Interweaving disciplines to advance chemistry: applying polyoxometalates in biology¹

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Studies at the interface of chemistry and biology are a prominent example of leaving established areas of competence and thereby producing exciting new research results of the utmost importance. In the last few decades, we have made important advances in our knowledge of mechanistic biological chemistry and steadily broadened the traditional view of the different roles that metals and their complexes play in biological systems, as they are increasingly discussed at various conferences (European Biological Inorganic Chemistry Conference, Metallomics, Metals in Biology, International Conference on Biological Inorganic Chemistry, etc.). The study of the interactions between inorganic complexes and biomolecules is a prime target of multidisciplinary research. In this presentation, we show unpredictable and unprecedented discoveries that result from the study of polyoxometalates (POMs) in biological systems and are the result of highly interdisciplinary work. The examples show that some off-type chemistry could so far only be observed at the intersection with other disciplines, whereby the POM – biomolecules investigation is only one example that can be extended and transferred to other branches of research.

A new chemistry is available at the intersections between disciplines and aims to guide the community towards a discussion about current as well as future trends in truly interdisciplinary work.

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