

Supplementary Material

The Catalytic Mechanism of Steroidogenic Cytochromes P450 from all-atom Simulations: Entwinement with Membrane Environment, Redox Partners and Post-Transcriptional Regulation

Angelo Spinello¹, Ida Ritacco¹ and Alessandra Magistrato^{1,*}

¹ CNR-IOM-Democritos c/o International School for Advanced Studies (SISSA), Via Bonomea 265, 34136, Trieste, Italy;
aspinello@sissa.it, iritacco@sissa.it

* Correspondence: alessandra.magistrato@sissa.it; Tel.: +39 0403787520

Supporting Information Content

Figure S1, S2

Pag. 2

References

Pag. 3

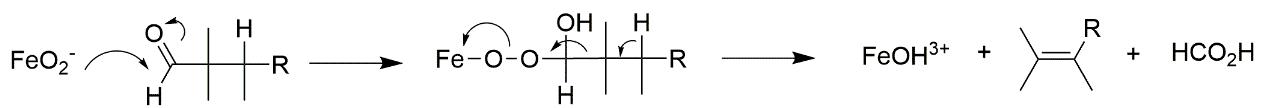


Figure S1. Reaction between the ferric peroxy complex, FeO_2^- , and a generic aldehyde. R refers to any alkyl group [1].

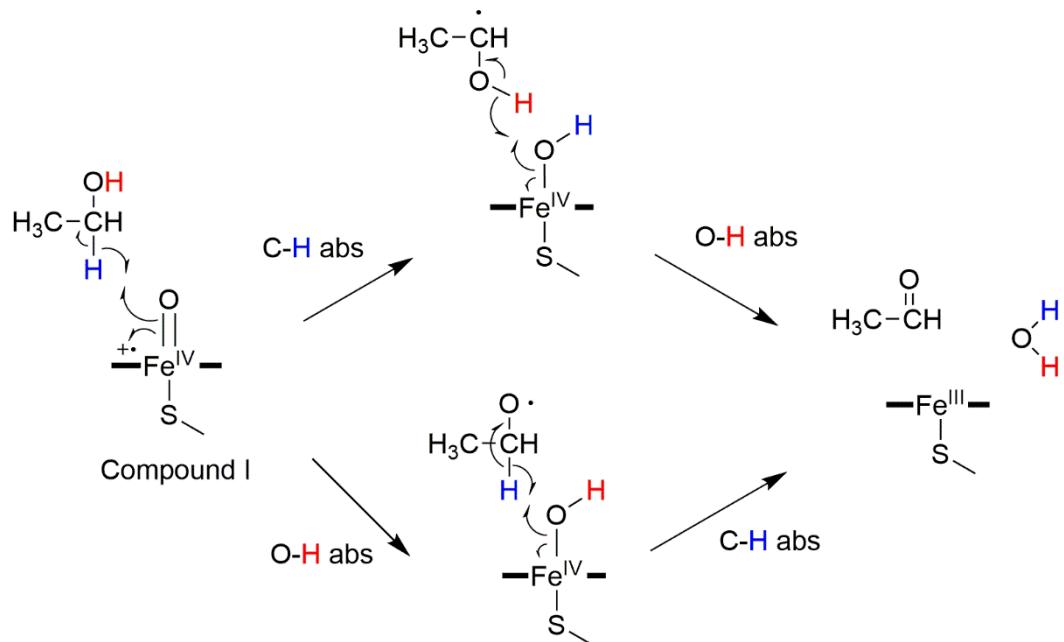


Figure S2. Dual hydrogen abstraction proposed, as an example, to rationalize ethanol oxidation carried out by CYP2E1. Two distinct dual hydrogen abstraction mechanisms proposed for ethanol oxidation [2].

References

1. Guengerich, F. P.; Munro, A. W. Unusual cytochrome p450 enzymes and reactions. *J. Biol. Chem.* **2013**, *288*, 17065-17073.
2. Wang, Y.; Yang, C.; Wang, H.; Han, K.; Shaik, S. A New Mechanism for Ethanol Oxidation Mediated by Cytochrome P450 2E1: Bulk Polarity of the Active Site Makes a Difference. *ChemBioChem* **2007**, *8*, 277-281.