

The two-phase route synthesis of mesoporous silica nano-fibers

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In this study, a two-phase route method for synthesis of mesoporous silica nano-fibers are applied. The formation of mesoporous silica nano-fibers in the presence of polyvinylalcohol (PVA) was investigated with tetraethyloxysilane (TEOS) as a silica precursor. Due to high viscosity of PVA, diffusion rate of TEOS would be reduced and also it resulted in the sluggish formation of nano-fibers. This imperfect hexagonal mesoporous silica nano-fibers structure was shown by SEM, TEM.