

**Название публикации:**

Mild and Regioselective Hydroxylation of Methyl Group in Neocuproine: Approach to an N,O-Ligated Cu-6 Cage Phenylsilsesquioxane

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**Сведения об издании:**

Organometallics

Том: 37 Выпуск: 2 Стр.: 168-171

DOI: 10.1021/acs.organomet.7b00845

Опубликовано:JAN 22 2018

Тип документа:Article

**Аннотация:**

The self-assembly synthesis of Cu(II)-silsesquioxane involving 2,9-dimethyl-1,10-phenanthroline (neocuproine) as an additional N ligand at copper atoms was performed. The reaction revealed an unprecedented aerobic hydroxylation of only one of the two methyl groups in neocuproine to afford the corresponding geminal diol. The produced derivative of oxidized neocuproine acts as a two-centered N,O ligand in the assembly of the hexacopper cage product [Cu-6(Ph<sub>5</sub>Si<sub>5</sub>O<sub>10</sub>)(2)center dot(C<sub>14</sub>H<sub>11</sub>N<sub>2</sub>O<sub>2</sub>)(2)] (1), coordinating two of the six copper centers in the product. Two siloxanolate ligands [PhSi(O)O](5) in the cis configuration coordinate to the rest of the copper(II) ions. Compound 1 is a highly efficient homogeneous precatalyst in the oxidation of alkanes and alcohols with peroxides.

**Ключевые слова:**

O-2-h<sub>2</sub>o<sub>2</sub>-vanadium derivative-pyrazine-2-carboxylic acid; hydrogen-peroxide; hydrocarbon oxygenations; palladium complexes; dioxygen activation; catalytic-activity; alkane oxidation; copper-complexes; vanadate anion; mechanism