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Similar time-dependent morphology evolution of titania films from different precursors

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Mesoporous transition metal oxide has attracted a lot of interest due to its excellent properties. Block copolymers with sol-gel is one of the popular approaches to fabricate mesoporous transition metal oxides. In this work, titania thin films are synthesized with the sol-gel method templated by a diblock copolymer. A similar morphology transition, from worm-shaped mesopores to ordered spherical mesopores, was observed with increasing sol-gel reaction time for different titanium precursors. The surface morphologies of films are probed via scanning electron microscopy and GISAXS.

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