

**Supporting Information
for**

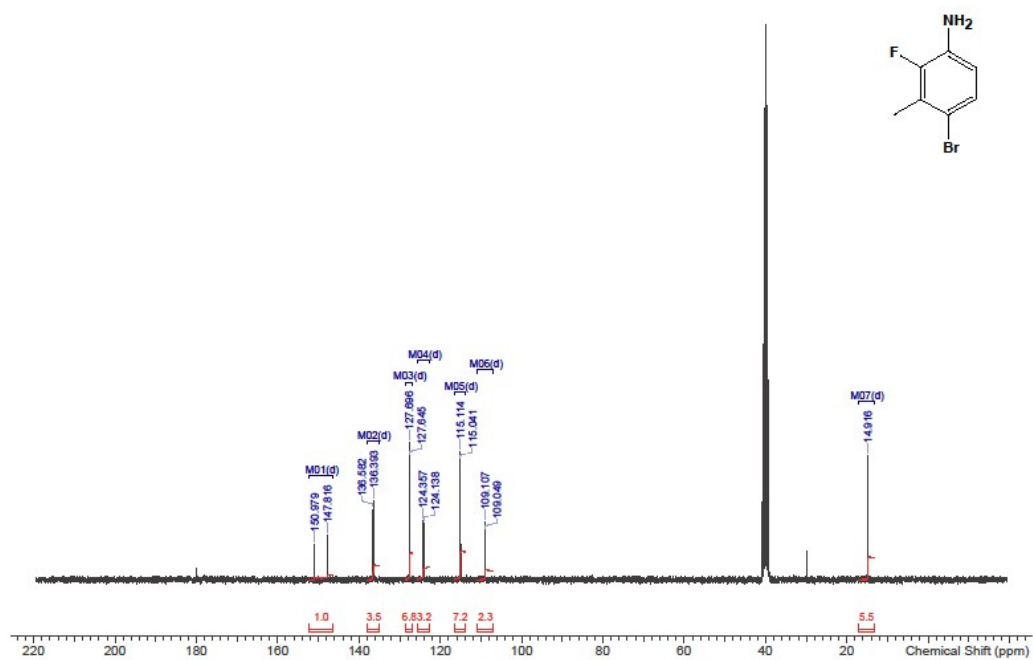
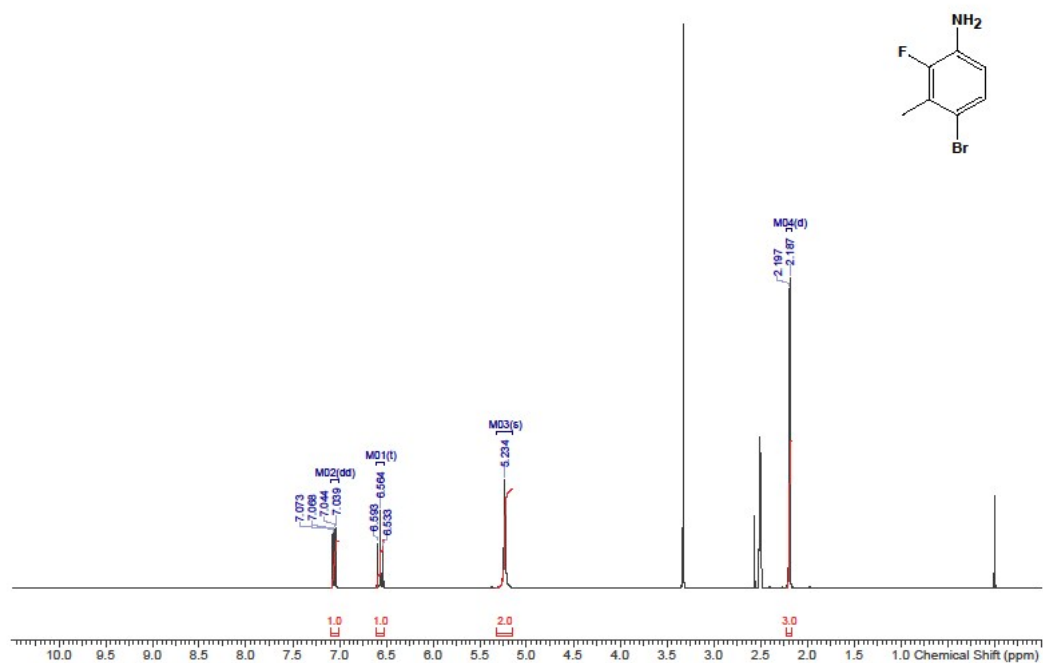
**Rapid and efficient synthesis of a novel cholinergic muscarinic M₁ receptor
positive allosteric modulator using flash chemistry**

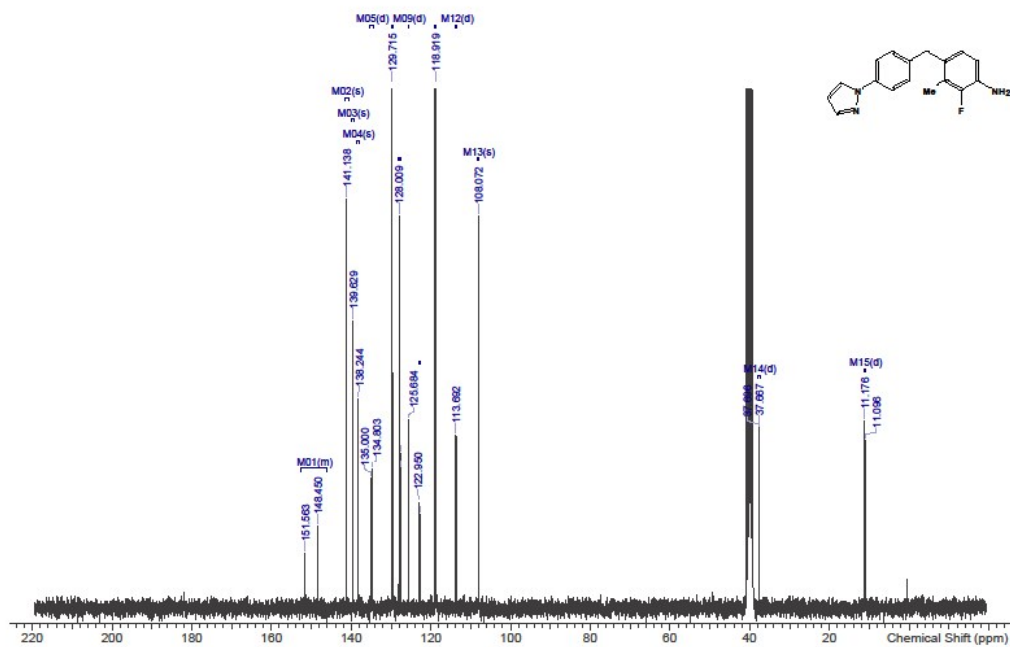
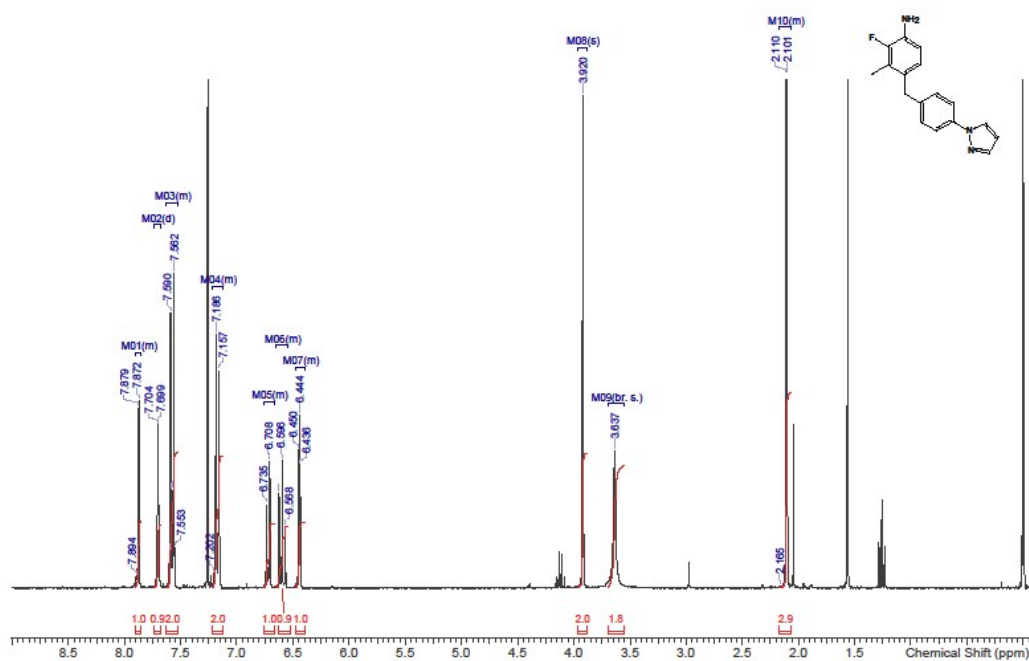
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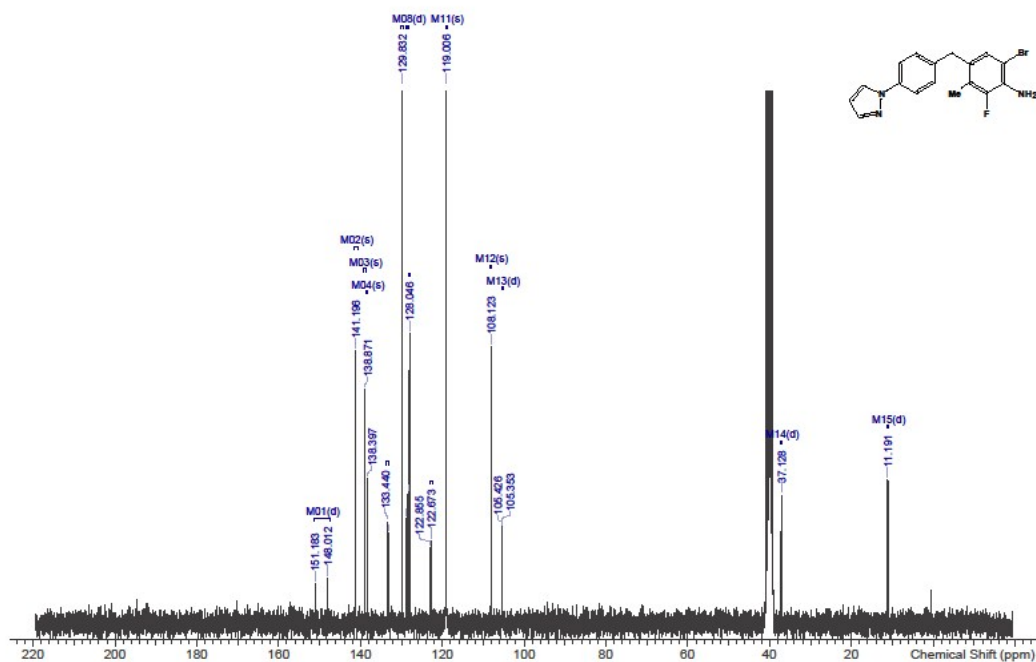
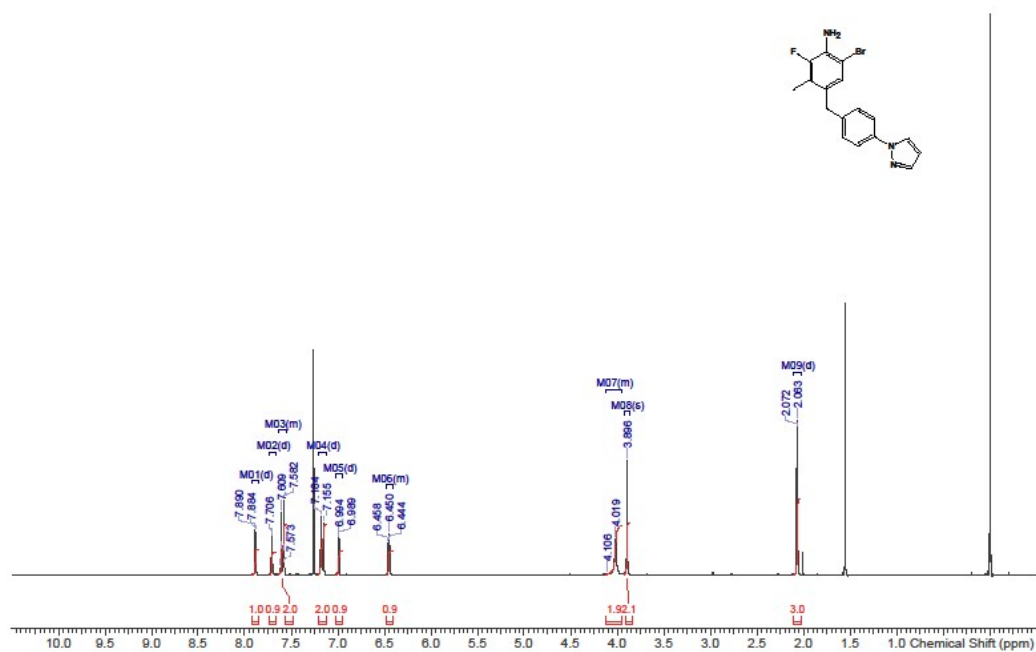
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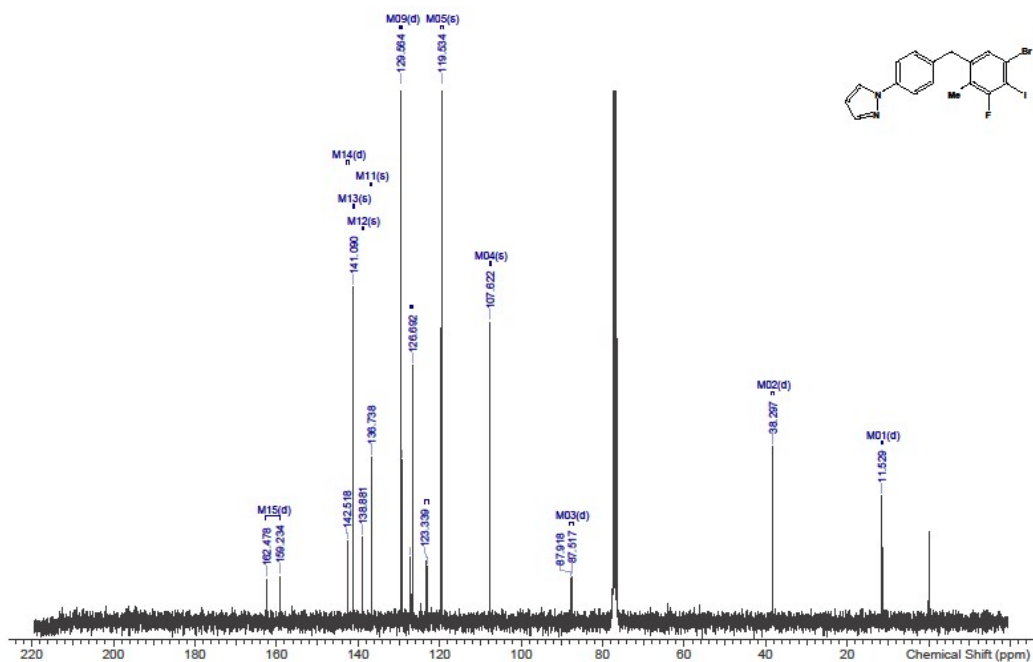
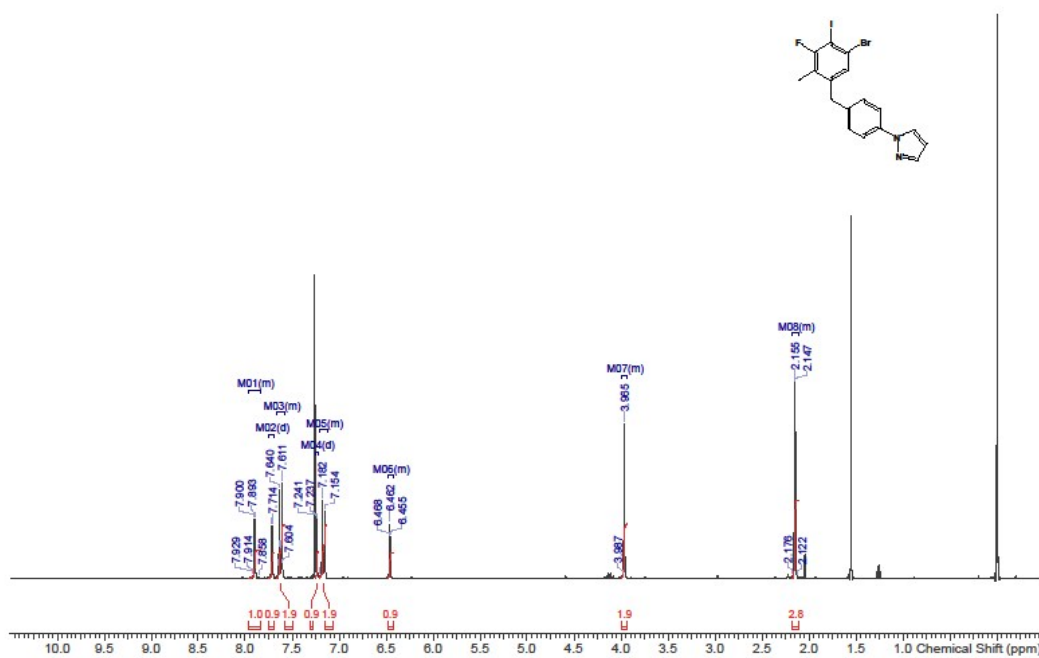
1. Copies of ¹H and ¹³C NMR spectra of compounds **14**, **15**, **16**, **17**, **18**, and **19**S2

4-Bromo-2-fluoro-3-methylaniline (14).

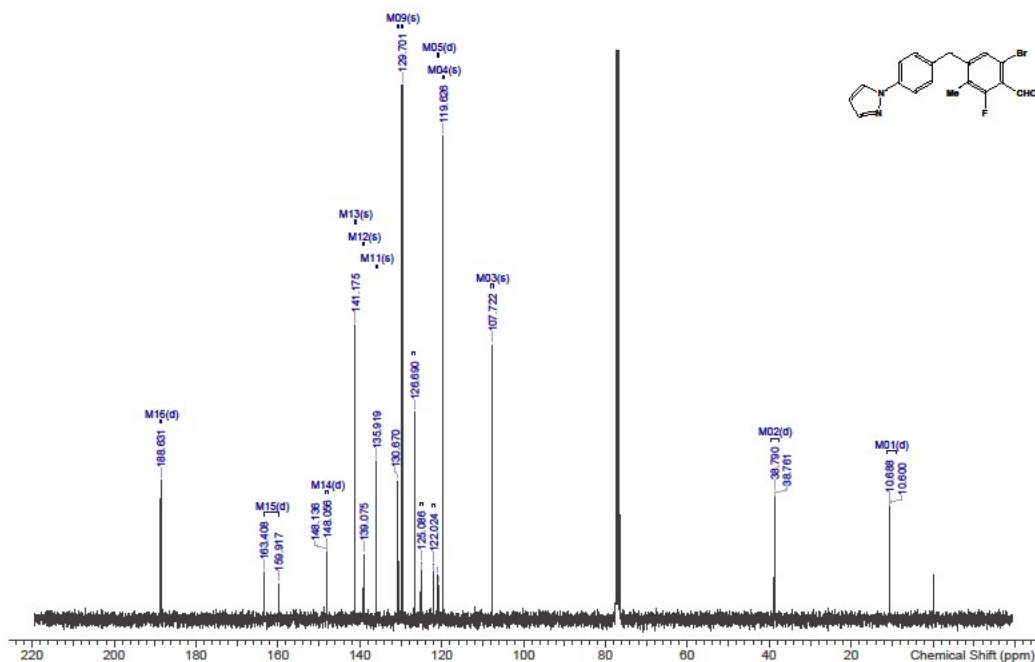
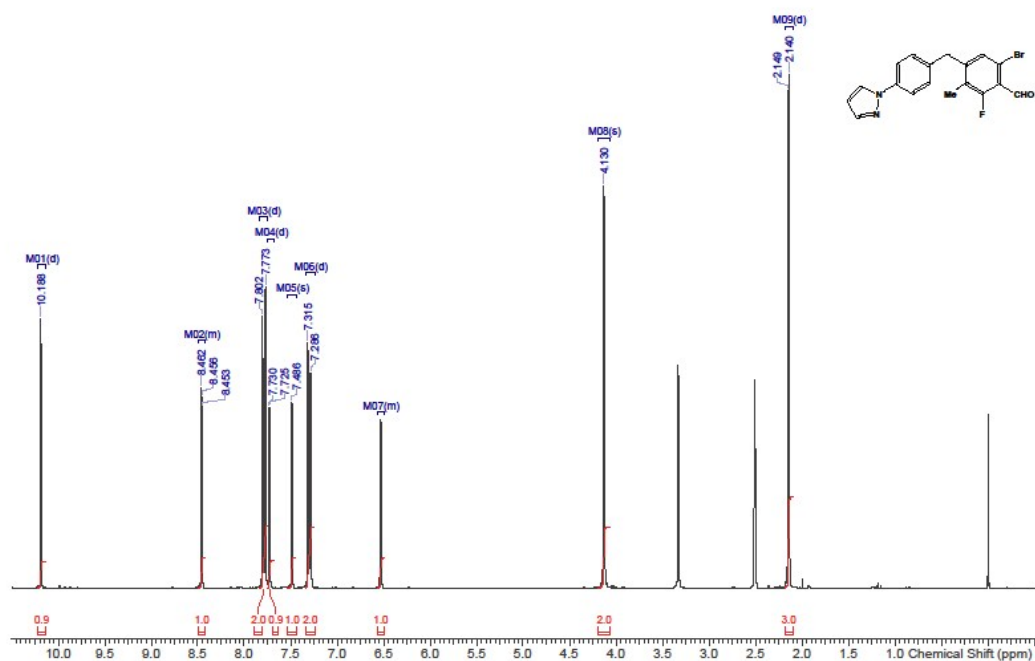
4-[4-(1*H*-Pyrazol-1-yl)benzyl]-2-fluoro-3-methylaniline (15).

4-[4-(1*H*-Pyrazol-1-yl)benzyl]-6-bromo-2-fluoro-3-methylaniline (16).



1-[4-(5-Bromo-3-fluoro-4-iodo-2-methylbenzyl)phenyl]-1*H*-pyrazole (17).

4-[4-(1*H*-Pyrazol-1-yl)benzyl]-6-bromo-2-fluoro-3-methylbenzaldehyde (18).



(3*S*,4*S*)-3-[[4-[4-(1*H*-Pyrazol-1-yl)benzyl]-6-bromo-2-fluoro-3-methylbenzyl]-amino]tetrahydro-2*H*-pyran-4-ol (19).

