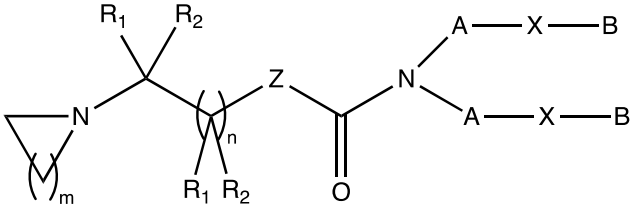
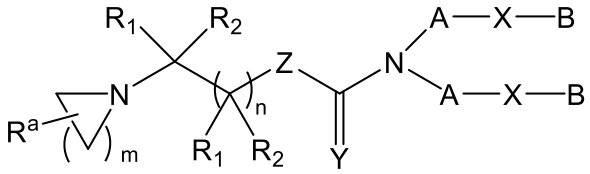
WHAT IS CLAIMED:

1. A compound of formula (I) or (IA):



(I), or



(IA),

a pharmaceutically acceptable salt thereof, or a stereoisomer of any of the foregoing, wherein

$\mathbf{R^a}$ is H, C_1-C_3 branched or unbranched alkyl, C_2-C_3 branched or unbranched alkenyl, halogen, OH, or SH;

each $\mathbf{R_1}$ and each $\mathbf{R_2}$ is independently H, C_1-C_3 branched or unbranched alkyl, C_2-C_3 branched or unbranched alkenyl, OH, halogen, SH, or N$\mathbf{R_{10}R_{11}}$or $\mathbf{R_1}$ and $\mathbf{R_2}$ are taken together to form a cyclic ring; each $\mathbf{R_{10}}$ and $\mathbf{R_{11}}$ is independently H, C_1-C_3 alkyl, or $\mathbf{R_{10}}$ and $\mathbf{R_{11}}$ are taken together to form a heterocyclic ring;

m is 1, 2, 3, 4, 5, 6, 7 or 8;

n is 0, 1, 2, 3 or 4;

Y is O or S;

Z is absent, O, S, or N$\mathbf{R_{12}}$, wherein $\mathbf{R_{12}}$ is H, C_1-C_7 branched or unbranched alkyl, or C_2-C_7 branched or unbranched alkenyl, provided that when Z is not absent, the adjacent $\mathbf{R_1}$ and $\mathbf{R_2}$ cannot be OH, N$\mathbf{R_{10}R_{11}}$, or SH;

each **A** is each independently C_1-C_{16} branched or unbranched alkyl, or C_2-C_{16} branched or unbranched alkenyl, optionally substituted with heteroatom or optionally substituted with OH, SH, or halogen;

each **B** is each independently C_1-C_{16} branched or unbranched alkyl, or C_2-C_{16} branched or unbranched alkenyl, optionally substituted with heteroatom or optionally substituted with OH, SH, or halogen; and

each **X** is independently a biodegradable moiety.

2. The compound of claim 1, wherein X is -OCO-, -COO-, -NHCO-, -CONH-, -C(O-$\mathbf{R_{13}}$)-O-, -COO$(CH_2)_s$-, -CONH$(CH_2)_s$-, -C(O-$\mathbf{R_{13}}$)-O-$(CH_2)_s$-, wherein $\mathbf{R_{13}}$ is C_3-C_{10} alkyl and s is 1, 2, 3, 4, or 5.

3. The compound of claim 1, wherein:

X is -OCO- or -COO-;

each $\mathbf{R_1}$ and $\mathbf{R_2}$ are independently H or OH;

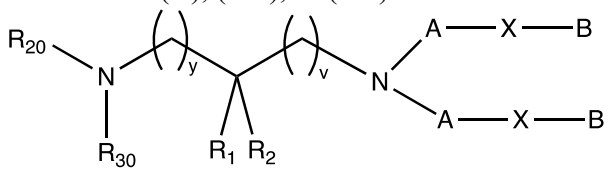
B is a C_3-C_{20} alkyl;

m is 1, 3 or 4;

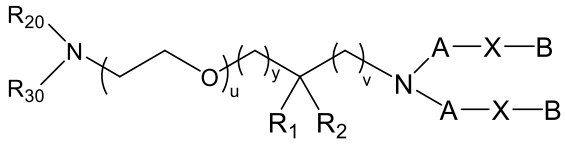
n is 0, 1, or 2; or
combinations thereof.

4. The compound of claim 1, wherein **Z** is absent, O, S, or NH.

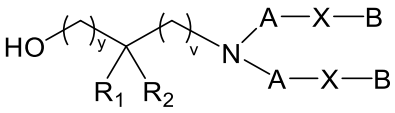
5. A compound of formula (V), (VA), or (VB):



(V),



(VA), or



(VB),

a pharmaceutically acceptable salt thereof, or a stereoisomer of any of the foregoing, wherein

R_1 is H, C_1-C_3 branched or unbranched alkyl, C_2-C_3 branched or unbranched alkenyl, OH, halogen, SH, or N**$R_{10}R_{11}$**; and **R_2** is OH, halogen, SH, or N**$R_{10}R_{11}$**, wherein **R_{10}** and **R_{11}** are each independently H or C_1-C_3 alkyl or **R_{10}** and **R_{11}** are taken together to form a heterocyclic ring, or

R_1 and **R_2** are taken together to form a cyclic ring;

R_{20} and **R_{30}** are each independently H or C_1-C_5 alkyl, or **R_{20}** and **R_{30}** are taken together to form a cyclic ring;

u is 0, 1, 2, 3, 4, 5, 6, 7, or 8;

v is 1, 2, 3, or 4;

y is 1, 2, 3, or 4;

each **A** is independently C_1-C_{16} branched or unbranched alkyl, or C_2-C_{16} branched or unbranched alkenyl, optionally substituted with heteroatom or substituted with OH, SH, or halogen;

each **B** is each independently C_1-C_{16} branched or unbranched alkyl, or C_2-C_{16} branched or unbranched alkenyl, optionally substituted with heteroatom or substituted with OH, SH, or halogen; and

X is a biodegradable moiety.

6. The compound of claim 5, wherein **X** is -OCO-, -COO-, -NHCO-, -CONH-, -C(O-R_{13})-O-, -COO$(CH_2)_s$-, -CONH$(CH_2)_s$-, -C(O-R_{13})-O-$(CH_2)_s$-, wherein R_{13} is C_3-C_{10} alkyl and **s** is 1, 2, 3, 4, or 5.

7. The compound of claim 5, wherein:

X is -OCO- or -COO-;

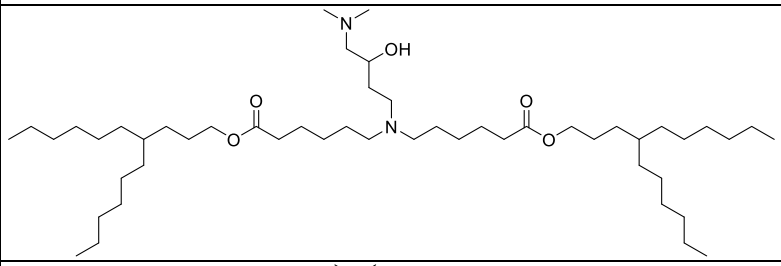
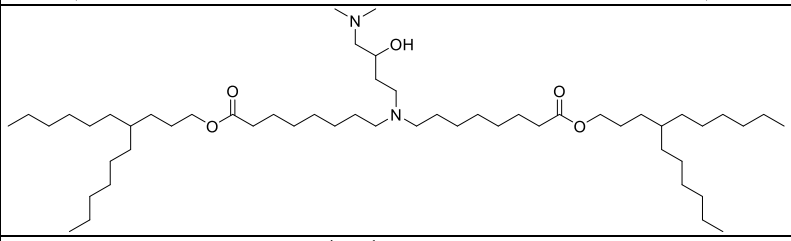
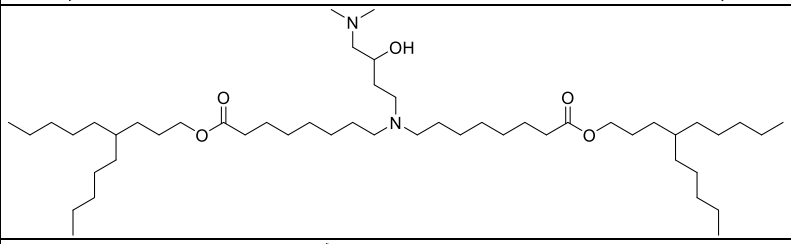
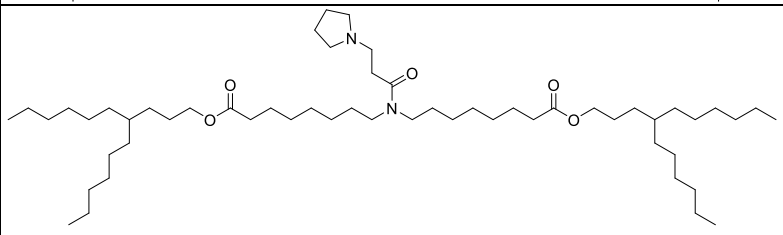
each **R_1** and **R_2** are independently H or OH;

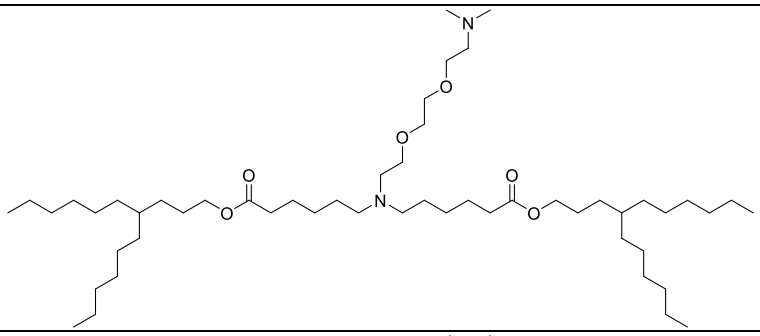
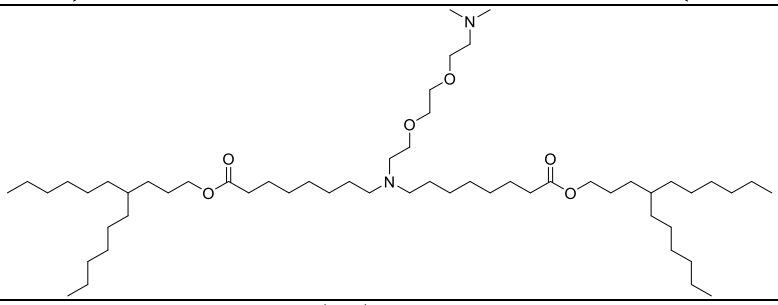
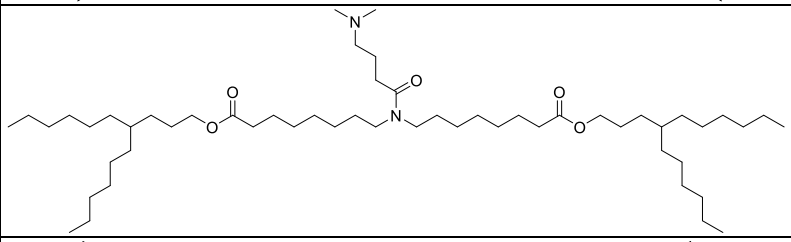
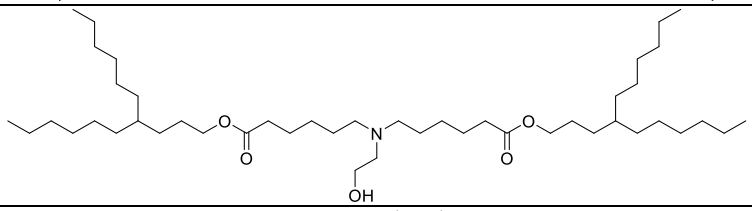
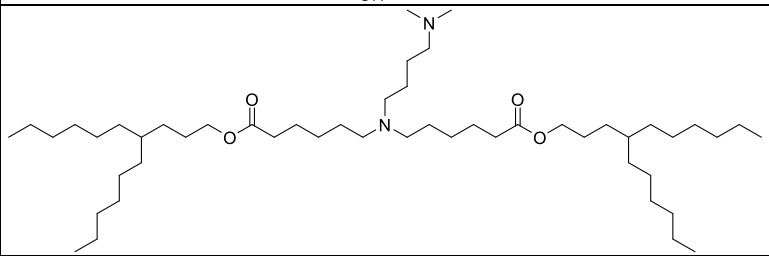
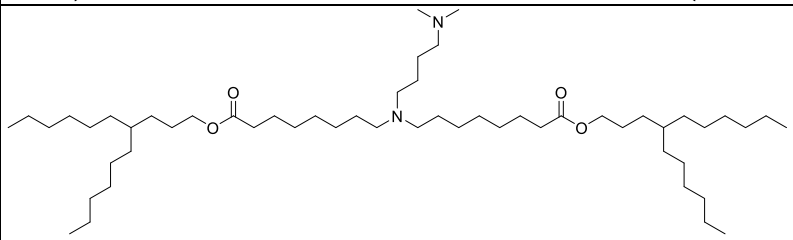
B is a C_3-C_{20} alkyl;
m is 1, 3 or 4;
n is 0, 1, or 2; or
combinations thereof.

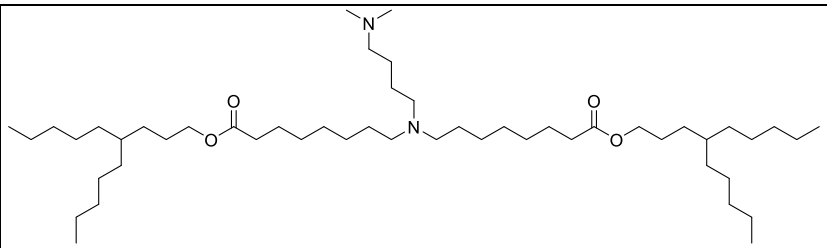
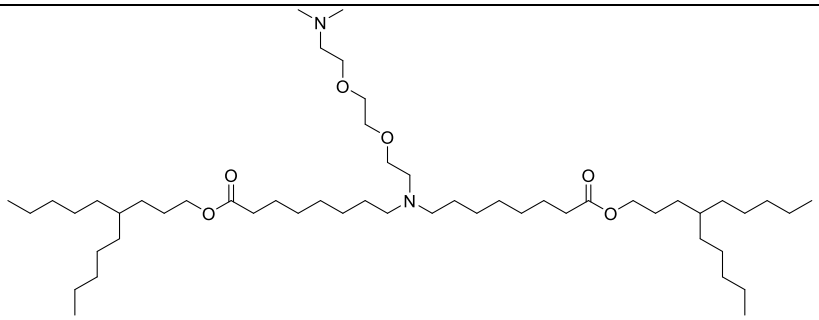
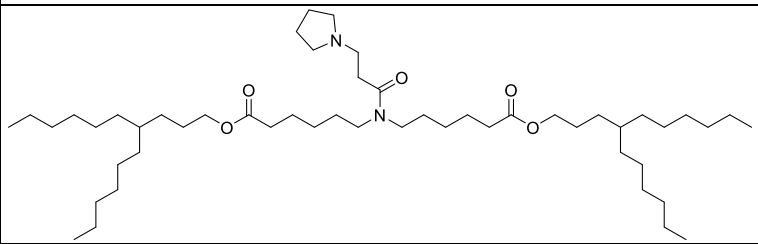
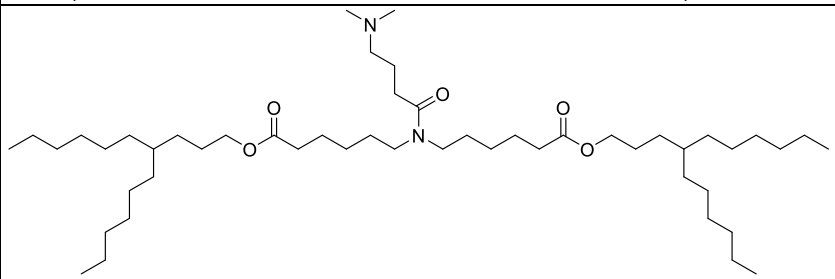
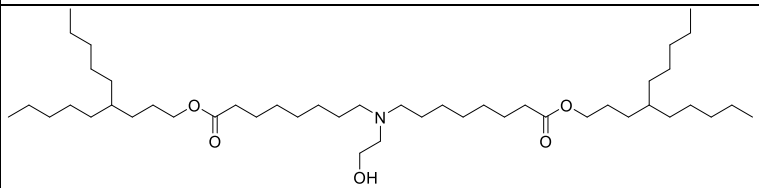
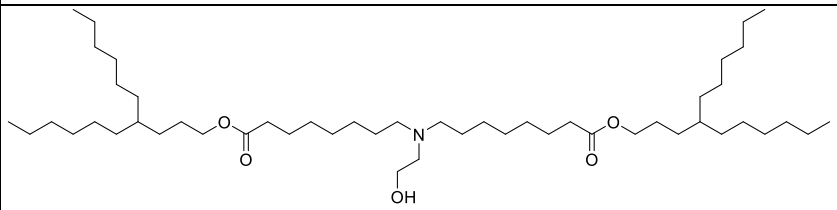
8. The compound of any one of claims 5-7, wherein **Z** is absent, O, S, or NH.

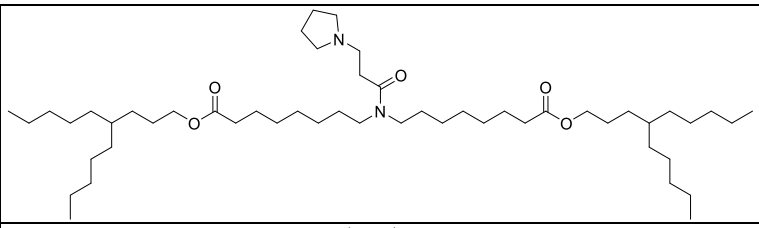
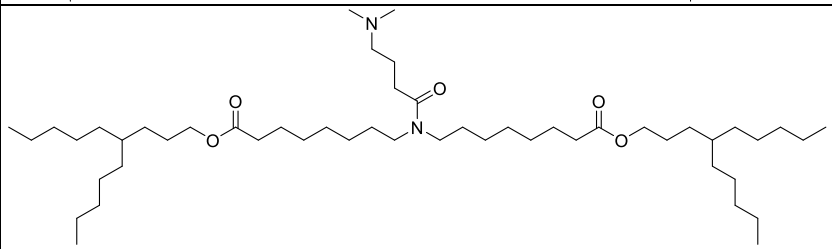
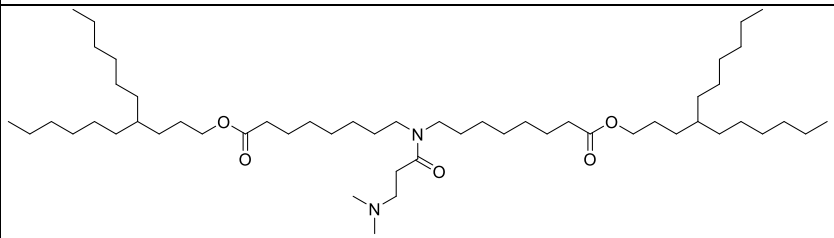
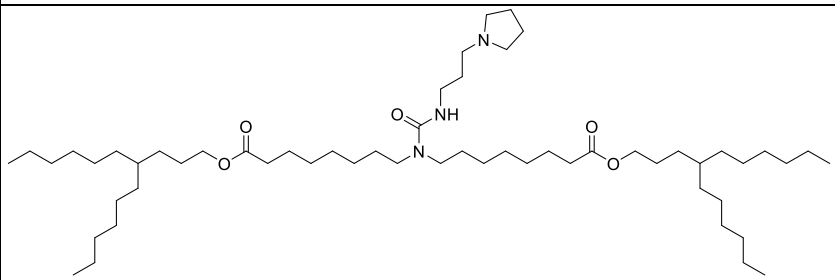
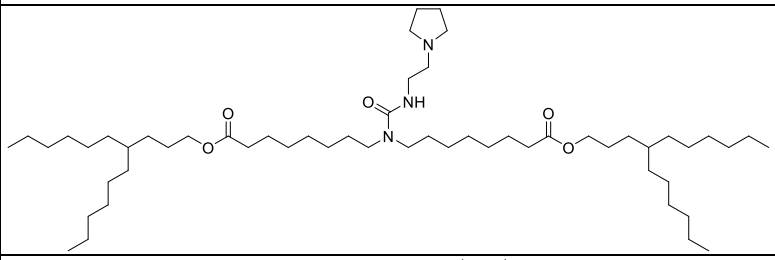
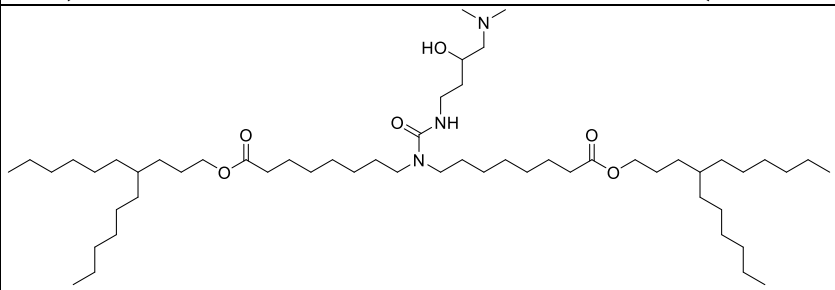
9. The compound of any one of the preceding claims, wherein the pKa of the protonated form of the compound is from about 5.1 to about 8.0.

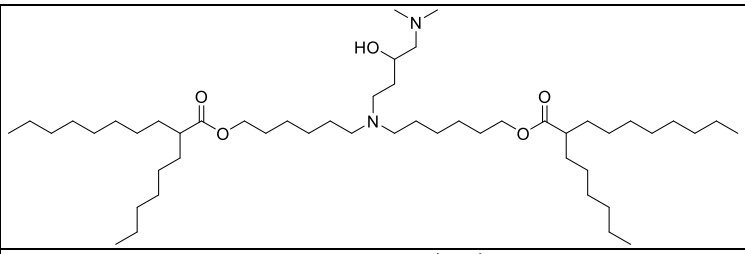
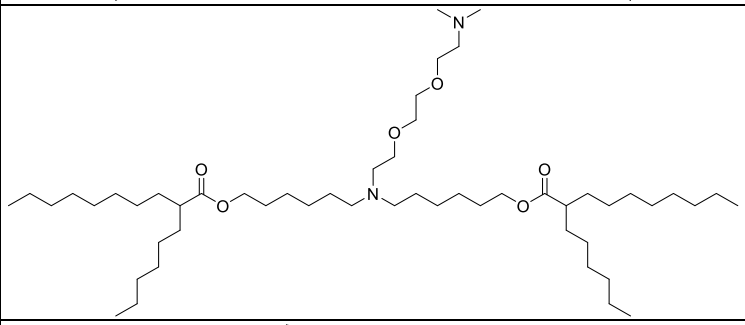
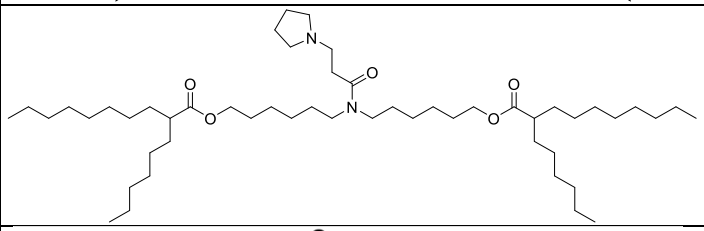
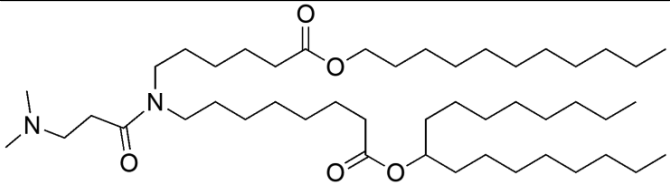
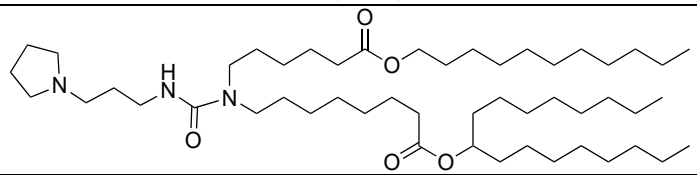
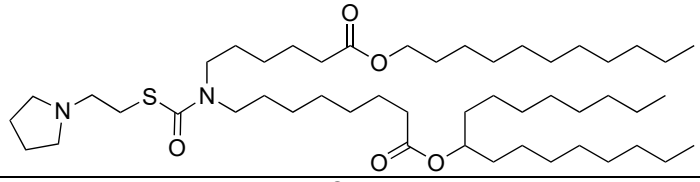
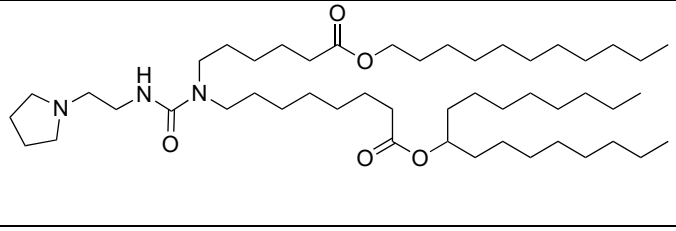
10. A compound having one of the following formulas:

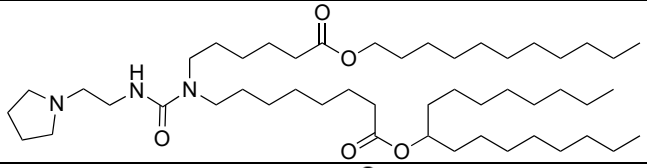
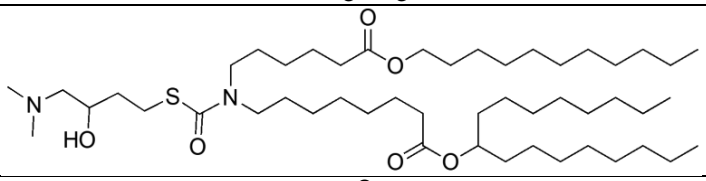
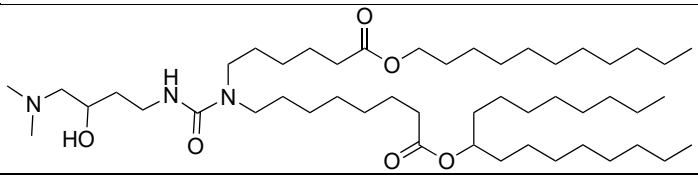
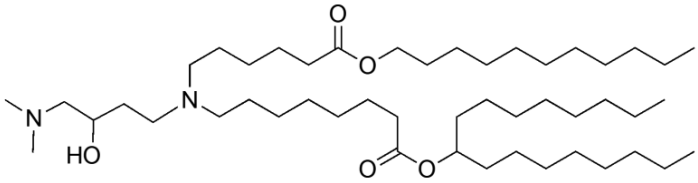
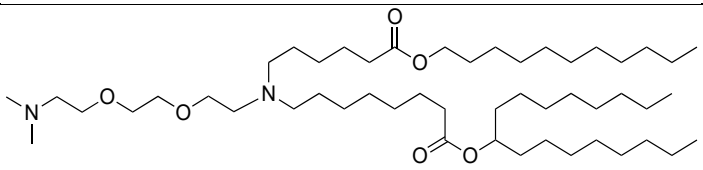
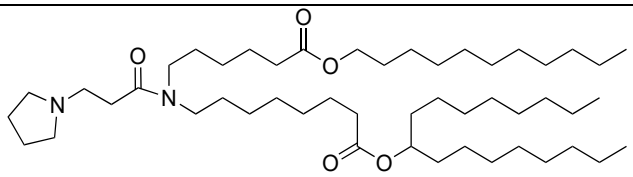
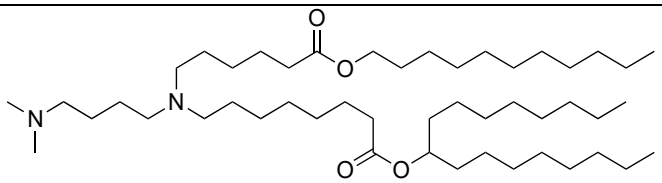
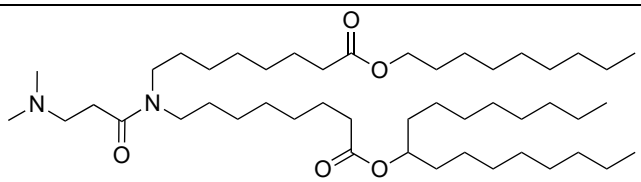
Lipid No.	Structure
7677 (2140)	
7676 (2139)	
7675 (2138)	
7671 (2142)	

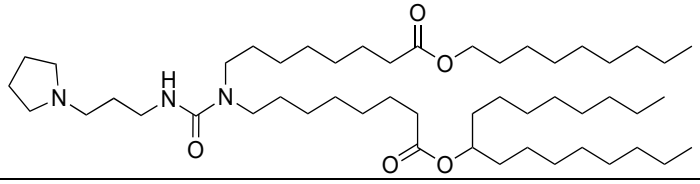
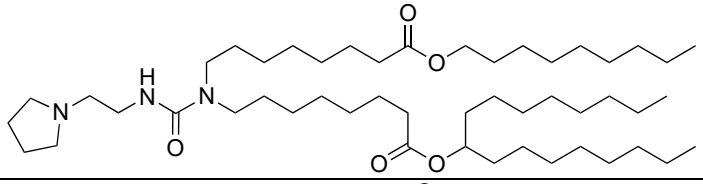
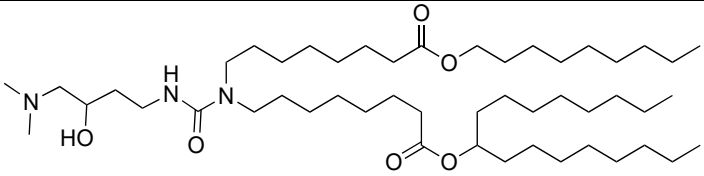
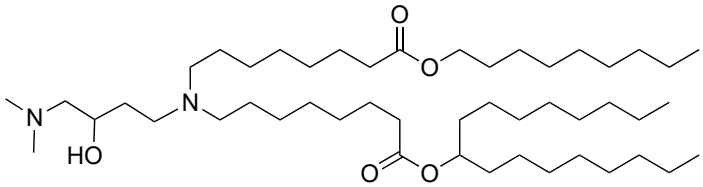
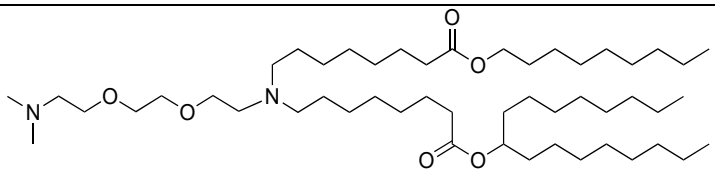
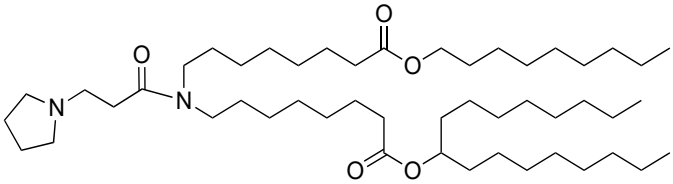
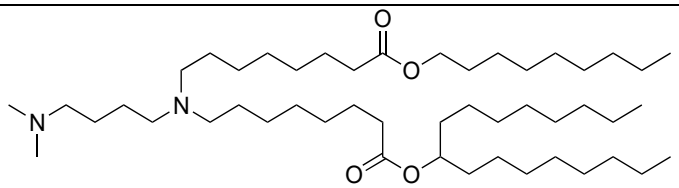
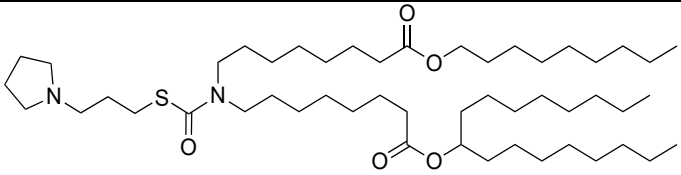
7670 (2146)	
7669 (2145)	
7668 (2133)	
7667 (2137)	
7651 (2131)	
7650 (2130)	

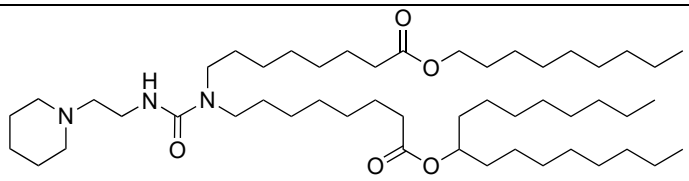
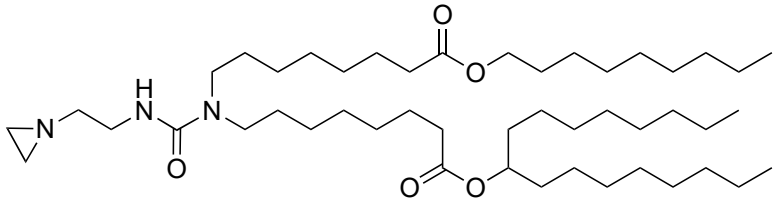
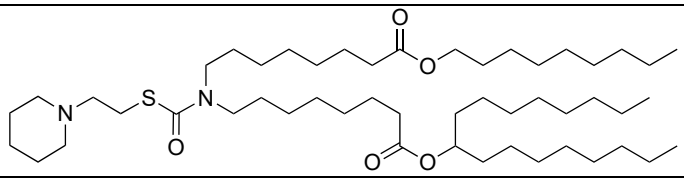
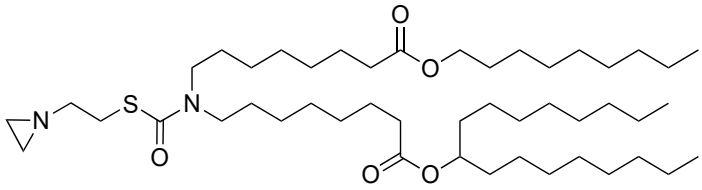
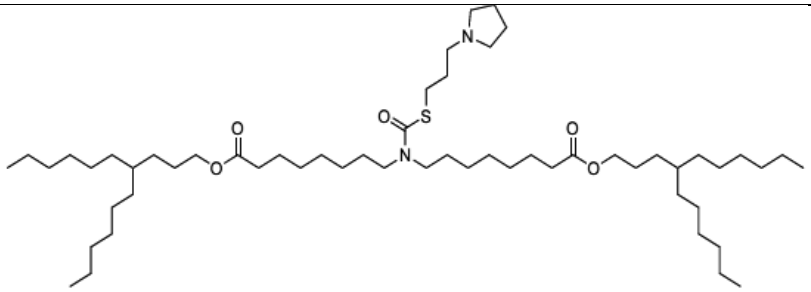
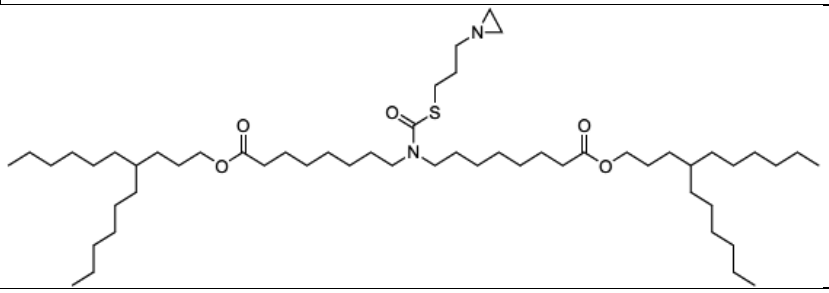
7649 (2129)	
7633 (2144)	
7632 (2143)	
7631 (2134)	
7608 (2135)	
7607 (2136)	

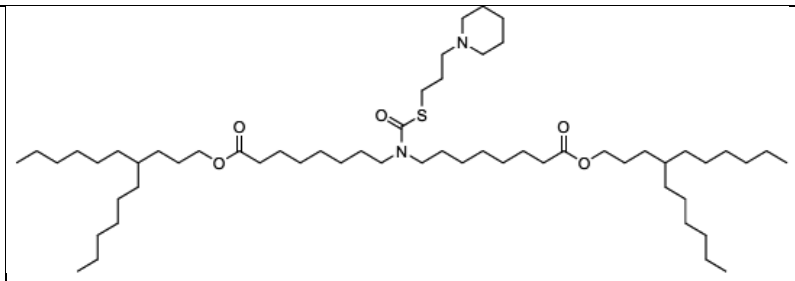
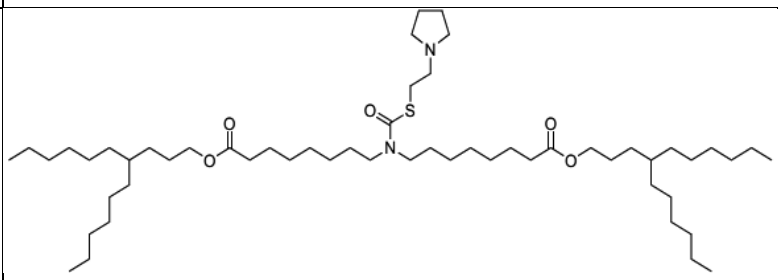
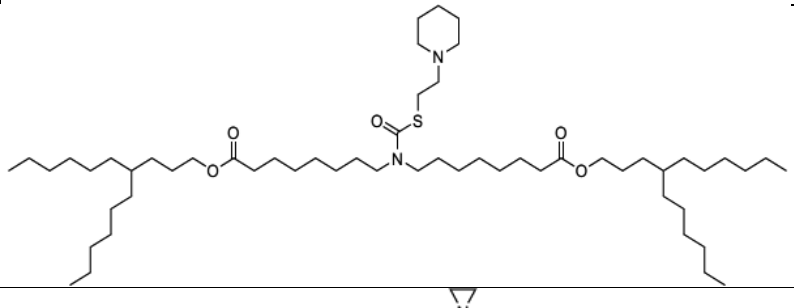
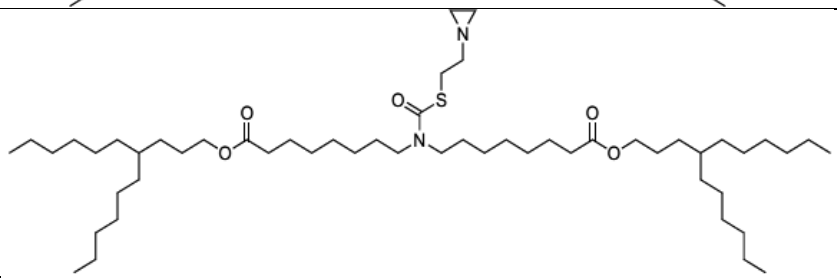
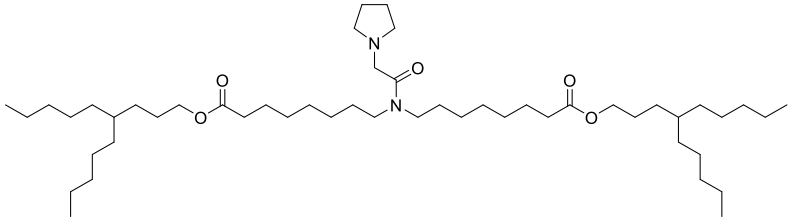
7596 (2141)	
7593 (2132)	
2229	
2228	
2227	
2226	

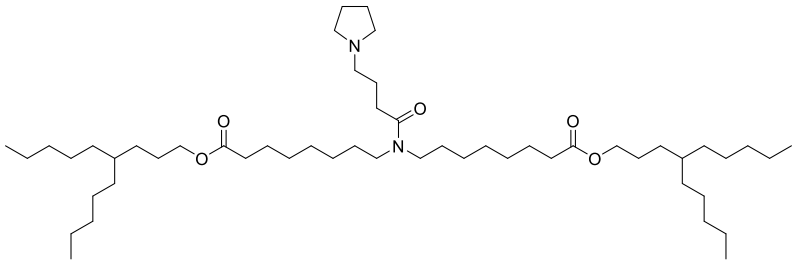
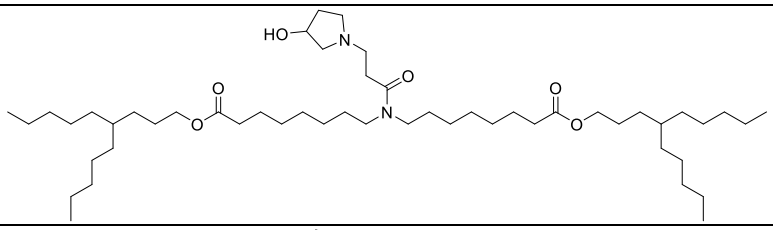
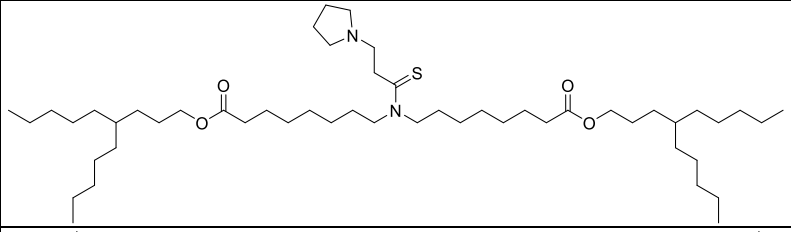
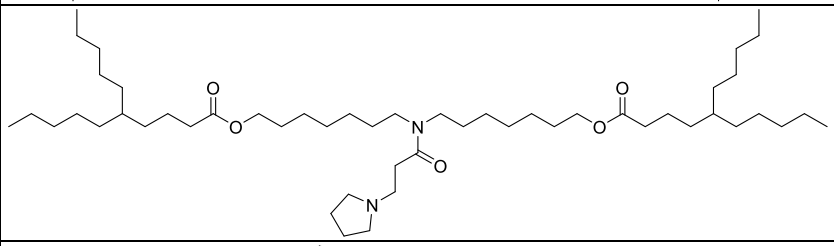
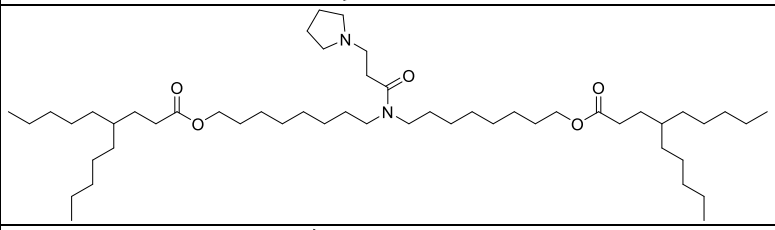
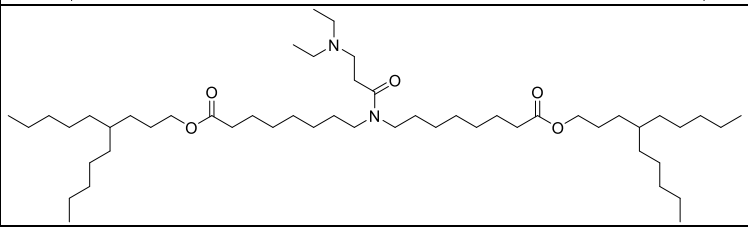
2225	
2216	
2215	
	
	
	
	

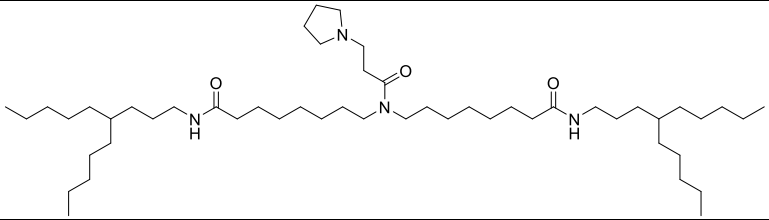
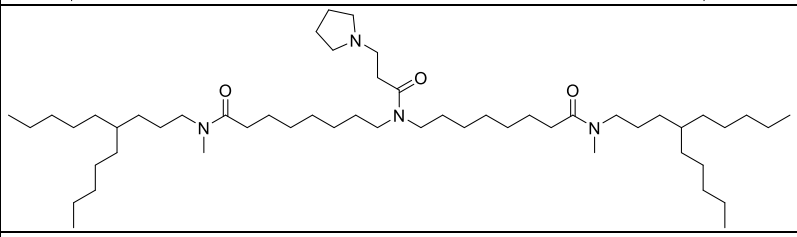
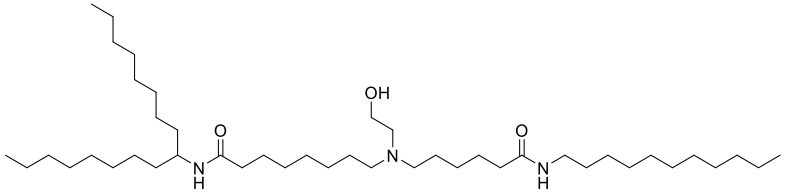
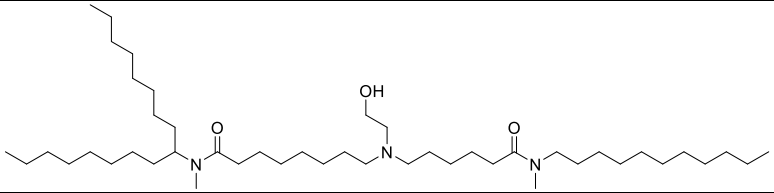
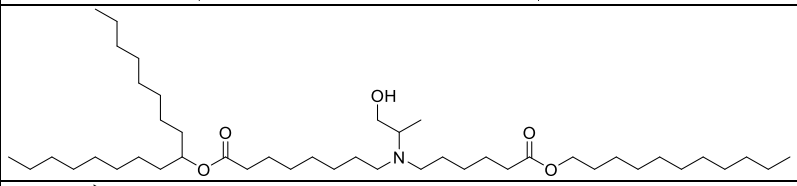
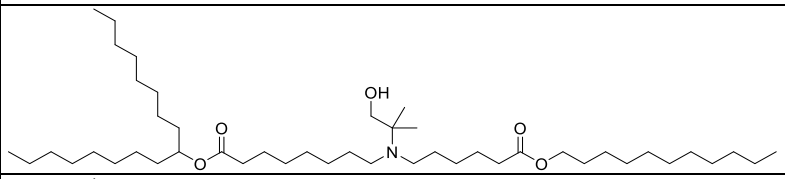
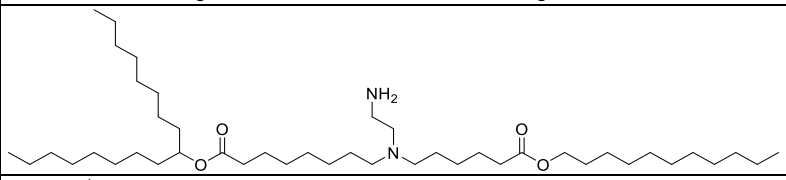
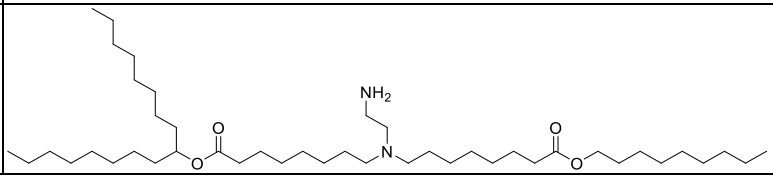
	
	
	
	
	
	
	
	

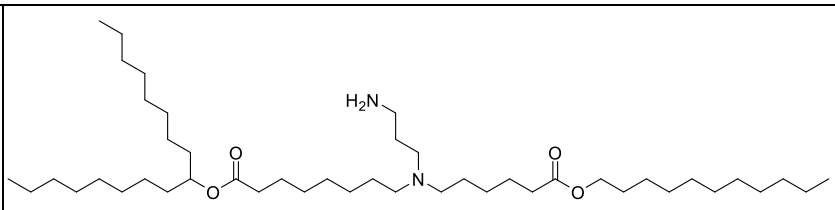
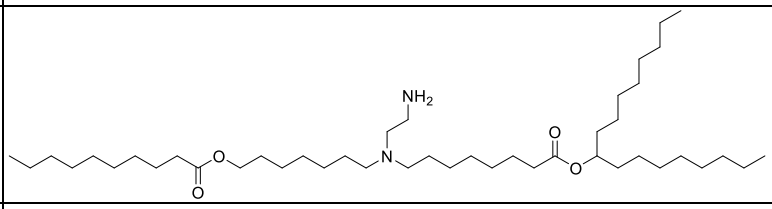
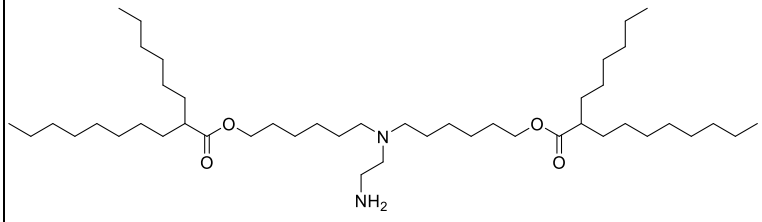
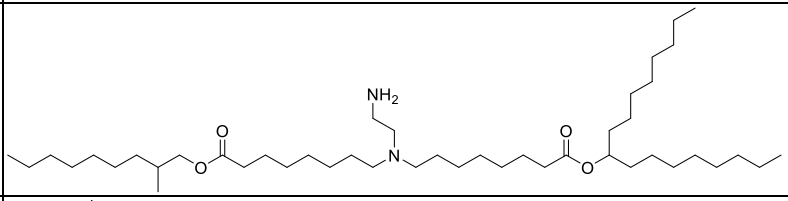
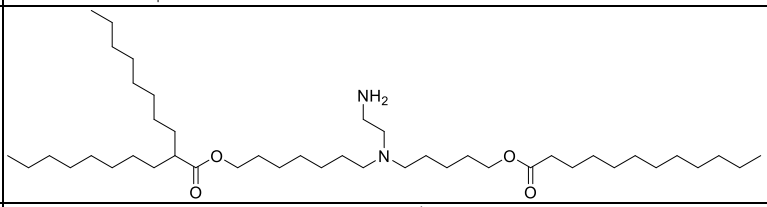
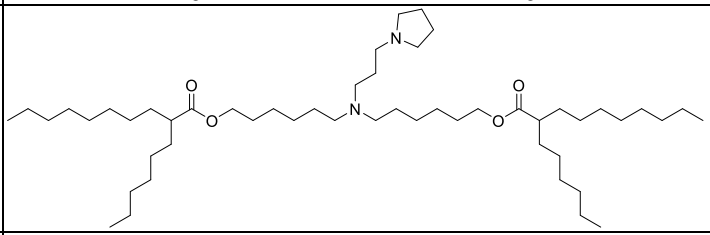
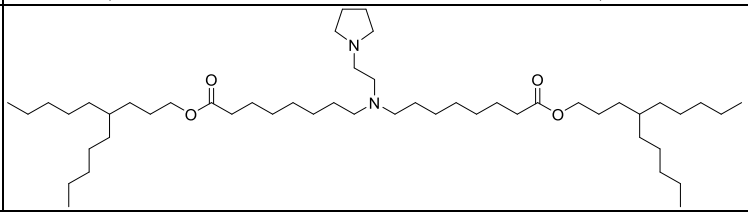
	
	
	
	
	
	
	
	

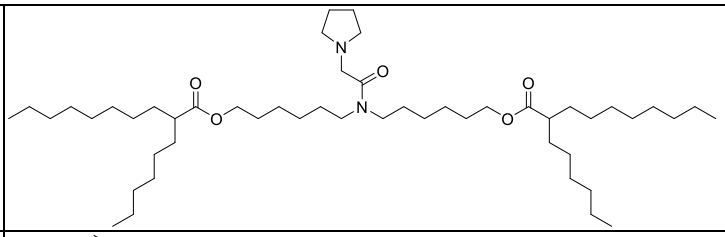
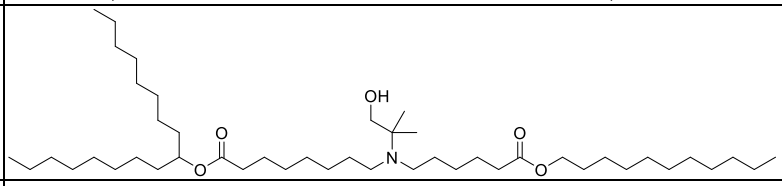
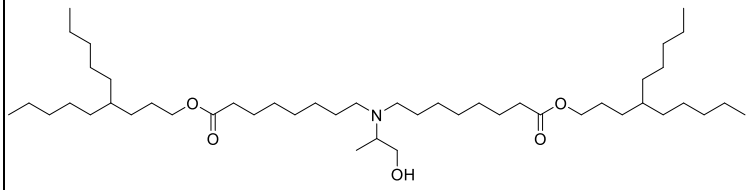
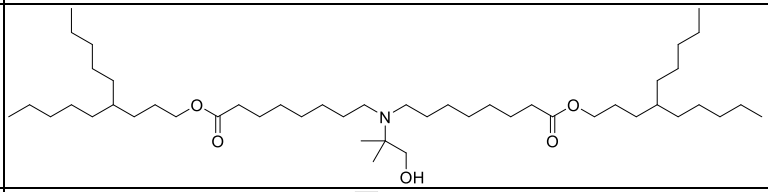
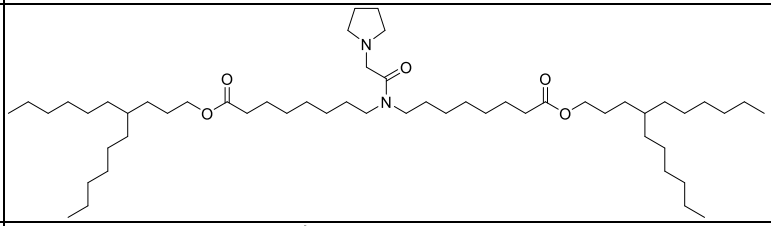
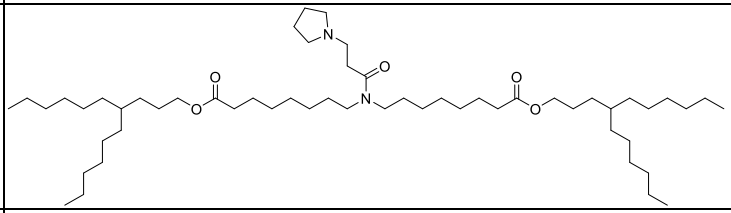
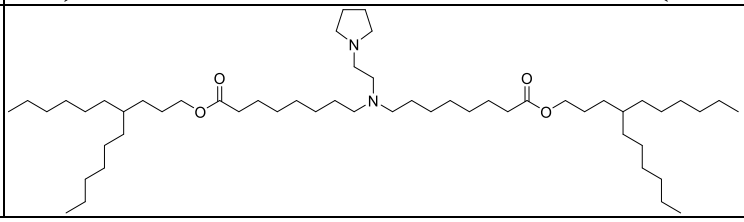
	
	
	
	
	
	

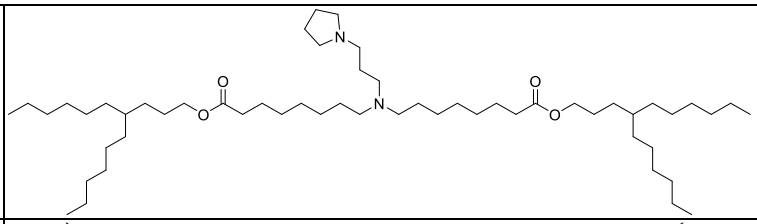
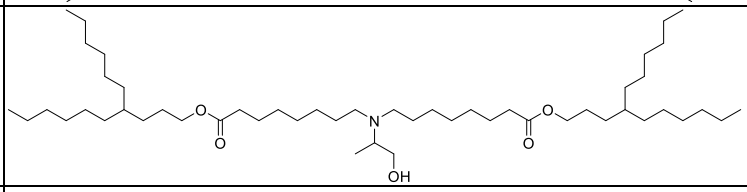
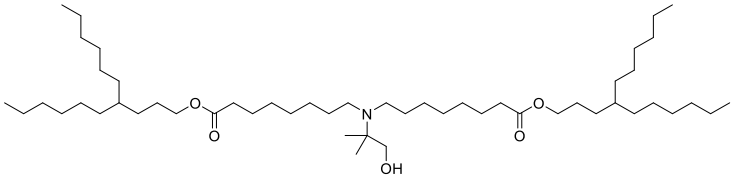
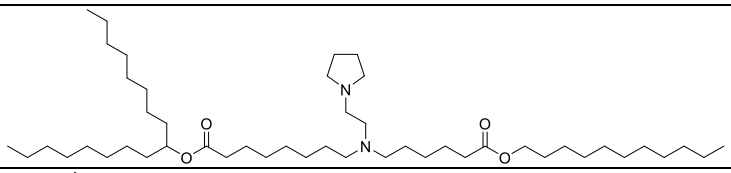
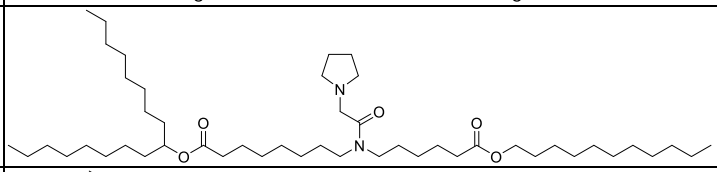
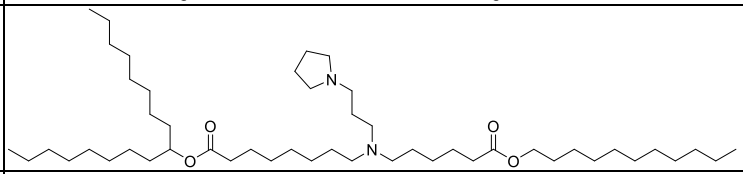
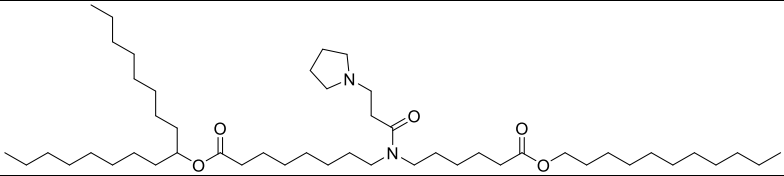
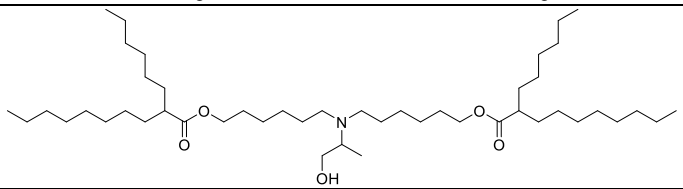
	
	
	
	
2233	

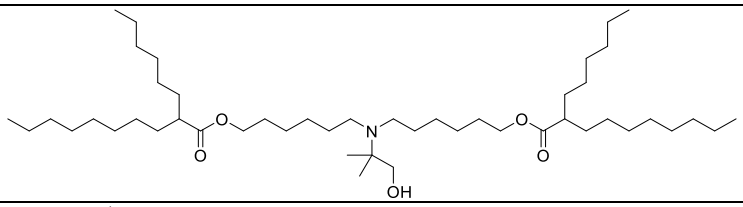
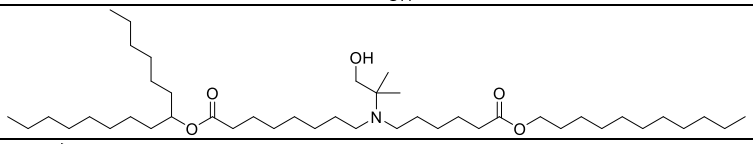
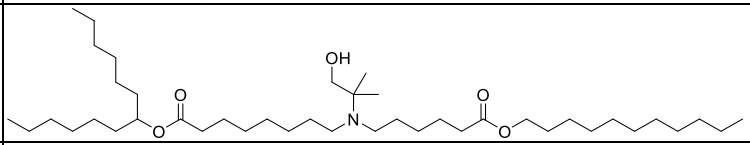
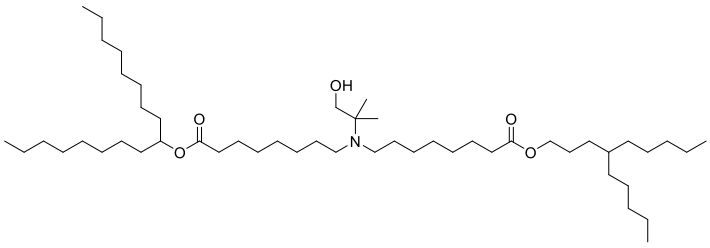
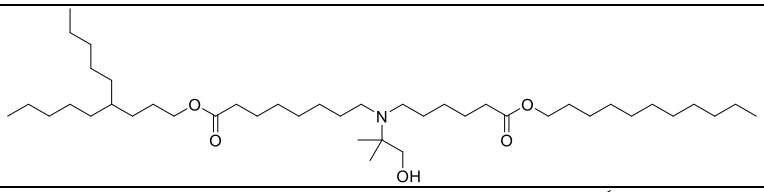
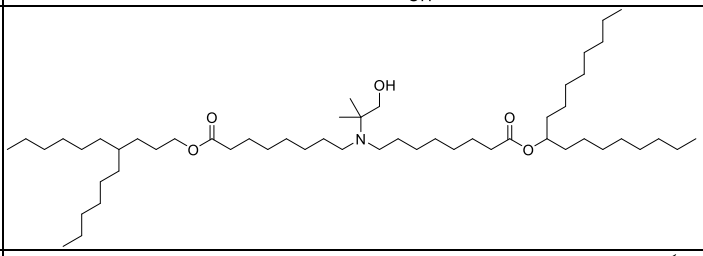
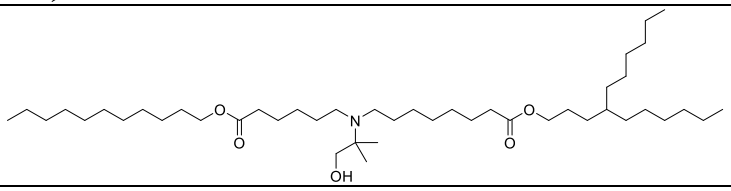
2234	
2235	
2236	
2237	
2238	
2239	

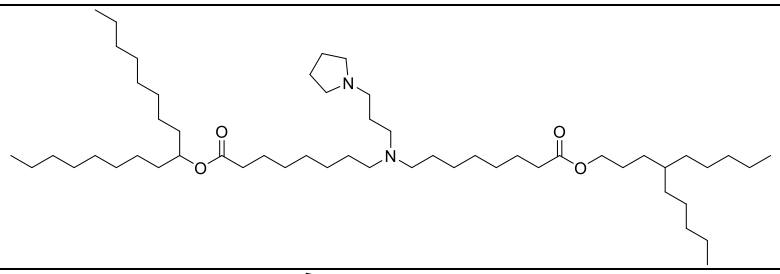
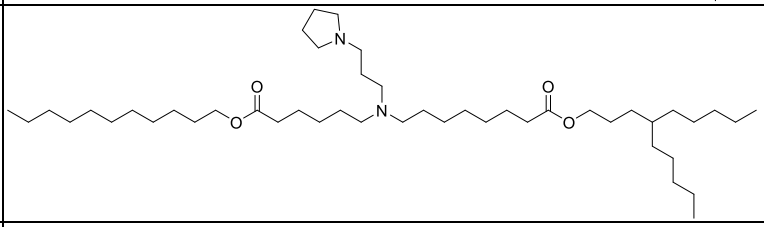
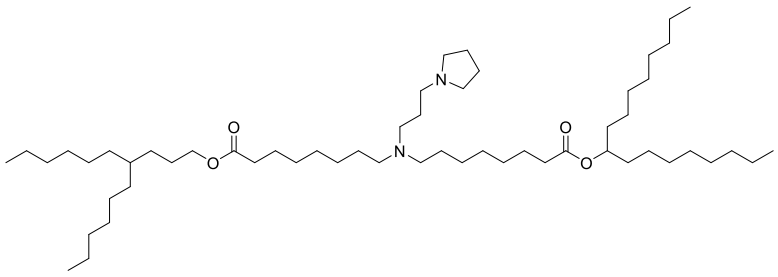
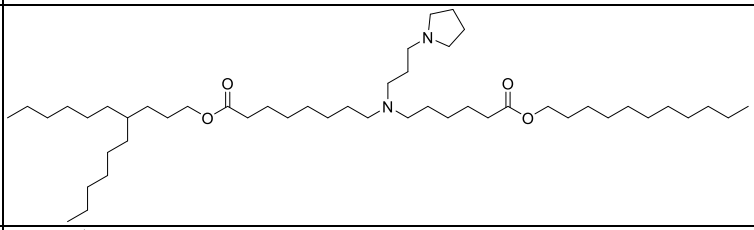
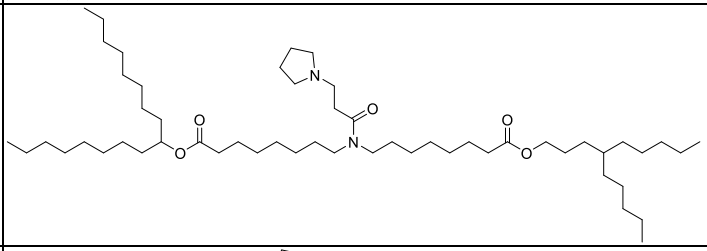
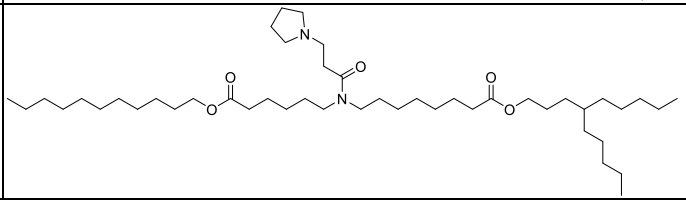
2241	
2242	
2244	
2245	
2249	
2250	
2276	
2277	

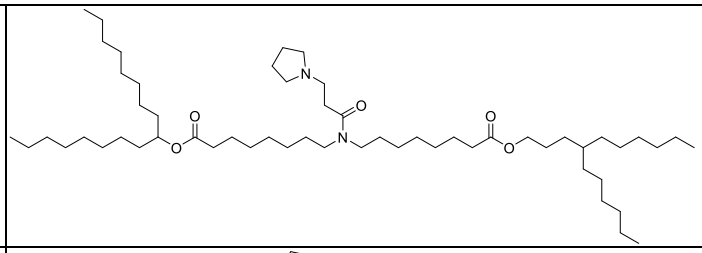
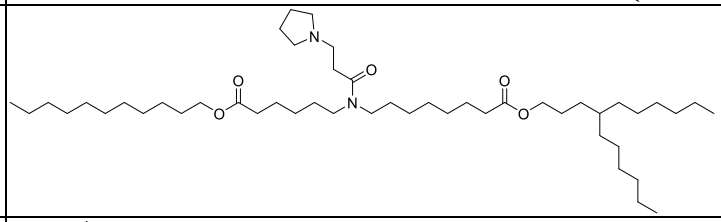
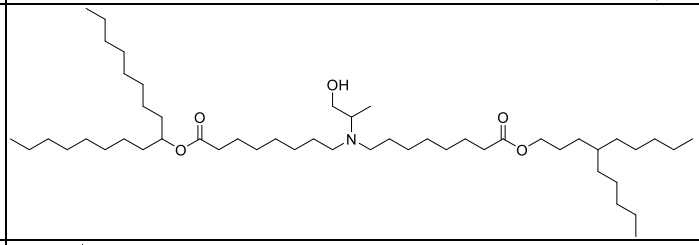
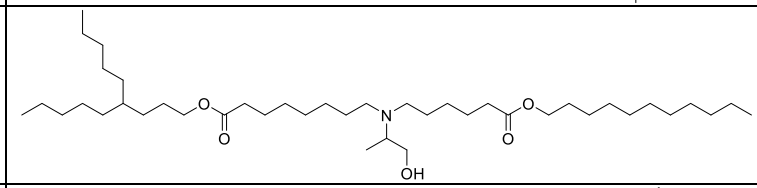
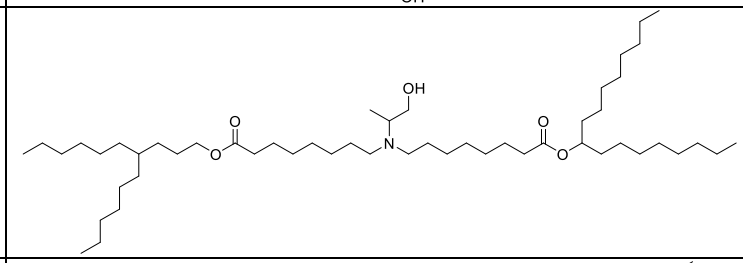
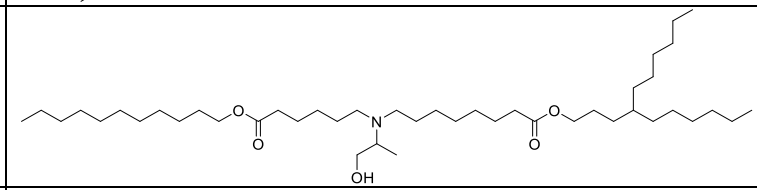
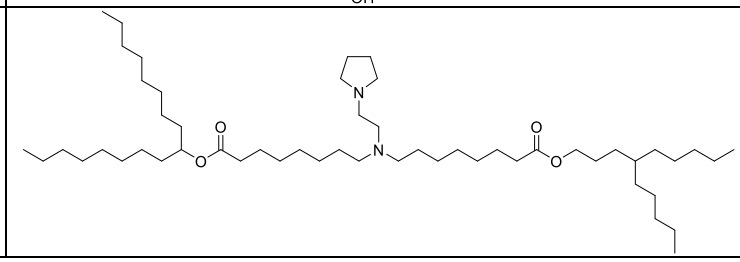
2300	
2301	
2312	
2313	
2314	
	
	

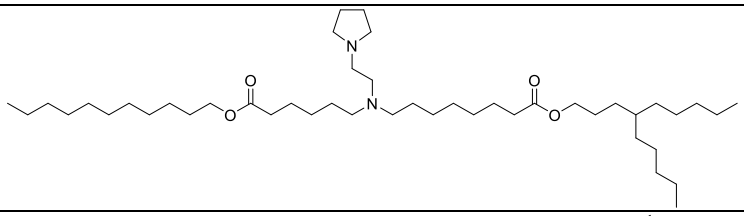
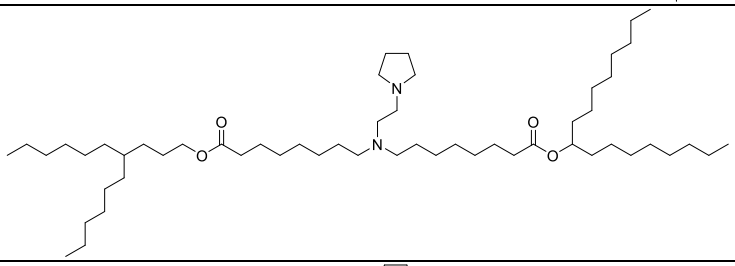
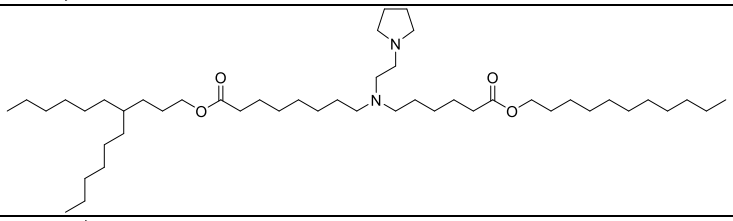
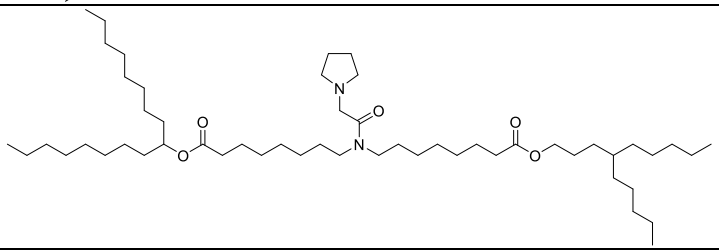
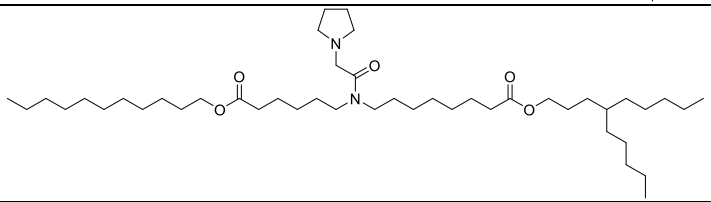
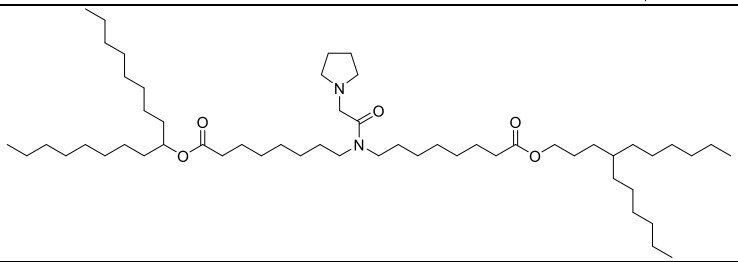
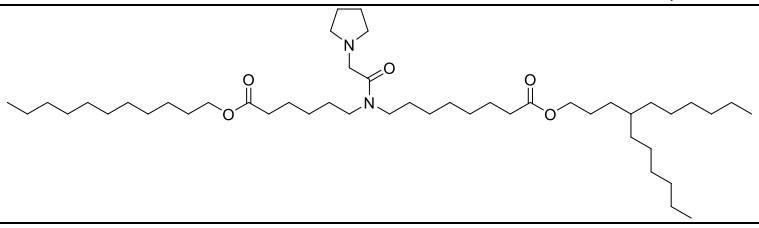
	
	
	
	
	
	
	

11. A combination of the compound of any one of the preceding claims and a lipid component.

12. The combination of claim 11, wherein the combination comprises about a 1:1 ratio of the compound and the lipid component.

13. The combination of claim 11 or 12, wherein the combination is a LNP composition.

14. The combination of any one of claims 11-13, wherein the lipid component comprises a helper lipid and a PEG lipid, and optionally a neutral lipid.

15. The combination of any one of claims 11-14, further comprising a nucleic acid component.

16. The combination of claim 15, wherein the nucleic acid component is an RNA or DNA component.

17. The combination of claim 15, having an N/P ratio of about 3-10.

18. The combination of claim 16 wherein the nucleic acid component is a RNA component, and wherein the RNA component comprises a mRNA.

19. Use of a composition comprising one or more compounds according to any one of claims 1-10 in the manufacture of a medicament for delivering a therapeutic cargo to a target organ of a subject in need thereof.

20. The use of claim 19, wherein the target organ is the pancreas or the lung, and wherein:
less than 50%, 30%, or 10% of the therapeutic cargo is to be delivered to the liver of the subject; and/or
more than 50%, 70%, or 90% of the therapeutic cargo is to be delivered to the pancreas and/or lung of the subject.