

Abstract

Reactions leading to cyclization on methylene bridges in PCPCP structure motif were investigated. It was found, that these reactions result in number of various isomers. Some of these isomers were characterized by NMR and MS spectroscopy, but none was isolated.

Further, acid-base properties of bis(methylenephosphonato)phosphineic acid were investigated. Formation of complexes was studied with lithium(I), calcium(II), copper(II) and zinc(II) cations. Furthermore, interaction between bis(methylenephosphonato)phosphinic acid and ethylenediamine was investigated by NMR and potentiometric titration. The results show formation of H-bond-based adducts.