Solid Phase Synthesis of Sequence Defined Informational Oligomers

Kyle R. Strom and Jack W. Szostak*

*szostak@molbio.mgh.harvard.edu

SUPPORTING INFORMATION

Contents

I. LCMS chromatograms of crude ABOs..... S2

II. LCMS of crude **1a** following KF Mediated TMS deprotection S3

III. LCMS of crude **1b** following KF Mediated TMS deprotection..... S3

IV. Synthesis of $_{C}\mathbf{B}_{H}$ S3

VII. LCMS of $_{C}\mathbf{BBB}_{H}$ before and after concentration in THF with 10 ppm peroxides..... S4

VII. NMR Spectra..... S5

Figure S1. LCMS chromatograms of crude ABOs.

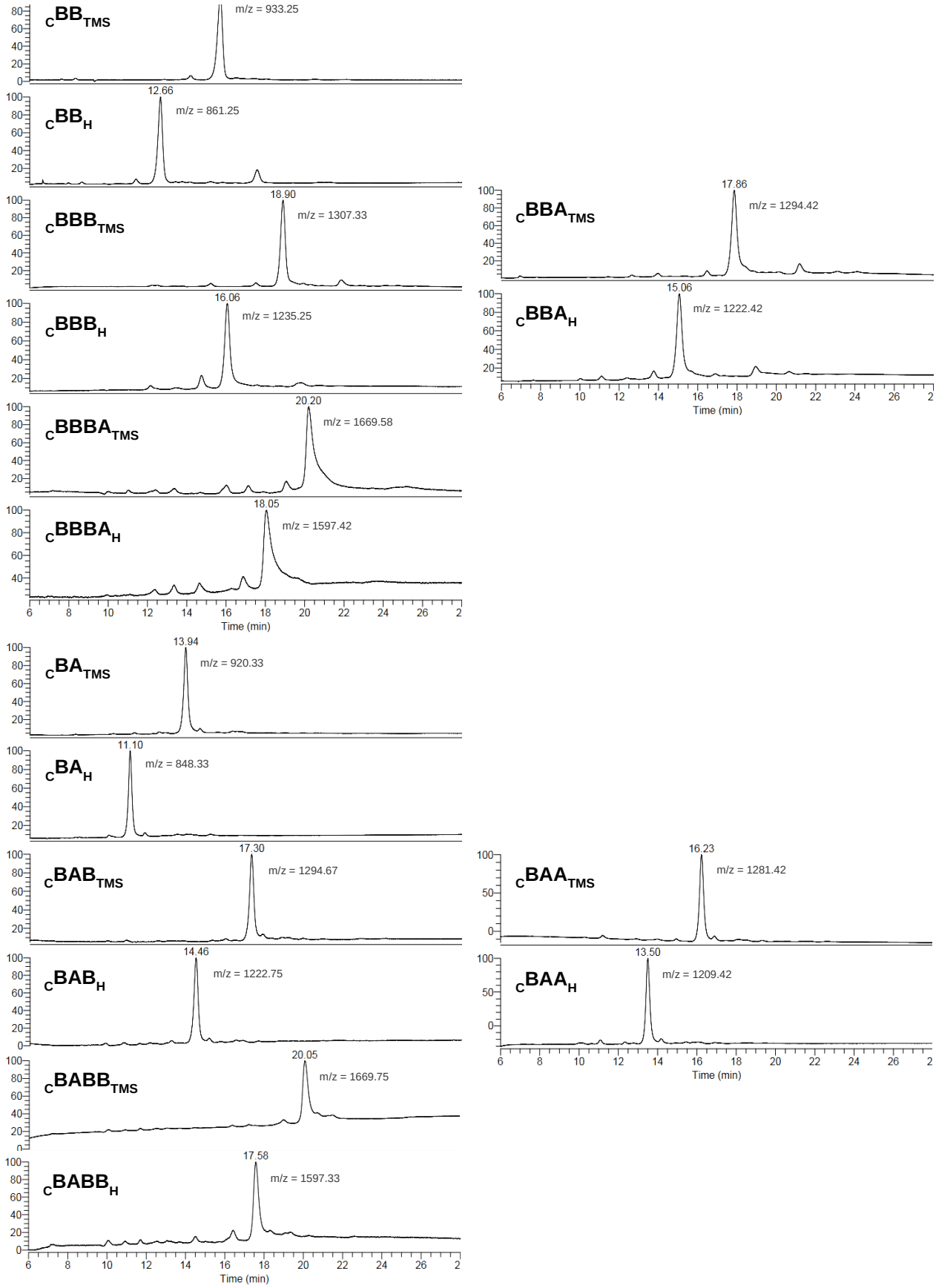


Figure S2. LCMS of crude **1a** following KF Mediated TMS deprotection

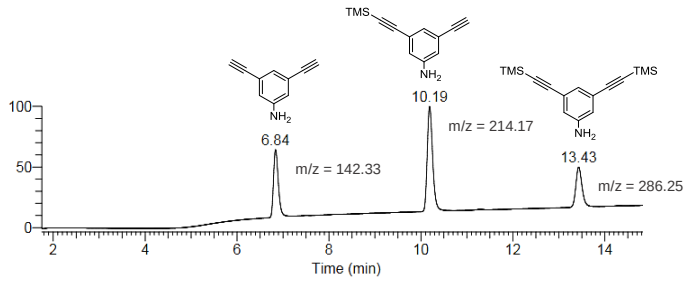
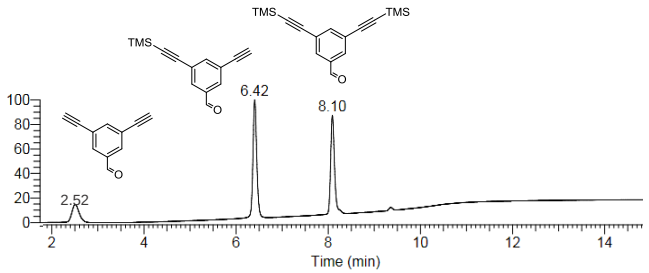


Figure S3. LCMS of crude **1b** following KF Mediated TMS deprotection



Scheme S1. Synthesis of $_{C}B_{H}$

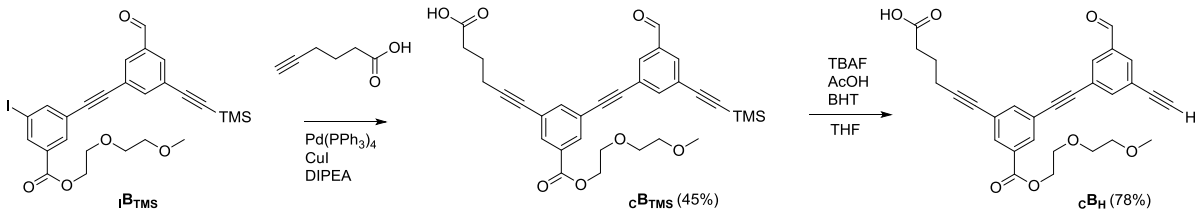
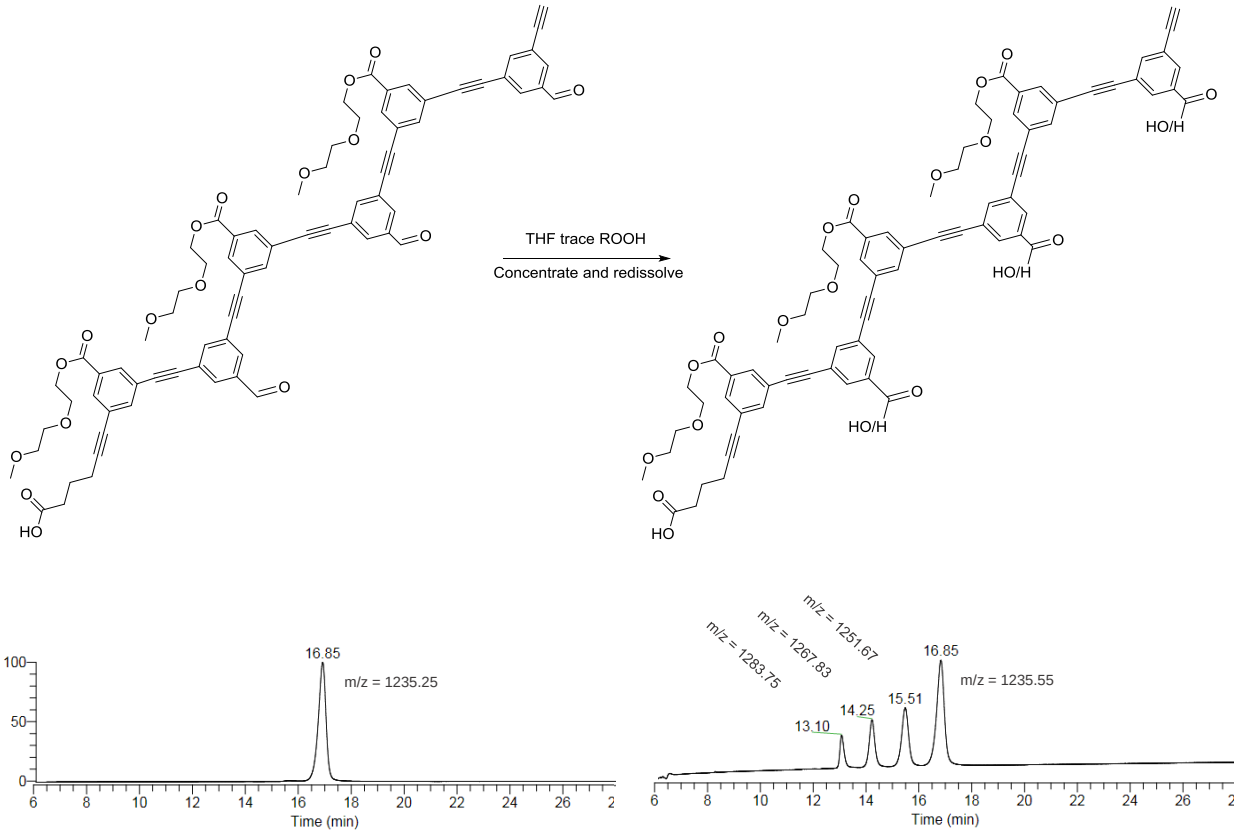
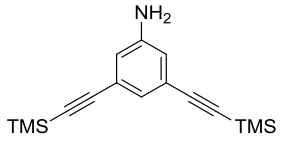


Figure S4. LCMS of **cBBB$_H$** before and after concentration in THF with 10 ppm peroxides.

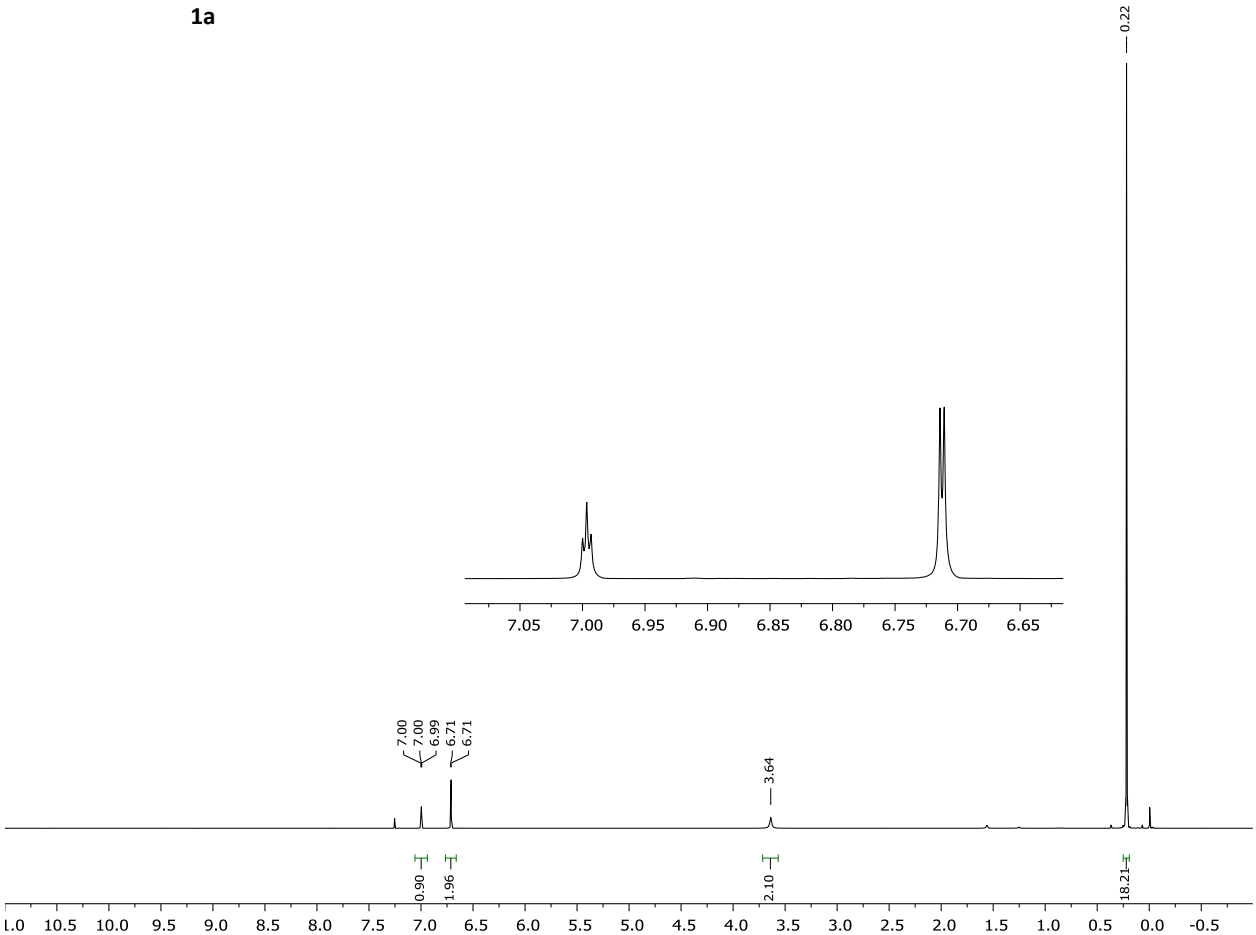


NMR Spectra

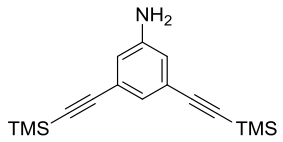
^{1}H NMR (400 MHz, $CDCl_3$)



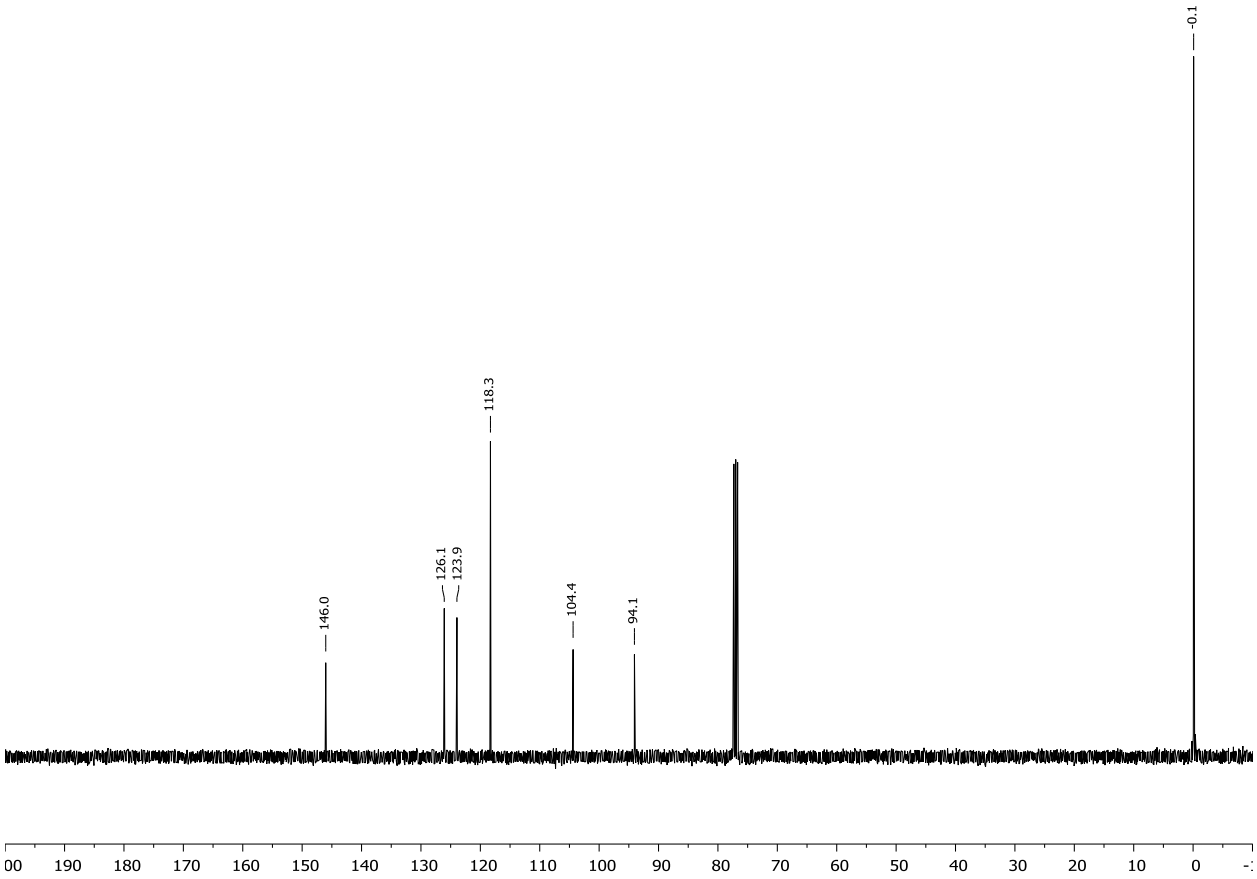
1a



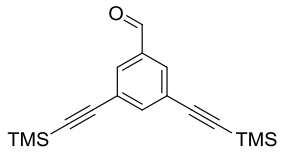
^{13}C NMR (100 MHz, $CDCl_3$)



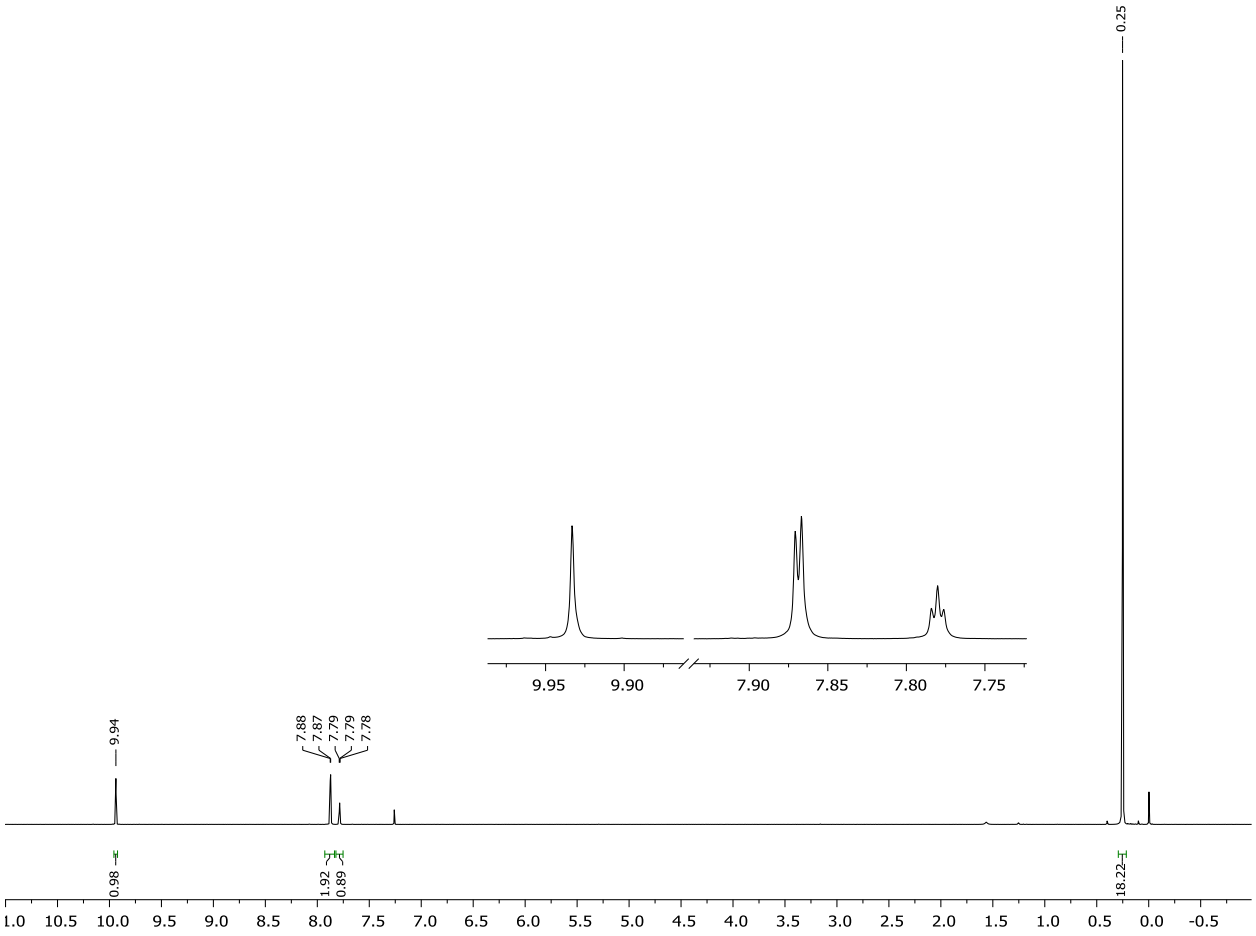
1a



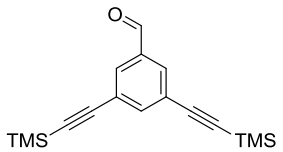
^{1}H NMR (400 MHz, $CDCl_3$)



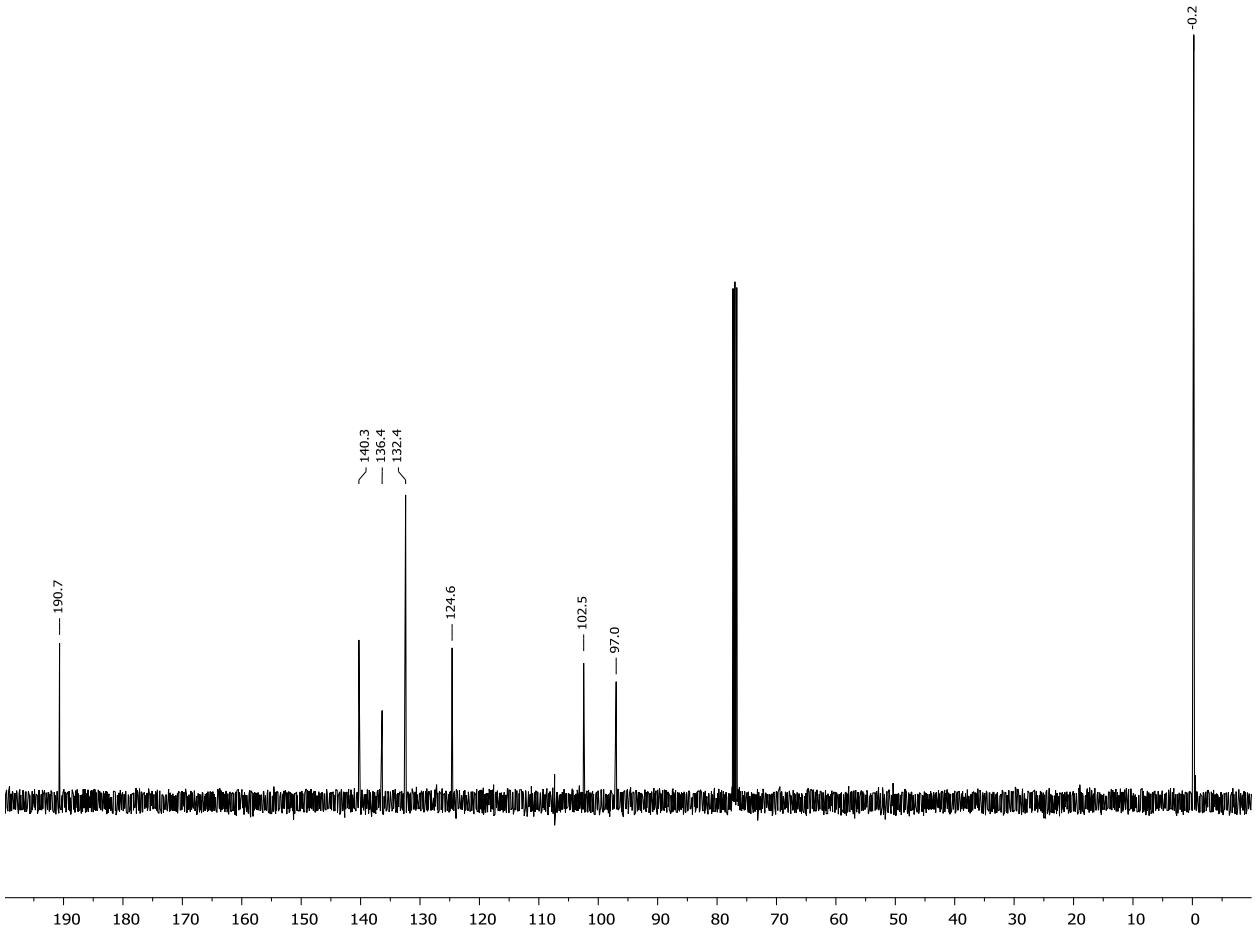
1b



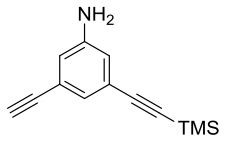
^{13}C NMR (100 MHz, $CDCl_3$)



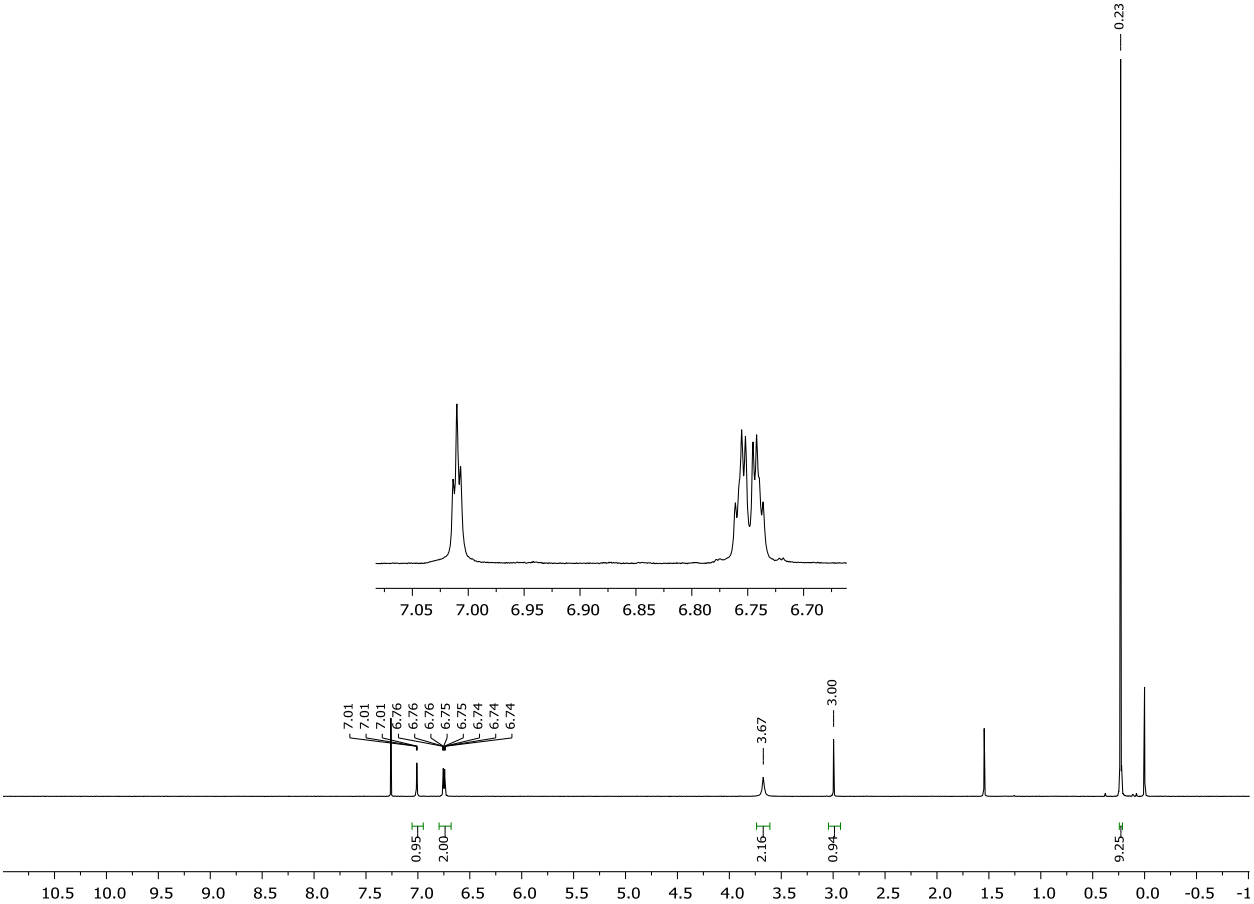
1b



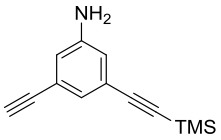
^{1}H NMR (400 MHz, $CDCl_3$)



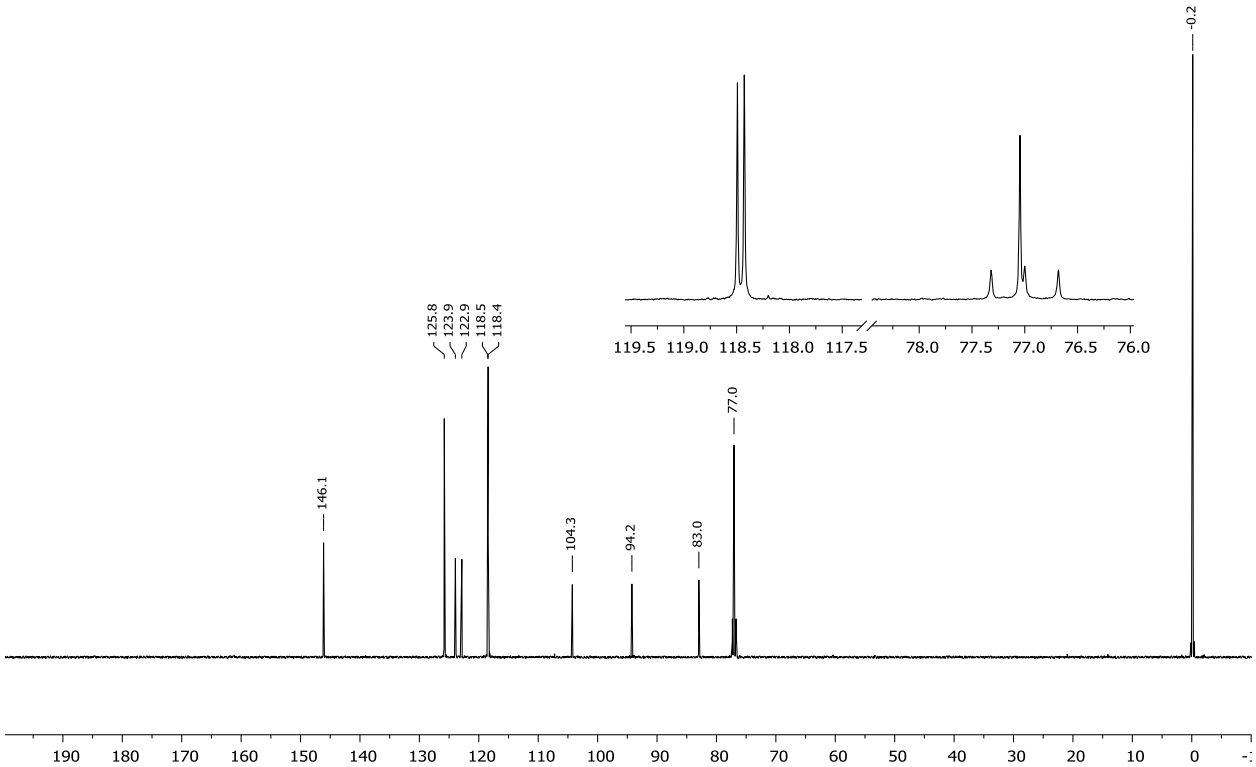
2a



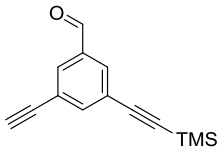
^{13}C NMR (100 MHz, $CDCl_3$)



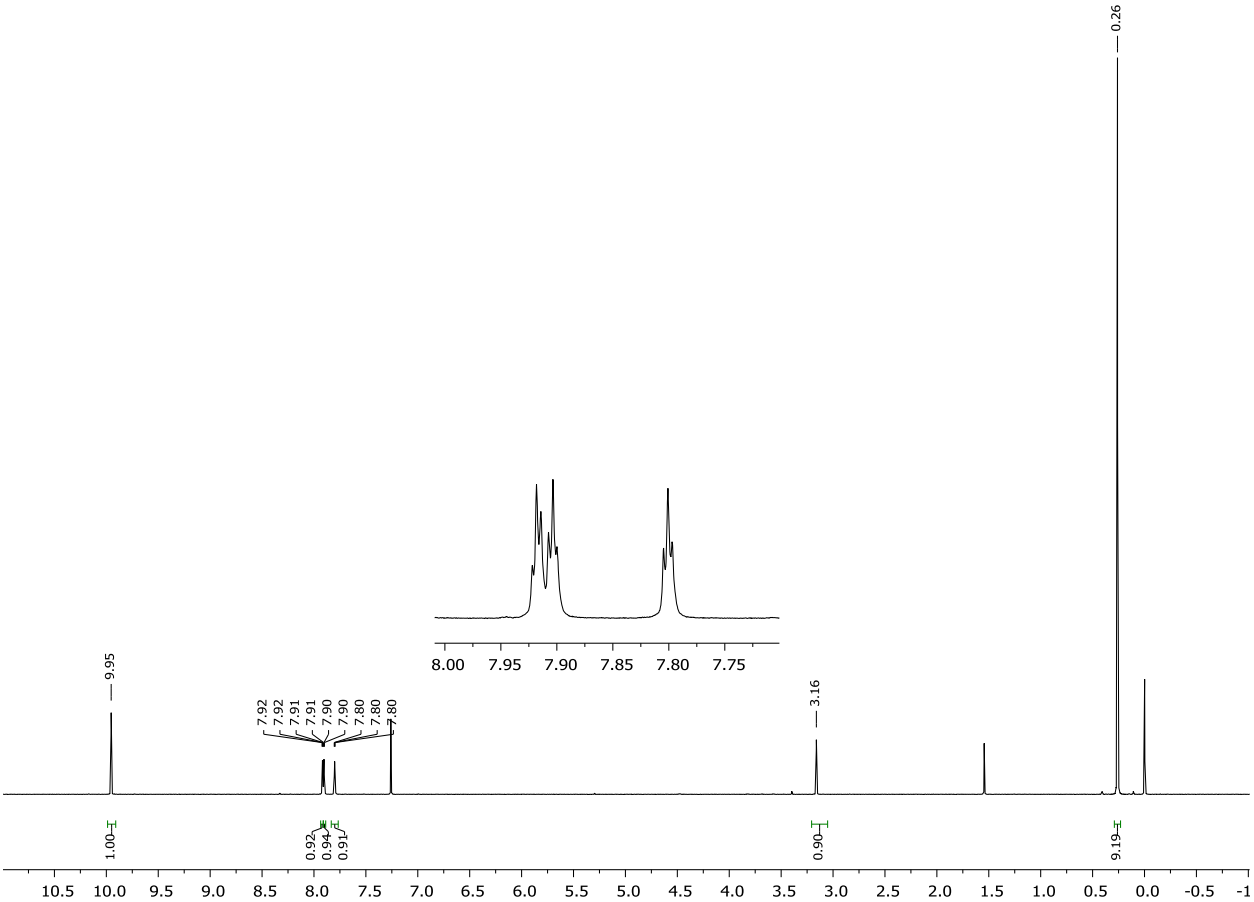
2a



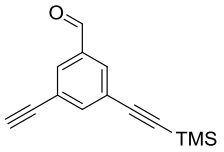
^{1}H NMR (400 MHz, $CDCl_3$)



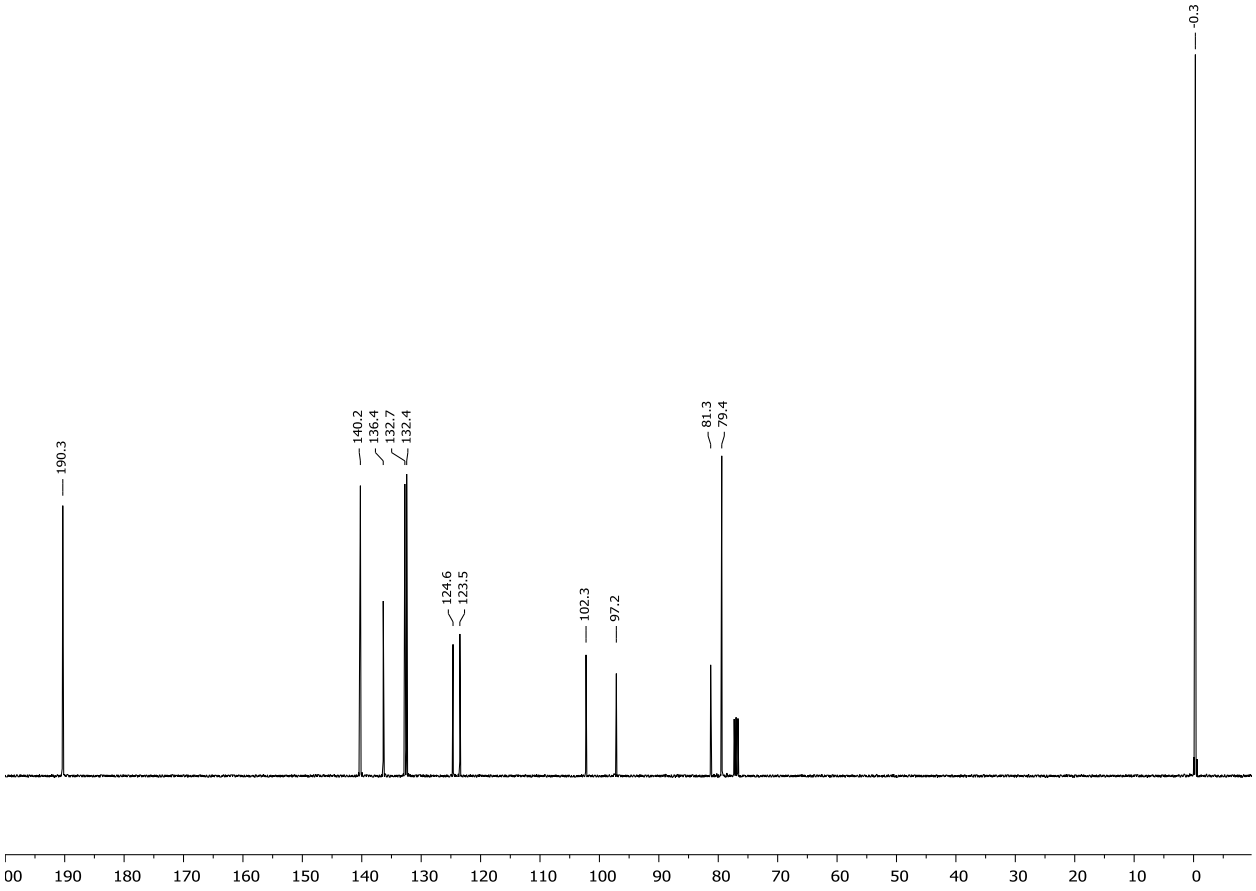
2b



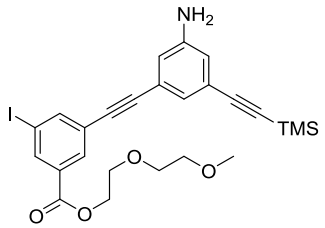
^{13}C NMR (100 MHz, $CDCl_3$)



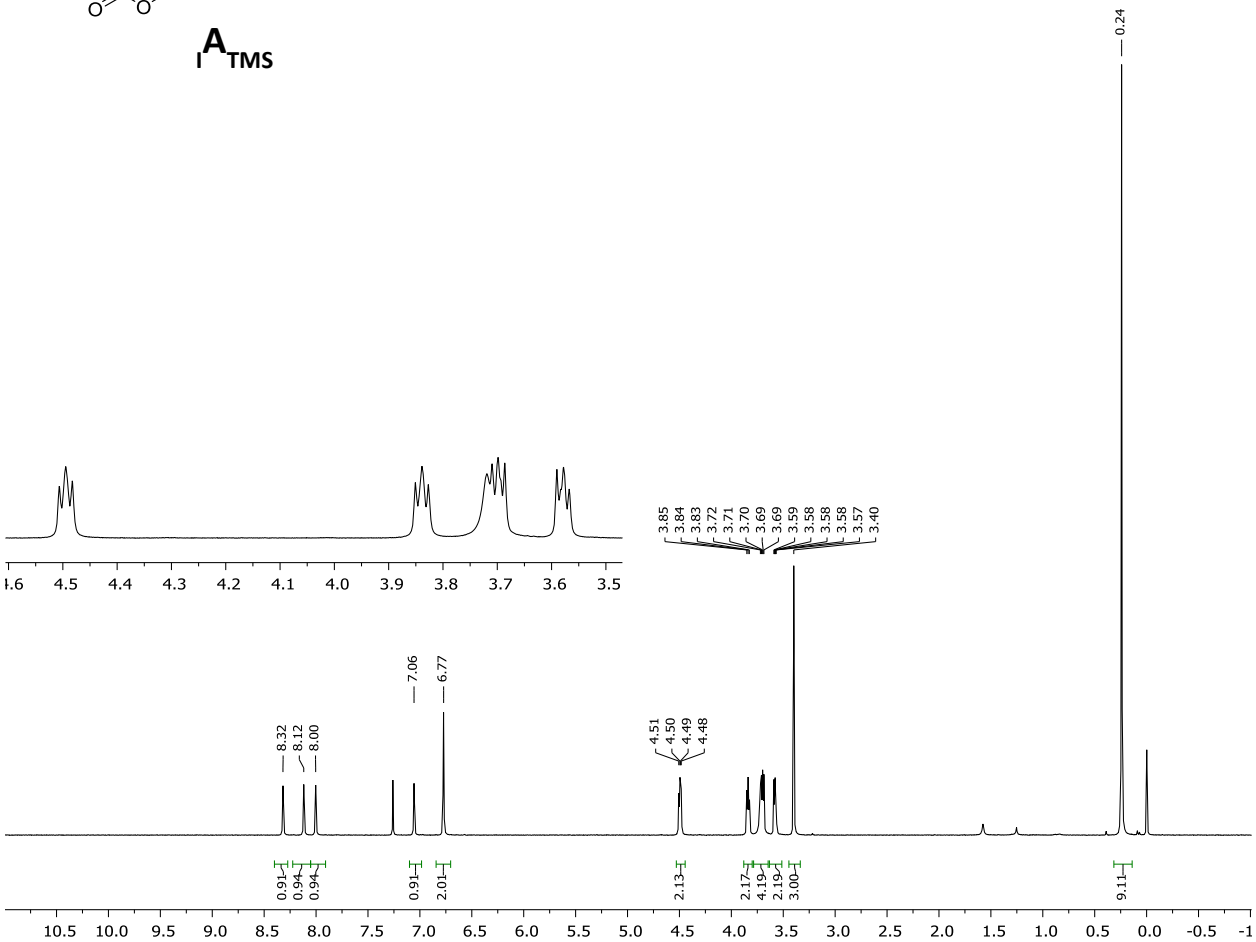
2b



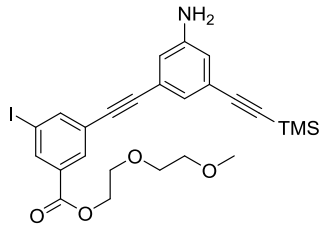
^{1}H NMR (400 MHz, $CDCl_3$)



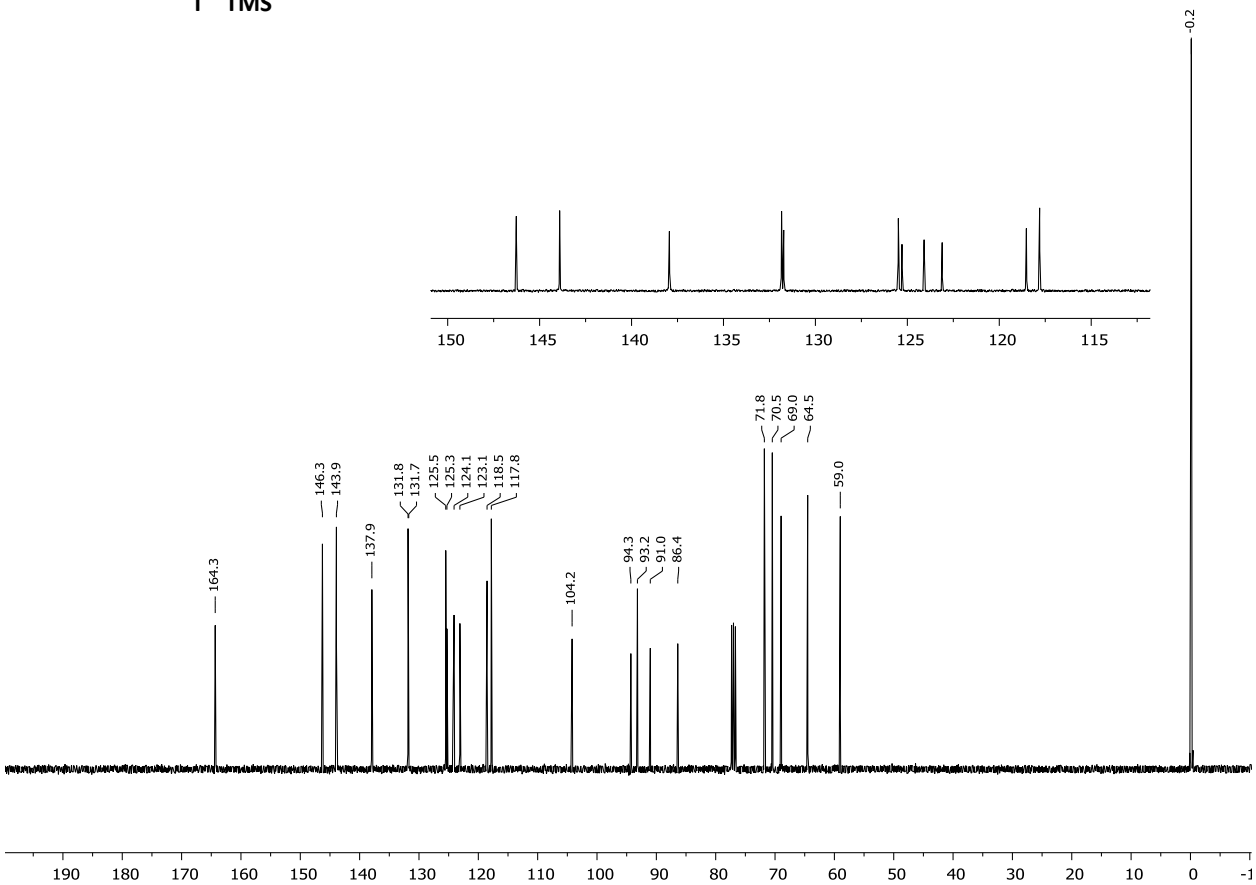
$_{I}$A$_{TMS}$



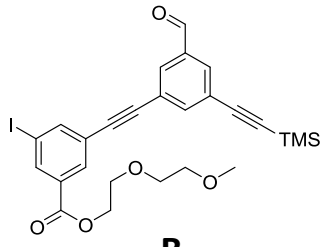
^{13}C NMR (100 MHz, $CDCl_3$)



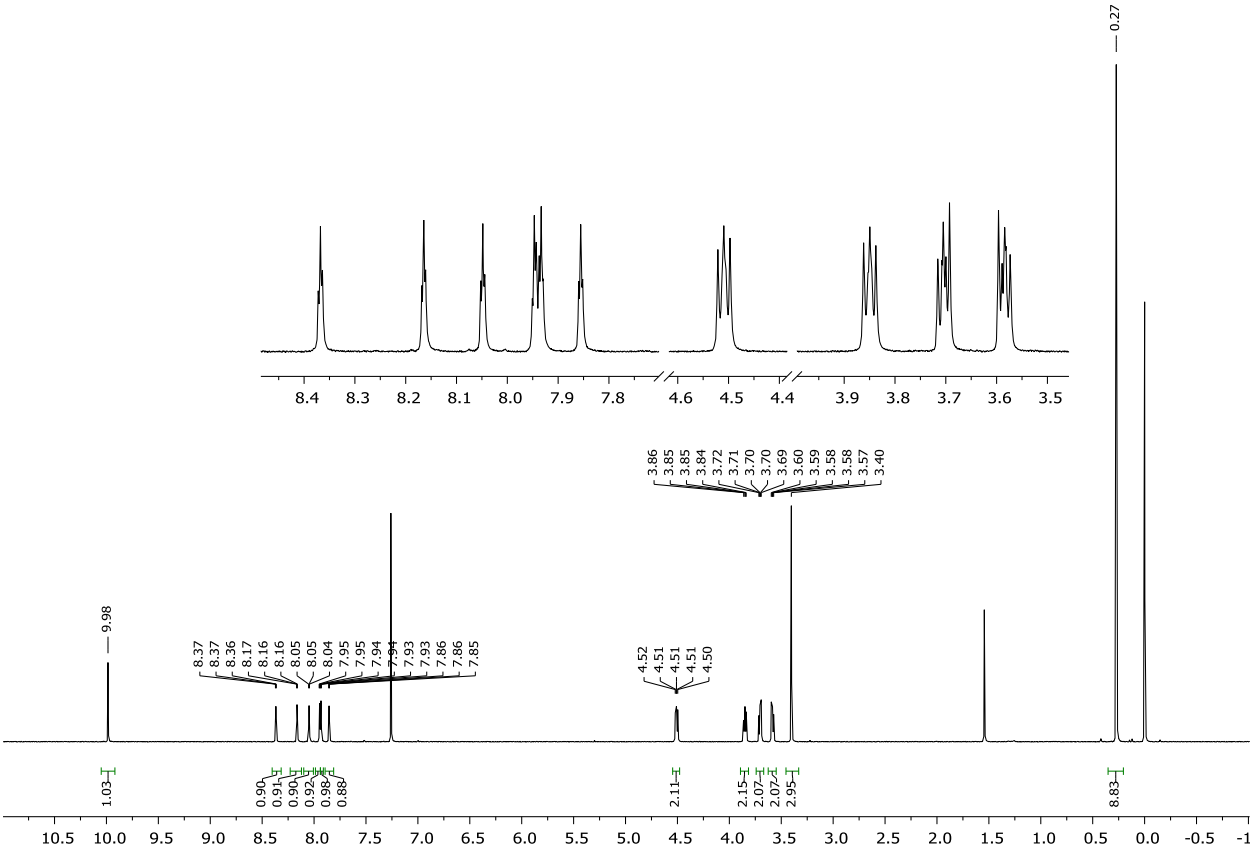
$_{I}$A$_{TMS}$



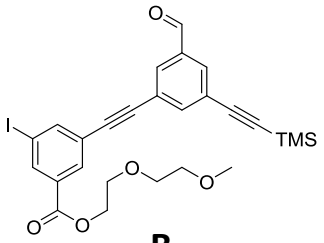
^{1}H NMR (400 MHz, $CDCl_3$)



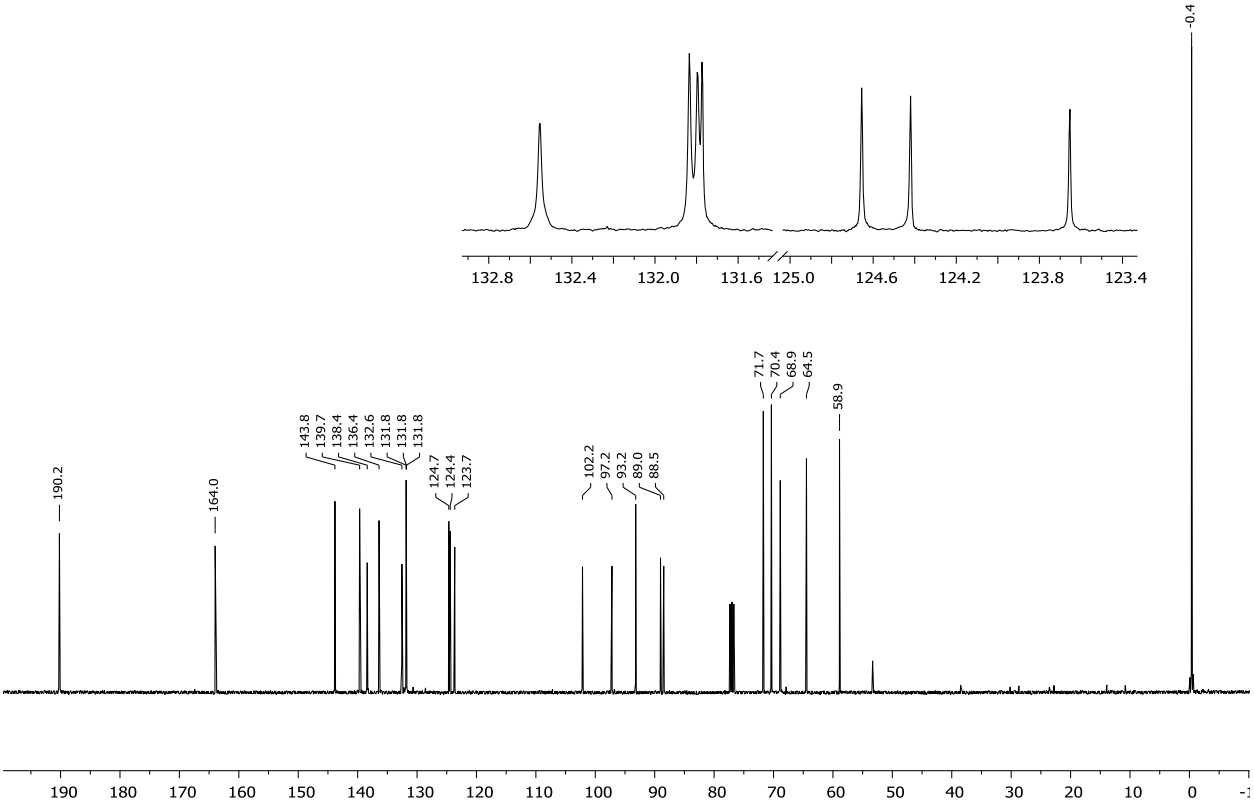
$_{I}$B$_{TMS}$



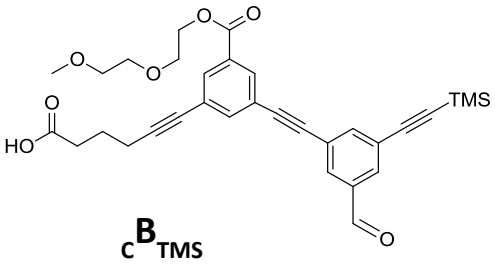
^{13}C NMR (100 MHz, $CDCl_3$)

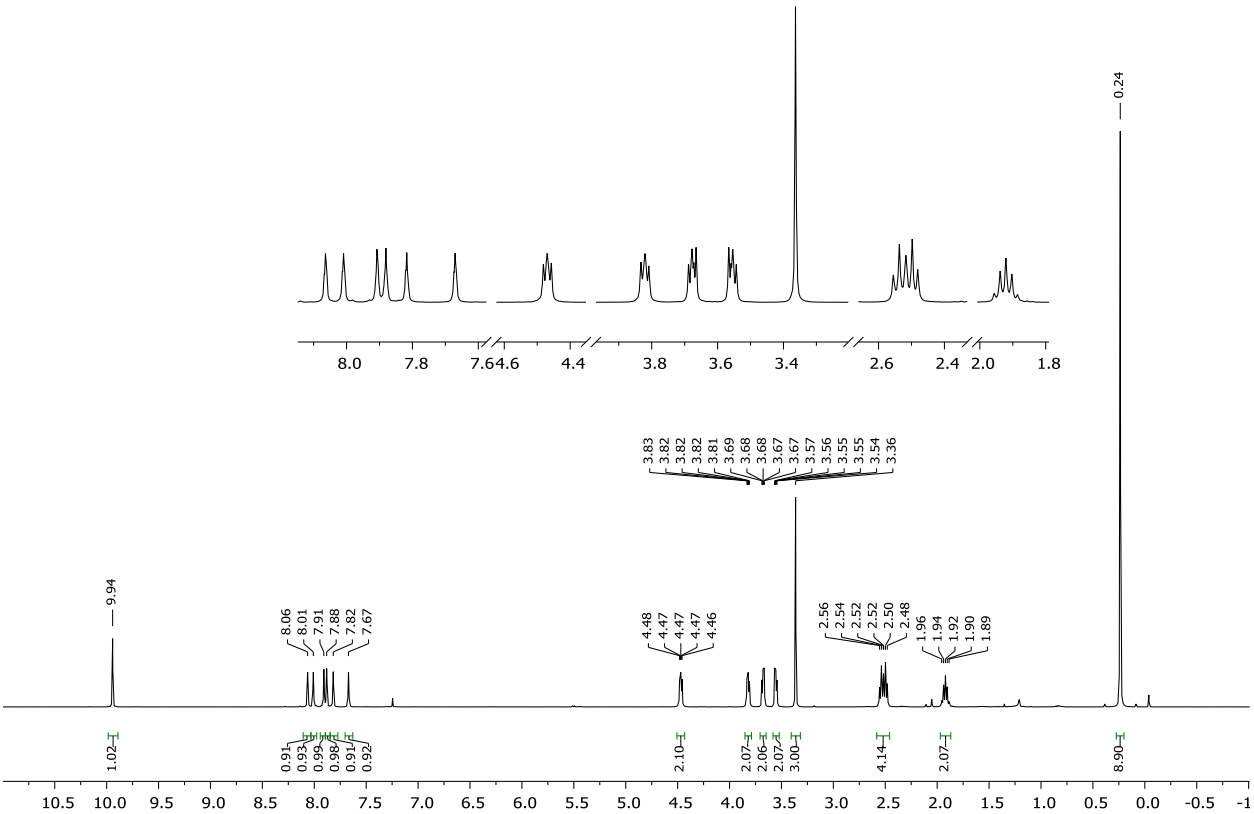


$_{I}$B$_{TMS}$

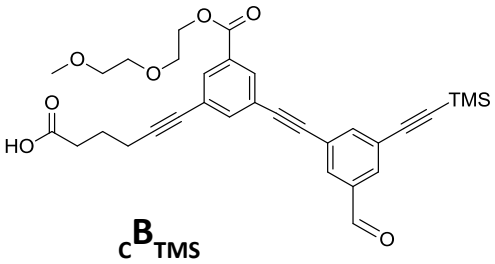


^{1}H NMR (400 MHz, $CDCl_3$)

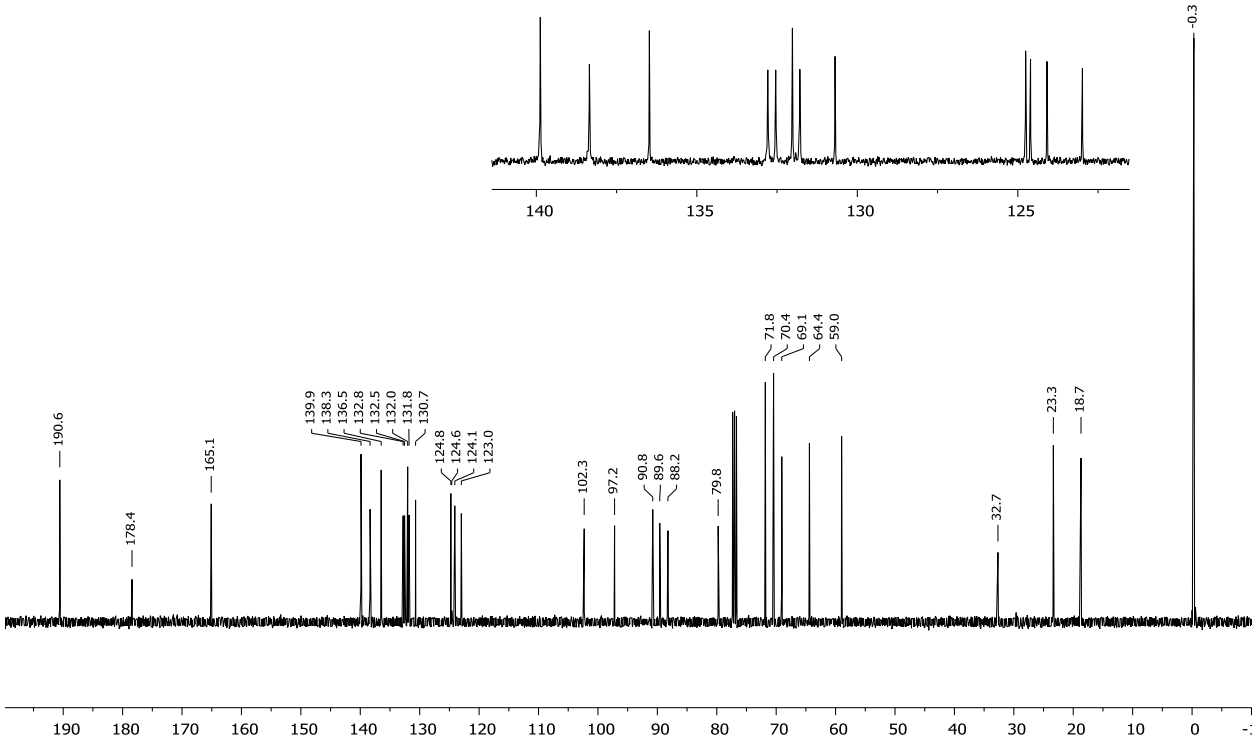




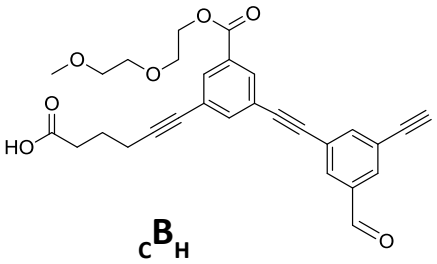
^{13}C NMR (100 MHz, $CDCl_3$)

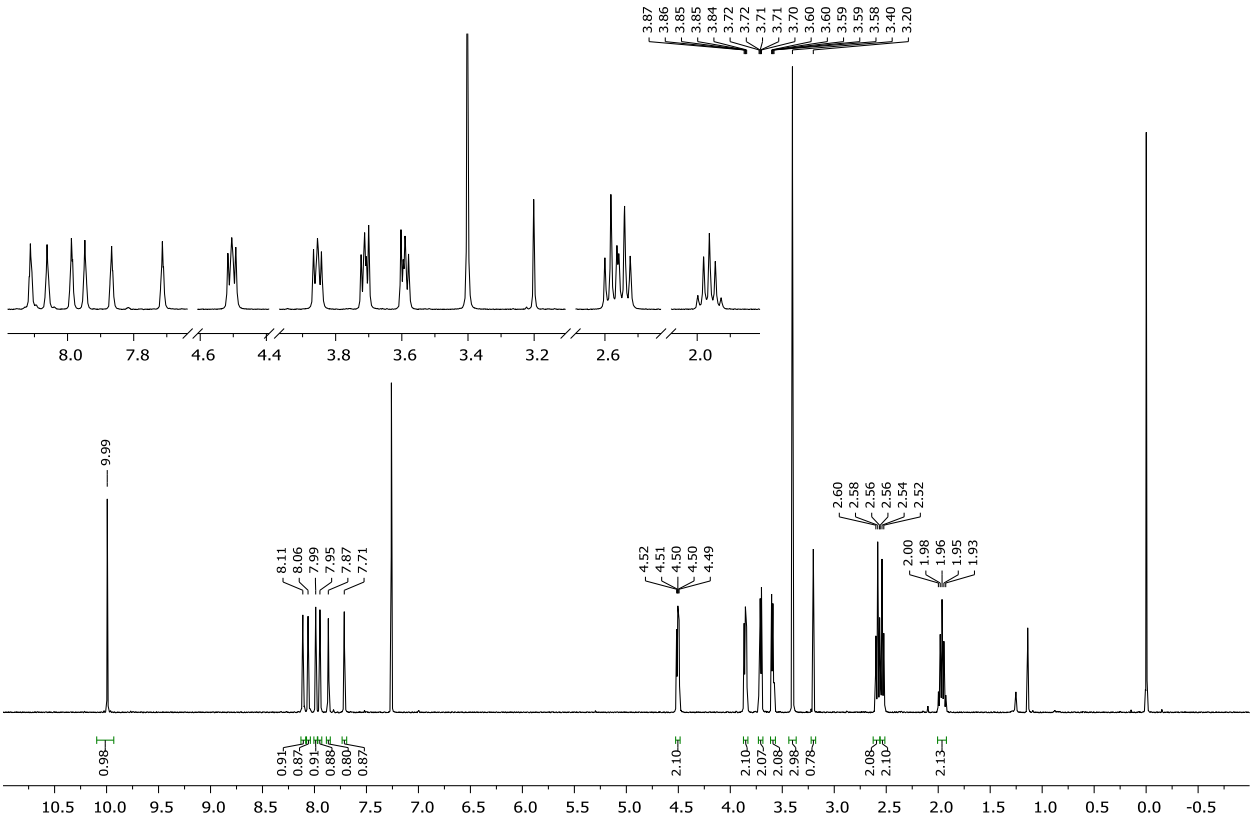


$_{C}$B$_{TMS}$

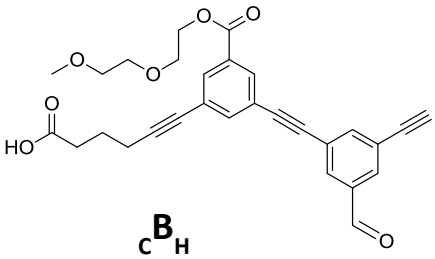


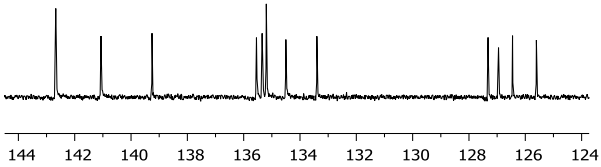
^{1}H NMR (400 MHz, $CDCl_3$)

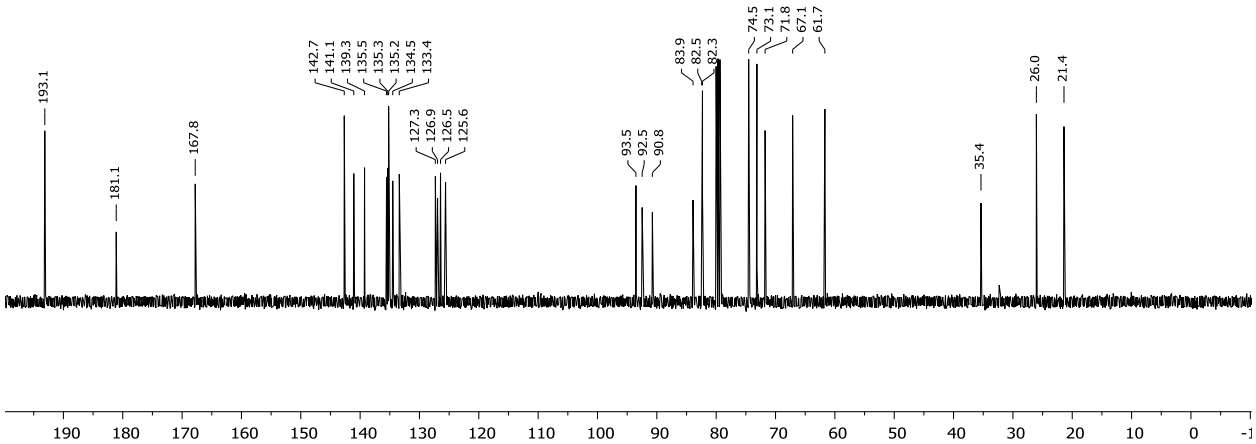




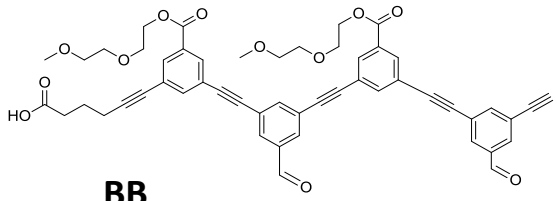
^{13}C NMR (100 MHz, $CDCl_3$)



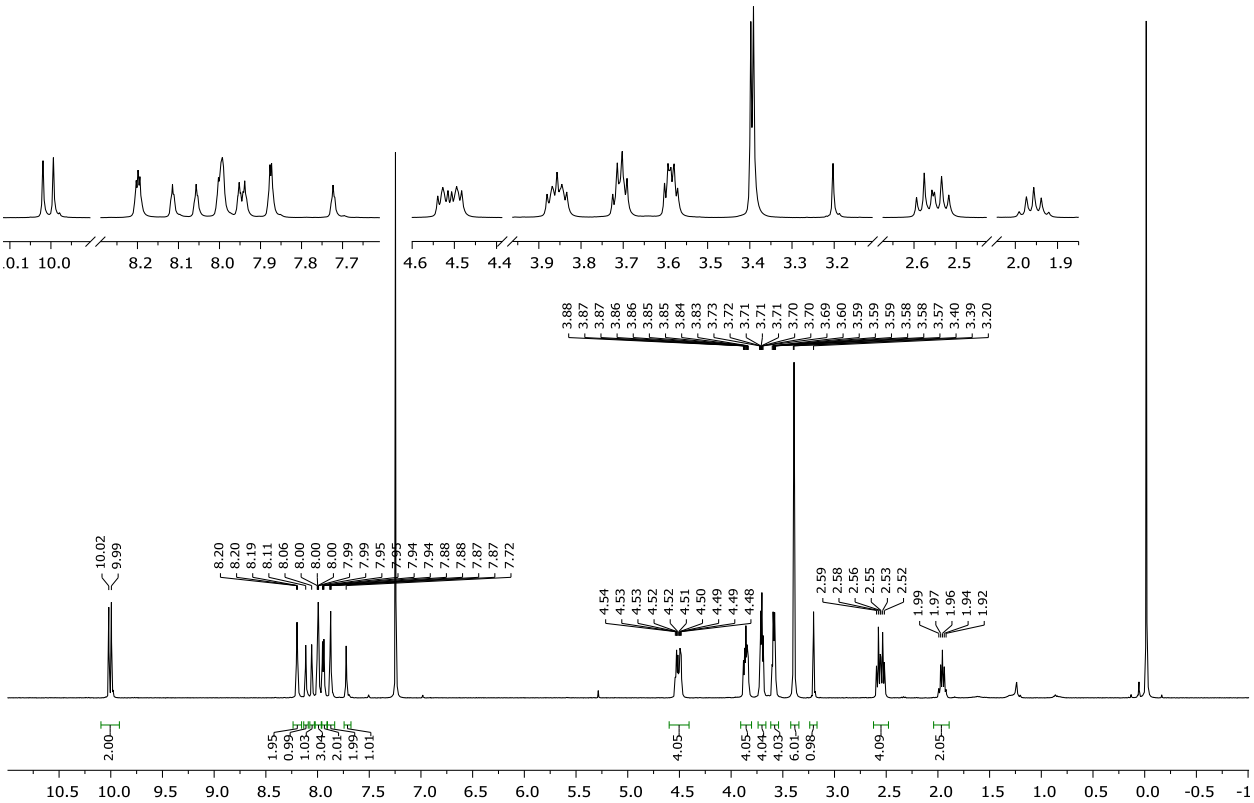




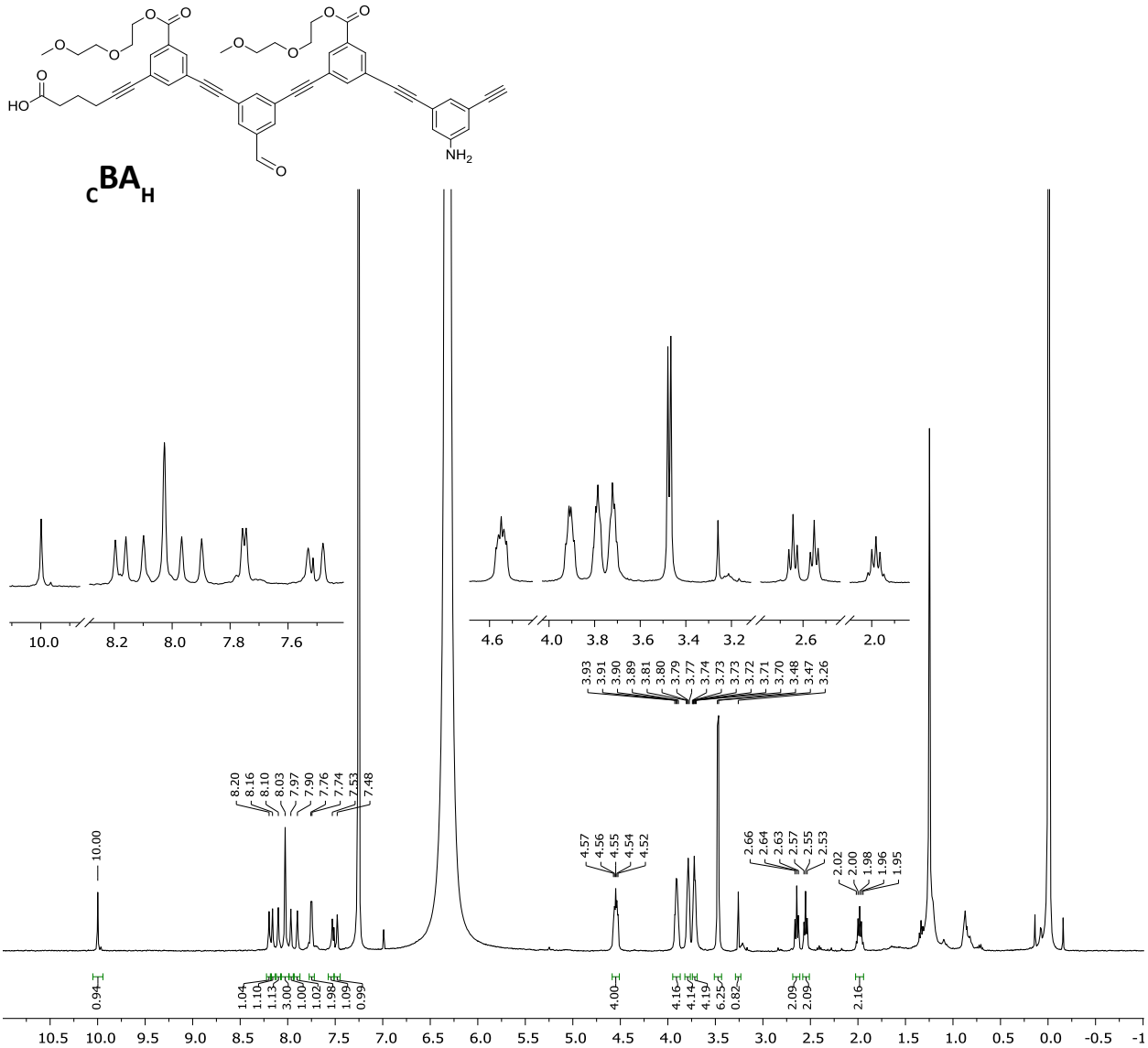
^{1}H NMR (400 MHz, $CDCl_3$)



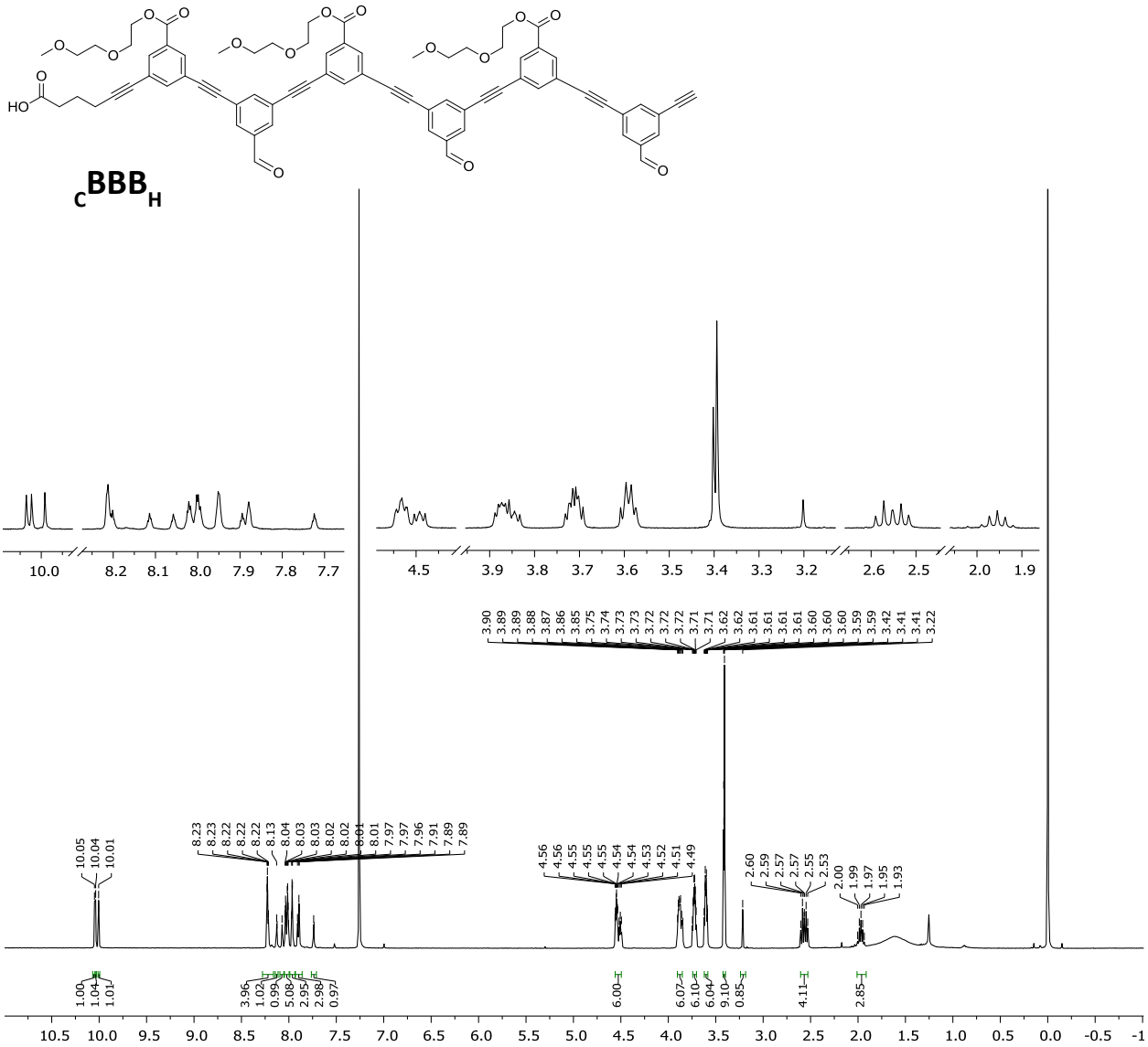
$_{C}$BB$_{H}$



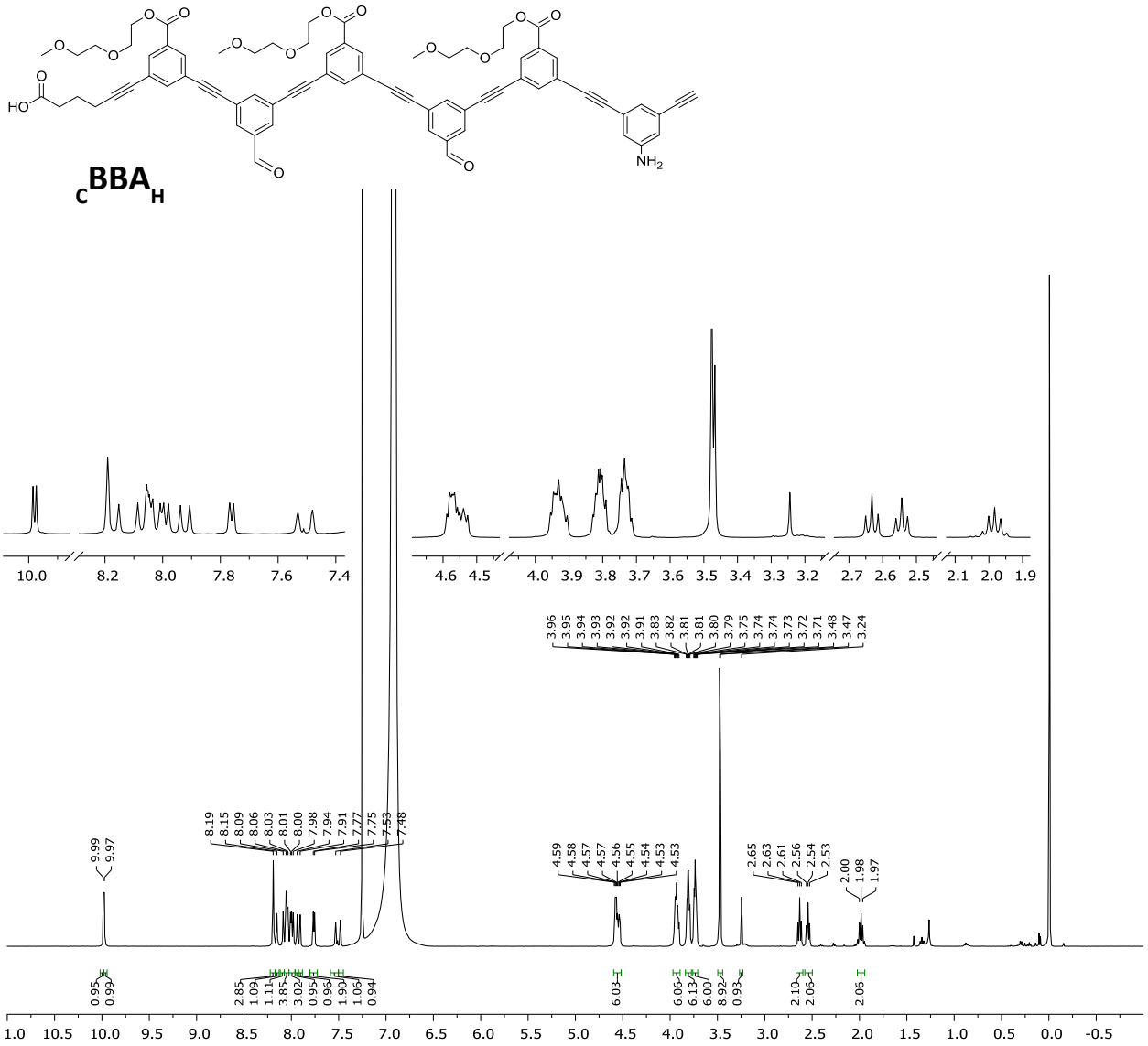
^{1}H NMR (400 MHz, $CDCl_3$, 5% TFA, 1% H_2O, 50 °C)



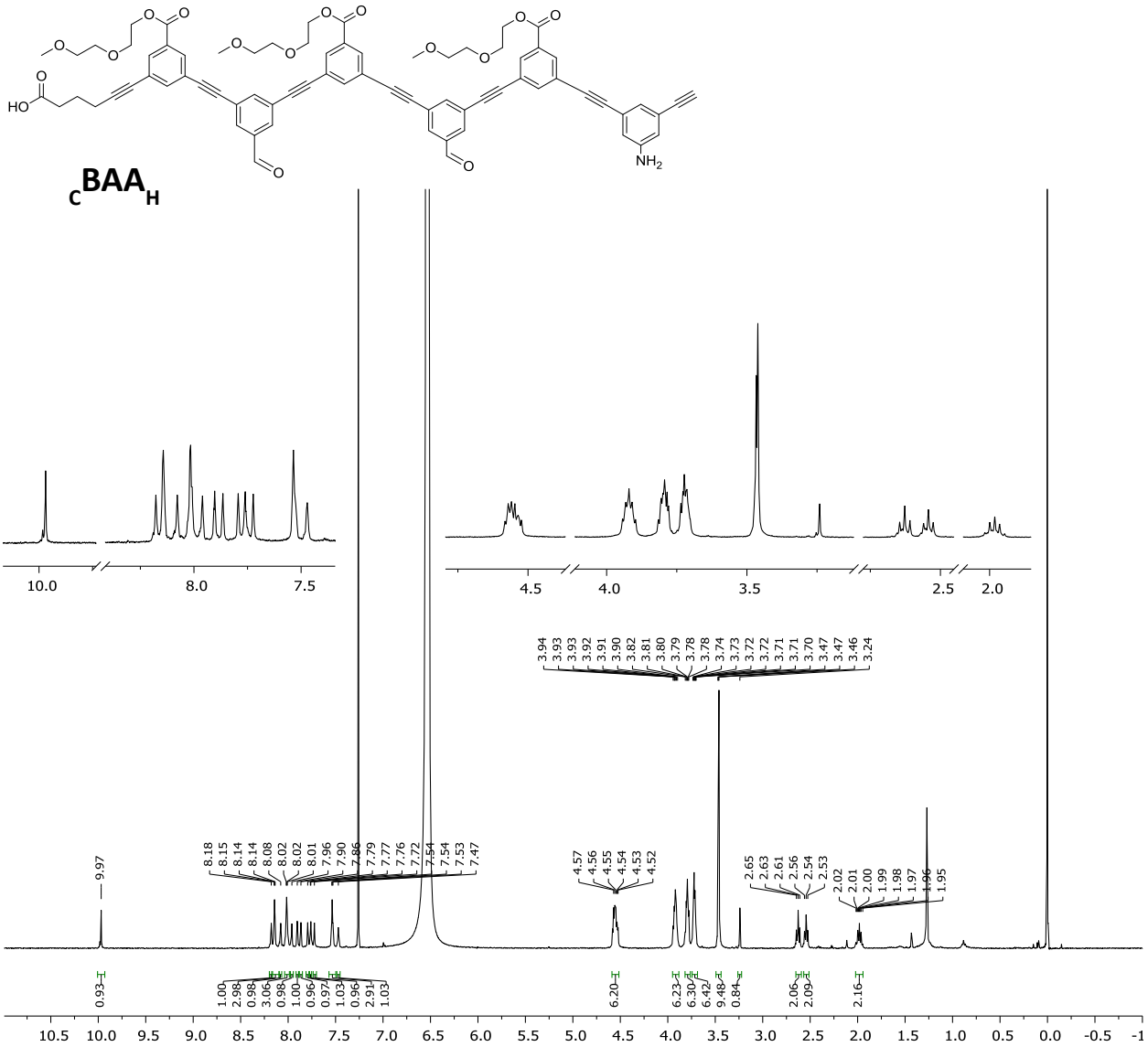
^{1}H NMR (400 MHz, $CDCl_3$)



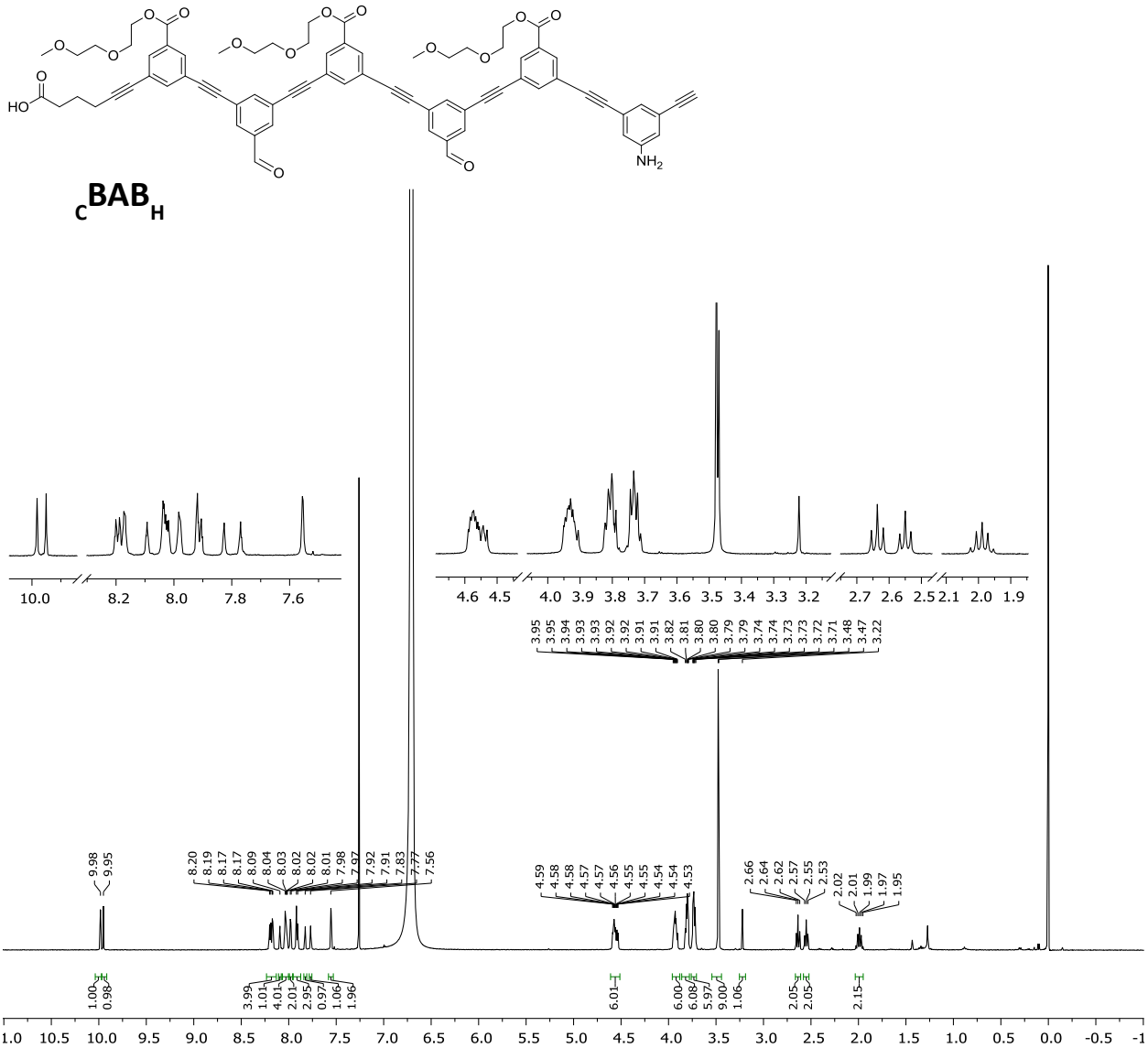
^{1}H NMR (400 MHz, $CDCl_3$, 5% TFA, 1% H_2O, 50 °C)



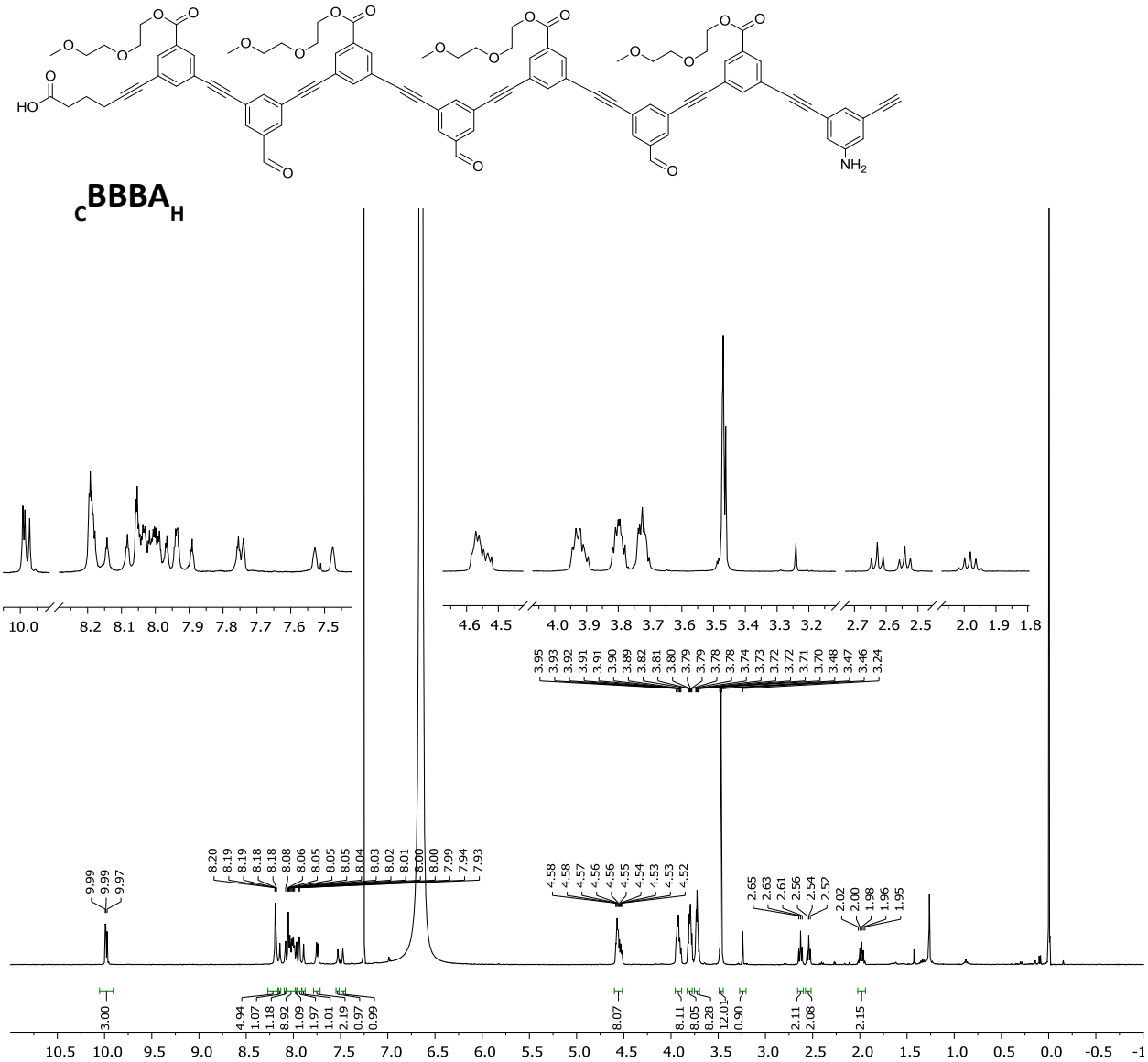
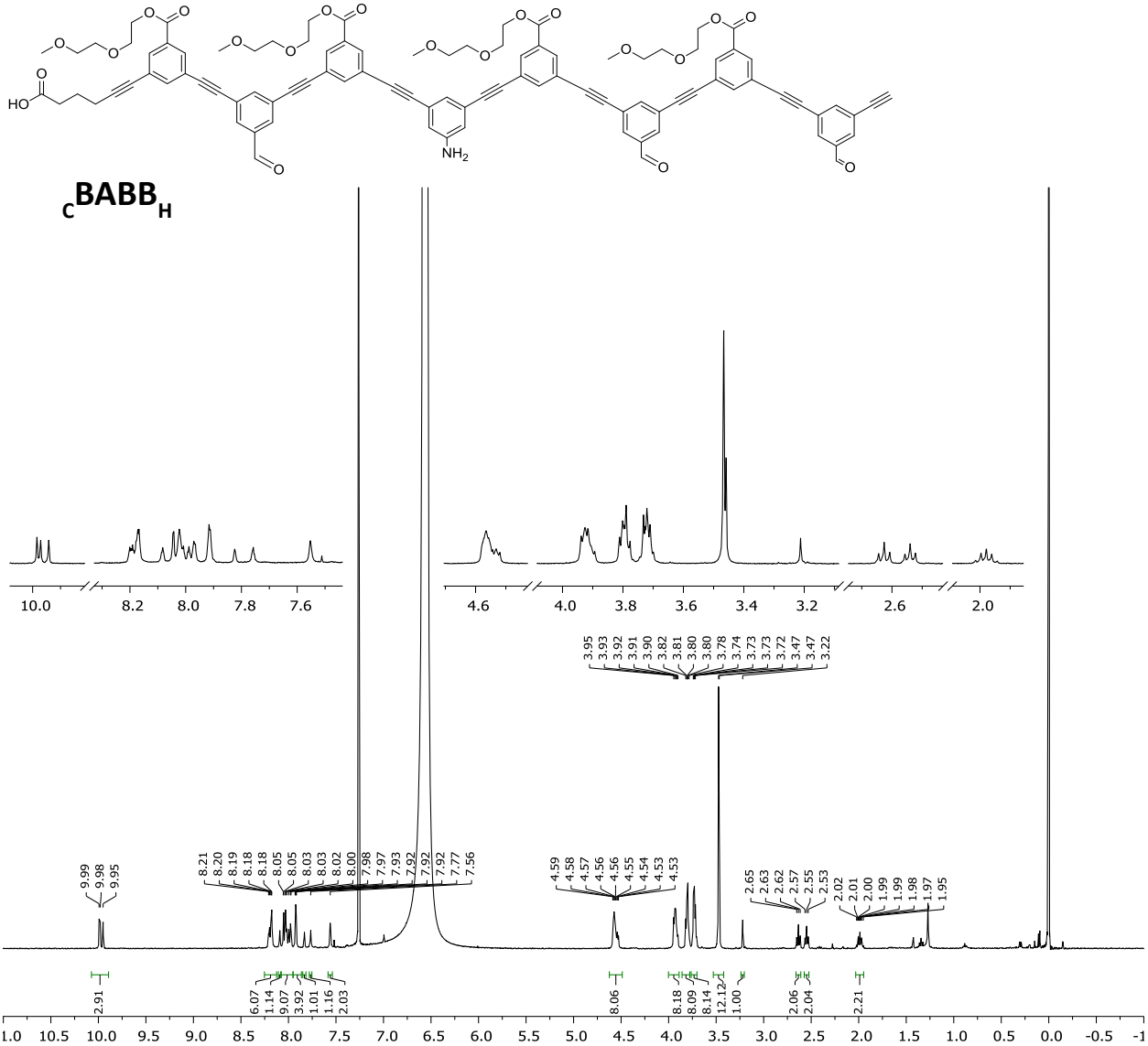
^{1}H NMR (400 MHz, $CDCl_3$, 5% TFA, 1% H_2O, 50 °C)



^{1}H NMR (400 MHz, $CDCl_3$, 5% TFA, 1% H_2O, 50 °C)



^{1}H NMR (400 MHz, $CDCl_3$, 5% TFA, 1% H_2O, 50 °C)



^{1}H NMR (400 MHz, $CDCl_3$, 5% TFA, 1% H_2O, 50 °C)