

FIG. 1A

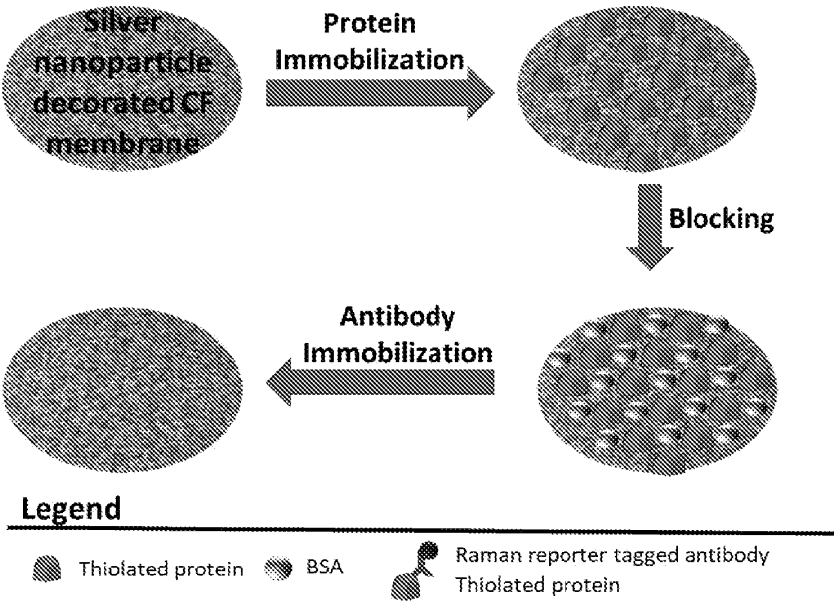


FIG. 1B

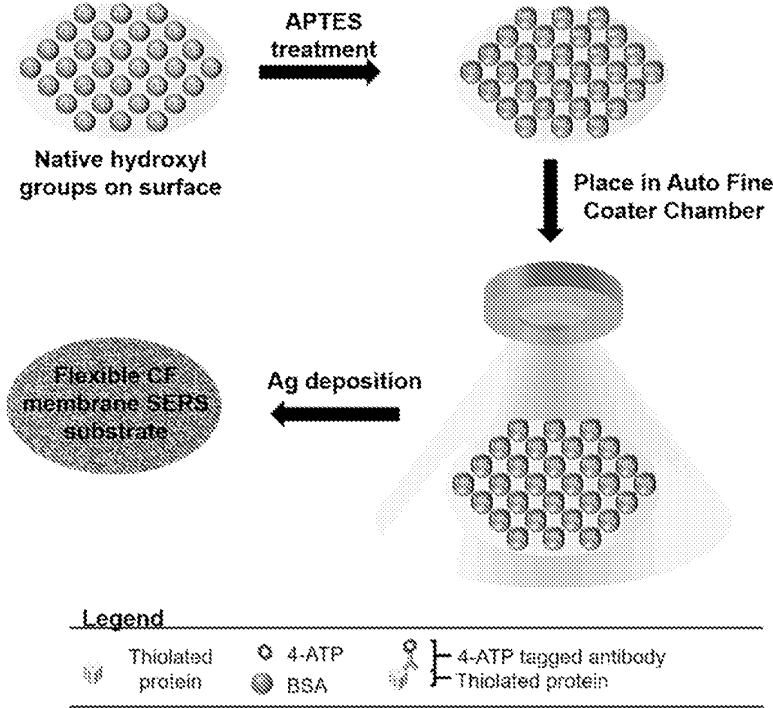


FIG. 1C

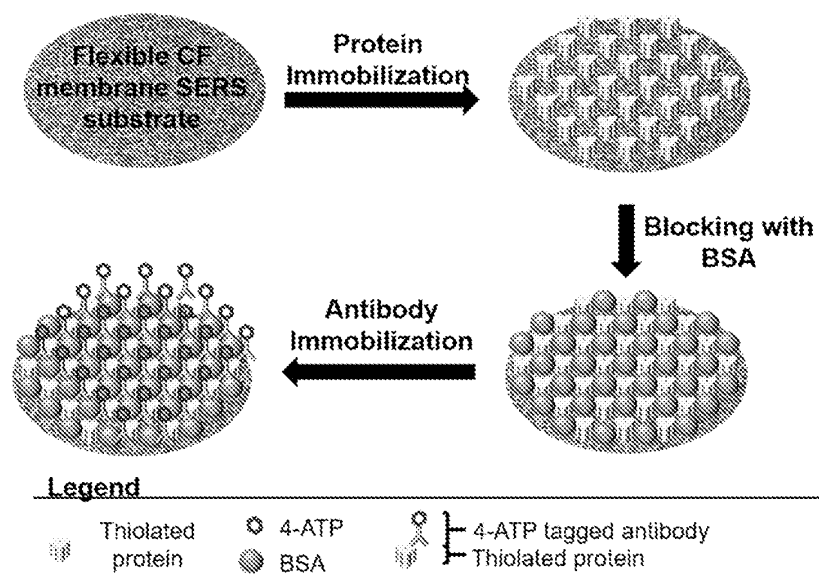


FIG. 2A

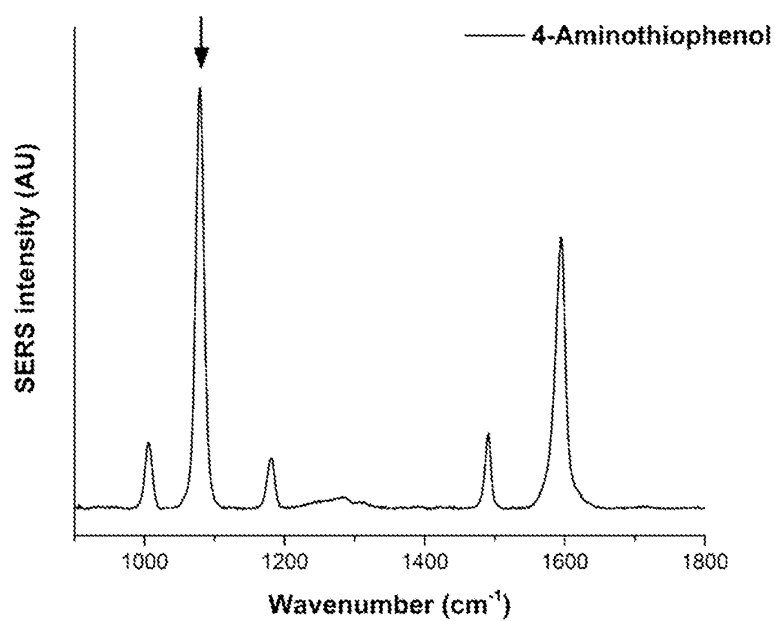


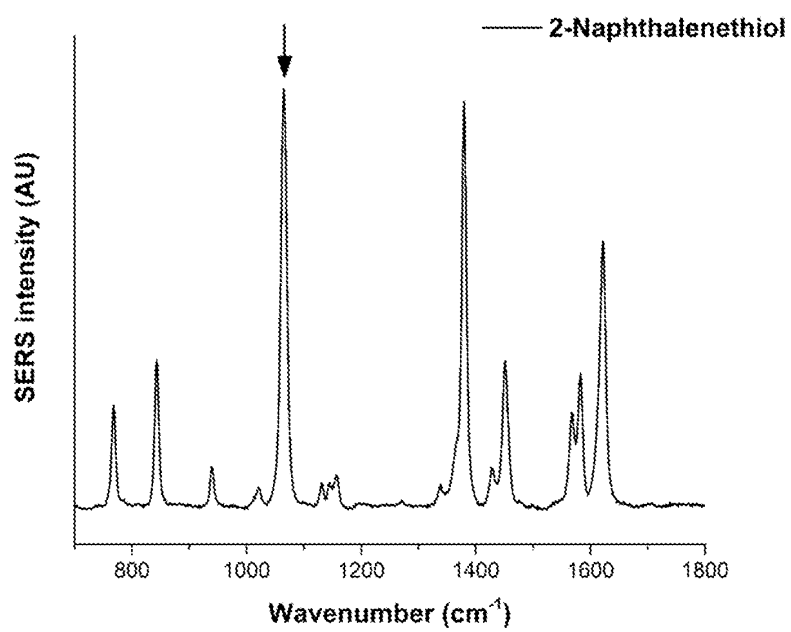
FIG. 2B

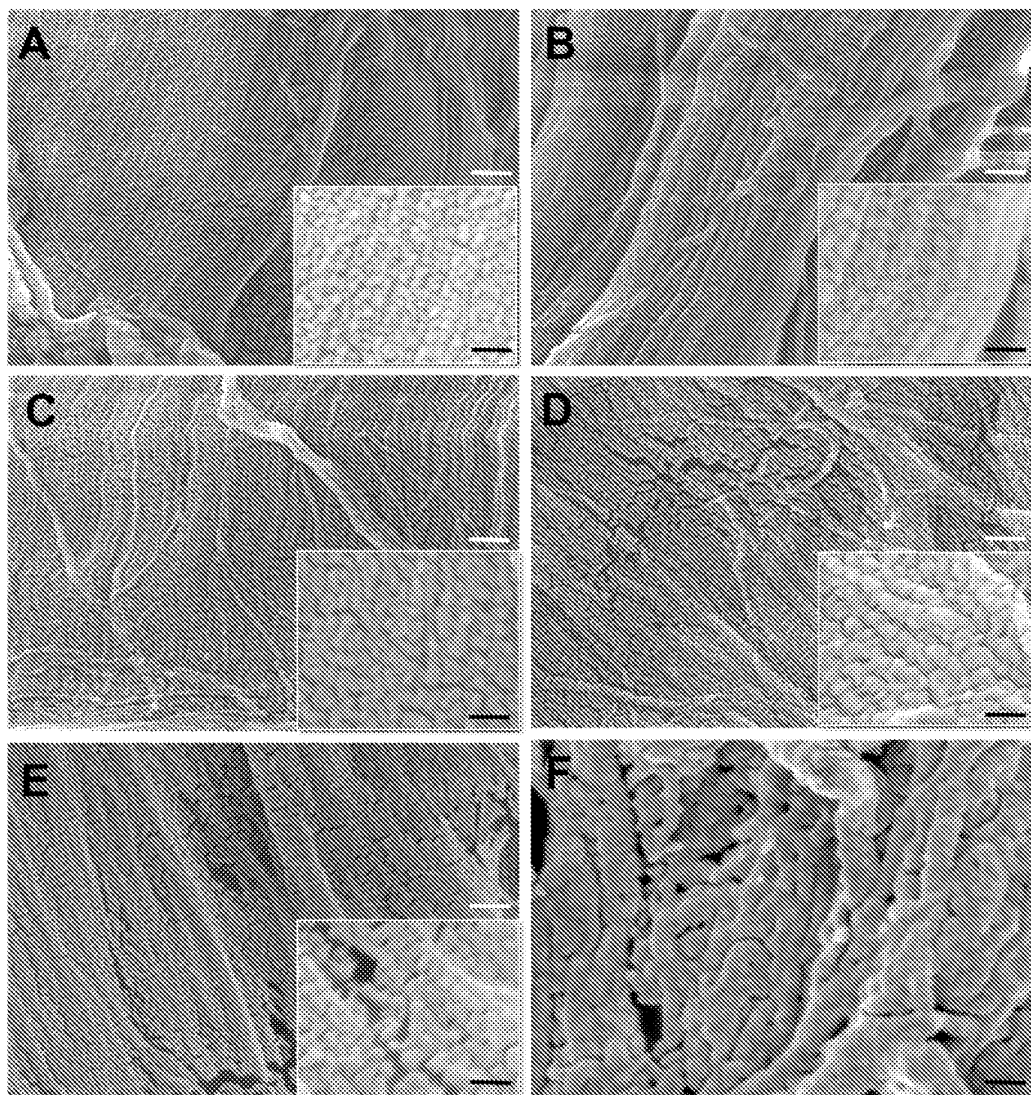
FIG. 3

FIG. 4

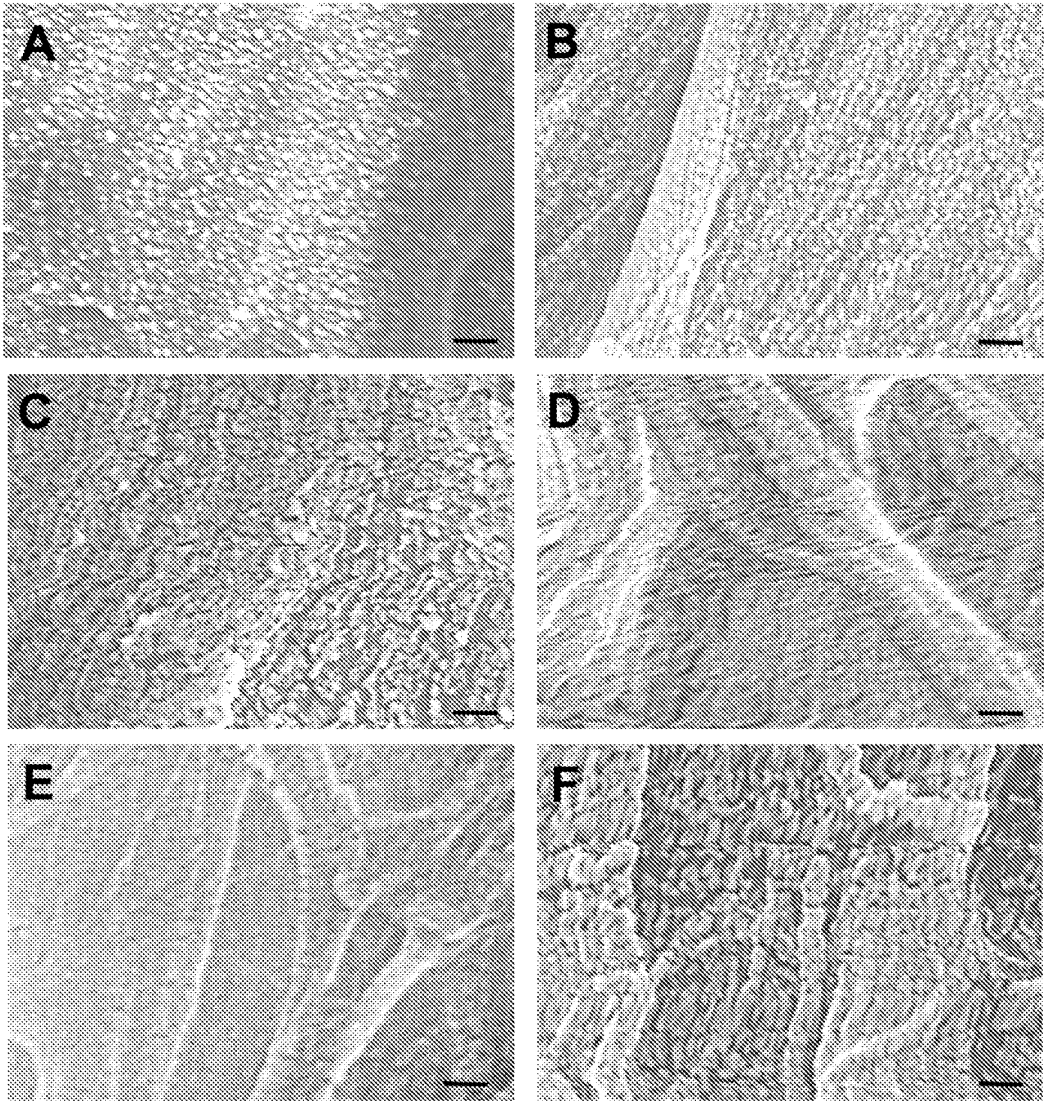


FIG. 5

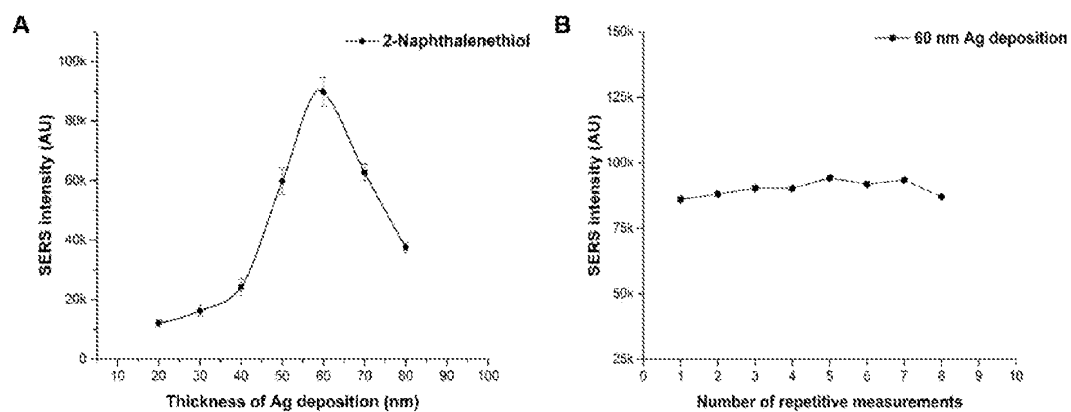


FIG. 6

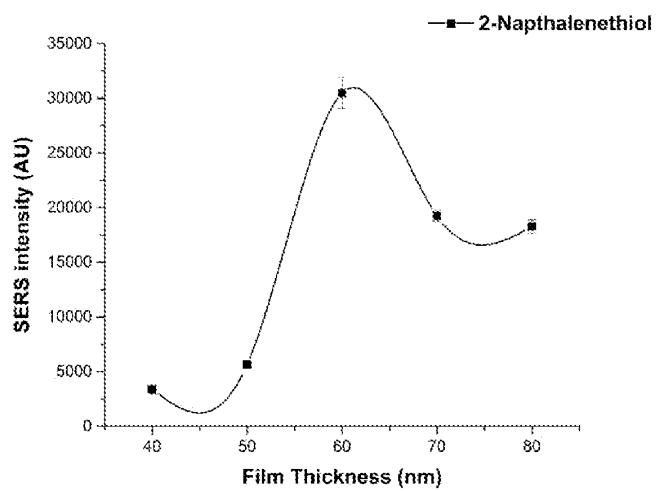


FIG. 7

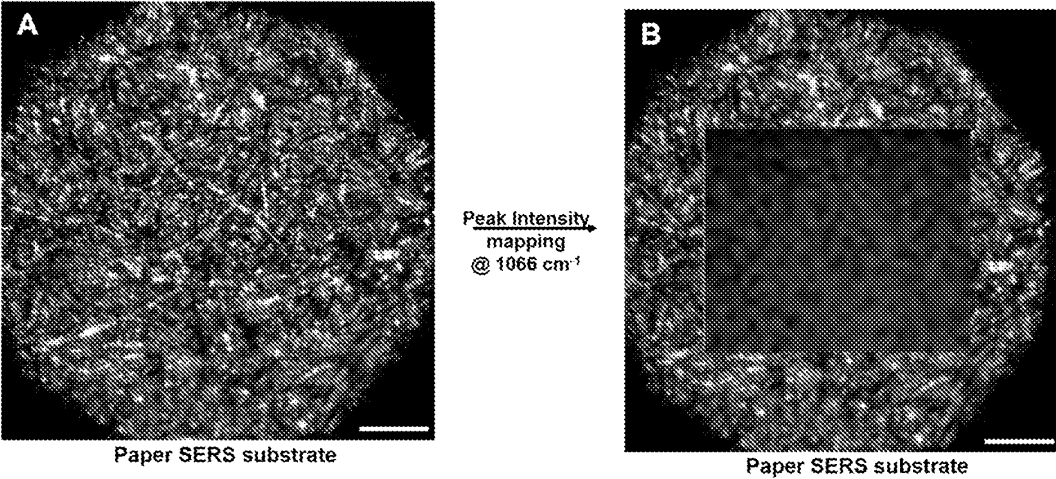


FIG. 8

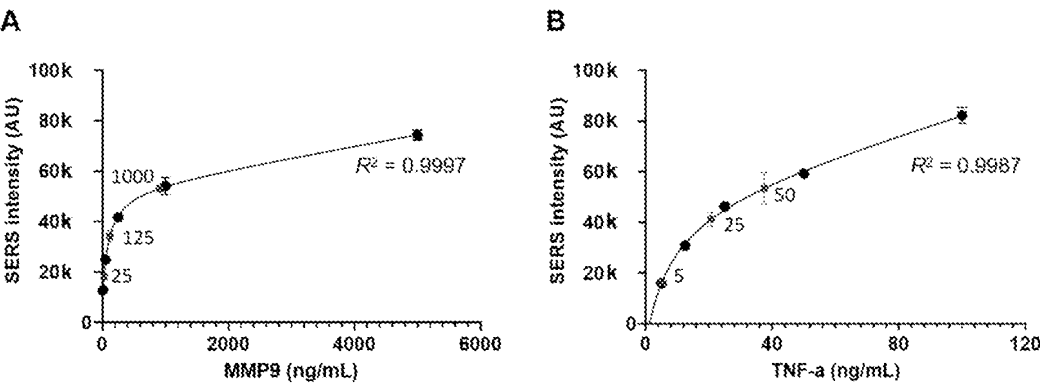


FIG. 9

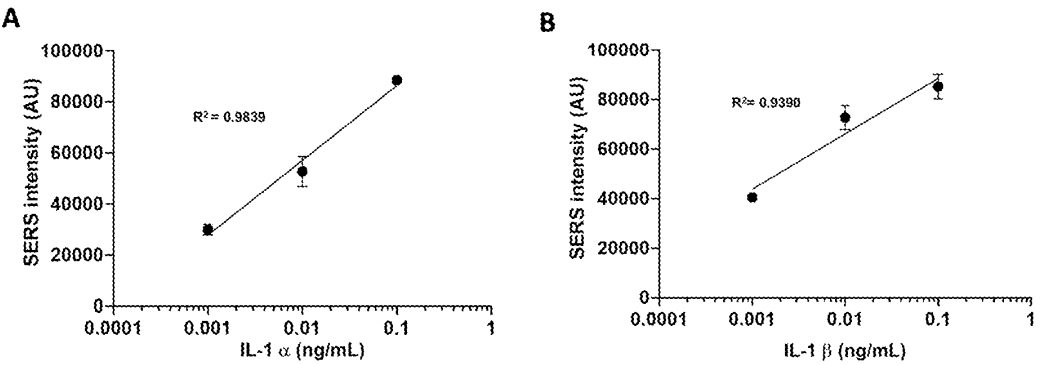


FIG. 10

Spiked analyte	Spiked concentration (ng/mL)	Recoveries (%)	Relative standard deviation (%)
MMP-9	25	97.1	3.1
	125	95.3	6.2
	1000	90.9	2.6
TNF- α	5	102.6	11.9
	25	82.8	6.7
	50	75.2	2.2

FIG. 11

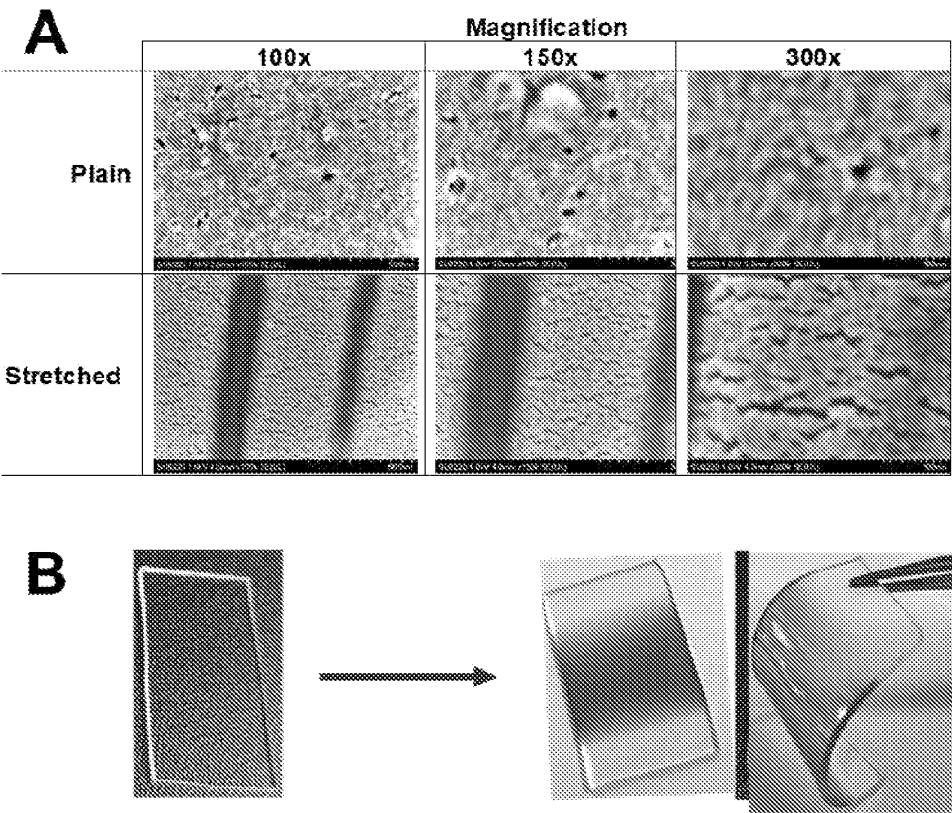


FIG. 12

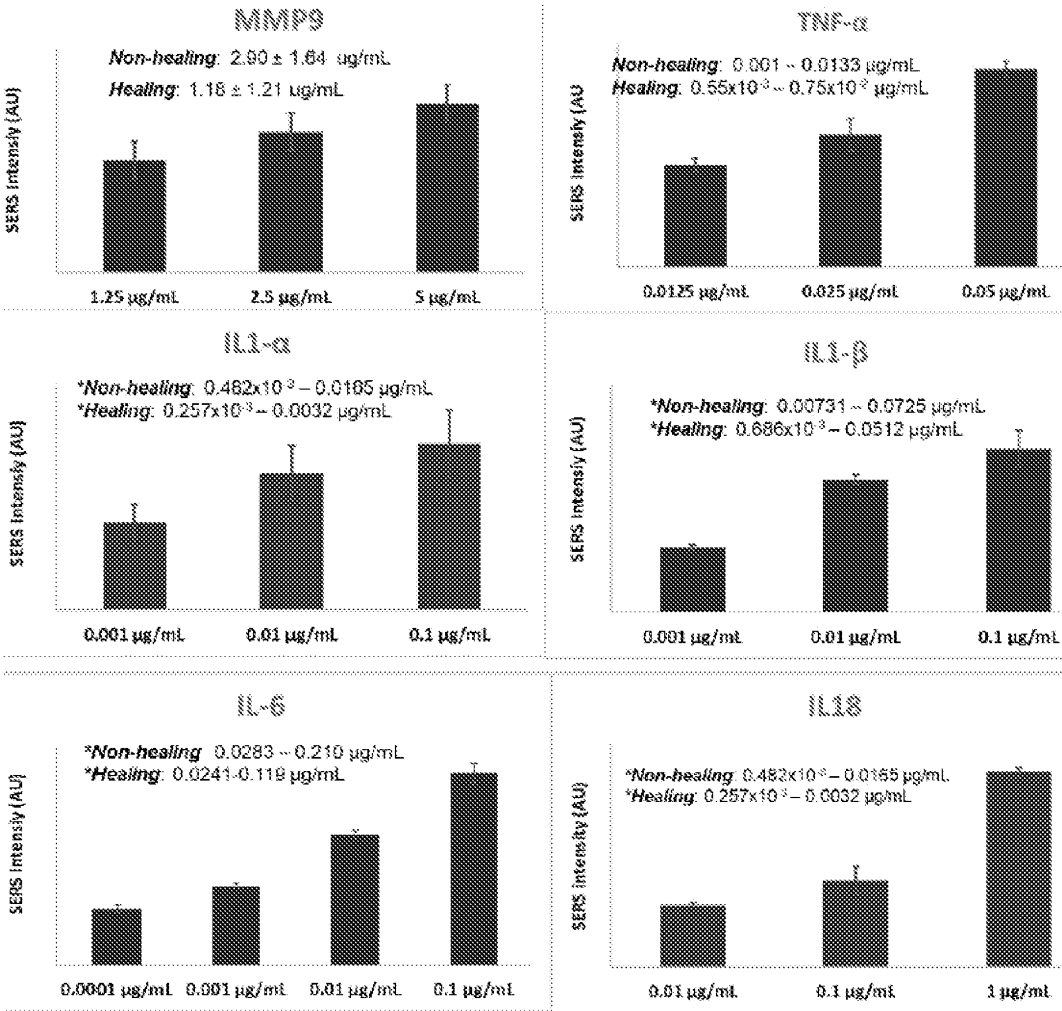


FIG. 13

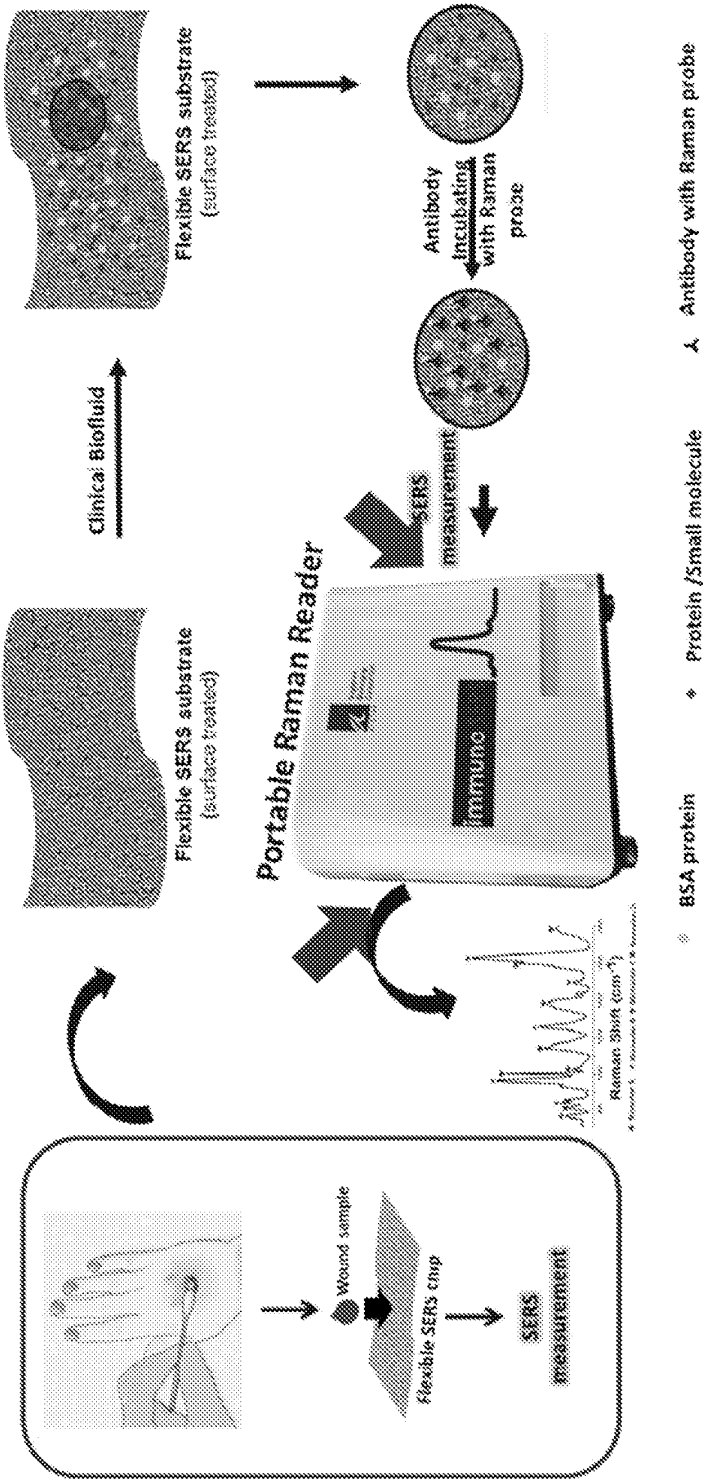


FIG. 14

ELISA method	SERS method
UV absorbance method	Raman Spectroscopy based method
Long experimental time ~2 Hrs	Short experimental time ~30 min.
Secondary antibody is required for signal amplification and this also results in non-specific binding.	Only primary Antibody is required in this process.
Needs 7 to 8 steps and that takes >1.5 Hrs	Involves only 3 steps with total time required ~30 min.
Can only test single protein	Capable of Multiplex detection
Needs large sample volume for measurement in the order of several hundred μ L.	Needs < 5 μ L sample for doing SERS measurement.

FIG. 15

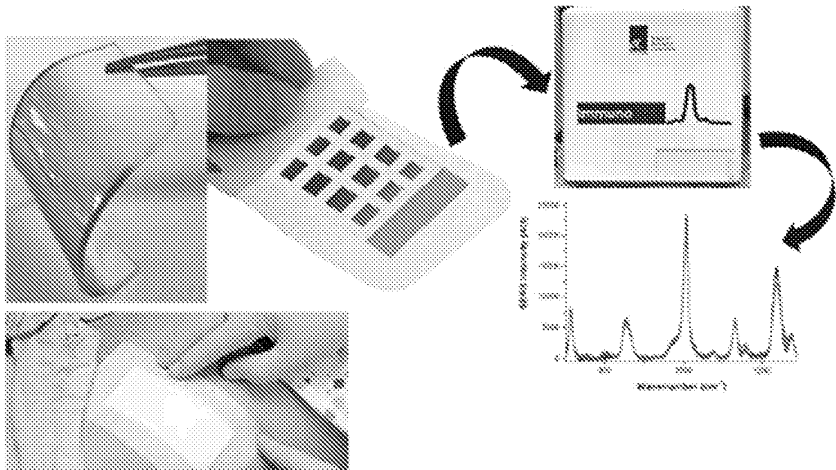


FIG. 16

