

The role of hydrogen bonding on supramolecular assembly of the mercury coordination compounds and final structure influenced by solvent effect.

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Streszczenie

In this study, mercury(II) compounds of composition $[\text{Hg}(\text{HL})(\text{I})_2] \cdot \text{CH}_3\text{OH}$ (**1**), $[\text{Hg}(\text{HL})(\text{I})_2] \cdot \text{CH}_3\text{CH}_2\text{OH}$ (**2**), $[\text{Hg}_2(\text{HL})(\mu\text{-I})_3 \cdot \text{CH}_3\text{CN}]_n$ (**3**), $[\text{Hg}_4(\text{HL})_2(\mu\text{-I})_2\text{I}_6]$ (**4**), $[\text{Hg}_2(\text{L})\text{I}_2]_n$ (**5**) and $[\text{Hg}(\text{HL})\text{Br}_2]$ (**6**) (HL = 2-pyridinecarbaldehyde nicotinoyl hydrazone) are described. Depending on the nature of the solvent, from mercury(II) iodide and HL were obtained: discrete solvatomorphic complexes **1** and **2**, metallomacrocycle **4** and 1D coordination polymers **3** and **5**. Mercury(II) bromide provided exclusively monomeric compound **6**. In this work, we took an advantage of the Hirshfeld surface analysis and analyzed both qualitatively and quantitatively interactions governing supramolecular organization of presented halomercury(II) complexes. A special effort has been put on determination of interactions between complex molecules as well as on the role of solvent on the resulting structure. Analysis of 2D fingerprint plots has shown, among others, characteristic point patterns resulting from significant amount of dispersive $\text{Hal} \cdots \text{H}$ contacts.

Słowa kluczowe

Coordination polymer, Mercury(II) complexes, Iodide-bridged complexes, Solvent effect, Hirshfeld surface, solvatomorphism

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