

Special Issue

Flavin Monooxygenases

Message from the Guest Editors

The selective oxidation of organic molecules is not only fundamentally important for life but also very useful for industrial applications. These oxidations can be carried out in many different ways, but in the era of “green chemistry”—more environmentally friendly reactions utilising less toxic reagents and ambient temperatures—enzymatic oxyfunctionalisation is deemed the most effective and suitable strategy. In this respect, one popular group of enzymes currently under investigation are flavin-dependent monooxygenases, and in particular single-component enzymes of class B, including flavin-containing monooxygenases (FMOs) and Baeyer–Villiger monooxygenases (BVMOs). The reason behind their popularity is the vast array of reactions that they can catalyse, including Baeyer–Villiger oxidation, sulfoxidation, epoxidation and N-oxidations. In addition, they are highly selective in their chemo-, regio-, and enantio-selective oxygenation reactions, and find wide applications in various fields, including high-value fine chemicals, cosmetics, as well as drug metabolites in the pharmaceutical industries.

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