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(71) Applicant *(for all designated States except US)*: **NANOMAS TECHNOLOGIES, INC.** [US/US]; 101 Murray Hill Road, Binghamton, NY 20854 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **YANG, Zhihao** [US/US]; 2432 Rhonda Drive, Vestal, NY 13850 (US). **WANG, Hao** [US/US]; 11644 Glen Road, Potomac, MD 20854 (US). **XU, Zhiyong** [CN/CN]; 104 W. South Avenue, Houghton, MI 49931 (US).

(74) Agents: **RUTT, Steven** et al.; Foley & Lardner LLP, 3000 K Street, N.W., Suite 500, Washington, DC 20007 (US).

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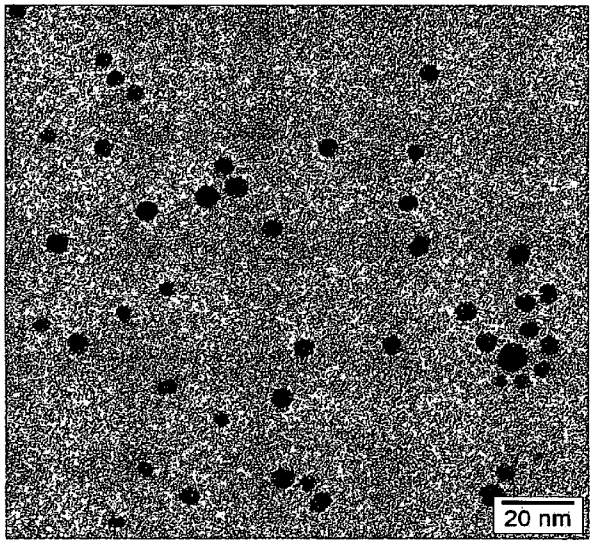
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(54) Title: NANOPARTICLES, METHODS OF MAKING, AND APPLICATIONS USING SAME



(57) Abstract: Methods for forming nanoparticles under commercially attractive conditions. The nanoparticles can have very small size and high degree of monodispersity. Low temperature sintering is possible, and highly conductive films can be made. Semiconducting and electroluminescent films can be also made. One embodiment provides a method comprising: (a) providing a first mixture comprising at least one nanoparticle precursor and at least one first solvent for the nanoparticle precursor, wherein the nanoparticle precursor comprises a salt comprising a cation comprising a metal; (b) providing a second mixture comprising at least one reactive moiety reactive for the nanoparticle precursor and at least one second solvent for the reactive moiety, wherein the second solvent phase separates when it is mixed with the first solvent; and (c) combining said first and second mixtures in the presence of a surface stabilizing agent, wherein upon combination the first and second mixtures phase-separate and nanoparticles are formed.

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