DRAWINGS

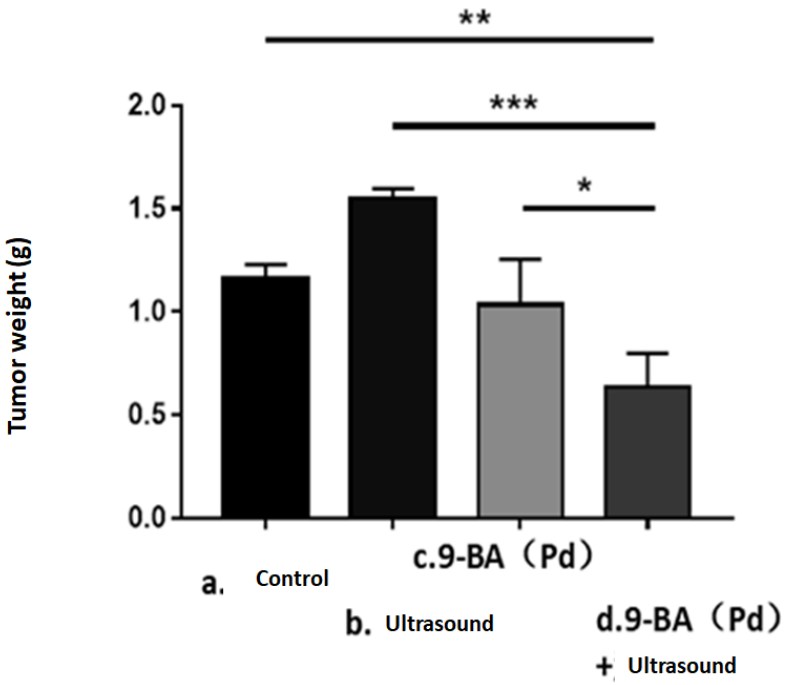
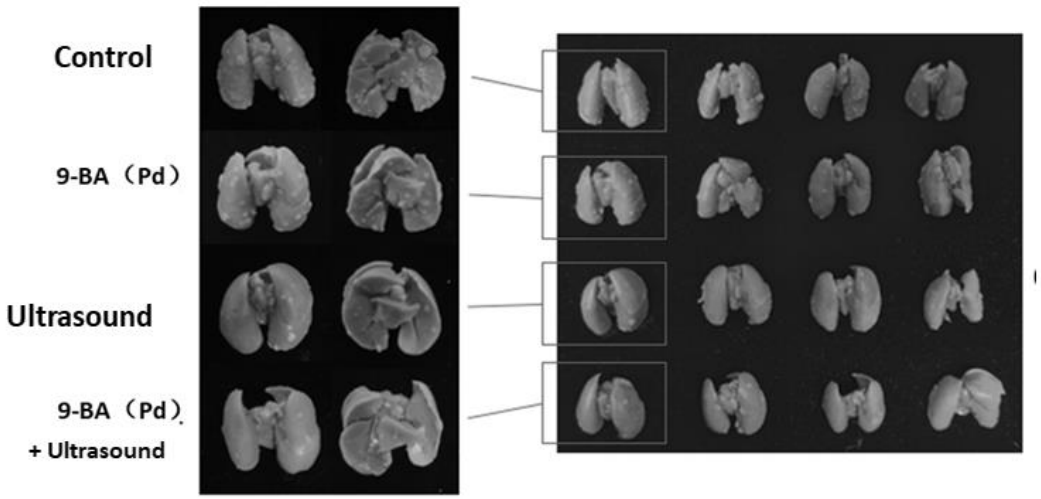


FIG.1



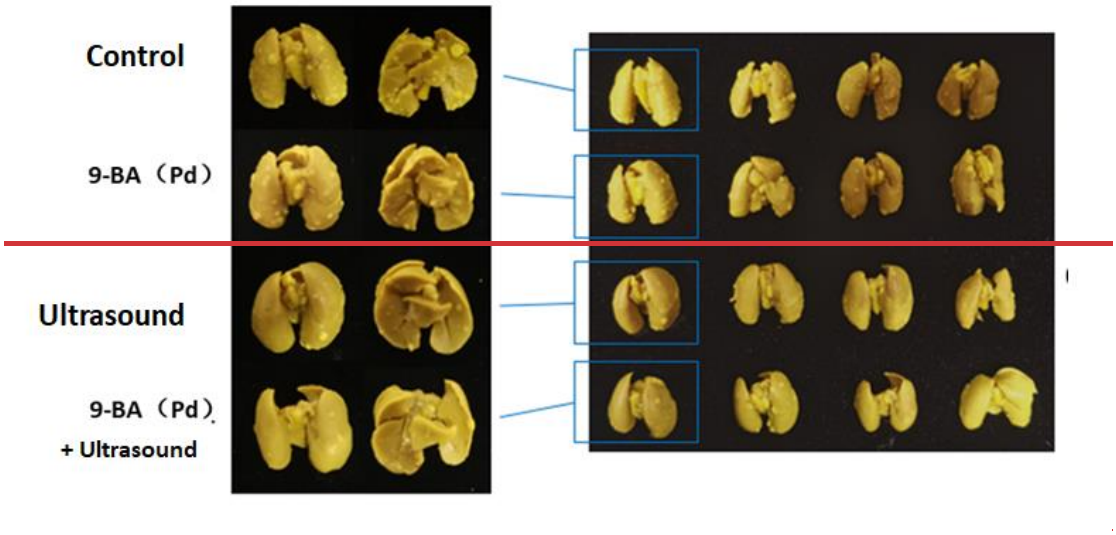

Control
9-BA（Pd）
Ultrasound
9-BA（Pd）
+ Ultrasound

FIG.2

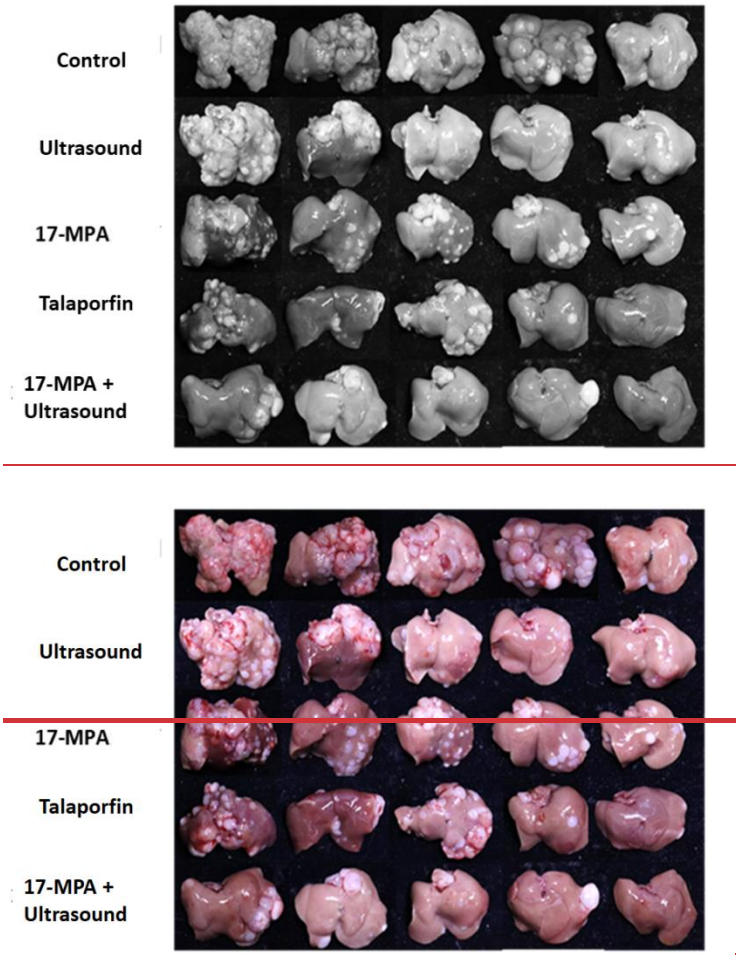

Control
Ultrasound
17-MPA
Talaporfin
17-MPA +
Ultrasound
Control
Ultrasound
17-MPA
Talaporfin
17-MPA +
Ultrasound

FIG.3

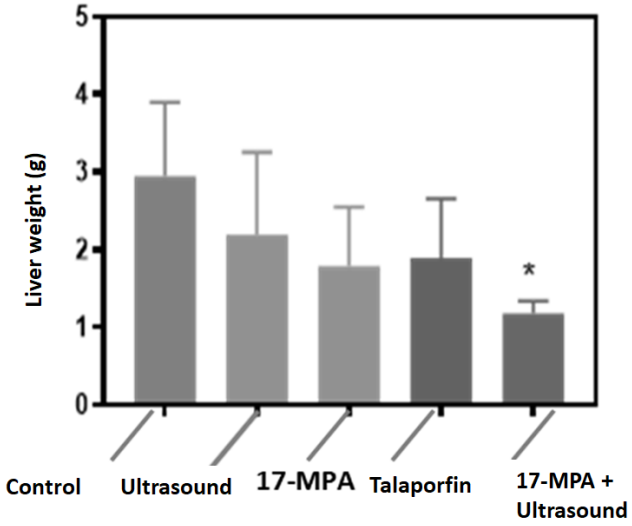

Liver weight (g)
5
4
3
2
1
0
*
Control
Ultrasound
17-MPA
Talaporfin
17-MPA +
Ultrasound

FIG.4

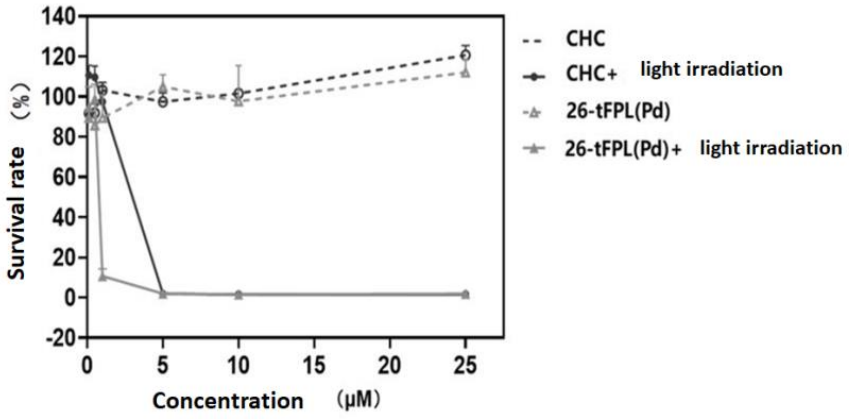

Survival rate （%）
140
120
100
80
60
40
20
0
-20
0
5
10
15
20
25
Concentration （μM）
CHC
CHC+ light irradiation
26-tFPL(Pd)
26-tFPL(Pd)+ light irradiation

FIG.5

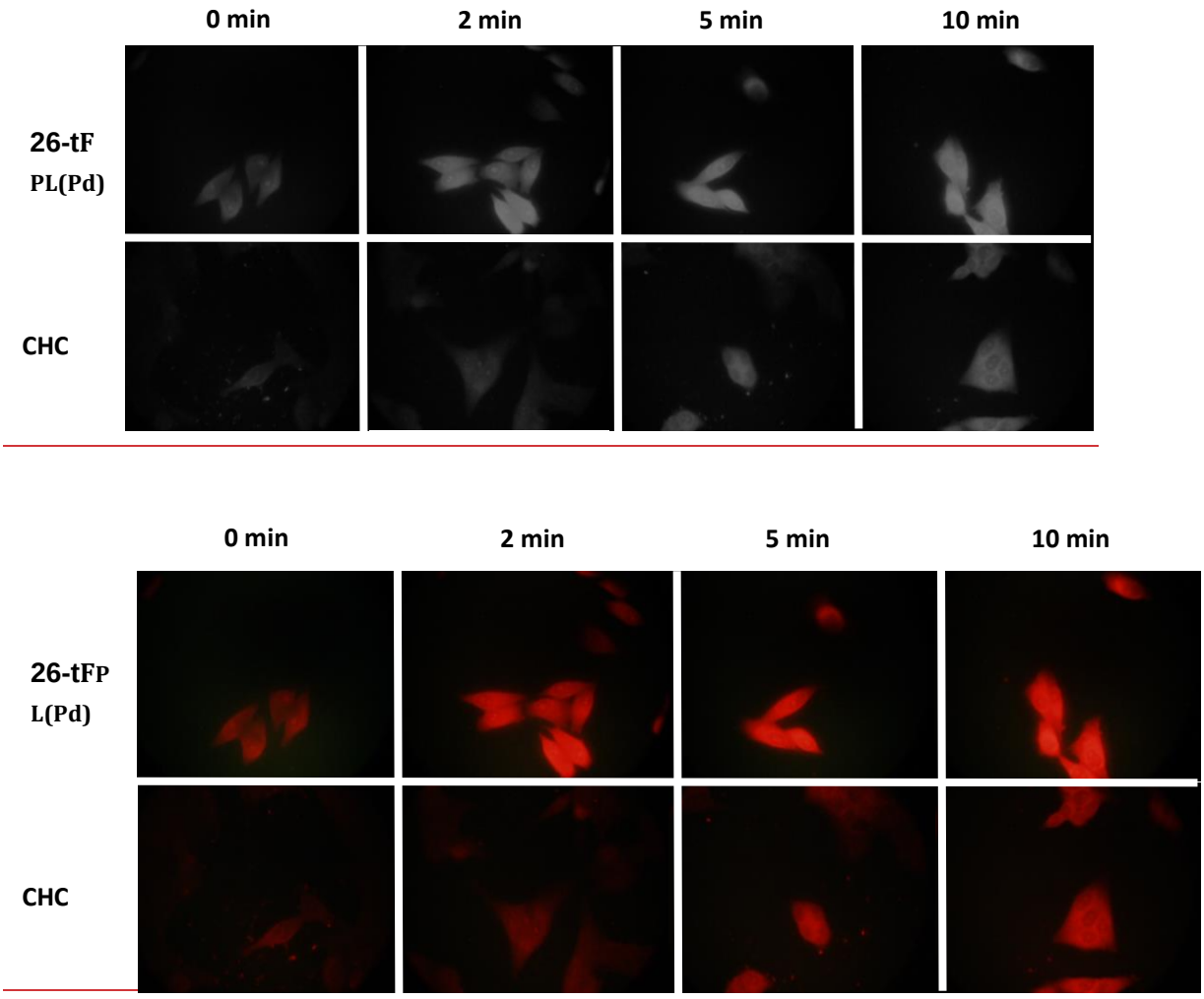

0 min
2 min
5 min
10 min
26-tF
PL(Pd)
CHC
0 min
2 min
5 min
10 min
26-tFP
L(Pd)
CHC

FIG.6

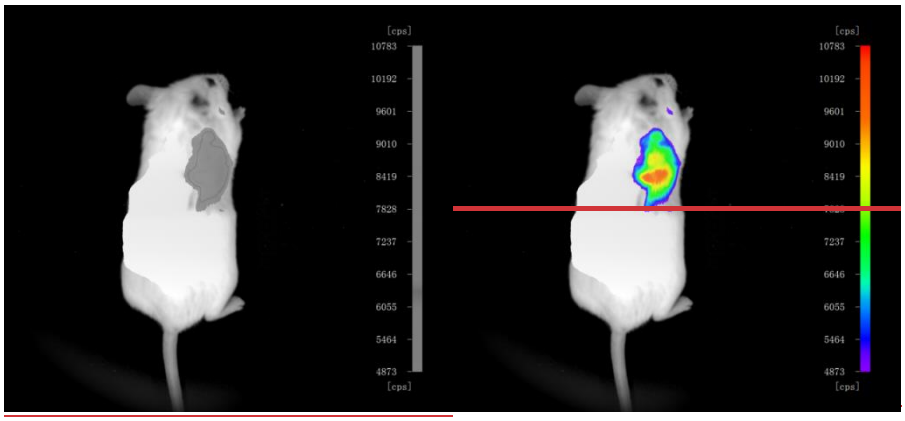

[cps]
10783
10192
9601
9010
8419
7828
7237
6646
6055
5464
4873
[cps]
[cps]
10783
10192
9601
9010
8419
7237
6646
6055
5464
4873
[cps]

FIG.7

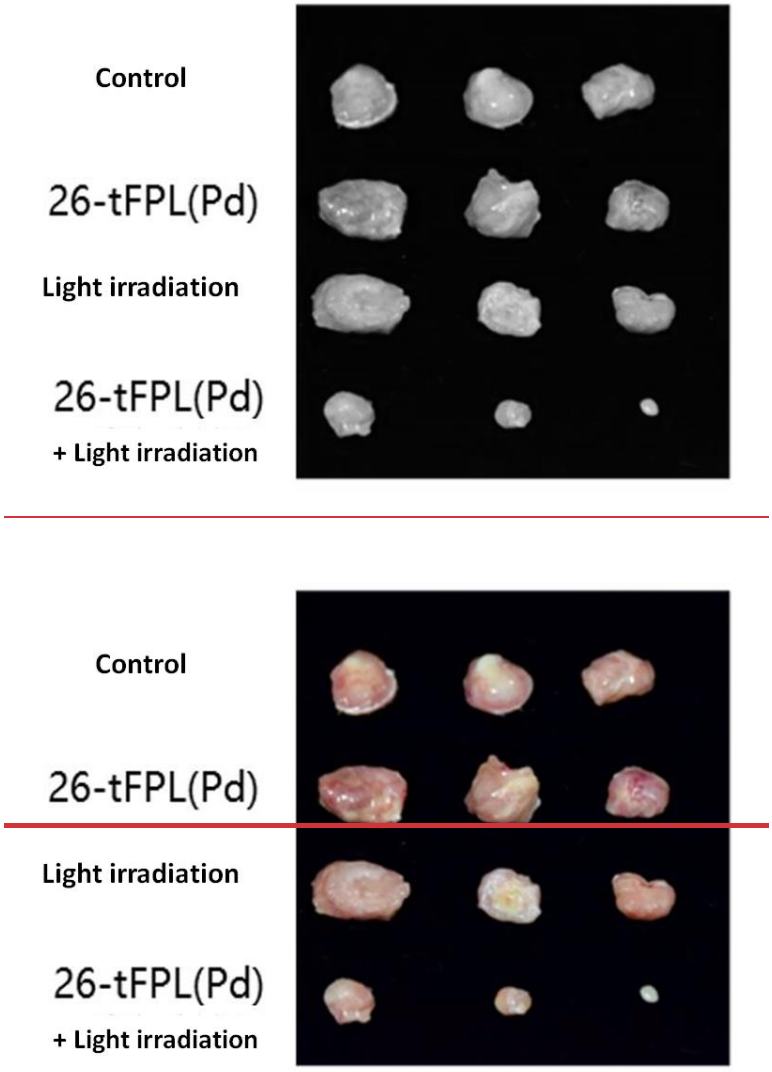

Control
26-tFPL(Pd)
Light irradiation
26-tFPL(Pd)
+ Light irradiation
Control
26-tFPL(Pd)
Light irradiation
26-tFPL(Pd)
+ Light irradiation

FIG.8

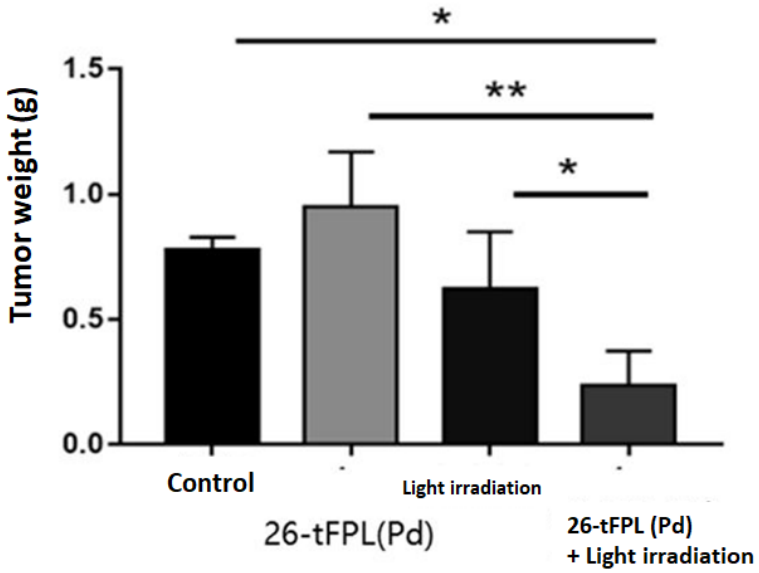
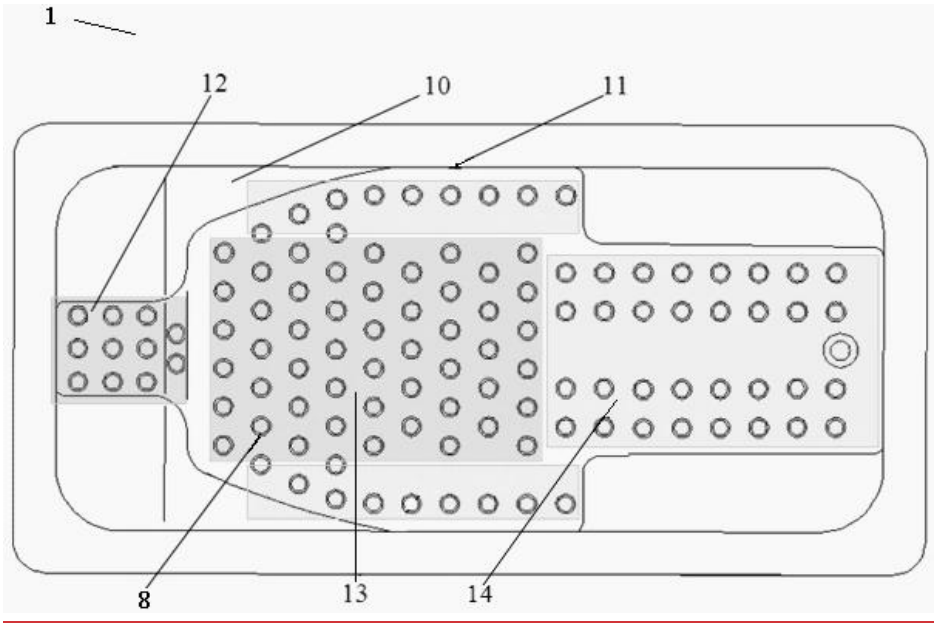

*
**
*
1.5
1.0
0.5
0.0
Tumor weight (g)
Control
26-tFPL(Pd)
Light irradiation
26-tFPL (Pd)
+ Light irradiation

FIG.9


1
12
10
11
8
13
14

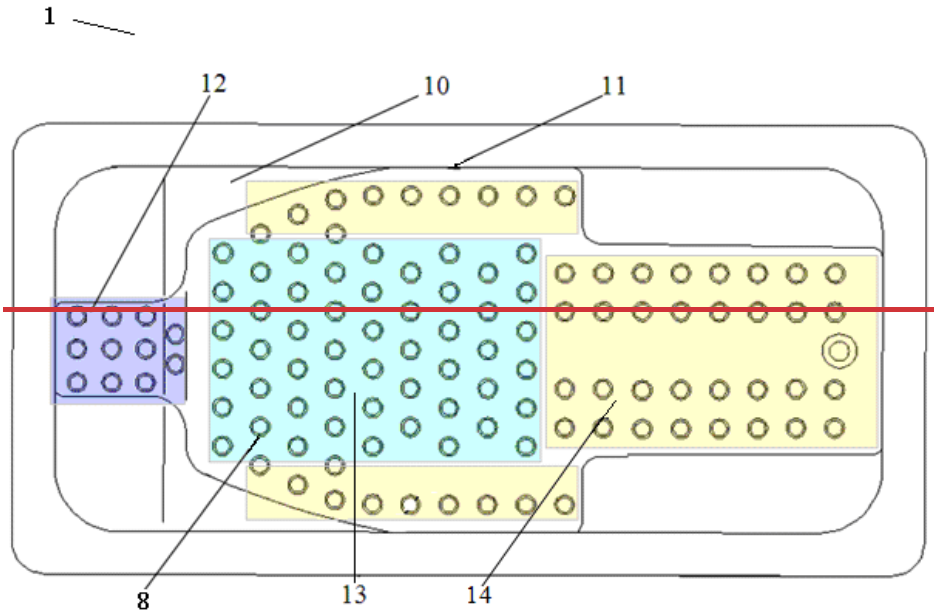
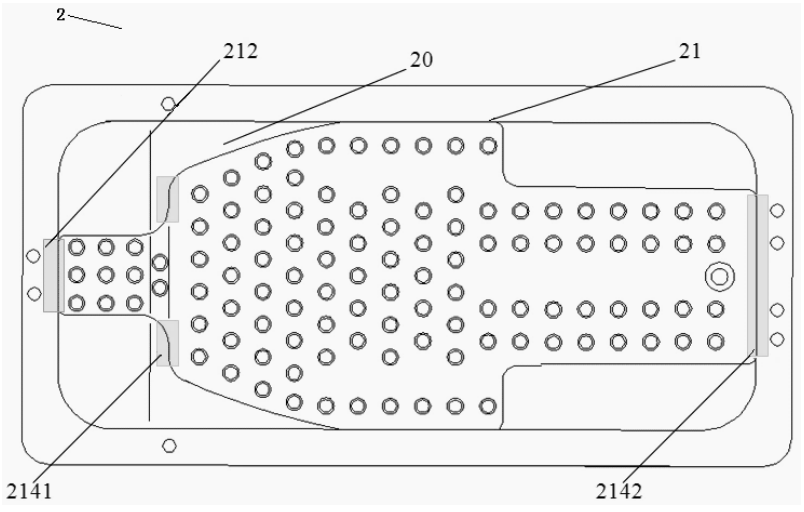


FIG.10



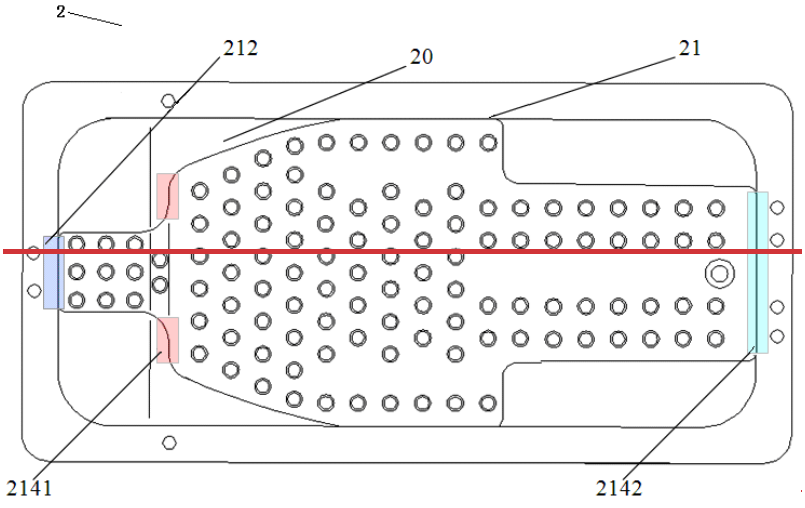


FIG.11

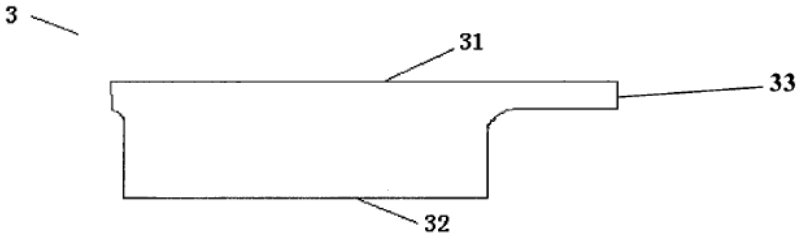


FIG.12

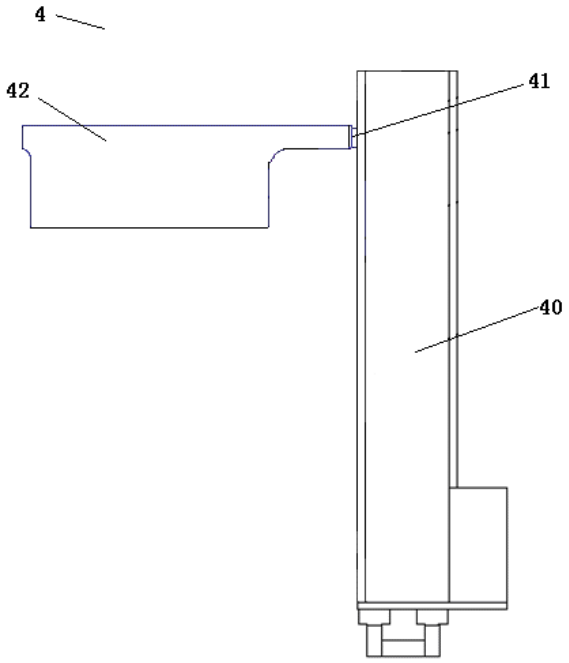


FIG.13

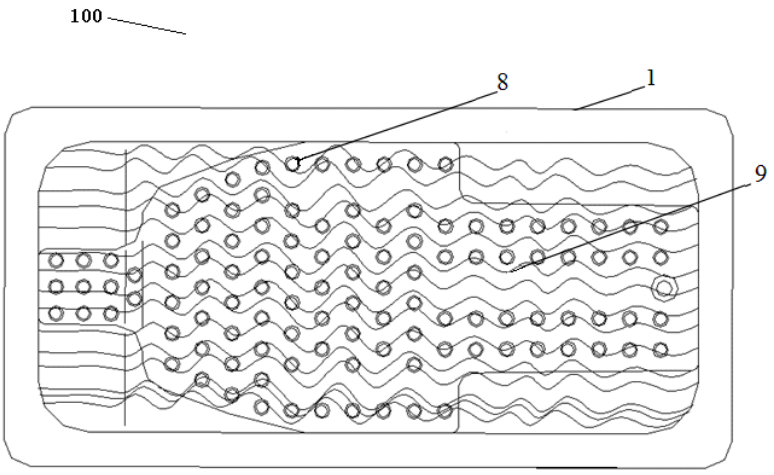


FIG.14

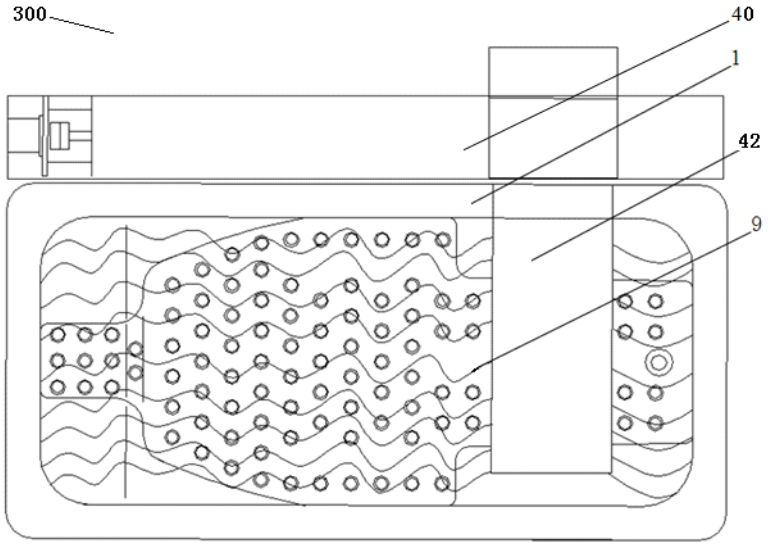

300
40
1
42
9

FIG.15

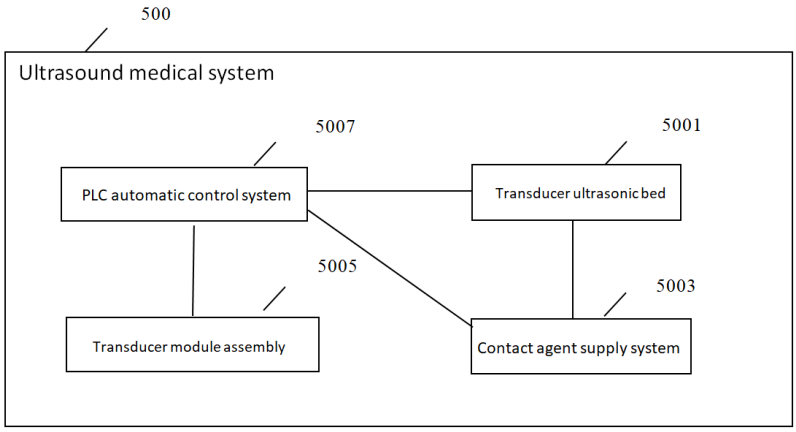

500
Ultrasound medical system
5007
5001
PLC automatic control system
Transducer ultrasonic bed
5005
5003
Transducer module assembly
Contact agent supply system

FIG. 16

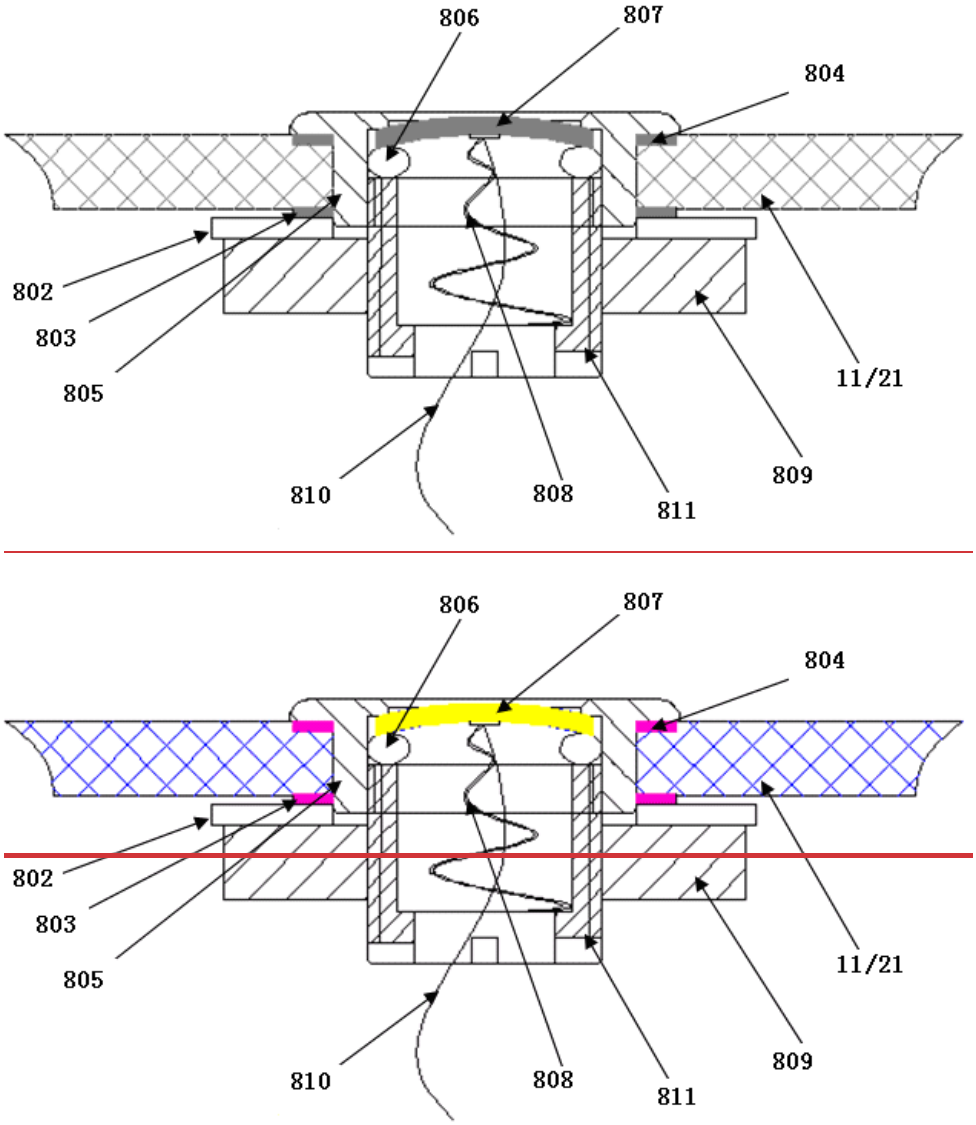

806
807
804
802
803
805
11/21
810
808
811
809
806
807
804
802
803
805
11/21
810
808
811
809

FIG. 17

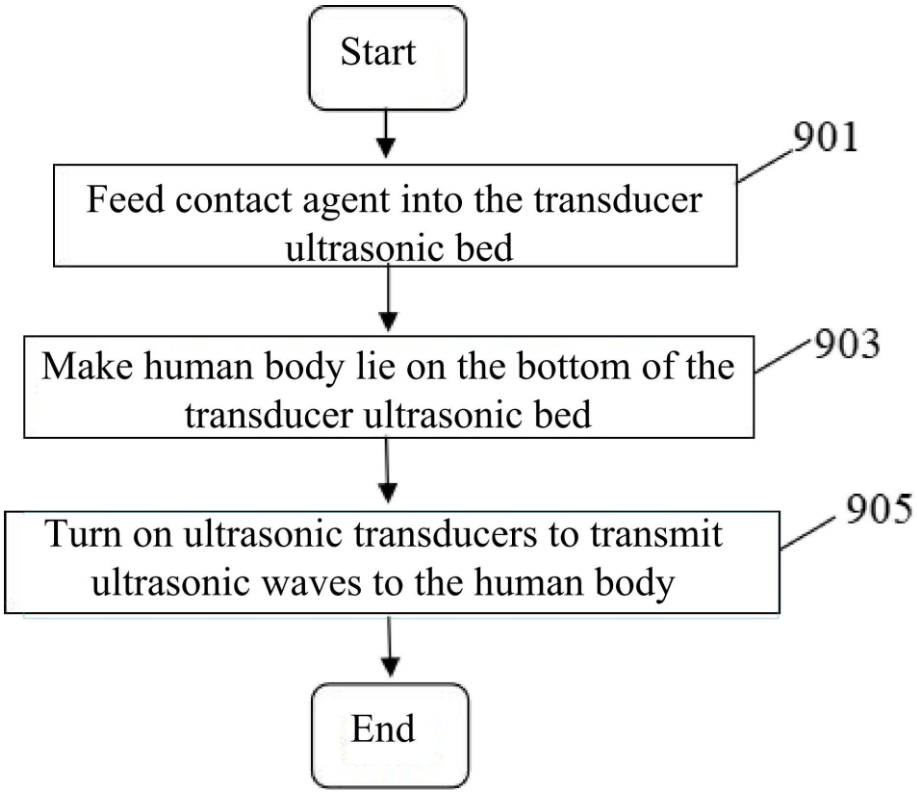

Start
901
Feed contact agent into the transducer ultrasonic bed
903
Make human body lie on the bottom of the transducer ultrasonic bed
905
Turn on ultrasonic transducers to transmit ultrasonic waves to the human body
End

FIG. 18

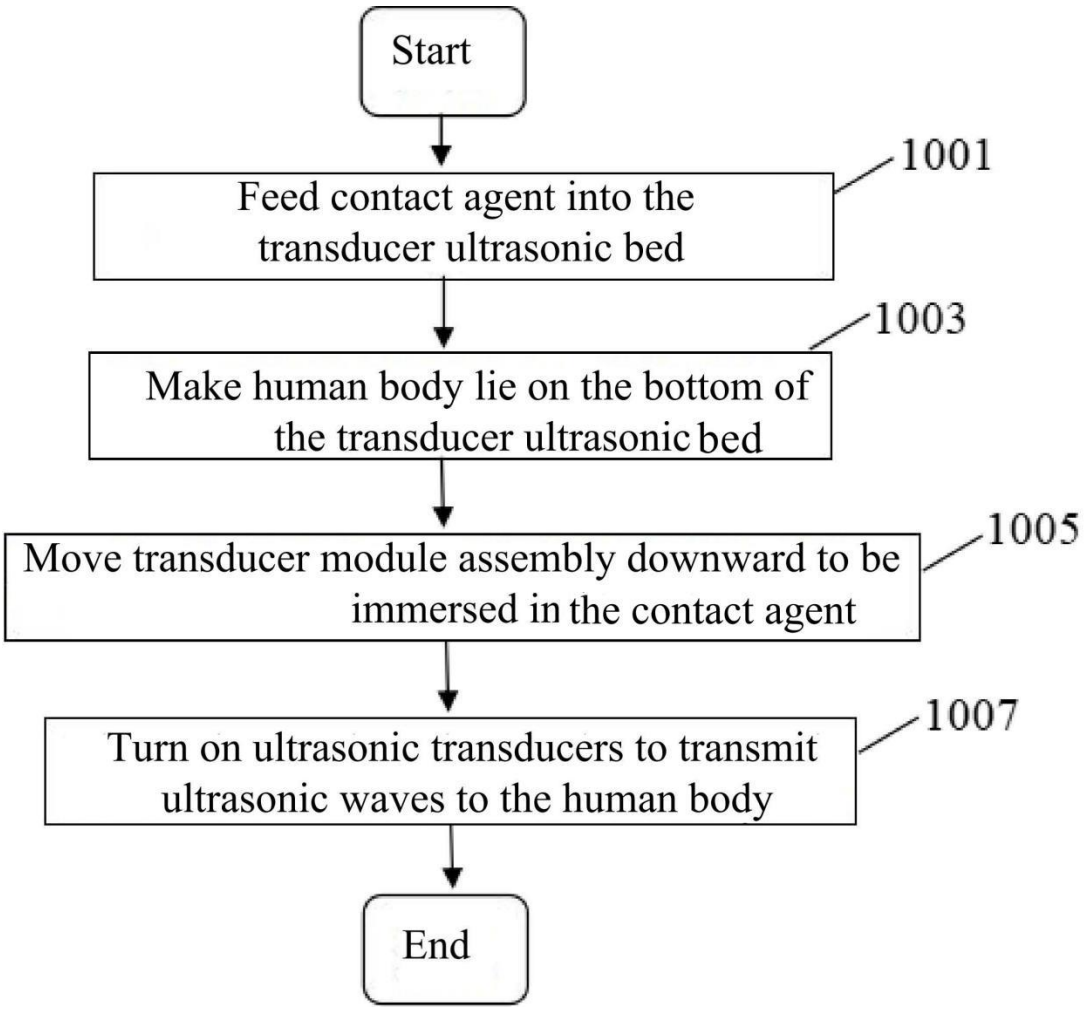

Start
1001
Feed contact agent into the transducer ultrasonic bed
1003
Make human body lie on the bottom of the transducer ultrasonic bed
1005
Move transducer module assembly downward to be immersed in the contact agent
1007
Turn on ultrasonic transducers to transmit ultrasonic waves to the human body
End

FIG. 19

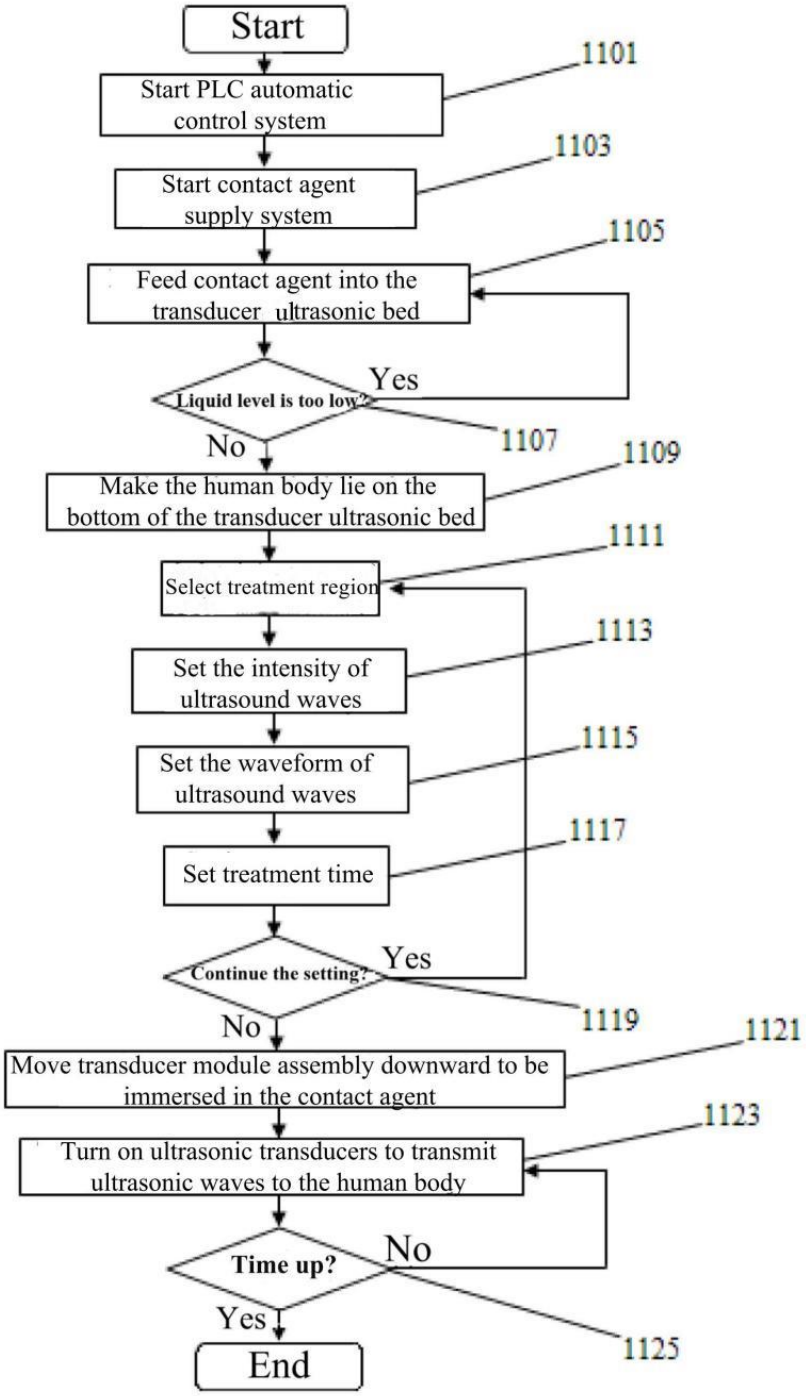

Start
Start PLC automatic control system
1101
Start contact agent supply system
1103
Feed contact agent into the transducer ultrasonic bed
1105
Liquid level is too low?
Yes
1107
No
Make the human body lie on the bottom of the transducer ultrasonic bed
1109
Select treatment region
1111
Set the intensity of ultrasound waves
1113
Set the waveform of ultrasound waves
1115
Set treatment time
1117
Continue the setting?
Yes
1119
No
Move transducer module assembly downward to be immersed in the contact agent
1121
Turn on ultrasonic transducers to transmit ultrasonic waves to the human body
1123
Time up?
No
Yes
1125
End

FIG. 20

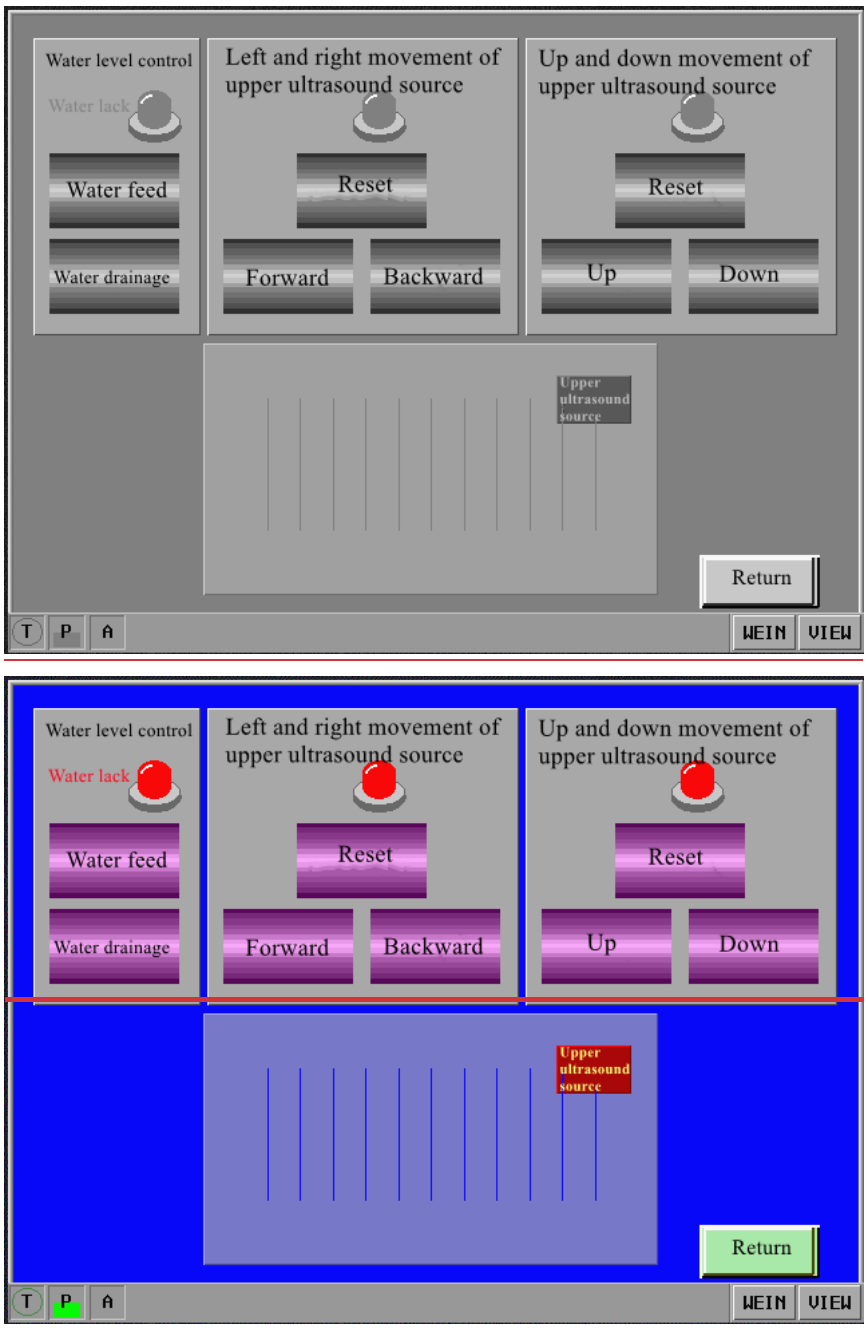

Water level control
Water lack
Water feed
Water drainage
Left and right movement of upper ultrasound source
Reset
Forward
Backward
Up and down movement of upper ultrasound source
Reset
Up
Down
Upper ultrasound source
Return
T
P
A
WEIN
VIEW
Water level control
Water lack
Water feed
Water drainage
Left and right movement of upper ultrasound source
Reset
Forward
Backward
Up and down movement of upper ultrasound source
Reset
Up
Down
Upper ultrasound source
Return
T
P
A
WEIN
VIEW

FIG.21

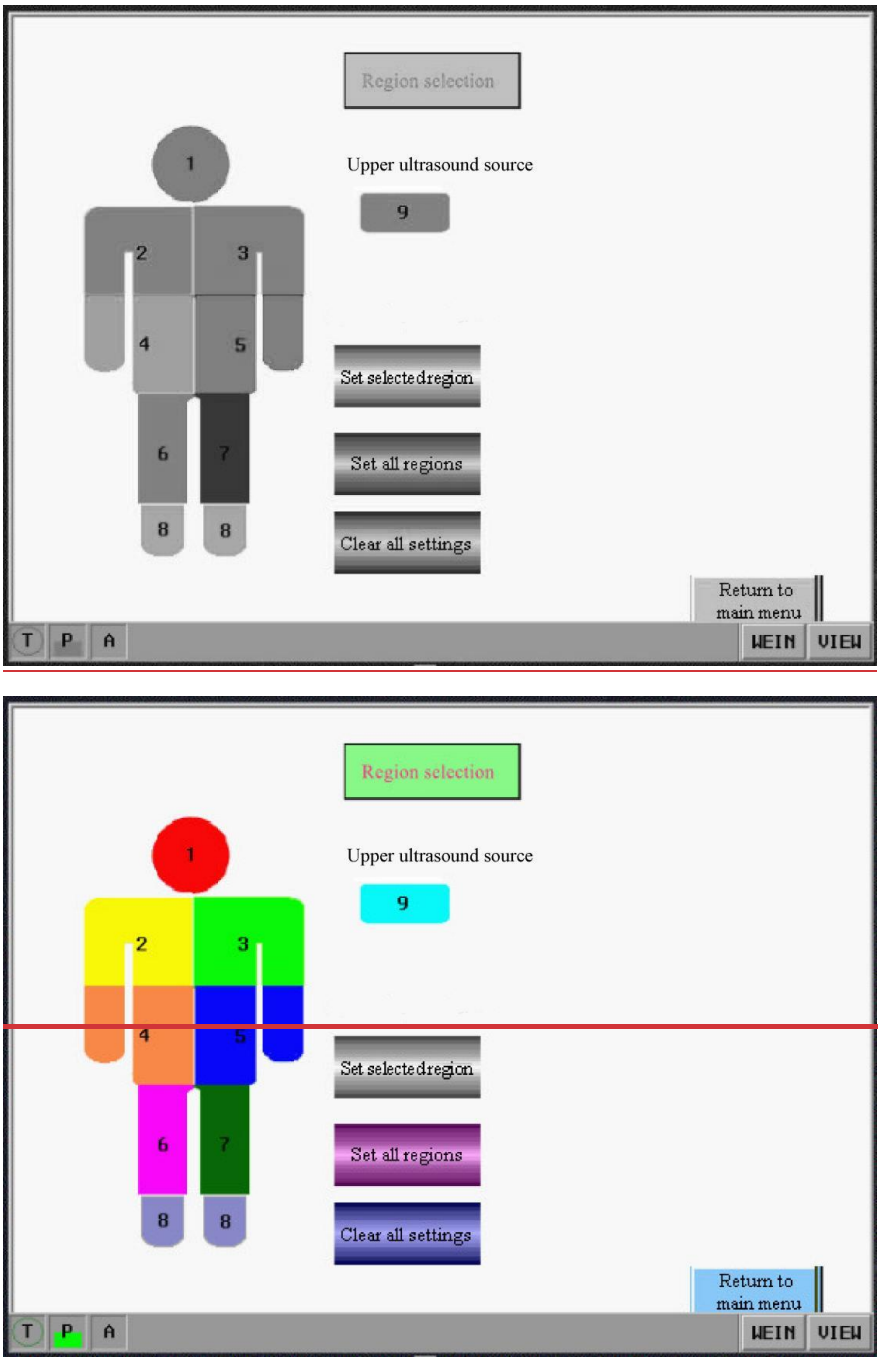

Region selection
Upper ultrasound source
9
1
2
3
4
5
6
7
8
8
Set selected region
Set all regions
Clear all settings
Return to main menu
T
P
A
MEIN
VIEW
Region selection
Upper ultrasound source
9
1
2
3
4
5
6
7
8
8
Set selected region
Set all regions
Clear all settings
Return to main menu
T
P
A
MEIN
VIEW

FIG.22

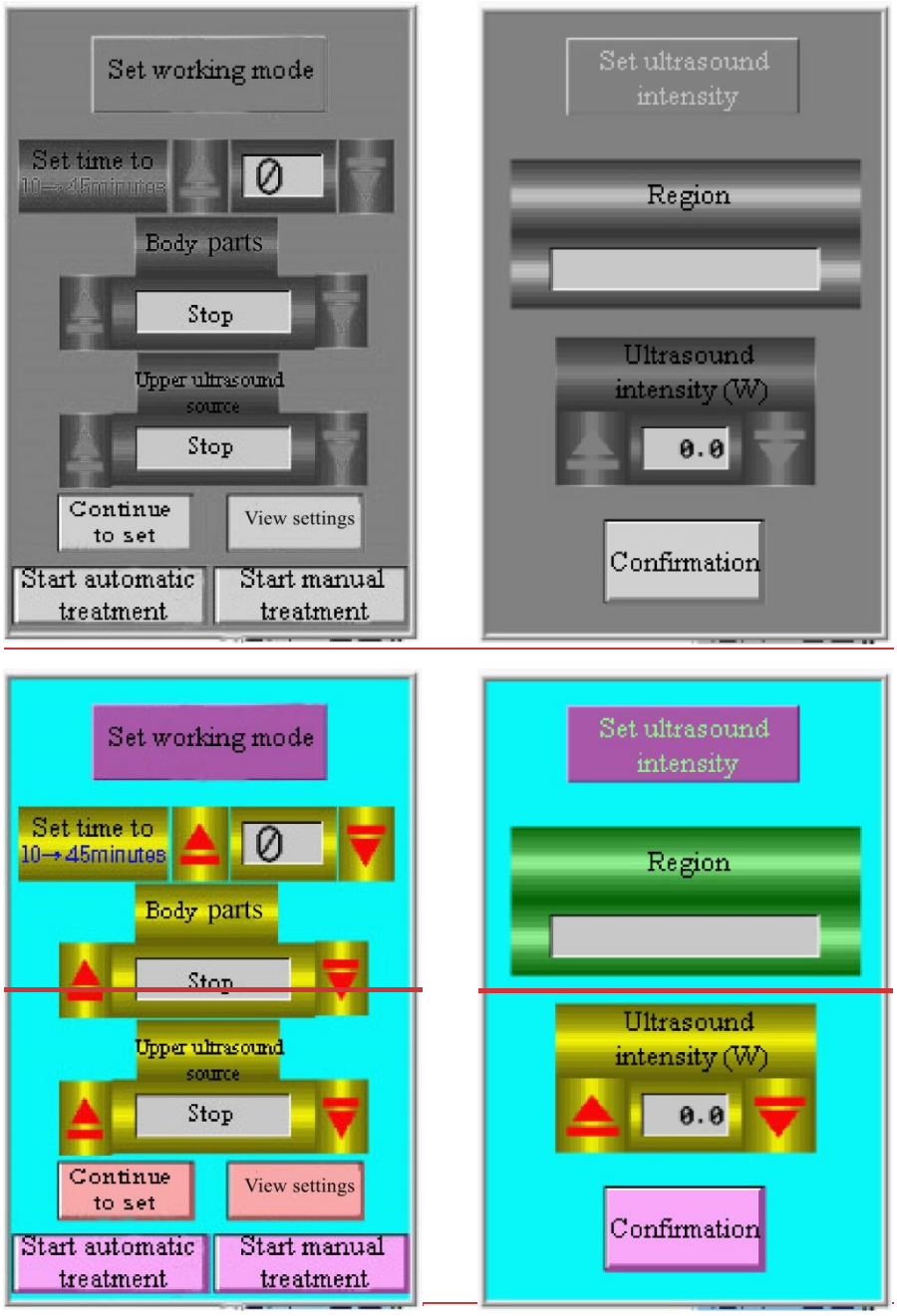

Set working mode
Set time to
10→45minutes
0
Body parts
Stop
Upper ultrasound source
Stop
Continue to set
View settings
Start automatic treatment
Start manual treatment
Set ultrasound intensity
Region
Ultrasound intensity (W)
0.0
Confirmation

FIG.23

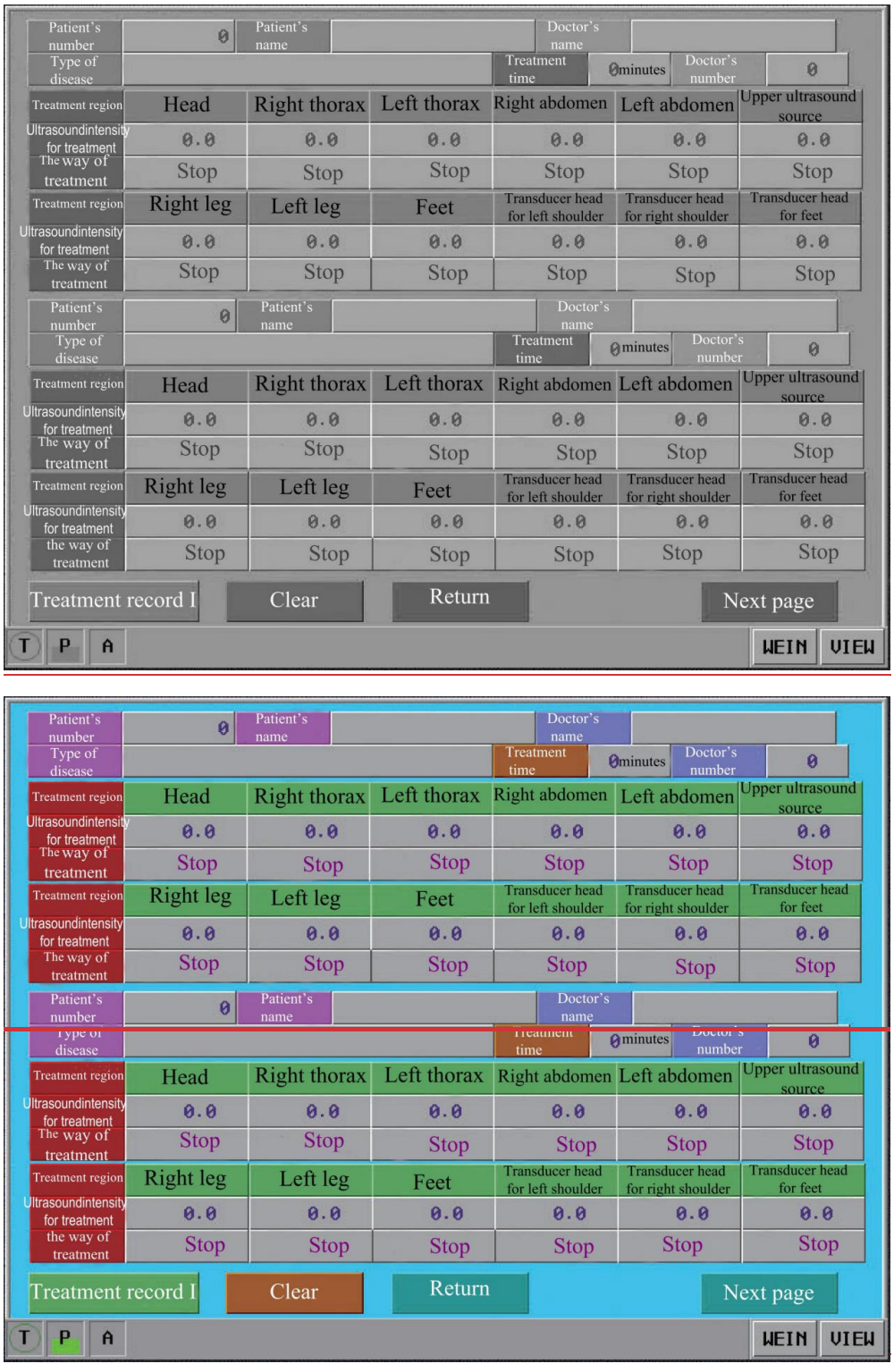

Patient's number
0
Patient's name
Doctor's name
Type of disease
Treatment time
0minutes
Doctor's number
0
Treatment region
Head
Right thorax
Left thorax
Right abdomen
Left abdomen
Upper ultrasound source
Ultrasoundintensity for treatment
0.0
The way of treatment
Stop
Right leg
Left leg
Feet
Transducer head for left shoulder
Transducer head for right shoulder
Transducer head for feet
the way of treatment
Treatment record I
Clear
Return
Next page
T
P
A
WEIN
VIEW

FIG.24