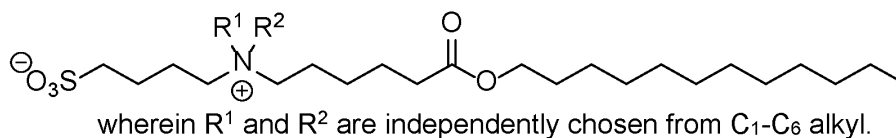
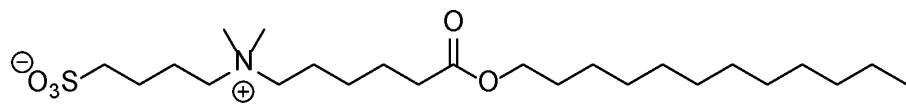


CLAIMS

1. A compound of the following formula:

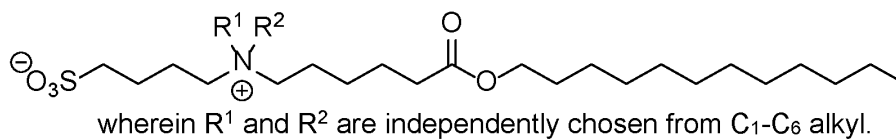


2. The compound of Claim 1, wherein the compound is 4-((6-(dodecyloxy)-6-oxohexyl)dimethylammonio)butane-1-sulfonate, having the following formula:

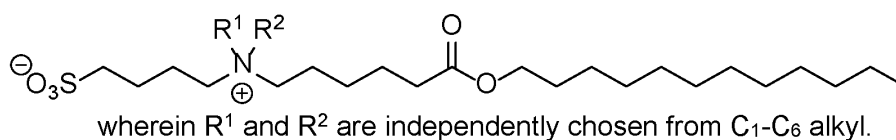


3. The compound of Claim 1, having a critical micelle concentration (CMC) of about 0.1 mmol in water.
4. The compound of Claim 1, having a plateau value of a minimum surface tension in water of about 36 mN/m.
5. The compound of Claim 1, having a surface tension in water equal to or less than 37 mN/m at a concentration of 1 mmol or greater.
6. The compound of Claim 1, having a surface tension in water equal to or less than 40.5 mN/m at a surface age of 4000 ms or greater.
7. A method of synthesizing an amino acid surfactant, comprising the steps of: (1) opening a lactam to yield an amino acid having an N-terminus;
 (2) reacting the N-terminus of the amino acid with an alkylating agent to yield a tertiary amine;
 (3) reacting the tertiary amine with an alcohol under acidic conditions to yield an amino acid ester having an N-terminus; and

(4) reacting the N-terminus of the amino acid ester with a sulfonating agent to yield an amino acid surfactant of the following formula:



8. The method of Claim 7, wherein in step 1, the lactam is caprolactam.
9. The method of Claim 7, wherein in step 2, the alkylating agent is formaldehyde or paraformaldehyde.
10. The method of Claim 7, wherein in step 3, the alcohol is dodecanol.
11. The method of Claim 7, wherein in step 3, the acid is *p*-toluene sulfonic acid.
12. The method of Claim 7, wherein in step 4, the sulfonating agent is 1,4-butanedisulfone.
13. A liquid composition comprising:
 - a medium; and
 - a surfactant of the following formula:



14. The composition of Claim 13, wherein the medium is water.