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Nota di contenuto	Polyoxometalates in General and Polyoxovanadates in Particular -- Lithium-Ion Batteries in General -- Stabilization of POMs by Crystal Engineering -- Electrochemical Characterization and Battery Testing of POM-based Electrodes.
Sommario/riassunto	Simon Greiner investigates the molecular-level stabilization of polyoxovanadate (POV) compounds by rational design for the application as active cathode material in lithium-ion batteries. Formation of a complex hydrogen-bonding network locks the POVs in place and prevents thermal decomposition during electrode fabrication. The molecular vanadium oxide clusters can be electrochemically analyzed and show promising results for storage of multiple electrons per cluster, making these materials highly attractive for energy storage applications. Analytical methods comprise ATR-FTIR, powder and single-crystal XRD, electron microscopy, EDX, electrochemical analysis and battery testing. Contents Polyoxometalates in General and Polyoxovanadates in Particular Lithium-Ion Batteries in General

Stabilization of POMs by Crystal Engineering Electrochemical Characterization and Battery Testing of POM-based Electrodes Target Groups Researchers and students in the fields of inorganic chemistry and energy materials Practitioners in the application of inorganic chemistry and energy materials The Author Simon Greiner obtained his master’s degree in chemistry and management at Ulm University, Germany, in cooperation with the Helmholtz Institute Ulm for Electrochemical Energy Storage (HIU). He continues his work on POM-based energy storage materials in the research groups of Prof. Carsten Streb and Prof. Maximilian Fichtner.