

Effective catalytic disproportionation of aqueous H_2O_2 with di- and mono-nuclear manganese(II) complexes containing pyridine alcohol ligands.

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Streszczenie

The two novel manganese(II) complexes with 2-hydroxymethylpyridine (2-CH₂OHpy) {[Mn₂(μ-Cl)₂(2-CH₂OHpy)₄]Cl₂·2H₂O (1)} and 2-hydroxyethylpyridine (2-(CH₂)₂OHpy) {[Mn(2-(CH₂)₂OHpy)₂(NCS)₂] (2)} were synthesized and characterized by means of X-ray diffraction, IR, EPR, HF EPR spectroscopy, magnetic and TG/DTG data. The complexes show catalase-like activity in neutral aqueous solution since they were able to disproportionate H₂O₂ to harmless H₂O and O₂. Both complexes act as true catalysts since they reverted to their original form after depleting all the H₂O₂, as suggested by the operando resonant inelastic X-ray spectroscopy (RIXS) measurements.

Adres publiczny

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