FIGURE 1 MEMBRANE MORPHOLOGY STRUCTURE

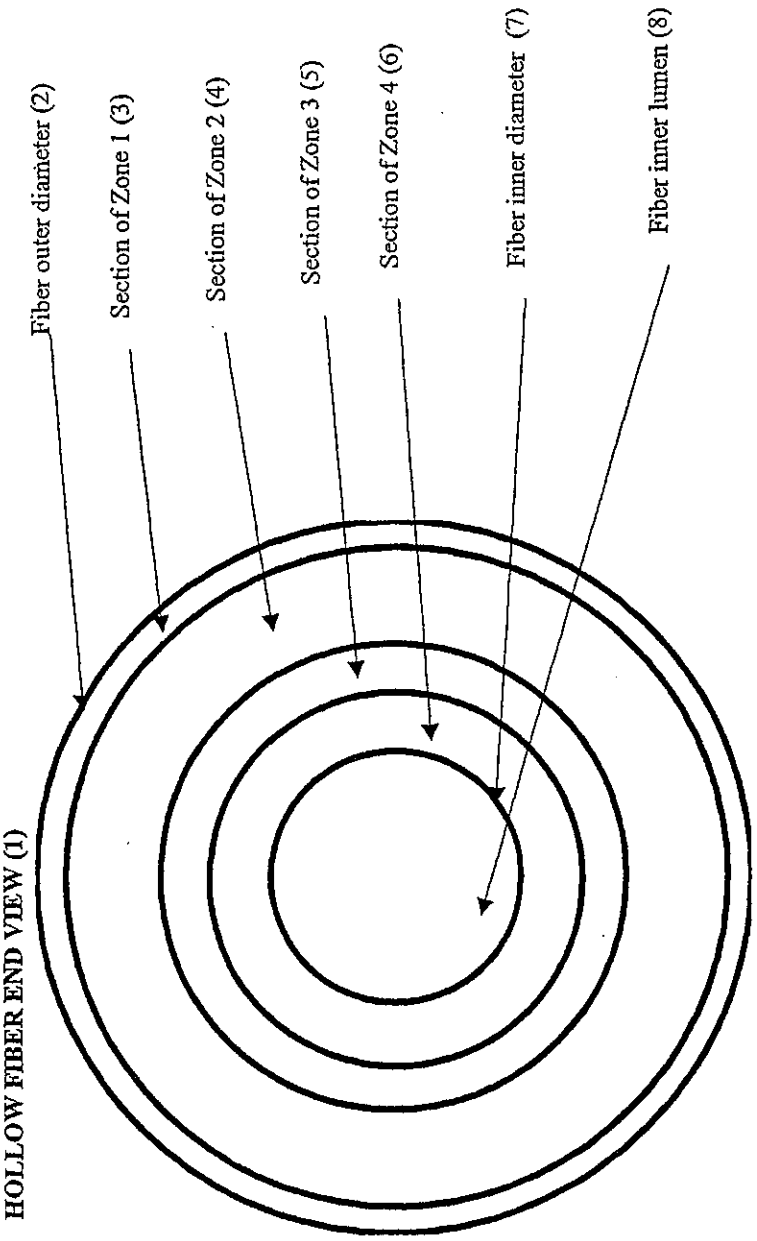
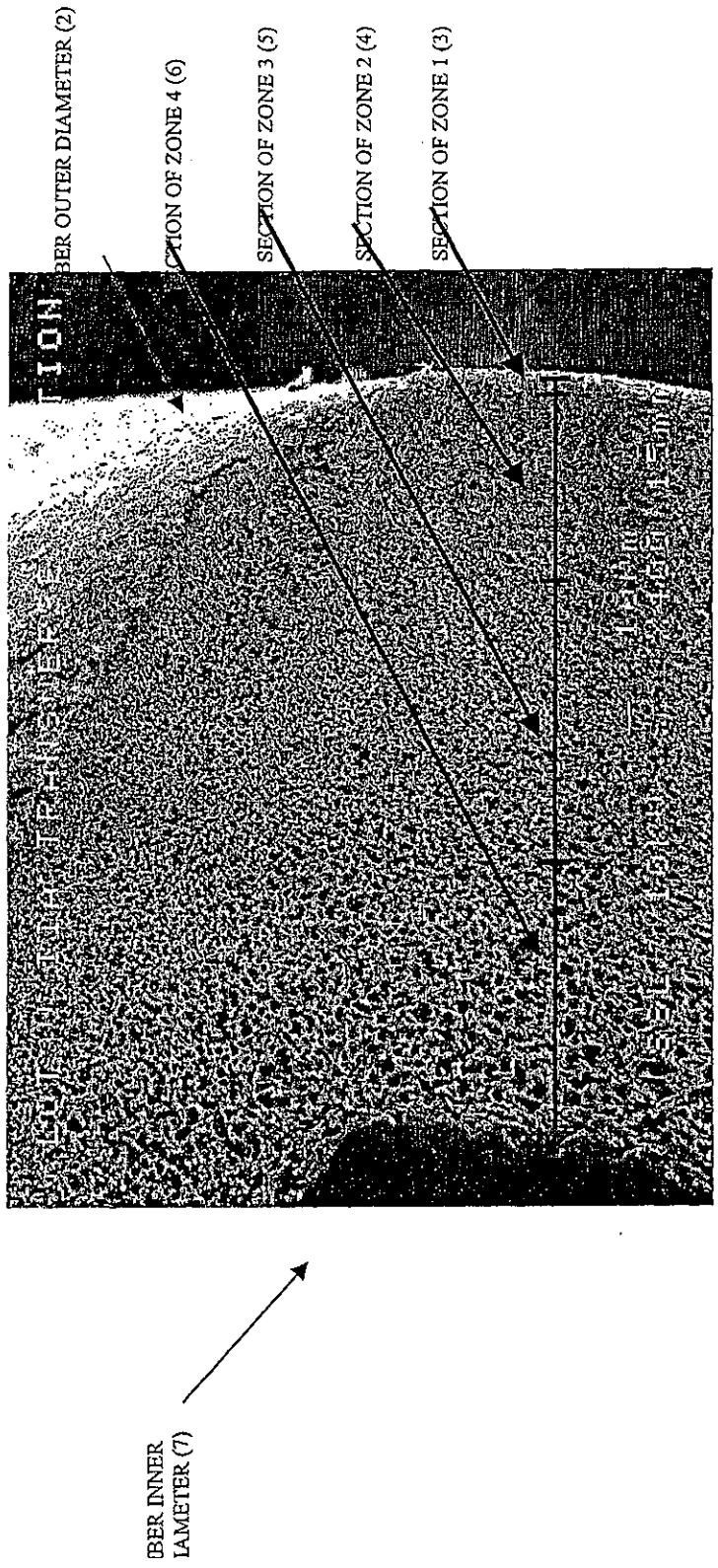


FIGURE 2


BER OUTER DIAMETER (2)
CTION OF ZONE 4 (6)
SECTION OF ZONE 3 (5)
SECTION OF ZONE 2 (4)
SECTION OF ZONE 1 (3)
BER INNER
IAMETER (7)

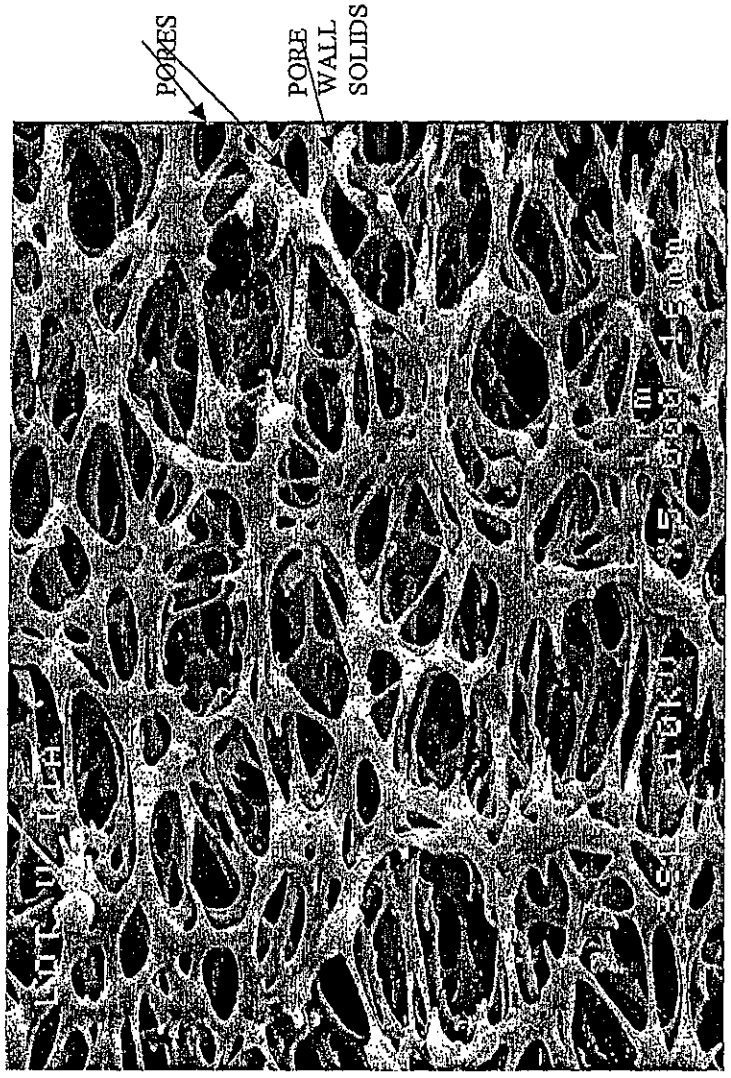


FIGURE 3

SEM OF SECTION ZONE 1 PORE STRUCTURE (3)

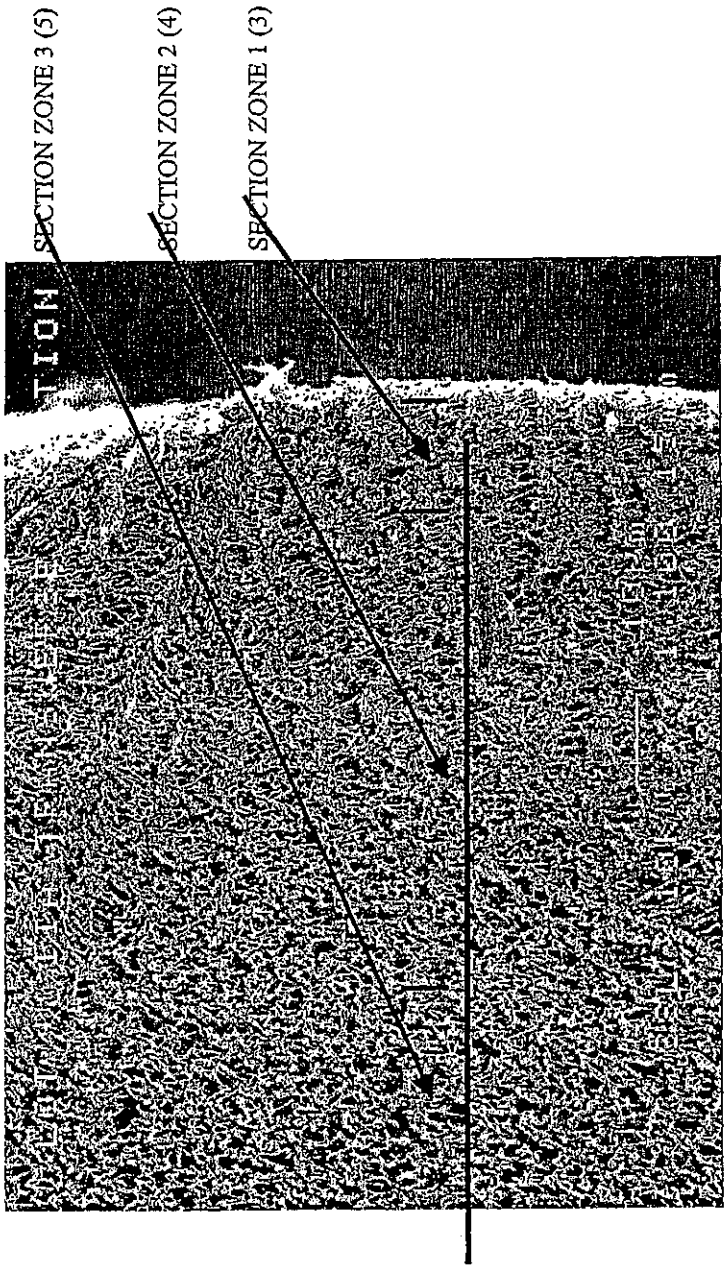
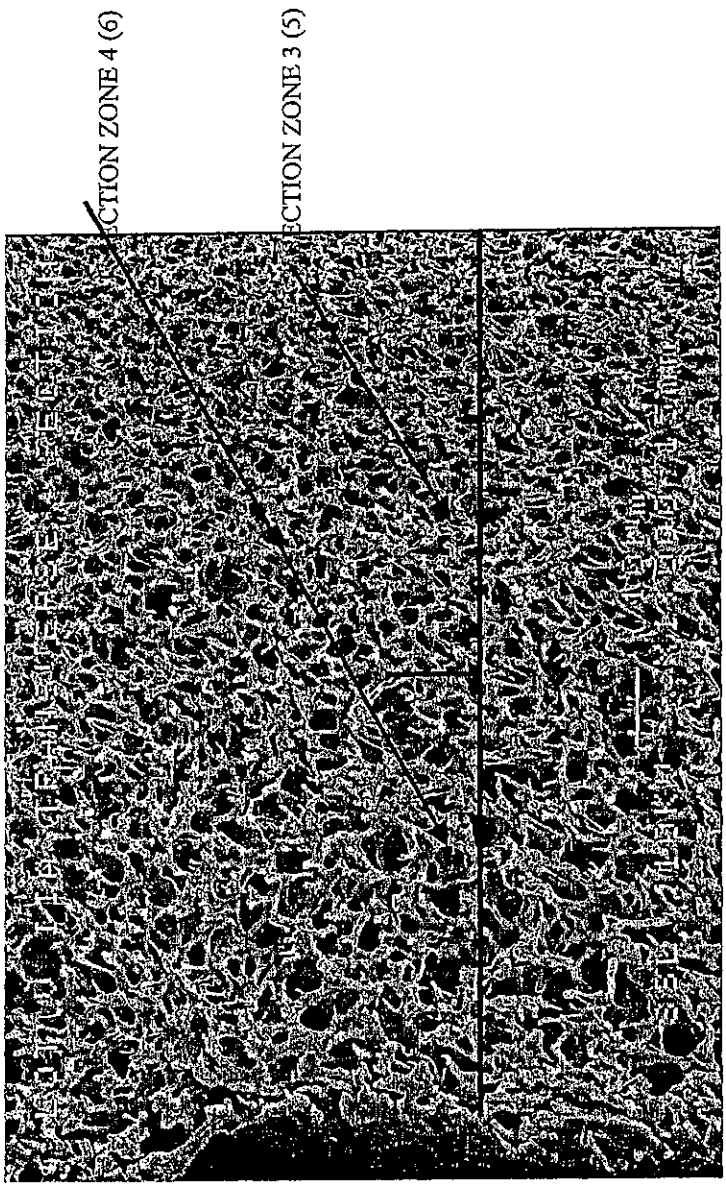


FIGURE 4

SEM OF FIBER CROSSECTION SECTION ZONES 1,2 AND 3

FIGURE 5

SEM OF CROSSECTIONS ZONES 3 AND 4



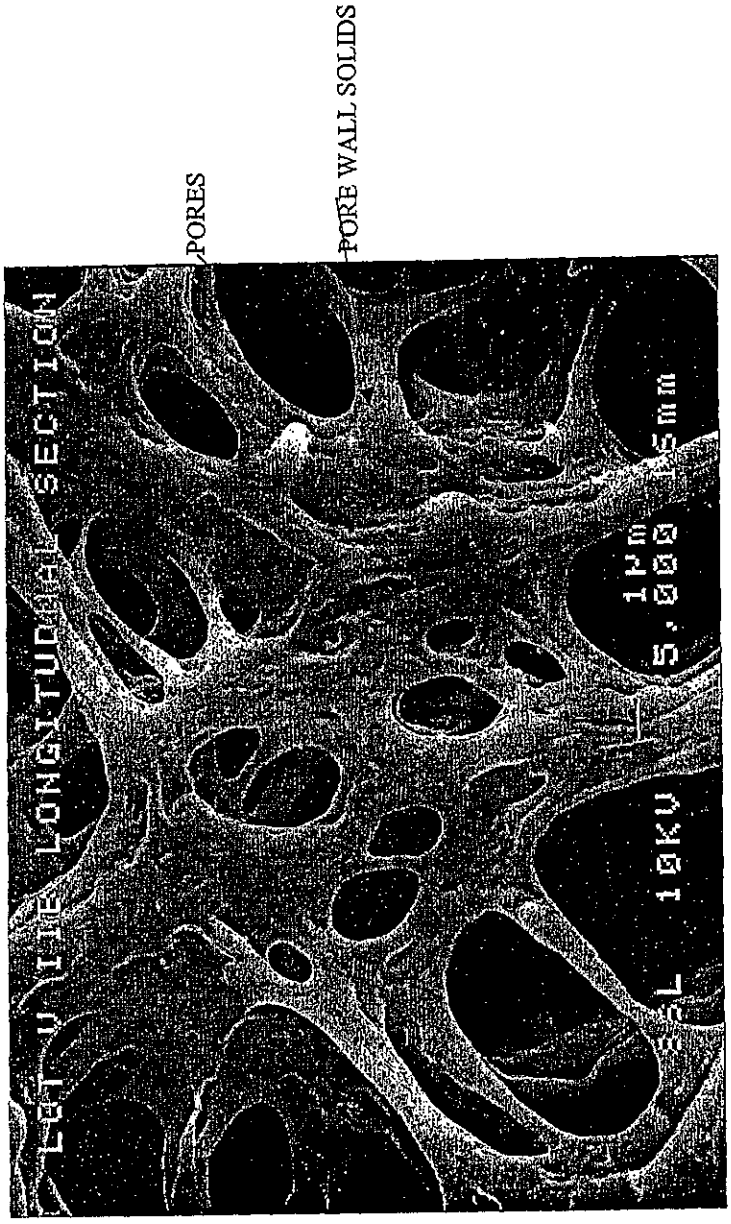

PORES
PORE WALL SOLIDS
LOW ANGLE LONGITUDINAL SECTION
10kV 5.0mm 5,000 1Pa

FIGURE 6

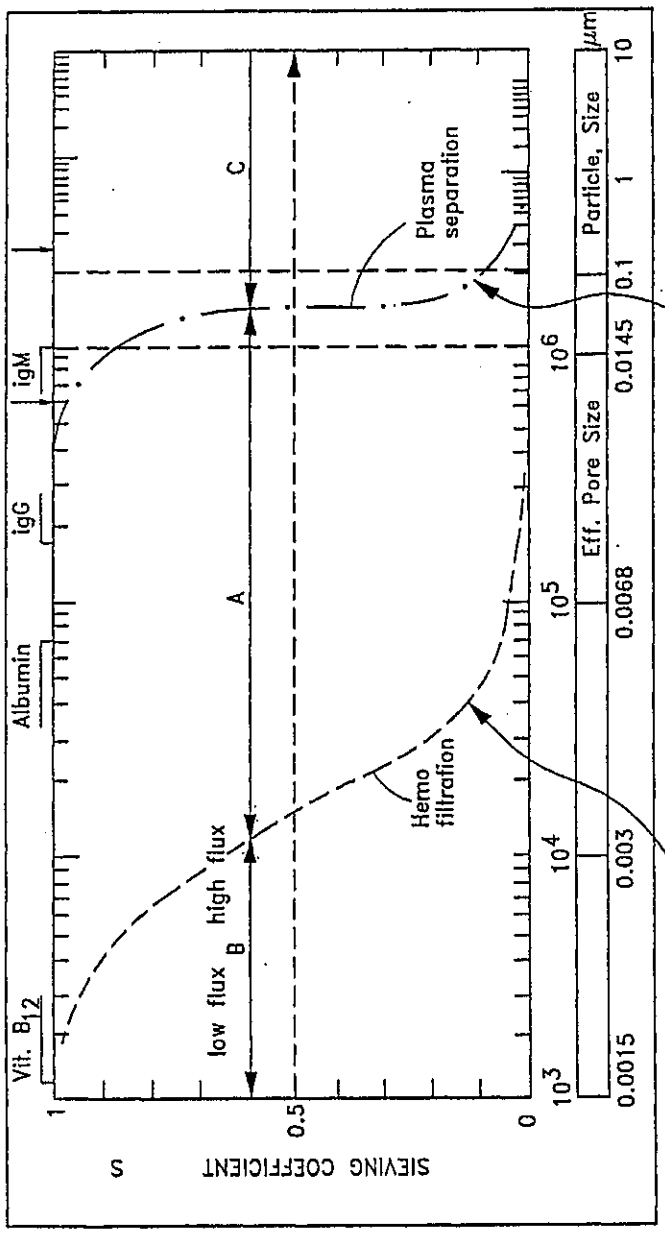

SIEVING COEFFICIENT
S
1
0.5
0
Vit. B12
Albumin
IgG
IgM
low flux
B
high flux
A
C
Hemo filtration
Plasma separation
10^3
10^4
10^5
10^6
Eff. Pore Size
0.0015
0.003
0.0068
0.0145
Particle, Size
μm
0.1
1
10
(11)TYPICAL SIEVING COEFFICIENT CURVE FOR MEMBRANES WITH PORES IN THE .006 TO .009 μm DIAMETER SIZE FOR ULTRAFILTRATION
(10)TYPICAL SIEVING COEFFICIENT CURVE FOR MEMBRANES WITH PORES IN THE .3 TO .7 μm DIAMETER SIZE FOR PLASMAPHERESIS

FIG. 7