Trimethylsilylation of Biotite

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Abstract: Organic solvent soluble organosilicate compounds retaining silicate backbone were obtained by the reaction between biotite and trimethylsilylating reagent. The soluble product which was formed at room temperature or at reflux temperature was a viscous liquid and was soluble in a wide range of organic solvents, but insoluble in water. Molecular weights of the soluble products and their thin-layer chromatograms made it clear that the soluble products consisted of several trimethylsilylated derivatives of silicic acids which were mainly the derivatives of mono- and disilicic acid. The influence of reaction temperature for the trimethylsilylation reaction also was discussed.

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