

Miniaturization of devices to study chemical interactions of liquids has led to the emergence of microfluidics and construction of lab-on-a-chip. Present work is devoted to explore the possibility of microfluidics with detection by confocal Raman microscopy and the surface enhanced Raman scattering. The microfluidic device was assembled from commercially available components and tested. Methodology of its operation has been developed and some of its operational limits were set. Kinetics of the SERS-active particles formation was studied by its mean. It was demonstrated that the microfluidic chips provide promising opportunity to study chemical reactions, hydrodynamics of liquids at microscopic level and construction of the SERS-active surfaces.