Figures

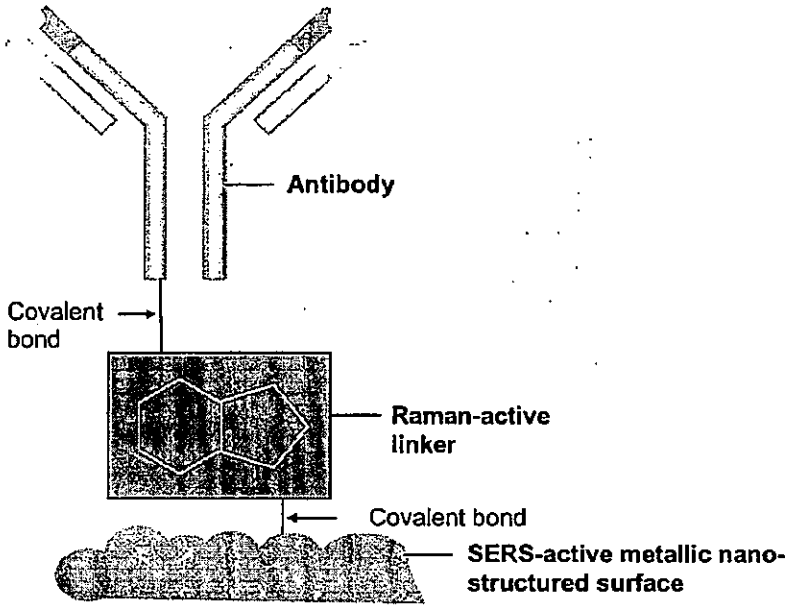


Figure 1 (a)

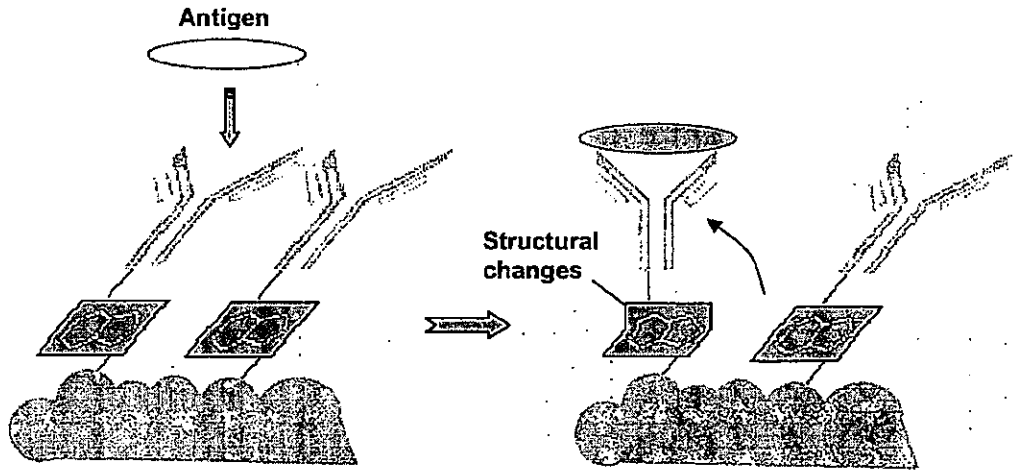


Figure 1 (b)

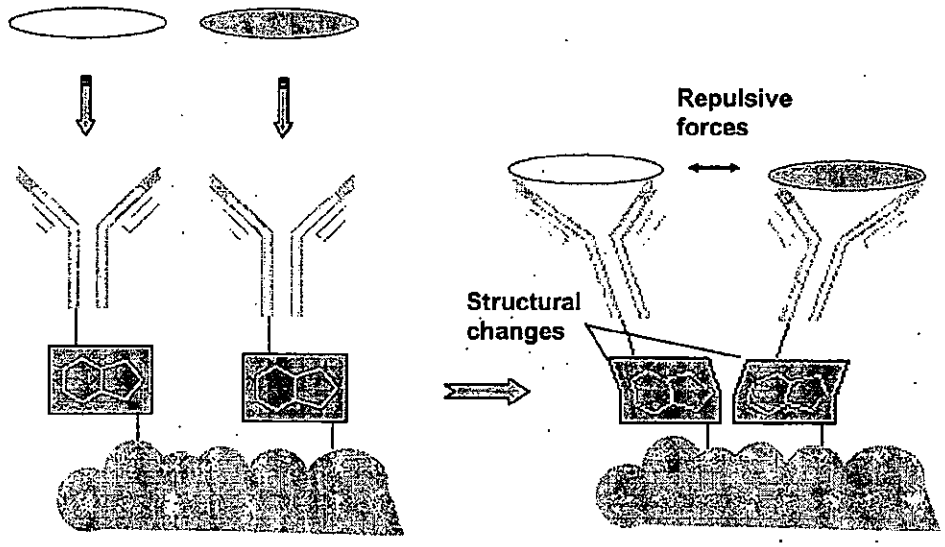


Figure 1 (c)

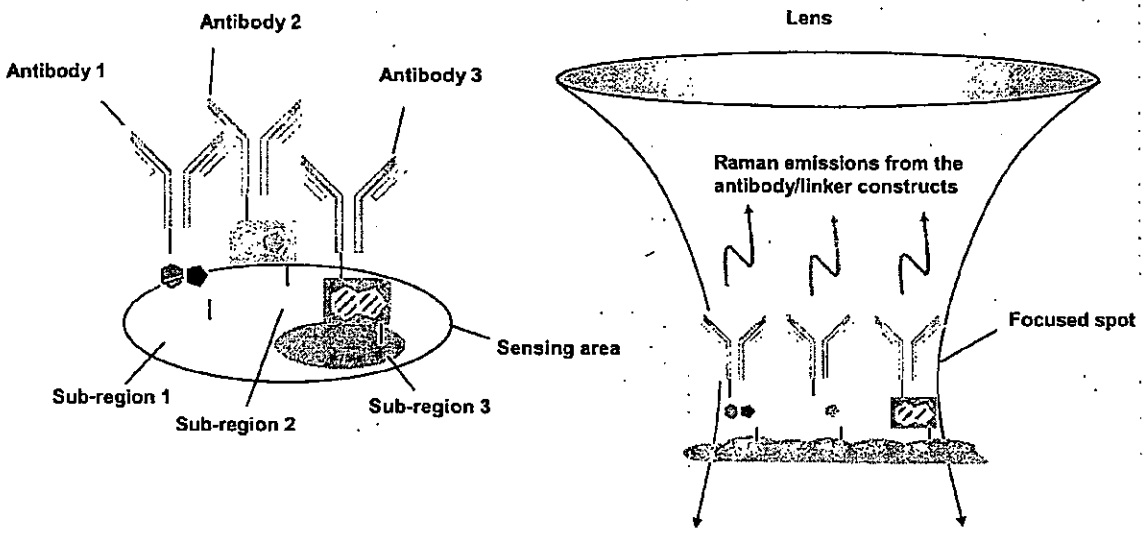


Figure 2

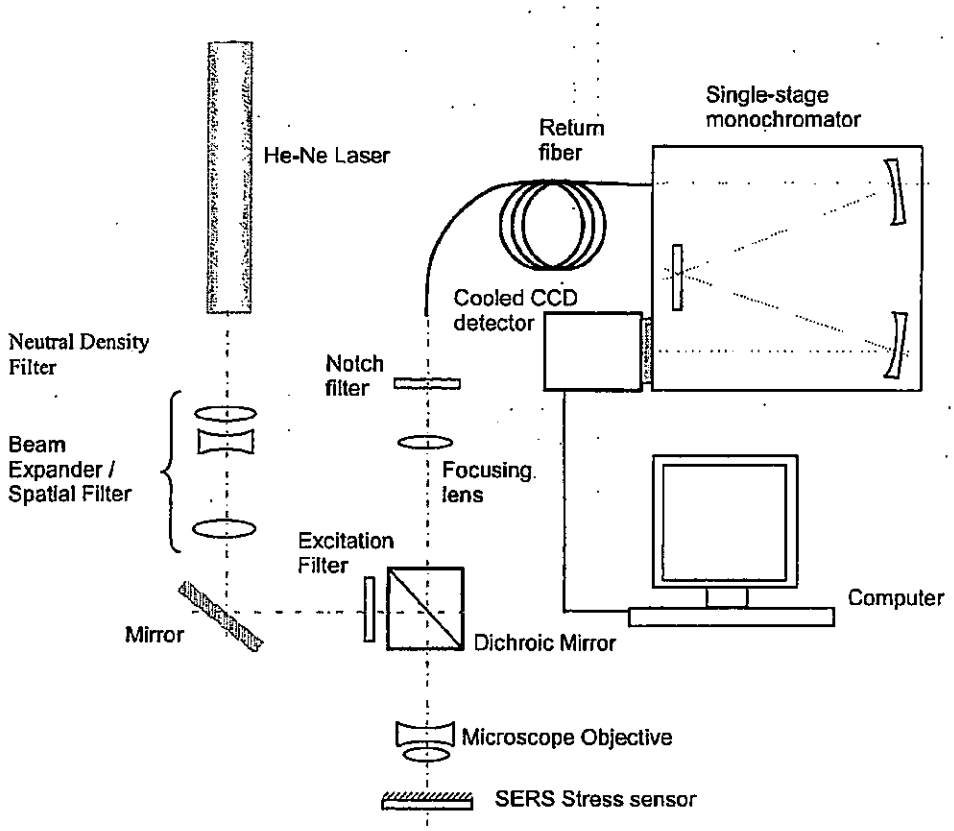

He-Ne Laser
Return fiber
Single-stage monochromator
Cooled CCD detector
Neutral Density Filter
Notch filter
Beam Expander / Spatial Filter
Focusing lens
Excitation Filter
Computer
Mirror
Dichroic Mirror
Microscope Objective
SERS Stress sensor

Figure 3

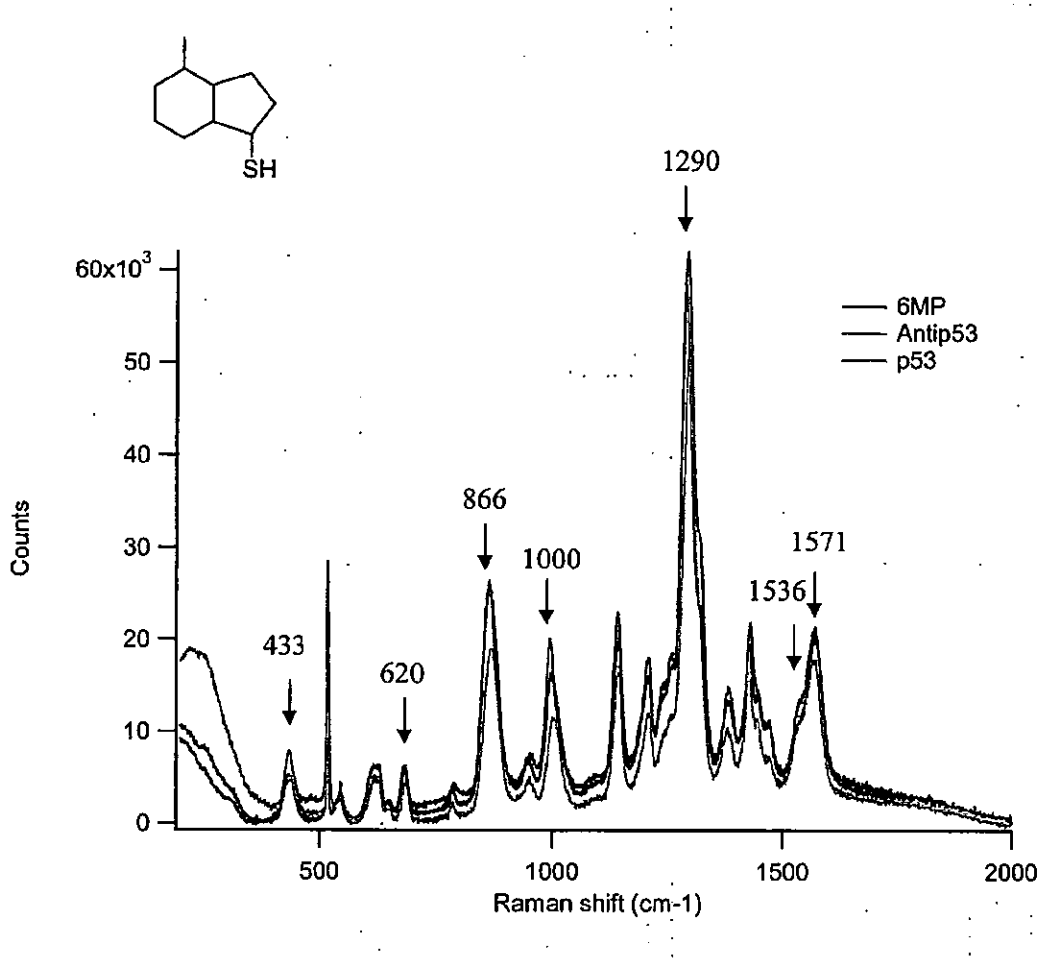
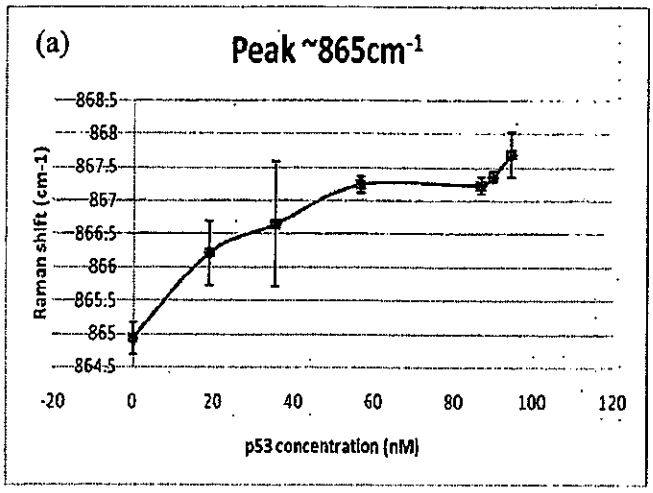
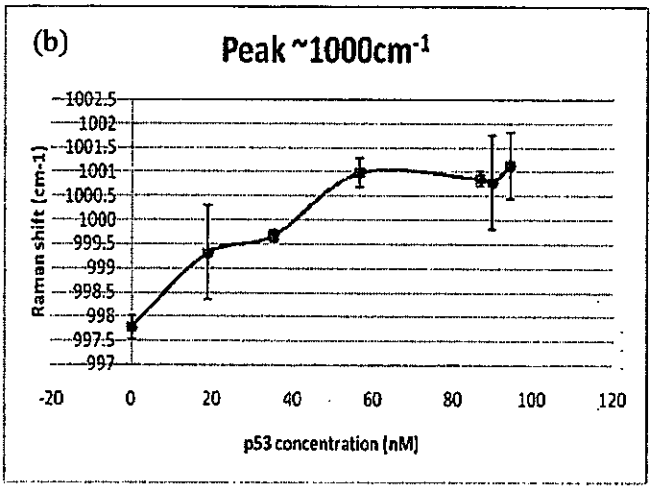

SH
1290
60x10^3
50
40
866
30
1000
1571
1536
20
433
620
10
0
Counts
6MP
Antip53
p53
500
1000
1500
2000
Raman shift (cm-1)

Figure 4


(a)
Peak ~865cm-1
Raman shift (cm-1)
868.5
868
867.5
867
866.5
866
865.5
865
864.5
-20
0
20
40
60
80
100
120
p53 concentration (nM)


(b)
Peak ~1000cm-1
Raman shift (cm-1)
1002.5
1002
1001.5
1001
1000.5
1000
999.5
999
998.5
998
997.5
997
-20
0
20
40
60
80
100
120
p53 concentration (nM)

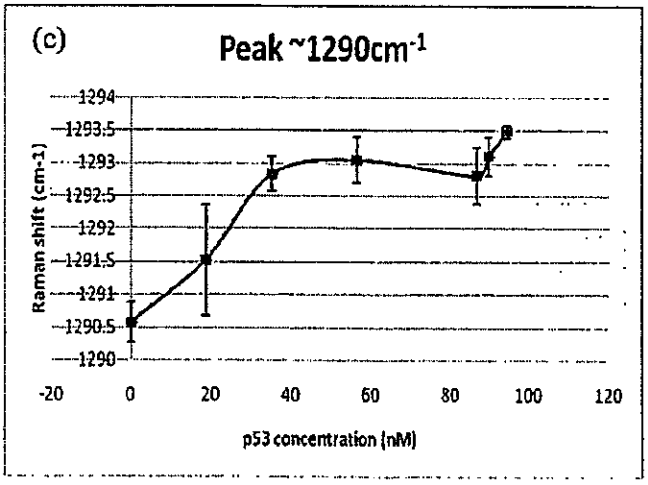

(c)
Peak ~1290cm-1
Raman shift (cm-1)
1294
1293.5
1293
1292.5
1292
1291.5
1291
1290.5
1290
-20
0
20
40
60
80
100
120
p53 concentration (nM)

Figure 5

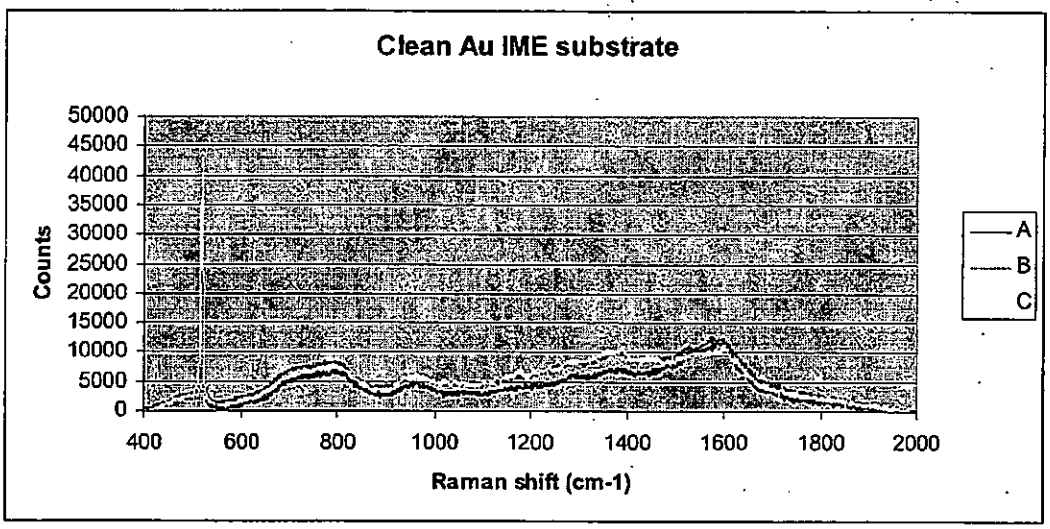


Figure 6

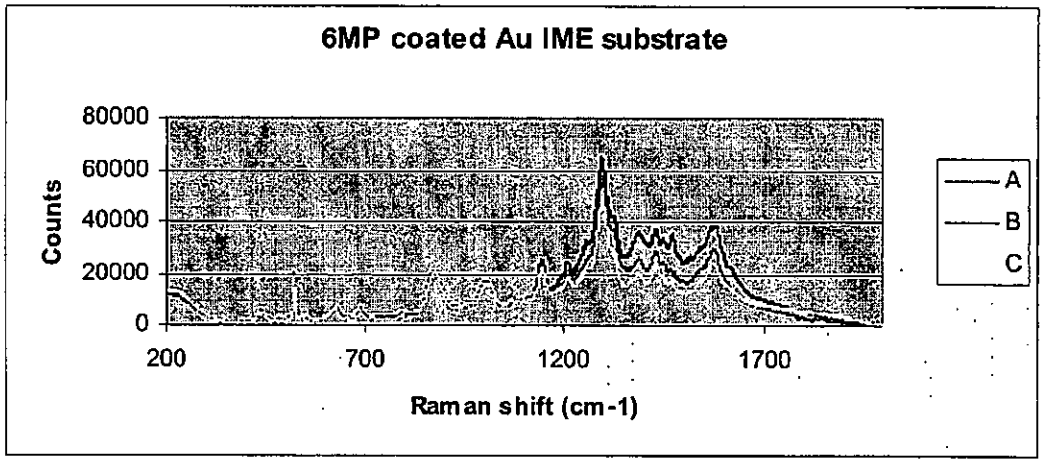


Figure 7

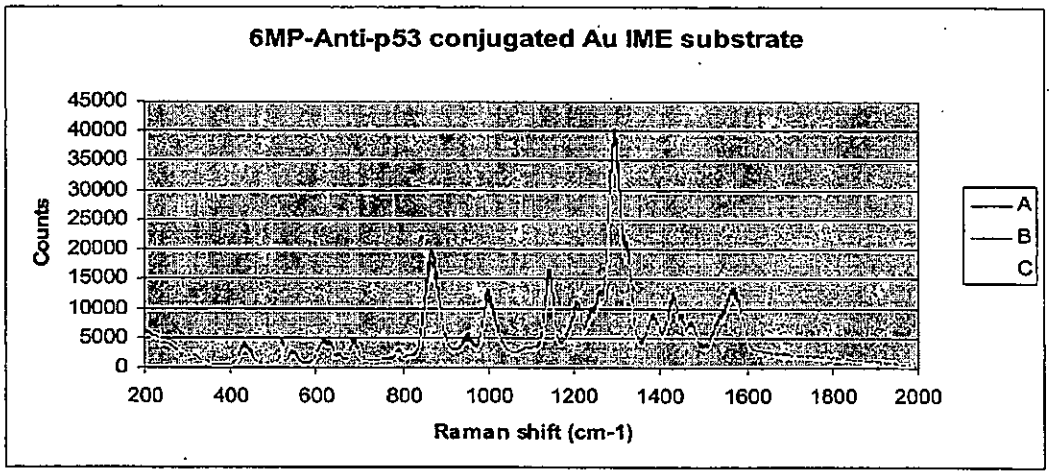


Figure 8

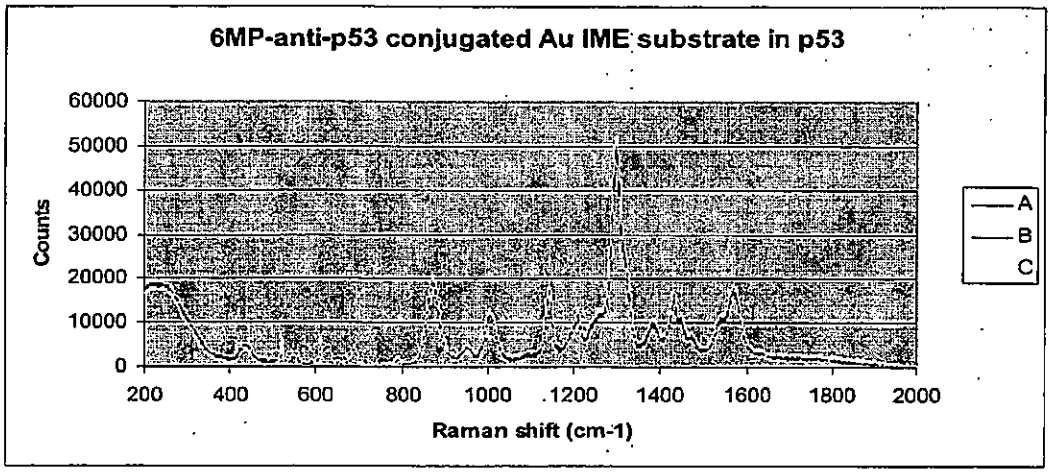


Figure 9

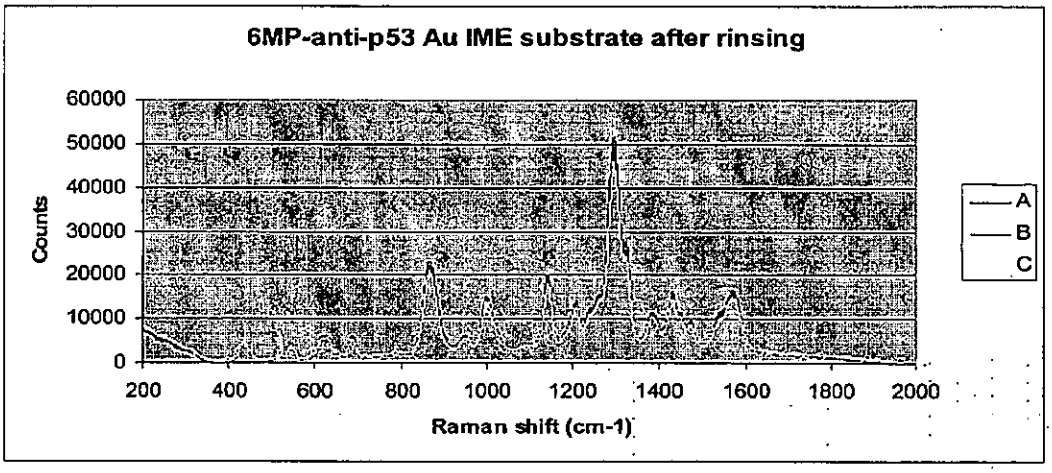


Figure 10

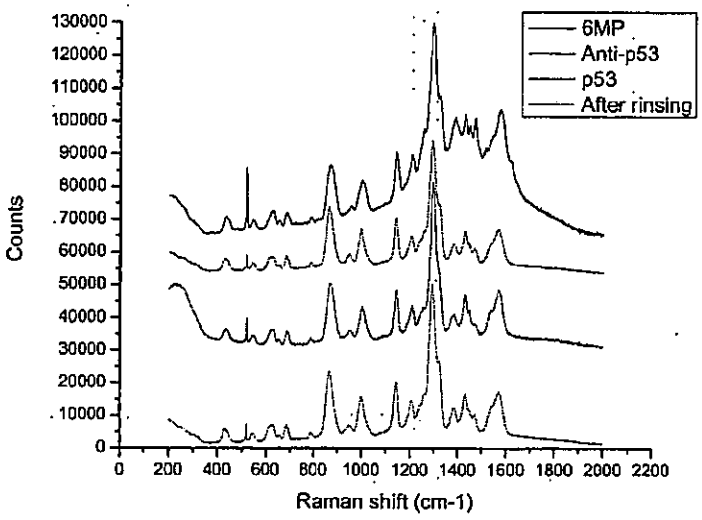

6MP
Anti-p53
p53
After rinsing
Counts
Raman shift (cm-1)
0
10000
20000
30000
40000
50000
60000
70000
80000
90000
100000
110000
120000
130000
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200

Figure 11

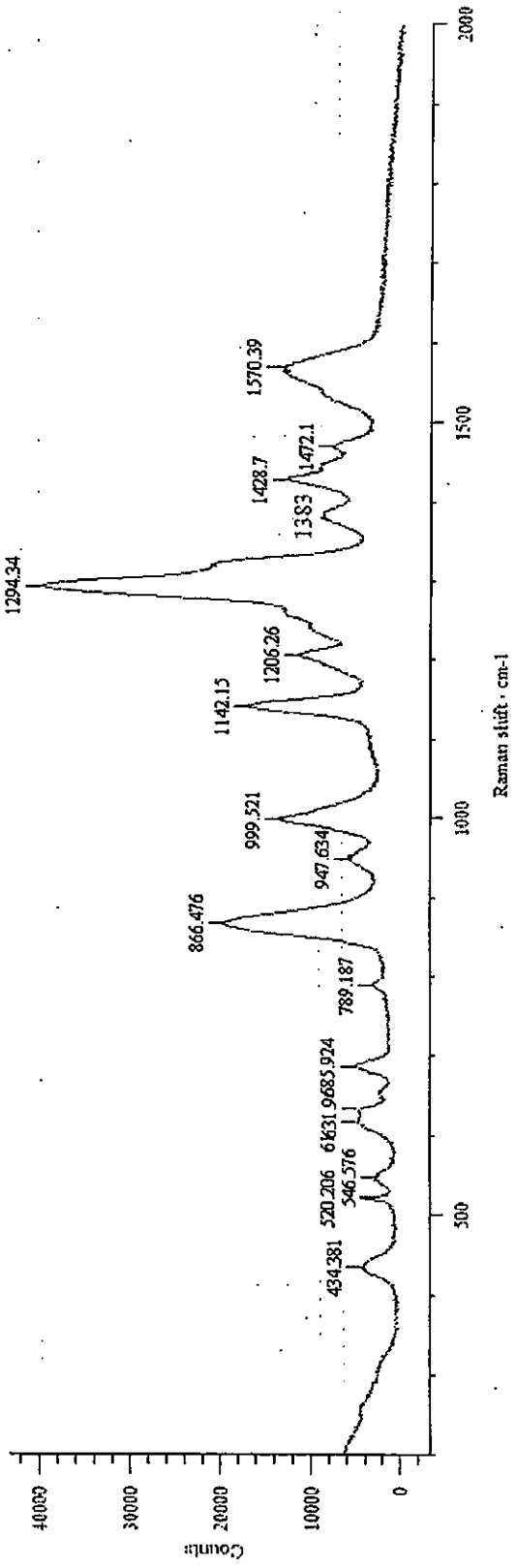

1294.34
1383
1428.7
1472.1
1570.39
1206.26
1142.15
999.521
947.634
866.476
789.187
685.924
631.9
576
546
520.206
434.381
Raman shift - cm-1
Count
40000
30000
20000
10000
0
500
1000
1500
2000

Figure 12 a)

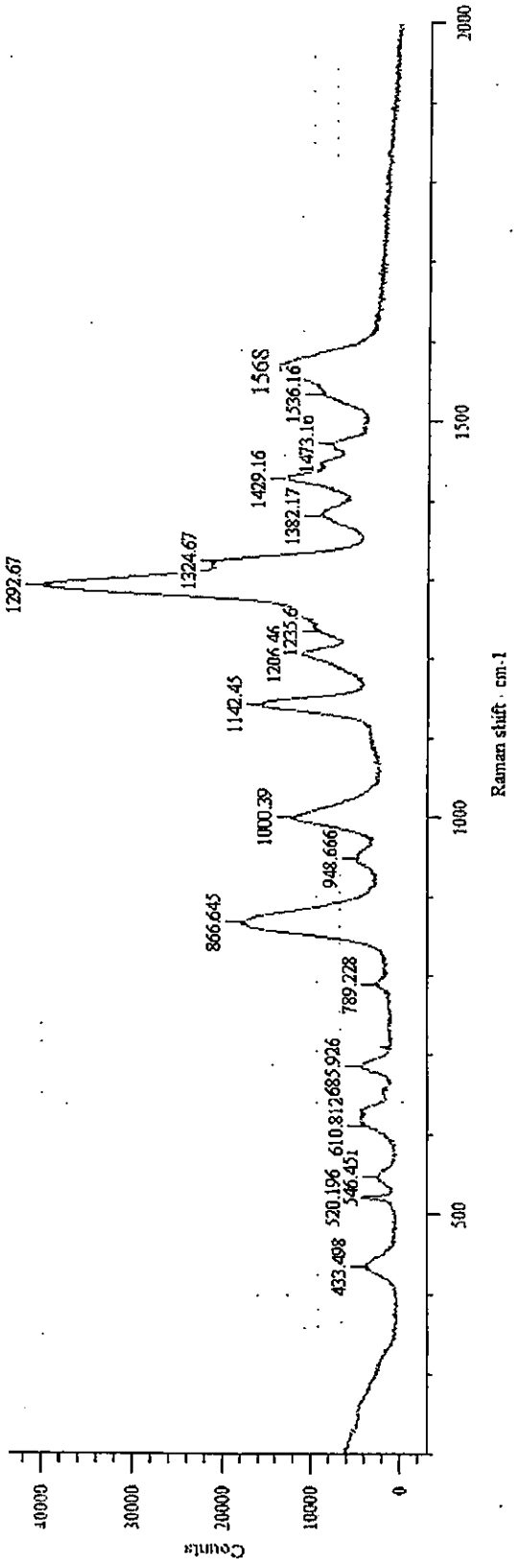

1292.67
1324.67
1382.17
1429.16
1473.16
1536.16
1568
1142.45
1206.46
1235.6
1000.39
948.666
866.645
789.228
685.926
610.812
546.451
520.196
433.498
Counts
Raman shift - cm-1
0
10000
20000
30000
40000
500
1000
1500
2000

Figure 12 b)

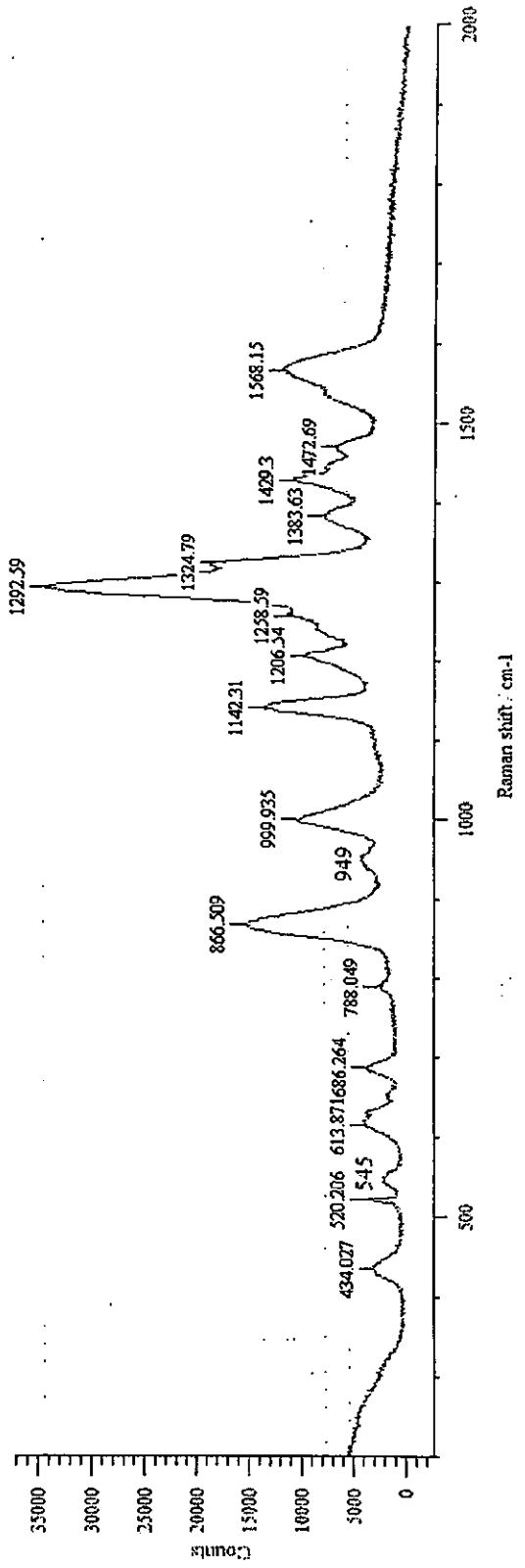

Counts
35000
30000
25000
20000
15000
10000
5000
0
Raman shift : cm-1
500
1000
1500
2000
1292.59
1324.79
1258.59
1206.34
1142.31
999.935
949
866.509
788.049
686.264
613.871
545
520.206
434.027
1568.15
1472.69
1429.3
1383.63

Figure 12 c)

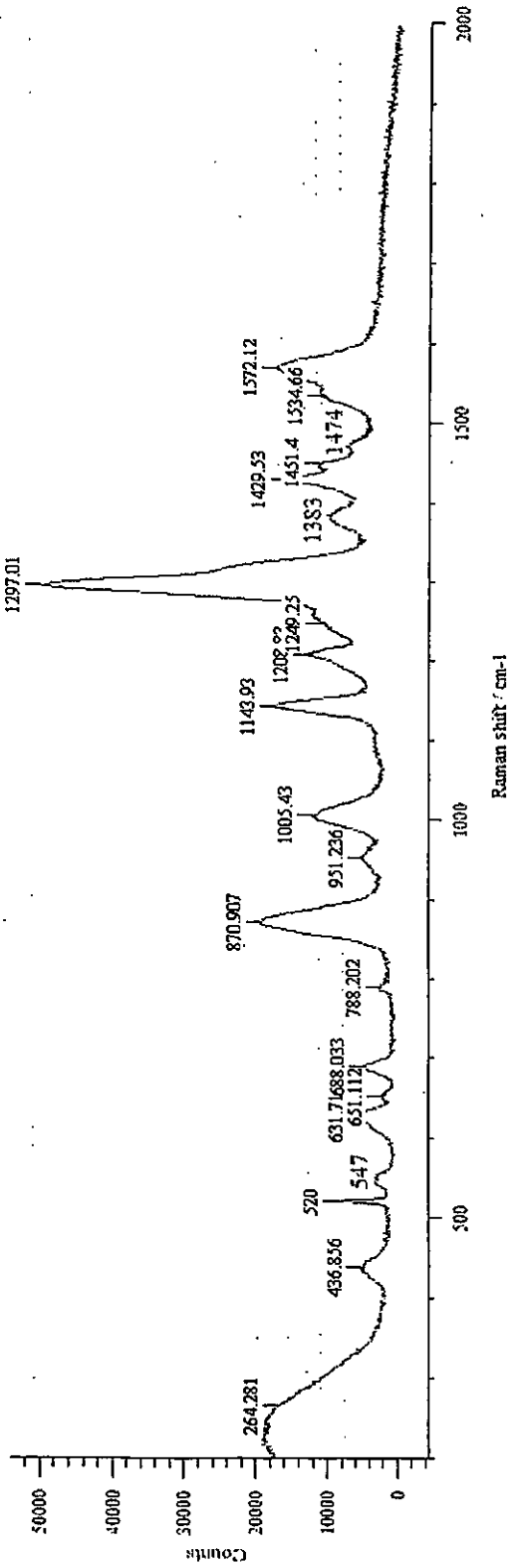

Counts
50000
40000
30000
20000
10000
0
500
1000
1500
2000
Raman shift / cm-1
264.281
436.856
520
547
631.71
688.033
651.112
788.202
870.907
951.236
1005.43
1143.93
1208.82
1249.25
1297.01
1383
1429.53
1451.4
1474
1534.66
1572.12

Figure 13 a)

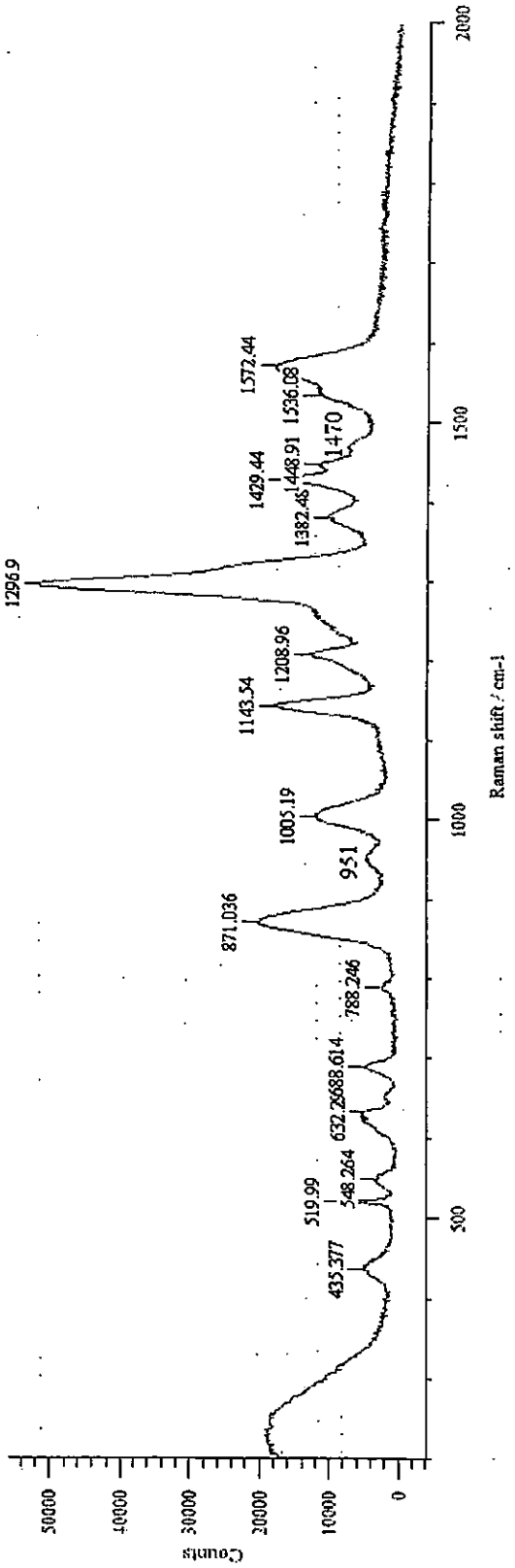

1572.44
1536.08
1470
1448.91
1429.44
1382.46
1296.9
1208.96
1143.54
1005.19
951
871.036
788.246
688.614
632.26
548.264
519.99
435.377
2000
1500
1000
500
Raman shift / cm-1
50000
40000
30000
20000
10000
0
Counts

Figure 13 b)

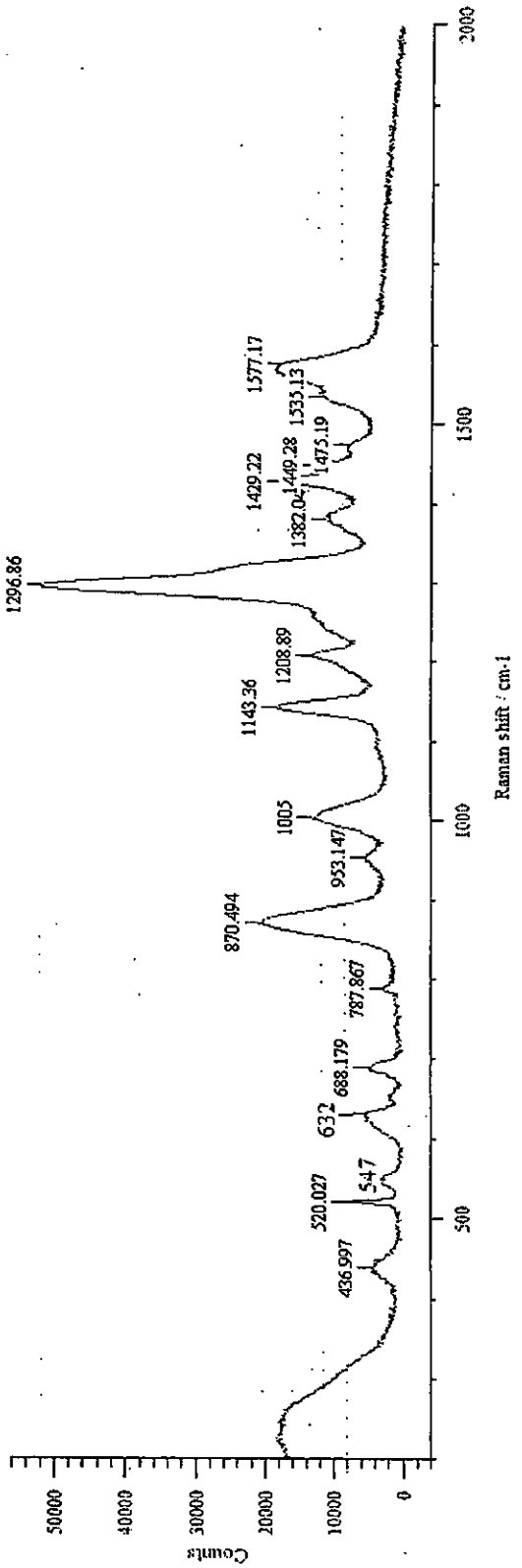

Counts
50000
40000
30000
20000
10000
0
500
1000
1500
2000
Raman shift / cm-1
1296.86
1429.22
1382.04
1449.28
1475.19
1535.13
1577.17
1208.89
1143.36
1005
953.147
870.494
787.867
688.179
632
547
520.027
436.997

Figure 13 c)

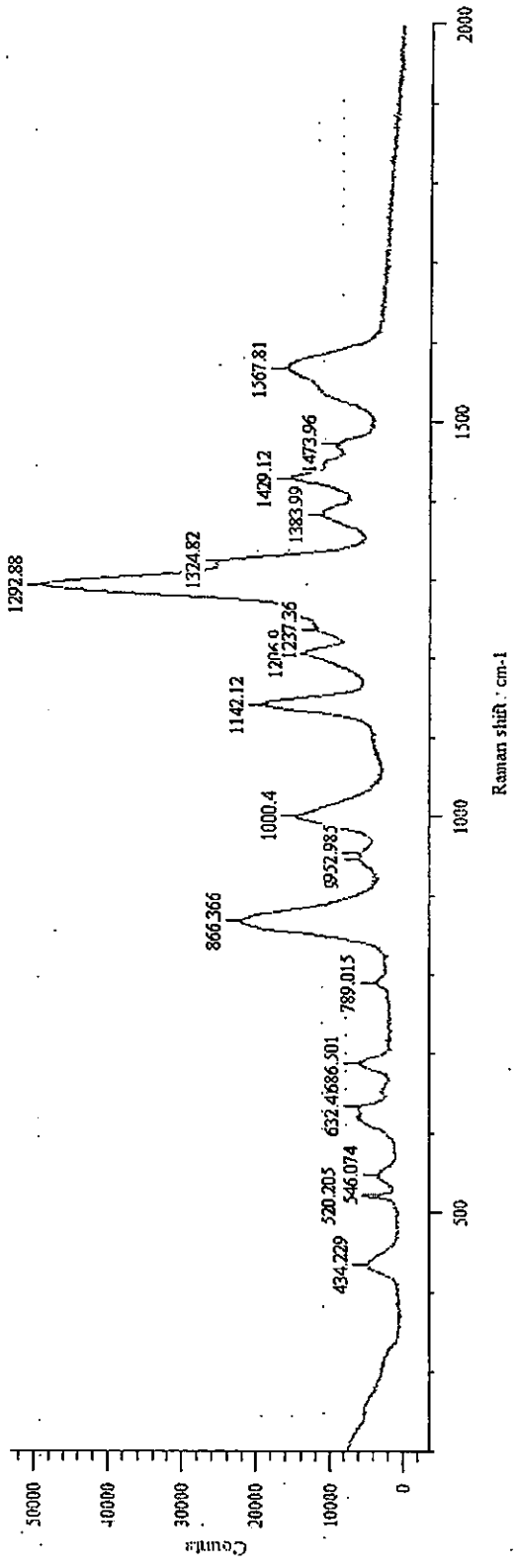

1292.88
1324.82
1383.99
1429.12
1473.96
1567.81
1237.36
1206.9
1142.12
1000.4
952.983
866.366
789.015
686.501
632.4
546.074
520.205
434.229
Raman shift : cm-1
Counts
2000
1500
1000
500
0
10000
20000
30000
40000
50000

Figure 14 a)

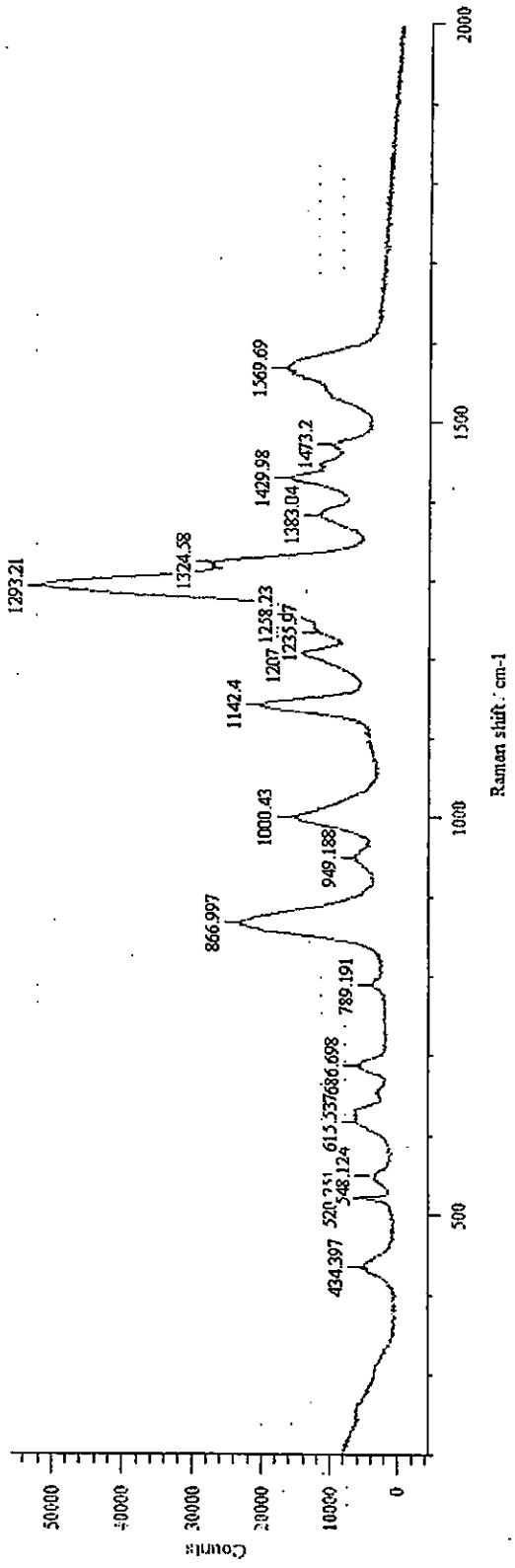

Counts
50000
40000
30000
20000
10000
0
500
1000
1500
2000
Raman shift : cm-1
1293.21
1324.38
1383.04
1429.98
1473.2
1569.69
1142.4
1207
1238.23
1255.97
1000.43
949.188
866.997
789.191
686.698
615.337
548.124
520.251
434.397

Figure 14 b)

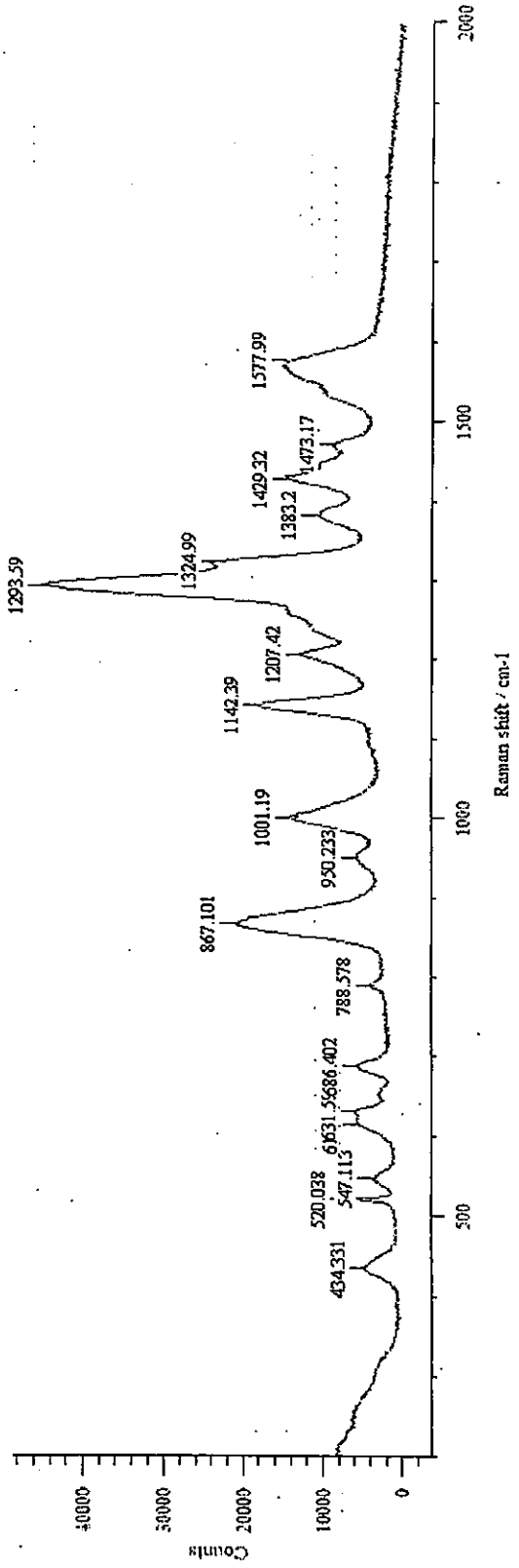

Counts
40000
30000
20000
10000
0
500
1000
1500
2000
Raman shift / cm-1
1293.59
1324.99
1383.2
1429.32
1473.17
1577.99
1207.42
1142.39
1001.19
950.233
867.101
788.578
686.402
656.31
547.113
520.038
434.331

Figure 14 c)

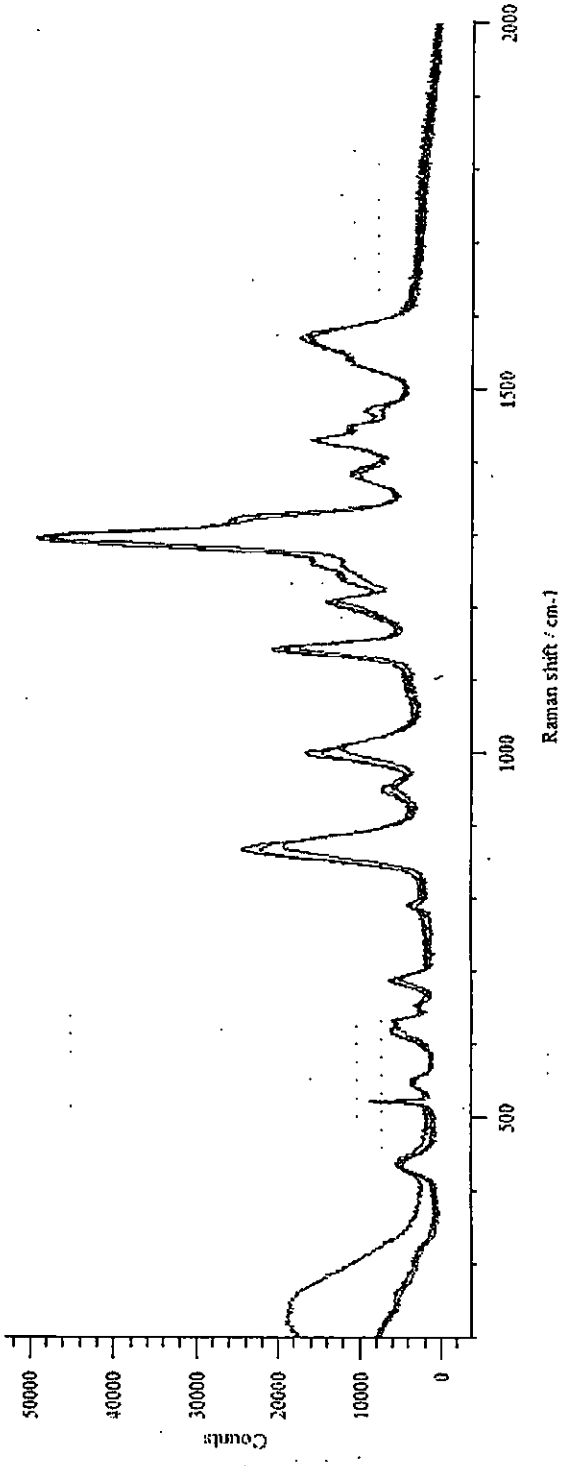

Counts
50000
40000
30000
20000
10000
0
500
1000
1500
2000
Raman shift / cm-1

Figure 15