

Preparation, Structures and Optical Properties of $[\text{H}_3\text{N}(\text{CH}_2)_6\text{NH}_3]\text{BiX}_5$ ($\text{X}=\text{I}, \text{Cl}$) and $[\text{H}_3\text{N}(\text{CH}_2)_6\text{NH}_3]\text{SbX}_5$ ($\text{X}=\text{I}, \text{Br}$)

G. A. Mousdis^a, G. C. Papavassiliou^{a,*},
A. Terzis^b, C. P. Raptopoulou^b

^a Theoretical and Physical Chemistry Institute,
National Hellenic Research Foundation, 48,
Vassileos Constantinou Ave., Athens 116/35,
Greece

^b Institute of Materials Science, NCSR,
Demokritos, Athens 153/10, Greece

Z. Naturforsch. **53b**, 927–931 (1998);
received March 2, 1998

Alkylammonium Halogenobismuthates and Antimonates, Excitonic Spectra, Dielectric Properties

The preparation, crystal structures and optical absorption spectra of $[\text{H}_3\text{N}(\text{CH}_2)_6\text{NH}_3]\text{BiX}_5$ ($\text{X}=\text{I}, \text{Cl}$) and $[\text{H}_3\text{N}(\text{CH}_2)_6\text{NH}_3]\text{SbX}_5$ ($\text{X}=\text{I}, \text{Br}$) are reported. The anions of the compounds consist of MX_6 -octahedra ($\text{M}=\text{Bi}, \text{Sb}$) sharing cis vertices in one-dimensional zig-zag chains. Because of their one-dimensional character, a blue shift of the excitonic absorption bands, in comparison to those of higher dimensionality systems (MX_3), is observed.

* Reprint requests to Prof. G. C. Papavassiliou.