

以快速熱解與蒸餾進行高效率廢油提煉 以產製生質汽油與生質柴油

執行單位

大同、義守與長庚大學

計畫主持人

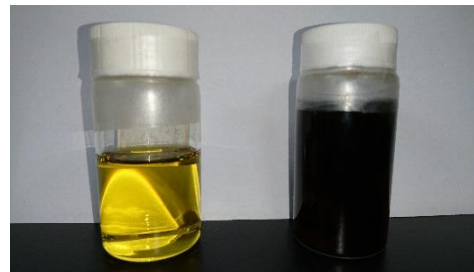
張志雄

- 本計畫研發之裂解技術與傳統煉製原油十分相似，朝向合成高階燃料油(汽柴油)，尤其是直接用鹼性觸媒合成低酸值汽柴油，油品特性與目前商用相似。

廢食用油快速裂解產製
低酸值生質汽柴油的製
程 (中華民國專利號
I582225)



熱重分餾法測定液體組
成的方法與裝置
(中華民國專利號
I528035)



- 國內首驅以裂解廢食用油(含餿水油、地溝油)製作生質汽、柴油實作研究。
- 建置全國第一套廢油裂解試驗工廠，3kg/h先導工廠規模裂解設備。
- 完成試驗工廠級3kg/h連續式廢油熱解製程之最適化設計與其能耗及成本分析。
- 以CaO/Bentonize顆粒型觸媒可產製低酸值(接近0)裂解油。
- 開發相關油品檢測技術，以熱重分餾法測定液體組成的方法與裝置(中華民國專利證號I528035)。
- 發展裂解煉油技術，以廢食用油快速裂解產製低酸值生質汽柴油的製程(中華民國專利證號I582225)。

Effective refinery of waste oil by fast pyrolysis and distillation to produce bio-gasoline and bio-diesel

Execution Unit

Tatung 、I-Shou and Chang Gung University

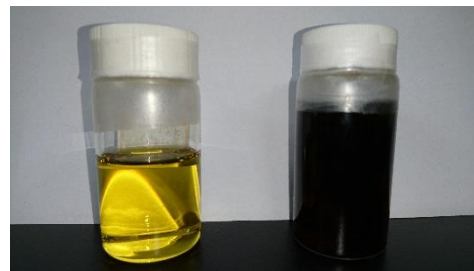
Project Director

Chang, Jyh-Shyong

- In this project, Pyrolysis technology is similar to traditional refining of crude oil. High-grade fuel oil (gasoline and diesel) can be synthesized, especially the basic catalyst is used for the synthesis of low acid value gasoline and diesel. These properties are similar to those of the commercial fuels.

FAST PYROLYSIS PROCESS FOR OBTAINING LOW ACID VALUE BIO-GASOLINE AND BIO-DIESEL FROM WASTED COOKING OILS
(Taiwan Patent Number I582225)

METHOD AND APPARATUS-FOR ANALYZING THE LIQUID COMPOSITION BY FRACTIONAL DISTILLATION WITH THERMAL GRAVITY
(Taiwan Patent Number I528035)



- In the domestic, pioneering to refinery of waste oil (including kitchen waste oil, ditch oil) by fast pyrolysis to produce bio-gasoline and bio-diesel for the actual study.
- The establishment of the country's first waste oil pyrolysis test plant, 3kg / h pilot plant scale pyrolysis equipment.
- Completion of the pilot plant scale 3kg/h continuous waste oil pyrolysis process of the optimal design, energy consumption and cost analysis.
- CaO / Bentonite Particulate Catalyst is used to produce low acid value (near 0) pyrolysis oil.
- Development of oil testing technology, METHOD AND APPARATUS-FOR ANALYZING THE LIQUID COMPOSITION BY FRACTIONAL DISTILLATION WITH THERMAL GRAVITY (Taiwan Patent Number I528035)
- Development of pyrolysis oil refining technology, FAST PYROLYSIS PROCESS FOR OBTAINING LOW ACID VALUE BIO-GASOLINE AND BIO-DIESEL FROM WASTED COOKING OILS (Taiwan Patent Number I582225)