

Shape-Controlled Synthesis of Gold Nanorods

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Uniform gold nanorods have been synthesized at room temperature by using a seeded growth method, in which hexadecyltrimethylammonium bromide (CTAB) was used as stabilizer. Subsequently, the gold nanorods were grown in the presence of silver precursor and hydrochloric acid (HCl), which resulted in heads at both ends. By controlling the amount of hydrochloric acid (HCl), the growth rate of gold at both ends are changed. Without HCl, arrow-like heads were produced. However, dog-bone or round head were produced depending on concentration of HCl.