



Conference Proceeding

# Protein Biomimetic Diagnostic Probe

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## Abstract

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Molecular probes are an important part in the diagnosis and treatment of diseases. However, the non-specific adsorption of probes is seriously affecting the detection accuracy and sensitivity. We focus on addressing the above problems. By using protein-mediated biomimetic strategy, a series of scientific research, including surface engineering of nanoparticles with proteins, protein-mediated biomimetic synthesis and the related mechanism study have been carried out in a green chemistry fashion. It includes: (1) it is the first time that hydrophobic nanoparticles have been modified by BSA protein with its hydrophobic cavity exposed by the ultrasonic effect, greatly reducing nonspecific adsorption or "protein corona" of nanoprobe; (2) it discloses that some related amino acids have important roles in the biomimetic chemistry, and provides a green, simple and efficient route for integration of multi-functional moieties for cancer diagnosis and treatment.

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