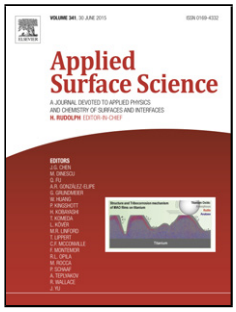

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Synthesis and improved SERS performance of silver nanoparticles-decorated surface mesoporous silica microspheres

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GRAPHICAL ABSTRACT

Highlights

► Two kinds of hybrid microspheres ($MSiO_2$@Ag and $SSiO_2$@Ag) were prepared.

► Improved SERS performance of $MSiO_2$@Ag than that of $SSiO_2$@Ag was obtained.

► The $MSiO_2$@Ag microspheres also show a good reproducibility of SERS signal with RSD of around 10%.

► The detection limit of MP by using $MSiO_2$@Ag microspheres was 1×10^{-3} ppm.