

Use of 1,2,4-triazolo[1,5- α]pyrimidines to design new "piano-stool" ruthenium(II) compounds.

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Streszczenie

A series of neutral half-sandwich organometallic ruthenium(II) complexes of the general formula $[(\eta^6\text{-p-cym})\text{Ru}(\text{L})\text{Cl}_2]$, where $\eta^6\text{-p-cym}$ – p-cymene, was prepared by the direct reaction of a dichloride p-cymene ruthenium(II) dimer, $[(\eta^6\text{-p-cym})\text{Ru}(\mu\text{-Cl})_2\text{Cl}_2]$, with corresponding 1,2,4-triazolo[1,5- α]pyrimidine ligands (L), namely, L-1,2,4-triazolo[1,5- α]pyrimidine (tp) (**1**), 5,7-dimethyl-1,2,4-triazolo[1,5- α]pyrimidine (dmtpt) (**2**), 5,7-ditertbutyl-1,2,4-triazolo[1,5- α]pyrimidine (dbtp) (**3**), 7-isobutyl-5-methyl-1,2,4-triazolo[1,5- α]pyrimidine (ibmtpt) (**4**), and 5,7-diphenyl-1,2,4-triazolo[1,5- α]pyrimidine (dptpt) (**5**). The complexes were prepared in molar ratios of 1:2 (except (**1**), for which an excess of tp was used). The structures of the complexes were determined by multinuclear magnetic resonance (^1H , ^{13}C , ^{15}N) spectroscopy and X-ray diffraction. According to all the spectroscopic data, the molecules adopted the usual "piano-stool" geometry with a monodentate N3 triazolopyrimidine ligand. Studies on these lipophilic ruthenium(II) complexes revealed rather low *in vitro* antiproliferative activities against two human cell lines.

Słowa kluczowe

Ruthenium(II) complex, Triazolopyrimidine, p-Cymene, X-ray, NMR

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