

RESEARCH NOTES

基于膜射流乳化技术的TiO₂大孔陶瓷制备方法研究

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摘要 A novel method to prepare macroporous TiO₂ ceramic, based on membrane emulsification was reported. To solve the paradox between the instability of nonaqueous emulsion and long emulsification time required by the membrane emulsification, a two-stage ceramic membrane jet-flow emulsification was proposed. Discussion was conducted on the evolution of droplet size with time, which followed the Ostwald ripening theory. And a monodisperse nonaqueous emulsion with an average droplet size of 1.6 μm could be prepared. Using the emulsion as a template, TiO₂ ceramics with an average pore size of 1.1 μm were obtained. The material could be prospectively used for preparation of catalysts, adsorbents, and membranes.

关键词 [nonaqueous emulsion](#) [ceramic](#) [membrane emulsification](#) [jet-flow](#)

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Preparation of macroporous TiO₂ ceramic based on membrane jet-flow emulsification

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Key words [nonaqueous emulsion](#); [ceramic](#); [membrane emulsification](#); [jet-flow](#)

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