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Synthesis, crystal structures and spectroscopic studies of diorganotin derivatives with mefenamic acid. Crystal and molecular structures of 1,2:3,4-diμ_2-2-[(2,3-dimethylphenyl)amino]-benzoato-*O*,*O*-1,3-bis-2-[(-[2,3-dimethylphenyl)amino]benzoato-*O*-1,2,4:2,3,4-di-μ_3-oxo-tetrakis[di-methyltin(IV)] and 1,2:3,4-di-μ_2-2-[(-[(-[(2,3-dimethylphenyl)amino]-benzoato-*OO*-1,3-bis-2-[(-[(-[(2,3-dimethylphenyl)amino]benzoato-*O*-1,2,4:2,3,4-di-μ_3-oxo-tetrakis[di-*n*-butyltin(IV)].

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Streszczenie

The complexes $[Me_2LSnOSnLMe_2]_2$ (**1**) and $[Bu_2LSnOSnLBu_2]_2$ (**2**) where HL is 2-[(2,3-dimethylphenyl)amino]benzoic acid (mefenamic acid), have been prepared and structurally characterized by means of ^{119}Sn Mössbauer, vibrational and NMR (^{1}H and ^{13}C) spectroscopies. The crystal structures of complexes **1** and **2** have been determined by X-ray crystallography. Each structure is centro-symmetric and features a central rhombus Sn_2O_2 unit with two additional tin atoms linked at the O atoms. Pairs of tin atoms are bridged by bidentate carboxylate ligands and the 'external' tin atoms have their coordination geometry completed by a bridging bidentate carboxylate ligand for **1** and by a monodentate carboxylate ligand for **2**. Five rings, each containing two tin atoms, are present in the dimeric tetraorganodistannoxane **1** and the geometry around the four tin centers is distorted octahedral for Sn(2) and Sn(2a) and trigonal bipyramidal for Sn(1) and Sn(1a). Three such rings are present in **2** and the geometry around the four five-coordinated tin centers, Sn(1), Sn(1a), Sn(2) and Sn(2a), is distorted square-bipyramidal. Significant π→π, C□H→π stacking interactions and intramolecular hydrogen bonds stabilize structures **1** and **2**. The polar imino hydrogen atom participates in intramolecular hydrogen bonds. Complexes **1** and **2** are self-assembled via π→π, C□H→π and stacking interactions.The complexes $[Me_2LSnOSnLMe_2]_2$ (**1**) and $[Bu_2LSnOSnLBu_2]_2$ (**2**) where HL is 2-[(2,3-dimethylphenyl)amino]benzoic acid (mefenamic acid), have been prepared and structurally characterized by means of ^{119}Sn Mössbauer, vibrational and NMR (^{1}H and ^{13}C) spectroscopies. The crystal structures of complexes **1** and **2** have been determined by X-ray crystallography. Complexes **1** and **2** are self-assembled via π→π, C□H→π and stacking interactions.

Słowa kluczowe

Mefenamic acid, Diorganotin, Crystal structures, Spectroscopic studies

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