A study of Self-Assembly of CdTe Nanoparticles into Nanowires by ratio of Stabilizer and Cd ion

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When nanoparticles self-organize into nanowires, quantity of stabilizer decide the morpholoy of CdTe. Each nanoparticle no added any stabilizer aggregates, while nanoparticles added small amount of stabilizer can form nanowires via self-assembly. The ratio of the stabilizer and Cd ions plays an important role in the rate of nanowire fotmation. Different shapes and sizes of Nanowires could result from controlling the dose of stabillizer. In this study, we fixed the ratios of Cd to TGA ion as 1.0:1.0, 1.0:1.3 and 1.0:1.5. When these nanoparticle solutions was exposed to light, nanoparticles with 1.0:1.0 were self-organized more condense into nanowires compare to nanoparticles with the ratio 1.0:1.3 and 1.0:1.5. In case of nanoparticles with the ratio 1.0:1.0 are in the shapes of flower. But the nanoparticles with ratio 1.0:1.3 look like an uneven broom. And the nanoparticles with ratio 1.0:1.5 will seem to a short needle.
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