

Tailoring the Surface Plasmons in Nano Particles for Biomedical applications

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Surface plasmons have been effective in enhancing the Raman signals and have been a very hot topic of research in the recent decade. By tailoring the nanostructures one can couple surface plasmons effectively to provide an enhanced electric field in the vicinity of the nanostructures. A molecule in the presence of this provides a strong Raman signal which can be used to detect trace elements. We have achieved surface plasmon coupling by creating hot spot by core shell structures [1] to the latest sandwich structures [2]. Coupling this phenomenon with magnetic structures one can produce a combination to detect trace detection of biomolecules such as DNA or RNA of a pathogen in bio fluids. The talk would cover our micro array development for non-PCR based diagnostics for pathogens.

References

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