Ferrimagnetic, bimetallic chain systems: [Ni(tetren)]$ReCl_6$ and [Ni(tetren)]$ReCl_6$ ·CH_3OH where tetren= tetraetylenepentamine.

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Streszczenie

Reaction of nikiel (II) chloride with tetraethylenepentamine (tetren) and tetrabutylammonium hexachlororhenate $[Bu_4N]_2ReCl_6$ produced a new kind of binuclear compounds: [Ni(tetren)]$ReCl_6$ (**1**) and [Ni(tetren)]$ReCl_6$·CH_3OH (**2**) in which $[ReCl_6]^{2-}$ anions and $[Ni(tetren)]^{2+}$ cations are held united by electrostatic forces. The magnetic behaviour of **1** and **2** has been investigated over the temperature range 1.7–300 K. Compound **1** behaves as a ferrimagnetic Ni^{II} Re^{IV} bimetallic, one-dimensional (1D) chain with intrachain antiferromagnetic coupling. A hysteresis loop characteristic of a soft magnet has been obtained. Compound **2** shows weak antiferromagnetic interactions within Ni^{II}–Re^{IV} units.

Słowa kluczowe

Bimetallic complexes, Rhenium(IV), Ni(II), Ferrimagnetic chain

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