Fig.1 Method of calculating peaks of Raman wave

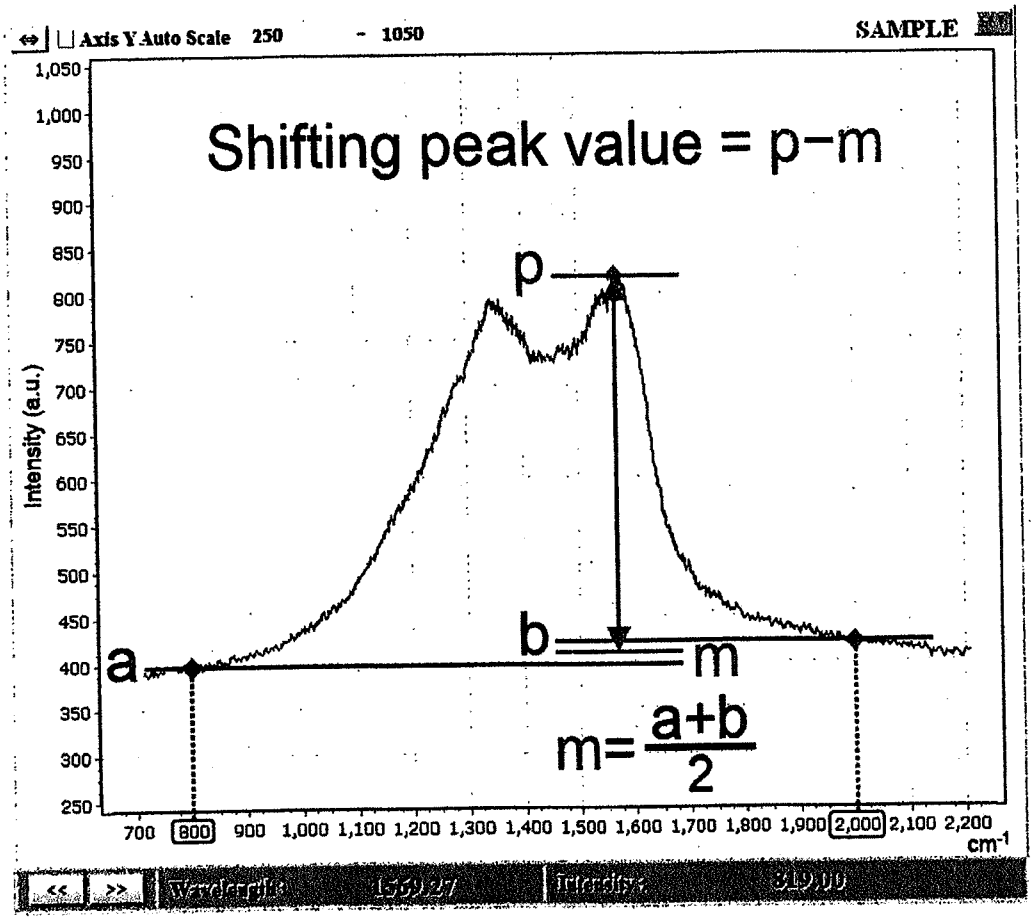


Fig.2A

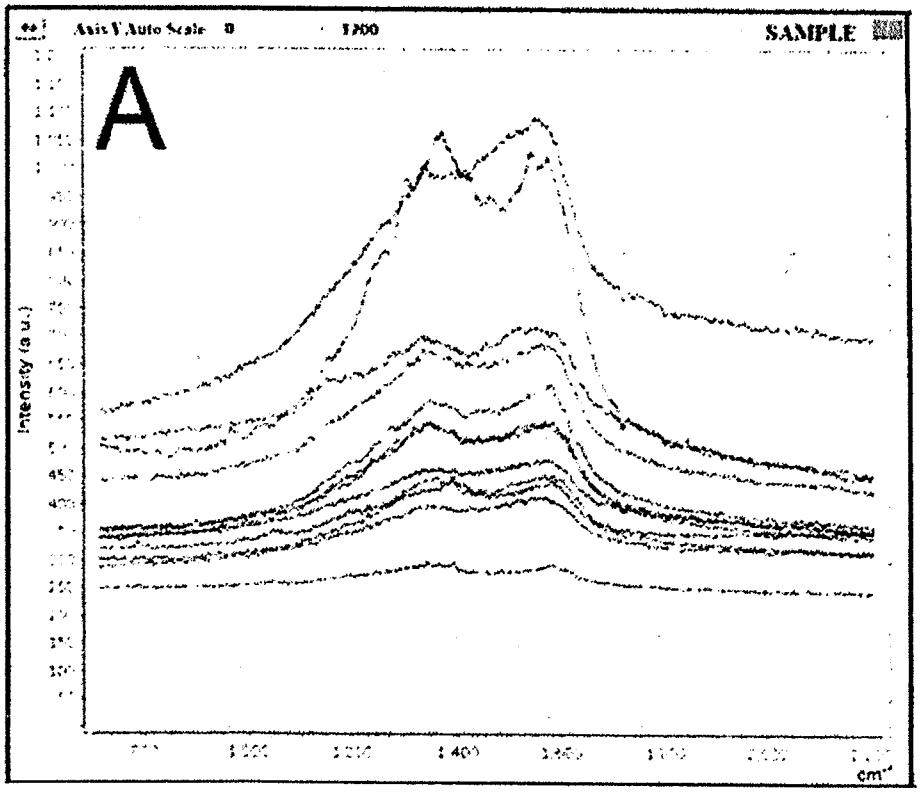


Fig.2B

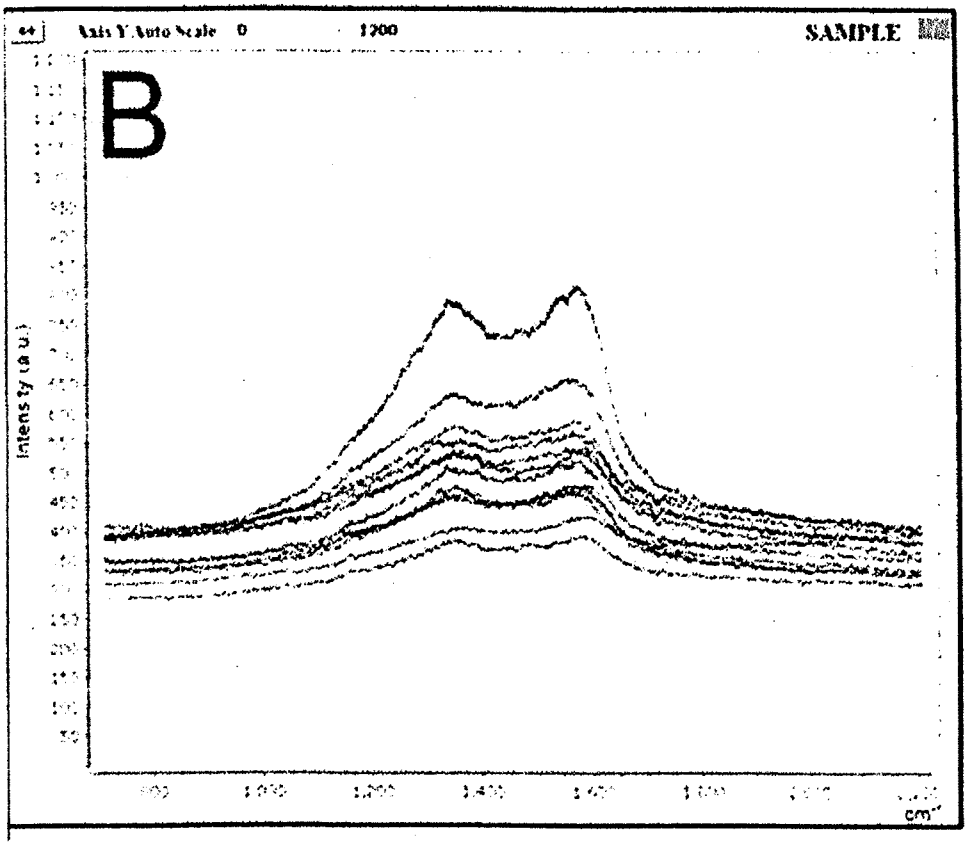


Fig.2C

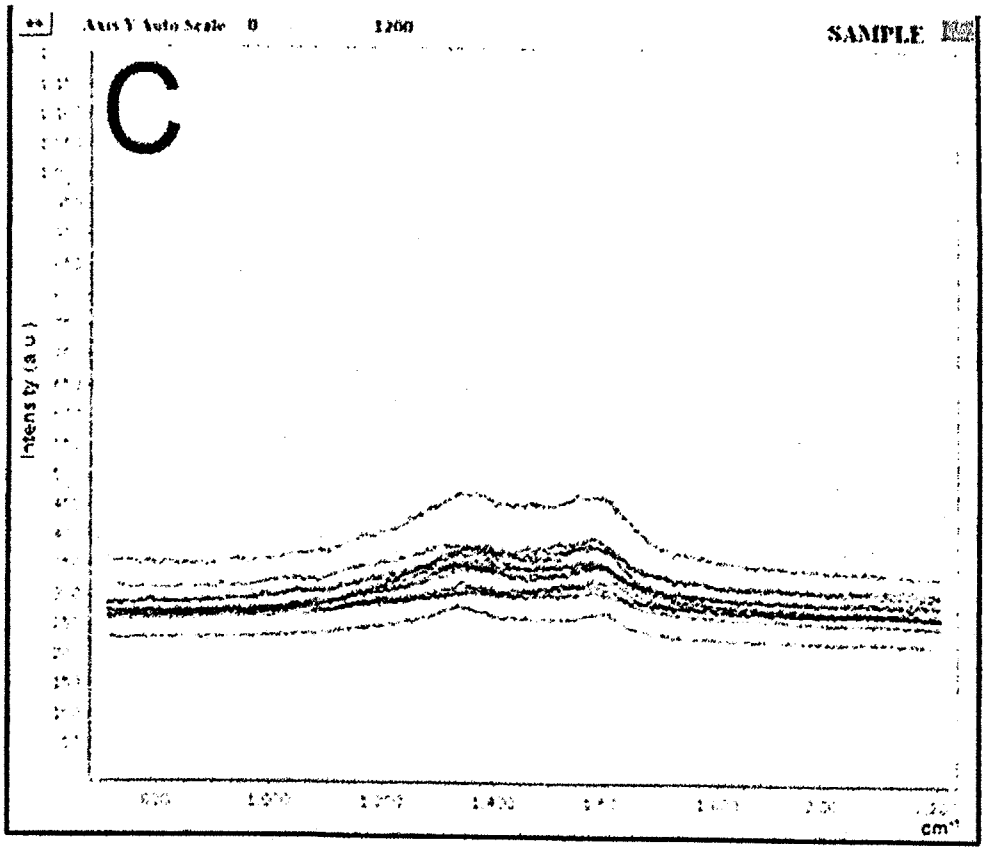


Fig.2D

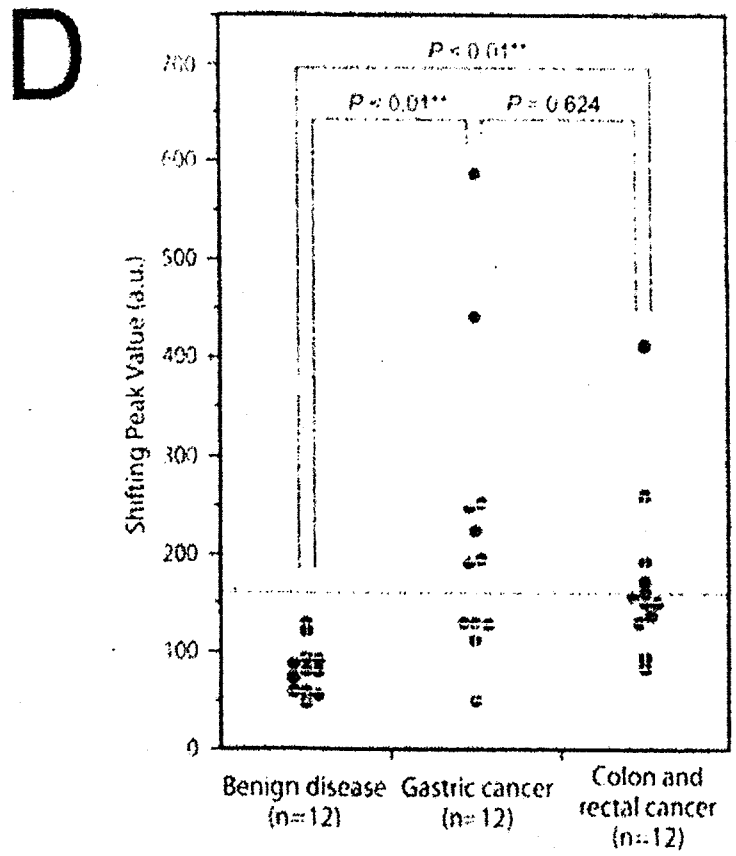

D
P < 0.01**
P < 0.01**
P = 0.624
Shifting Peak Value (a.u.)
600
500
400
300
200
100
0
Benign disease (n=12)
Gastric cancer (n=12)
Colon and rectal cancer (n=12)

Fig.3

The diluted samples and the intensity of Raman scattering spectra

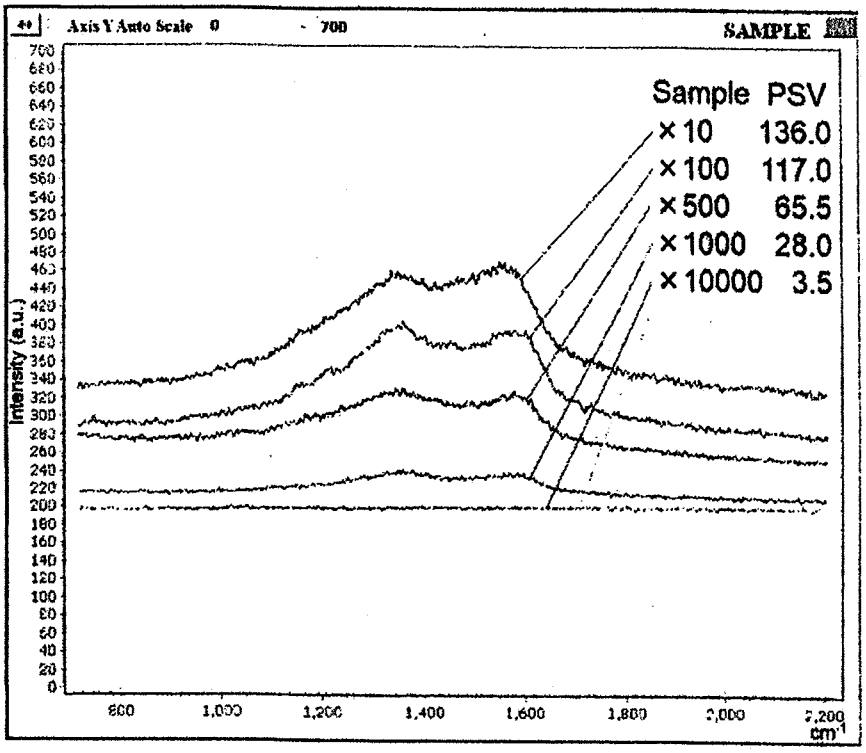


Fig.4

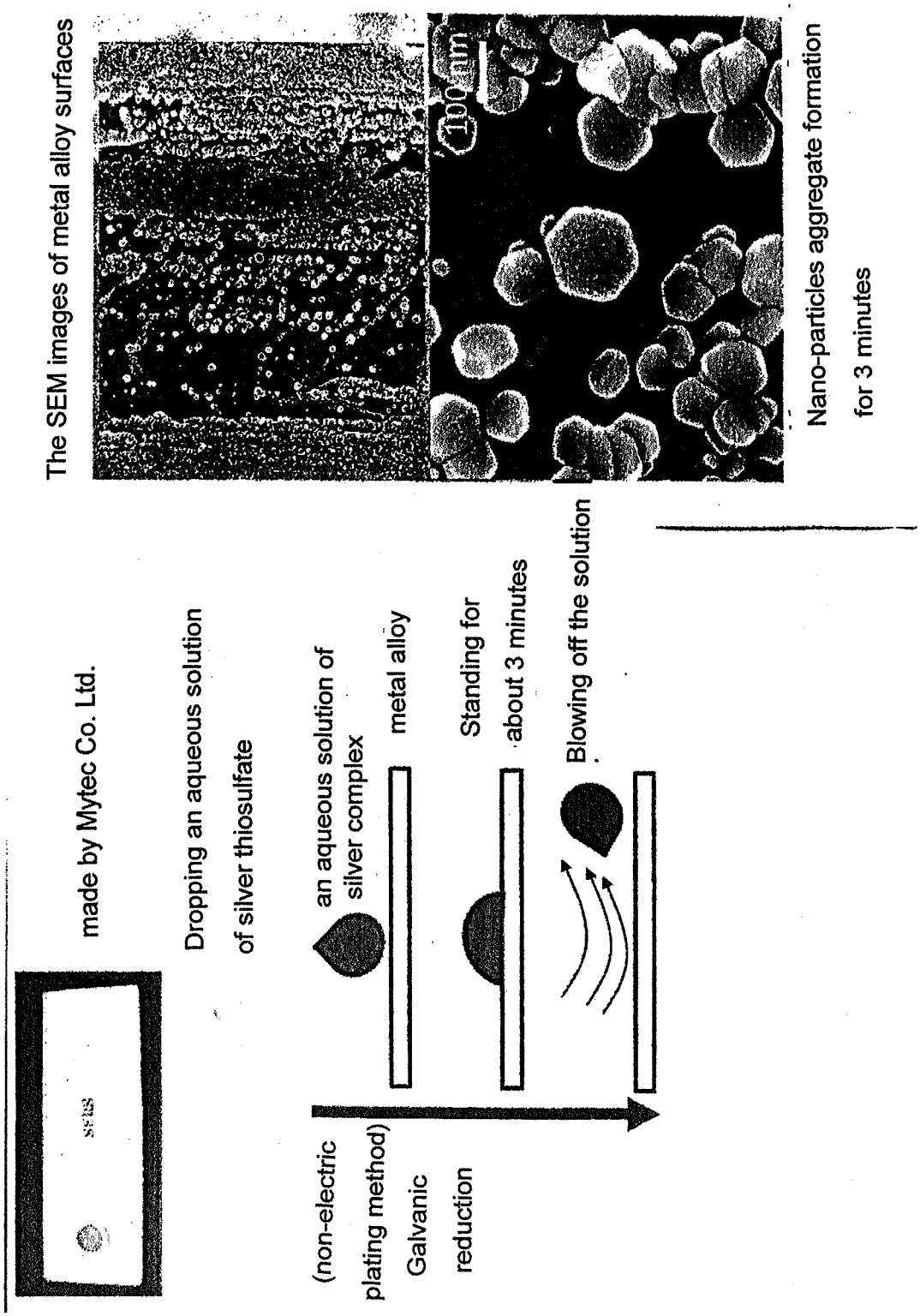

made by Mytec Co. Ltd.
Dropping an aqueous solution
of silver thiosulfate
(non-electric
plating method)
Galvanic
reduction
an aqueous solution of
silver complex
metal alloy
Standing for
about 3 minutes
Blowing off the solution
The SEM images of metal alloy surfaces
100 nm
Nano-particles aggregate formation
for 3 minutes

Fig.5

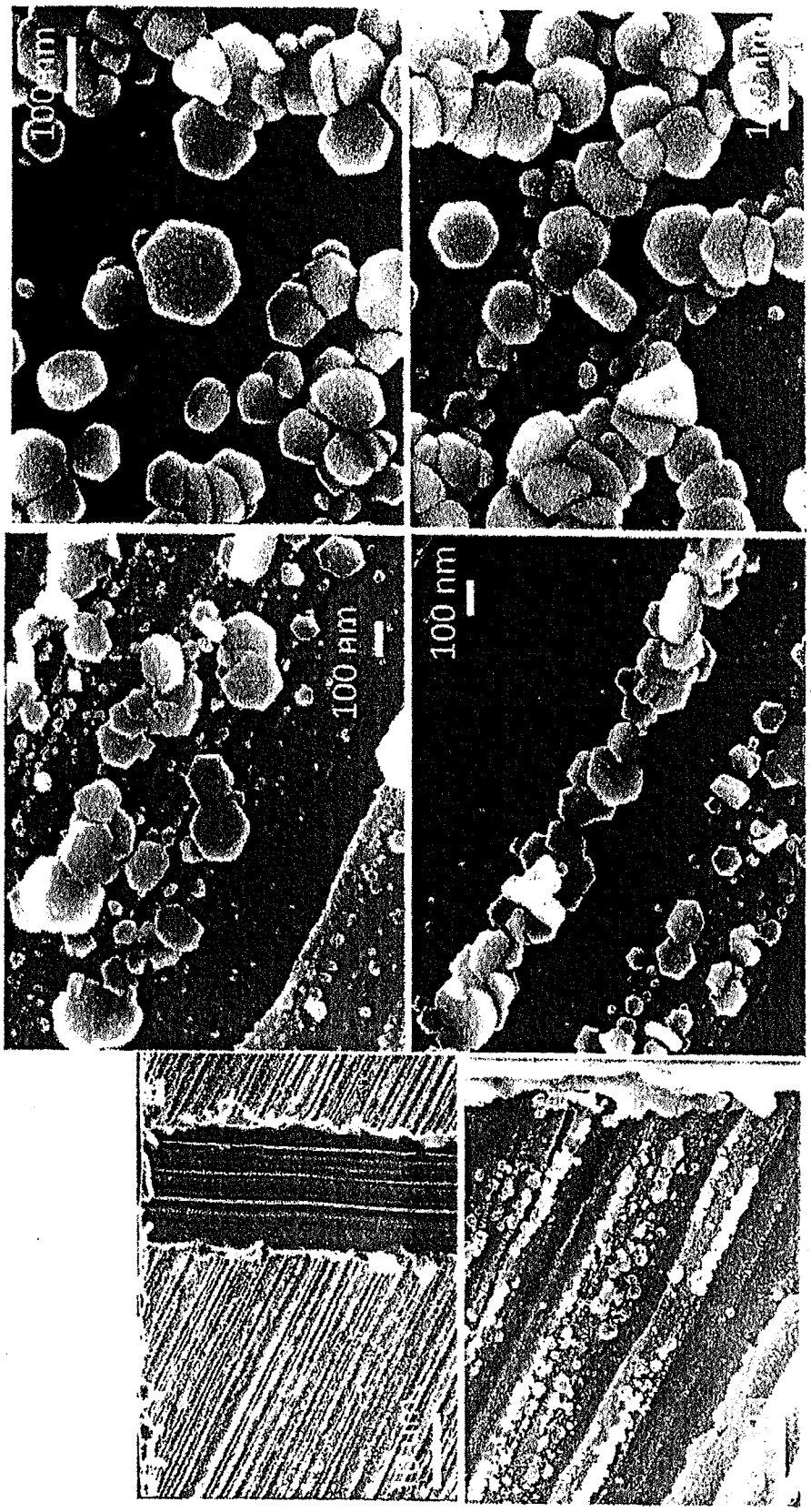
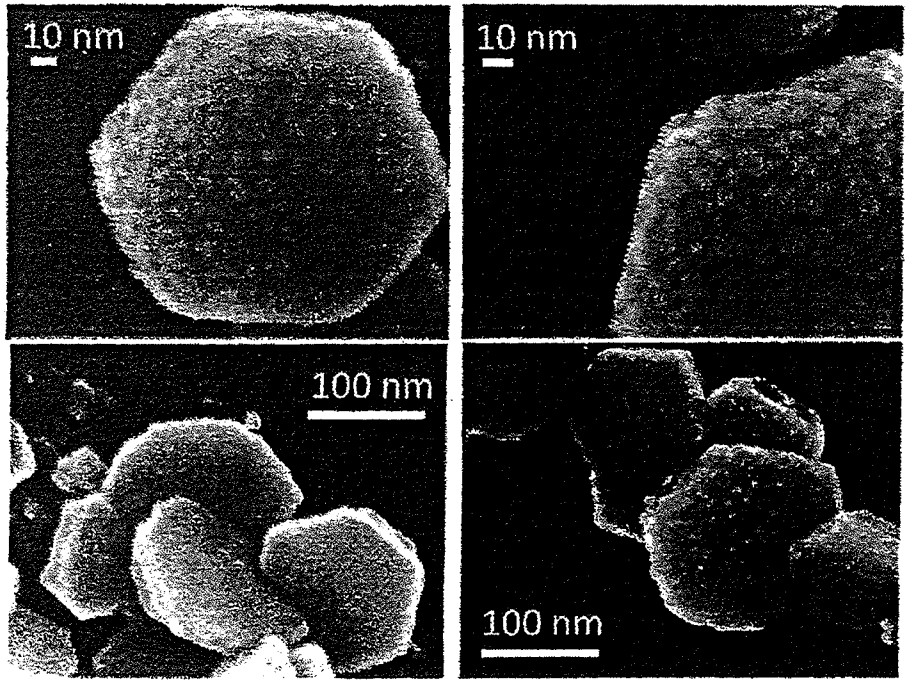


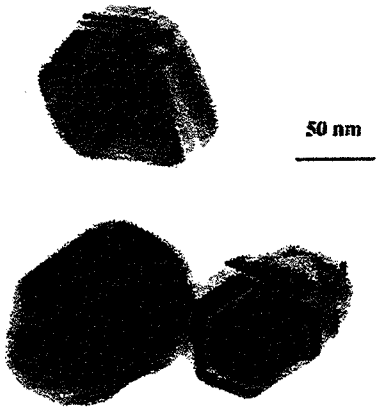
Fig.6



Qautum crystal shows a thin hexagonal column shapes
Non-clear facet of metal nano-crystal could not be observed

Silver particles made by a conventional method

TEM images of silver nano-particles made by citric acid reduction of silver nitrate



Appearance of facets shows metal silver nano crystals

The above nano-structure seems to be different from that of silver Particles made by the conventional method

Fig.7

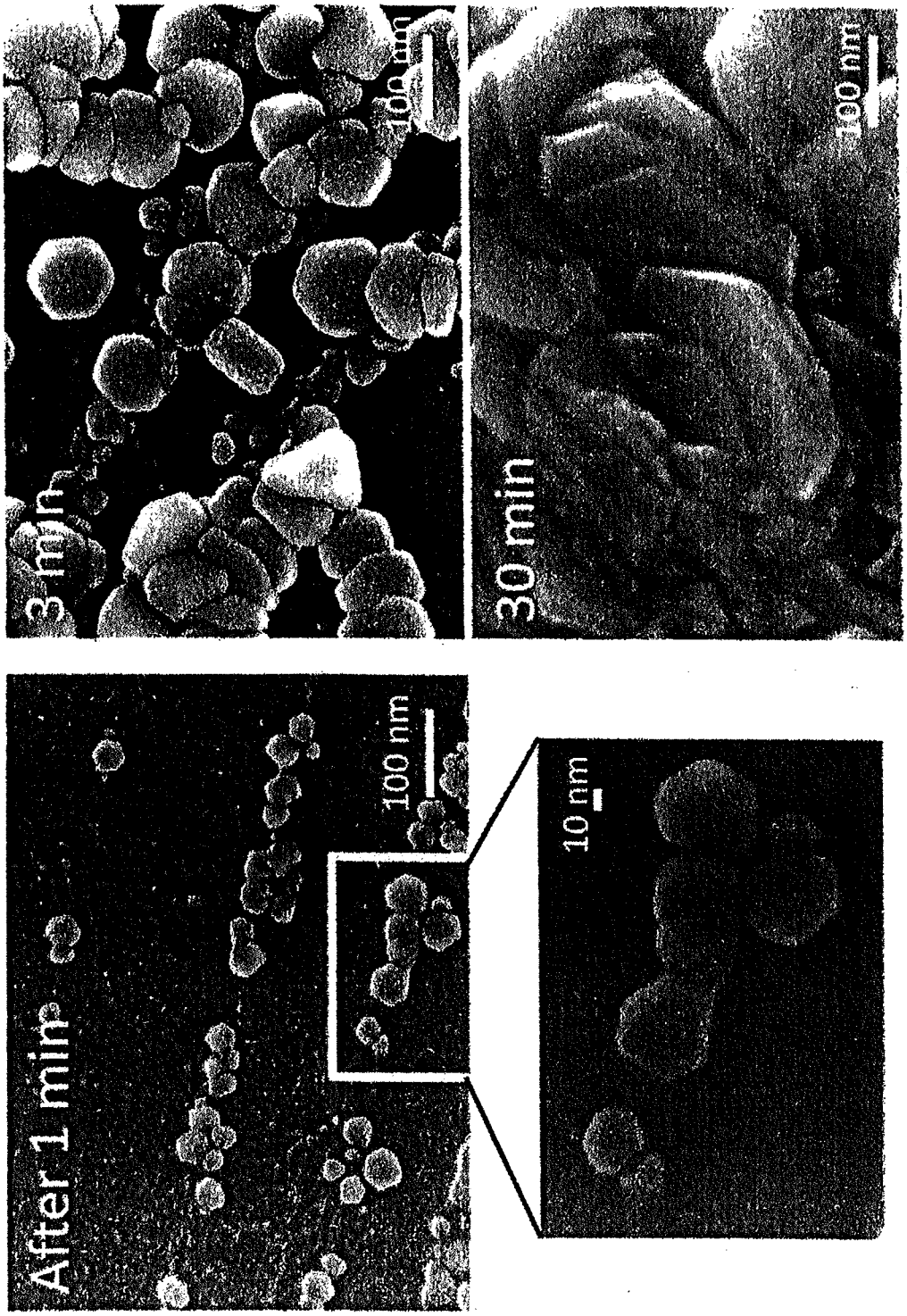
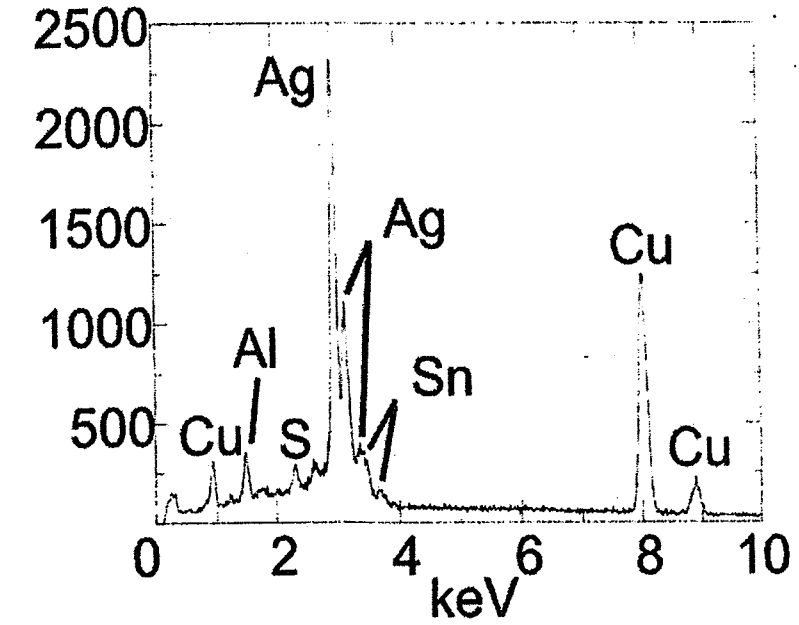


Fig.8


2500
2000
1500
1000
500
Ag
Ag
Cu
Al
Sn
Cu
S
Cu
0
2
4
6
8
10
keV

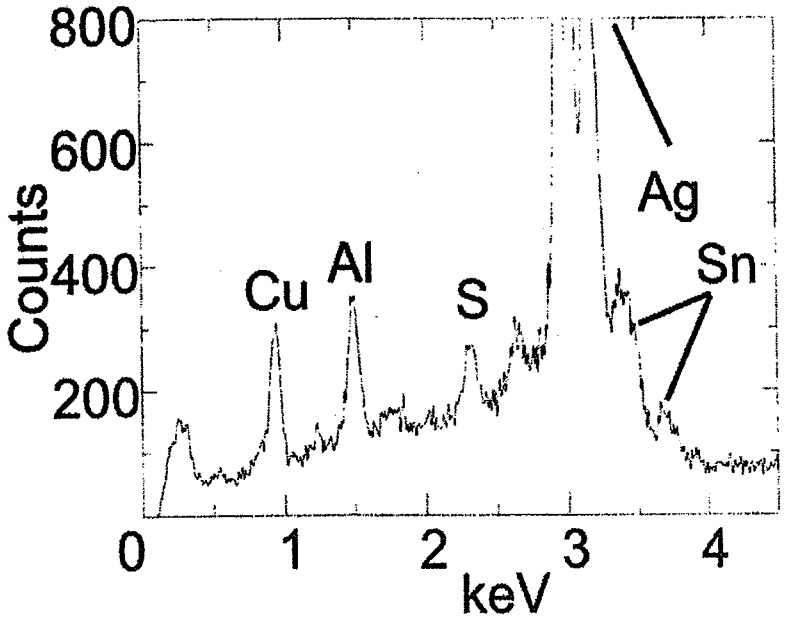
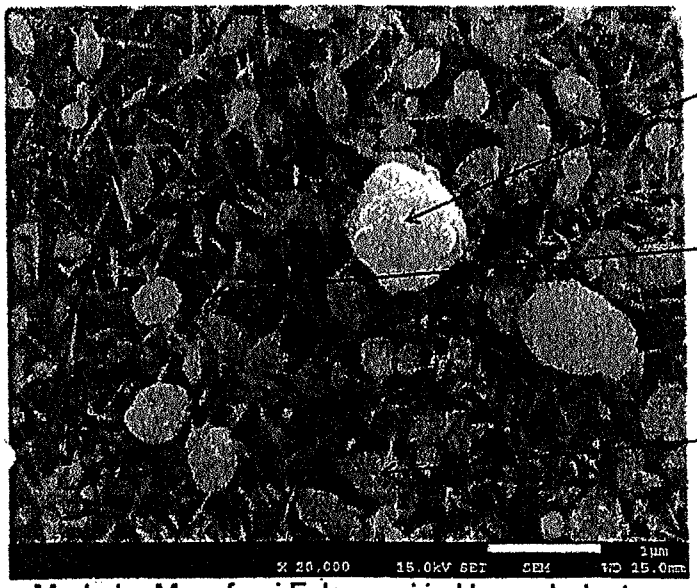

800
600
400
200
Counts
Ag
Cu
Al
S
Sn
0
1
2
3
4
keV

Fig.9



Made by Masafumi Fukuzumi in Hyogo Industry Technology Center

Fig.10A



EDS Quantitative Results

Element	Wt%	At%
OK	5.21	18.26
AgL	5.50	2.86
CuK	89.30	78.88

Black parts show as follows

- Ag_2O
- $AgCl \longrightarrow Ag$

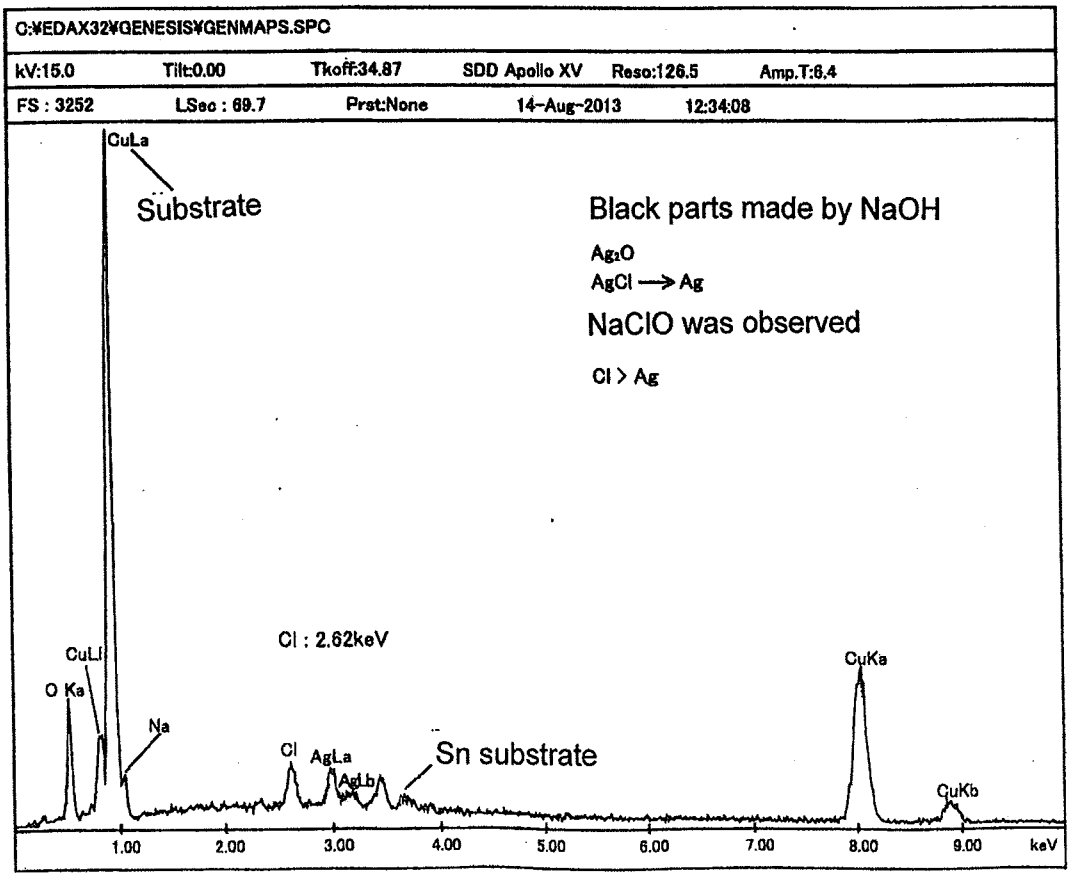


Fig.10B


EDS Quantitative Results
Element Wt% At%
OK 16.12 44.52
AgL 10.03 4.11
CuK 73.86 51.37
SE1
200.0nm
50000x

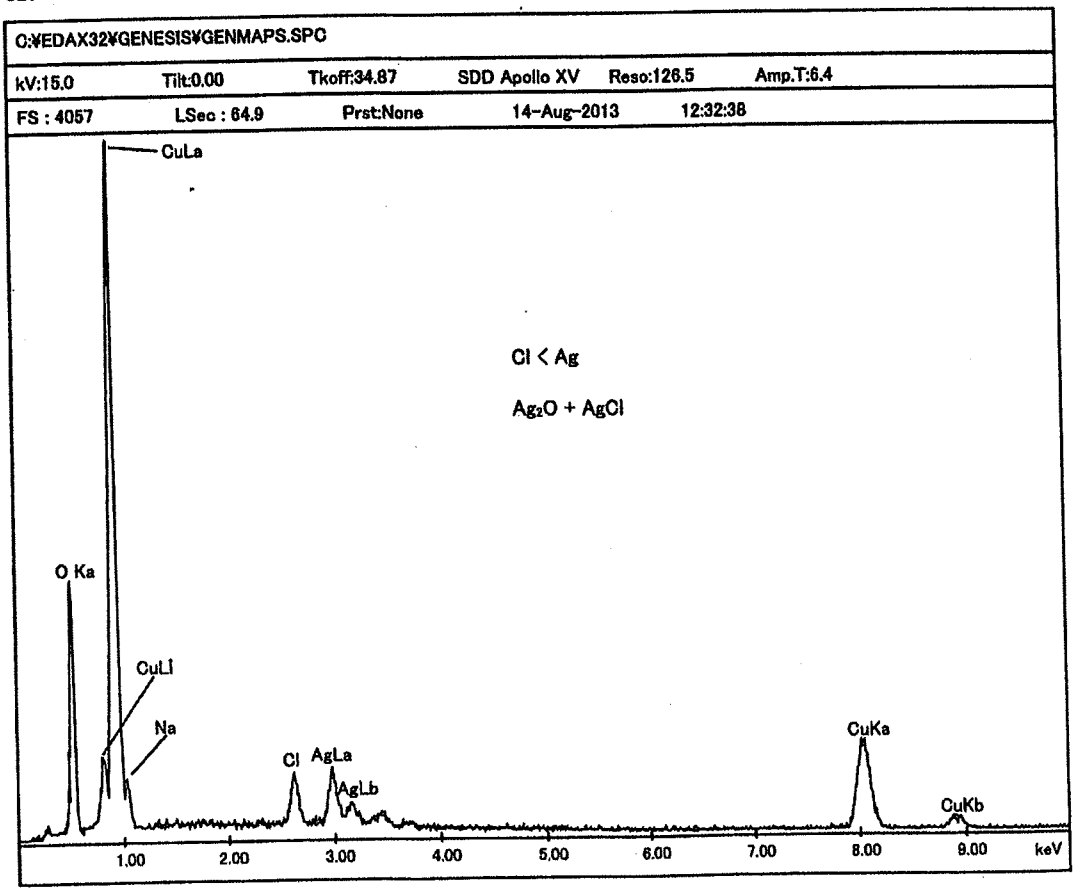
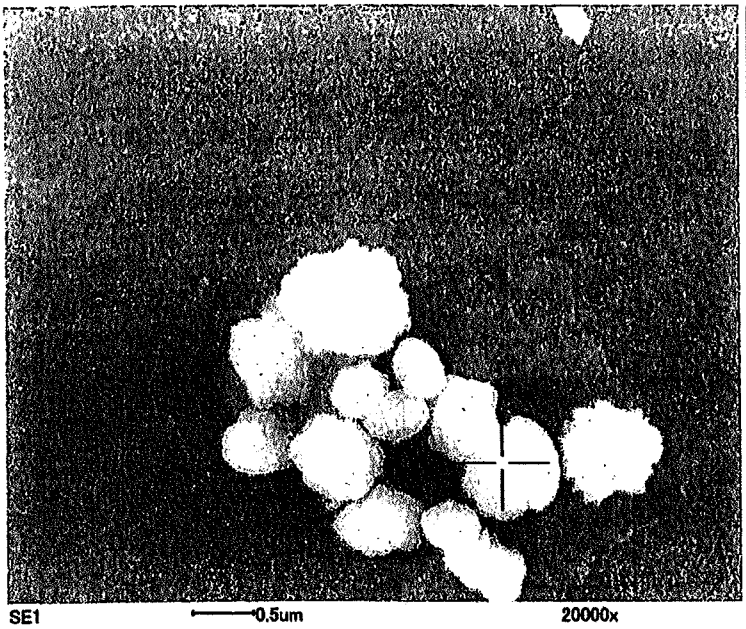

C:¥EDAX32¥GENESIS¥GENMAPS.SPC
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FS : 4057 LSec : 64.9 Prst:None 14-Aug-2013 12:32:38
CuLa
Cl < Ag
Ag2O + AgCl
O Ka
CuLl
Na
Cl
AgLa
AgLb
CuKa
CuKb
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
keV

Fig.10C



EDS Quantitative Results

Element	Wt%	At%
OK	16.82	44.56
AgL	0.19	0.08
CuK	82.99	55.36

NaClO

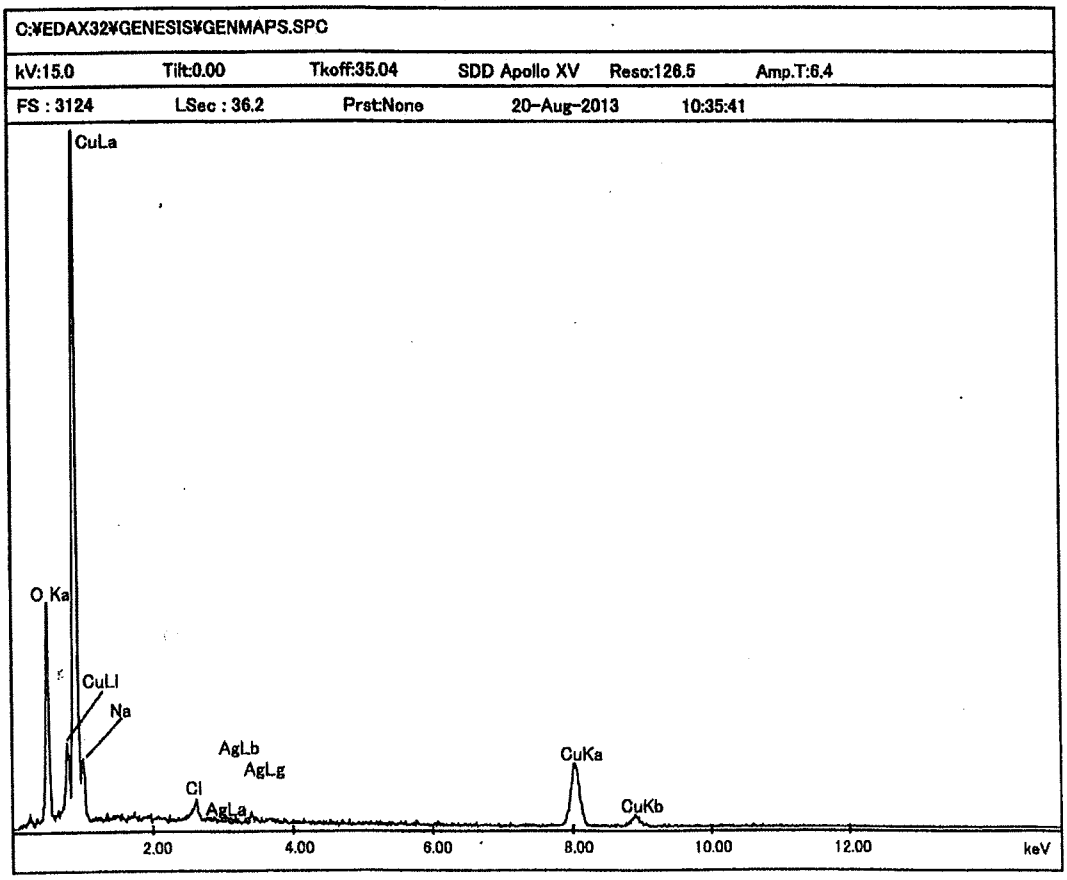
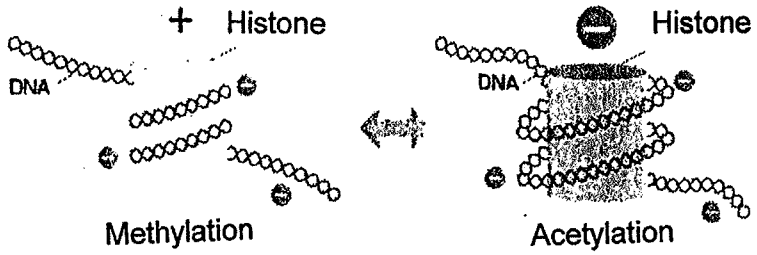
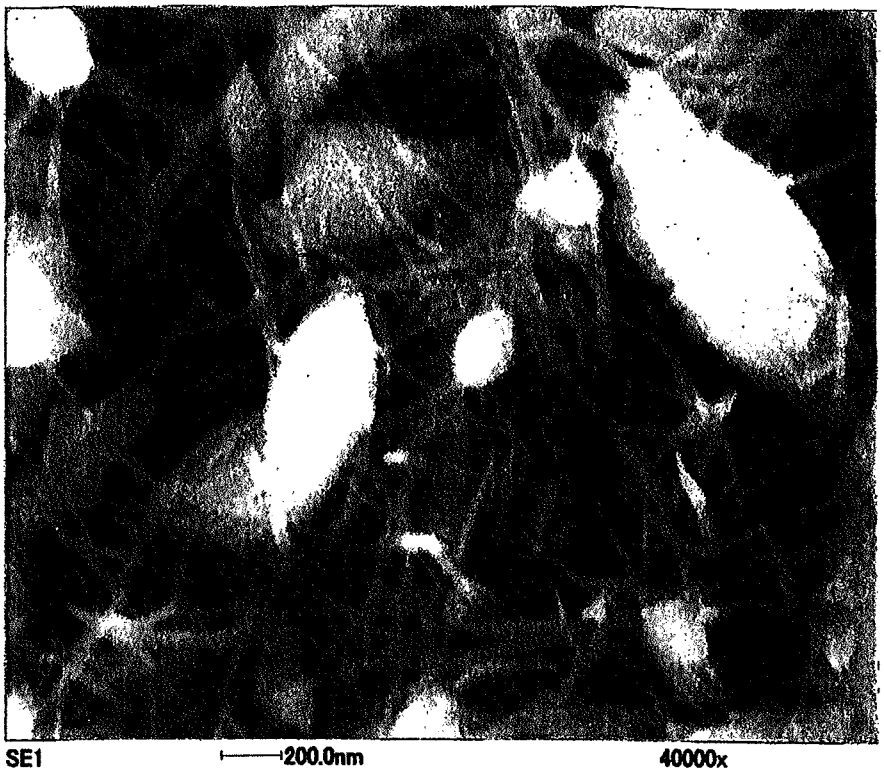


Fig.11



(a) (b)

Fig.12



SE1 200.0nm 40000x

EDS Quantitative Results

Element	Wt%	At%
OK	72.40	94.65
AgL	27.60	5.35

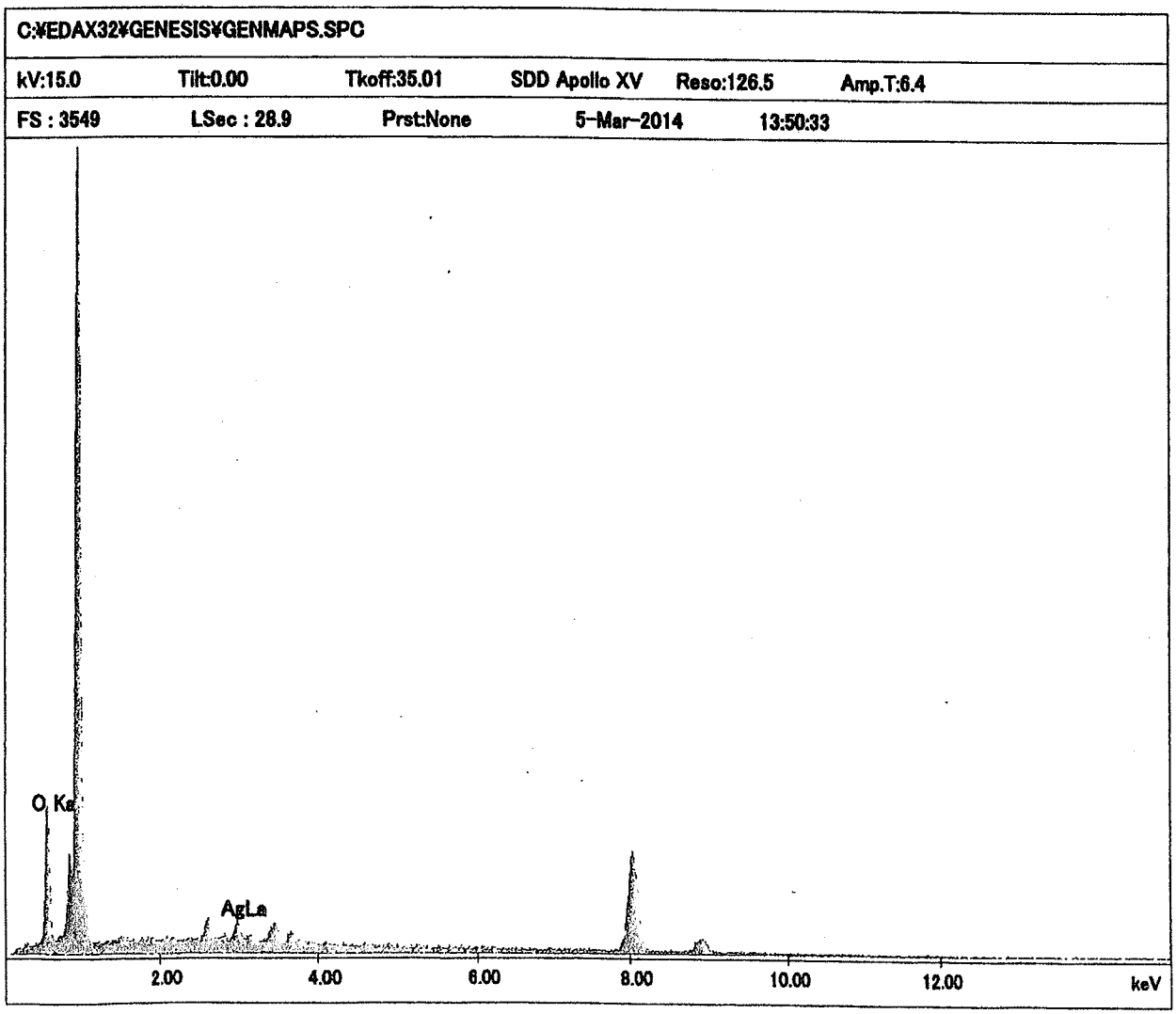


Fig.13

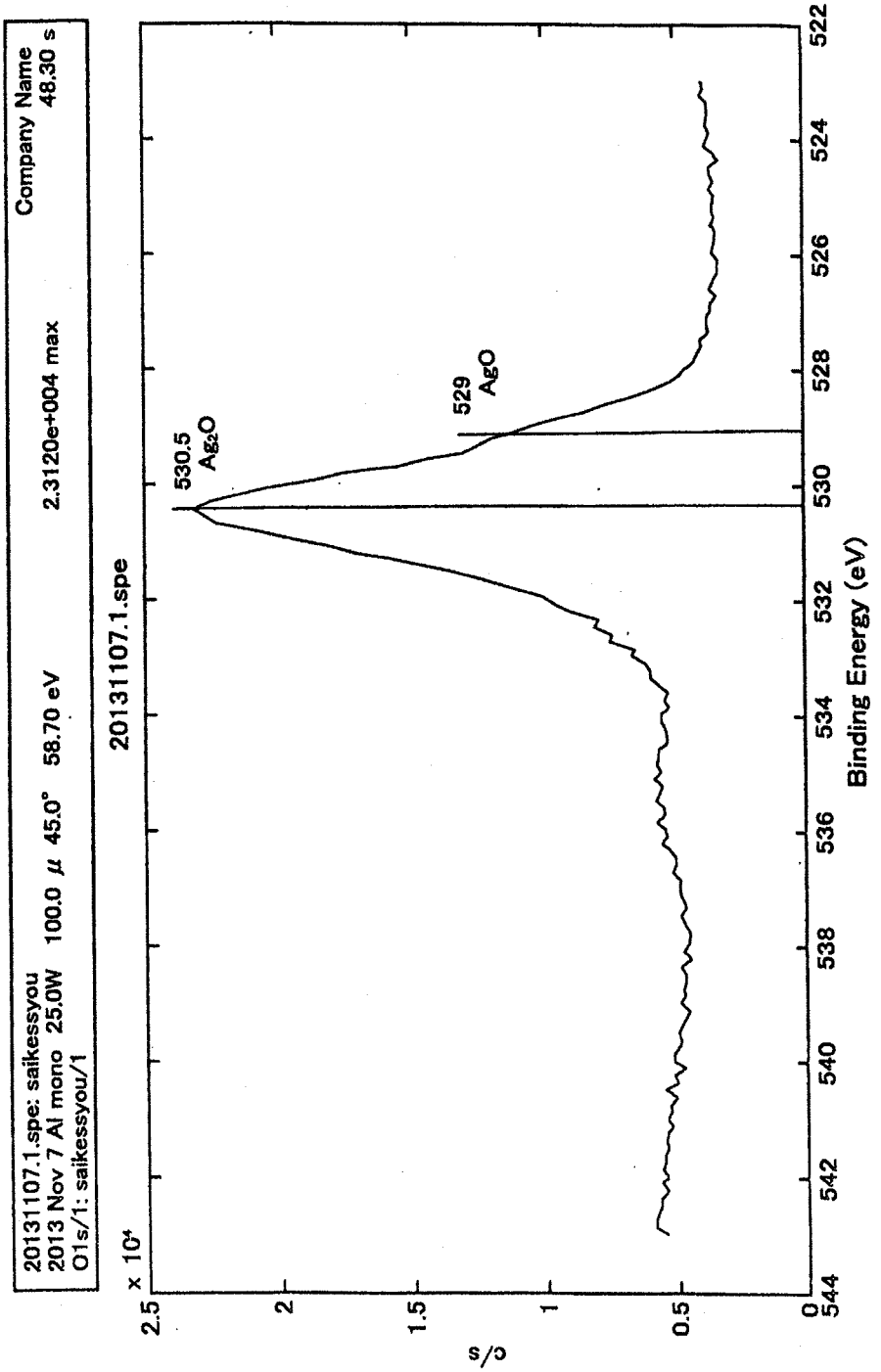
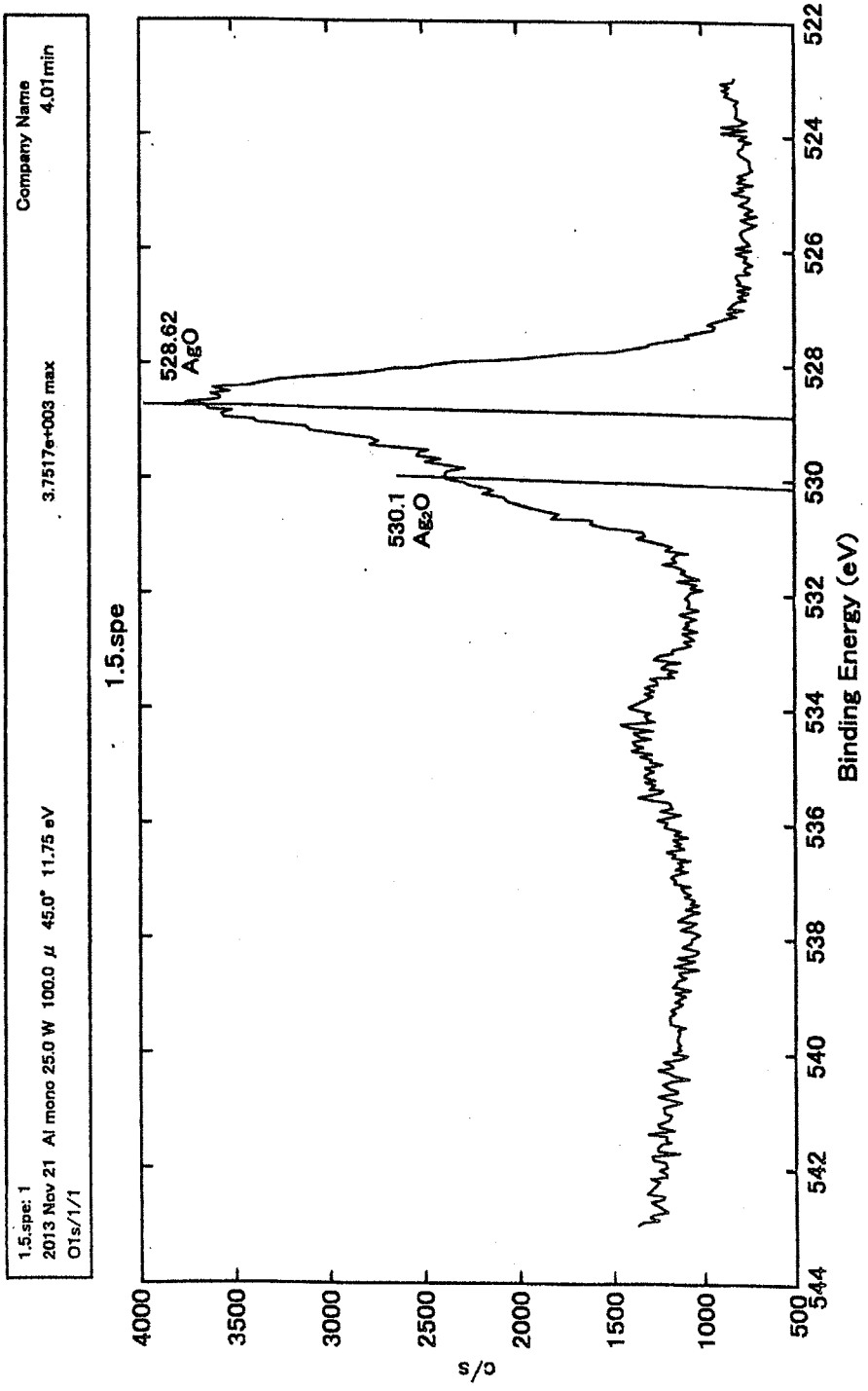

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2013 Nov 7 Al mono 25.0W 100.0 μ 45.0° 58.70 eV
O1s/1: saikessyou/1
2.3120e+004 max
Company Name
48.30 s
20131107.1.spe
530.5
Ag2O
529
AgO
x 10⁴
c/s
Binding Energy (eV)

Fig.14


1.5.spe: 1
2013 Nov 21 Al mono 25.0 W 100.0 μ 45.0° 11.75 eV
O1s/1/1
Company Name
4.01min
3.7517e+003 max
1.5.spe
528.62
Ag2O
530.1
Ag2O
c/s
Binding Energy (eV)
4000
3500
3000
2500
2000
1500
1000
500
544
542
540
538
536
534
532
530
528
526
524
522