



Showcasing research from Professor Alexey Cherevan and Professor Dominik Eder, Institute of Materials Chemistry, TU Wien, Vienna, Austria.

Harnessing a Ti-based MOF for selective adsorption and visible-light-driven water remediation

This study explores a unique Ti-based metal-organic framework – COK-47, comprised of 2D secondary-building units connected via biphenyl dicarboxylic acid ligands, for photocatalytic water remediation. Synthesized using a microwave-assisted method, COK-47 excels in dye degradation under UV, visible, and solar light, outperforming TiO_2 and MIL-125-Ti. It demonstrates high hydrolytic stability, strong dye uptake, and selective degradation of cationic pollutants. Mechanistic studies indicate the involvement of superoxide radicals in the degradation process.

As featured in:



See Alexey Cherevan,
Dominik Eder *et al.*,
J. Mater. Chem. A, 2024, 12, 19924.