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(54) Title: MULTIPHOTON PHOTOSENSITIZATION METHOD

(57) Abstract: A method of multiphoton photosensitizing comprises (a) providing a multiphoton-activatable, photoreactive composition comprising (1) at least one reactive species that is capable of undergoing an acid- or radical-initiated chemical reaction, and (2) a photoinitiator system comprising photochemically-effective amounts of (i) at least one type of semiconductor nanoparticle that has at least one electronic excited state that is accessible by absorption of two or more photons, and (ii) a composition that is capable of interacting with the excited state of the semiconductor nanoparticle to form at least one reaction-initiating species; and (b) irradiating the multiphoton-activatable, photoreactive composition with light sufficient to cause absorption of at least two photons, thereby inducing at least one acid- or radical-initiated chemical reaction where the composition is exposed to the light.



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