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CMST COST Action CM1003

Biological oxidation reactions - mechanisms and design of new catalysts

Descriptions are provided by the Actions directly via e-COST.

Biological oxidation reactions utilizing dioxygen, superoxide, hydrogen peroxide, or water as oxidants are the most common metal catalyzed reactions in biology. Despite the intense study of such reactions, key knowledge remains to be established in many cases - e.g. the nature of the active oxidant and the molecular mechanism of oxidation. In this Action, scientists are studying not only the mechanisms of important oxidation reactions via biophysical studies on relevant metalloenzymes and/or model complexes, as well as by computational modelling, but are also designing new catalysts for such reactions. Two classes of potential new catalysts are investigated: (i) "artificial metalloproteins", i.e. small metalloproteins, produced primarily by *de novo* synthesis, that contain active sites that are direct mimics of those found in metalloenzymes (ii) coordination complexes that reproduce essential features of enzyme active sites.

Chemistry and Molecular Sciences and Technologies COST Action CM1003

- ▶ **Description**
- ▶ Parties
- ▶ Management Committee



General Information*

- Chair of the Action:**
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- DC Rapporteurs:**
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- Science officer of the Action:**
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Downloads*

- [Action Fact Sheet](#)
[Download AFS as .RTF](#)
- [Memorandum of Understanding](#)
[Download MoU as PDF](#)

Websites*

- Domain website:**
<http://www.cost.eu/cmst>

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