CLAIMS

1. A process for hydroprocessing two feed streams comprising:

hydrodeoxygenating a biorenewable feed stream in the presence of hydrogen and a hydrodeoxygenation catalyst to produce a hydrodeoxygenated stream, wherein said biorenewable feed stream comprises at least 30 wt% free fatty acids having 12 and 14 carbon atoms;

hydrotreating a second feed stream comprising free fatty acids in the presence of hydrogen and a hydrotreating catalyst to provide a hydrotreated stream, wherein said second feed stream comprises less than 30 wt% free fatty acids having 12 and 14 carbon atoms;

operating the hydrotreating step at a greater hydrodeoxygenation ratio than the hydrodeoxygenation step, wherein the hydrodeoxygenation ratio is the proportion of mass flow rate of normal paraffins with even carbon number to mass flow rate of normal paraffins in hydrodeoxygenation reaction product;

fractionating the hydrodeoxygenated stream to provide a light normal paraffin stream and a heavy normal paraffin stream; and

mixing a portion of the hydrotreated stream with the light normal paraffin stream or the heavy normal paraffin stream.

2. The process of claim 1 wherein said heavy normal paraffin stream is mixed with a liquid hydrotreated stream taken from said hydrotreated stream to provide an isomerization feed stream and hydroisomerizing said isomerization feed stream in the presence of hydrogen and a hydroisomerization catalyst to produce an isomerate stream.

3. The process of claim 2 further comprising dehydrogenating said light normal paraffin stream to produce a light normal olefin stream and alkylating said light normal olefin stream with a benzene stream to produce an alkylbenzene stream.

4. The process of claim 1 further comprising separating a normal paraffin rich stream from a liquid hydrotreated stream taken from said hydrotreated stream; mixing said normal paraffin rich stream with said light normal paraffin stream; dehydrogenating said light normal paraffin stream to produce a light normal olefin stream and alkylating said light normal olefin stream with a benzene stream to produce an alkylbenzene stream.

5. The process of claim 1 further comprising operating the hydrodeoxygenation step at a hydrodeoxygenation ratio of about 35 to about 60%.

6. The process of claim 2 further comprising separating said isomerate stream into naphtha and jet fuel.

7. A process for hydrodeoxygenating two feed streams comprising:

hydrodeoxygenating a first biorenewable feed stream selected from palm kernel oil, coconut oil and babassu oil in the presence of hydrogen and a first hydrodeoxygenation catalyst to produce a first hydrodeoxygenated stream;

hydrodeoxygenating a second biorenewable feed stream in the presence of hydrogen and a second hydrodeoxygenation catalyst to provide a second hydrodeoxygenated stream, wherein said second biorenewable feed stream comprises a biorenewable oil having less than 30 wt% free fatty acids having 12 and 14 carbon atoms, and wherein the second hydrodeoxygenating step is operated at a greater hydrodeoxygenation ratio than the first hydrodeoxygenation step;

fractionating the first hydrodeoxygenated stream to provide a light normal paraffin stream and a heavy normal paraffin stream; and

mixing a portion of the second hydrodeoxygenated stream with the light normal paraffin stream or the heavy normal paraffin stream.

8. The process of claim 7 further comprising mixing said heavy normal paraffin stream with a liquid second hydrodeoxygenated stream taken from said second hydrodeoxygenated stream to provide an isomerization feed stream and hydroisomerizing said isomerization feed stream in the presence of hydrogen and hydroisomerization catalyst to produce an isomerate stream.

9. The process of claim 8 further comprising dehydrogenating said light normal paraffin stream to produce a light normal olefin stream and alkylating said light normal olefin stream with a benzene stream to produce an alkylbenzene stream.

10. The process of claim 9 wherein said first biorenewable feed stream is concentrated in hydrocarbons having 10 to 14 carbon atoms.