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Multimodal ORMOSIL nanoparticles for biomedical application: A Review

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Abstract: Nanomedicine is a novel approach to conventional medicine in which problems are tackeled from bottom up rather than the top down, medical actions are carried out at the single cell level, tailored therapeutic prescriptions are carried out, and theronosis is promised. The synergistic effect of nanotechnology and biotechnology allow to develop multifunctional nanoprobe for combined therapt and diagnosis of diseases. This talk will highlight the use of multifunctional ORMOSIL NPs with combined imaging, diagnostic, and therapeutic functions for nanomedicine. ORMOSIL NPs serve as a new generation drug carrier for PDT of cancer, as well as for an efficient non viral gene delivery. The concern to use these multifunctional nanoprobes for clinical application lies within toxicity effects which need more investigation to carry out efficient clinical trial.

Keywords: Multifunctional, drug carrier, PDT, gene therapy.