Formation of silver nanofiber through self assembly of nanoparticles and study for the mechanism

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Small colloidal Ag spheres (diam. < 10nm) were assembled into Ag nanofiber with microwave treatment. The required temperature have optimum for well dispersed and aligned nanofiber at around 150° C. This study revealed the mechanism how it was obtained through self assembly. During the process, we acknowledged that formation of cyanide could affect successful synthesis of silver nanofiber.