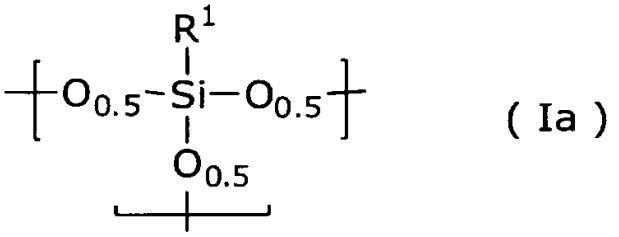
~~Patent Claims~~

CLAIMS

1. A positive type photosensitive siloxane composition comprising:

(I) a polysiloxane comprising a repeating unit represented by the following general formula (Ia):



(Ia)

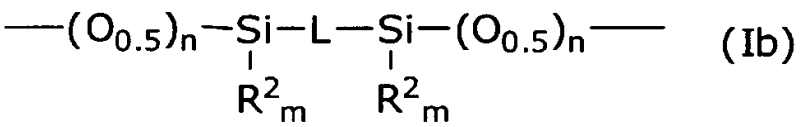
wherein,

R^1 is hydrogen, a monovalent to trivalent, linear, branched or cyclic, saturated or unsaturated C_{1-30} aliphatic hydrocarbon group, or a monovalent to trivalent, C_{6-30} aromatic hydrocarbon group,

in said aliphatic hydrocarbon group and said aromatic hydrocarbon group, one or more methylene are unsubstituted or substituted with oxy, imide or carbonyl, one or more hydrogens are unsubstituted or substituted with fluorine, hydroxy or alkoxy, and one or more carbons are unsubstituted or substituted with silicon,

when R^1 is divalent or trivalent, R^1 connects Si atoms contained in a plurality of repeating units; and

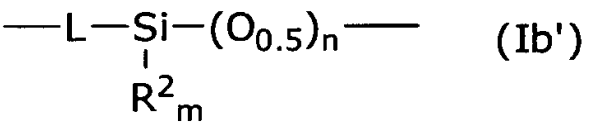
a repeating unit represented by the following general formula (Ib):



(Ib)

wherein,

R^2 is each independently hydrogen, hydroxy, C_{1-10} alkyl, C_{6-20} aryl or C_{2-10} alkenyl, which is unsubstituted or substituted with oxygen or nitrogen, or a linking group represented by the formula (Ib'):



(Ib')

L is each independently C_{6-20} arylene, which is unsubstituted or substituted with oxygen or nitrogen,

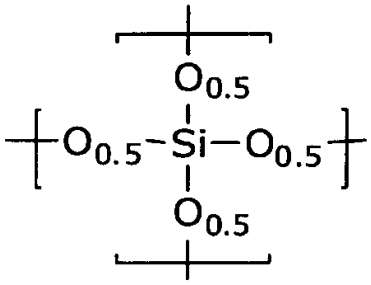
m is ~~each independently an integer of 0 to 2,~~

~~n is each independently an integer of 1 to 3~~2,

n is 1, and

the total number of $O_{0.5}$ and R^2 bonding to one Si is 3,
(II) a silanol condensation catalyst,
(III) a diazonaphthoquinone derivative, and
(IV) a solvent.

2. The composition according to claim 1, wherein said polysiloxane further comprises a repeating unit represented by the following general formula (Ic):



(Ic)

3. The composition according to claim 1 or 2, wherein the repeating unit represented by said general formula (Ib) in said polysiloxane is 5 to 50 mol% based on the total number of the repeating units of said polysiloxane.

4. The composition according to any one of claims 1 to 3, wherein ~~m is 2 and n is 1~~L in said general formula (Ib~~).~~) is an unsubstituted $C_{6\text{-}20}$ arylene.

5. The composition according to any one of claims 1 to 4, wherein ~~L in said general formula (Ib) is an unsubstituted $C_{6\text{-}20}$ arylene.~~

~~6. The composition according to any one of claims 1 to 5, wherein~~ said polysiloxane has a mass average molecular weight of 500 to 25,000.

~~7~~6. The composition according to any one of claims 1 to ~~6~~5, wherein said polysiloxane has a dissolution rate in 2.38 mass% tetramethylammonium hydroxide aqueous solution of 50 to 5,000 Å/sec.

~~8~~7. The composition according to any one of claims 1 to ~~7~~6, wherein the ratio of (the absorbance at wavelength of 365 nm) / (the absorbance at wavelength of 436 nm), or the ratio of (the absorbance at wavelength of 365 nm) / (the absorbance at wavelength of 405 nm) of said silanol condensation catalyst is 2 or more.

~~9~~8. The composition according to any one of claims 1 to ~~8~~7, wherein the content of said diazonaphthoquinone derivative is 1 to 20 parts by mass based on 100 parts by mass of the polysiloxane.

~~10~~9. A method for producing a cured film produced by applying the composition according to any one of claims 1 to ~~9~~8 on a substrate and heating it.

10. The method for producing a cured film according to claim 9, wherein the heating is performed at 450°C or more.

11. The method for producing a cured film according to claim ~~10, wherein the heating is performed at 450°C or more.~~

~~12. A cured film produced by the method according to claim 10~~9 or ~~11~~10, wherein the transmittance of the cured film for the light having wavelength of 400 nm is 90% or more.

~~13. An~~12. A method for producing an electronic device comprising the ~~cured film produced by the~~ method according to ~~claim 10 or~~any one of claims 9 to 11.