One-pot Synthesis of Substituted 2-Aminobenzo[b]thiophenes.

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MS of isopropyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3e).

$^{1}$H-spectrum of cyclopentyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3f) in CDCl$_3$.

$^{13}$C-spectrum of cyclopentyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3f) in CDCl$_3$.

MS of cyclopentyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3f).

$^{1}$H-spectrum of cyclohexyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3g) in CDCl$_3$.

$^{13}$C-spectrum of cyclohexyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3g) in CDCl$_3$.

MS of cyclohexyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3g).

$^{1}$H-spectrum of dimethyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3h) in CDCl$_3$.

$^{13}$C-spectrum of dimethyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3h) in CDCl$_3$.

MS of dimethyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3h).

$^{1}$H-spectrum of 1-(5-nitro-benzo[b]thiophen-2-yl)-pyrrolidine (3i) in CDCl$_3$.

$^{13}$C-spectrum of 1-(5-nitro-benzo[b]thiophen-2-yl)-pyrrolidine (3i) in CDCl$_3$.

MS of 1-(5-nitro-benzo[b]thiophen-2-yl)-pyrrolidine (3i).

$^{1}$H-spectrum of 1-(5-nitro-benzo[b]thiophen-2-yl)-piperidine (3j) in CDCl$_3$.

$^{13}$C-spectrum of 1-(5-nitro-benzo[b]thiophen-2-yl)-piperidine (3j) in CDCl$_3$.

MS of 1-(5-nitro-benzo[b]thiophen-2-yl)-piperidine (3j).

$^{1}$H-spectrum of 4-(5-nitro-benzo[b]thiophen-2-yl)-morpholine (3k) in CDCl$_3$.

$^{13}$C-spectrum of 4-(5-nitro-benzo[b]thiophen-2-yl)-morpholine (3k) in CDCl$_3$.

MS of 4-(5-nitro-benzo[b]thiophen-2-yl)-morpholine (3k).

$^{1}$H-spectrum of 3-methyl-5-nitro-benzo[d]isothiazole (4) in CDCl$_3$.

$^{13}$C-spectrum of 3-methyl-5-nitro-benzo[d]isothiazole (4) in CDCl$_3$.

MS of 3-methyl-5-nitro-benzo[d]isothiazole (4).

General methods and materials.
$^1$H-spectrum of methyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3a) in CDCl$_3$. 

$^1$H NMR (CDCl$_3$)
$^{13}$C-spectrum of methyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3a) in CDCl$_3$. 

$^{13}$C NMR (CDCl$_3$)
MS of methyl-(5-nitro-benzo[\textit{b}]thiophen-2-yl)-amine (3a)

\begin{center}
\includegraphics[width=\textwidth]{ms_graph.png}
\end{center}

m.w. = 208
\( ^1\)H-spectrum of allyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3b) in CDCl₃.

**\(^1\)H NMR (CDCl₃)**

2-Allylamino-5-nitrobenzo[b]thiophene
Anal 2 Fractions 2-7

\[ \text{NH} \]

\[ \text{4'}\text{ cis} \quad \text{4'}\text{ trans} \quad J=17 \text{ Hz} \quad J=10 \text{ Hz} \]

\[ \text{2'} \]

\[ \text{4} \quad \text{7} \quad \text{6} \quad \text{3'} \quad \text{3} \quad \text{4'} \text{ cis} \quad \text{4'} \text{ trans} \]
\(^{13}\)C-spectrum of allyl-(5-nitro- benzo[b]thiophen-2-yl)-amine (3b) in CDCl\(_3\).
MS of allyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3b).

m.w. = 234
$^1$H-spectrum of butyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3c) in CDCl$_3$. 
$^{13}$C-spectrum of butyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3c) in CDCl$_3$.
MS of butyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3c).

m.w. = 250
$^1$H-spectrum of benzyl-(5-nitro-benzo[$b$]thiophen-2-yl)-amine (3d) in CDCl$_3$. 

$^1$H NMR (CDCl$_3$)
$^{13}$C-spectrum of benzyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3d) in CDCl$_3$. 

$^{13}$C NMR (CDCl$_3$)
MS of benzyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3d).
$^1$H-spectrum of isopropyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3e) in CDCl₃
$^{13}$C-spectrum of isopropyl-(5-nitro-benzo[\textit{b}]thiophen-2-yl)-amine (3e) in CDCl$_3$
MS of isopropyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3e).
$^1$H-spectrum of cyclopentyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3f) in CDCl$_3$
$^{13}$C-spectrum of cyclopentyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3f) in CDCl$_3$. 

$^{13}$C NMR (CDCl$_3$)
MS of cyclopentyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3f).

m.w. = 262
$^1$H-spectrum of cyclohexyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3g) in CDCl$_3$.
$^{13}$C-spectrum of cyclohexyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3g) in CDCl$_3$. 

$^{13}$C NMR (CDCl$_3$)
MS of cyclohexyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3g).
$^1$H-spectrum of dimethyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3h) in CDCl$_3$
$^{13}$C-spectrum of dimethyl-(5-nitro-benzo[b]thiophen-2-yl)-amine (3h) in CDCl$_3$. 

\[ \text{NMe}_2 \]

\[ \text{O}_2\text{N} \]

\[ \begin{array}{c}
5 & 4 & 3a & 3 \\
6 & 7a & S & 2 \\
\end{array} \]

\[ \text{NMe}_2 \]

\[ 4+6+7 \]

\[ 3 \]

\[ 2+7a \]

\[ 3a \]
MS of dimethyl-(5-nitro-benzof[b]thiophen-2-yl)-amine (3h).
$^1$H-spectrum of 1-(5-nitro-benzo[b]thiophen-2-yl)-pyrrolidine (3i) in CDCl$_3$. 
\(^{13}\)C-spectrum of 1-(5-nitro-benzo[b]thiophen-2-yl)-pyrrolidine (3i) in CDCl\(_3\).
MS of 1-(5-nitro-benzo[b]thiophen-2-yl)-pyrrolidine (3i).
$^1$H-spectrum of 1-(5-nitro-benzo[b]thiophen-2-yl)-piperidine (3j) in CDCl$_3$. 

$^1$H NMR (CDCl$_3$)

5-Nitro-2-piperidinobenzo[b]thiophene
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$^{13}$C-spectrum of 1-(5-nitro-benzo[$b$]thiophen-2-yl)-piperidine (3j) in CDCl$_3$. 

$^{13}$C NMR (CDCl$_3$)
MS of 1-(5-nitro-benzo[b]thiophen-2-yl)-piperidine (3j).
$^1$H-spectrum of 4-(5-nitro-benzo[b]thiophen-2-yl)-morpholine (3k) in CDCl$_3$. 

2-Morpholino-5-nitrobenzo[b]thiophene

$^1$H NMR (CDCl$_3$)
$^{13}$C-spectrum of 4-(5-nitro-benzo[$b$]thiophen-2-yl)-morpholine (3k) in CDCl$_3$. 

![13C NMR (CDCl$_3$) spectrum](image-url)
MS of 4-(5-nitro-benzo[b]thiophen-2-yl)-morpholine (3k).
\(^1\)H-spectrum of 3-methyl-5-nitro-benzo[\textit{d}]isothiazole (4) in CDCl\(_3\).
$^{13}$C-spectrum of 3-methyl-5-nitro-benzo[$d$]isothiazole (4) in CDCl$_3$. 
MS of 3-methyl-5-nitro-benzo[\textit{d}]isothiazole (4).
General methods and materials.

**Reagents.** All chemicals were used as purchased. Solvents for crystallization and chromatography were technical grade. When required, solvents were freshly distilled from appropriate drying agents before use.

**General Methods.** Analytical TLC was performed with silica gel 60 F254 plates. Melting points are uncorrected. Mass spectra were obtained on a triple quadrupole mass spectrometer by electron ionization (EI) at 70 eV. High-resolution mass spectra were recorded on a double focusing magnetic sector mass spectrometer using EI at 70 eV. $^1$H and $^{13}$C NMR spectra were recorded at 300 and 75 MHz respectively, in CDCl$_3$ using TMS ($\delta = 0.0$ ppm) or the signal of residual solvent protons as an internal standard.

GC-MS analyses were carried out using a gas chromatograph with a series mass selective detector (EI, 70 eV), using a capillary column of 25 m length and 0.25 mm I.D. An initial temperature of 70 °C was maintained for 3 min and then a heating rate of 20 °C/min was applied until the final temperature of 270 °C was reached.