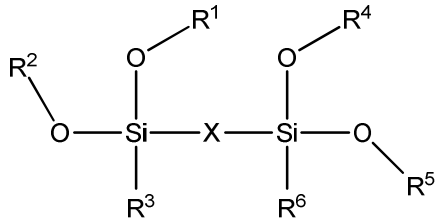
CLAIMS

WHAT IS CLAIMED IS:

1. A compound of formula (I):



(I)

wherein:

R^1 is a C_5-C_{30} hydrocarbyl;

R^2 is a C_2-C_{30} hydrocarbyl;

R^3 is C_1-C_4 alkyl or –O-C_2-C_{30} hydrocarbyl;

R^4 is a C_2-C_{30} hydrocarbyl;

R^5 is a C_2-C_{30} hydrocarbyl;

R^6 is C_1-C_4 alkyl or –O-C_2-C_{30} hydrocarbyl; and

X is a divalent linking group.

2. The compound of claim 1, wherein R^1 is (C_7-C_{20})alkyl, (C_7-C_{20})alkenyl, or (C_7-C_{20})alkynyl, preferably, R^1 is (C_7-C_{15})alkenyl, having only one double bond, and/or

wherein R^2 is (C_2-C_{20})alkyl, (C_2-C_{20})alkenyl, or (C_2-C_{20})alkynyl, preferably, R^2 is a (C_7-C_{15})alkenyl, having only one double bond, and/or

wherein R^3 is methyl, and/or

wherein R^4 is (C_2-C_{20})alkyl, (C_2-C_{20})alkenyl, or (C_2-C_{20})alkynyl, preferably, R^4 is (C_7-C_{15})alkenyl, having only one double bond, and/or

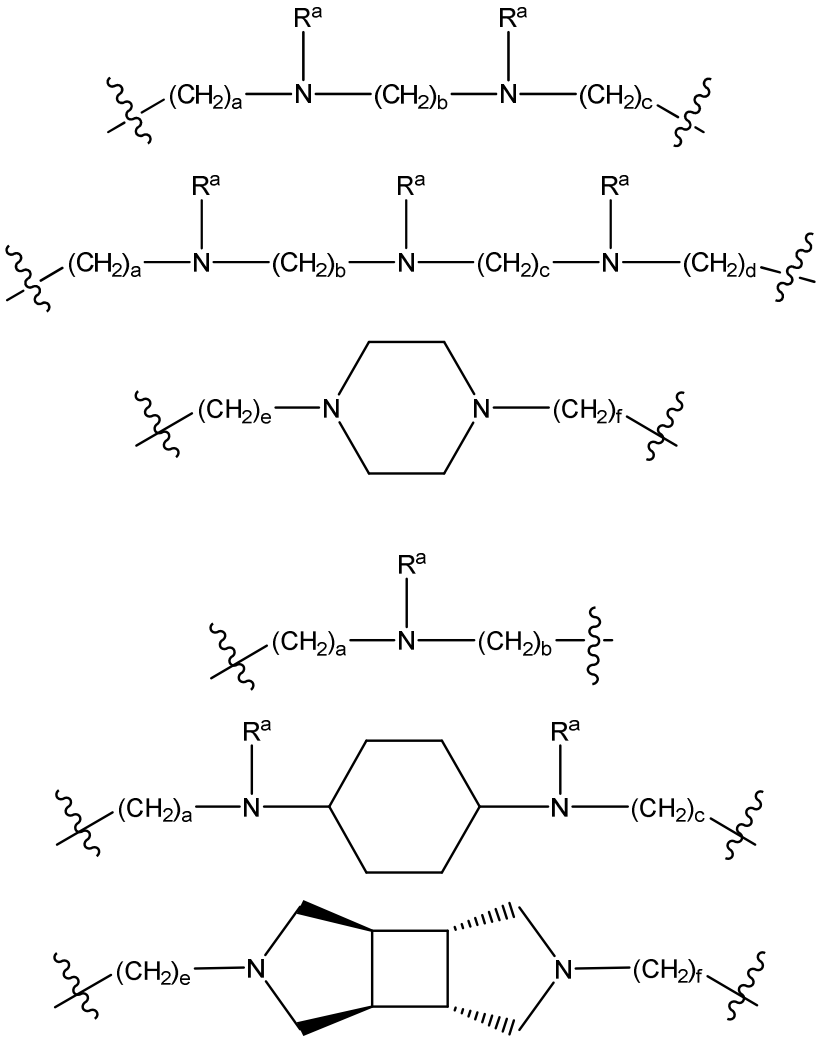
wherein R^5 is (C_2-C_{20})alkyl, (C_2-C_{20})alkenyl, or (C_2-C_{20})alkynyl, preferably, R^5 is a (C_7-C_{15})alkenyl, having only one double bond, and/or

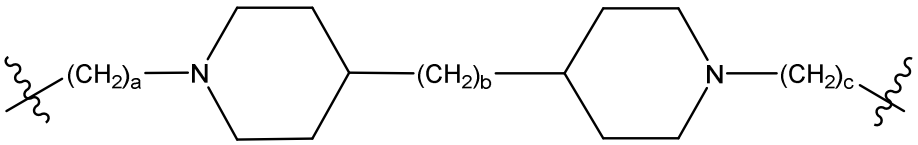
wherein R^6 is methyl.

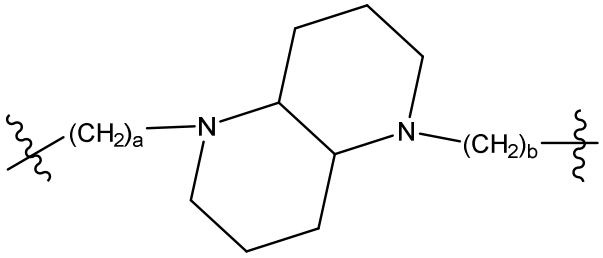
3. The compound of claim 1 or 2, wherein X is a divalent, branched or unbranched, saturated or unsaturated, hydrocarbon chain, having from 2 to 25 carbon atoms, wherein one or

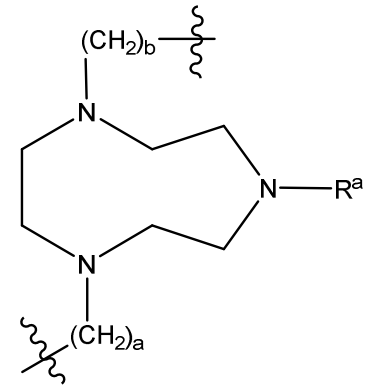
more of the carbon atoms is optionally replaced by (-O-), (-NR^a-), (a divalent (C_3-C_8)cycloalkyl), or (a divalent 3-12 membered heterocycle), and wherein the chain, the divalent (C_3-C_8)cycloalkyl, or the divalent 3-12 membered heterocycle is optionally substituted with one or more substituents independently selected from the group consisting of (C_1-C_6)alkoxy, (C_1-C_6)alkanoyl, (C_1-C_6)alkanoyloxy, (C_1-C_6)alkoxycarbonyl, cyano, nitro, halo, hydroxy, oxo (=O), and carboxy; and wherein each R^a is independently selected from H and (C_1-C_6)alkyl that is optionally substituted with one or more groups independently selected from halo, hydroxy, and (C_1-C_6)alkoxy.

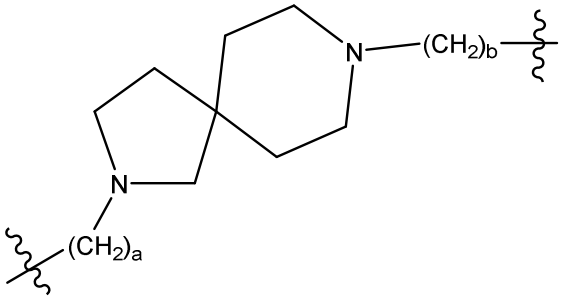
4. The compound of any one of claims 1-3, wherein X is selected from the group consisting of:

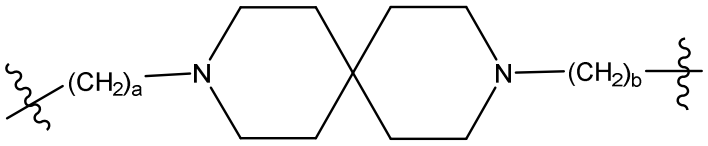




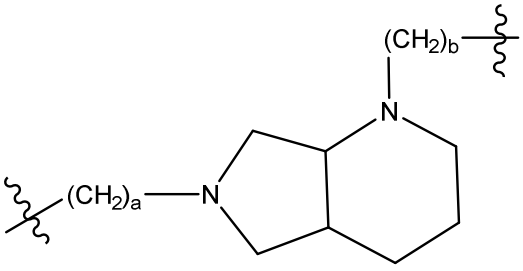








and



wherein:

a is 2, 3, 4, or 5;

b is 2, 3, 4, or 5;

c is 2, 3, 4, or 5;

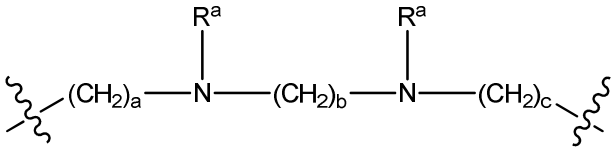
d is 2, 3, 4, or 5;

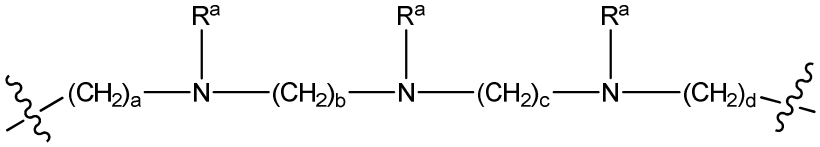
e is 2, 3, 4, 5, 6, 7, or 8;

f is 2, 3, 4, 5, 6, 7, or 8; and

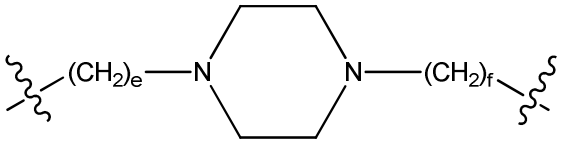
each R^a is independently selected from H and (C_1-C_6)alkyl that is optionally substituted with one of more groups independently selected from halo, hydroxy, and (C_1-C_6)alkoxy, preferably,

X is selected from the group consisting of:





and



wherein:

a is 2, 3, 4, or 5;

b is 2, 3, 4, or 5;

c is 2, 3, 4, or 5;

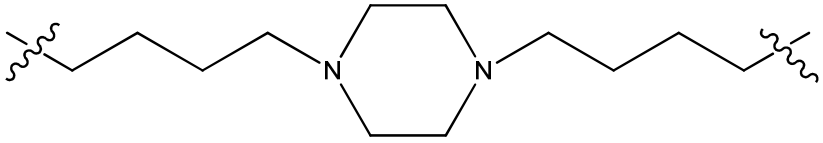
d is 2, 3, 4, or 5;

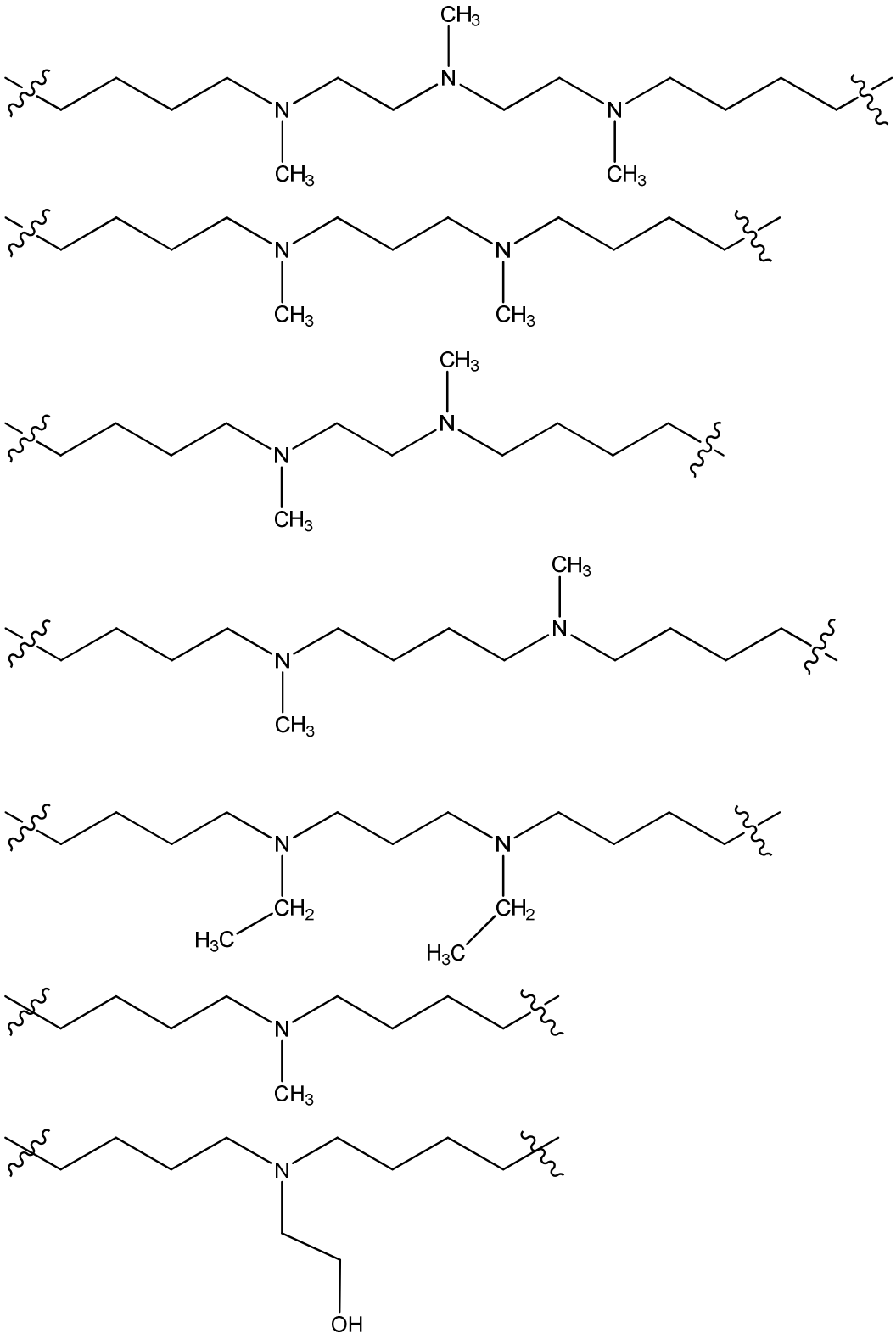
e is 2, 3, 4, 5, 6, 7, or 8;

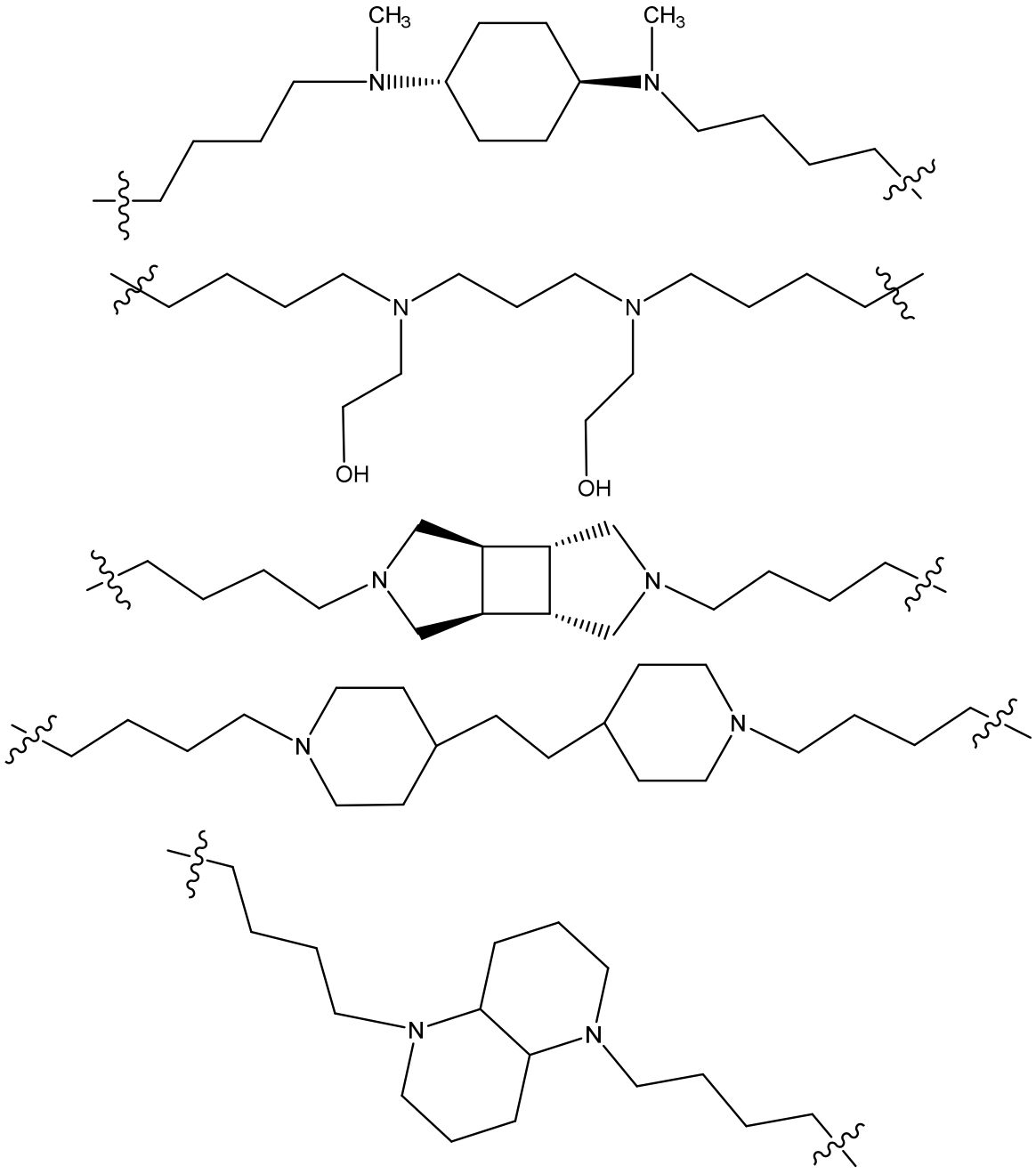
f is 2, 3, 4, 5, 6, 7, or 8; and

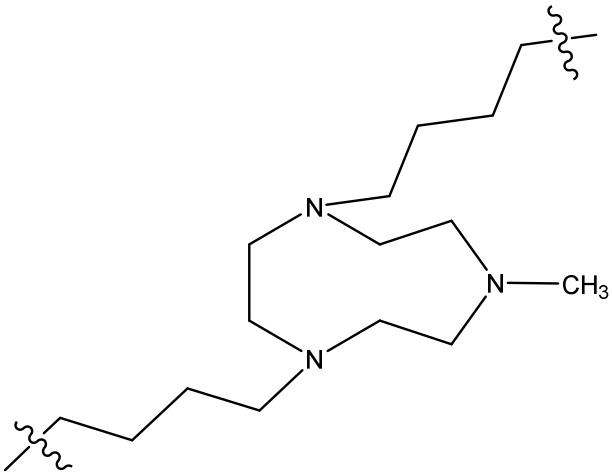
each R^a is independently selected from H and (C_1-C_6)alkyl, further preferably,

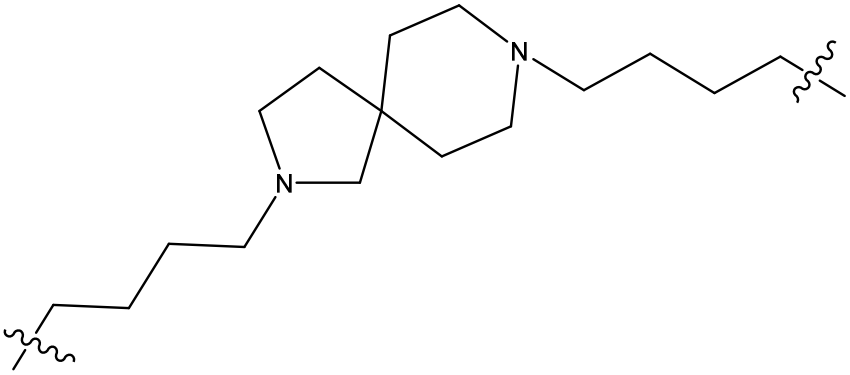
X is selected from the group consisting of:

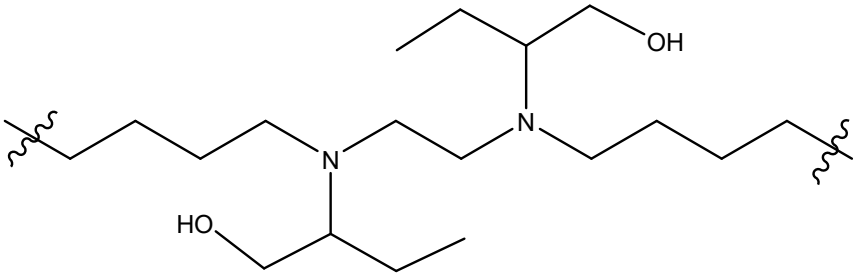


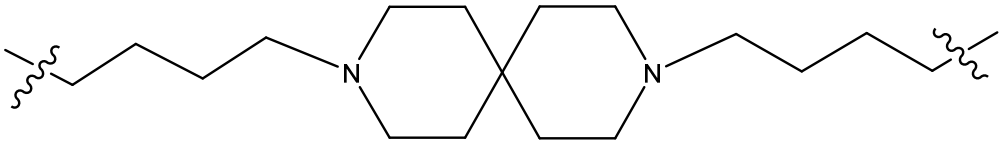



CH3
CH3
N
N
N
N
OH
OH
N
N
N
N
N
N

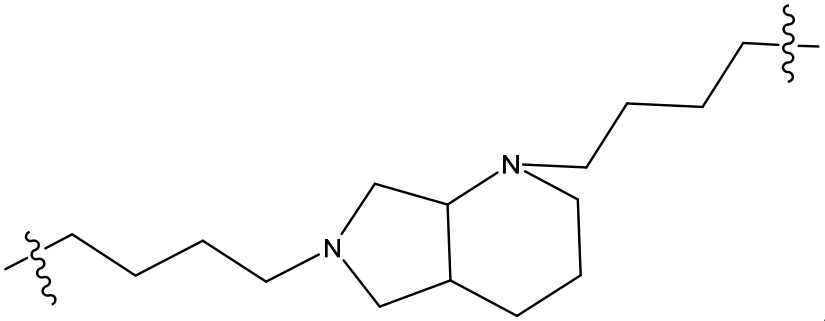








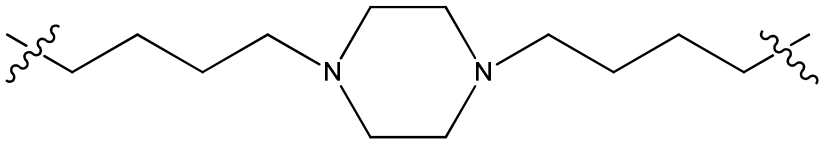
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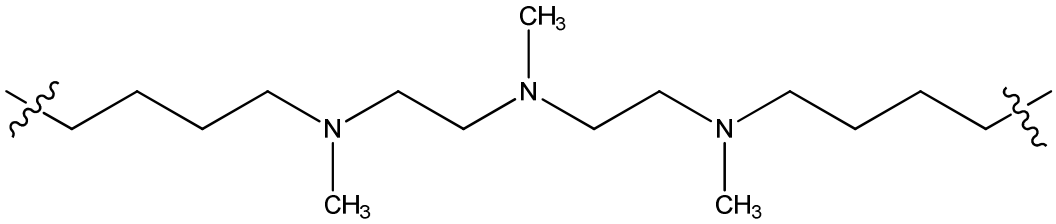


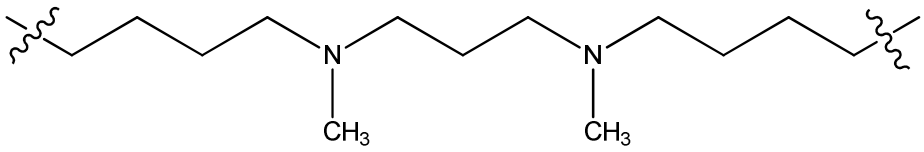
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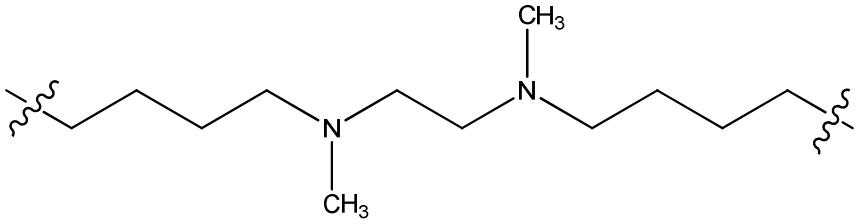
further preferably,

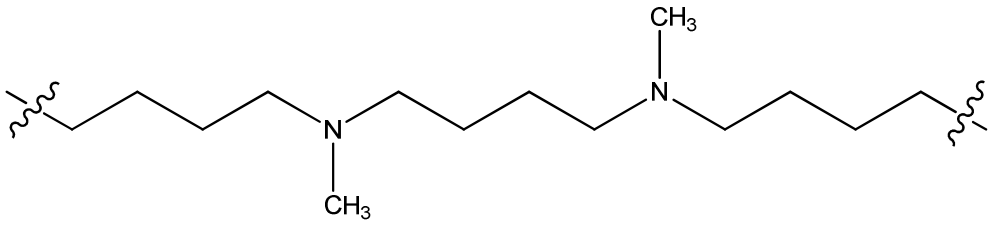
X is selected from the group consisting of:



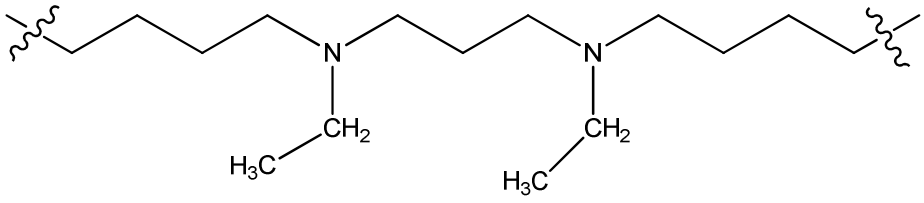








and



.

5. The compound of claim 1, which is selected from a compound of formula 12-43 as described in the Examples, or a salt thereof.

6. A lipid particle comprising the compound of any one of claims 1-5.

7. The lipid particle of claim 6, wherein the lipid particle further comprises a therapeutic agent.

8. The lipid particle of claim 7, wherein the therapeutic agent is a nucleic acid therapeutic agent, an interfering RNA agent, or mRNA, preferably the interfering RNA being siRNA.

9. A composition comprising a compound of any one of claims 1-5.

10. A pharmaceutical composition comprising a lipid particle of any one of claims 6 to 8, and a pharmaceutically acceptable carrier.

11. The lipid particle of claim 7 or 8 for use in the *in vivo* delivery of a therapeutic agent to a mammalian subject.

12. Use of the lipid particle of claim 7 or 8 in the manufacture of a medicament for the *in vivo* delivery of a therapeutic agent to a mammalian subject.

13. The lipid particle of claim 7 or 8 for use in treating a disease or disorder in a mammalian subject in need thereof.

14. The lipid particle for use of claim 13, wherein the disease or disorder is liver fibrosis or liver fibrosis associated non-alcoholic steatohepatitis (NASH) or alcoholic steatohepatitis (ASH).

15. Use of the lipid particle of claim 7 or 8 in the manufacture of a medicament for treating a disease or disorder in a mammalian subject in need thereof, wherein the disease or disorder is liver fibrosis or liver fibrosis associated non-alcoholic steatohepatitis (NASH) or alcoholic steatohepatitis (ASH).

16. A method of delivering a therapeutic agent to a hepatic stellate cell (HSC), *in vitro*, comprising contacting the HSC with the lipid particle of claim 7 or 8.

17. The lipid particle of claim 7 or 8 for use in delivering a therapeutic agent to a hepatic stellate cell (HSC), *in vivo*, wherein the HSC is to be contacted with the lipid particle of claim 7 or 8.

18. Use of the lipid particle of claim 7 or 8 in the manufacture of a medicament for delivering a therapeutic agent to a hepatic stellate cell (HSC), *in vivo*, wherein the HSC is to be contacted with the lipid particle of claim 7 or 8.