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Detection of methamphetamine/amphetamine in human urine based on surface-enhanced Raman spectroscopy and acidulation treatments

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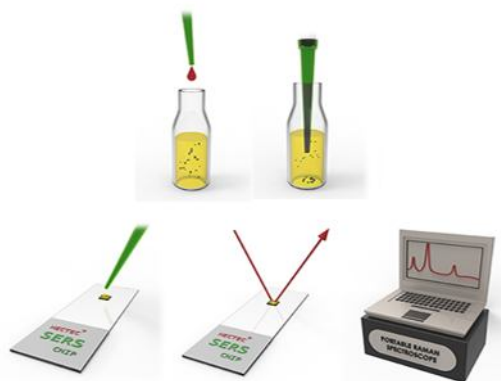
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Graphical abstract



ABSTRACT

Based on the Raman spectroscopy of the nanostructure-based SERS chips, the trace amount of methamphetamine and its primary metabolite, i.e., amphetamine, were successfully identified from **m** human urine. The SERS substrates were self-assembled vertically-aligned silver nanorods prepared by the magnetron sputtering technique. The

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