

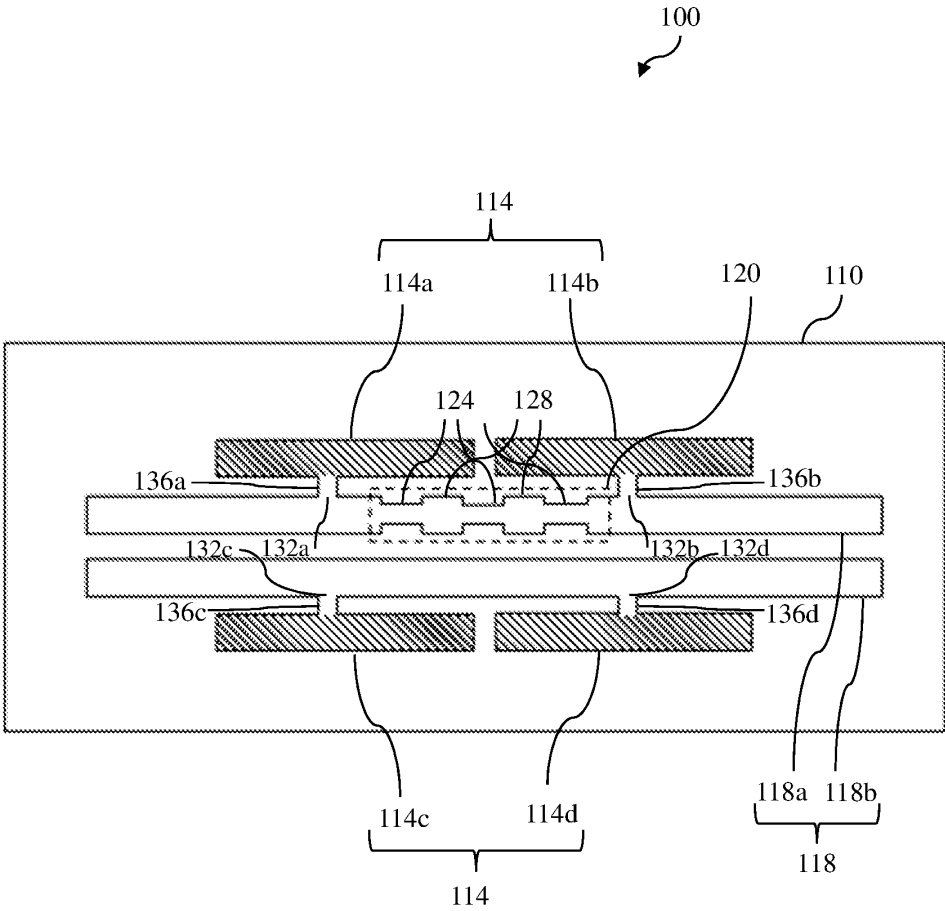


FIG. 1A

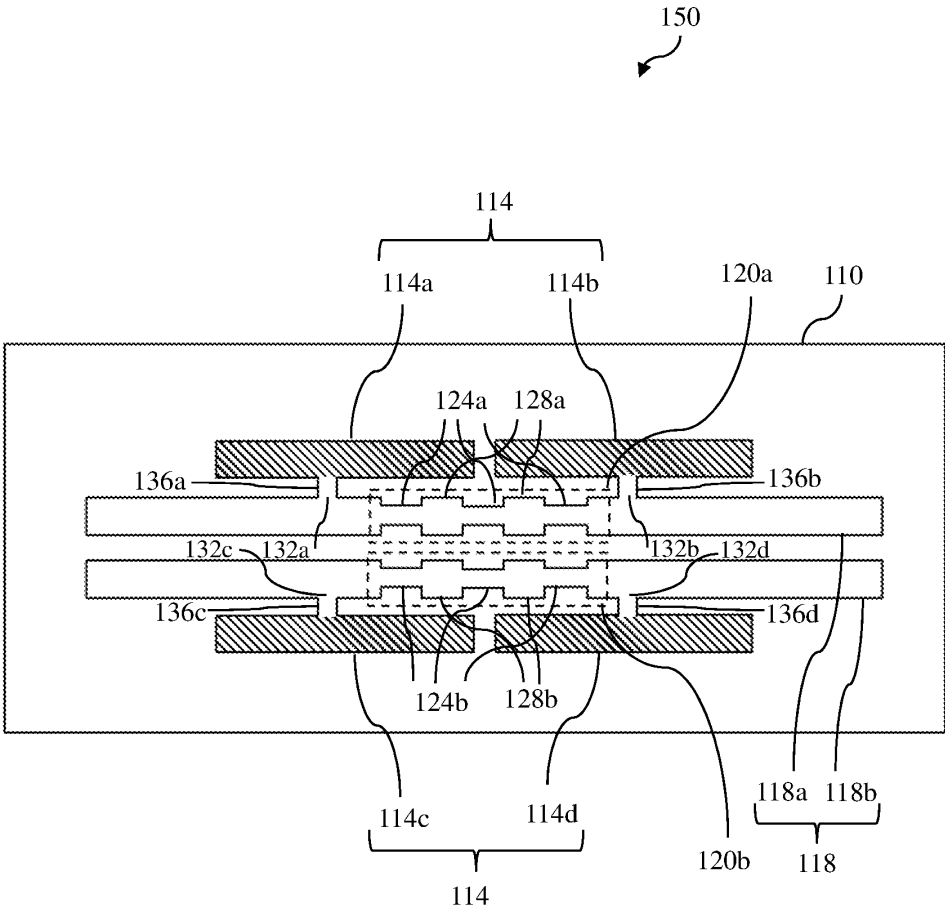
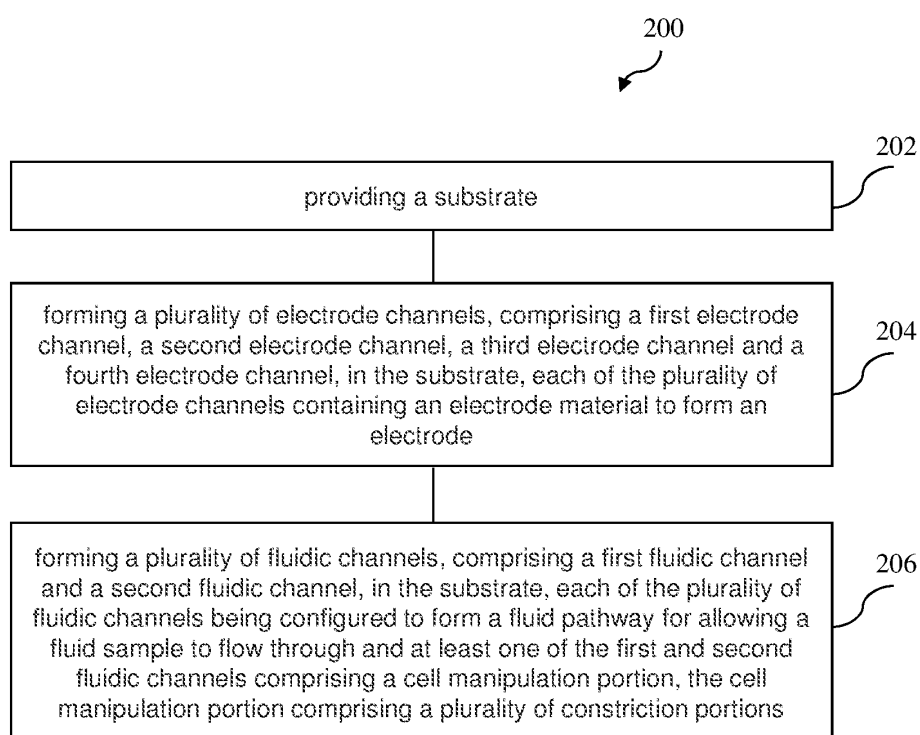


FIG. 1B

3/25

**FIG. 2**

4/25

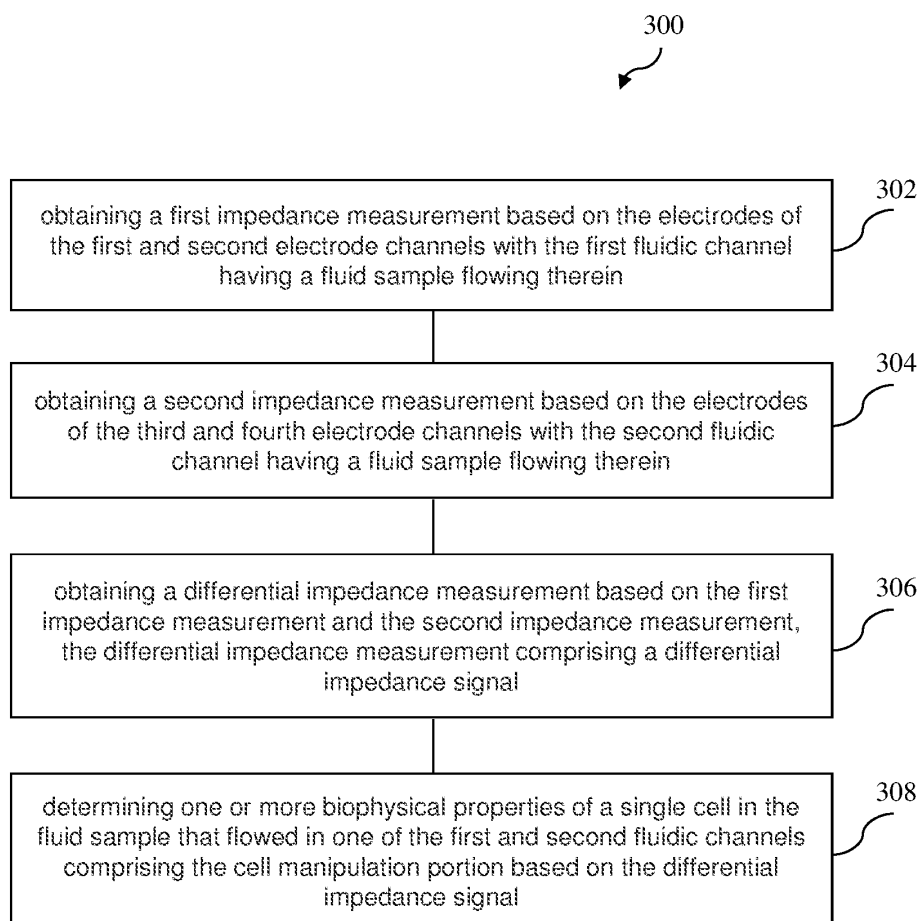


FIG. 3

5/25

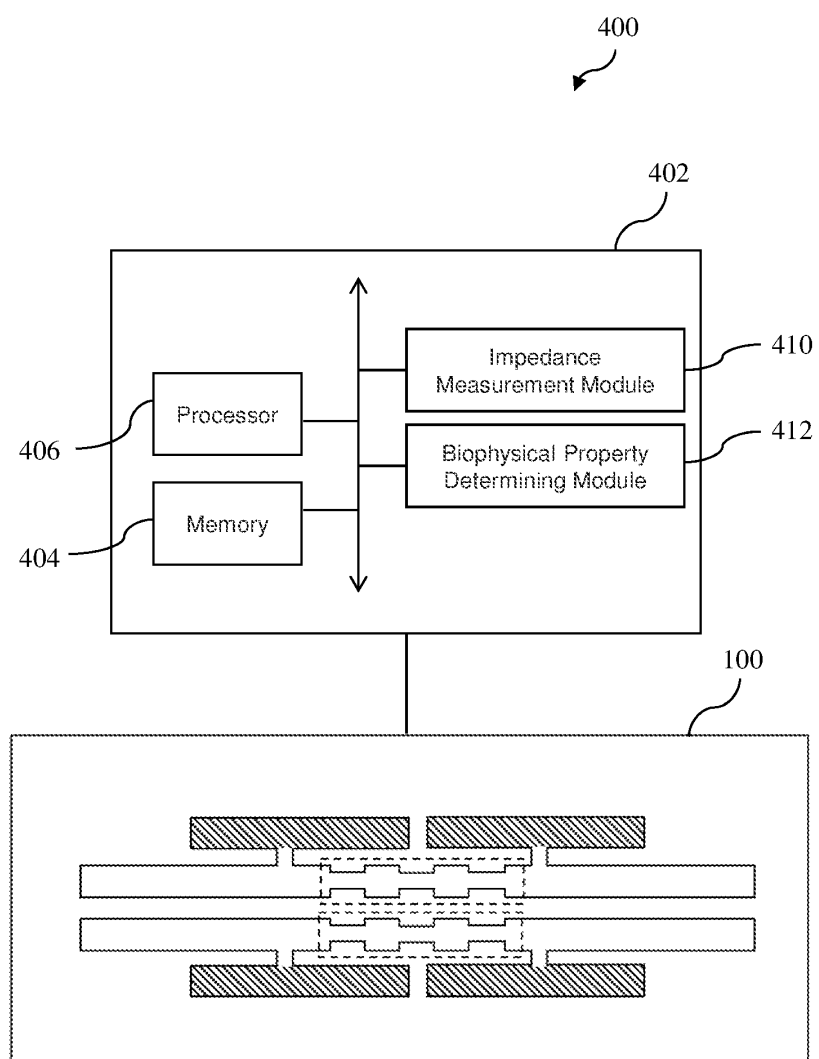


FIG. 4

6/25

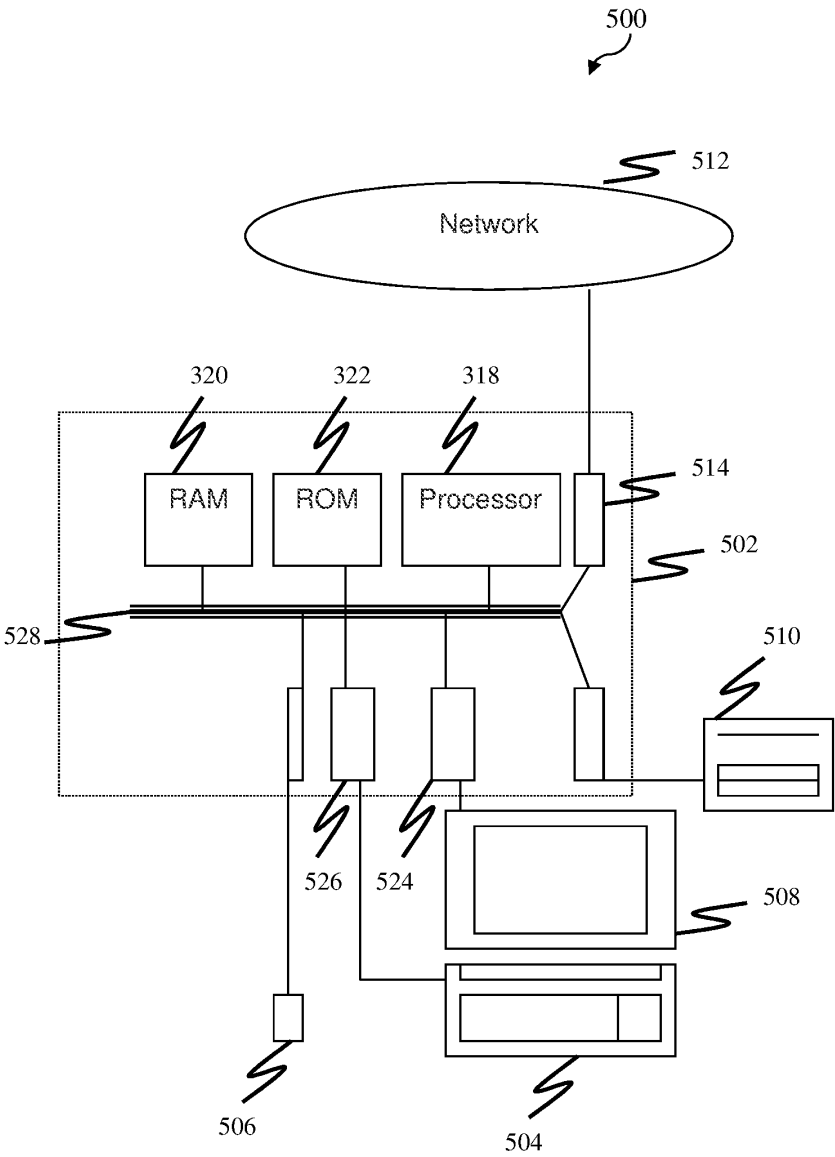


FIG. 5

7/25

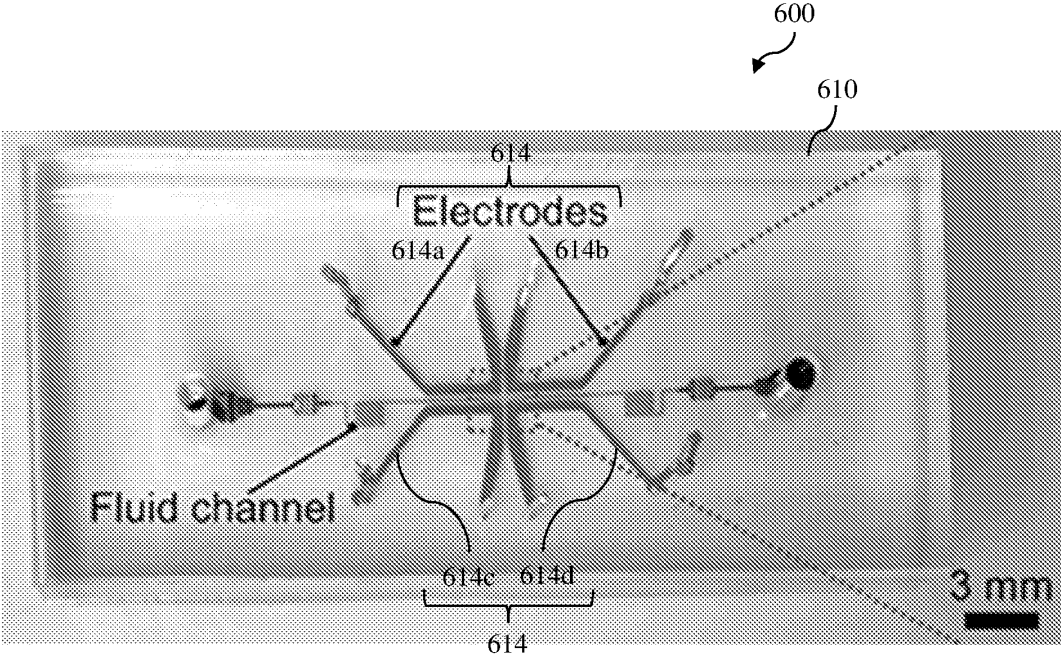


FIG. 6A

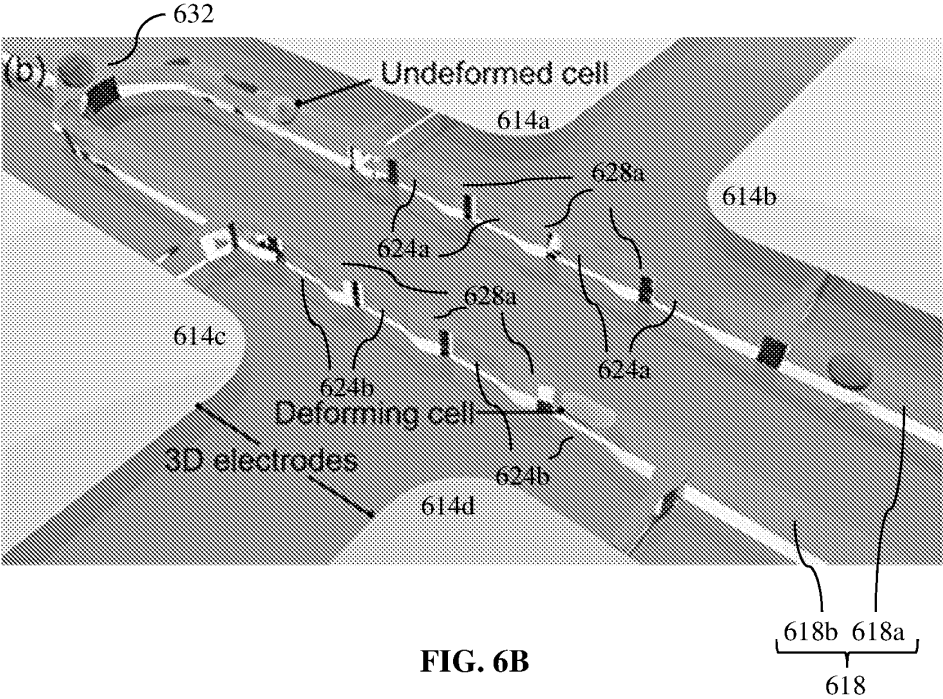


FIG. 6B

8/25

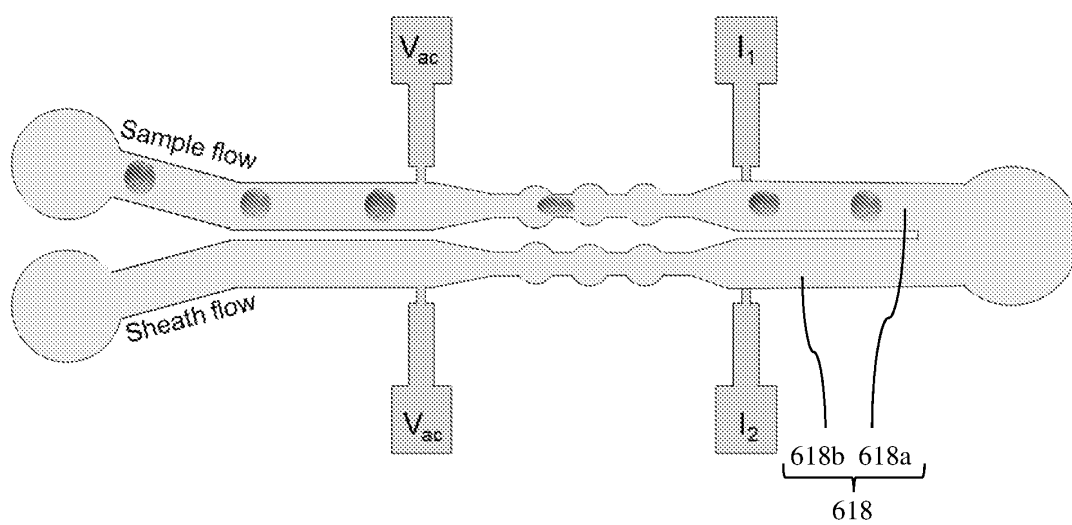


FIG. 6C

9/25

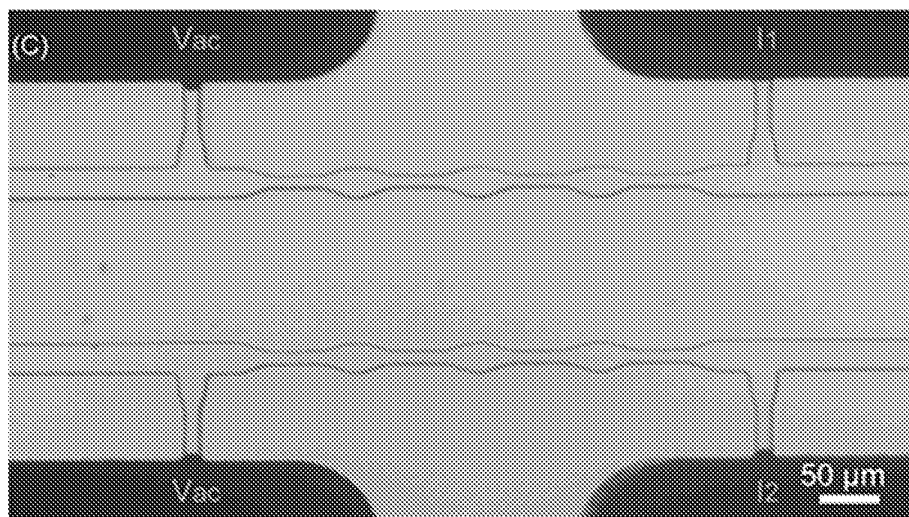


FIG. 7A

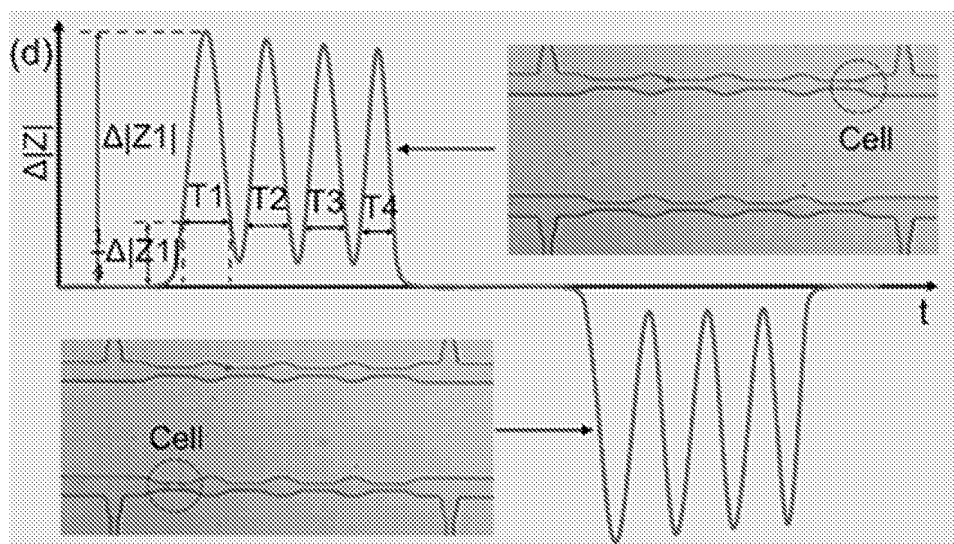


FIG. 7B

10/25

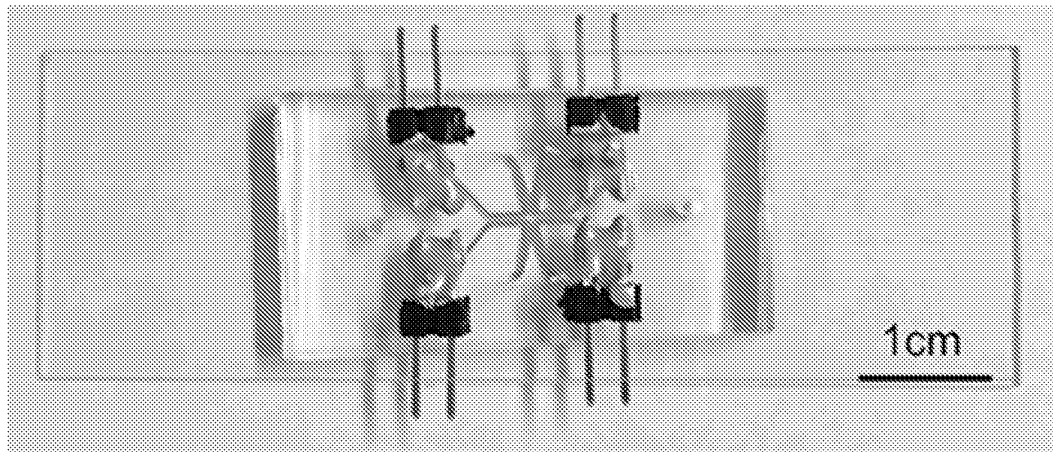


FIG. 8

11/25

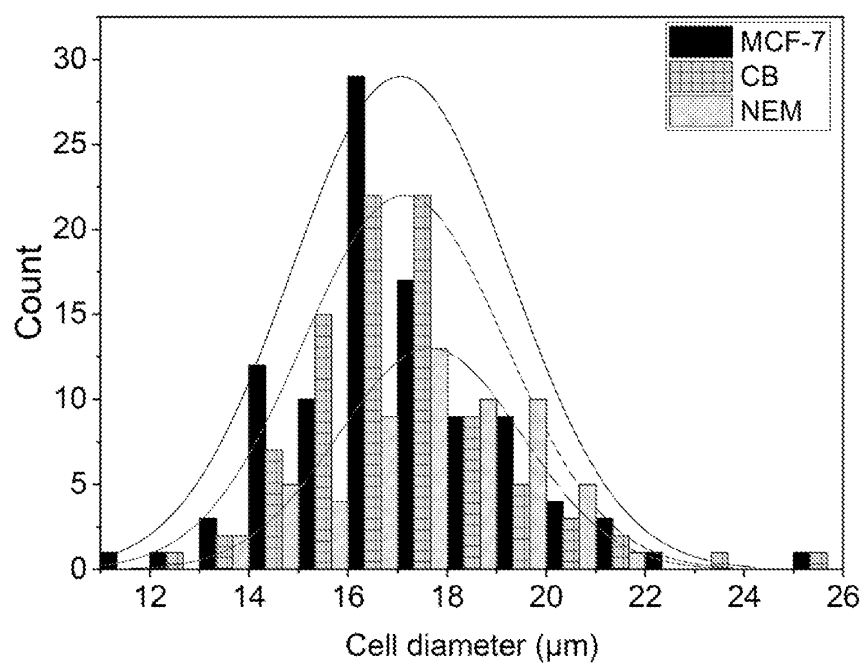


FIG. 9

12/25

Back propagation neural network

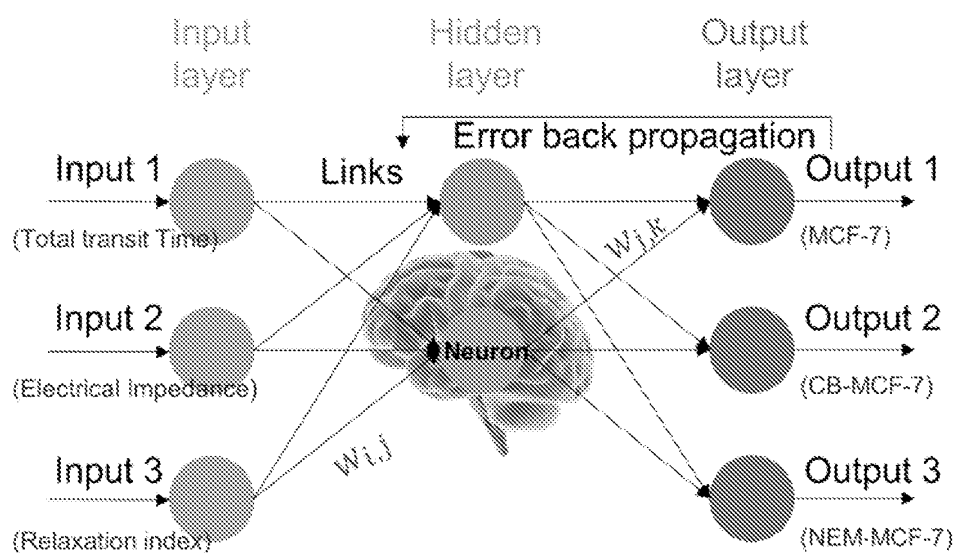


FIG. 10

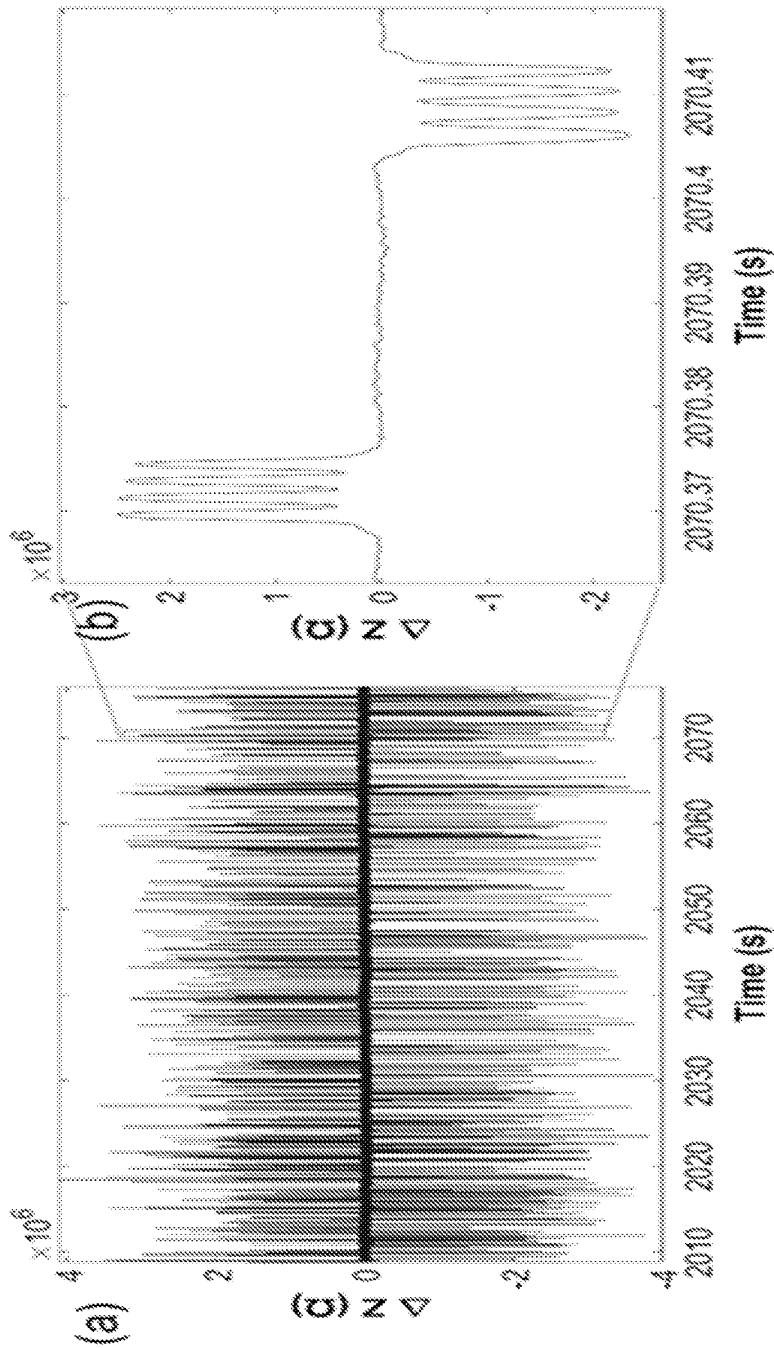


FIG. 11A

FIG. 11B

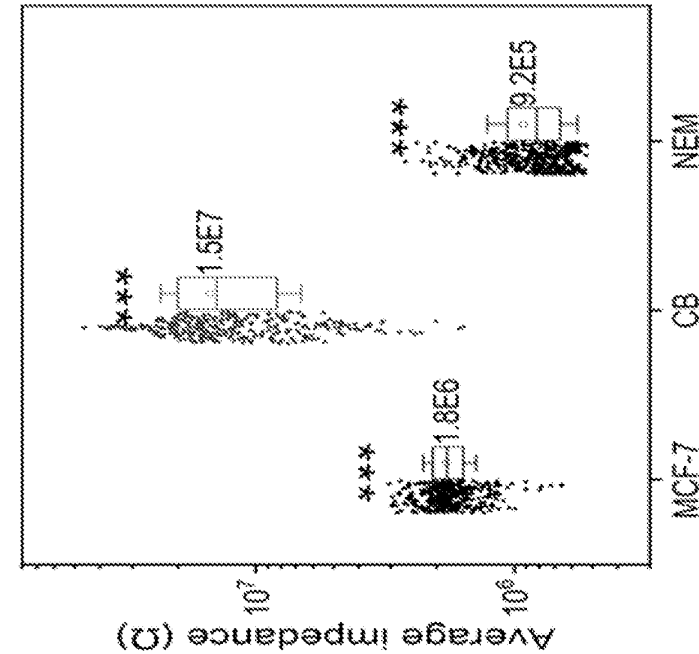


FIG. 11D

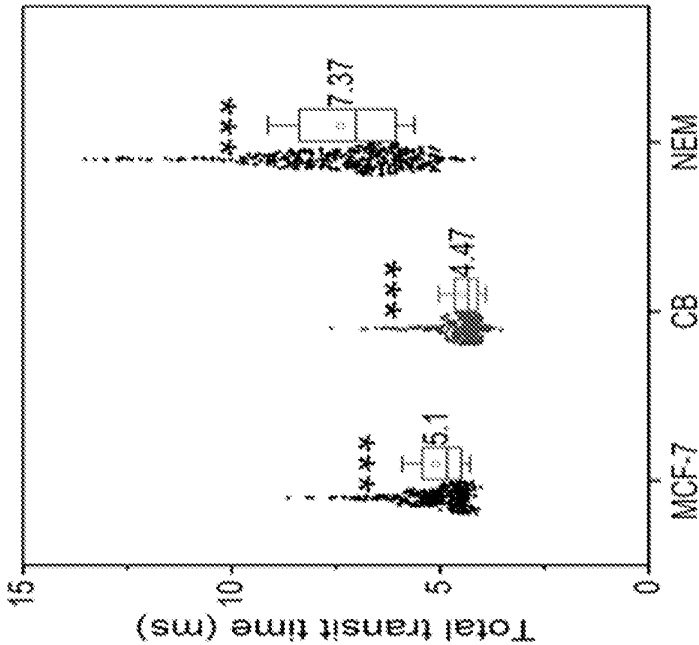


FIG. 11C

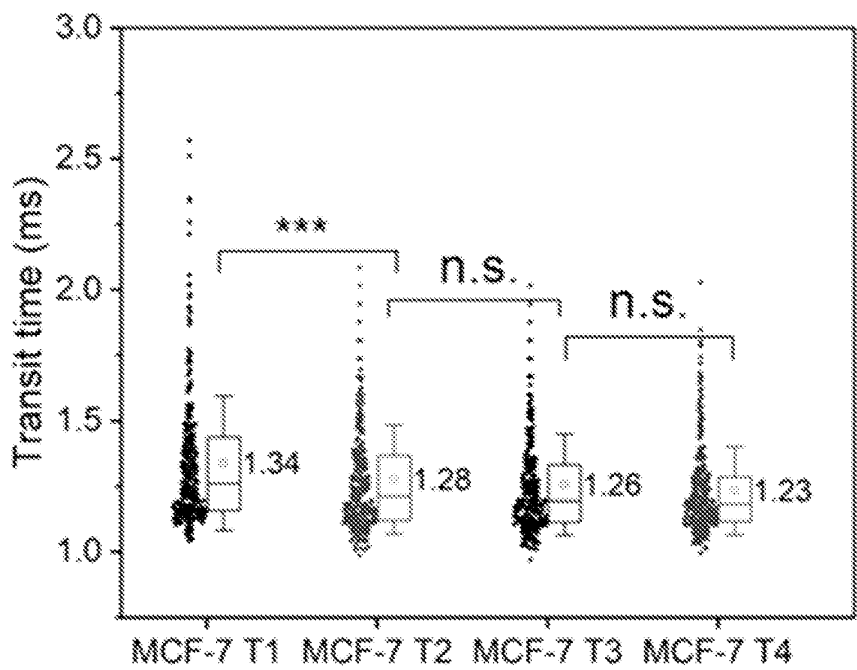


FIG. 12A

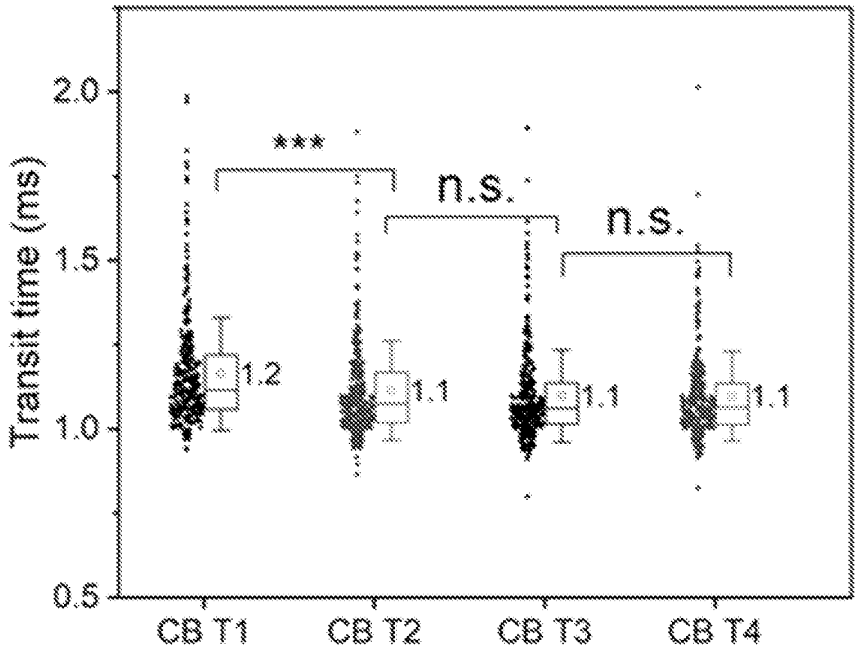


FIG. 12B

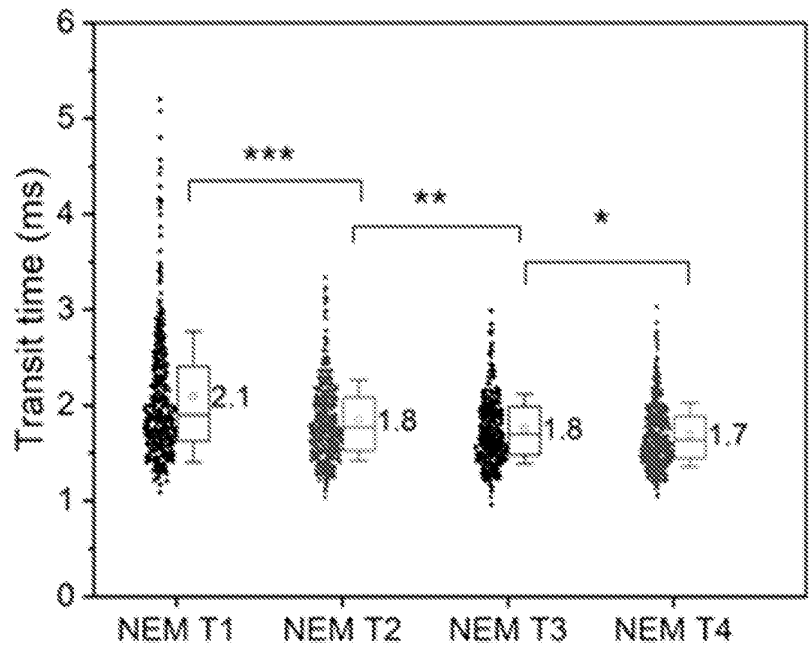


FIG. 12C

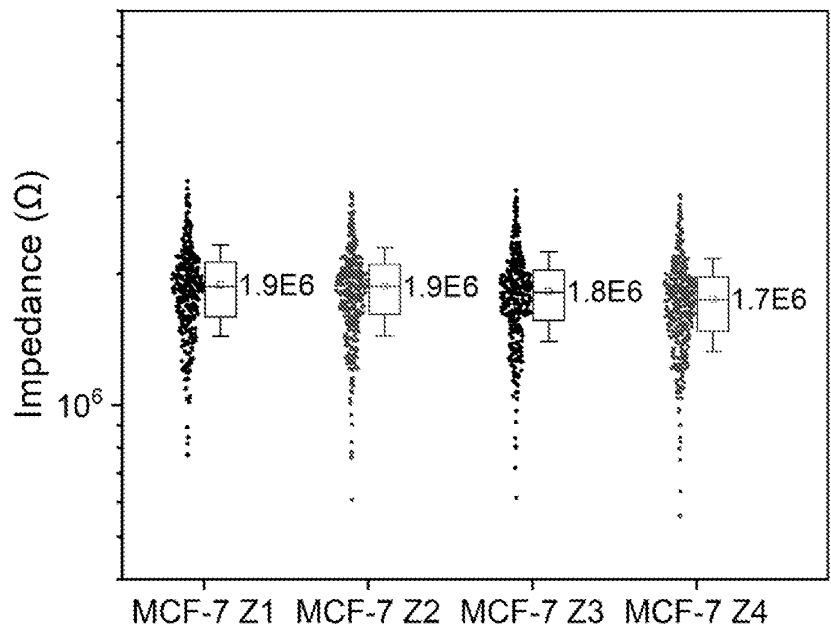


FIG. 13A

17/25

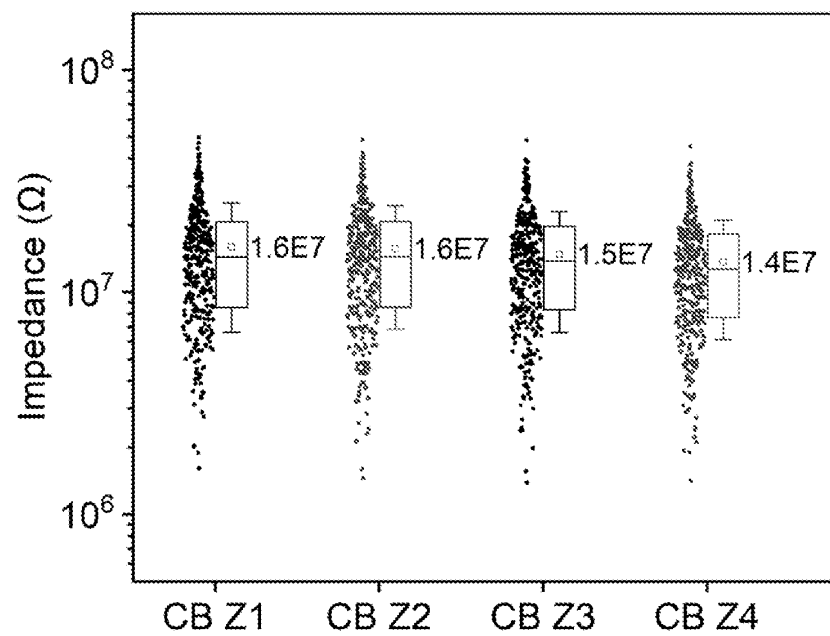


FIG. 13B

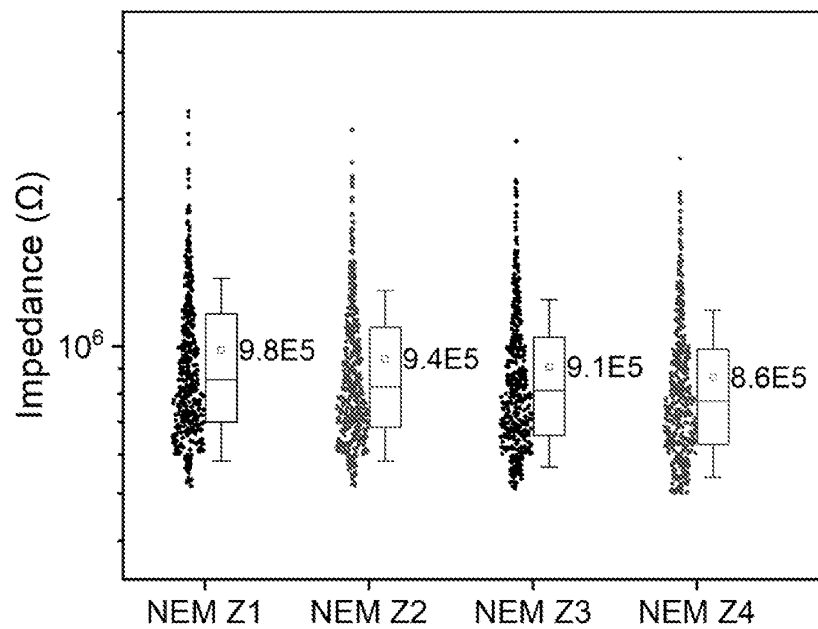


FIG. 13C

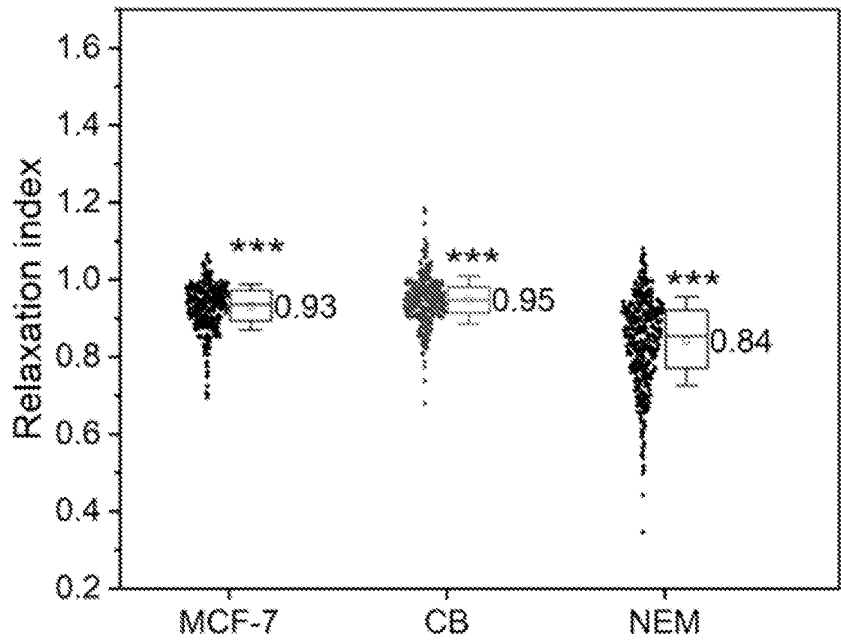


FIG. 14A

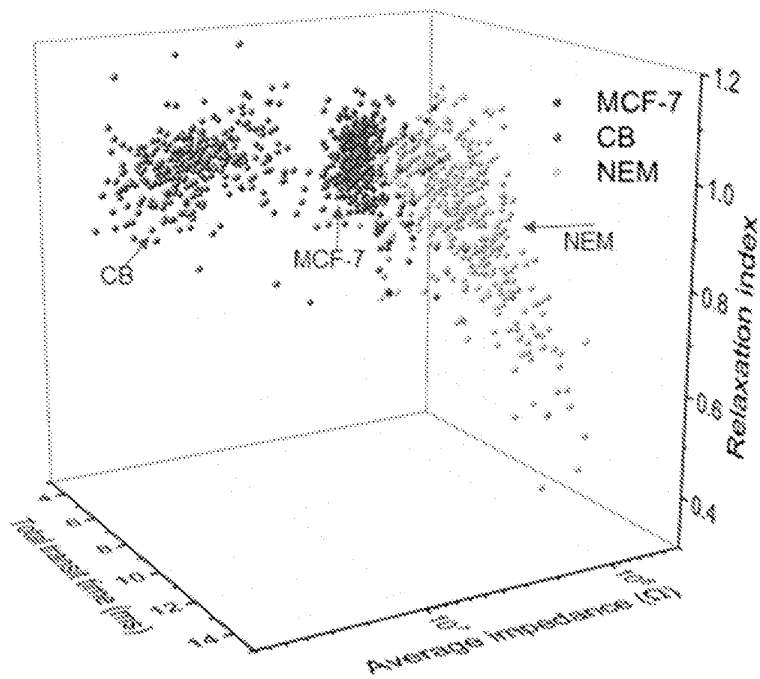


FIG. 14B

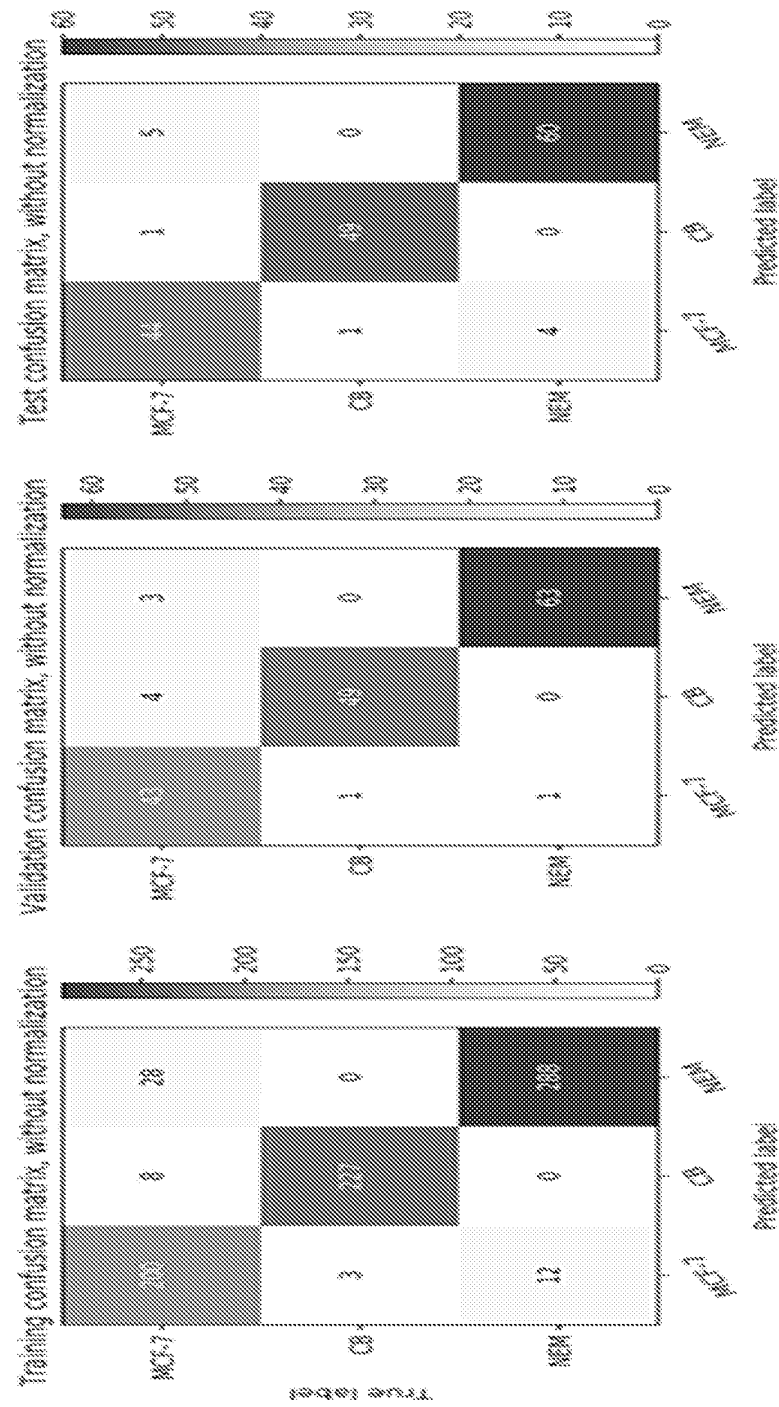


FIG. 15A

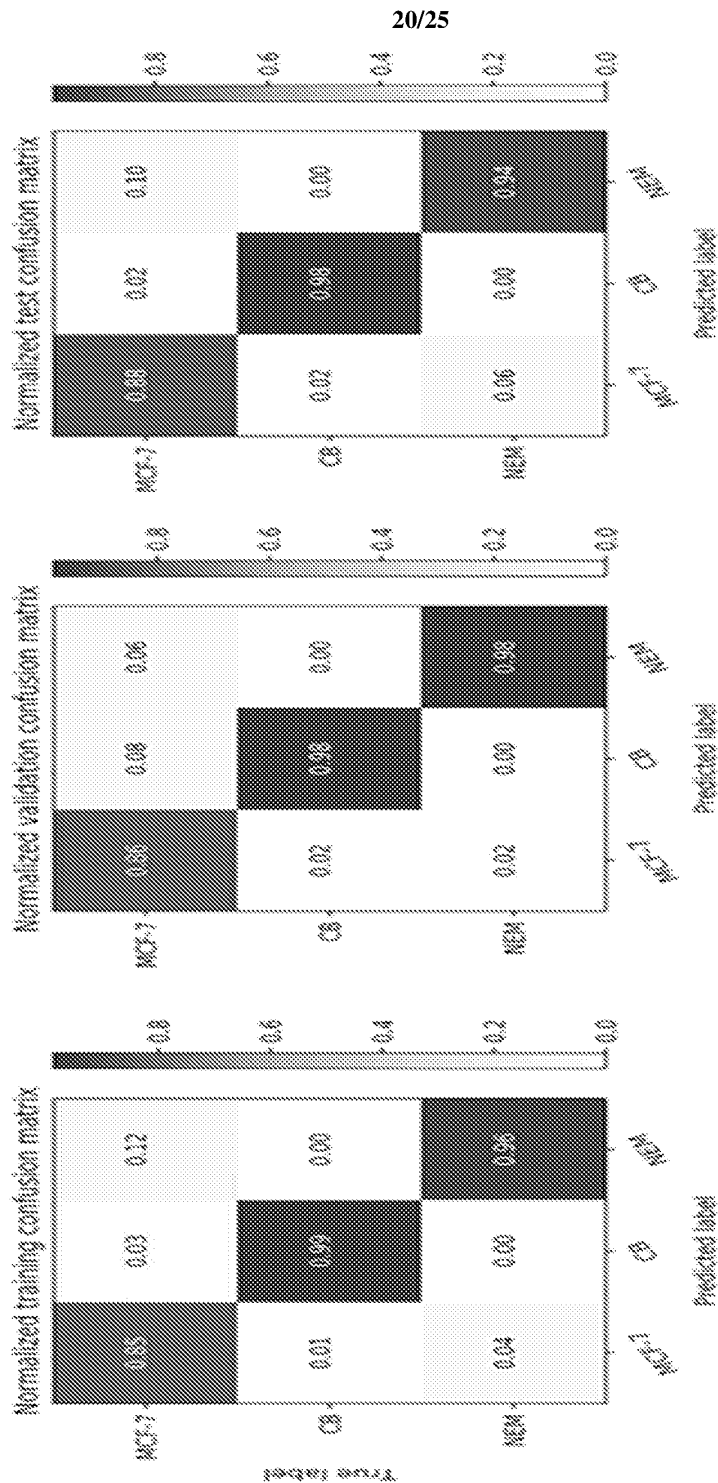


FIG. 15B

21/25

Table 1 - Summary of classification accuracy of different cell types

Parameters	Classification accuracy %		
	Training	Validation	Test
Electrical impedance	87.3	90.2	87.8
Total transit time	66.1	67.7	70.1
Relaxation index	45.2	45.7	42.7
Electrical impedance +total transit time +relaxation index	93.3	94.5	93.3

FIG. 15C

Table 2 - Summary of sensitivity and specificity of cell type classification

Cell types	(Electrical impedance +total transit time +relaxation index)					
	Sensitivity %			Specificity %		
	Training	Validation	Test	Training	Validation	Test
MCF-7	84.7	86.0	88.0	97.2	98.2	95.6
CB-MCF-7	98.7	98.0	98.0	91.0	93.0	91.2
NEM-MCF-7	96.0	98.4	93.8	91.6	92.0	93.0
Average	93.1	94.1	93.3	93.3	94.4	93.3

FIG. 15D

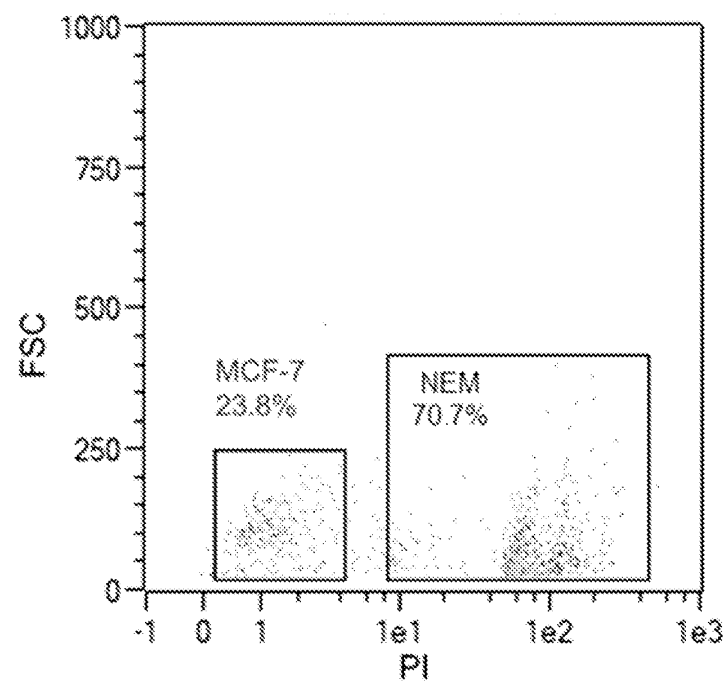


FIG. 16A

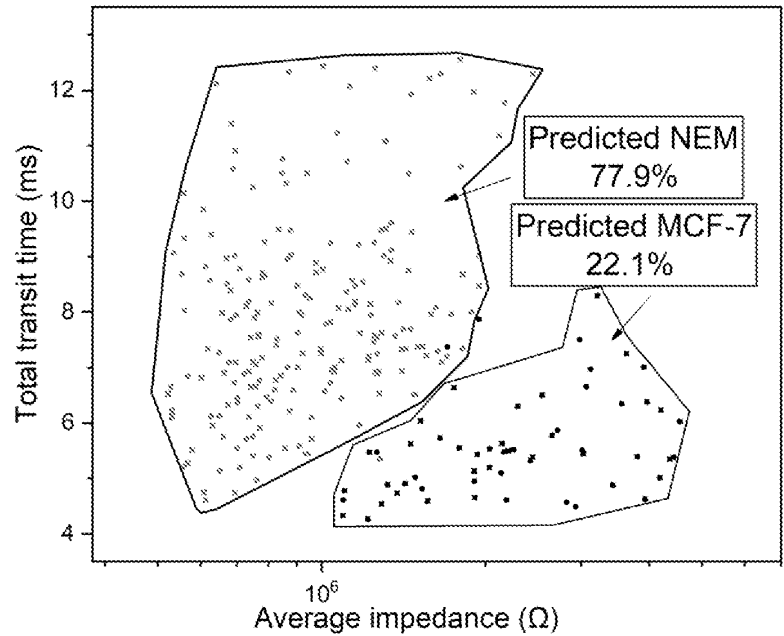


FIG. 16B

23/25

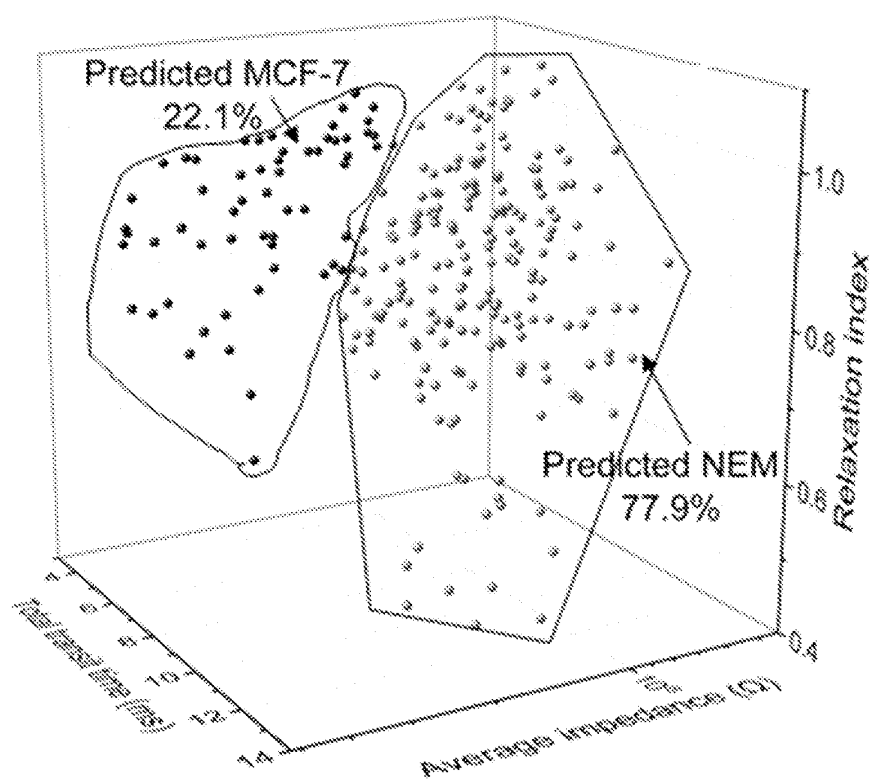


FIG. 16C

24/25

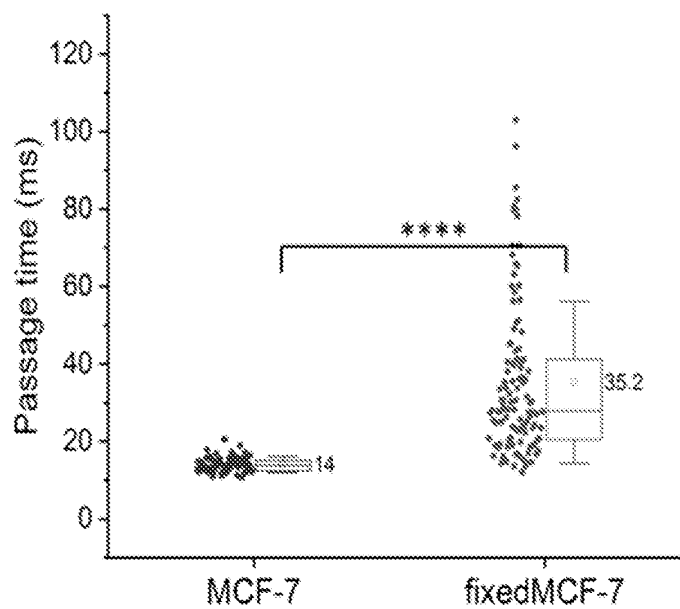


FIG. 17A

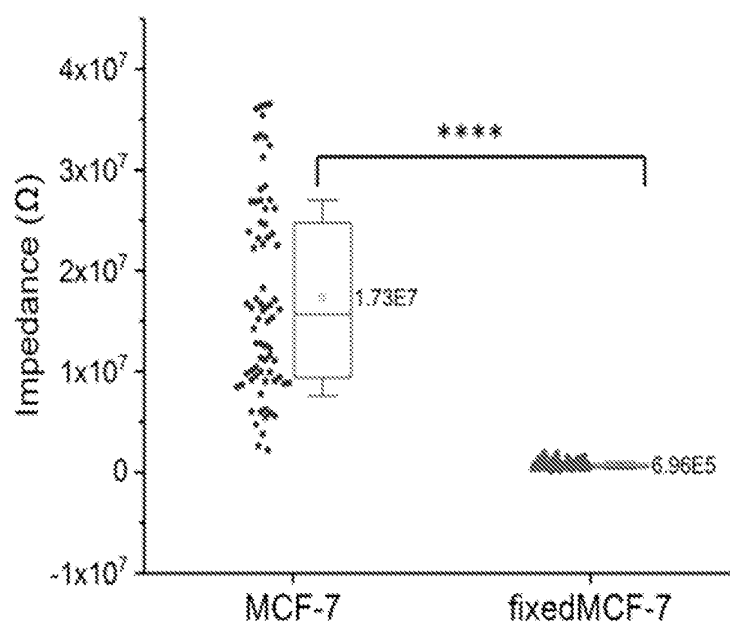


FIG. 17B

25/25

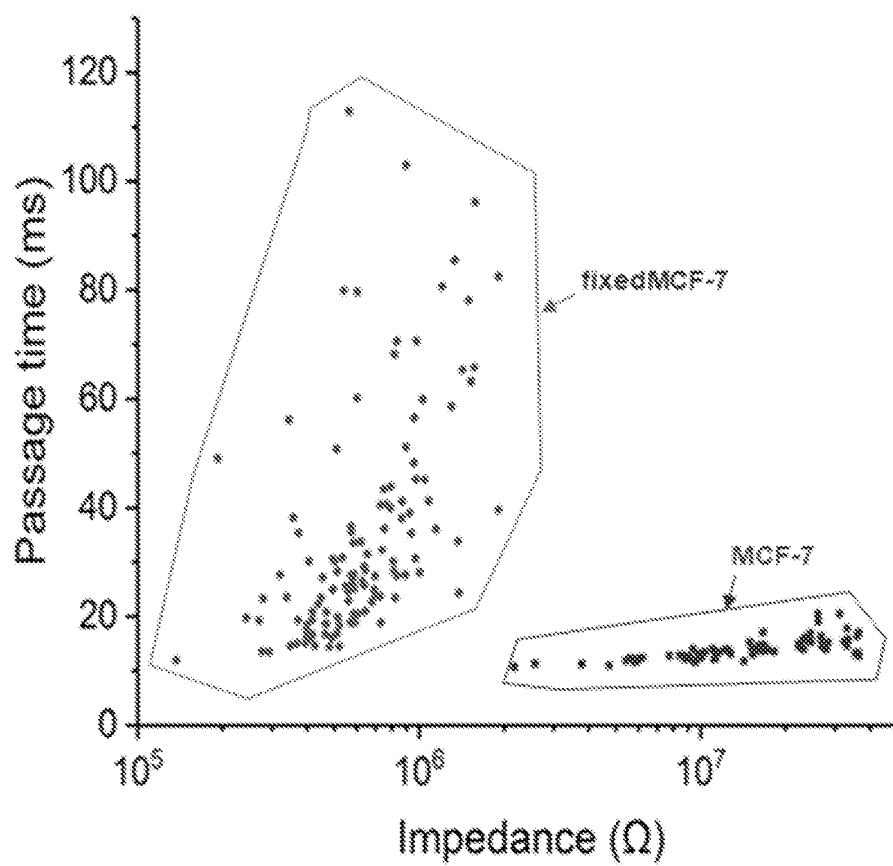


FIG. 17C