CLAIMS

1. A method for improving the yield of enzymatic preparation of biodiesel from greases, characterized in that: during enzymatic reaction of short-chain alcohols with greases to prepare biodiesel, online dehydration steps are introduced, leading the volatile gases in the enzyme reactor to enter into the low-temperature absorption tank, and the dehydrated gases flow back into the enzyme reactor; the formation of gas-circulation can constantly bring the moisture inside the enzyme reactor out, so as to improve the conversion rate of the reaction.

2. The method according to claim 1, characterized in that: the temperature of reaction is 40℃ to 45℃ in the enzyme reactor.

3. The method according to claim 1, characterized in that: the low-temperature absorption tank is a short-chain alcohols absorption tank at 0℃ to 25℃.

4. The method according to claim 1, characterized in that: the enzyme reactor is one stage enzyme reactor or multiple stage enzyme reactor.

5. The method according to claim 1, characterized in that: the enzyme used in the enzymatic reaction of short-chain alcohols with greases to prepare biodiesel is a lipase derived from *Candida antarctica*, *Thermomyces lanuginosus*, *Aspergillus niger*, *Aspergillus oryzae*, *Rhizomucor miehei*, or *Rhizopus Oryzae*.

6. The method according to claim 1, characterized in that: the short-chain alcohols are one or more of methanol, ethanol, propanol, or butanol.

7. The method according to claim 1, characterized in that: the greases are biological greases.

8. The method according to claim 7, characterized in that: the biological greases are one or more of vegetable greases, animal greases or microbial

greases.

9. The method according to claim 8, characterized in that: the vegetable greases are one or more of palm oil, soya bean oil, rape-seed oil, curcas oil, jatropha curcasl oil, corn oil, castor oil, peanut oil, cottonseed oil, rice bran oil, or shinyleaf yellowhorn oil; the animal greases are one or more of fish oil, beef tallow, lard, or mutton tallow; and the microbial greases are yeast grease, or microalgae grease.

10. The method according to claim 1, characterized in that: the greases are waste edible oils or tailings from the refining of greases.

CLAIMS

1. A method for improving the yield of enzymatic preparation of biodiesel from greases, characterized in that: during enzymatic reaction of short-chain alcohols with greases to prepare biodiesel, online dehydration steps are introduced, leading the volatile gases in an enzyme reactor to enter into a low-temperature absorption tank, and the dehydrated gases are pumped into the enzyme reactor via the bottom of the enzyme reactor by an air pump; the formation of gas-circulation can constantly bring the moisture inside the enzyme reactor out, so as to improve the conversion rate of the reaction, wherein the low-temperature absorption tank is a short-chain alcohols absorption tank at 0℃ to 25℃, the enzyme reactor comprises a one-stage enzyme reactor or a multiple-stage enzyme reactor.

2. The method according to claim 1, characterized in that: the temperature of reaction is 40℃ to 45℃ in the one stage enzyme reactor or the first enzyme reactor of the multiple stage enzyme reactor.

3. The method according to claim 1, characterized in that: the enzyme used in the enzymatic reaction of short-chain alcohols with greases to prepare biodiesel is a lipase derived from *Candida antarctica*, *Thermomyces lanuginosus*, *Aspergillus niger*, *Aspergillus oryzae*, *Rhizomucor miehei*, or *Rhizopus Oryzae*.

4. The method according to claim 1, characterized in that: the short-chain alcohols are one or more of methanol, ethanol, propanol, or butanol.

5. The method according to claim 1, characterized in that: the greases are biological greases.

6. The method according to claim 5, characterized in that: the biological greases are one or more of vegetable greases, animal greases or microbial greases.

7. The method according to claim 6, characterized in that: the vegetable greases are one or more of palm oil, soya bean oil, rape-seed oil, curcas oil, jatropha curcasl oil,

corn oil, castor oil, peanut oil, cottonseed oil, rice bran oil, or shinyleaf yellowhorn oil; the animal greases are one or more of fish oil, beef tallow, lard, or mutton tallow; and the microbial greases are yeast grease, or microalgae grease.

8. The method according to claim 1, characterized in that: the greases are waste edible oils or tailings from the refining of greases.