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Enhancing the colloidal stability of detonation synthesized diamond particles in aqueous solutions by adsorbing organic mono-, bi- and tridentate molecules

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Abstract

Colloidal stability of nanoparticles with particle sizes smaller than 100 nm is a critical issue for various research areas, including material science, electronics and biomedicine. We propose a facile, fast and cost-efficient method to increase the colloidal stability by simply adding organic molecules as ligands, which adsorb to the nanoparticle surface subsequently. Citric acid, oxalic acid, glutamic acid and propylamine were found to stabilize the nanodiamond (ND) particles

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