
SAMPLE
ASSAY
MARKER VALUE
CLASSIFICATION SCHEME
REPORT DIAGNOSIS

FIG. 1A

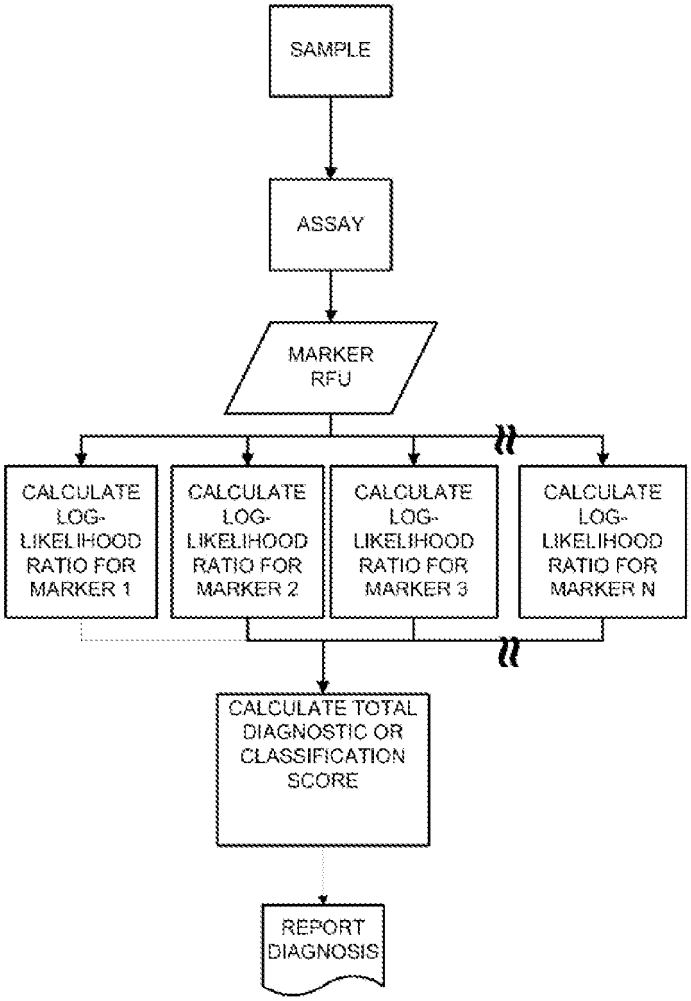
SAMPLE
ASSAY
MARKER RFU
CALCULATE LOG-LIKELIHOOD RATIO FOR MARKER 1
CALCULATE LOG-LIKELIHOOD RATIO FOR MARKER 2
CALCULATE LOG-LIKELIHOOD RATIO FOR MARKER 3
CALCULATE LOG-LIKELIHOOD RATIO FOR MARKER N
CALCULATE TOTAL DIAGNOSTIC OR CLASSIFICATION SCORE
REPORT DIAGNOSIS

FIG. 1B

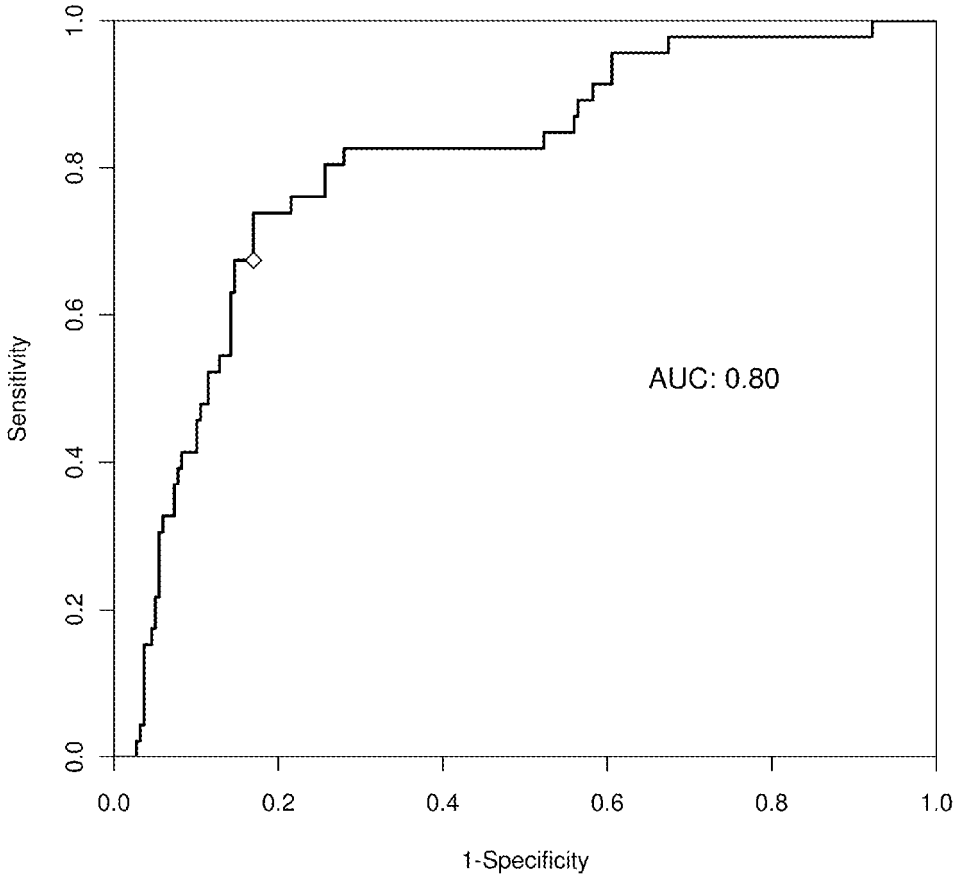

FIG. 2

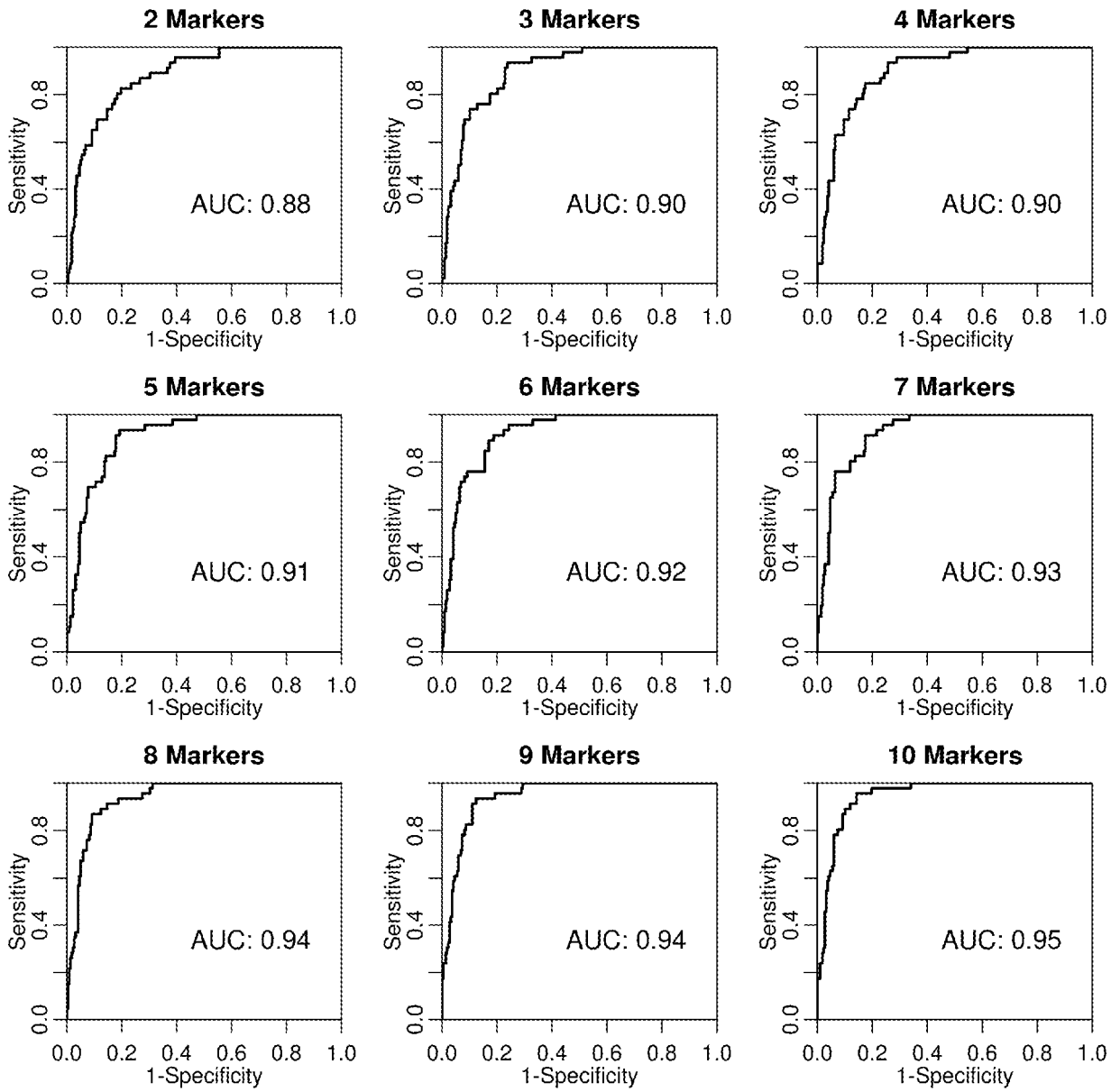
2 Markers
AUC: 0.88
3 Markers
AUC: 0.90
4 Markers
AUC: 0.90
5 Markers
AUC: 0.91
6 Markers
AUC: 0.92
7 Markers
AUC: 0.93
8 Markers
AUC: 0.94
9 Markers
AUC: 0.94
10 Markers
AUC: 0.95
Sensitivity
1-Specificity
0.0
0.2
0.4
0.6
0.8
1.0

FIG. 3

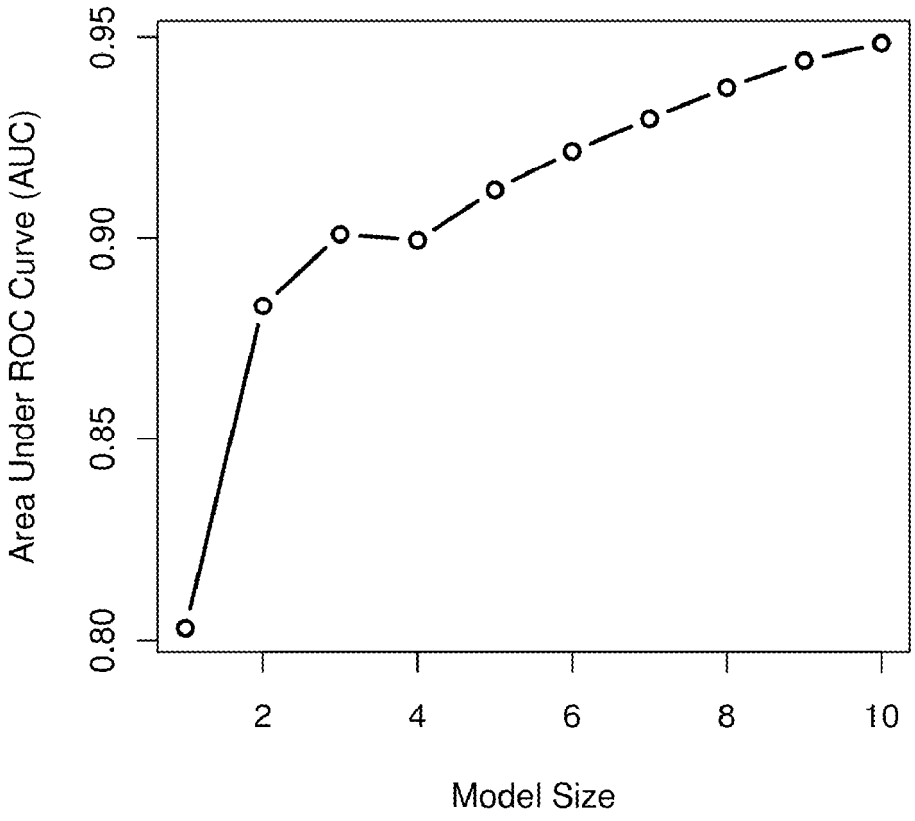

FIG. 4

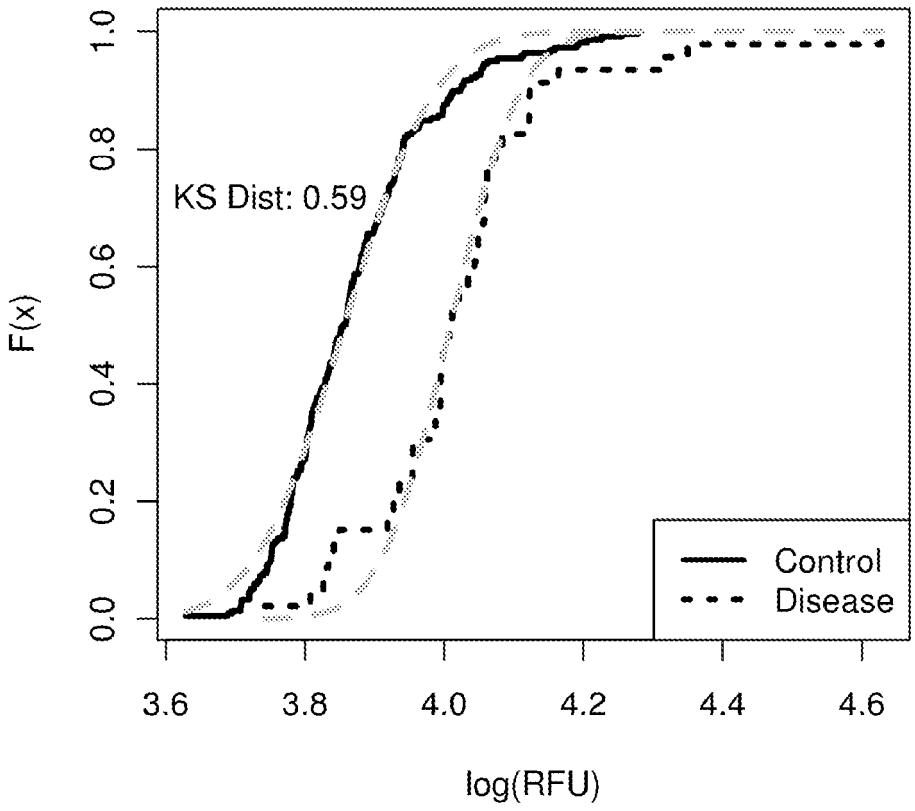
KS Dist: 0.59
F(x)
0.0
0.2
0.4
0.6
0.8
1.0
3.6
3.8
4.0
4.2
4.4
4.6
log(RFU)
Control
Disease

FIG. 5

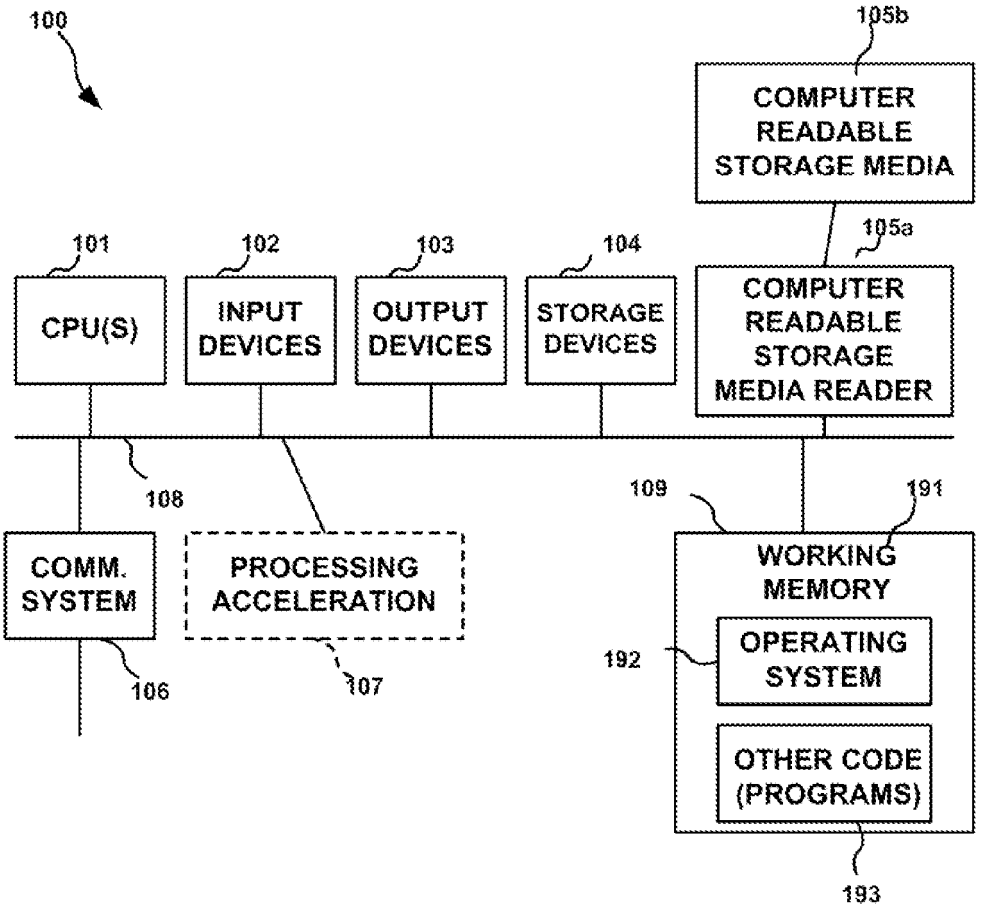
100
105b
COMPUTER READABLE STORAGE MEDIA
105a
101
102
103
104
CPU(S)
INPUT DEVICES
OUTPUT DEVICES
STORAGE DEVICES
COMPUTER READABLE STORAGE MEDIA READER
108
109
191
COMM. SYSTEM
PROCESSING ACCELERATION
WORKING MEMORY
192
OPERATING SYSTEM
OTHER CODE (PROGRAMS)
106
107
193

FIG. 6

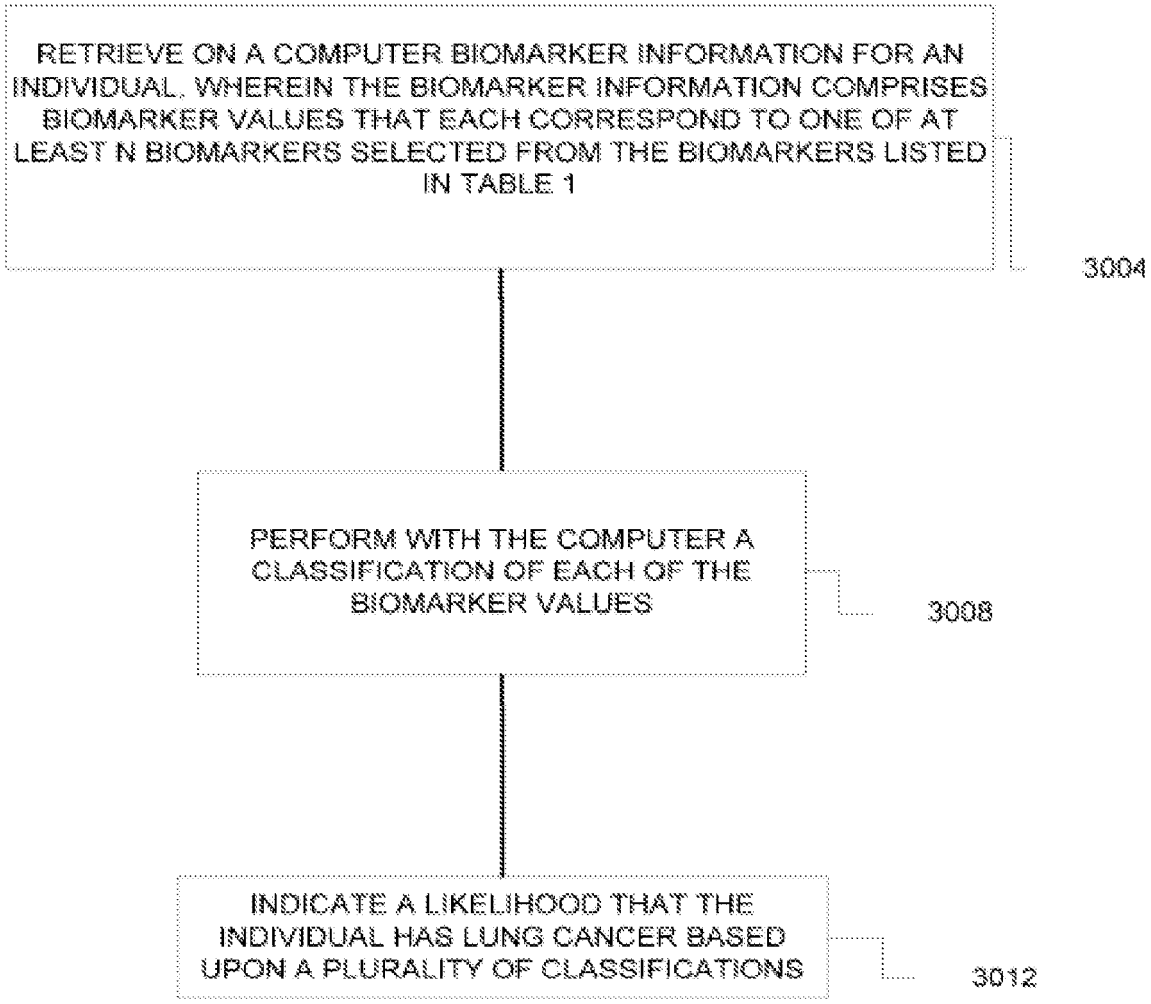
RETRIEVE ON A COMPUTER BIOMARKER INFORMATION FOR AN INDIVIDUAL, WHEREIN THE BIOMARKER INFORMATION COMPRISES BIOMARKER VALUES THAT EACH CORRESPOND TO ONE OF AT LEAST N BIOMARKERS SELECTED FROM THE BIOMARKERS LISTED IN TABLE 1
3004
PERFORM WITH THE COMPUTER A CLASSIFICATION OF EACH OF THE BIOMARKER VALUES
3008
INDICATE A LIKELIHOOD THAT THE INDIVIDUAL HAS LUNG CANCER BASED UPON A PLURALITY OF CLASSIFICATIONS
3012
3000

FIG. 7

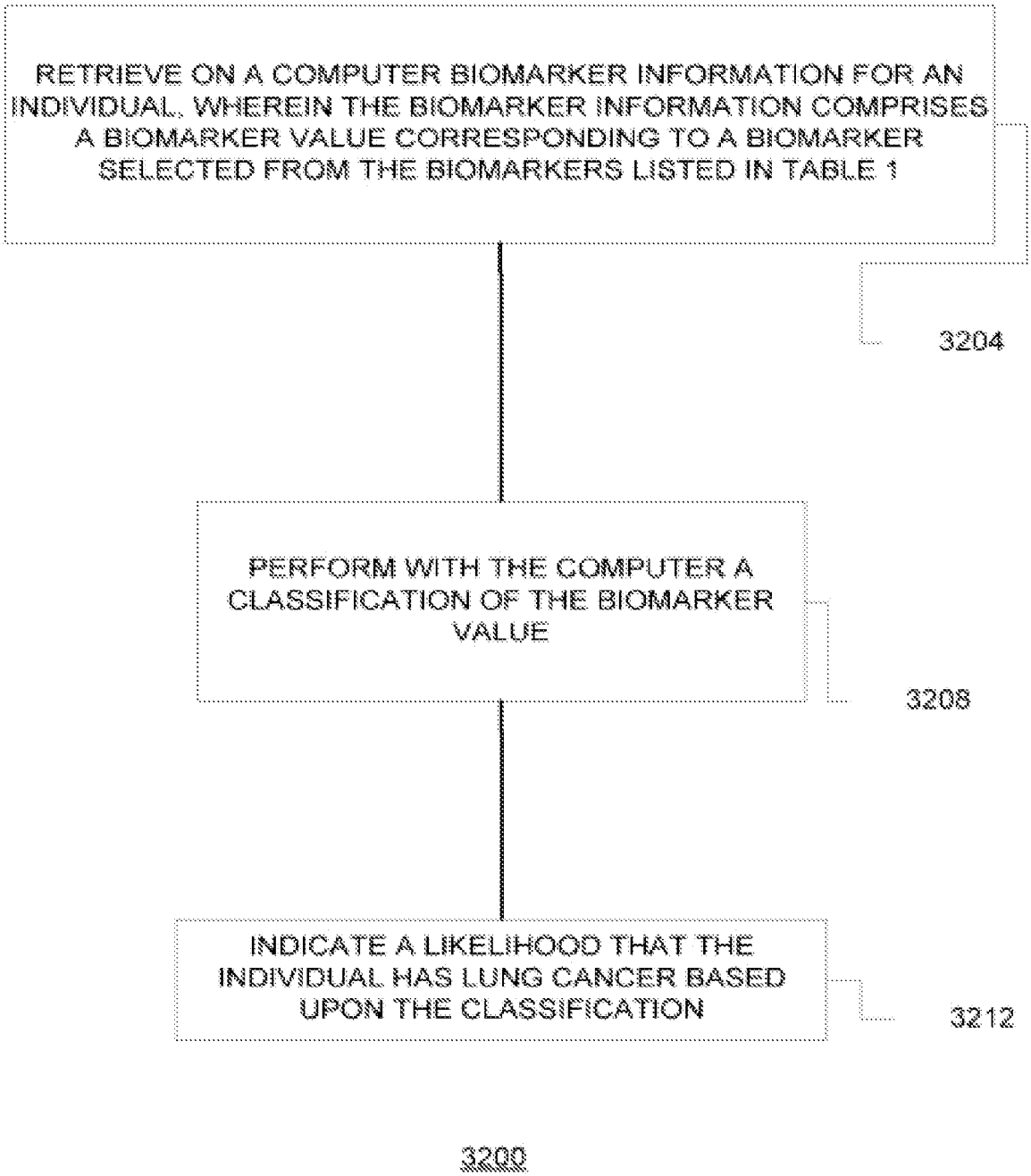
RETRIEVE ON A COMPUTER BIOMARKER INFORMATION FOR AN INDIVIDUAL, WHEREIN THE BIOMARKER INFORMATION COMPRISES A BIOMARKER VALUE CORRESPONDING TO A BIOMARKER SELECTED FROM THE BIOMARKERS LISTED IN TABLE 1
3204
PERFORM WITH THE COMPUTER A CLASSIFICATION OF THE BIOMARKER VALUE
3208
INDICATE A LIKELIHOOD THAT THE INDIVIDUAL HAS LUNG CANCER BASED UPON THE CLASSIFICATION
3212
3200

FIG. 8

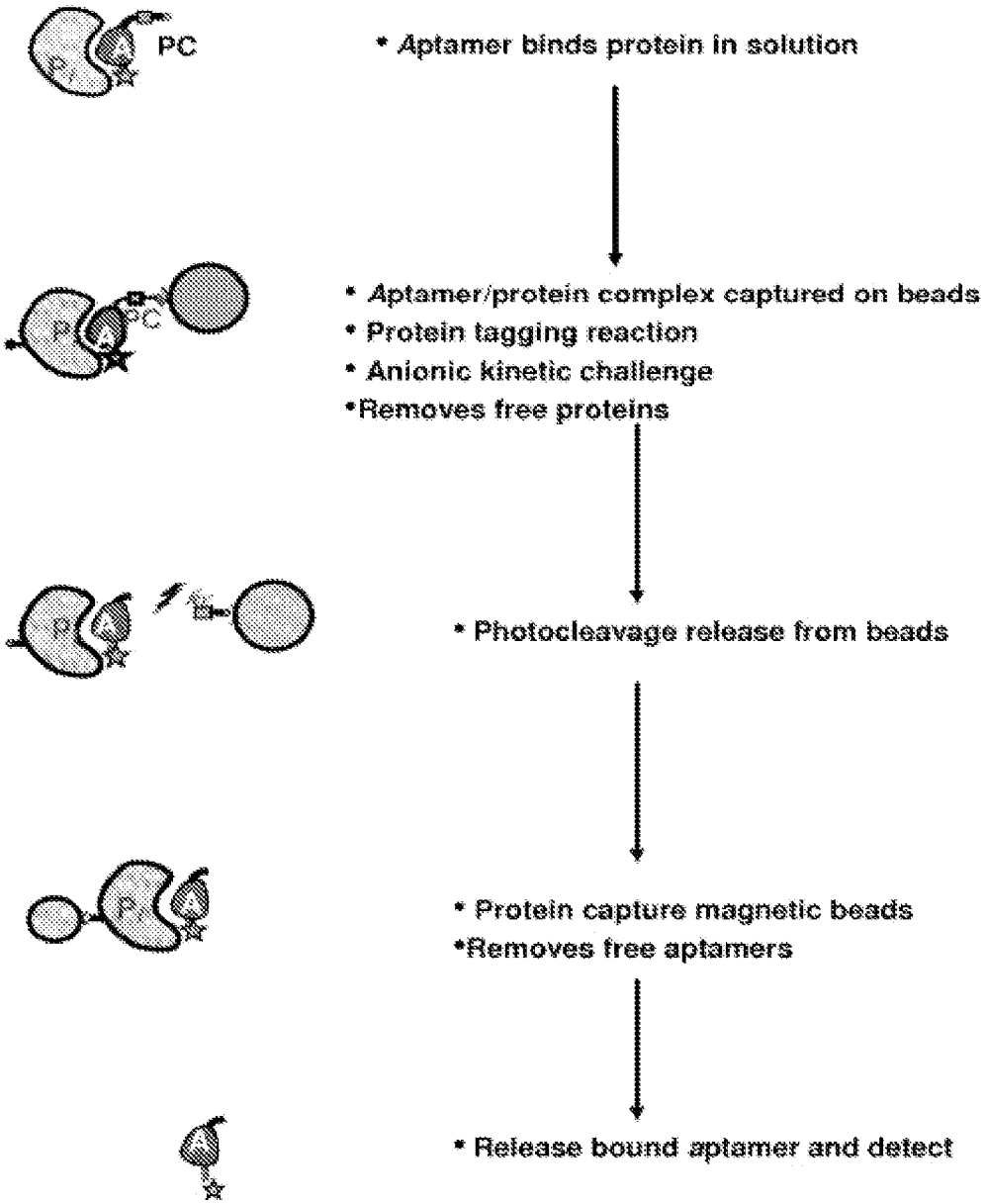
PC
* Aptamer binds protein in solution
* Aptamer/protein complex captured on beads
* Protein tagging reaction
* Anionic kinetic challenge
*Removes free proteins
* Photocleavage release from beads
* Protein capture magnetic beads
*Removes free aptamers
* Release bound aptamer and detect

FIG. 9

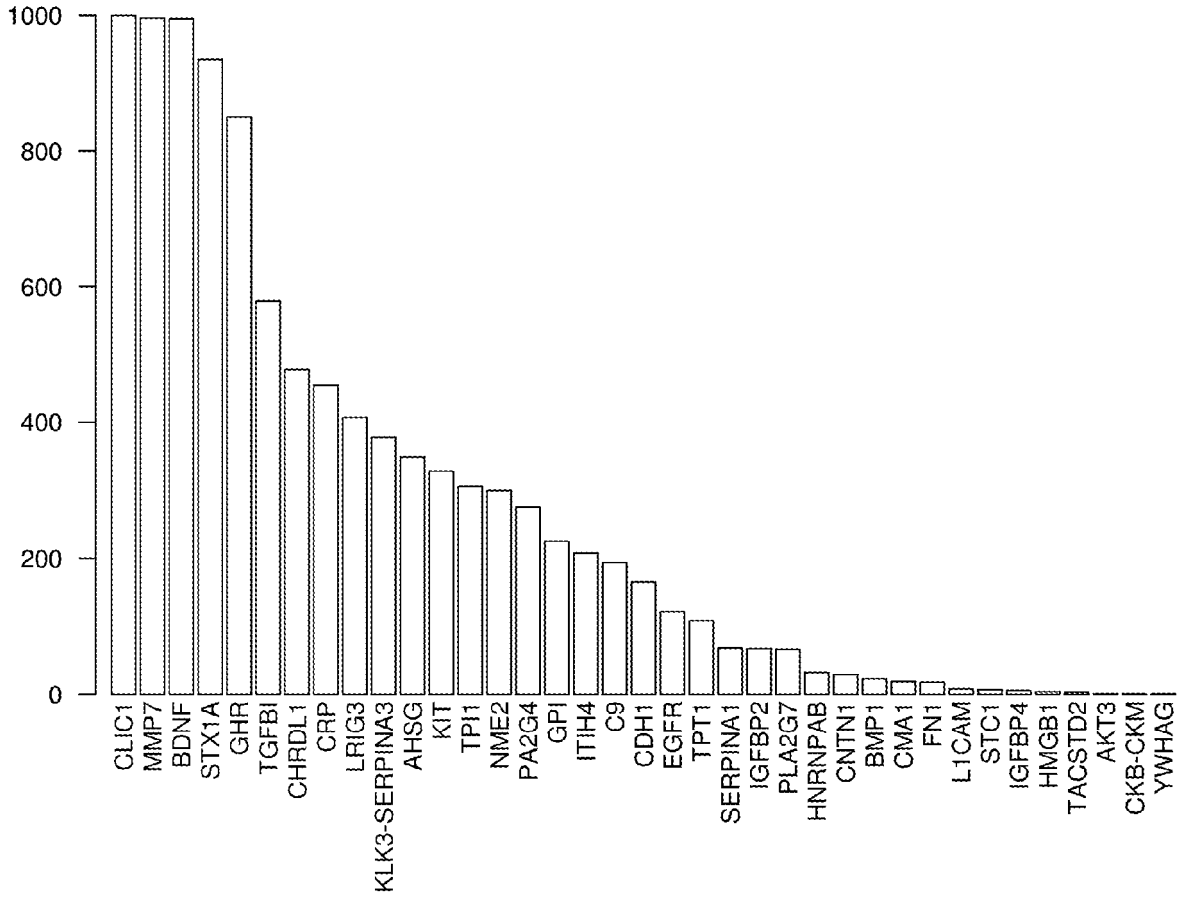
1000
800
600
400
200
0
CLIC1
MMP7
BDNF
STX1A
GHR
TGFBI
CHRDL1
CRP
LRIG3
KLK3-SERPINA3
AHSG
KIT
TPI1
NME2
PA2G4
GPI
ITIH4
C9
CDH1
EGFR
TPT1
SERPINA1
IGFBP2
PLA2G7
HNRNPAB
CNTN1
BMP1
CMA1
FN1
L1CAM
STC1
IGFBP4
HMGB1
TACSTD2
AKT3
CKB-CKM
YWHAG

FIG. 10

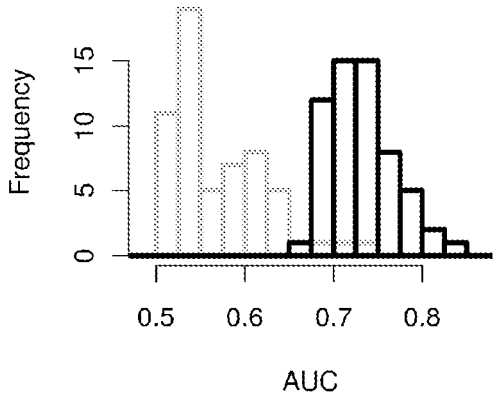

FIG. 11A

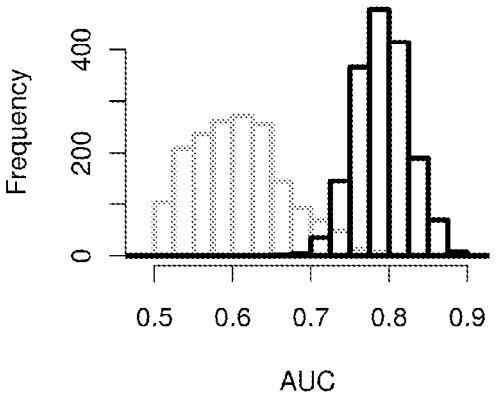

FIG. 11B

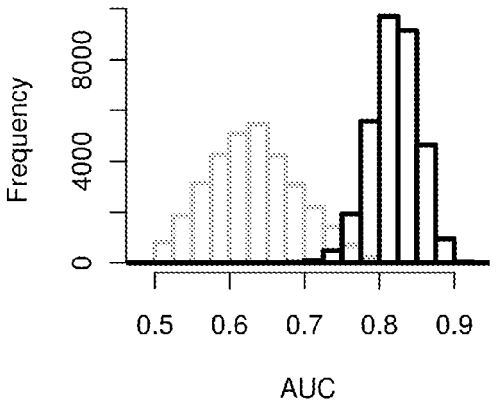

FIG. 11C

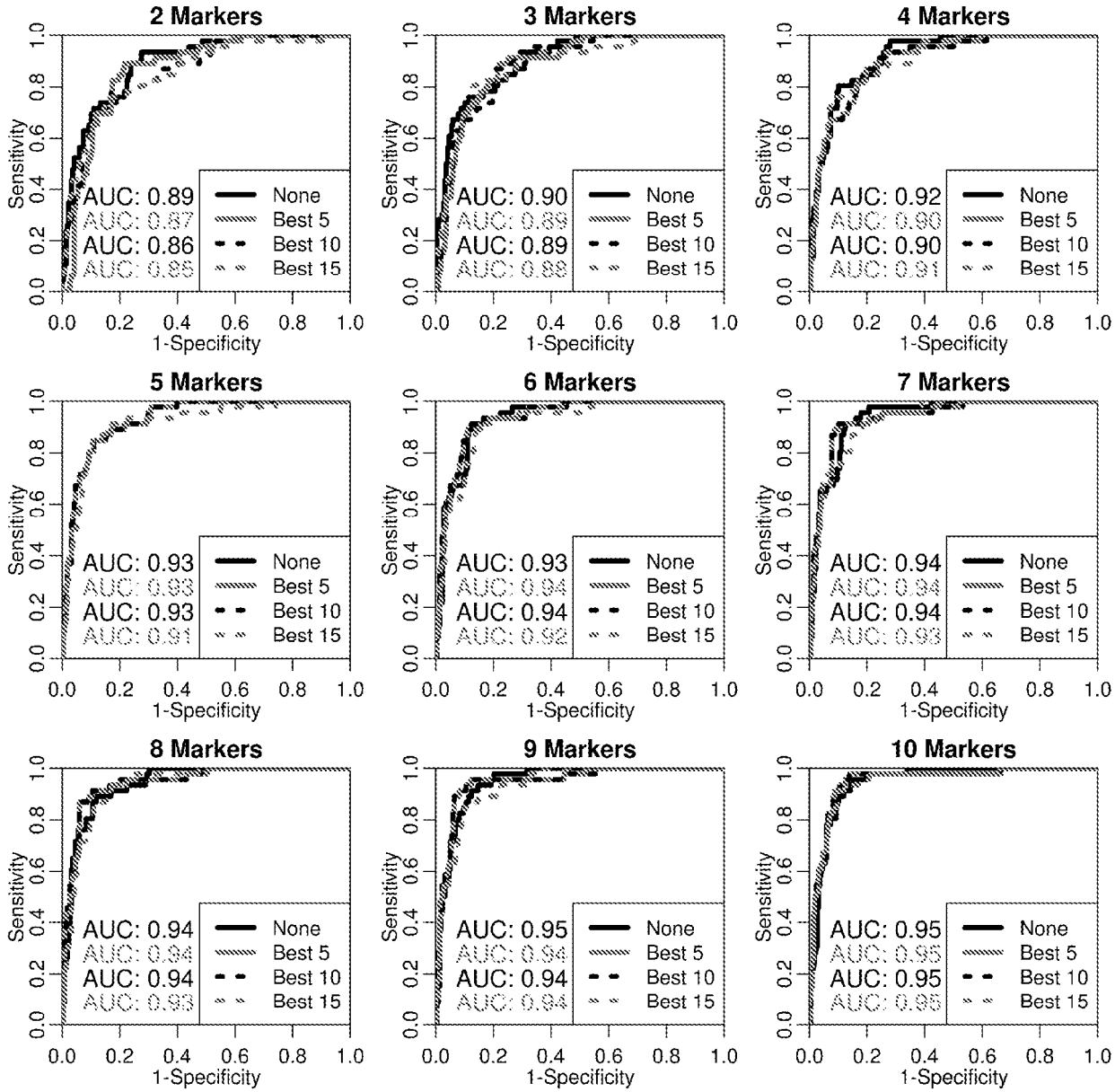
2 Markers
AUC: 0.89
AUC: 0.87
AUC: 0.86
AUC: 0.85
None
Best 5
Best 10
Best 15
3 Markers
AUC: 0.90
AUC: 0.89
AUC: 0.89
AUC: 0.88
4 Markers
AUC: 0.92
AUC: 0.90
AUC: 0.90
AUC: 0.91
5 Markers
AUC: 0.93
AUC: 0.93
AUC: 0.93
AUC: 0.91
6 Markers
AUC: 0.93
AUC: 0.94
AUC: 0.94
AUC: 0.92
7 Markers
AUC: 0.94
AUC: 0.94
AUC: 0.94
AUC: 0.93
8 Markers
AUC: 0.94
AUC: 0.94
AUC: 0.94
AUC: 0.93
9 Markers
AUC: 0.95
AUC: 0.94
AUC: 0.94
AUC: 0.94
10 Markers
AUC: 0.95
AUC: 0.95
AUC: 0.95
AUC: 0.95
Sensitivity
1-Specificity
0.0
0.2
0.4
0.6
0.8
1.0

FIG. 12

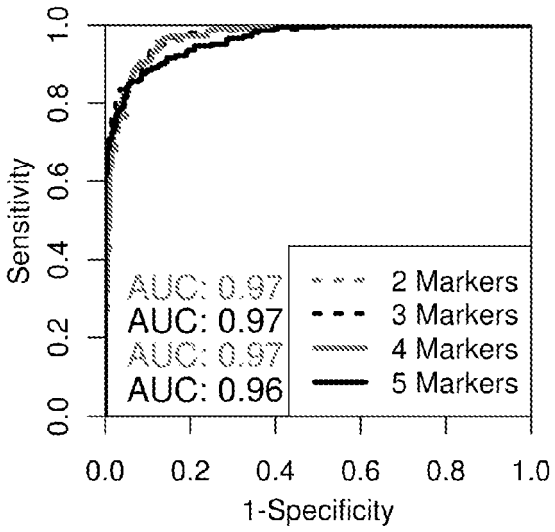

FIG. 13A

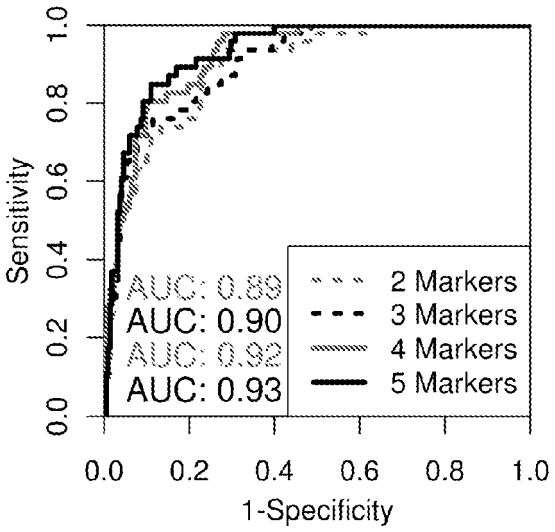

FIG. 13B

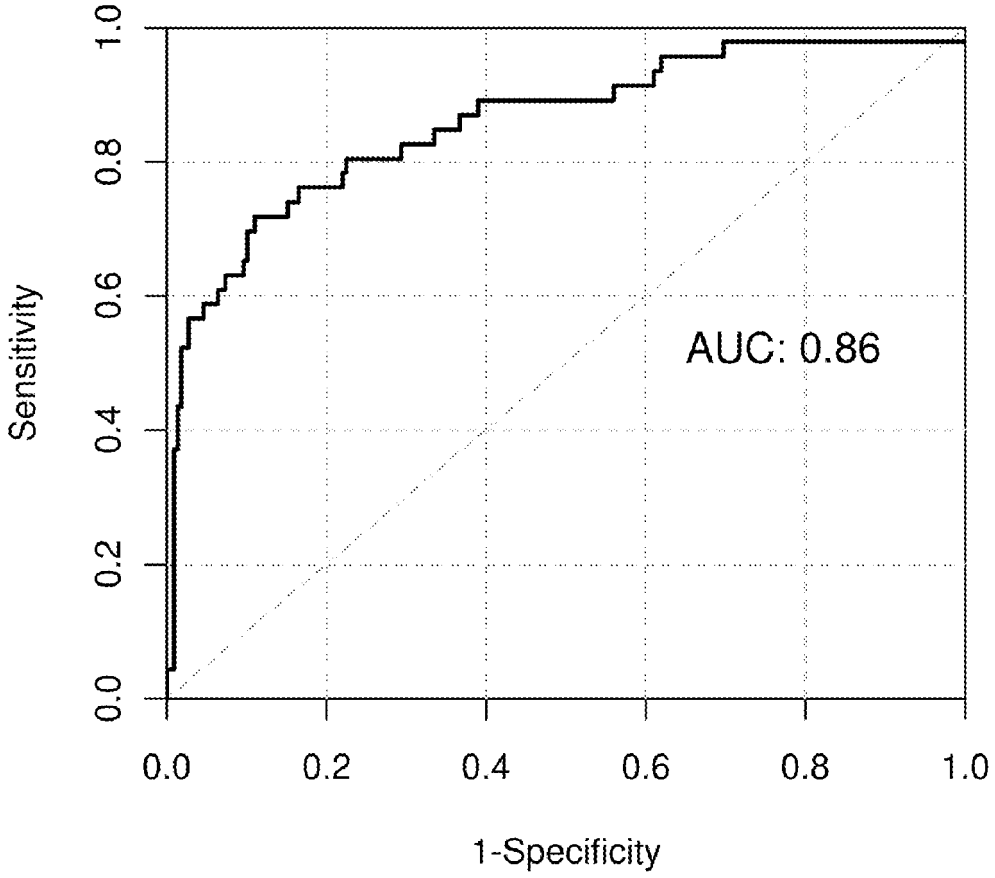

FIG. 14

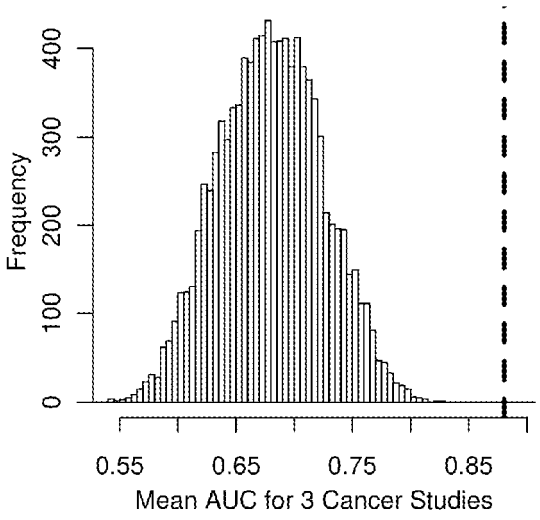

FIG. 15A

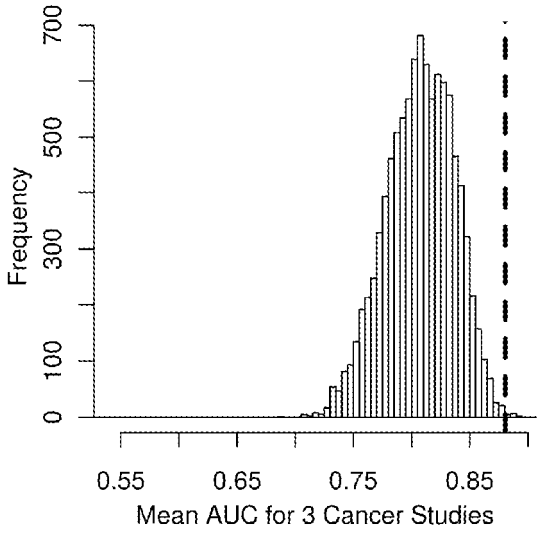

FIG. 15B

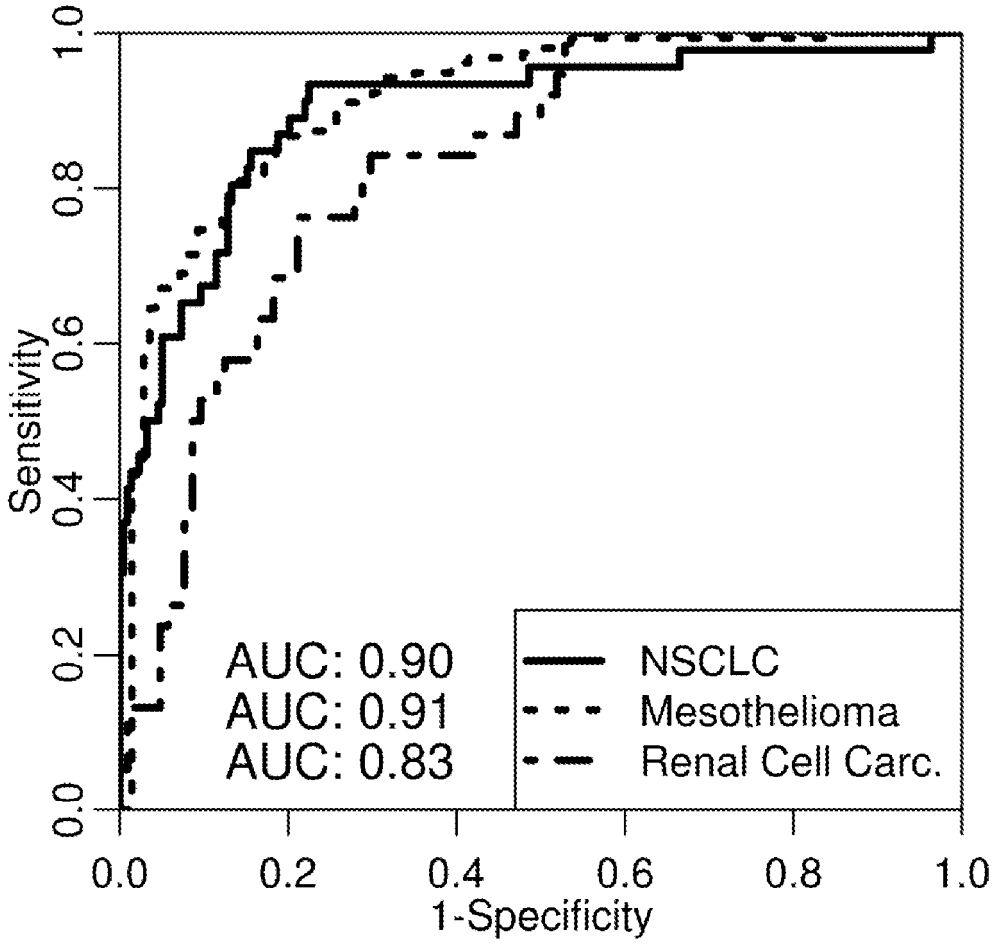
Sensitivity
1-Specificity
0.0
0.2
0.4
0.6
0.8
1.0
AUC: 0.90
AUC: 0.91
AUC: 0.83
NSCLC
Mesothelioma
Renal Cell Carc.

FIG. 16