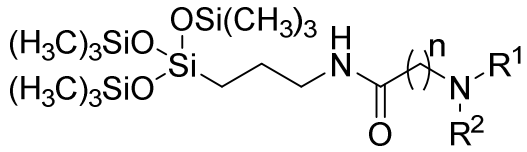
CLAIMS

1. A compound of Formula I:



Formula I

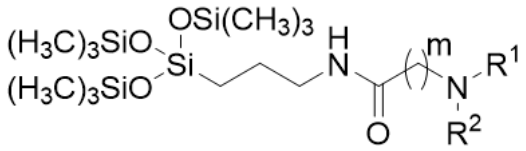
wherein R^1 and R^2 may be the same or different, and comprise at least one group selected from the group consisting of C_1-C_6 alkyl, optionally the C_1-C_6 alkyl may include one or more of oxygen, nitrogen, or sulfur atoms or groups that include at least one of these atoms, and the alkyl chain may be optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, amido, sulfonyl, sulfonate, carbonyl, carboxyl, and carboxylate;

n is an integer from 3 to 12;

the terminal nitrogen is optionally further substituted with R^3, wherein R^3 is selected from the group consisting of hydrogen, oxygen, hydroxyl, and C_1-C_6 alkyl; and

an optional counterion associated with the compound which, if present, is selected from the group consisting of chloride, bromide, and iodide.

2. The compound of Claim 1, represented by Formula Ia:



Formula 1a

wherein R^1 and R^2 may be the same or different, and comprise at least one group selected from the group consisting of C_1-C_6 alkyl, optionally the C_1-C_6 alkyl may include one or more of oxygen, nitrogen, or sulfur atoms or groups that include at least one of these atoms, and the alkyl chain may be optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, amido, sulfonyl, sulfonate, carbonyl, carboxyl, and carboxylate;

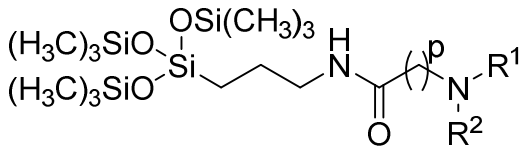
m is an integer from 3 to 6;

the terminal nitrogen is optionally further substituted with R^3, wherein R^3 is selected from the group consisting of hydrogen, oxygen, and C_1-C_6 alkyl wherein the

alkyl chain is optionally substituted with one or more substituents selected from the group consisting of carboxyl, carboxylate, and sulfonate; and

an optional counterion associated with the compound which, if present, is selected from the group consisting of chloride, bromide, and iodide.

3. The compound of Claim 1, represented by the following Formula Ib:



Formula 1b

wherein R^1 and R^2 may be the same or different, and comprise at least one group selected from the group consisting of C_1-C_6 alkyl, optionally the C_1-C_6 alkyl may include one or more of oxygen, nitrogen, or sulfur atoms or groups that include at least one of these atoms, and the alkyl chain may be optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, amido, sulfonyl, sulfonate, carbonyl, carboxyl, and carboxylate;

p is 5;

the terminal nitrogen is optionally further substituted with R^3, wherein R^3 is selected from the group consisting of hydrogen, oxygen, and C_1-C_6 alkyl, wherein the alkyl chain is optionally substituted with one or more substituents selected from the group consisting of carboxyl, carboxylate, and sulfonate; and

an optional counterion associated with the compound which, if present, is selected from the group consisting of chloride, bromide, and iodide.

4. The compound of Claim 1, wherein R^1 and R^2 are methyl.

5. The compound of Claim 1, wherein n is 5.

6. The compound of Claim 5, wherein R^3 is hydrogen.

7. The compound of Claim 6, wherein the counterion is selected from the group consisting of chloride, bromide, and iodide.

8. The compound of Claim 7, wherein the counterion is chloride.

9. The compound of Claim 5, wherein R^3 is methyl.

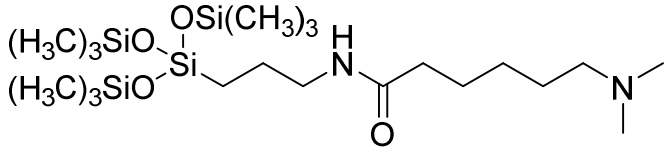
10. The compound of Claim 9, wherein the counterion is selected from the group consisting of chloride, bromide, and iodide.

11. The compound of Claim 10, wherein the counterion is iodide.

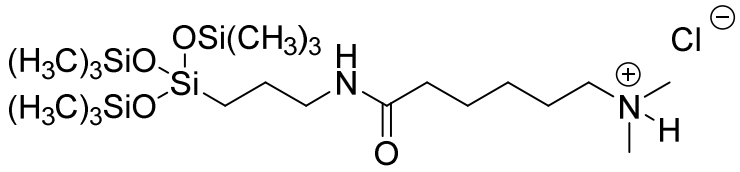
12. The compound of Claim 5, wherein R^3 is an oxygen atom.

13. The compound of Claim 5, wherein R^3 is C_1-C_6 alkyl, substituted with sulfonate.

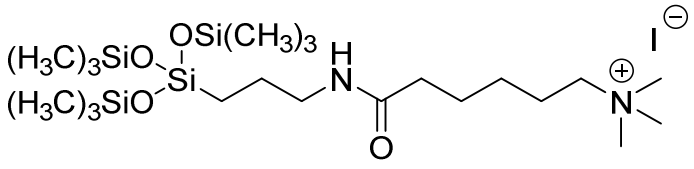
14. The compound of Claim 5, wherein the compound is 6-(dimethylamino)-N-(3-(1,1,1,5,5,5-hexamethyl-3-((trimethylsilyl)oxy)trisiloxan-3-yl)propyl)hexanamide, having the following formula:



15. The compound of Claim 8, wherein the compound is 6-(dimethylamino)-N-(3-(1,1,1,5,5,5-hexamethyl-3-((trimethylsilyl)oxy)trisiloxan-3-yl)propyl)hexaminium chloride, having the following formula:

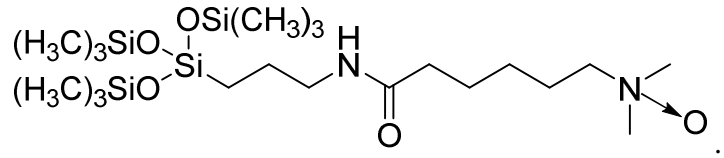


16. The compound of Claim 11, wherein the compound is 3 6-((3-(1,1,1,5,5,5-hexamethyl-3-((trimethylsilyl)oxy)trisiloxan-3-yl)propyl)amino)-N,N,N-trimethyl-6-oxohexan-1-aminium iodide, having the following formula:

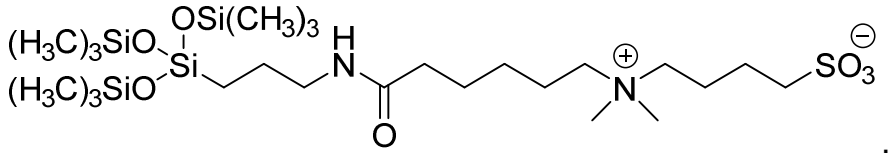


17. The compound of Claim 12, wherein the compound is 6-((3-(1,1,1,5,5,5-

hexamethyl-3-((trimethylsilyl)oxy)trisiloxan-3-yl)propyl)amino)-N,N-dimethyl-6-oxohexan-1-amine oxide, having the following formula:



18. The compound of Claim 13, wherein the compound is 4-((6-((3-(1,1,1,5,5,5-hexamethyl-3-((trimethylsilyl)oxy)trisiloxan-3-yl)propyl)amino)-6-oxohexyl)dimethylammonio)butane-1-sulfonate, having the following formula:



19. The compound of Claim 13, wherein the compound is 5-((6-((3-(1,1,1,5,5,5-hexamethyl-3-((trimethylsilyl)oxy)trisiloxan-3-yl)propyl)amino)-6-oxohexyl)dimethylammonio)pentane-1-sulfonate, having the following formula:

