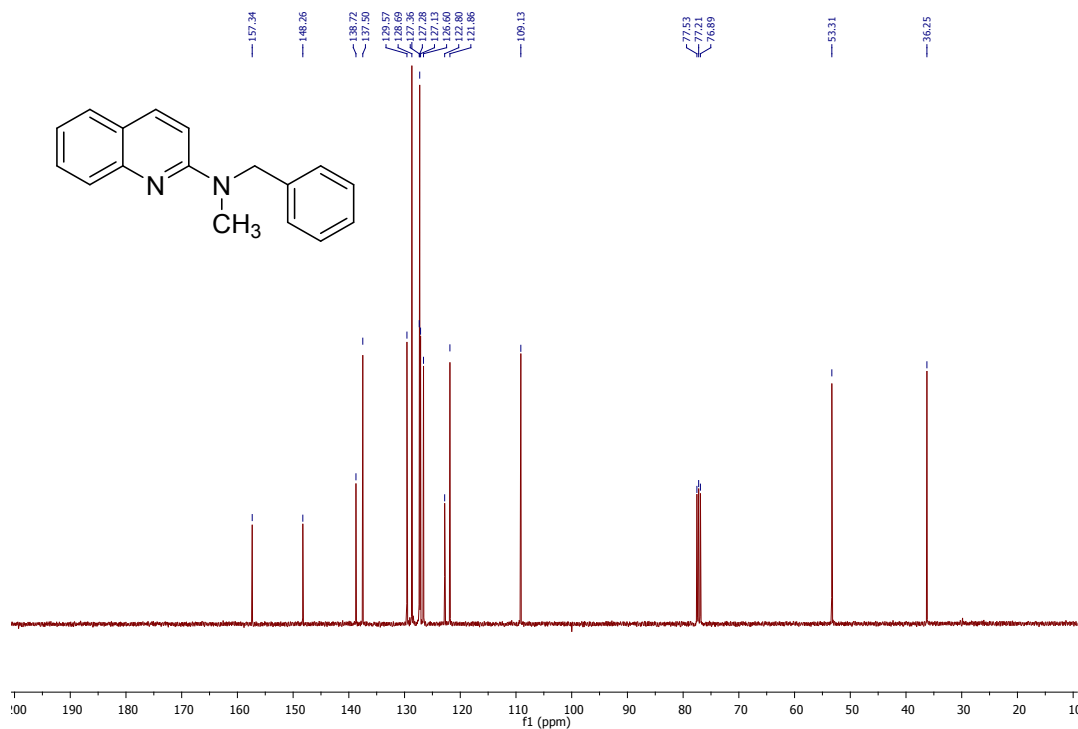


^1H NMR (400 MHz, CDCl_3) spectra of *N-t*-Butylquinolin-2-amine **5e**

N-Benzyl-*N*-Methylquinolin-2-amine 5f

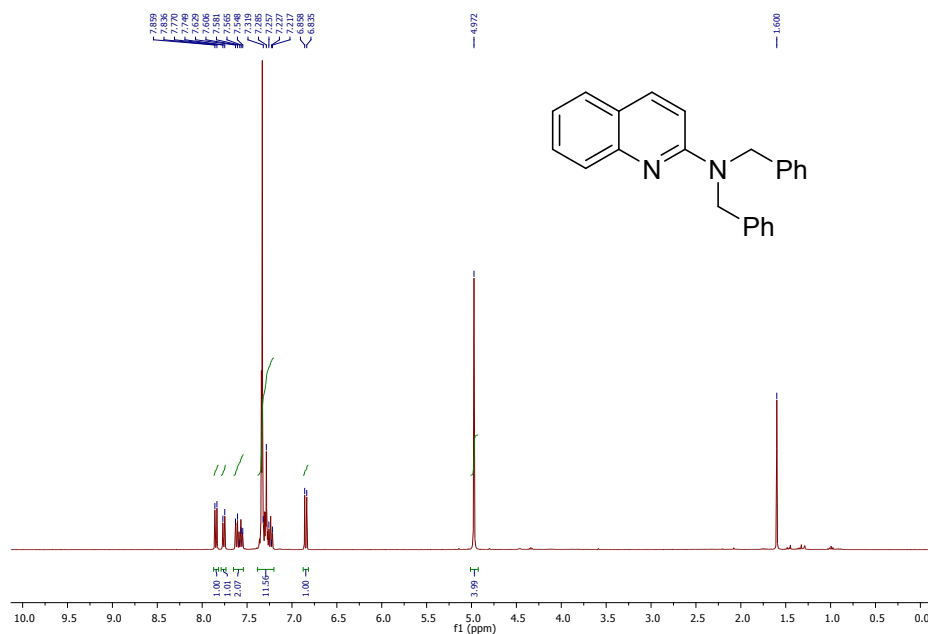


¹H NMR (400 MHz, CDCl₃) spectra of *N*-Benzyl-*N*-Methylquinolin-2-amine 5f

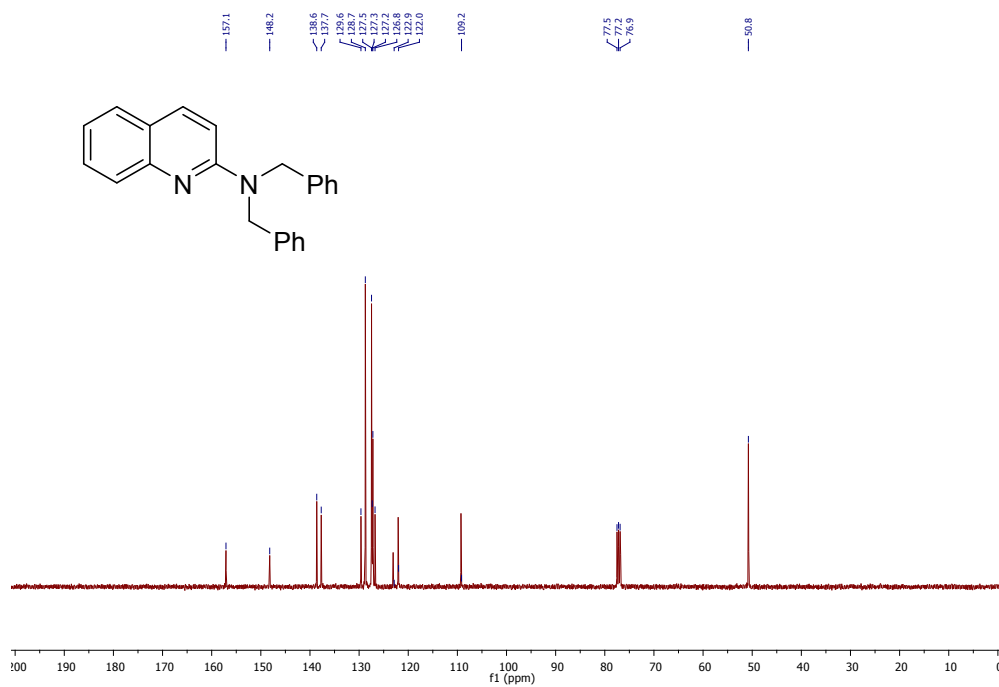


¹³C NMR (101 MHz, CDCl₃) spectra of *N*-Benzyl-*N*-Methylquinolin-2-amine 5f

N,N-Dibenzylquinolin-2-amine **5g**

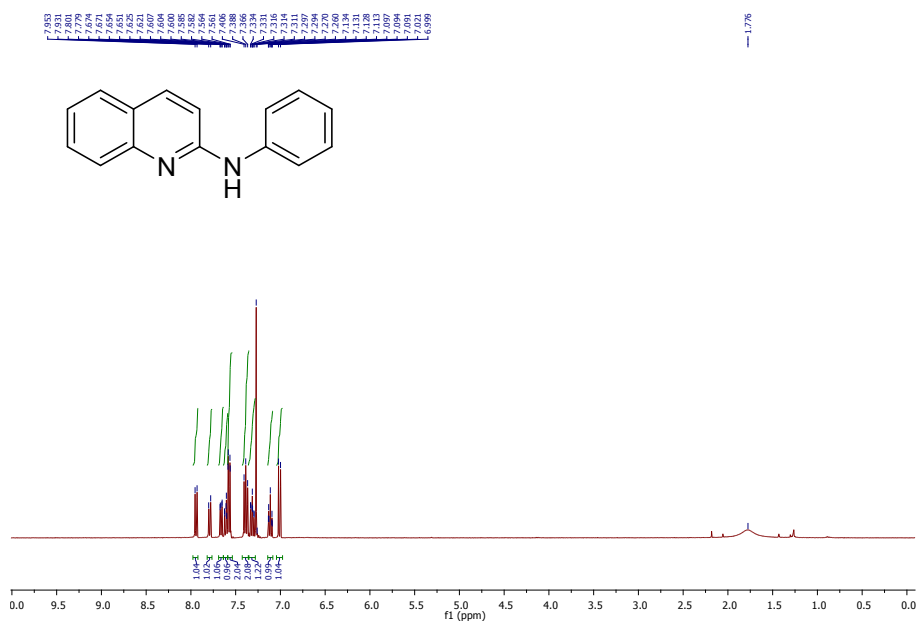


¹H NMR (400 MHz, CDCl₃) spectra of *N,N*-Dibenzylquinolin-2-amine **5g**

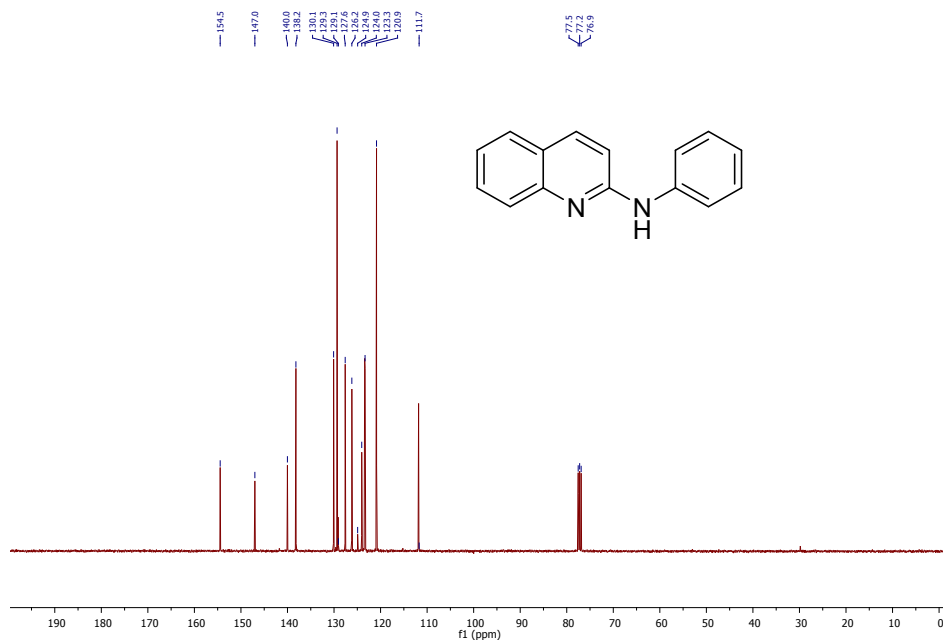


¹³C NMR (101 MHz, CDCl₃) spectra of *N,N*-Dibenzylquinolin-2-amine **5g**

N-Phenylquinolin-2-amine 5h

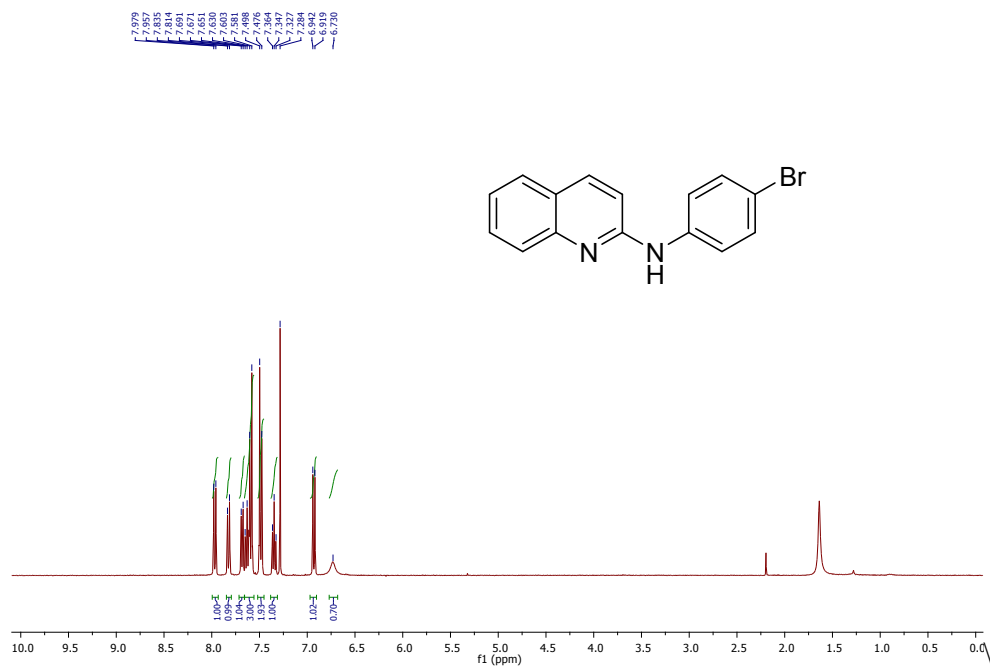


¹H NMR (400 MHz, CDCl₃) spectra of *N*-Phenylquinolin-2-amine 5h

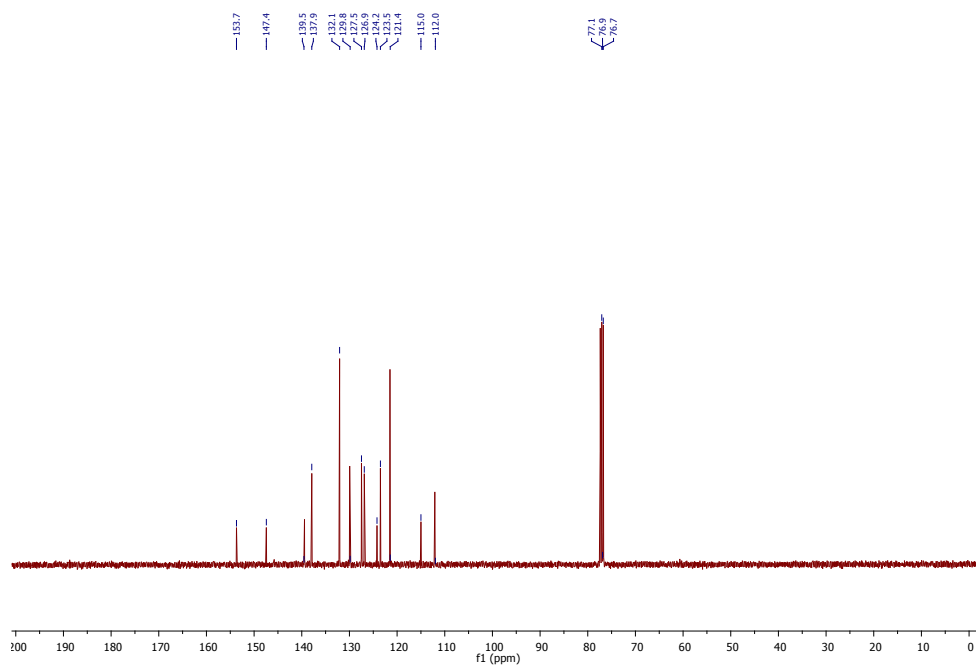


¹³C NMR (101 MHz, CDCl₃) spectra of *N*-Phenylquinolin-2-amine 5h

N-(4-Bromophenyl)quinolin-2-amine 5i

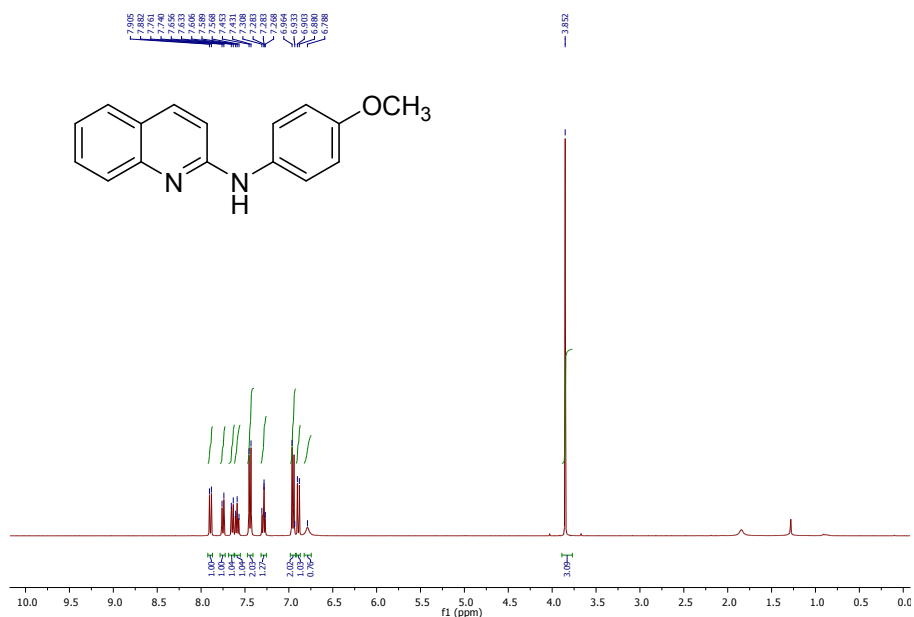


¹H NMR (400 MHz, CDCl₃) spectra of *N*-(4-Bromophenyl)quinolin-2-amine 5i

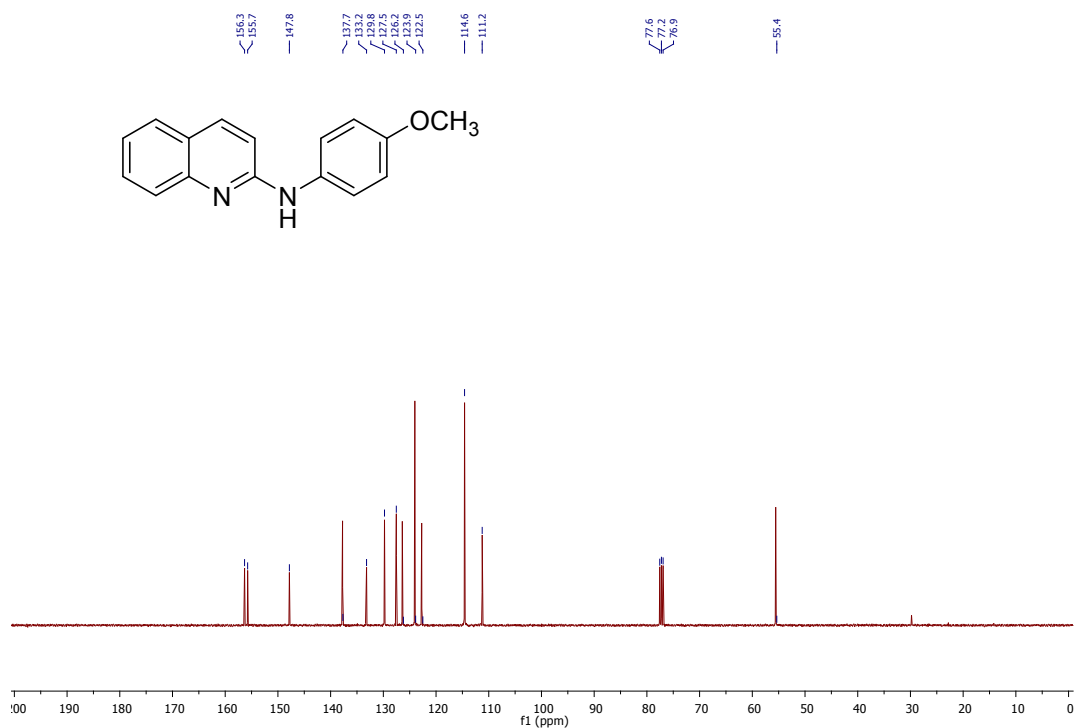


¹³C NMR (101 MHz, CDCl₃) spectra of *N*-(4-Bromophenyl)quinolin-2-amine 5i

N-(4-Methoxyphenyl)quinolin-2-amine **5j**

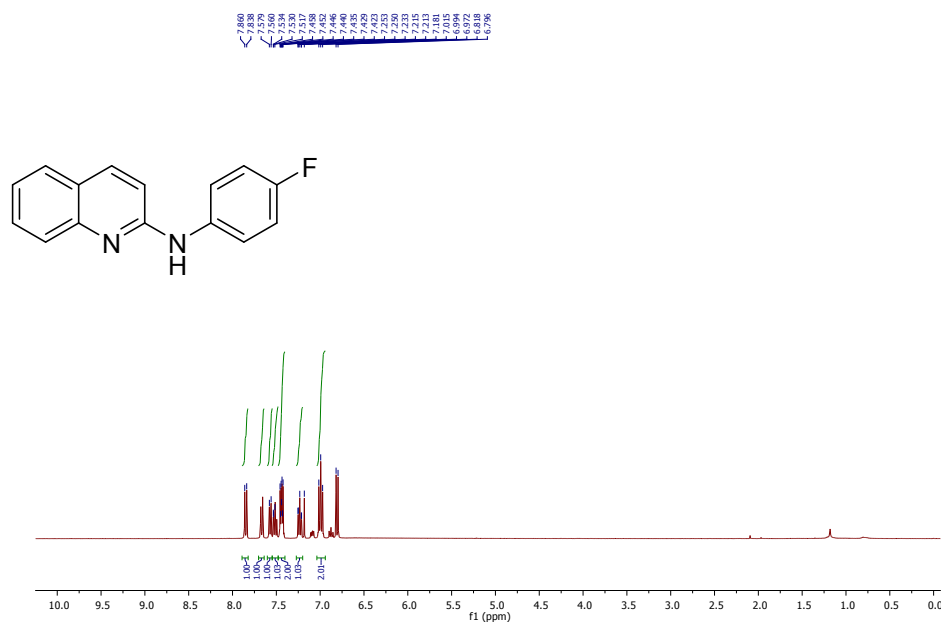


¹H NMR (400 MHz, CDCl₃) spectra of *N*-(4-Methoxyphenyl)quinolin-2-amine **5j**

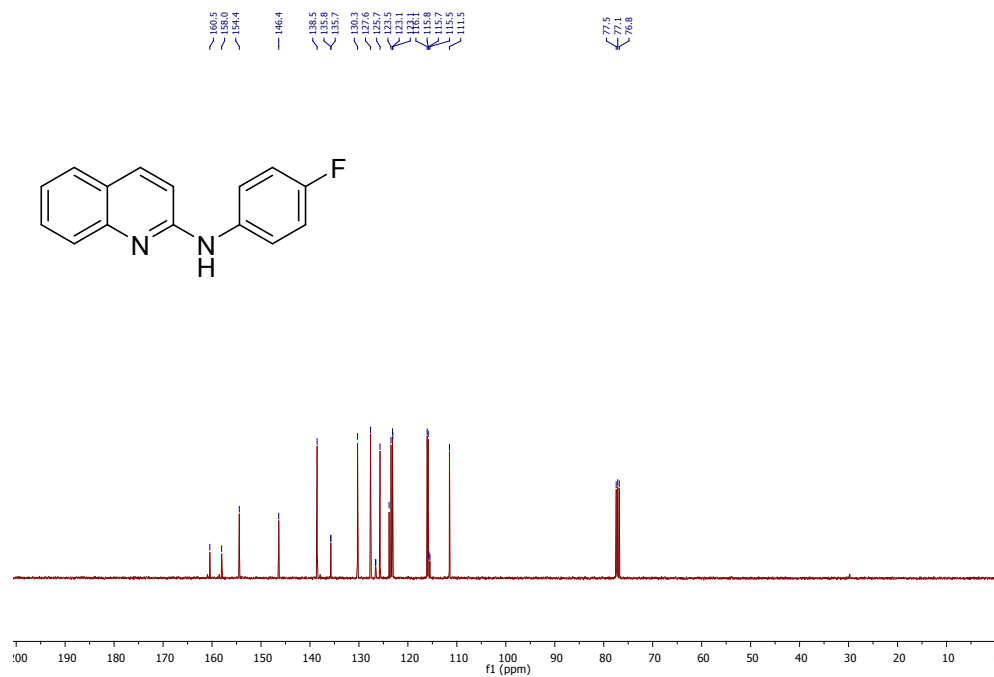


¹³C NMR (101 MHz, CDCl₃) spectra of *N*-(4-Methoxyphenyl)quinolin-2-amine **5j**

N-(4-Fluorophenyl)quinolin-2-amine 5k

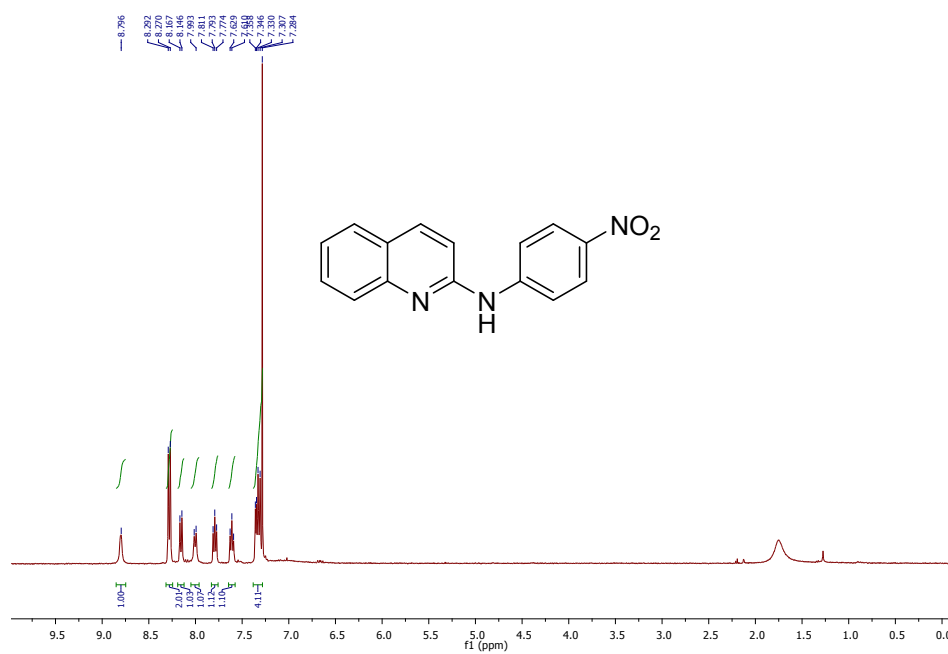


¹H NMR (400 MHz, CDCl₃) spectra of *N*-(4-Fluorophenyl)quinolin-2-amine 5k

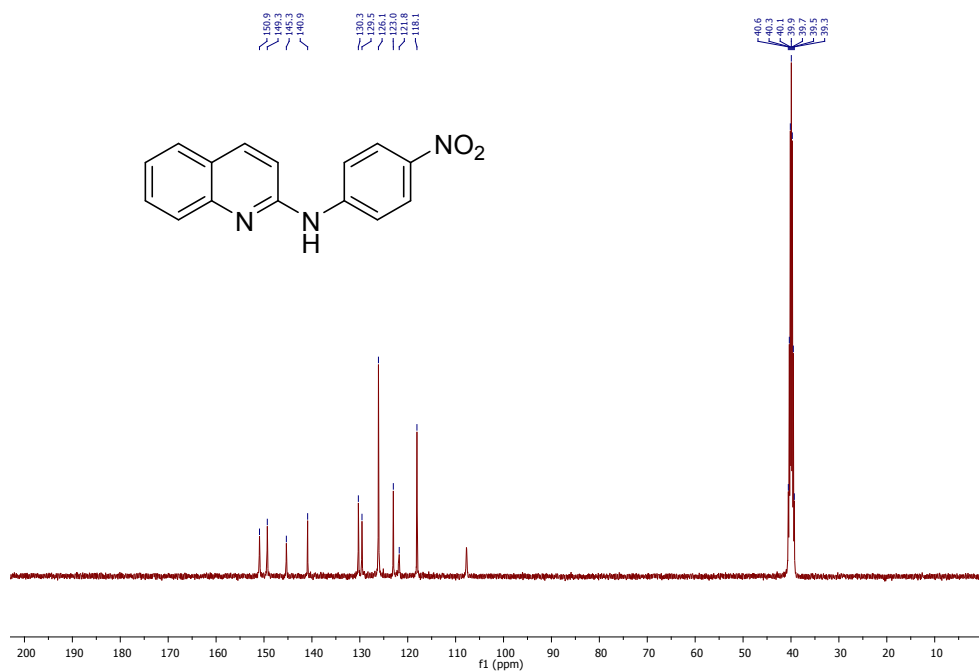


¹³C NMR (101 MHz, CDCl₃) spectra of *N*-(4-Fluorophenyl)quinolin-2-amine 5k

N-(4-Nitrophenyl)quinolin-2-amine 5l

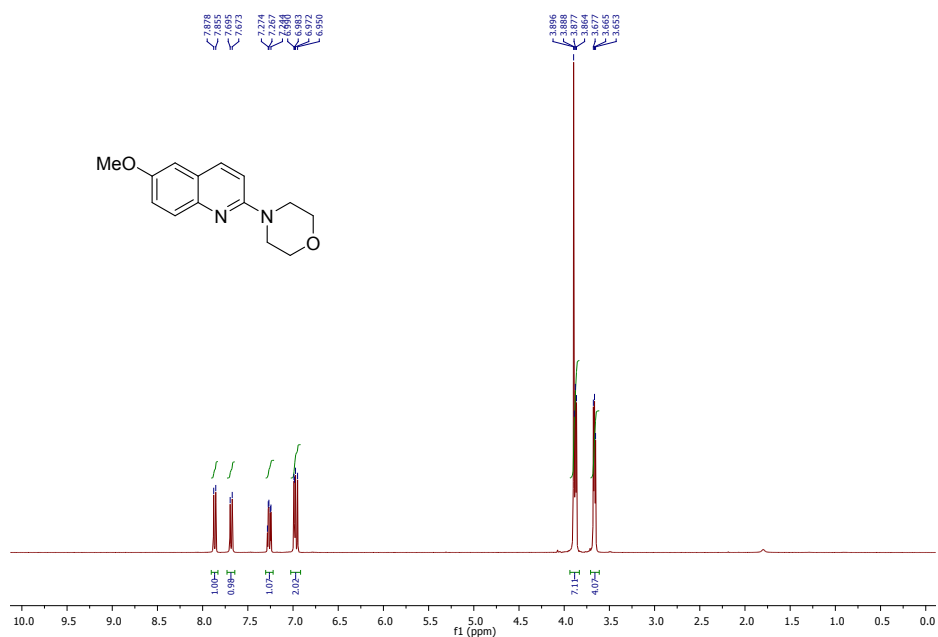


¹H NMR (400 MHz, CDCl₃) spectra of *N*-(4-Nitrophenyl)quinolin-2-amine 5l

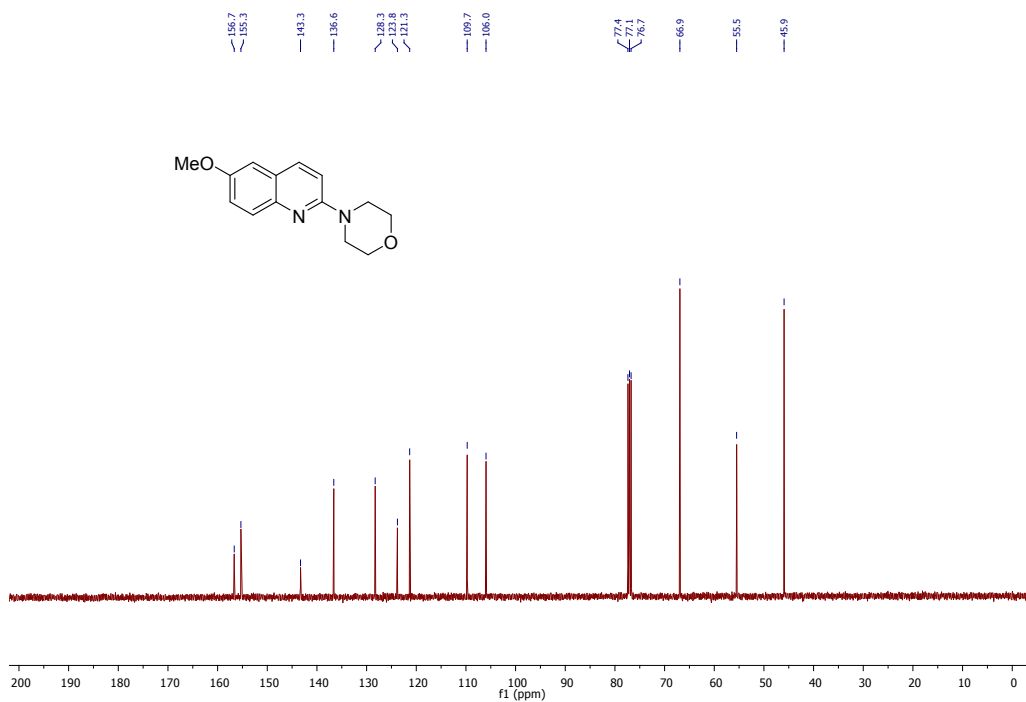


¹³C NMR (101 MHz, DMSO-*d*₆) spectra of *N*-(4-Nitrophenyl)quinolin-2-amine 5l

4-(6-Methoxyquinolin-2-yl)morpholine 7a

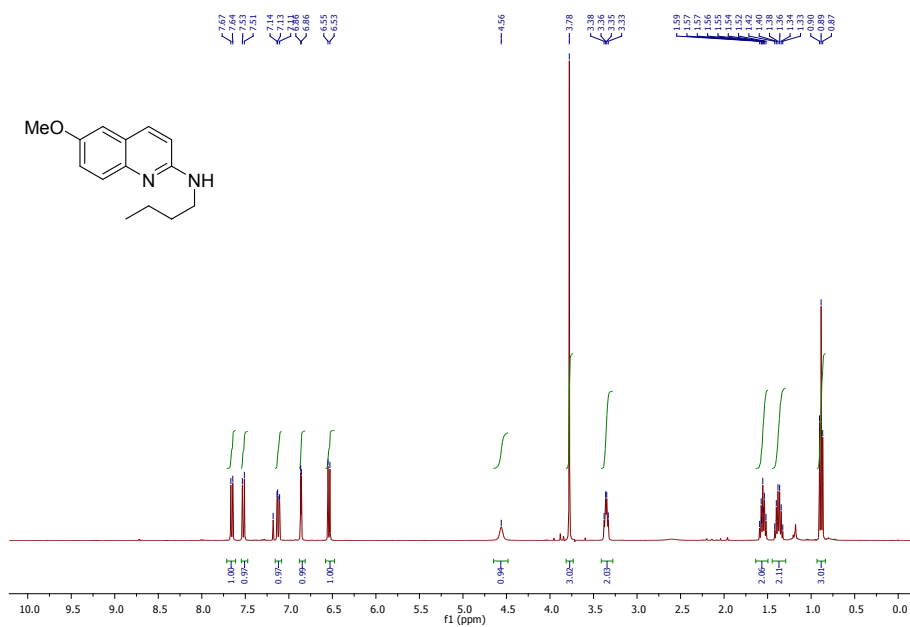


¹H NMR (400 MHz, CDCl₃) of 4-(6-Methoxyquinolin-2-yl)morpholine 7a

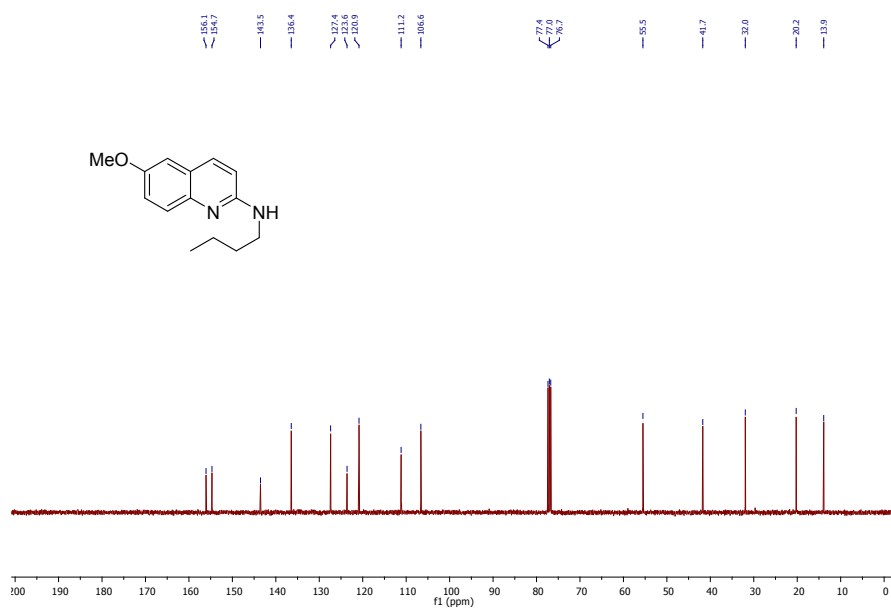


¹³C NMR (101 MHz, CDCl₃) of 4-(6-Methoxyquinolin-2-yl)morpholine 7a

N-Butyl-6-methoxyquinolin-2-amine 7b

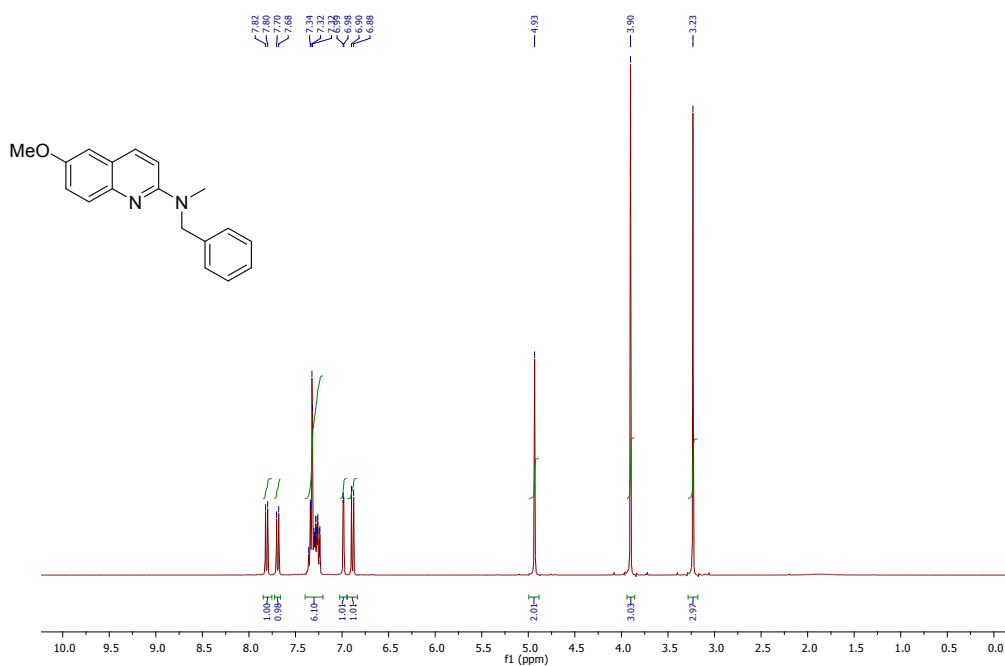


¹H NMR (400 MHz, CDCl₃) of *N*-Butyl-6-methoxyquinolin-2-amine 7b

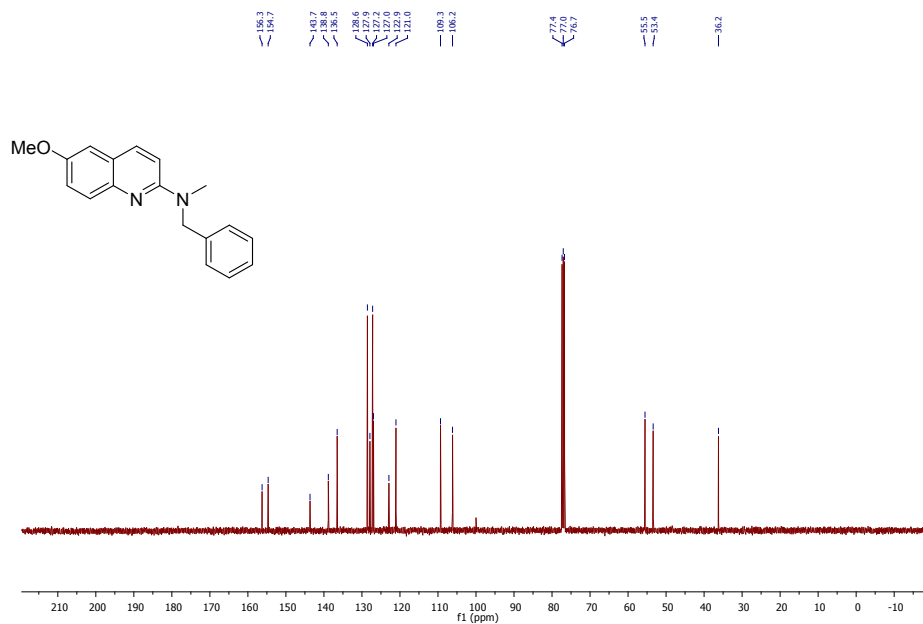


¹³C NMR (101 MHz, CDCl₃) of *N*-Butyl-6-methoxyquinolin-2-amine 7b

N-Benzyl-6-methoxy-*N*-methylquinolin-2-amine 7c

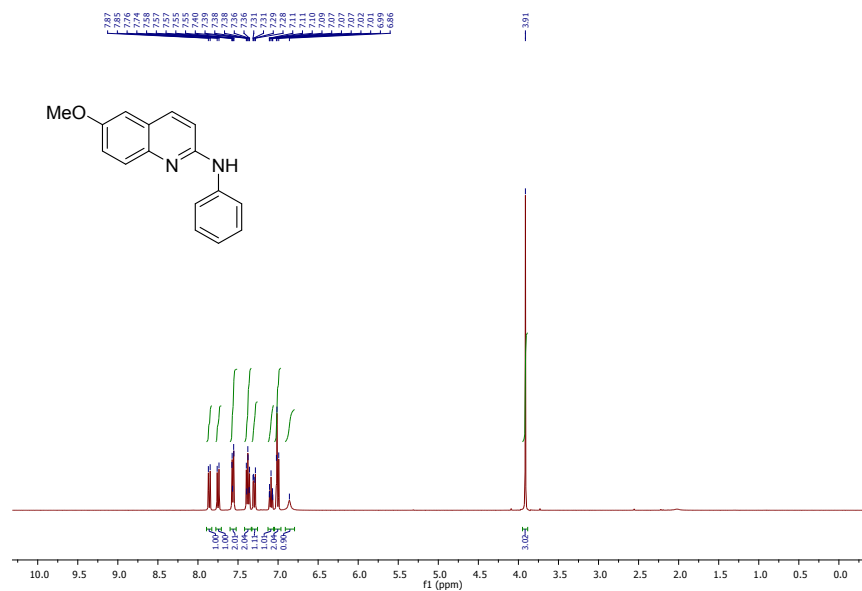


¹H NMR (400 MHz, CDCl₃) of *N*-Benzyl-6-methoxy-*N*-methylquinolin-2-amine 7c

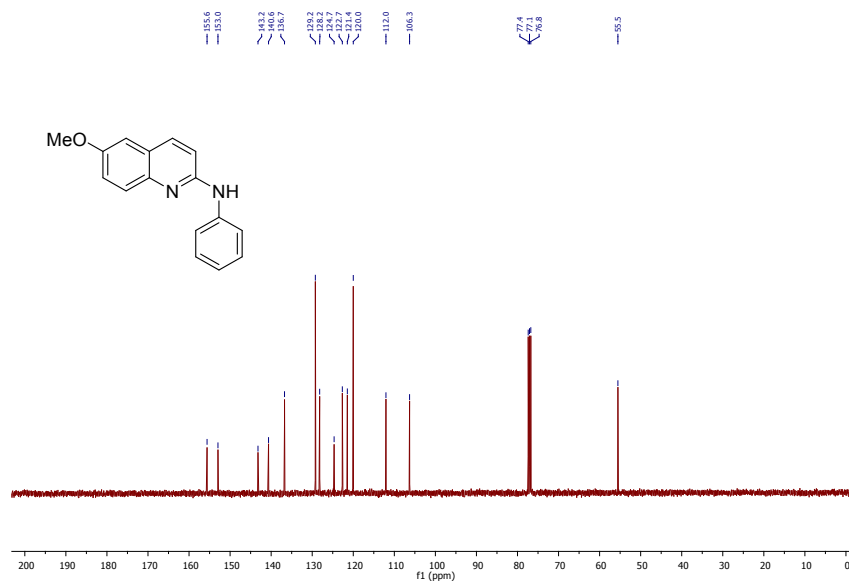


¹³C NMR (101 MHz, CDCl₃) of *N*-Benzyl-6-methoxy-*N*-methylquinolin-2-amine 7c

6-Methoxy-*N*-phenylquinolin-2-amine 7d

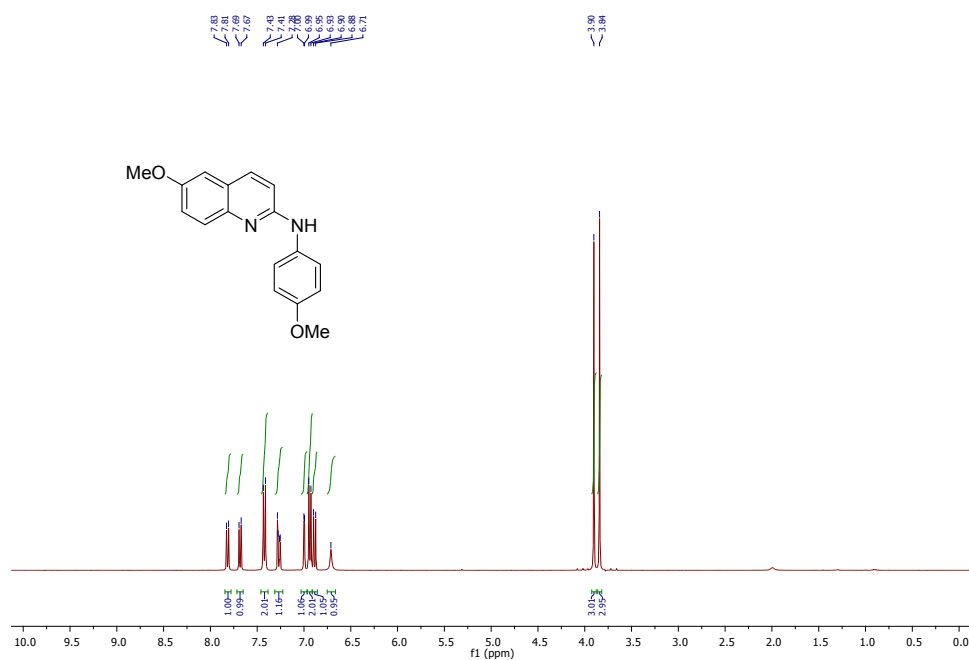


¹H NMR (400 MHz, CDCl₃) of 6-Methoxy-*N*-phenylquinolin-2-amine 7d

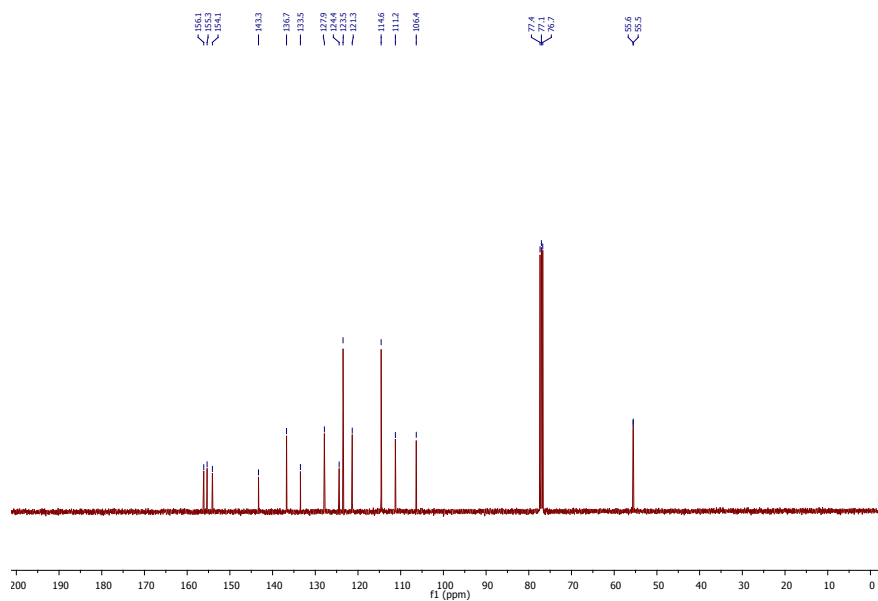


¹³C NMR (101 MHz, CDCl₃) of 6-Methoxy-*N*-phenylquinolin-2-amine 7d

6-Methoxy-*N*-(4-methoxyphenyl)quinolin-2-amine 7e

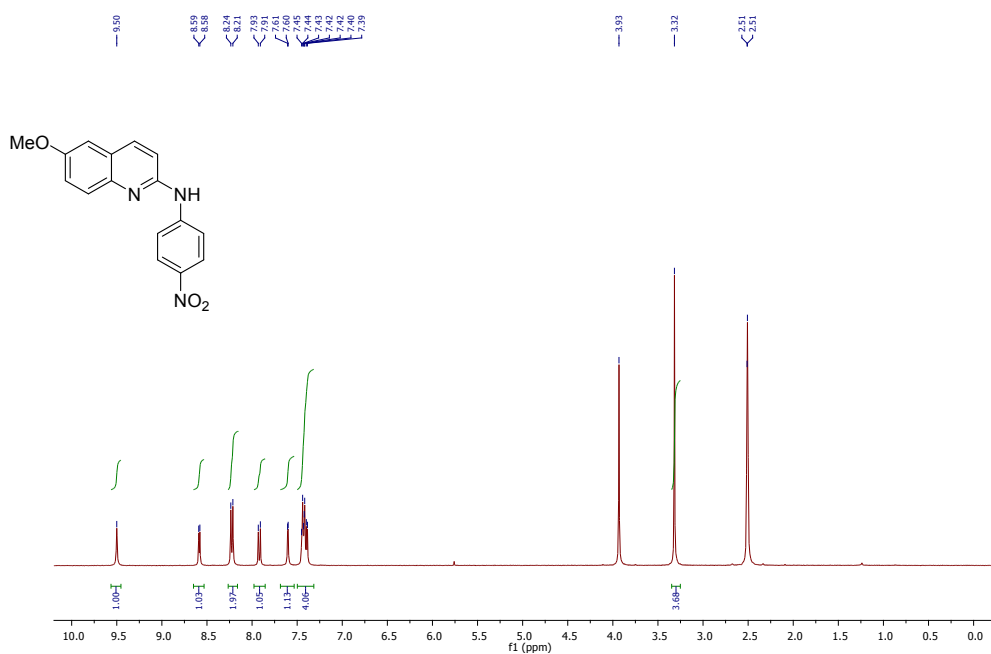


¹H NMR (400 MHz, CDCl₃) of 6-Methoxy-*N*-(4-methoxyphenyl)quinolin-2-amine 7e

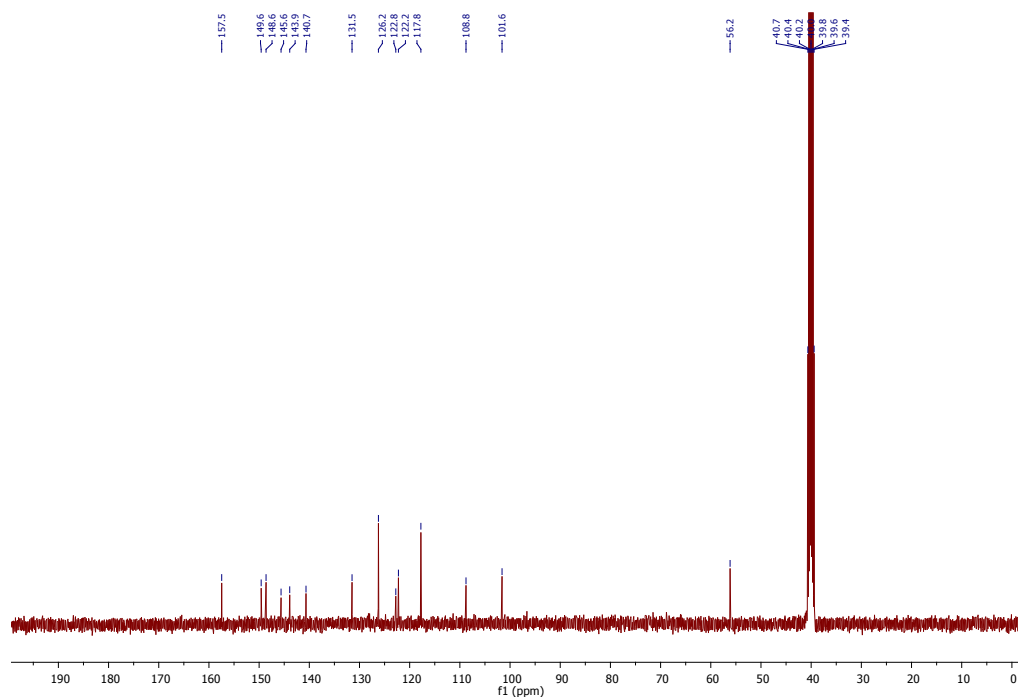


¹³C NMR (101 MHz, CDCl₃) of 6-Methoxy-*N*-(4-methoxyphenyl)quinolin-2-amine 7e

6-Methoxy-*N*-(4-nitrophenyl)quinolin-2-amine 7f

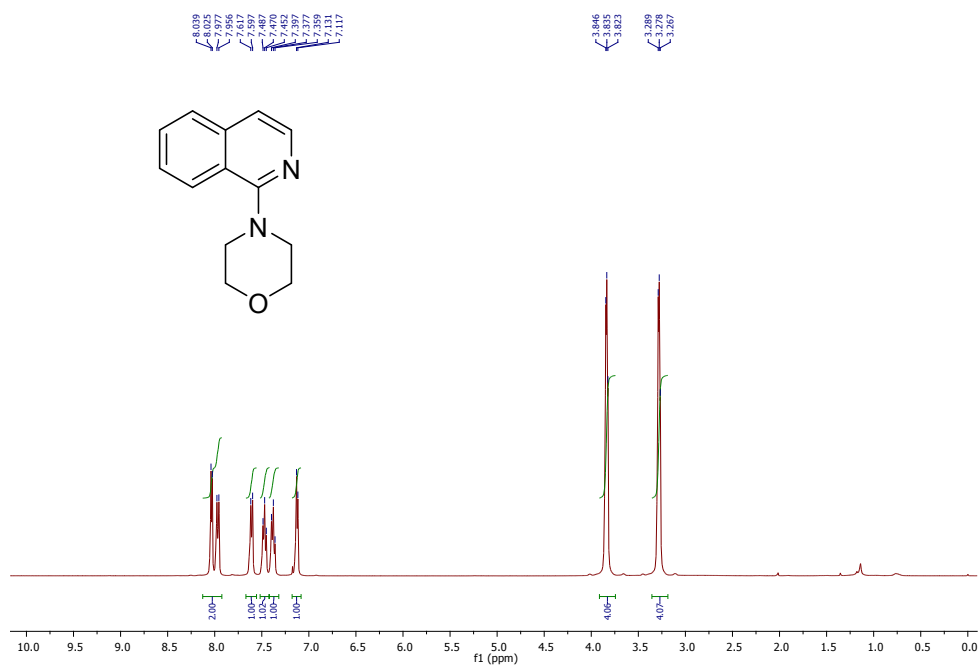


¹H NMR (400 MHz, DMSO-*d*₆) of 6-Methoxy-*N*-(4-nitrophenyl)quinolin-2-amine 7f

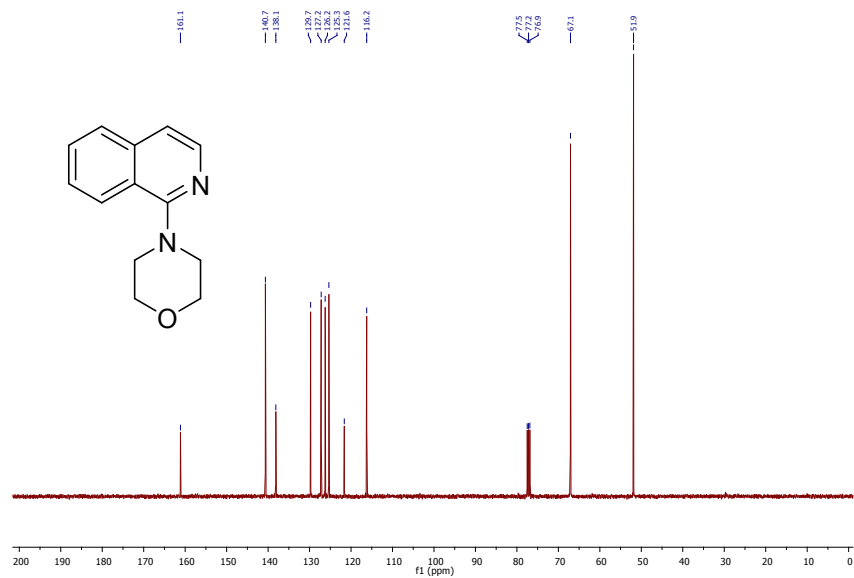


¹³C NMR (101 MHz, DMSO-*d*₆) of 6-Methoxy-*N*-(4-nitrophenyl)quinolin-2-amine 7f

4-(Isoquinolin-1-yl)morpholine 9a

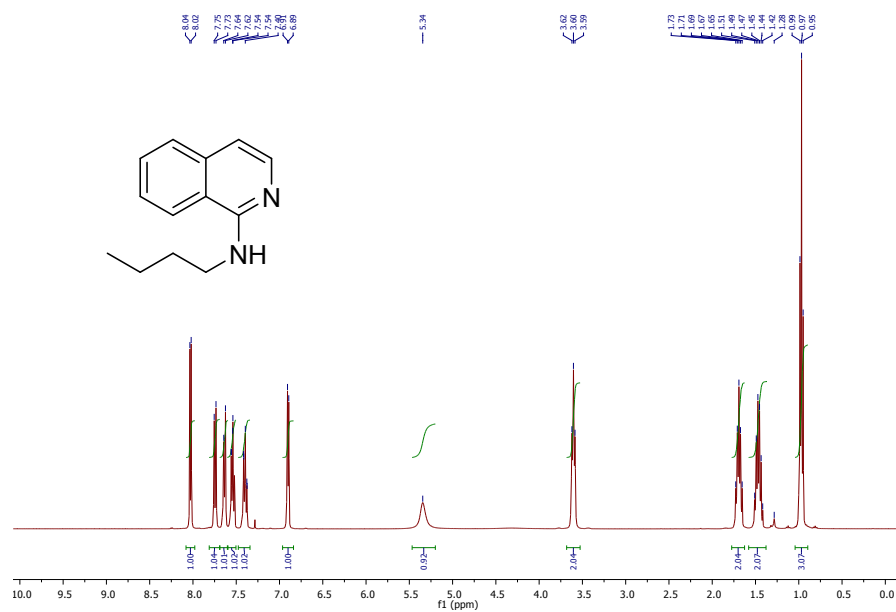


¹H NMR (400 MHz, CDCl₃) spectra of 4-(Isoquinolin-1-yl)morpholine 9a

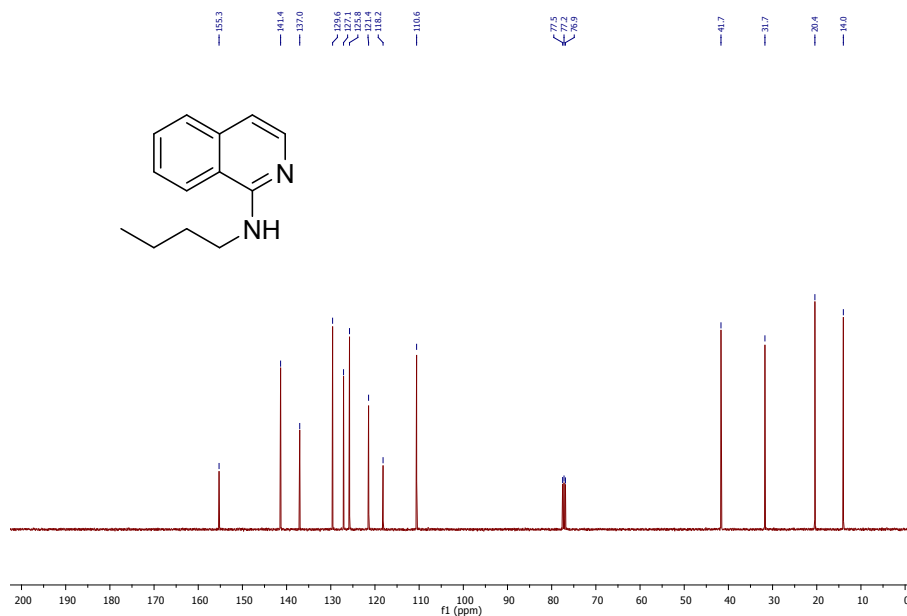


¹³C NMR (101 MHz, CDCl₃) spectra of 4-(Isoquinolin-1-yl)morpholine 9a

N-Butylisoquinolin-1-amine 9b

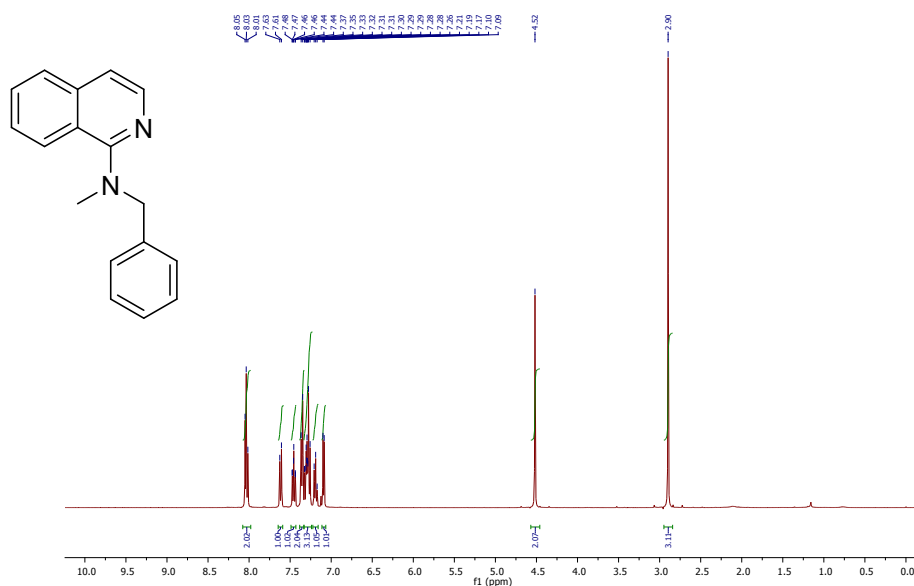


¹H NMR (400 MHz, CDCl₃) spectra of *N*-Butylisoquinolin-1-amine 9b

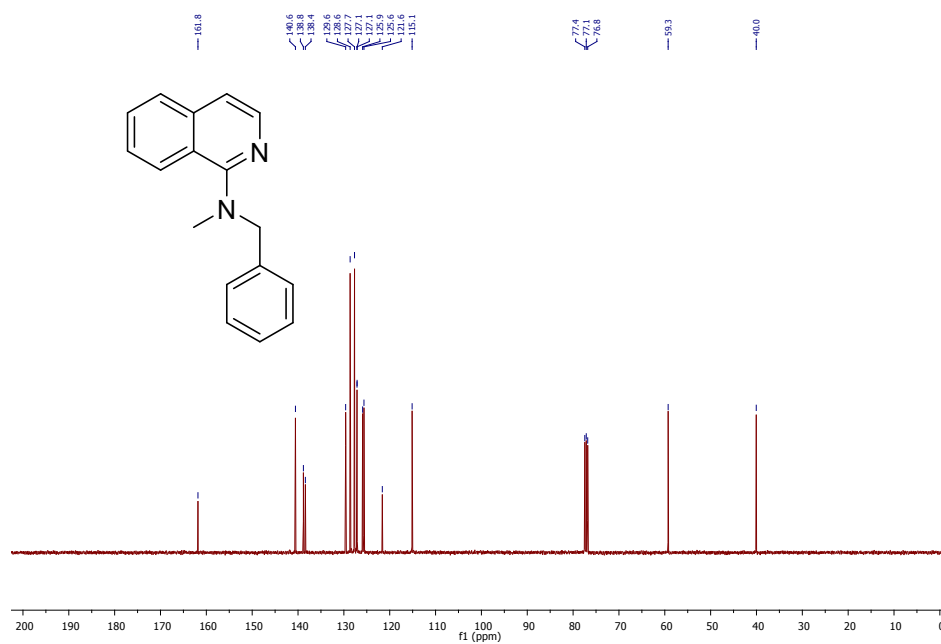


¹³C NMR (101 MHz, CDCl₃) spectra of *N*-Butylisoquinolin-1-amine 9b

N-Benzyl-*N*-Methylisoquinolin-1-amine 9c

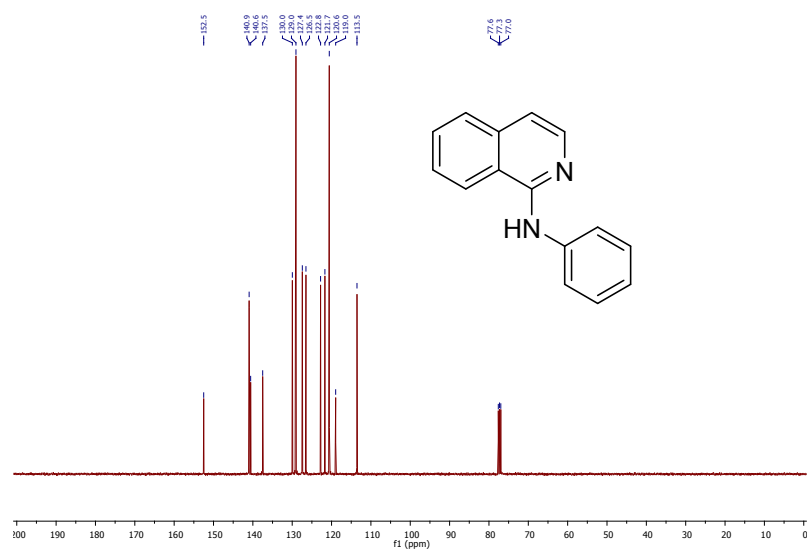
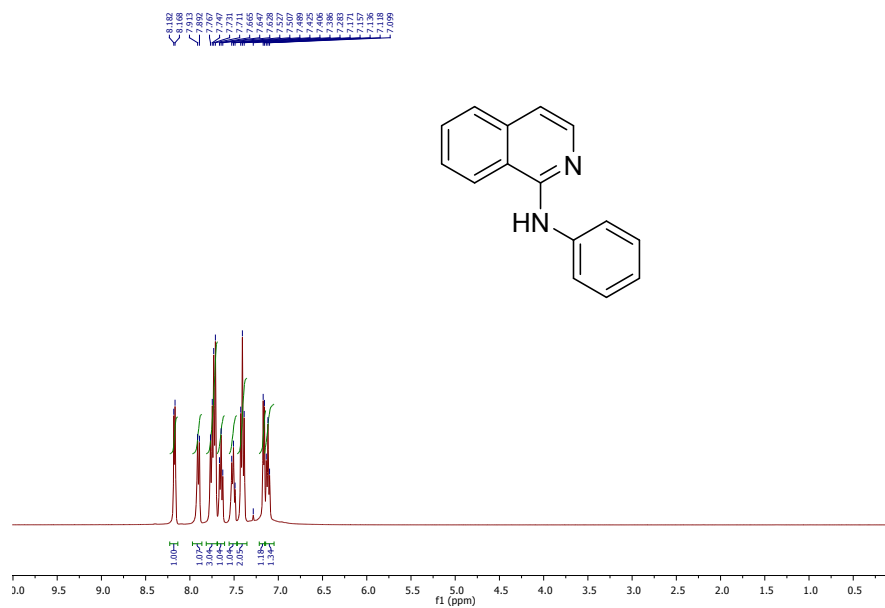


¹H NMR (400 MHz, CDCl₃) spectra of *N*-Benzyl-*N*-Methylisoquinolin-1-amine 9c

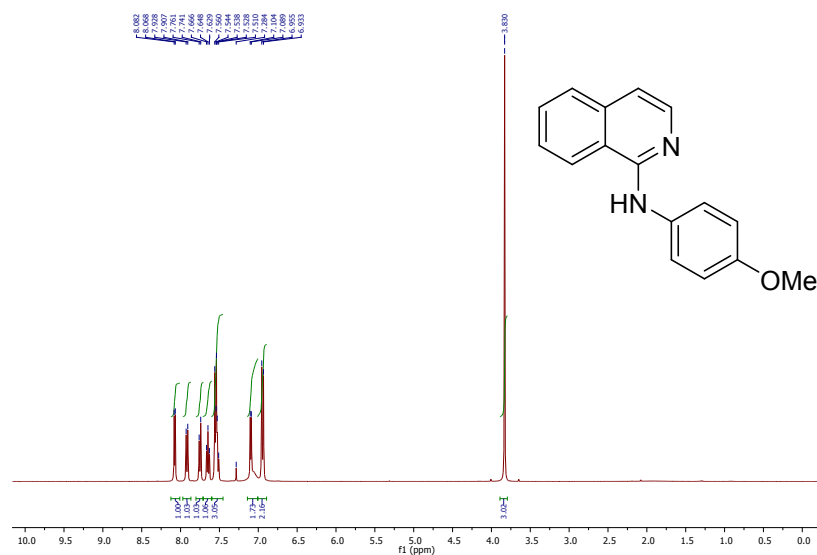


¹³C NMR (101 MHz, CDCl₃) spectra of *N*-Benzyl-*N*-Methylisoquinolin-1-amine 9c

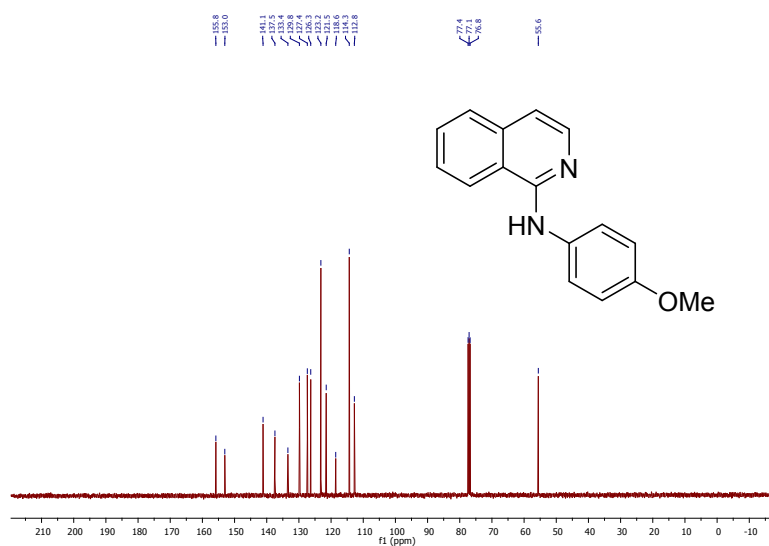
N-Phenylisoquinolin-1-amine 9d



N-(4-Methoxyphenyl)isoquinolin-1-amine 9e

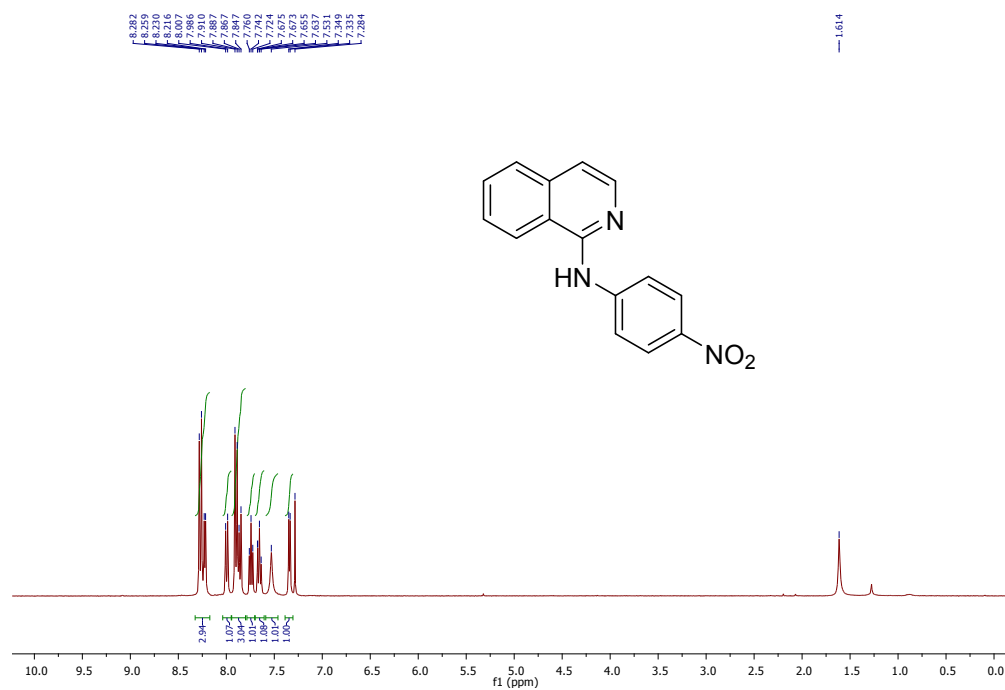


¹H NMR (400 MHz, CDCl₃) spectra of *N*-(4-Methoxyphenyl)isoquinolin-1-amine 9e

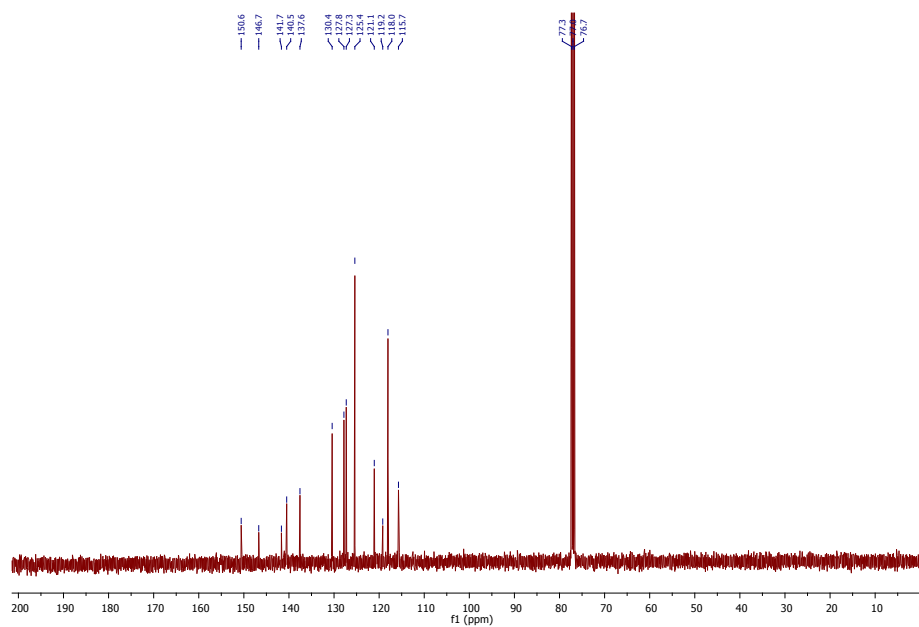


¹³C NMR (101 MHz, CDCl₃) spectra of *N*-(4-Methoxyphenyl)isoquinolin-1-amine 9e

N-(4-Nitrophenyl)isoquinolin-1-amine 9f



¹H NMR (400 MHz, CDCl₃) spectra of *N*-(4-Nitrophenyl)isoquinolin-1-amine 9f



¹³C NMR (101 MHz, CDCl₃) spectra of *N*-(4-Nitrophenyl)isoquinolin-1-amine 9f