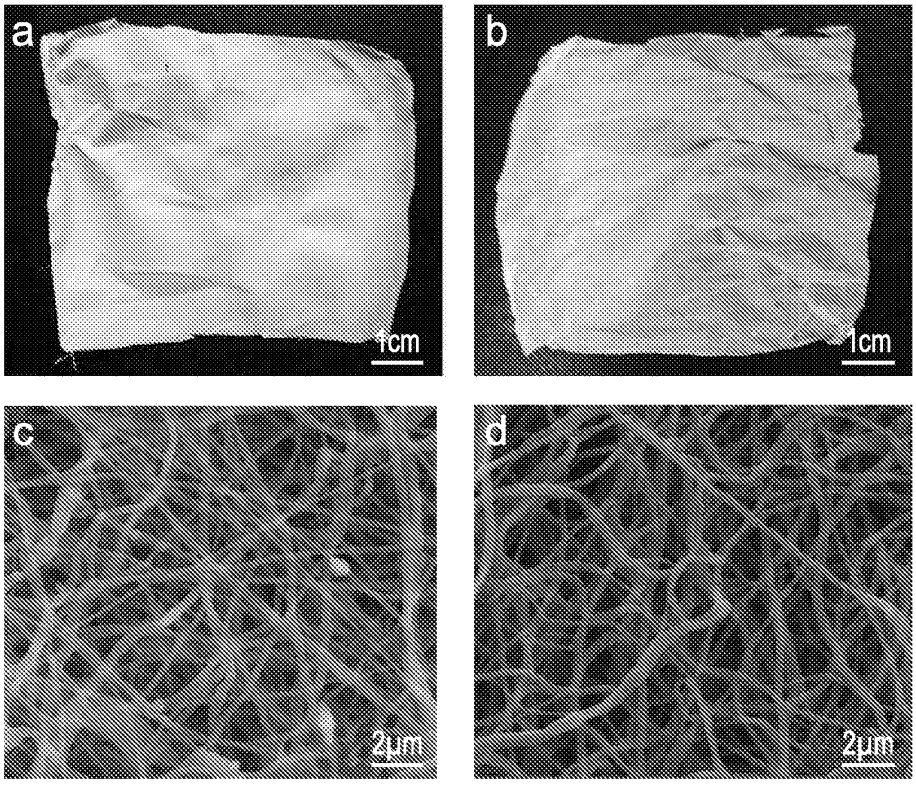


FIG. 1

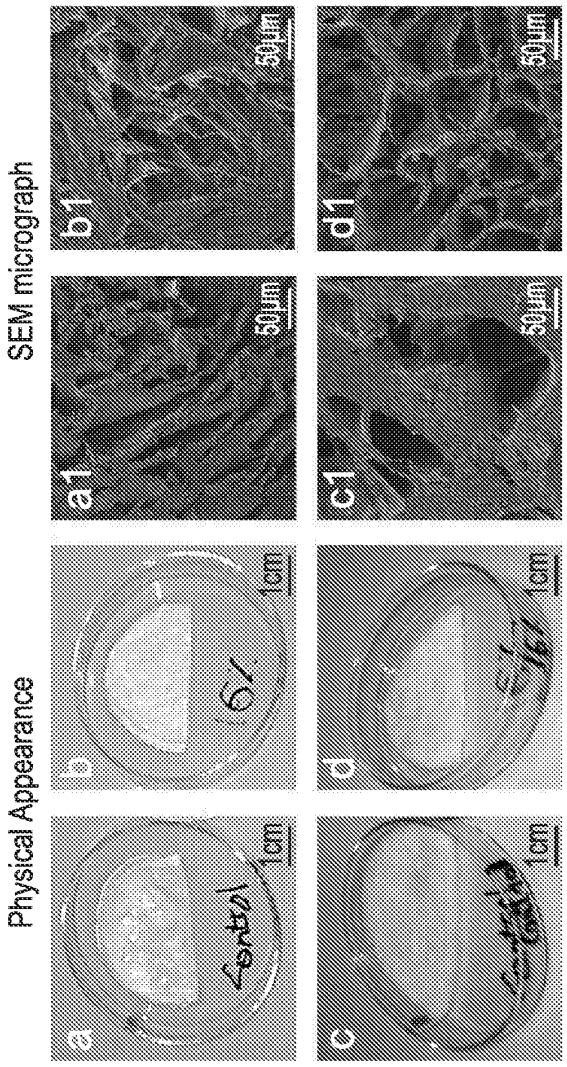

Physical Appearance
SEM micrograph
a
b
c
d
a1
b1
c1
d1
1cm
50μm

FIG. 2

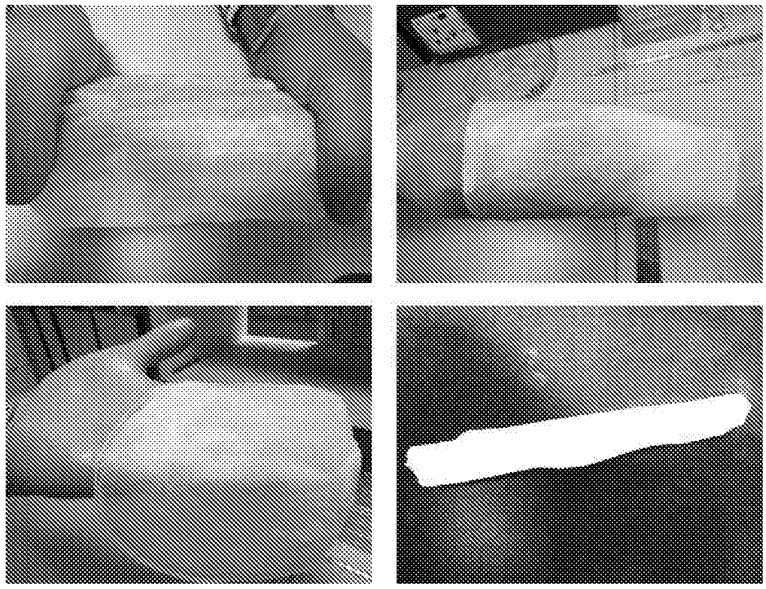


FIG. 3

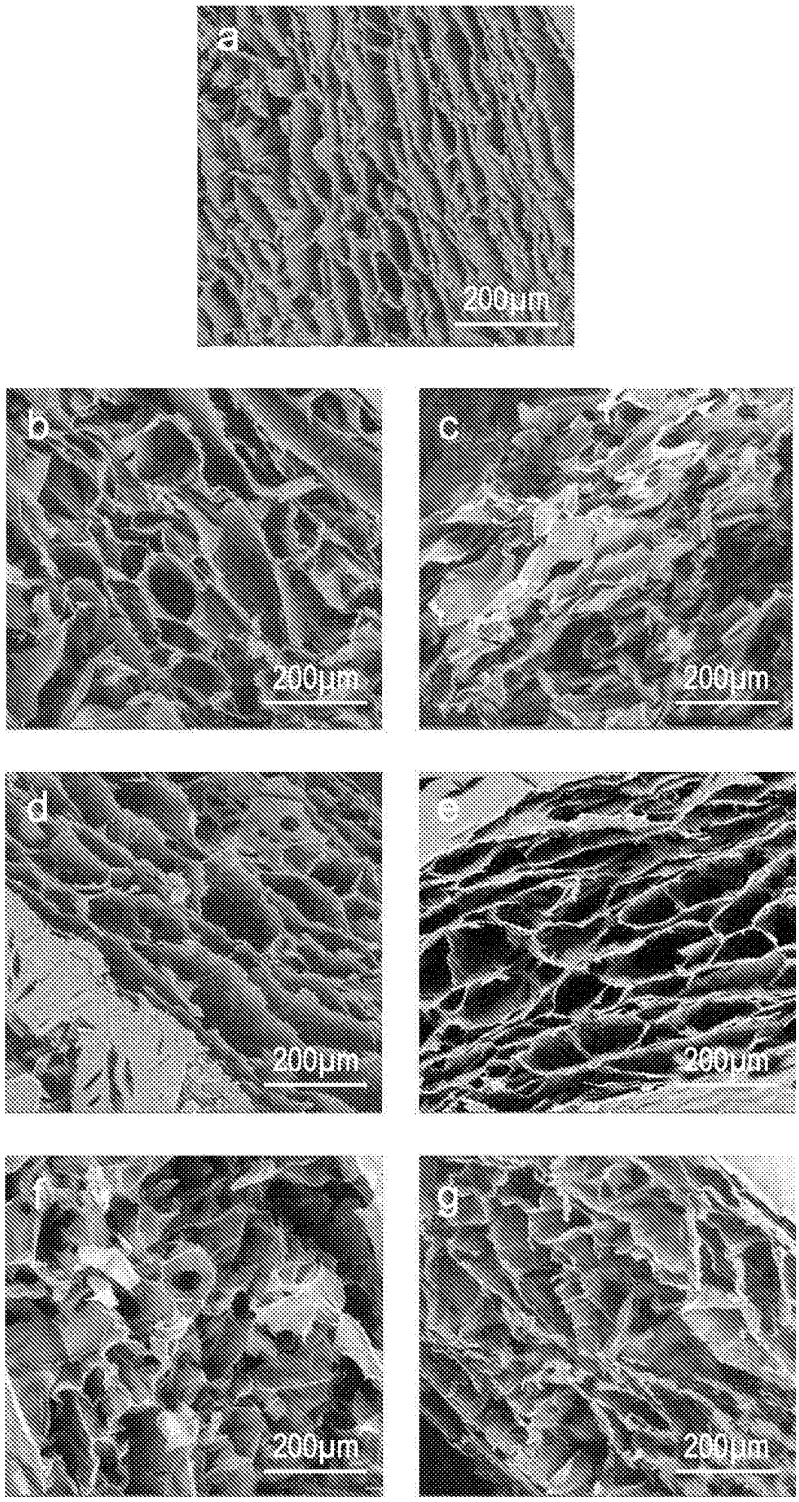


FIG. 4

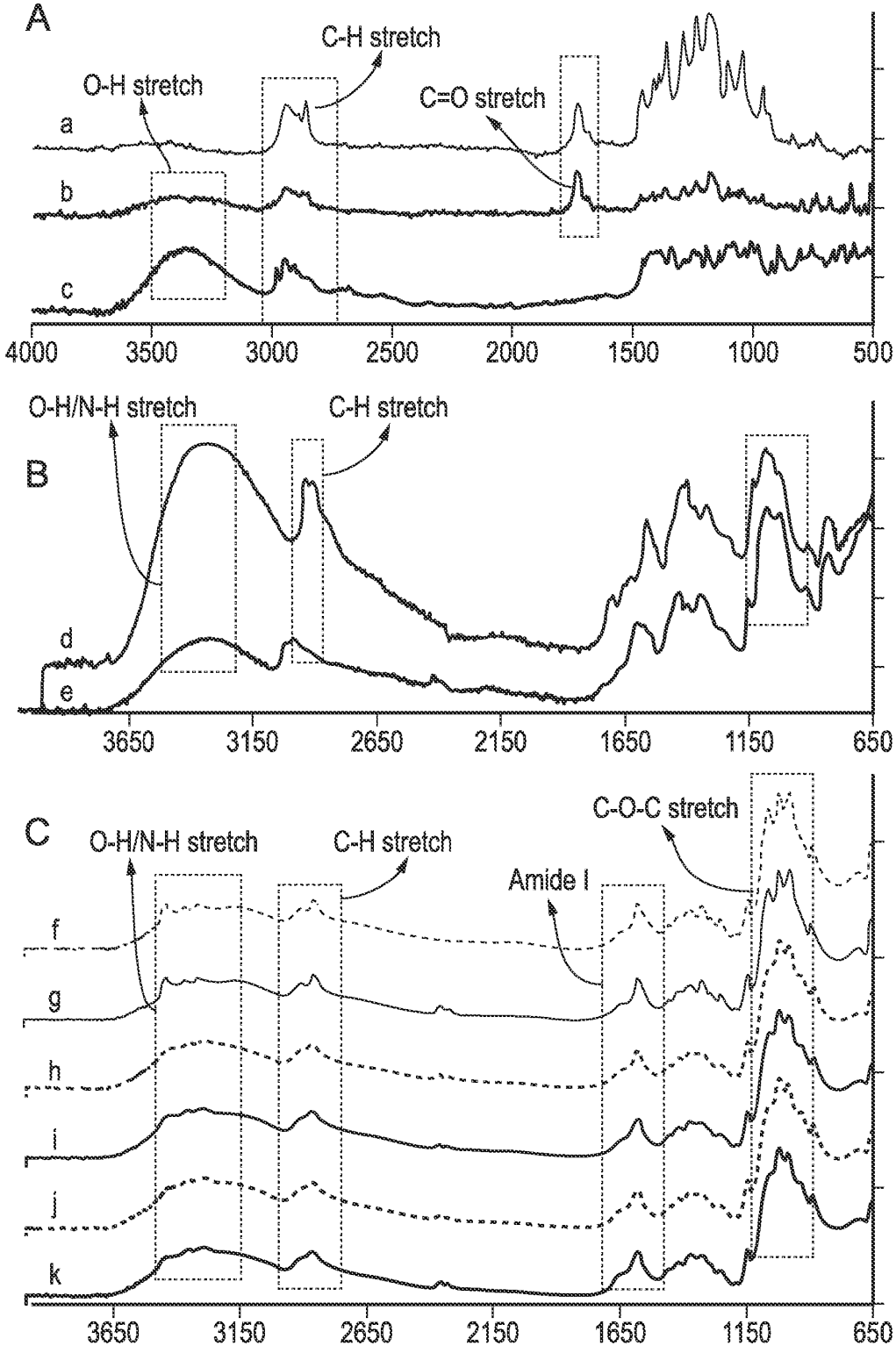
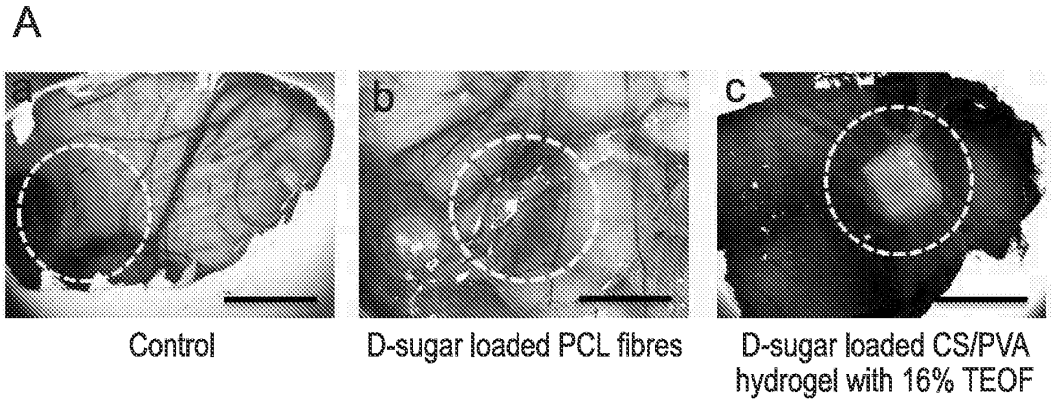

A
C-H stretch
O-H stretch
C=O stretch
a
b
c
4000
3500
3000
2500
2000
1500
1000
500
O-H/N-H stretch
C-H stretch
B
d
e
3650
3150
2650
2150
1650
1150
650
C-O-C stretch
C
O-H/N-H stretch
C-H stretch
Amide I
f
g
h
i
j
k
3650
3150
2650
2150
1650
1150
650

FIG. 5


A
a
b
c
Control
D-sugar loaded PCL fibres
D-sugar loaded CS/PVA hydrogel with 16% TEOF

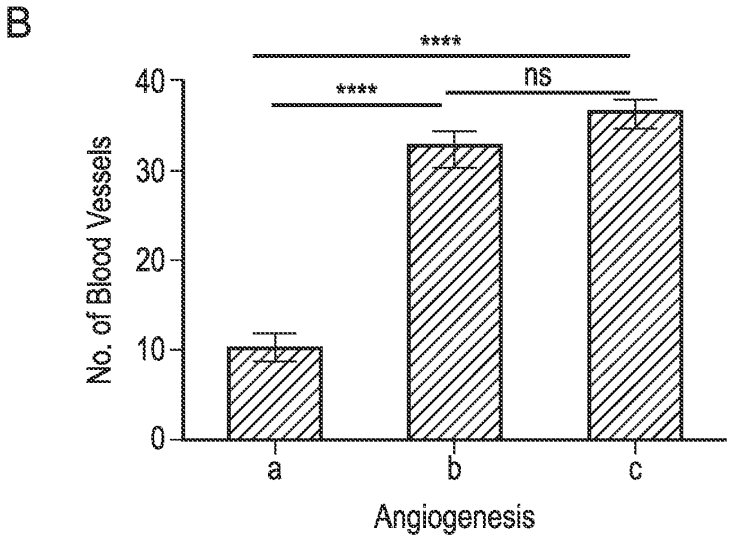

B
****
****
ns
40
30
20
10
0
No. of Blood Vessels
a
b
c
Angiogenesis

FIG. 6

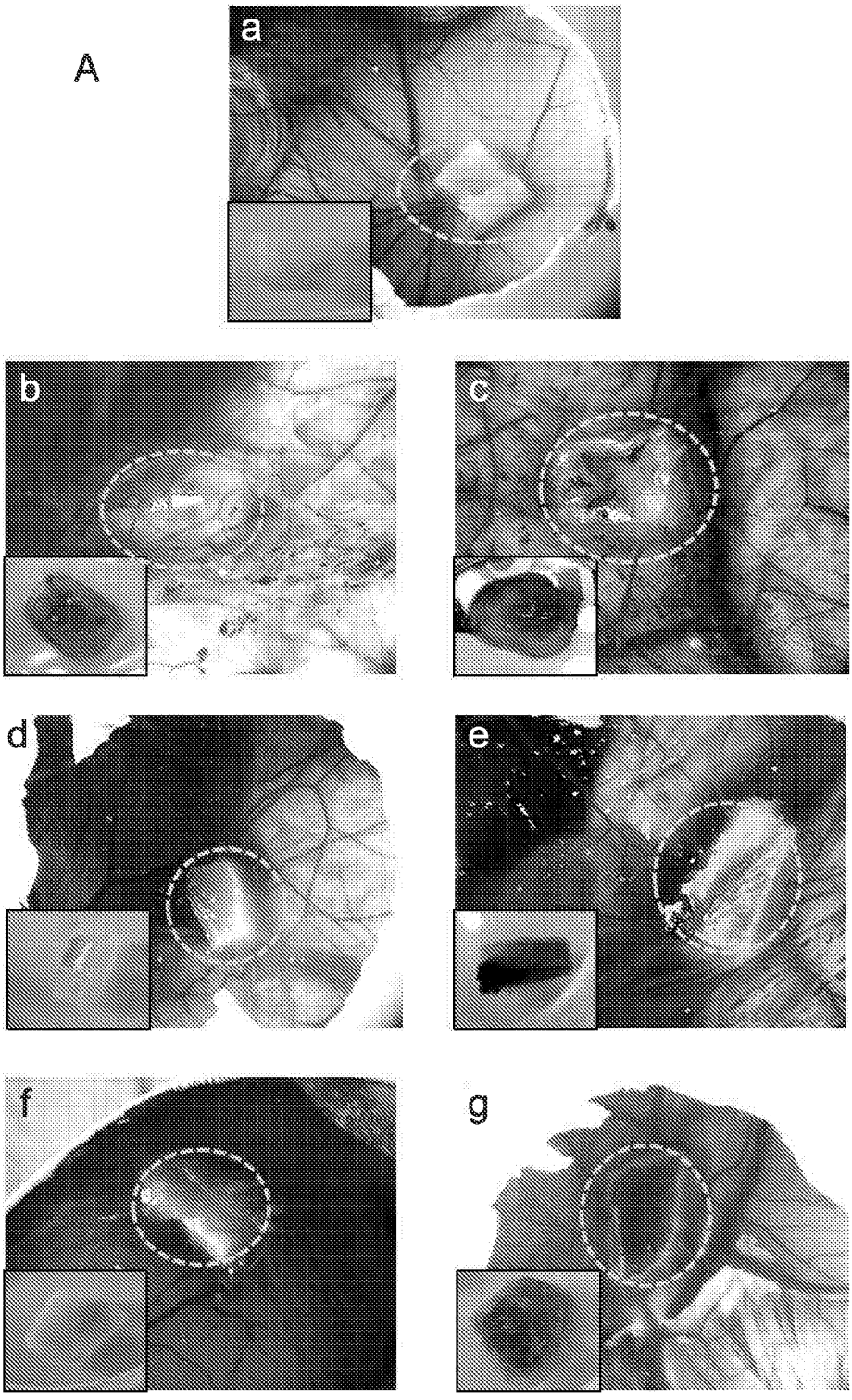


FIG. 7

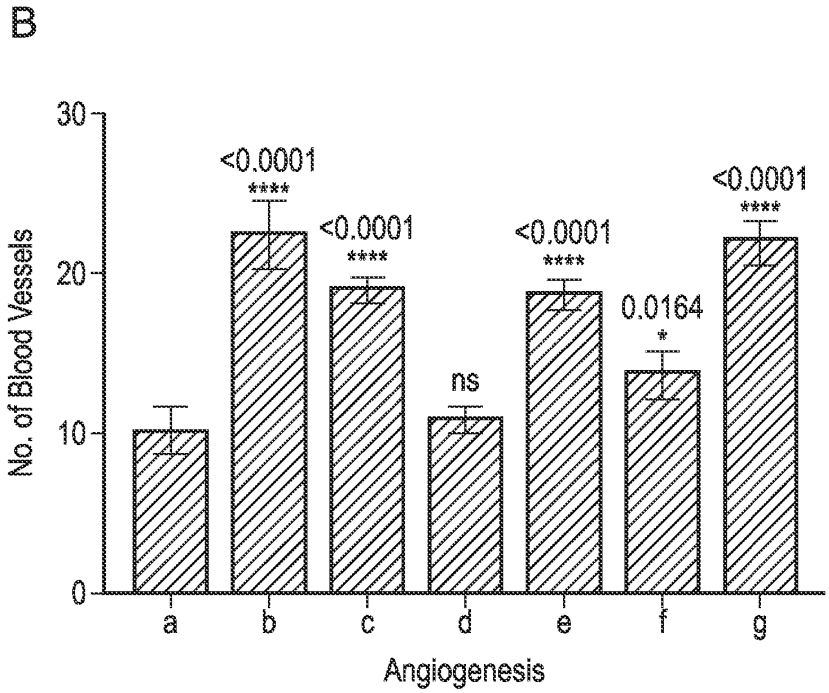


FIG. 7 (Continued)

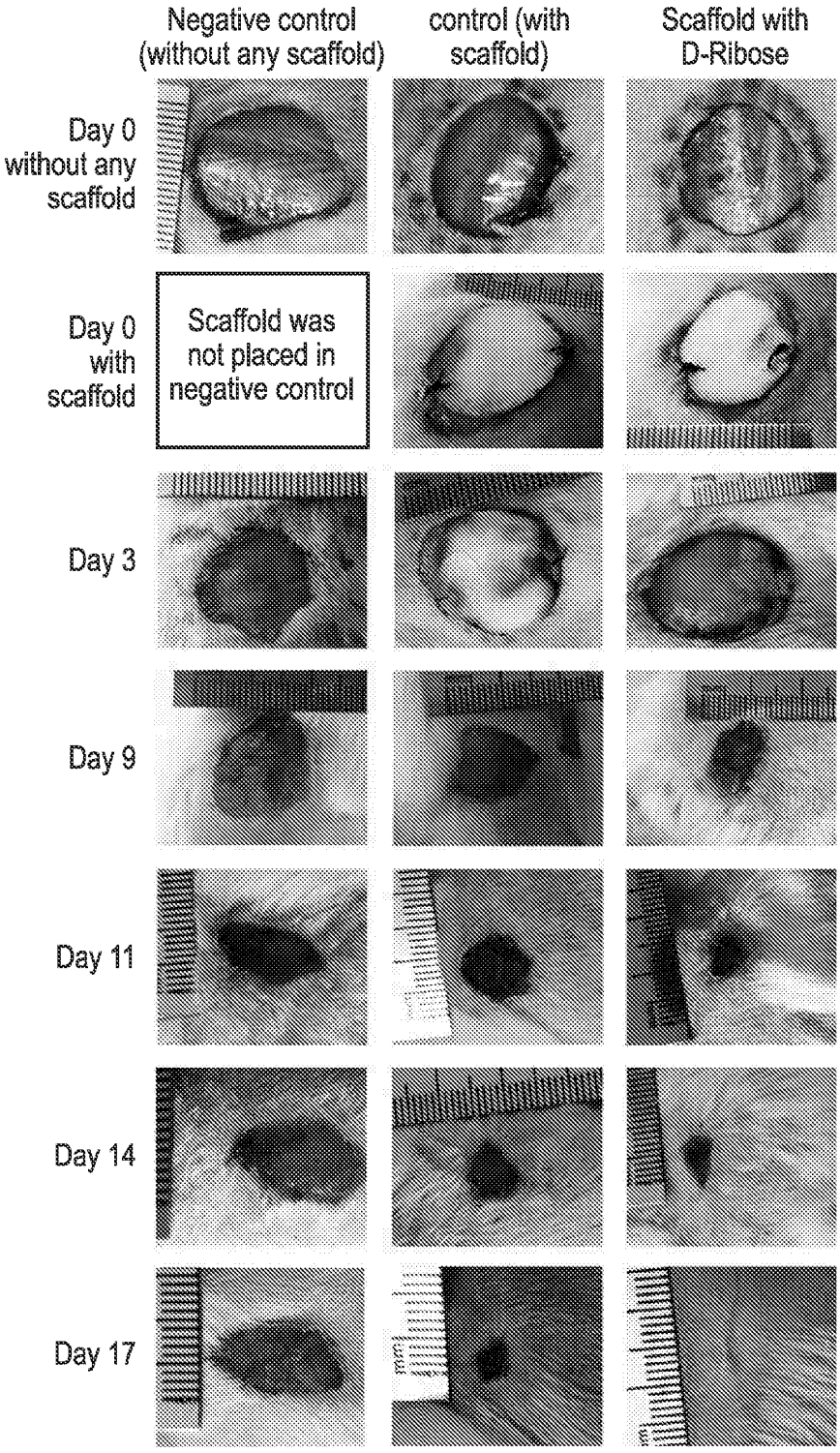

Negative control (without any scaffold)
control (with scaffold)
Scaffold with D-Ribose
Day 0 without any scaffold
Day 0 with scaffold
Scaffold was not placed in negative control
Day 3
Day 9
Day 11
Day 14
Day 17

FIG. 8

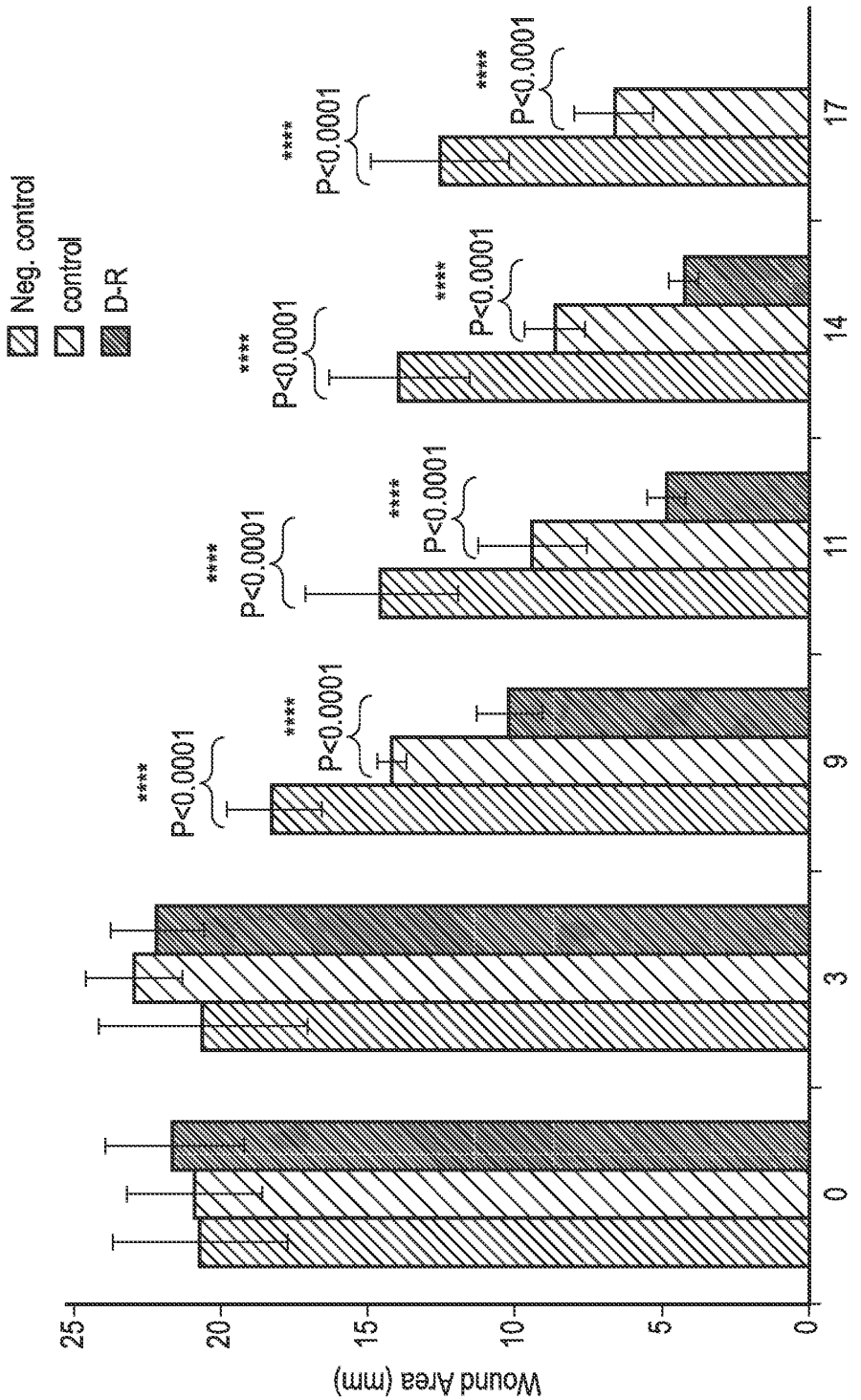

Neg. control
control
D-R
Wound Area (mm)
0
5
10
15
20
25
0
3
9
11
14
17
Time (Days)
****
P<0.0001
***
P<0.0001

FIG. 9

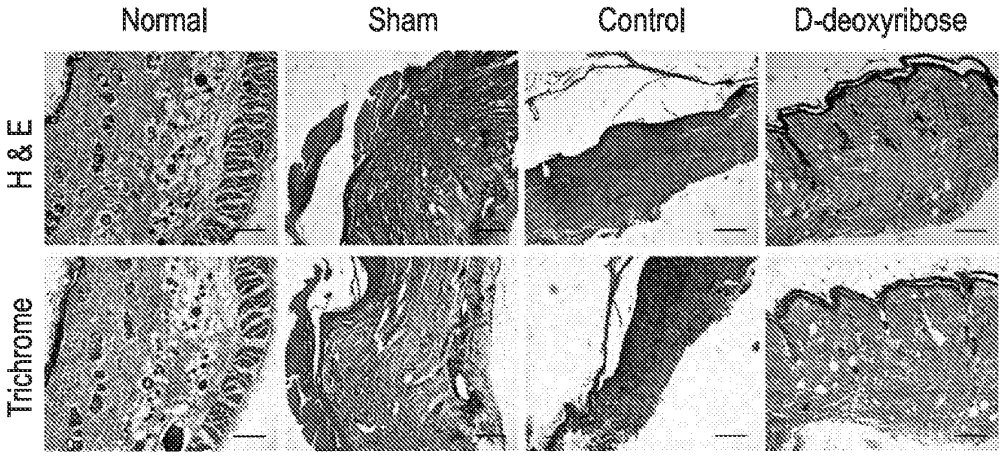

Normal
Sham
Control
D-deoxyribose
H & E
Trichrome

FIG. 10

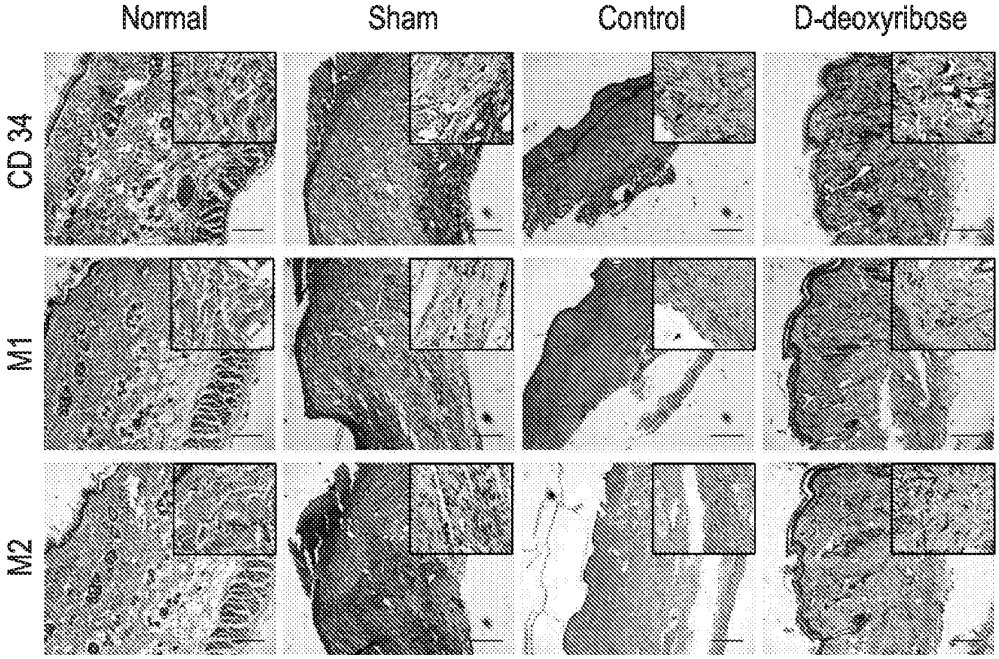
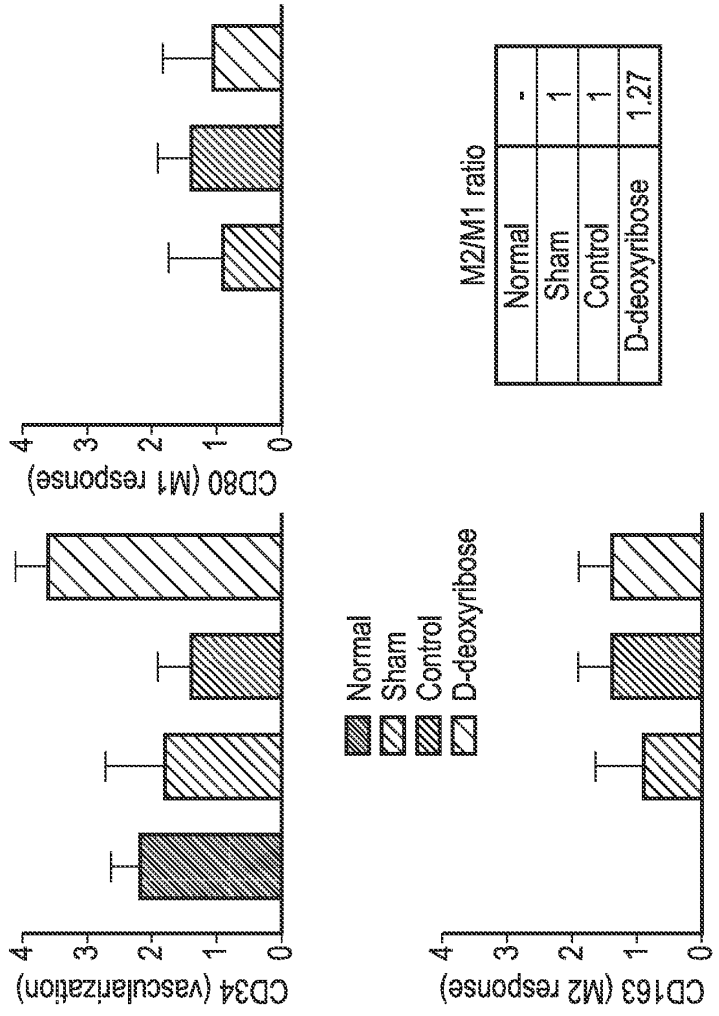

Normal
Sham
Control
D-deoxyribose
CD 34
M1
M2

FIG. 11



Multiple comparisons

	CD34	CD80	CD163
Normal vs. Sham	ns	ns	*
Normal vs. Control	ns	***	***
Normal vs. D-deoxyribose	*	**	***
Sham vs. Control	ns	ns	ns
Sham vs. D-deoxyribose	**	ns	ns
Control vs. D-deoxyribose	****	ns	ns

M2/M1 ratio

Normal	-
Sham	1
Control	1
D-deoxyribose	1.27

FIG. 12

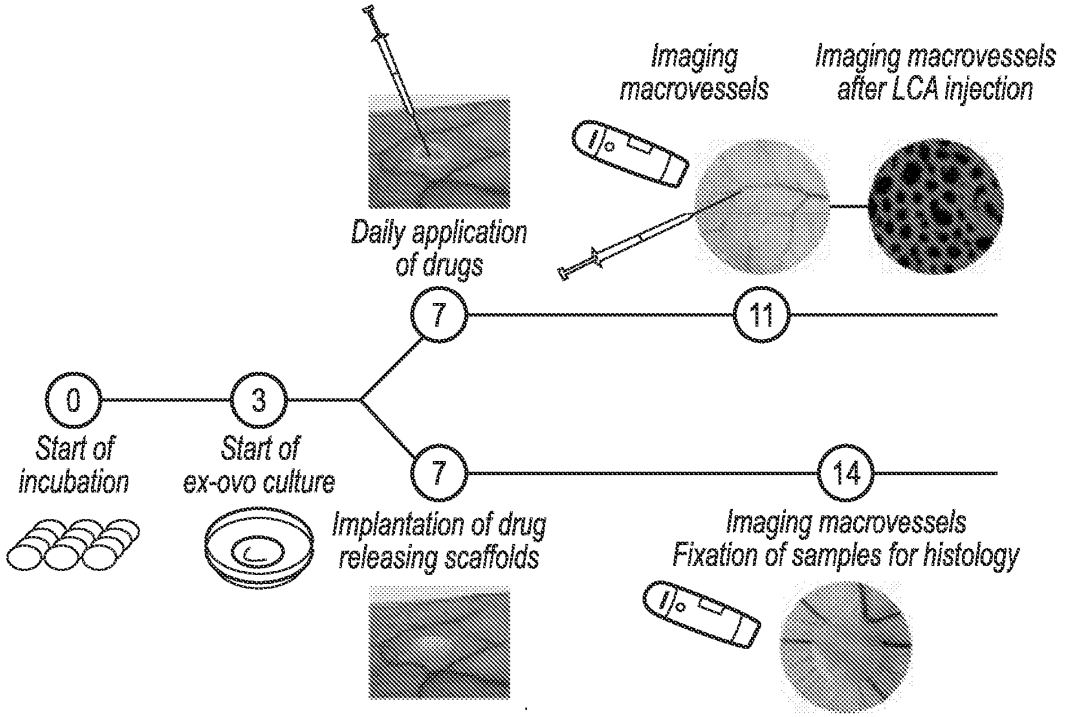

Imaging macrovessels
Imaging macrovessels after LCA injection
Daily application of drugs
7
11
0
3
Start of incubation
Start of ex-ovo culture
7
14
Implantation of drug releasing scaffolds
Imaging macrovessels
Fixation of samples for histology

FIG. 13

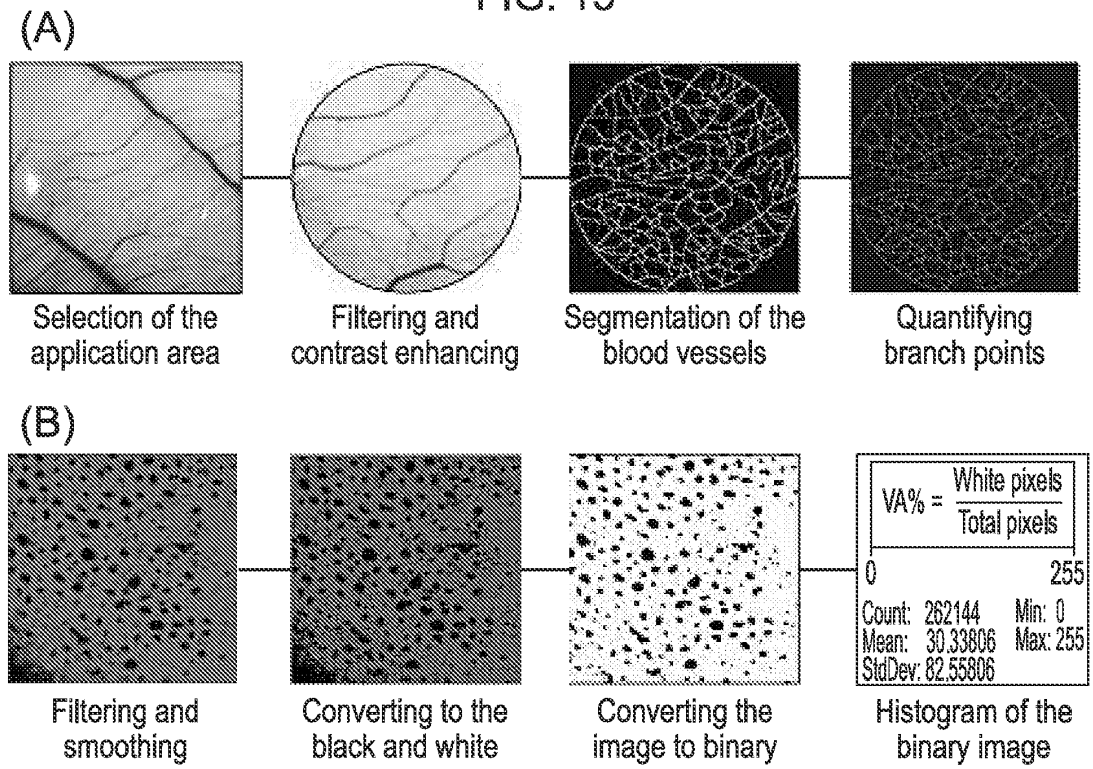
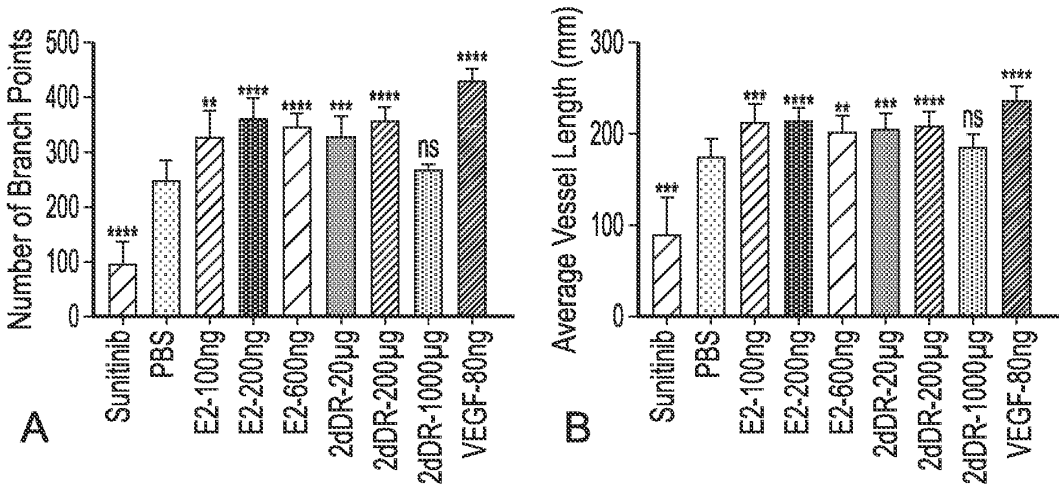

(A)
Selection of the application area
Filtering and contrast enhancing
Segmentation of the blood vessels
Quantifying branch points
(B)
Filtering and smoothing
Converting to the black and white
Converting the image to binary
VA% = White pixels / Total pixels
0
255
Count: 262144
Mean: 30.33806
StdDev: 82.55806
Min: 0
Max: 255
Histogram of the binary image

FIG. 14



C

Angiogenic Substance	*Number of Branch Points*	*Average Vessel Length (mm)*
PBS	250.6 ± 40.0	174.9 ± 20.2
VEGF-80	414.0 ± 21.4	237.8 ± 7.7
Sunitinib	100.0 ± 13.1	95.3 ± 11.6
E2-100ng	330.5 ± 14.5	213.4 ± 5.5
E2-200ng	365.1 ± 9.6	214.7 ± 3.8
E2-600ng	349.1 ± 6.8	203.1 ± 7.6
2dDR-20µg	332.0 ± 12.6	206.6 ± 4.2
2dDR-200µg	360.4 ± 6.2	211.5 ± 3.4
2dDR-1000µg	270.9 ± 2.5	188.1 ± 4.4

FIG. 15

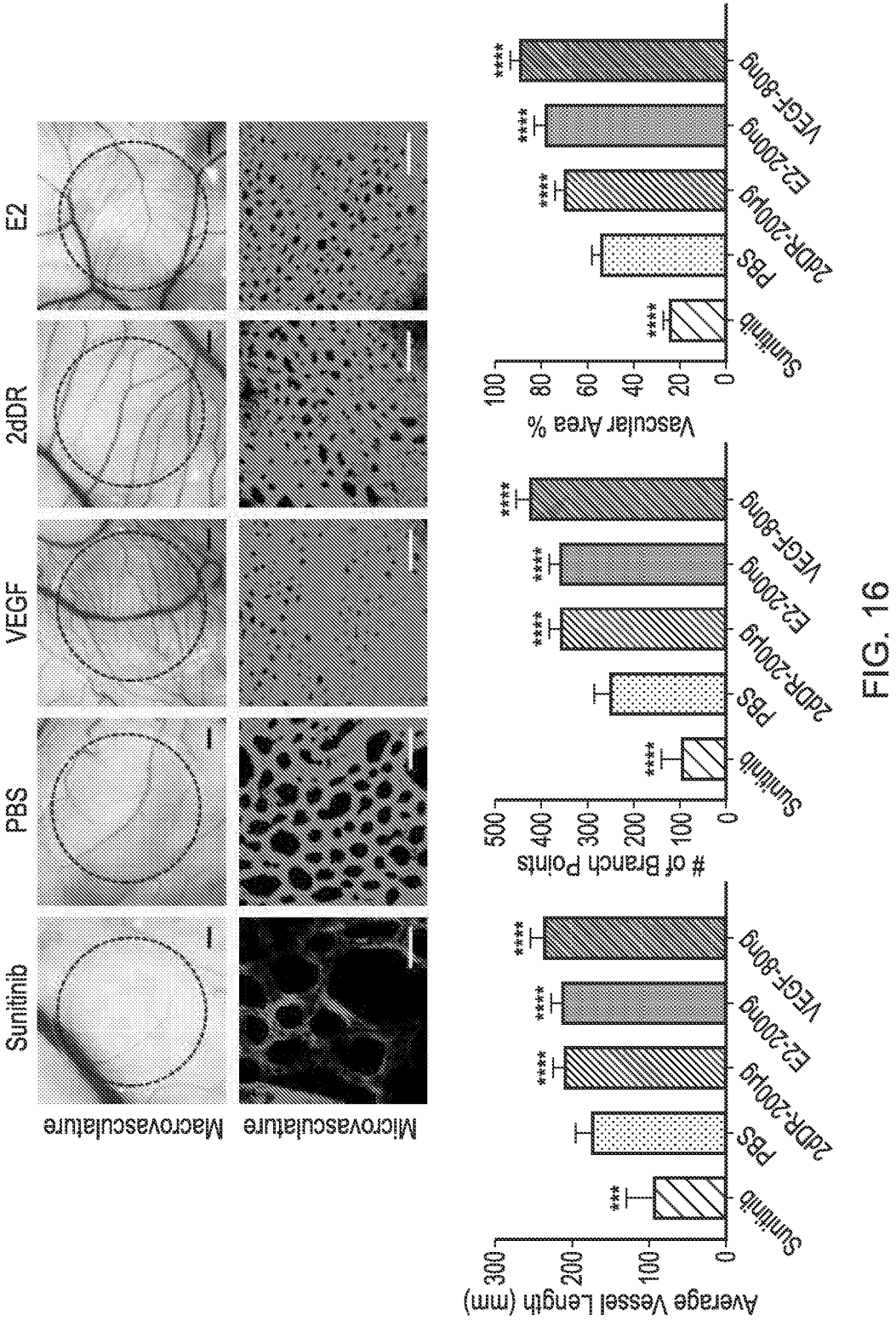

Sunitinib
PBS
VEGF
2dDR
E2
Macrovasculature
Microvasculature
Average Vessel Length (mm)
# of Branch Points
Vascular Area %
Sunitinib
PBS
2dDR-200µg
E2-200ng
VEGF-80ng

FIG. 19

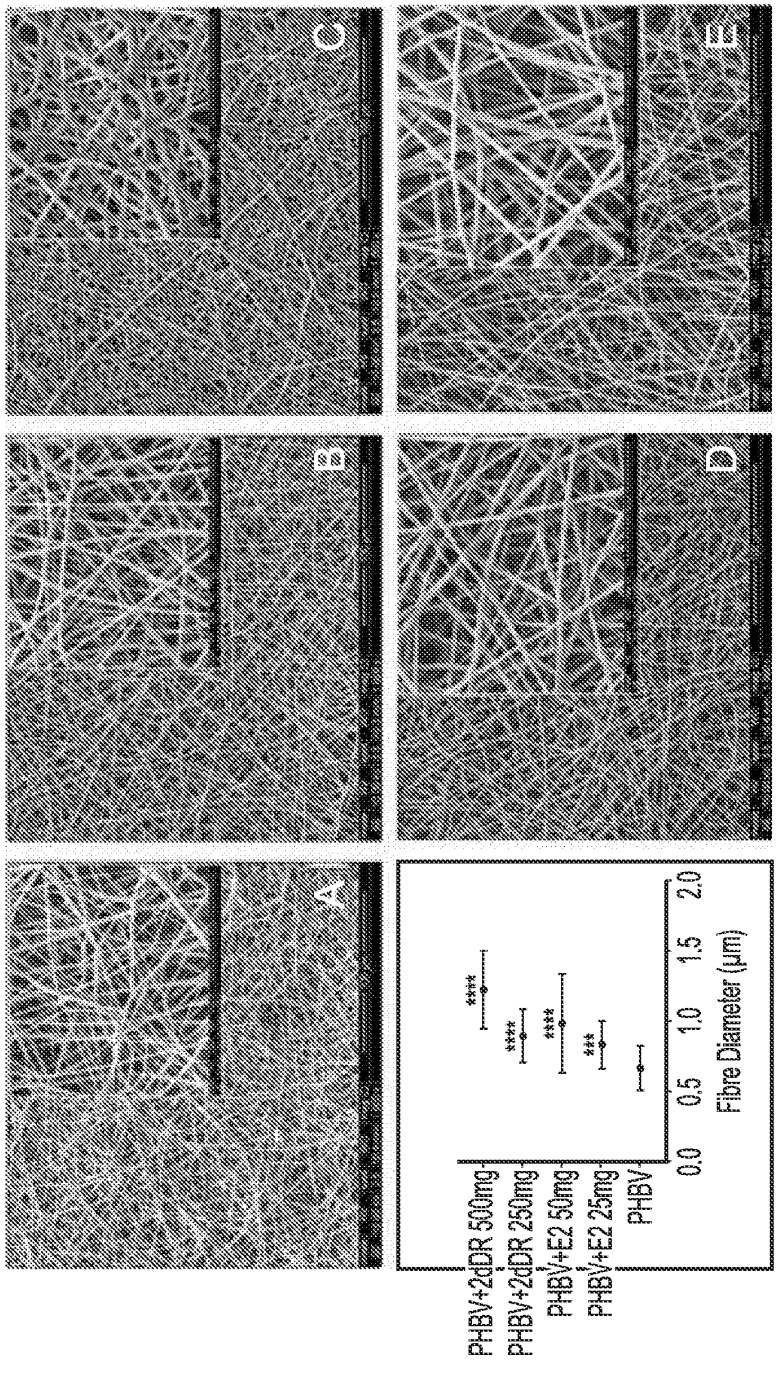

A
B
C
D
E
PHBV+2dDR 50mg
PHBV+2dDR 250mg
PHBV+E2 50mg
PHBV+E2 25mg
PHBV
****
****
****
***
0.0
0.5
1.0
1.5
2.0
Fibre Diameter (µm)

FIG. 17

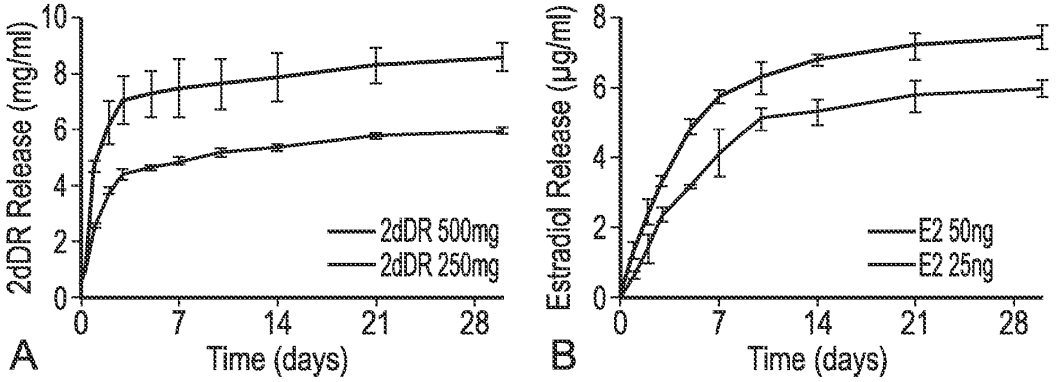
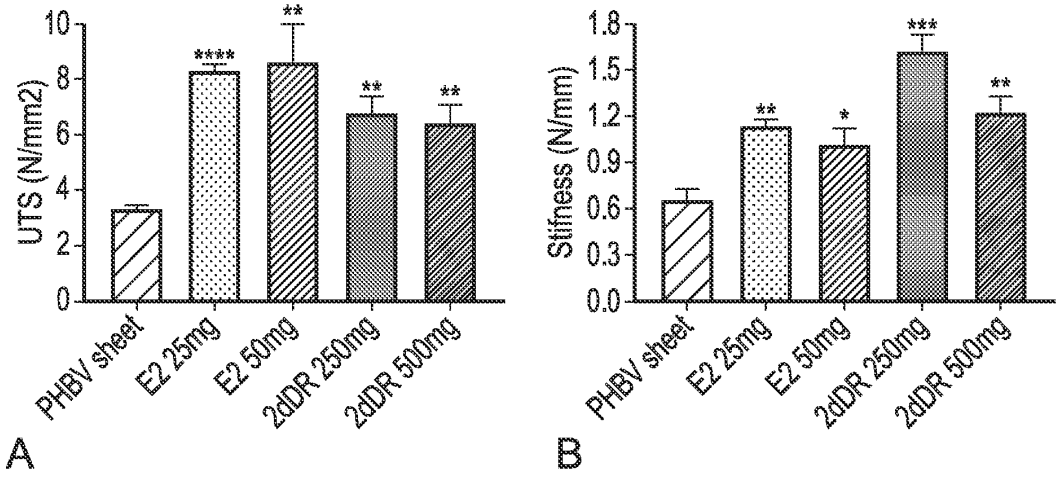


FIG. 18



C

Retention time (sec)				
PHBV	2dDR 250	2dDR 500	E2 25	E2 50
16.7 ± 1.4	2.3 ± 0.3***	10.7 ± 0.7*	28.0 ± 0.3*	198.3 ± 2.2****

FIG. 19

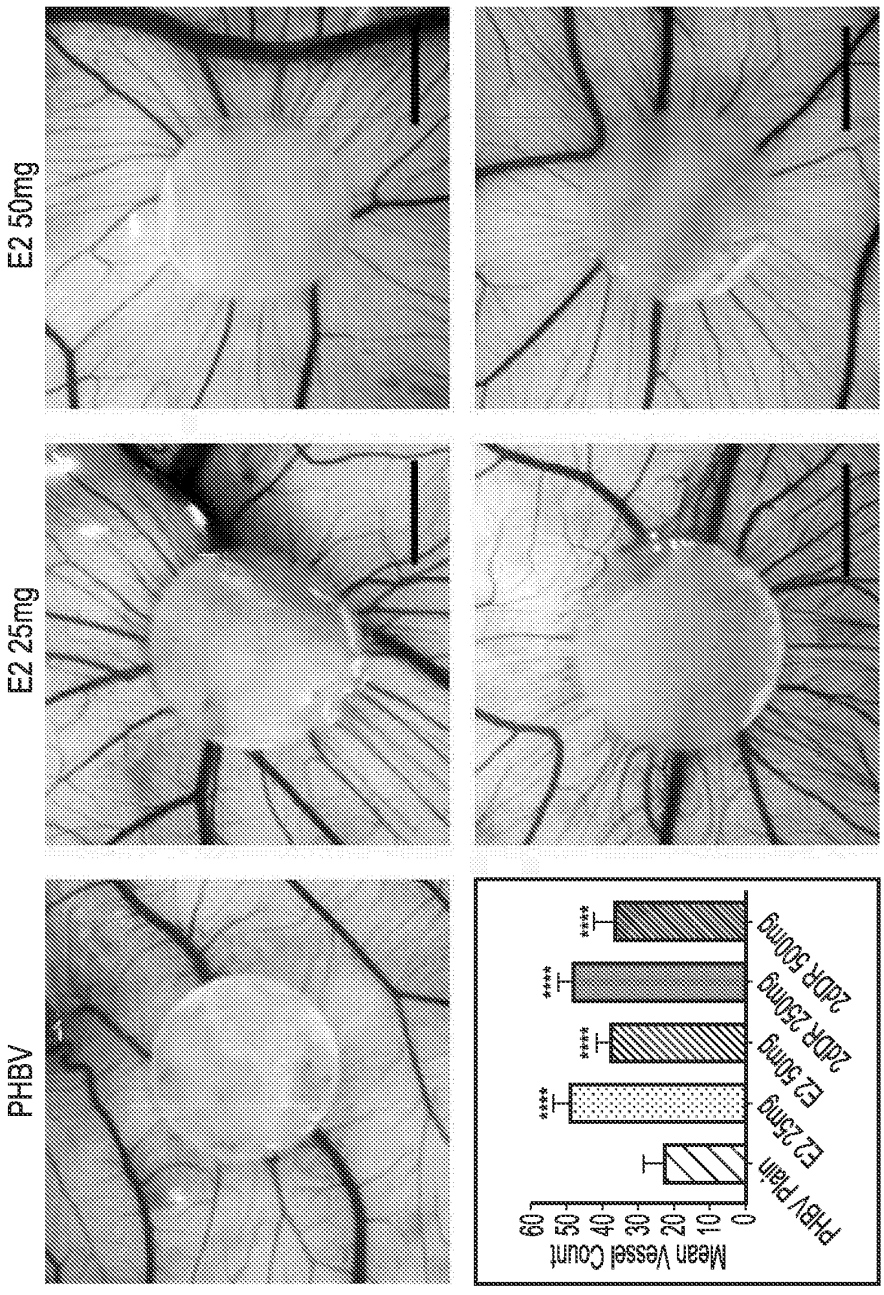

E2 50mg
2dDR 500mg
E2 25mg
2dDR 250mg
PHBV
Mean Vessel Count
0
10
20
30
40
50
60
PHBV Plain
E2 25mg
E2 50mg
2dDR 250mg
2dDR 500mg
****

FIG. 20

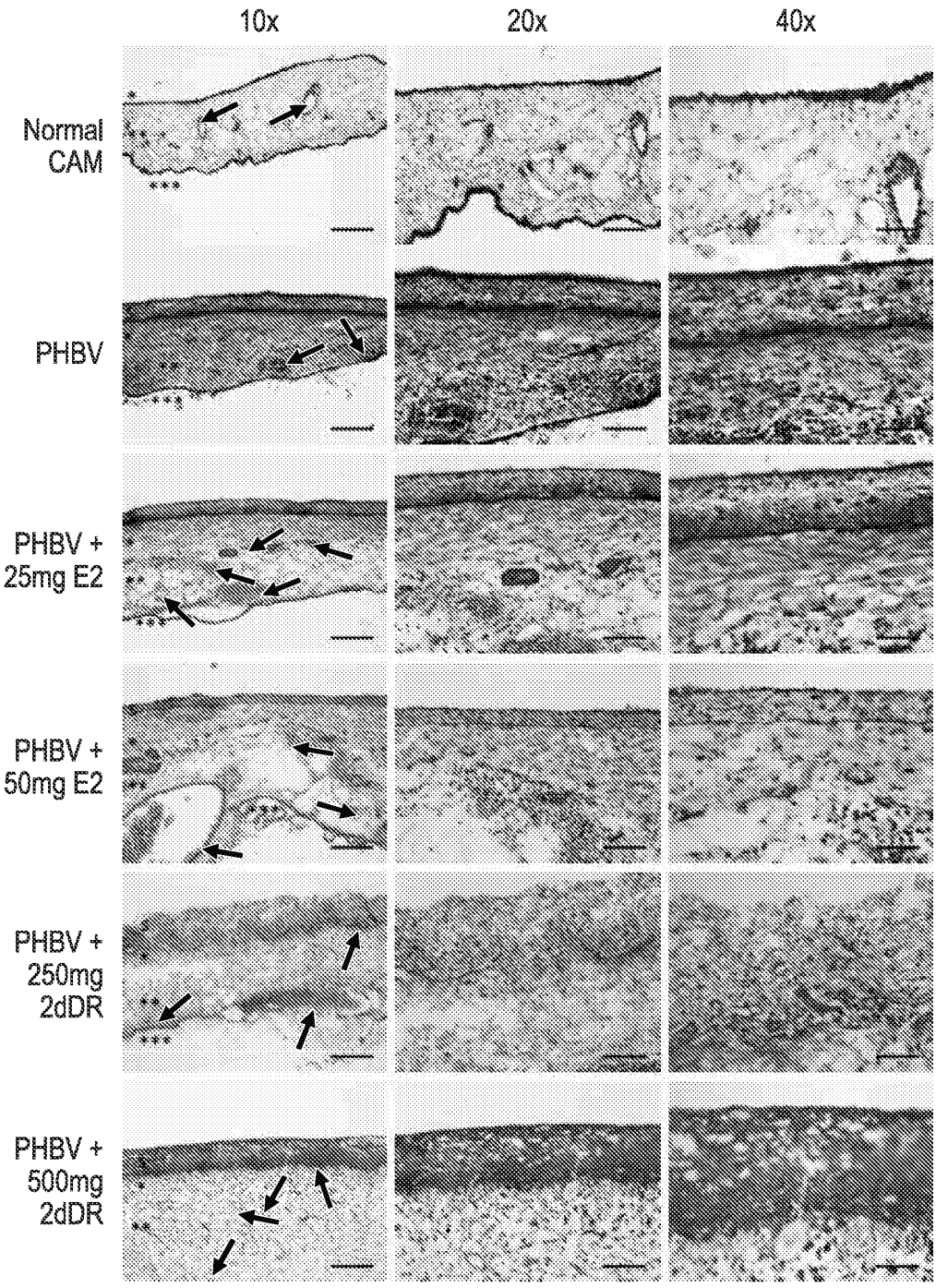

10x
20x
40x
Normal CAM
PHBV
PHBV + 25mg E2
PHBV + 50mg E2
PHBV + 250mg 2dDR
PHBV + 500mg 2dDR

FIG. 21

Groups	Mean vessel count
CAM only	6.85 ± 0.31
PHBV	6.90 ± 0.39
PHBV + E2 25mg	10.59 ± 0.75
PHBV + E2 50mg	11.35 ± 0.79
PHBV + 2dDR 250mg	10.32 ± 0.97
PHBV + 2dDR 500mg	11.52 ± 0.75

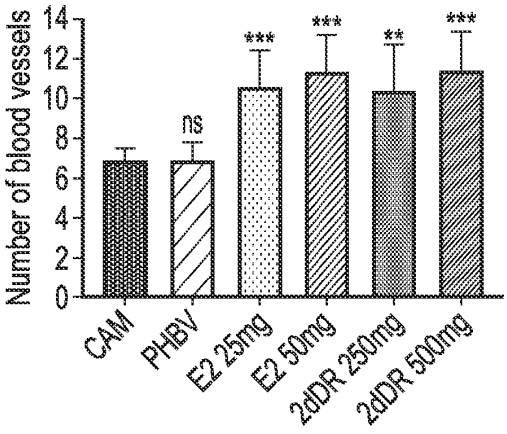


FIG. 22