

Synthesis, structural characterization and catalytic potential of oxidovanadium(IV) and dioxidovanadium(V) complexes with thiazole-derived NNN-donor ligand.

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Rok wydania

2018

Czasopismo

Journal of Coordination
Chemistry

Numer woluminu

71

Strony

1510-1525

DOI

10.1080/00958972.2018.1465941 <http://dx.doi.org/10.1080/00958972.2018.1465941>

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

Reaction between the tridentate NNN donor ligand, (E)-2-(2-(1-(pyridin-2-yl)ethylidene)hydrazinyl)benzo[d]thiazole (HL), and V_2O_5 in ethanol gave a new vanadium(V) complex, $[VO_2L]$ (**1**), while the similar reaction by using $[V^{IV}O(acac)_2]$ as the metal source gave two different types of crystals related to compounds $[VO_2L]$ (**1**) and $[V^{IV}O(acac)L]$ (**2**). The molecular structures of the complexes were determined by single-crystal X-ray diffraction and spectroscopic characterization was carried out by means of FT-IR, UV-vis and NMR experiments as well as elemental analysis. The oxidovanadium(IV) and dioxidovanadium(V) species were used as catalyst precursors for olefin oxidation in the presence of hydrogen peroxide (H_2O_2) as an oxidant. Under similar experimental conditions, the presence of **1** resulted in higher oxidation conversion than **2**.

Słowa kluczowe

Oxidovanadium(IV), dioxidovanadium(V), thiazole-hydrazone, H_2O_2 , oxidation

Adres publiczny