

**Title:** Copper Bis(oxazoline) Encapsulated in Zeolites and Its Application as Heterogeneous Catalysts for the Cyclopropanation of Styrene

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**Abstract:** A copper C(2)-symmetric bis(oxazoline), CuBox, was introduced in two forms of commercial Y zeolite: a sodium form (NaY) and an ultrastable form (NaUSY). CuBox was introduced by first partially exchanging the sodium cations of both zeolites for copper and then by refluxing the obtained materials with a solution of bis(oxazoline) (Box). Two different loadings were prepared for each form of zeolite. The materials were characterized by copper ICP-AES, elemental analysis, XPS, FTIR, TG, and nitrogen adsorption isotherms at -196 degrees C. Evidence for Box ligand location in the supercages of NaY and NaUSY zeolites and its coordination to the exchanged copper(II) was obtained by the several techniques used. The materials were all active in the cyclopropanation of styrene with ethyldiazoacetate at room temperature and diastereoselective toward trans cyclopropanes. Although the materials containing Box showed low enantioselectivities, their catalytic activities were higher than the parent copper exchanged zeolites, and did not decrease with reuse, at least during three consecutive cycles.

**KeyWords Plus:** Enantioselective Catalysis; Chiral Catalysts; Pillared Clays; Complexes; Epoxidation; Aziridination; Bisoxazolines; Olefins

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