



RESEARCH BREMEN

The POMLab

The POMLab has a long tradition in the synthesis and structural characterization of discrete polyoxometalates (POMs). Their physicochemical properties in areas such as catalysis, magnetism, electrochemistry, and biomedicine are also investigated (partially in collaboration). We are particularly interested in d- and f-block metal-containing heteropolytungstates as well as polyoxo-noble-metalates, in particular polyoxopalladates (POPs). Academic as well as industrial projects are being investigated. Some research highlights are the discovery of (i) polyoxopalladates in 2008 ($P_{13}As_8$), (ii) polyoxoaurates in 2010 (Au_4As_{40}), and (iii) transition metal-containing derivatives of the wheel-shaped P_8W_{48} wheel in 2005 ($Cu_{20}P_8W_{48}$).



Contact

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Available techniques

Multinuclear NMR, UV-Vis, AA, GC, GC-MS, HPLC, electrochemistry, single-crystal XRD, FT-IR, TGA-DSC, physisorption, steel autoclaves, microwave reactor, glove box.

PUBLICATIONS

Yang, P.; Kortz, U. Discovery and Evolution of Polyoxopalladates. *Acc. Chem. Res.* **2018**, 51, 15991608. [[Read Online](#)]

Izarova, N. V.; Pope, M. T.; Kortz, U. Noble Metals in Polyoxometalates. *Angew. Chem. Int. Ed.* **2012**, 51, 9492-9510. [[Read Online](#)]

Mal, S. S.; Kortz, U. The Wheel-Shaped Cu₂₀ Tungstophosphate [Cu₂₀Cl(OH)₂₄(H₂O)₁₂(P₈W₄₈O₁₈₄)]²⁵⁻ Ion. *Angew. Chem. Int. Ed.* **2005**, 44, 3777-3780. [[Read Online](#)]