



**CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY**

Name(s) Jada Smith	Project Number J0629
Project Title Transesterification of Peanut Oil: Acid vs. Base Catalyst	
Abstract Objectives/Goals The objective of this project was to see if NaOH as a catalyst (substance used to speed up transesterification) or Hydrochloric acid as a catalyst would produce more biofuel. Methods/Materials Peanut oil, methanol, sodium hydroxide, hydrochloric acid, separation funnel, microwave Results My Hypothesis was correct. After repeating the trials three times, I learned that using the NaOH catalyst ended up producing more biofuel than using the hydrochloric acid catalyst. The results pertain to my objective because I wanted to see which catalyst made more yield of biofuel. Conclusions/Discussion My final results concluded that if you were going to make biofuel, it's best to use NaOH as a catalyst rather than hydrochloric acid. Even though The hydrochloric acid has the potential to make more yield, it takes a whole lot more equipment and time.	
Summary Statement As measured by weight, I was able to conclude that with the procedure I used, an acid catalyst does not produce as much yield as a base catalyst.	
Help Received My dad helped me with my research, my experiment, and getting my materials to complete this project.	