

Reaction of $[(C_6H_6)RuCl_2]_2$ with 7,8-benzoquinoline and 8-hydroxyquinoline.

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Streszczenie

The reaction of $[(C_6H_6)RuCl_2]_2$ with 7,8-benzoquinoline and 8-hydroxyquinoline in methanol were performed. The obtained complexes have been studied by IR, UV–VIS, 1H and ^{13}C NMR spectroscopy and X-ray crystallography. In the reaction with 8-hydroxyquinoline the arene ruthenium(II) complex oxidized to Ru(III). The electronic spectra of the obtained compounds have been calculated using the TDDFT method. Magnetic properties of $[Ru(C_9H_6NO)_3] \cdot CH_3OH$ complex suggest the antiferromagnetic coupling of the ruthenium centers in the crystal lattice. EPR spectrum of $[Ru(C_9H_6NO)_3] \cdot CH_3OH$ compound indicates single isotropic line only characteristic for Ru^{3+} with spin equal to 1/2.

Słowa kluczowe

Ruthenium arene complexes, symmetry, 8-benzoquinoline, 8-hydroxyquinoline X-ray structure, TDDFT method

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