
Preparation of Organosilicate Compounds from Phlogopite by Trimethylsilylation

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Abstract: The reaction of phlogopite with a trimethylsilylating reagent yielded organosilicate compounds which are soluble in various organic solvents. Gas chromatographic analysis of the soluble products indicates that they consist of the trimethylsilylated derivatives of silicic acids which have been formed in the decomposition of phlogopite by hydrochloric acid and that silicic acids formed by the acid attack are monomeric and also oligomeric. The increase of the ratio of GC peak areas of monomer derivative to dimer one with an increase of the reaction time shows that silicic acids in the reaction system tend to depolymerize. The difference between phlogopite and biotite in the ease of trimethylsilylation also is discussed.

Key Words: Biotite • Phlogopite • Trimethylsilylation

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