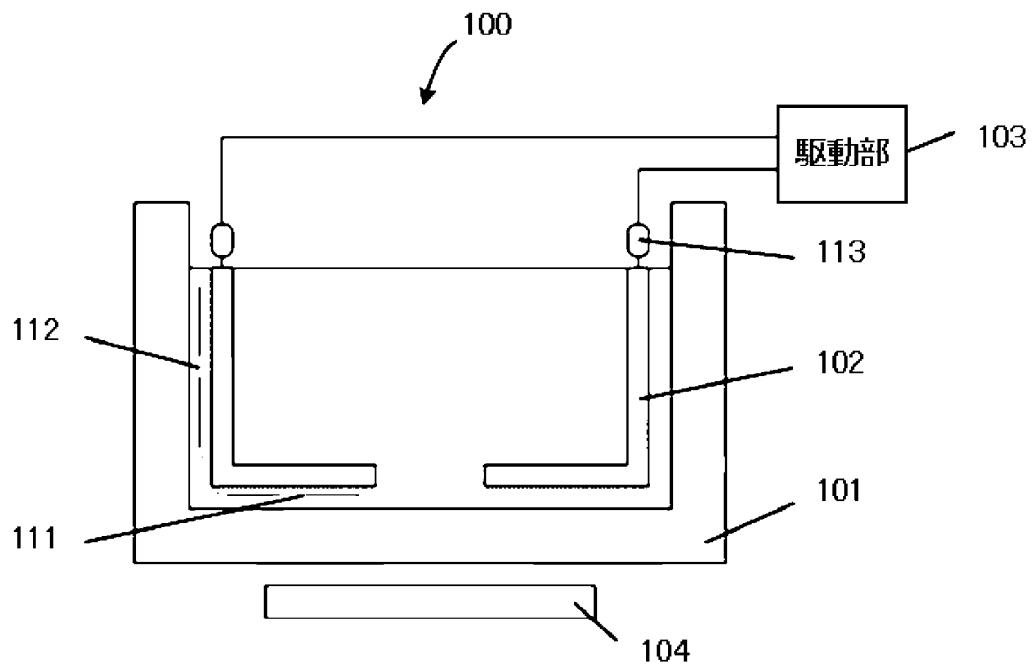
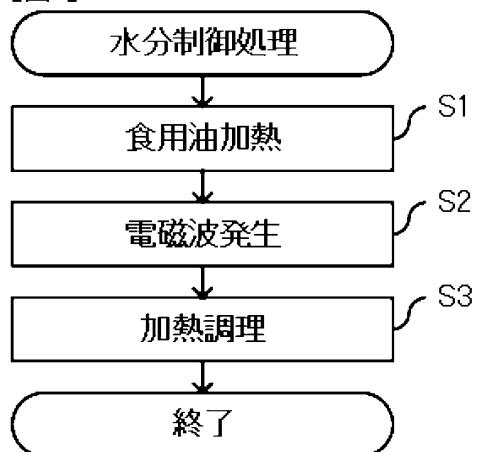


[図1]

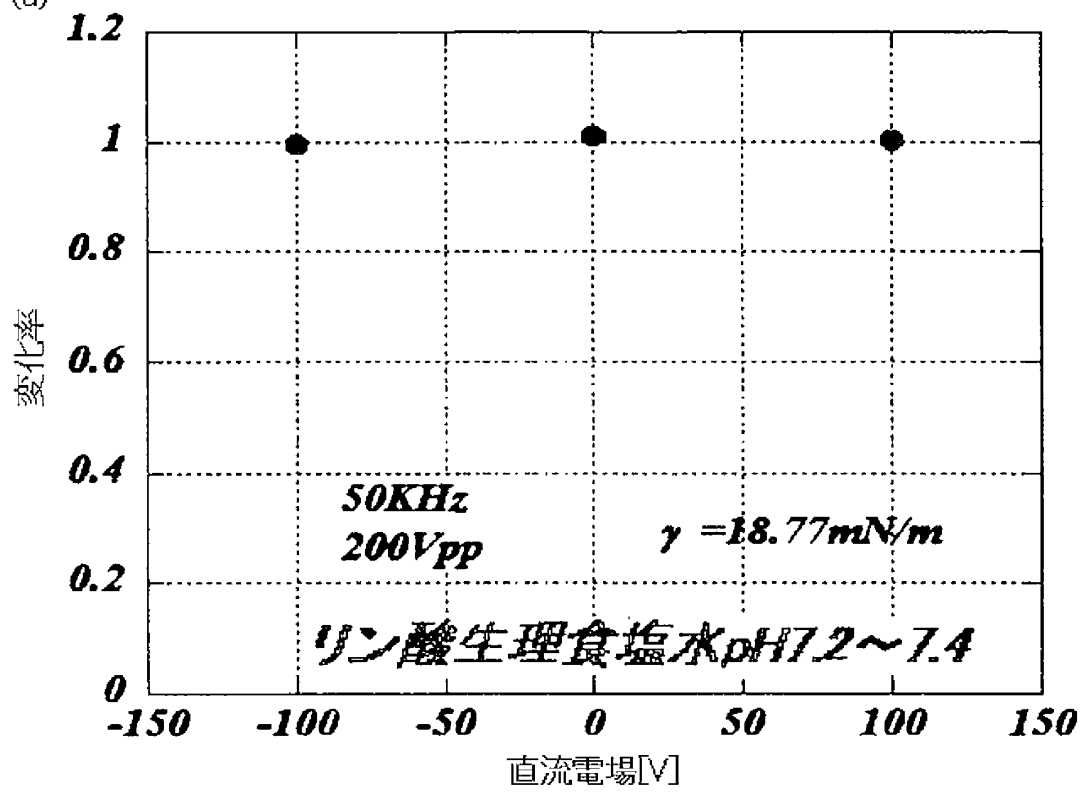


[図2]

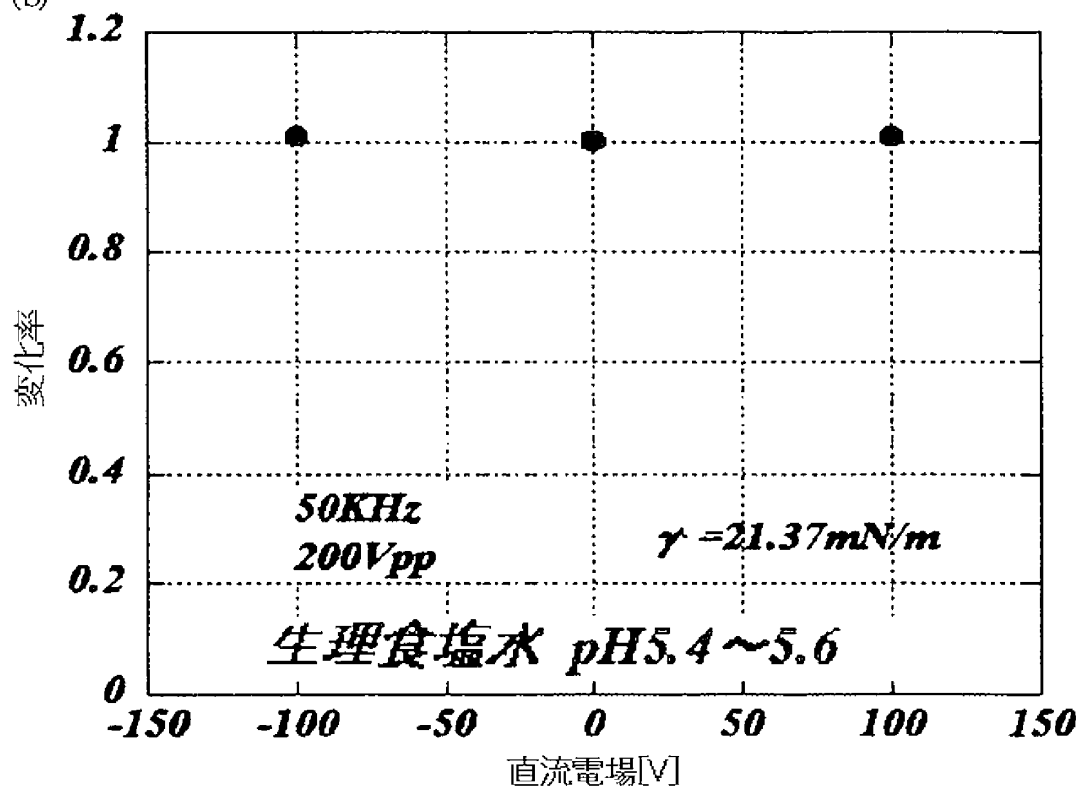


[図3]

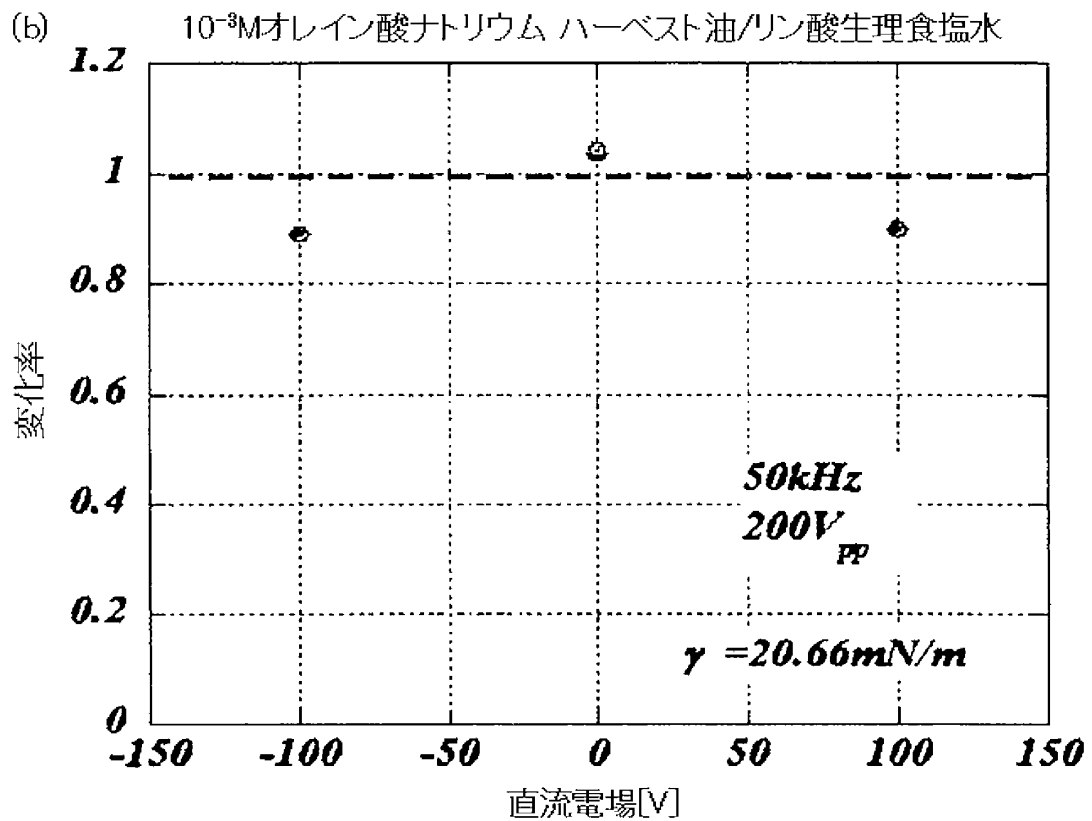
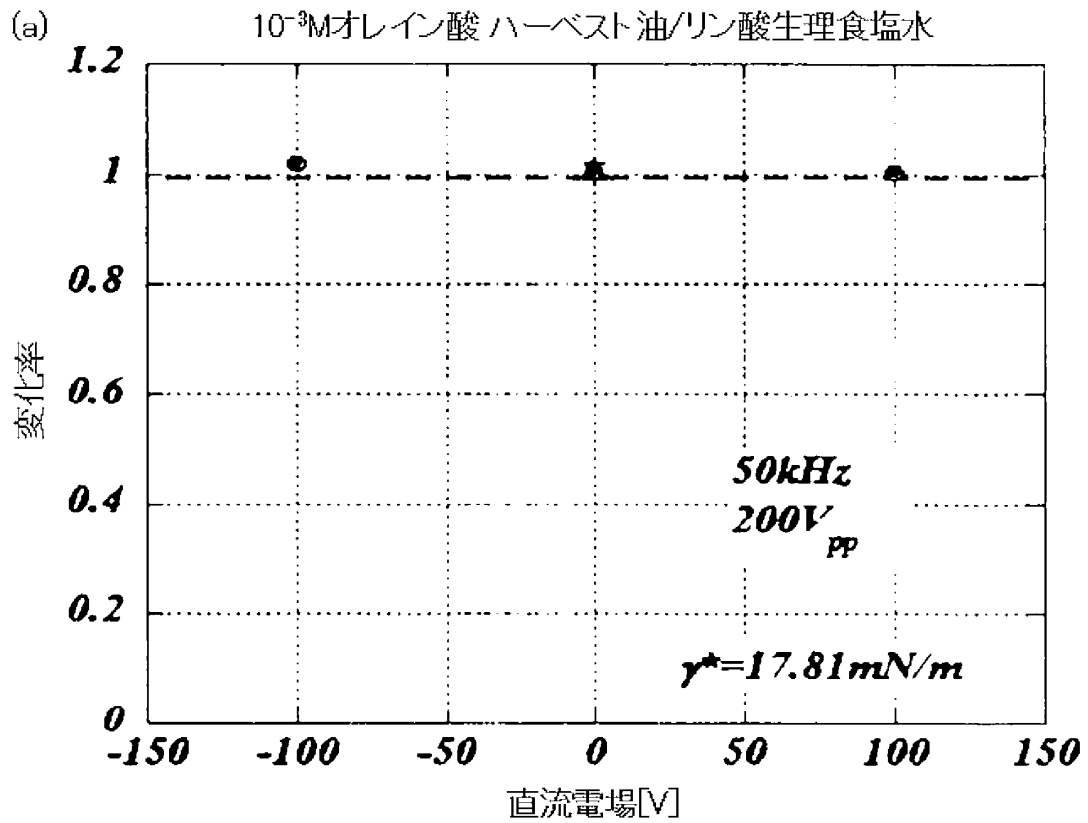
(a)



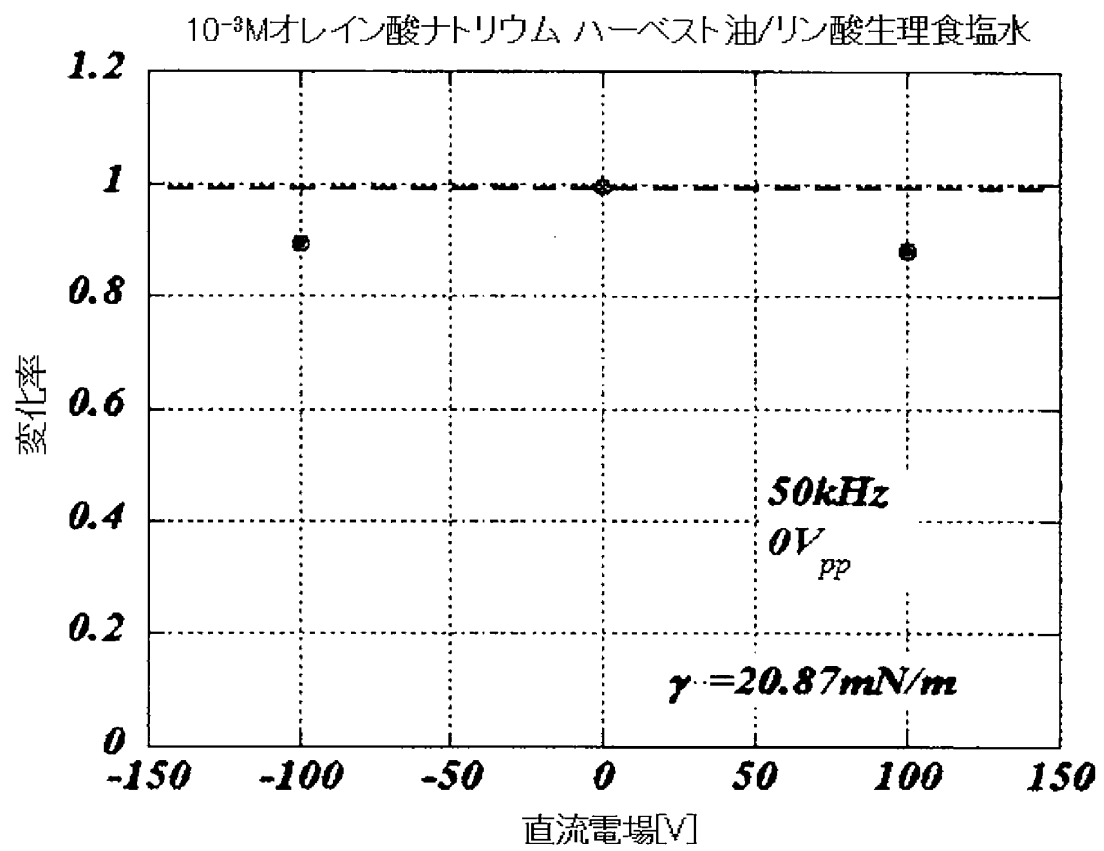
(b)



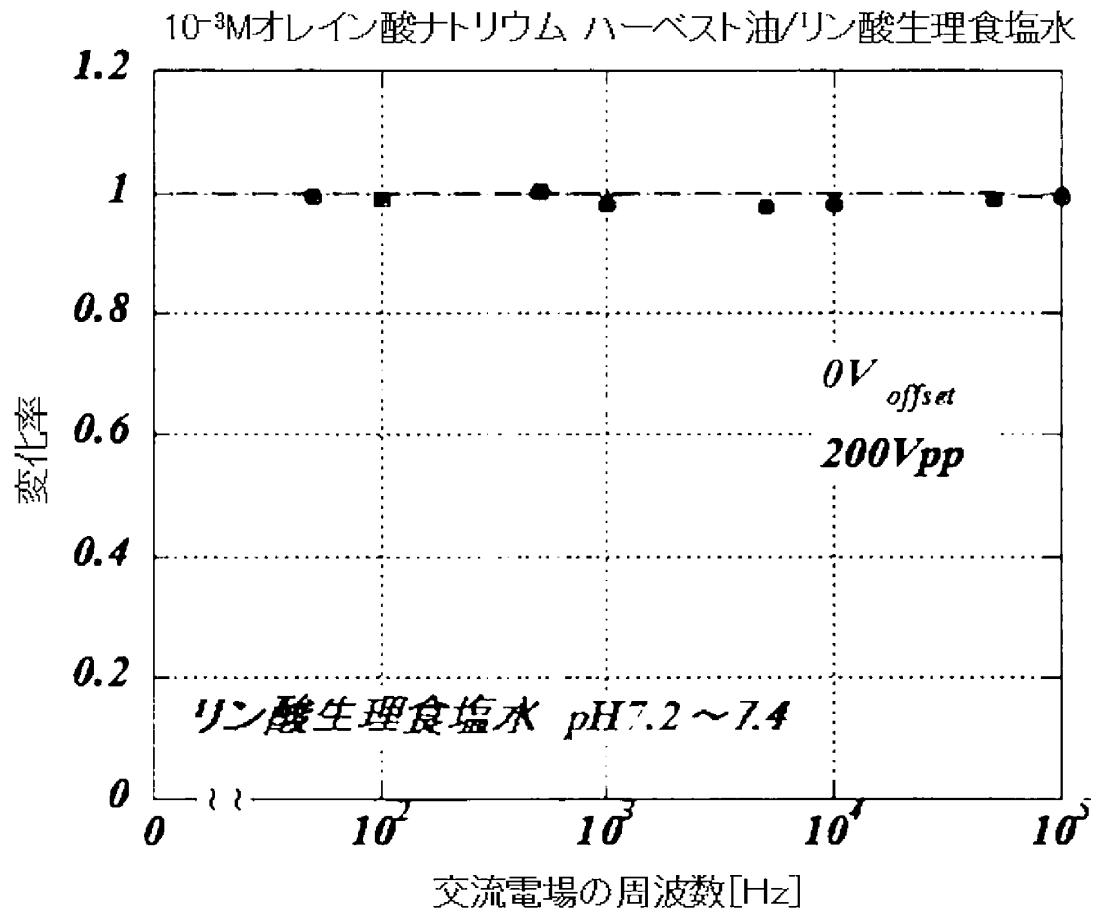
[図4]



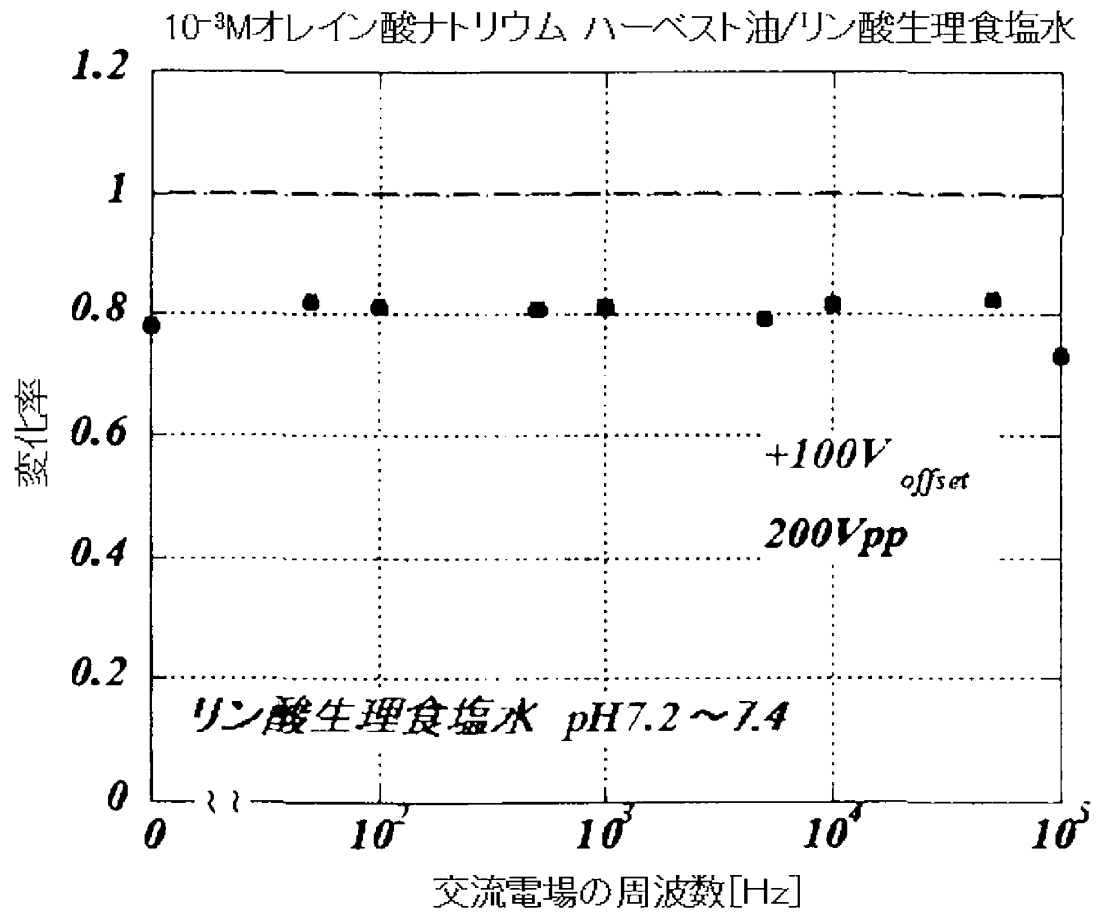
[図5]



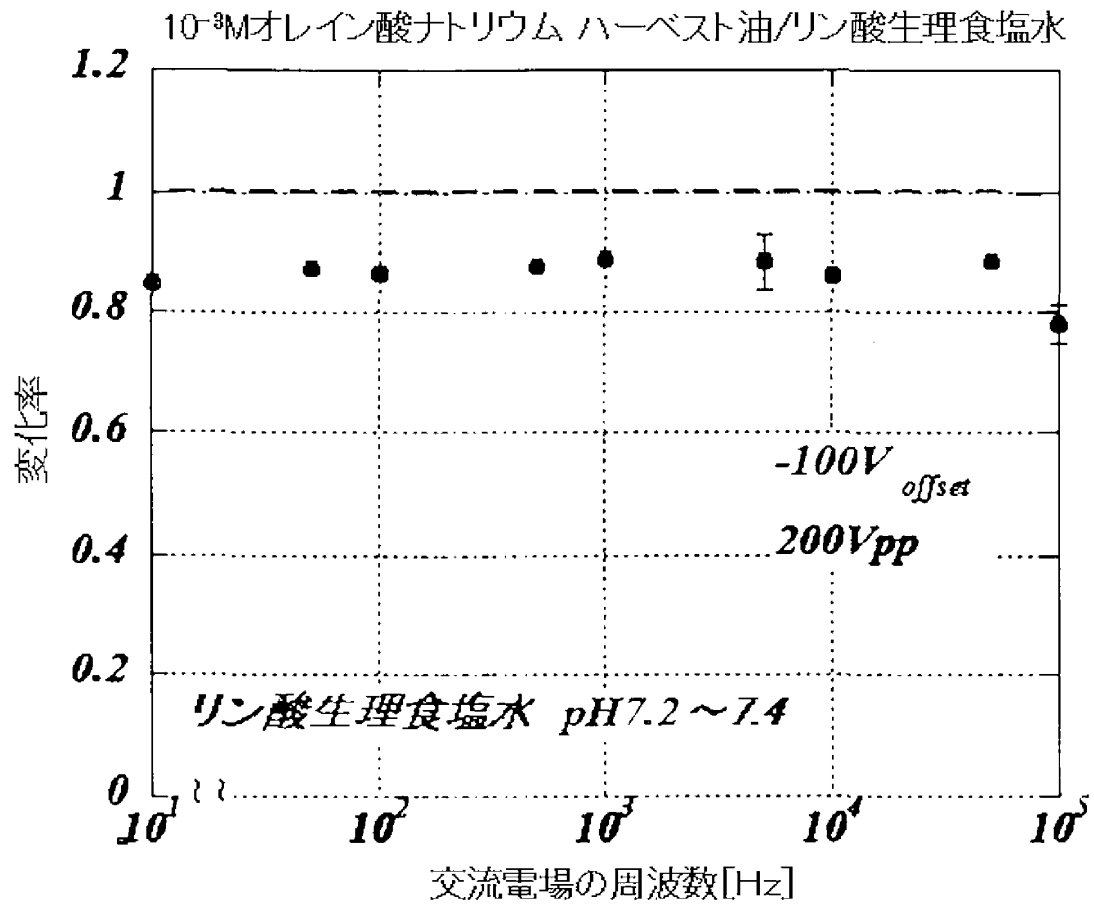
[図6]



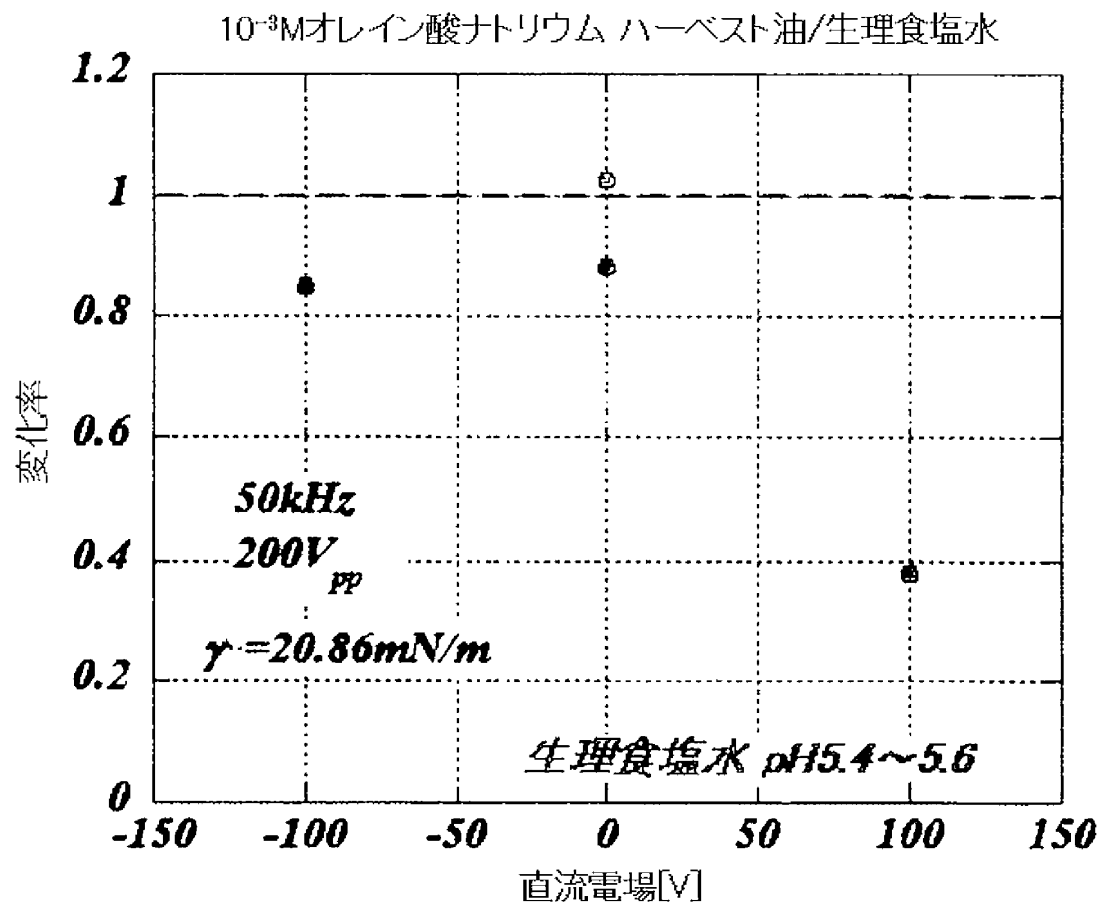
[図7]



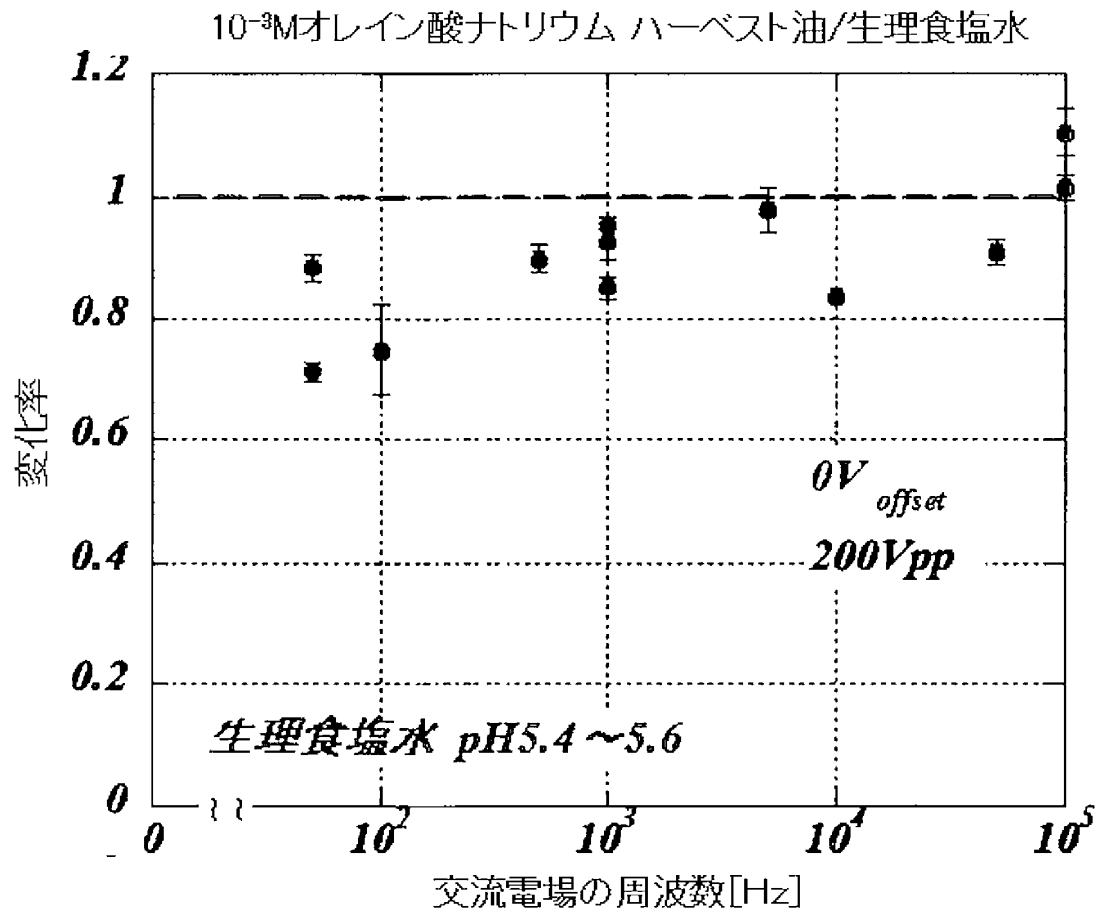
[図8]



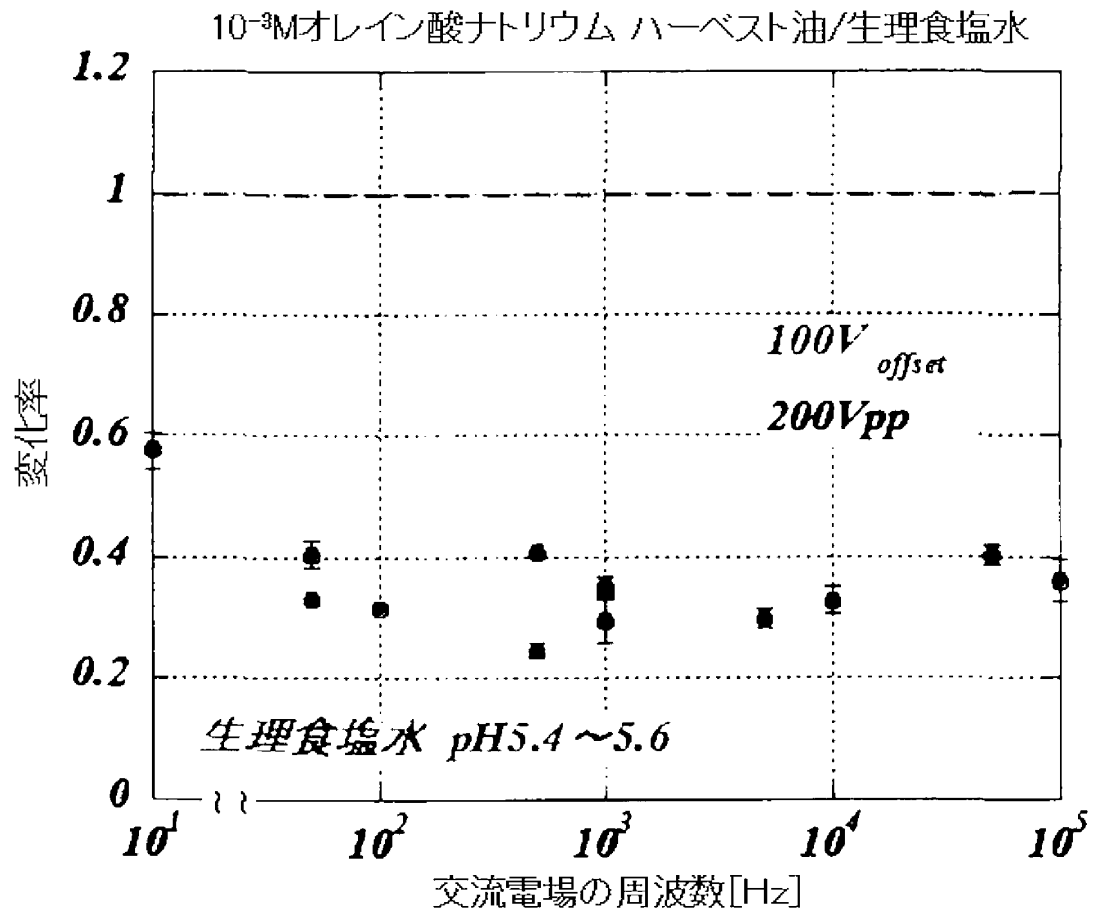
[図9]



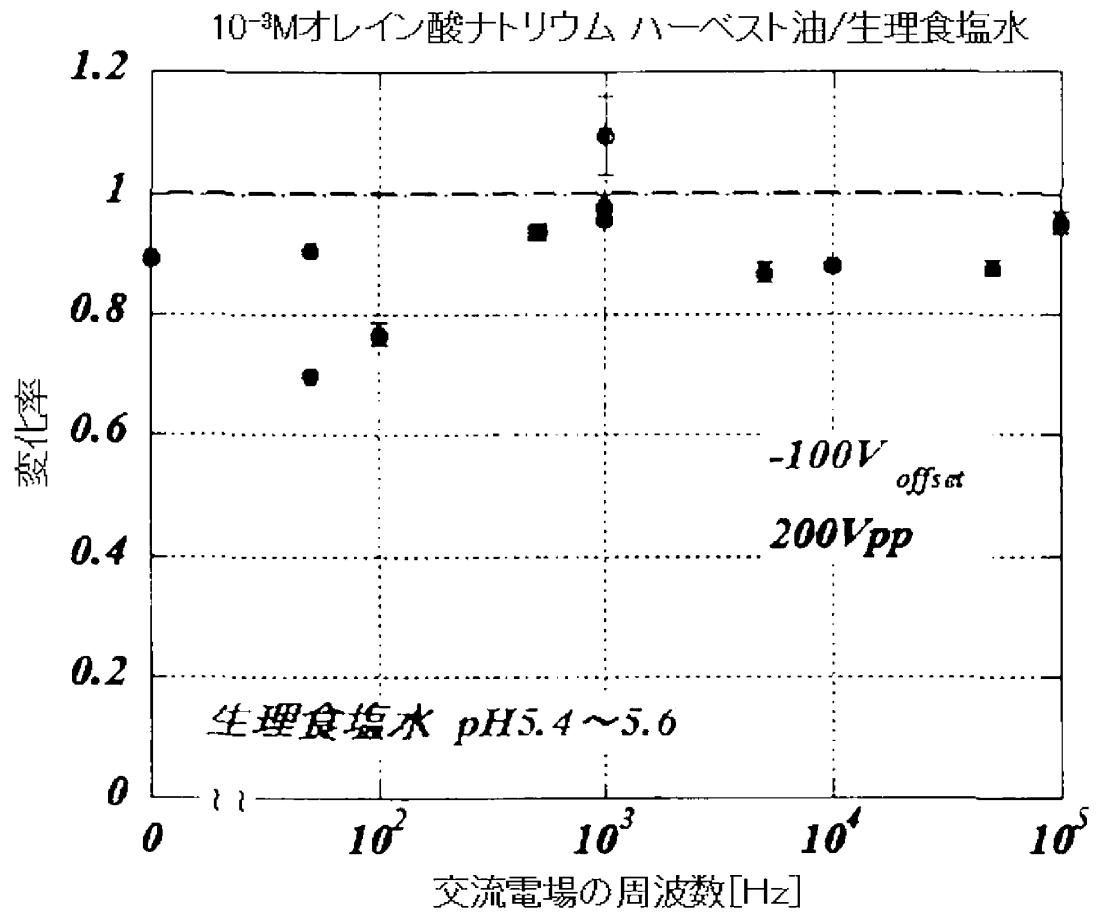
[図10]



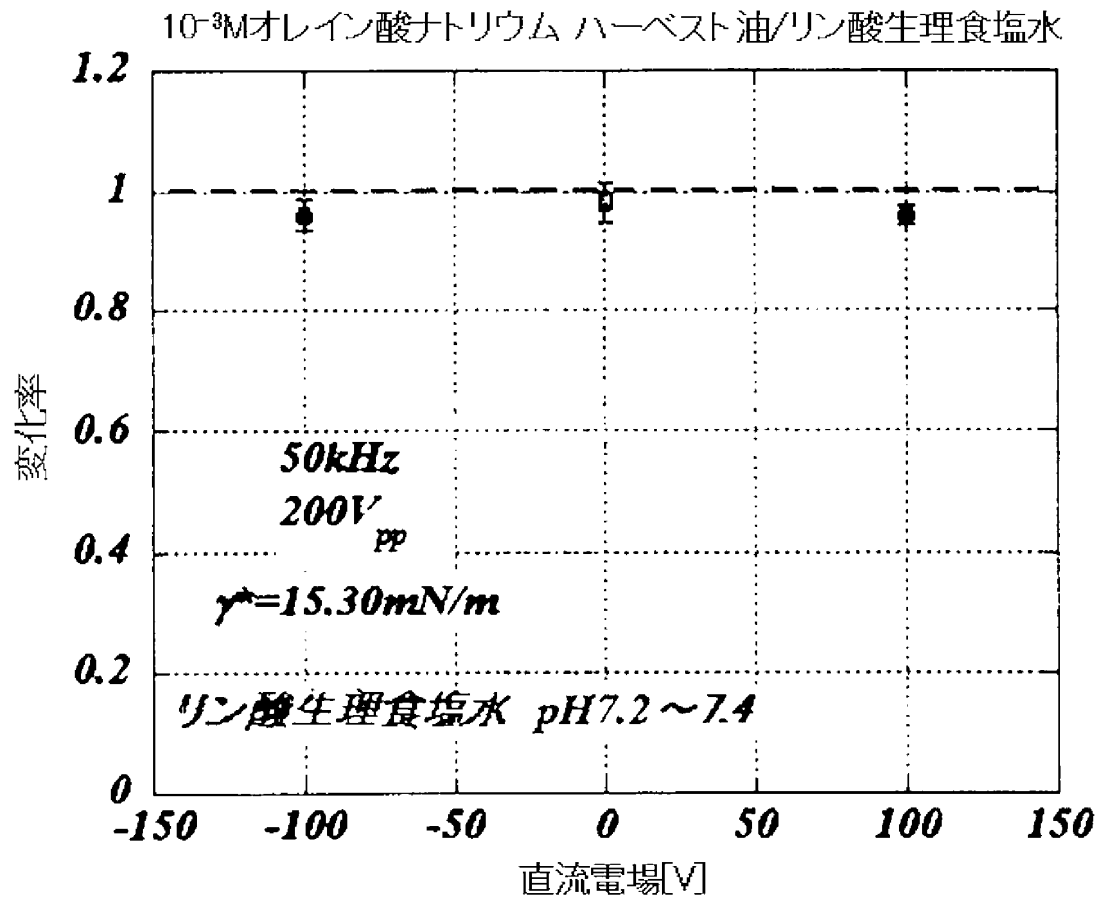
[図11]



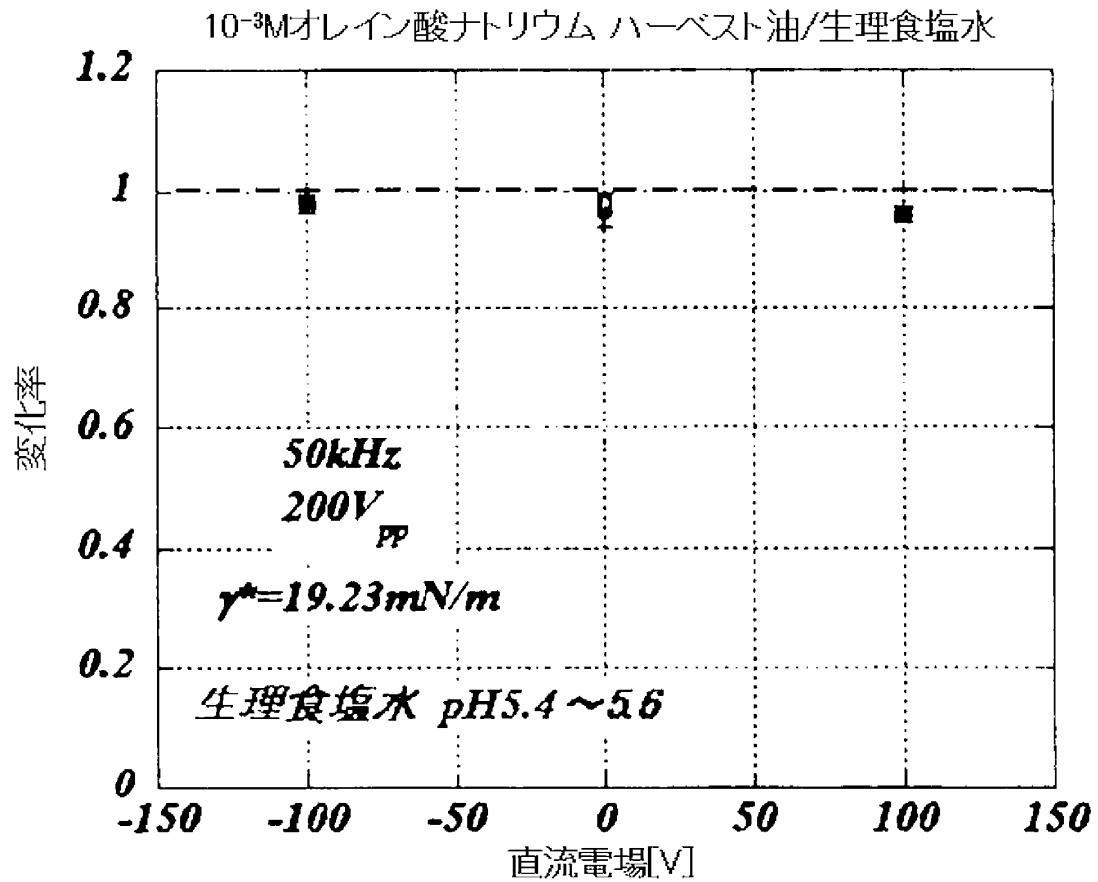
[図12]



[図13]



[図14]

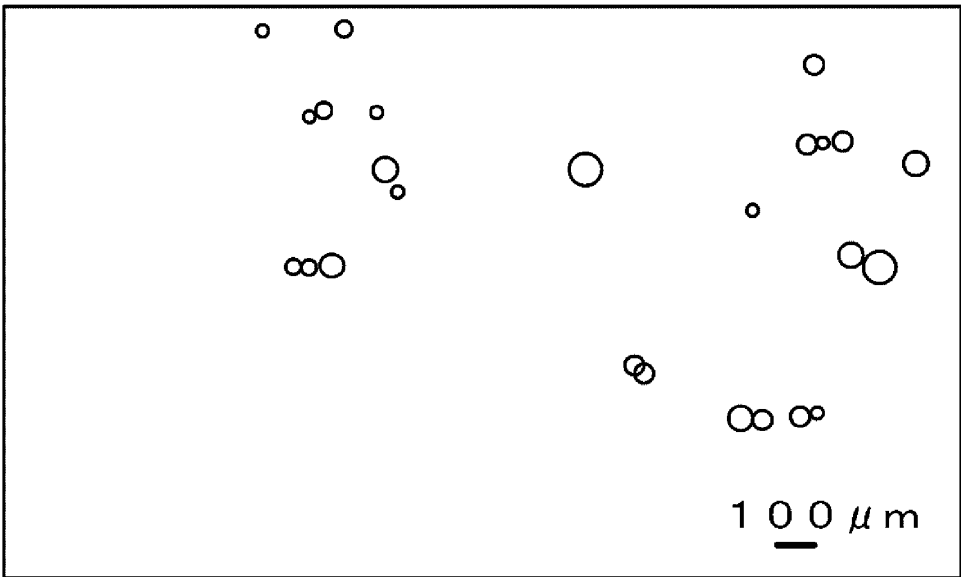


[図15]

| E, V <sub>pp</sub> /cm<br>(50kHz,<br>0V <sub>offset</sub> ) | ハーベスト油                |                    | ハーベスト油/オレイン酸ナトリウム     |                    |
|-------------------------------------------------------------|-----------------------|--------------------|-----------------------|--------------------|
|                                                             | pH7.2~7.4<br>リン酸生理食塩水 | pH5.4~5.6<br>生理食塩水 | pH7.2~7.4<br>リン酸生理食塩水 | pH5.4~5.6<br>生理食塩水 |
| 0                                                           | ×                     | ×                  | ×                     | ×                  |
| 200                                                         | ×                     | ×                  | △                     | △                  |
| 500                                                         | ×                     | ×                  | ○                     | ○                  |
| 1000                                                        | ×                     | ×                  | ○                     | ○                  |
| 2000                                                        | ×                     | ×                  | —                     | —                  |

○: 連珠配列形成 △: 電場に応答 ×: 変化なし —: 流の発生で観察不可

[図16]



[図17]

(a) リン酸生理食塩水(pH7.2~7.4)

| $V_w/cm$ | 50Hz | 100Hz | 500Hz | 1kHz | 5kHz | 10kHz | 50kHz | 100kHz |
|----------|------|-------|-------|------|------|-------|-------|--------|
| 0        | ×    | ×     | ×     | ×    | ×    | ×     | ×     | ×      |
| 200      | ×    | ×     | ×     | ×    | ×    | ×     | ×     | ×      |
| 500      | ×    | ×     | ×     | ×    | ×    | ×     | ×     | ×      |
| 1000     | ×    | ×     | ×     | ×    | ×    | ×     | ×     | ×      |
| 2000     | ×    | ×     | ×     | ×    | ×    | ×     | ×     | ×      |

(b) 生理食塩水(pH5.4~5.6)

| $V_w/cm$ | 50Hz | 100Hz | 500Hz | 1kHz | 5kHz | 10kHz | 50kHz | 100kHz |
|----------|------|-------|-------|------|------|-------|-------|--------|
| 0        | ×    | ×     | ×     | ×    | ×    | ×     | ×     | ×      |
| 200      | ×    | ×     | ×     | ×    | ×    | ×     | ×     | ×      |
| 500      | ×    | ×     | ×     | ×    | ×    | ×     | ×     | ×      |
| 1000     | ×    | ×     | ×     | ×    | ×    | ×     | ×     | ×      |
| 2000     | ×    | ×     | ×     | ×    | ×    | ×     | ×     | ×      |

○:連珠配列形成 △:電場に応答 ×:変化なし -:流の発生で観察不可

[図18]

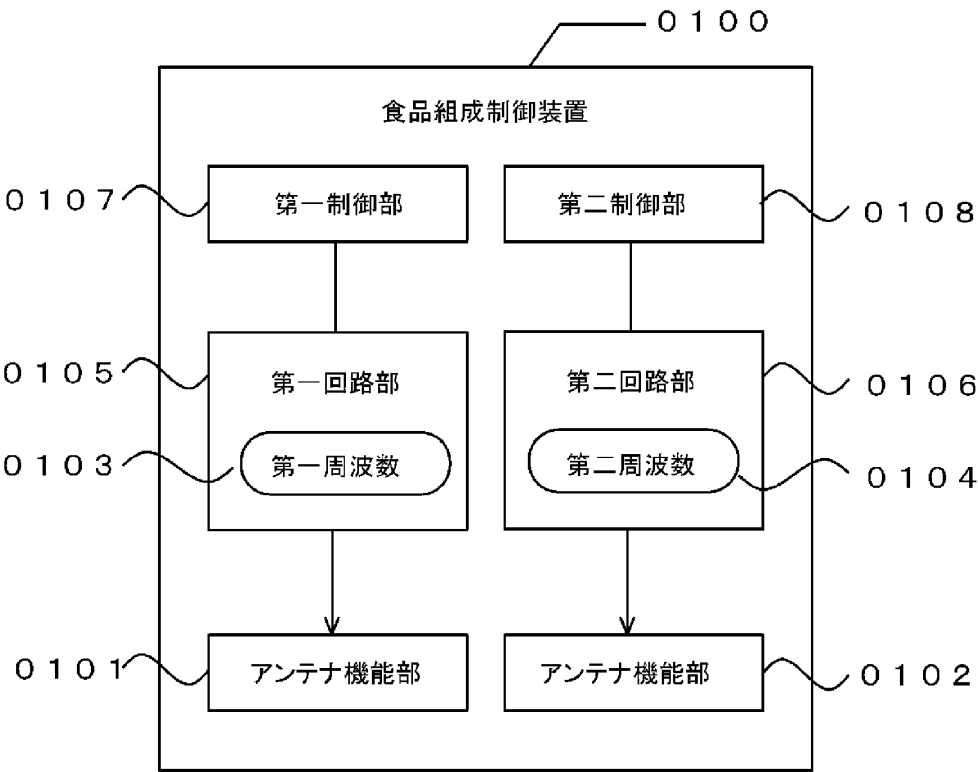
| (a) リン酸生理食塩水(pH7.2~7.4) |      |       |       |      |      |       |       |        |
|-------------------------|------|-------|-------|------|------|-------|-------|--------|
| $V_E$ /cm               | 50Hz | 100Hz | 500Hz | 1kHz | 5kHz | 10kHz | 50kHz | 100kHz |
| 0                       | x    | x     | x     | x    | x    | x     | x     | x      |
| 200                     | △    | △     | △     | △    | △    | △     | △     | x      |
| 500                     | ○/ー  | ○/ー   | ○     | ○    | ○    | ○     | ○     | ○      |
| 1000                    | ー    | ー     | ○/ー   | ○/ー  | ○/ー  | ○     | ○     | ○      |
| 2000                    | ー    | ー     | ー     | ー    | ー    | ー     | ー     | ○      |

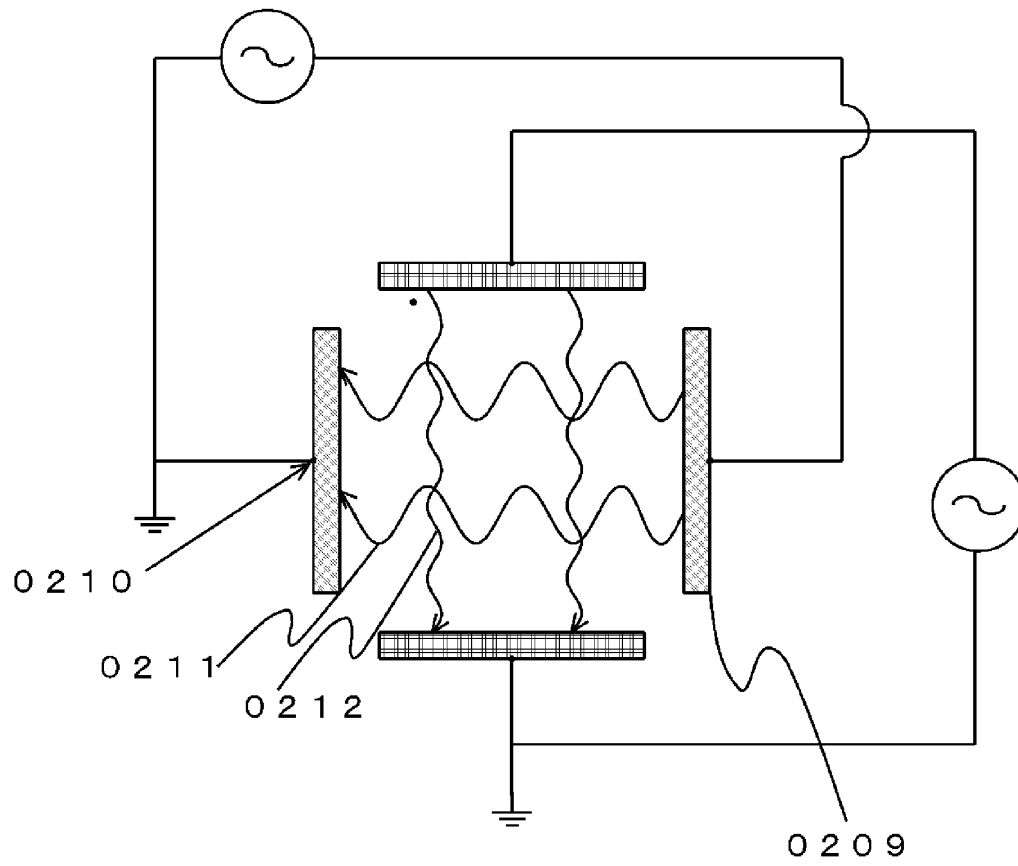
| (b) 生理食塩水(pH5.4~5.6) |      |       |       |      |      |       |       |        |
|----------------------|------|-------|-------|------|------|-------|-------|--------|
| $V_E$ /cm            | 50Hz | 100Hz | 500Hz | 1kHz | 5kHz | 10kHz | 50kHz | 100kHz |
| 0                    | x    | x     | x     | x    | x    | x     | x     | x      |
| 200                  | △    | △     | △     | △    | △    | △     | △     | x      |
| 500                  | ○    | ○     | ○     | ○    | ○    | ○     | ○     | ○      |
| 1000                 | ー    | ー     | ー     | ○/ー  | ○/ー  | ○     | ○     | ○      |
| 2000                 | ー    | ー     | ー     | ー    | ー    | ー     | ー     | ○      |

○:連珠配列形成 △:電場に応答 x:変化なし ー:流の発生で観察不可

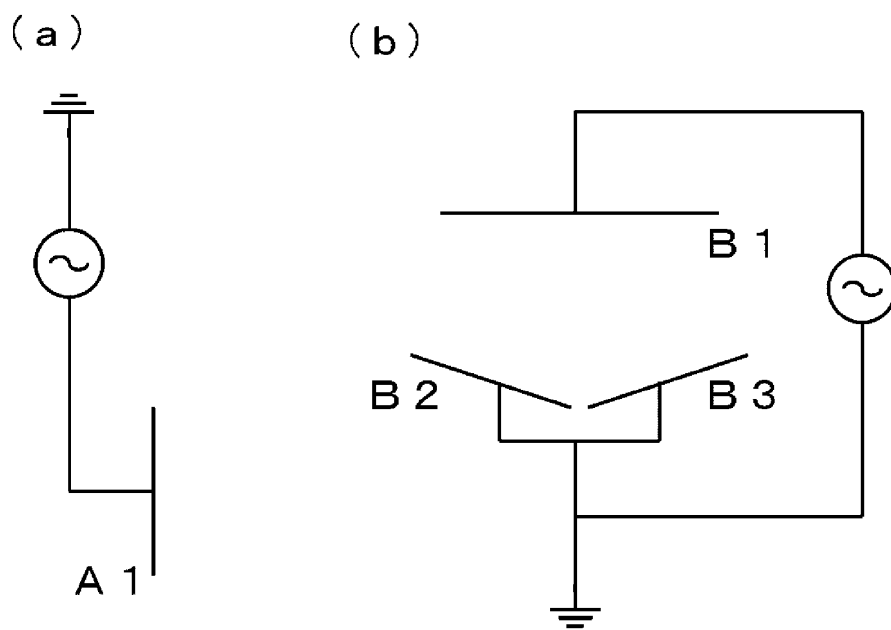
[図19]



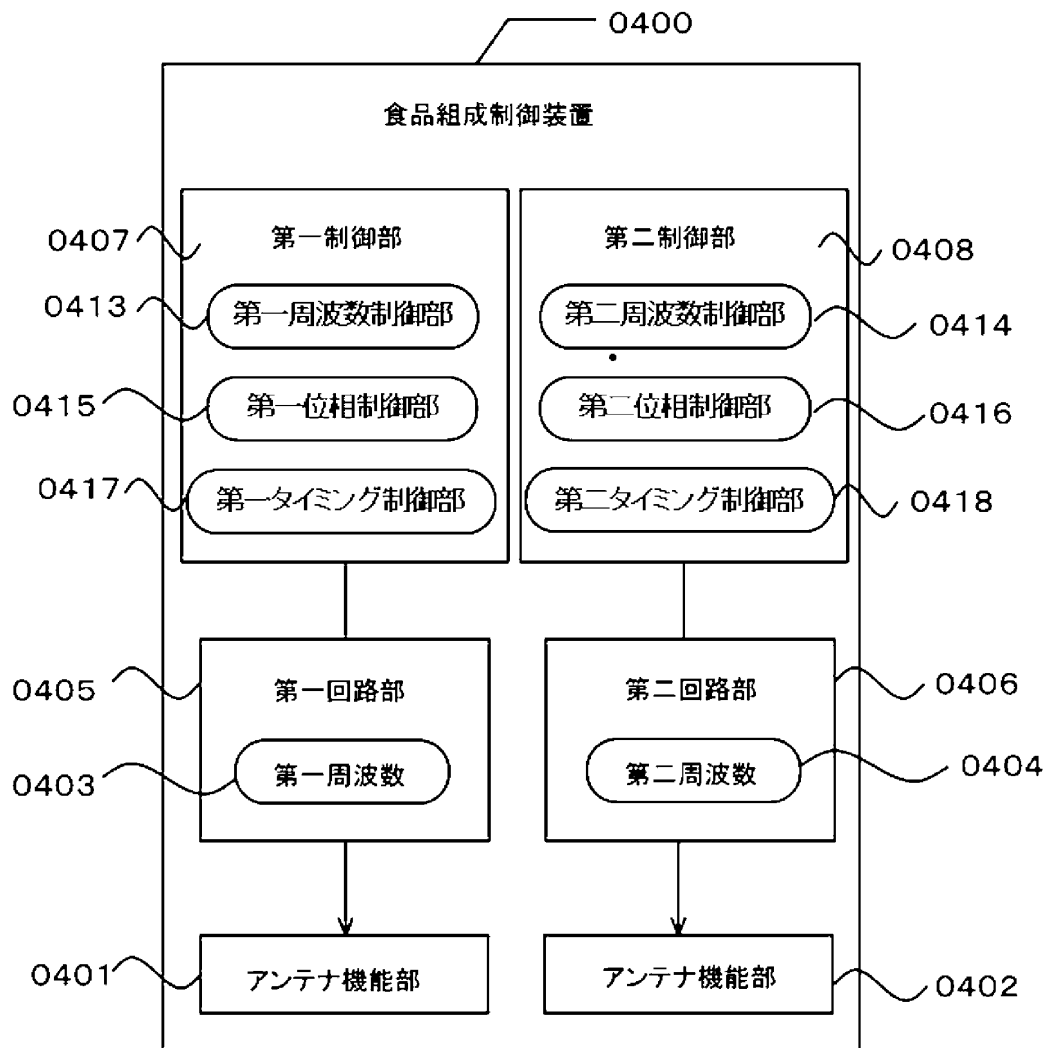
[図20]



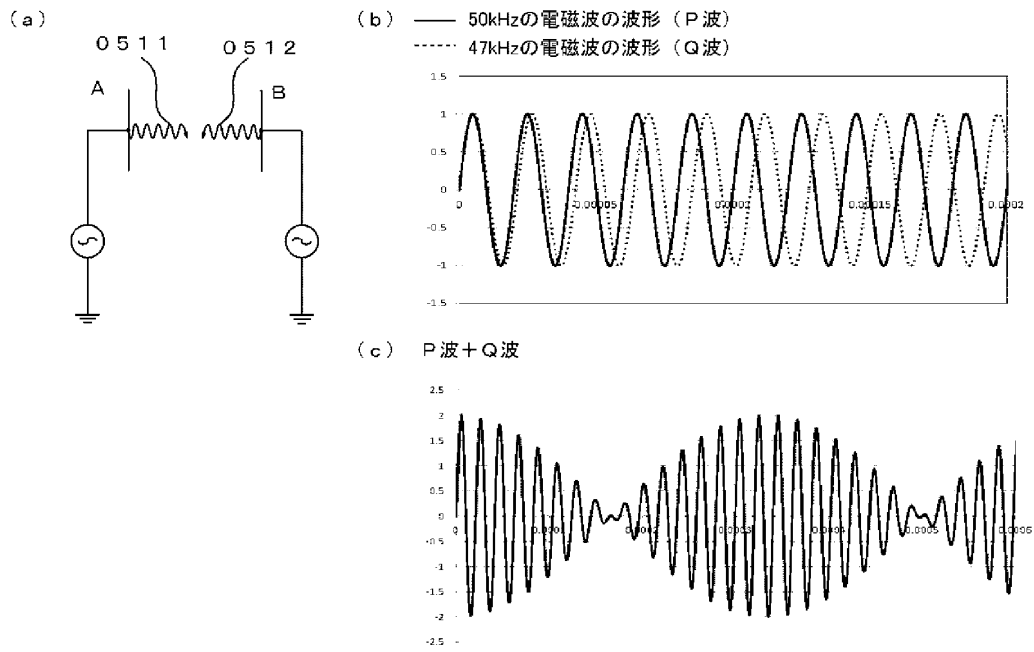
[図21]



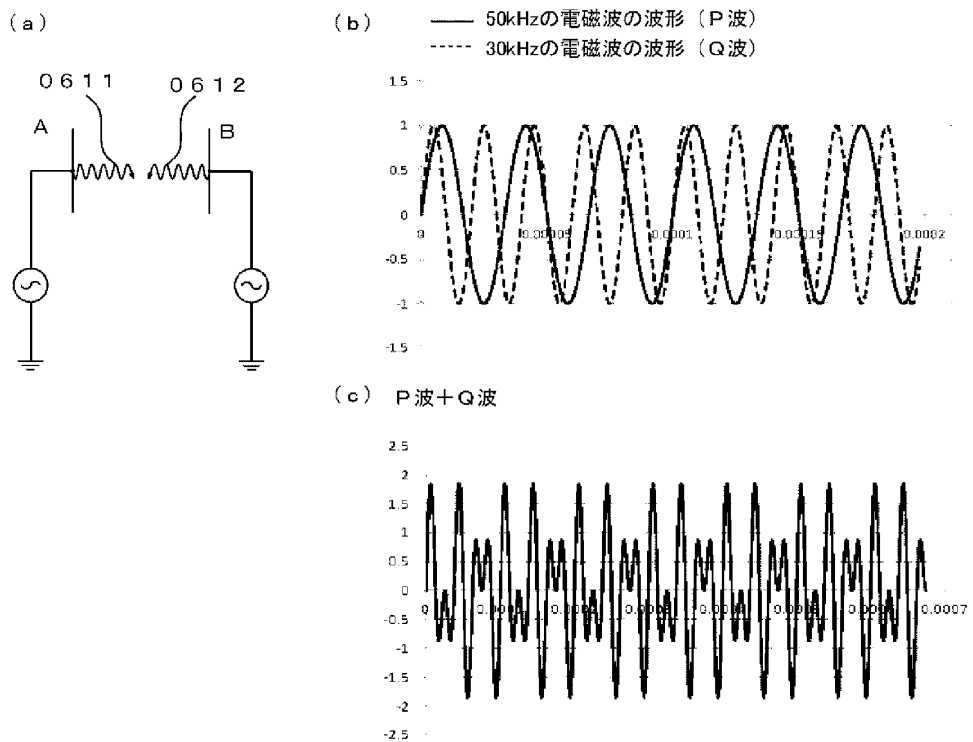
[図22]



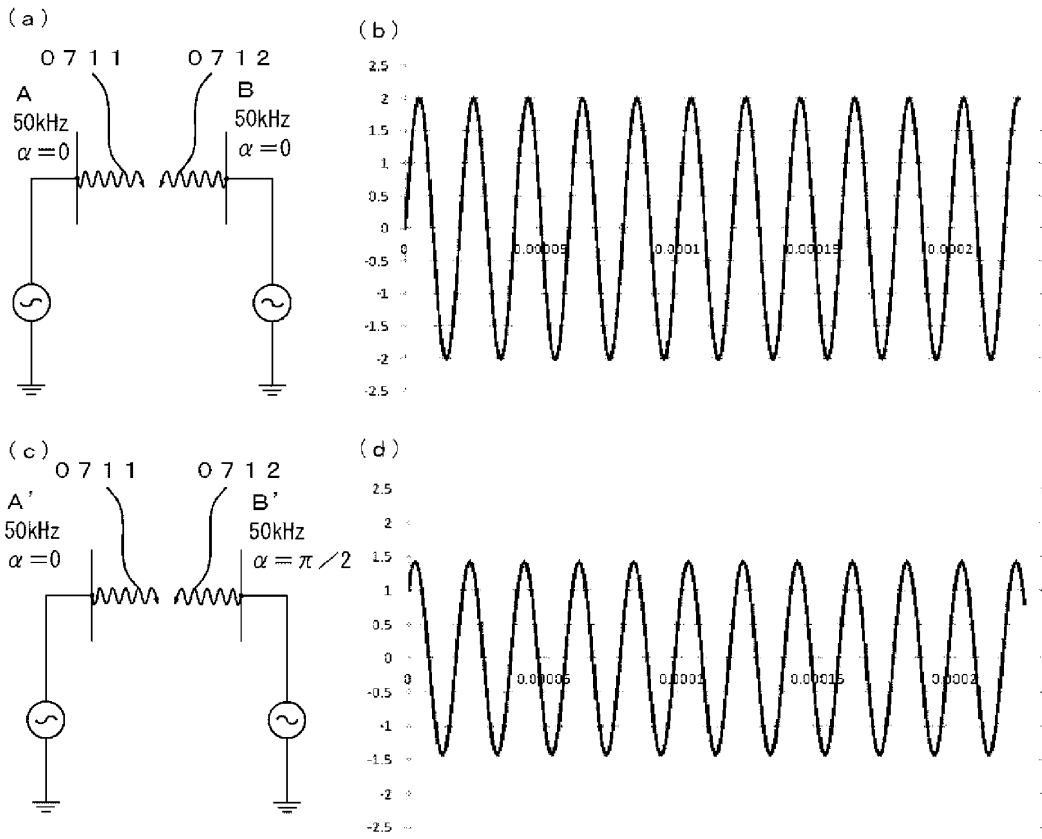
[図23]



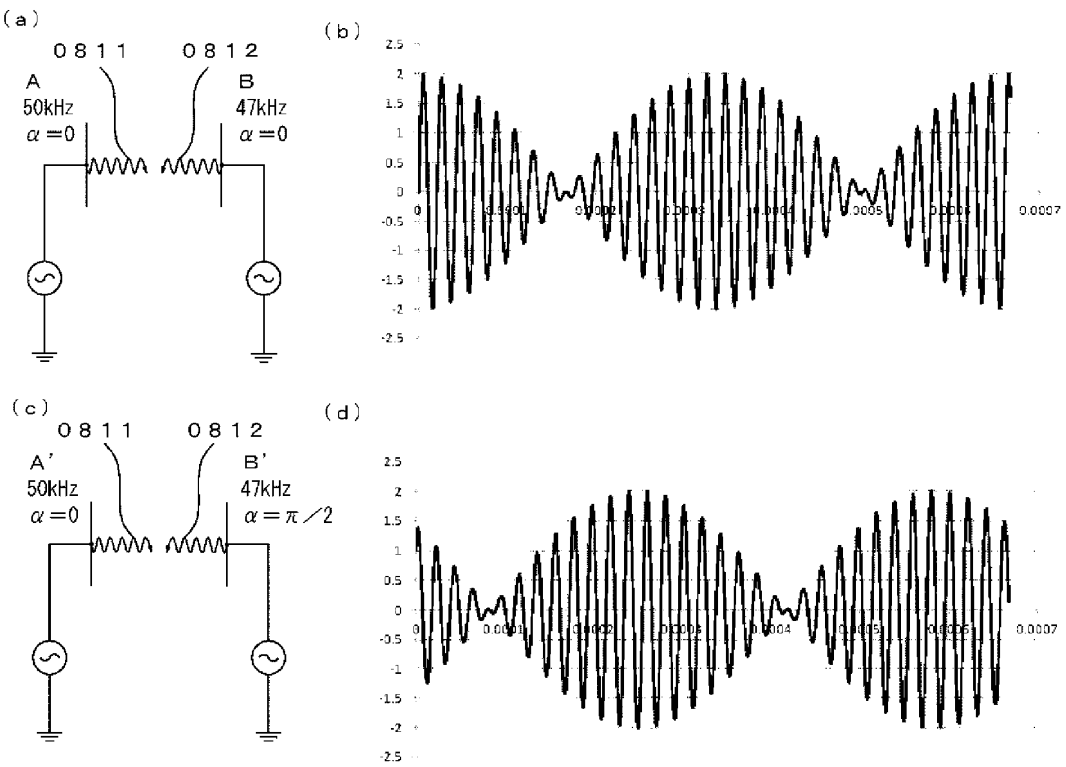
[図24]



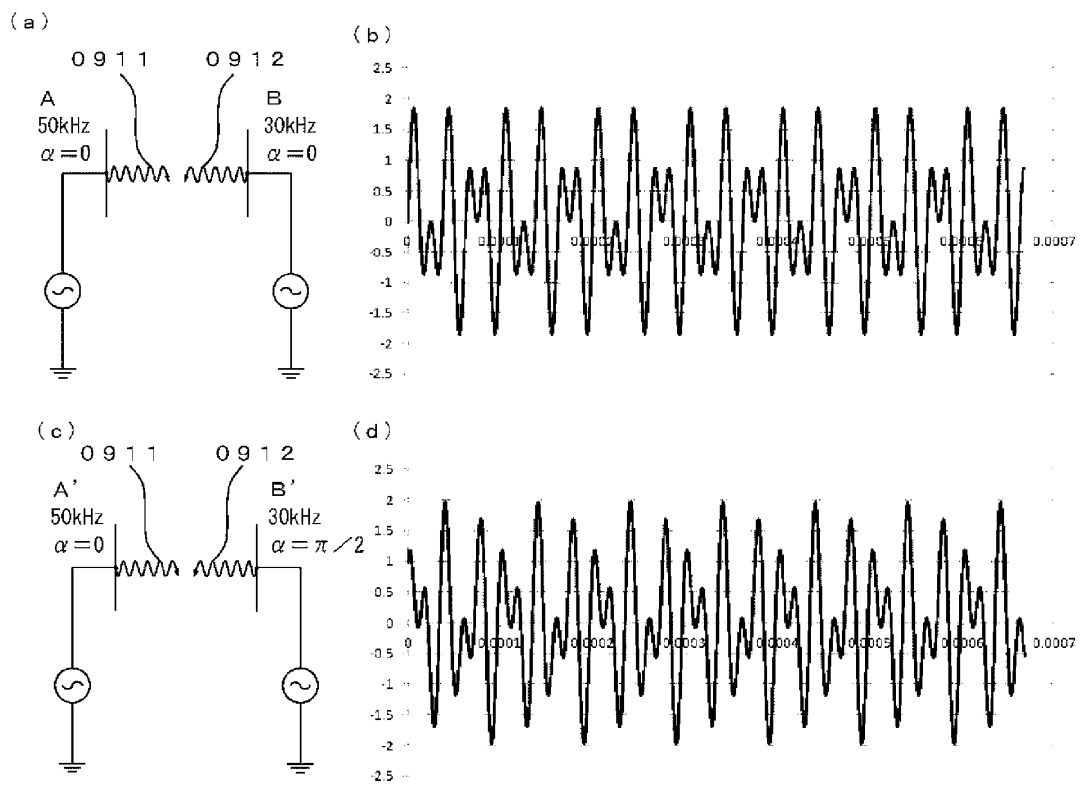
[図25]



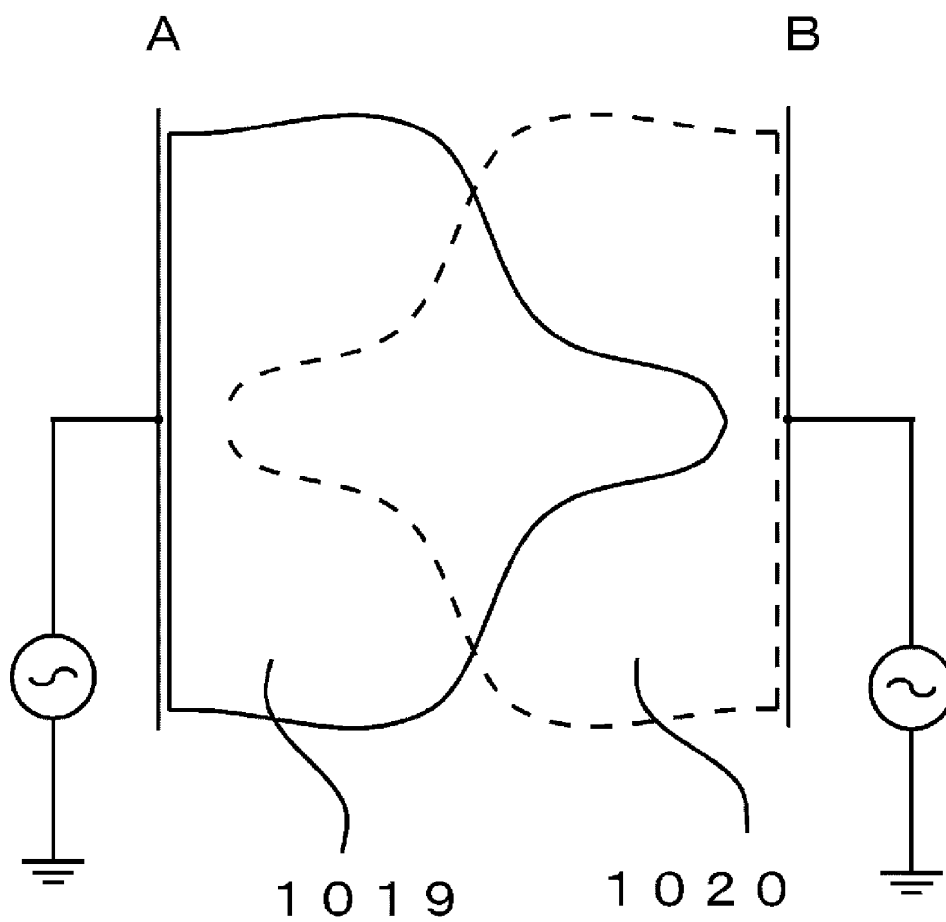
[図26]



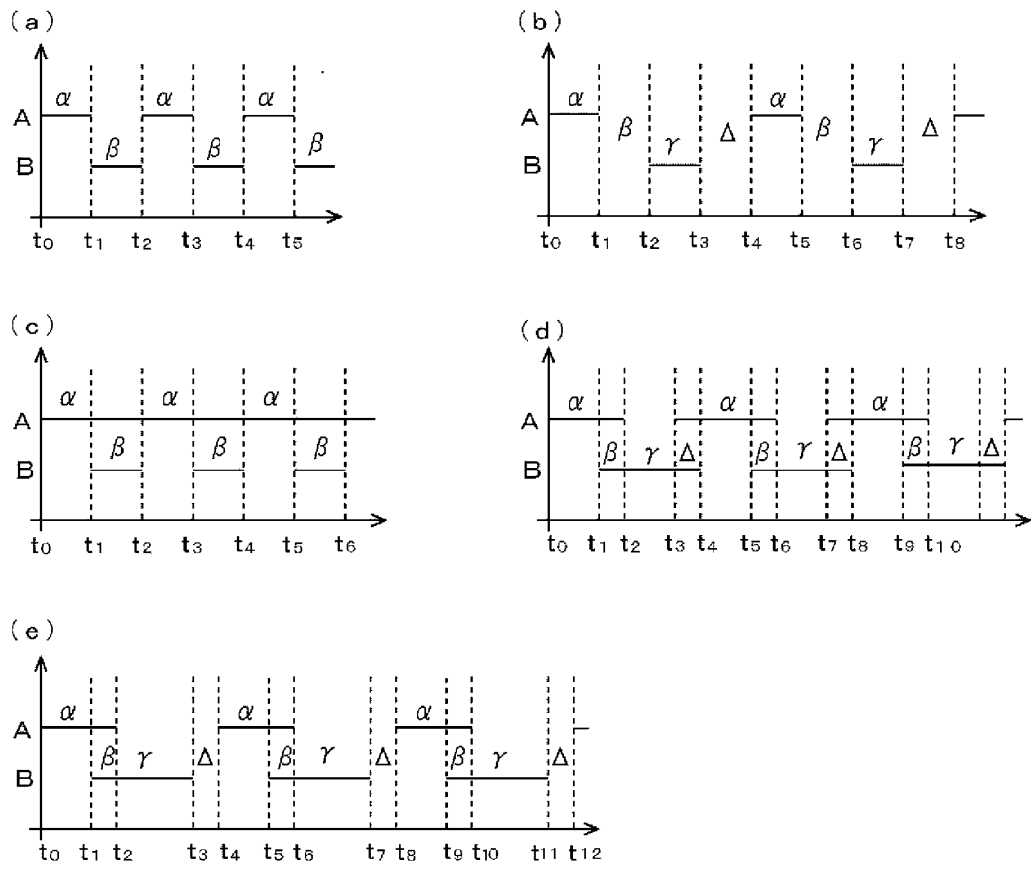
[図27]



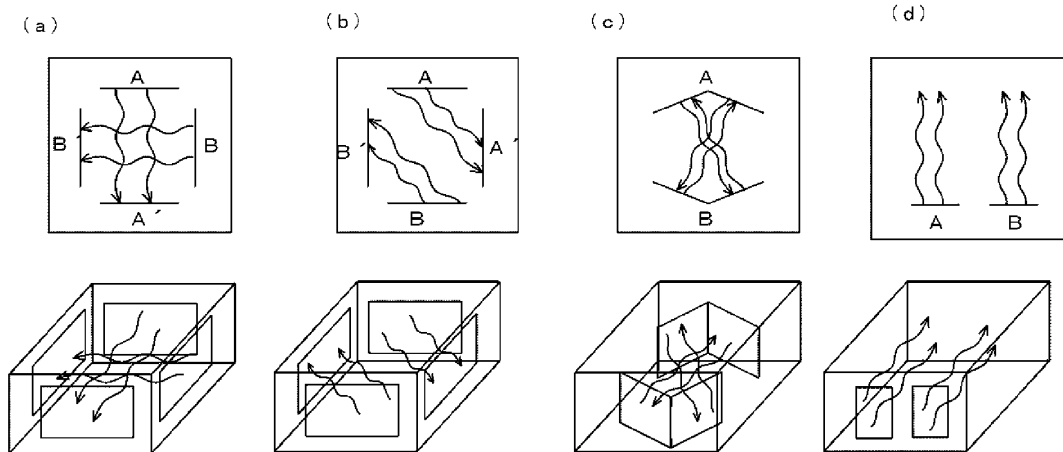
[図28A]



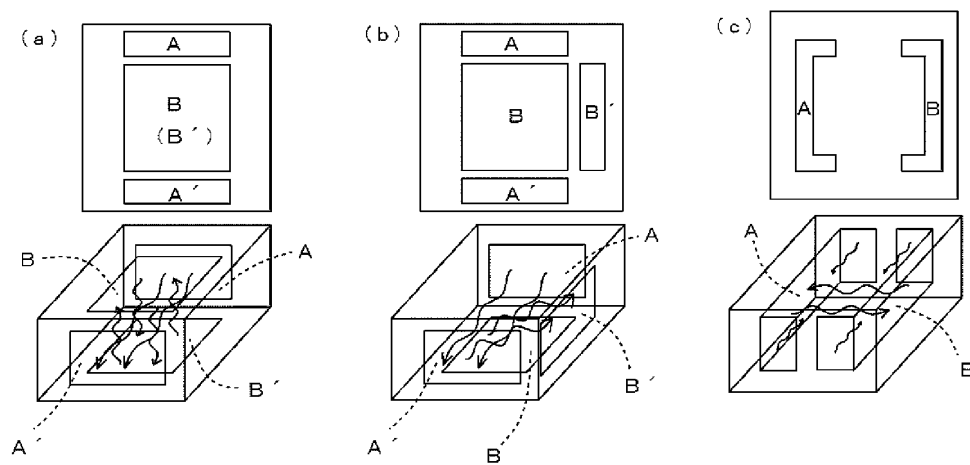
[図28B]



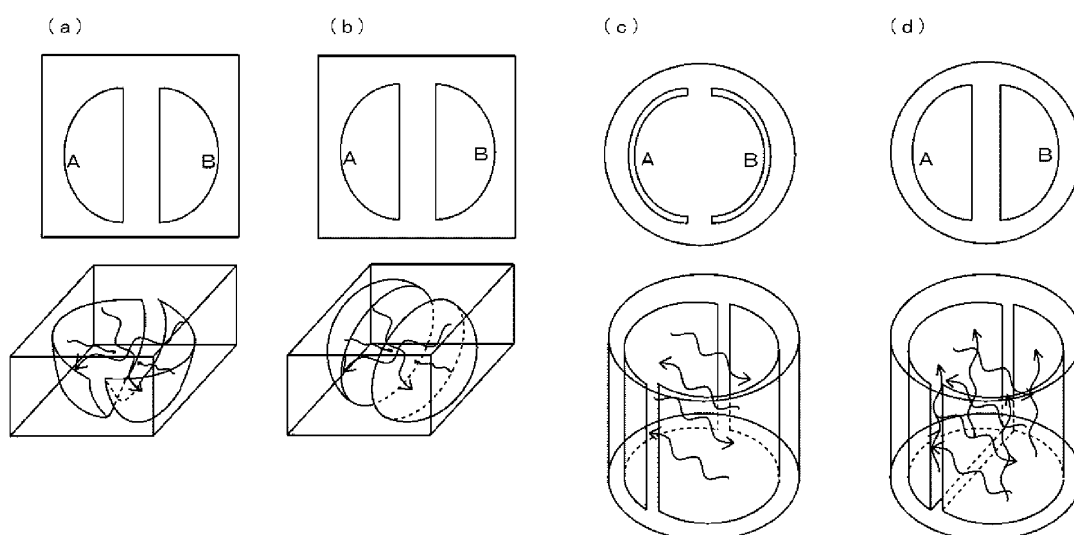
[図29A]



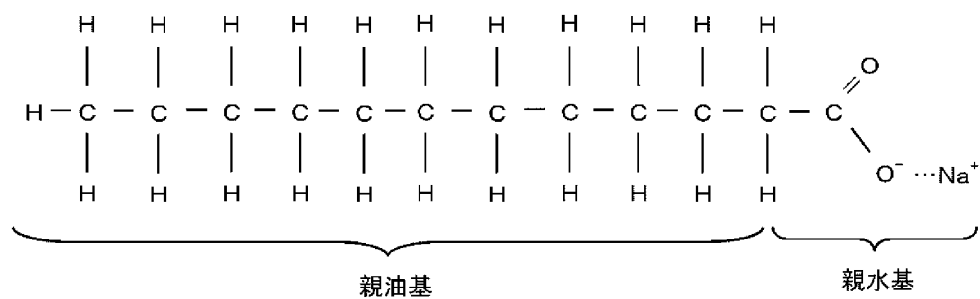
[図29B]



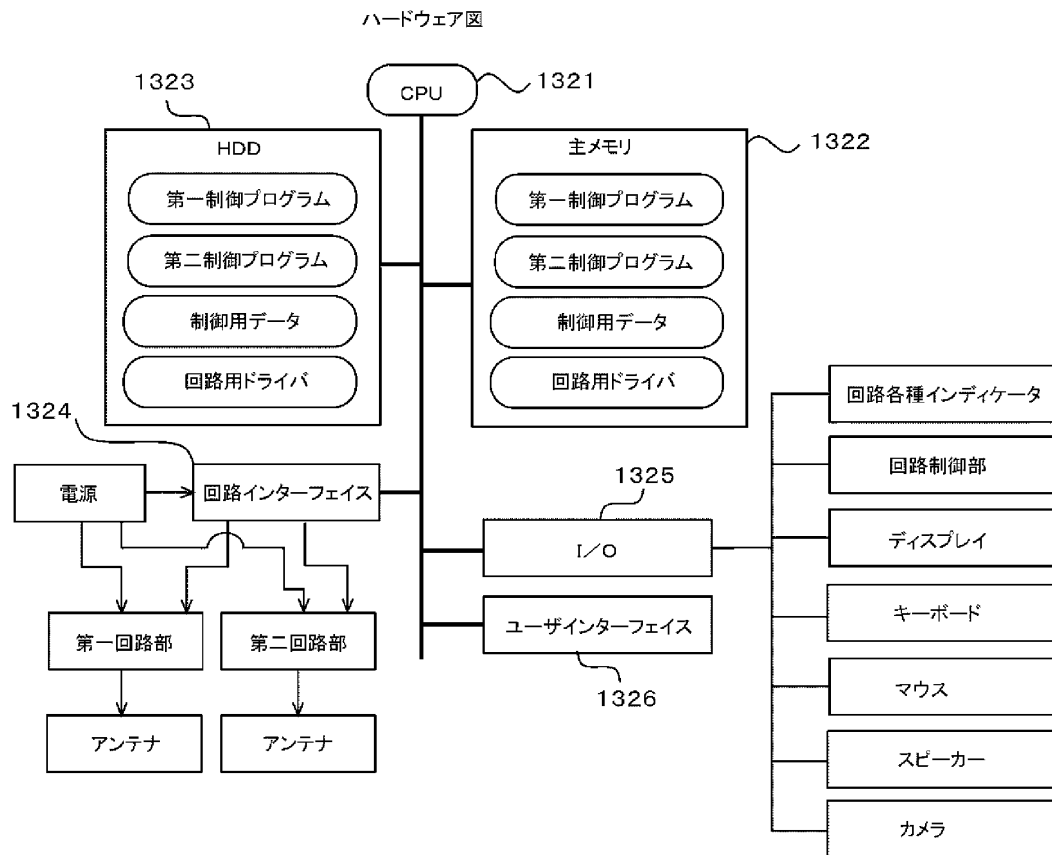
[図29C]



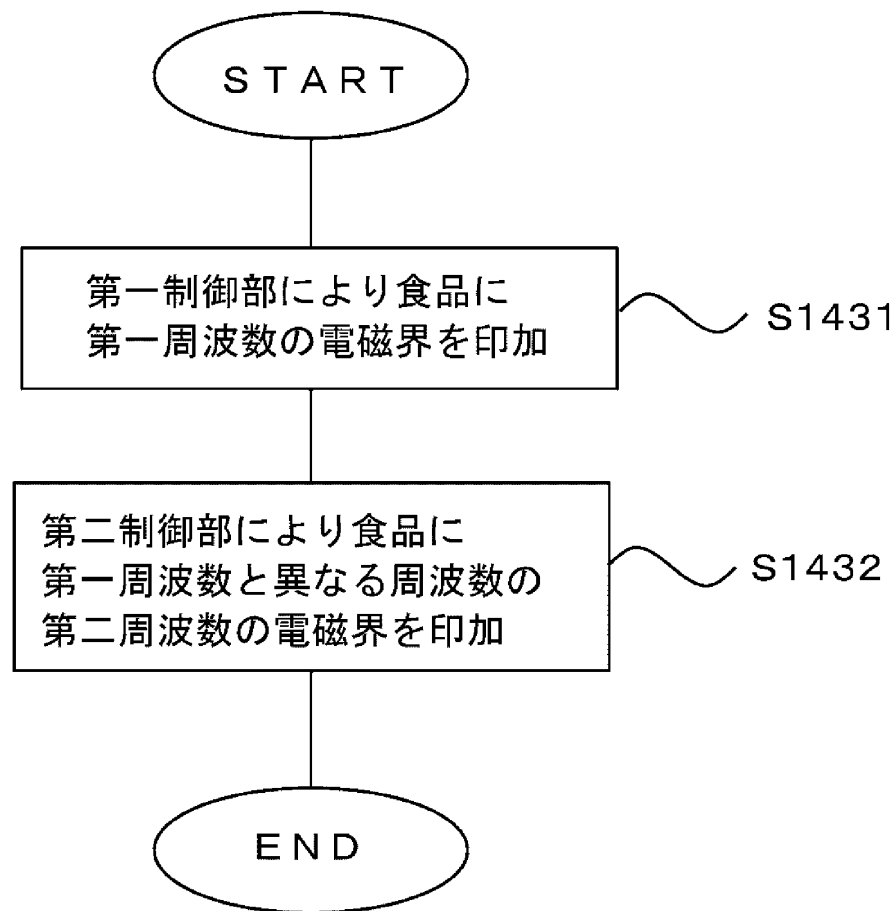
[図30]



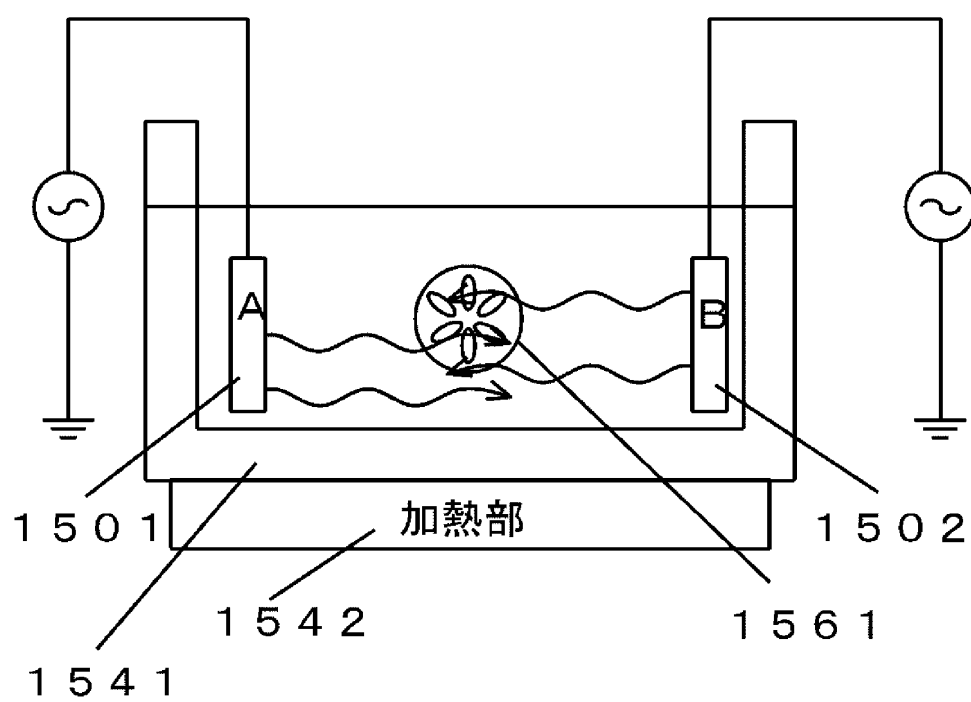
【図31】



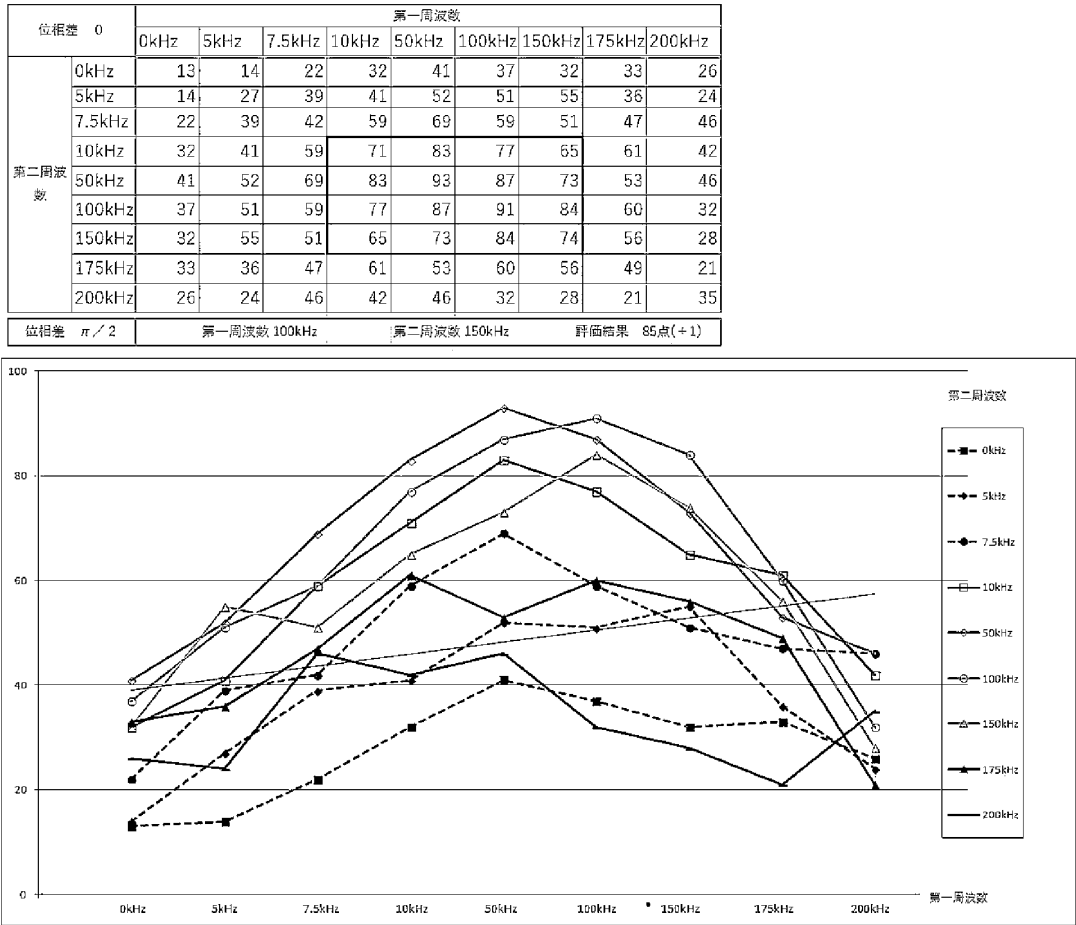
[図32]



[図33A]



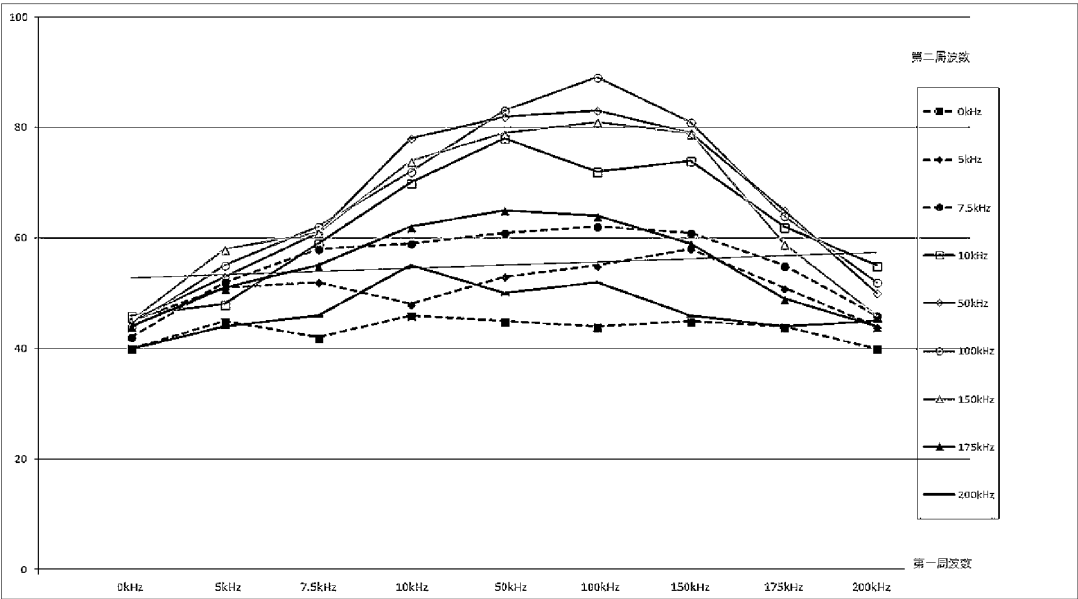
[図33B]



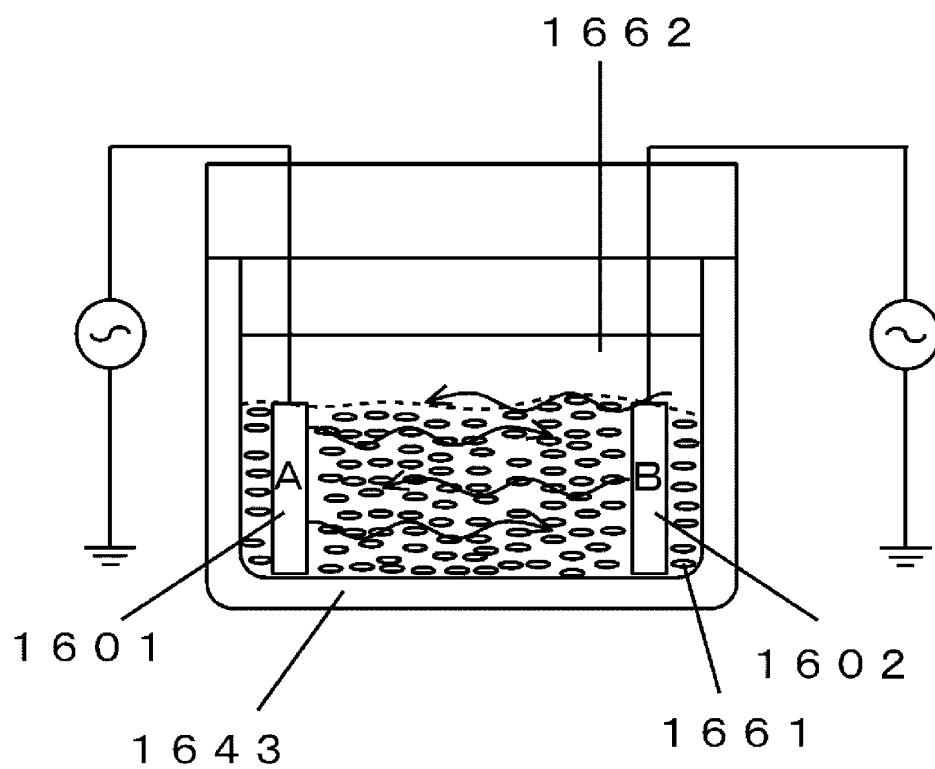
[図33C]

| 位相差 0 |        | 第一周波数 |      |        |       |       |        |        |        |        |
|-------|--------|-------|------|--------|-------|-------|--------|--------|--------|--------|
|       |        | 0kHz  | 5kHz | 7.5kHz | 10kHz | 50kHz | 100kHz | 150kHz | 175kHz | 200kHz |
| 第二周波数 | 0kHz   | 40    | 45   | 42     | 46    | 45    | 44     | 45     | 44     | 40     |
|       | 5kHz   | 45    | 51   | 52     | 48    | 53    | 55     | 58     | 51     | 44     |
|       | 7.5kHz | 42    | 52   | 58     | 59    | 61    | 62     | 61     | 55     | 46     |
|       | 10kHz  | 46    | 48   | 59     | 70    | 78    | 72     | 74     | 62     | 55     |
|       | 50kHz  | 45    | 53   | 61     | 78    | 82    | 83     | 79     | 65     | 50     |
|       | 100kHz | 44    | 55   | 62     | 72    | 83    | 89     | 81     | 64     | 52     |
|       | 150kHz | 45    | 58   | 61     | 74    | 79    | 81     | 79     | 59     | 46     |
|       | 175kHz | 44    | 51   | 55     | 62    | 65    | 64     | 59     | 49     | 44     |
|       | 200kHz | 40    | 44   | 46     | 55    | 50    | 52     | 46     | 44     | 45     |

位相差  $\pi/2$       第一周波数 100kHz      第二周波数 150kHz      評価結果 82点(+1)



[図34A]



[図34B]

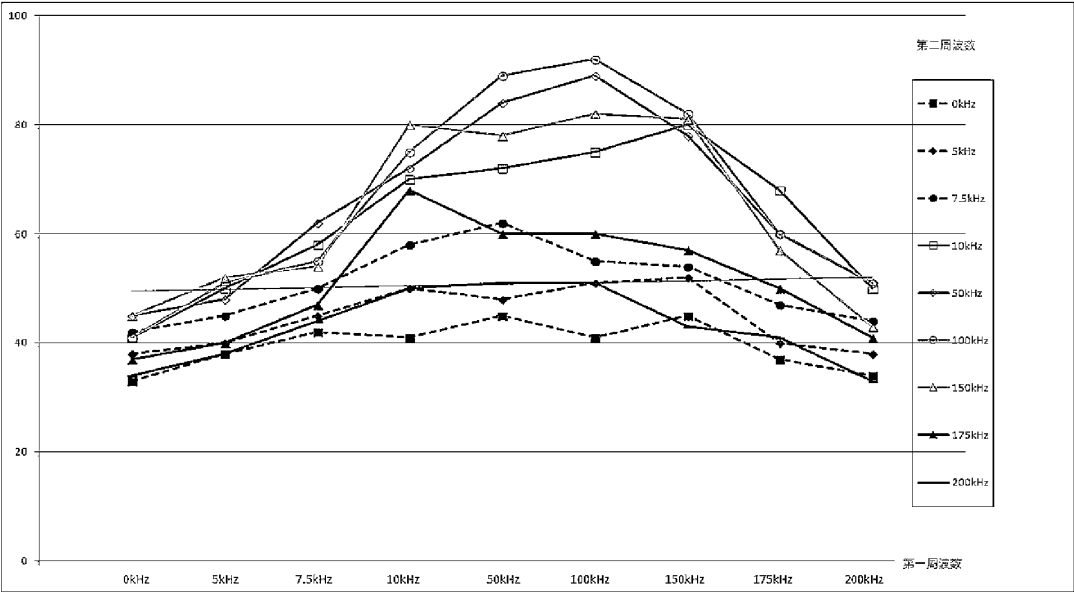
| 位相差 0 |        | 第一周波数 |      |        |       |       |        |        |        |        |  |
|-------|--------|-------|------|--------|-------|-------|--------|--------|--------|--------|--|
|       |        | 0kHz  | 5kHz | 7.5kHz | 10kHz | 50kHz | 100kHz | 150kHz | 175kHz | 200kHz |  |
| 第二周波数 | 0kHz   | 33    | 38   | 42     | 41    | 45    | 41     | 45     | 37     | 34     |  |
|       | 5kHz   | 38    | 40   | 45     | 50    | 48    | 51     | 52     | 40     | 38     |  |
|       | 7.5kHz | 42    | 45   | 50     | 58    | 62    | 55     | 54     | 47     | 44     |  |
|       | 10kHz  | 41    | 50   | 58     | 70    | 72    | 75     | 80     | 68     | 50     |  |
|       | 50kHz  | 45    | 48   | 62     | 72    | 84    | 89     | 78     | 60     | 51     |  |
|       | 100kHz | 41    | 51   | 55     | 75    | 89    | 92     | 82     | 60     | 51     |  |
|       | 150kHz | 45    | 52   | 54     | 80    | 78    | 82     | 81     | 57     | 43     |  |
|       | 175kHz | 37    | 40   | 47     | 68    | 60    | 60     | 57     | 50     | 41     |  |
|       | 200kHz | 34    | 38   | 44     | 50    | 51    | 51     | 43     | 41     | 33     |  |

位相差  $\pi/2$

第一周波数 100kHz

第二周波数 150kHz

評価結果 83点(+1)



[図34C]

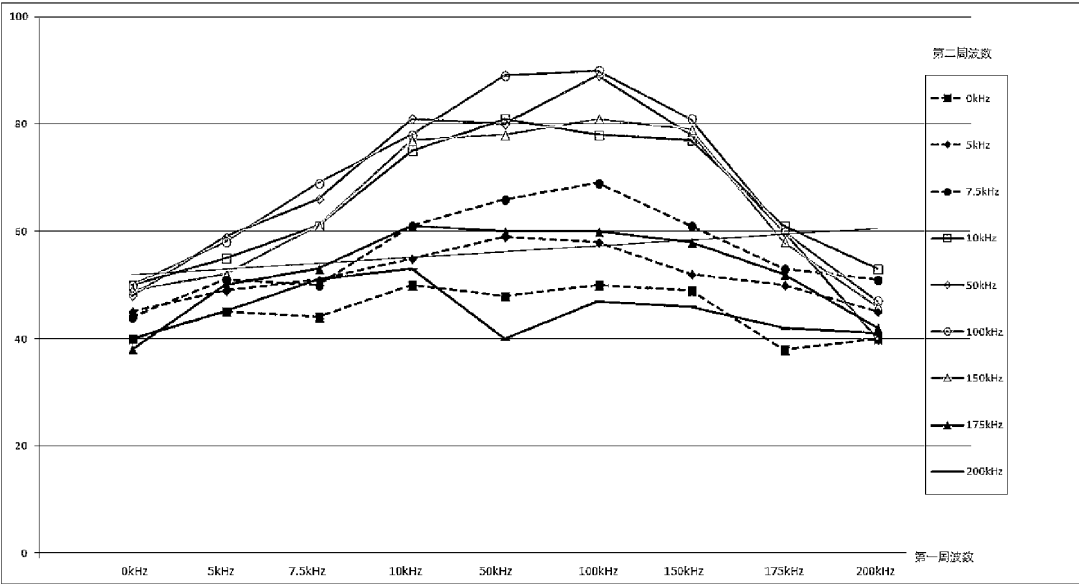
| 位相差 0 |        | 第一周波数 |      |        |       |       |        |        |        |        |  |
|-------|--------|-------|------|--------|-------|-------|--------|--------|--------|--------|--|
|       |        | 0kHz  | 5kHz | 7.5kHz | 10kHz | 50kHz | 100kHz | 150kHz | 175kHz | 200kHz |  |
| 第二周波数 | 0kHz   | 40    | 45   | 44     | 50    | 48    | 50     | 49     | 38     | 40     |  |
|       | 5kHz   | 45    | 49   | 51     | 55    | 59    | 58     | 52     | 50     | 45     |  |
|       | 7.5kHz | 44    | 51   | 50     | 61    | 66    | 69     | 61     | 53     | 51     |  |
|       | 10kHz  | 50    | 55   | 61     | 75    | 81    | 78     | 77     | 61     | 53     |  |
|       | 50kHz  | 48    | 59   | 66     | 81    | 80    | 89     | 78     | 60     | 40     |  |
|       | 100kHz | 50    | 58   | 69     | 78    | 89    | 90     | 81     | 60     | 47     |  |
|       | 150kHz | 49    | 52   | 61     | 77    | 78    | 81     | 79     | 58     | 46     |  |
|       | 175kHz | 38    | 50   | 53     | 61    | 60    | 60     | 58     | 52     | 42     |  |
|       | 200kHz | 40    | 45   | 51     | 53    | 40    | 47     | 46     | 42     | 41     |  |

位相差  $\pi/2$

第一周波数 100kHz

第二周波数 150kHz

誤値結果 82点(+1)



[図34D]

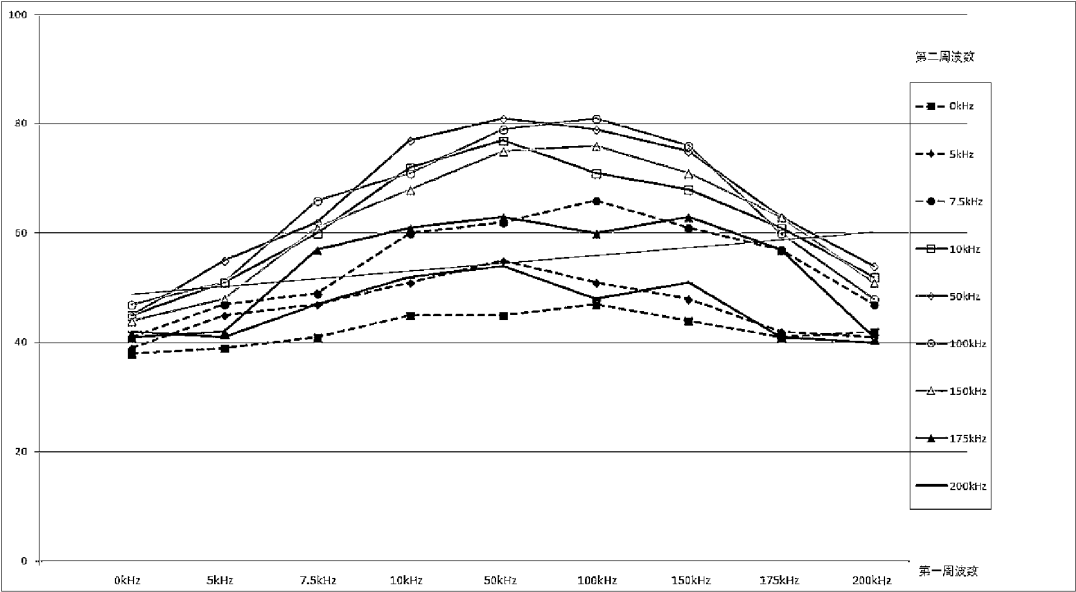
| 位相差 0 |        | 第一周波数 |      |        |       |       |        |        |        |        |  |
|-------|--------|-------|------|--------|-------|-------|--------|--------|--------|--------|--|
|       |        | 0kHz  | 5kHz | 7.5kHz | 10kHz | 50kHz | 100kHz | 150kHz | 175kHz | 200kHz |  |
| 第二周波数 | 0kHz   | 38    | 39   | 41     | 45    | 45    | 47     | 44     | 41     | 42     |  |
|       | 5kHz   | 39    | 45   | 47     | 51    | 55    | 51     | 48     | 42     | 41     |  |
|       | 7.5kHz | 41    | 47   | 49     | 60    | 62    | 66     | 61     | 57     | 47     |  |
|       | 10kHz  | 45    | 51   | 60     | 72    | 77    | 71     | 68     | 61     | 52     |  |
|       | 50kHz  | 45    | 55   | 62     | 77    | 81    | 79     | 75     | 63     | 54     |  |
|       | 100kHz | 47    | 51   | 66     | 71    | 79    | 81     | 76     | 60     | 48     |  |
|       | 150kHz | 44    | 48   | 61     | 68    | 75    | 76     | 71     | 63     | 51     |  |
|       | 175kHz | 41    | 42   | 57     | 61    | 63    | 60     | 63     | 57     | 41     |  |
|       | 200kHz | 42    | 41   | 47     | 52    | 54    | 48     | 51     | 41     | 40     |  |

位相差  $\pi/2$

第一周波数 100kHz

第二周波数 150kHz

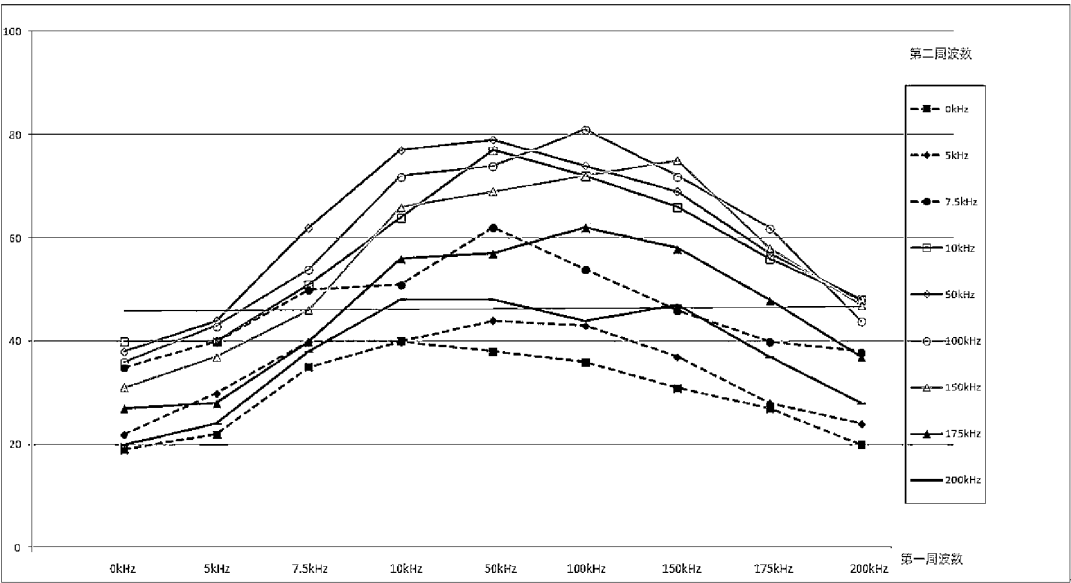
評価結果 77点(+1)



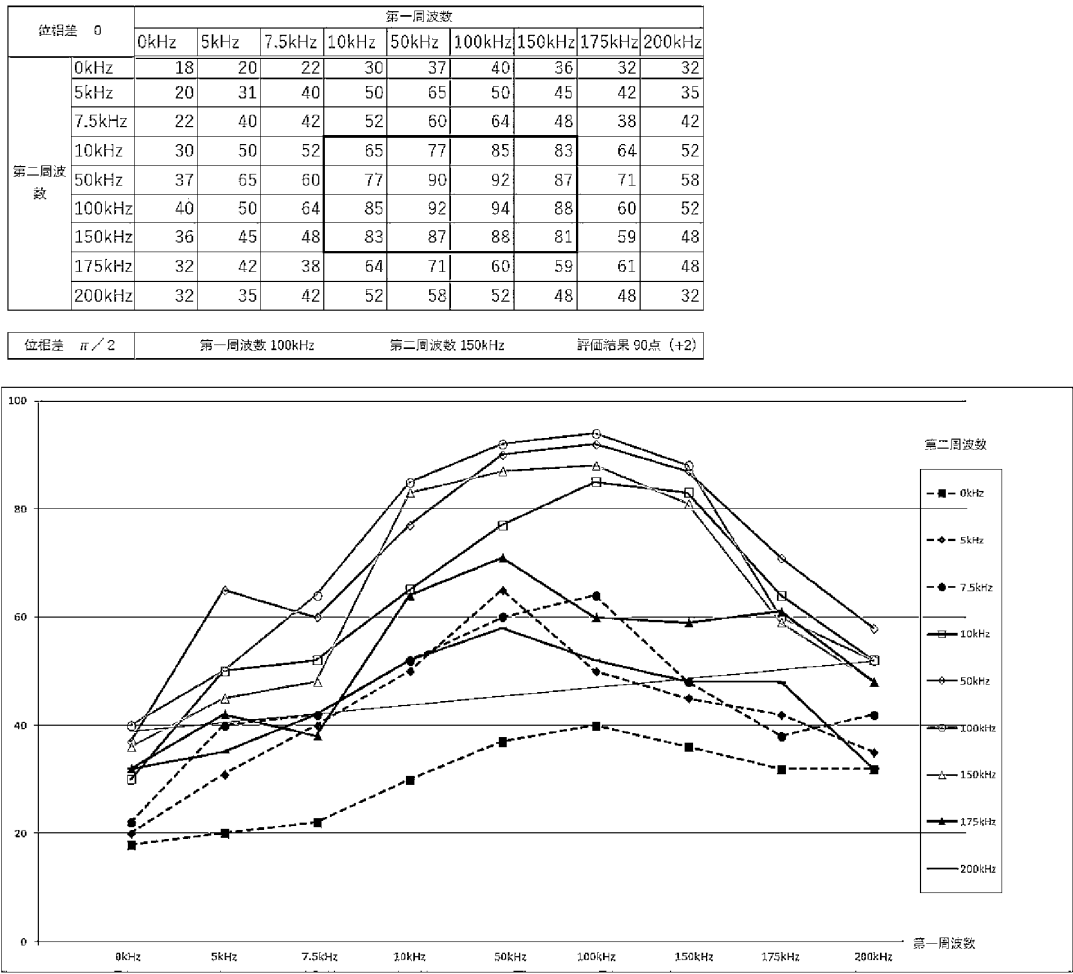
[図34E]

| 位相差 0 |        | 第一周波数 |      |        |       |       |        |        |        |        |  |
|-------|--------|-------|------|--------|-------|-------|--------|--------|--------|--------|--|
|       |        | 0kHz  | 5kHz | 7.5kHz | 10kHz | 50kHz | 100kHz | 150kHz | 175kHz | 200kHz |  |
| 第二周波数 | 0kHz   | 19    | 22   | 35     | 40    | 38    | 36     | 31     | 27     | 20     |  |
|       | 5kHz   | 22    | 30   | 40     | 40    | 44    | 43     | 37     | 28     | 24     |  |
|       | 7.5kHz | 35    | 40   | 50     | 51    | 62    | 54     | 46     | 40     | 38     |  |
|       | 10kHz  | 40    | 40   | 51     | 64    | 77    | 72     | 66     | 56     | 48     |  |
|       | 50kHz  | 38    | 44   | 62     | 77    | 79    | 74     | 69     | 57     | 48     |  |
|       | 100kHz | 36    | 43   | 54     | 72    | 74    | 81     | 72     | 62     | 44     |  |
|       | 150kHz | 31    | 37   | 46     | 66    | 69    | 72     | 75     | 58     | 47     |  |
|       | 175kHz | 27    | 28   | 40     | 56    | 57    | 62     | 58     | 48     | 37     |  |
|       | 200kHz | 20    | 24   | 38     | 48    | 48    | 44     | 47     | 37     | 28     |  |

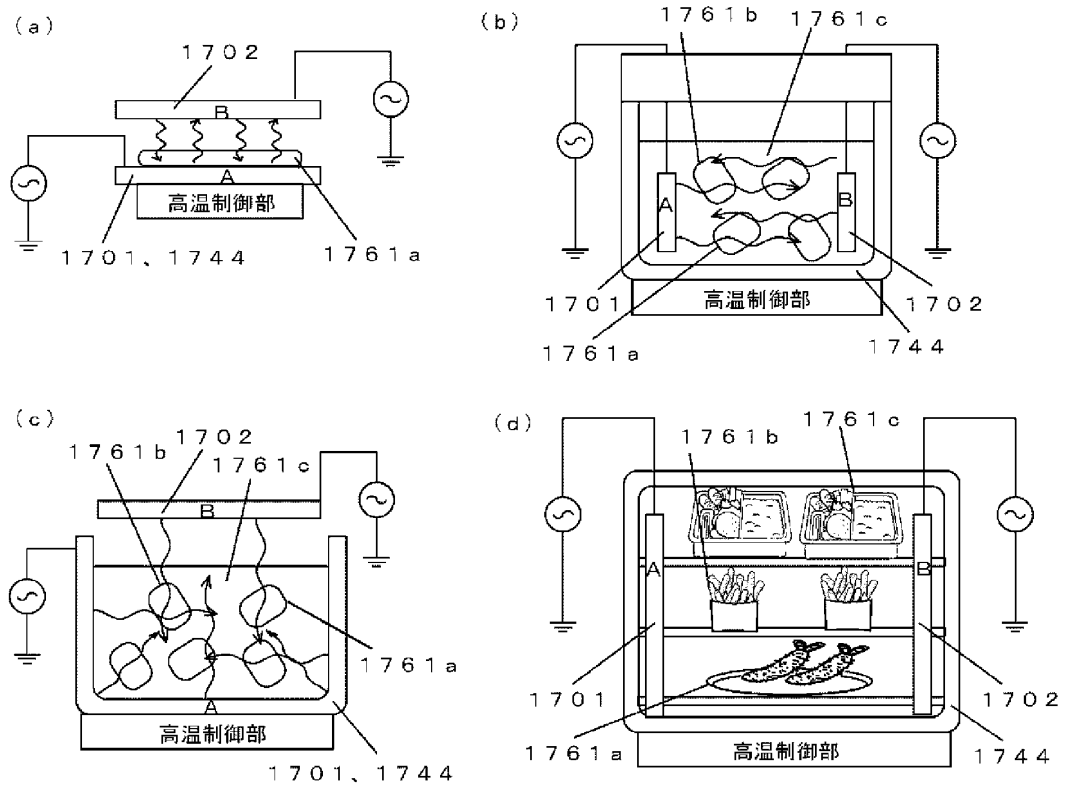
| 位相差 $\pi/2$ | 第一周波数 100kHz | 第二周波数 150kHz | 評価結果 73点 (+1) |
|-------------|--------------|--------------|---------------|
|-------------|--------------|--------------|---------------|



[図34F]



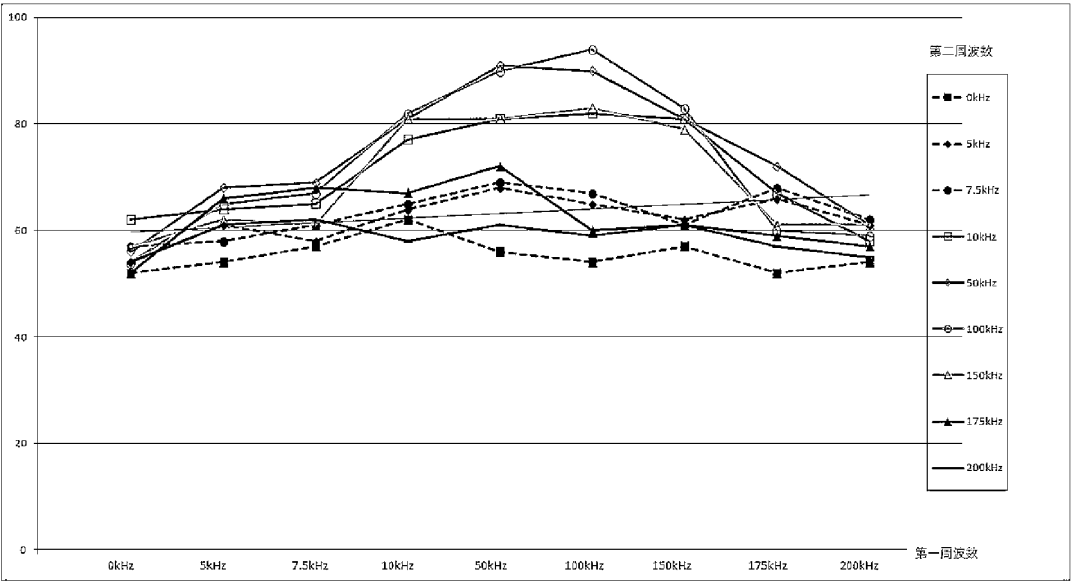
[図35A]



[図35B]

| 位相差 0 |        | 第一周波数 |      |        |       |       |        |        |        |        |
|-------|--------|-------|------|--------|-------|-------|--------|--------|--------|--------|
|       |        | 0kHz  | 5kHz | 7.5kHz | 10kHz | 50kHz | 100kHz | 150kHz | 175kHz | 200kHz |
| 第二周波数 | 0kHz   | 52    | 54   | 57     | 62    | 56    | 54     | 57     | 52     | 54     |
|       | 5kHz   | 54    | 61   | 58     | 64    | 68    | 65     | 62     | 66     | 61     |
|       | 7.5kHz | 57    | 58   | 61     | 65    | 69    | 67     | 61     | 68     | 62     |
|       | 10kHz  | 62    | 64   | 65     | 77    | 81    | 82     | 81     | 67     | 58     |
|       | 50kHz  | 56    | 68   | 69     | 81    | 91    | 90     | 81     | 72     | 61     |
|       | 100kHz | 54    | 65   | 67     | 82    | 90    | 94     | 83     | 60     | 59     |
|       | 150kHz | 57    | 62   | 61     | 81    | 81    | 83     | 79     | 61     | 61     |
|       | 175kHz | 52    | 66   | 68     | 67    | 72    | 60     | 61     | 59     | 57     |
|       | 200kHz | 54    | 61   | 62     | 58    | 61    | 59     | 61     | 57     | 55     |

位相差  $\pi/2$       第一周波数 100kHz      第二周波数 150kHz      評価結果 84点(+1)



[図35C]

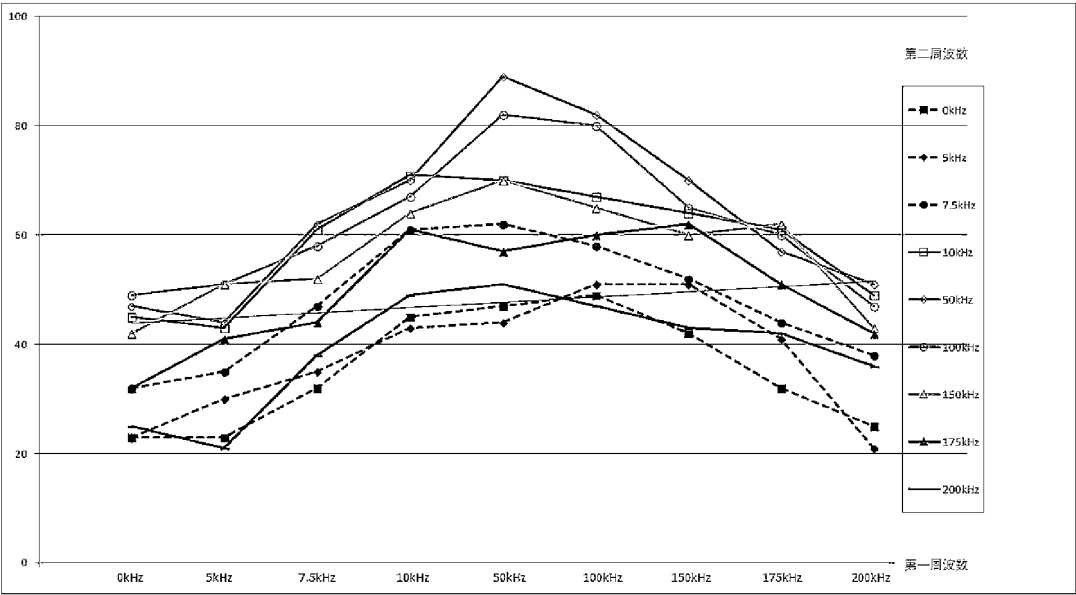
| 位相差 0 |        | 第一周波数 |      |        |       |       |        |        |        |        |  |
|-------|--------|-------|------|--------|-------|-------|--------|--------|--------|--------|--|
|       |        | 0kHz  | 5kHz | 7.5kHz | 10kHz | 50kHz | 100kHz | 150kHz | 175kHz | 200kHz |  |
| 第二周波数 | 0kHz   | 23    | 23   | 32     | 45    | 47    | 49     | 42     | 32     | 25     |  |
|       | 5kHz   | 23    | 30   | 35     | 43    | 44    | 51     | 51     | 41     | 21     |  |
|       | 7.5kHz | 32    | 35   | 47     | 61    | 62    | 58     | 52     | 44     | 38     |  |
|       | 10kHz  | 45    | 43   | 61     | 71    | 70    | 67     | 64     | 61     | 49     |  |
|       | 50kHz  | 47    | 44   | 62     | 70    | 89    | 82     | 70     | 57     | 51     |  |
|       | 100kHz | 49    | 51   | 58     | 67    | 82    | 80     | 65     | 60     | 47     |  |
|       | 150kHz | 42    | 51   | 52     | 64    | 70    | 65     | 60     | 62     | 43     |  |
|       | 175kHz | 32    | 41   | 44     | 61    | 57    | 60     | 62     | 51     | 42     |  |
|       | 200kHz | 25    | 21   | 38     | 49    | 51    | 47     | 43     | 42     | 36     |  |

位相差  $\pi/2$

第一周波数 100kHz

第二周波数 150kHz

評価結果 65点 (+1)



[図35D]

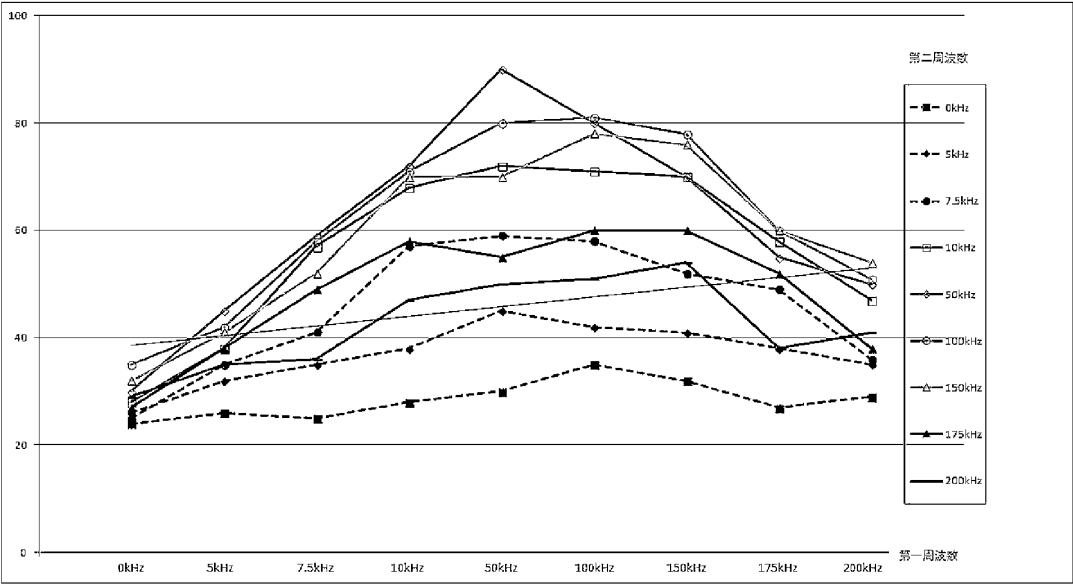
| 位相差 0 |        | 第一周波数 |      |        |       |       |        |        |        |        |  |
|-------|--------|-------|------|--------|-------|-------|--------|--------|--------|--------|--|
|       |        | 0kHz  | 5kHz | 7.5kHz | 10kHz | 50kHz | 100kHz | 150kHz | 175kHz | 200kHz |  |
| 第二周波数 | 0kHz   | 24    | 26   | 25     | 28    | 30    | 35     | 32     | 27     | 29     |  |
|       | 5kHz   | 26    | 32   | 35     | 38    | 45    | 42     | 41     | 38     | 35     |  |
|       | 7.5kHz | 25    | 35   | 41     | 57    | 59    | 58     | 52     | 49     | 36     |  |
|       | 10kHz  | 28    | 38   | 57     | 68    | 72    | 71     | 70     | 58     | 47     |  |
|       | 50kHz  | 30    | 45   | 59     | 72    | 90    | 80     | 70     | 55     | 50     |  |
|       | 100kHz | 35    | 42   | 58     | 71    | 80    | 81     | 78     | 60     | 51     |  |
|       | 150kHz | 32    | 41   | 52     | 70    | 70    | 78     | 76     | 60     | 54     |  |
|       | 175kHz | 27    | 38   | 49     | 58    | 55    | 60     | 60     | 52     | 38     |  |
|       | 200kHz | 29    | 35   | 36     | 47    | 50    | 51     | 54     | 38     | 41     |  |

位相差  $\pi/2$

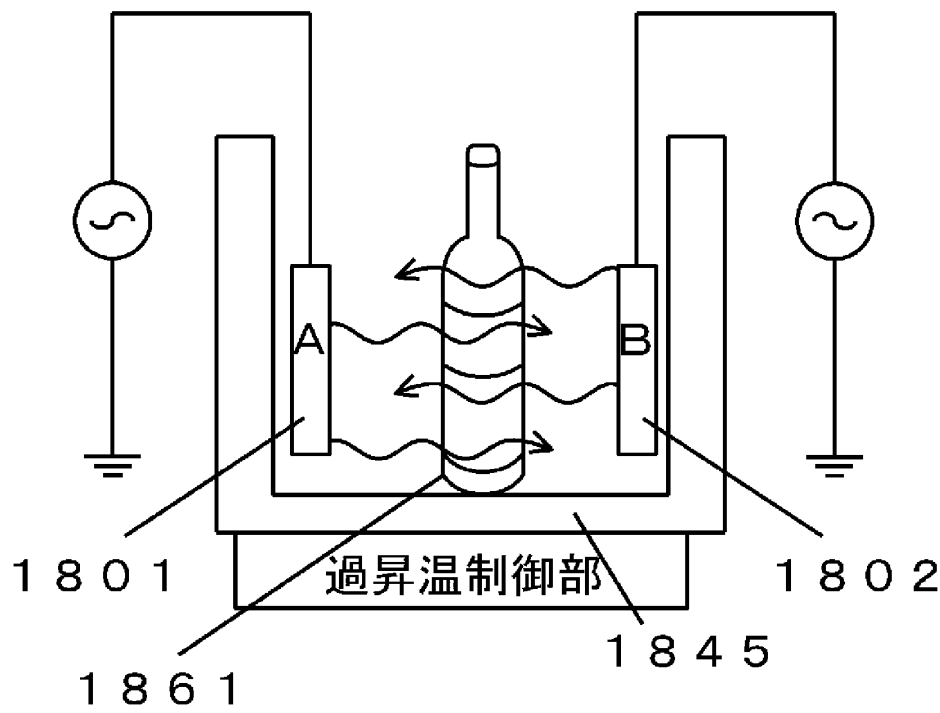
第一周波数 100kHz

第二周波数 150kHz

評価結果 79点 (+1)



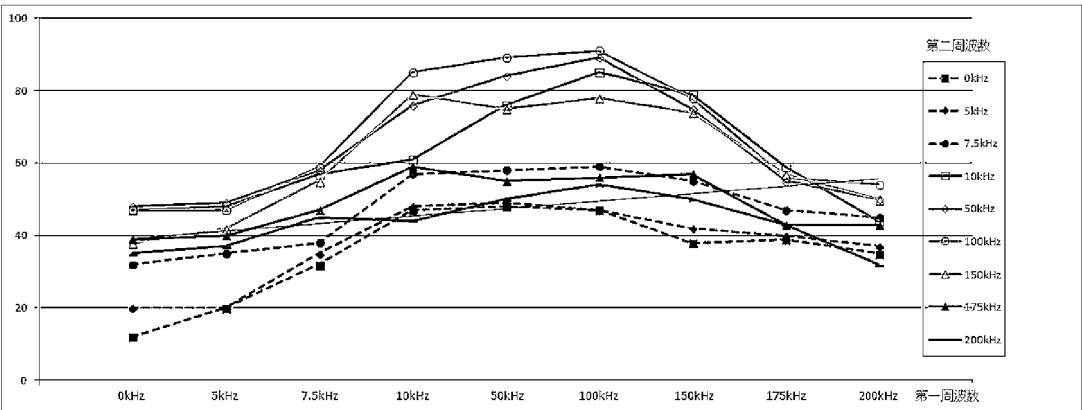
[図36A]



[図36B]

| 位相差 $\theta$ | 第一周波数  |      |        |       |       |        |        |        |        |    |
|--------------|--------|------|--------|-------|-------|--------|--------|--------|--------|----|
|              | 0kHz   | 5kHz | 7.5kHz | 10kHz | 50kHz | 100kHz | 150kHz | 175kHz | 200kHz |    |
| 第二周波数        | 0kHz   | 12   | 20     | 32    | 47    | 48     | 47     | 38     | 39     | 35 |
|              | 5kHz   | 20   | 20     | 35    | 48    | 49     | 47     | 42     | 40     | 37 |
|              | 7.5kHz | 32   | 35     | 38    | 57    | 58     | 59     | 55     | 47     | 45 |
|              | 10kHz  | 47   | 48     | 57    | 61    | 76     | 85     | 79     | 59     | 44 |
|              | 50kHz  | 48   | 48     | 58    | 76    | 84     | 89     | 75     | 55     | 50 |
|              | 100kHz | 47   | 47     | 59    | 85    | 89     | 91     | 78     | 56     | 54 |
|              | 150kHz | 38   | 42     | 55    | 79    | 75     | 78     | 74     | 57     | 50 |
|              | 175kHz | 39   | 40     | 47    | 59    | 55     | 56     | 57     | 43     | 43 |
|              | 200kHz | 35   | 37     | 45    | 44    | 50     | 54     | 50     | 43     | 32 |

位相差  $\pi/2$  第一周波数 100kHz 第二周波数 150kHz 評価結果 79点(+1)



[図36C]

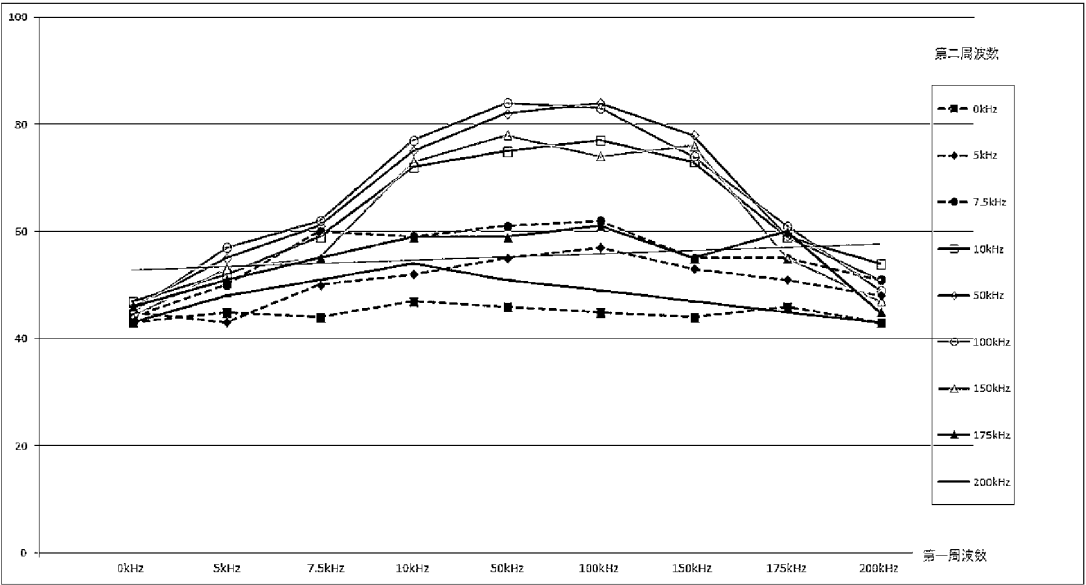
| 位相差 0 |        | 第一周波数 |      |        |       |       |        |        |        |        |
|-------|--------|-------|------|--------|-------|-------|--------|--------|--------|--------|
|       |        | 0kHz  | 5kHz | 7.5kHz | 10kHz | 50kHz | 100kHz | 150kHz | 175kHz | 200kHz |
| 第二周波数 | 0kHz   | 43    | 45   | 44     | 47    | 46    | 45     | 44     | 46     | 43     |
|       | 5kHz   | 45    | 43   | 50     | 52    | 55    | 57     | 53     | 51     | 48     |
|       | 7.5kHz | 44    | 50   | 60     | 59    | 61    | 62     | 55     | 55     | 51     |
|       | 10kHz  | 47    | 52   | 59     | 72    | 75    | 77     | 73     | 59     | 54     |
|       | 50kHz  | 46    | 55   | 61     | 75    | 82    | 84     | 78     | 59     | 51     |
|       | 100kHz | 45    | 57   | 62     | 77    | 84    | 83     | 74     | 61     | 49     |
|       | 150kHz | 44    | 53   | 55     | 73    | 78    | 74     | 76     | 55     | 47     |
|       | 175kHz | 46    | 51   | 55     | 59    | 59    | 61     | 55     | 60     | 45     |
|       | 200kHz | 43    | 48   | 51     | 54    | 51    | 49     | 47     | 45     | 43     |

位相差  $\pi/2$

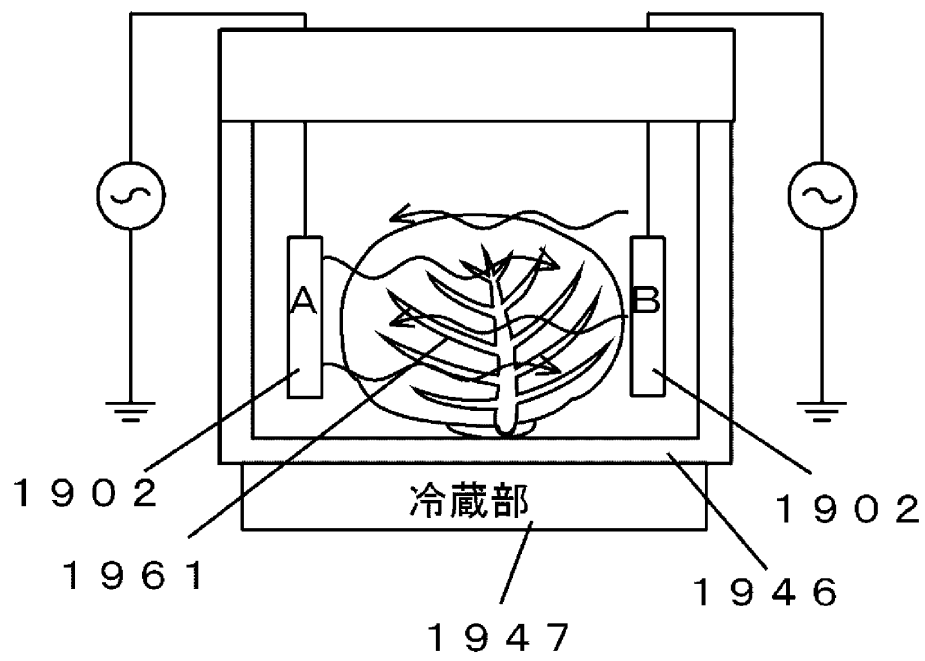
第一周波数 100kHz

第二周波数 150kHz

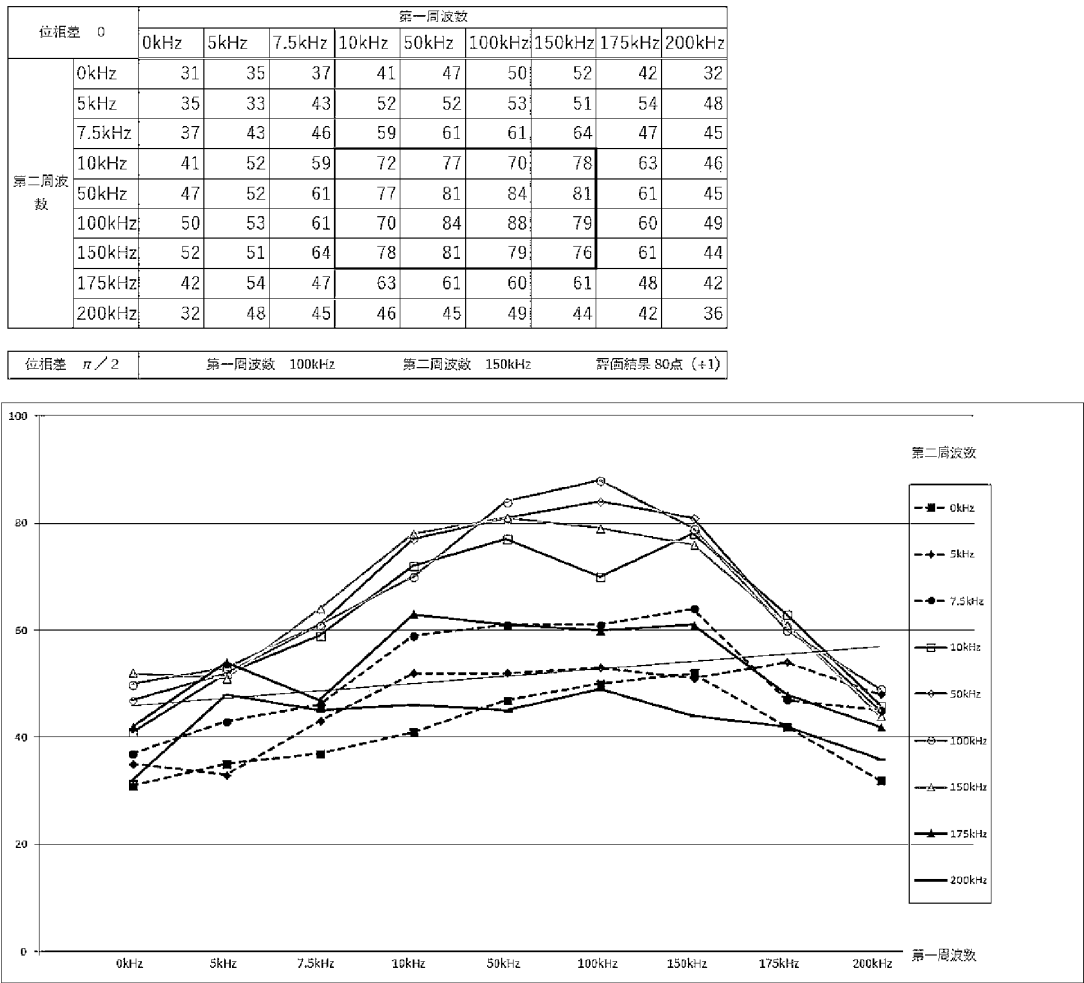
評価結果 75点 (+1)



[図37A]



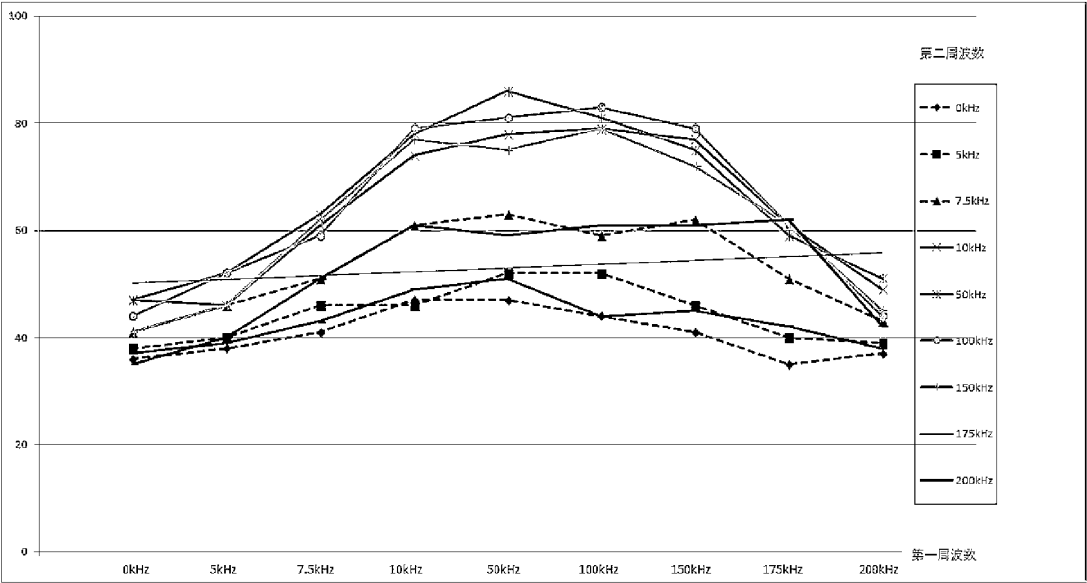
[図37B]



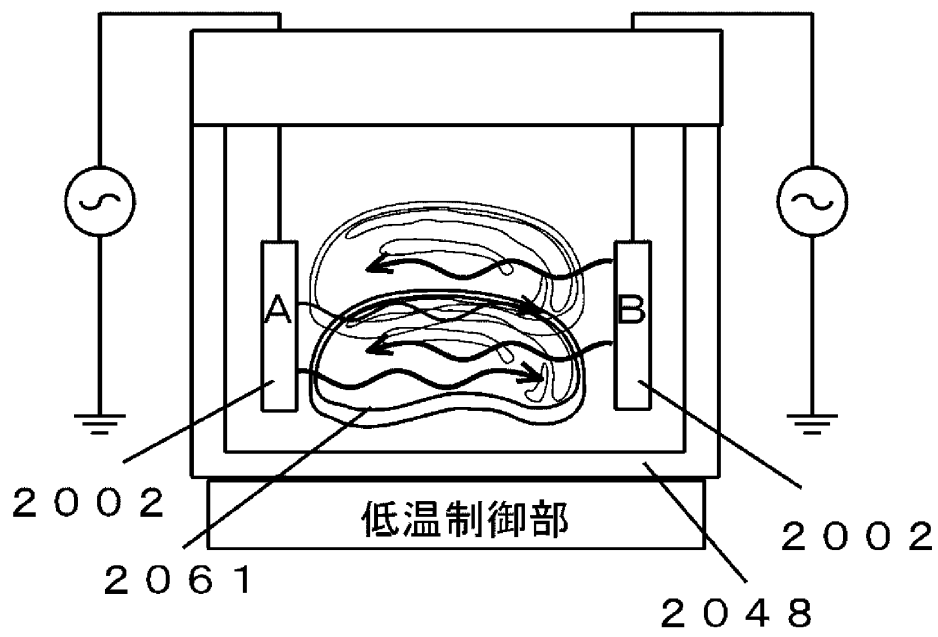
[図37C]

| 位相差 0 |        | 第一周波数 |      |        |       |       |        |        |        |        |
|-------|--------|-------|------|--------|-------|-------|--------|--------|--------|--------|
|       |        | 0kHz  | 5kHz | 7.5kHz | 10kHz | 50kHz | 100kHz | 150kHz | 175kHz | 200kHz |
| 第二周波数 | 0kHz   | 36    | 38   | 41     | 47    | 47    | 44     | 41     | 35     | 37     |
|       | 5kHz   | 38    | 40   | 46     | 46    | 52    | 52     | 46     | 40     | 39     |
|       | 7.5kHz | 41    | 46   | 51     | 61    | 63    | 59     | 62     | 51     | 43     |
|       | 10kHz  | 47    | 46   | 61     | 74    | 78    | 79     | 77     | 61     | 49     |
|       | 50kHz  | 47    | 52   | 63     | 78    | 86    | 81     | 75     | 59     | 51     |
|       | 100kHz | 44    | 52   | 59     | 79    | 81    | 83     | 79     | 61     | 44     |
|       | 150kHz | 41    | 46   | 62     | 77    | 75    | 79     | 72     | 61     | 45     |
|       | 175kHz | 35    | 40   | 51     | 61    | 59    | 61     | 61     | 62     | 42     |
|       | 200kHz | 37    | 39   | 43     | 49    | 51    | 44     | 45     | 42     | 38     |

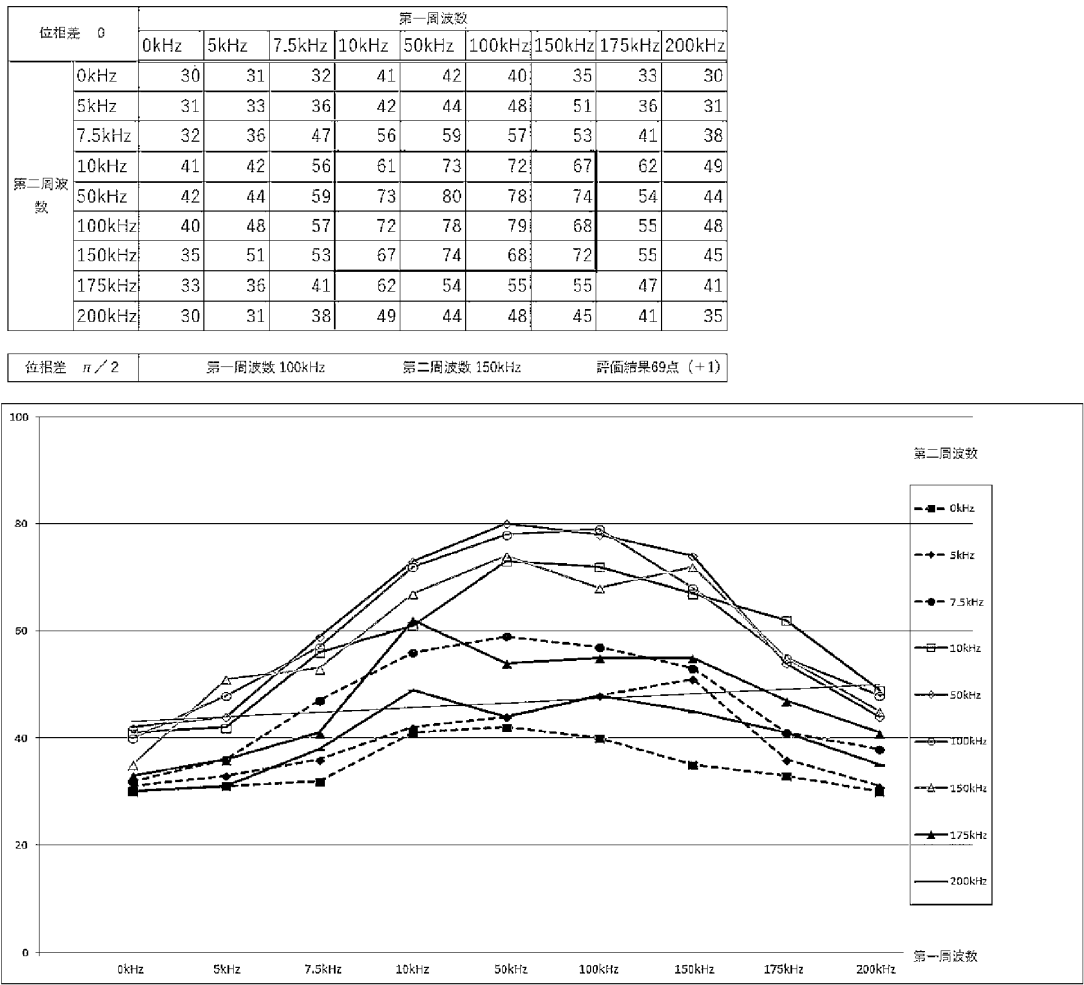
|             |              |              |               |
|-------------|--------------|--------------|---------------|
| 位相差 $\pi/2$ | 第一周波数 100kHz | 第二周波数 150kHz | 評価結果 80点 (+1) |
|-------------|--------------|--------------|---------------|



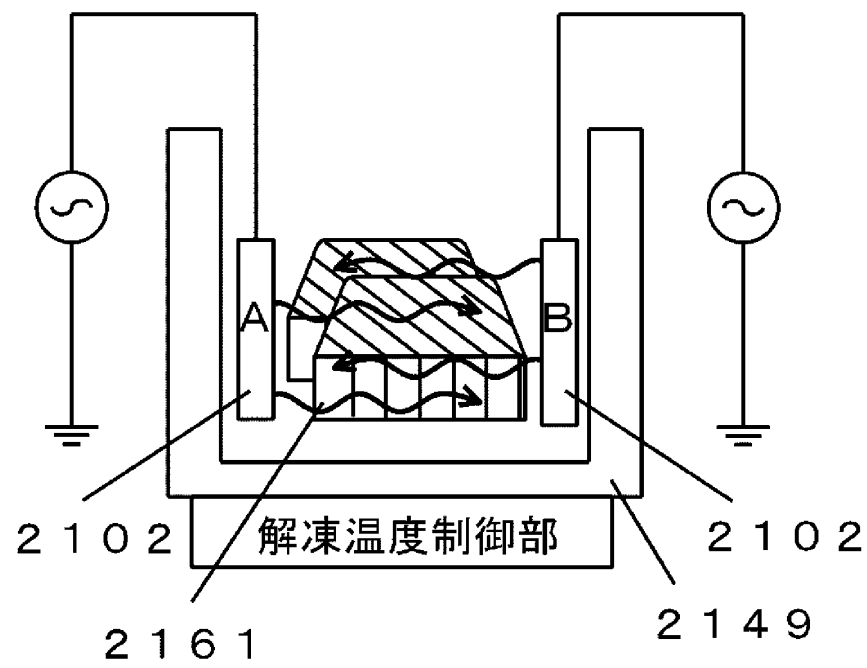
[図38A]



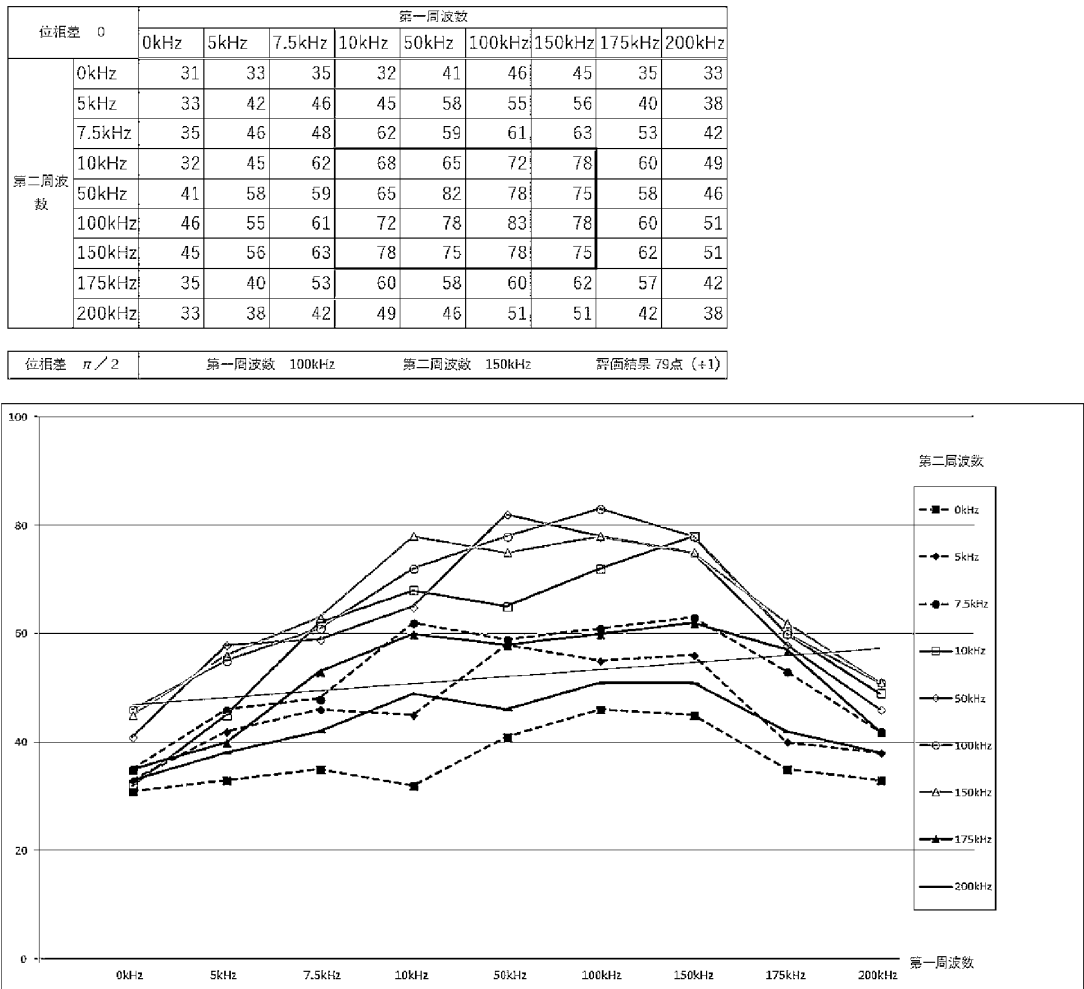
[図38B]



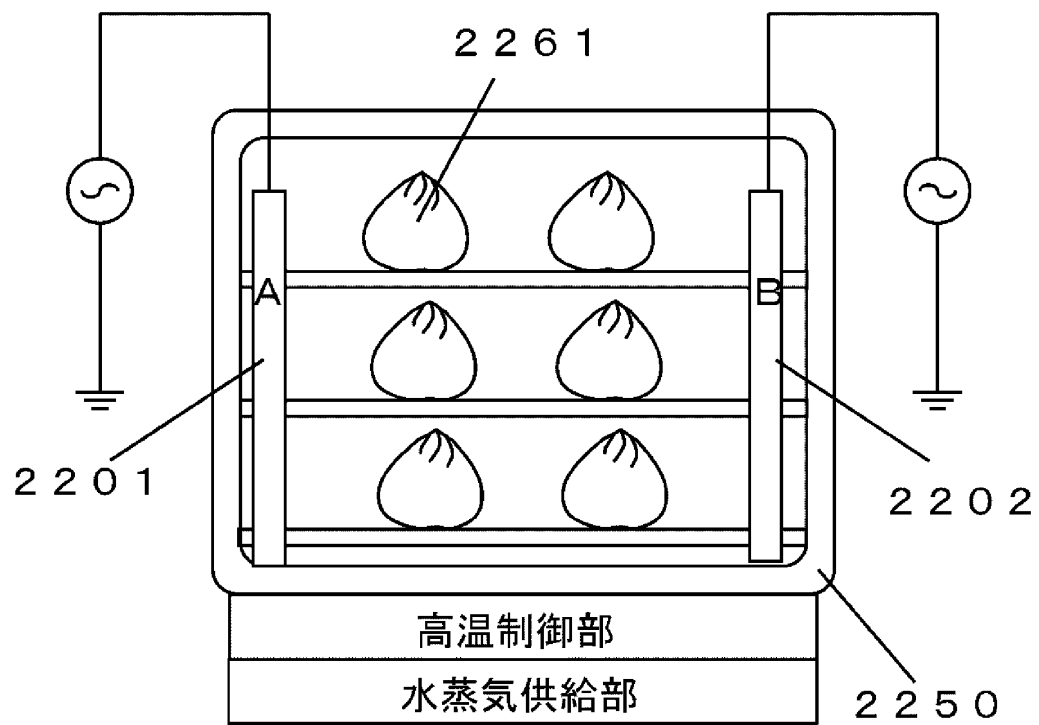
[図39A]



[図39B]



[図40A]



[図40B]

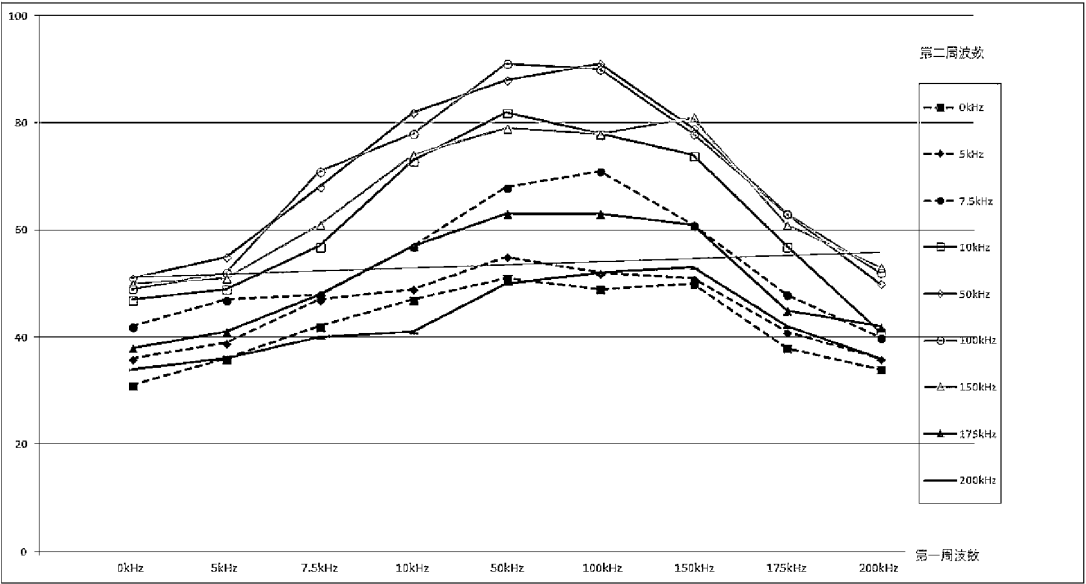
| 位相差 0 |        | 第一周波数 |      |        |       |       |        |        |        |        |  |
|-------|--------|-------|------|--------|-------|-------|--------|--------|--------|--------|--|
|       |        | 0kHz  | 5kHz | 7.5kHz | 10kHz | 50kHz | 100kHz | 150kHz | 175kHz | 200kHz |  |
| 第二周波数 | 0kHz   | 31    | 38   | 42     | 47    | 51    | 49     | 50     | 38     | 34     |  |
|       | 5kHz   | 36    | 39   | 47     | 49    | 55    | 52     | 51     | 41     | 36     |  |
|       | 7.5kHz | 42    | 47   | 48     | 57    | 68    | 71     | 61     | 48     | 40     |  |
|       | 10kHz  | 47    | 49   | 57     | 73    | 82    | 78     | 74     | 57     | 41     |  |
|       | 50kHz  | 51    | 55   | 68     | 82    | 88    | 91     | 79     | 63     | 50     |  |
|       | 100kHz | 49    | 52   | 71     | 78    | 91    | 90     | 78     | 63     | 52     |  |
|       | 150kHz | 50    | 51   | 61     | 74    | 79    | 78     | 81     | 61     | 53     |  |
|       | 175kHz | 38    | 41   | 48     | 57    | 63    | 63     | 61     | 45     | 42     |  |
|       | 200kHz | 34    | 36   | 40     | 41    | 50    | 52     | 53     | 42     | 36     |  |

位相差  $\pi/2$

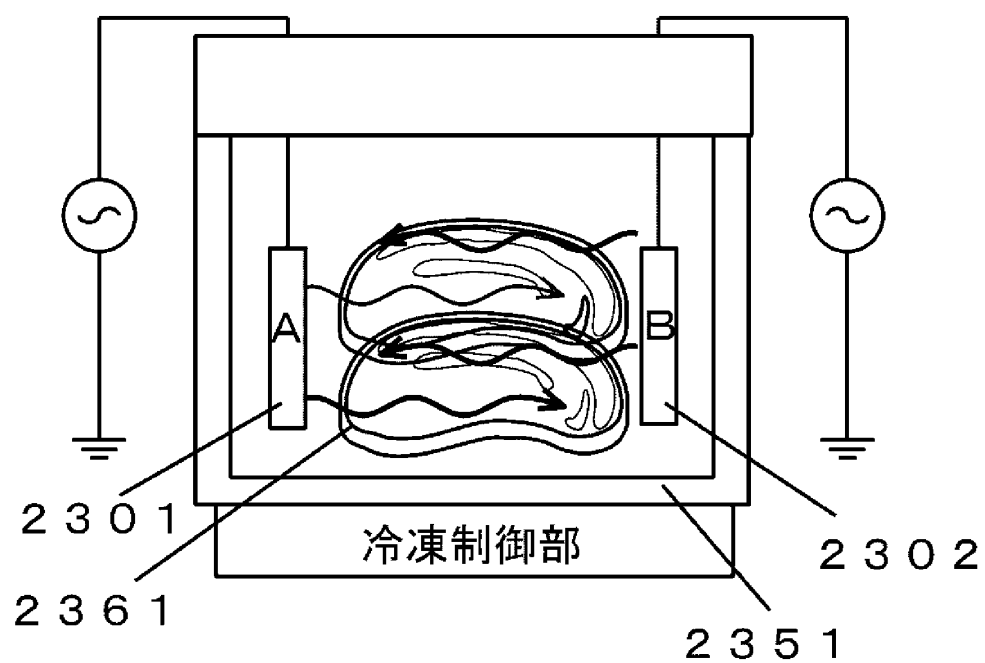
第一周波数 100kHz

第二周波数 150kHz

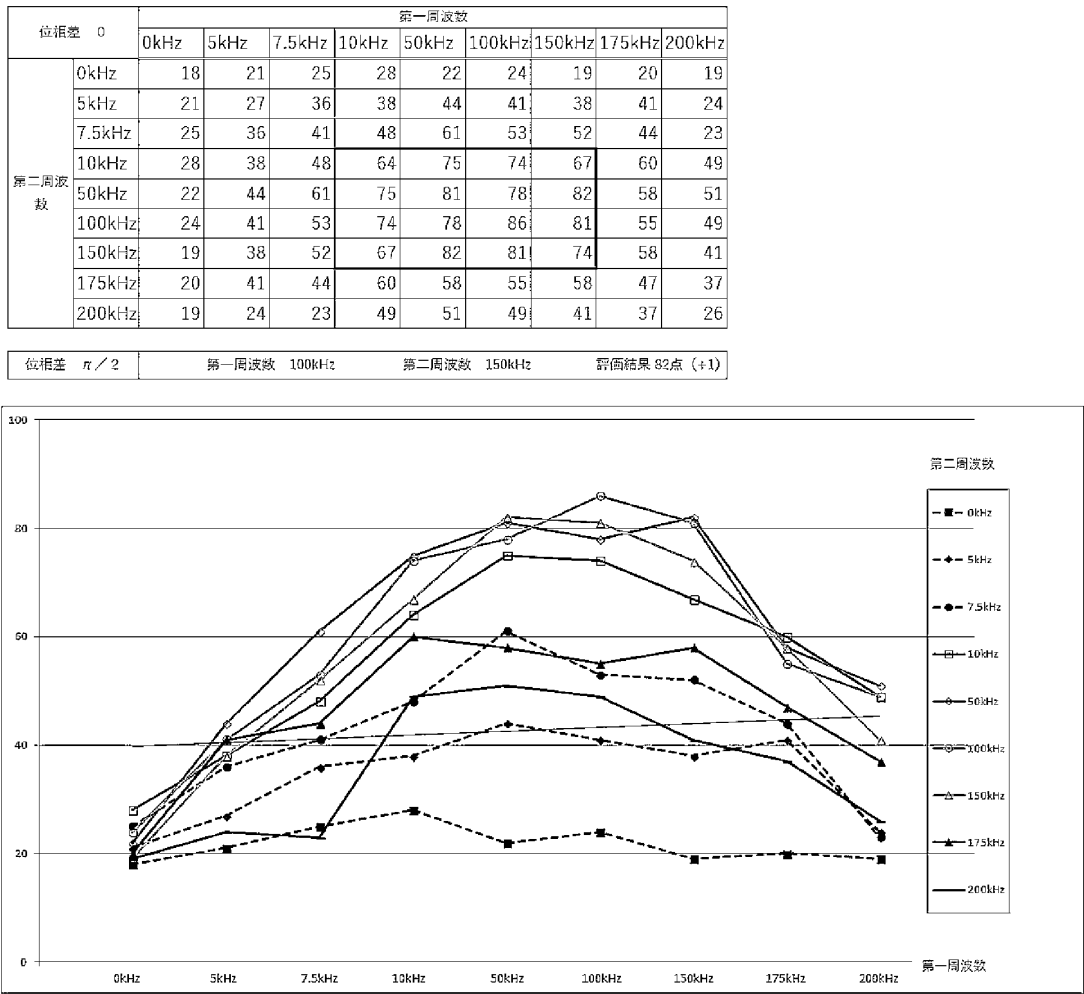
評価結果 79点 (+1)



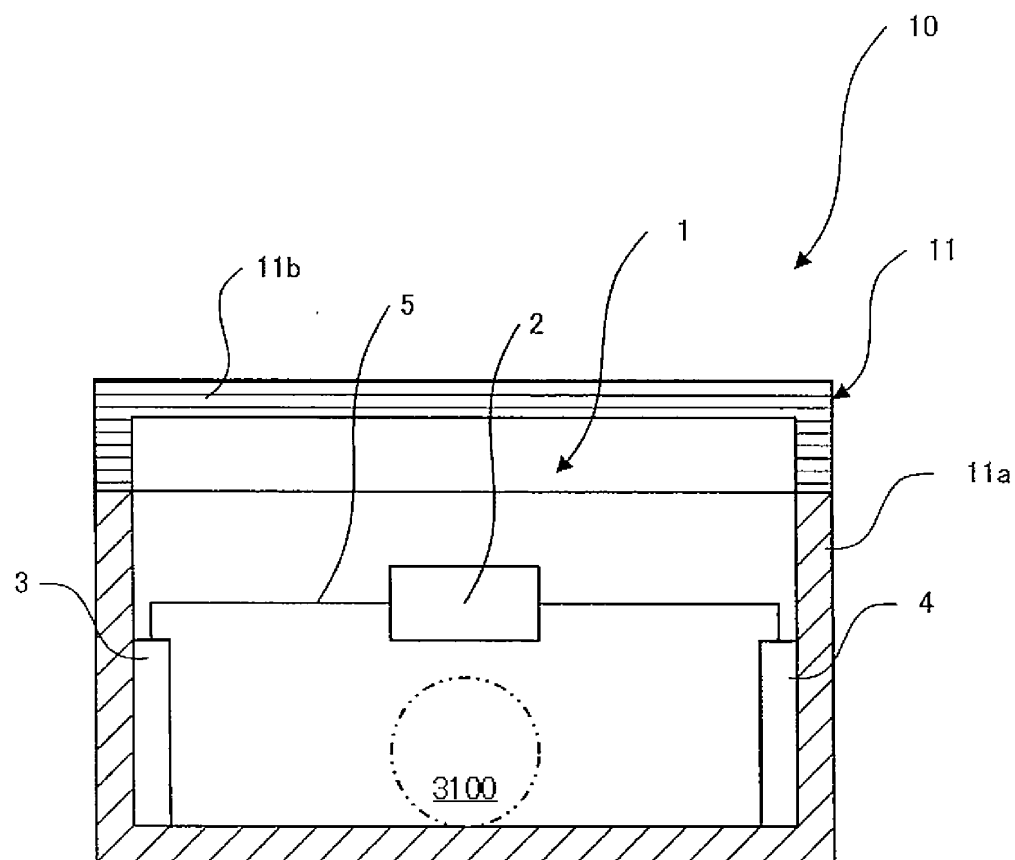
[図41A]



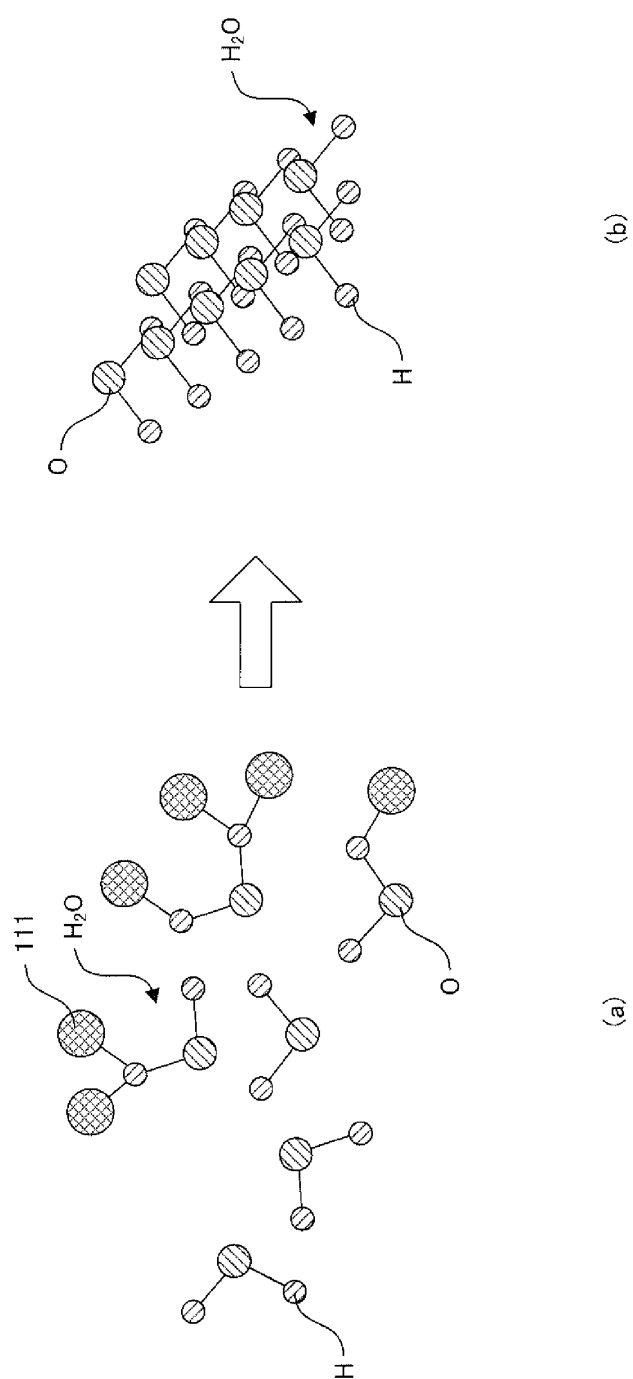
[図41B]



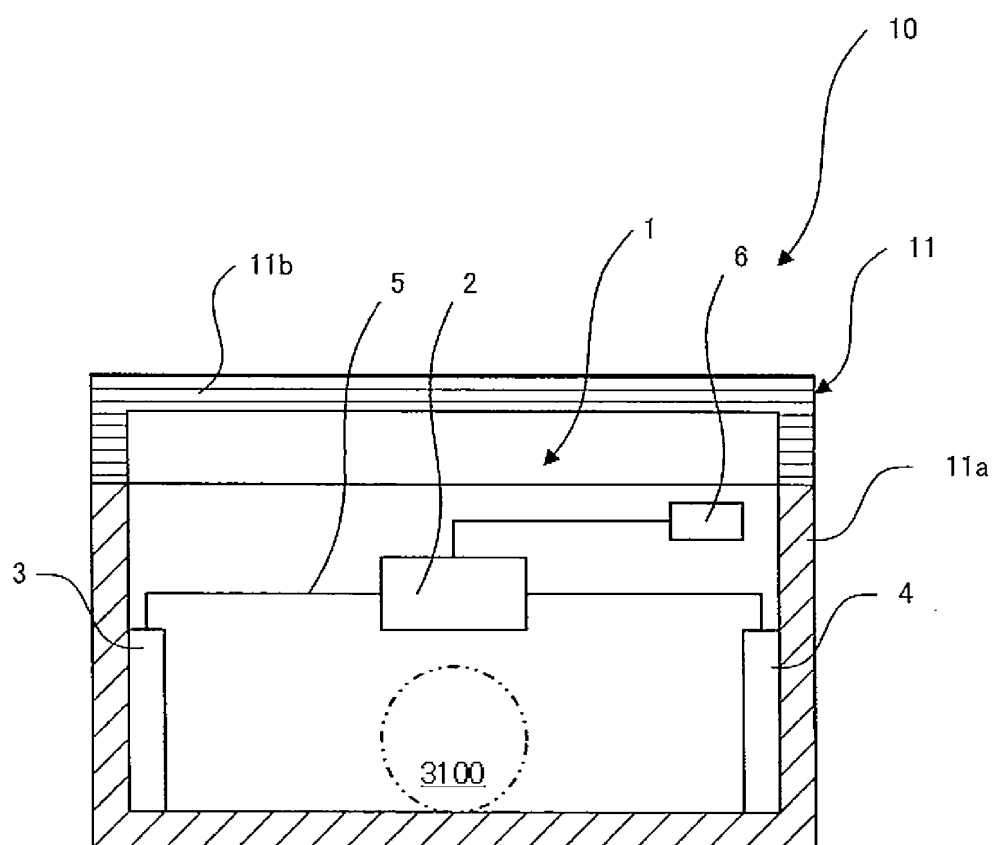
[図42]



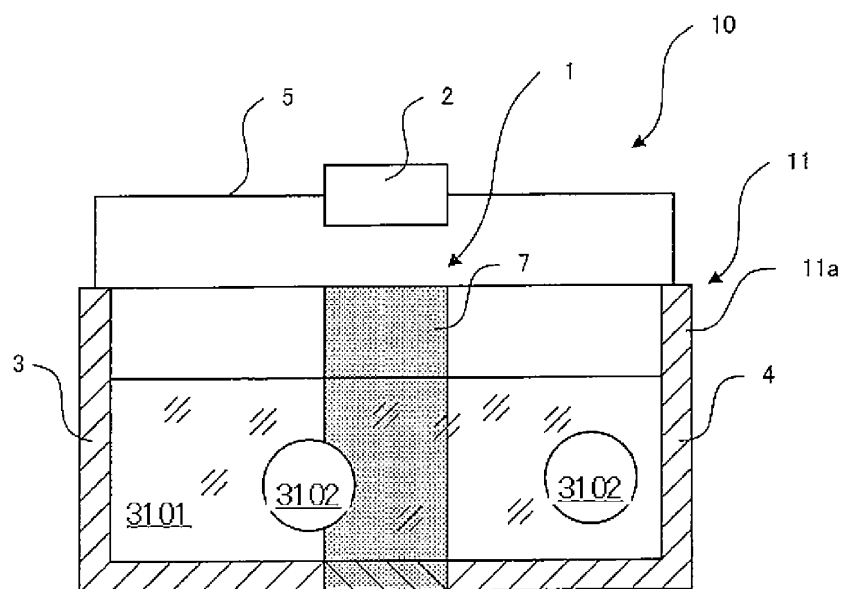
[図43]



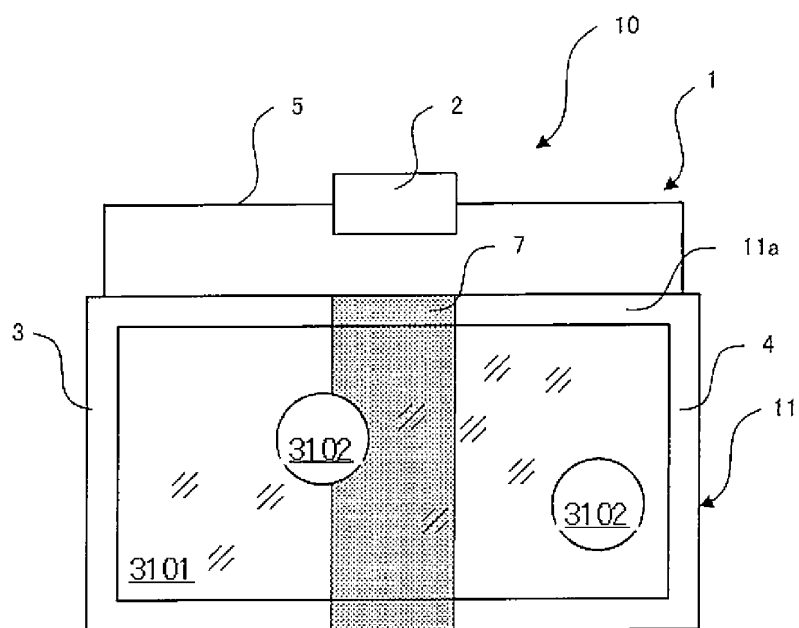
[図44]



[図45]

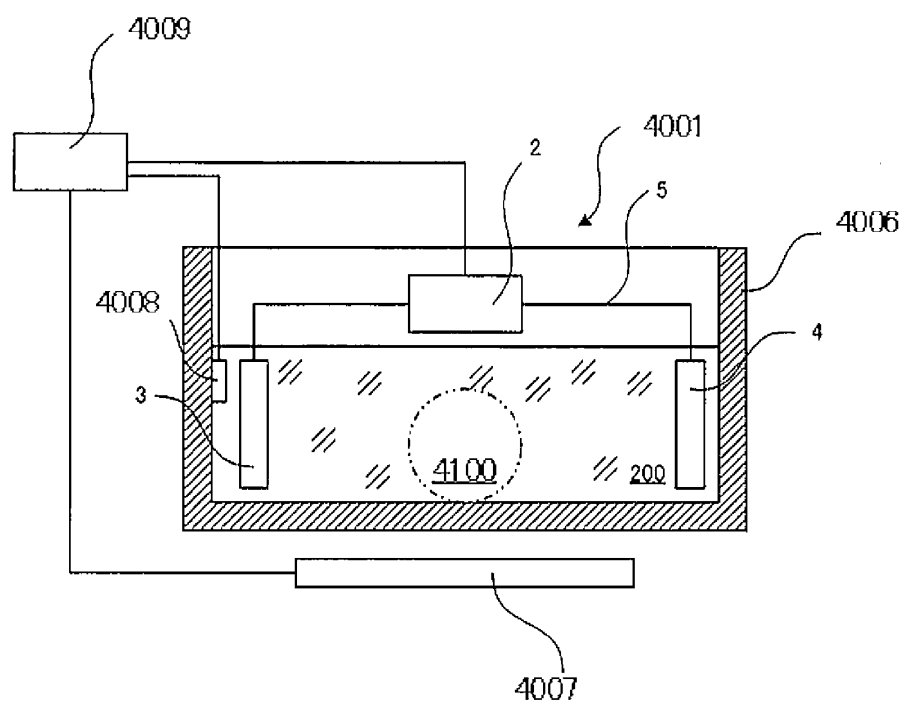


(a)

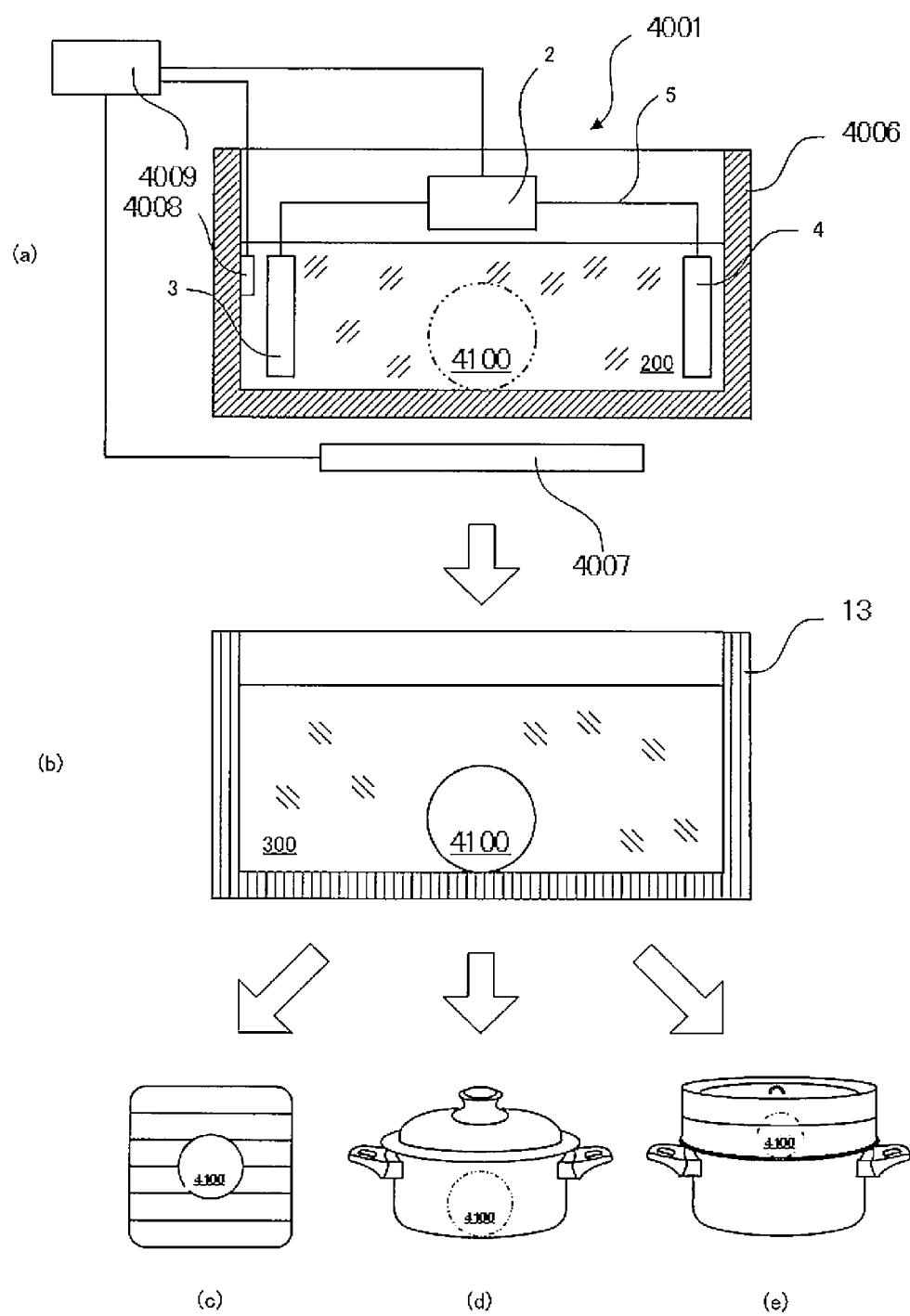


(b)

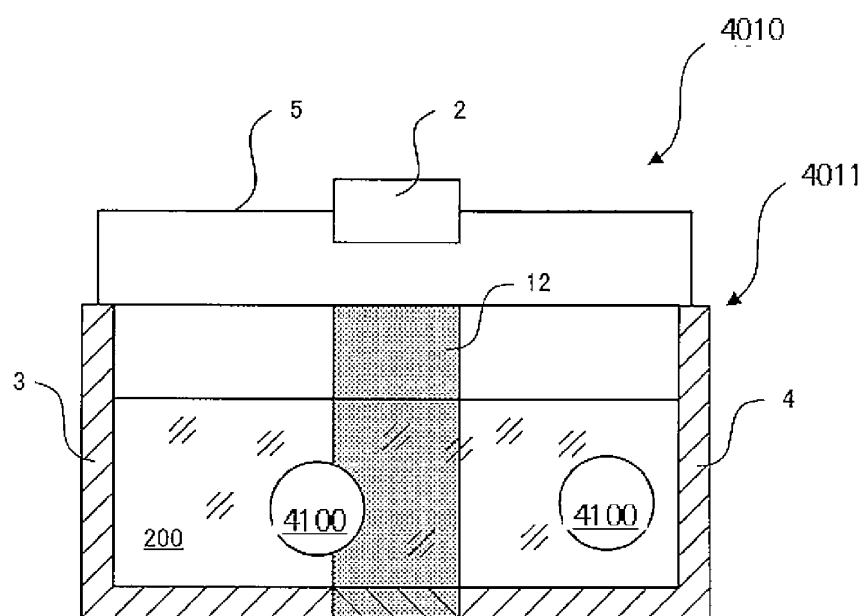
[図46]



[図47]



[図48]



(a)

