

**Supplementary material**

**Selectivity and activity in catalytic hydrogenation of azido groups over Pd nanoparticles  
on aluminum oxy-hydroxide**

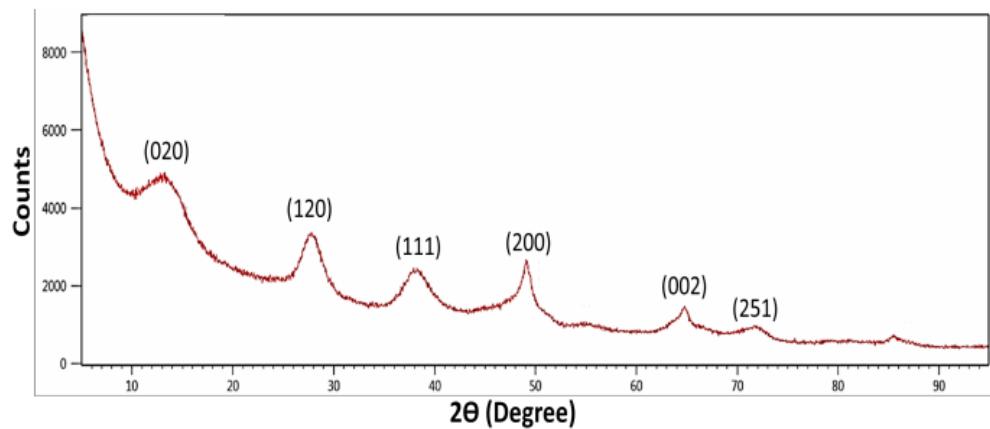
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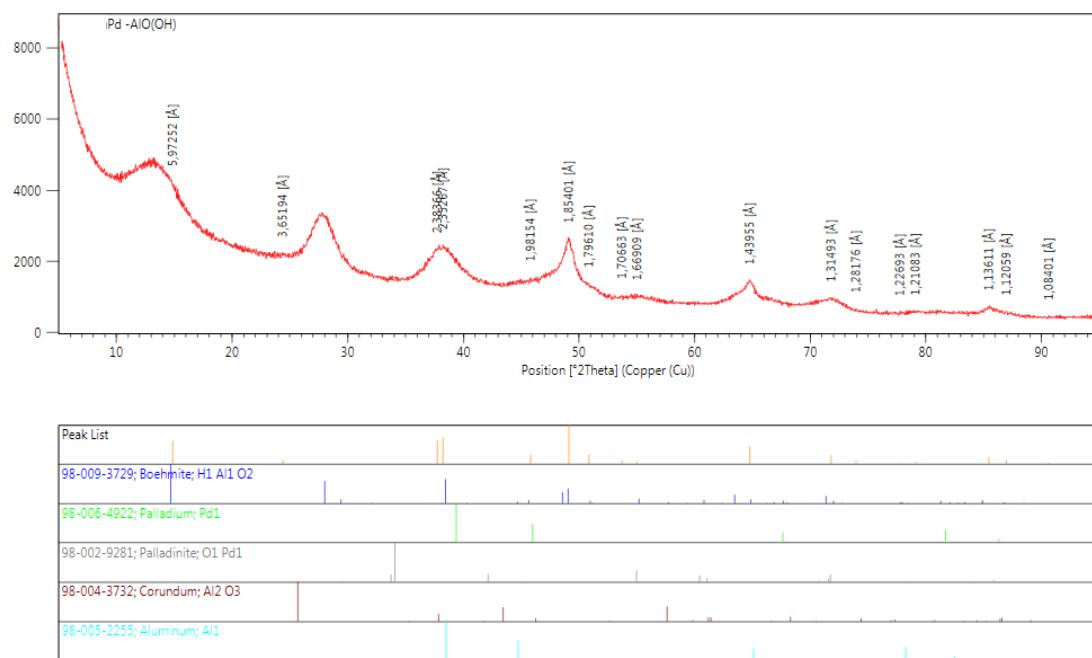
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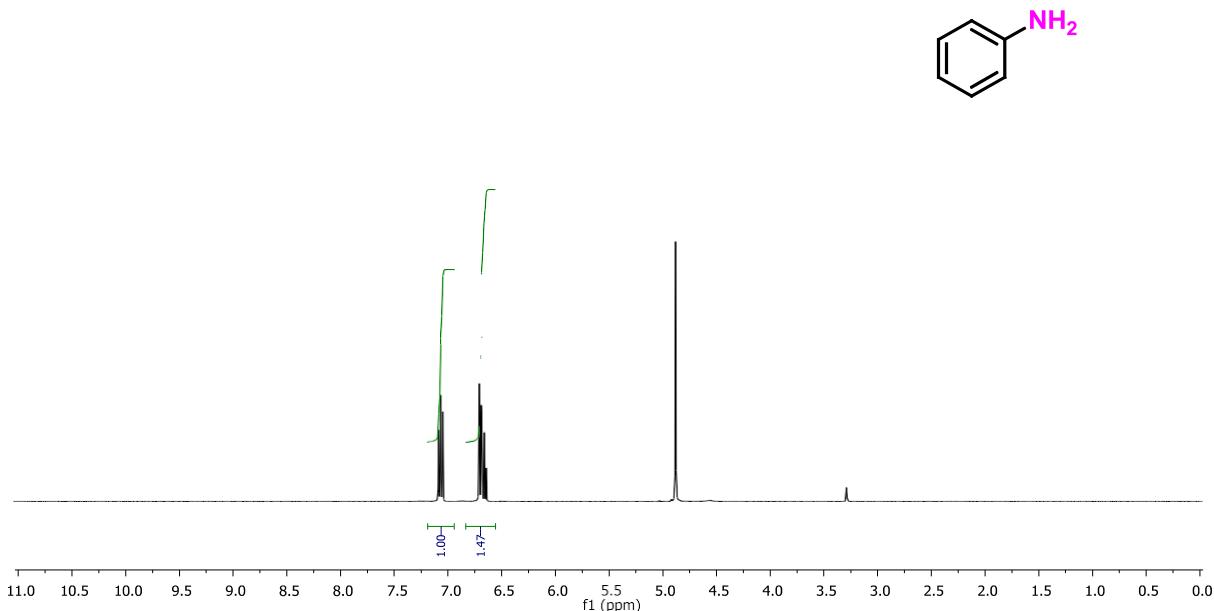
**Figure S1** XRD pattern spectrum of Pd/AlO(OH).



**Figure S2** XRD patterns of the as boehmite (red) and JCPDS card No. 21-1307 (blue).

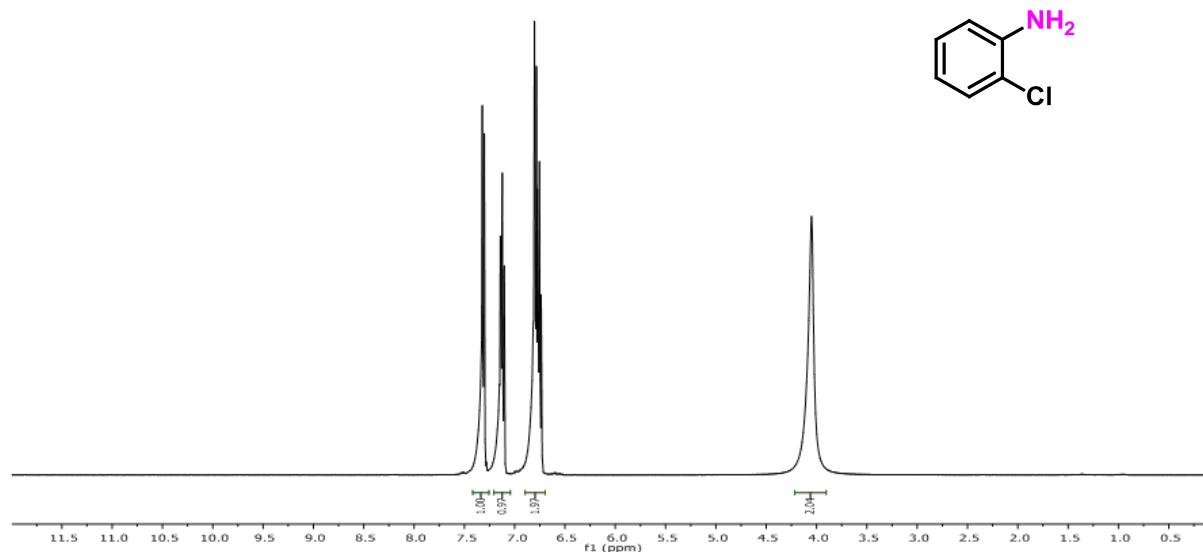
## <sup>1</sup>H NMR Spectra for Primary Amines

AN  
single\_pulse

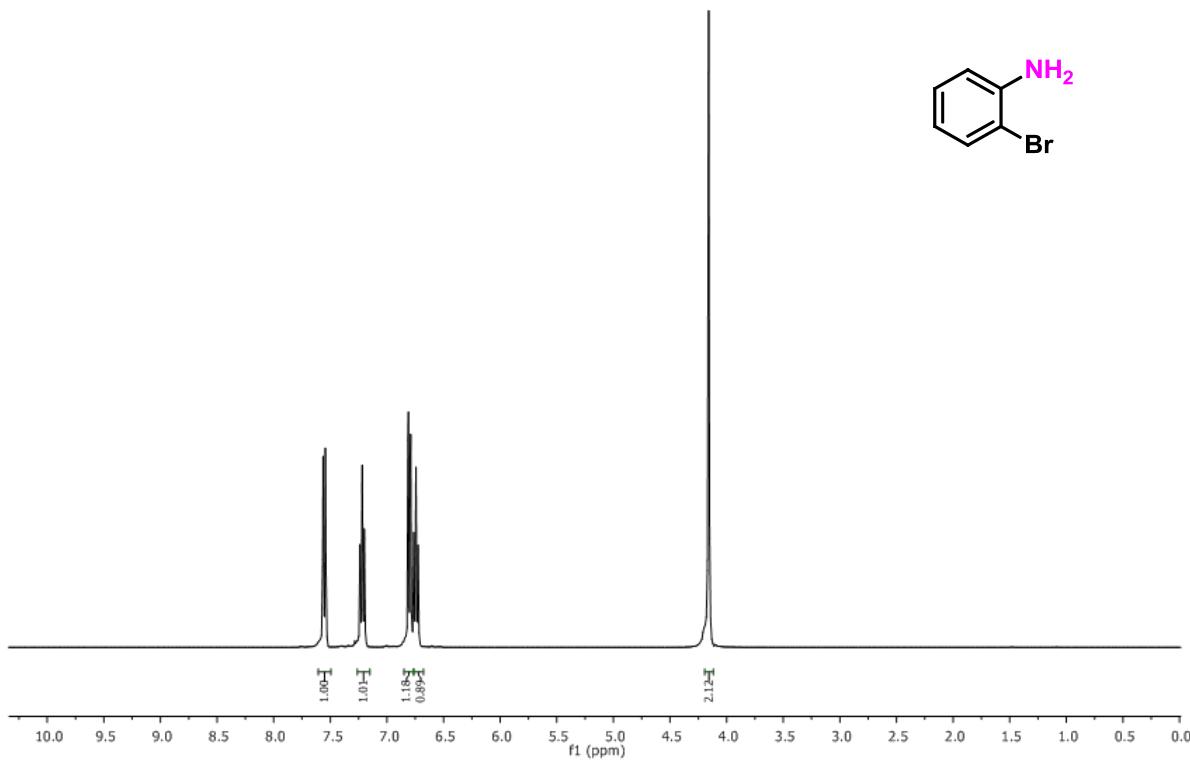
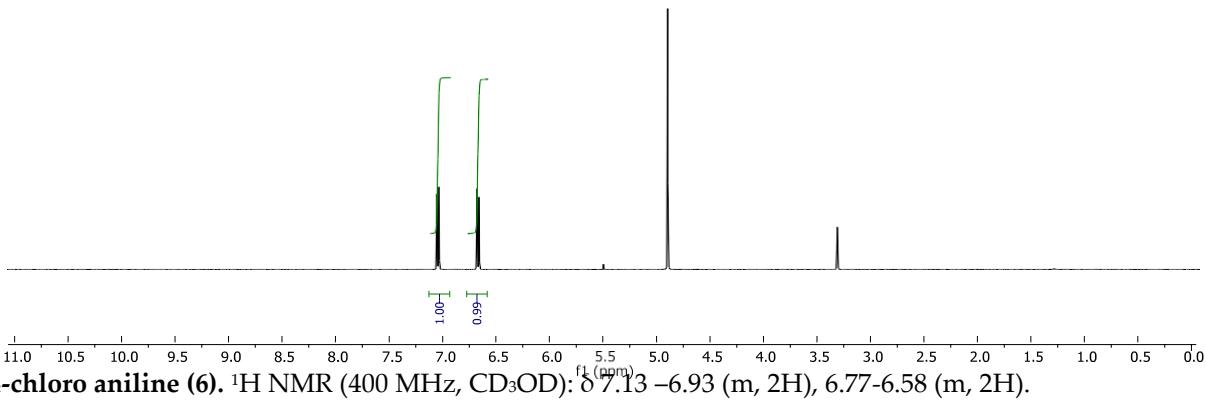
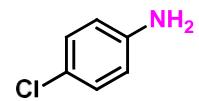


**Aniline (2).** <sup>1</sup>H NMR (400 MHz, CD<sub>3</sub>OD):  $\delta$  7.14–6.94 (m, 2H), 6.79–6.56 (m, 3H).

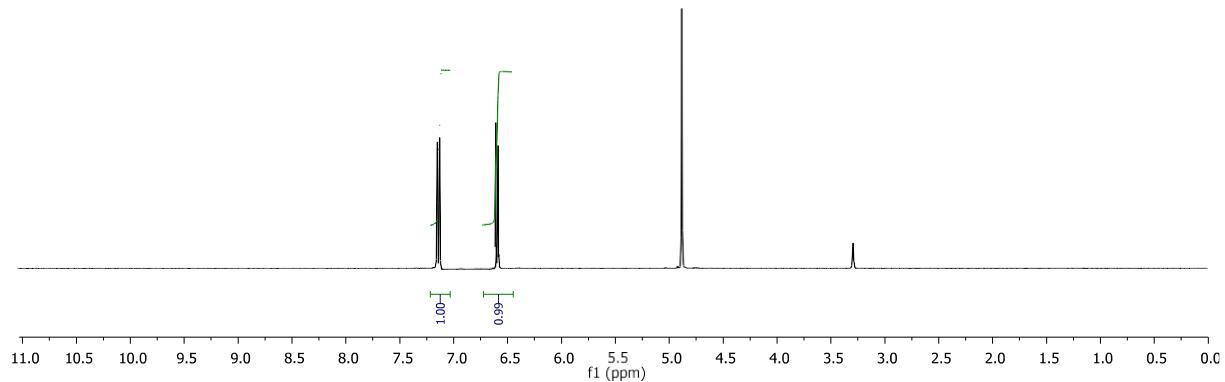
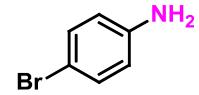
MB-KSL-H1 1H  
MB-KSL-H1 1H



**2-chloro aniline (4).** <sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>):  $\delta$  7.44 – 7.26 (m, 1H), 7.19 – 7.07 (m, 1H), 6.88 – 6.69 (m, 2H), 4.05 (s, 2H).

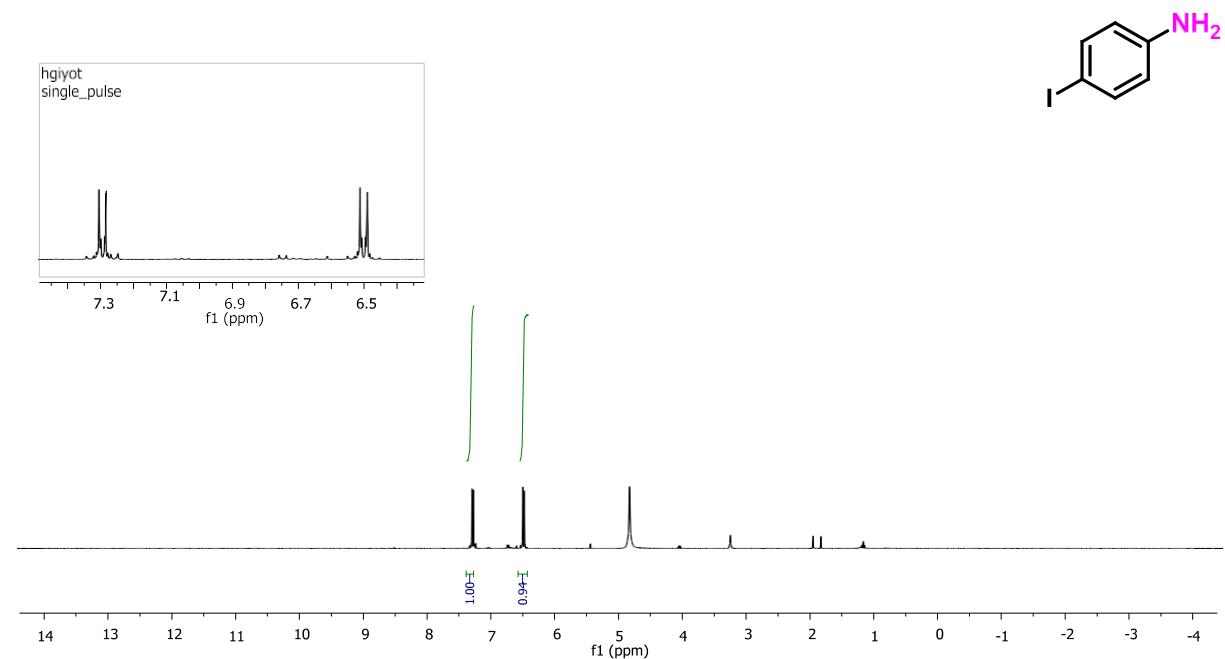


4Br  
single\_pulse



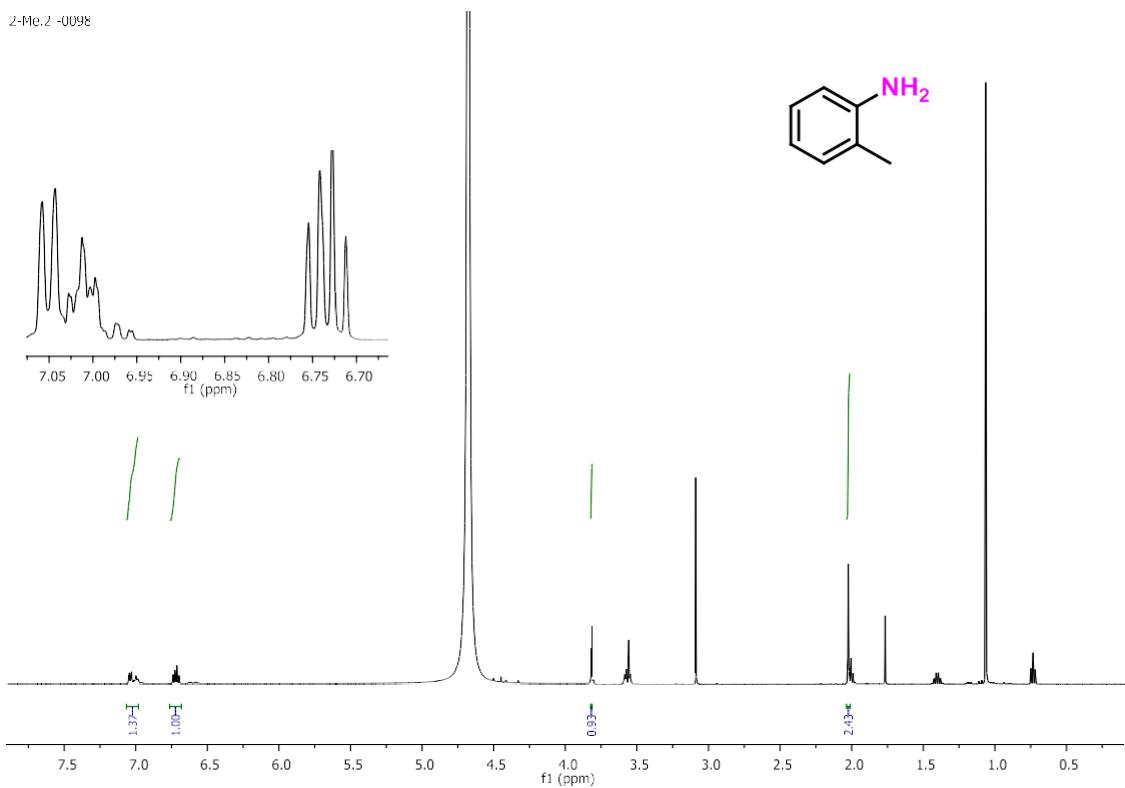
**4-Bromoaniline (10).**  $^1\text{H}$  NMR (400 MHz,  $\text{CD}_3\text{OD}$ ):  $\delta$  7.21–7.02 (m, 2H), 6.71–6.44 (m, 2H).

hgjyot  
single\_pulse



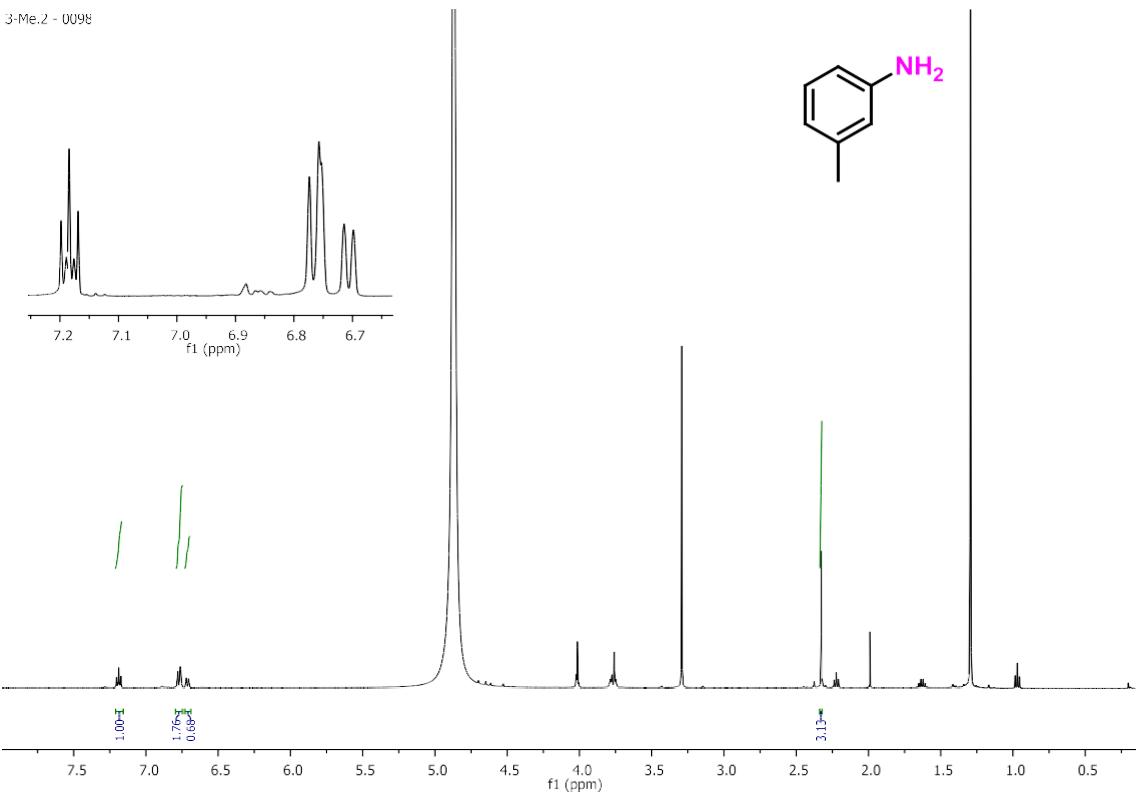
**4-Iodoaniline (12).**  $^1\text{H}$  NMR (400 MHz,  $\text{CD}_3\text{OD}$ ):  $\delta$  7.31–7.28 (m, 2H), 6.52–6.48 (m, 2H).

2-Me,2 -0098

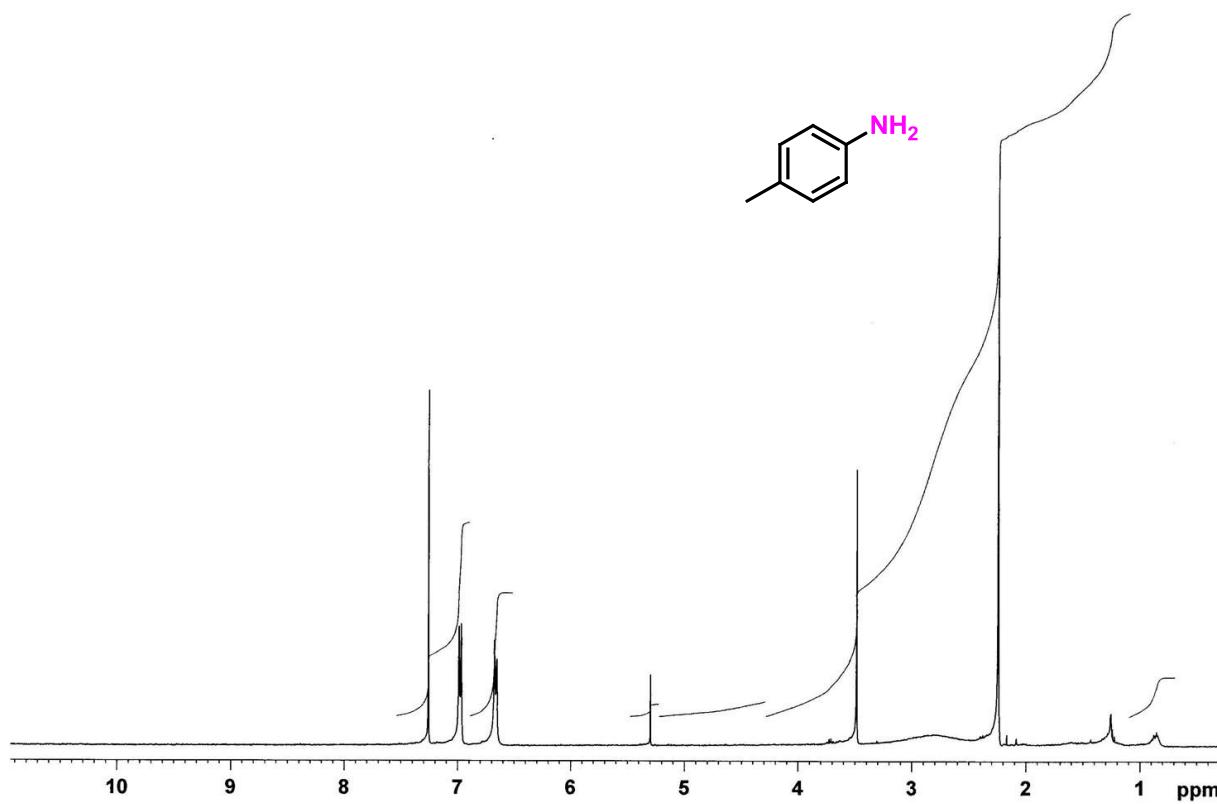


**2-Aminotoluene (14).** <sup>1</sup>H NMR (400 MHz, CD<sub>3</sub>OD):  $\delta$  7.11-6.92 (m, 2H), 6.80-6.63 (m, 2 H), 3.85 (s, 2H), 2.05 (s, 3H).

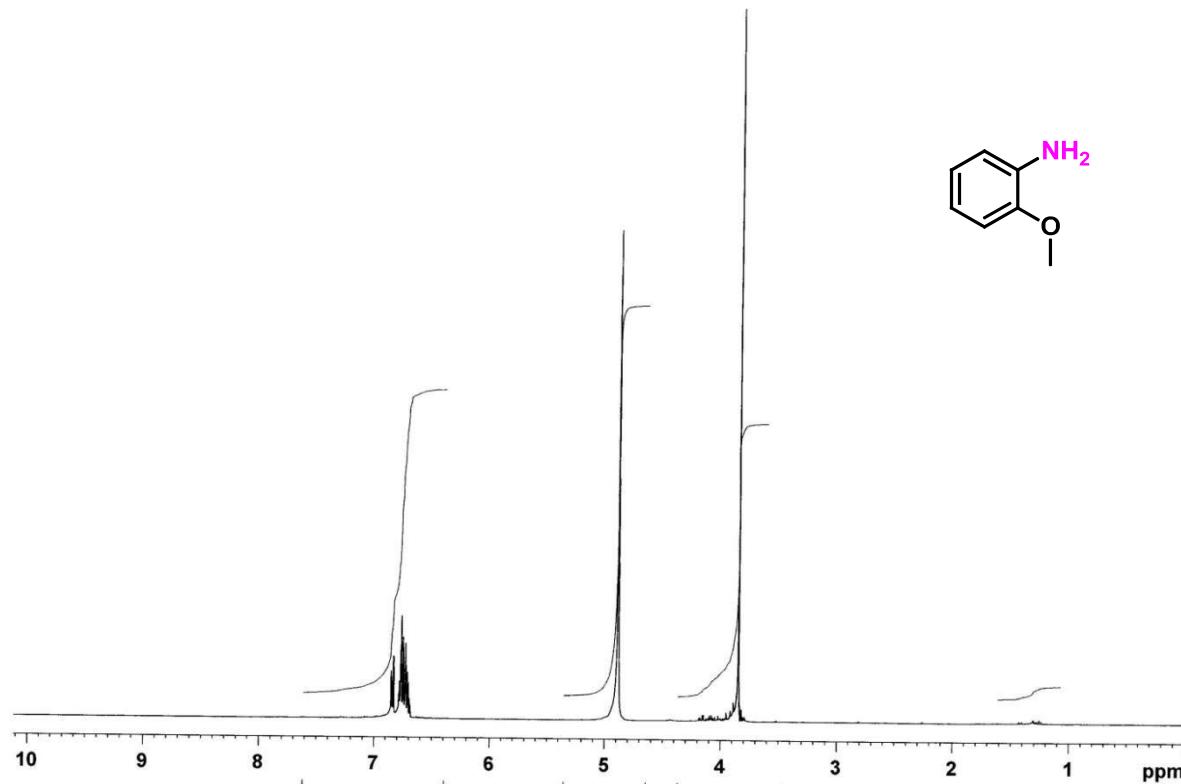
3-Me,2 - 0098



**3-Aminotoluene (16).** <sup>1</sup>H NMR (400 MHz, CD<sub>3</sub>OD):  $\delta$  7.30-7.09 (m, 1H), 6.81-6.73 (m, 2H), 6.67 (m, 1H), 2.30 (s, 3H).

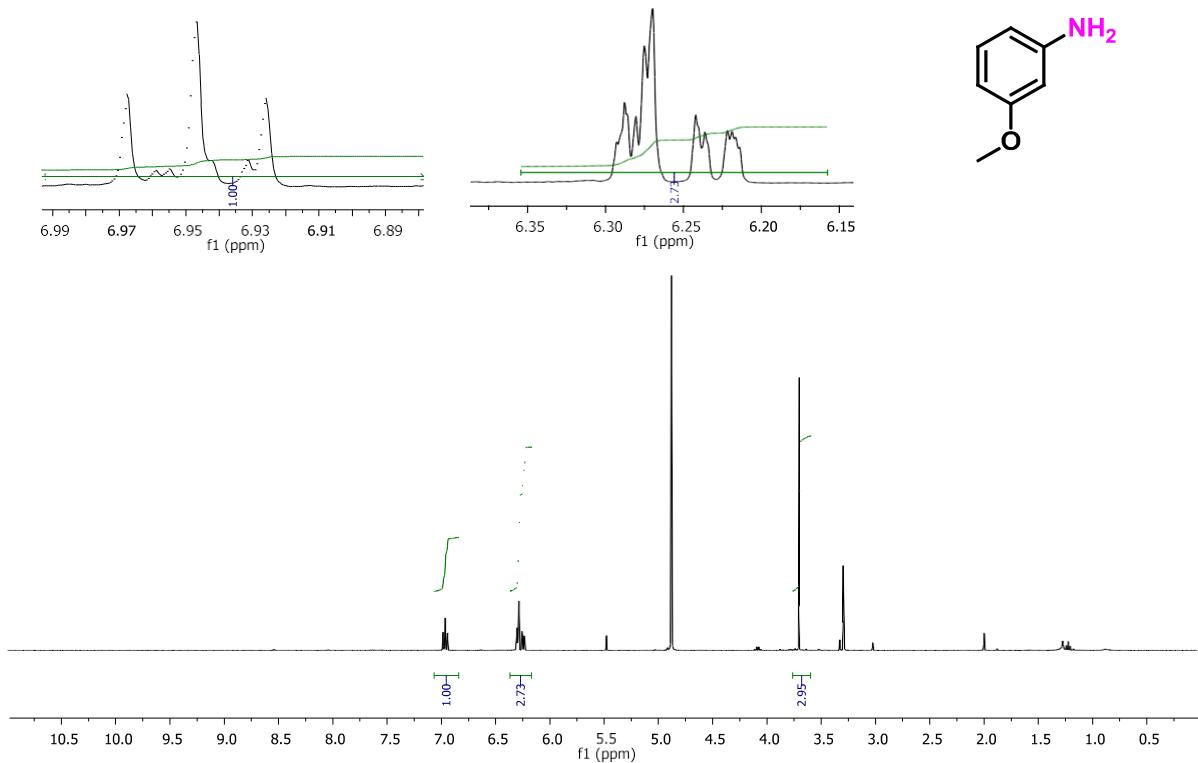


**4-Aminotoluene (18).**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ):  $\delta$  7.00 (t,  $J = 8.0$  Hz, 2H), 6.63 (t,  $J = 6.4$  Hz, 2H), 2.26 (s, 3H).



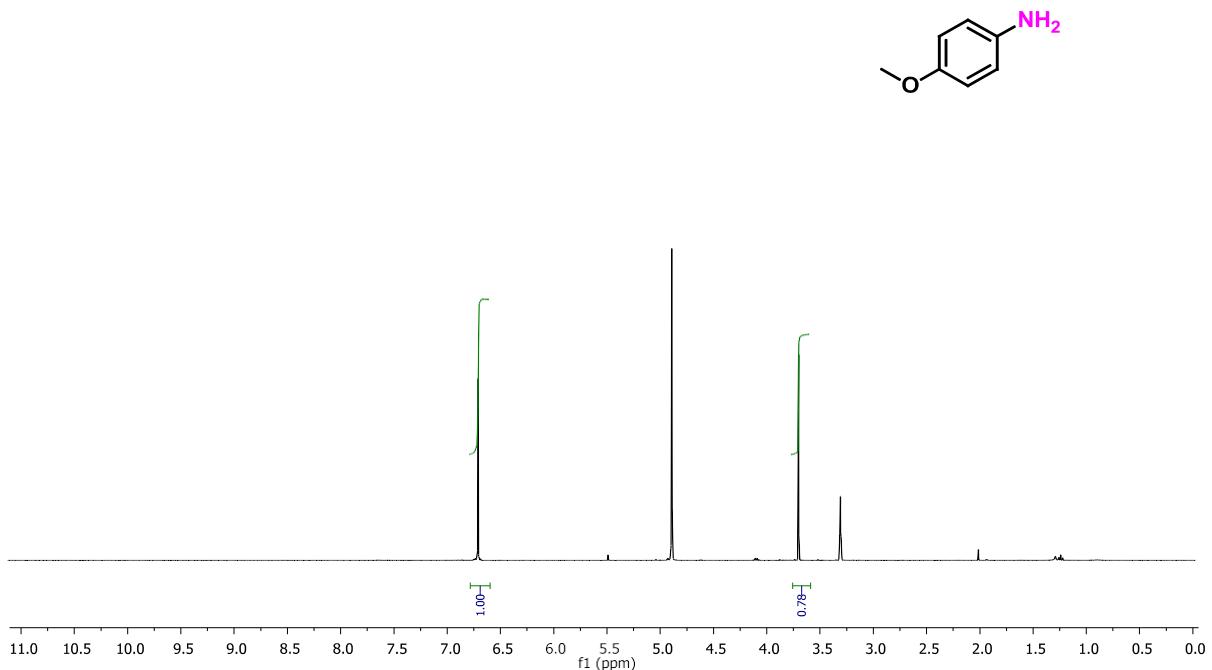
**2-Methoxy aniline (20).**  $^1\text{H}$  NMR (400 MHz,  $\text{D}_2\text{O}$ )  $\delta$  6.85-6.77 (m, 2H), 6.77-6.68 (m, 2H), 3.85 (s, 3H).

3AN  
single\_pulse



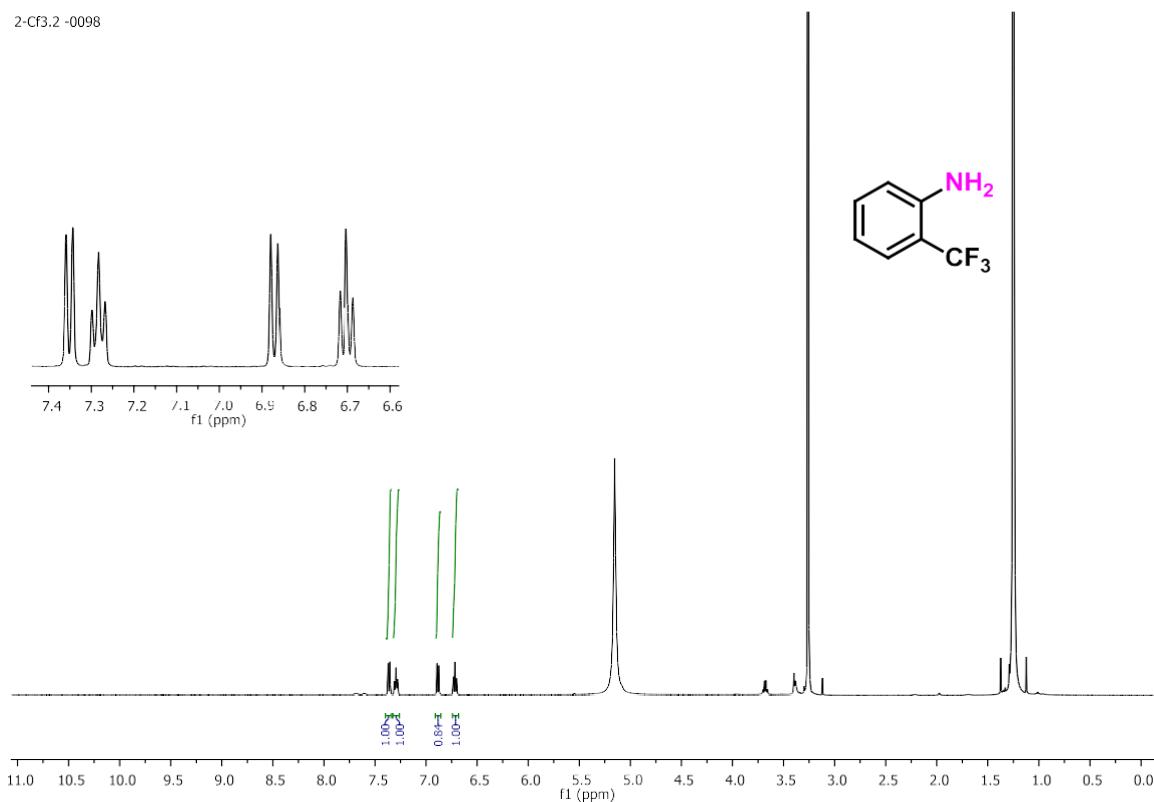
**3-Methoxy aniline (22).**  $^1\text{H}$  NMR (400 MHz,  $\text{CD}_3\text{OD}$ )  $\delta$  7.43-6.66 (m, 1H), 6.25 (m, 3H), 3.69 (s, 3H).

4an  
single\_pulse

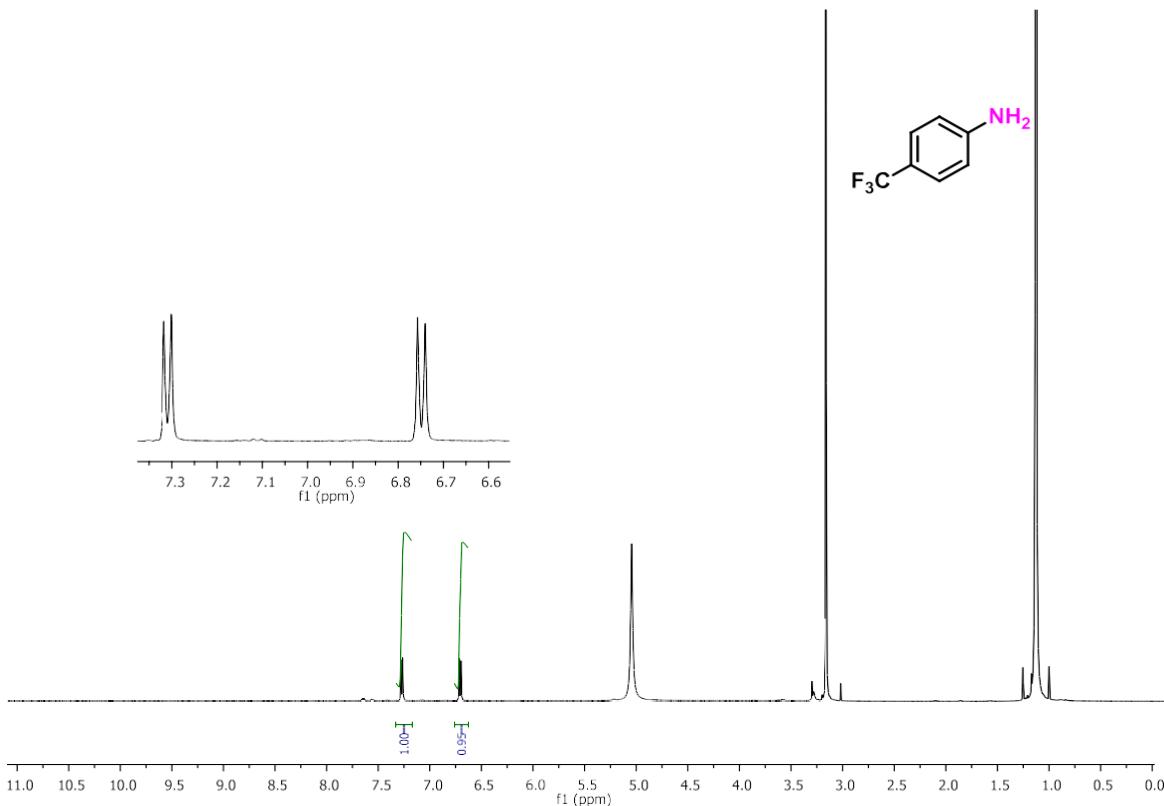


**4-Methoxy aniline (24).**  $^1\text{H}$  NMR (400 MHz,  $\text{CD}_3\text{OD}$ )  $\delta$  6.69 (m, 4H), 3.67 (s, 3H).

2-Cf3.2 -0098



**2-(trifluoromethyl)aniline (26).** <sup>1</sup>H NMR (400 MHz, CD<sub>3</sub>OD) δ 7.35 (d, *J* = 7.9 Hz, 1H), 7.31-7.25 (m, 1H), 6.87 (d, *J* = 8.2 Hz, 1H), 6.70 (t, *J* = 7.6 Hz, 1H).



**4-(trifluoromethyl)aniline (28).** <sup>1</sup>H NMR (400 MHz, CD<sub>3</sub>OD) δ 7.31 (d, *J* = 8.5 Hz, 1H), 6.75 (d, *J* = 8.5 Hz, 1H).