

pH Controlled Microgel System for Gold Recovery

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Gold nanoparticles have become crucial metal for 'next generation' research because of their potential applications in the fields of physics, chemistry biology, medicine and materials science. These precious nanometals are effective catalysts for many chemicals reactions. However, difficulties occur when it comes to reuse and recovery of these expensive metals. These problems could potentially be overcome by dispersing the nanoparticles into microgels, which may be reversibly flocculated/re-dispersed by pH/electrolyte/temperature for recovery and re-use. 'Smart' microgels are known whereby the polymer reacts to external stimuli (pH, ionic changes, temperature) and hence, stability can be readily controlled. These systems have a great potential to act as reusable catalyst supports, and may also be enhanced with different inorganic materials.

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