Hindawi

Journal of Nanomaterials

Special Issue on
Nanomaterials for Cancer Phototheranostics

CALL FOR PAPERS

Both exogenous and endogenous stimuli (such as light, applied magnetic/electrical field, ultrasound, temperature, pH, and enzymes) have been employed to control the activation of theranostics. Light stimulus, a particularly attractive and convenient option, due to its specific spatial and temporal controllability, has been extensively investigated for various phototriggered theranostic platforms, namely, phototheranostics. So far, a variety of inorganic/organic nanomaterials, such as metal nanoparticles (NPs) (Au, Ag, Pd, Ge, etc.), metal oxide NPs (Fe_3O_4, TiO_2, ZnO, etc.), semiconductor NPs (CdSe, CdTe, CuS, $Cu_{2-x}Se$, etc.), silica NPs, upconversion NPs, carbon-based materials (fullerenes, carbon nanotubes, carbon nanohorns, carbon dots, graphenes, or their derivatives), liposomes, and polymeric NPs (polyaniline, polypyrrole, etc.), have been widely employed as building block for the construction of phototheranostics.

Phototheranostics, combining real-time photodiagnostics (such as bioluminescence, fluorescence, or photoacoustic imaging) with tailored guidance of phototherapies (such as photothermal, photodynamic, or phototriggered drug/gene therapies), have gained considerable attention because of the advantages of optical imaging including real-time, nonionizing radiation and high spatiotemporal resolution and the advantages of phototherapies including spatiotemporal selectivity and specificity for disease destruction.

This special issue aims to attract high-quality original research as well as review articles related to the field of nanomaterial-based cancer phototheranostics.

Potential topics include, but are not limited to:

- Nanomaterial-based photothermal therapy
- Nanomaterial-based photodynamic therapy
- Phototriggered drug/gene delivery systems
- Photothermal theranostics
- Photodynamic theranostics
- Combination of photothermal and photodynamic therapy
- Combination of photothermal therapy with other therapeutic approaches
- Combination of photodynamic therapy with other therapeutic approaches

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