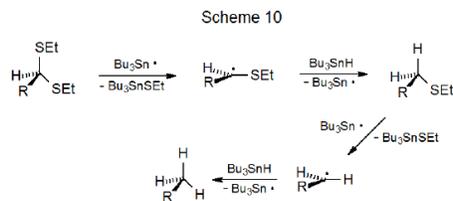
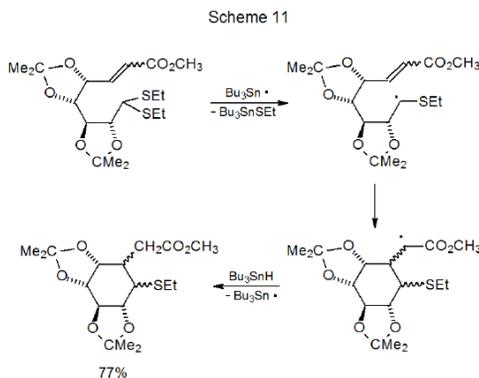


IV. Dithioacetals

Dithioacetals react with tri-*n*-butyltin hydride to replace first one, and then the second, alkylthio group with a hydrogen atom (Scheme 10).³⁰ Because the first group is replaced more rapidly than the second, good yields of compounds with a single sulfur atom are obtained under the proper reaction conditions.^{31–35} The greater reactivity of the first ethylthio group in these compounds is due to formation of an intermediate, carbon-centered radical that is stabilized by the sulfur atom in the remaining ethylthio group.



An unsaturated dithioacetal in which the double bond is properly positioned undergoes intramolecular radical addition.^{31–34} Reaction typically involves capture of the first-formed, carbon-centered radical by the multiple bond; thus, in the reaction shown in Scheme 11, the major product has a new ring system with an ethylthio substituent.³¹ Here again the greater reactivity of the first ethylthio group allows reaction to occur with no detectable loss of the second.



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