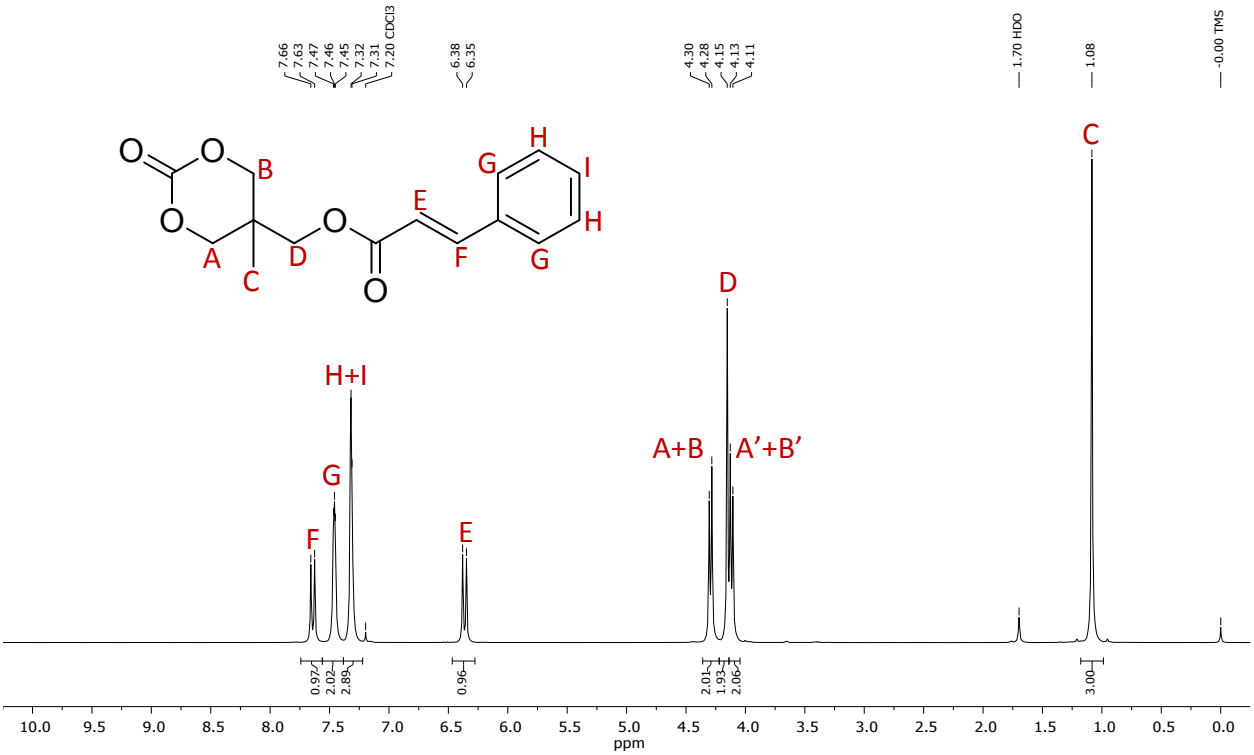

Figure 1: ^{1}H NMR spectrum for COM

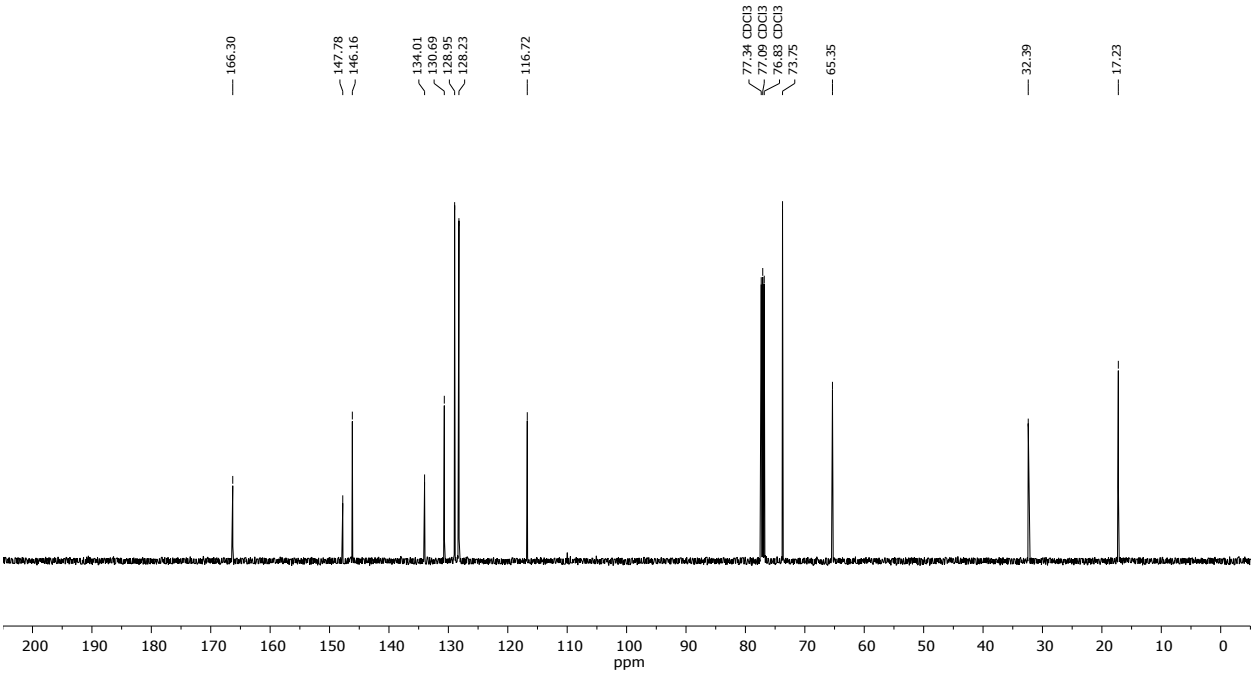

Figure 2: ^{13}C NMR spectrum for COM

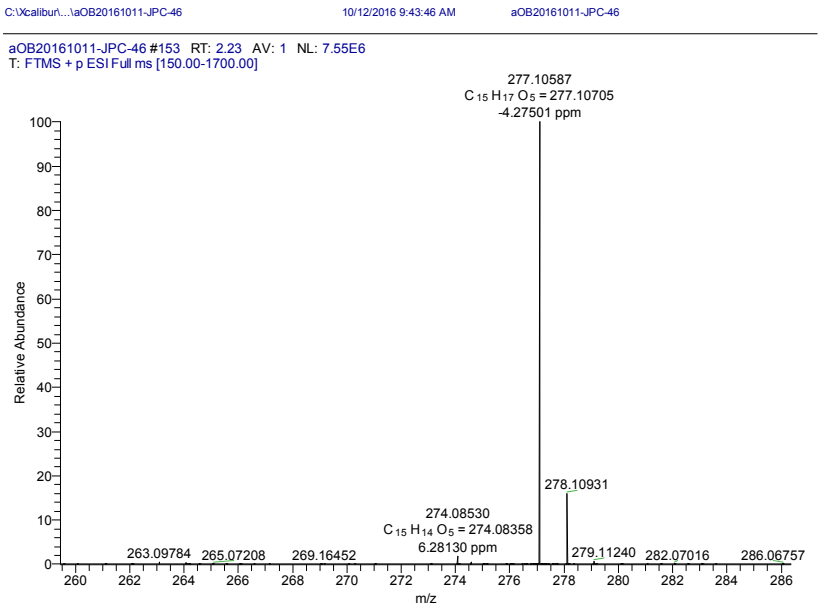

Figure 3: HRMS(HESI) for COM

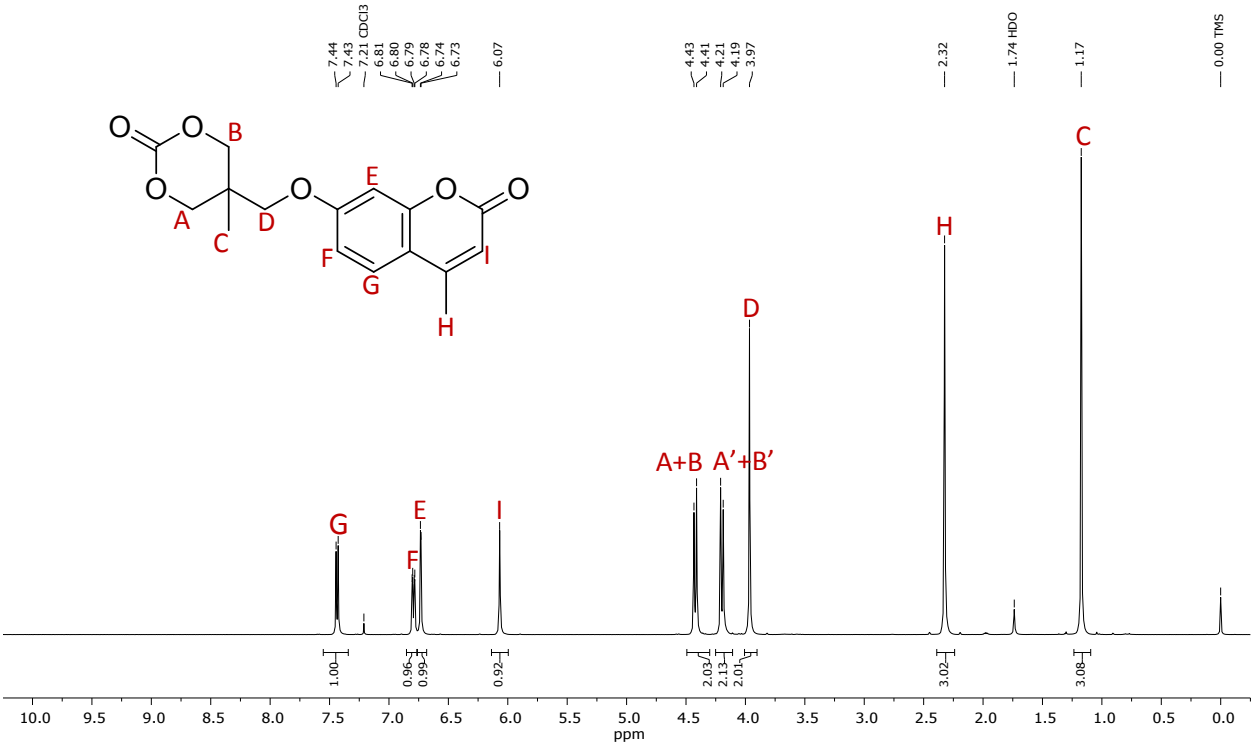

Figure 4: ^{1}H NMR spectrum for MUM

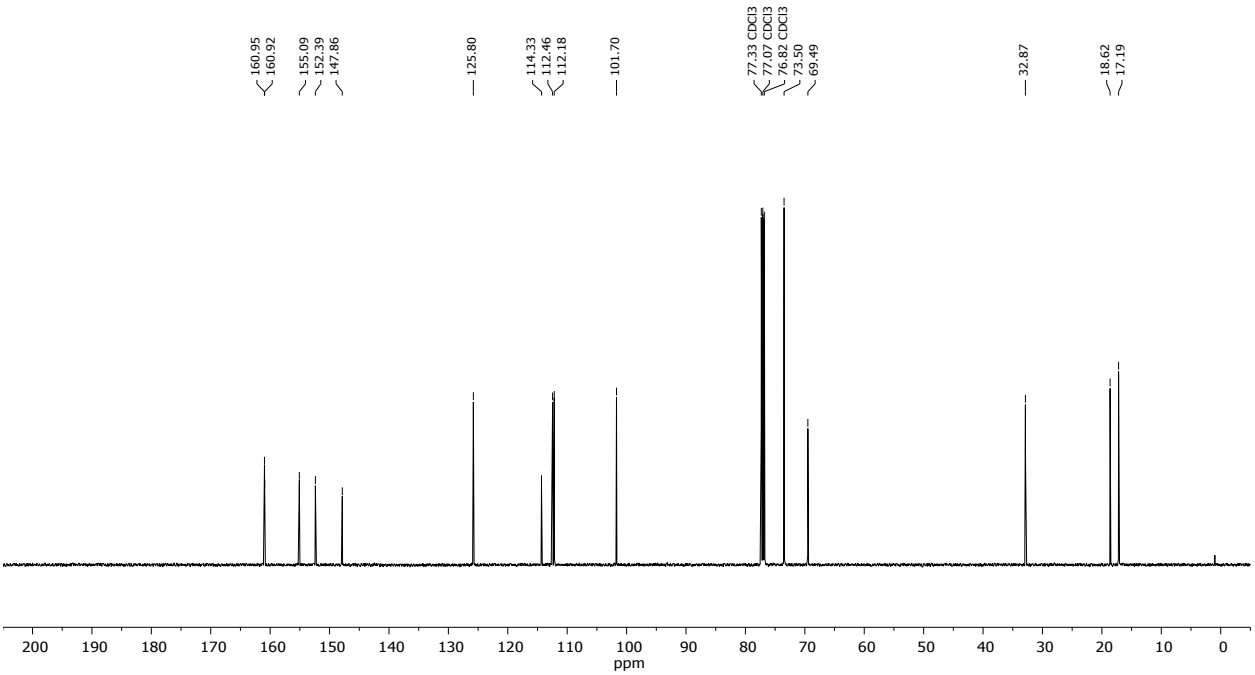

Figure 5: ^{13}C NMR spectrum for MUM

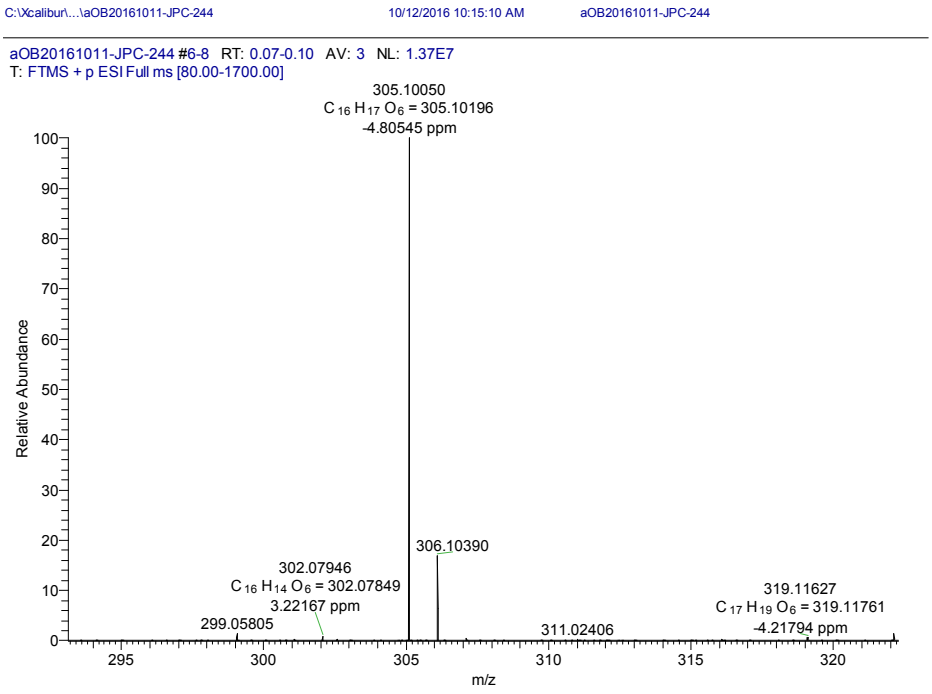

Figure 6: HRMS(HESI) for MUM

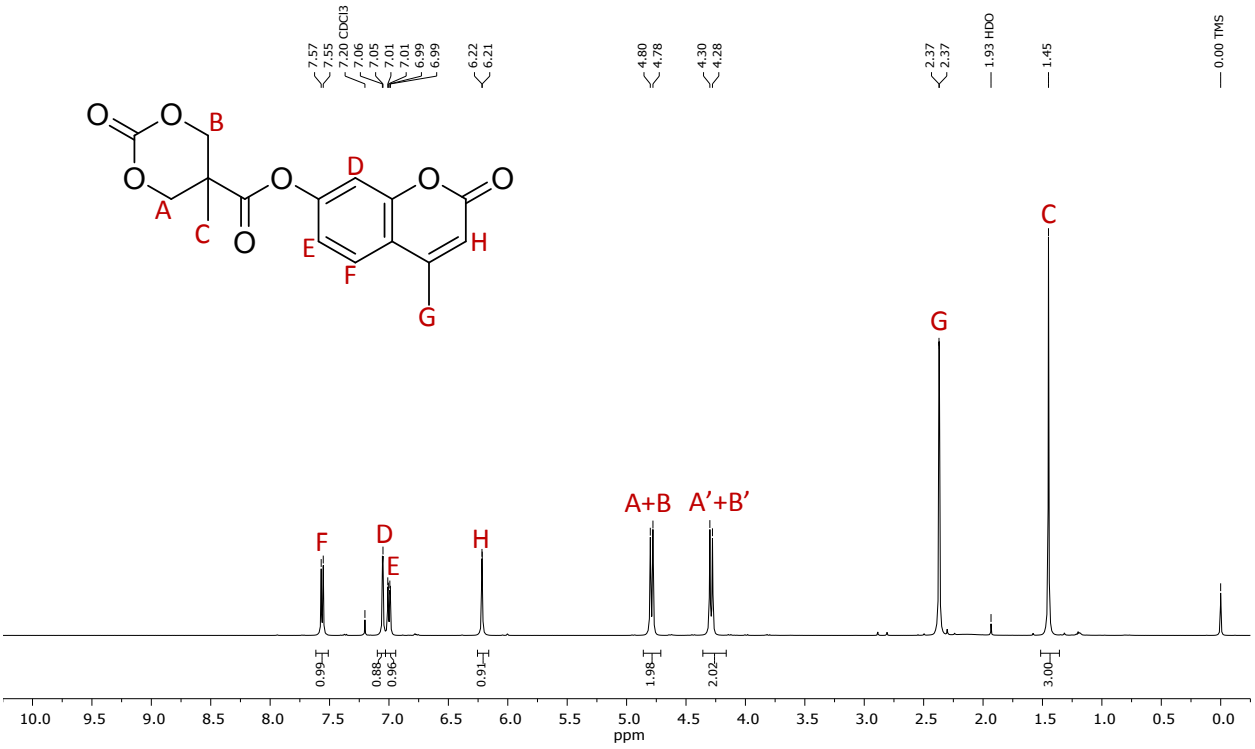

Figure 7: ^{1}H NMR spectrum for MUC

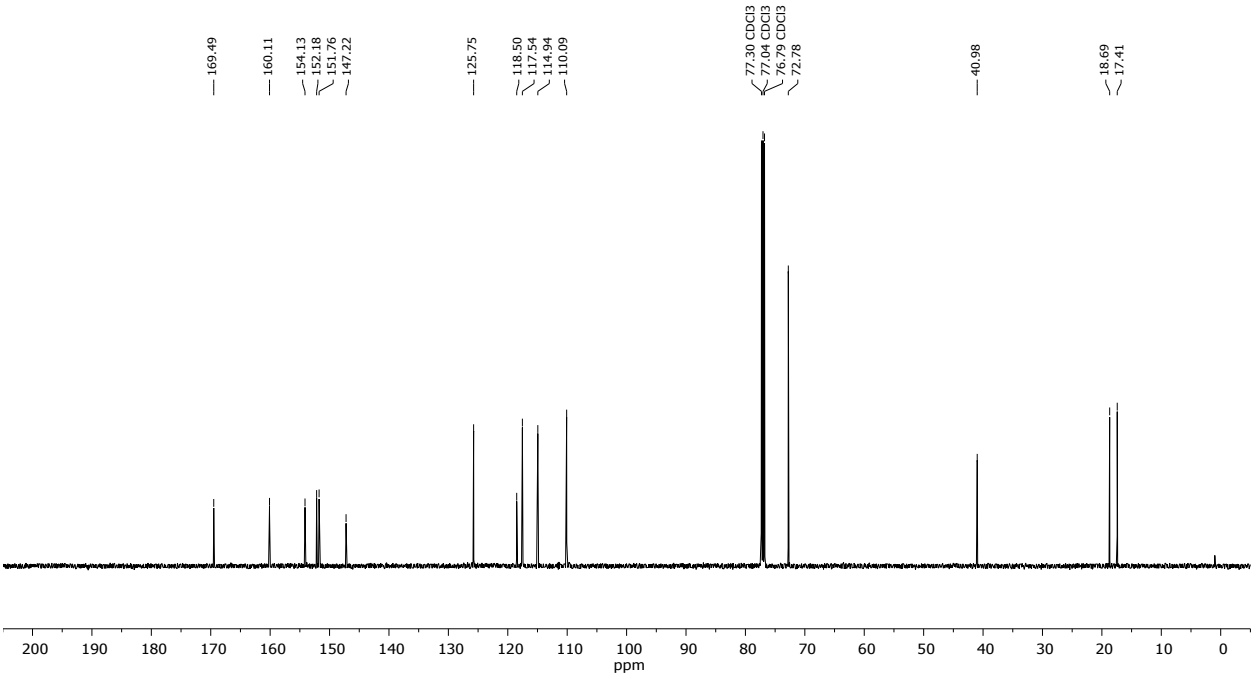

Figure 8: ^{13}C NMR spectrum for MUC

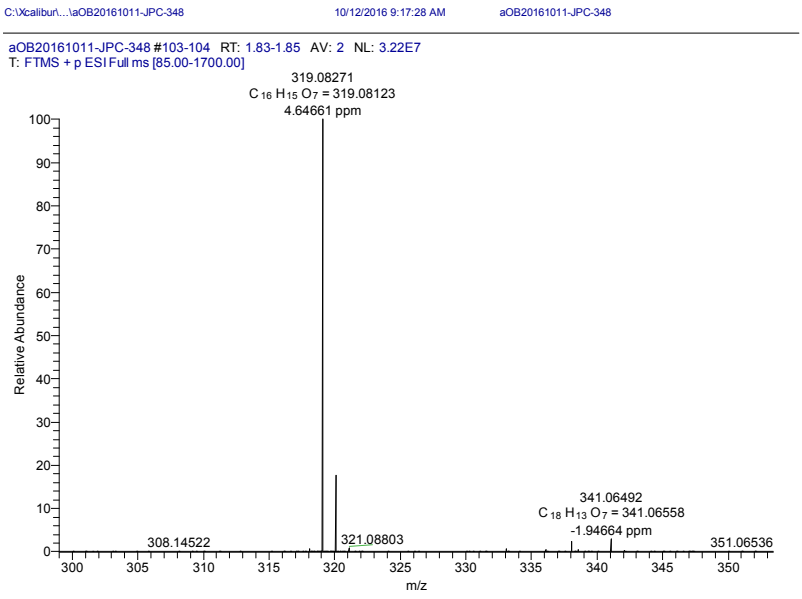

Figure 9: HRMS(HESI) for MUC

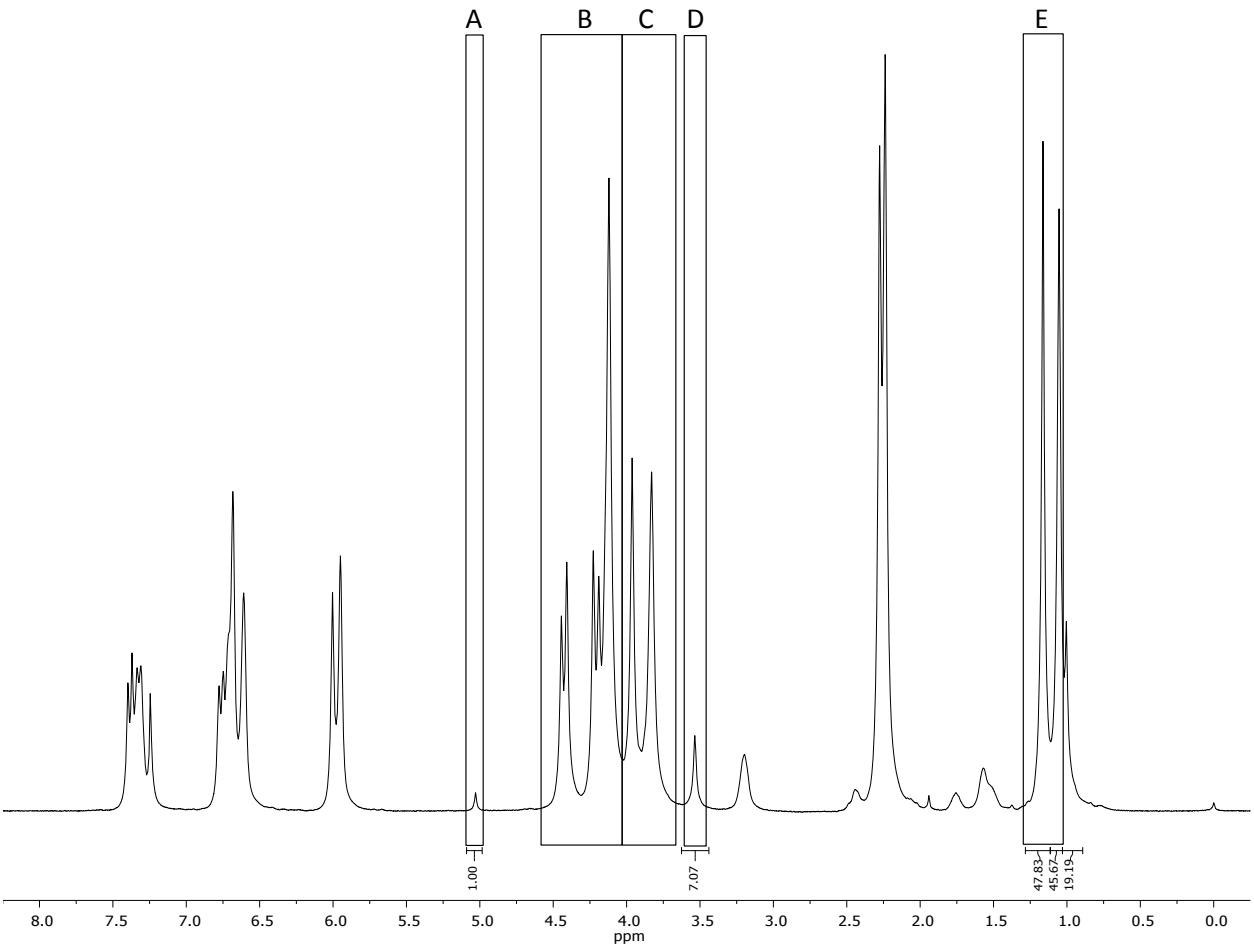

Figure 10: ^{1}H NMR spectrum of DBU-catalyzed polymerization of MUM after 35 min. A. CH_2 in initiator. B. 2 x CH_2 in MUM ring (left and middle doublet peaks) and 2 x CH_2 in PMUM backbone (right singlet peak). C. Pendant CH_2 in MUM (left peak) and PMUM (right peak). D. CH_2 adjacent to terminal OH. E. Pendant CH_3 adjacent to carbonate ring in MUM (left peak) and adjacent to polymer backbone in PMUM (right peak).

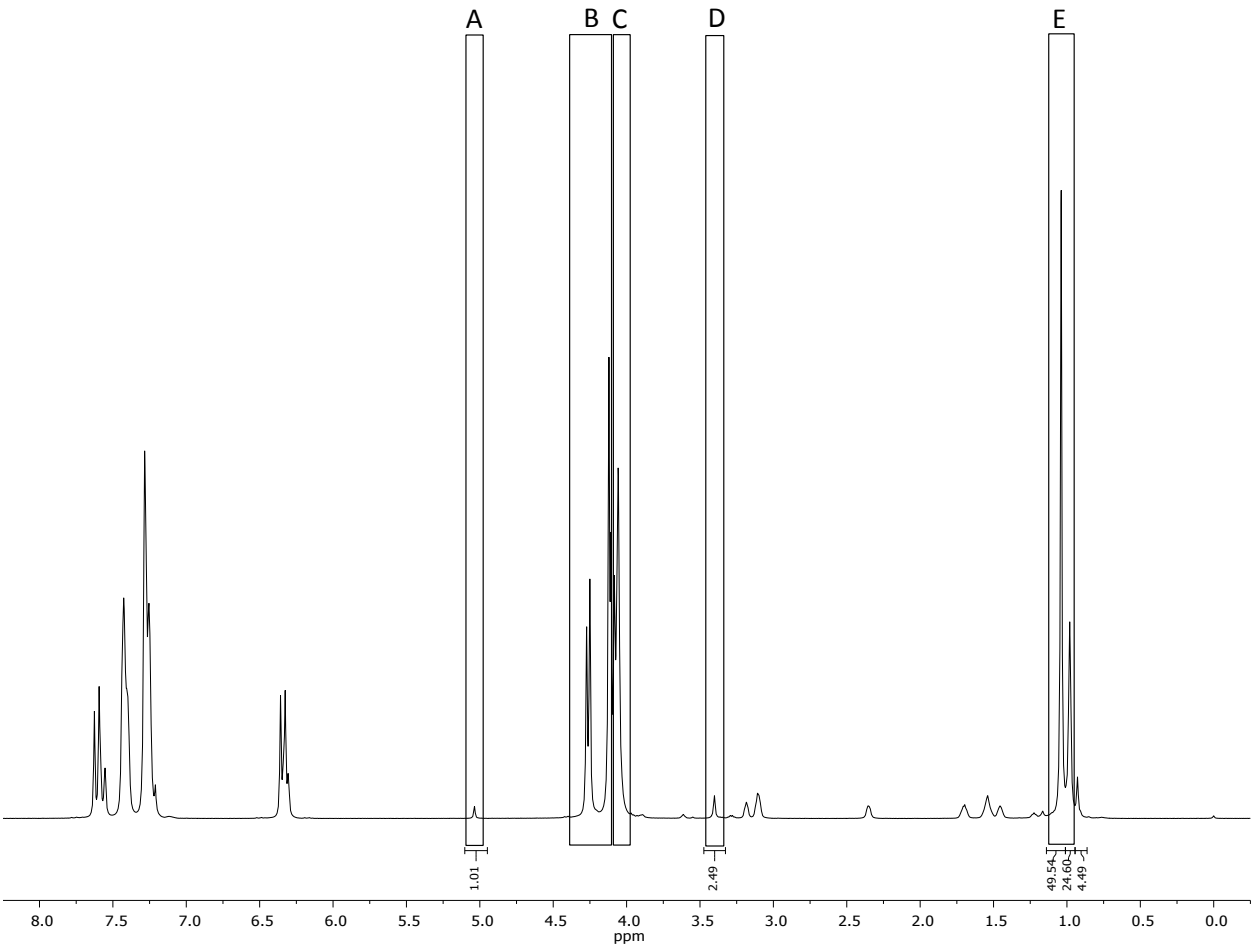

Figure 11: ^{1}H NMR spectrum of DBU-catalyzed polymerization of COM after 35 min. A. CH_2 on initiator. B. 2 x CH_2 in COM ring (left and right doublet peaks) and 2 x CH_2 in PCOM backbone (right overlapped singlet peak). C. Pendant CH_2 on COM (left peak) and PCOM (right peak). D. CH_2 adjacent to terminal OH. E. Pendant CH_3 on COM (left peak) and PCOM (right peak).

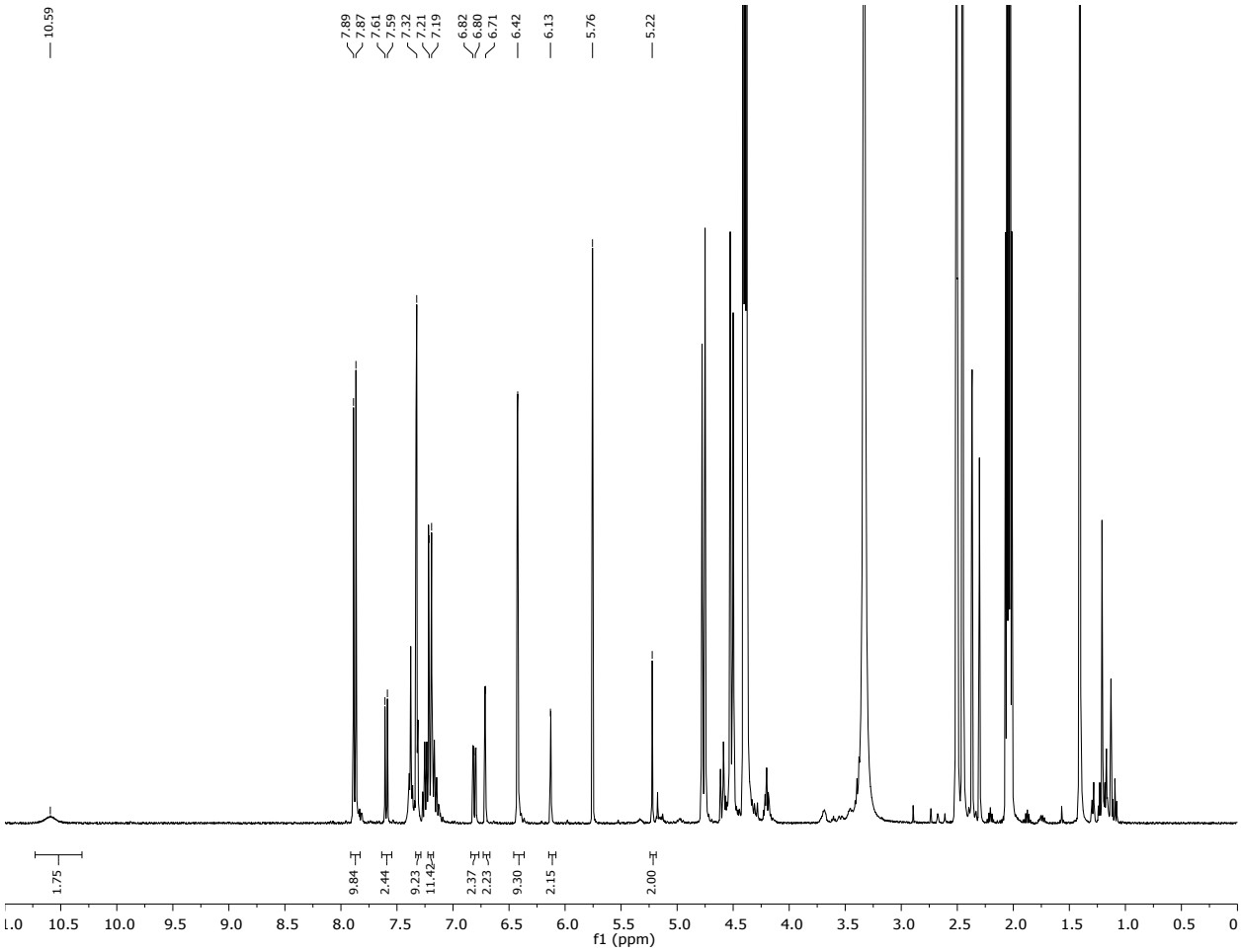

Figure 12: [1]H NMR showing transesterification of MUC during an attempted melt copolymerization. The full conversion of benzyl alcohol to an ester (5.22 ppm) and the appearance of the chemical shifts for MU (10.59 ppm, 7.60 ppm, 6.81 ppm, 6.71, and 6.13 ppm) can be seen.

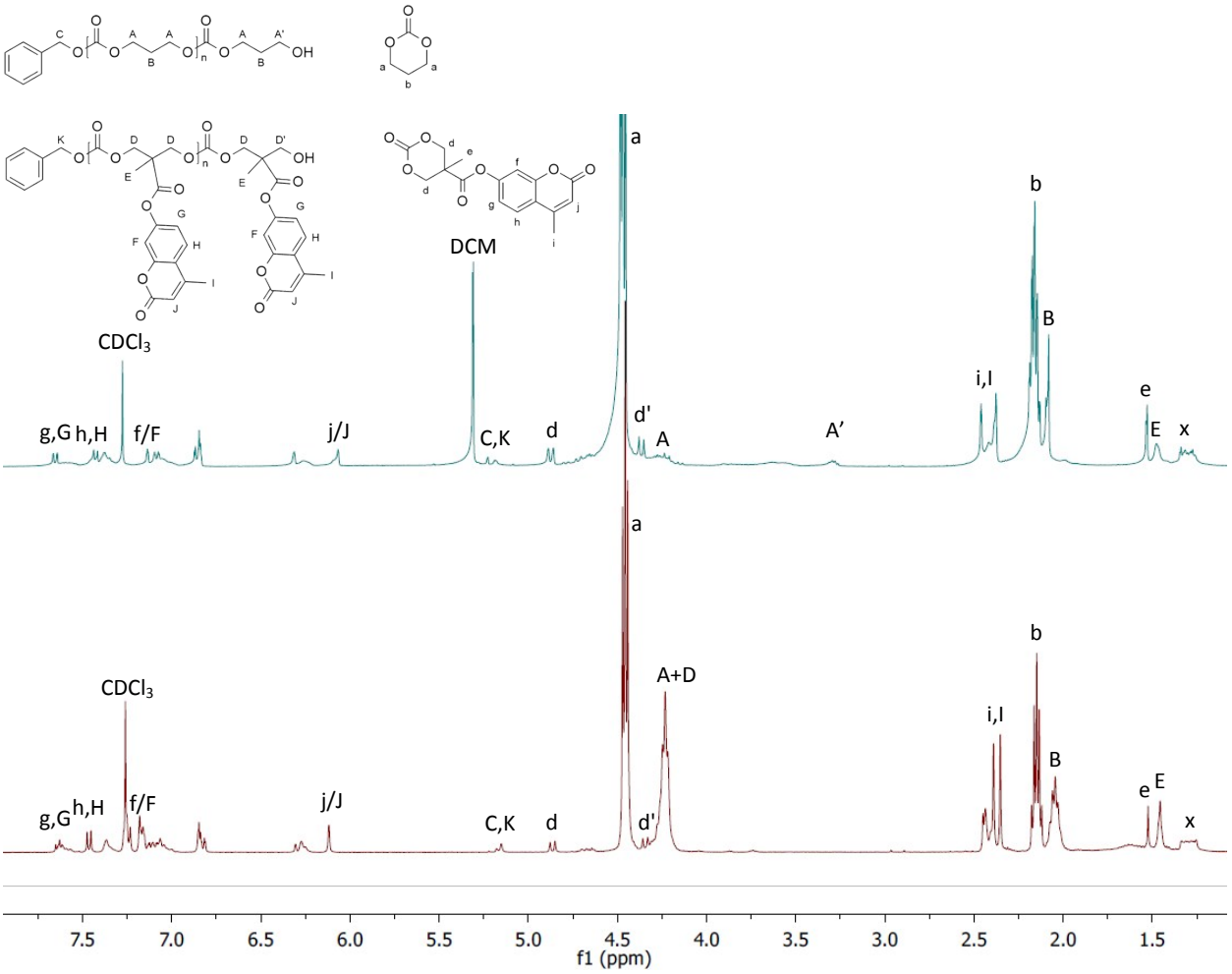

Figure 13: Upper ^{1}H NMR spectra is for an unpurified TBD catalysed polymerization conducted in DCM at room temperature and shows minimal polymerization after 4 h. Lower ^{1}H NMR spectra is for an unpurified tin(II) 2-ethylhexanoate catalysed polymerization conducted in toluene at 110 ℃ and shows partial polymerization after 18 h.

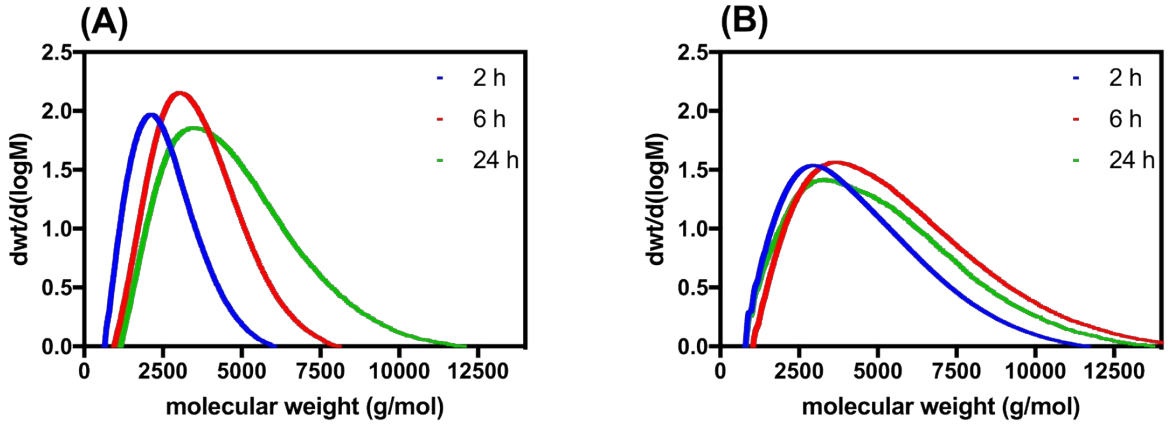

Figure 14: Stack of GPC curves of (A) poly(TMC_{40}-MUC_{10}) and (B) poly(CL_{40}-MUC_{10}) catalyzed by triflic acid.