

What is claimed is

1. A method for producing aviation fuel component, the method comprising
 - a) providing a feedstock comprising 75-95% by weight fossil hydrotreatment feed and 5-25% by weight a second feed comprising esters of fatty acids and rosins, free fatty acids and resin acids,
 - b) subjecting the feedstock to hydrotreatment reaction conditions to produce a hydrotreated stream,
 - c) separating at least part of the hydrotreated stream to
 - o a fraction boiling below 180 °C at atmospheric pressure,
 - o a fraction boiling between 180 °C and 360 °C at atmospheric pressure and
 - o a fraction boiling above 360 °C at atmospheric pressure,
 - d) subjecting at least part of the fraction boiling above 360°C at atmospheric pressure to hydrocracking reaction conditions to produce a hydrocracked stream,
 - e) admixing at least part of the hydrocracked stream with at least part of the hydrotreated stream to provide a fractionation stream,
 - f) separating the fractionation stream at least to
 - o a fraction boiling below 180 °C at atmospheric pressure,
 - o a fraction boiling between 180 °C and 360 °C at atmospheric pressure,
 - o a fraction boiling above 360 °C at atmospheric pressure, and
 - g) separating the aviation fuel component from one or more fractions boiling between 180°C and 360 °C at atmospheric pressure.
2. The method according to claim 1 wherein the second feed comprises 50-100% by weight tall oil pitch, preferably 75-100% by weight tall oil pitch, more preferably 90-100% by weight tall oil pitch, even more preferably 100% by weight tall oil pitch.
3. The method according to claim 1 or 2 wherein step d) comprises removing at least 10% by weight, preferably 10-20% by weight of the fraction boiling above 360°C at atmospheric pressure prior to the subjecting.

4. The method according to any one of claims 1-3 comprising recycling at least part of the fraction boiling above 360 °C at atmospheric pressure of step f) to step d).
5. The method according to claim any one of claims 1-4 wherein the fossil hydrotreatment feed comprises naphtha, light gas oil, gas oil, light vacuum gas oil, heavy vacuum gas oil.
6. The method according to any one of claims 1-5 wherein the feedstock comprises 80 % by weight fossil hydrotreatment feed and 20% by weight tall oil pitch.
10. 7. The method according to any one of claims 1-6 wherein the hydrotreatment reaction conditions of step b) comprise LHSV 0.5-2.0 h⁻¹, preferably 0.7-1.2 h⁻¹, pressure 100-200 barg, preferably 130-160 barg, operating temperature 350-450 °C, preferably 370-430 °C, and H₂/feed 400-1000 dm³/dm³, and a one or more hydrotreatment catalysts.
15. 8. The method according to any one of claims 1-7 wherein the hydrocracking reaction conditions of step d) comprises LHSV 0.5-2.0 h⁻¹, preferably 0.8-1.5 h⁻¹, pressure 100-200 barg, preferably 130-160 barg, operating temperature 330-390 °C, preferably 340-380 °C, and H₂/feed 400-1000 dm³/dm³, and one or more hydrocracking catalysts.
20. 9. The method according to any one of claims 1-8 wherein the separating comprises distilling.
10. The method according to claim any one of claims 1-9 comprising fractionating the one or more fractions boiling between 180 and 360 °C at atmospheric pressure to
 25. ○ a fraction boiling at 180-240 °C at atmospheric pressure, and
 - a fraction boiling at 240-360 °C at atmospheric pressure.
11. The method according to claim 10 wherein the fractionating comprises thin film distilling.