New catalytic systems for oxygen-mediated oxidative processes

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The oxidation of alcohols to the corresponding carbonyl compounds is a current transformation in laboratory and industrial chemistry. Traditionally this reaction involves oxidants used in stoichiometric or overstoichiometric amounts so that relatively large quantities of waste are generated. Molecular oxygen is the ideal oxidant (readily available, safe, environmentally friendly, water as waste, etc.), but the need of metal catalysts to control the reaction outcome in relatively high amounts can become a serious drawback.¹,²

We wish to present two pallacyclic systems with remarkable catalytic properties in the aerobic oxidation of a number of alcohols.