

Synthesis of Siloxy- and Alkoxy-Substituted ZnO-Aggregates for CVS of ZnO

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Abstract. The main focus of our contribution lies on the investigation of molecular ZnO-rich polyoxometallates as model compounds for nanocrystalline ZnO-systems. Following the approach of a chemical building block, well defined ZnO clusters were synthesized. The formation of insoluble ZnO can be suppressed completely by choosing the appropriate protecting group. In particular, triorganosiloxy groups turned out to be very efficient for this purpose. The facile variation of the organic substituents within a wide range of different sizes and their tendency to act as an electrophilic leaving group increases the selectivity of the consecutive aggregation of the molecular ZnO moieties.