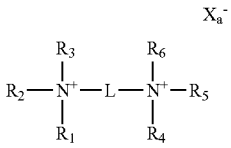
individual publication, patent or patent application was specifically and individually indicated to be incorporated by reference.

What is claimed is:

1. A cationic compound having the formula:



wherein

L is $\{(CH_2)_i—Y—(CH_2)_j\}_k$, wherein Y is selected from the group consisting of CH_2, an ether, a polyether, an amide, a polyamide, an ester, a sulfide, a urea, a thiourea, a guanidyl, a carbamoyl, a carbonate, a phosphate, a sulfate, a sulfoxide, an imine, a carbonyl, and or a secondary amino group,

and wherein a carbon of $(CH_2)_i$ or a carbon $(CH_2)_j$ is optionally substituted with —OH;

R_1 and R_4 are, independently, a straight-chain, branched or cyclic alkyl or alkenyl groups having from 8 to 40 carbon atoms;

R_3 and R_6 are, independently, H an alkyl or an alkenyl group;

R_2 is an aminoalcohol group;

R_5 is H or an aminoalcohol group;

X is a physiologically acceptable anion; and

a is the number of positive charges divided by the valence of the anion;

i and j are independently an integer from 0 to 100;

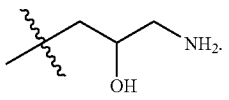
k is an integer from 1 to 25, and

wherein at least one of R_1 or R_4 is a straight-chain, branched or cyclic alkyl or alkenyl group having from 8 to 40 carbon atoms.

2. The cationic compound of claim **1**, wherein R_2 and R_5 are independently an aminoalcohol selected from aminoethanol, aminopropanol, or aminobutanol.

3. The cationic compound of claim **1**, wherein R_2 is an aminoalcohol selected from aminoethanol, aminopropanol, or aminobutanol, and R_5 is H.

4. The cationic compound of claim **1**, wherein R_2 and R_5 are an aminoalcohol having the structure:



5. The cationic compound of claim **1**, wherein R_1 and R_4 are straight-chain alkyl groups having from 8 to 24 carbon atoms.

6. The cationic compound of claim **1**, wherein R_3 and R_6 are H.

7. The cationic compound of claim **1**, wherein Y is selected from the group consisting of CH_2, an ether, a urea, a guanidyl, an imine, a carbonyl, and a secondary amino group.

8. The cationic compound of claim **1**, wherein Y is CH_2.

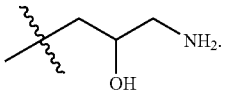
9. The cationic compound of claim **8**, wherein i and j are independently an integer from 0 to 4 and k is an integer from 1 to 4.

10. The cationic compound of claim **1**, wherein at least one carbon of $(CH_2)_i$ or $(CH_2)_j$ is substituted with —OH.

11. The cationic compound of claim **10**, wherein k is 1.

12. The cationic compound of claim **10**, wherein R_2 is an aminoalcohol selected from aminoethanol, aminopropanol, or aminobutanol.

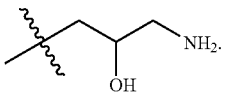
13. The cationic compound of claim **12**, wherein R_2 is an aminoalcohol having the structure:



14. The cationic compound of claim **13**, wherein R_1 and R_4 are straight-chain alkyl groups having 8 to 24 carbon atoms, and R_3 and R_6 are H.

15. The cationic compound of claim **10**, wherein R_5 is H or an aminoalcohol selected from aminoethanol, aminopropanol, or aminobutanol.

16. The cationic compound of claim **15**, wherein R_5 is an aminoalcohol having the structure:



17. The cationic compound of claim **16**, wherein R_1 and R_4 are straight-chain alkyl groups having 8 to 24 carbon atoms, and R_3 and R_6 are H.

18. A composition comprising one or more cationic compounds of claim **1** solubilized in aqueous medium.

19. The composition of claim **18**, wherein in the one or more compounds at least one carbon of $(CH_2)_i$ or $(CH_2)_j$ is substituted with —OH.

20. The composition of claim **18**, further comprising a neutral lipid.

21. The composition of claim **20**, wherein the neutral lipid is DOPE, DOPC or cholesterol.

22. The composition of claim **20**, wherein the one or more compounds and the neutral lipid are formed into liposomes.

23. The composition of claim **18**, further comprising a transfection enhancer.

24. A composition for transfecting a cell which comprises one or more compounds of claim **1** and one or more nucleic acids.

25. The composition of claim **24**, wherein in the one or more compounds at least one carbon of $(CH_2)_i$ or $(CH_2)_j$ is substituted with —OH.

26. The composition of claim **24**, wherein the nucleic acid is RNA.

27. The composition of claim **24**, further comprising a neutral lipid.

28. The composition of claim **24**, wherein the one or more compounds is formed into a liposome.

29. The composition of claim **24**, further comprising a transfection enhancer.

30. A lipid aggregate made by mixing one or more compounds of formula 21 with a nucleic acid for at least 15 minutes to form a complex.

31. The lipid aggregate of claim **30**, wherein in the one or more compounds at least one carbon of $(CH_2)_i$ or $(CH_2)_j$ is substituted with —OH.

32. The lipid aggregate of claim **30**, further comprising a neutral lipid.