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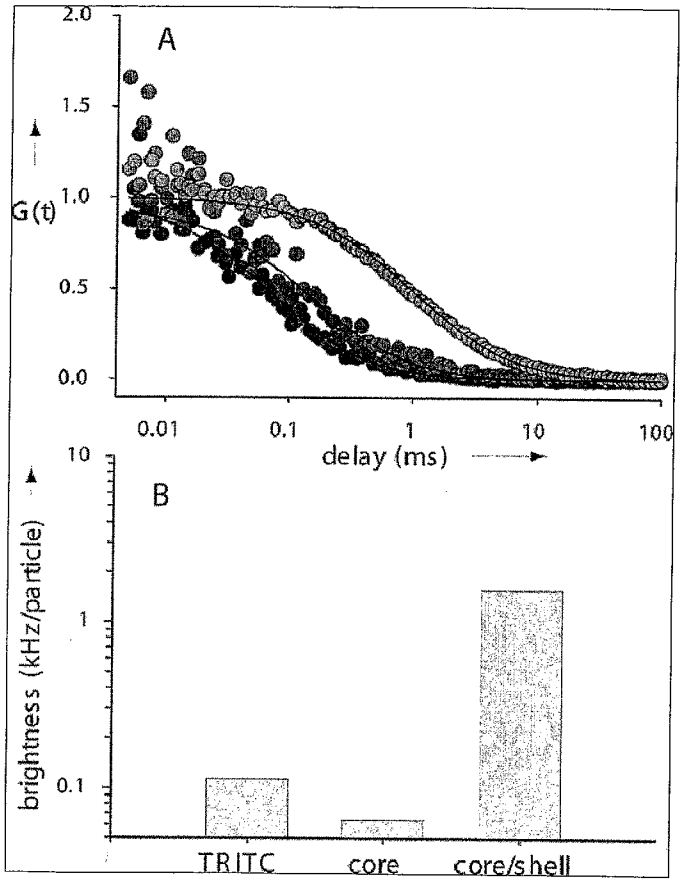
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(54) Title: FLUORESCENT SILICA-BASED NANOPARTICLES



(57) Abstract: The present invention provides nanoparticle compositions comprising, for example, a core comprising a fluorescent silane compound; and a silica shell on the core. Also provided are methods for the preparation of nanoparticle compositions including fluorescent nanoparticles, ligated-fluorescent nanoparticles, ligated-fluorescent nanoparticles having therapeutic agents, and ligated-fluorescent nanoparticles coupled or associated with an analyte. Also provided are methods: for the detection of the ligated-fluorescent nanoparticles; for associating the linked-fluorescent nanoparticles with a cellular component of interest and recording or monitoring the movement of the cellular component; for improving the therapeutic properties of the therapeutic agent by combining the therapeutic agent with linked-fluorescent nanoparticles and contacting or administering the combination to a cell or organism; for making and using the fluorescent nanoparticles in, for example, diagnostic agents for the detection of various analytes, and like applications.

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