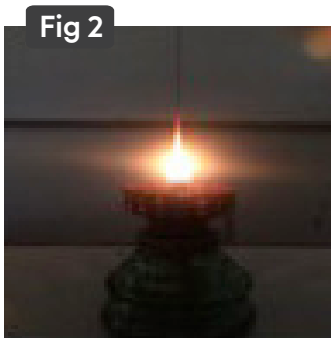


# Synthesis of Biodiesel Based on Waste Cooking Oil

## Lamp Test

Fill three oil lamps with diesel, biodiesel and waste oil and light them.



## Observations

1<sup>st</sup> lamp: Diesel

Burning time

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Smoke production

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Brightness

---

2<sup>nd</sup> lamp: Biodiesel

Burning time

---

Smoke production

---

Brightness

---

3<sup>rd</sup> lamp: Waste oil

Burning time

---

Smoke production

---

Brightness

---

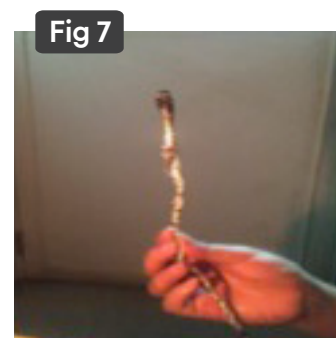
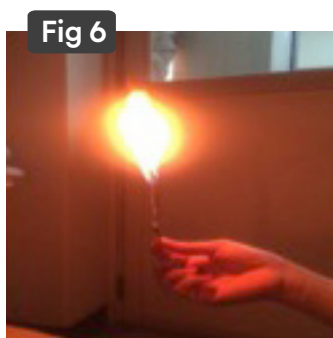
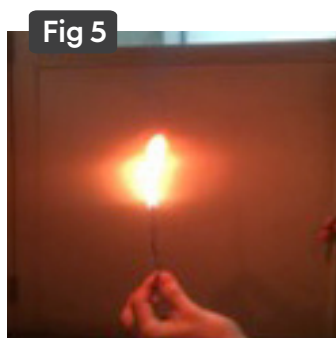
Our synthetic oils are actually organic diesel and can be used because they do not cause harmful pollution.

# Synthesis of Biodiesel Based on Waste Cooking Oil



## Test with Aluminum Foil

Dip a rolled strip of aluminum foil into the three liquids and try to light them. What do you observe?



## Observations

### Diesel

Burns  Yes  No

Burns well  Yes  No

Black smoke  Yes  No

### Biodiesel

Burns  Yes  No

Burns well  Yes  No

Black smoke  Yes  No

### Waste oil

Burns  Yes  No

Burns well  Yes  No

Black smoke  Yes  No

## Conclusion

After completing the experiments, we can conclude that waste oil can also be used instead of oil or animal fat to produce biodiesel through transesterification. At the same time, the experiments told us about the potential of recycling waste, such as waste oil, from the environment and contribute to promoting and reducing waste as a part of the environmental protection. On the other hand, the activity gave us useful information about wasted oil and petroleum biodiesel for daily use.