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(54) **LABEL-FREE DETECTION OF RENAL CANCER**

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(58) **Field of Classification Search**

None

See application file for complete search history.

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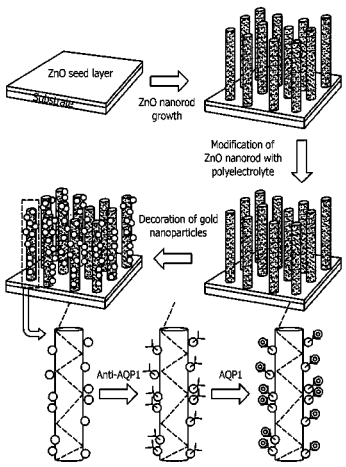
(57) **ABSTRACT**

Natural and/or synthetic antibodies for specific proteins are adhered to nanoparticles. The nanoparticles are adhered to a substrate and the substrate is exposed to a sample that may contain the specific proteins. The substrates are then tested with surface enhanced Raman scattering techniques and/or localized surface plasmon resonance techniques to quantify the amount of the specific protein in the sample.

8 Claims, 21 Drawing Sheets