

Ethanolamine Derivatives of Antimony(III). Synthesis, Structures and Reactivity

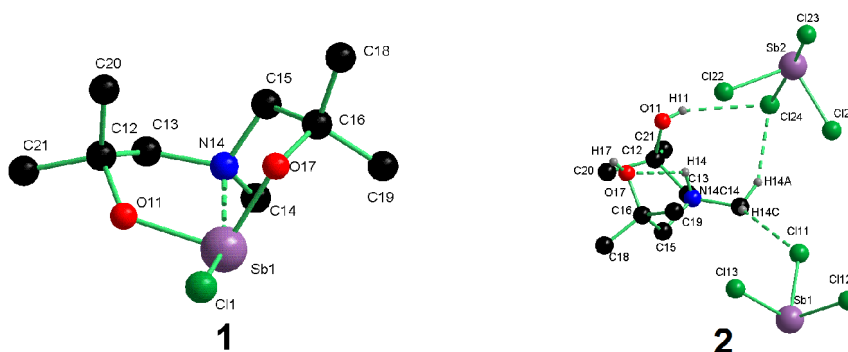
Abeyawarathan, V., Dortmund/D, Dietz, C., Dortmund/D, Jurkschat, K., Dortmund/D

Prof. Dr. Klaus Jurkschat, TU Dortmund, Otto-Hahn-Str. 6, 44227 Dortmund/D

Stanna(II)-bicycloocanes of the general type $\text{Sn}(\text{OCR}_2\text{CH}_2)_2\text{NR}'^{[1]}$ ($\text{R}, \text{R}' = \text{alkyl, aryl}$) are intermediates for the synthesis of the corresponding tin (IV) compounds $\text{R}'\text{N}(\text{CH}_2\text{CR}_2\text{O})_2\text{SnX}_2$ ($\text{X} = \text{halogen, carboxylate}$) which in turn are catalysts for polyurethane formation.^[2] Stanna(II)bicycloocanes are dimeric in solution and in solid state via intermolecular $\text{O} \rightarrow \text{Sn}$ interactions.

Thinking isoelectronically, the corresponding salt-like antimony compounds $[\text{Sb}(\text{OCR}_2\text{CH}_2)_2\text{NR}']\text{Y}$ should be stable as well. In this context we report here the synthesis and structures of the first Sb(III)-derivatives of ethanolamines such as compound **1**.

However, attempts to convert compound **1** by reaction with AgY ($\text{Y} = \text{ClO}_4, \text{OTf}$) and SbCl_5 , respectively, into the corresponding salts $[\text{Sb}(\text{OCMe}_2\text{CH}_2)_2\text{NMe}]\text{Y}$ and $[\text{Sb}(\text{OCMe}_2\text{CH}_2)_2\text{NMe}]\text{SbCl}_6$ failed. In the latter case, a co-crystallizate consisting of $[\text{MeHN}(\text{CH}_2\text{CMe}_2\text{OH})_2]\text{SbCl}_6 \cdot \text{SbCl}_3$, **2**, was isolated instead.



Literature:

[1] T. Behrends, *Dissertation*, Technische Universität Dortmund, **2010**. [2] J. Krause, S. Reiter, S. Lindner, A. Schmidt, K. Jurkschat, M. Schürmann, G. Bradtmöller, Patent: DE 10 2008 021 980 A1.