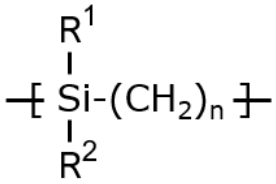
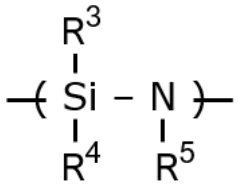
CLAIMS

1. A polycarbosilazane comprising a repeating unit represented by the following formula (1) and a repeating unit represented by the following formula (2):



(1)



(2)

wherein,

R^1, R^2, R^3 and R^4 are each independently a single bond, hydrogen or C_{1-4} alkyl;

R^5 is independently a single bond or hydrogen;

and n is 1-2;

wherein a ratio of an integrated intensity between 1.7 and 2.2 ppm with respect to sum of an integrated intensity between 1.7 and 2.2 ppm and an integrated intensity between 1.0 and 1.6 ppm in ^{1}H-NMR spectrum is 0.05 to 0.5;

wherein the polycarbosilazane is free of Si-Si bonds;

wherein the polycarbosilazane is a polyperhydrocarbosilazane.

2. The polycarbosilazane according to claim 1, wherein the mass average molecular weight is 1,500 to 25,000 measured by gel permeation chromatography in terms of polystyrene.

3. A composition comprising the polycarbosilazane according to claim 1 or 2 and a solvent.

4. The composition according to claim 3, wherein the solvent is at least one selected from a group consisting of an

aromatic compound, a saturated hydrocarbon compound, an unsaturated hydrocarbon compound, an ether compound, an ester compound, and a ketone compound.

5. The composition according to claim 3 or 4, wherein the composition comprises 1 to 50 mass% of the polycarbosilazane based on the total mass of the composition.

6. A method for producing a silicon-containing film comprises forming a coating above a substrate with the composition according to any one of claims 3 to 5 and curing the coating.

7. The method for producing a silicon-containing film according to claim 6, wherein the curing is performed under a water vapor atmosphere.

8. The method for producing a silicon-containing film according to claim 6, wherein the curing is performed under a non-oxidizing atmosphere.

9. A silicon-containing film obtainable by the method according to any one of claims 6 to 8.

10. A method for producing an electronic device, wherein the device comprising a silicon-containing film produced by the method according to any one of claims 6 to 8.