Figure 1

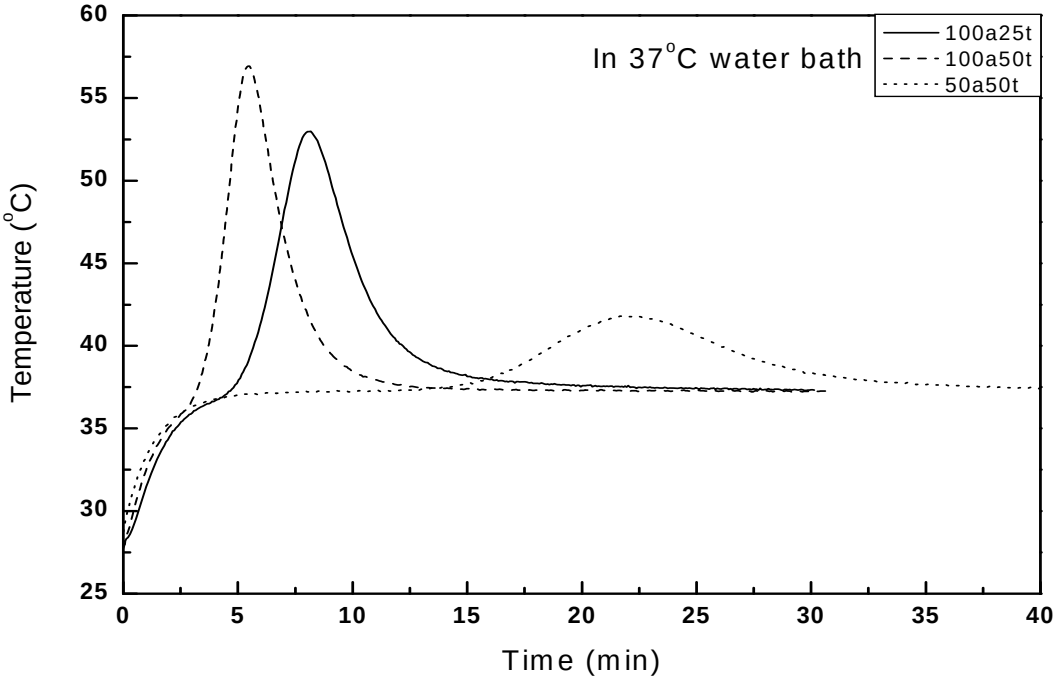


Figure 2

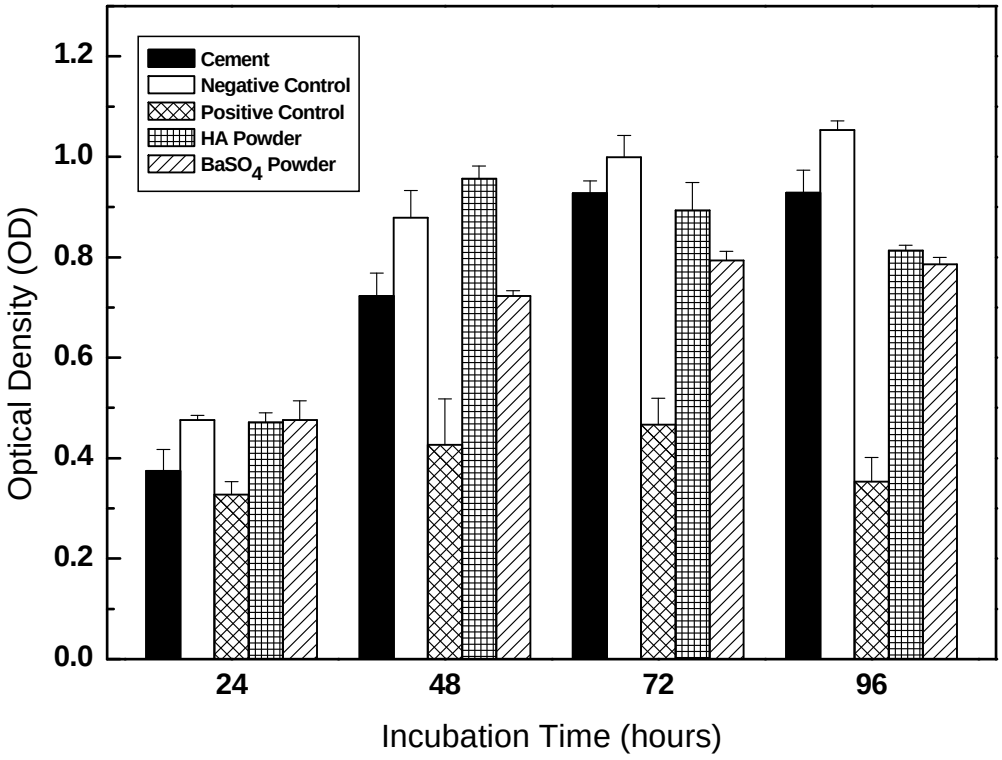


Figure 3

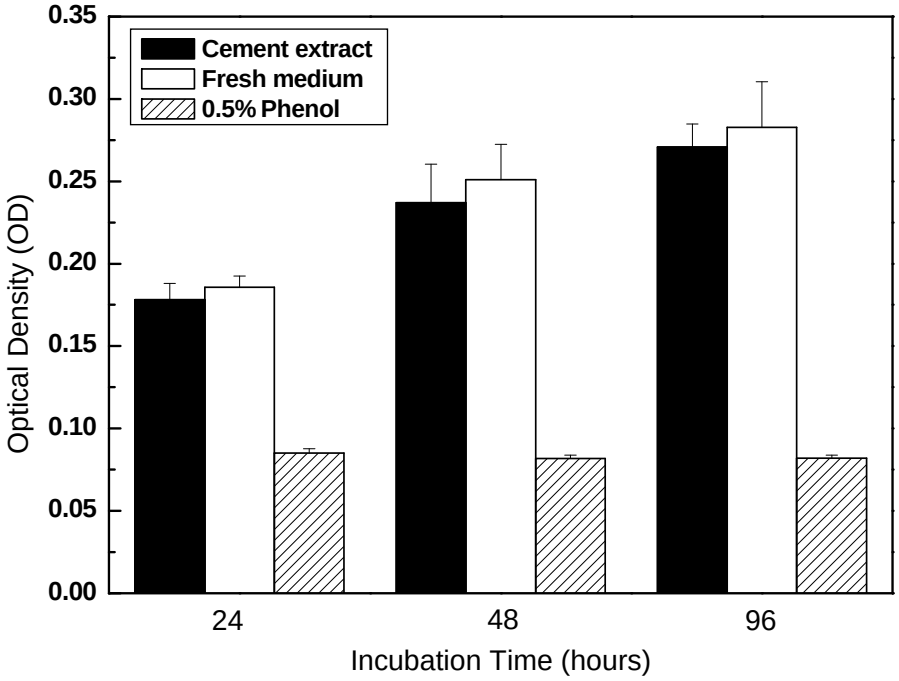


Figure 4

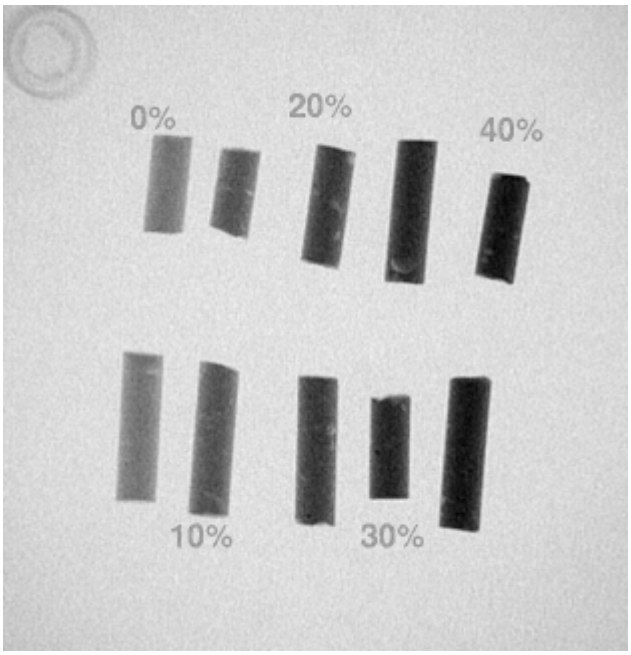
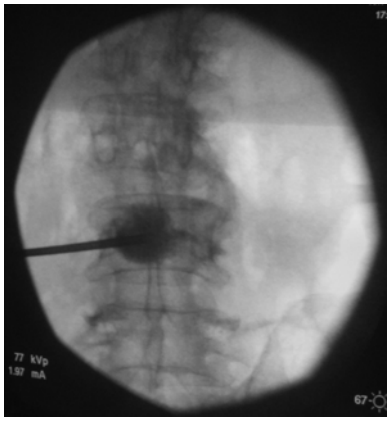


Figure 5

(A)



(B)



(C)

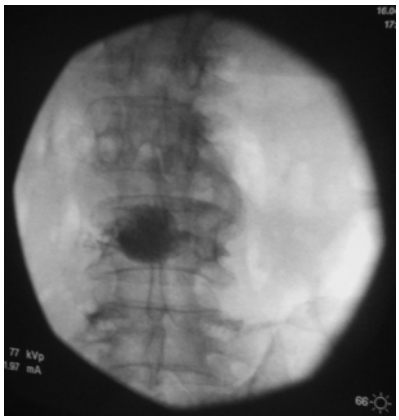


Figure 6

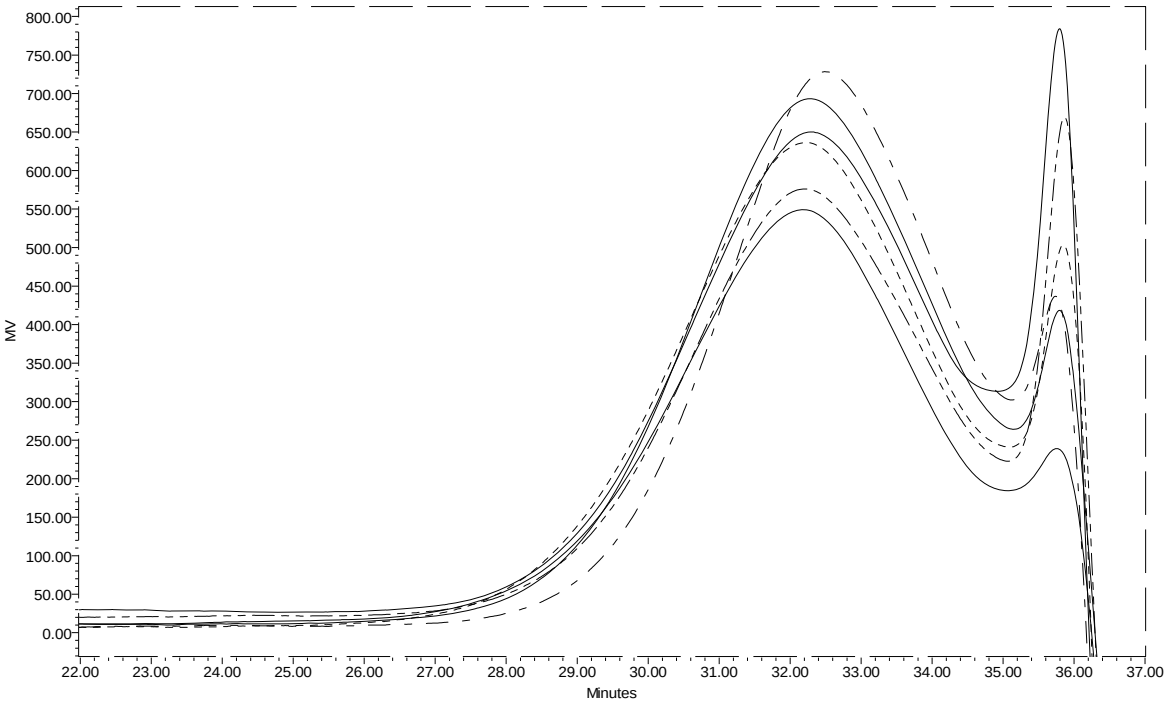


Figure 7

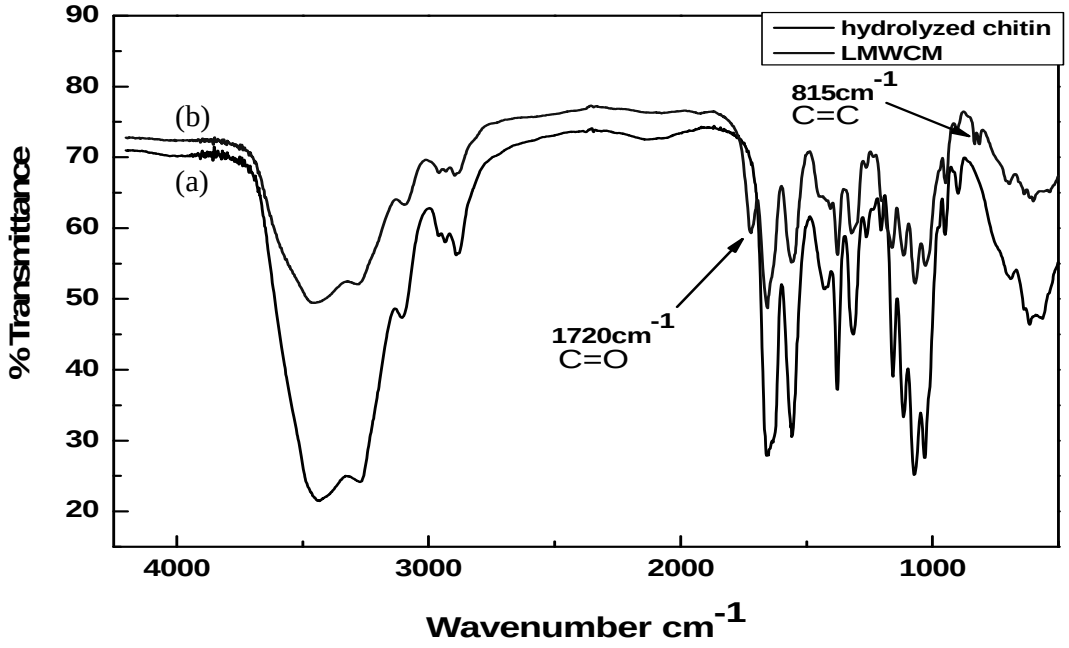


Figure 8

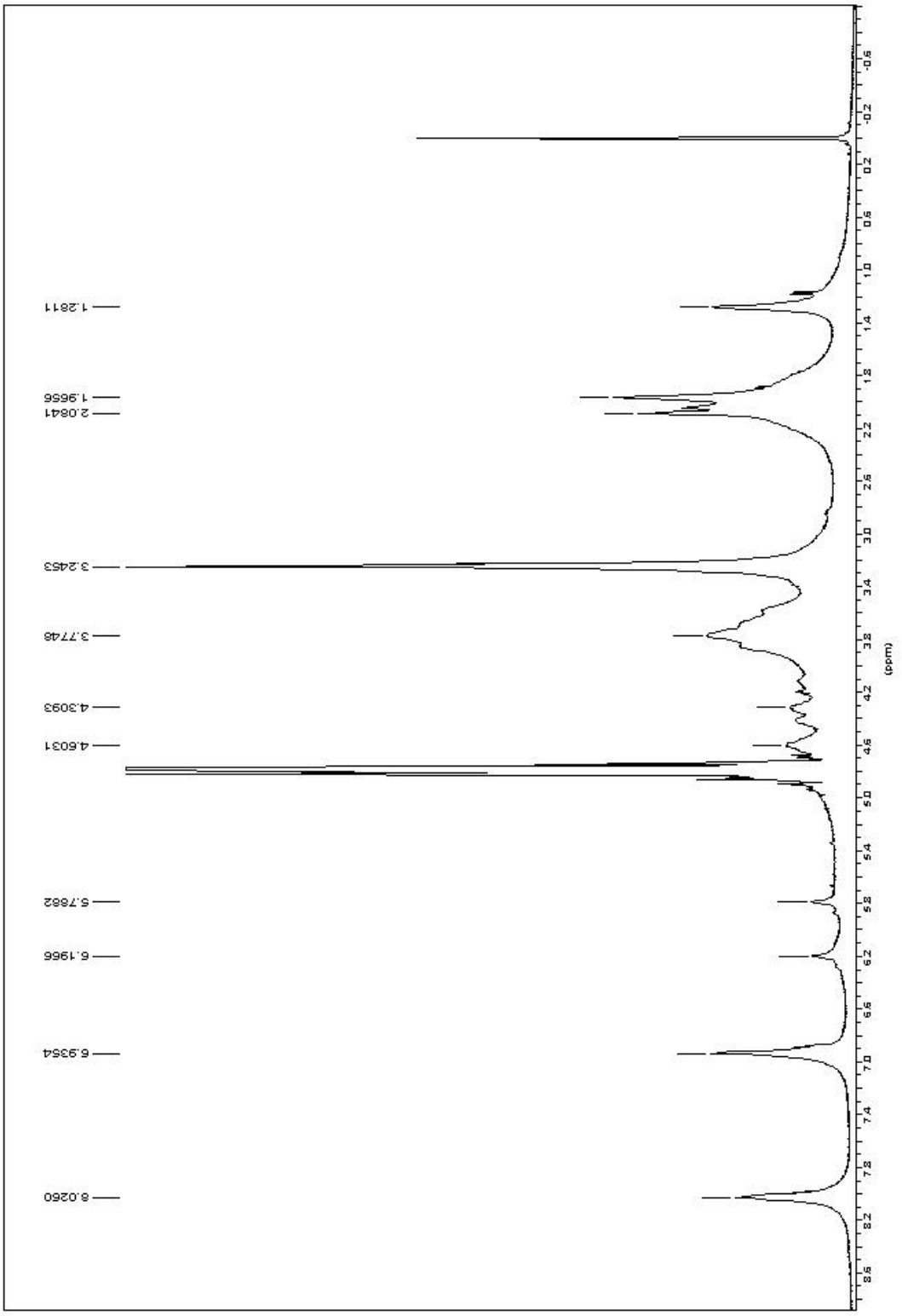

1.2811
1.9656
2.0841
3.2453
3.7748
4.3093
4.6031
5.7862
6.1966
6.9354
8.0260
(ppm)

Figure 9

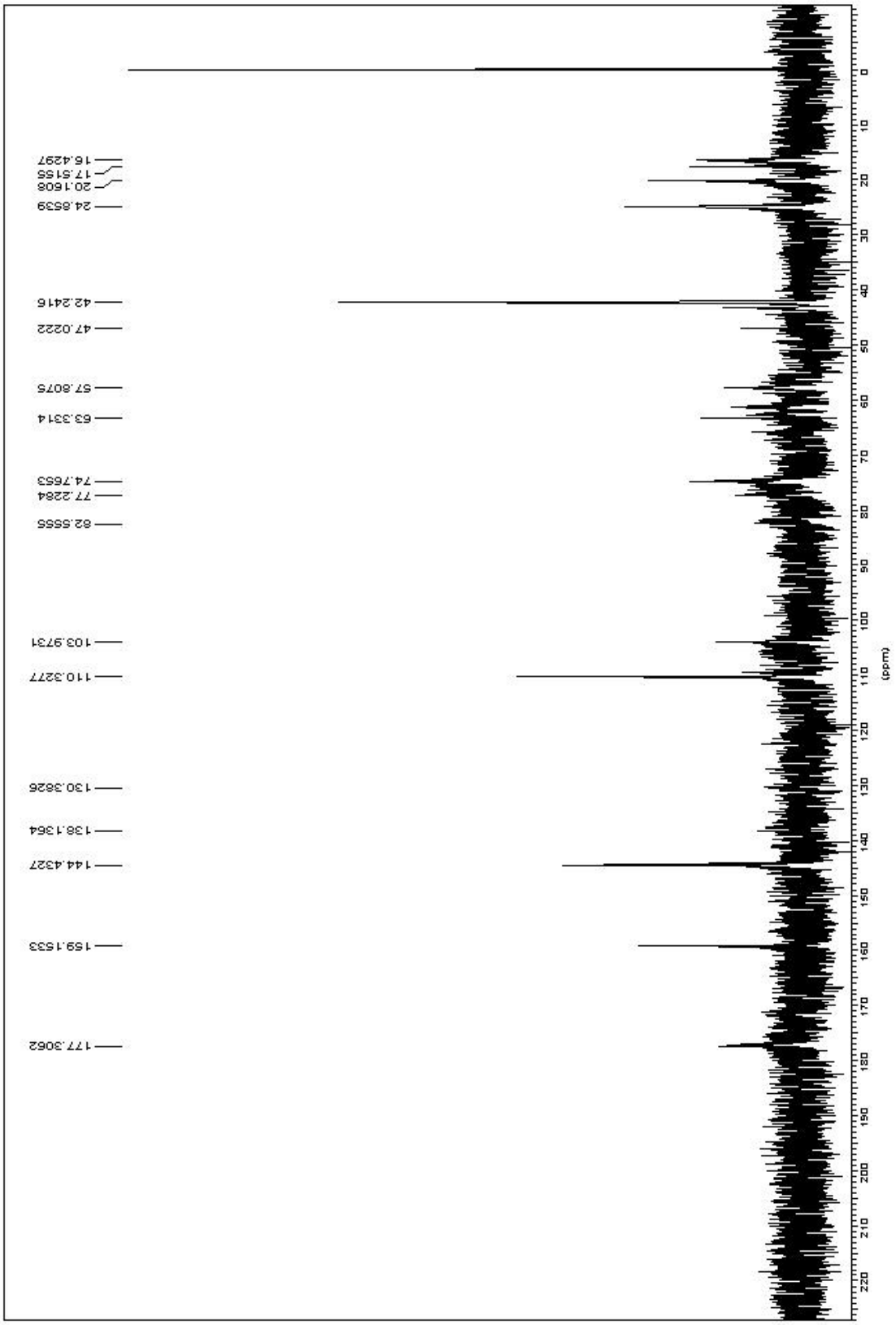

177.3062
159.1533
144.4327
138.1364
130.3826
110.3277
103.9731
82.5555
77.2264
74.7653
63.3314
57.8075
47.0222
42.2416
24.8539
20.1608
17.5155
16.4297
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
(ppm)

Figure 10

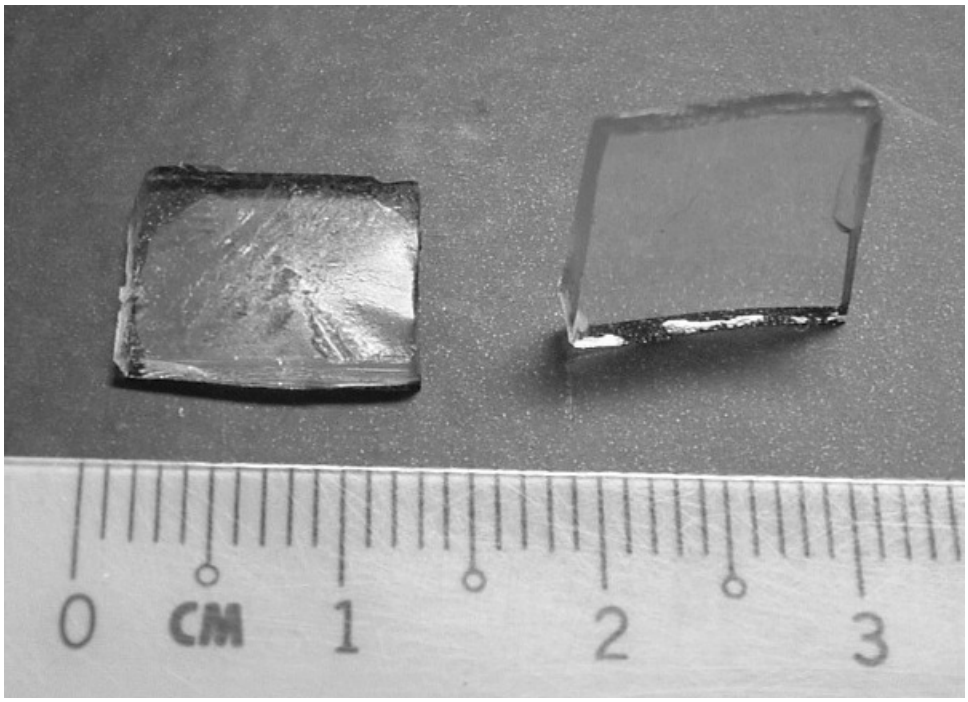
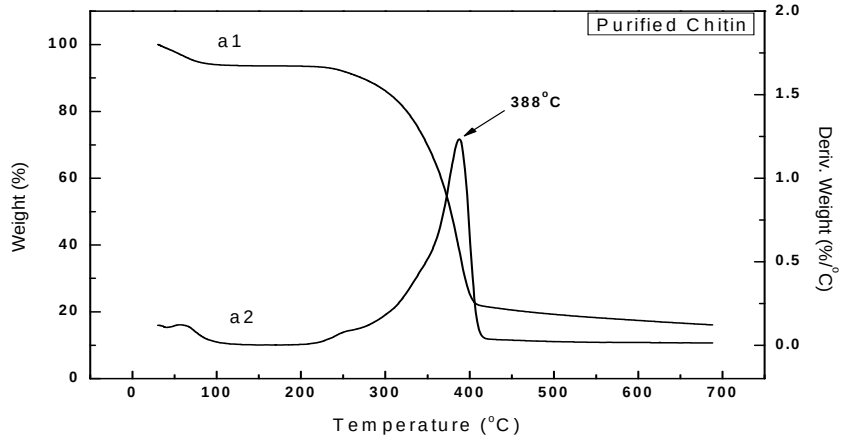
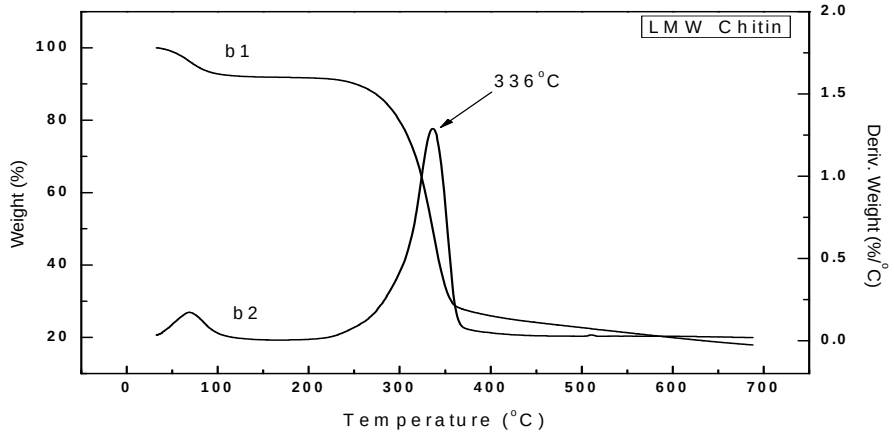


Figure 11

(a)



(b)


LMW Chitin
b1
336°C
b2
Weight (%)
Deriv. Weight (%/°C)
Temperature (°C)
100
80
60
40
20
0
100
200
300
400
500
600
700
2.0
1.5
1.0
0.5
0.0

(c)

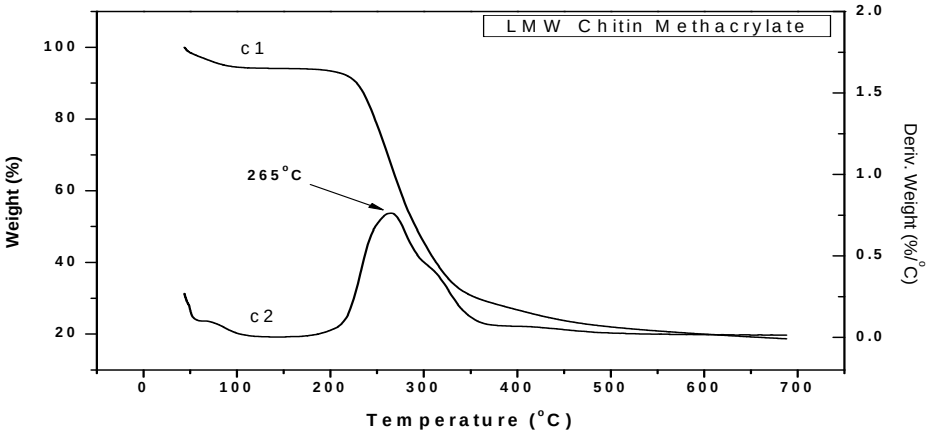

LMW Chitin Methacrylate
c1
265°C
c2
Weight (%)
Deriv. Weight (%/°C)
Temperature (°C)
100
80
60
40
20
0
100
200
300
400
500
600
700
2.0
1.5
1.0
0.5
0.0

Figure 12

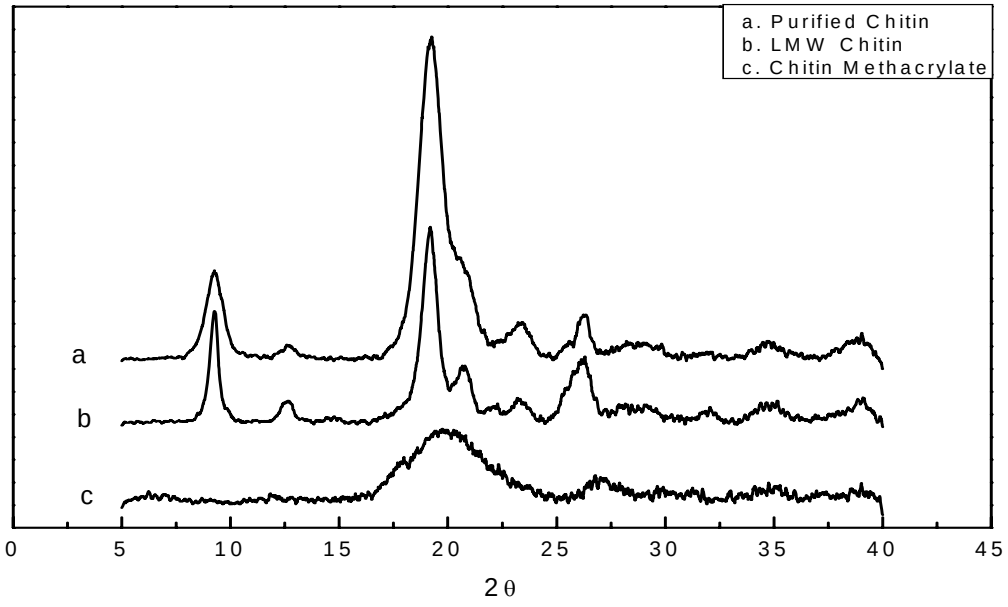


Figure 13

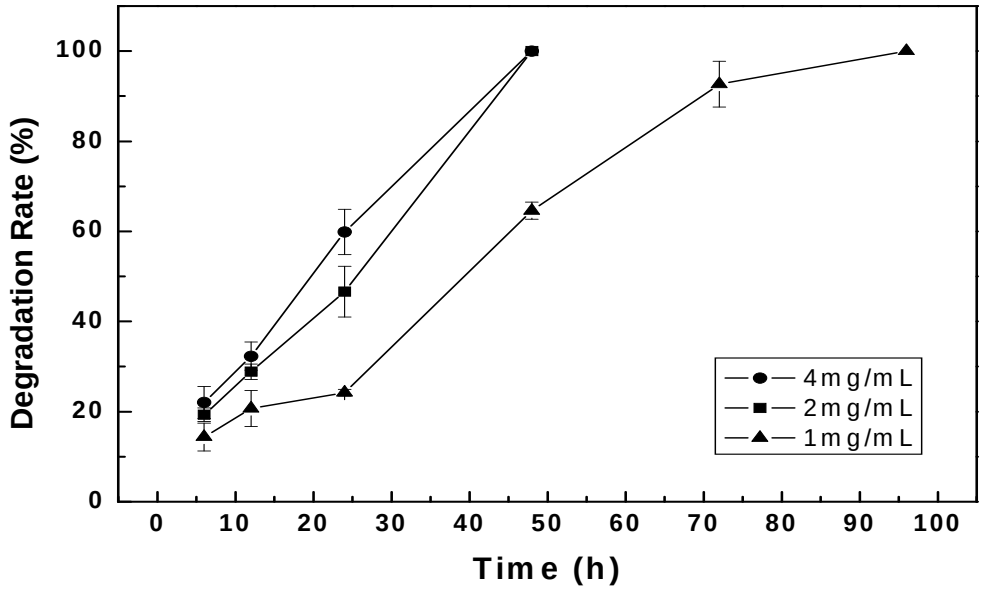


Figure 14

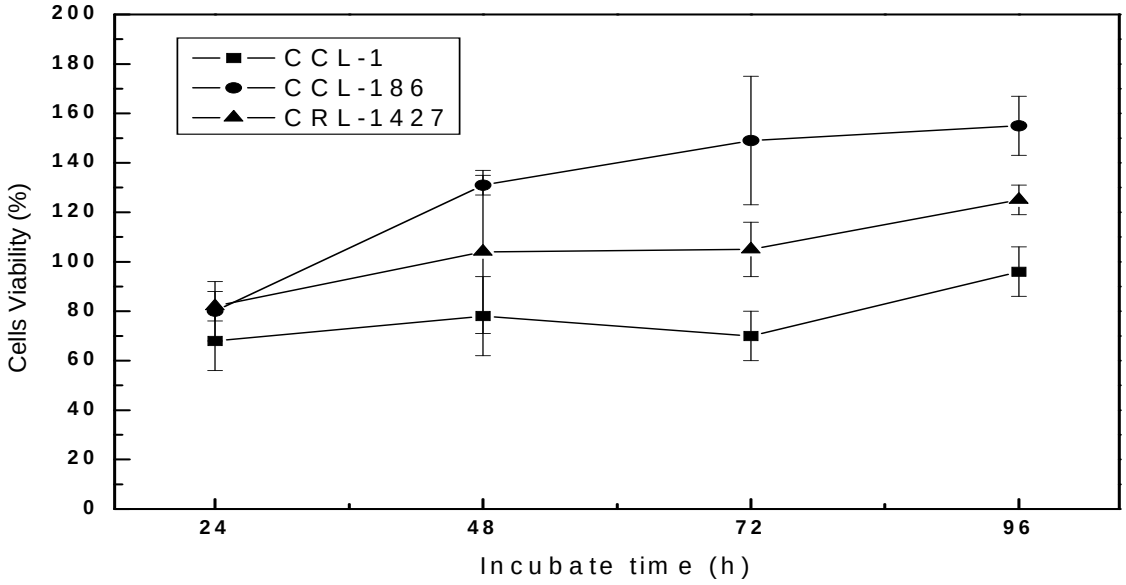
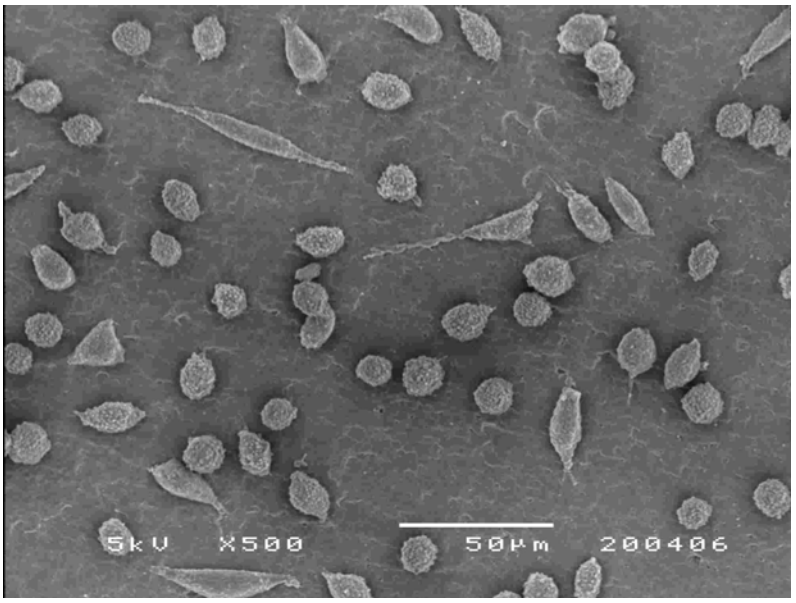
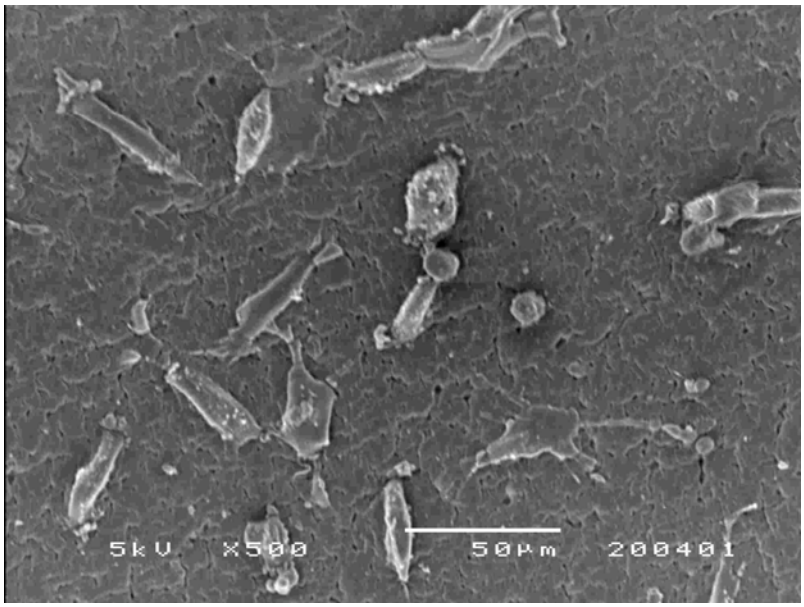


Figure 15

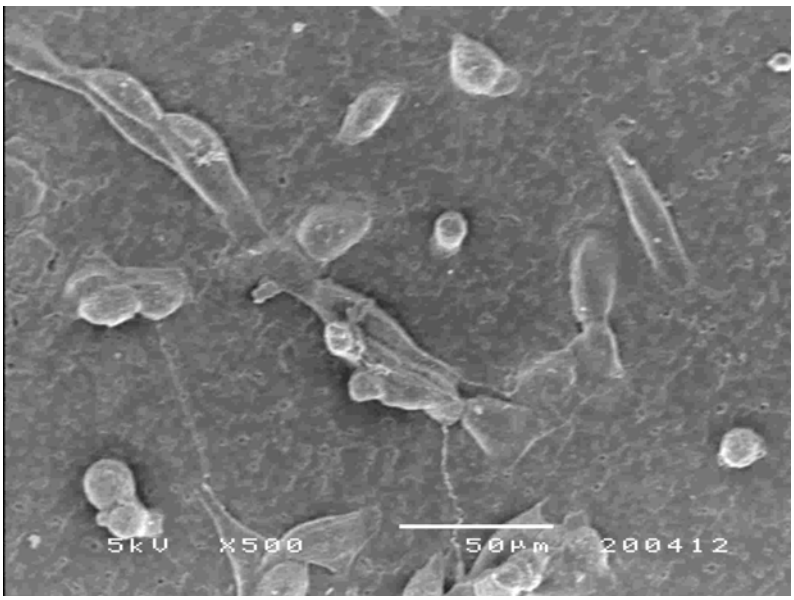
(a)



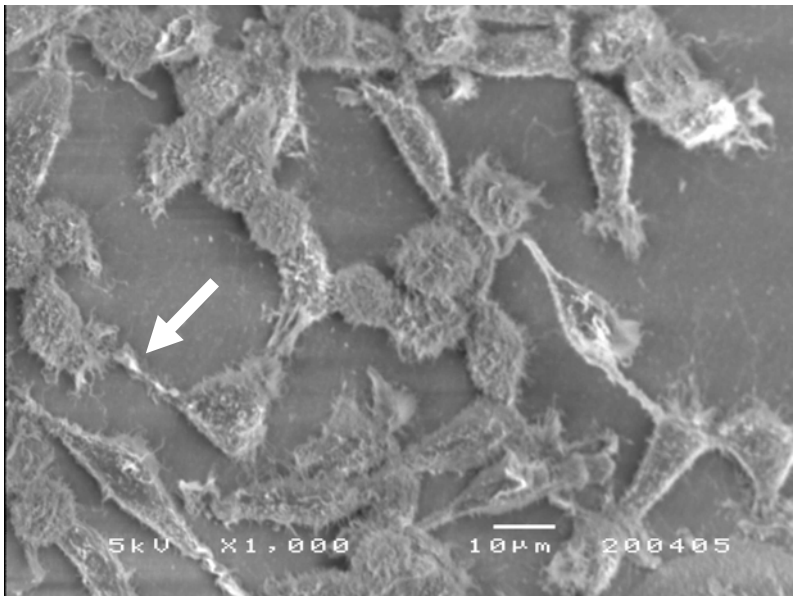
(b)



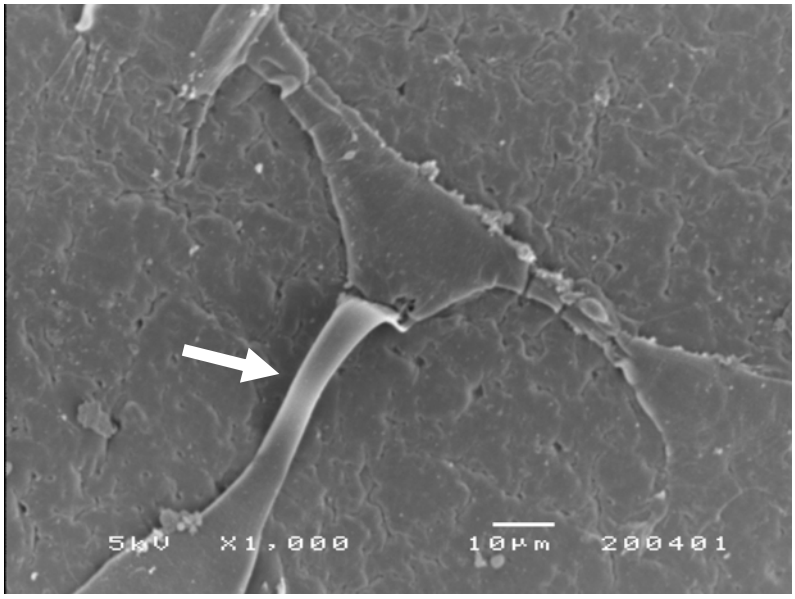
(c)



(d)



(e)



(f)

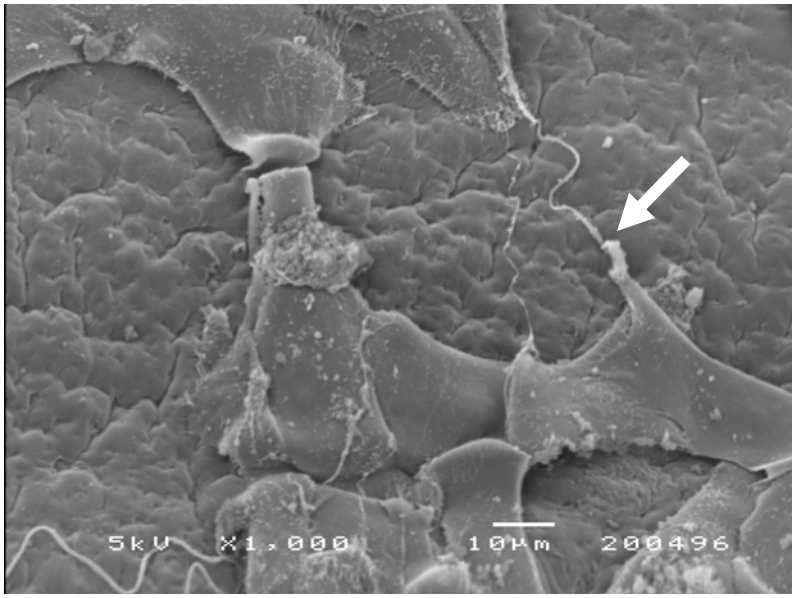

5kV X1,000 10μm 200496

Figure 16

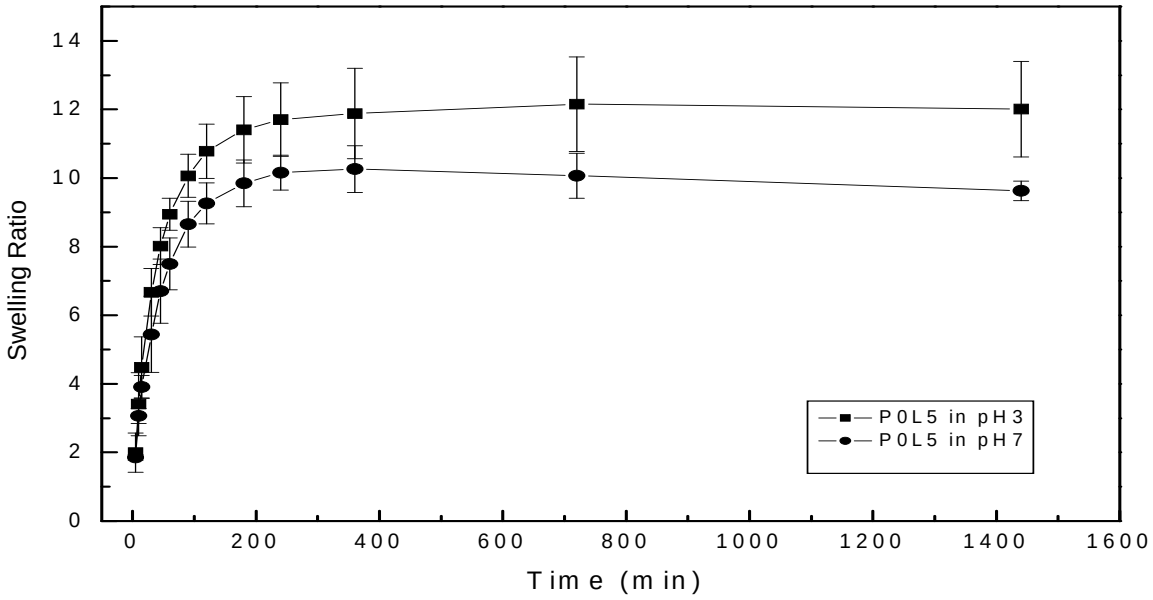

Swelling Ratio
0
2
4
6
8
10
12
14
0
200
400
600
800
1000
1200
1400
1600
Time (min)
P0L5 in pH3
P0L5 in pH7

Figure 17

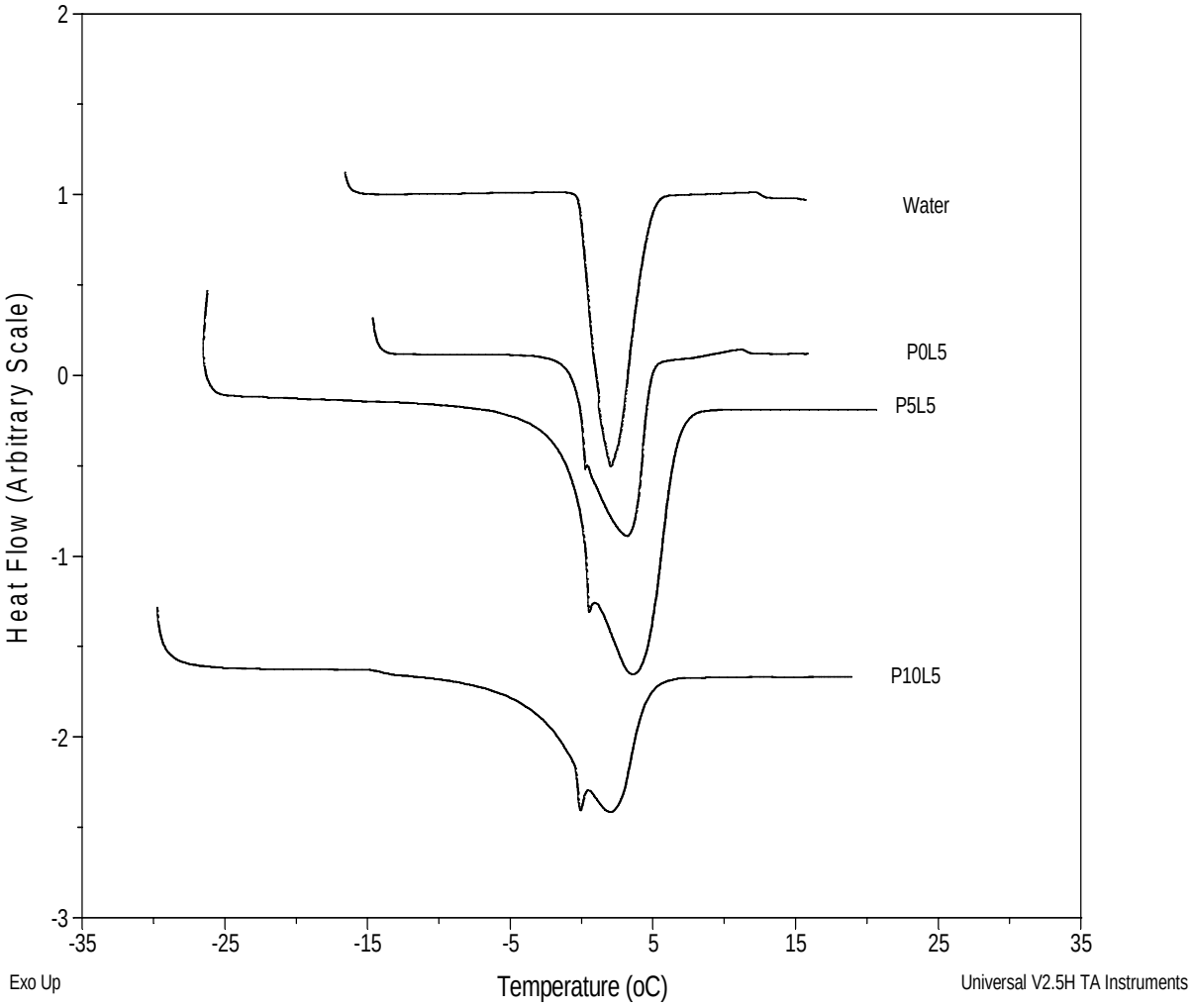
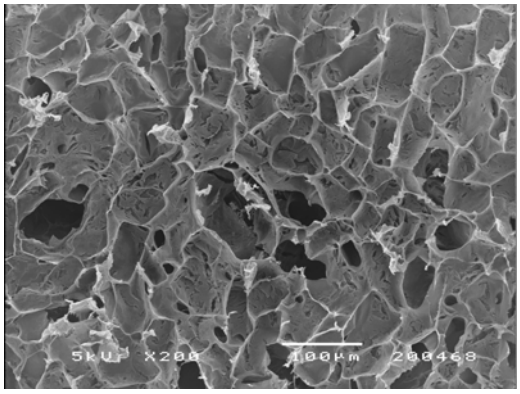

2
1
0
-1
-2
-3
Heat Flow (Arbitrary Scale)
Water
P0L5
P5L5
P10L5
-35
-25
-15
-5
5
15
25
35
Exo Up
Temperature (oC)
Universal V2.5H TA Instruments

Figure 18

(a1)



(a2)

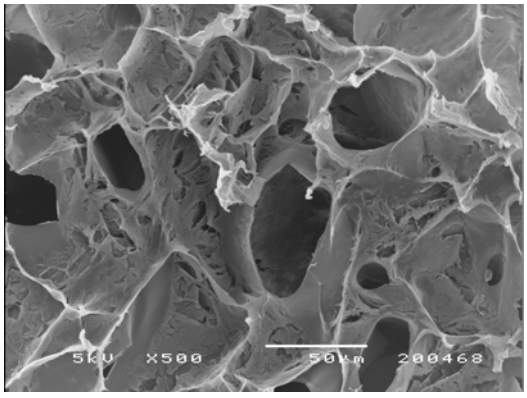
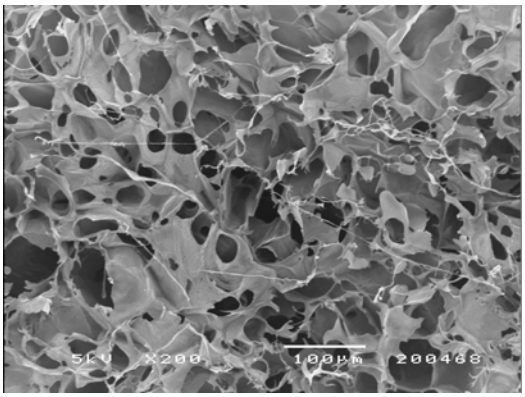


Figure 18 (continued)

(b1)



(b2)

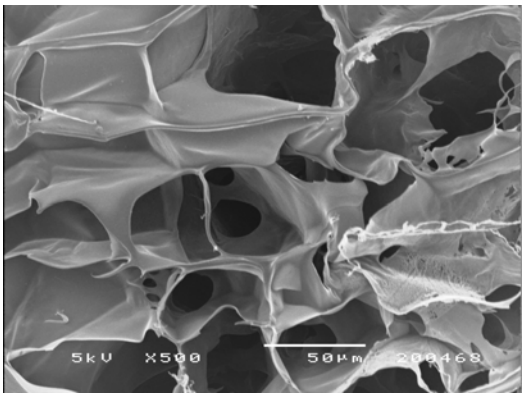
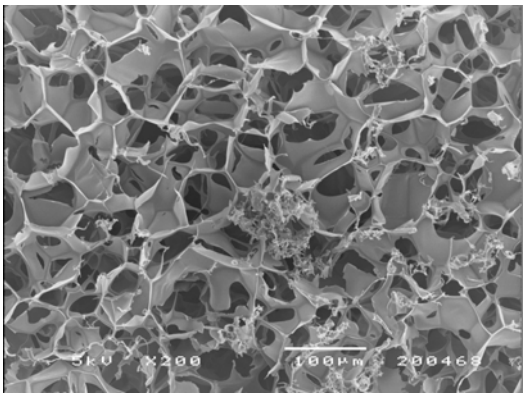


Figure 18 (continued)

(c1)



(c2)

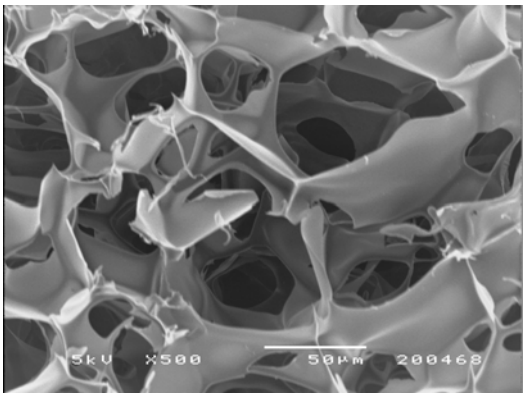


Figure 19

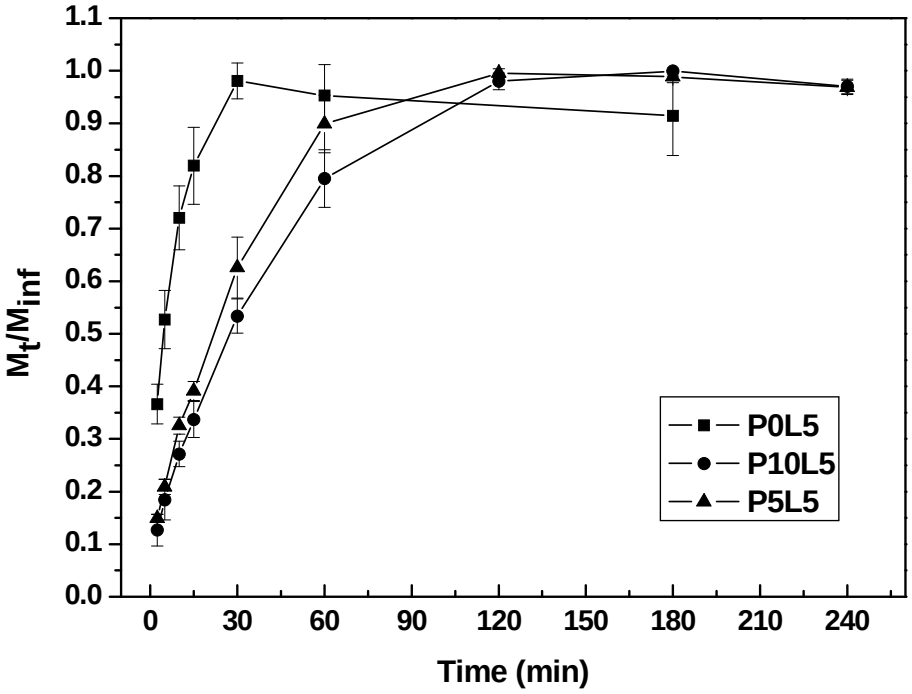


Figure 20

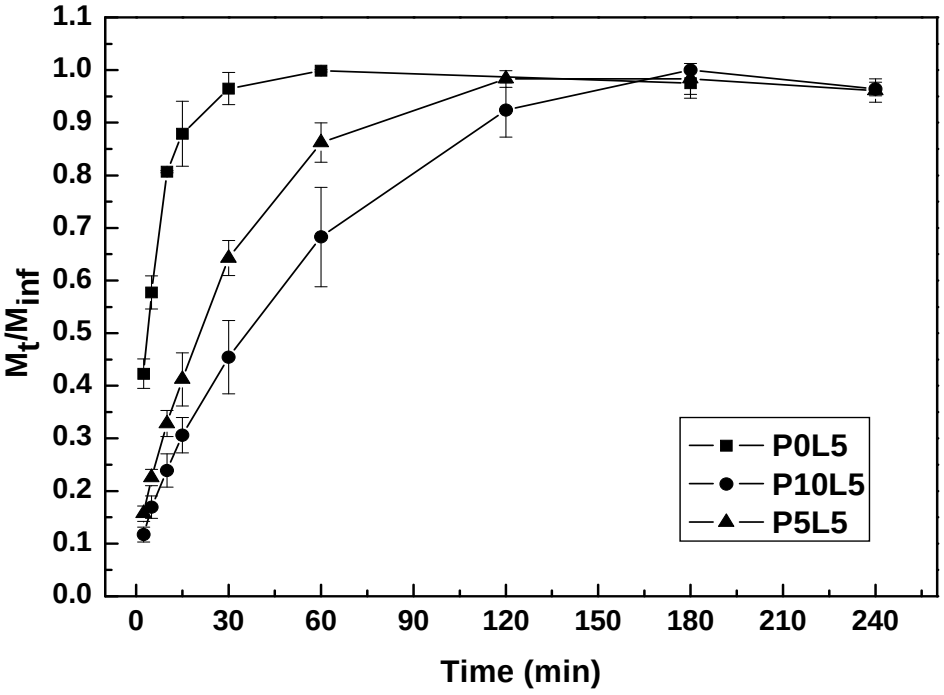


Figure 21

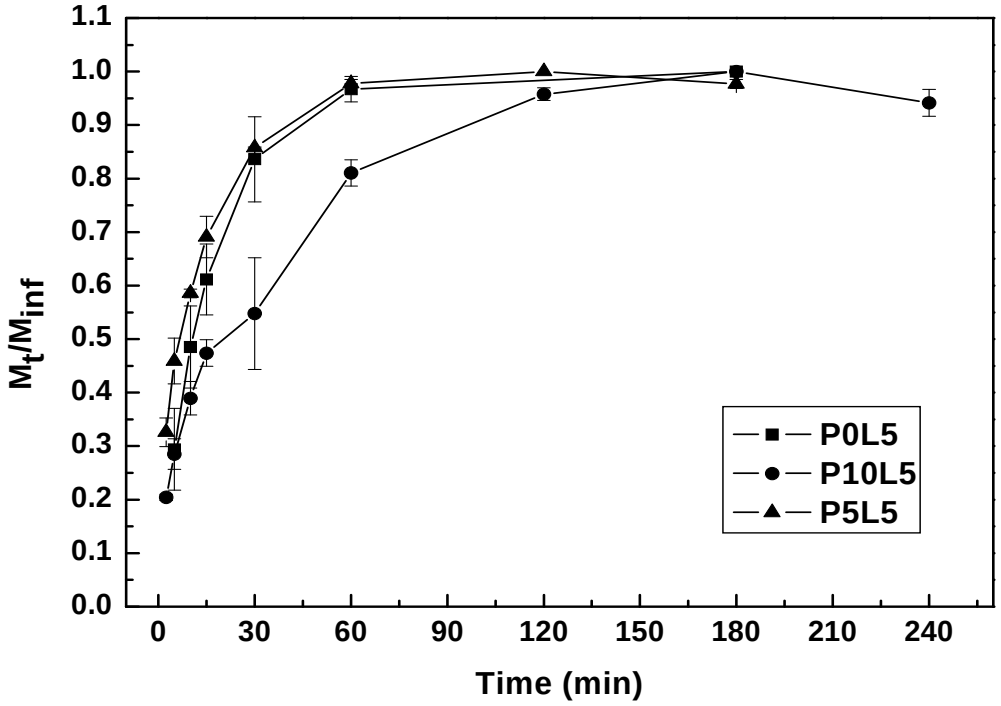


Figure 22

