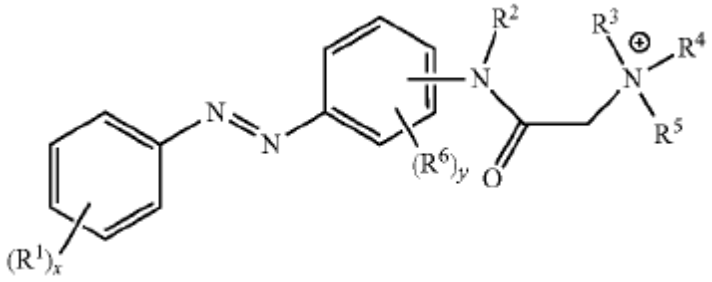
WHAT IS CLAIMED IS:

1. A pharmaceutical composition, comprising:

an alkylated cyclodextrin; and

a compound of formula (I):



**(I)**

wherein each of $R_1$ are independently selected from $C_{1-10}$ alkyl, substituted $C_{1-10}$ alkyl, $-NR^{10}R^{11}$, $-NR^{12}C(O)R^{13}$, $C_{2-10}$ alkenyl, substituted $C_{2-10}$ alkenyl, $C_{2-10}$ alkynyl, substituted $C_{2-10}$ alkynyl, $C_{6-20}$ aryl; substituted $C_{6-20}$ aryl, heteroaryl, heterocyclic, heterocyclooxy, heterocyclothio, heteroarylamino, heterocycloamino, $C_{4-10}$ cycloalkyl, substituted $C_{4-10}$ cycloalkyl, $C_{4-10}$ cycloalkenyl, substituted $C_{4-10}$ cycloalkenyl, cyano, halo, $-OR^{10}$, $-C(O)OR^{10}$, and $-S(O)_2R^{10}$;

x is an integer from 0 to 5;

y is an integer from 0 to 4;

$R^2$ is selected from hydrogen, $C_{1-10}$ alkyl, substituted $C_{1-10}$ alkyl, $C_{2-10}$ alkenyl, substituted $C_{2-10}$ alkenyl, $C_{2-10}$ alkynyl, substituted $C_{2-10}$ alkynyl, $C_{6-20}$ aryl, substituted $C_{6-20}$ aryl, $C_{4-10}$ cycloalkyl, substituted $C_{4-10}$ cycloalkyl, $C_{4-10}$ cycloalkenyl, and substituted $C_{4-10}$ cycloalkenyl;

$R^3$, $R^4$, and $R^5$ are independently selected from hydrogen, $C_{2-8}$ alkyl, substituted $C_{2-10}$ alkyl, $C_{2-10}$ alkenyl, substituted $C_{2-10}$ alkenyl, $C_{2-10}$ alkynyl, substituted $C_{2-10}$ alkynyl, $C_{6-20}$ aryl, substituted $C_{6-20}$ aryl, $C_{4-10}$ cycloalkyl, substituted $C_{4-10}$ cycloalkyl, $C_{4-10}$ cycloalkenyl, and substituted $C_{4-10}$ cycloalkenyl;

each $R^6$ is independently selected from hydrogen, $C_{1-10}$ alkyl, substituted $C_{1-10}$ alkyl, $NR^{10}R^{11}$, $-NR^{12}C(O)R^{13}$, $C_{2-10}$ alkenyl, substituted $C_{2-10}$ alkenyl, $C_{2-10}$ alkynyl, substituted $C_{2-10}$ alkynyl, $C_{6-20}$ aryl, substituted $C_{6-20}$ aryl, heteroaryl, heterocyclic,

heterocyclooxy, heterocyclothio, heteroarylamino, heterocycloamino, $C_{4-10}$ cycloalkyl, substituted $C_{4-10}$ cycloalkyl, $C_{4-10}$ cycloalkenyl, substituted $C_{4-10}$ cycloalkenyl, cyano, halo, $-OR^{10}$, $-C(O)OR^{10}$, $-S(O)R^{10}$, and $-S(O)_2R^{10}$;

$R^{10}$ and $R^{11}$ are independently selected from hydrogen, $C_{1-10}$ alkyl, substituted $C_{1-10}$ alkyl, $C_{2-10}$ alkenyl, substituted $C_{2-10}$ alkenyl, $C_{2-10}$ alkynyl, substituted $C_{2-10}$ alkynyl, $C_{6-20}$ aryl, substituted $C_{6-20}$ aryl, $C_{4-10}$ cycloalkyl, substituted $C_{4-10}$ cycloalkyl, $C_{4-10}$ cycloalkenyl, and substituted $C_{4-10}$ cycloalkenyl;

$R^{12}$ is selected from hydrogen, $C_{1-10}$ alkyl, substituted $C_{1-10}$ alkyl, $C_{2-10}$ alkenyl, substituted $C_{2-10}$ alkenyl, $C_{2-10}$ alkynyl, substituted $C_{2-10}$ alkynyl, $C_{6-20}$ aryl, substituted $C_{6-20}$ aryl, $C_{4-10}$ cycloalkyl, substituted $C_{4-10}$ cycloalkyl, $C_{4-10}$ cycloalkenyl, and substituted $C_{4-10}$ cycloalkenyl; and

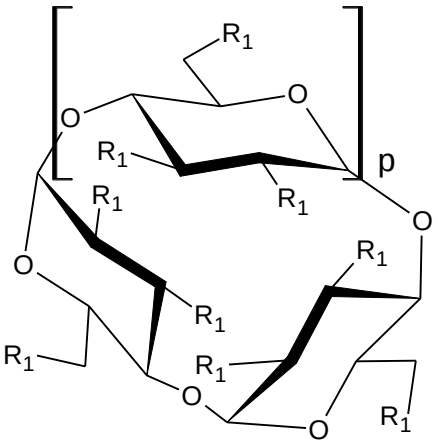
$R^{13}$ is selected from hydrogen, $C_{1-10}$ alkyl, substituted $C_{1-10}$ alkyl, $C_{2-10}$ alkenyl, substituted $C_{2-10}$ alkenyl, $C_{2-10}$ alkynyl, substituted $C_{2-10}$ alkynyl, $C_6$-$C_{10}$ aryl, substituted $C_{6-20}$ aryl, $C_{4-10}$ cycloalkyl, substituted $C_{4-10}$ cycloalkyl, $C_{4-10}$ cycloalkenyl, substituted $C_{4-10}$ cycloalkenyl, $-CH_2-N(CH_2CH_3)_3^+$, and $-CH_2-SO_3^-$,

or a pharmaceutically acceptable salt thereof;

wherein the azo bond in the compound of formula (I) may be either cis or trans; and

wherein the molar ratio of cyclodextrin to compound of formula (I) is from 1:1 to 500:1.

2. The composition of claim 1, wherein the alkylated cyclodextrin has the structure of formula (II):

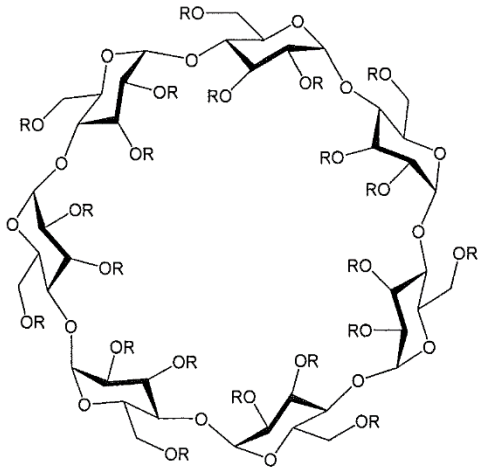



(II)

or pharmaceutically acceptable salts thereof, wherein p is 4, 5, or 6, and $R_1$ is independently selected at each occurrence from –OH and optionally substituted –O-$C_1$-$C_8$ alkyl, wherein at least one $R_1$ is an optionally substituted –O-$C_1$-$C_8$ alkyl.

3. The composition of claim 2, wherein at least one $R_1$ is –O-$C_1$-$C_8$ alkyl substituted with hydroxy.

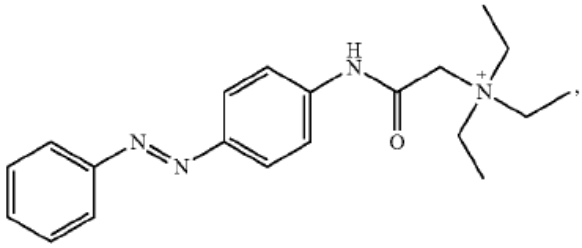
4. The composition of claim 1, wherein the cyclodextrin has the structure of formula (III):

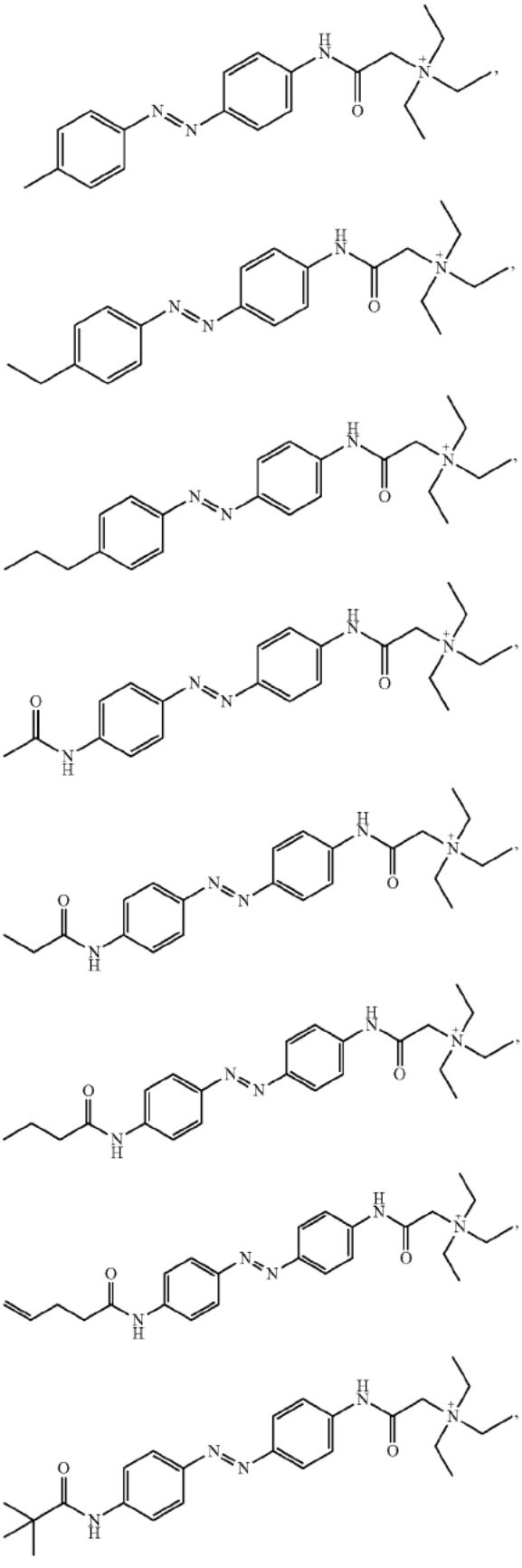


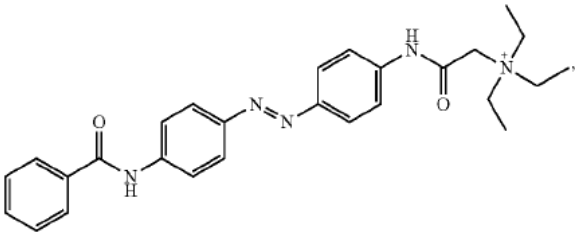

(III)

wherein each R is independently -H or -$(CH_2)_4$-$SO_3^-Na^+$, and the average degree of substitution with –$(CH_2)_4$-$SO_3^-Na^+$ of all cyclodextrin molecules in the composition is from 6 to 7.1.

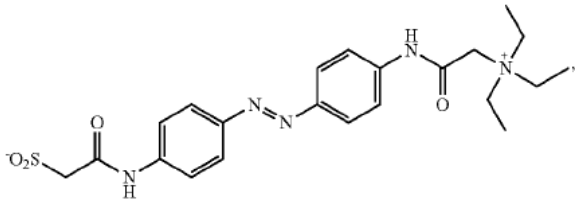
5. The composition of claim 1, wherein the compound of formula (I) is selected from the group consisting of:

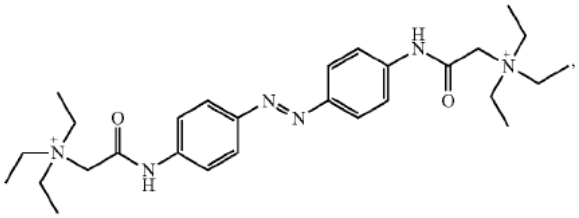




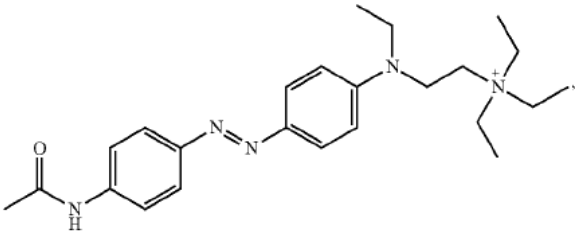


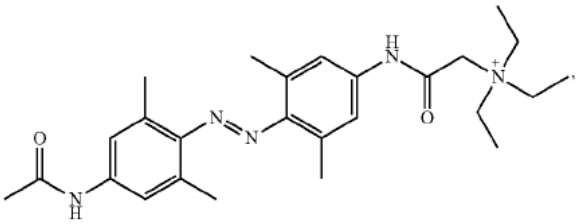
(

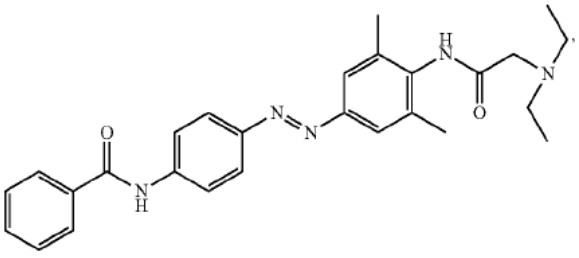


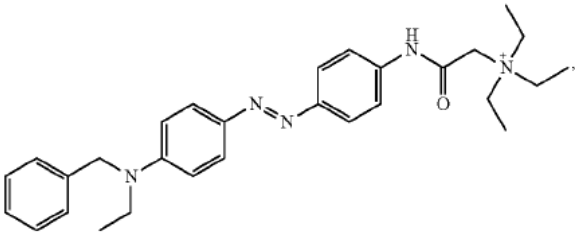


(QAQ)

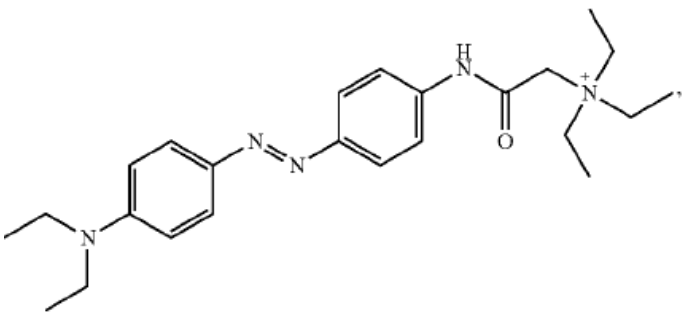


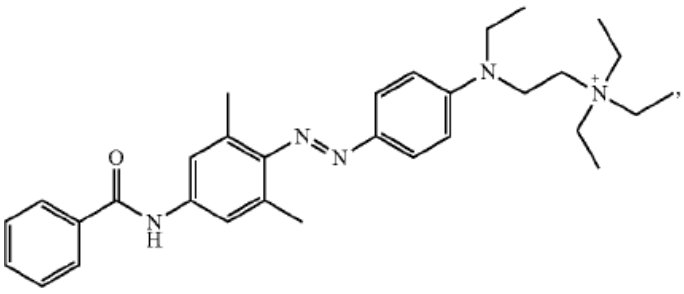




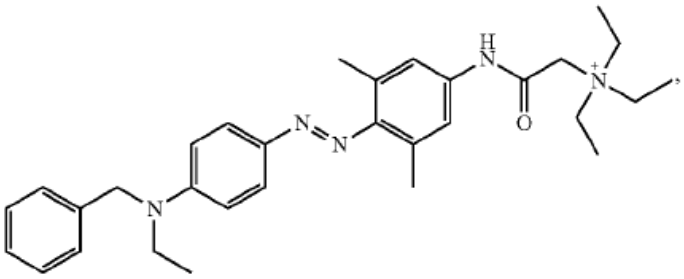


(BEAAQ)

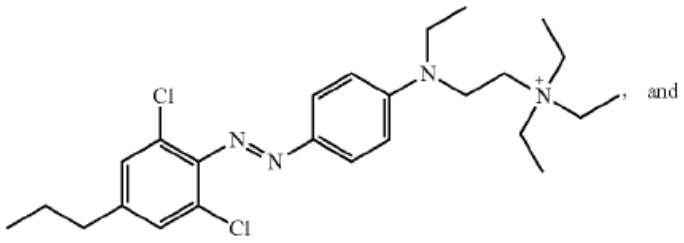




(7.72)

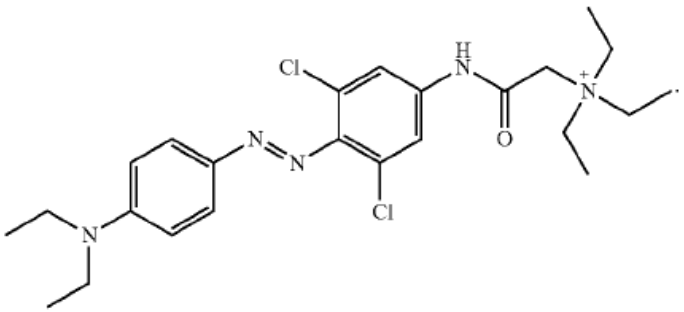


(7.73)



and

(7.75)



(7.76)

or pharmaceutically acceptable salts thereof, wherein the azo bond in the compounds of formula (I) may be either cis or trans.

6. The composition of any one of claims 1 to 5, wherein the molar ratio of cyclodextrin to compound of formula (I) is from 2:1 to 350:1.

7. The composition of any one of claims 1 to 5, wherein the molar ratio of cyclodextrin to compound of formula (I) is from 3:1 to 150:1.

8. The composition of any one of claims 1 to 7, wherein the concentration of the compound of formula (I) is from 50 µM to 200 µM.

9. The composition of any one of claims 1 to 5, wherein the concentration of the compound of formula (I) is about 100 µM.

10. The composition of any one of claims 1 to 9, wherein the azo bond in greater than 50% of molecules of formula (I) in the composition is trans.

11. The composition of any one of claims 1 to 9, wherein greater than 50% of the molecules of formula (I) in the composition are complexed with the cyclodextrin.

12. The composition of any one of claims 1 to 9, wherein greater than 90% of the molecules of formula (I) in the composition are complexed with the cyclodextrin.

13. The composition of any one of claims 1 to 12, further comprising a buffer.

14. The composition of any one of claims 1 to 13, wherein the composition is an aqueous solution, and the solution has an osmolality between 250 mOsm and 350 mOsm.

15. The composition of any one of claims 1 to 13, wherein the composition is a solid suitable for reconstitution.

16. Use of a composition of any one of claims 1 to 14 in the manufacture of a medicament for treating a retinal disorder.

17. The use of claim 16, wherein the retinal disorder is retinitis pigmenosa or age-related macular degeneration.

18. The use of any one of claims 16 to 17, comprising prior to said injection, exposing the composition to light.

19. The use of claim 18, wherein the light comprises light having a wavelength of 350 nm to 500 nm.

20. The use of any one of claims 18 to 19, wherein the composition is exposed to from 200 J/ml to 2000 J/ml of 350 nm to 500 nm light.