New ruthenium(II) coordination compounds possessing bidentate aminomethylphosphane ligands : synthesis, characterization and preliminary biological study *in vitro*.

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Streszczenie

Addition of aminomethylphosphanes P{CH2N(CH2CH2)2O}3 (1), PPh2{CH2N(CH2CH2)2O} (2) or PPh2{CH2N(CH2CH2)2NCH2CH3} (3) to methanolic solution of RuCl3 results in reduction of ruthenium(III) ion giving finally ttt-[RuCl2(1)2], ttt-[RuCl2(2)2] and ttt-[RuCl2(3)2]. Synthesized complexes are the first examples of ruthenium(II) coordination compounds possessing aminomethylphosphanes chelating via phosphorus and nitrogen atoms. They were fully characterized (NMR, ESI-MS, IR, elemental analysis, X-ray crystallography). Preliminary studies of the in vitro cytotoxicity against A549 cell line (human lung adenocarcinoma) and interactions with human serum proteins (albumin and apotransferrin) showed the moderate activity of the complexes. Interestingly, the P,N-chelation leads to formation of strained 4-membered Ru-P-C-N-Ru rings, which in the case of [RuCl2(2)2] and [RuCl2(3)2] undergo opening in the presence of CH3CN, which results in rearrangement to ctc-[RuCl2(2)2(CH3CN)2] and ctc-[RuCl2(3)2(CH3CN)2].

Adres publiczny

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