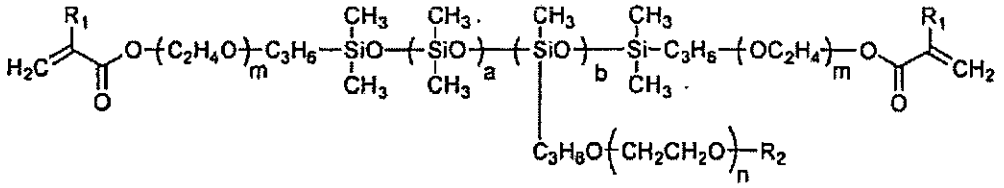
polymerizable composition can be from 100:1 to 400:1 based on unit parts by weight. The at least one vinyl-containing cross-linking agent can comprise or consist of at least one vinyl ether-containing cross-linking agent.

**[0010]** In another example, the polymerizable composition can comprise at least one hydrophilic monomer. The at least one hydrophilic monomer can comprise a hydrophilic amide monomer having one N-vinyl group.

**[0011]** The first siloxane monomer and the second siloxane monomer can be present in the polymerizable composition such that a ratio of an amount of the first siloxane monomer present in the polymerizable composition to an amount of the second siloxane monomer present in the polymerizable composition is at least 3:1 based on unit parts by weight. A total amount of siloxane monomers present in the polymerizable composition can be from about 30 unit parts to about 50 unit parts by weight, such as, for example, from about 35 to about 40 unit parts from about 33 unit parts to 45 about unit parts, or from about 35 unit parts to about 40 unit parts by weight.

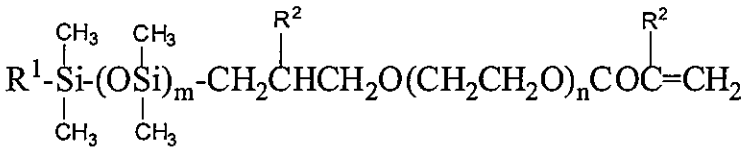
**[0012]** In one example, the second siloxane monomer~~, the second siloxane monomer~~ can be a siloxane monomer represented by formula (2):



(2)

wherein $R_1$ of formula (2) is selected from either hydrogen or a methyl group; $R_2$ of formula (2) is selected from either of hydrogen or a $C_{1-4}$ hydrocarbon group; m of formula (2) represents an integer of from 0 to 10; n of formula (2) represents an integer of from 4 to 100; a and b of formula (2) represent integers of 1 or more; a+b is equal to 20-500; b/(a+b) is equal to 0.01-0.22; and the configuration of siloxane units includes a random configuration, wherein the second siloxane monomer has a number average molecular weight greater than 7,000 daltons. In one example of the siloxane of formula (2), m of formula (2) is 0, n of formula (2) is one integer from 5 to 10, a of formula (2) is one integer from 65 to 90, b of formula (2) is one integer from 1 to 10, and $R_1$ of formula (2) is a methyl group.

**[0013]** In one example, the polymerizable composition can further comprise at least one third siloxane monomer. When the polymerizable composition comprises the at least one third



(1)

wherein m of formula (1) represents one integer from 3 to 10, n of formula (1) represents one integer from 1 to 10, R1 of formula (1) is an alkyl group having from 1 to 4 carbon atoms, and R2 of formula (1) is a hydrogen atom or a methyl group; (b) a second siloxane monomer which is a dual-end methacrylate end-capped polydimethylsiloxane having a number average molecular weight of at least 7,000 daltons; wherein a ratio of an amount of the first siloxane monomer present in the polymerizable composition to an amount of the second siloxane monomer present in the polymerizable composition is at least 3:1 based on unit parts by weight, and wherein the silicone hydrogel contact lens, when fully hydrated, has an energy loss from about 25% to about 45%. The silicone hydrogel contact lens, when fully hydrated, can have an energy loss from about 27% to about 40%.

**[0078]** The total amount of siloxane monomers present in the polymerizable composition (e.g., the sum of the unit parts of the first siloxane monomer, the second siloxane monomer, and any other optional siloxane monomers present in the polymerizable composition) can be from about 10 to about 60 unit parts, or from about 25 to about 50 unit parts, or from about 35 to about 40 unit parts.

**[0079]** The polymerizable compositions of the present disclosure can be understood to comprise a first component consisting of a first siloxane monomer of formula (1), a second siloxane monomer which is a dual-end methacrylate end-capped polydimethylsiloxane having a number average molecular weight of at least 7,000 daltons, and a second component comprising at least one third siloxane monomer, or at least one cross-linking agent, or at least one hydrophilic monomer, or at least one hydrophobic monomer, or any combination thereof. The optional at least one cross-linking agent can be present as a single cross-linking agent, or can be present as a cross-linking agent component comprising two or more single cross-linking agents. As used herein, the cross-linking agent and cross-linking agent component are non-silicon cross-linking agents and thus are different from multifunctional siloxane monomers which may be present in the polymerizable composition.

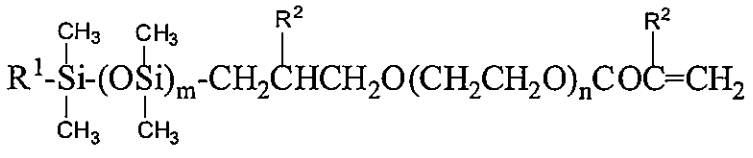
**[0080]** As used herein, unit parts is understood to mean unit parts by weight. For example, to prepare a formulation described as comprising ~~x~~ z unit parts of a siloxane

monomer and y unit parts of a hydrophilic monomer, the composition can be prepared by combining ~~x~~ z grams of the siloxane monomer with y grams of the hydrophilic monomer to obtain a total of y+z grams of polymerizable composition, or by combining z ounces of the siloxane with y ounces of the hydrophilic monomer to obtain a total of y+z ounces of polymerizable composition, and so on. When the composition further comprises additional optional ingredients such as, for example, x unit parts of a cross-linking agent, x grams of the cross-linking agent are combined with z grams of the siloxane monomer and y grams of the hydrophilic monomer to obtain a total of x+y+z grams of polymerizable composition, and so on. When the composition comprises an additional optional ingredient comprising an ingredient component composed of two ingredients, such as, for example, a hydrophobic monomer component consisting of a first hydrophobic monomer and a second hydrophobic monomer, in addition to the z unit parts of siloxane monomer, the y unit parts of hydrophilic monomer and the x unit parts of the cross-linker, w unit parts of the first hydrophobic monomer and v unit parts of the second hydrophobic monomer are combined to obtain a total amount of v+w+x+y+z unit parts of the polymerizable composition. It is understood that the unit parts of the at least one hydrophobic monomer present in such a polymerizable is the sum of the unit parts of the first hydrophobic monomer and the unit parts of the second hydrophobic monomer, e.g., v+w unit parts in this example. Typically, a formula for a polymerizable composition will be composed of ingredients in amounts totaling from about 90 to about 110 unit parts by weight. When amounts of components of the polymerizable composition are recited herein as being in unit parts, it is to be understood that the unit parts of these component are based on a formula providing a total weight of the composition ranging from about 90 to 110 unit parts. In one example, the unit parts by weight can be based on a formula providing a total weight of the composition ranging from about 95 to 105 unit parts by weight, or from about 98 to 102 unit parts by weight.

**[0081]** In accordance with the present disclosure, a cross-linking agent is understood to be a monomer having more than one polymerizable functional group as part of its molecular structure, such as two or three or four polymerizable functional groups, i.e., a multifunctional monomer such as a bifunctional or trifunctional or tetrafunctional monomer. Non-silicon cross-linking agents that can be used in the polymerizable compositions disclosed herein include, for example, without limitation, allyl (meth)acrylate, or lower alkylene glycol

comprise a single hydrophilic monomer, or can comprise two or more hydrophilic monomers present as the hydrophilic monomer component. Non-silicon hydrophilic monomers which can be used as the hydrophilic monomer or the hydrophilic monomer component in the polymerizable compositions disclosed herein include, for example, acrylamide-containing monomers, or acrylate-containing monomers, or acrylic acid-containing monomers, or methacrylate-containing monomers, or methacrylic acid-containing monomers, or any combination thereof. In one example, the hydrophilic monomer or monomer component can comprise or consist of a methacrylate-containing hydrophilic monomer. It is understood that the hydrophilic monomer or hydrophilic monomer component is a non-silicon monomer.

**[0088]** In one example, the silicone hydrogel contact lens is a silicone hydrogel contact lens, comprising: a polymeric lens body that is the reaction product of a polymerizable composition, said polymerizable composition comprising (a) a first siloxane monomer represented by formula (1):

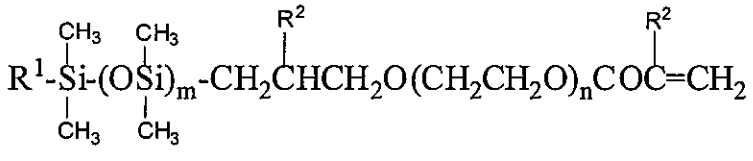


(1)

wherein m of formula (1) represents one integer from 3 to 10, n of formula (1) represents one integer from 1 to 10, R1 of formula (1) is an alkyl group having from 1 to 4 carbon atoms, and R2 of formula (1) is a hydrogen atom or a methyl group; (b) a second siloxane monomer which is a dual-end methacrylate end-capped polydimethylsiloxane having a number average molecular weight of at least 7,000 daltons; and (c) at least one hydrophilic monomer; wherein the silicone hydrogel contact lens, when fully hydrated, has an energy loss from about 25% to about 45%. The silicone hydrogel contact lens, when fully hydrated, can have an energy loss from about 27% to about 40%.

**[0089]** Examples of hydrophilic monomers which can be included in the present polymerizable compositions can include, for example, N,N-dimethylacrylamide (DMA), or 2-hydroxyethyl acrylate, or 2-hydroxyethyl methacrylate (HEMA), or 2-hydroxypropyl methacrylate, or 2-hydroxybutyl methacrylate (HOB), or 2-hydroxybutyl acrylate, or 4-hydroxybutyl acrylate, or glycerol methacrylate, or 2-hydroxyethyl methacrylamide, or

**[00104]** In one example, the silicone hydrogel contact lens is a silicone hydrogel contact lens, comprising: a polymeric lens body that is the reaction product of a polymerizable composition, said polymerizable composition comprising (a) a first siloxane monomer represented by formula (1):



(1)

wherein m of formula (1) represents one integer from 3 to 10, n of formula (1) represents one integer from 1 to 10, R1 of formula (1) is an alkyl group having from 1 to 4 carbon atoms, and R2 of formula (1) is a hydrogen atom or a methyl group; (b) a second siloxane monomer which is a dual-end methacrylate end-capped polydimethylsiloxane having a number average molecular weight of at least 7,000 daltons; and (c) at least one hydrophobic monomer; wherein the silicone hydrogel contact lens, when fully hydrated, has an energy loss from about 25% to about 45%. The silicone hydrogel contact lens, when fully hydrated, can have an energy loss from about 27% to about 40%.

**[00105]** When present in the polymerizable composition, the hydrophobic monomer or monomer component can be present in an amount from about 5 to about 25 unit parts, or from about 10 to about 20 unit parts.

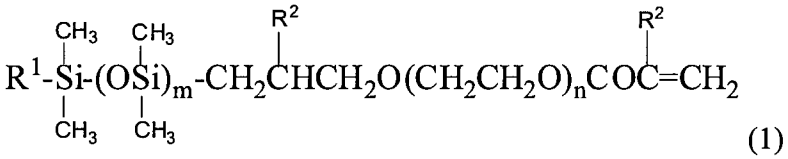
**[00106]** In one example, the hydrophobic monomer component can comprise at least two hydrophobic monomers each having different polymerizable functional groups. In another example, the hydrophobic monomer component can comprise at least two hydrophobic monomers each having the same polymerizable functional group. The hydrophobic monomer component can comprise or consist of two hydrophobic monomers, both having the same polymerizable functional group. In one example, the hydrophobic monomer component can comprise or consist of two hydrophobic methacrylate-containing monomers. The ~~hydrophilic~~ hydrophobic monomer component can comprise or consist of MMA and EGMA. In one example, the at least two hydrophobic monomers of the hydrophobic monomer component can comprise or consist of MMA and EGMA, and the ratio of the unit parts of MMA to the unit parts of EGMA present in the polymerizable composition can be from about 6:1 to about 1:1. The ratio

What is claimed is:

1. A silicone hydrogel contact lens, comprising:

a polymeric lens body that is the reaction product of a polymerizable composition, said polymerizable composition comprising

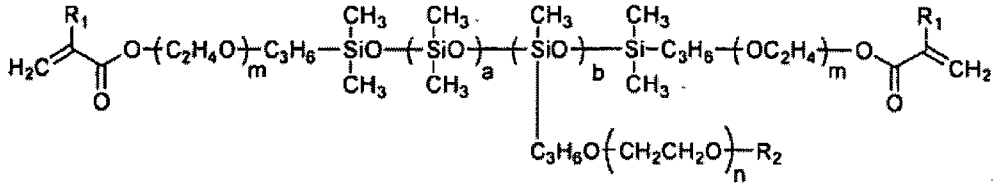
(a) a first siloxane monomer represented by formula (1):



(1)

wherein m of formula (1) represents one integer from 3 to 10, n of formula (1) represents one integer from 1 to 10, $R^1$ of formula (1) is an alkyl group having from 1 to 4 carbon atoms, and $R^2$ of formula (1) is a hydrogen atom or a methyl group; and

(b) a second siloxane monomer which is a dual-end methacrylate end-capped polydimethylsiloxane having a number average molecular weight of at least 7,000 daltons and being represented by formula (2):



(2)

wherein $R_1$ of formula (2) is selected from either hydrogen or a methyl group; $R_2$ of formula (2) is selected from either of hydrogen or a $C_{1-4}$ hydrocarbon group; m of formula (2) represents an integer of from 0 to 10; n of formula (2) represents an integer of from 4 to 100; a and b of formula (2) represent integers of 1 or more; a+b is equal to 20-500; b/(a+b) is equal to 0.01-0.22; and the configuration of siloxane units includes a random configuration;

wherein the silicone hydrogel contact lens, when fully hydrated, has an energy loss from about 25% to about 45%.

2. The contact lens of claim 1, wherein the silicone hydrogel contact lens, when fully hydrated, has an energy loss from about 27% to about 40%.

~~3. The contact lens of any preceding claim, wherein the energy loss is calculated using equation (B):~~

~~((Energy$_{0 \text{ to } 100\% \text{ strain}}$ – Energy$_{100 \text{ to } 0\% \text{ strain}}$)/ Energy$_{0 \text{ to } 100\% \text{ strain}}$) x100 (B)~~

~~where Energy$_{0 \text{ to } 100\% \text{ strain}}$ represents the energy applied to stretch a sample of the lens to 100% strain at a constant rate, and Energy$_{100 \text{ to } 0\% \text{ strain}}$ represents the energy released when the sample of the lens is returned to 0% from 100% strain.~~

43. The contact lens of any preceding claim, wherein in the first siloxane monomer, m of formula (1) is 4, n of formula (1) is 1, $R^1$ of formula (1) is a butyl group, and each $R^2$ of formula (1) is independently either a hydrogen atom or a methyl group.

~~54~~. The contact lens of any preceding claim, wherein the number average molecular weight of the first siloxane monomer is from 400 daltons to 700 daltons.

~~65~~. The contact lens of any preceding claim, wherein the polymerizable composition further comprises at least one cross-linking agent.

~~76~~. The contact lens of claim ~~65~~, wherein the at least one cross-linking agent comprises a vinyl-containing cross-linking agent.

~~87~~. The contact lens of claim ~~76~~, wherein a total amount of vinyl-containing cross-linking agents present in the polymerizable composition is from about 0.01 unit parts to about 2.0 unit parts by weight.

~~98~~. The contact lens of claim ~~87~~, wherein a ratio of an amount of the first siloxane monomer present in the polymerizable composition to the total amount of vinyl-containing cross-linking agents present in the polymerizable composition is from 100:1 to 400:1 based on unit parts by weight.

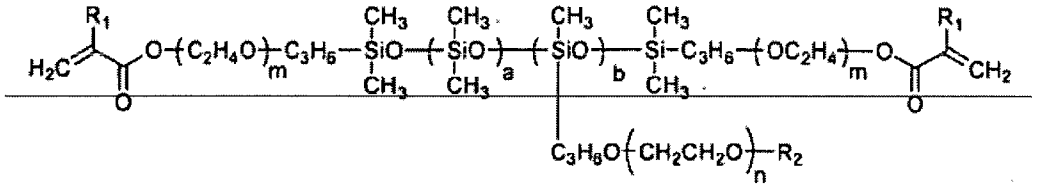
~~109~~. The contact lens of any preceding claim, wherein the polymerizable composition further comprises at least one hydrophilic monomer.

~~11~~10. The contact lens of claim ~~10~~9, wherein the at least one hydrophilic monomer comprises a hydrophilic amide monomer having one N-vinyl group.

~~12~~11. The contact lens of any preceding claim, wherein a ratio of an amount of the first siloxane monomer present in the polymerizable composition to an amount of the second siloxane monomer present in the polymerizable composition is at least 3:1 based on unit parts by weight.

~~13~~12. The contact lens of any preceding claim, wherein a total amount of siloxane monomers present in the polymerizable composition is from about 35 to about 40 unit parts by weight.

~~14. The contact lens of any preceding claim, wherein the second siloxane monomer is represented by formula (2):~~



~~(2)~~

~~wherein $R_1$ of formula (2)is selected from either hydrogen or a methyl group; $R_2$ of formula (2) is selected from either of hydrogen or a $C_{1-4}$ hydrocarbon group; m represents an integer of from 0 to 10; n of formula (2) represents an integer of from 4 to 100; a and b of formula (2) represent integers of 1 or more; a+b is equal to 20-500; b/(a+b) is equal to 0.01-0.22; and the configuration of siloxane units includes a random configuration.~~

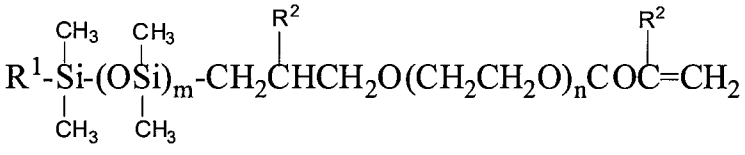
~~15~~13. The contact lens of any preceding claim ~~14~~, wherein in the second siloxane monomer, m of formula (2) is 0, n of formula (2) is one integer from 5 to 10, a of formula (2) is one integer from 65 to 90, b of formula (2) is one integer from 1 to 10, and $R_1$ of formula (2) is a methyl group.

~~16~~14. A batch of silicone hydrogel contact lenses, comprising a plurality of the contact lens recited in any preceding claim, wherein the batch of silicone hydrogel contact lenses has, when fully hydrated, an average equilibrium water content (EWC) from about 30% wt/wt to about 70% wt/wt, or an average oxygen permeability of at least 55 barrers, or an average captive bubble dynamic advancing contact angle less than 70 degrees, or an average captive bubble static contact angle less than 55 degrees, or any combination thereof, based on averages of values determined for at least 20 individual lenses of the batch.

~~17~~15. A method of manufacturing a silicone hydrogel contact lens, comprising:

providing a miscible polymerizable composition, said polymerizable composition comprising

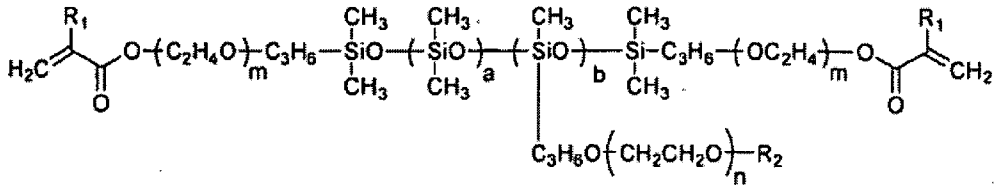
(a) a first siloxane monomer represented by formula (1):



(1)

wherein m of formula (1) represents one integer from 3 to 10, n of formula (1) represents one integer from 1 to 10, $R^1$ of formula (1) is an alkyl group having from 1 to 4 carbon atoms, and $R^2$ of formula (1) is a hydrogen atom or a methyl group; and

(b) a second siloxane monomer which is a dual-end methacrylate end-capped polydimethylsiloxane having a number average molecular weight of at least 7,000 daltons and being represented by formula (2):



(2)

wherein $R_1$ of formula (2) is selected from either hydrogen or a methyl group; $R_2$ of formula (2) is selected from either of hydrogen or a $C_{1-4}$ hydrocarbon group; m of formula (2) represents an integer of from 0 to 10; n of formula (2) represents an integer of from 4 to 100; a

and b of formula (2) represent integers of 1 or more; a+b is equal to 20-500; b/(a+b) is equal to 0.01-0.22; and the configuration of siloxane units includes a random configuration;

polymerizing the polymerizable composition in a contact lens mold assembly to form a polymeric lens body;

contacting the polymeric lens body with a washing liquid to remove extractable material from the polymeric lens body; and

packaging the polymeric lens body in a contact lens packaging solution in a contact lens package;

wherein the silicone hydrogel contact lens has an energy loss from about 25% to about 45% when fully hydrated.

~~18~~16. The method of claim ~~17~~15, wherein the contacting step comprises contacting the polymeric lens body with a washing liquid that is free of a volatile organic solvent.

~~19~~17. The method of claim ~~17~~15 or ~~18~~16, wherein the number average molecular weight of the first siloxane monomer is from 400 daltons to 700 daltons.

~~20. The method of claim 17, 18 or 19, wherein the energy loss is calculated using equation (B):~~

~~$((Energy_{0\ to\ 100\%\ strain} - Energy_{100\ to\ 0\%\ strain})/ Energy_{0\ to\ 100\%\ strain}) \times 100$ (B)~~

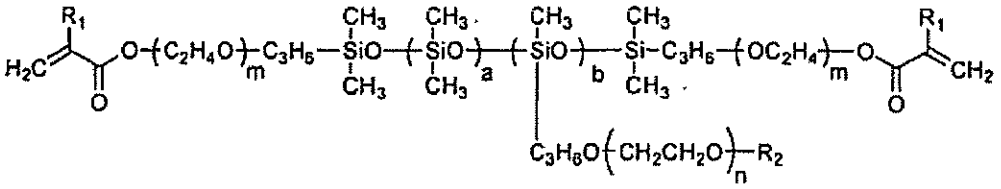
~~where $Energy_{0\ to\ 100\%\ strain}$ represents the energy applied to stretch a sample of the lens to 100% strain at a constant rate, and $Energy_{100\ to\ 0\%\ strain}$ represents the energy released when the sample of the lens is returned to 0% from 100% strain.~~

polymerizable composition can be from 100:1 to 400:1 based on unit parts by weight. The at least one vinyl-containing cross-linking agent can comprise or consist of at least one vinyl ether-containing cross-linking agent.

**[0010]** In another example, the polymerizable composition can comprise at least one hydrophilic monomer. The at least one hydrophilic monomer can comprise a hydrophilic amide monomer having one N-vinyl group.

**[0011]** The first siloxane monomer and the second siloxane monomer can be present in the polymerizable composition such that a ratio of an amount of the first siloxane monomer present in the polymerizable composition to an amount of the second siloxane monomer present in the polymerizable composition is at least 3:1 based on unit parts by weight. A total amount of siloxane monomers present in the polymerizable composition can be from about 30 unit parts to about 50 unit parts by weight, such as, for example, from about 35 to about 40 unit parts from about 33 unit parts to 45 about unit parts, or from about 35 unit parts to about 40 unit parts by weight.

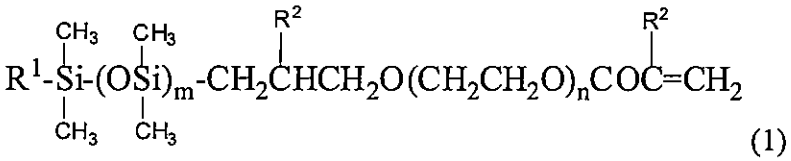
**[0012]** In one example, the second siloxane monomer can be a siloxane monomer represented by formula (2):



(2)

wherein $R_1$ of formula (2) is selected from either hydrogen or a methyl group; $R_2$ of formula (2) is selected from either of hydrogen or a $C_{1-4}$ hydrocarbon group; m of formula (2) represents an integer of from 0 to 10; n of formula (2) represents an integer of from 4 to 100; a and b of formula (2) represent integers of 1 or more; a+b is equal to 20-500; b/(a+b) is equal to 0.01-0.22; and the configuration of siloxane units includes a random configuration, wherein the second siloxane monomer has a number average molecular weight greater than 7,000 daltons. In one example of the siloxane of formula (2), m of formula (2) is 0, n of formula (2) is one integer from 5 to 10, a of formula (2) is one integer from 65 to 90, b of formula (2) is one integer from 1 to 10, and $R_1$ of formula (2) is a methyl group.

**[0013]** In one example, the polymerizable composition can further comprise at least one third siloxane monomer. When the polymerizable composition comprises the at least one third



(1)

wherein m of formula (1) represents one integer from 3 to 10, n of formula (1) represents one integer from 1 to 10, R1 of formula (1) is an alkyl group having from 1 to 4 carbon atoms, and R2 of formula (1) is a hydrogen atom or a methyl group; (b) a second siloxane monomer which is a dual-end methacrylate end-capped polydimethylsiloxane having a number average molecular weight of at least 7,000 daltons; wherein a ratio of an amount of the first siloxane monomer present in the polymerizable composition to an amount of the second siloxane monomer present in the polymerizable composition is at least 3:1 based on unit parts by weight, and wherein the silicone hydrogel contact lens, when fully hydrated, has an energy loss from about 25% to about 45%. The silicone hydrogel contact lens, when fully hydrated, can have an energy loss from about 27% to about 40%.

**[0078]** The total amount of siloxane monomers present in the polymerizable composition (e.g., the sum of the unit parts of the first siloxane monomer, the second siloxane monomer, and any other optional siloxane monomers present in the polymerizable composition) can be from about 10 to about 60 unit parts, or from about 25 to about 50 unit parts, or from about 35 to about 40 unit parts.

**[0079]** The polymerizable compositions of the present disclosure can be understood to comprise a first component consisting of a first siloxane monomer of formula (1), a second siloxane monomer which is a dual-end methacrylate end-capped polydimethylsiloxane having a number average molecular weight of at least 7,000 daltons, and a second component comprising at least one third siloxane monomer, or at least one cross-linking agent, or at least one hydrophilic monomer, or at least one hydrophobic monomer, or any combination thereof. The optional at least one cross-linking agent can be present as a single cross-linking agent, or can be present as a cross-linking agent component comprising two or more single cross-linking agents. As used herein, the cross-linking agent and cross-linking agent component are non-silicon cross-linking agents and thus are different from multifunctional siloxane monomers which may be present in the polymerizable composition.

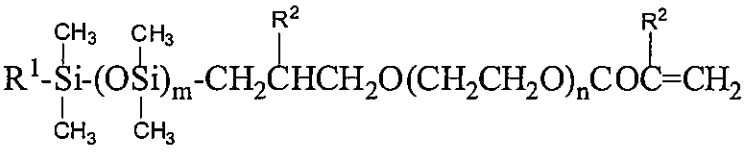
**[0080]** As used herein, unit parts is understood to mean unit parts by weight. For example, to prepare a formulation described as comprising z unit parts of a siloxane monomer

and y unit parts of a hydrophilic monomer, the composition can be prepared by combining z grams of the siloxane monomer with y grams of the hydrophilic monomer to obtain a total of y+z grams of polymerizable composition, or by combining z ounces of the siloxane with y ounces of the hydrophilic monomer to obtain a total of y+z ounces of polymerizable composition, and so on. When the composition further comprises additional optional ingredients such as, for example, x unit parts of a cross-linking agent, x grams of the cross-linking agent are combined with z grams of the siloxane monomer and y grams of the hydrophilic monomer to obtain a total of x+y+z grams of polymerizable composition, and so on. When the composition comprises an additional optional ingredient comprising an ingredient component composed of two ingredients, such as, for example, a hydrophobic monomer component consisting of a first hydrophobic monomer and a second hydrophobic monomer, in addition to the z unit parts of siloxane monomer, the y unit parts of hydrophilic monomer and the x unit parts of the cross-linker, w unit parts of the first hydrophobic monomer and v unit parts of the second hydrophobic monomer are combined to obtain a total amount of v+w+x+y+z unit parts of the polymerizable composition. It is understood that the unit parts of the at least one hydrophobic monomer present in such a polymerizable is the sum of the unit parts of the first hydrophobic monomer and the unit parts of the second hydrophobic monomer, e.g., v+w unit parts in this example. Typically, a formula for a polymerizable composition will be composed of ingredients in amounts totaling from about 90 to about 110 unit parts by weight. When amounts of components of the polymerizable composition are recited herein as being in unit parts, it is to be understood that the unit parts of these component are based on a formula providing a total weight of the composition ranging from about 90 to 110 unit parts. In one example, the unit parts by weight can be based on a formula providing a total weight of the composition ranging from about 95 to 105 unit parts by weight, or from about 98 to 102 unit parts by weight.

**[0081]** In accordance with the present disclosure, a cross-linking agent is understood to be a monomer having more than one polymerizable functional group as part of its molecular structure, such as two or three or four polymerizable functional groups, i.e., a multifunctional monomer such as a bifunctional or trifunctional or tetrafunctional monomer. Non-silicon cross-linking agents that can be used in the polymerizable compositions disclosed herein include, for example, without limitation, allyl (meth)acrylate, or lower alkylene glycol

comprise a single hydrophilic monomer, or can comprise two or more hydrophilic monomers present as the hydrophilic monomer component. Non-silicon hydrophilic monomers which can be used as the hydrophilic monomer or the hydrophilic monomer component in the polymerizable compositions disclosed herein include, for example, acrylamide-containing monomers, or acrylate-containing monomers, or acrylic acid-containing monomers, or methacrylate-containing monomers, or methacrylic acid-containing monomers, or any combination thereof. In one example, the hydrophilic monomer or monomer component can comprise or consist of a methacrylate-containing hydrophilic monomer. It is understood that the hydrophilic monomer or hydrophilic monomer component is a non-silicon monomer.

**[0088]** In one example, the silicone hydrogel contact lens is a silicone hydrogel contact lens, comprising: a polymeric lens body that is the reaction product of a polymerizable composition, said polymerizable composition comprising (a) a first siloxane monomer represented by formula (1):

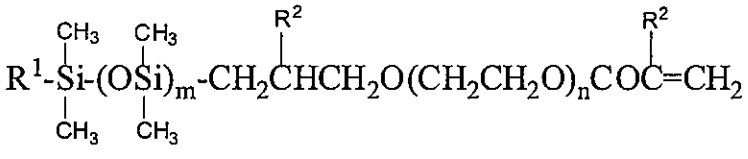


(1)

wherein m of formula (1) represents one integer from 3 to 10, n of formula (1) represents one integer from 1 to 10, R1 of formula (1) is an alkyl group having from 1 to 4 carbon atoms, and R2 of formula (1) is a hydrogen atom or a methyl group; (b) a second siloxane monomer which is a dual-end methacrylate end-capped polydimethylsiloxane having a number average molecular weight of at least 7,000 daltons; and (c) at least one hydrophilic monomer; wherein the silicone hydrogel contact lens, when fully hydrated, has an energy loss from about 25% to about 45%. The silicone hydrogel contact lens, when fully hydrated, can have an energy loss from about 27% to about 40%.

**[0089]** Examples of hydrophilic monomers which can be included in the present polymerizable compositions can include, for example, N,N-dimethylacrylamide (DMA), or 2-hydroxyethyl acrylate, or 2-hydroxyethyl methacrylate (HEMA), or 2-hydroxypropyl methacrylate, or 2-hydroxybutyl methacrylate (HOB), or 2-hydroxybutyl acrylate, or 4-hydroxybutyl acrylate, or glycerol methacrylate, or 2-hydroxyethyl methacrylamide, or

**[00104]** In one example, the silicone hydrogel contact lens is a silicone hydrogel contact lens, comprising: a polymeric lens body that is the reaction product of a polymerizable composition, said polymerizable composition comprising (a) a first siloxane monomer represented by formula (1):



(1)

wherein m of formula (1) represents one integer from 3 to 10, n of formula (1) represents one integer from 1 to 10, R1 of formula (1) is an alkyl group having from 1 to 4 carbon atoms, and R2 of formula (1) is a hydrogen atom or a methyl group; (b) a second siloxane monomer which is a dual-end methacrylate end-capped polydimethylsiloxane having a number average molecular weight of at least 7,000 daltons; and (c) at least one hydrophobic monomer; wherein the silicone hydrogel contact lens, when fully hydrated, has an energy loss from about 25% to about 45%. The silicone hydrogel contact lens, when fully hydrated, can have an energy loss from about 27% to about 40%.

**[00105]** When present in the polymerizable composition, the hydrophobic monomer or monomer component can be present in an amount from about 5 to about 25 unit parts, or from about 10 to about 20 unit parts.

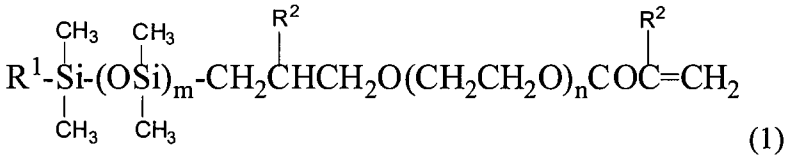
**[00106]** In one example, the hydrophobic monomer component can comprise at least two hydrophobic monomers each having different polymerizable functional groups. In another example, the hydrophobic monomer component can comprise at least two hydrophobic monomers each having the same polymerizable functional group. The hydrophobic monomer component can comprise or consist of two hydrophobic monomers, both having the same polymerizable functional group. In one example, the hydrophobic monomer component can comprise or consist of two hydrophobic methacrylate-containing monomers. The hydrophobic monomer component can comprise or consist of MMA and EGMA. In one example, the at least two hydrophobic monomers of the hydrophobic monomer component can comprise or consist of MMA and EGMA, and the ratio of the unit parts of MMA to the unit parts of EGMA present in the polymerizable composition can be from about 6:1 to about 1:1. The ratio

What is claimed is:

1. A silicone hydrogel contact lens, comprising:

a polymeric lens body that is the reaction product of a polymerizable composition, said polymerizable composition comprising

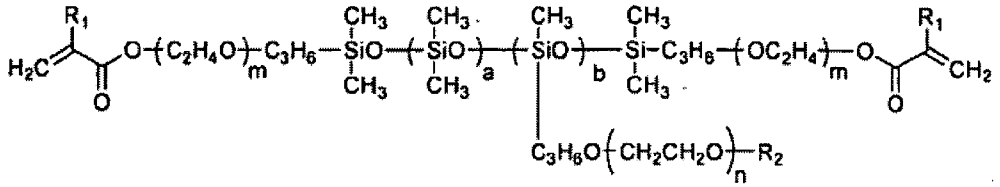
(a) a first siloxane monomer represented by formula (1):



(1)

wherein m of formula (1) represents one integer from 3 to 10, n of formula (1) represents one integer from 1 to 10, $R^1$ of formula (1) is an alkyl group having from 1 to 4 carbon atoms, and $R^2$ of formula (1) is a hydrogen atom or a methyl group; and

(b) a second siloxane monomer which is a dual-end methacrylate end-capped polydimethylsiloxane having a number average molecular weight of at least 7,000 daltons and being represented by formula (2):



(2)

wherein $R_1$ of formula (2) is selected from either hydrogen or a methyl group; $R_2$ of formula (2) is selected from either of hydrogen or a $C_{1-4}$ hydrocarbon group; m of formula (2) represents an integer of from 0 to 10; n of formula (2) represents an integer of from 4 to 100; a and b of formula (2) represent integers of 1 or more; a+b is equal to 20-500; b/(a+b) is equal to 0.01-0.22; and the configuration of siloxane units includes a random configuration;

wherein the silicone hydrogel contact lens, when fully hydrated, has an energy loss from about 25% to about 45%.

2. The contact lens of claim 1, wherein the silicone hydrogel contact lens, when fully hydrated, has an energy loss from about 27% to about 40%.

3. The contact lens of any preceding claim, wherein in the first siloxane monomer, m of formula (1) is 4, n of formula (1) is 1, $R^1$ of formula (1) is a butyl group, and each $R^2$ of formula (1) is independently either a hydrogen atom or a methyl group.

4. The contact lens of any preceding claim, wherein the number average molecular weight of the first siloxane monomer is from 400 daltons to 700 daltons.

5. The contact lens of any preceding claim, wherein the polymerizable composition further comprises at least one cross-linking agent.

6. The contact lens of claim 5, wherein the at least one cross-linking agent comprises a vinyl-containing cross-linking agent.

7. The contact lens of claim 6, wherein a total amount of vinyl-containing cross-linking agents present in the polymerizable composition is from about 0.01 unit parts to about 2.0 unit parts by weight.

8. The contact lens of claim 7, wherein a ratio of an amount of the first siloxane monomer present in the polymerizable composition to the total amount of vinyl-containing cross-linking agents present in the polymerizable composition is from 100:1 to 400:1 based on unit parts by weight.

9. The contact lens of any preceding claim, wherein the polymerizable composition further comprises at least one hydrophilic monomer.

10. The contact lens of claim 9, wherein the at least one hydrophilic monomer comprises a hydrophilic amide monomer having one N-vinyl group.

11. The contact lens of any preceding claim, wherein a ratio of an amount of the first siloxane monomer present in the polymerizable composition to an amount of the second

siloxane monomer present in the polymerizable composition is at least 3:1 based on unit parts by weight.

12. The contact lens of any preceding claim, wherein a total amount of siloxane monomers present in the polymerizable composition is from about 35 to about 40 unit parts by weight.

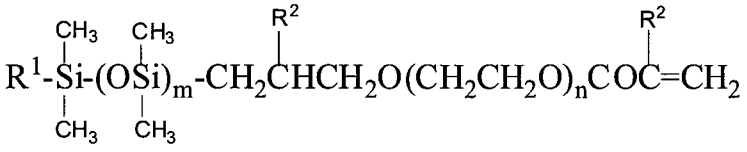
13. The contact lens of any preceding claim, wherein in the second siloxane monomer, m of formula (2) is 0, n of formula (2) is one integer from 5 to 10, a of formula (2) is one integer from 65 to 90, b of formula (2) is one integer from 1 to 10, and $R_1$ of formula (2) is a methyl group.

14. A batch of silicone hydrogel contact lenses, comprising a plurality of the contact lens recited in any preceding claim, wherein the batch of silicone hydrogel contact lenses has, when fully hydrated, an average equilibrium water content (EWC) from about 30% wt/wt to about 70% wt/wt, or an average oxygen permeability of at least 55 barrers, or an average captive bubble dynamic advancing contact angle less than 70 degrees, or an average captive bubble static contact angle less than 55 degrees, or any combination thereof, based on averages of values determined for at least 20 individual lenses of the batch.

15. A method of manufacturing a silicone hydrogel contact lens, comprising:

providing a miscible polymerizable composition, said polymerizable composition comprising

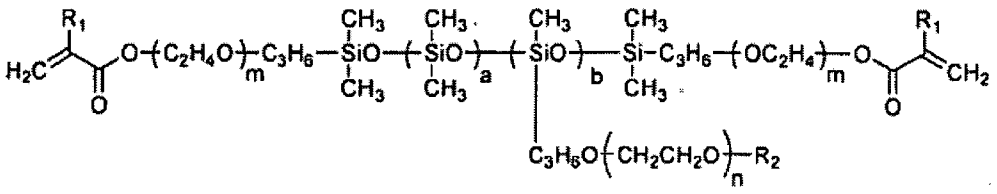
(a) a first siloxane monomer represented by formula (1):



(1)

wherein m of formula (1) represents one integer from 3 to 10, n of formula (1) represents one integer from 1 to 10, $R^1$ of formula (1) is an alkyl group having from 1 to 4 carbon atoms, and $R^2$ of formula (1) is a hydrogen atom or a methyl group; and

(b) a second siloxane monomer which is a dual-end methacrylate end-capped polydimethylsiloxane having a number average molecular weight of at least 7,000 daltons and being represented by formula (2):



(2)

wherein $R_1$ of formula (2) is selected from either hydrogen or a methyl group; $R_2$ of formula (2) is selected from either of hydrogen or a $C_{1-4}$ hydrocarbon group; m of formula (2) represents an integer of from 0 to 10; n of formula (2) represents an integer of from 4 to 100; a and b of formula (2) represent integers of 1 or more; a+b is equal to 20-500; b/(a+b) is equal to 0.01-0.22; and the configuration of siloxane units includes a random configuration;

polymerizing the polymerizable composition in a contact lens mold assembly to form a polymeric lens body;

contacting the polymeric lens body with a washing liquid to remove extractable material from the polymeric lens body; and

packaging the polymeric lens body in a contact lens packaging solution in a contact lens package;

wherein the silicone hydrogel contact lens has an energy loss from about 25% to about 45% when fully hydrated.

16. The method of claim 15, wherein the contacting step comprises contacting the polymeric lens body with a washing liquid that is free of a volatile organic solvent.

17. The method of claim 15 or 16, wherein the number average molecular weight of the first siloxane monomer is from 400 daltons to 700 daltons.