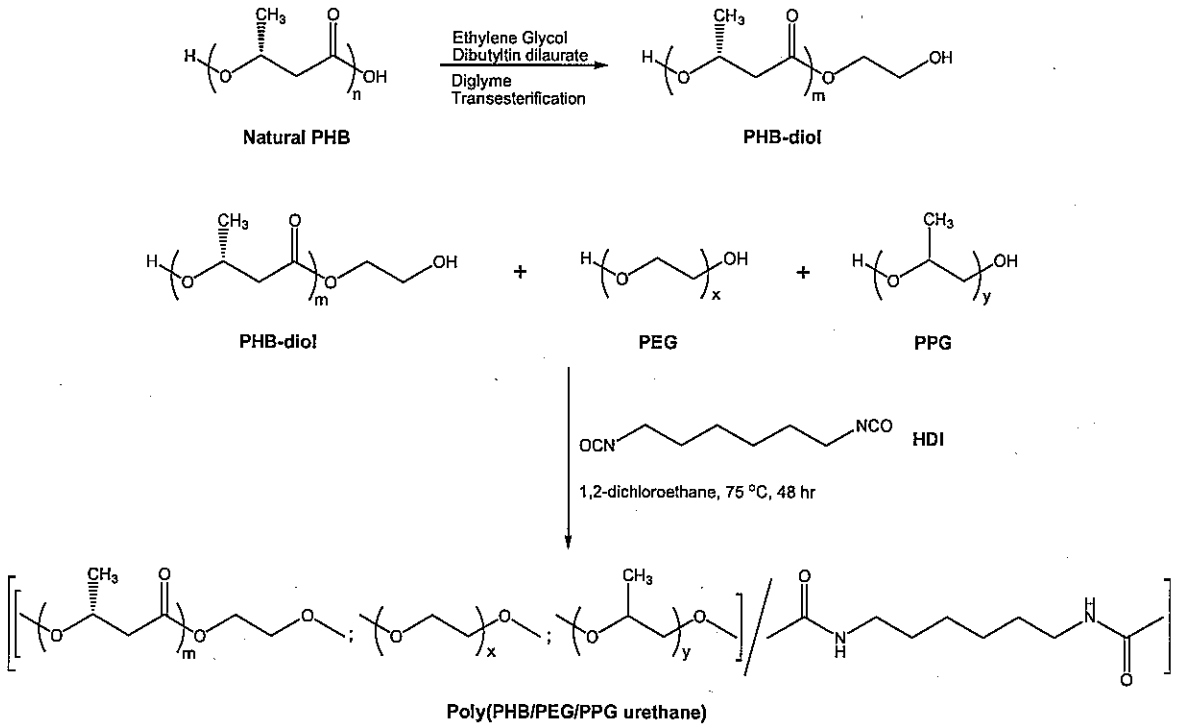

Ethylene Glycol
Dibutyltin dilaurate
Diglyme
Transesterification
Natural PHB
PHB-diol
PHB-diol
PEG
PPG
HDI
1,2-dichloroethane, 75 °C, 48 hr
Poly(PHB/PEG/PPG urethane)

FIGURE 1

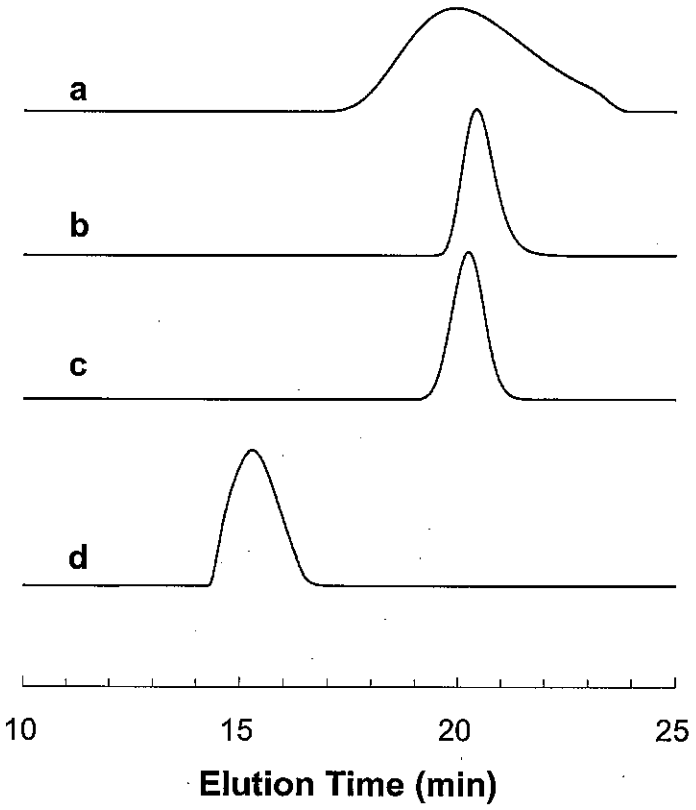


FIGURE 2

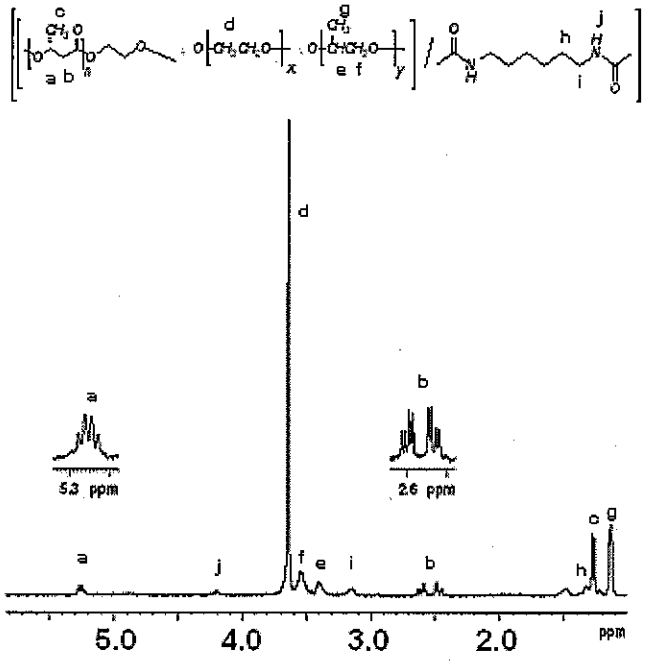


FIGURE 3A

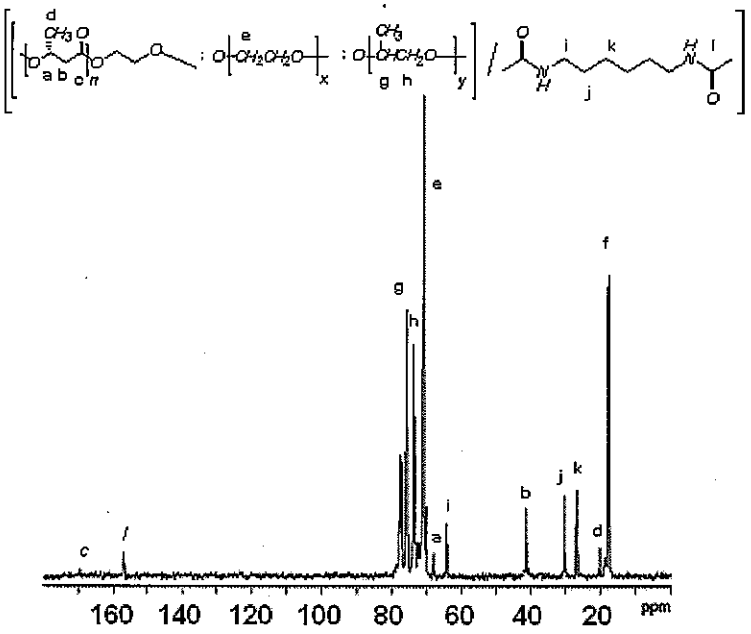


FIGURE 3B

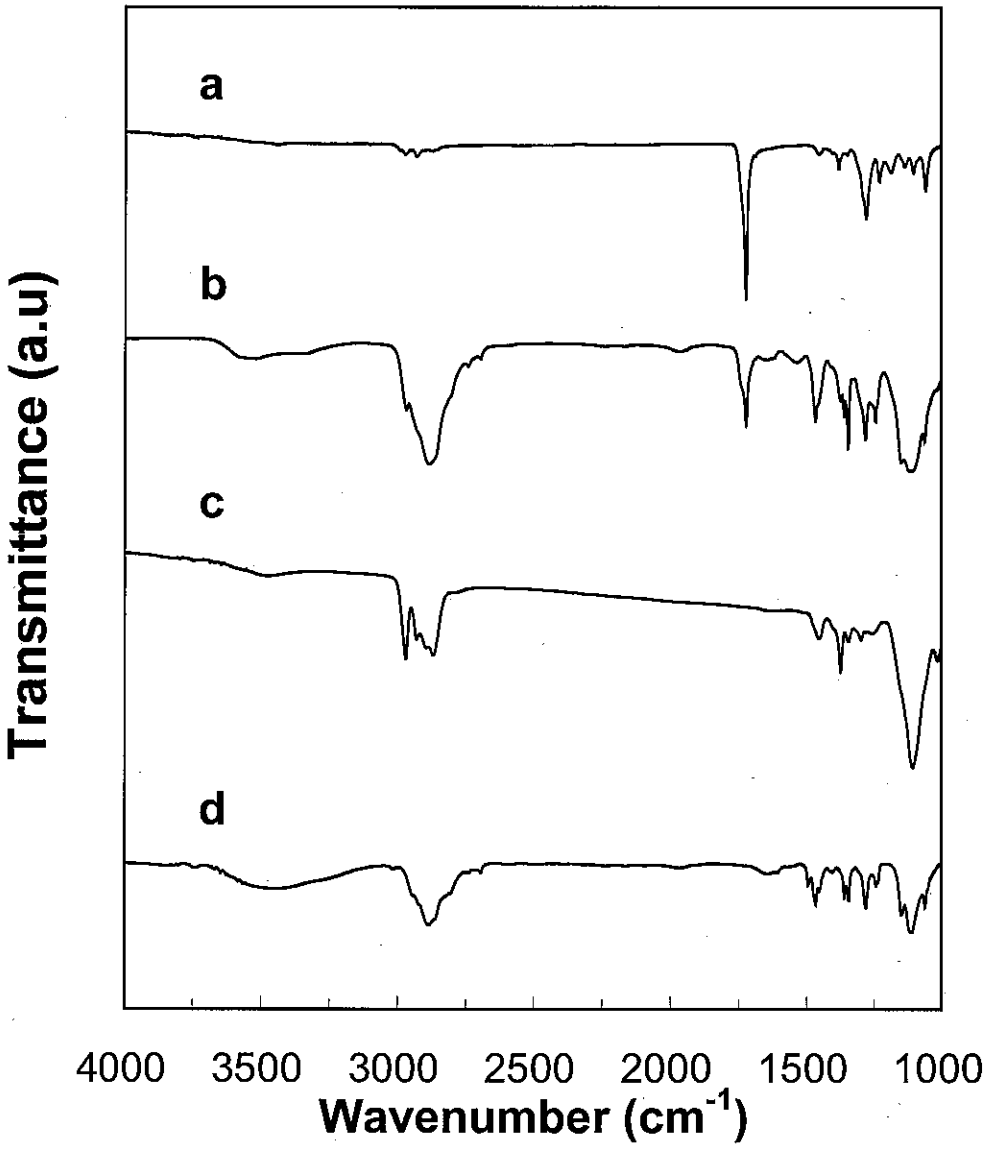

a
b
c
d
Transmittance (a.u)
4000
3500
3000
2500
2000
1500
1000
Wavenumber (cm-1)

FIGURE 4

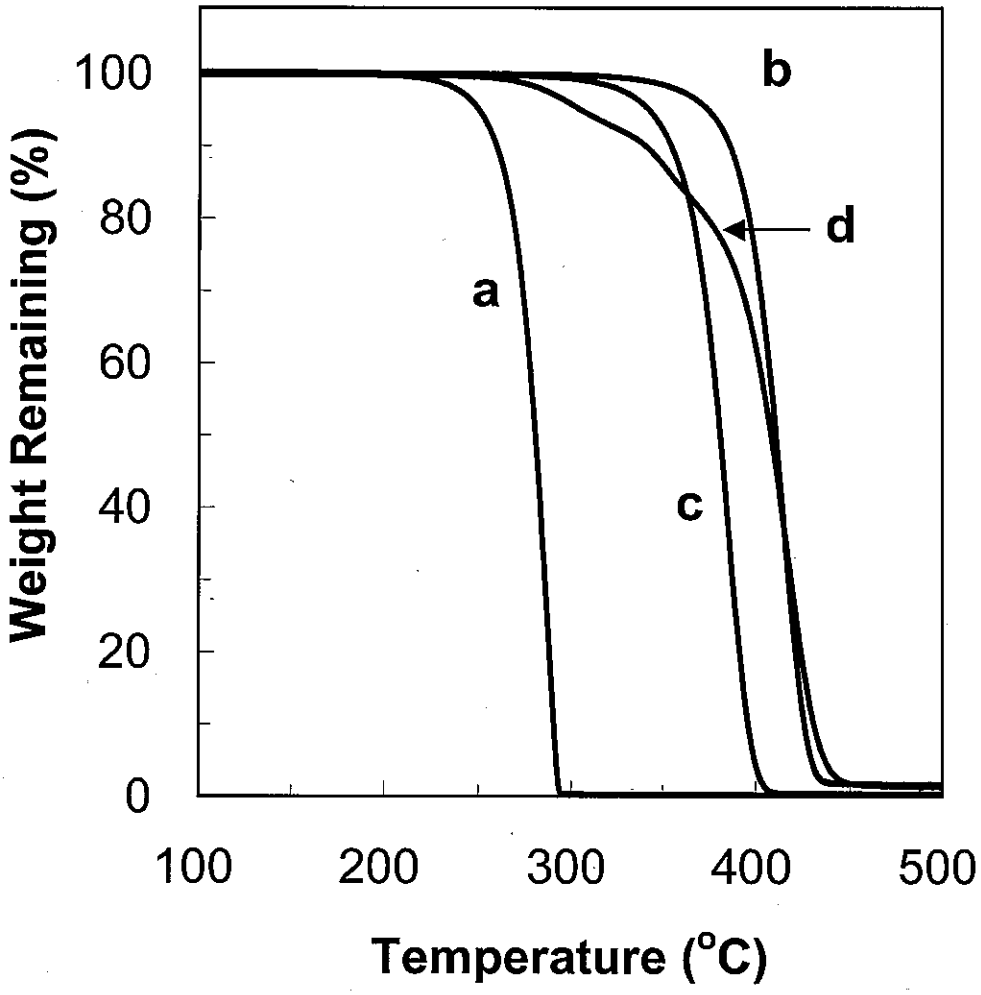

Weight Remaining (%)
100
80
60
40
20
0
100
200
300
400
500
Temperature (°C)
a
b
c
d

FIGURE 5

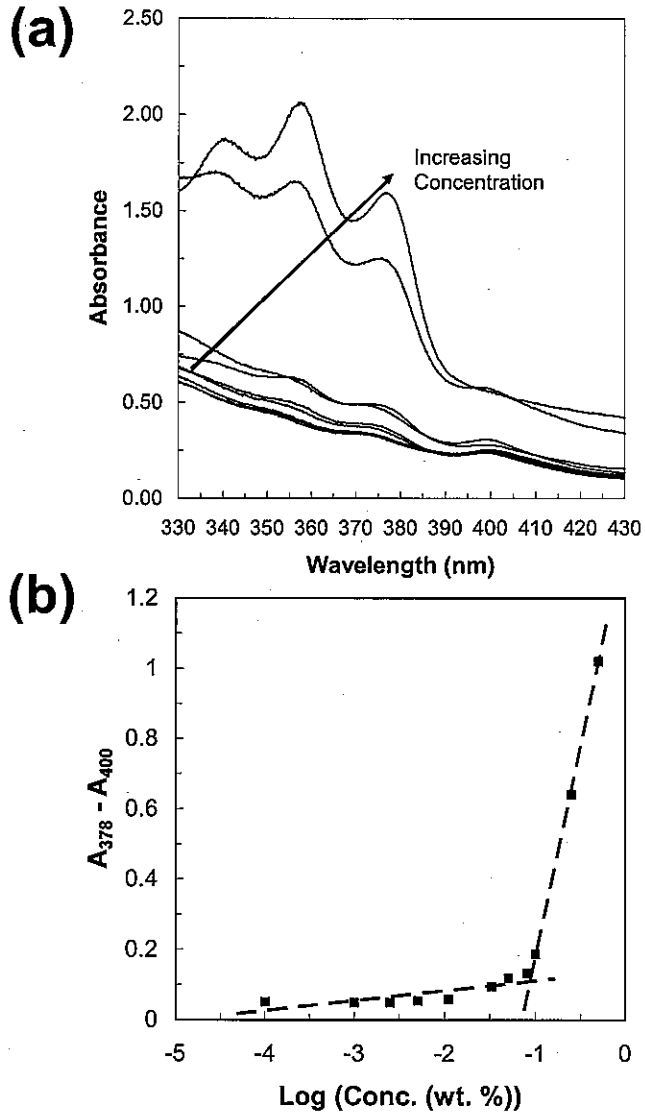

(a)
2.50
2.00
1.50
1.00
0.50
0.00
Absorbance
Increasing
Concentration
330 340 350 360 370 380 390 400 410 420 430
Wavelength (nm)
(b)
1.2
1
0.8
0.6
0.4
0.2
0
A378 - A400
-5 -4 -3 -2 -1 0
Log (Conc. (wt. %))

FIGURE 6

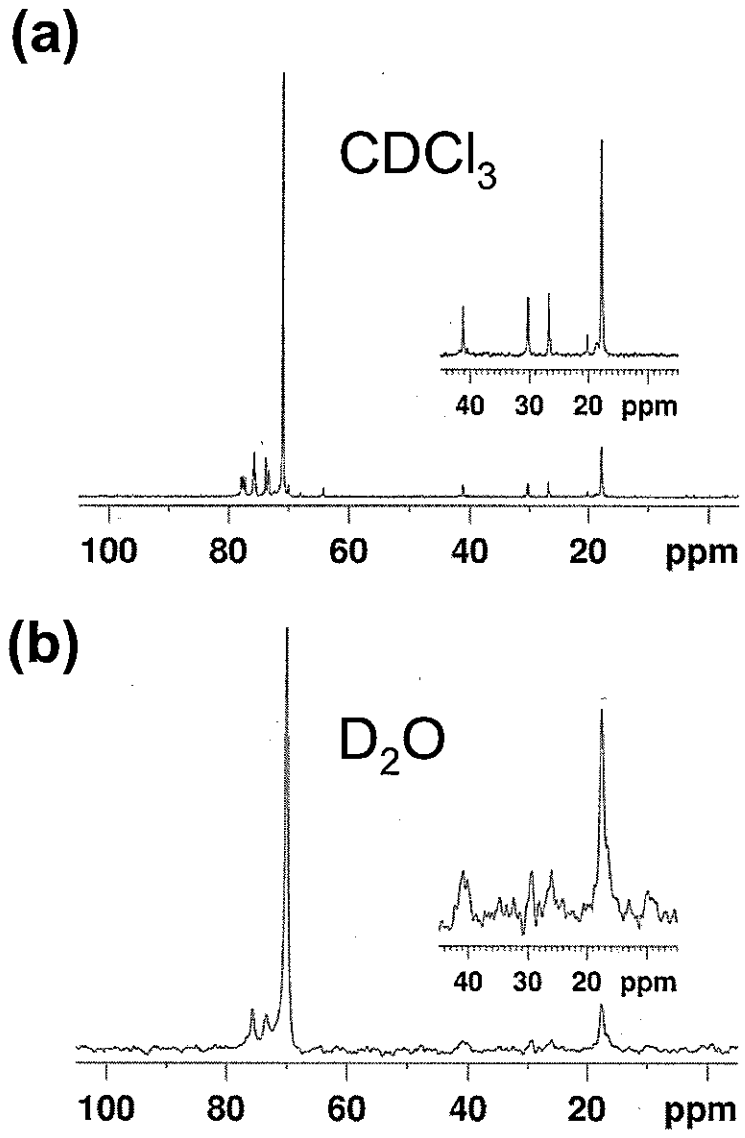

(a)
$CDCl_3$
40 30 20 ppm
100 80 60 40 20 ppm
(b)
D_2O
40 30 20 ppm
100 80 60 40 20 ppm

FIGURE 7

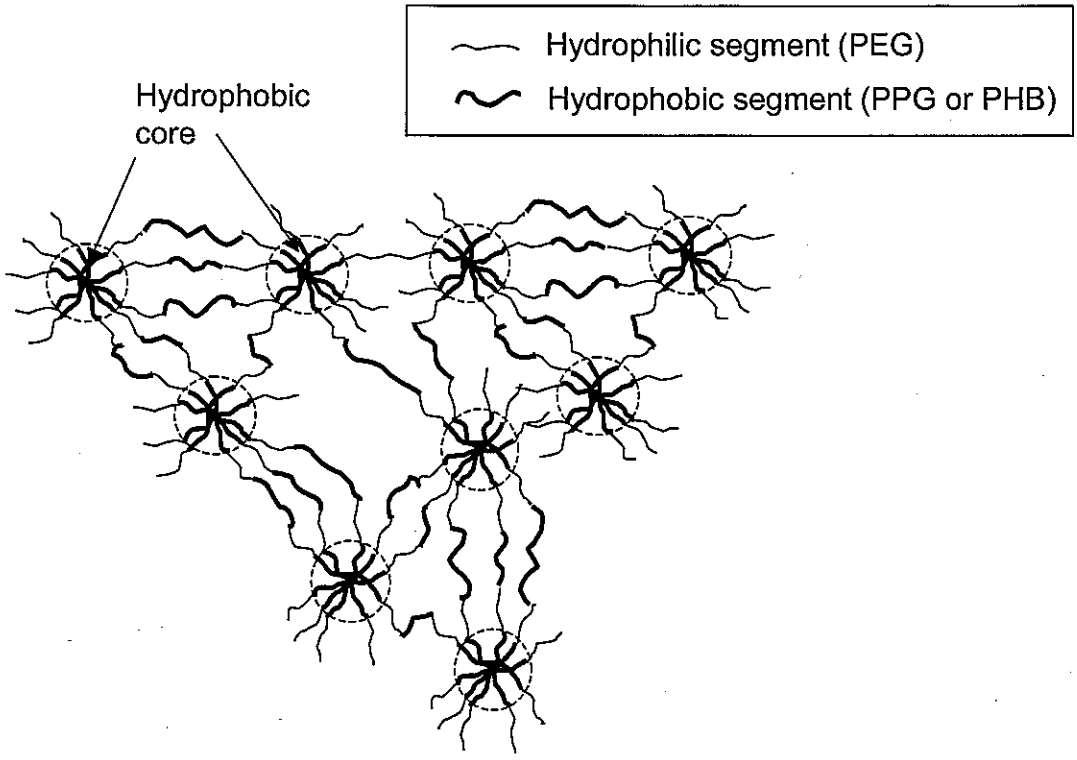

Hydrophilic segment (PEG)
Hydrophobic segment (PPG or PHB)
Hydrophobic core

FIGURE 8

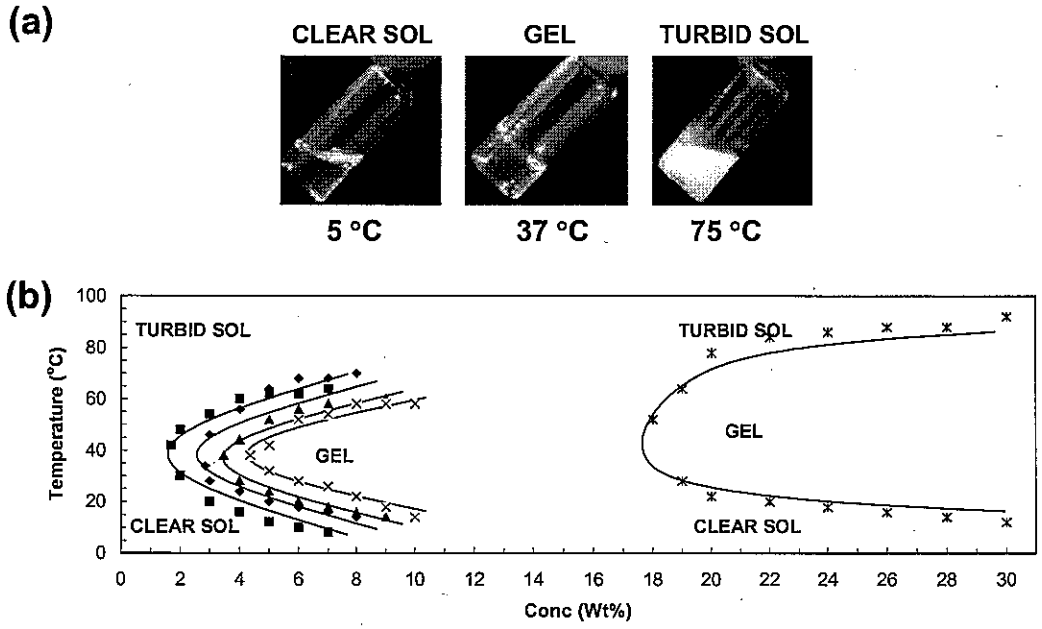

(a)
CLEAR SOL
GEL
TURBID SOL
5 °C
37 °C
75 °C
(b)
TURBID SOL
GEL
CLEAR SOL
TURBID SOL
GEL
CLEAR SOL
Temperature (°C)
Conc (Wt%)
0
20
40
60
80
100
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30

FIGURE 9

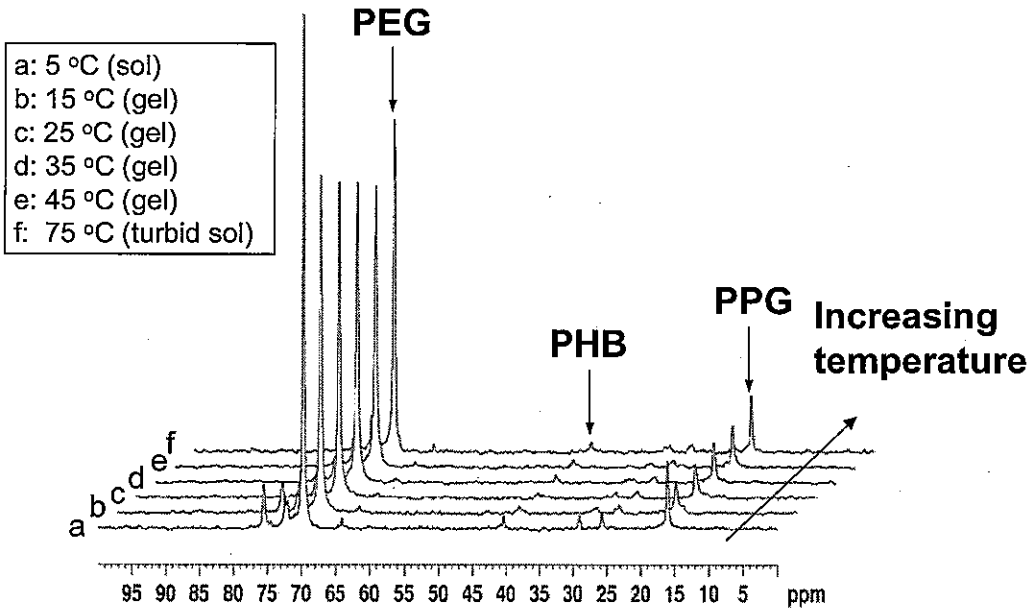

a: 5 °C (sol)
b: 15 °C (gel)
c: 25 °C (gel)
d: 35 °C (gel)
e: 45 °C (gel)
f: 75 °C (turbid sol)
PEG
PHB
PPG
Increasing temperature
a
b
c
d
e
f
95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5
ppm

FIGURE 10

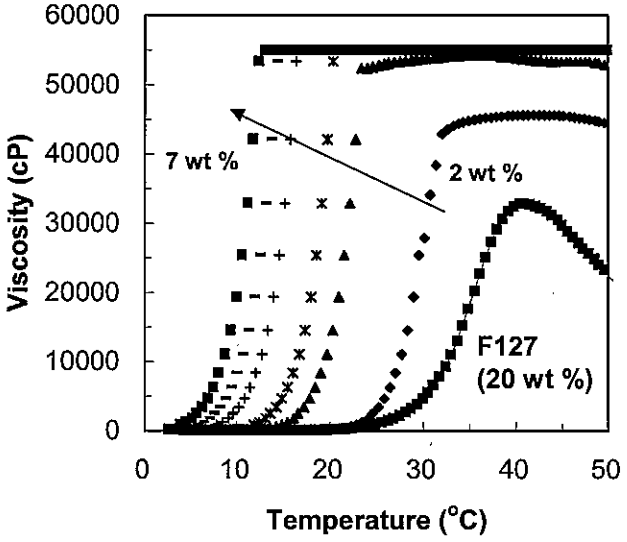


FIGURE 11

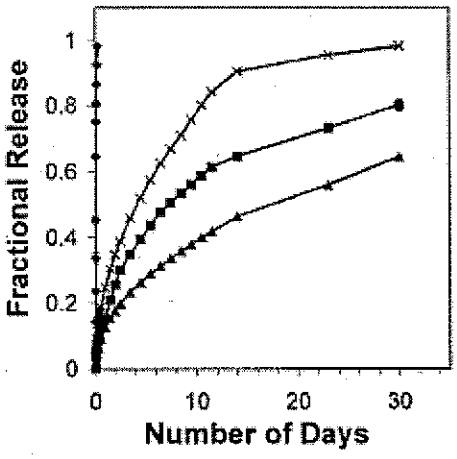


FIGURE 12

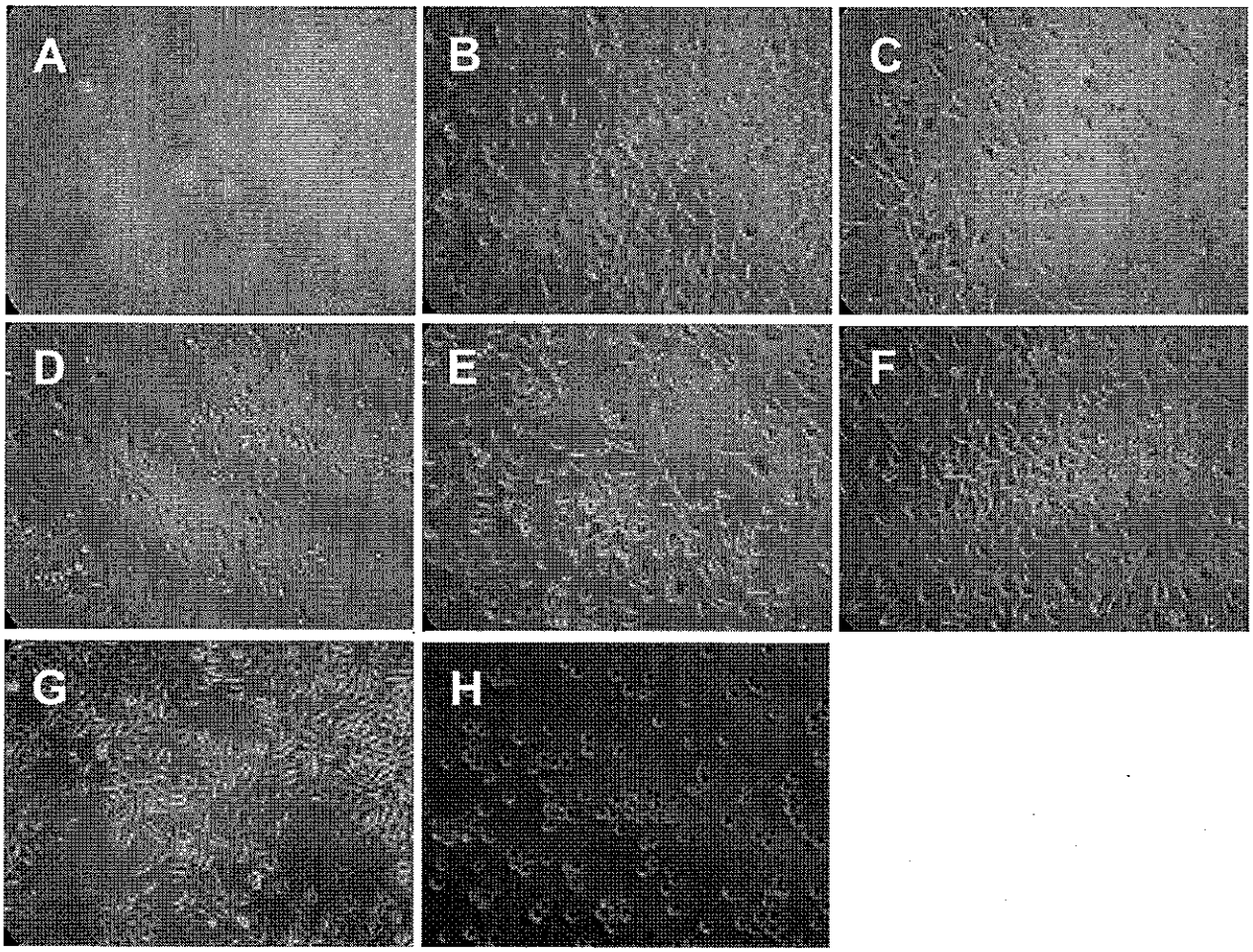


FIGURE 13

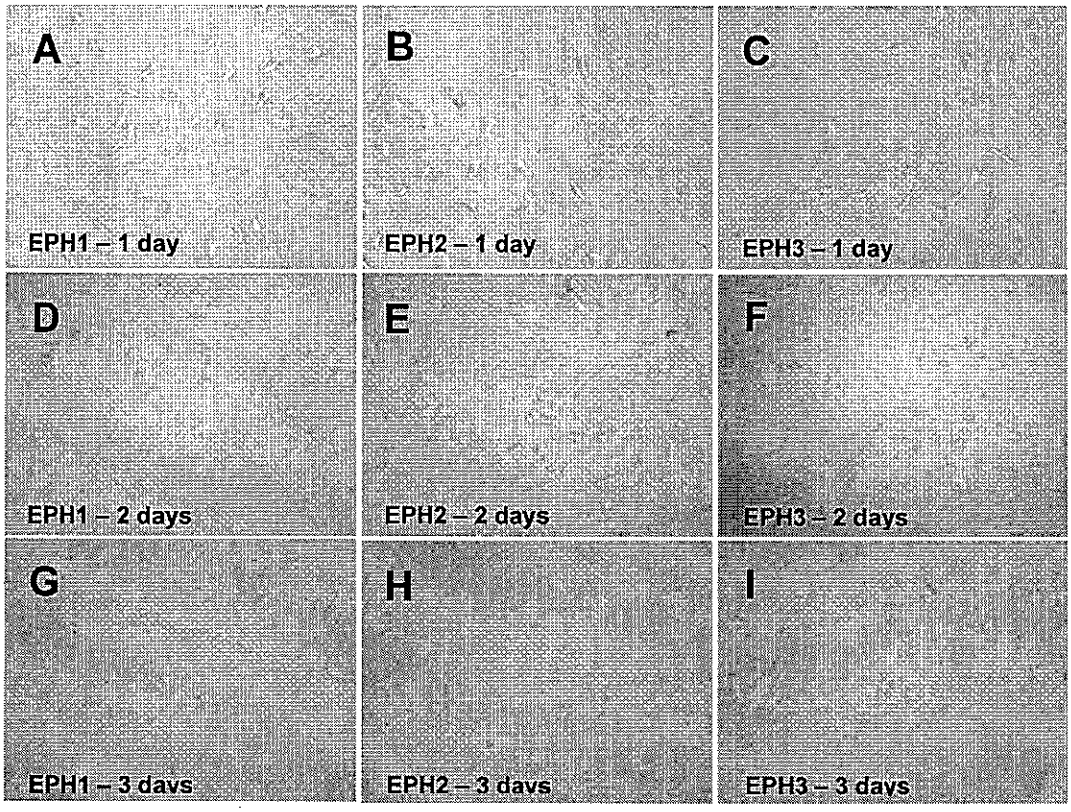

A
EPH1 – 1 day
B
EPH2 – 1 day
C
EPH3 – 1 day
D
EPH1 – 2 days
E
EPH2 – 2 days
F
EPH3 – 2 days
G
EPH1 – 3 days
H
EPH2 – 3 days
I
EPH3 – 3 days

FIGURE 14

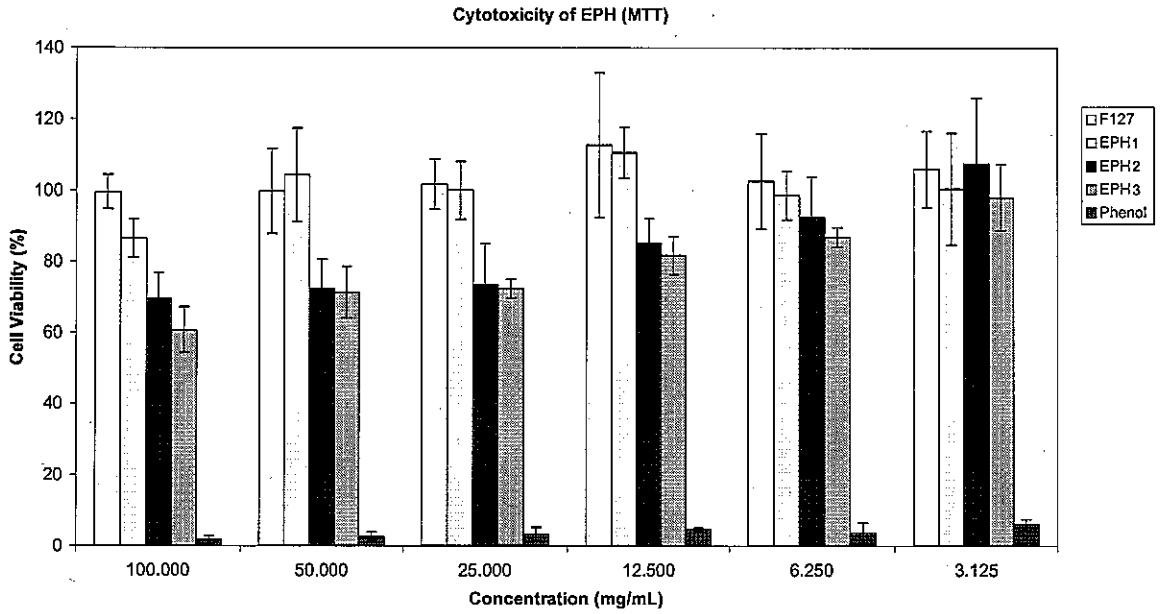

Cytotoxicity of EPH (MTT)
Cell Viability (%)
140
120
100
80
60
40
20
0
100.000
50.000
25.000
12.500
6.250
3.125
Concentration (mg/mL)
F127
EPH1
EPH2
EPH3
Phenol

FIGURE 15

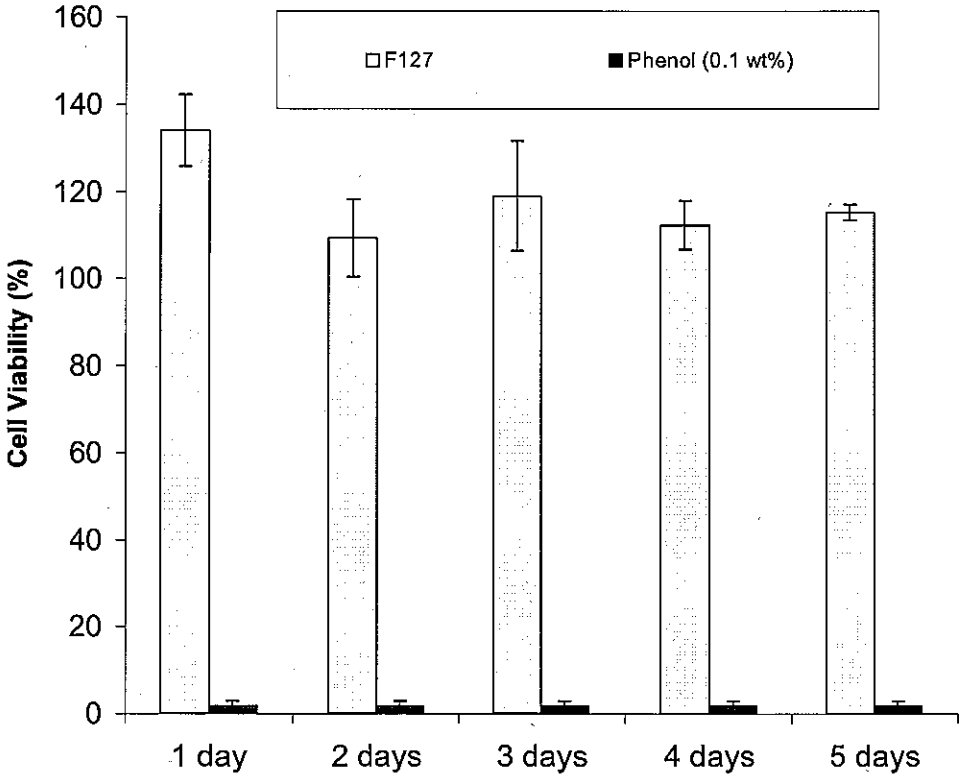

160
140
120
100
80
60
40
20
0
Cell Viability (%)
F127
Phenol (0.1 wt%)
1 day
2 days
3 days
4 days
5 days

FIGURE 16

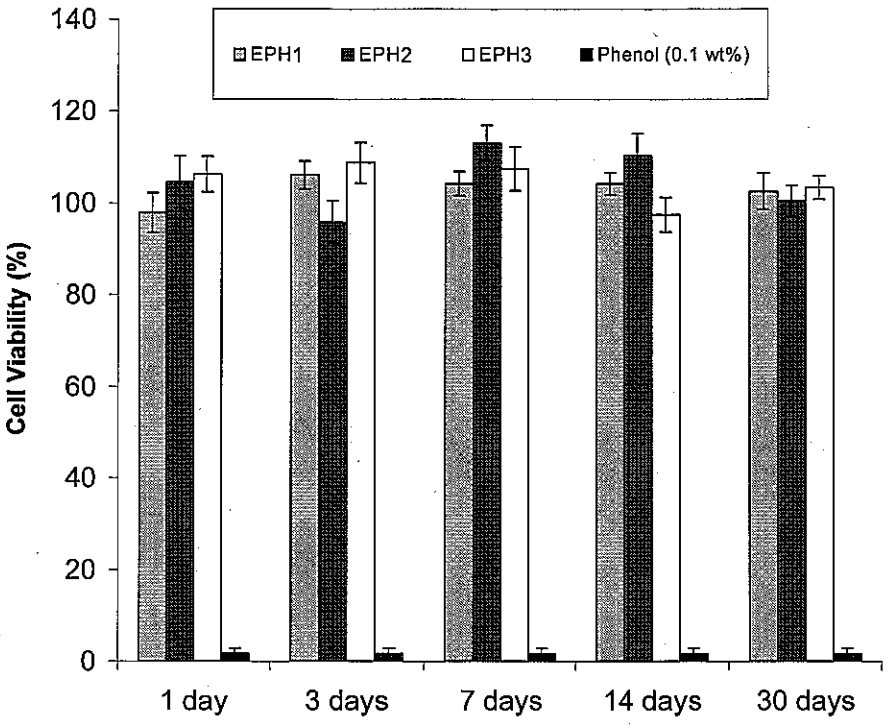

EPH1
EPH2
EPH3
Phenol (0.1 wt%)
Cell Viability (%)
140
120
100
80
60
40
20
0
1 day
3 days
7 days
14 days
30 days

FIGURE 17