

# A Radiochemical Study of Reactions of Diethylsilylium Ions with Trimethyl(*tert*-butylamino)silane in Gas and Liquid Phases

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Received November 18, 2003

**Abstract**—The reaction of diethylsilylium ions with trimethyl(*tert*-butylamino)silane in gas and liquid phases was studied radiochemically. In contrast to the reactions of carbocations with amines, with diethylsilylium ions the proton transfer channel is not realized at all. As in the reactions of diethylsilylium ions with benzene, alcohols, and ethers, the reaction with the aminosilane is accompanied by rearrangement of the silylium ion. Formation of the condensation complex with trimethyl(*tert*-butylamino)silane is complicated by both its geometry and electron density distribution, despite the fact that formation of the condensation complex in this case is more exothermic than with the nucleophiles studied previously (benzene, alcohol, ether).