We claim

1. An anionic, silicone hydrogel contact lens comprising in or on said silicone hydrogel at least one statistical copolymer comprising units derived from at least 10 weight% of at least one non-ionic hydrophilic monomer and at least one anionic monomer and wherein said contact lens has a contact angle of about 70° or less, at least about 50 μg/lens lysozyme uptake, and less than about 10% uptake of at least one polycationic component when contacted with 3 mL of an ophthalmic solution comprising said 0.001 wt% polycationic component, 0.56% citrate dihydrate and 0.021 % citric acid monohydrate (wt/wt) .

2. The contact lens of claim 1 wherein said statistical copolymer is non-reactive and is associated with or entangled in said silicone hydrogel contact lens.

3. The contact lens of claim 2 wherein said statistical copolymer comprises about 20 to about 80 mol% units from said anionic monomer.

4. The contact lens of claim 2 wherein said statistical copolymer comprises about 20 to about 60 mol% units from said anionic monomer.

5. The contact lens of claim 3 wherein said statistical copolymer comprises about 80 to about 20 mol% units from said non-ionic hydrophilic monomer.

6. The contact lens of claim 3 wherein said statistical copolymer comprises about 80 to about 40 mol% units from said non-ionic hydrophilic monomer.

7. The contact lens of claim 2 wherein said statistical copolymer is associated with at least part of said silicone hydrogel contact lens.

8. The contact lens of claim 18 wherein said statistical copolymer is present in or on said contact lens in a concentration sufficient to provide a concentration of units from said anionic monomer of about 0.1 to about 5 mol%.

9. The contact lens of claim 18 wherein said statistical copolymer is present in or on said contact lens in a concentration sufficient to provide a concentration of units from said anionic monomer of about 0.2 to about 4 mol%.

10. The contact lens of claim 2 wherein said statistical copolymer is formed by RAFT polymerization, free radical polymerization, or step growth polymerization

11. The contact lenses of claim 2 wherein said non-reactive statistical copolymer further comprises a hydrophobic block on at least one terminus.

12. The contact lens of claim 11 wherein said hydrophobic block comprises polydialkylsiloxane, polydiarylsiloxane and mixtures thereof.

13. The contact lens of claim 12 wherein said alkyl is selected from $C_1$-$C_4$ alkyl.

14. The composition of claim 12 wherein said hydrophobic block comprises polydimethylsiloxane or polydiethylsiloxane.

15. The contact lens of claim 12 wherein said hydrophobic block comprises between about 6 and about 200 siloxy units.

16. The contact lens of claim 12 wherein said hydrophobic block comprises between about 6 and about 200 siloxy units.

17. The contact lens of claim 2 wherein said units from said non-ionic hydrophilic monomer and said anionic monomer when polymerized have a degree of polymerization of at least about 300.

18. The contact lens of claim 1 wherein said silicone hydrogel is said statistical copolymer.

19. The contact lens of claims 1, 2 or 18 wherein said anionic monomer and said non-ionic hydrophilic monomer have the same reactive functionality.

20. The contact lenses of claim 19 wherein said anionic monomer and said non-ionic hydrophilic monomer are selected from (meth)acrylamides.

21. The contact lenses of claim 19 wherein said anionic monomer and said non-ionic hydrophilic monomer are selected from (meth)acrylates.

22. The contact lenses of claim 19 wherein said anionic monomer and said non-ionic hydrophilic monomer are selected from vinyls.

23. The contact lens of claim 1 wherein said lysozyme uptake is at least about 70 µg/lens.

24. The contact lens of claim 1 wherein said lysozyme uptake is at least about 100 µg/lens.

25. The contact lens of claim 1 wherein said polycationic component is selected from the group consisting of cationic water soluble polymeric ammonium salts, polyquaternium containing compounds, water soluble polymeric tetraalkyl phosphonium salts and mixtures thereof.

26. The contact lens of claim 1 wherein said polycationic component is selected from the group consisting of biguanides, bisbiguanides, polycationic polymers having quartenary ammonium centers and combinations thereof.

27. The contact lens of claim 1 wherein said polycationic component is selected from the group consisting of polyhexamethylene biguanide PQ-1, PQ-42, and mixtures thereof.

28. The contact lens of claim 1 further comprising a water content of between about 20% and about 70%.

29. The contact lens of claim 1further comprising a water content of between about 25% and about 65%.

30. The contact lens of claim 20 wherein said anionic monomer is selected from the group consisting of 3-acrylamidopropionic acid, 4-acrylamidobutanoic acid, 5-acrylamidopentanoic acid, sodium-2-(acrylamido)-2-methylpropane sulphonate, 2-acrylamido-2-methylpropane sulfonic acid and combinations thereof.

31. The contact lens of claim 21 wherein said anionic monomer is selected from the group consisting of (meth)acrylic acid, acrylic acid, 3-sulphopropyl (meth)acrylate potassium salt, 3-sulphopropyl (meth)acrylate sodium salt, sulphoethyl methacrylate, and mixtures thereof.

32. The contact lens of claim 21 wherein said anionic monomer comprises (meth)acrylic acid.

33. The contact lens of claim 21 wherein said anionic monomer is selected from the group consisting of N-vinyloxycarbonyl-α-alanine, N-vinyloxycarbonyl-β- alanine, 2-vinyl-4,4-dimethyl-2-oxazolin-5-one, vinyl sulphonate sodium salt, vinyl sulphonate salt, and mixtures thereof.

34. A silicone hydrogel formed from a reactive mixture comprising

major polymerizable components comprising at least one reactive silicone-containing component, at least one reactive ionic monomer, optional reactive hydrophilic components and crosslinker; and

minor polymerizable components selected from the group consisting of visibility tint and dyes, UV absorbers, photochromic compounds, pharmaceutical compounds, nutriceutical compounds, and mixtures thereof;

wherein said major polymerizable components comprise a single reactive functionality.

35. The silicone hydrogel of claim 34 wherein said single reactive functionality is selected from the group consisting of acrylate, methacrylate, acrylamide, methacrylamide, vinyl and styryl.

36. The silicone hydrogel of claim 34 wherein said single reactive functionality is selected from the group consisting of acrylamide, methacrylamide and vinyl.

37. A silicone hydrogel contact lens comprising between about 50 ppm and about 1 wt% of at least one uncrosslinked statistical copolymer comprising at least about 10 weight% of at least one non-ionic hydrophilic monomer and at least about 20 mol% of at least one anionic repeating unit distributed randomly throughout said polymer.

38. The contact lens of claim 37 wherein said copolymer is present in an amount between about 20 ppm and 2000 ppm.

39. The contact lens of claim 37 wherein said copolymer is present in an amount between about 50 ppm and 1500 ppm.

40. The silicone hydrogel of claim 34 wherein said single reactive functionality is methacrylamide and said reactive ionic monomer comprises at least one acrylamido sulphonic acid or acrylamido sulphonic acid salt.

41. The silicone hydrogel of claim 40 wherein said acrylamido sulphonic acid comprises an alkylene group comprising 2 to 4 carbon atoms.

42. The silicone hydrogel of claim 40 wherein said acrylamido sulphonic acid comprises 2-acrylamido-2-methylpropane sulfonic acid salt.

Claims

1. A silicone hydrogel formed from a reactive mixture comprising

major polymerizable components comprising at least one reactive silicone-containing component, at least one reactive ionic monomer, optional reactive hydrophilic components and crosslinker; and

minor polymerizable components selected from the group consisting of visibility tint and dyes, UV absorbers, photochromic compounds, and mixtures thereof;

wherein said major polymerizable components comprise a single reactive functionality selected from the group consisting of acrylate, methacrylate, acrylamide, and methacrylamide; and wherein any polymerizable components in the reaction mixture which have a reactive functionality different than said single reactive functionality are present in a concentration less than 0.5 mol%.

2. The silicone hydrogel of claim 1 wherein said single reactive functionality is methacrylamide and said reactive ionic monomer comprises at least one acrylamido sulphonic acid or acrylamido sulphonic acid salt.

3. The silicone hydrogel of claim 2 wherein said acrylamido sulphonic acid comprises an alkylene group comprising 2 to 4 carbon atoms.

4. The silicone hydrogel of claim 2 wherein said reactive ionic monomer comprises 2-acrylamido-2-methylpropane sulfonic acid salt.

5. The silicone hydrogel of claim 1 further comprising at least one non-reactive wetting agent.

6. The silicone hydrogel of claim 1 further comprising a water content of between about 20% and about 70%.

7. The silicone hydrogel of claim 1 further comprising a water content of between about 25% and about 65%.

8. The silicone hydrogel of claim 1 wherein said reactive ionic monomer is selected from the group consisting of 3-acrylamidopropionic acid, 4-acrylamidobutanoic acid, 5-acrylamidopentanoic acid, sodium-2-(acrylamido)-2-methylpropane sulphonate, 2-acrylamido-2-methylpropane sulfonic acid and combinations thereof.