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Title: Design of polymer particle dispersions (latexes) in the course of radical heterophase polymerization for biomedical applications

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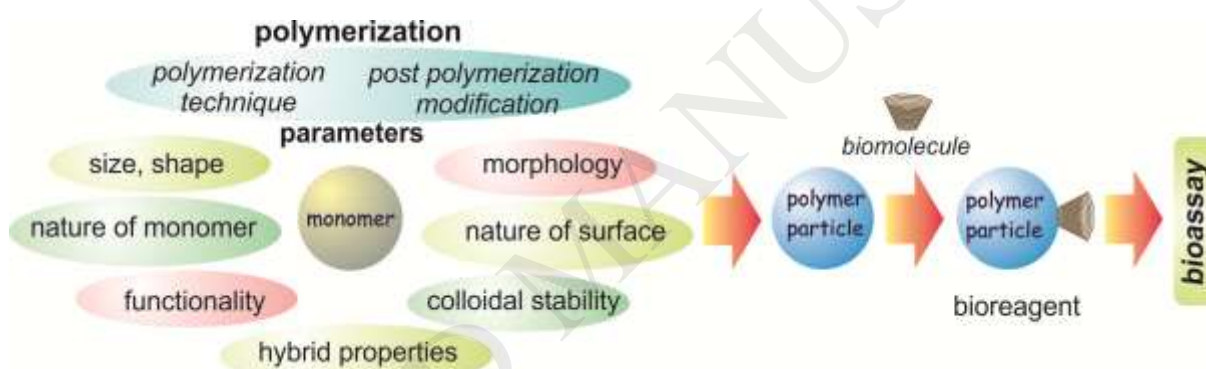
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Graphical Abstract



Highlights

- Various heterophase radical polymerization techniques are considered
- Colloidal stability, morphology, structure, functionality are of great importance
- Approaches to formation of organic-inorganic hybrid polymer particles are discussed
- Brief description of bioassays using polymer particle dispersions

Abstract

Dispersions of polymer particle (DPPs) are increasingly being exploited both as biomolecule carriers, and as markers in various DPP biomedical applications related to cell and molecular biology, enzymology, immunology, diagnostics, *in vitro* and *in vivo* visualization, bioseparation, etc. Their potential to reduce reaction scales, lower costs, improve the rate, sensitivity, selectivity, stability and reproducibility of assays governs the diversity of their bioapplications. This review focuses on the design of DPPs with innovative special properties in the course of

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