CLAIMS

1. A method of treating a hydrocarbon-containing reservoir, comprising:

introducing into the reservoir a surfactant composition comprising:

an alpha olefin sulfonate or an internal olefin sulfonate, wherein the alpha olefin sulfonate or the internal olefin sulfonate is synthesized by i) oligomerizing a monomer comprising a C_3 to C_6 mono-olefin to form an oligomerization product and ii) sulfonating the oligomerization product, and

wherein the i) oligomerizing step generates oligomers having at least 50 wt % C_{12} to C_{70} oligomers.

2. The method of claim 1, wherein the i) oligomerizing step generates oligomers at least 50 wt % C_{16} to C_{40} oligomers.

3. The method of claim 1, wherein the monomer comprises one or more of propylene and isobutylene.

4. The method of claim 1, wherein the surfactant further comprises:

a co-surfactant, a co-solvent, a base, an enhanced oil recovery flooding fluid, or a wellbore remediation fluid.

5. The method of claim 4, wherein the co-surfactant comprises of a secondary alkane sulfonate, internal olefin sulfonate, an alkoxylated alcohol sulfate, an alkoxylated alcohol carboxylate and glycerol sulfonate, a linear alkyl benzene sulfonate, heavy alkyl benzene sulfonate, sulfosuccinate, alkyl aromatic sulfonate, a nonionic alkoxylated alcohol, or alkyl aryl disulfonate, and mixtures thereof.

6. The method of claim 4, wherein the co-solvent is water, alcohol, or glycol.

7. The method of claim 4, wherein the base is a carbonate, a hydroxide, a bicarbonate, an ammonium, or an amine.

8. A surfactant for enhanced oil recovery, the surfactant comprising:

an alpha olefin sulfonate or an internal olefin sulfonate, wherein the alpha olefin sulfonate or the isomerized olefin sulfonate is synthesized by i) oligomerizing a monomer comprising a C_3 to C_6 mono-olefin to form an oligomerization product and ii) sulfonating the oligomerization product, and

wherein the i) oligomerizing step generates oligomers having at least 50 wt % C_{12} to C_{70} oligomers.

9. The surfactant of claim 8, wherein the i) oligomerizing step generates oligomers having at least 50 wt % C_{16} to C_{40} oligomers.

10. The surfactant of claim 8, wherein the monomer comprises one or more of propylene and isobutylene.

11. The surfactant of claim 8, further comprising:

co-surfactant, a co-solvent, a base, an enhanced oil recovery flooding fluid, or a wellbore remediation fluid

12. The surfactant of claim 11, wherein the co-surfactant comprises of a secondary alkane sulfonate, internal olefin sulfonate, an alkoxylated alcohol sulfate, an alkoxylated alcohol carboxylate and glycerol sulfonate, a linear alkyl benzene sulfonate, heavy alkyl benzene sulfonate, sulfosuccinate, alkyl aromatic sulfonate, a nonionic alkoxylated alcohol, or alkyl aryl disulfonate, and mixtures thereof.

13. The surfactant of claim 11, wherein the co-solvent is water, alcohol, or glycol.

14. The surfactant of claim 11, wherein the base is a carbonate, a hydroxide, a bicarbonate, an ammonium, or an amine.