Introduction

Lesquerella Oil % conversion to Biodiesel versus time with AlCl₃ Lewis acid catalyst:

- Each AlCl₃ used as Lewis acid catalyst
- Methanol used as solvent in the amount of 6:1 molar ratio (solvent: oil)

Results and Discussion

GC chromatogram of LO methyl esters using 12 mol% SnCl₂ catalyst.

Conclusions

- More repetition of the reactions to collect repeated data.
- System design analyses and more biodiesel product quality analysis.
- Regeneration and reuse of the catalysts.
- Separation of the purified form of glycerin and study its application in chemical industries.

Acknowledgements

- Department of Chemistry and Biochemistry, Texas Tech University
- United States Department of Agriculture
- Dr. Kaz Surowiec (GC-MS)
- Dr. Pietro Dobrowolski (NMR) and Dr. Douglas H. Pool (FTIR)
- Robin Hart (ex-lab member) and our current research group.