

16. A method according to claim 14 or claim 15 in which the fluid in the reservoir is subject to a chemical reaction, and steps (ii) and (iii) are performed at each of a plurality of successive times, whereby signal intensity of at least one said signal component is
5 indicative of the reaction progress.
17. A method according to claim 15 which is a process for controlling the quality of liquid in the reservoir.
- 10 18. A method according to any preceding claim in which the SERS surface is a surface of a one-part SERS substrate.
19. A method according to any of claims 1 to 17 in which the SERS surface is the combined surfaces of a plurality of separate SERS substrate elements.
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20. An apparatus for analyzing a liquid sample comprising a liquid medium and a plurality of distinct analyte components, the apparatus comprising:
at least one SERS device presenting an inhomogeneous SERS surface, for producing an adsorption layer in a liquid sample located on the SERS surface;
20 a RAMAN spectrometer for collecting Raman spectra at each of a plurality of locations of the adsorption layer, to obtain a respective Raman spectrum for each of the plurality of locations of the adsorbed layer, each of the Raman spectra comprising multiple signal components which are pure component spectra from the respective multiple analyte components; and
25 ~~a processor for analyzing~~ configured to analyze the plurality of Raman spectra together by an algorithm which, if the Raman spectra have different respective ratios of the signal components, extracts a plurality of component spectra, the component spectra comprising pure component spectra which are respective estimated Raman spectroscopy spectra for the analyte components.
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21. An apparatus according to claim 20 further comprising a mechanism for drawing a liquid sample from a reservoir and passing it over the SERS surface.