

'Thermodynamic' mechanism of catalysis by haloperoxidases

Shevelkova A., Sal'nikov Y., Kuz'mina N., Ryabov A.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

A novel 'thermodynamic' mechanistic rationale of haloperoxidase catalysis is based on the following two assumptions: (i) the role of enzyme consists only in the rapid equilibration between the halogen-containing species originating from halide and hydrogen peroxide; (ii) the interaction between the enzyme and organic substrate is kinetically insignificant and halogenation occurs as a result of the electrophilic attack of the active brominating (Br_3^- , Br_2 and HBrO) or chlorinating (HClO) species at monochlorodimedon indicative of a higher chloride 'specificity' of chloroperoxidase from *C. fumago*.

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Keywords

Catalysis, Haloperoxidase, Mechanism