

Fig. 1A: SEVEN MEMBER PEPTIDES WITH ASPARTIC ACID HEAD GROUP

SEQ ID No.	Peptide	Peptide sequence	Observation
1	Ac-LD ₇ (L)	Ac-LIVAGDD-COOH (L)	Hydrogelation

Fig. 1B: SIX MEMBER PEPTIDES WITH ASPARTIC ACID HEAD GROUP

SEQ ID No.	Peptide	Peptide sequence	Observation
2	Ac-LD ₆ (L)	Ac-LIVAGD-COOH (L)	Hydrogelation
3	Ac-LD ₆ (D)	Ac-LIVAGD-COOH (D)	Hydrogelation
4	Ac-AD ₆ (L)	Ac-AIVAGD-COOH (L)	Hydrogelation
5	Ac-AD ₆ (D)	Ac-AIVAGD-COOH (D)	Hydrogelation
6	Ac-ID ₆ (L)	Ac-ILVAGD-COOH (L)	Hydrogelation
7	Ac-ID ₆ (D)	Ac-ILVAGD-COOH (D)	Hydrogelation
8	Ac-LD ₅₋₁ (L)	Ac-LAVAGD-COOH (L)	Hydrogelation
9	Ac-LD ₆₋₂ (L)	Ac-LIVAAD-COOH (L)	Hydrogelation

Fig. 1C: SIX MEMBER PEPTIDES WITH SERINE HEAD GROUP

SEQ ID No.	Peptide	Peptide sequence	Observation
10	Ac-LS ₆ (L)	Ac-LIVAGS-COOH (L)	Hydrogelation
10	Ac-LS ₆ (L)	Ac-LIVAGS-CONH ₂ (L)	Hydrogelation
11	Ac-LS ₆ (D)	Ac-LIVAGS-COOH (D)	Hydrogelation
12	Ac-AS ₆ (L)	Ac-AIVAGS-COOH (L)	Hydrogelation
12	Ac-AS ₆ (L)	Ac-AIVAGS-CONH ₂ (L)	Hydrogelation
13	Ac-IS ₆ (L)	Ac-ILVAGS-COOH (L)	Hydrogelation

Fig. 1D: SIX MEMBER PEPTIDES WITH THREONINE HEAD GROUP

SEQ ID No.	Peptide	Peptide sequence	Observation
14	Ac-LT ₆ (L)	Ac-LIVAGT-COOH (L)	Hydrogelation
14	Ac-LT ₆ (L)	Ac-LIVAGT-CONH ₂ (L)	Hydrogelation
15	Ac-AT ₆ (L)	Ac-AIVAGT-COOH (L)	Hydrogelation
15	Ac-AT ₆ (L)	Ac-AIVAGT-CONH ₂ (L)	Hydrogelation

Fig. 1E: SEVEN MEMBER PEPTIDES WITH GLUTAMIC ACID HEAD GROUP

SEQ ID No.	Peptide	Peptide sequence	Observation
16	Ac-LE ₇ (L)	Ac-LIVAGEE-COOH (L)	Hydrogelation

Fig. 1F: SIX MEMBER PEPTIDES WITH GLUTAMIC ACID HEAD GROUP

SEQ ID No.	Peptide	Peptide sequence	Observation
17	Ac-LE ₆ (L)	Ac-LIVAGE-COOH (L)	Hydrogelation
18	Ac-LE ₆ (D)	Ac-LIVAGE-COOH (D)	Hydrogelation

Fig. 1G: SIX MEMBER PEPTIDES WITH LYSINE HEAD GROUP

SEQ ID No.	Peptide	Peptide sequence	Observation
19	Ac-LK ₆ (L)	Ac-LIVAGK-CONH ₂ (L)	Hydrogelation
49	Ac-IK ₆ (L)	Ac-ILVAGK-CONH ₂ (L)	Hydrogelation
57	Ac-AK ₆ (L)	Ac-AIVAGK-CONH ₂ (L)	Hydrogelation

Fig. 1H: FIVE MEMBER PEPTIDES WITH ASPARTIC ACID HEAD GROUP

SEQ ID No.	Peptide	Peptide sequence	Observation
20	Ac-LD ₅₋₁ (L)	Ac-LIVAD-COOH (L)	Hydrogelation
21	Ac-LD ₅₋₂ (L)	Ac-LIVGD-COOH (L)	Hydrogelation

Fig. 1I: FOUR MEMBER PEPTIDES WITH ASPARTIC ACID HEAD GROUP

SEQ ID No.	Peptide	Peptide sequence	Observation
22	Ac-ID ₄ (L)	Ac-IVAD-COOH (L)	Hydrogelation
23	Ac-ID ₄ (D)	Ac-IVAD-COOH (D)	Hydrogelation

Fig. 1J: THREE MEMBER PEPTIDES WITH ASPARTIC ACID HEAD GROUP

SEQ ID No.	Peptide	Peptide sequence	Observation
24	Ac-ID ₃ (L)	Ac-IVD-COOH (L)	Hydrogelation

Fig. 2

a. Ac-LD-6 (L) 1mg/ml

b. Ac-AD-6 (L) 5mg/ml

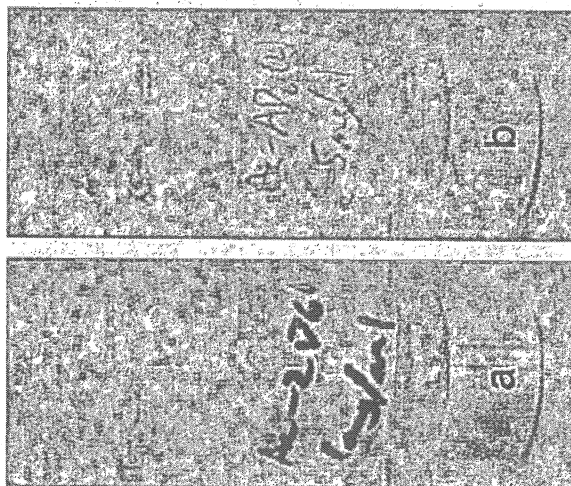
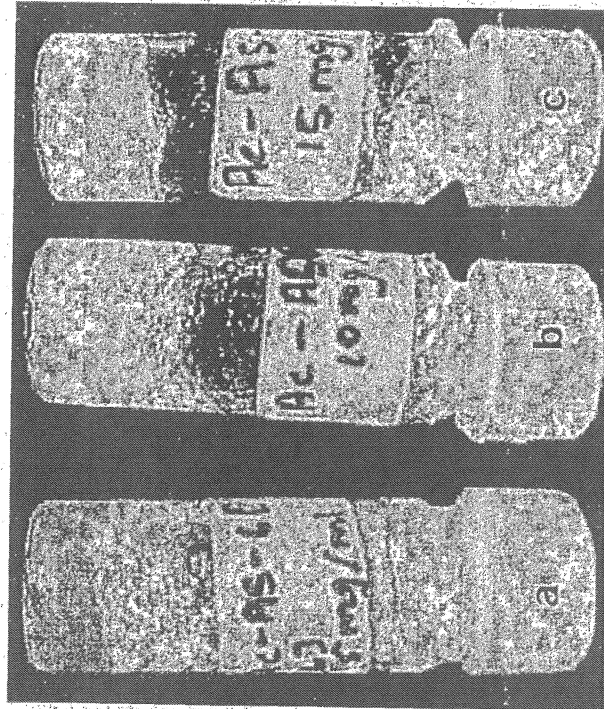


Fig. 3



a. Ac-AS-6 (L) 5mg/ml

b. Ac-AS-6 (L) 10mg/ml

c. Ac-AS-6 (L) 15mg/ml

Fig. 4

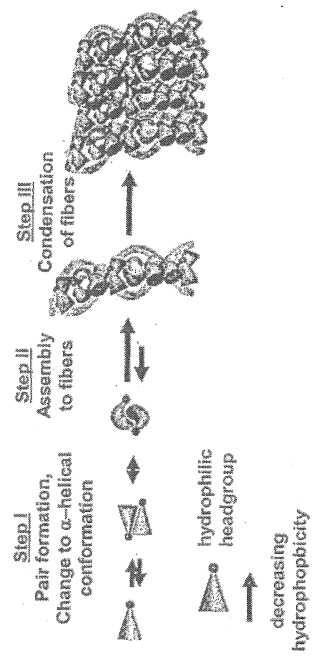


Fig. 5A

ESEM image of ACLD6 (L) gels at magnification of 260X at 4 °C.

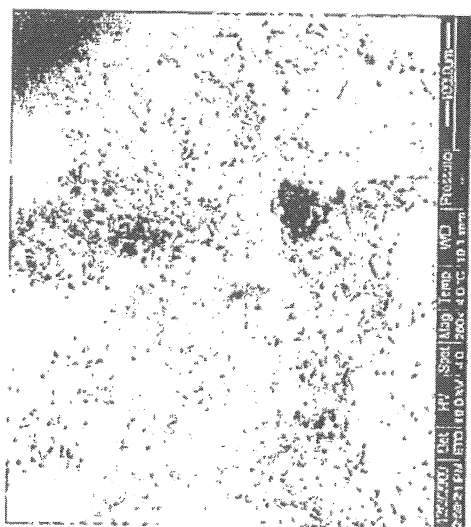


Fig. 5B

ESEM image of ACLD6 (L) gels at magnification of 1000X at 4 °C.

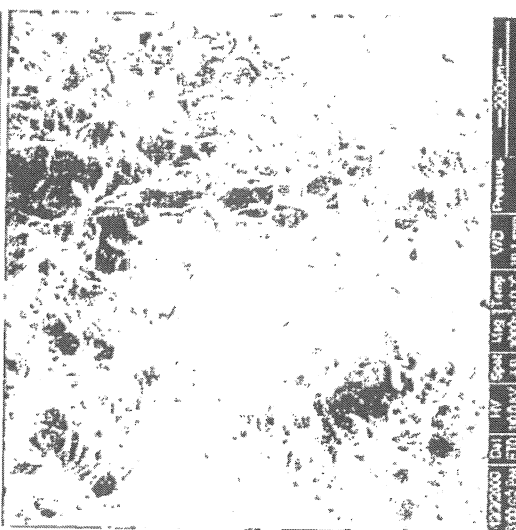
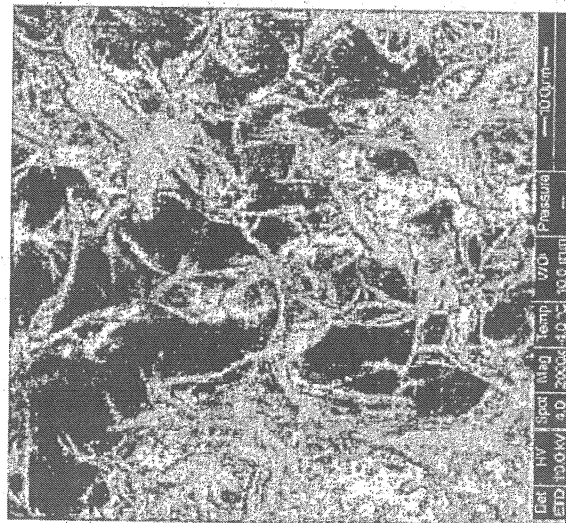
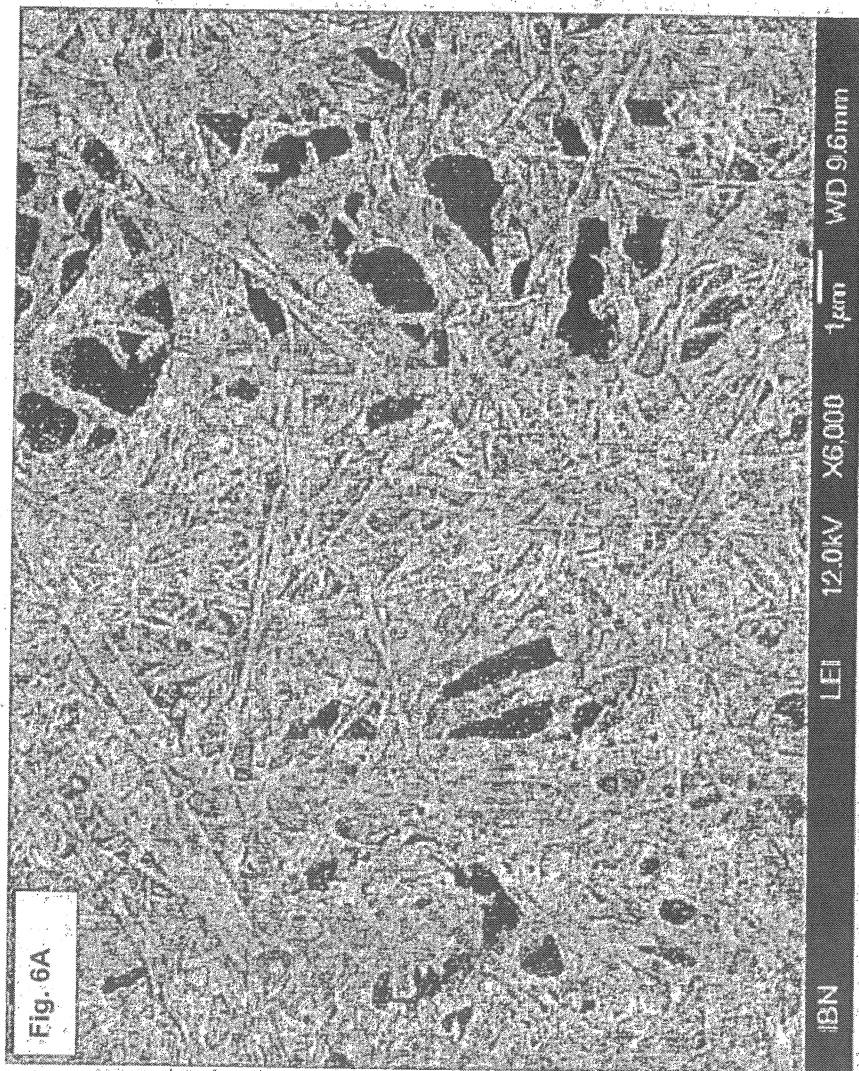
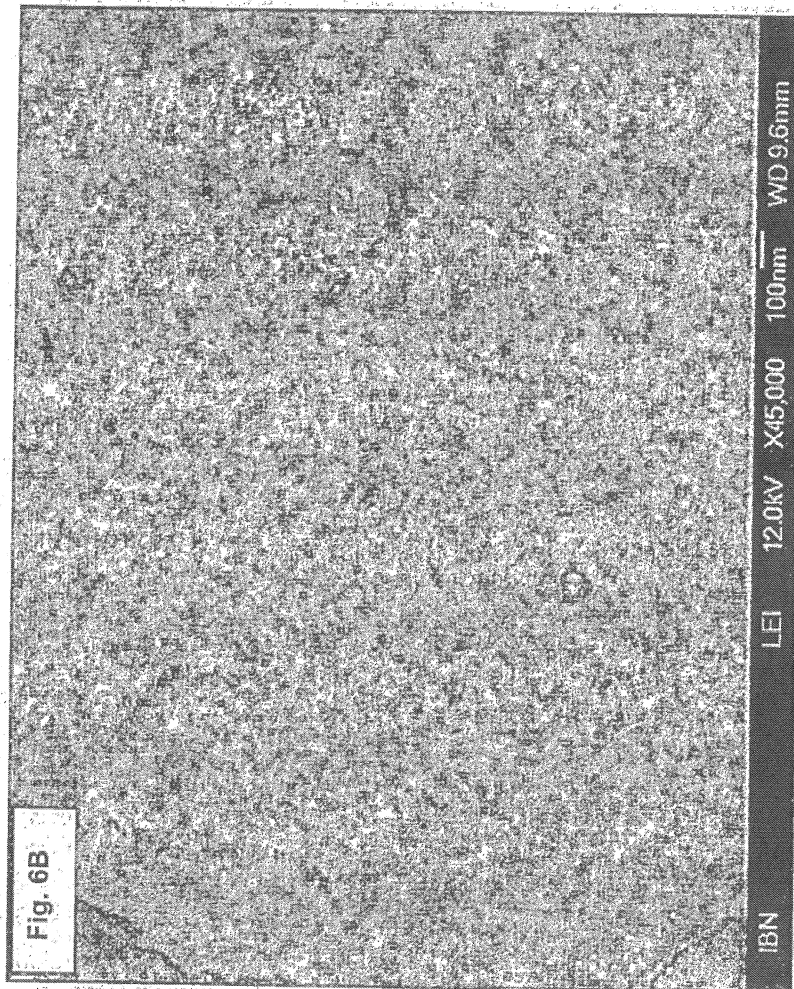


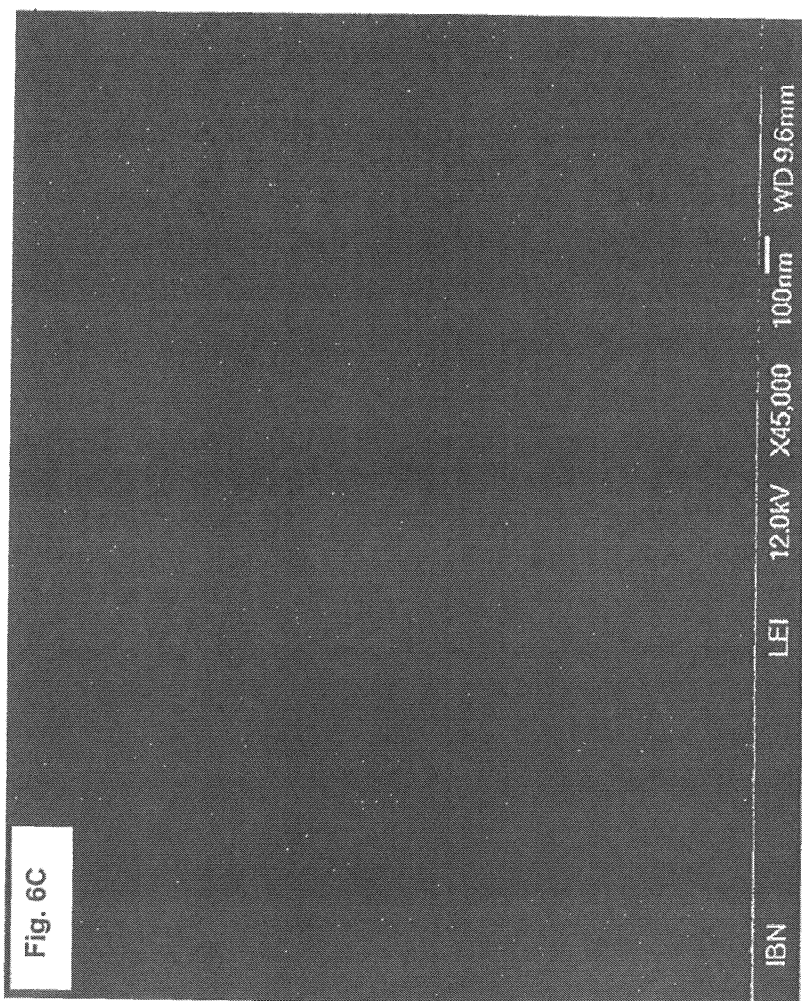
Fig. 5C

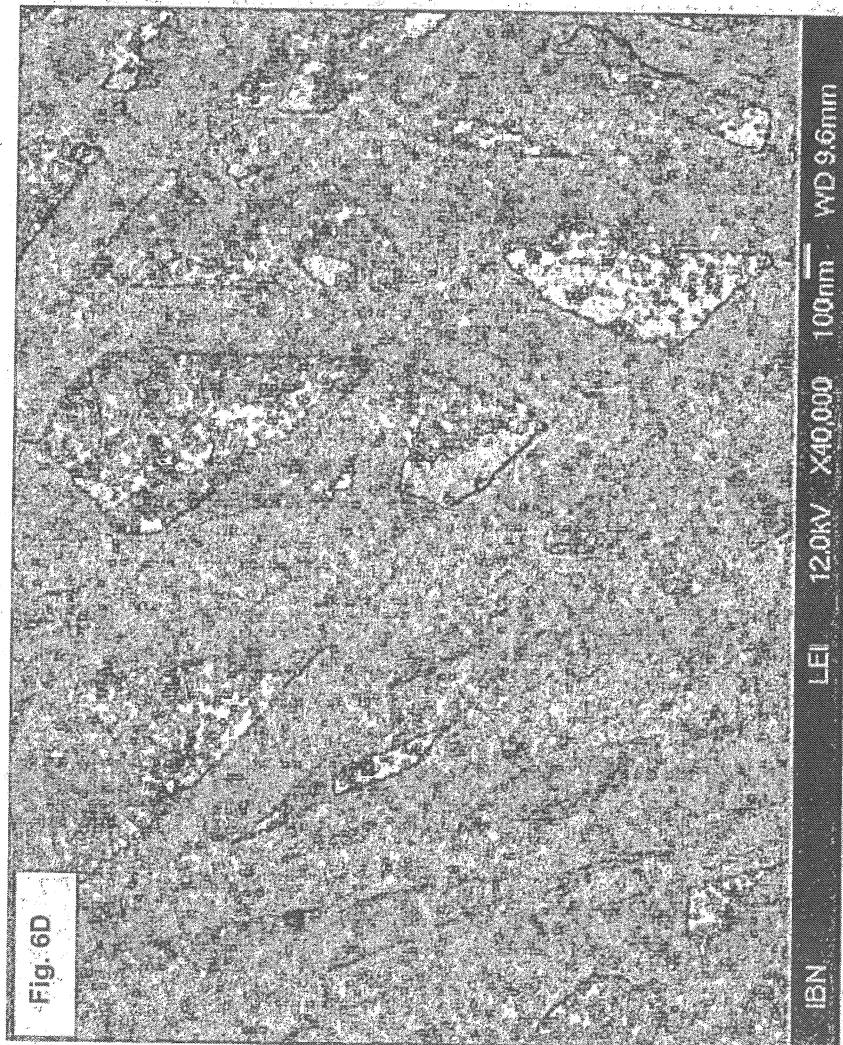
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magnification of 2000X at 4 °C.

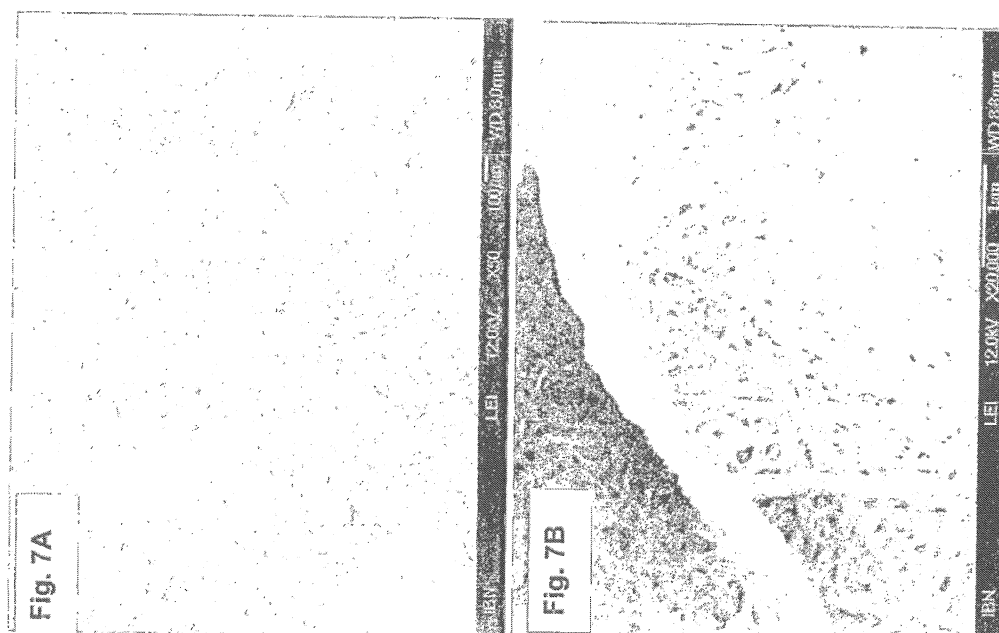


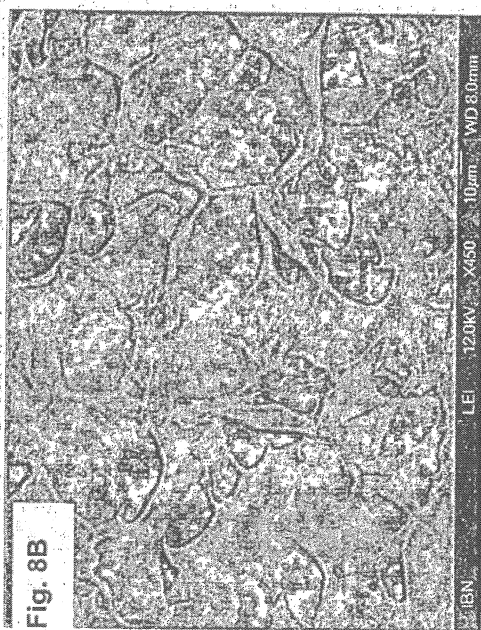
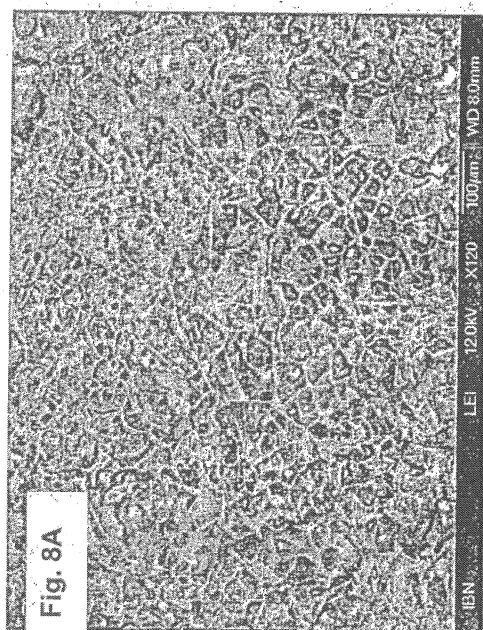












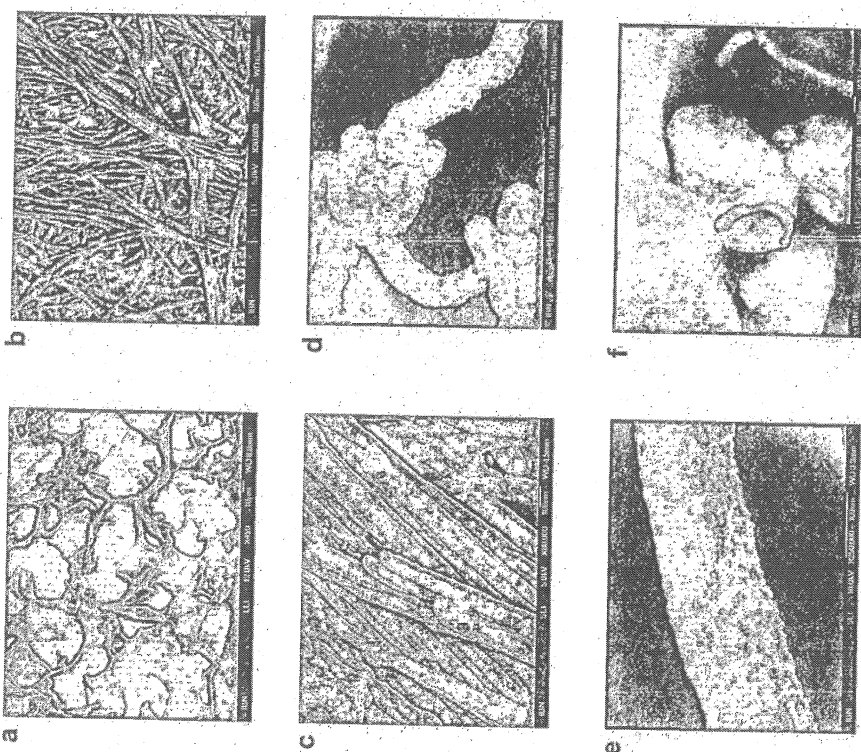
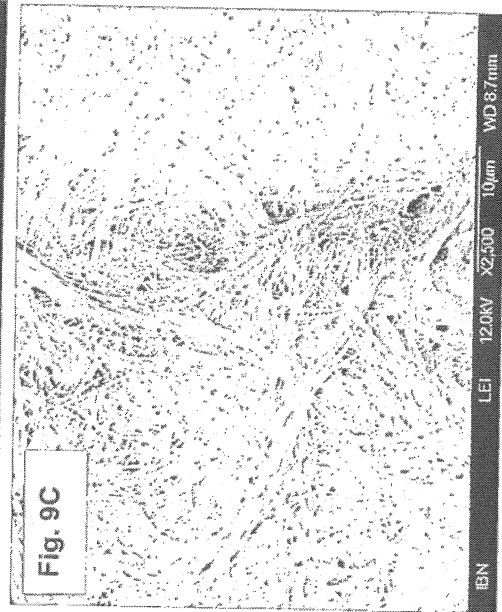
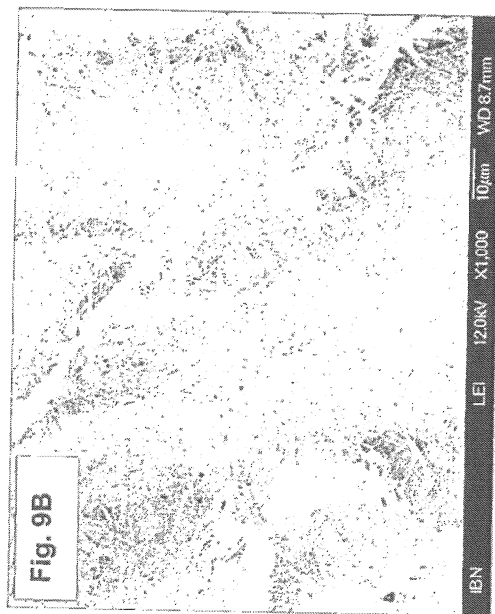
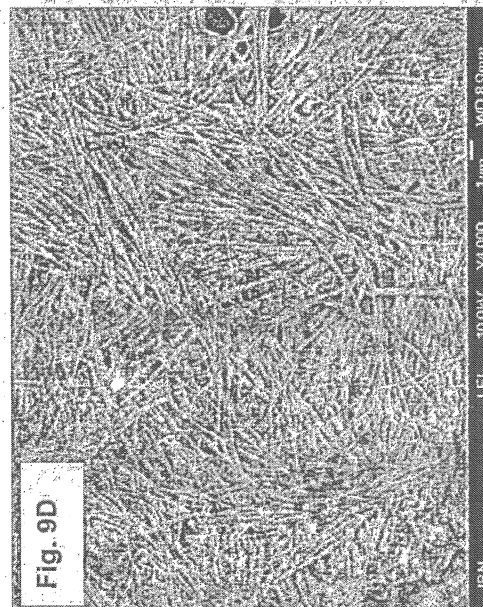
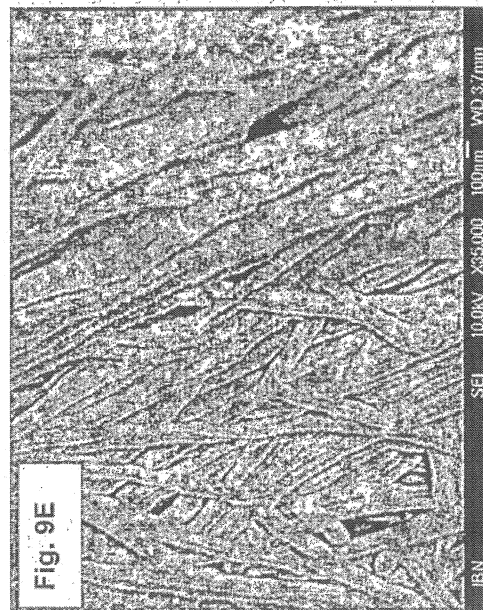
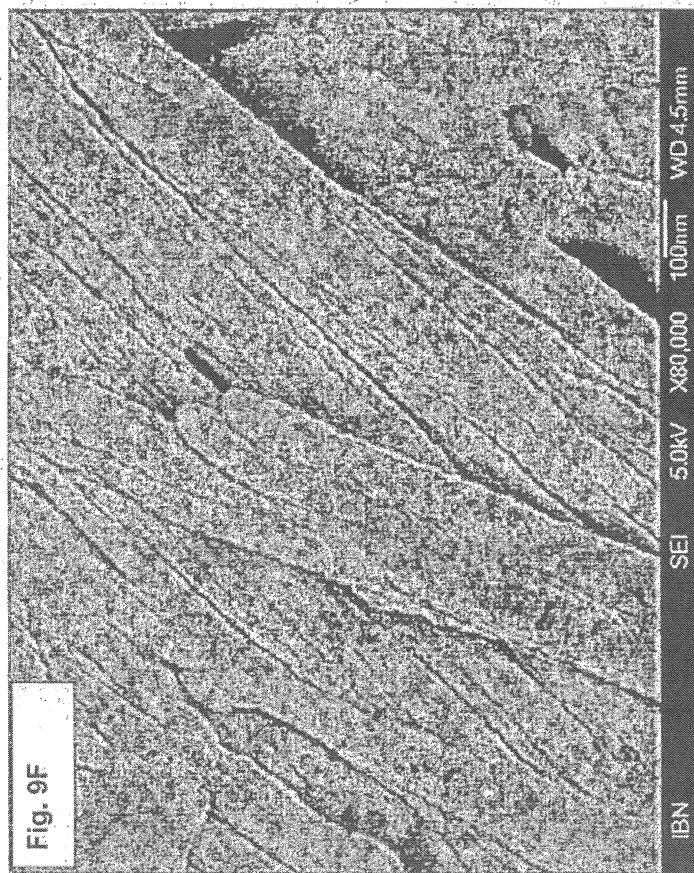
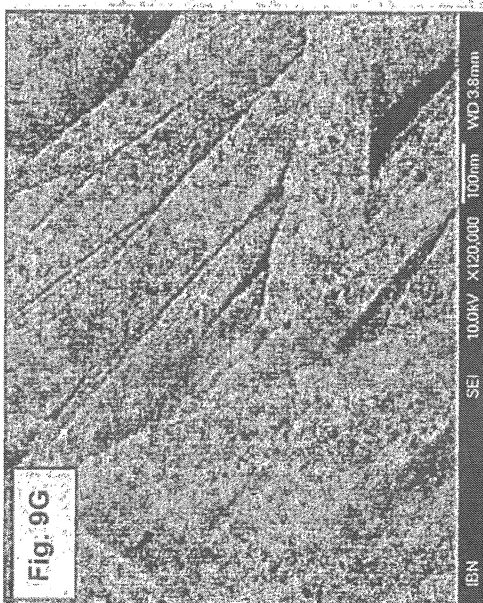
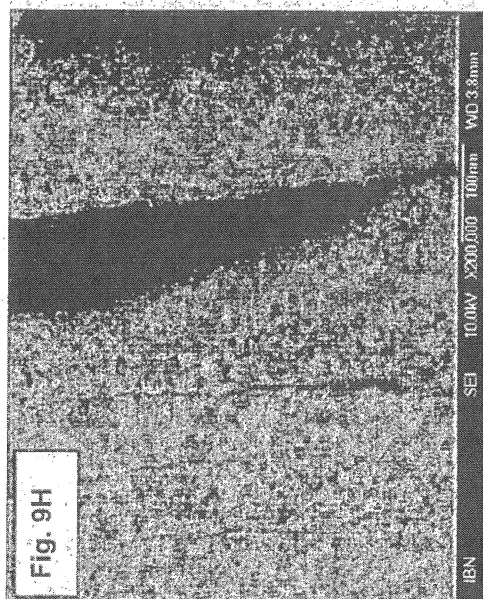


Fig. 9A









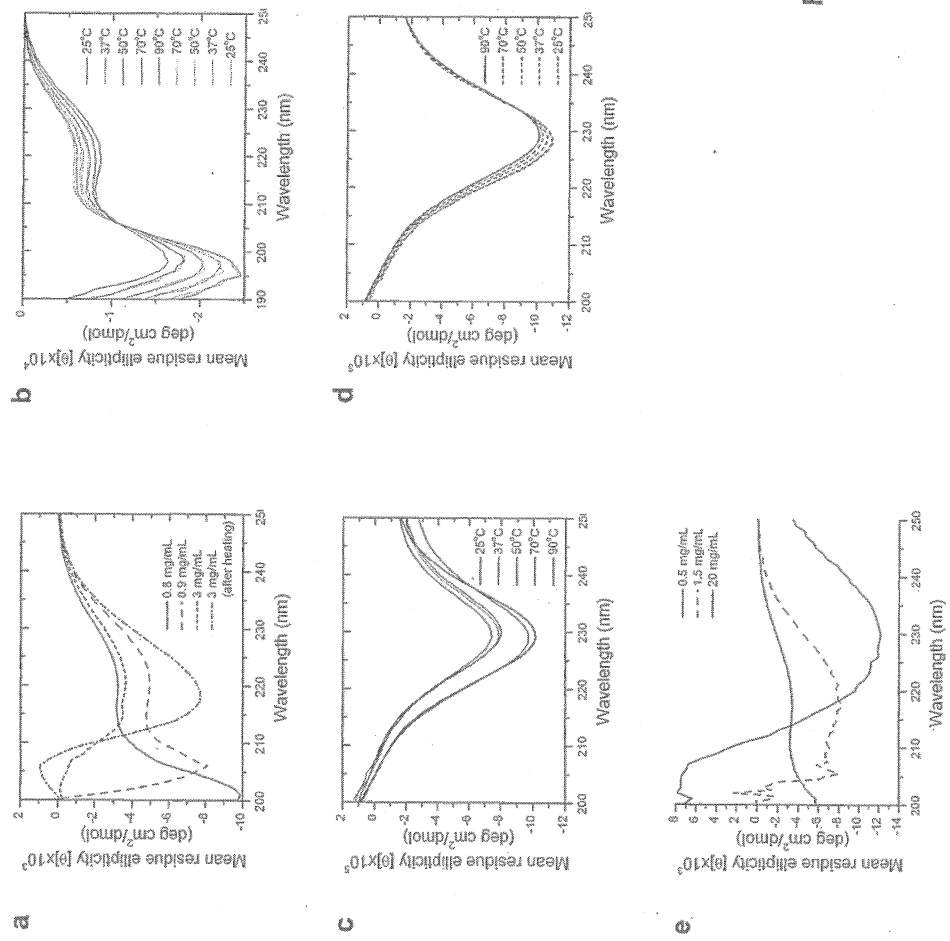


Fig. 10

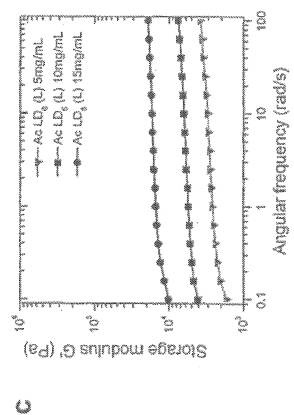
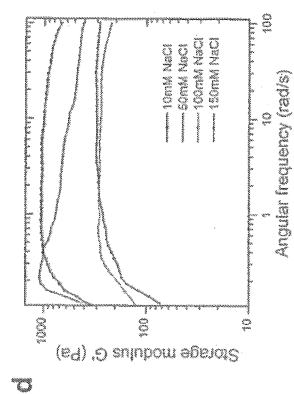
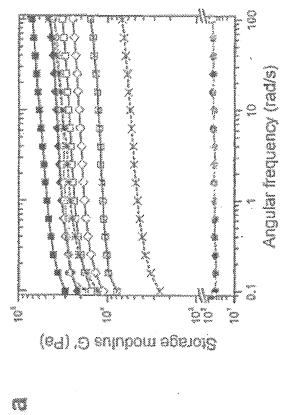
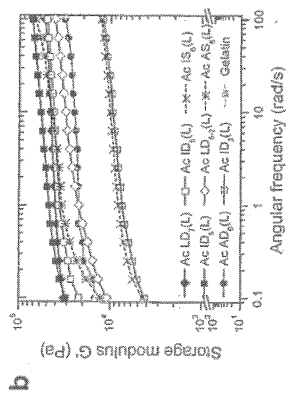
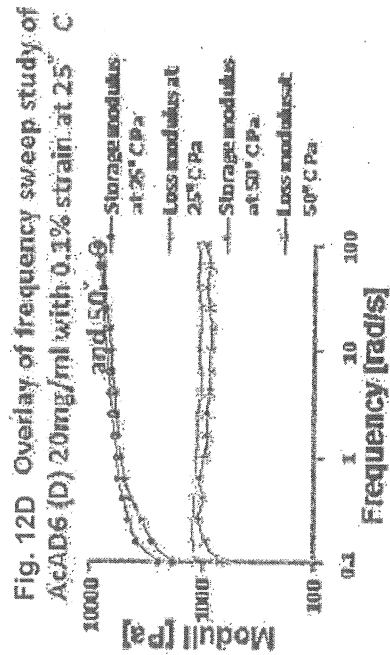
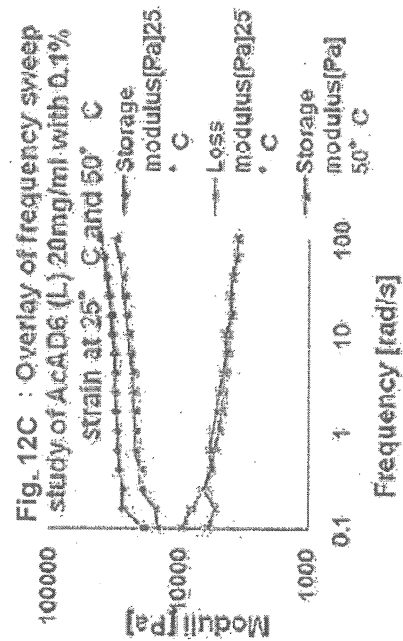
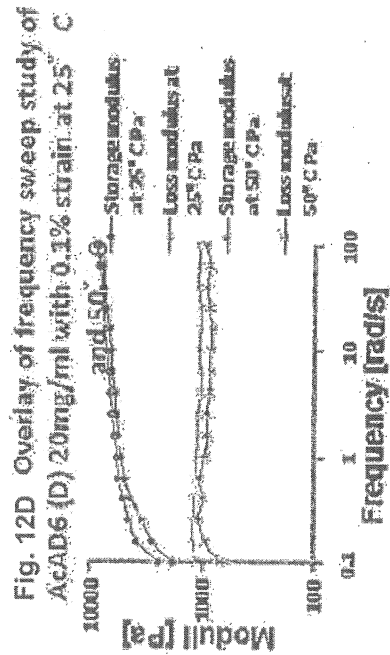
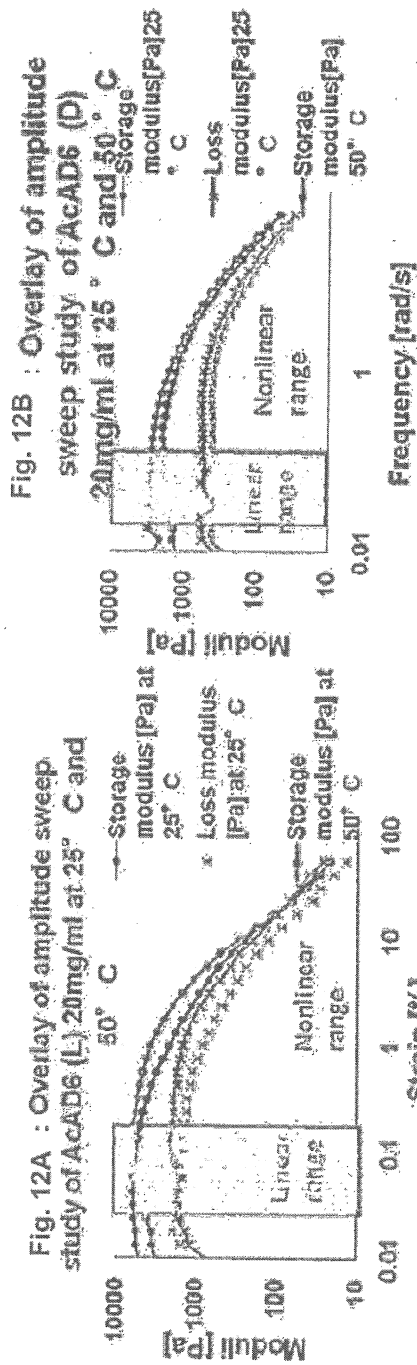
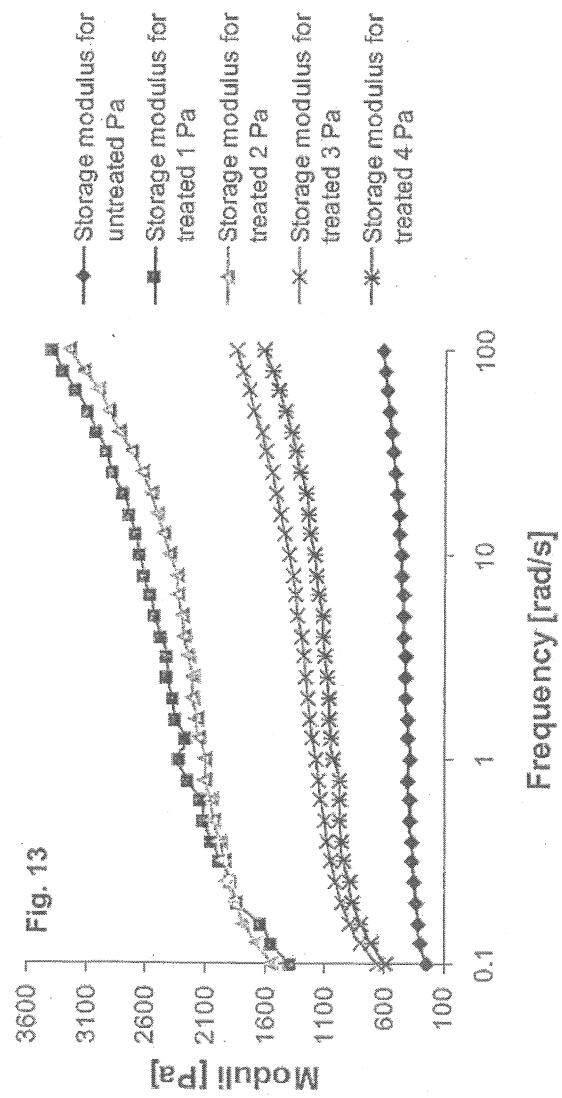


Fig. 11





Gelatin concentration	Frequency [rad/s]	Storage Modulus [Pa]	Loss Modulus [Pa]
10 mg/ml	0.1	17.63	2.77
15 mg/ml		36.72	5.48
20 mg/ml		54.36	3.95
10 mg/ml	1	20.87	0.80
15 mg/ml		50.68	5.93
20 mg/ml		57.00	6.95
10 mg/ml	10	21.90	0.86
15 mg/ml		74.35	-15.48
20 mg/ml		62.63	-7.27
10 mg/ml	100	21.68	3.83
15 mg/ml		56.35	8.74
20 mg/ml		73.80	10.60

Fig. 14

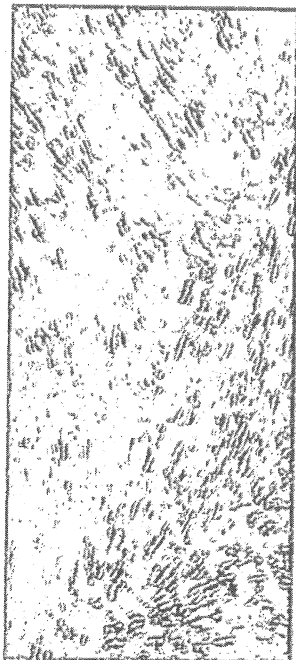


Fig. 15A

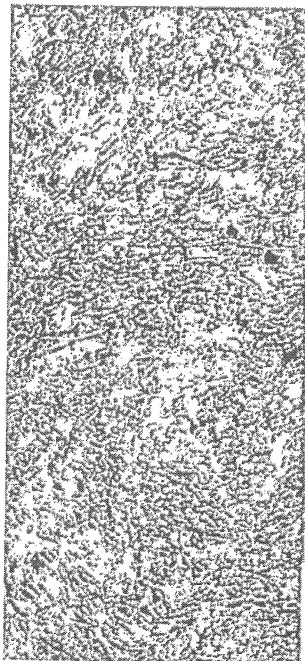


Fig. 15B

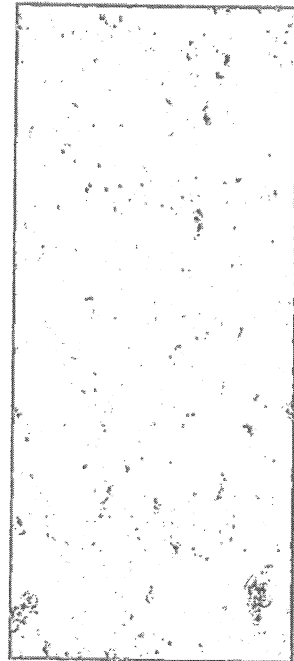


Fig. 15C

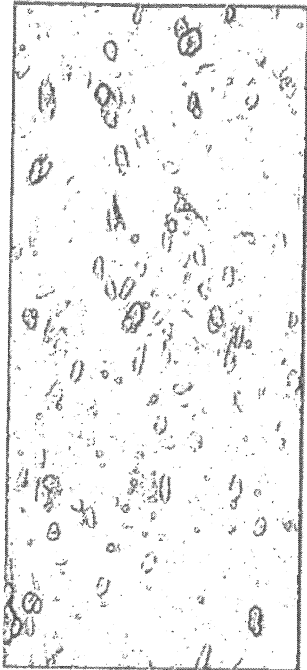


Fig. 15D

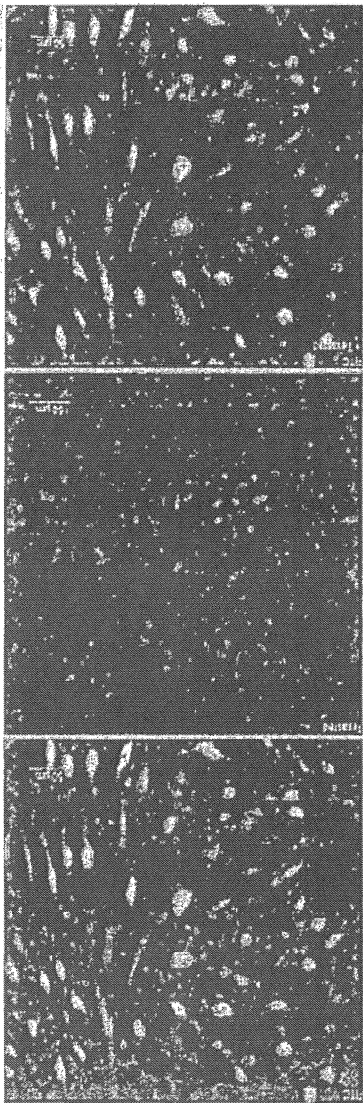


Fig. 16A

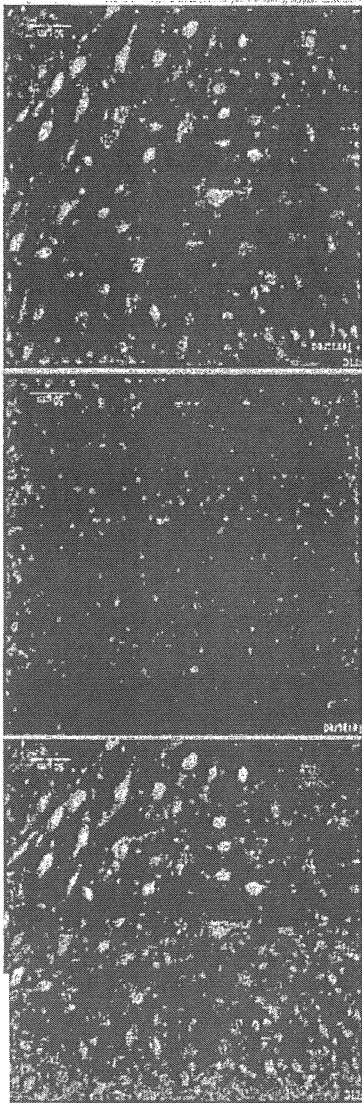


Fig. 16B

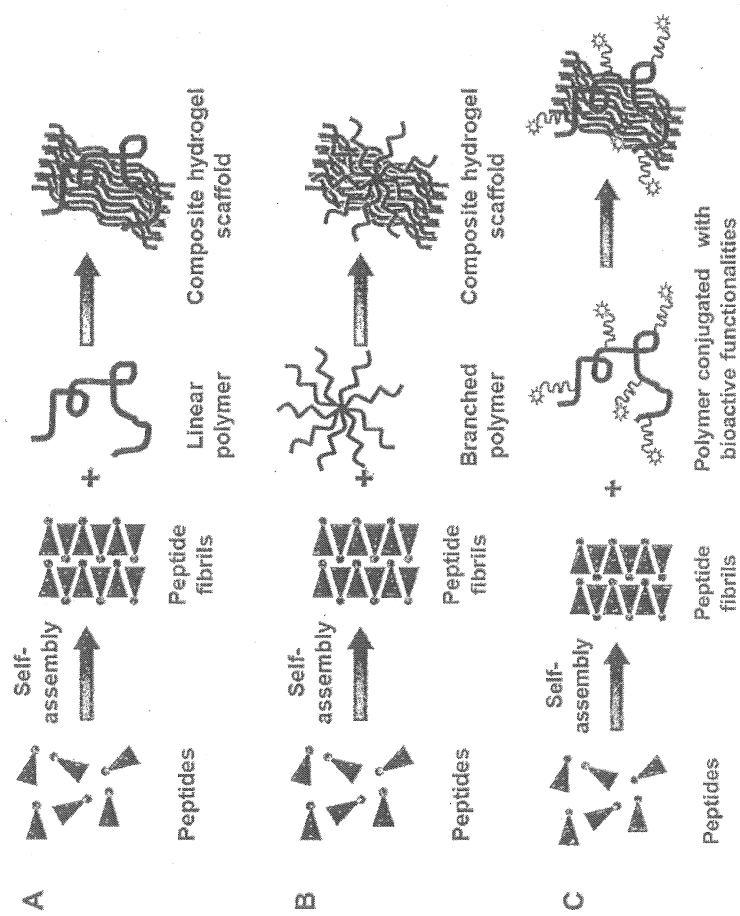


Fig. 17

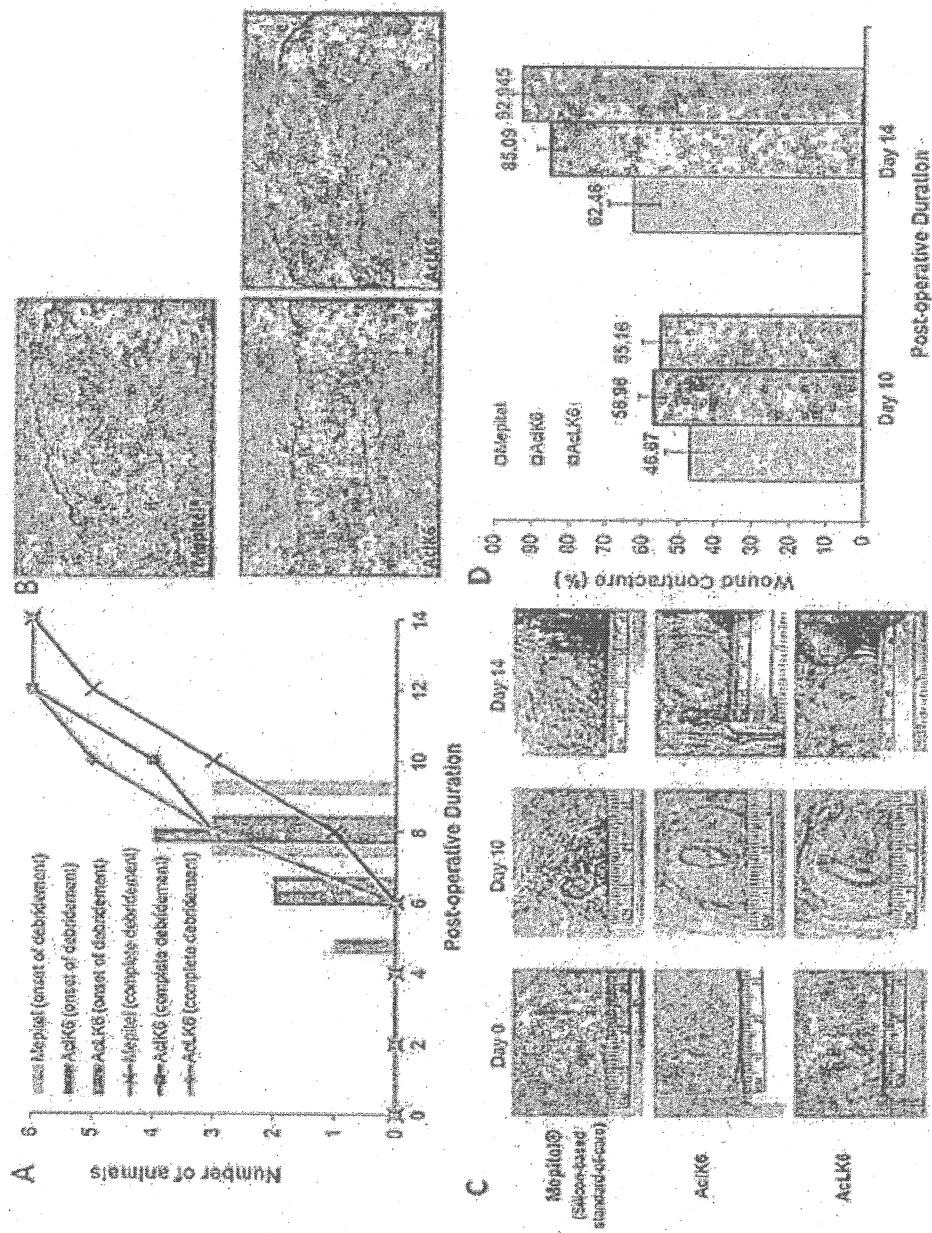


Fig. 18

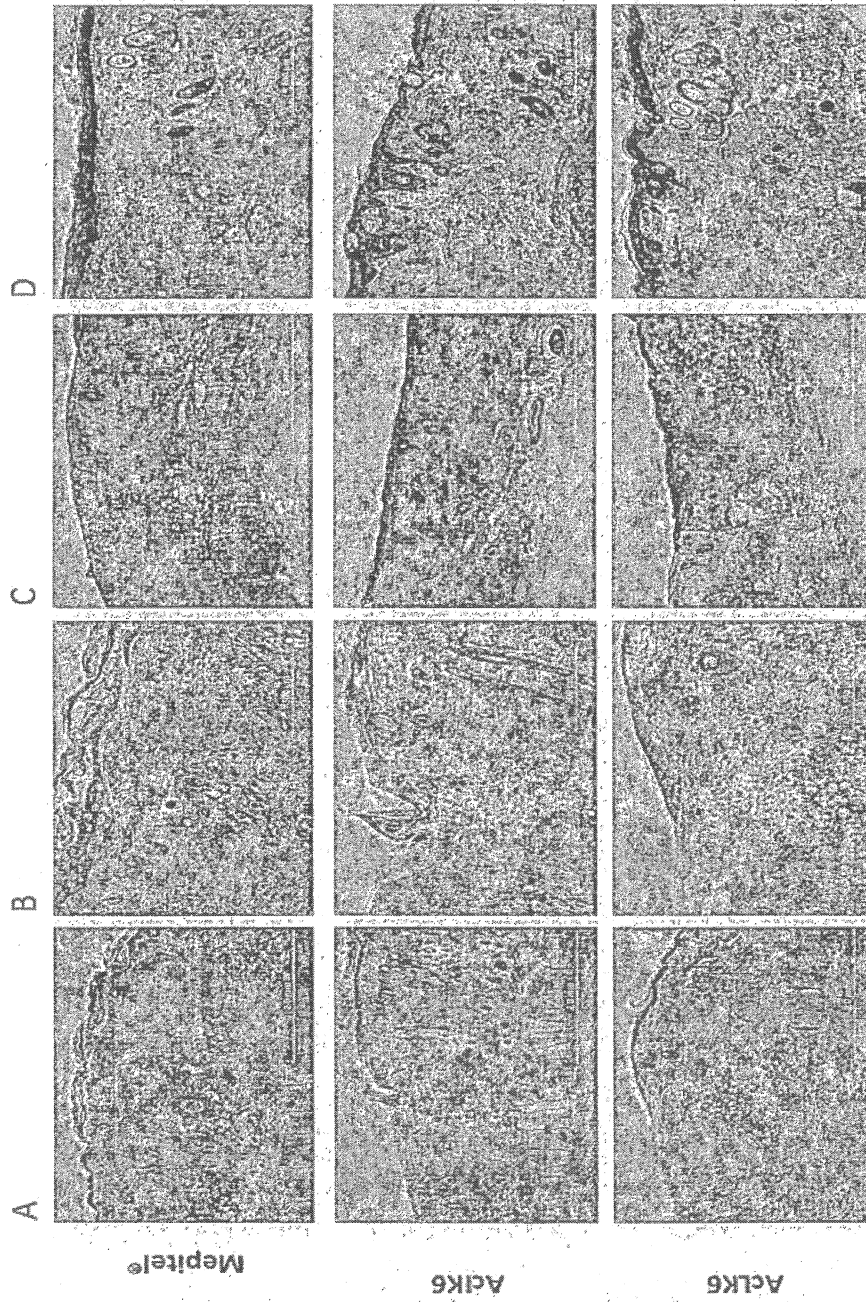


Fig. 19

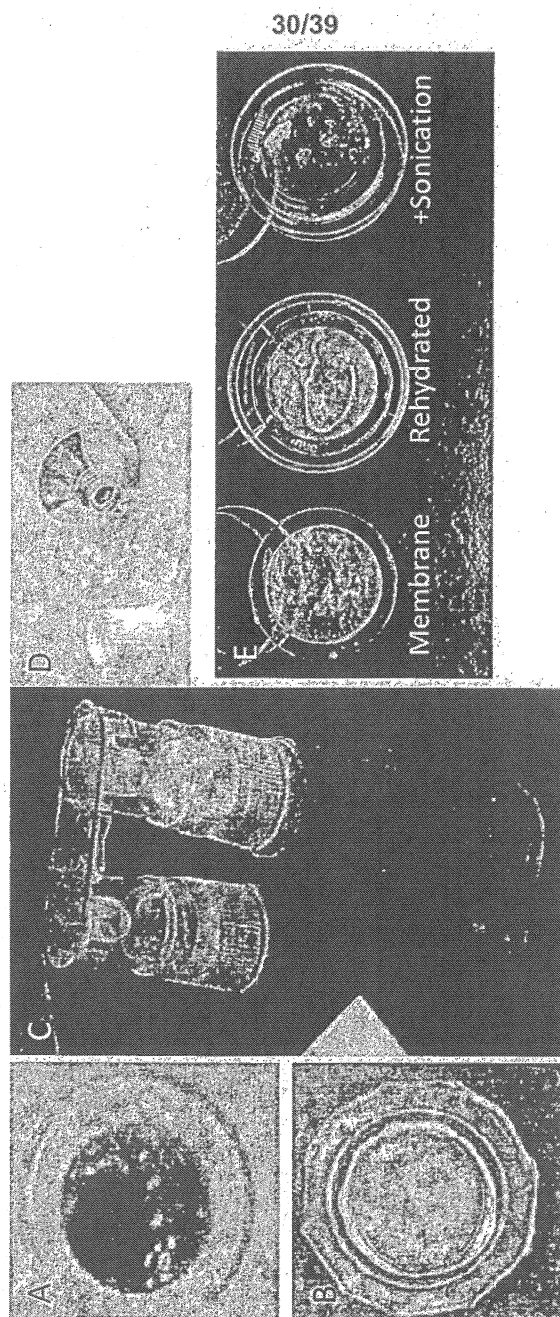


Fig. 20

A Minimum gelation concentration

Peptide	Water	PBS
Ac-LIVAGK-NH ₂	15	6
Ac-AIVAGK-NH ₂	36	20
Ac-ILVAGK-NH ₂	10	3

C Minimum gelation concentration (PBS)

Head group	I-Series	L-Series
Lys	3	6
Orn	5	6
Dab	5	6

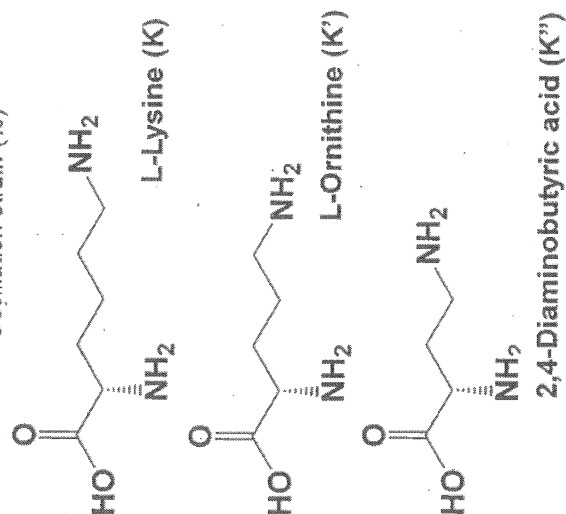
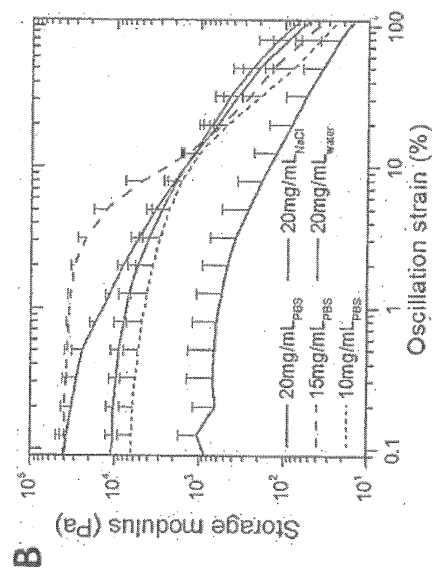
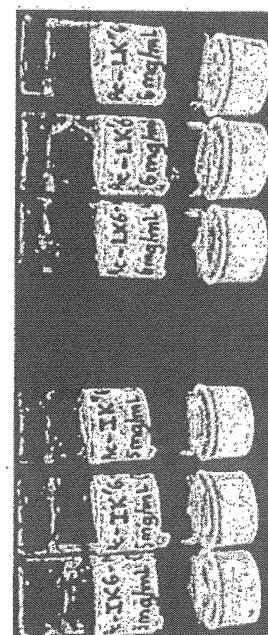


Fig. 21

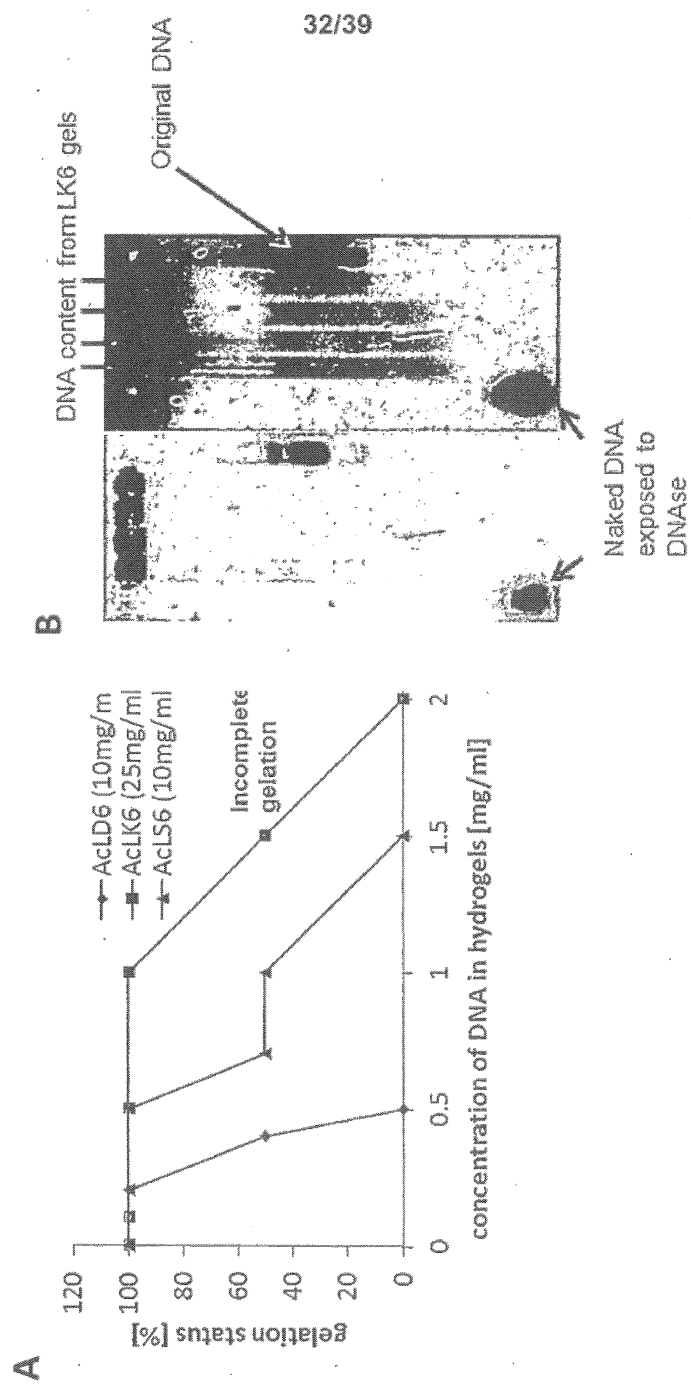


Fig. 22

Sample ID	Clotting time (activation of extrinsic pathway only)	Clotting time (in presence of platelet inhibitor)
Whole blood	43 s	43 s
Whole blood + 10% saline	55 s	51 s
Whole blood + 10% 5mg/mL Ac-LIVAGD-COOH in saline	37 s	32 s
Whole blood + 10% 5mg/mL Ac-LIVAGK-CONH ₂ in saline	36 s	38 s
Whole blood + 10% 5mg/mL Ac-IVK-CONH ₂ in saline	39 s	35 s
Whole blood + 10% 5mg/mL Ac-AIVAGS-COOH in saline	36 s	30 s
Whole blood + 10% 5mg/mL Ac-AIVAGS-CONH ₂ in saline	32 s	27 s

Fig. 23

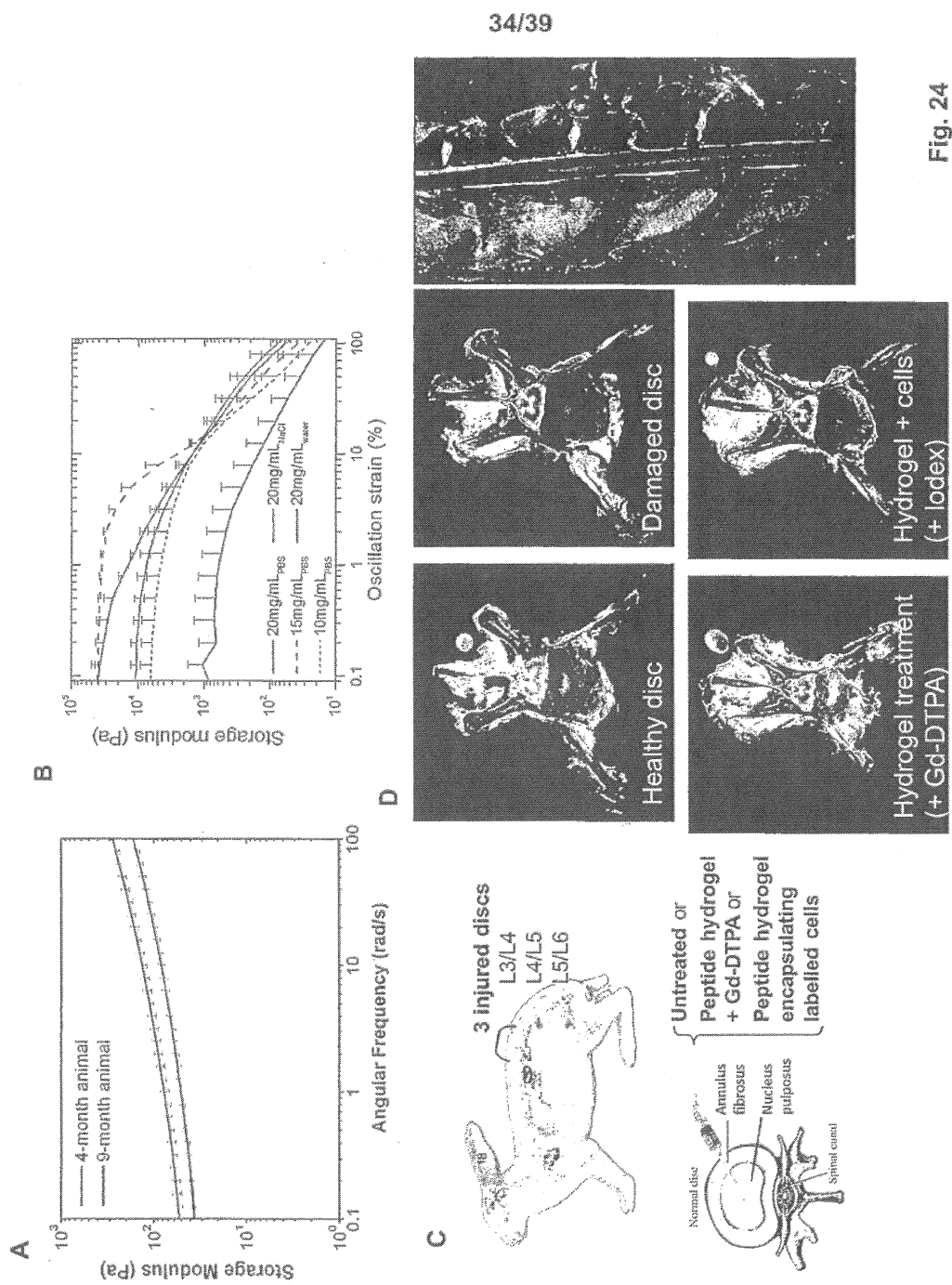
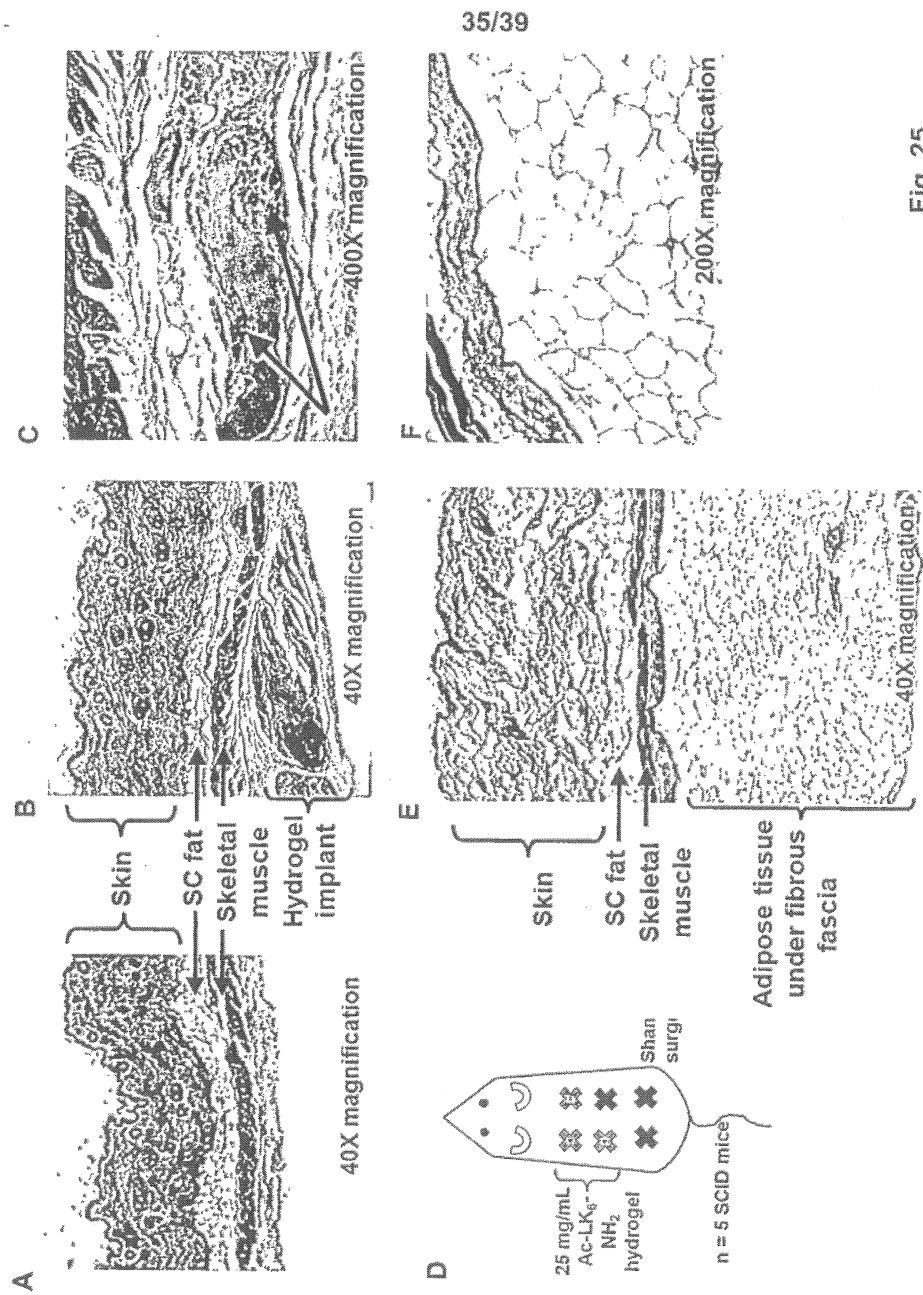


Fig. 24



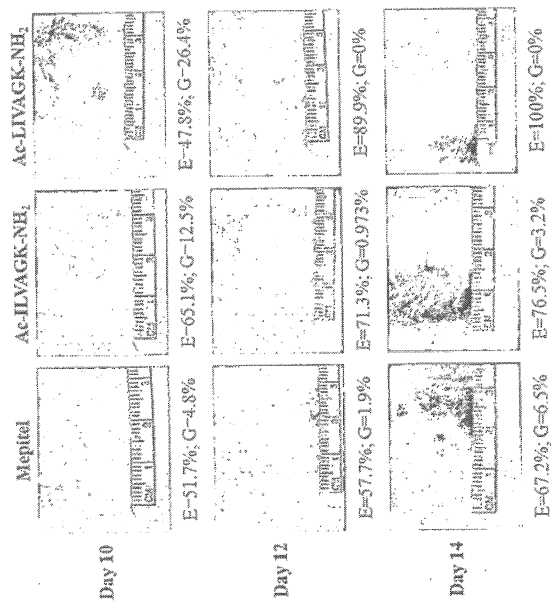


Fig. 26

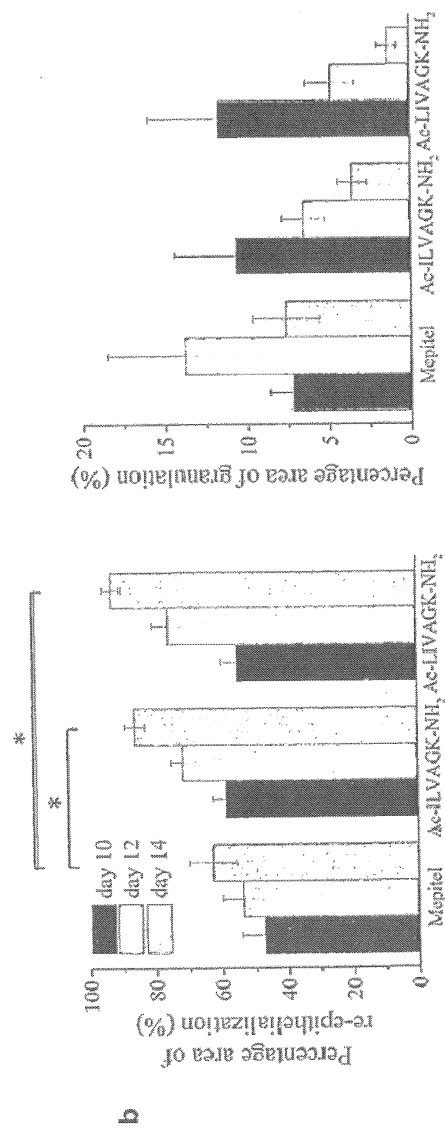
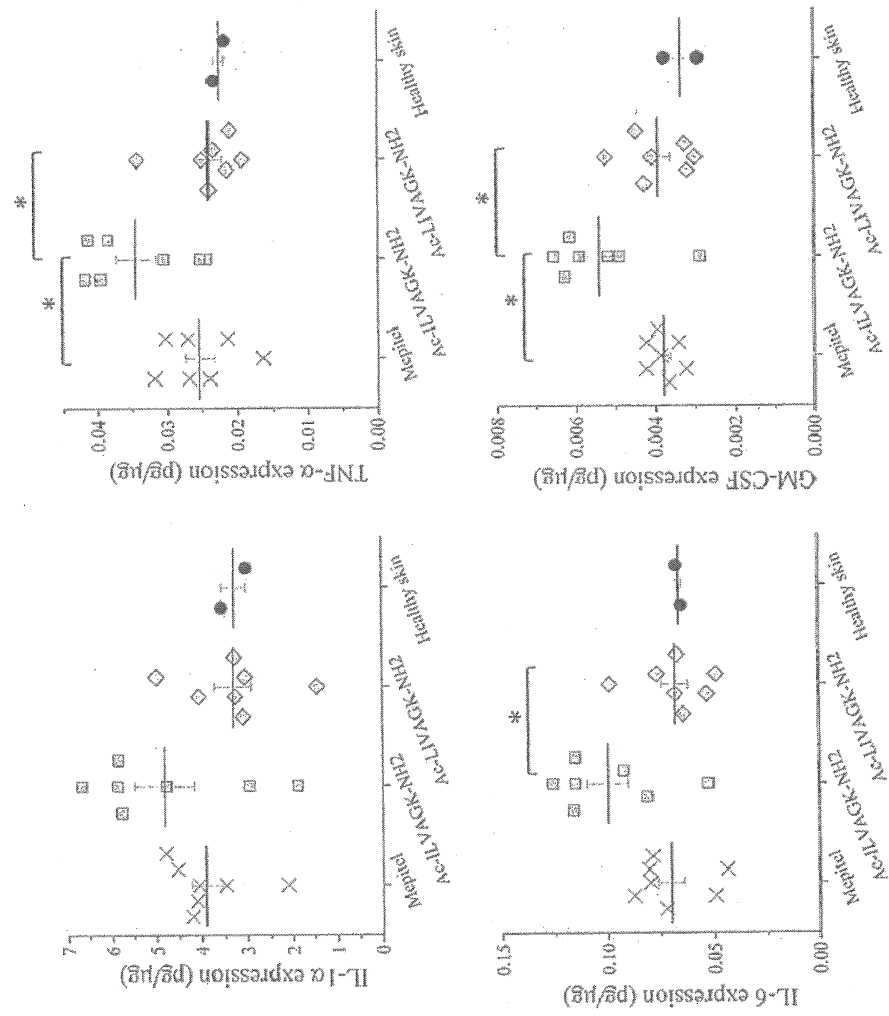


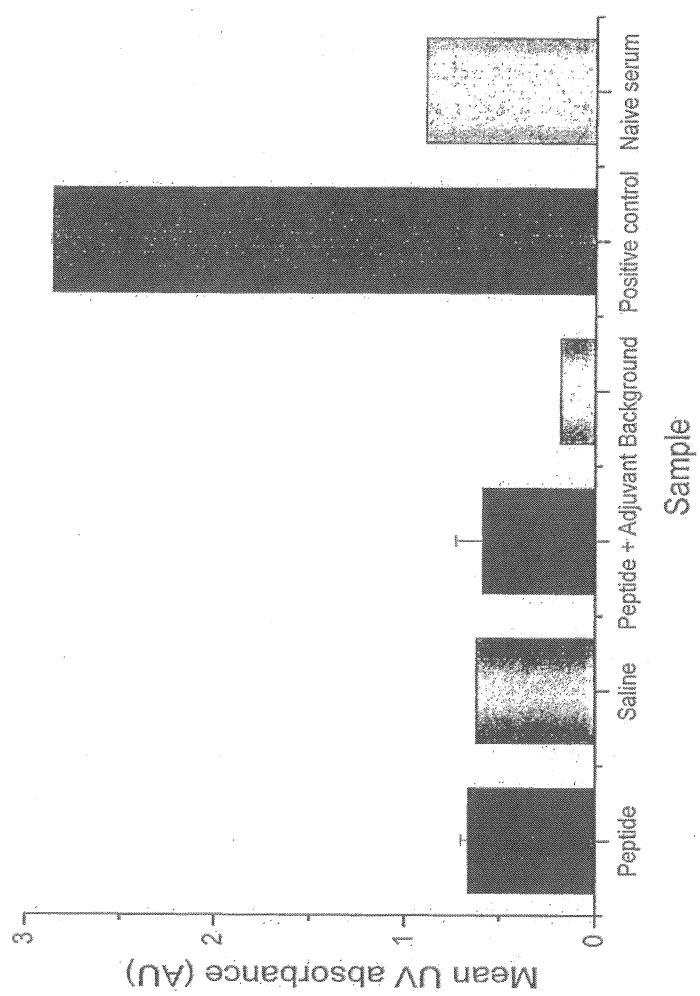
Fig. 27

a				
Cytokine [pg/μg]	Mepitel	Ac-ILVAGK- NH ₂	Ac-LIVAGK- NH ₂	p-value
GM-CSF	(5.61±0.92) x 10 ⁻³	(4.66±1.09) x 10 ⁻³	(6.62±1.14) x 10 ⁻³	0.451
IFN-γ	(1.16±0.14) x 10 ⁻³	(1.14±0.15) x 10 ⁻³	(1.59±0.31) x 10 ⁻³	0.305
IL-1α	2.90±0.34	1.99±0.57	1.78±0.37	0.216
IL-1β	2.64±0.97	2.77±1.76	4.81±0.93	0.437
IL-4	(5.16±0.33) x 10 ⁻⁴	(6.09±0.34) x 10 ⁻⁴	(6.38±1.87) x 10 ⁻⁴	0.728
IL-6	(6.22±0.58) x 10 ⁻³	(6.60±0.95) x 10 ⁻²	(7.54±1.10) x 10 ⁻²	0.587
TGF-β	(6.68±0.95) x 10 ⁻³	(5.29±1.13) x 10 ⁻³	(7.49±1.56) x 10 ⁻³	0.475
TNF-α	(2.60±0.30) x 10 ⁻²	(2.32±0.41) x 10 ⁻²	(2.37±0.43) x 10 ⁻²	0.863
VEGF-α	0.42±0.14	0.15±0.06	0.11±0.02	0.067

b				
Cytokine [pg/μg]	Mepitel	Ac-ILVAGK- NH ₂	Ac-LIVAGK- NH ₂	p-value
GM-CSF	(3.80±0.14) x 10 ⁻³	(5.42±0.48) x 10 ⁻³	(3.93±0.31) x 10 ⁻³	0.006
IFN-γ	(1.70±0.32) x 10 ⁻³	(1.93±0.22) x 10 ⁻³	(1.28±0.14) x 10 ⁻³	0.176
IL-1α	3.90±0.34	4.82±0.67	3.30±0.41	0.116
IL-1β	1.48±0.66	0.86±0.20	0.72±0.31	0.441
IL-4	(6.91±0.76) x 10 ⁻⁴	(9.42±0.94) x 10 ⁻⁴	(6.14±0.57) x 10 ⁻⁴	0.02
IL-6	(7.01±0.63) x 10 ⁻²	(9.97±0.98) x 10 ⁻²	(6.79±0.62) x 10 ⁻²	0.015
TGF-β	(6.63±1.37) x 10 ⁻³	(6.99±1.29) x 10 ⁻³	4.93±0.91) x 10 ⁻³	0.452
TNF-α	(2.54±0.20) x 10 ⁻³	(3.45±0.29) x 10 ⁻²	(2.41±0.19) x 10 ⁻²	0.009
VEGF-α	(5.16±0.31) x 10 ⁻²	(6.07±0.70) x 10 ⁻²	(5.55±0.92) x 10 ⁻²	0.654

Fig. 28





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Fig. 29