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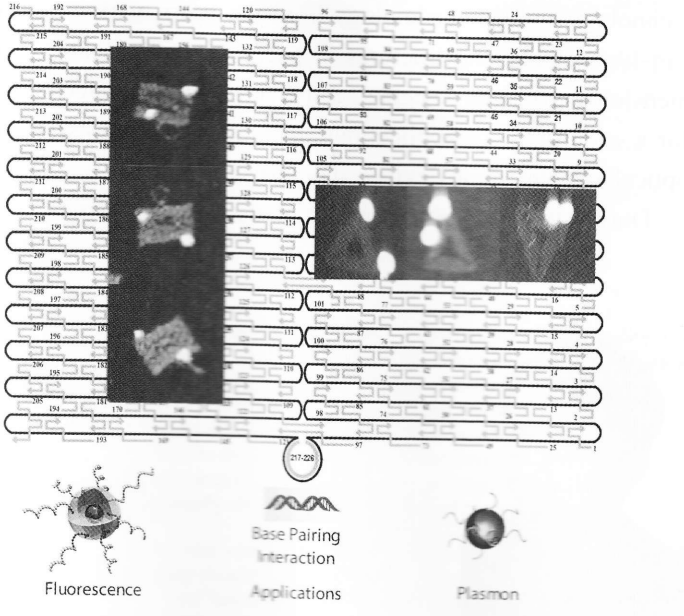
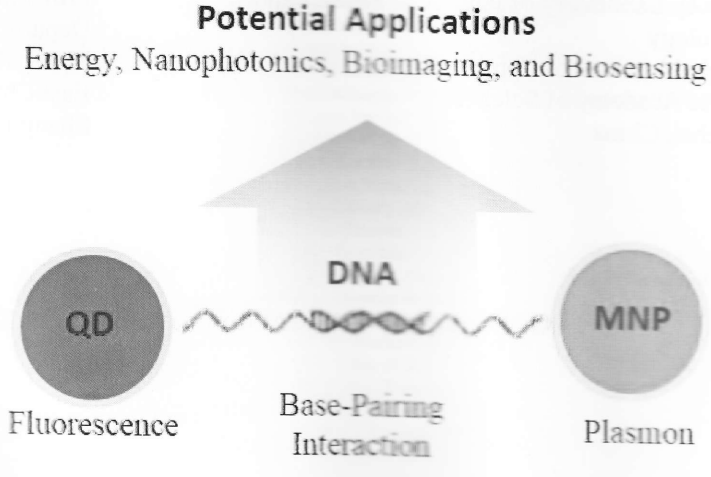
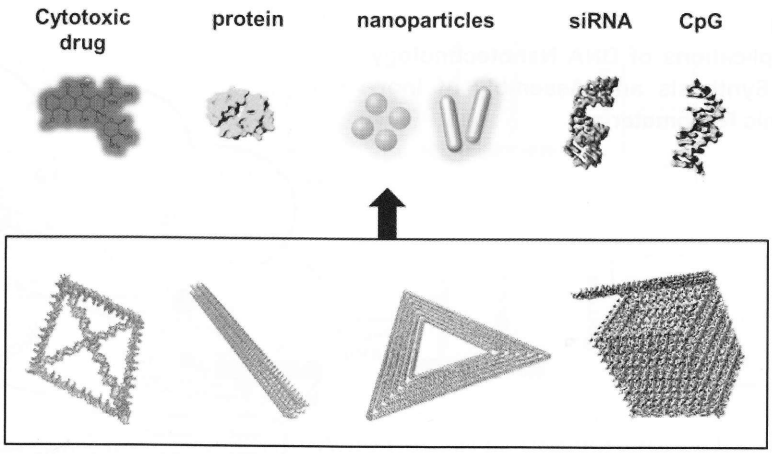
COVER PICTURE

The cover picture highlights the recent progresses in DNA directed self-assembly of colloidal semiconductor quantum dots and metallic nanoparticles heterogeneous nanomaterials. Semiconductor quantum dots and metal nanoparticles hybrids with controlled geometry, distance, and stoichiometry are crucial for the potential applications. While DNA nanotechnology, based on Watson-Crick base-pairing interactions between two single-stranded DNAs, has provided unique opportunities to generate fully programmable, functional metal nanoparticles and semiconductor quantum dots hybrid nanomaterials, and offers precisely control over the spacing, orientation, and chirality of the components. We also discuss the challenges and the trends in DNA directed self-assembly of semiconductor quantum dots and metallic nanoparticles hybrid nanomaterials. More details are discussed in the review by Deng *et al.* on page 259—264.

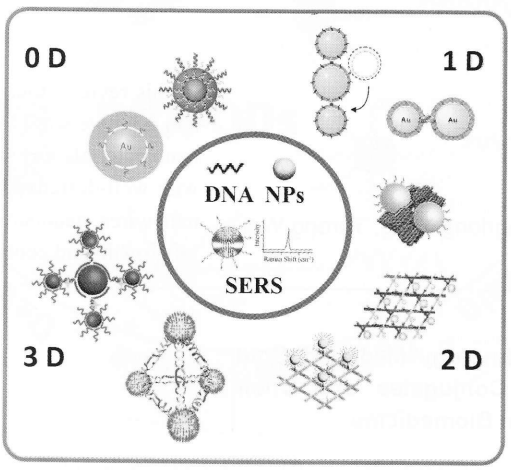


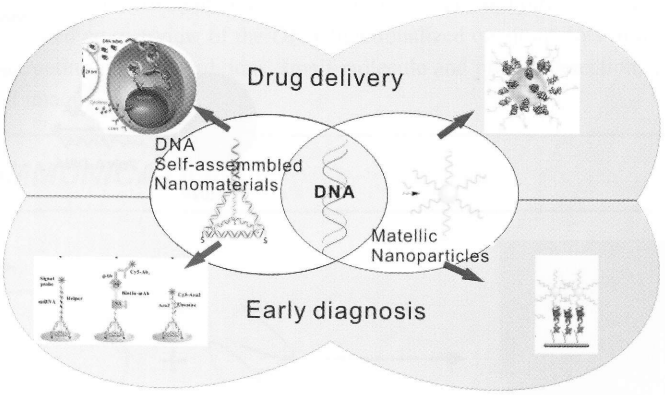
REVIEWS





Self-assembled DNA nanostructures have been intensively studied for biomedical applications. With their uniform nanoscale sizes, well-defined shapes, precise spatial addressability and prominent biocompatibility, DNA nanostructures show great functional and potential as drug delivery platforms in the biomedical field. In this review, we summarize the recent development of DNA nanotechnology in cancer therapy, and discuss the challenges and potential strategies to advance the methodologies of cancer treatments.





We reviewed the application of DNA-nanomaterials in two biomedical fields: early diagnosis and drug delivery. And in each field, we mainly focused on two kinds of nanomaterials: metallic nanoparticles and DNA self-assembled nanomaterials. We summarized the research of these two kinds of DNA-nanomaterials for biomedical purposes, and finally made some prospection about their future development.

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COMMUNICATION

CONTENT

FULL PAPERS

