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**Synthesis of monodispersed hexagonal and star-like gibbsite  
nanoplatelets by sol-gel method**

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Abstract

This study uses the sol-gel method to synthesize monodispersed hexagonal and six-point star-like gibbsite nanoplatelets by controlling the pH-value of a reaction solution. This method to synthesize gibbsite nanoplatelets is high-yield and produces homogeneous products that disperse well in aqueous solutions. When the reaction is performed at pH = 2.9, the star-like gibbsite nanoplatelets produced are 950 nm in diameter and less than 90 nm in thickness. When the reaction is performed at pH = 2.2, hexagonal gibbsite nanoplatelets are synthesized. Crystal growth can be adjusted through precise control over the reaction concentrations and pH in order to synthesize

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