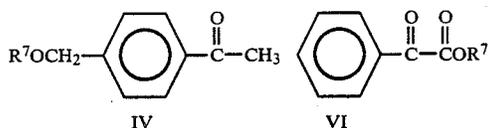
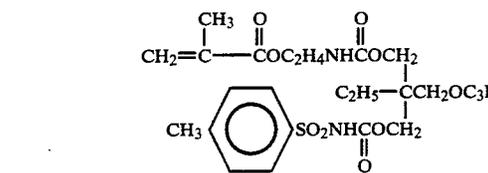
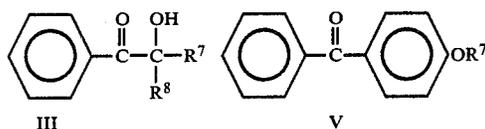


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captoacetyl; epoxy functional groups such as glycidyl; and isocyanato functional groups derived from the reaction of a polyol functional silicone of the invention (R^2 in formula 1 is H) with a diisocyanate such as toluene diisocyanate, isopherone diisocyanate or other compounds described at pages 28-29 of Au 20051/83.

Examples of groups which may be used to initiate or accelerate polymerization are photoinitiating groups formed by etherification or transesterification reactions using the polyol silicones of the invention and ether or OH functional compounds such as:



where R^7 is H or alkyl and R^8 is hydrocarbyl or R^7 and R^8 together with the carbon atom to which they are attached comprise a cyclic hydrocarbon group.

Other polymerization initiating groups include peroxide, hydroperoxide or perester groups obtained by the reaction of hydroxyl functional polymers with organic hydroperoxides, H_2O_2 or peracid compounds respectively.

Polymerization accelerating groups include reaction products of p-toluenesulfonylisocyanate or chlorosulfonylisocyanate with the silicone polyols of the invention. The resulting functionalities are useful accelerators for peroxy initiated acrylic polymerization. Further description of these accelerating functionalities and compositions in which they are useful are described in U.S. Pat. No. 4,513,127 and in copending application 675,387 filed Nov. 27, 1984, incorporated herein by reference.

The inventive polyol functional polymers ($R^3=H$) may be obtained by reacting a compound of the formula



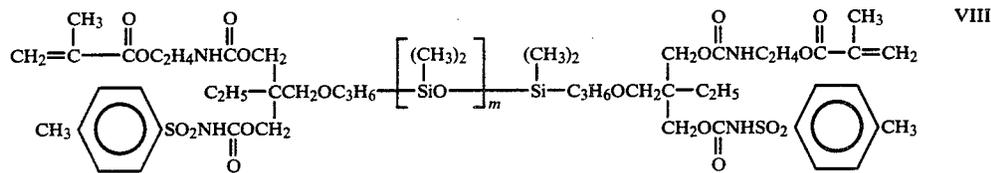
where R^6 is alkenyl or alkynyl, with a hydroxyl blocking agent followed by hydrosilation with a SiH functional silicone and deblocking of the hydroxyl groups. Direct hydrosilation of compounds of the above formula can also be accomplished in some circumstances but addition to the unsaturated groups R^6 competes with addition to the hydroxyl.

SiH functional silanes having hydrolyzable functionality, e.g. methylchlorosilane or dimethyldichlorosilane may also be used, followed by appropriate silicone polymerization, equilibration or polymer capping reac-

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tions. The inventive polymers where R^2 is an organo group may either be synthesized by appropriate derivatization reactions (esterification, etherification, urethanization, etc.) with the polyol functional polymers or, alternatively, if the R^2 organo group does not interfere with hydrosilation under the conditions employed, by first derivatizing the $R^6-G-(OH)_n$ compound, followed by a hydrosilation linking reaction to a SiH functional polymer or silane.

The versatility of the hydroxyl functionality allows mixed R^2 groups to be placed on the polymer in close proximity by appropriate control of stoichiometry. Thus, the dihydroxy terminated silicone prepared by hydrosilation of trimethylolpropane monoallyl ether with an alpha-omega SiH terminated polydimethylsiloxane can be reacted with 2 moles of isocyanatoethyl methacrylate and 2 moles p-toluenesulfonylisocyanate to give a polymer of the structure:



Where m is an integer.

Since polymer binding of polymerizable and accelerating groups inevitably reduces diffusional mobility, this ability to provide both polymerizable and acceleration functionality at controlled locations in close proximity provides a means for significantly improving the polymerization efficiency of the molecule.

Similarly, where it is desired to have more than one cure functionality on a polymer, such as epoxy and methacrylate, controlled stoichiometric reactions allow syntheses of end groups having one of each. Thus, the reaction sequence:

