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66-217

2가 9854

2가101-310

(72)

2가 9854

2가101-310

(74)

:

(54) /

l) , / , (image retrieva

(contrast) / (brightness) 가

(DB) ,

sensitivity) , (

1

2 1

3 2

4 2

5a~5d

(, ' ')

(feature parameter)(, ' ')
(region of interest: ROI)

(texture)

(shape)

(co-occurrence)

/

가

가 가

(contrast)

(brightness)

/

가

가

가 가

가

가

(brightness)

(brightness)

(size),
가

(translation),
(rotation)

(rotation)

, / , DB DB
가
/ (sensitivity)
(Euclidean
(sensitivity)
(specificity)가
1
2 가 / , / , / , / (sensitivity)
.

1
[101]

5a (51)

[103] (ROI)

(ROI) (ROI) 10%
(ROI) ROI (55) 5b ROI (53)

[105] 1

1 (texture) 가 ,

$$\left(\begin{array}{c} \frac{Var(B)}{Var(A)+Var(B)} \\ \frac{Var(C)}{Var(A)+Var(C)} \\ \frac{Var(C)}{Var(C)+Var(D)} \\ \frac{Var(B)}{Var(B)+Var(D)} \\ \frac{Var(C)}{Var(B)+Var(C)} \\ \frac{Var(B)+Var(C)}{Var(A)+Var(D)} \\ \frac{\text{종단면길이}}{\text{횡단면길이}} \end{array} \right)$$

1

1) 5×5 2) 가 $1/2$.3) (Log 3×3)4) 5×5 (closing operation)5) 3×3 3×3 , 3×3
 3×3 .6) 3×3

7) 2 ().

-

- 3 가 4 4
(variance) (Var(A), Var(B), Var(C), Var(D))

-

1 .

$$\frac{Var(B)}{Var(A)+Var(B)} , \frac{Var(C)}{Var(A)+Var(C)} , \frac{Var(C)}{Var(C)+Var(D)} ,$$

$$\frac{Var(B)}{Var(B)+Var(D)} , \frac{Var(C)}{Var(B)+Var(C)} , \frac{Var(B)+Var(C)}{Var(A)+Var(D)}$$

- ROI / 1

[105'] 2

2 (shape) 가 , .

$$\begin{pmatrix} \Phi_1 \\ \Phi_2 \\ \Phi_3 \\ \Phi_4 \\ \Phi_5 \\ \Phi_6 \\ \Phi_7 \\ \frac{\text{종단면길이}}{\text{횡단면길이}} \end{pmatrix}$$

, $\Phi_1, \dots, \Phi_7$ (Hu moment) , .

$$\Phi_1 = \eta_{20} + \eta_{02}$$

$$\Phi_2 = (\eta_{20} - \eta_{02})^2 + 4\eta_{11}^2$$

$$\Phi_3 = (\eta_{30} - 3\eta_{12})^2 + (3\eta_{21} - \eta_{03})^2$$

$$\Phi_4 = (\eta_{30} + \eta_{12})^2 + (\eta_{21} + \eta_{03})^2$$

$$\Phi_5 = (\eta_{30} - 3\eta_{12})(\eta_{30} + \eta_{12})[(\eta_{30} + \eta_{12})^2 - 3(\eta_{21} + \eta_{03})^2] \\ + (3\eta_{21} - \eta_{03})(\eta_{21} + \eta_{03})[3(\eta_{30} + \eta_{12})^2 - (\eta_{21} + \eta_{03})^2]$$

$$\Phi_6 = (\eta_{20} - \eta_{02})[(\eta_{30} + \eta_{12})^2 - (\eta_{21} + \eta_{03})^2] + 4\eta_{11}(\eta_{30} + \eta_{12})(\eta_{21} + \eta_{03})$$

$$\Phi_7 = (3\eta_{21} - \eta_{30})(\eta_{30} + \eta_{12})[(\eta_{30} + \eta_{12})^2 - 3(\eta_{21} + \eta_{03})^2] \\ + (3\eta_{12} - \eta_{03})(\eta_{21} + \eta_{03})[3(\eta_{30} + \eta_{12})^2 - (\eta_{21} + \eta_{03})^2]$$

$$\mu_{pq} = \frac{\mu_{pq}}{\mu_{00}}, \quad \mu_{pq} = \sum_x \sum_y (x - \bar{x})^p (y - \bar{y})^q f(x, y), \quad r = \frac{p+q}{2} + 1$$

f(x,y) 가 x, y

2

-
- (Ostu)
- (size), (translation), (rotation) 7 (Hu moment)
- 7 ROI / 2

[107] 1

- 1 DB ROI
- ,
- (distance measure) (similarity) 1 1
 - DB() ()
 - 가 ROI
 - 가 ROI
 - 1 DB() 1 DB() , / 1
 - [105]
 - DB i 1 [x_{1i} x_{2i} x_{3i} x_{4i} x_{5i} x_{6i} x_{7i}]' , 1

$$i\text{번째 유사도} = \frac{1}{\sqrt{\sum_{j=1}^7 (F1_j - x_{ji})^2}},$$

$$\begin{pmatrix} F1_1 \\ F1_2 \\ F1_3 \\ F1_4 \\ F1_5 \\ F1_6 \\ F1_7 \end{pmatrix} = \begin{pmatrix} \frac{Var(B)}{Var(A)+Var(B)} \\ \frac{Var(C)}{Var(A)+Var(C)} \\ \frac{Var(C)}{Var(C)+Var(D)} \\ \frac{Var(B)}{Var(B)+Var(D)} \\ \frac{Var(C)}{Var(B)+Var(C)} \\ \frac{Var(B)+Var(C)}{Var(A)+Var(D)} \\ \frac{\text{종단면길이}}{\text{횡단면길이}} \end{pmatrix} .$$

, DB , 가 가 /

5c 1 ROI DB
2 ROI (55) 가 (1~7)
, 2 ROI (55) 가 (1~7) .

[107'] 2

2 DB ROI
,

- 2 2 DB

- 가 ROI

- 가 ROI

2 DB() 2 DB() , /
[105'] 2 .

DB i 1 [y_{1i} y_{2i} y_{3i} y_{4i} y_{5i} y_{6i} y_{7i} y_{8i}]' , 2

$$i\text{번째 유사도} = \frac{1}{\sqrt{\sum_{j=1}^8 (F2_j - y_{ji})^2}} ,$$

$$\begin{pmatrix} F2_1 \\ F2_2 \\ F2_3 \\ F2_4 \\ F2_5 \\ F2_6 \\ F2_7 \\ F2_8 \end{pmatrix} = \begin{pmatrix} \Phi_1 \\ \Phi_2 \\ \Phi_3 \\ \Phi_4 \\ \Phi_5 \\ \Phi_6 \\ \Phi_7 \\ \frac{\text{종단면길이}}{\text{횡단면길이}} \end{pmatrix} .$$

$$\left(\begin{array}{c} \frac{Var(B)}{Var(A)+Var(B)} \\ \frac{Var(C)}{Var(A)+Var(C)} \\ \frac{Var(C)}{Var(C)+Var(D)} \\ \frac{Var(B)}{Var(B)+Var(D)} \\ \frac{Var(C)}{Var(B)+Var(C)} \\ \frac{Var(B)+Var(C)}{Var(A)+Var(D)} \\ \frac{\text{종단면길이}}{\text{횡단면길이}} \end{array} \right)$$

1

$$\left(\begin{array}{c} \Phi_1 \\ \Phi_2 \\ \Phi_3 \\ \Phi_4 \\ \Phi_5 \\ \Phi_6 \\ \Phi_7 \\ \frac{\text{종단면길이}}{\text{횡단면길이}} \end{array} \right)$$

2

1 (similarity) ROI 1 1 - DB() () (distance measure) ; 가

2 2 가 DB ROI ; 가 ROI 2

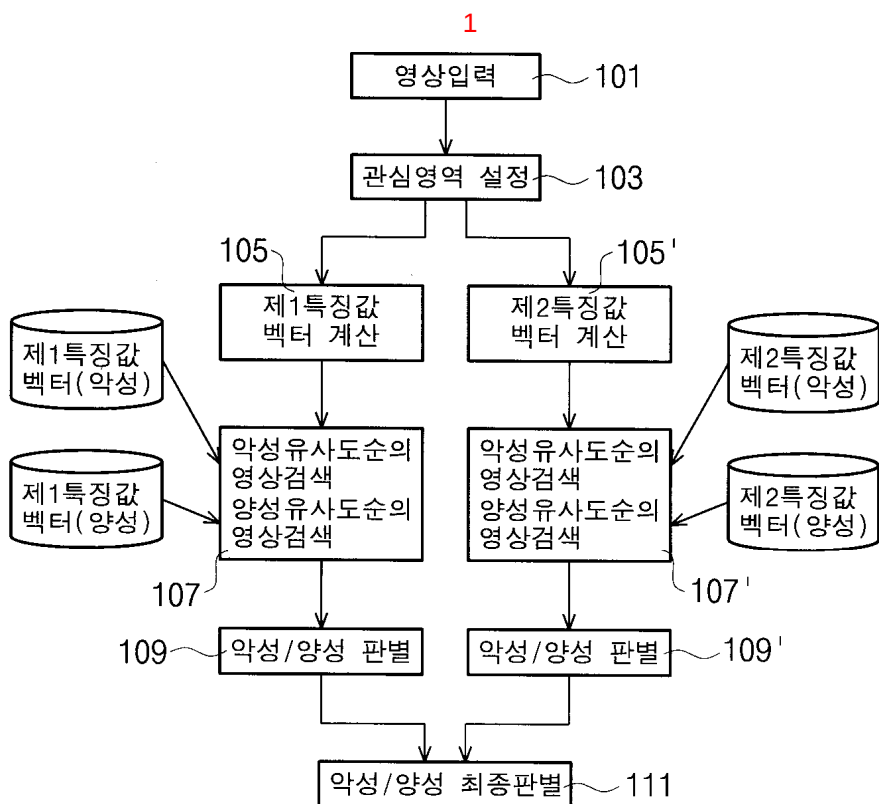
1 가 ,

2 가 ,

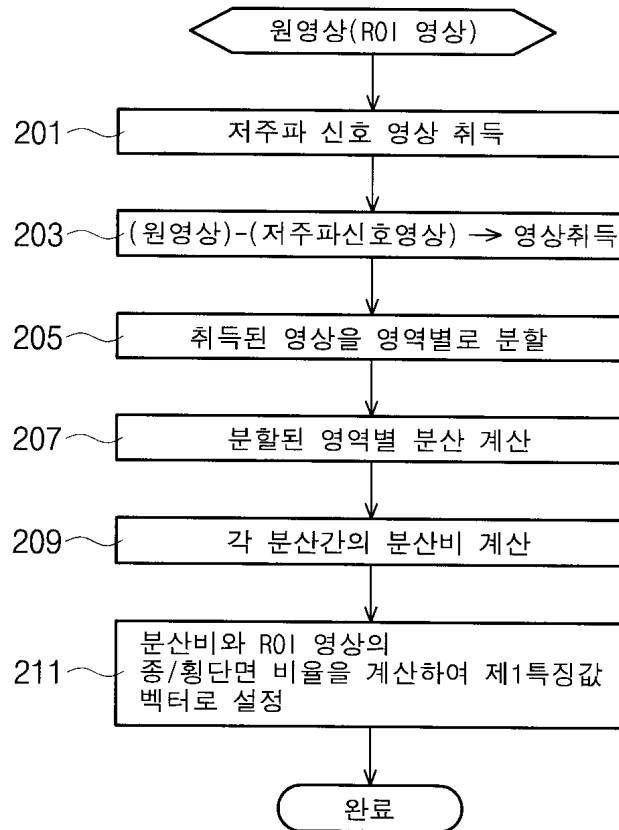
1 2 /

1	2	

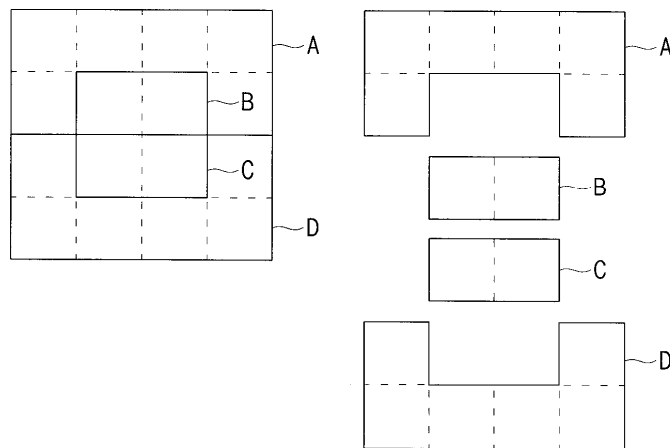
(size), (translation), (rotation) 7 (Hu moment),
 7 ROI / 2 ,
 2 DB () () ROI DB 2 /

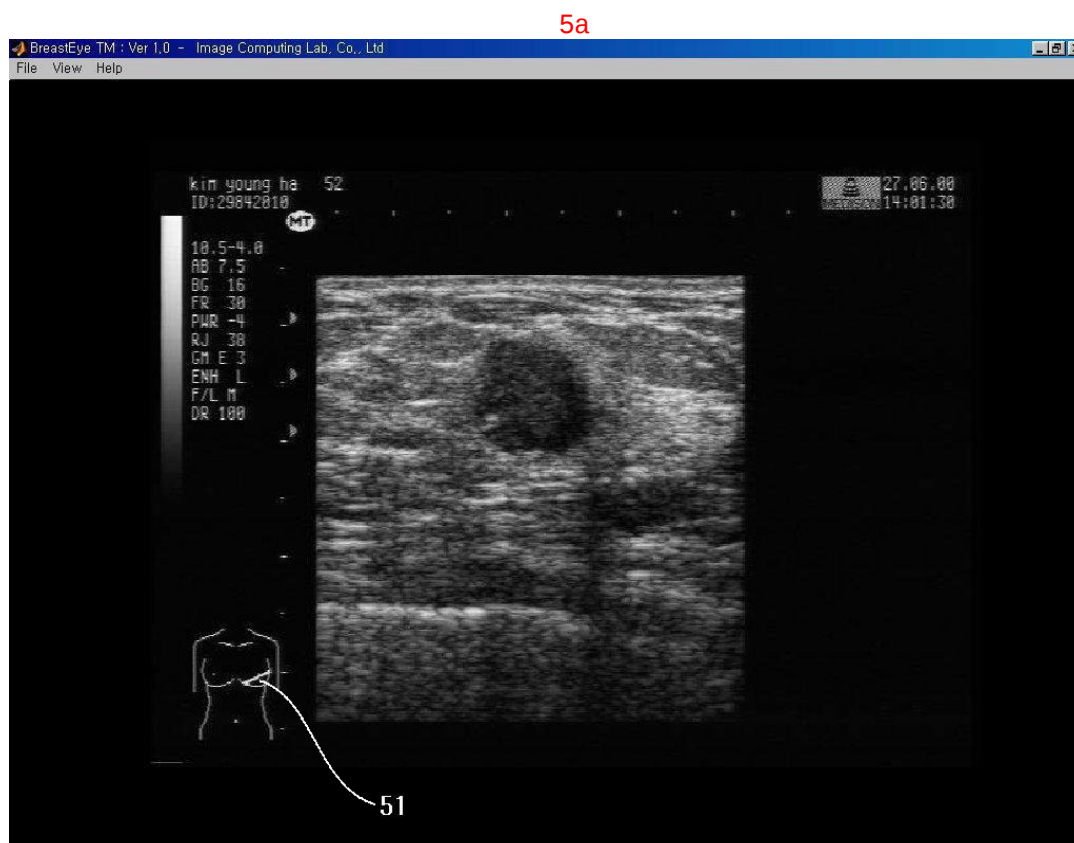
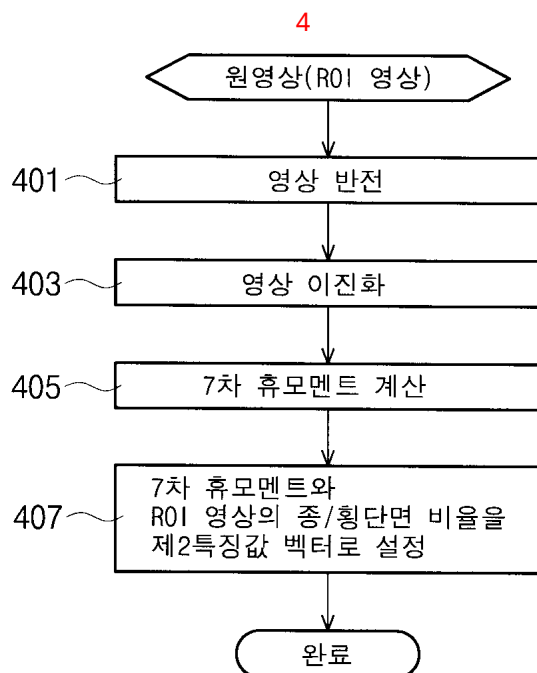


2

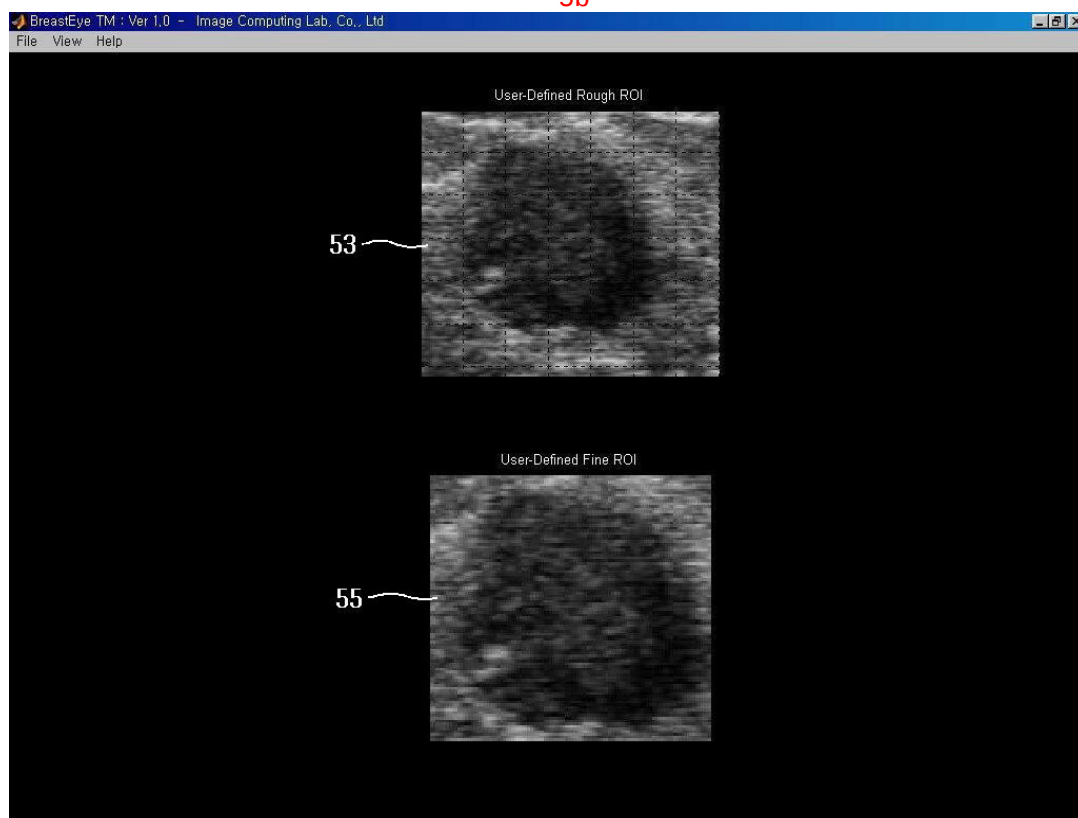


3

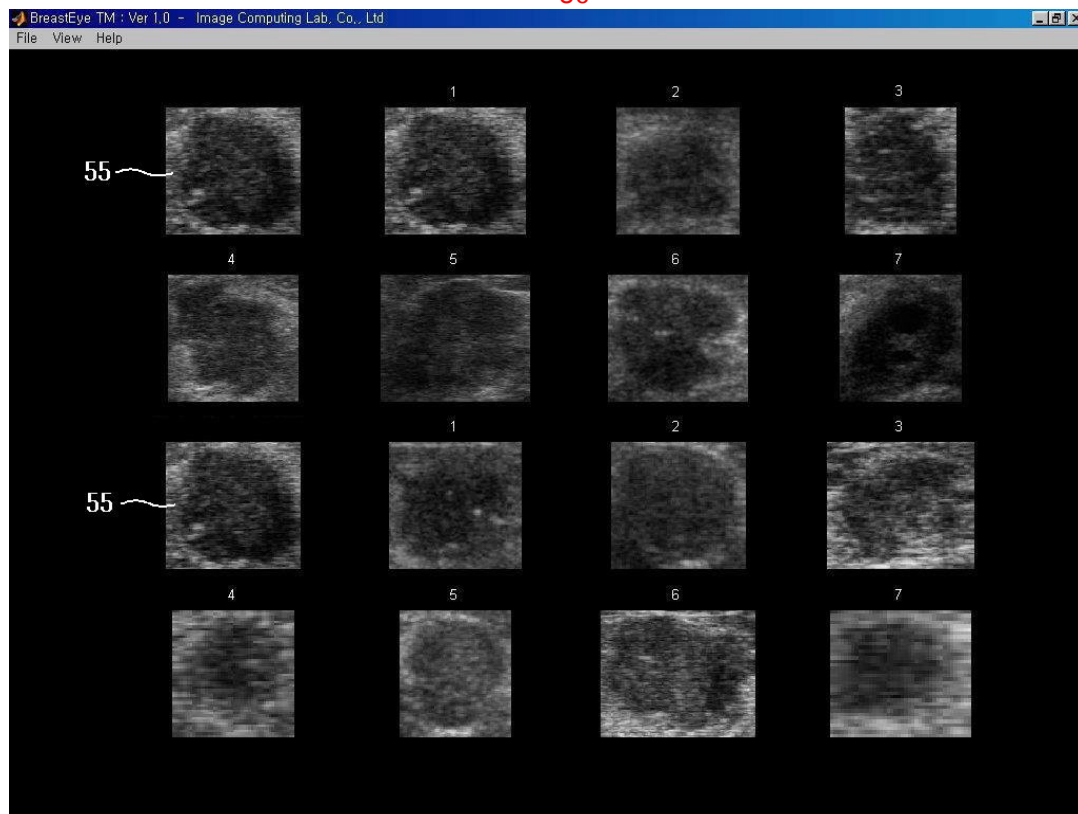




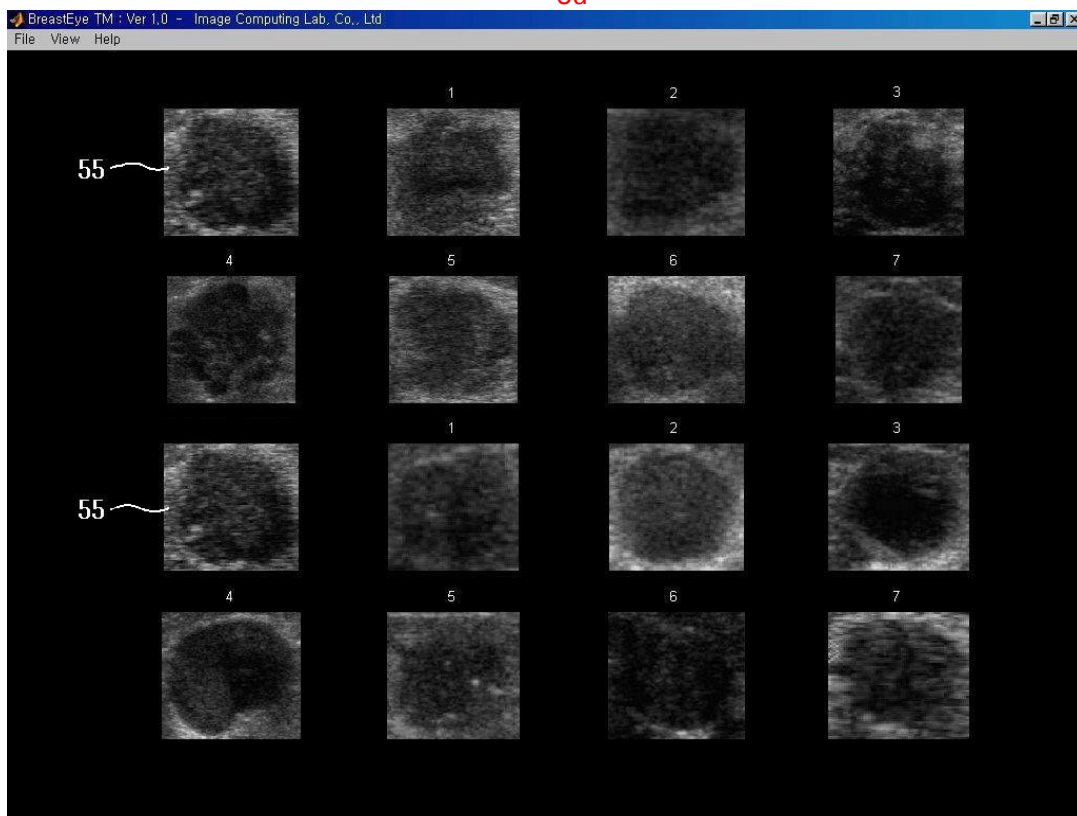
5b



5c



5d



专利名称(译)	通过超声成像检测恶性和良性病变，不依赖于强度和亮度的变化		
公开(公告)号	KR1020030070324A	公开(公告)日	2003-08-30
申请号	KR1020020009811	申请日	2002-02-25
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申请(专利权)人(译)	股份有限公司投资的重点. Munwoogyong Eomgyeongsik		
当前申请(专利权)人(译)	股份有限公司投资的重点. Munwoogyong Eomgyeongsik		
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发明人	엄경식 문우경		
IPC分类号	A61B8/00		
CPC分类号	A61B8/0825 A61B8/5223		
代理人(译)	PARK , SUNGMIN		
其他公开文献	KR100461264B1		
外部链接	Espacenet		

摘要(译)

本发明涉及一种自动执行乳房的相似图像搜索（图像检索）的方法，该图像通过超声波检查成为质量图像。在本发明中，由于具有不影响超音速设备的阴影图像（对比度）和亮度变化的大特性，所呈现的特征值方法可以影响从各种超音速设备获得的数据库图像（DB）。环境。通过对本发明的方法执行自动执行的图像搜索，自动找到恶性肿瘤和类似的正图像并显示。一个质量，图像，Yu BangJong猪，特征值，超音速设备，阴影图像（对比度），亮度，灵敏度，恶性肿瘤，积极性。

