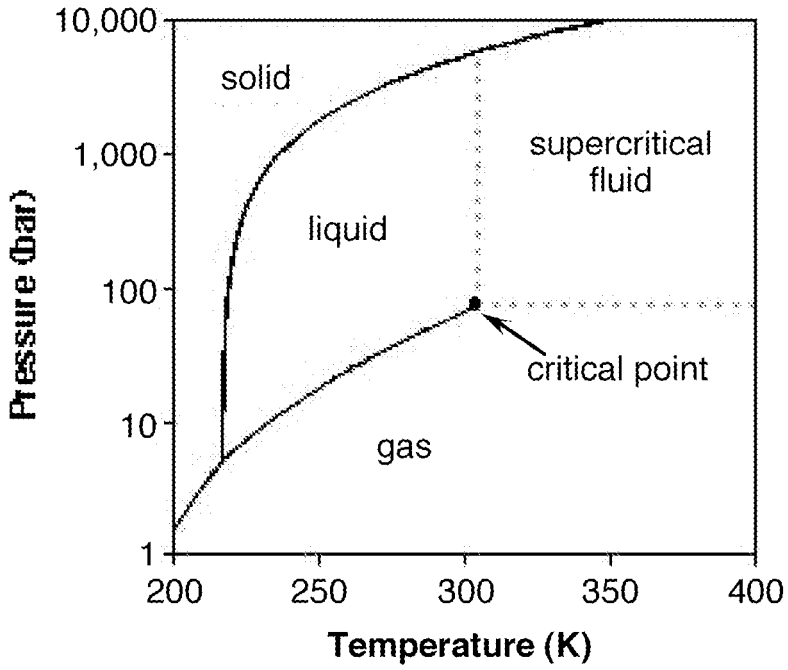

10,000
1,000
100
10
1
Pressure (bar)
solid
liquid
gas
supercritical fluid
critical point
200
250
300
350
400
Temperature (K)

FIG. 1

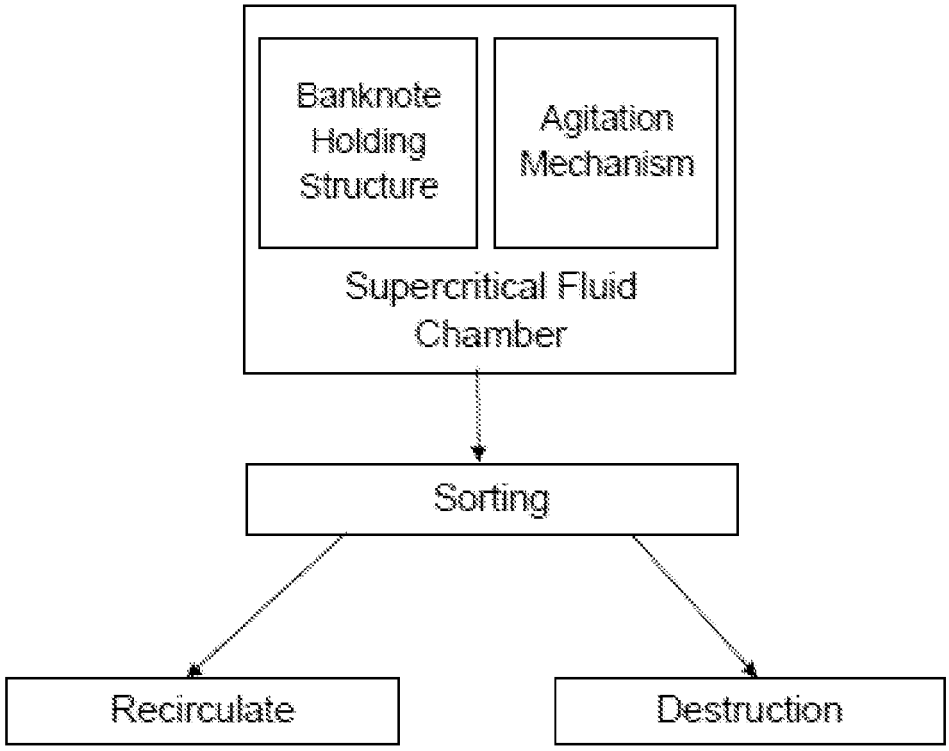

Banknote Holding Structure
Agitation Mechanism
Supercritical Fluid Chamber
Sorting
Recirculate
Destruction

FIG. 2

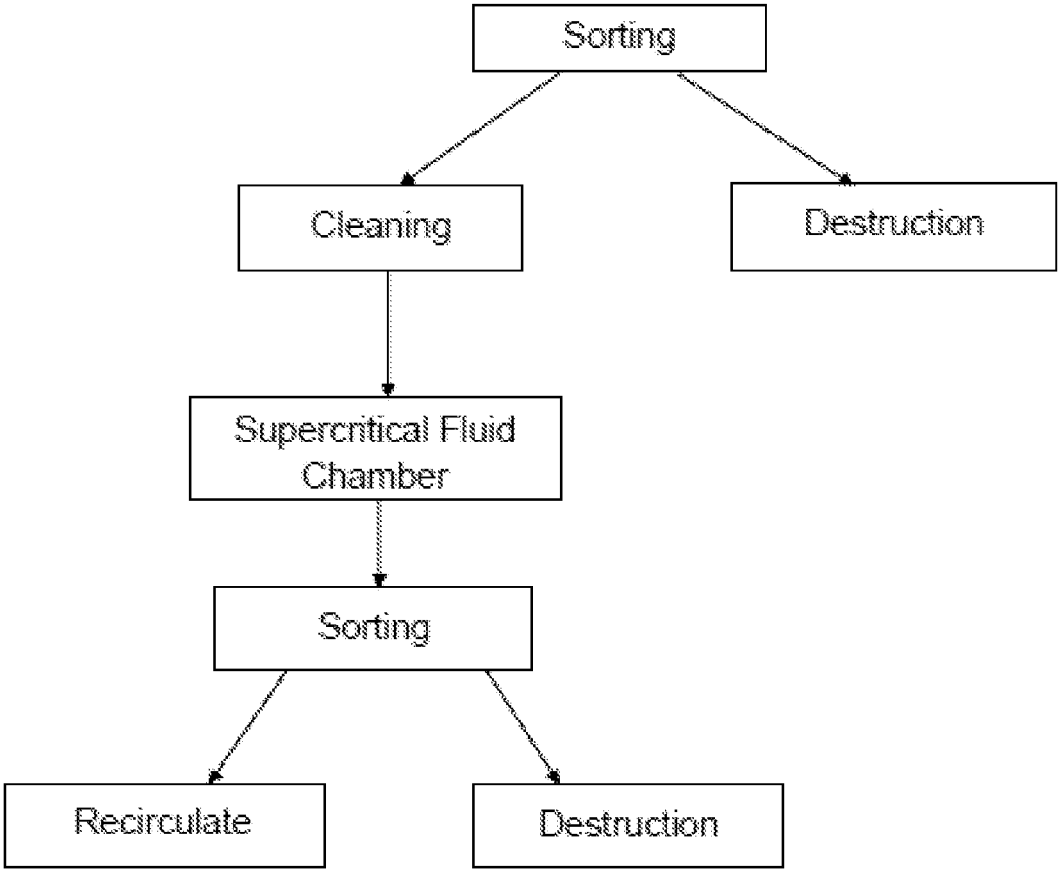

Sorting
Cleaning
Destruction
Supercritical Fluid Chamber
Sorting
Recirculate
Destruction

FIG. 3

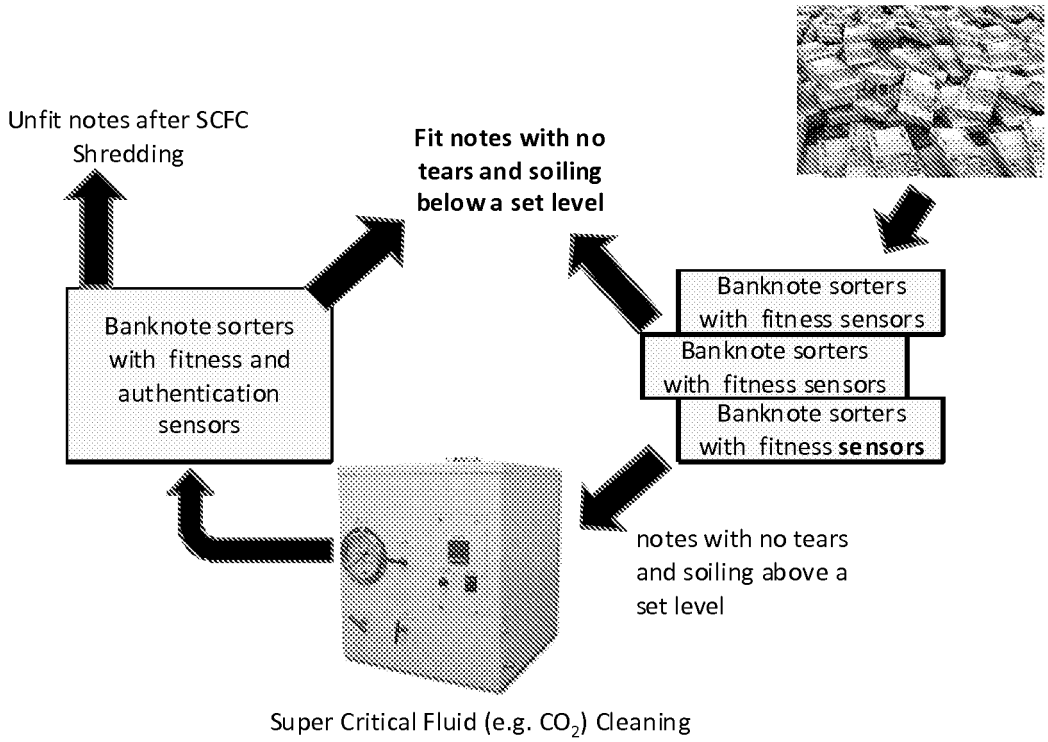

Unfit notes after SCFC Shredding
Fit notes with no tears and soiling below a set level
Banknote sorters with fitness and authentication sensors
Banknote sorters with fitness sensors
Banknote sorters with fitness sensors
Banknote sorters with fitness sensors
notes with no tears and soiling above a set level
Super Critical Fluid (e.g. CO_2) Cleaning

FIG. 4

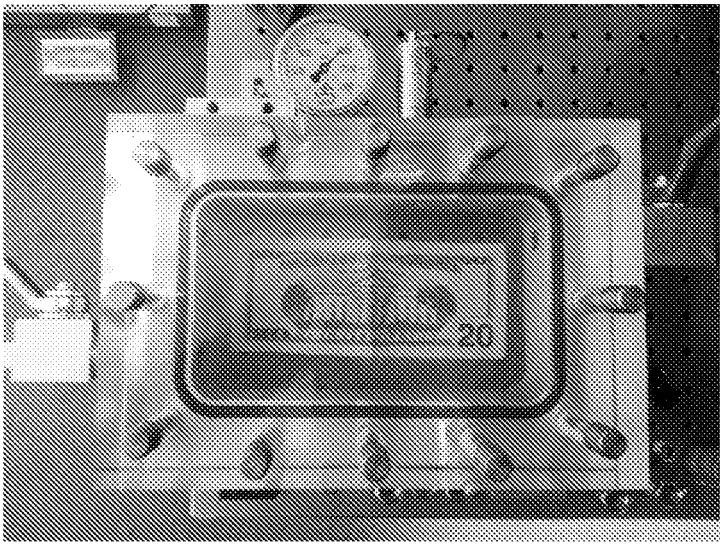


FIG. 5



FIG. 6

FIG. 7A

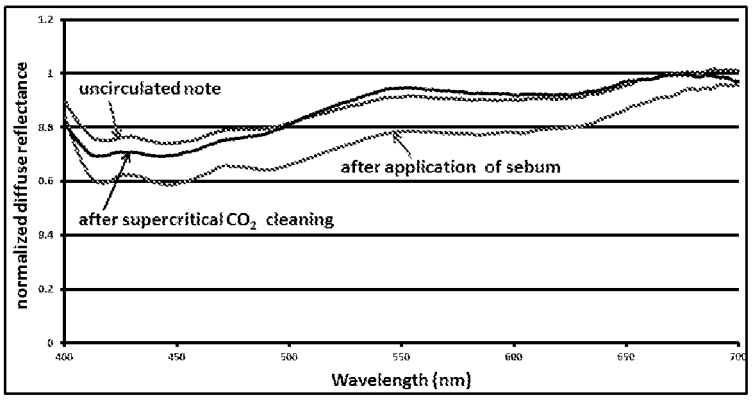
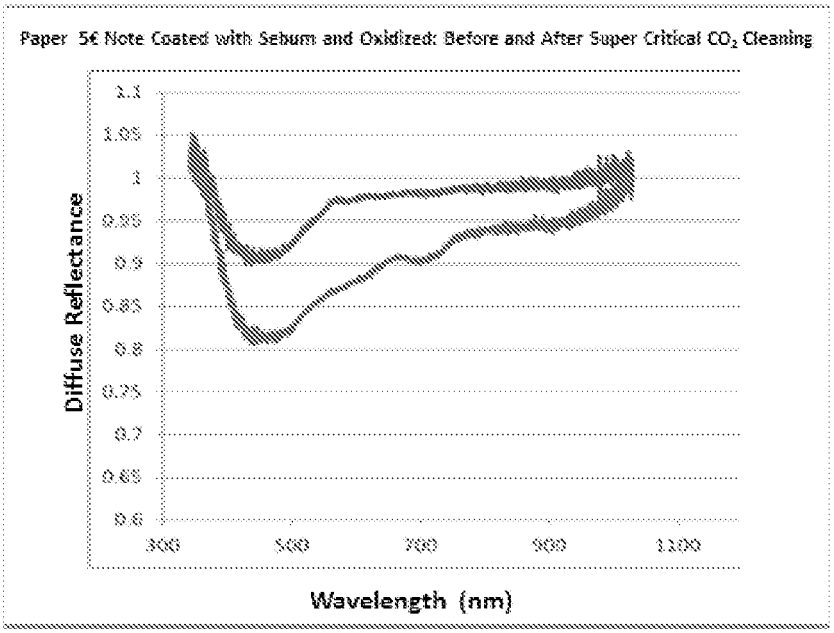

normalized diffuse reflectance
1.2
1
0.8
0.6
0.4
0.2
0
400
450
500
550
600
650
700
Wavelength (nm)
uncirculated note
after application of sebum
after supercritical CO_2 cleaning

FIG. 7B


Paper 5€ Note Coated with Sebum and Oxidized: Before and After Super Critical CO_2 Cleaning
Diffuse Reflectance
1.1
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
300
500
700
900
1100
Wavelength (nm)

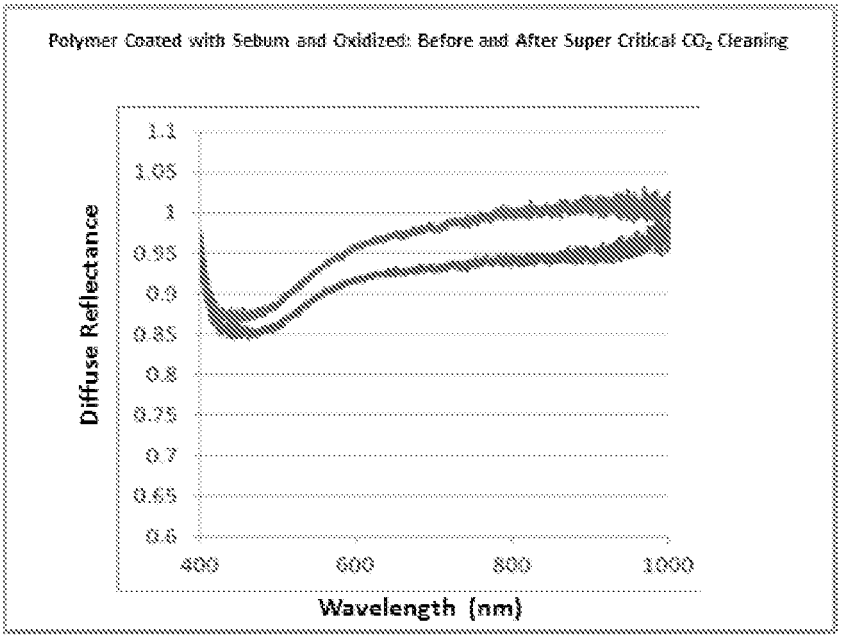

Polymer Coated with Sebum and Oxidized: Before and After Super Critical CO_2 Cleaning
Diffuse Reflectance
1.1
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
400
600
800
1000
Wavelength (nm)

FIG. 8



FIG. 9

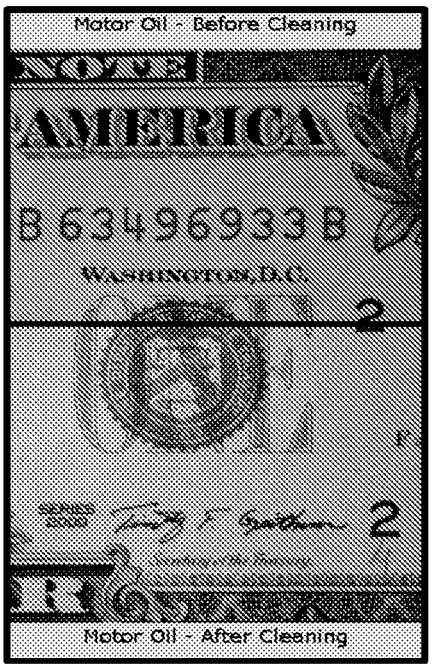


FIG. 10A

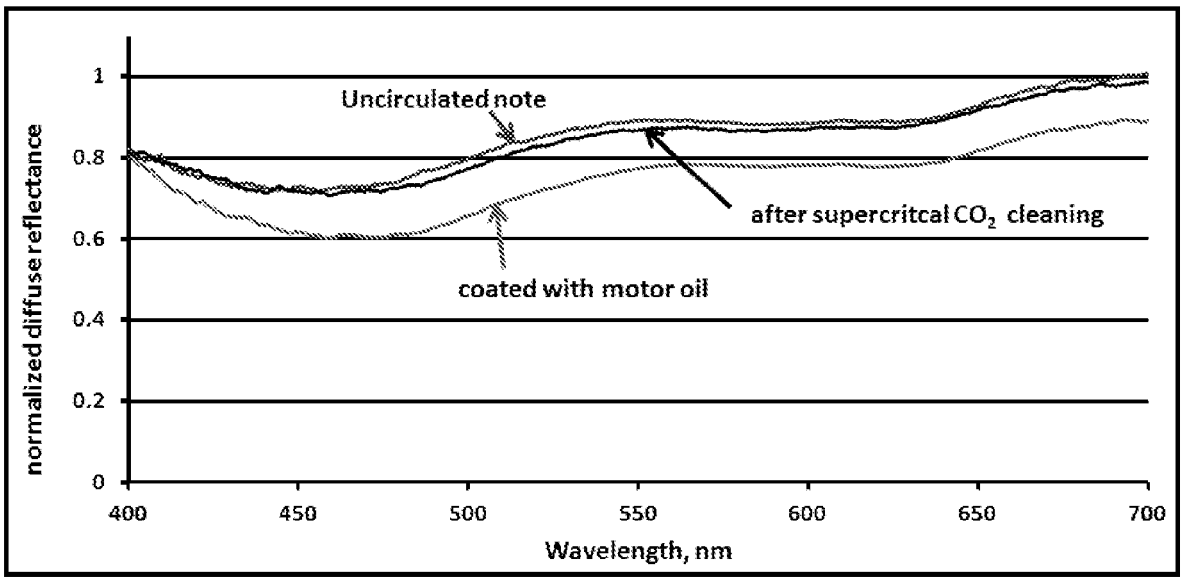
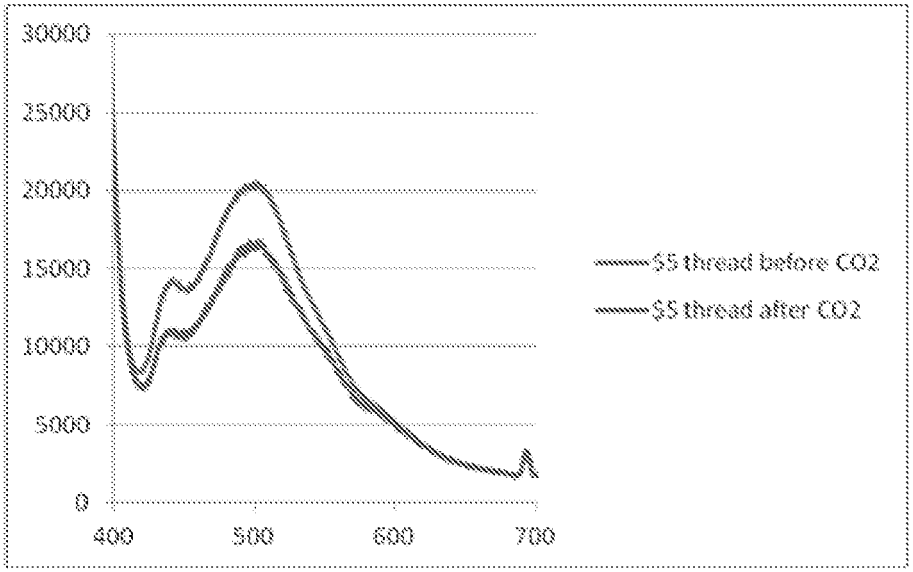


FIG. 10B


30000
25000
20000
15000
10000
5000
0
400
500
600
700
$5 thread before CO2
$5 thread after CO2

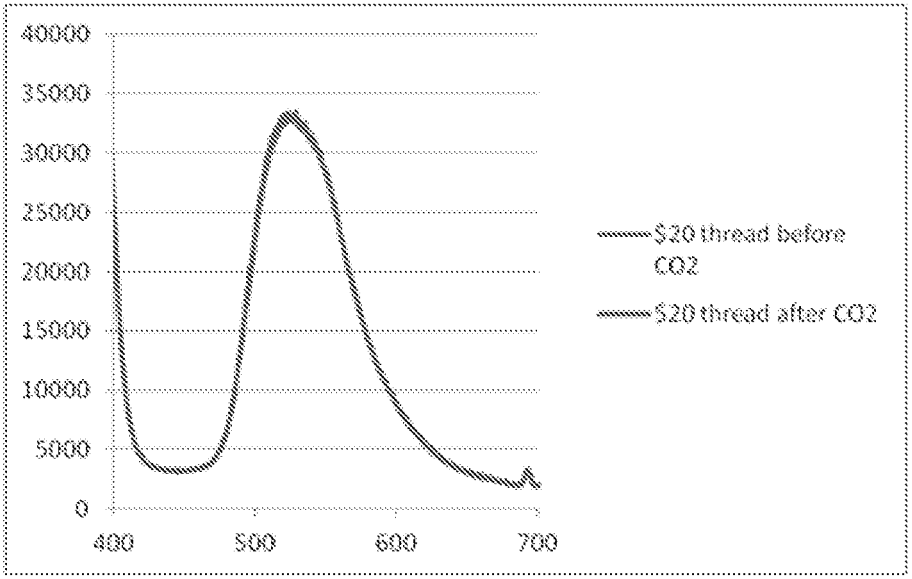

40000
35000
30000
25000
20000
15000
10000
5000
0
400
500
600
700
$20 thread before CO2
$20 thread after CO2

FIG. 11

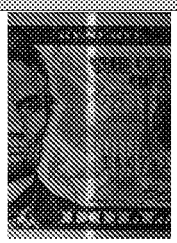
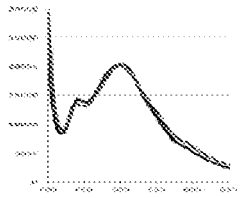
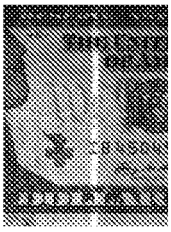
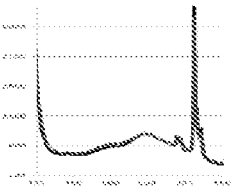
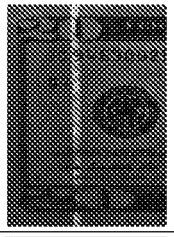
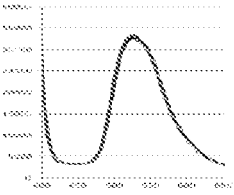
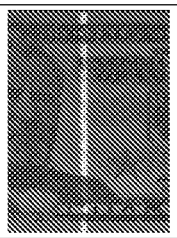
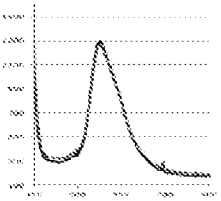
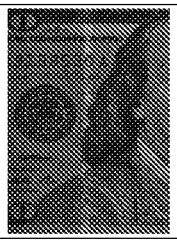
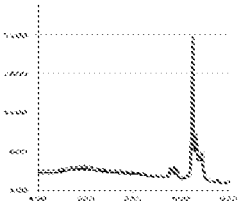
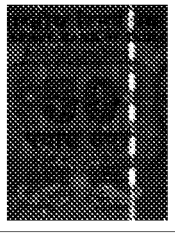
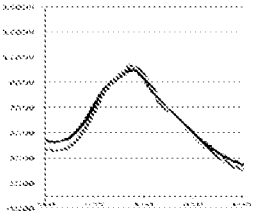
Denomination		Spectra Before and After Cleaning
US $5		
US $10		
US $20		
US $50		
US $100		
50 Rupee - Security Thread		

FIG. 12

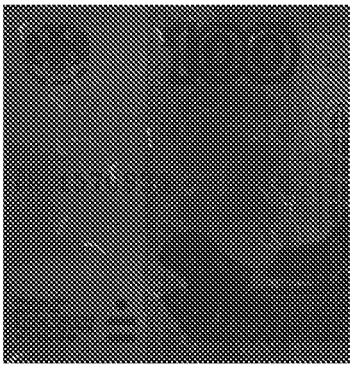
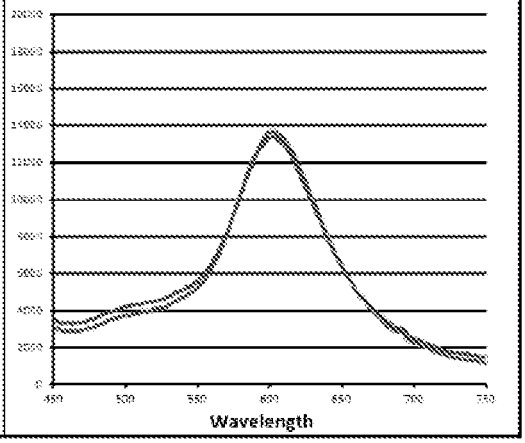
Denomination		Spectra Before and After Cleaning
100 Rubles - Security Fibers (Red)		

FIG. 13

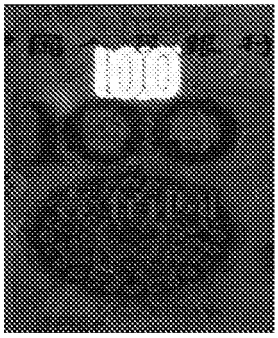
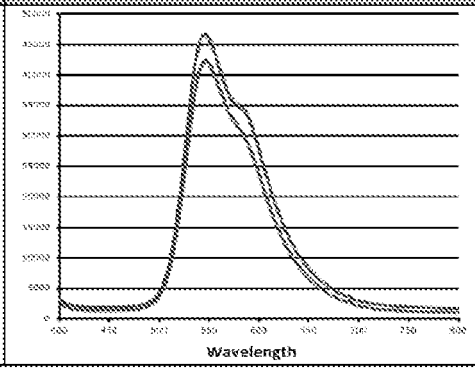
Denomination		Spectra Before and After Cleaning
100 Yuan		

FIG. 14

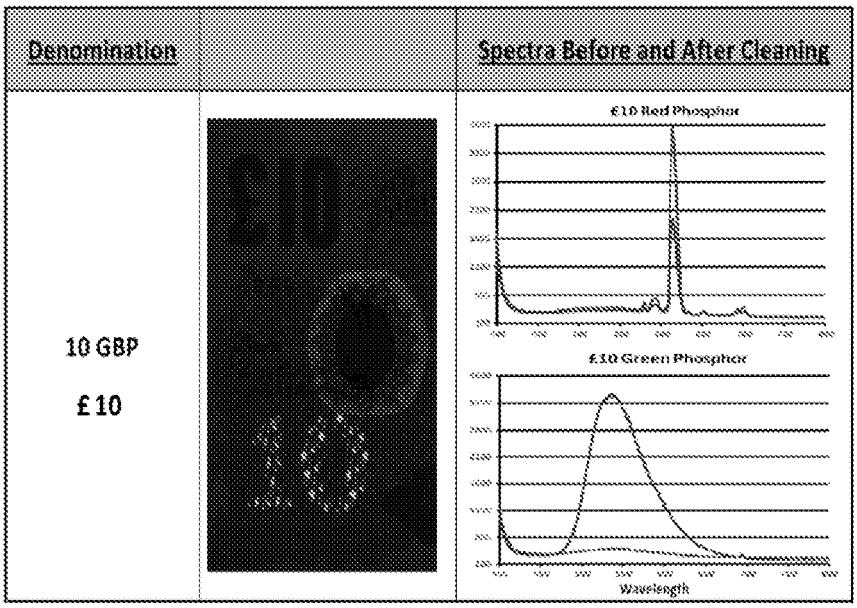

Denomination
Spectra Before and After Cleaning
10 GBP
£10
£10 Red Phosphor
£10 Green Phosphor
Wavelength

FIG. 15

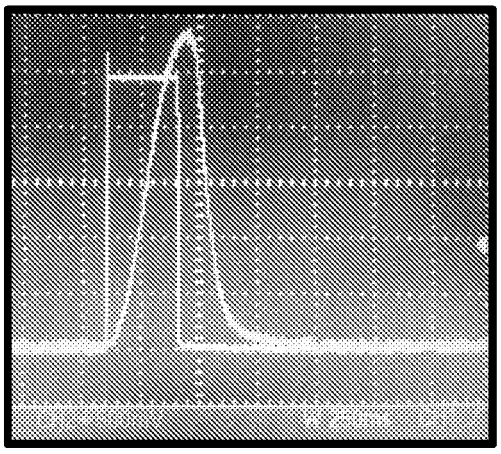


FIG. 16A

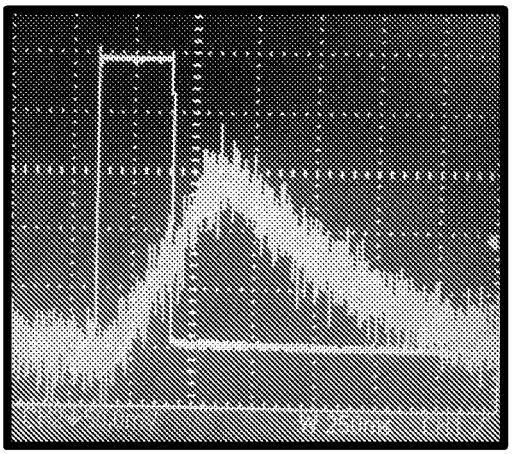
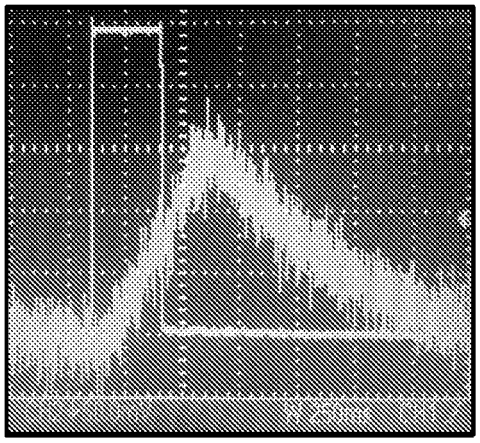
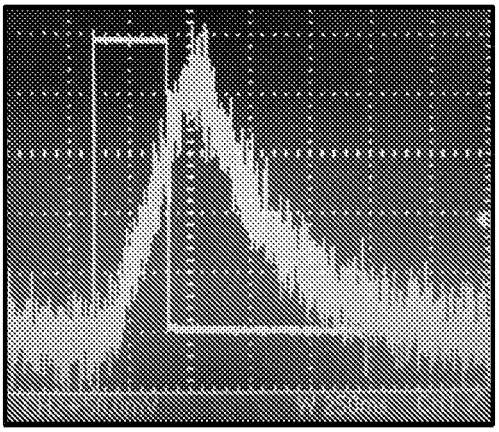


FIG. 16B



before SCCO2

FIG. 17A



after SCCO2

FIG. 17B