Synthesis of mesoporous titania particles by surfactant-assisted self-assembly

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Mesoporous titania particles were produced through a hydrothermal method by using two different kinds of titania precursors and surfactant. To achieve high porosity of titania particles, the ordered structure of titania particles were synthesized. The particles were encapsulated with surfactants, and then the porous titania particles were produced through the calcination. The reaction rate was decreased at higher acidic condition. In addition, the pore size depends on the size of the hydrophobic part of the surfactant used.