

24元大环双核铜配合物的合成及对超氧化歧化酶的模拟

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摘要 合成了三个24元大环双铜(II)配合物作为SOD模拟物,配体由2,6-二乙酰基吡啶与3-氧杂戊烷1,5-二胺缩合而成,以SCN⁻, N³⁻, im⁻桥联,其中前面两个桥联双铜(II)

配合物是新配合物。用多种物理方法进行了表征,并用EPR和电子光谱研究了桥基为im⁻的配合物与N³⁻, SCN⁻, F⁻和Br⁻的键合。其中N³⁻发生轴向配位,SCN⁻使im⁻断裂,与SOD的键合作用类似,F⁻, Br⁻对模拟物无明显作用。

关键词 [吡啶 P](#) [铜络合物](#) [超氧化物歧化酶](#) [顺磁共振](#) [双核络合物](#) [电子光谱](#) [氧杂戊烷二胺](#)

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Synthesis of three 24-membered macrocyclic binuclear copper(II) complexes and modelling on superoxide dismutase

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Abstract Three 24-membered macrocyclic binuclear Cu(II) complexes for modeling Cu,Zn-SOD were synthesized by condensation reactions of 2,6-diacetylpyridine with 3-oxapentane-1,5-diamine, in which 2 metal centers linked via SCN⁻, N³⁻ or imidazolate bridge. The former 2 complexes are new. They were characterized by several phys. methods, and the binding of imidazolate bridged complex with halides, azide and thiocyanate ions was studied by EPR and electronic spectra. Among them azide coordinates to Cu(II) as the 5th ligand in the axial position, and thiocyanate breaks the imidazolate bridge. These results are similar to the binding of SOD. As for the binding of halide ions, chloride displaces the imidazolate bridge and fluoride, bromide have no significant effect on the model complexes.

Key words [PYRIDINE P](#) [COPPER COMPLEX](#) [SUPEROXIDE DISMUTASE](#) [PARAMAGNETIC RESONANCE](#) [DINUCLEAR COMPLEX](#) [ELECTRONIC SPECTROSCOPY](#)

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