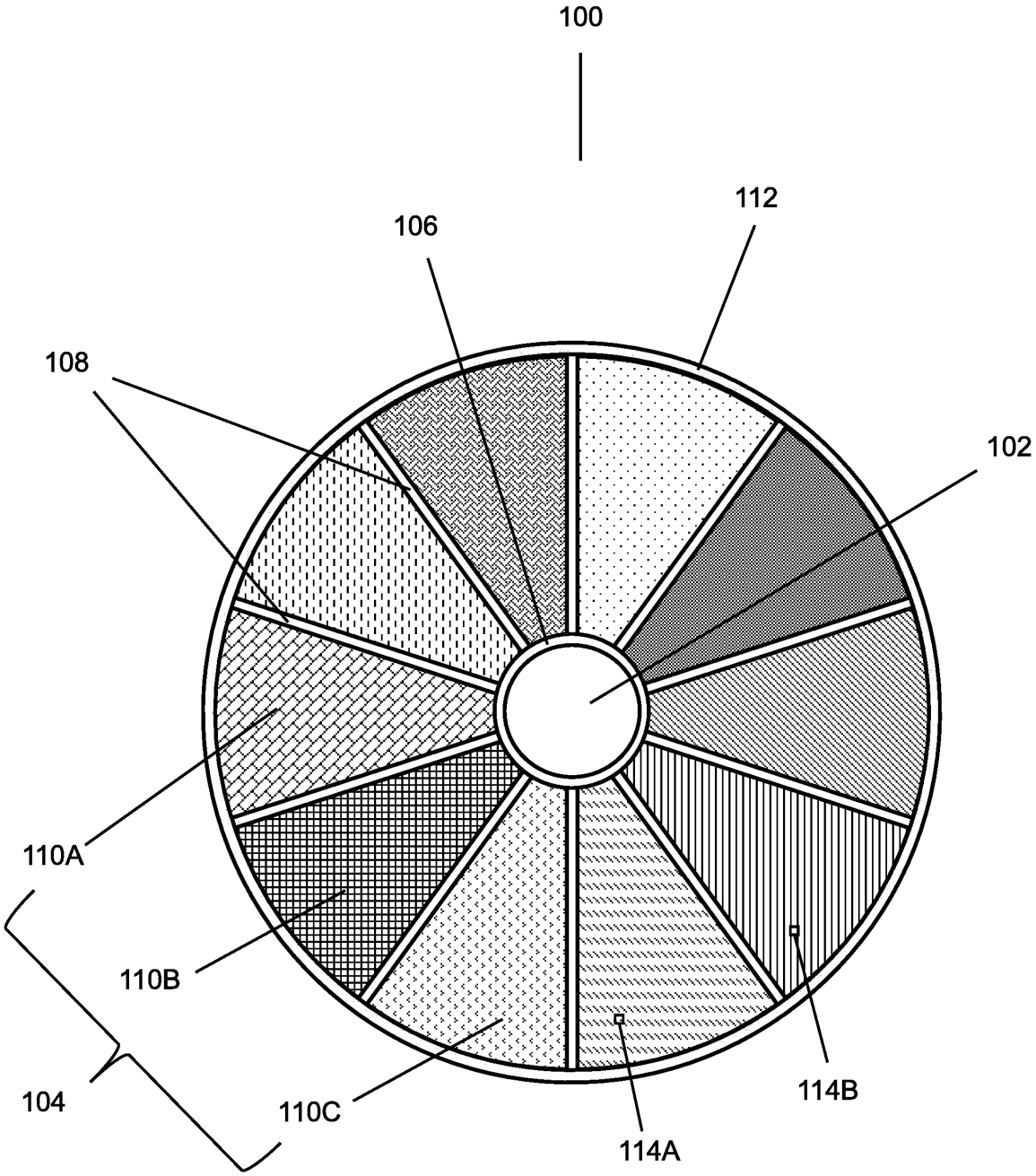

FIG. 1

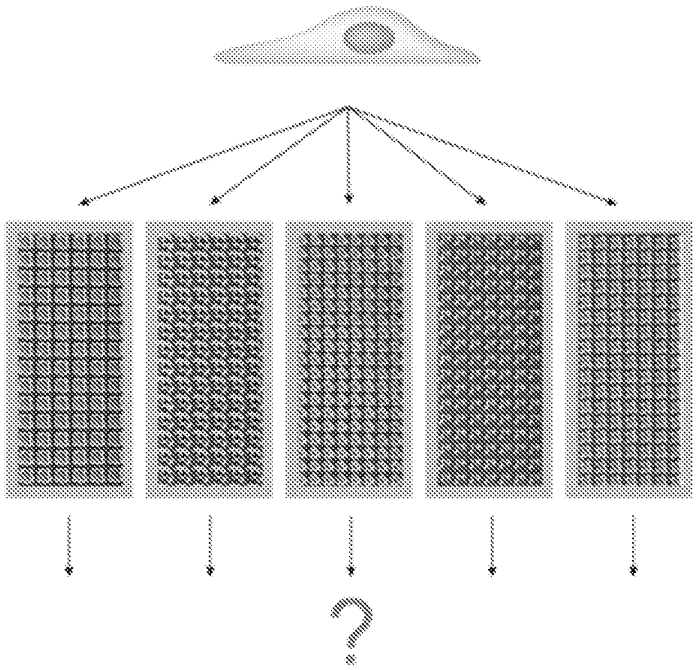
?

FIG. 2A

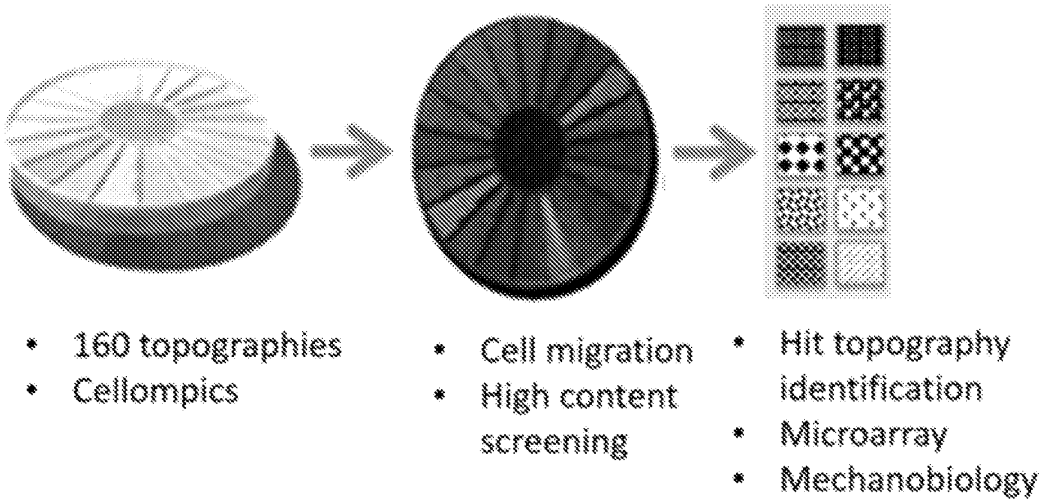
• 160 topographies
• Cellompics
• Cell migration
• High content screening
• Hit topography identification
• Microarray
• Mechanobiology

FIG. 2B

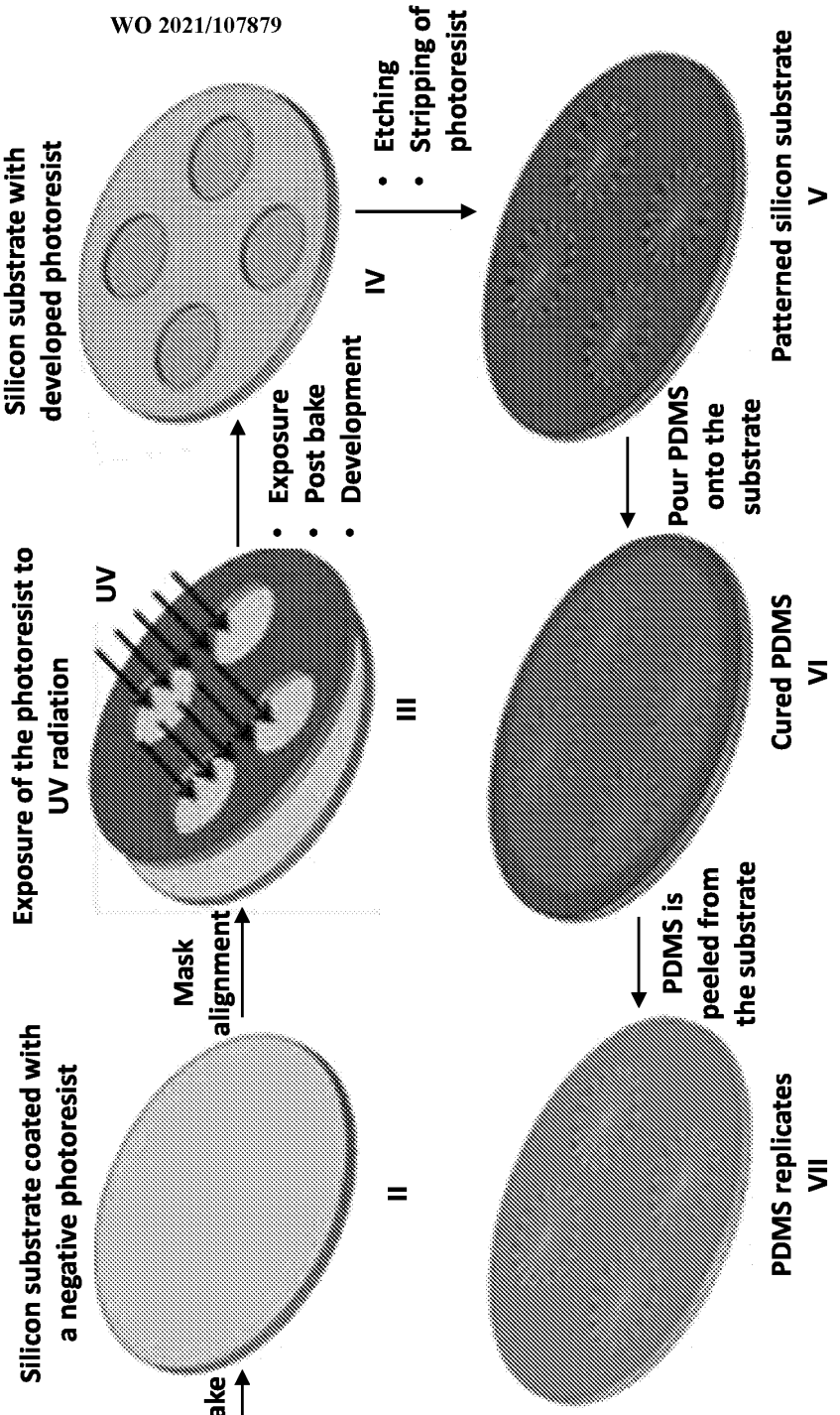
Bare silicon substrate with a layer of masking film
I
Soft bake
Silicon substrate coated with a negative photoresist
II
Mask alignment
UV
Exposure of the photoresist to UV radiation
III
• Exposure
• Post bake
• Development
Silicon substrate with developed photoresist
IV
• Etching
• Stripping of photoresist
Patterned silicon substrate
V
Pour PDMS onto the substrate
Cured PDMS
VI
PDMS is peeled from the substrate
PDMS replicates
VII

FIG. 2C

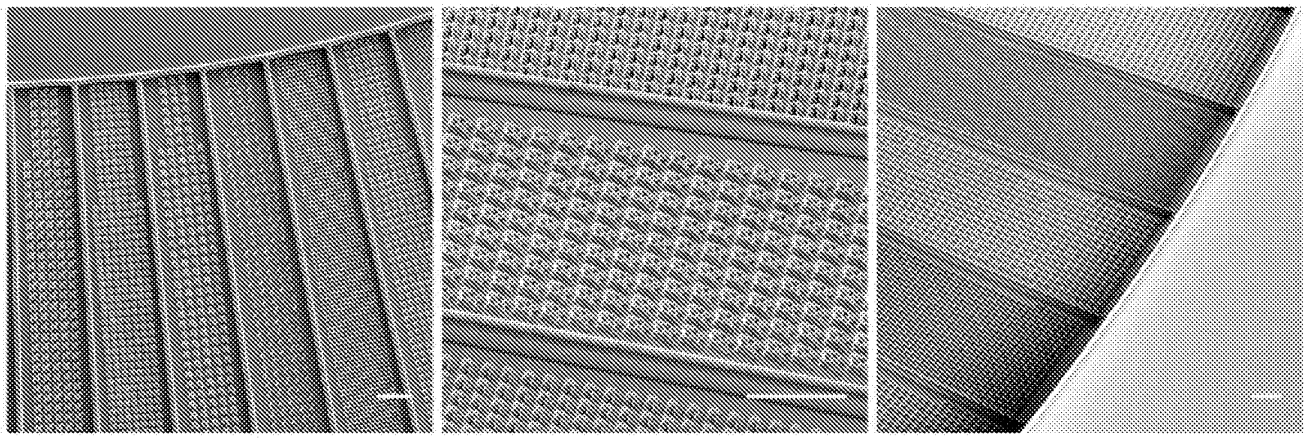

FIG. 3A

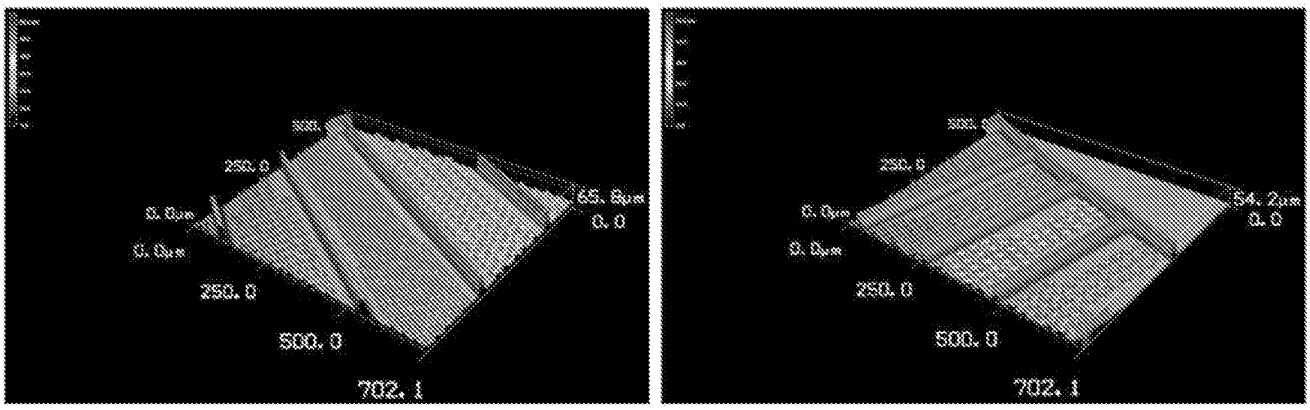

FIG. 3B

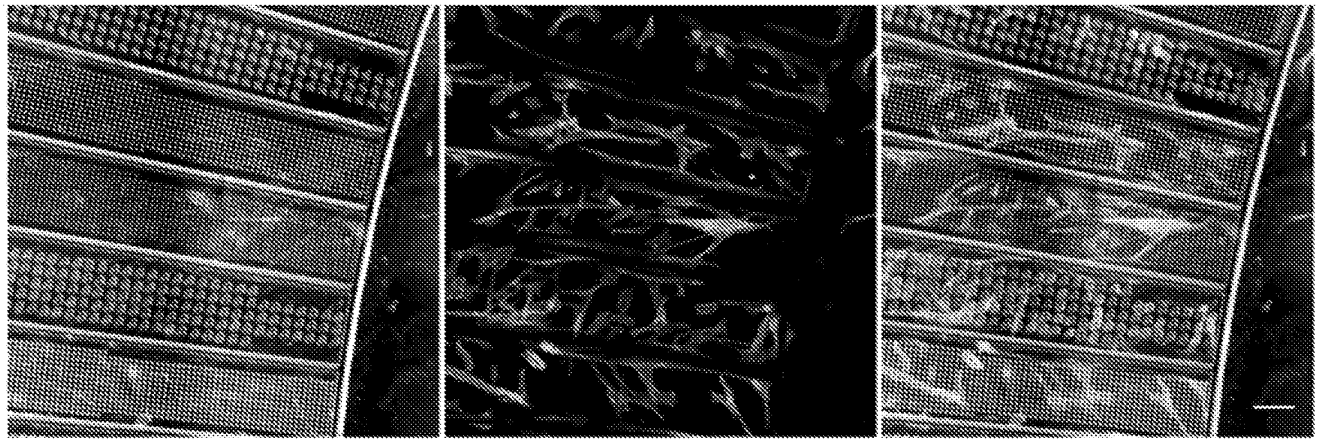

FIG. 3C

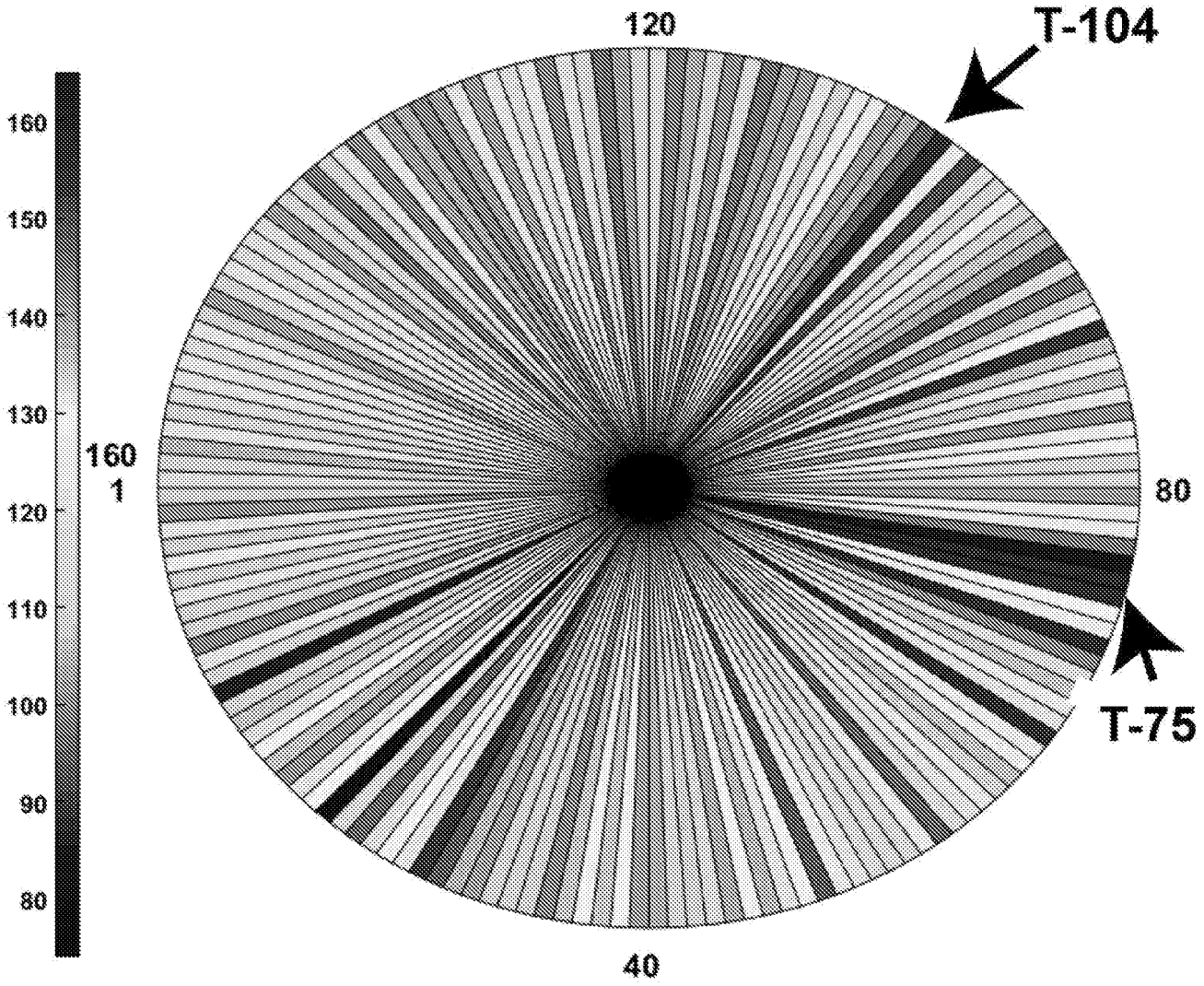

FIG. 4A

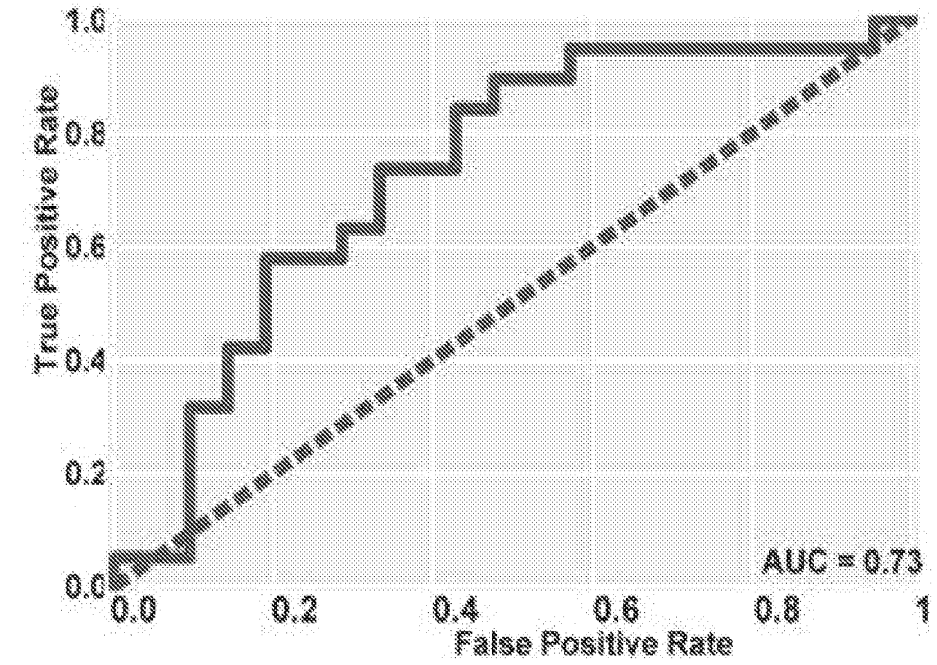
True Positive Rate
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1
False Positive Rate
AUC = 0.73

FIG. 4B

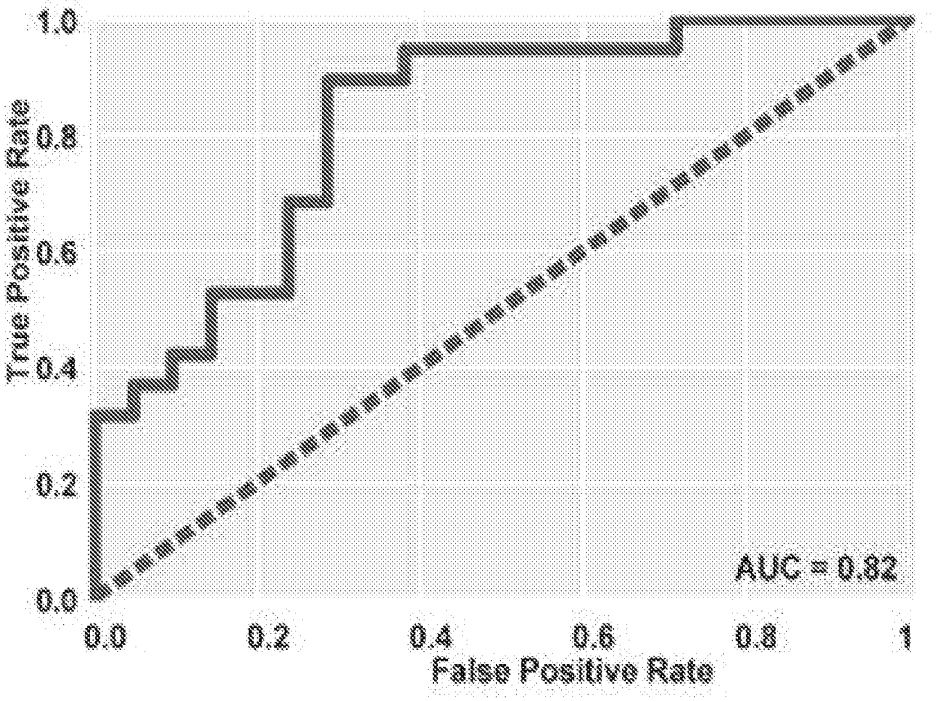
True Positive Rate
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1
False Positive Rate
AUC = 0.82

FIG. 4C

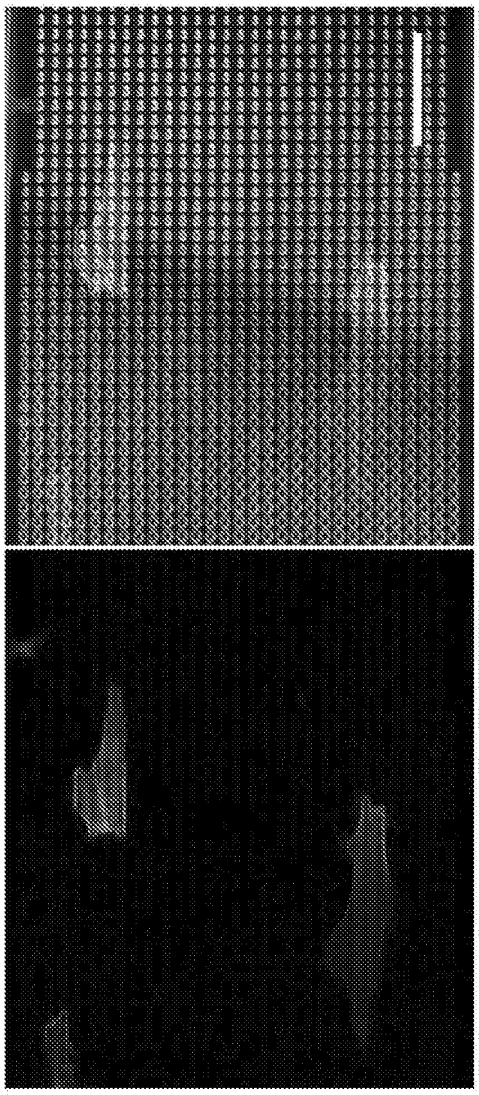

FIG. 4E

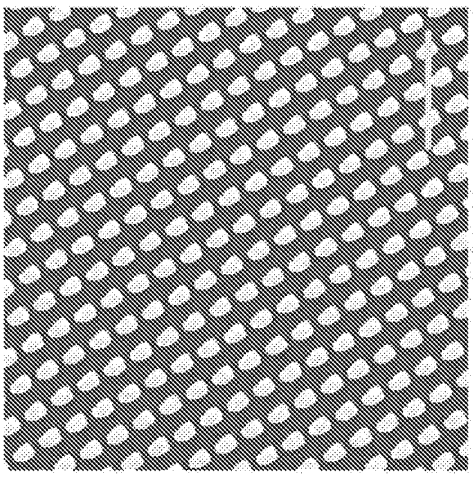

FIG. 4D

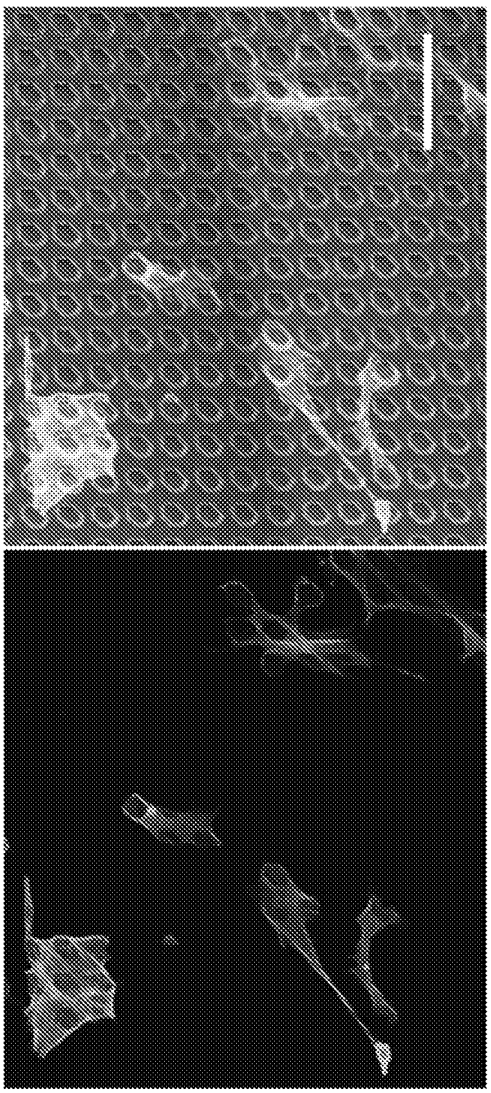

FIG. 4G

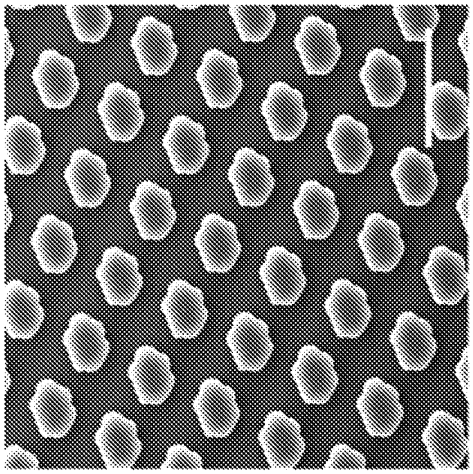

FIG. 4F

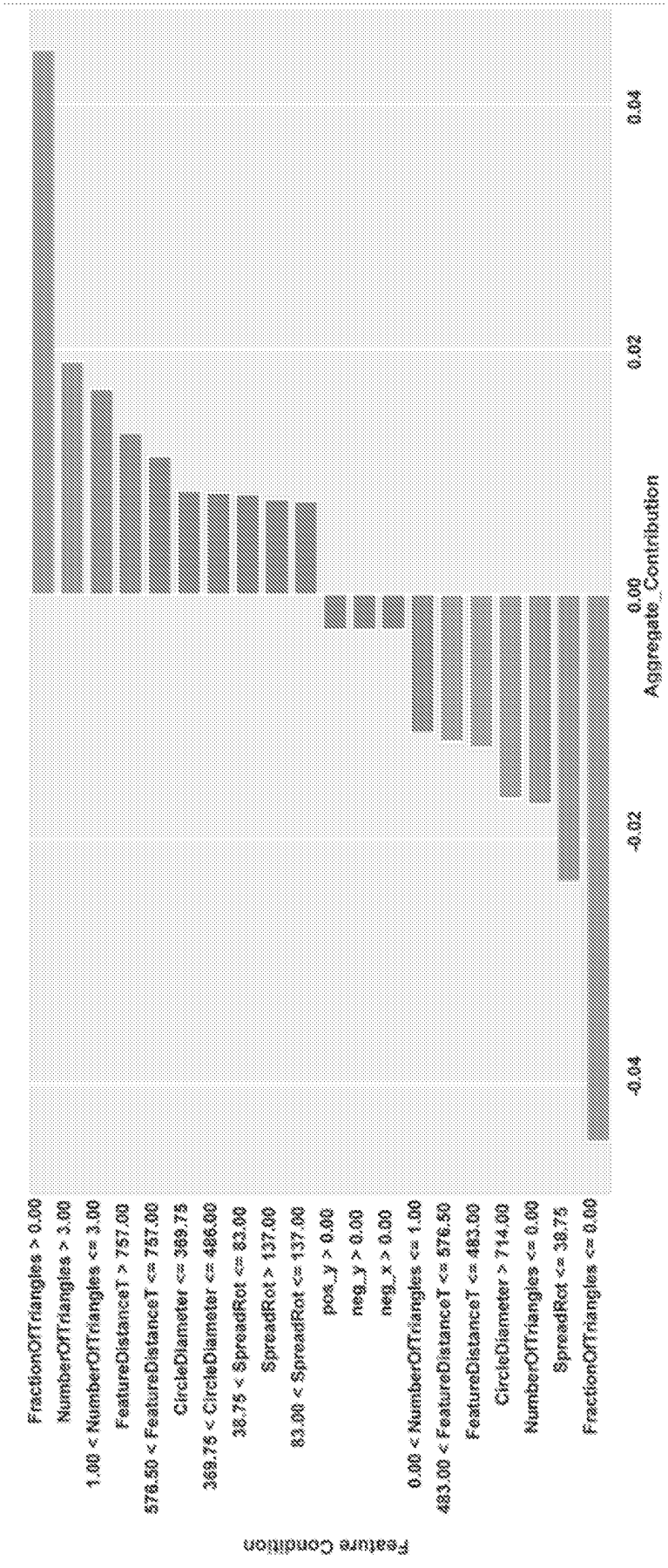
FractionOfTriangles > 0.00
NumberOfTriangles > 3.00
1.00 < NumberOfTriangles <= 3.00
FeatureDistanceT > 757.00
576.50 < FeatureDistanceT <= 757.00
CircleDiameter <= 369.75
369.75 < CircleDiameter <= 486.00
38.75 < SpreadRot <= 83.00
SpreadRot > 137.00
83.00 < SpreadRot <= 137.00
pos_y > 0.00
neg_y > 0.00
neg_x > 0.00
0.00 < NumberOfTriangles <= 1.00
483.00 < FeatureDistanceT <= 576.50
FeatureDistanceT <= 483.00
CircleDiameter > 714.00
NumberOfTriangles <= 0.00
SpreadRot <= 38.75
FractionOfTriangles <= 0.00
Feature Condition
-0.04
-0.02
0.00
0.02
0.04
Aggregate_Contribution

FIG. 4H

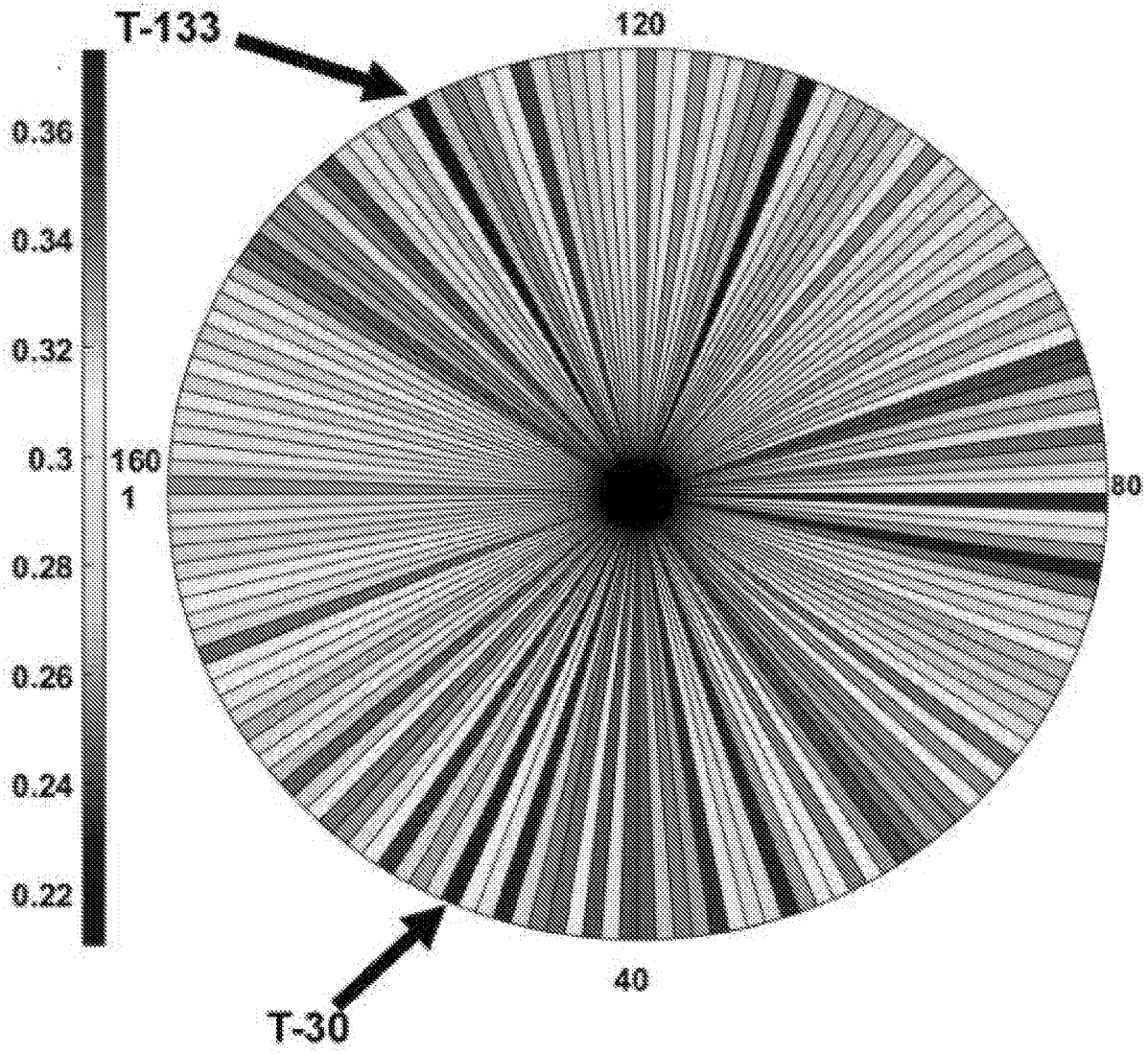

FIG. 5A

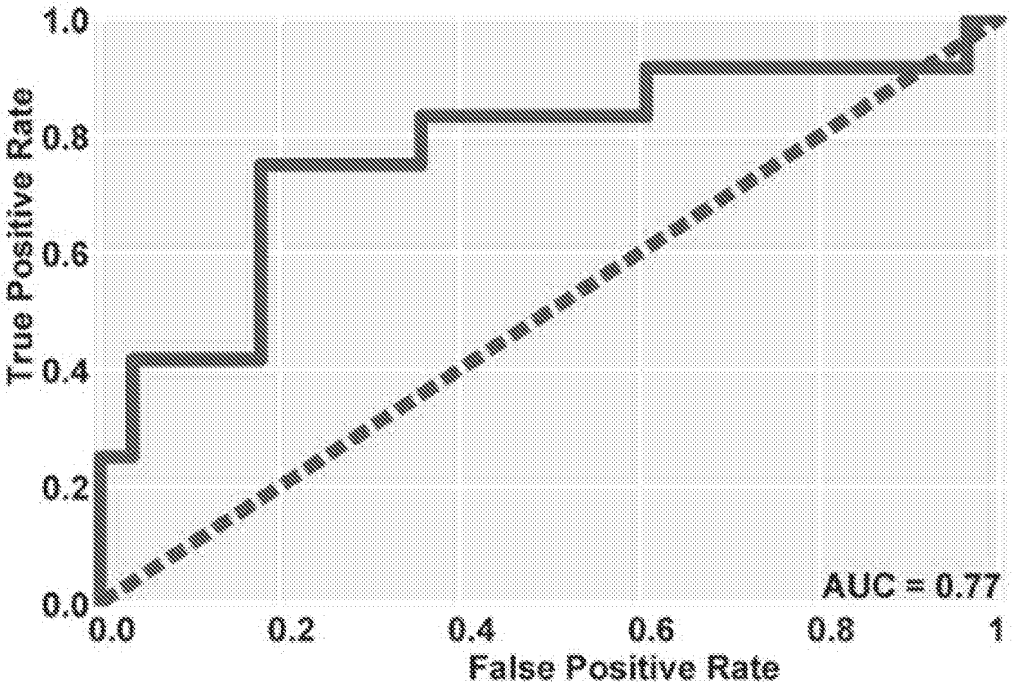
True Positive Rate
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1
False Positive Rate
AUC = 0.77

FIG. 5B

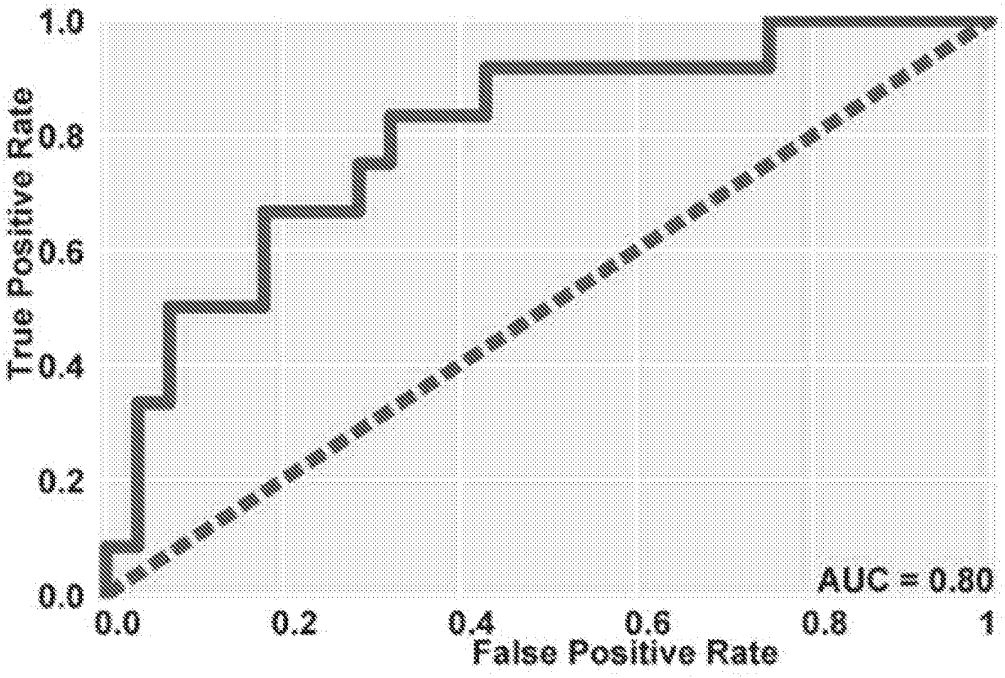
True Positive Rate
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1
False Positive Rate
AUC = 0.80

FIG. 5C

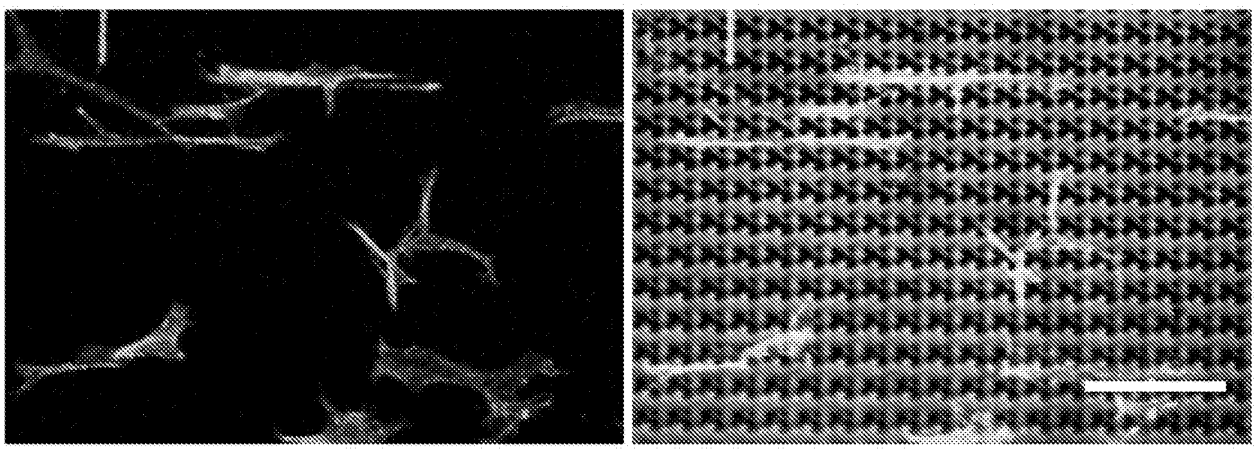

FIG. 5D

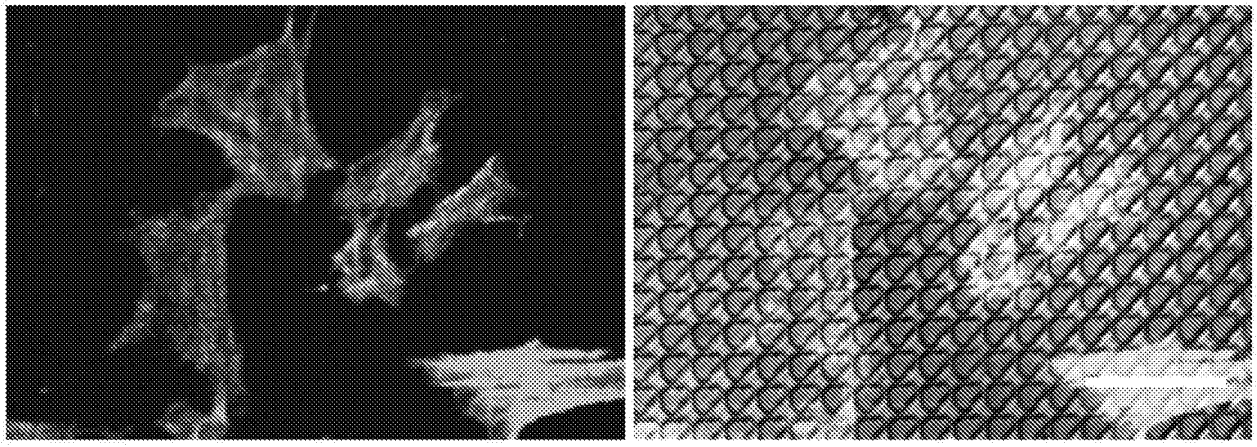

FIG. 5E

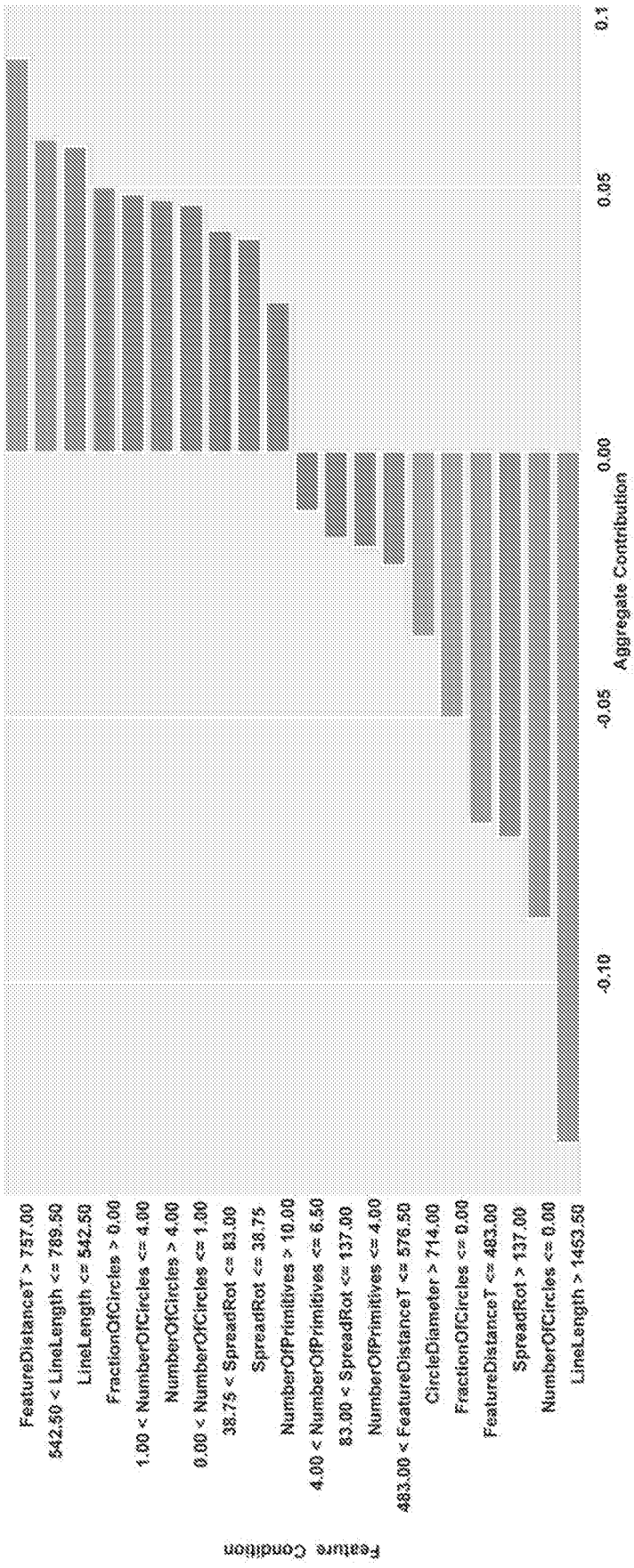
FeatureDistanceT > 737.00
542.50 < LineLength <= 789.50
LineLength <= 542.50
FractionOfCircles > 0.00
1.00 < NumberOfCircles <= 4.00
NumberOfCircles > 4.00
0.00 < NumberOfCircles <= 1.00
38.75 < SpreadRot <= 83.00
SpreadRot <= 38.75
NumberOfPrimitives > 10.00
4.00 < NumberOfPrimitives <= 6.50
83.00 < SpreadRot <= 137.00
NumberOfPrimitives <= 4.00
483.00 < FeatureDistanceT <= 576.50
CircleDiameter > 714.00
FractionOfCircles <= 0.00
FeatureDistanceT <= 483.00
SpreadRot > 137.00
NumberOfCircles <= 0.00
LineLength > 1453.50
Feature Condition
-0.10
-0.05
0.00
0.05
Aggregate Contribution

FIG. 5F

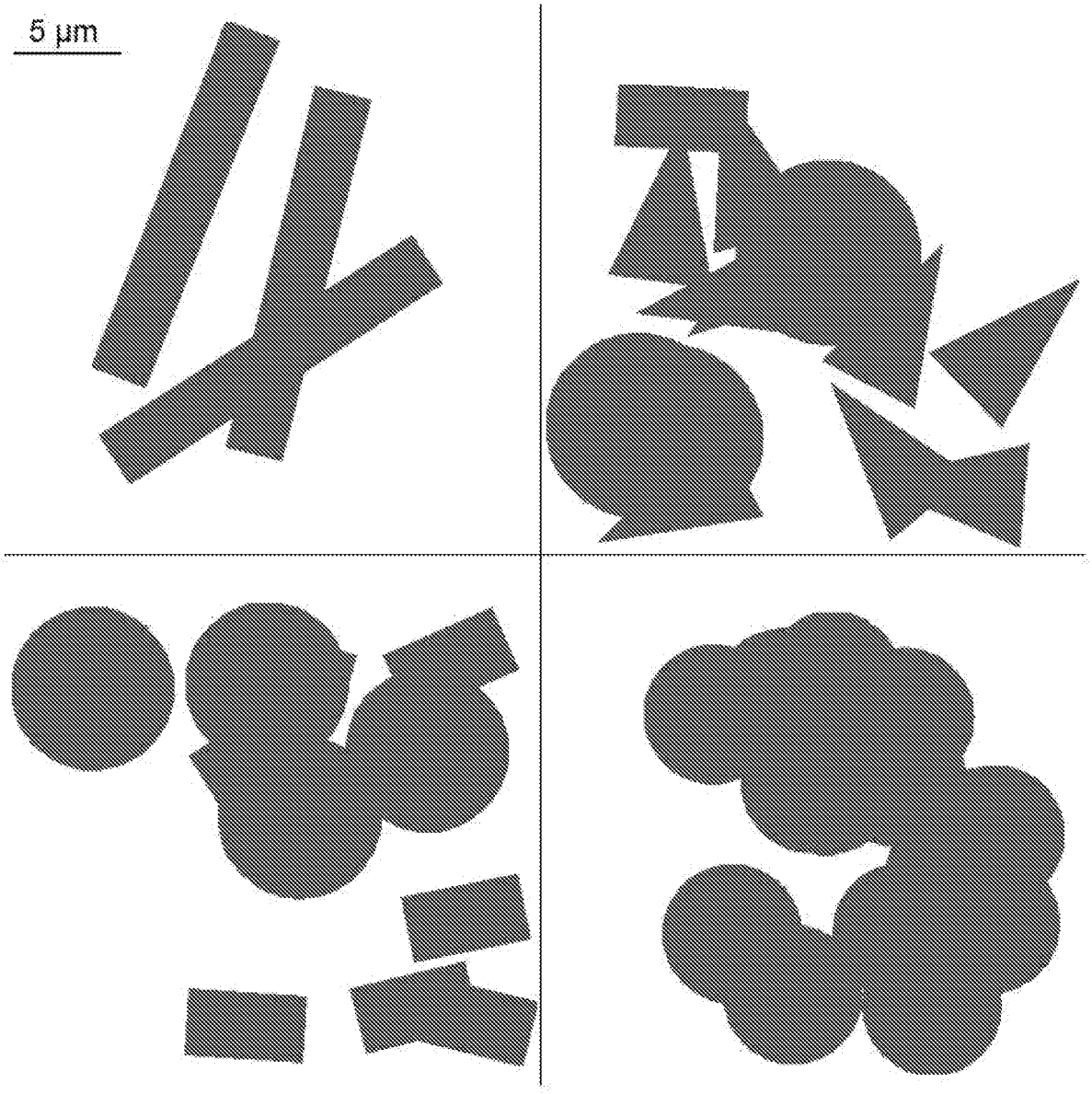

FIG. 6

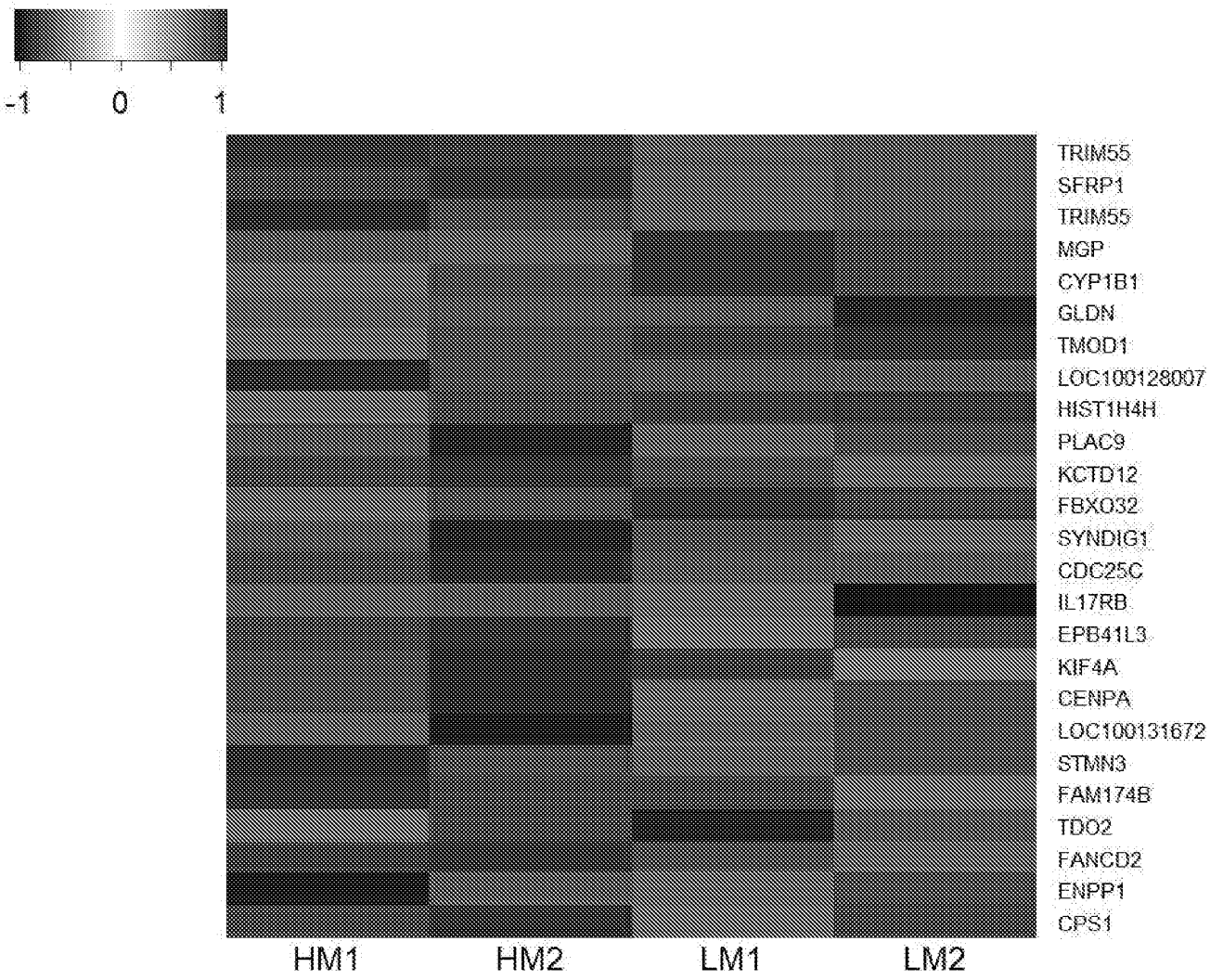
-1
0
1
TRIM55
SFRP1
TRIM55
MGP
CYP1B1
GLDN
TMOD1
LOC100128007
HIST1H4H
PLAC9
KCTD12
FBXO32
SYNDIG1
CDC25C
IL17RB
EPB41L3
KIF4A
CENPA
LOC100131672
STMN3
FAM174B
TDO2
FANCD2
ENPP1
CPS1
HM1
HM2
LM1
LM2

FIG. 7

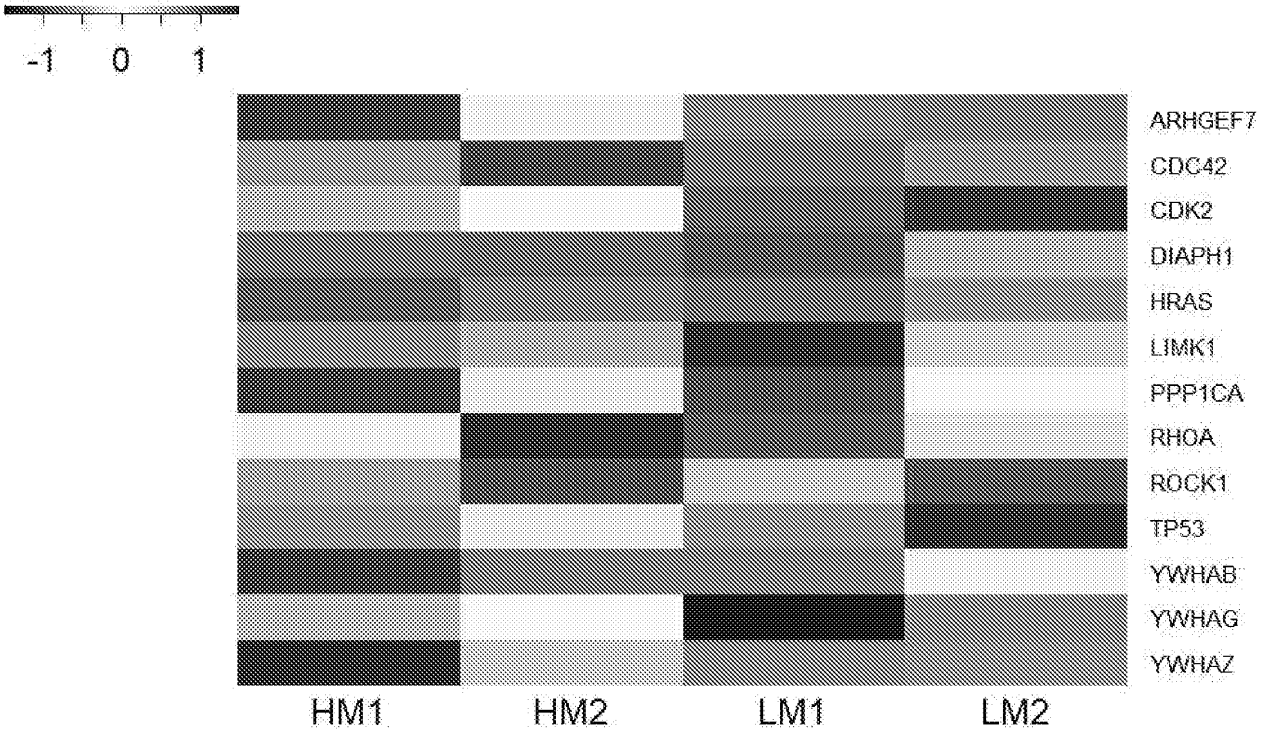
-1
0
1
ARHGEF7
CDC42
CDK2
DIAPH1
HRAS
LIMK1
PPP1CA
RHOA
ROCK1
TP53
YWHAB
YWHAG
YWHAZ
HM1
HM2
LM1
LM2

FIG. 8