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Advances in SERS-based bioassays

Surface-enhanced Raman scattering (SERS) is a powerful analytical technique that enables ultrasensitive detection of chemical and biological species. Owing to its exceptional sensitivity and molecular specificity, SERS has been widely utilized in diverse sensing applications, including the detection of heavy metals, disease biomarkers, and a variety of biomolecules. In particular, SERS-based biosensors have garnered significant attention in disease diagnostics, further benefiting from the nondestructive nature of the technique. To enhance detection performance, substantial efforts have been devoted to developing strategies that improve SERS sensitivity.

In our recent studies, we have developed a diverse range of SERS-active substrates for biomolecular detection and demonstrated their strong potential in highly sensitive SERS-based bioassays. Furthermore, we have developed highly sensitive biosensors capable of facilitating early disease diagnosis.

In this presentation, recent advances in SERS-based bioassays for biomolecular analysis, highlighting their potential, versatility, and utility for ultrasensitive detection will be discussed.

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Host : 연세대학교 화학과

