

ABSTRACTS

3: S. Góger; D. Bogáth; G. Baráth; N. El-Bakkali-Taheri; A. J. Simaan; G. Speier; J. Kaizer: Bio-inspired Amino Acid Oxidation by a Non-heme Iron Catalyst. *JOURNAL OF INORGANIC BIOCHEMISTRY*, 123 (2013) 46-52.

This study reports the kinetics and mechanism of Fe(III)-catalyzed oxidative decarboxylation and deamination of a series of acyclic (α -aminoisobutyric acid, α -(methylamino)isobutyric acid, alanine, norvaline, and 2-aminobutyric acid) and cyclic (1-aminocyclopropane-1-carboxylic acid, 1-amino-1-cyclobutanecarboxylic acid, 1-aminocyclopentanecarboxylic acid, and 1-aminocyclohexanecarboxylic acid) amino acids using hydrogen peroxide, *t*-butyl hydroperoxide, iodosylbenzene, *m*-chloroperbenzoic acid, and peroxomonosulphate as oxidant in 75% DMF–25% water solvent mixture. Model complex $[\text{Fe}^{\text{IV}}\text{O}(\text{SALEN})]^{2+}$ (SALENH₂: *N,N'*-bis(salicylidene)ethylenediamine) was generated by the reaction of Fe^{III}(SALEN)Cl and H₂O₂ in CH₃CN at 278 K as reported earlier. This method provided us high-valent oxoiron species, stable enough to ensure the direct observation of the reaction with amino acids.