CLAIMS

1. A method of processing liquefied biomass, the method comprising the steps of

providing a liquefaction effluent by liquefying biomass in the presence of a hydrogen source and a slurry-type catalyst and at elevated temperatures (hydroliquefaction step), wherein the liquefaction effluent comprises oil product, bioasphaltenes and solids, and

converting at least part of the bioasphaltenes into components of lower boiling points (conversion step), wherein the hydroliquefaction step and the conversion step are operating in continuous mode,

wherein the hydroliquefaction step is carried out with slurry-type sulphided catalyst, at temperature of 350 to 390 °C, and at pressure in the range of 7 to 16 MPa, preferably 8 to 14 MPa,

wherein the conversion step comprises recirculating at least a portion of the liquefaction effluent comprising bioasphaltenes (bioasphaltene portion) to the hydroliquefaction step (recirculation step) and/or subjecting at least a portion of the liquefaction effluent comprising bioasphaltenes (bioasphaltene portion) to hydroprocessing (hydroprocessing step).

2. The method according to claim 1, wherein the hydroliquefaction step is carried out with slurry-type sulphided catalyst of NiMo and/or CoMo and/or Mo.

3. The method according to any one of the preceding claims, wherein the at least a portion of the liquefaction effluent comprising bioasphaltenes (bioasphaltene portion) is obtained by means of a separation step, wherein the separation step comprises separating the liquefaction effluent into at least one bioasphaltene portion, and optionally further into an oil product portion, such that the bioasphaltene portion comprises at least bioasphaltenes and the oil product portion comprises predominantly liquid hydrocarbons (separation step).

4. The method according to any one of the preceding claims, wherein the method further comprises a treatment step, wherein the treatment step is solvent deasphalting and/or distilling and the treatment step is performed on at least part of the liquefaction effluent.

5. The method according to any one of preceding claims, wherein the treatment step is a combination of solvent deasphalting and distilling, wherein distilling is performed either before or after solvent deasphalting.

6. The method according to claim 4 or 5, wherein the treatment step is performed by distilling (distillation step), wherein distilling comprises recovering at least

one distillate fraction and a bottom fraction, wherein the bottoms fraction is the bioasphaltene portion and has 5% recovered at 360°C or more, or 5% recovered at 480°C or more.

7. The method according to any one of the preceding claims, wherein the bioasphaltene portion employed in the recirculation step further comprises spent or fresh slurry-type catalyst.

8. The method according to any one of the preceding claims, wherein at least part of the hydroprocessed liquefaction effluent or at least part of the hydroprocessed bioasphaltene portion is recirculated as a co-feed back to the hydroliquefaction step.

9. The method according to any one of the preceding claims, wherein the wt.-% of the bioasphaltene portion as the recirculation feed of the total feed in the hydroliquefaction step is 40.0 to 95.0 wt.-%, preferably 70.0 to 90.0 wt.-%.

10. The method according to any one of the preceding claims, wherein the content of the bioasphaltene portion in the total oil feed of the hydroprocessing step is at least 5.0 wt.-%, preferably in the range of from 5.0 wt.-% to 100.0 wt.-%.

11. The method according to any one of the preceding claims, wherein the hydroprocessing step is a hydrotreatment step and/or a hydrocracking step.

12. The method according to any one of the preceding claims, wherein the hydroprocessing step is performed in at least one hydroprocessing reactor which comprises a fixed bed reactor and/or an ebullated bed reactor.

13. The method according to any one of the preceding claims, wherein the content of bioasphaltenes in the bioasphaltene portion that has been treated by distillation, and of the 5% recovered at 360°C distillate bottom is 6-30wt%, preferably 10-20wt%; and of the 5% recovered at 480°C distillate bottom is 30-100wt%, preferably 60-80wt%.

14. A bioasphaltene product obtained by a method comprising the steps of

providing a liquefaction effluent by liquefying biomass in the presence of a hydrogen source and with slurry-type sulphided catalyst, at temperature of 350 to 390 °C, and at pressure of 7 to 16 MPa, more preferably 8 to 14 MPa, wherein the liquefaction effluent comprises oil product, bioasphaltenes and solids,

obtaining the at least a portion of the liquefaction effluent comprising bioasphaltenes (bioasphaltene portion) by means of a separation step, wherein the separation step comprises separating the liquefaction effluent into at least one bioasphaltene portion, and optionally further into an oil product portion, such that the bioasphaltene portion comprises at least bioasphaltenes and the oil product portion comprises predominantly liquid hydrocarbons (separation step),

wherein bioasphaltenes are characterised by being insoluble in n-heptane at room temperature and soluble in THF (at room temperature), and have a molecular mass in the range of 150 to 1500 g/mol, more preferably 150-1000 g/mol, or 150-600 g/mol,

most preferably 150-300 g/mol, and are aromatic in nature with a double bond equivalent number in the range of 4 to 30 as measured by HRMS APCI NEG (high resolution mass spectroscopy using negative mode atmospheric pressure chemical ionisation).

15. The bioasphaltene product of claim 14, wherein the slurry-type sulphided catalyst is a sulphided catalyst of NiMo and/or CoMo and/or Mo.