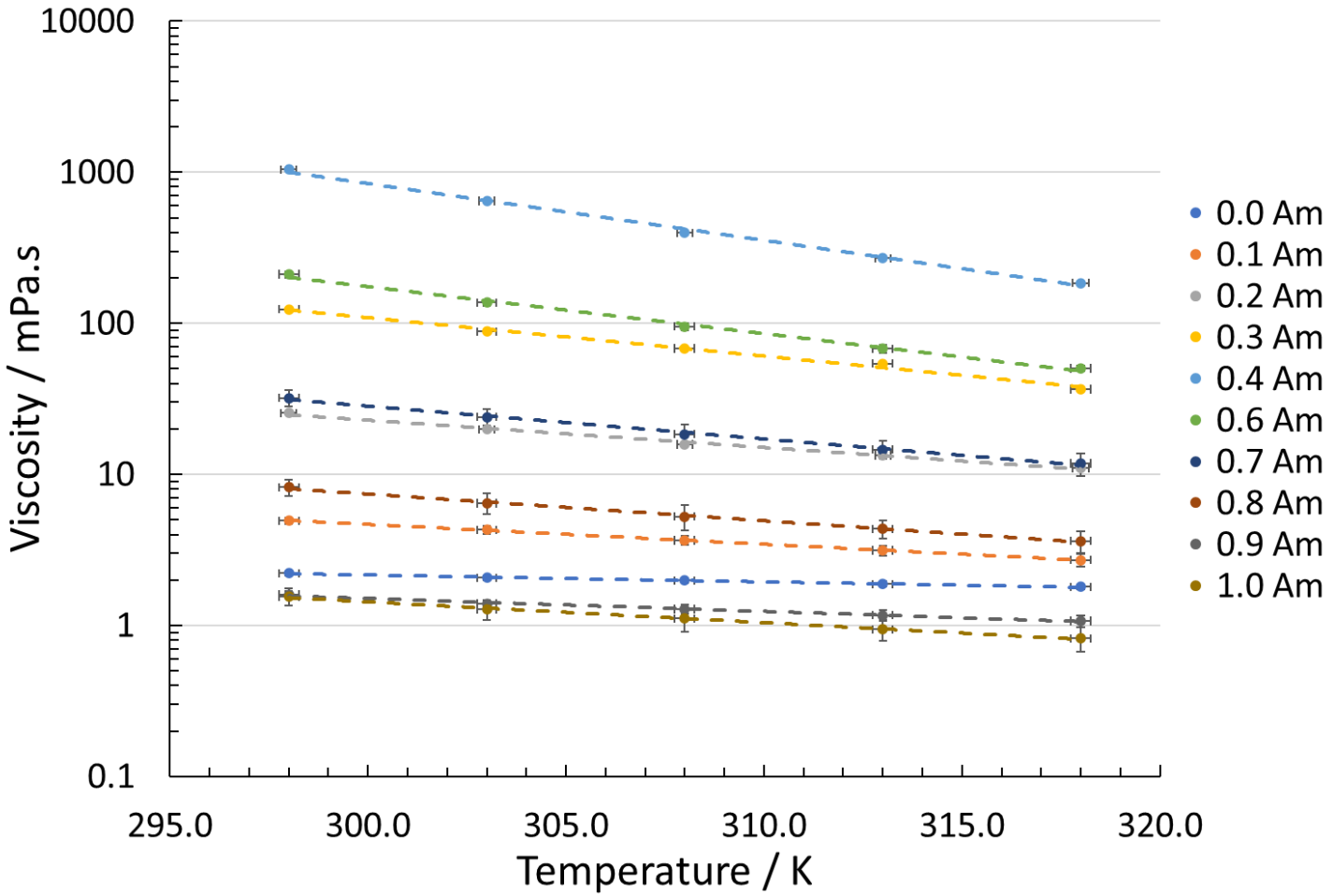
Supplementary information: Cellulose dissolution and regeneration using a non-aqueous, non-stoichiometric protic ionic liquid system

Viscosity data, binary mixtures of 1,1,3,3-tetramethylguanidine and Propionic acid



NMR Analysis of solvent mixtures subjected to 100°C heating for two hours (cellulose dissolution conditions)

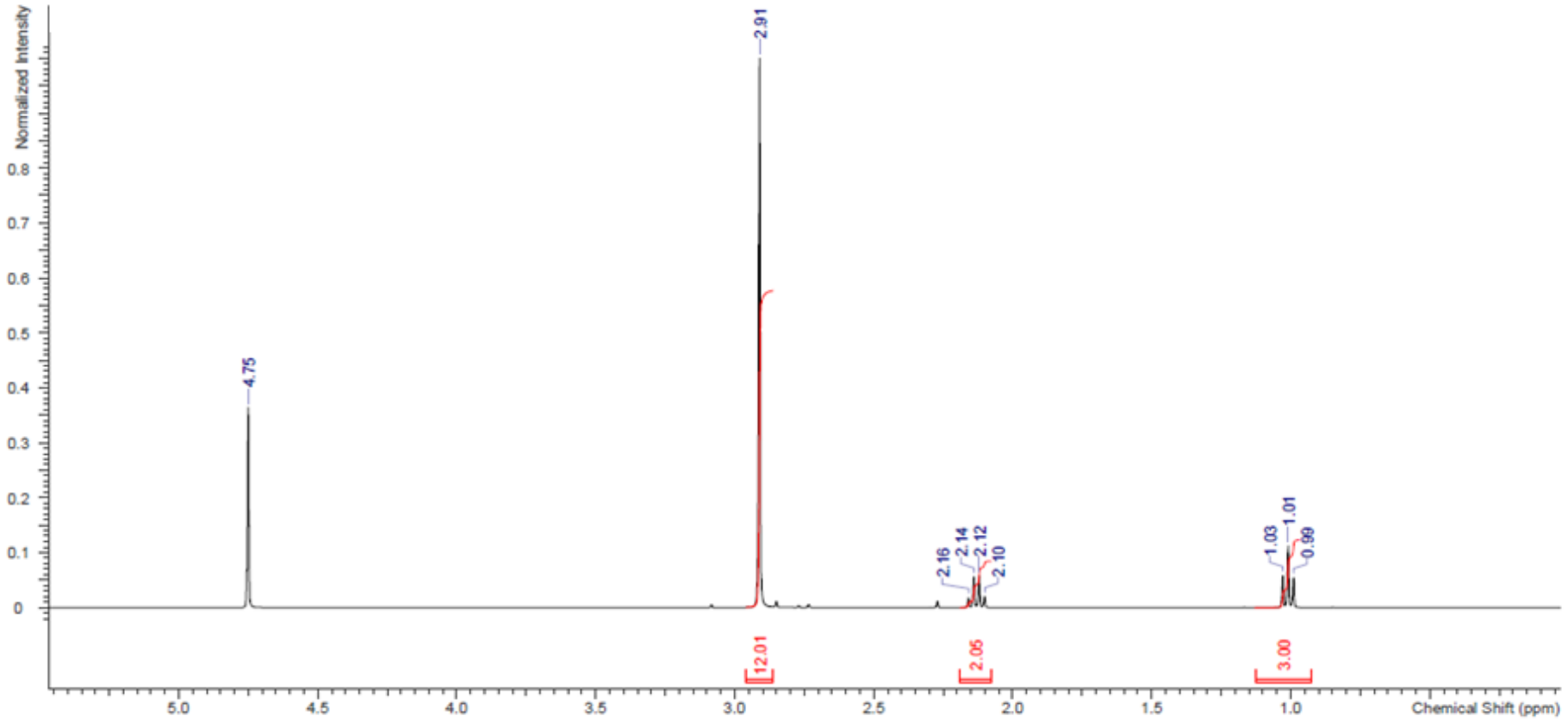


Figure S1: 50% TMG, before heating

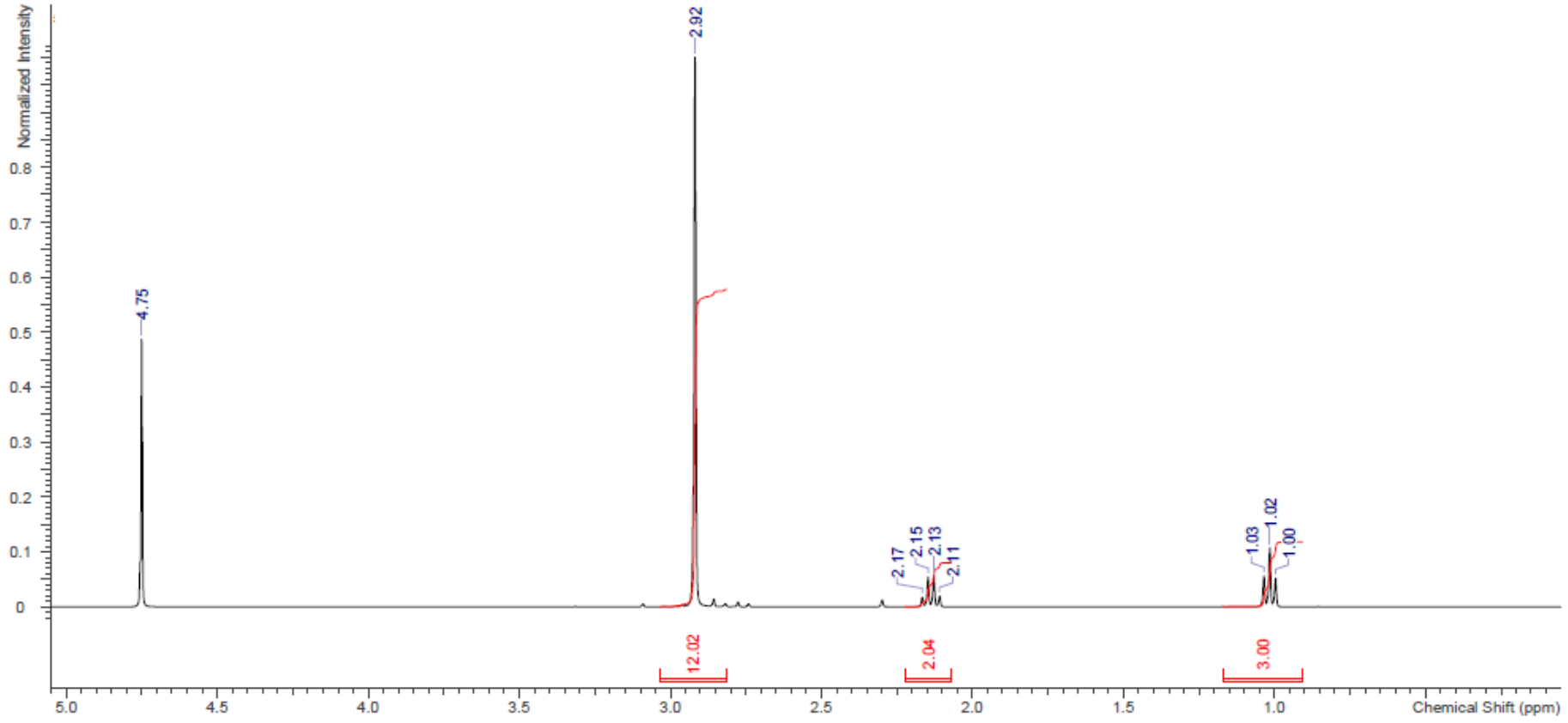


Figure S2: 50% TMG, after heating

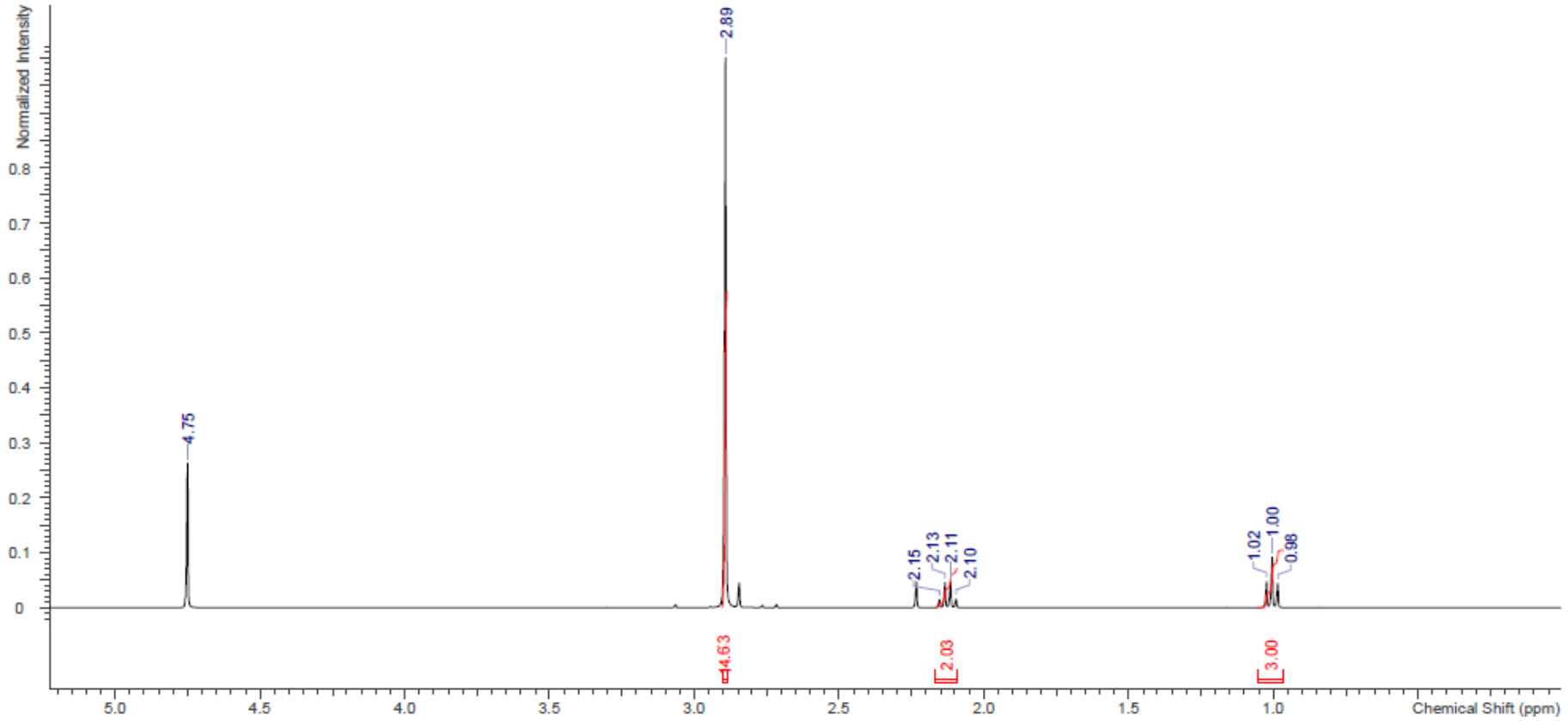


Fig S3: 55%, before heating

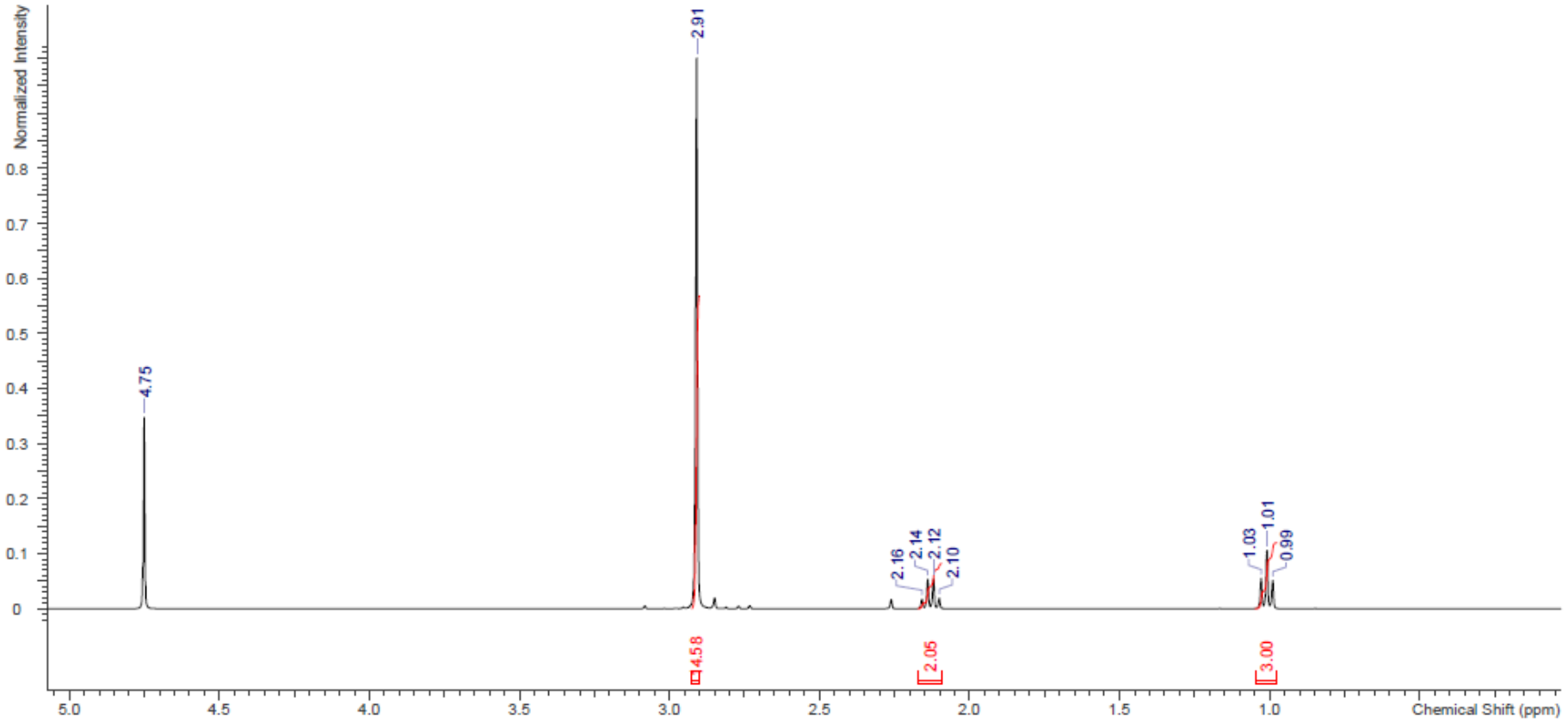


Fig S4: 55%, after heating

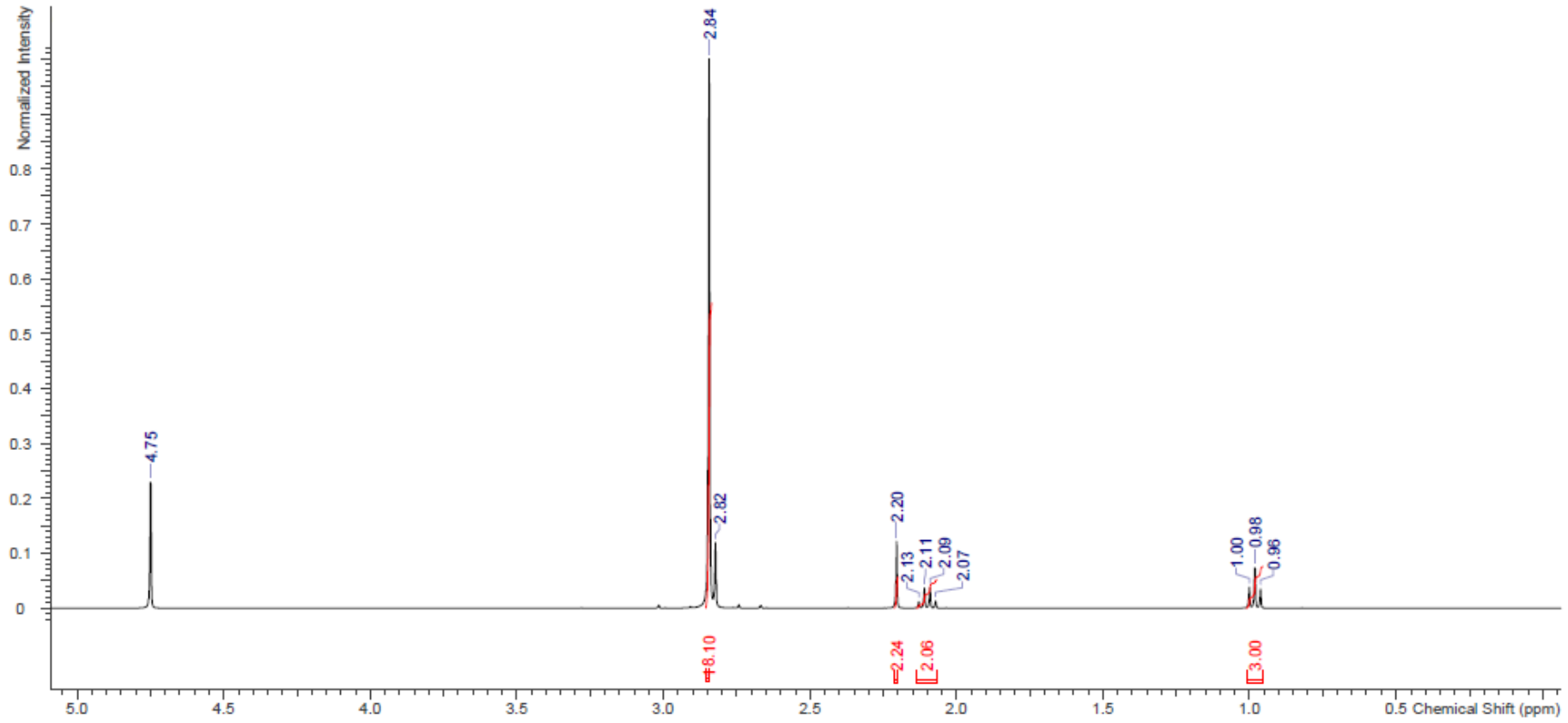


Fig S5: 60% TMG, before heating

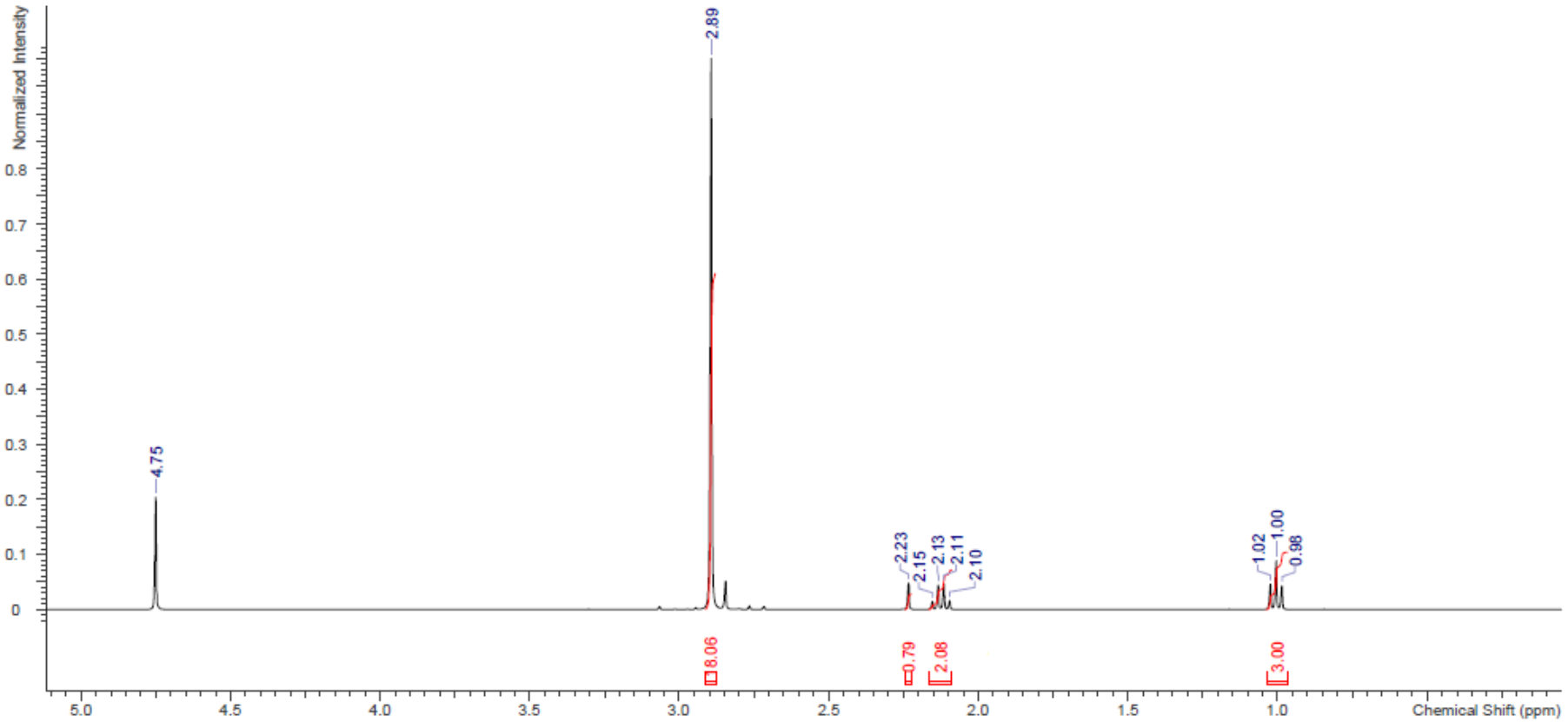


Fig S6: 60% TMG, after heating

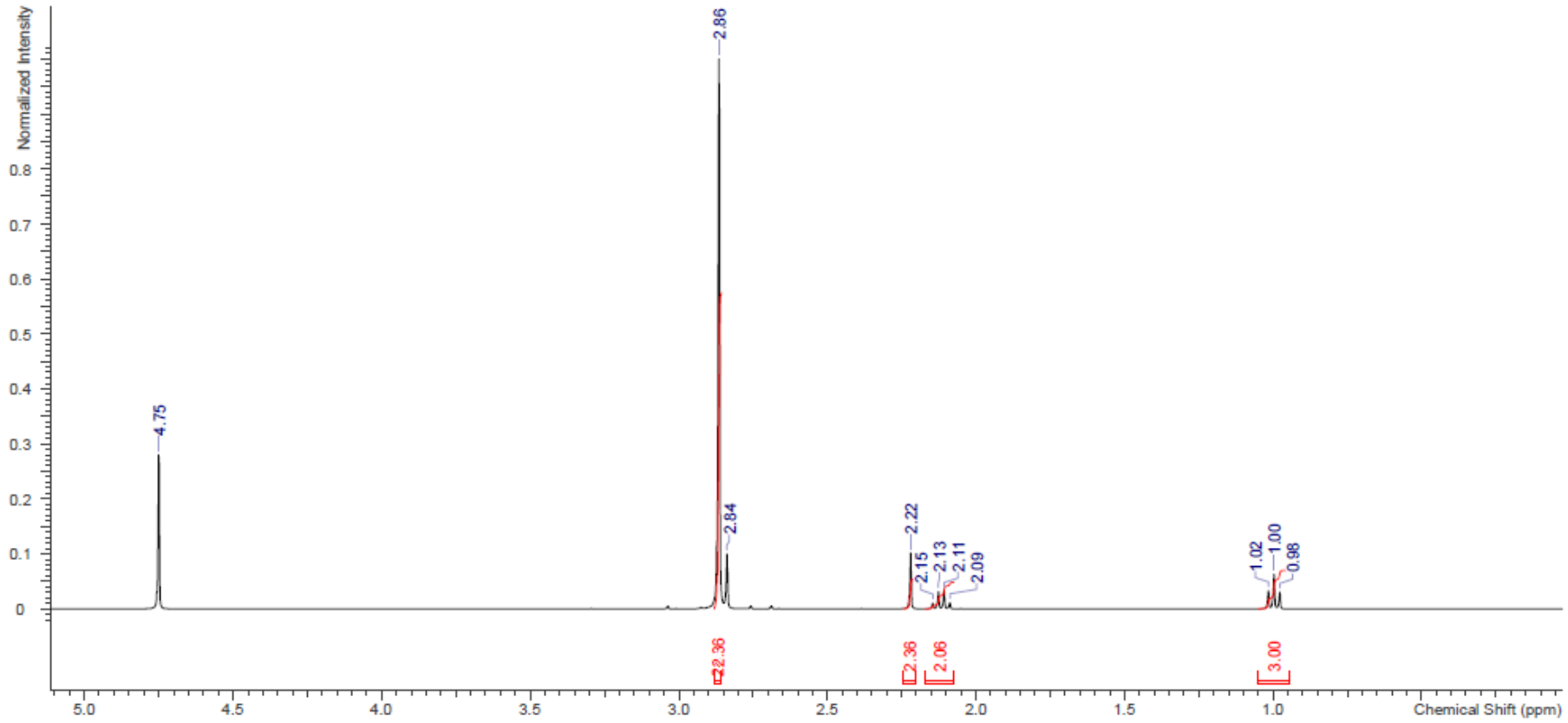


Fig S7: 65% TMG, before heating

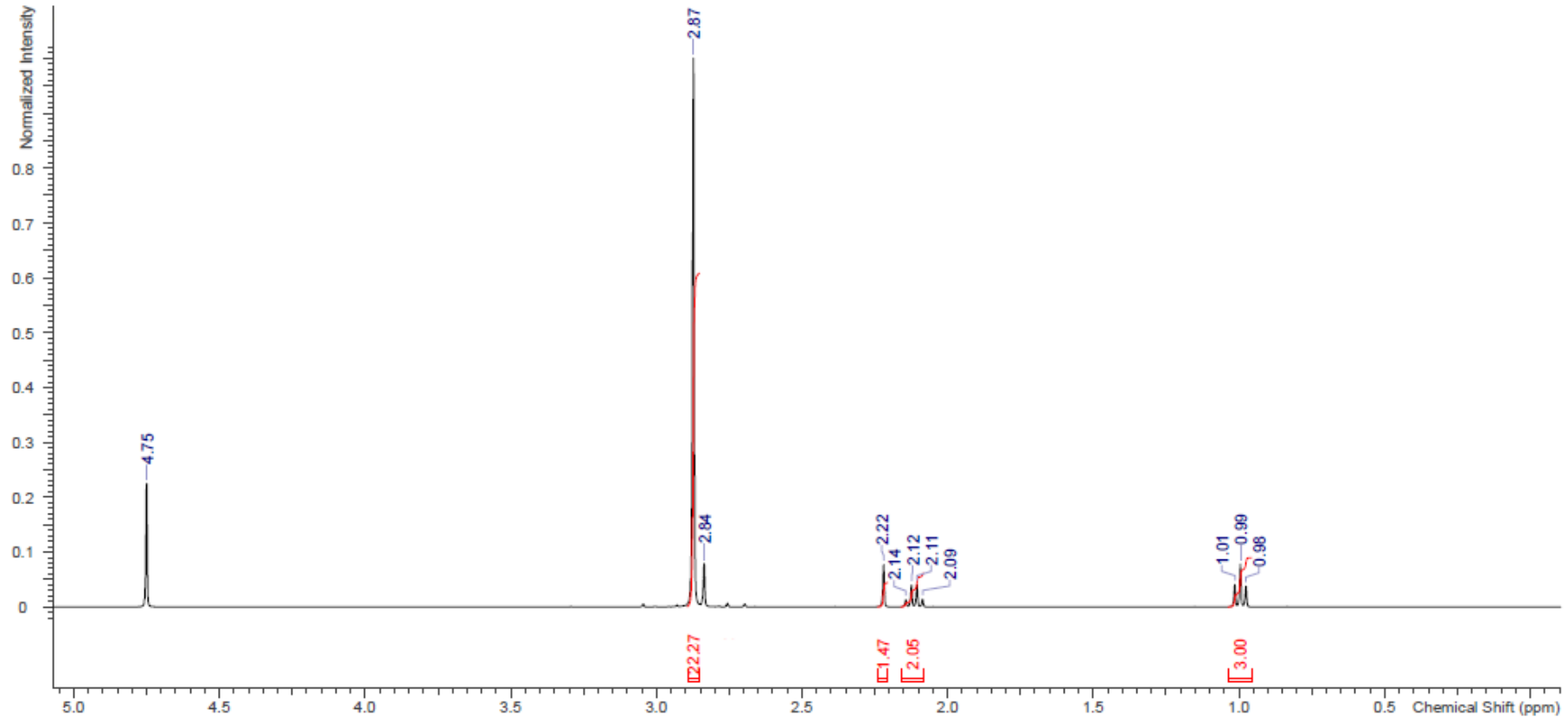
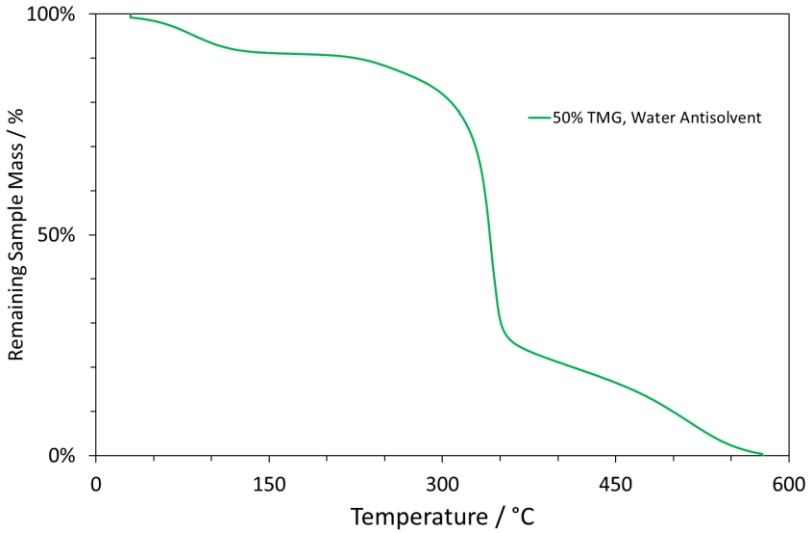
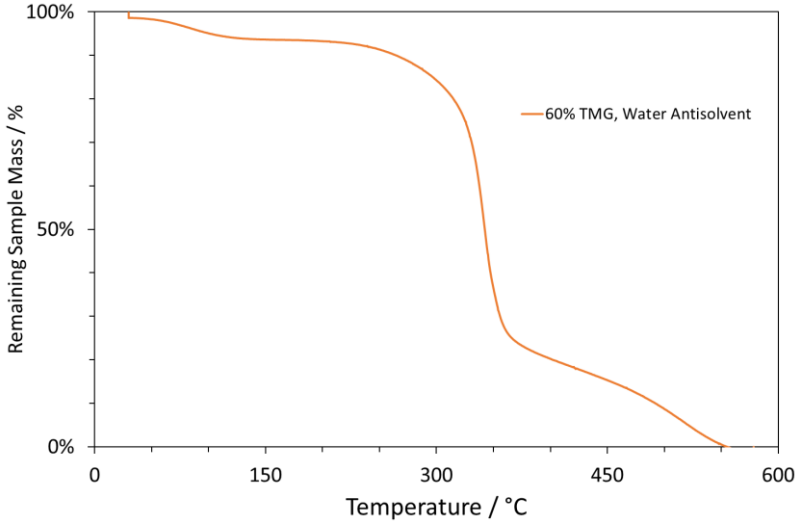
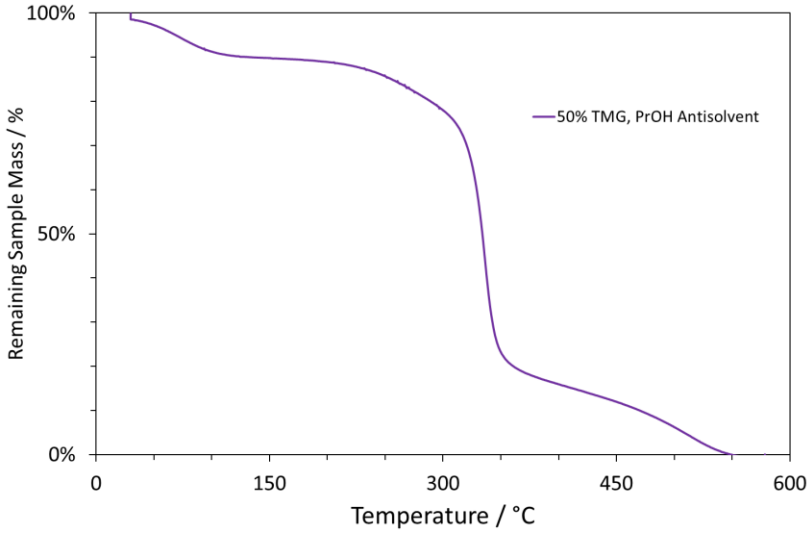


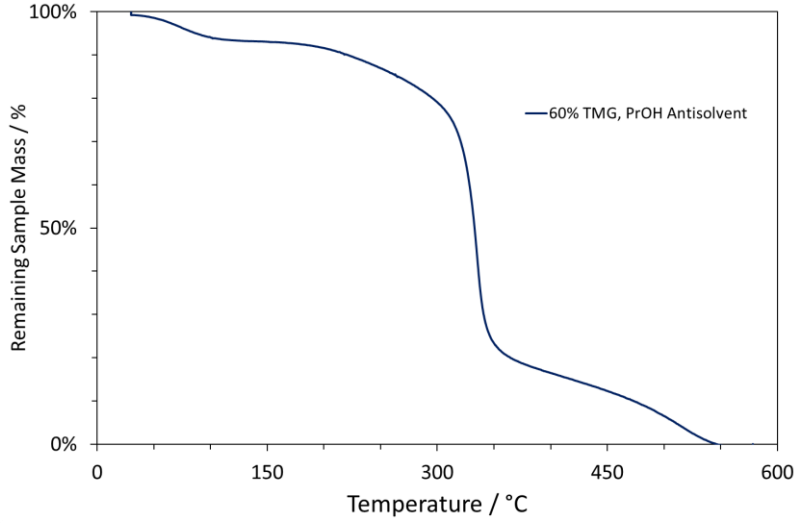
Fig S8: 65% TMG, after heating

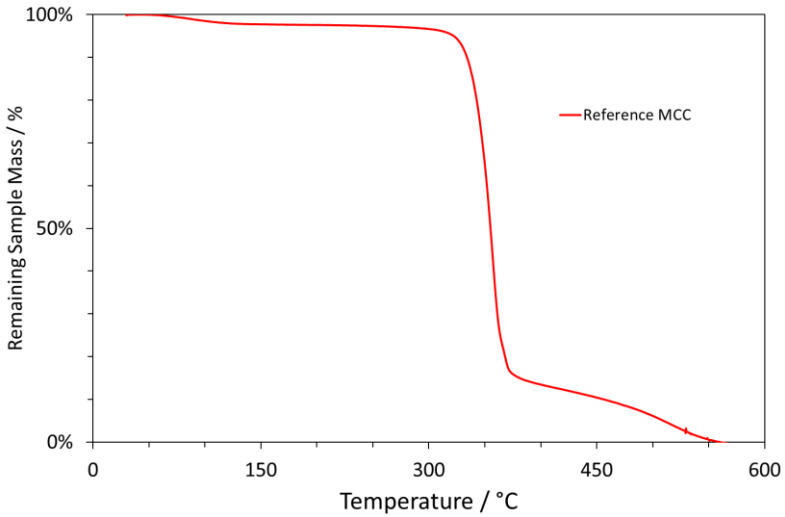
Thermogravimetric analysis data of regenerated cellulose samples



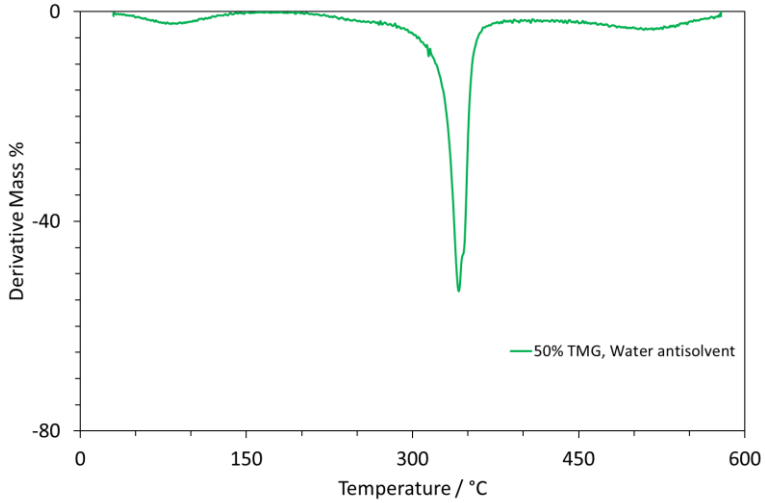


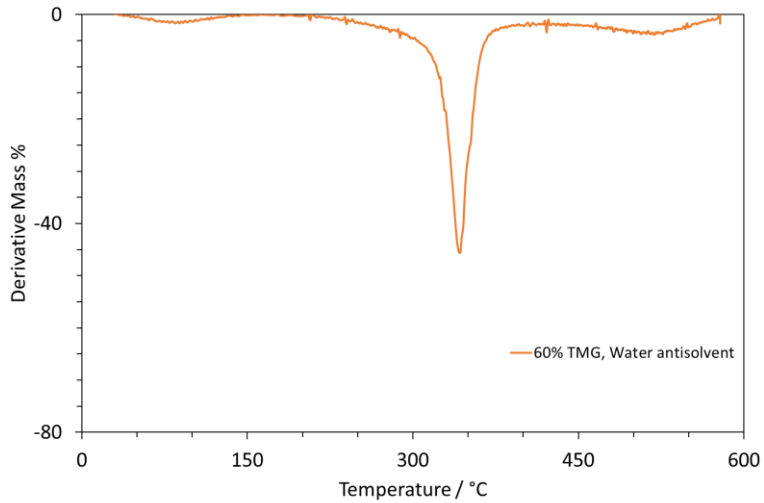


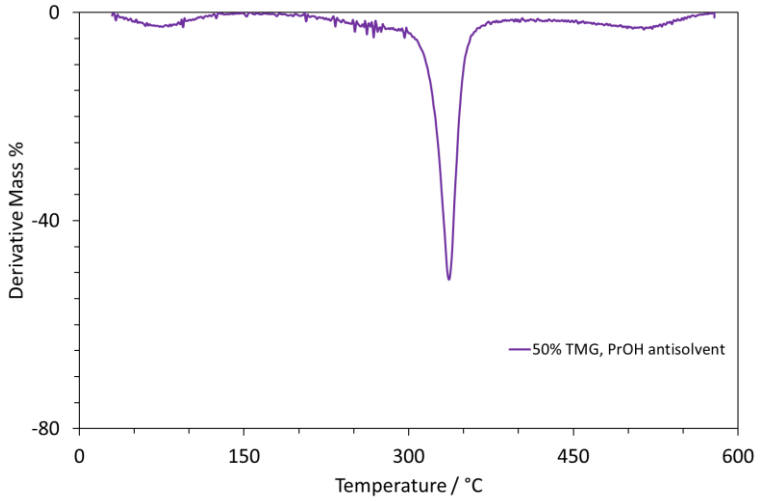




Differential thermogram data of regenerated cellulose samples



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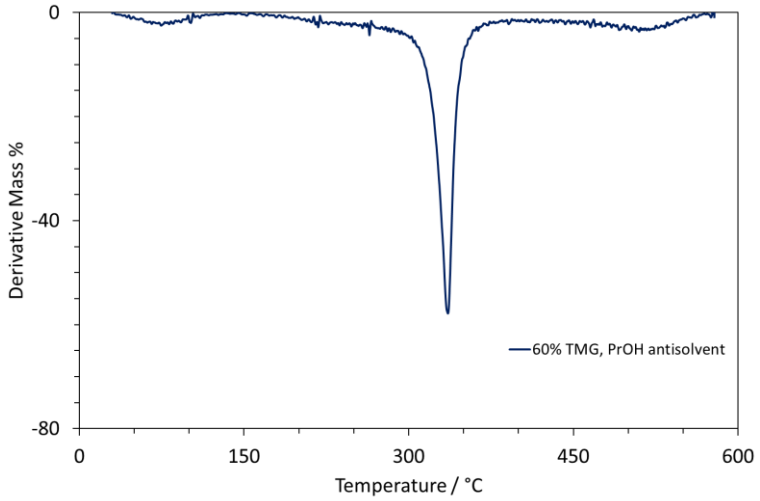
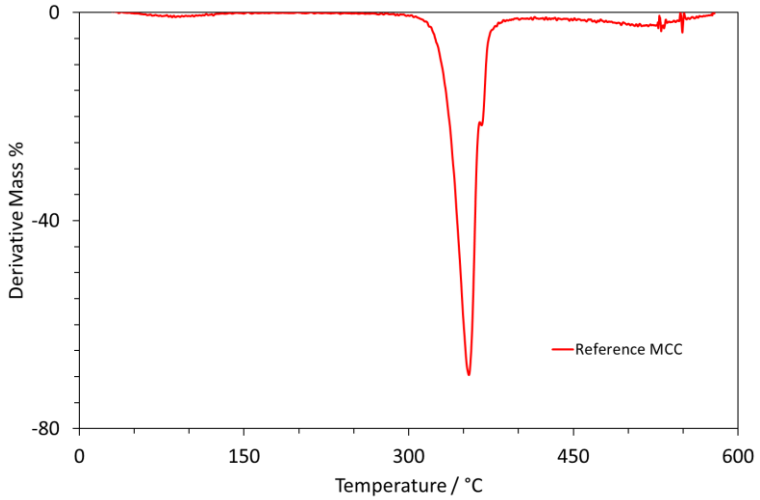
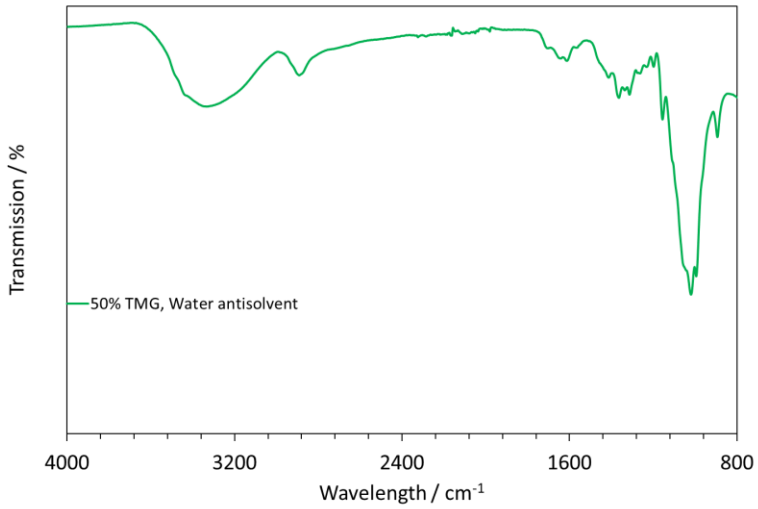
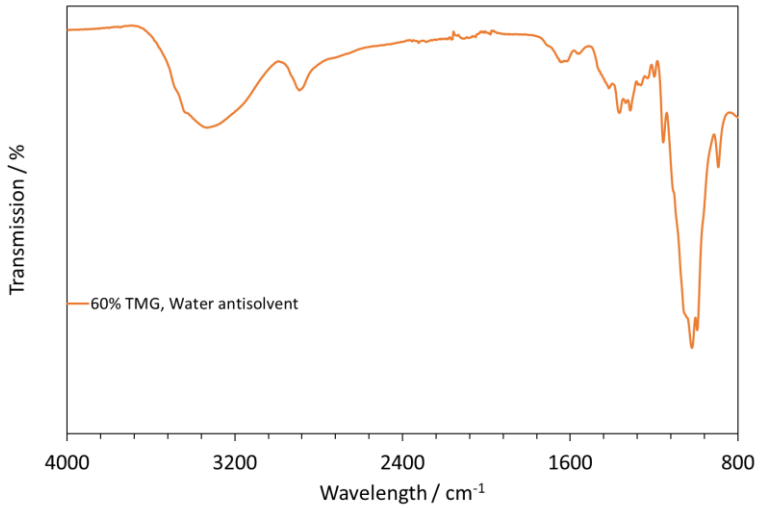
-40
-80
Derivative Mass %
0
150
300
450
600
Temperature / °C
50% TMG, PrOH antisolvent

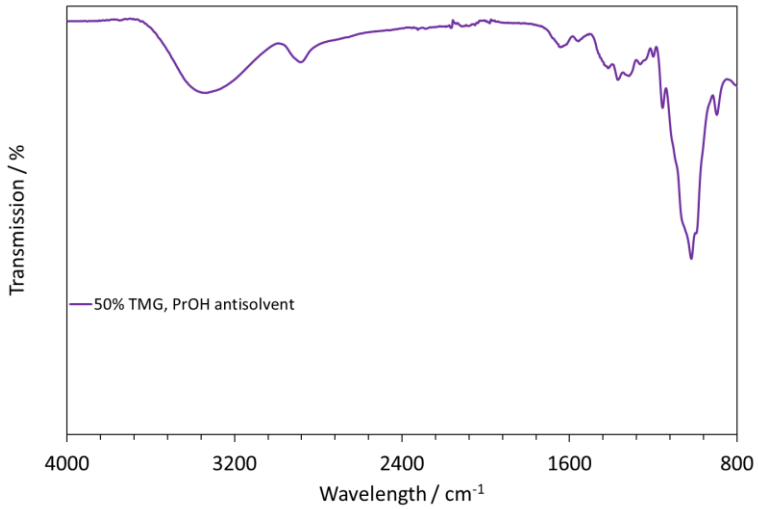

0
-40
-80
Derivative Mass %
0
150
300
450
600
Temperature / °C
60% TMG, PrOH antisolvent

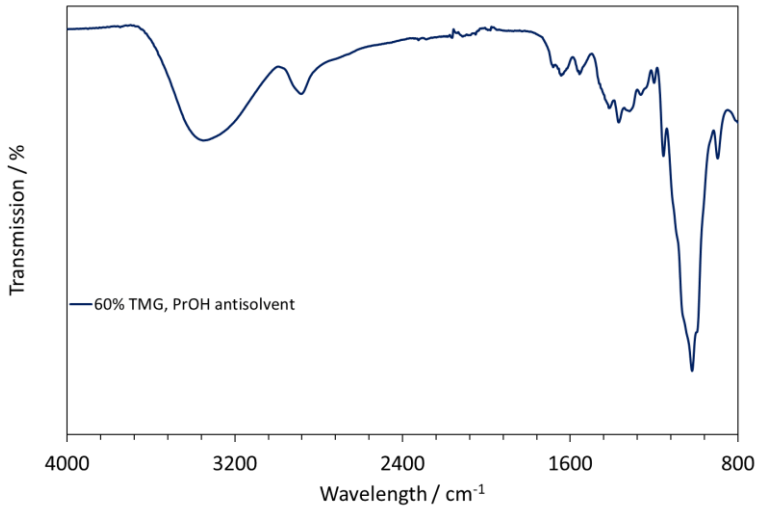

0
-40
-80
Derivative Mass %
0
150
300
450
600
Temperature / °C
Reference MCC

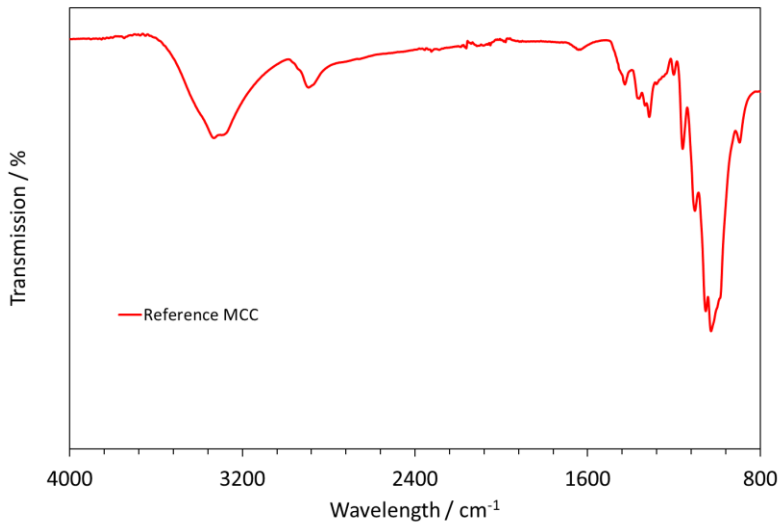
Infrared spectroscopy data of regenerated cellulose samples










Transmission / %
Reference MCC
4000
3200
2400
1600
800
Wavelength / cm-1