Natkamol Peungsamran 2006: Effect of Organic Acids on the Formations of Silica Nanomaterials. Master of Science (Inorganic Chemistry), Major Field: Inorganic Chemistry, Department of Chemistry.
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The sol-gel template method using tetraethylorthosilicate (TEOS) as silica source under stirring and shaking conditions were used to study the effect of organic acids on the formations of silica nanomaterials. The reactions were carried out at room temperature with seven organic acid templates which are succinic, malic, tartaric, citramalic, glutaric, adipic and mucic acids. FTIR results indicated three characteristic frequencies regions at 1100, 800, and 470 cm^{-1}. XRD results revealed the amorphous nature of silica framework. SEM and TEM images showed three morphologies which are spherical, plate and tubular shapes with variation of diameter (70-1,000 nm) and length (0.5-3.4 μm).

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