

Dioxidovanadium(V) complexes containing thiazol-hydrazone NNN-donor ligands and their catalytic activity in the oxidation of olefins.

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Streszczenie

The reaction between tridentate NNN donor ligands, (E)-2-(2-(pyridin-2-ylmethylene)hydrazinyl)benzo[d]thiazole (HL1) and (E)-2-(2-(phenyl(pyridin-2-yl)methylene)hydrazinyl)benzo[d]thiazole (HL2), with VO(acac)₂ in ethanol gave [VO₂(L1)] (1) and [VO₂(L2)] (2) complexes. Complex [VO₂(L2)]·0.2(H₂O) (3) was produced from the reaction of HL2 and V₂O₅ in ethanol. Molecular structures of complexes were determined by single-crystal X-ray diffraction. All of the investigated compounds were further characterized by elemental analysis, FT-IR, UV-vis and NMR spectroscopy. The dioxidovanadium(V) species were used as catalysts for olefin oxidation in the presence of hydrogen peroxide (H₂O₂) as an oxidant. Under similar experimental conditions with equal vanadium loading, the presence of the [VO₂(L1)] (1) resulted in higher conversion than in the case of using [VO₂(L2)] (2) and [VO₂(L2)]·0.2(H₂O) (3) as catalytic agents.

Słowa kluczowe

Dioxidovanadium(V) complexes, thiazole-hydrazone ligands, crystal structure, epoxidation, N₃-donor ligands

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