

Title (en)
MULTI-CATIONIC SILICONE POLYMERS

Title (de)
Polykationische Siliconpolymere

Title (fr)
POLYMERES DE SILICONE MULTICATIONIQUES

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Application
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Abstract (en)
[origin: WO9932539A1] Disclosed are silicone polymers comprising: a) unit (A) and at least one of unit (B) and (C), wherein Q<1> is oxygen, nitrogen, sulfur or methylene; X is an integer of 0 to about 20; Y is an integer of 0 to about 20; Z is an integer of 0 to about 20; Q<2> is CH₂ or any of formulae: (a), (b), (c) or (d), R<1>, R<2>, R<3> and R<4> are independently alkyl of 1 to 3 carbons, phenyl, benzyl, or phenethyl; R<5> is ethylene or propylene; R<6> is hydrogen, alkyl of 1 to 4 carbons, fluorocarbon of 1 to 4 carbons, phenyl, or benzyl; R<7> is alkyl of 1 to about 30 carbons, phenyl, benzyl, or phenethyl; Q<3> is OH, OR<8>, NH₂, NHR<9>, SH, SR<10>, COOH, COOR<11>, or a halogen, wherein R<8>, R<9>, R<10>, and R<11> are alkyl or alkylene of 1 to about 20 carbons; n is an integer of 1 to about 500; and m is an integer of 1 to about 100; and b) a stoichiometric amount of an anion selected from the group consisting of anionic forms of sulfate, hydrosulfate, methylsulfate, carbonate, bicarbonate, chloride, bromide, iodide, and mixtures thereof. Further disclosed fabric treatment and hair care compositions comprising the multi-cationic silicone polymer. Still further disclosed are suitable methods of making the silicone polymers.

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