

Appendix 3 –Nanocomposite Foams

3.1 DSC Repeat Analyses

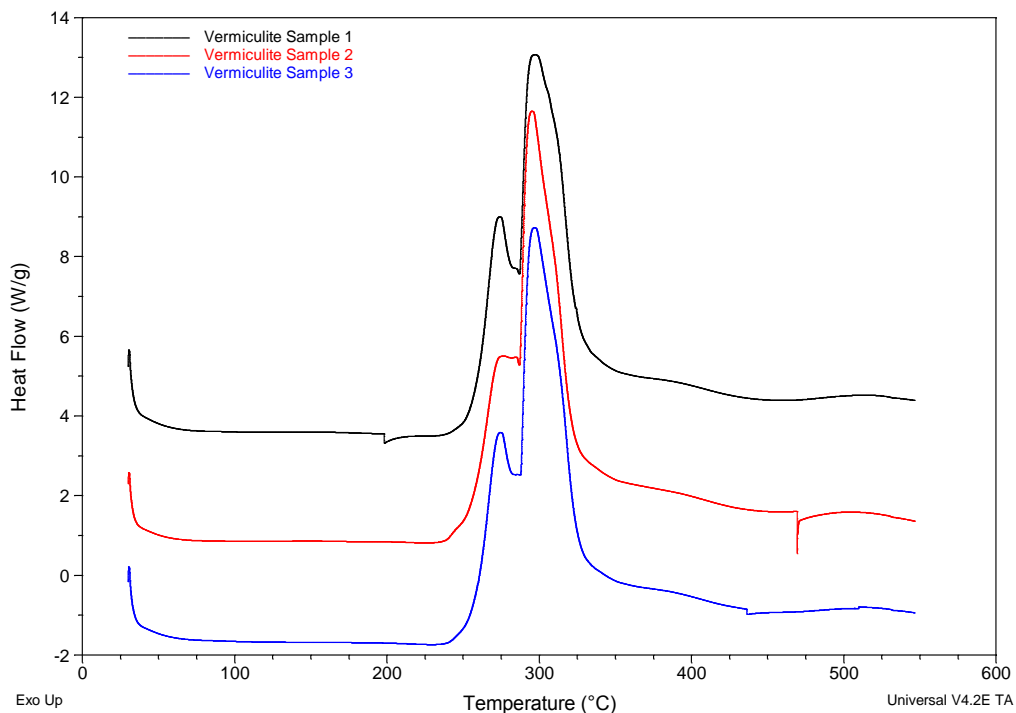


Figure 1:DSC analysis of vermiculite foam in air

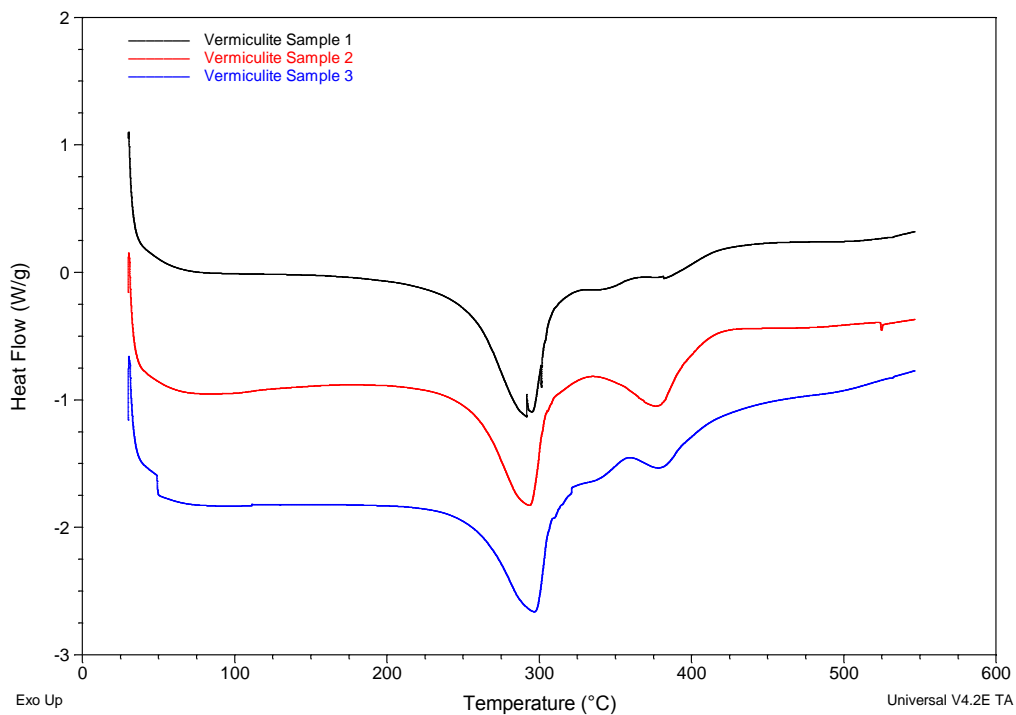


Figure 2: DSC analysis of vermiculite foam in N₂

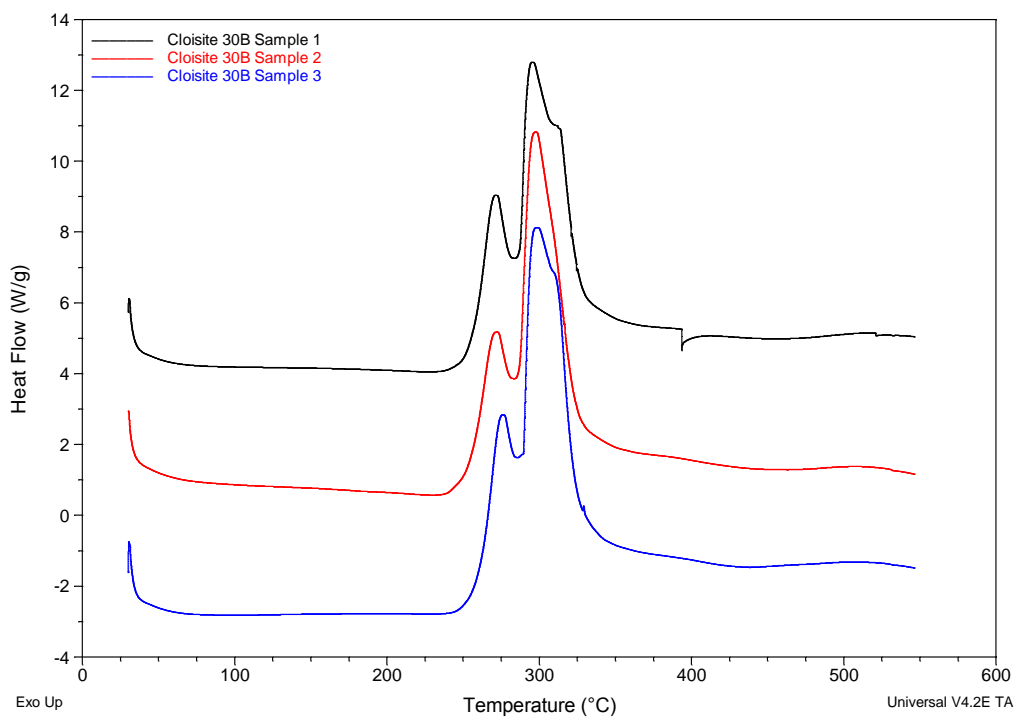


Figure 3: DSC analysis of Cloisite® 30B foam in air

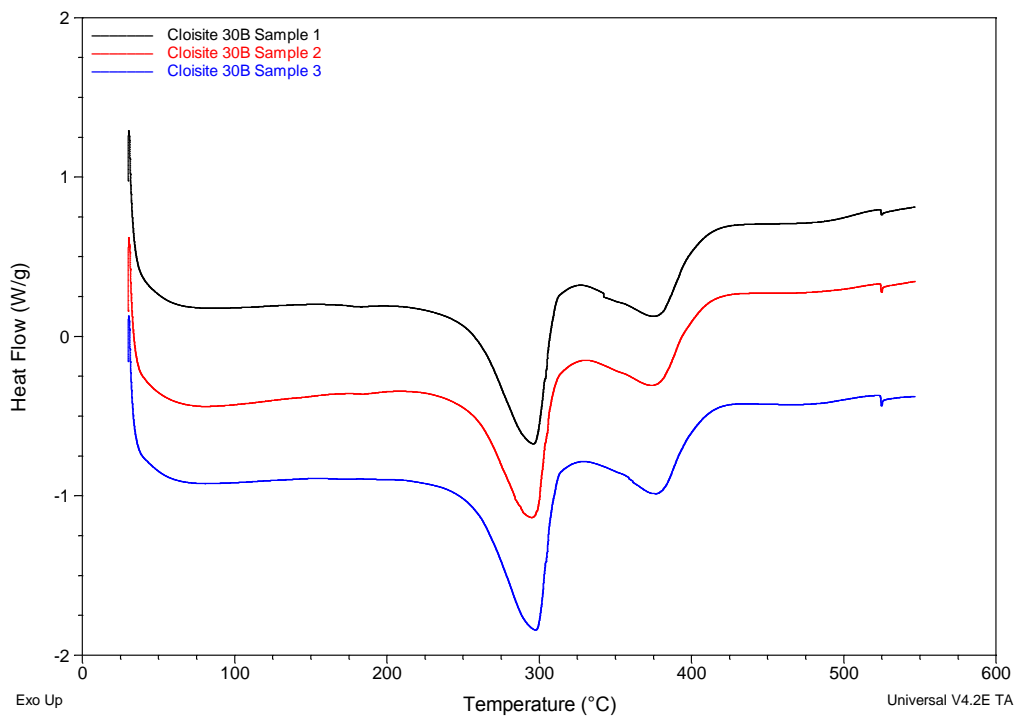


Figure 4: DSC analysis of Cloisite® 30B foam in N₂

2.2 TVA Study

2.2.1 Non-condensables

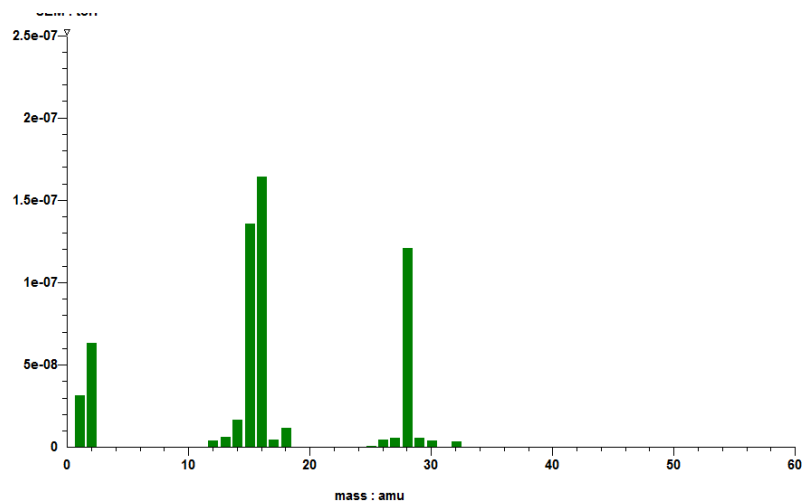
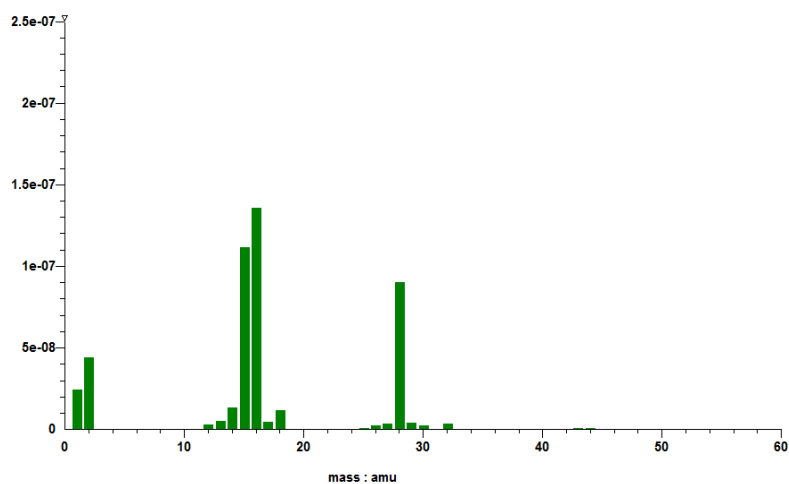


Figure 5: MS of the non-condensable volatiles from the vermiculite foam



6: MS of the non-condensable volatiles from the Cloisite® 30B foam

2.2.2 Cold-ring Fractions

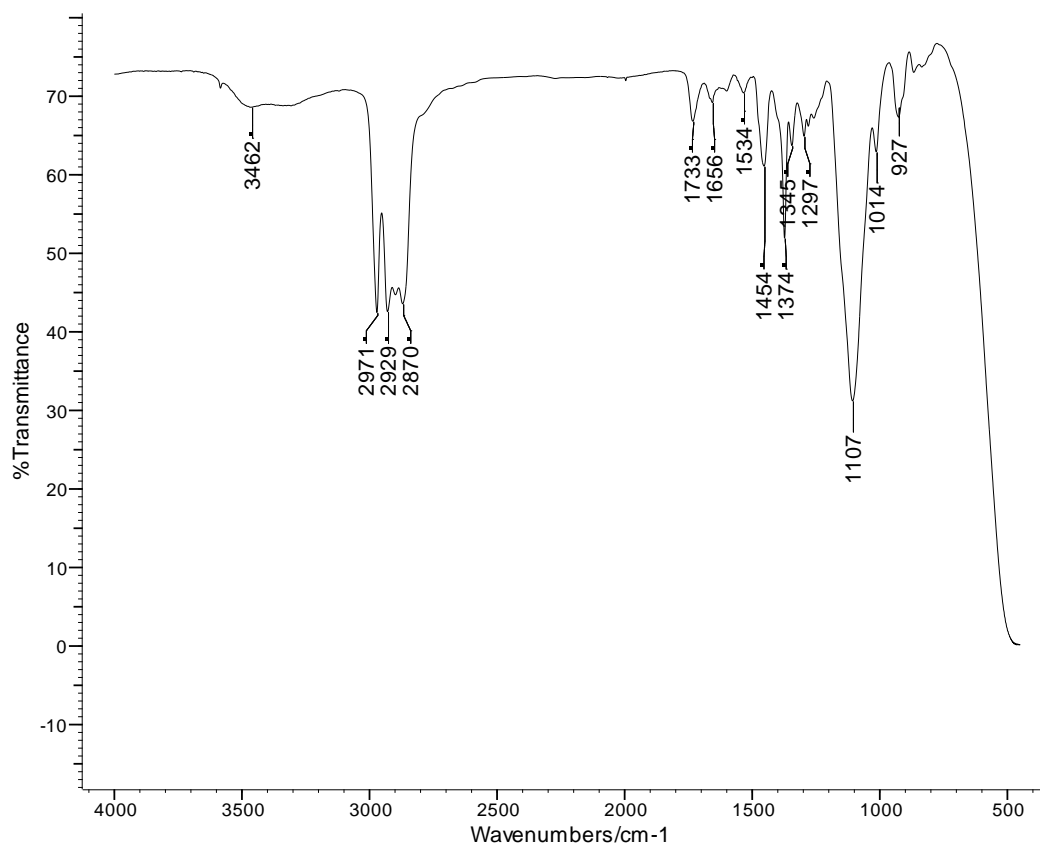


Figure 7: FTIR spectrum of the cold-ring fraction collected from the vermiculite foam

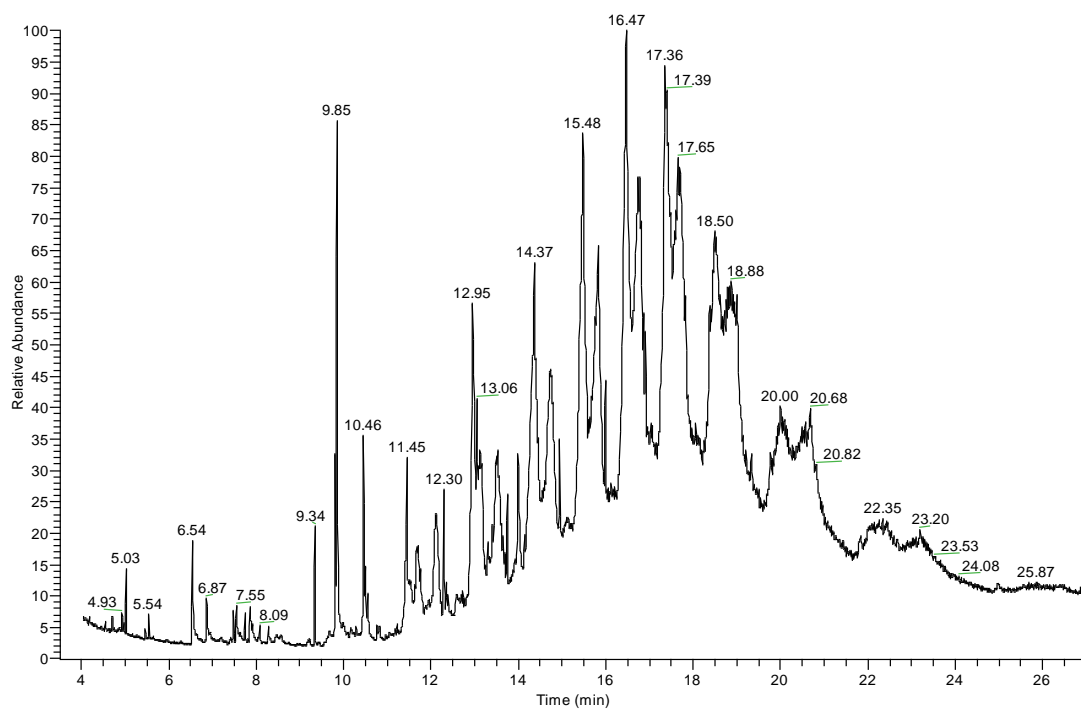


Figure 8: GC-MS chromatogram for the cold-ring fraction collected from the vermiculite foam

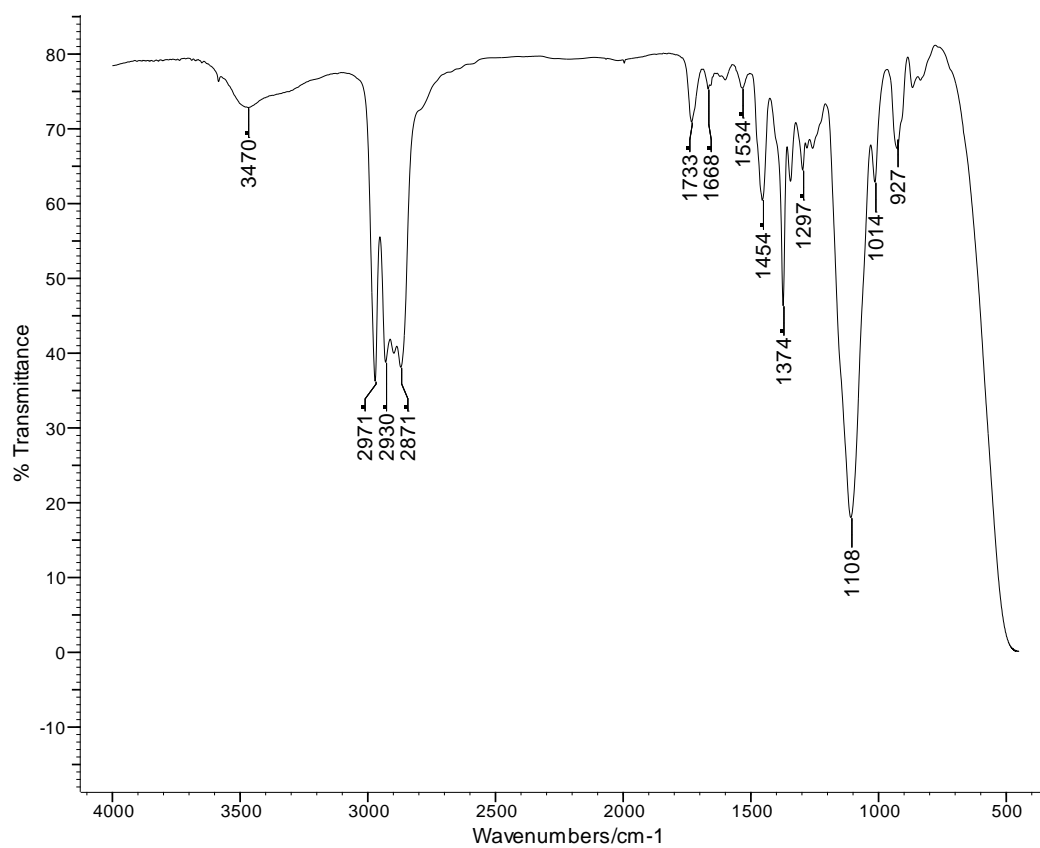


Figure 9: FTIR spectrum of the cold-ring fraction collected from the Cloisite® 30B foam

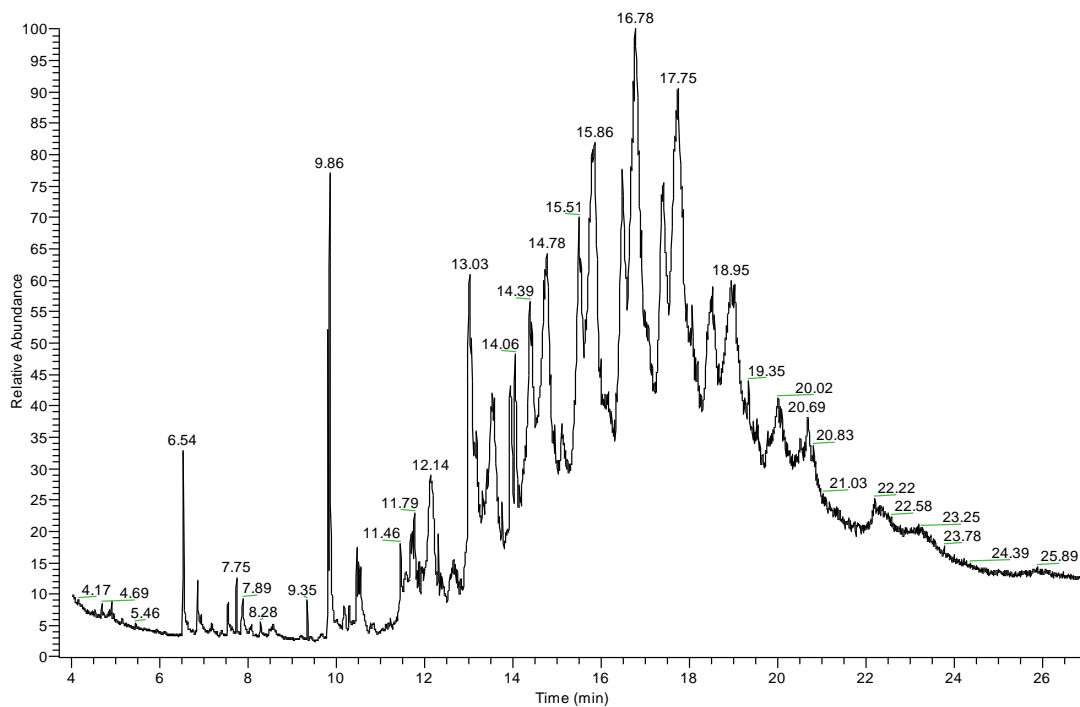


Figure 10: GC-MS chromatogram for the cold-ring fraction collected from the Cloisite 30B foam

2.2.3 Condensable Fractions

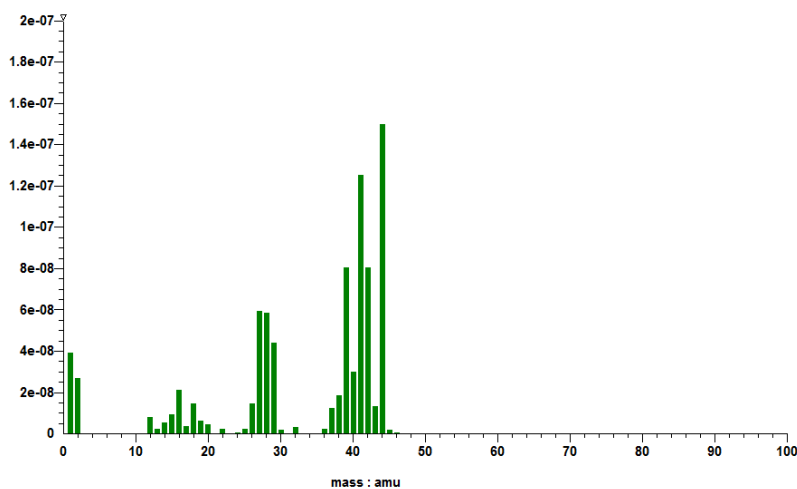


Figure 11: MS of propene and CO₂ collected from the vermiculite foam

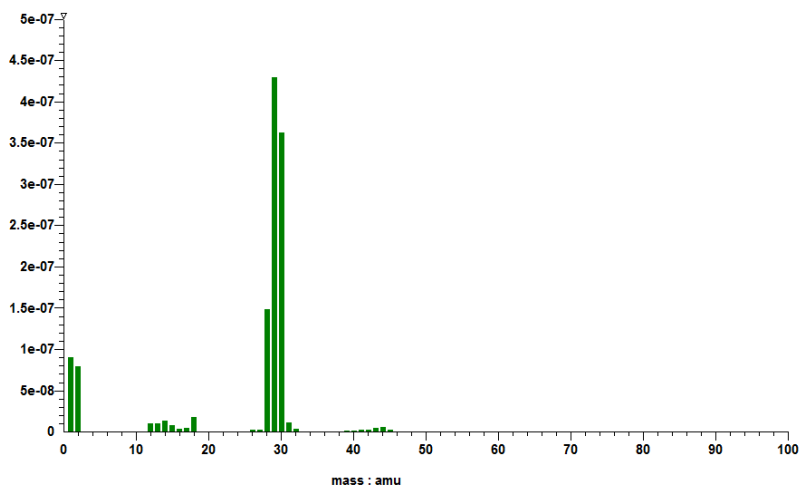


Figure 12: MS of formaldehyde collected from the vermiculite foam

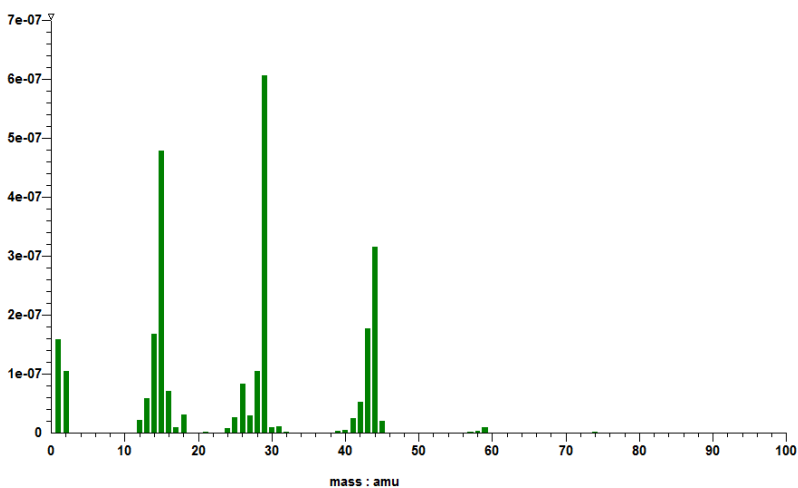


Figure 13: MS of acetaldehyde collected from the vermiculite foam

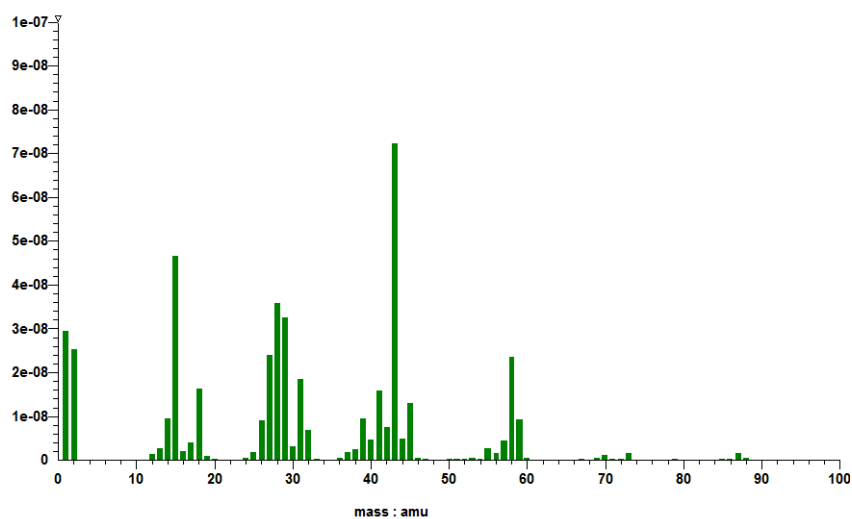


Figure 14: MS of C_3H_6O isomers collected from the vermiculite foam

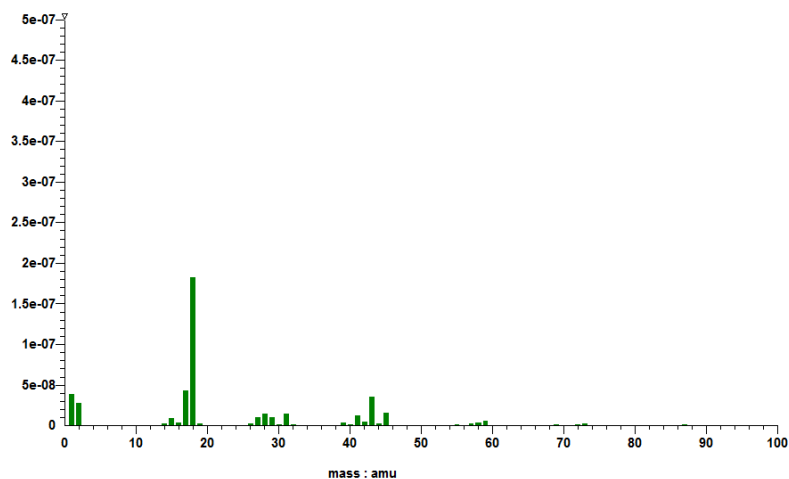


Figure 15: MS of water and higher molar mass material collected from the vermiculite foam

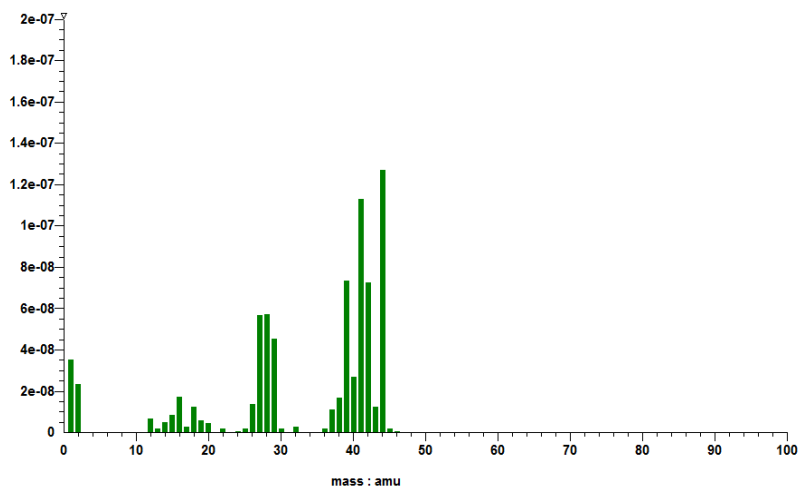


Figure 16: MS of propene and CO₂ collected from the Cloisite® 30B foam

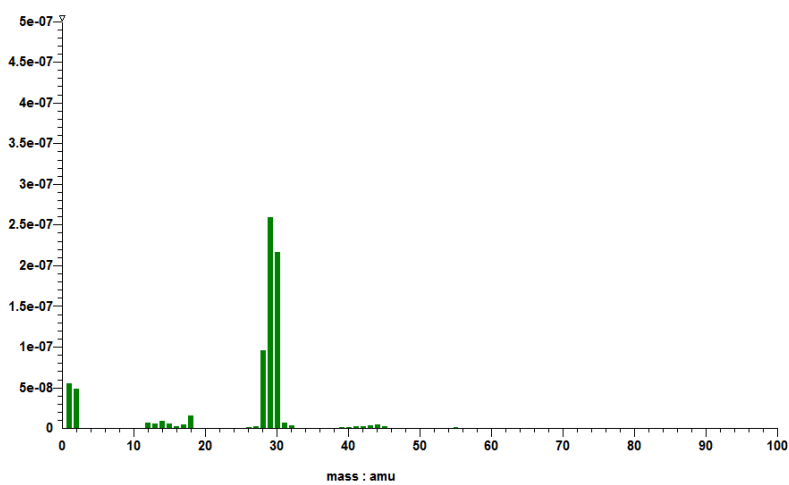


Figure 17: MS of formaldehyde collected from the Cloisite® 30B foam

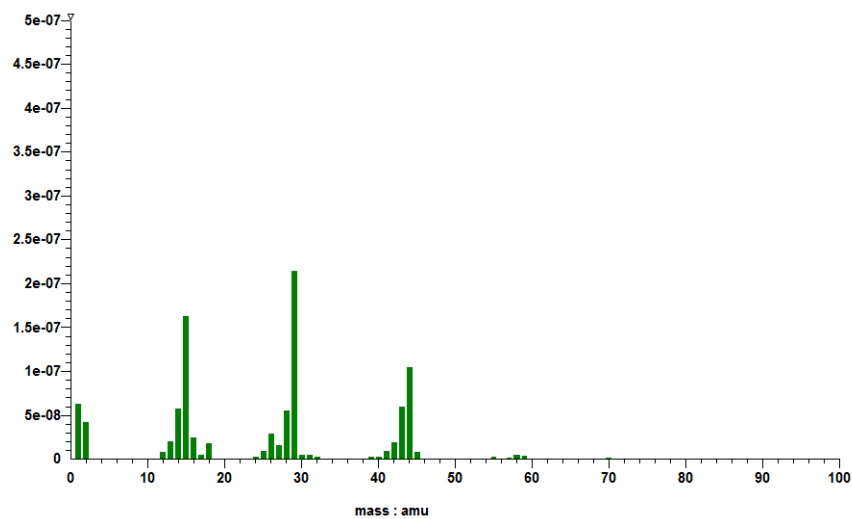


Figure 18: MS of acetaldehyde collected from the Cloisite® 30B foam

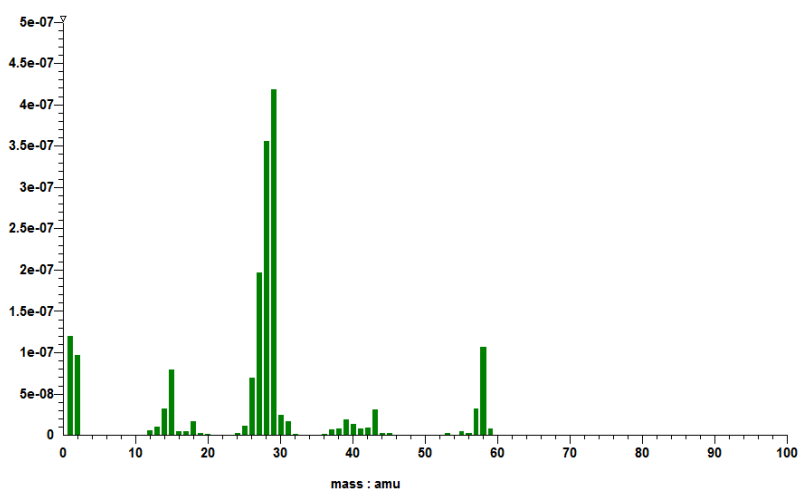


Figure 19: MS of propanal collected from the Cloisite® 30B foam

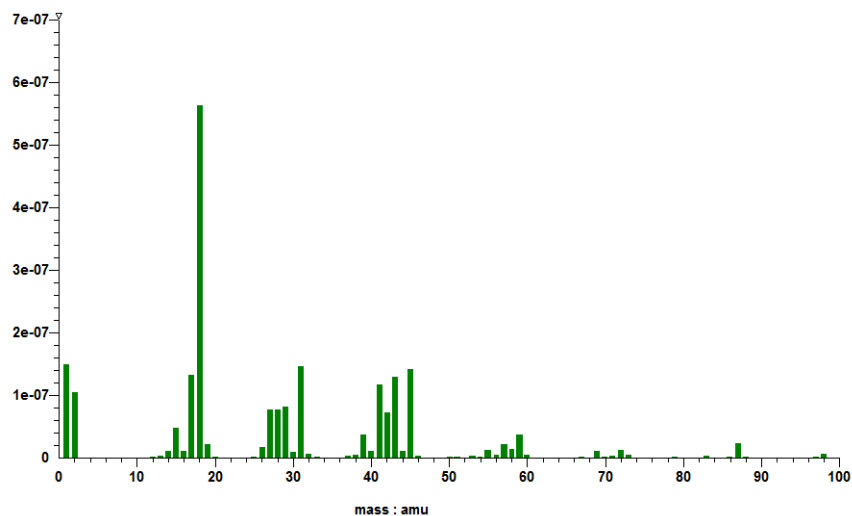


Figure 20: MS of water and high molar mass material collected from the Cloisite® 30B foam

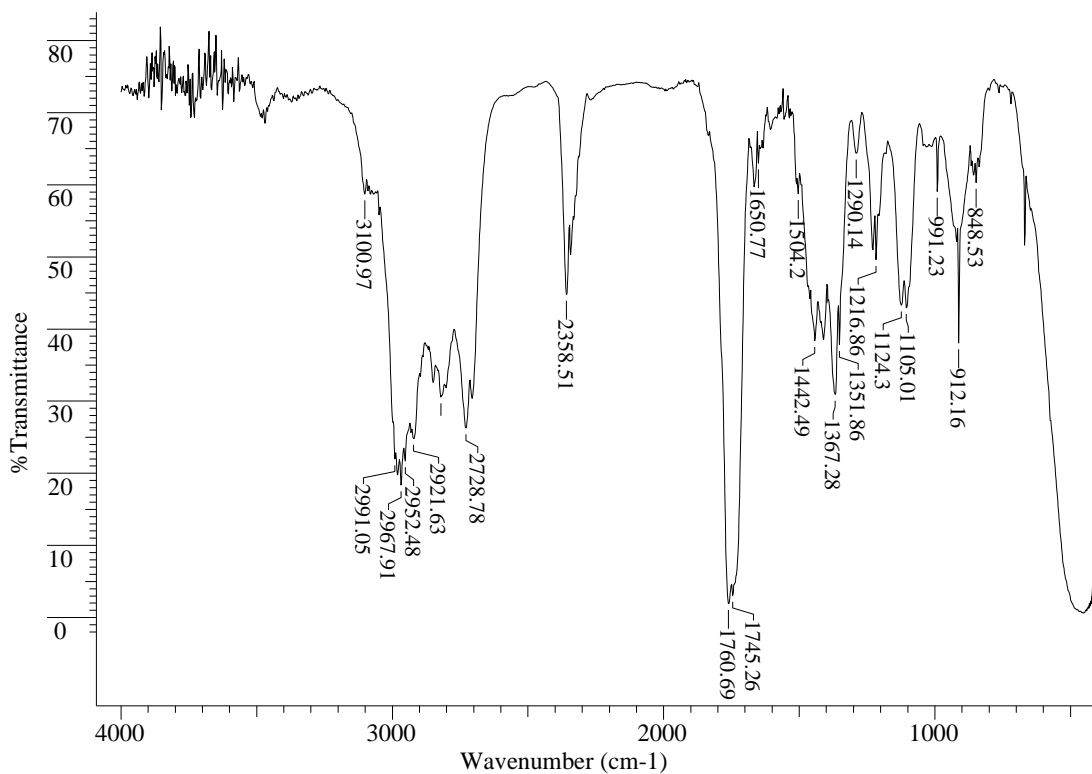


Figure 21: FTIR spectrum for fraction 1 collected from the vermiculite foam

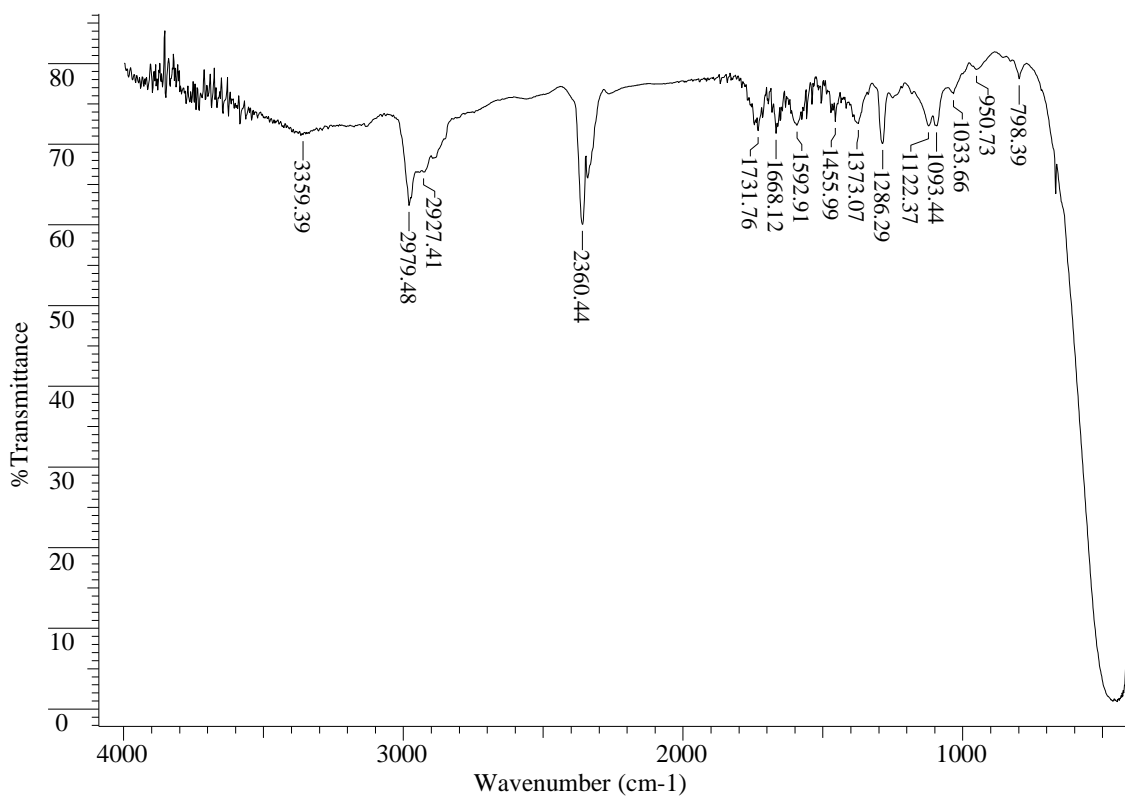


Figure 22: FTIR spectrum for fraction 2 collected from the vermiculite foam

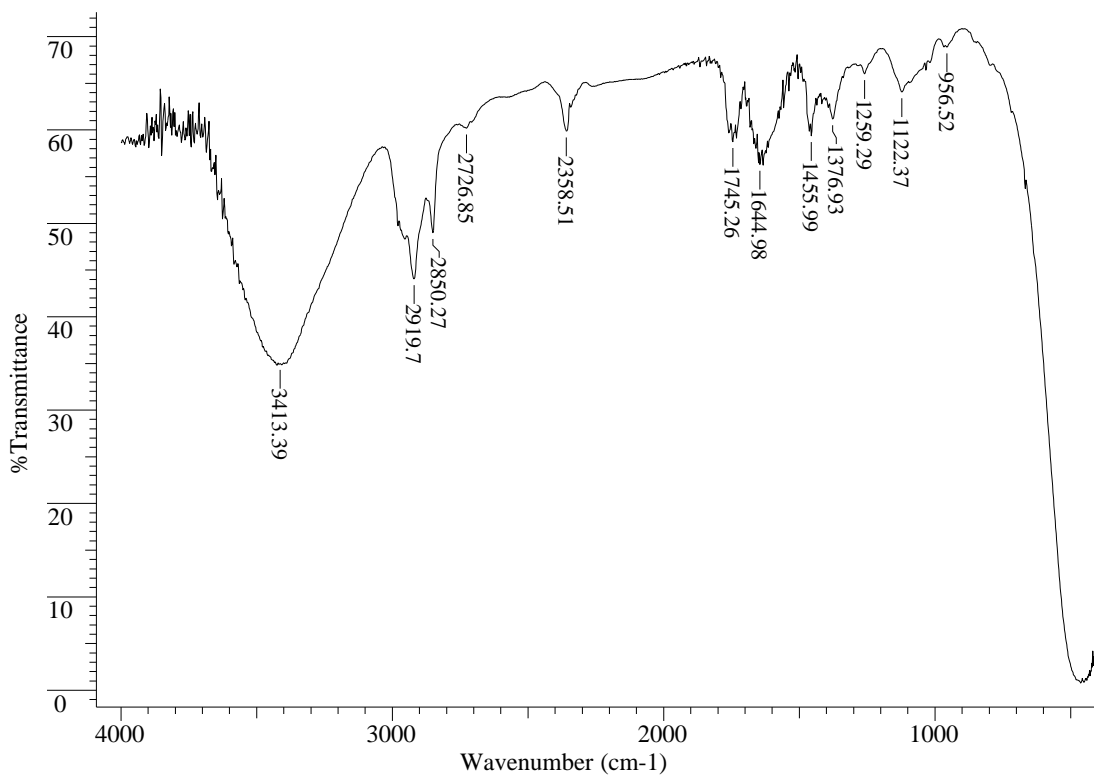


Figure 23: FTIR spectrum for fraction 3 collected from the vermiculite foam

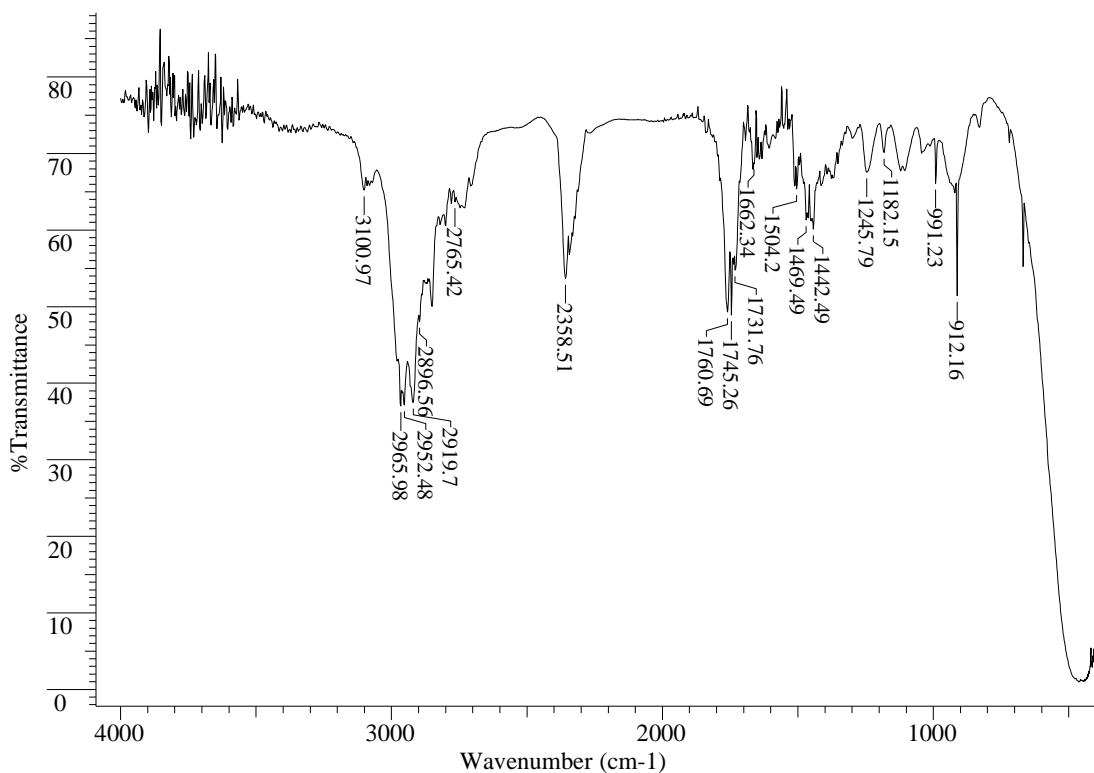


Figure 24: FTIR spectrum for fraction 1 collected from the Cloisite® 30B

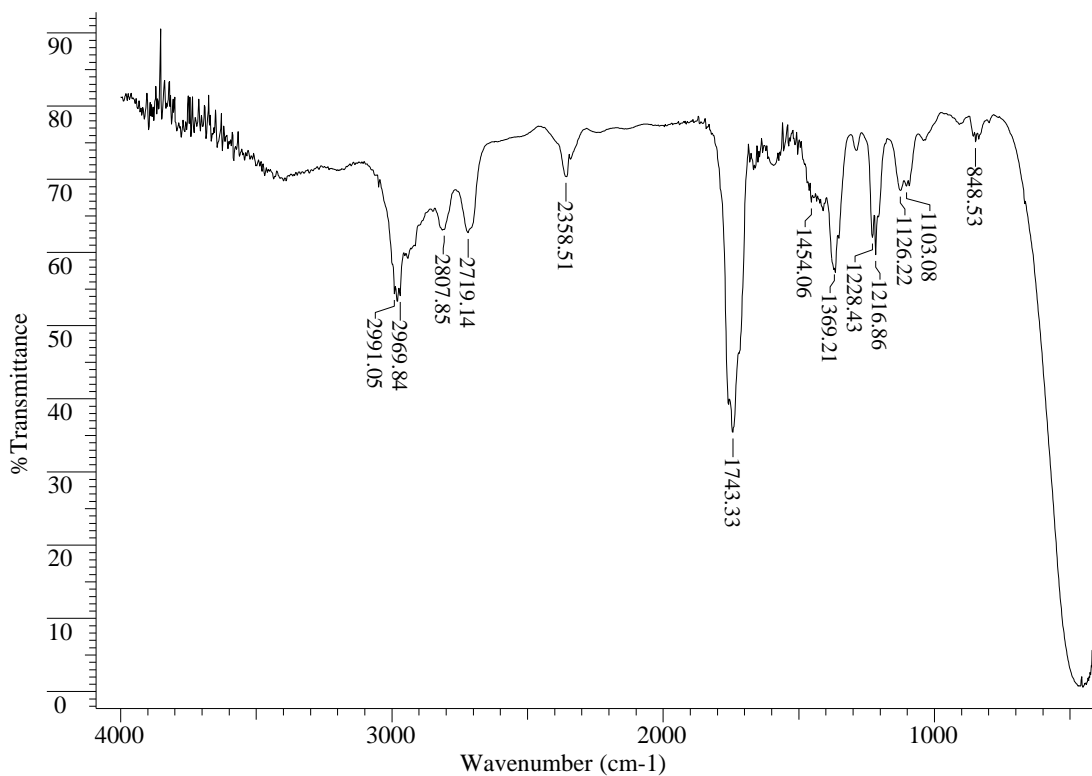


Figure 25: FTIR spectrum for fraction 2 collected from the Cloisite® 30B foam

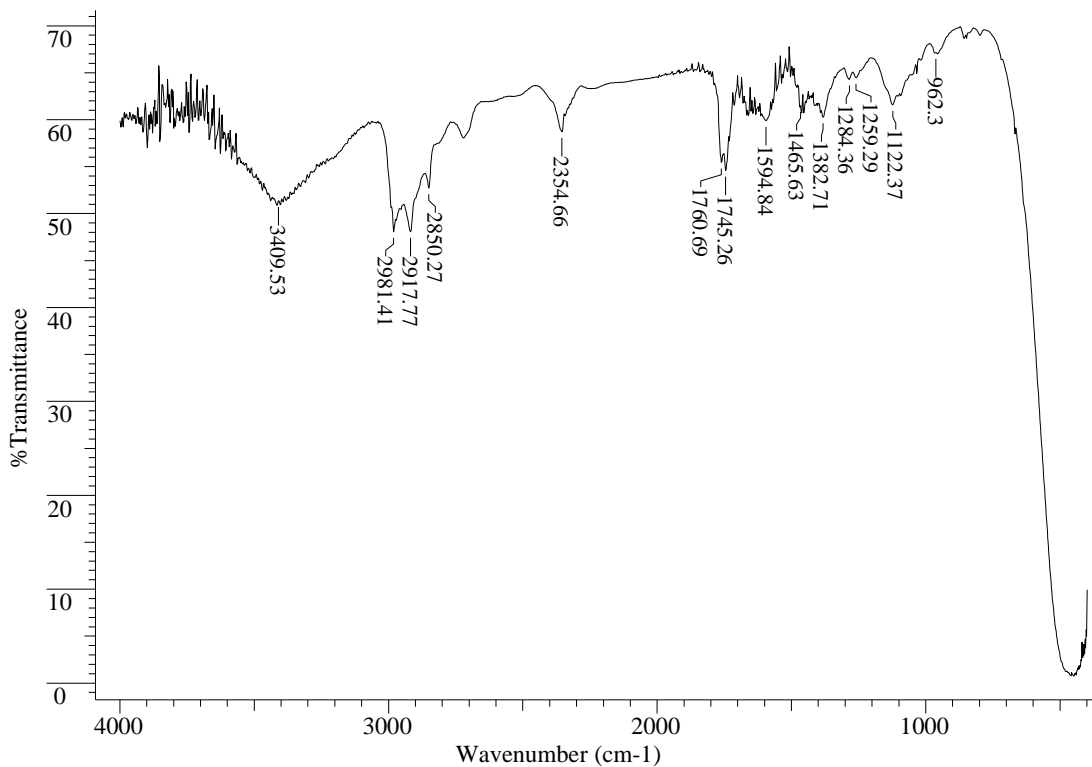


Figure 26: FTIR spectrum for fraction 3 collected from the Cloisite® 30B foam

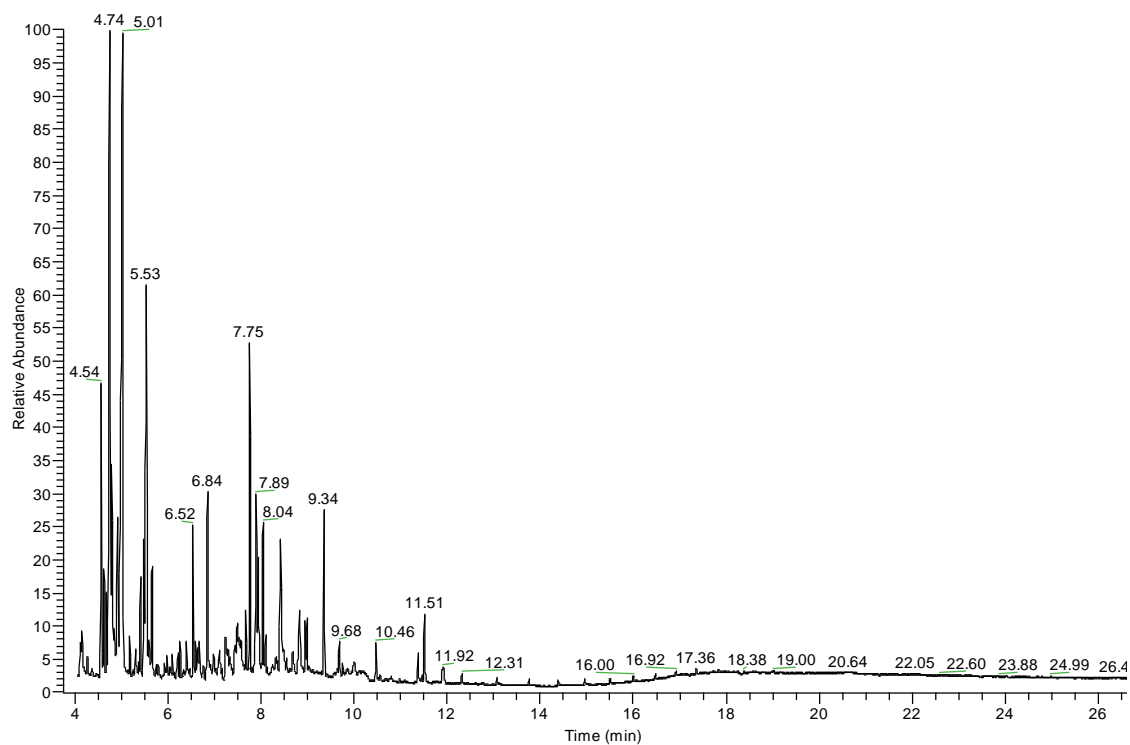


Figure 27: GC-MS total-ion chromatogram for fraction 3 from the vermiculite foam

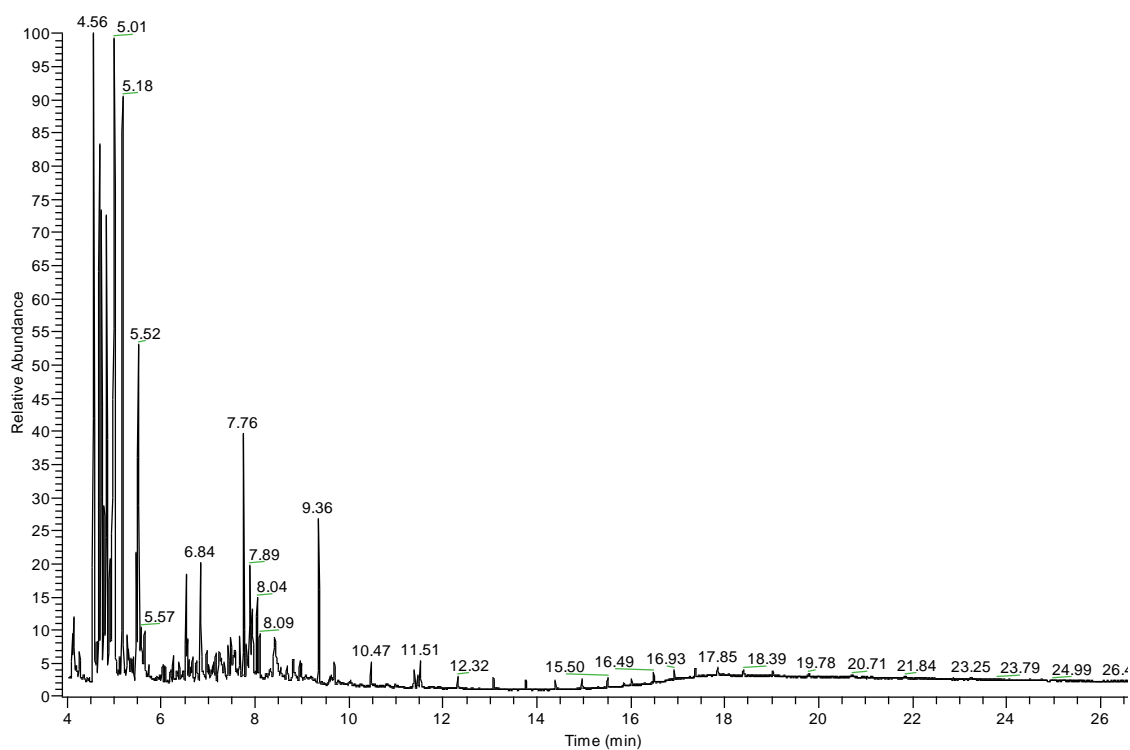


Figure 28: GC-MS total-ion chromatogram for fraction 3 from the Cloisite 30B foam