

Fabrication of highly enhanced and reproducible SERS substrate with silver nanowires

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There are some candidates for Surface enhanced Raman Scattering (SERS) phenomena. One of them, Silver nanowires (AgNWs) have been widely exploited SERS due to their unique Localized Surface Plasmon Resonance (LSPR). Here we introduce a facile method, Meniscus-dragging deposition (MDD) method, to fabricate a large-area and highly uniform cross AgNWs thin film on the gold coated wafers easily. The resulting cross films were characterized using FE-SEM and UV-visible spectroscopy. These films are shown to be excellent substrates for SERS measurements with highly enhanced Raman signal and reproducibility compared with drop coated AgNWs films corresponding same surface concentration with cross samples.