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## Integrated Membrane-Pyrolysis-Catalytic Upgrading Systems

### **Disclosure Number**

201503495

### **Technology Summary**

This invention discloses an innovative integration of unique super-hydro-tunable or super-organo-tunable HiPAS membranes with biofuel processing at elevated temperatures such as pyrolysis reactor and bio-oil vapor upgrading reactor to enable a new processing capability to reduce process cost, prolong the lifetime of catalyst for upgrading, and achieve membrane fractionation.

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# **Licensing Contact**

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