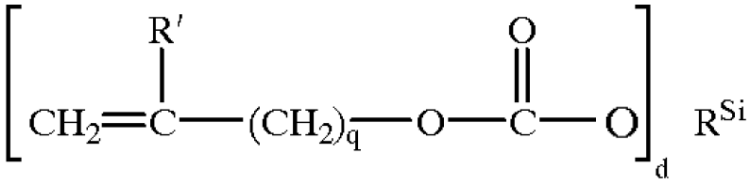
Answer on Question #43848, Chemistry, Organic Chemistry

Question:

What is an example of a silicone-containing vinyl carbonate? (And if possible, what is the chemical formula and how do you draw the structure?)

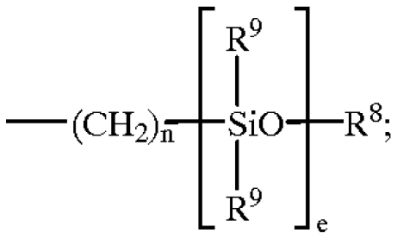
Answer:

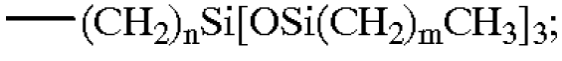
Silicone-containing vinyl carbonate monomers have the following general formula:



Wherein: " R^{Si} " denotes a silicone containing organic radical; " R' " denotes hydrogen or methyl; "d" is 1, 2, 3 or 4; and "q" is 0 or 1.

Corresponding silicone-containing organic radicals R^{Si} include the following:





Wherein "p" is 1 to 6; "R^9"denotes an alkyl radical or a fluoroalkyl radical having 1 to 6 carbon atoms; "e" is 1 to 200; "n" is 1, 2, 3 or 4; and "m" is 0, 1, 2, 3, 4 or 5; "R^8" denotes an alkyl radical.

The silicone-containing vinyl carbonate monomers specifically include: 1,3-bis[4-vinyloxycarbonyloxy)but-1-yl]tetramethyl-disiloxane 3-(trimethylsilyl) propyl vinyl carbonate; 3-[tris(trimethylsiloxy)silyl] propyl vinyl carbonate; t-butyldimethylsiloxyethyl vinyl carbonate; trimethylsilylethyl vinyl carbonate; trimethylsilylmethyl vinyl carbonate.