Uniwersytet Wrocławski

Repozytorium

Plik pochodzi z repozytorium Wydziału Chemii Uniwersytetu Wrocławskiego

Manganese(II) complexes of 2,3,5,6-tetra-(2-pyridyl)pyrazine - syntheses, crystal structures, spectroscopic, magnetic and catalytic properties.

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Rok wydania

2013

Czasopismo

Polyhedron

Numer woluminu

53

Strony

132-143

DOI

10.1016/j.poly.2013.01.015

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

A systematic studies on complex formation between Mn(II) ions, 2,3,5,6-tetra(2-pyridyl)pyrazine and halide or pseudohalide (N_3^-, NCS^- and $N(CN)_2^-$) ligands have been carried out and the following complexes $[Mn_2(\mu\text{-}Cl)_2Cl_2(tppz)_2]$ (**1**), $[Mn_2Cl_2(\mu\text{-}N_3\text{-}\kappa N1)_2(tppz)_2]$ (**2**), $[MnCl(SCN)(tppz)(H_2O)]\cdot H_2O$ (**3**), $[MnCl(dca)(tppz)(H_2O)_{0.57}(MeOH)_{0.47}]$ (**4**), $[Mn(NO_3)_2(tppz)(H_2O)]$ (**5**), $[Mn(N_3)(NO_3)(tppz)(H_2O)]$ (**6**), $[Mn(SCN)_2(tppz)]$ (**7**) and $[Mn(NO_3)(dca)(tppz)]_n$ (**8**) have been obtained. The compounds were characterized by elemental analysis, IR, EPR, magnetic measurements and X-ray analysis. Two of them (**5** and **6**) have been tested as catalysts in oxidation of alcohol to aldehydes/ketones using oxone ($2KHSO_5\cdot KHSO_4\cdot K_2SO_4$) as an oxidant under biphasic reaction conditions (CH_2Cl_2/H_2O) and tetra-*n*-butylammonium bromide as phase transfer agent under air at room temperature and as catalysts in oxidation of sulfides to sulfoxides with UHP (urea hydrogen peroxide) as oxidant.

Słowa kluczowe

Manganese(II), molecule, Ion, photoluminescence, 6-Tetra(2-pyridyl)pyrazine, X-ray structure, Magnetic properties, catalytic activity

Adres publiczny

http://dx.doi.org/10.1016/j.poly.2013.01.015

Strona internetowa wydawcy

http://www.elsevier.com

Plik został wygenerowany dnia 2026-11-02 11:36:28

Adres w repozytorium https://old.chem.uni.wroc.pl/pl/repozytorium/GFD9ueC.