

Figure 1

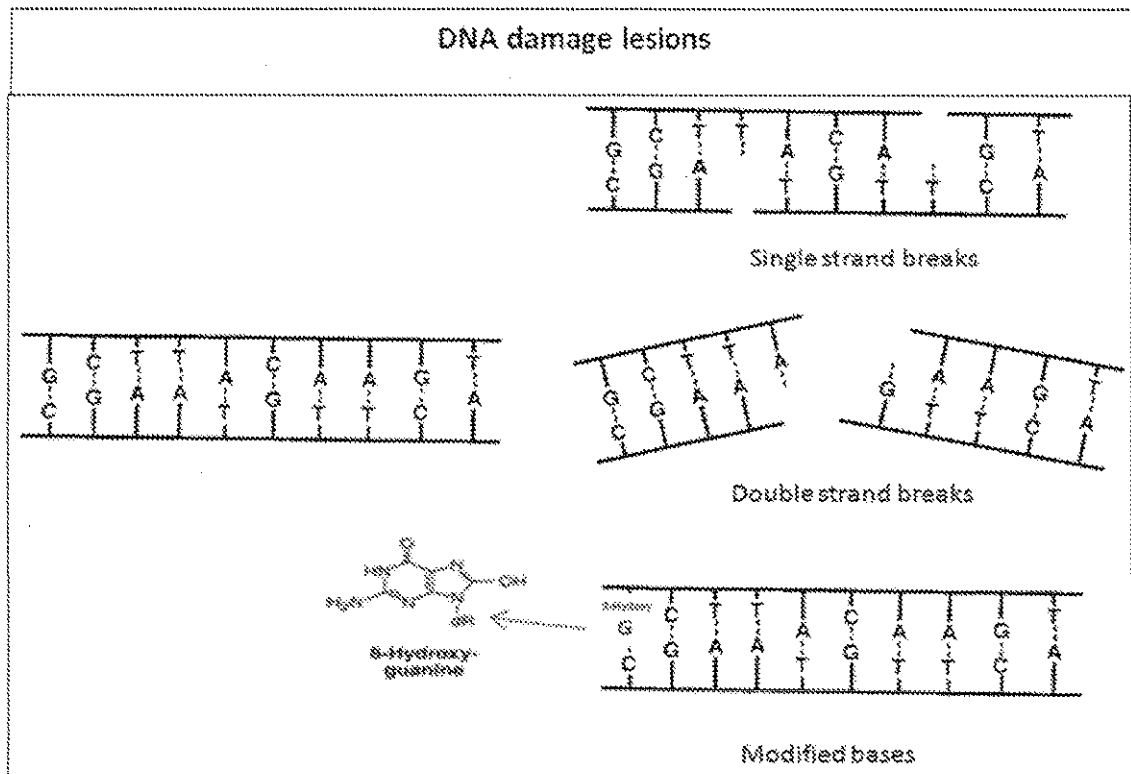


Figure 2

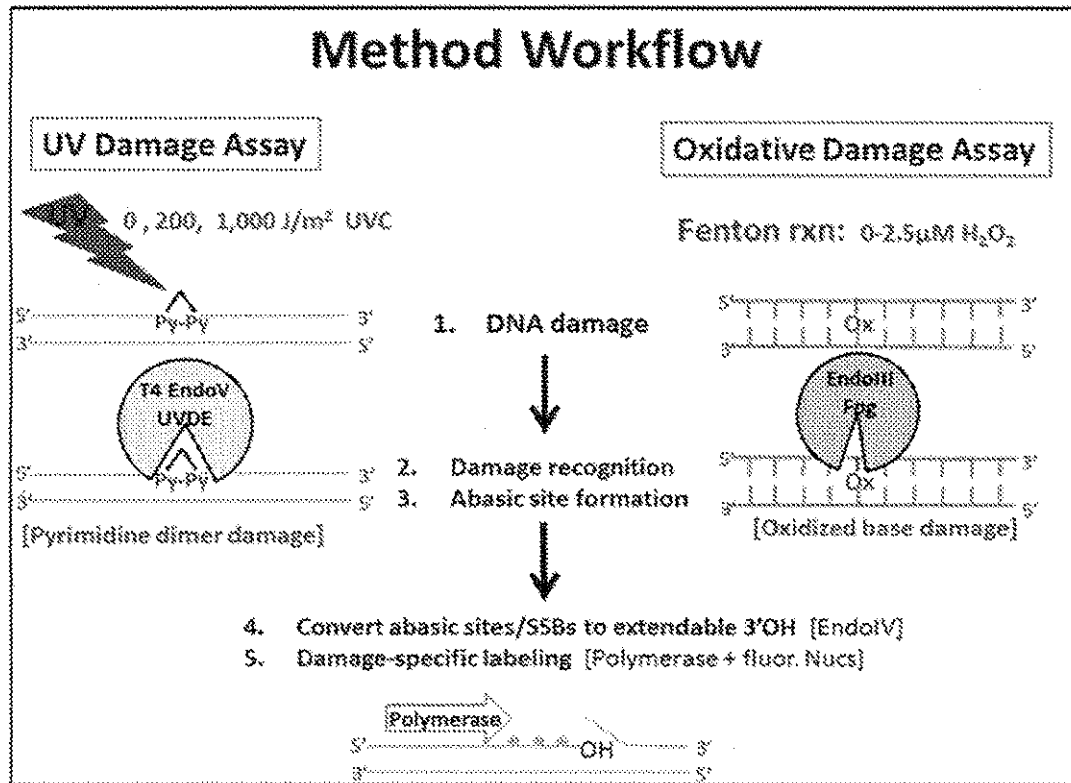


Figure 3

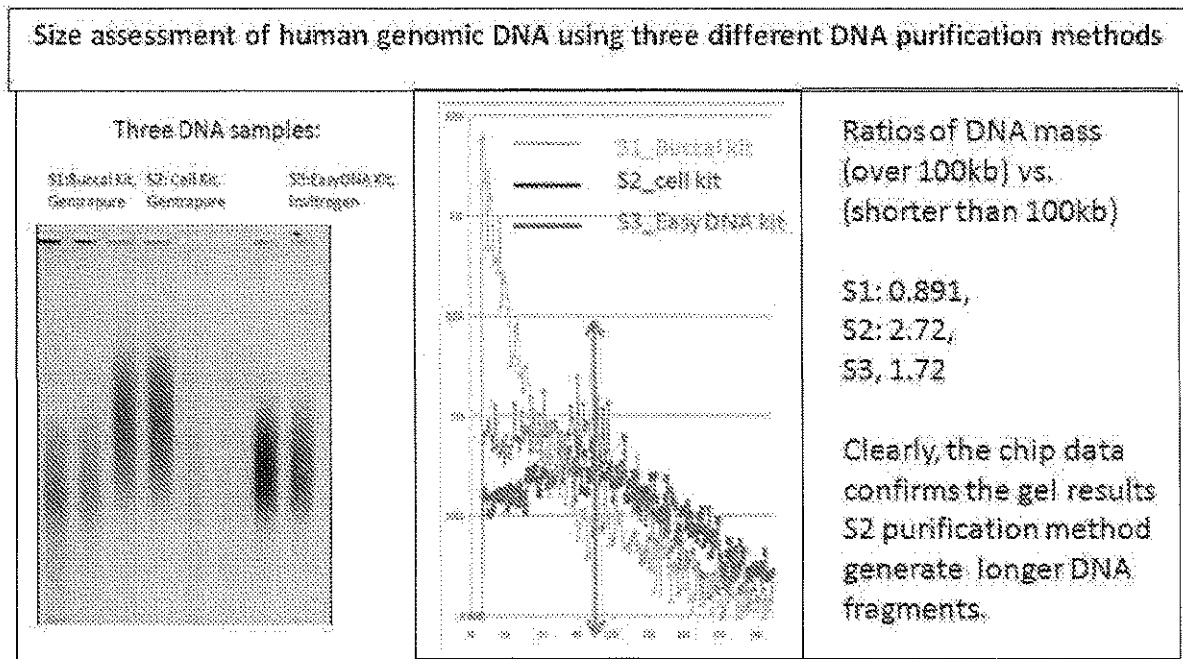
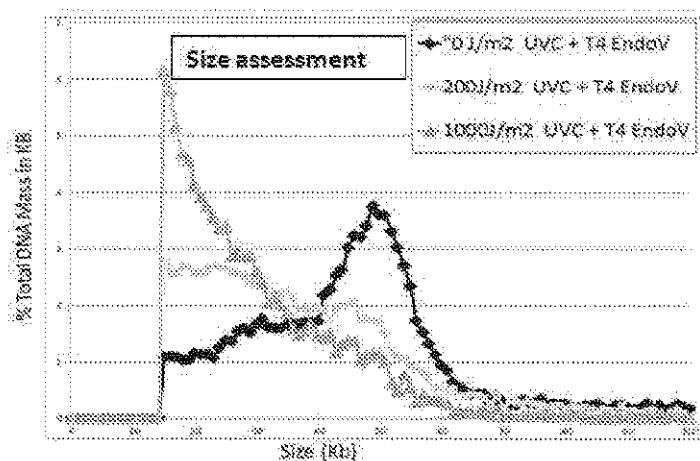


Figure 4



Label assessment

UVC Exposure (J/m ²)	KBp/Nick
0	138.6
100	96.4
500	110.1
1,000	63.4
2,500	69.0
5,000	52.7

Figure 5

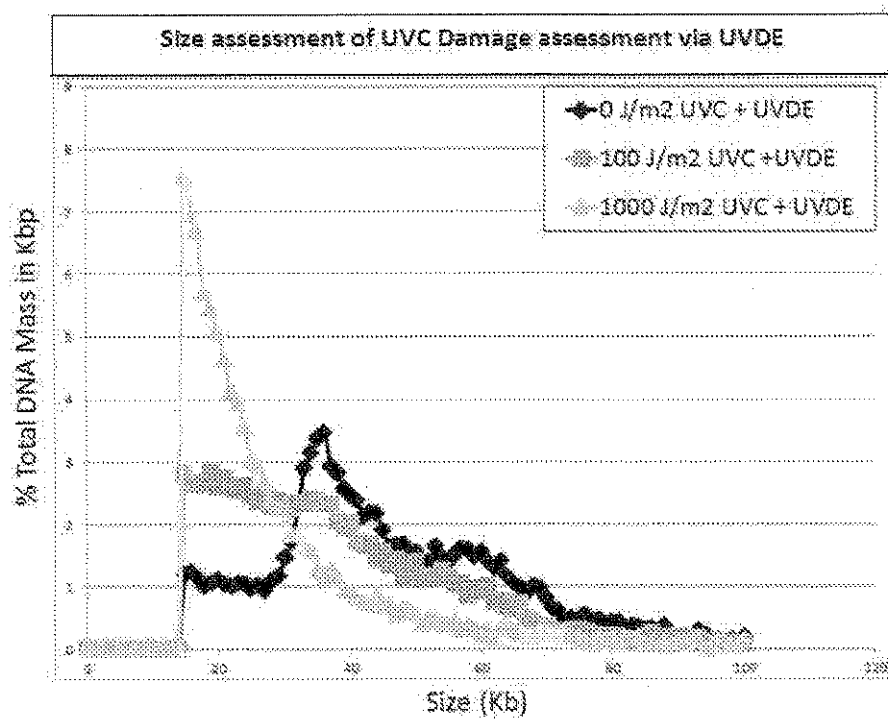


Figure 6

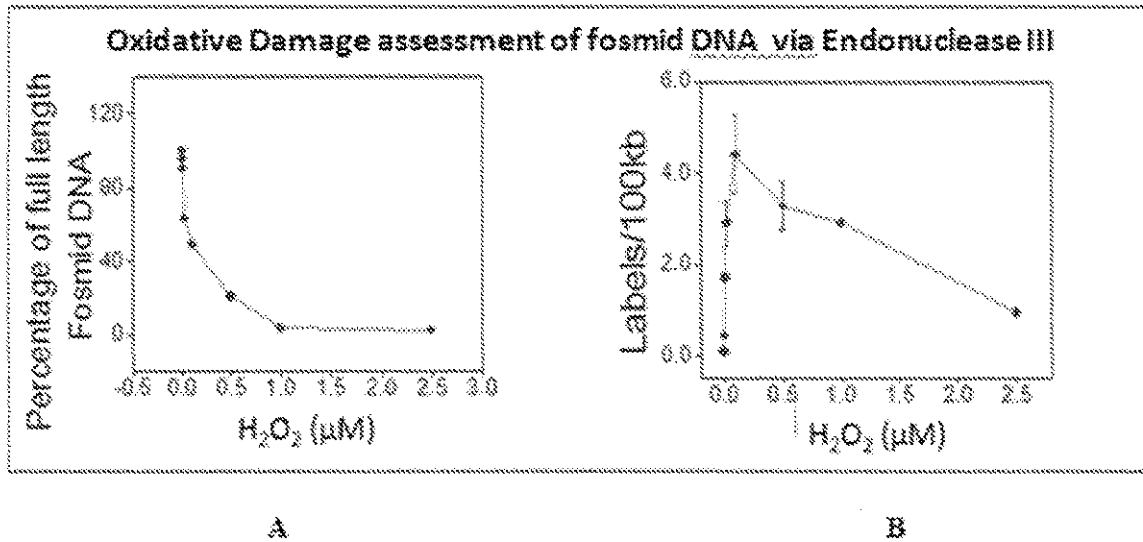


Figure 7

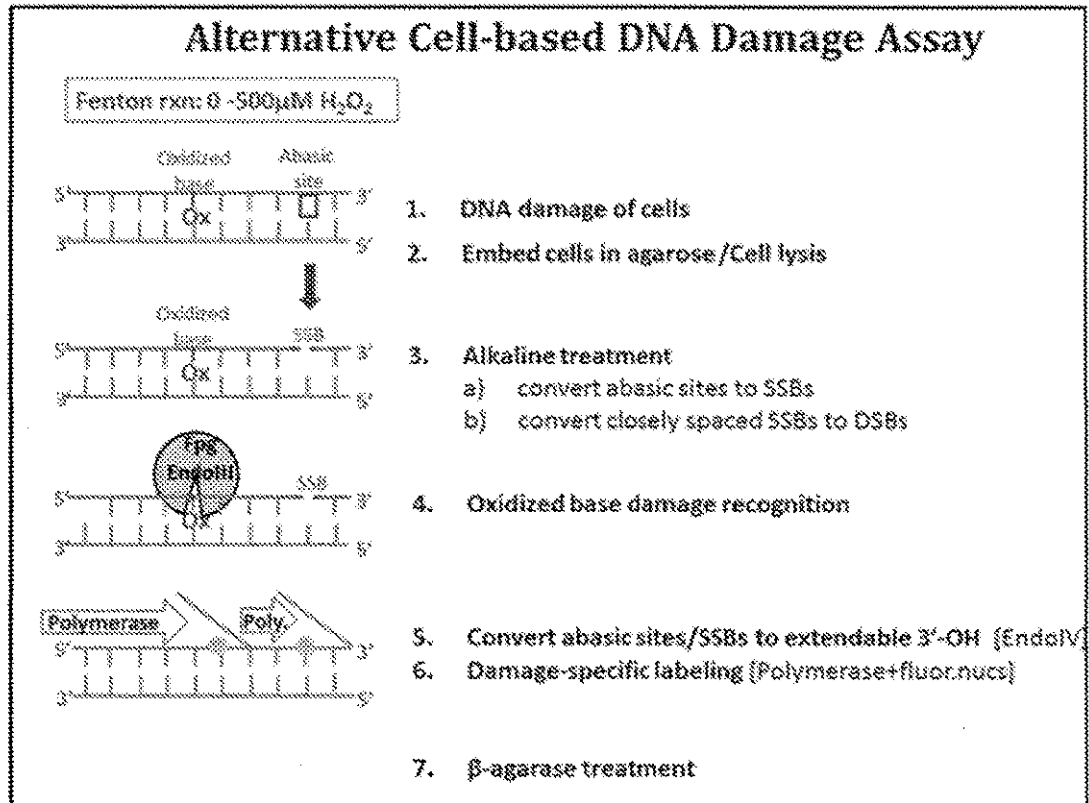
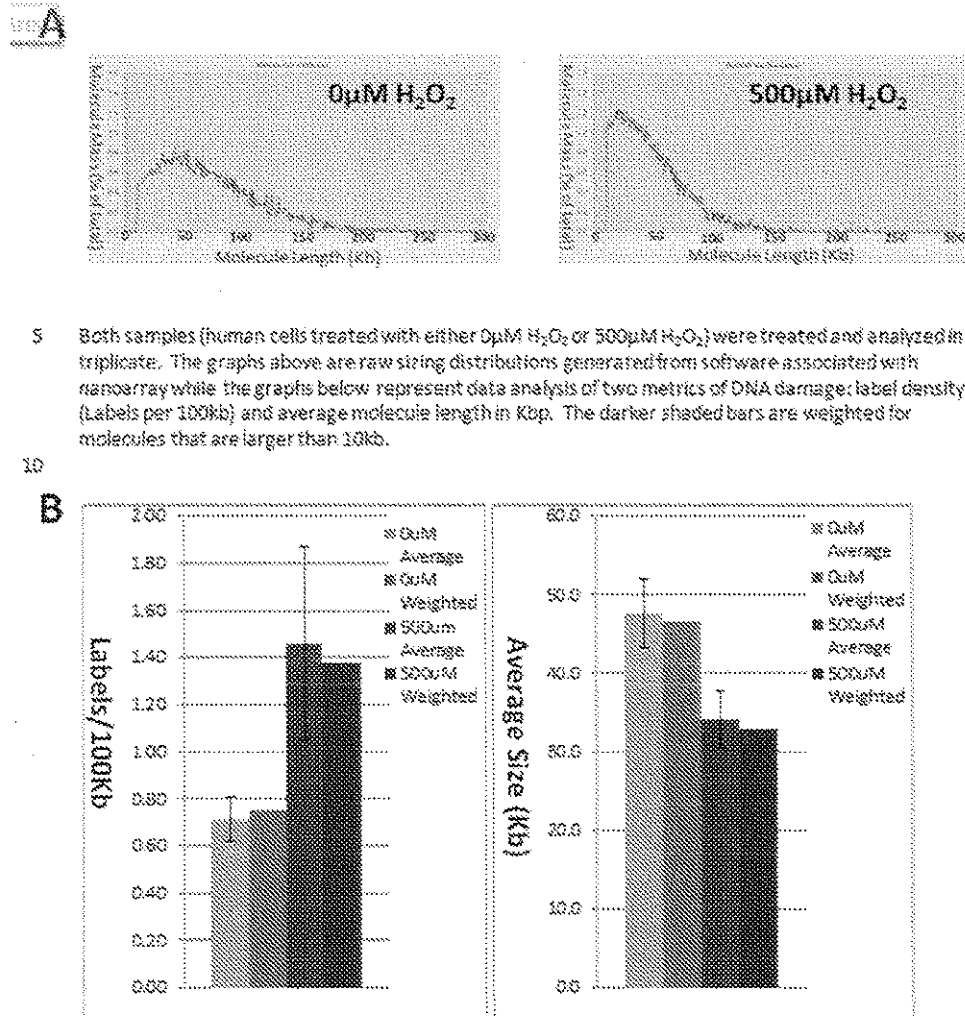


Figure 8



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Figure 9

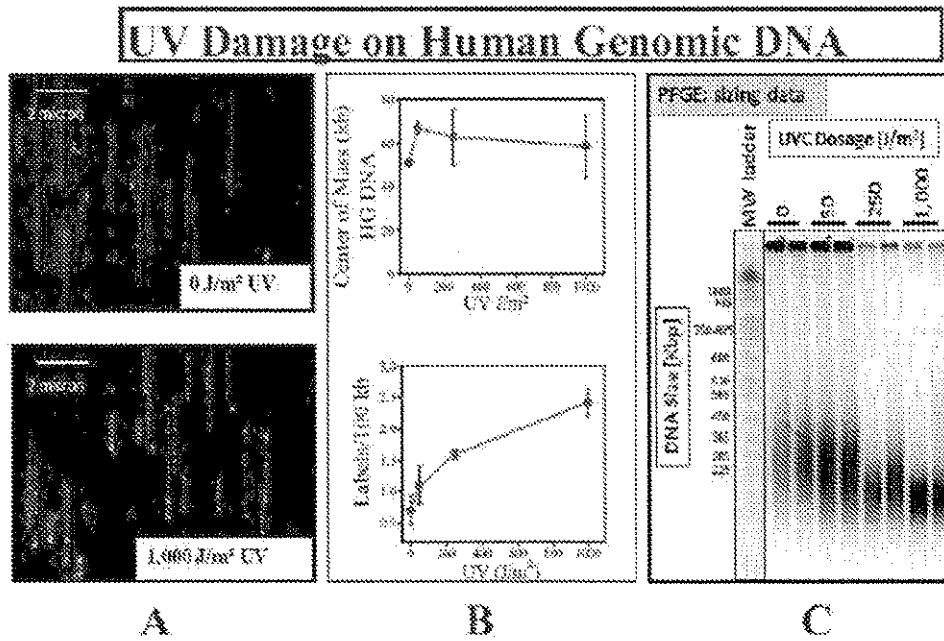


Figure 10

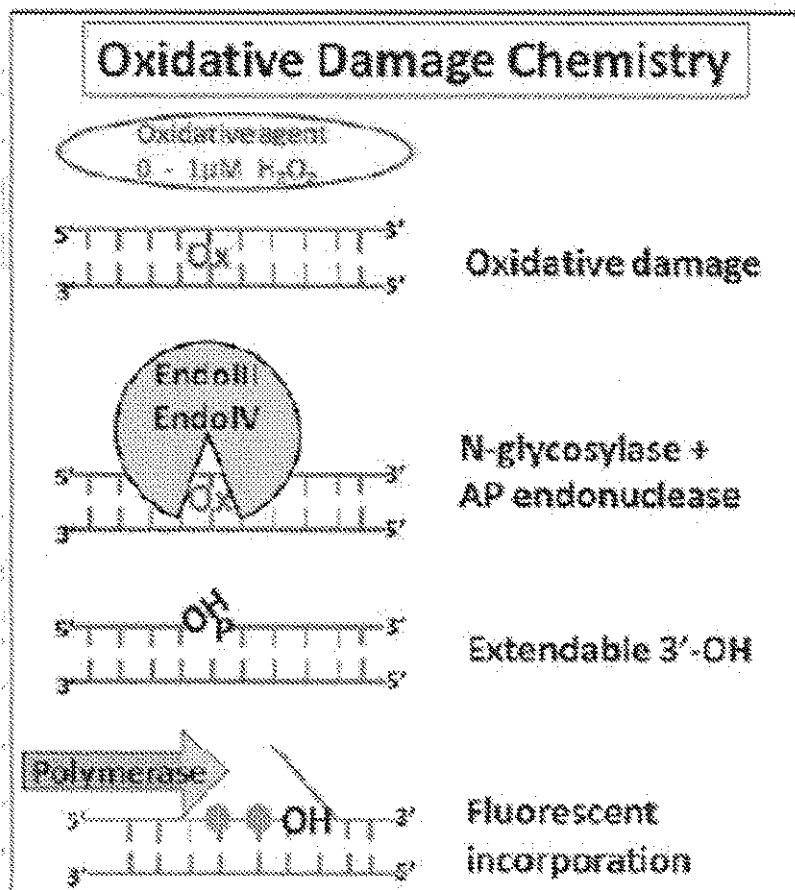


Figure 11

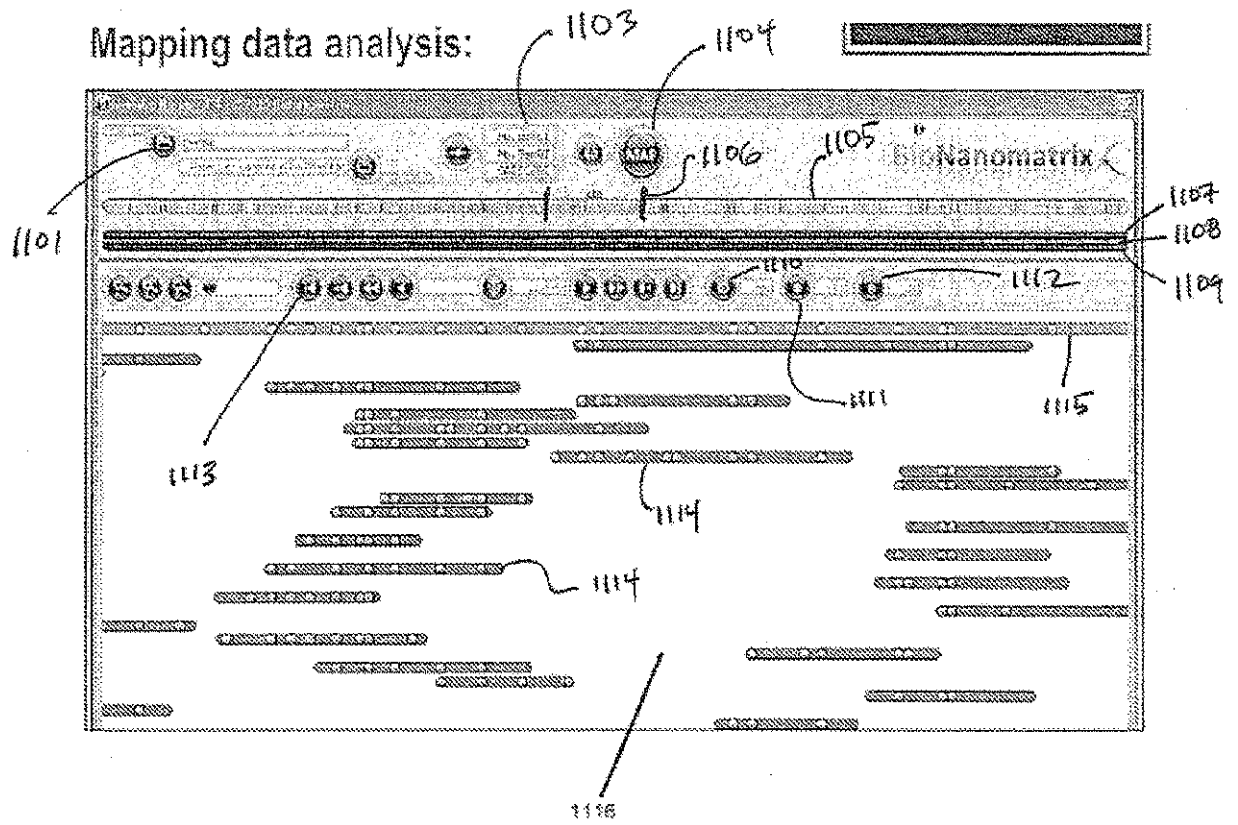


Figure 12

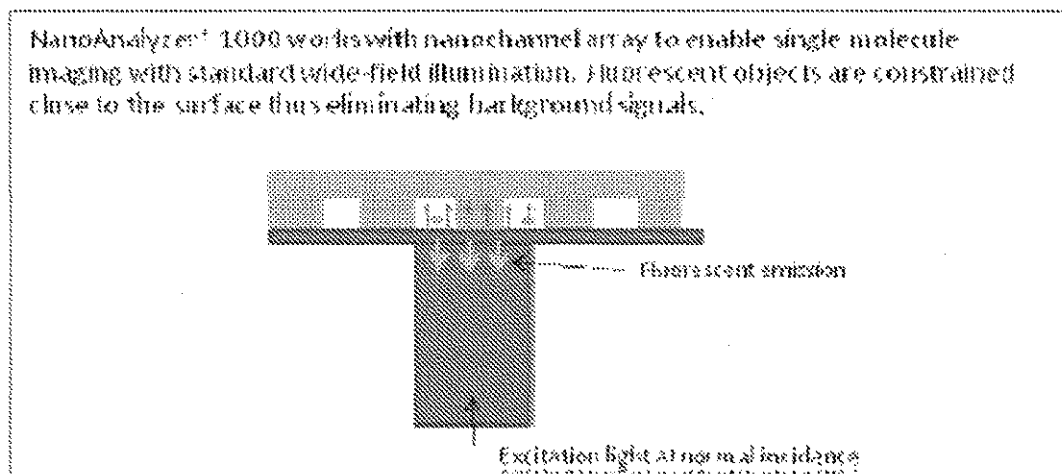
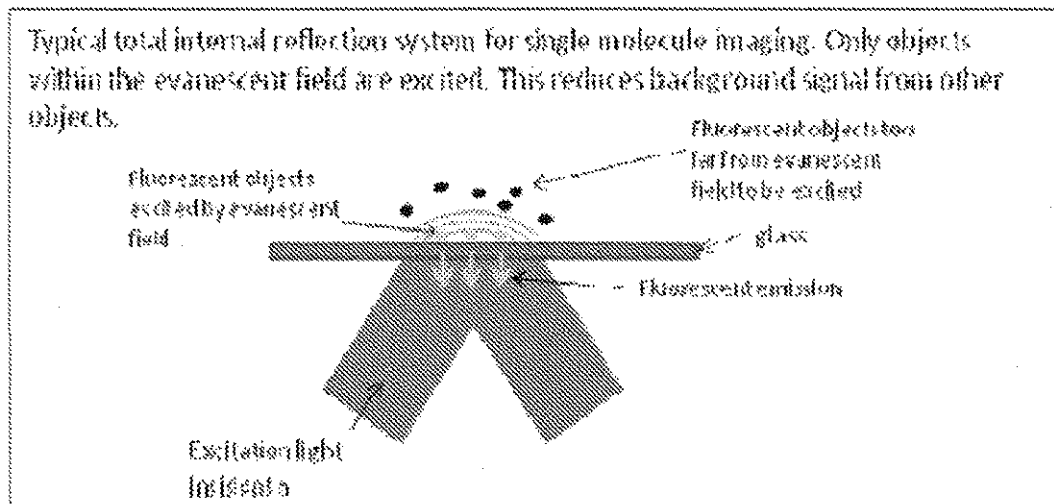
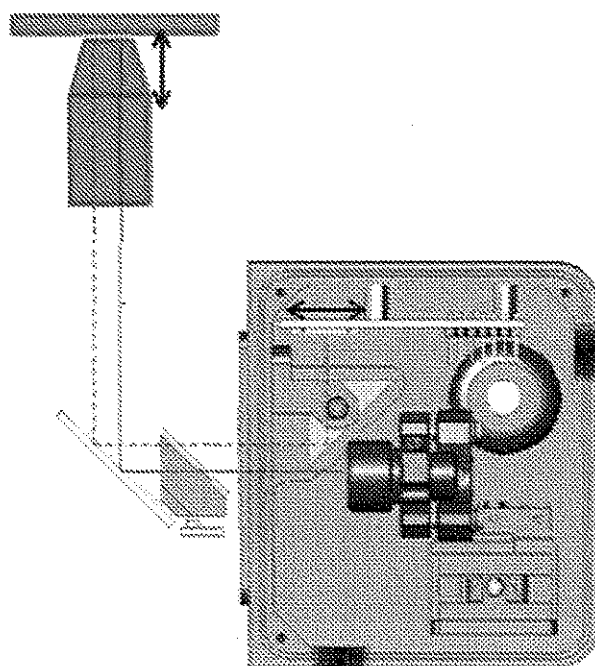


Figure 13



Schematic of autofocus system for NanoAnalyzer® 1000

Figure 14

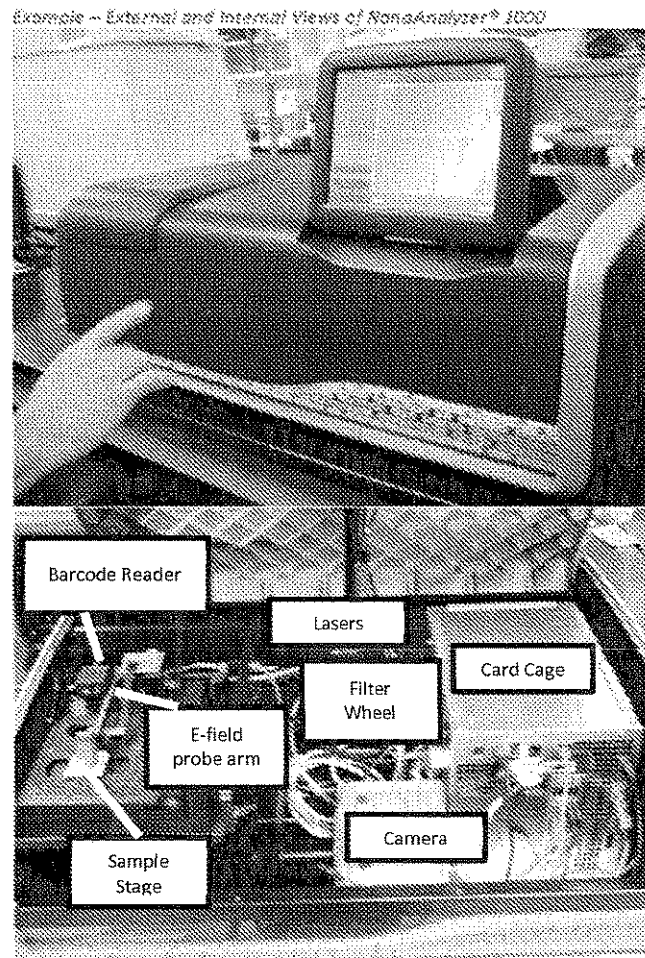


Figure 17

Example - instrument workflow

Included is an illustrative sequence of operation when using the disclosed systems (e.g., NanoAnalyzer® 1000) for imaging with single molecule sensitivity.

Instrument workflow

1. Nanochannel array loaded into instrument



2. Sample loaded into nanochannel array



3. Electrode-bundle engages to hold fluorescent sample and prevent evaporation



4. Automated focusing and registration of fiducial markers on chip.



5. Laser excitation is used to generate fluorescence which is captured by detector as an image



6. Stage moves to next field of view and repeats laser excitation and imaging sequence



7. After rapidly imaging all fields of view, more sample is loaded into array for imaging.