

# Biodiesel: Tomorrow's Fuel, Today's Solution

Roberto J. Molina, Racheal A. Persaud,  
and Russell J. Franks\*

Stephen F. Austin State University

16

**S**

32.064

9

**F**

18.9984

33

**As**

74.9126

92

**U**

238.03

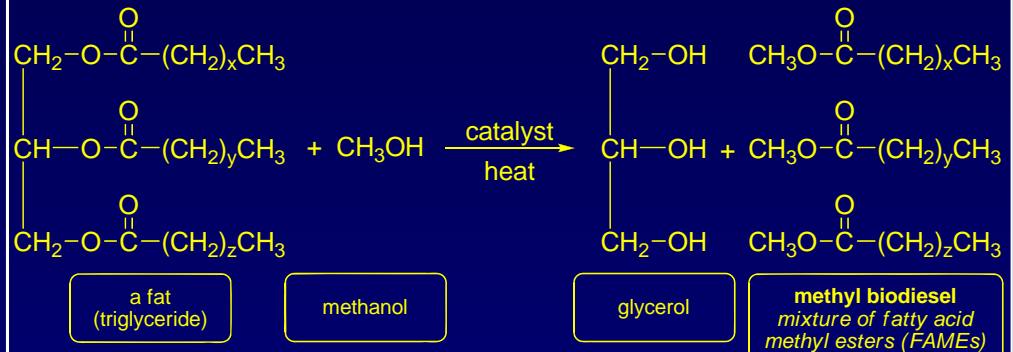
Department of Chemistry

**Objective:** Study of physical & chemical properties of biodiesel fuels derived from poultry & plant fats

## Experimental methods:

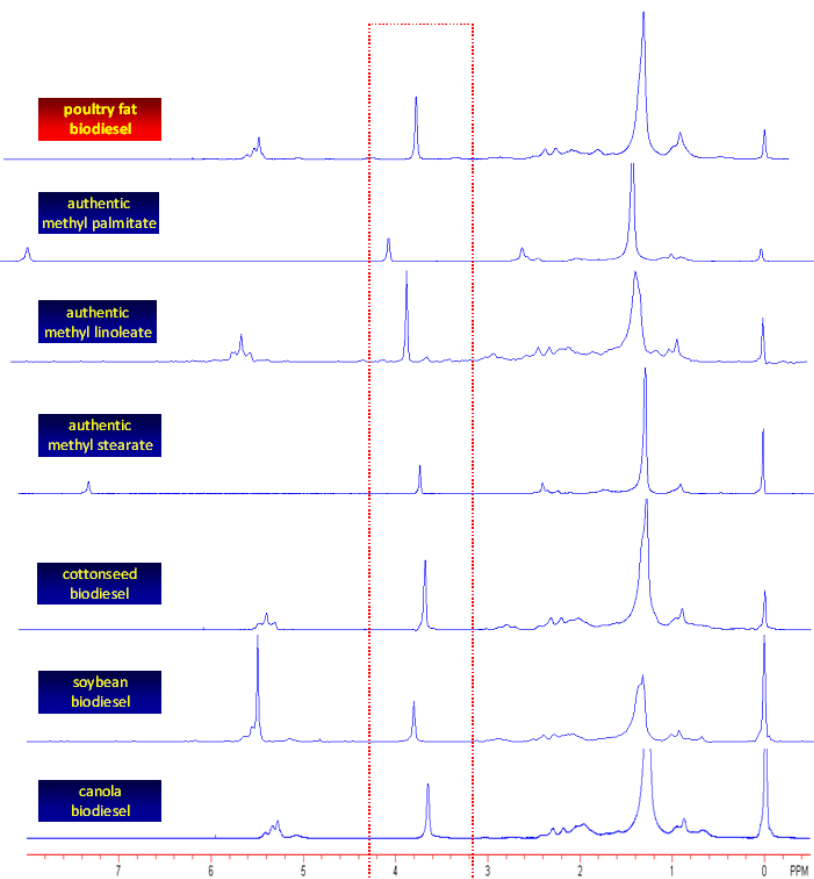
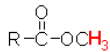
- Synthesize FAMES (transesterification)
- Extract FAME mixture
- Analyze pdt mixture (IR &  $^1\text{H-NMR}$  spectroscopy)

## Synthesis of biodiesel (FAMES) from triglycerides



## $^1\text{H-NMR}$ spectra of FAMES

Methyl ester signal is used to confirm presence of FAME



## Conclusion:

- We have been successful in making biodiesel mixtures
- We are now studying the properties of these mixtures
- We will study combustion energy, viscosity, and cloud point of biodiesel mixtures
- Biodiesel has much potential as an alternative to diesel fuel
- Biodiesel is cleaner burning than diesel fuel

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