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【181】 Investigation of SERS Substrates Fabricated via Injection Molding and Surface-Mediated Nanoparticle Formation

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Surface-enhanced Raman spectroscopy (SERS) is a promising characterization technique for biomedical diagnostics usable for quick identification of cells, tissue and bacteria. The aim of our study is to analyze the SERS performance of new, promising SERS substrates and to compare their performance with commercial ones. Large area prototypes of homogenous SERS substrates were created from microstructured polymer slide and coated with Ag via a PVD process. A chemical post-treatment then produced Ag nanoparticles at the substrate surface. In order to check the enhancement factor, 532 and 780 nm laser excitation wavelengths were used to collect Raman spectra from 1,4-benzenedithiol deposited on our own substrates and on commercial reference substrates.

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