

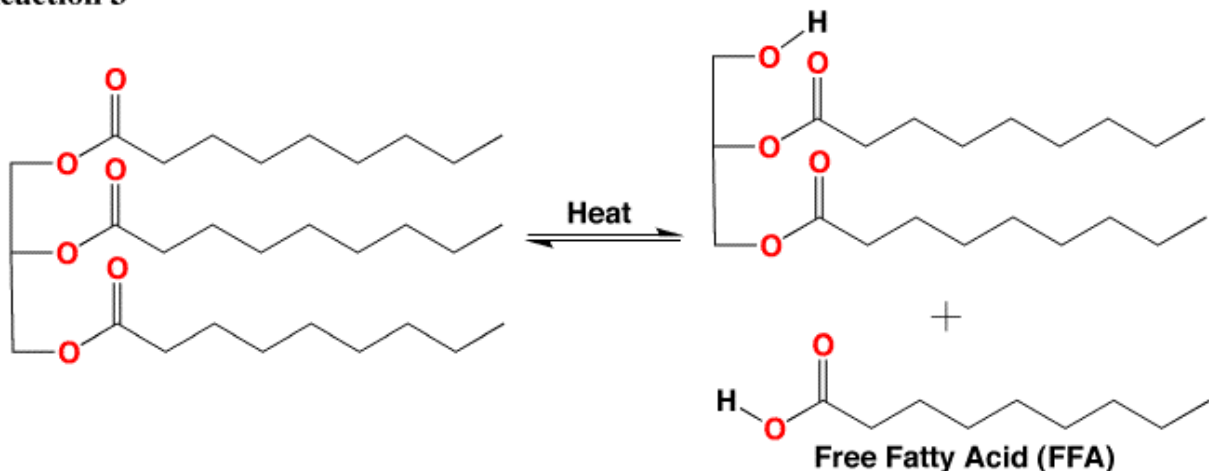
Biodiesel Production and Analysis

Virtual Chemistry Lab

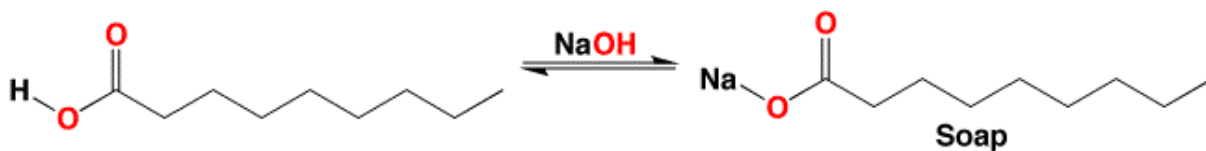
Under the harsh conditions found in deep fryers, some oil molecules in **Waste Vegetable Oil (WVO)** naturally decompose into Free Fatty Acids (FFA's) as shown in **Reaction 3** below.

During production of biodiesel from WVO, FFA's will consume NaOH, decreasing the overall product yield (**Reaction 4**). To compensate, producers add extra NaOH. However, if too much NaOH is added, soap is produced instead of biodiesel.

Reaction 3



Reaction 4



Determine the amount of extra NaOH (in g) needed when producing biodiesel from 1.00 L of your WVO. This will require you to titrate a "virtual sample" of your WVO to a phenolphthalein endpoint using the Virtual Chem Lab. Be sure to report the procedure you use.