**Full Paper** 

Registration Code of Publication: 10-23-15-11 Publication is available for discussion in the Internet as a material of "All-Russian Working Chemical Conference "Butlerov's Heritage-2011". http://butlerov.com/bh-2011/ Contributed to editorial board: November 11, 2010.

## The generation of HO<sup>•</sup> as a key stage of antimalarial action of analogs of artemisinin

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Keywords: activation energy, analogs of artemisinin, antimalarial action, enthalpy of reaction, hydroxyl radical, intramolecular oxidation, model of intersecting parabolas, rate constant, stereohemistry.

## Abstract

The kinetic schemes of free radical transformation of 4 stereoanalogs of artemisinin were build up by the method of intersecting parabolas. The thiyl and hydroxyl radicals are initiated as a result of intramolecular oxidation of compound and decay of the formed hydroperoxyl groups. Generation of hydroxyl radical plays the key role in curing action of artemisinin and its analogs. The empiric correlation between  $IC_{50}$  and yield of hydroxyl radicals ( $n_{\rm HO}$ ) has the following form:  $IC_{50}(\text{Artemisinin})/\hat{IC}_{50}(\text{Compound}) = -0.67 + 1.67 \cdot 10^{-2} \cdot n_{\rm HO}^4$ . DNA of *Plasmodium falciparum* is supposed to be the biological target of hydroxyl radicals.