Mechanisms in iron, nickel, and manganese, catalysis with small molecule oxidants

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Stellingen

Behorende bij het proefschrift

Mechanisms in Iron, Nickel, and Manganese catalysis with small molecule oxidants

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1. A catalyst is not always needed to accelerate a change, but sometimes to tame an aggressive reagent such as NaOCl (chapter 1).

2. Humidity in Netherlands affects the Dutch chemistry, and gives hints as to what is happening in reaction (chapter 2) – it also leads to dry skin.

3. The right balance of emotions makes life beautiful, but the right balance of water is needed for the formation of beautiful species (chapter 2).

4. Working with a tetradentate complex, and having labile ligands is not always so painful, as long as one has the patience to observe a dynamic system (chapter 2).

5. Saying that iron oxidation chemistry is a mature field because we have characterised so many exotic species is a bit like saying we understand a Shakspearian play because we had a beer with the actors – thorough understanding comes from observing a dynamic system (chapter 3).

6. The devil is in the detail, a single signal in a spectrum can reveal a whole new perspective on a project (chapter 4).

7. Claiming to have proven a mechanism is a bit like saying we have mapped the heavens. The joy of astronomy and mechanistic chemistry is that there is always further and more to look at.

8. Seeking a crystal structure of an intermediate formed in a reaction can fill one with excitement of the insight it can bring – but it is a bit like googling a cheat for a difficult computer game. There is more to mechanisms than static X-ray structures (but sometimes a lucky break of a good crystal can give you a leg up, Chapter 6).

9. Ireland is the land of Saints and Scholars – I got a Scholar :/