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## ABSTRACT

Poly(vinyl alcohol) (PVAL) is an interesting architecture-directing material and is useful for synthesizing transition metal oxides through the sol-gel method. In this work, the interaction between PVAL and peroxotungstic acid (PTA) in aqueous media was investigated by conductivity, zeta potential, small-angle x-ray scattering, isothermal titration calorimetry and fluorescence measurements. The strong exothermic effect and the change in organization in aqueous media, from extended chains to compact chains forming fractal structures, confirm the interaction between PTA and PVAL. Powders were obtained from these systems by removal of water and subsequent calcination. An increase in the crystal size and changes in morphology were observed with the increasing of PVAL

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