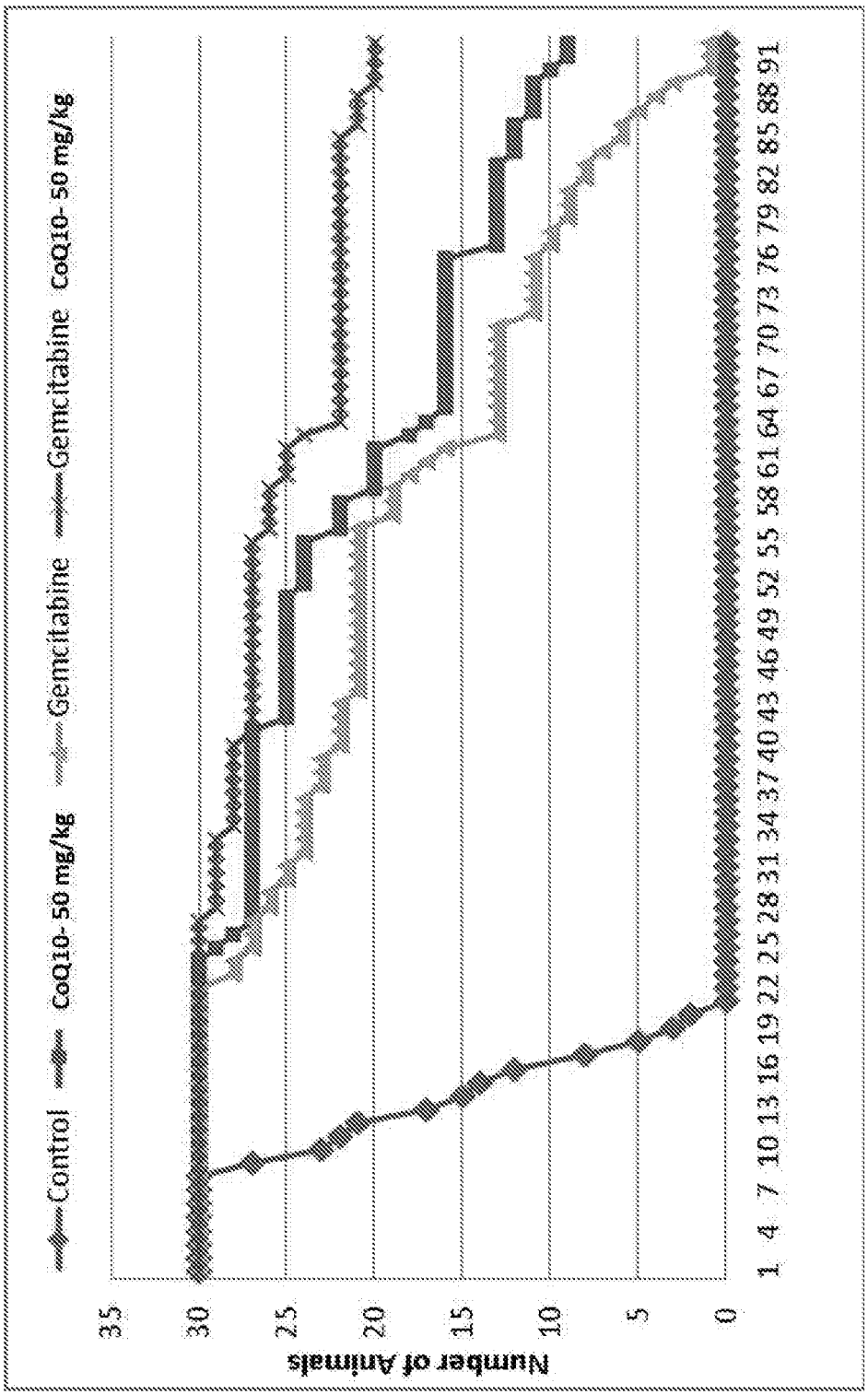
Figure 1


Control
CoQ10- 50 mg/kg
Gemcitabine
Gemcitabine CoQ10- 50 mg/kg
Number of Animals
0
5
10
15
20
25
30
35
1 4 7 10 13 16 19 22 25 28 31 34 37 40 43 46 49 52 55 58 61 64 67 70 73 76 79 82 85 88 91

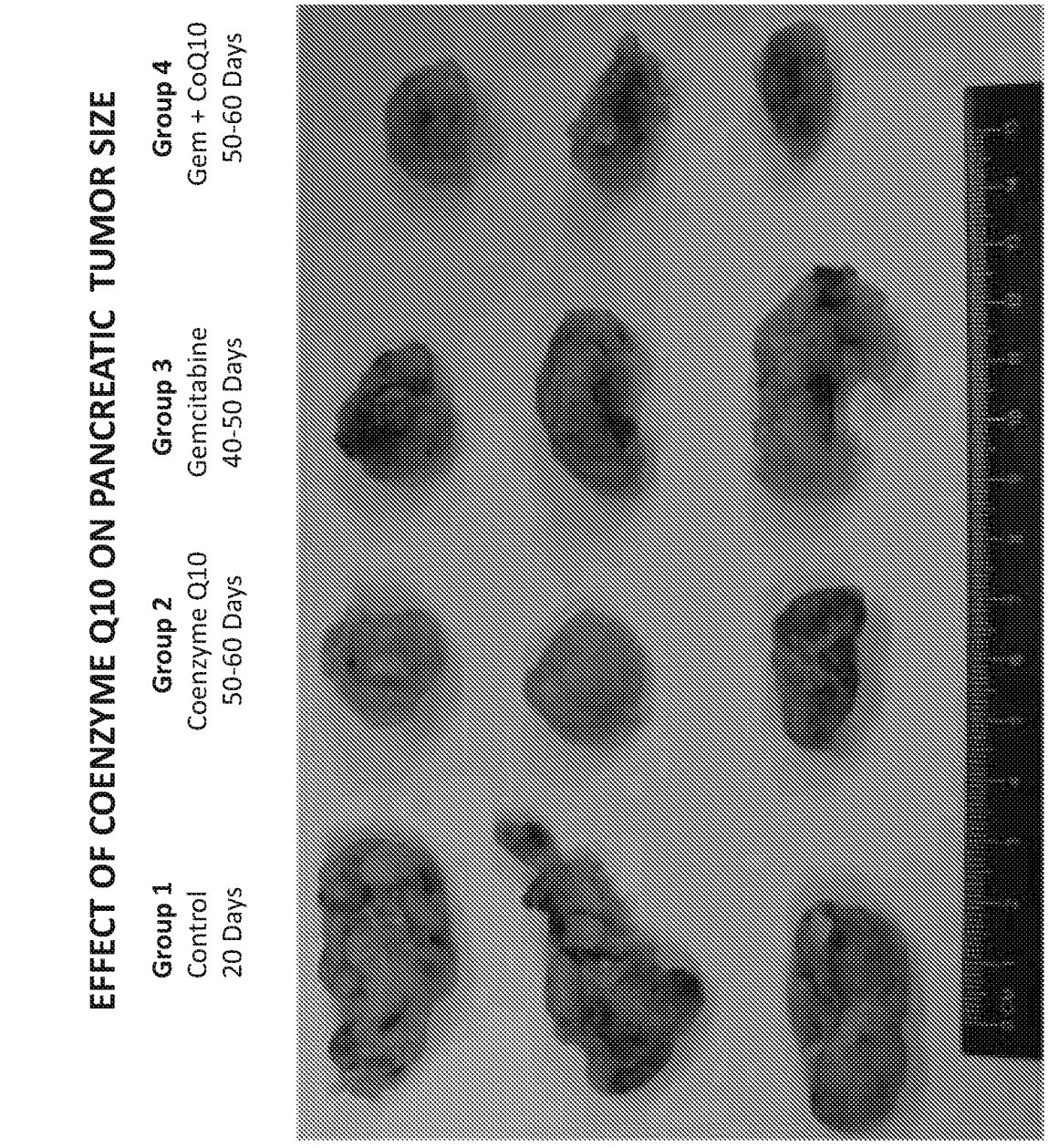

EFFECT OF COENZYME Q10 ON PANCREATIC TUMOR SIZE
Group 1
Control
20 Days
Group 2
Coenzyme Q10
50-60 Days
Group 3
Gemcitabine
40-50 Days
Group 4
Gem + CoQ10
50-60 Days

Figure 2

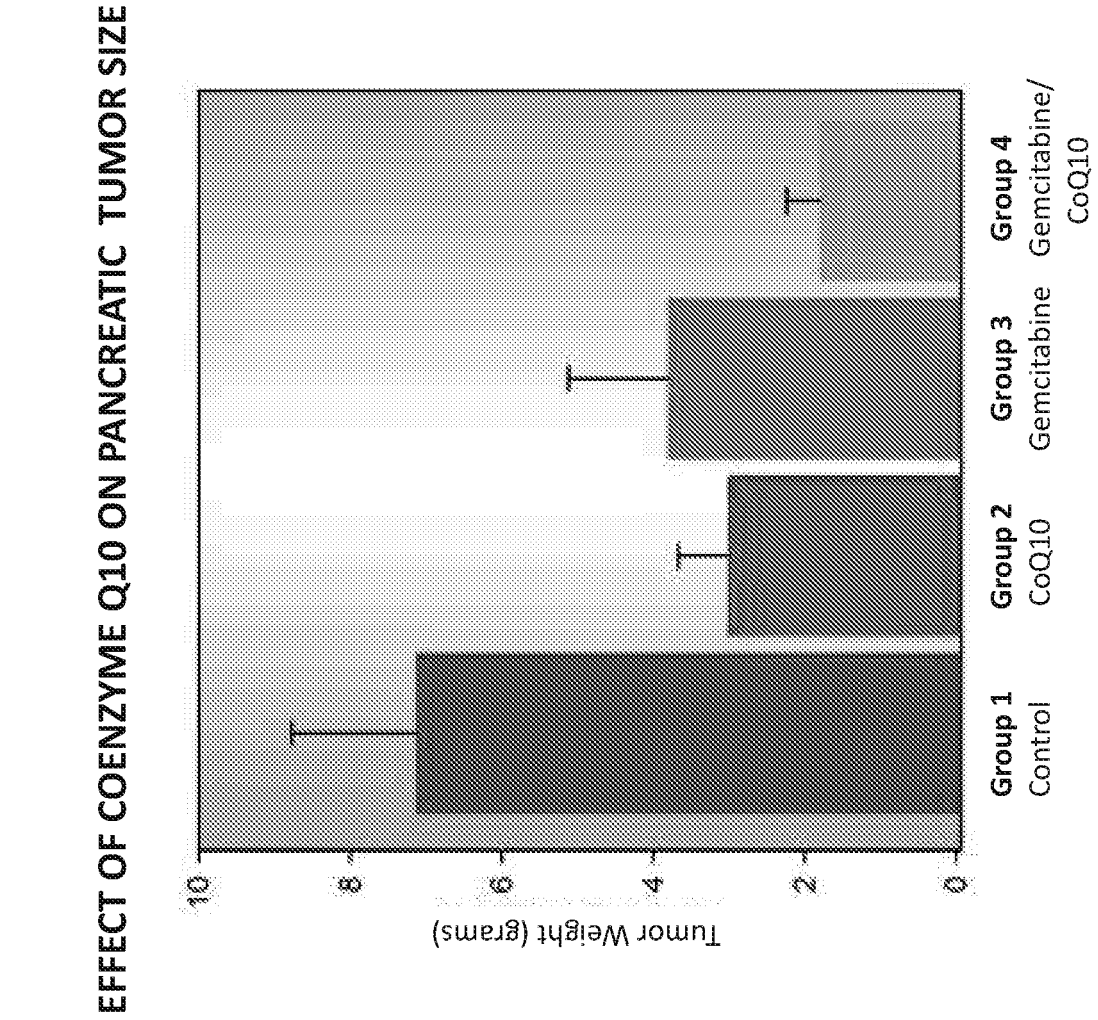

EFFECT OF COENZYME Q10 ON PANCREATIC TUMOR SIZE
Tumor Weight (grams)
0
2
4
6
8
10
Group 1 Control
Group 2 CoQ10
Group 3 Gemcitabine
Group 4 Gemcitabine/ CoQ10

Figure 3

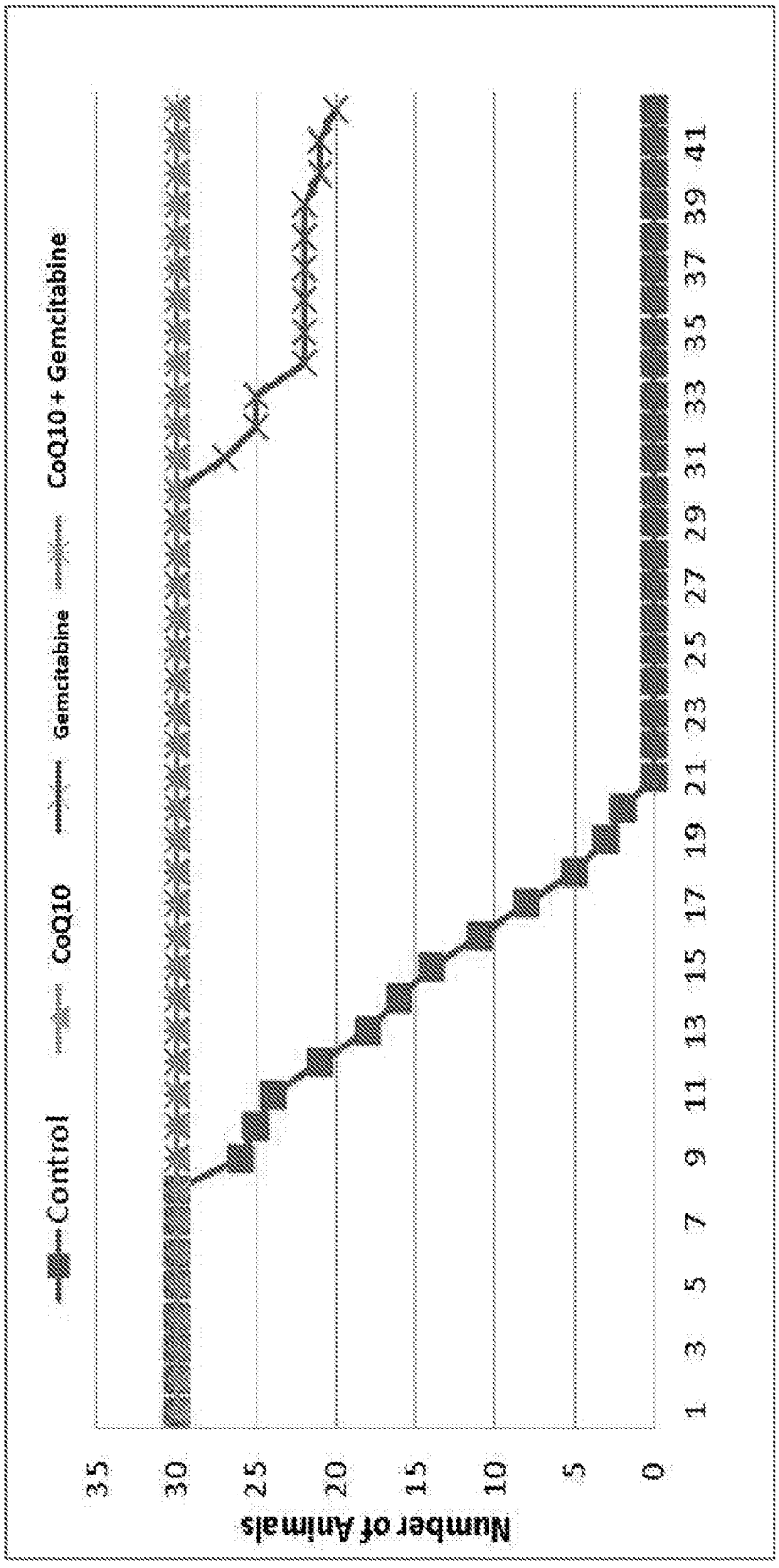

Control
CoQ10
Gemcitabine
CoQ10 + Gemcitabine
Number of Animals
0
5
10
15
20
25
30
35
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41

Figure 4

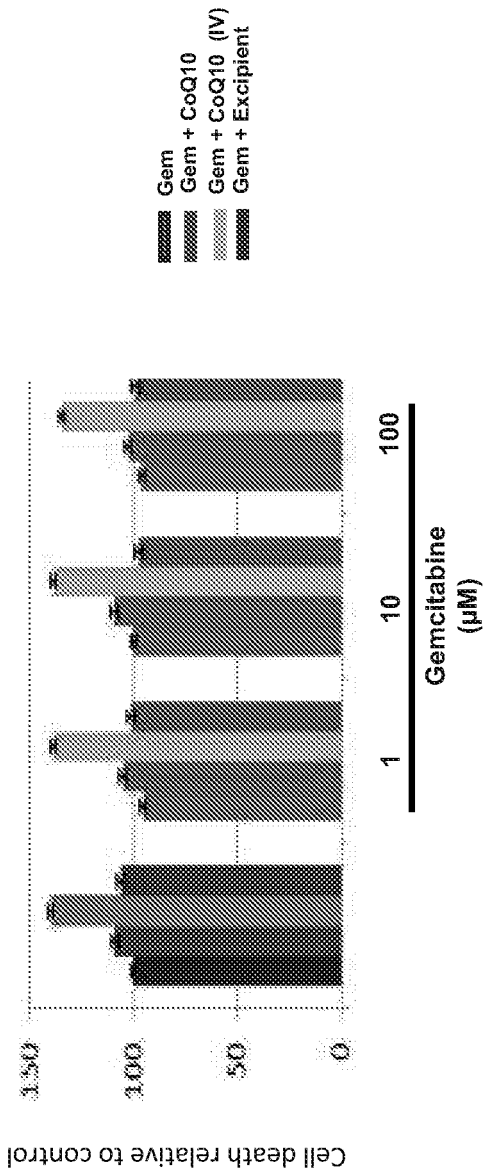


Figure 5A

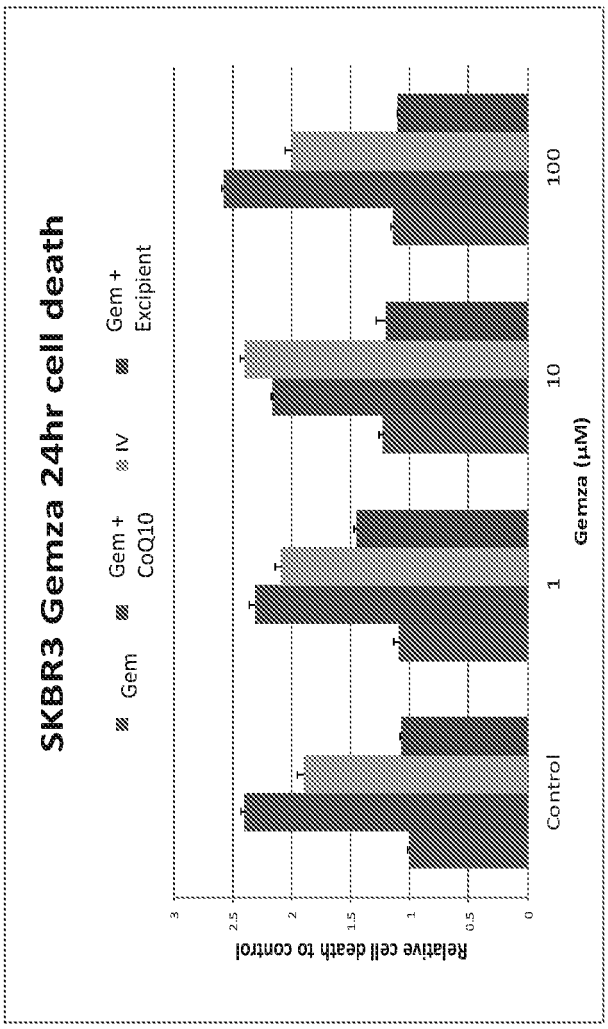


Figure 5B

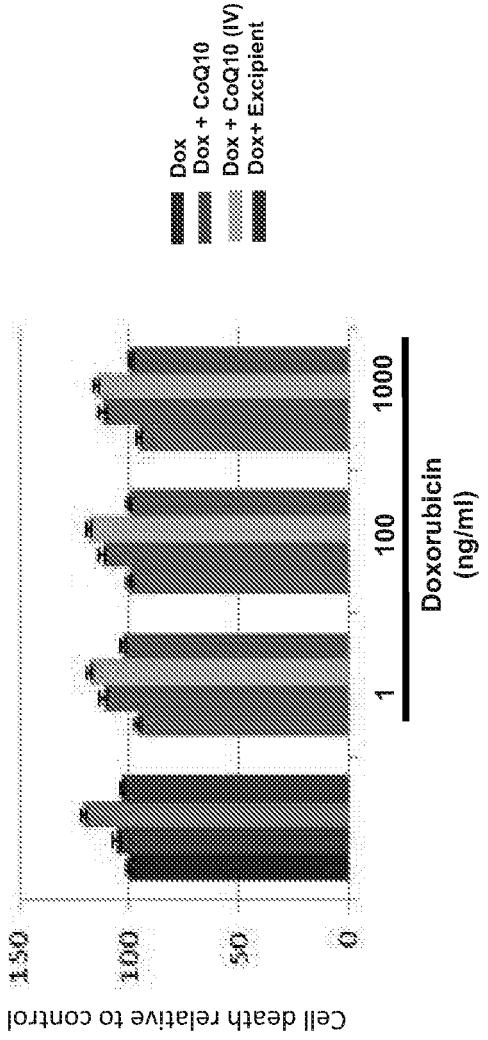


Figure 6A

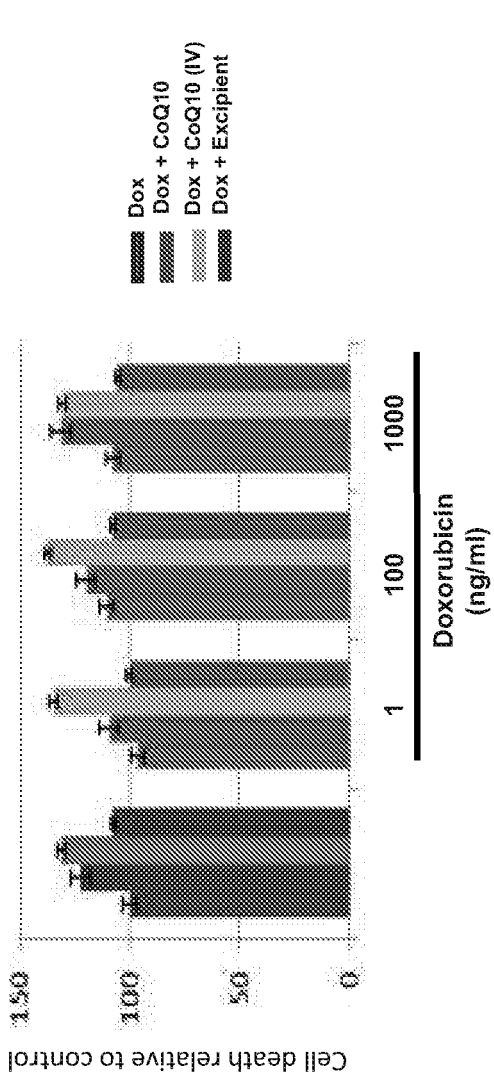


Figure 6B

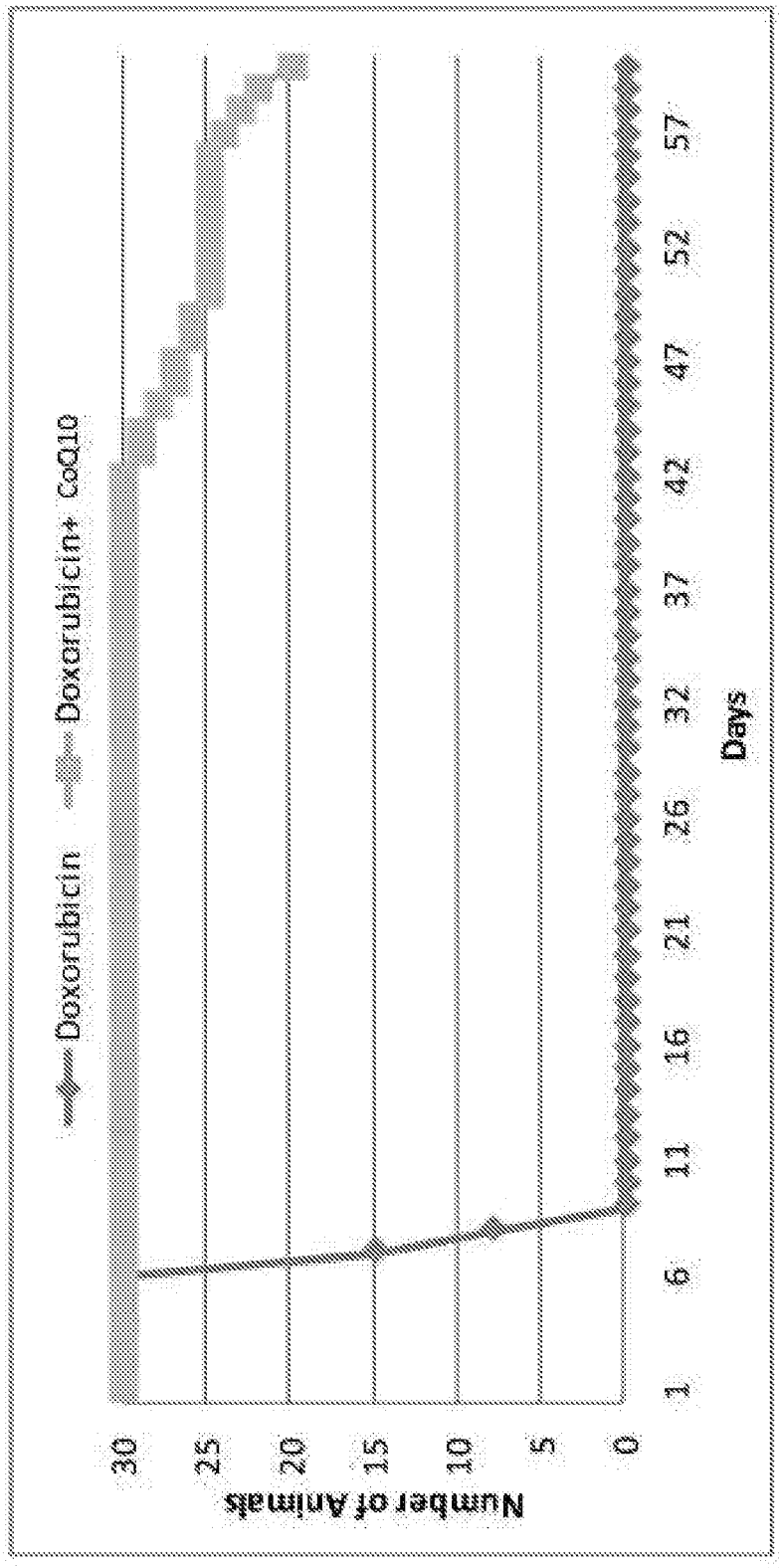

Doxorubicin
Doxorubicin+ CoQ10
Number of Animals
0
5
10
15
20
25
30
Days
1
6
11
16
21
26
32
37
42
47
52
57

Figure 7

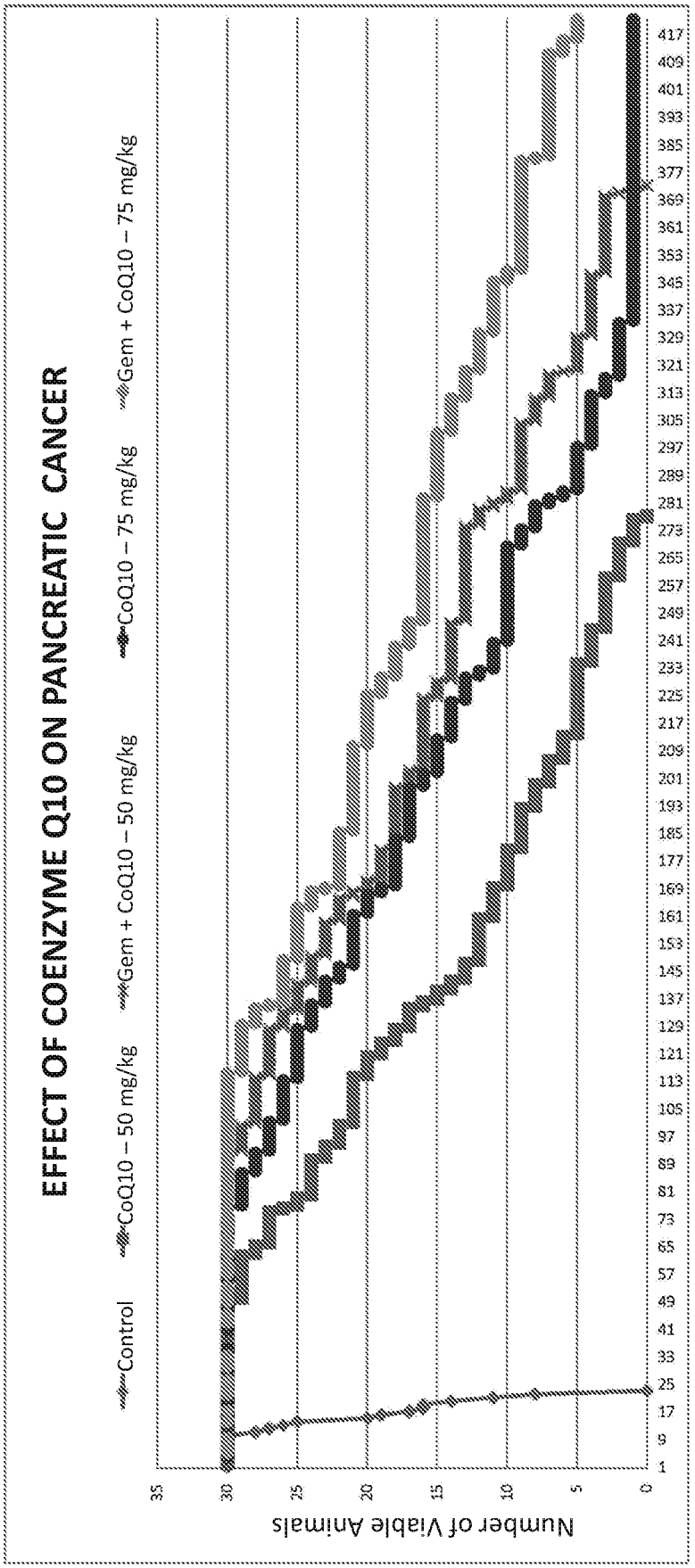

EFFECT OF COENZYME Q10 ON PANCREATIC CANCER
Control
CoQ10 – 50 mg/kg
Gem + CoQ10 – 50 mg/kg
CoQ10 – 75 mg/kg
Gem + CoQ10 – 75 mg/kg
Number of Viable Animals
Number of Days of Treatment

Figure 8

Figure 9B

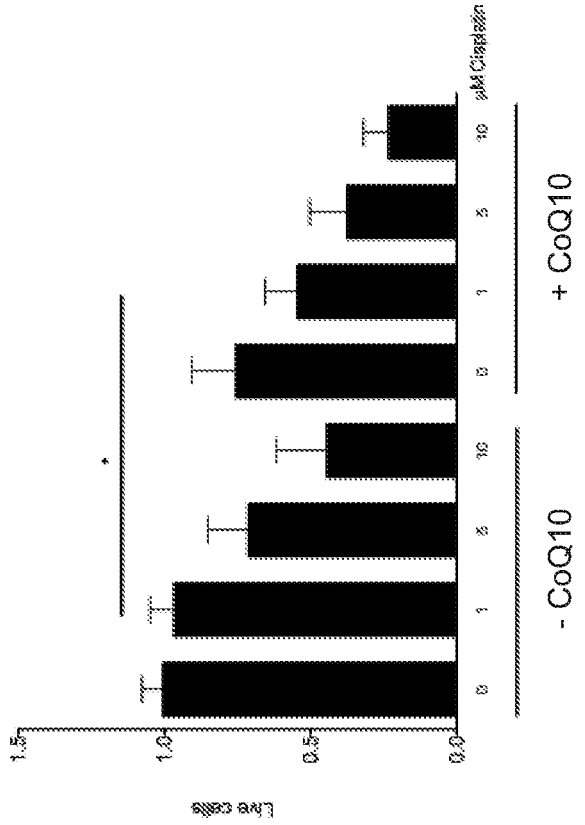
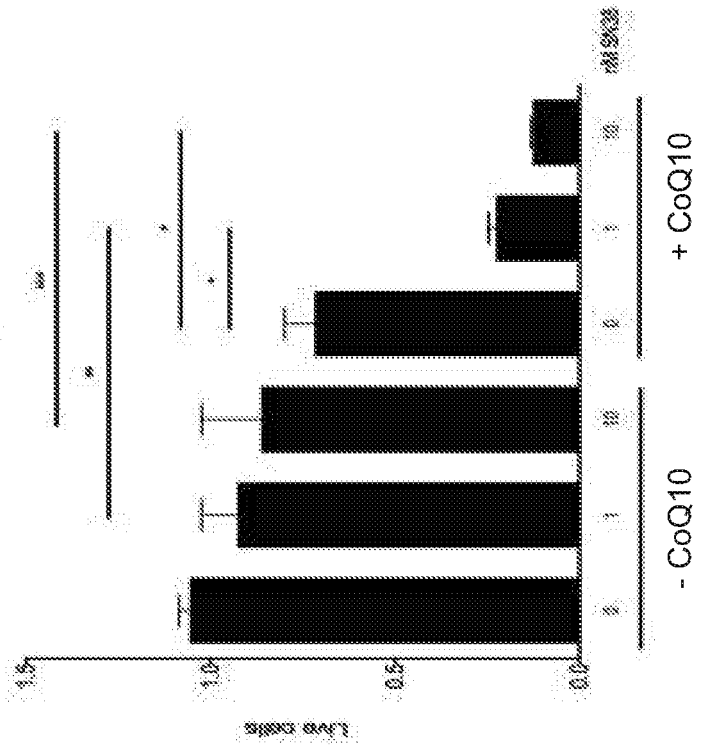


Figure 9A



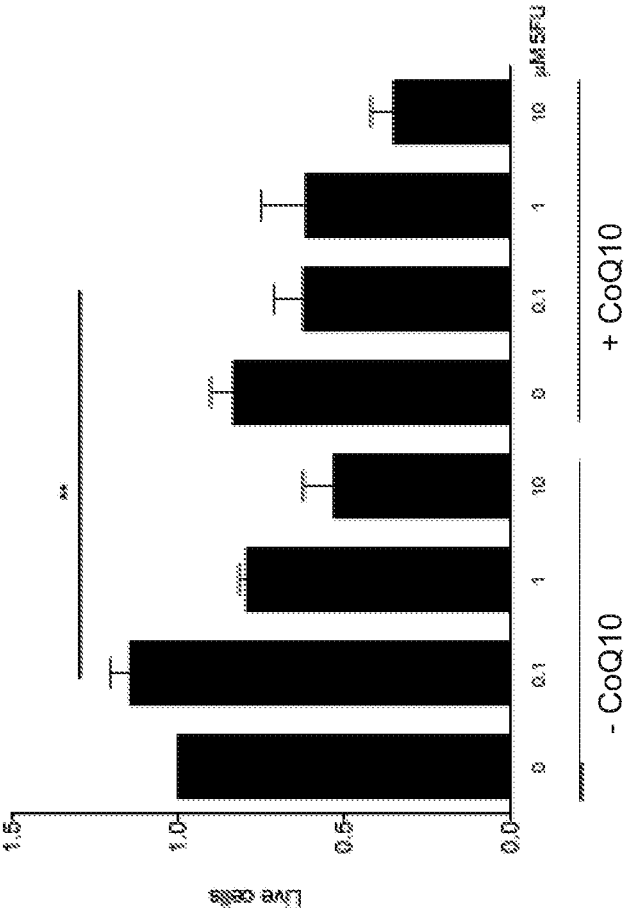


Figure 9C

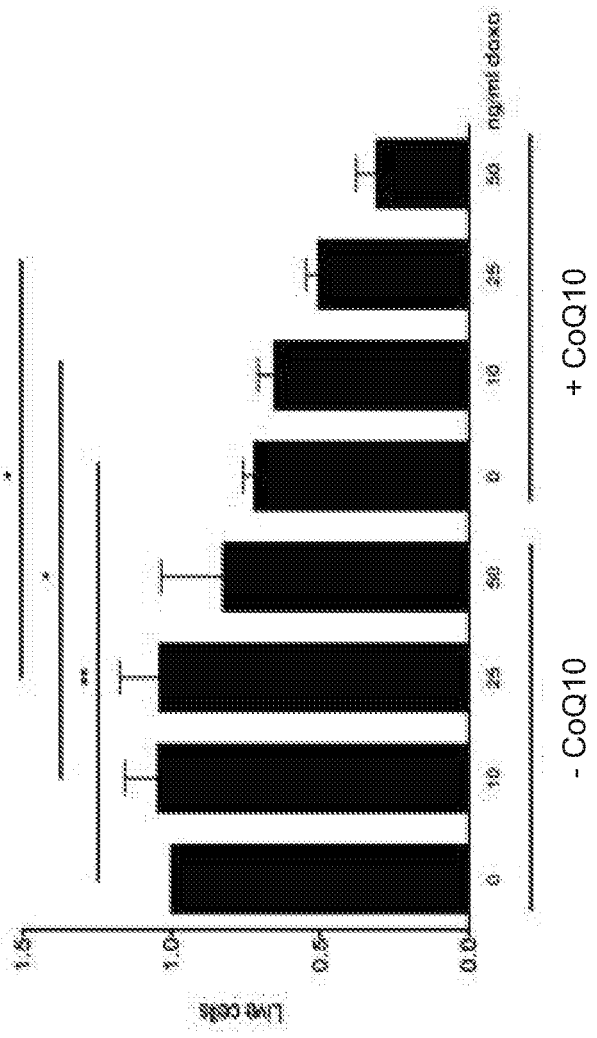
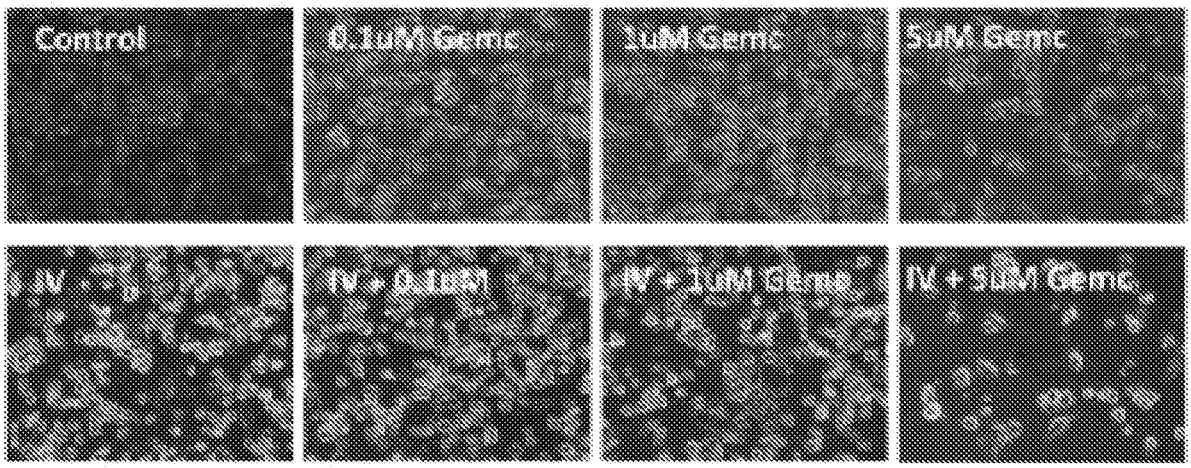


Figure 10

A


Control
0.1uM Gemc
1uM Gemc
5uM Gemc
IV
IV + 0.1uM
IV + 1uM Gemc
IV + 5uM Gemc

B

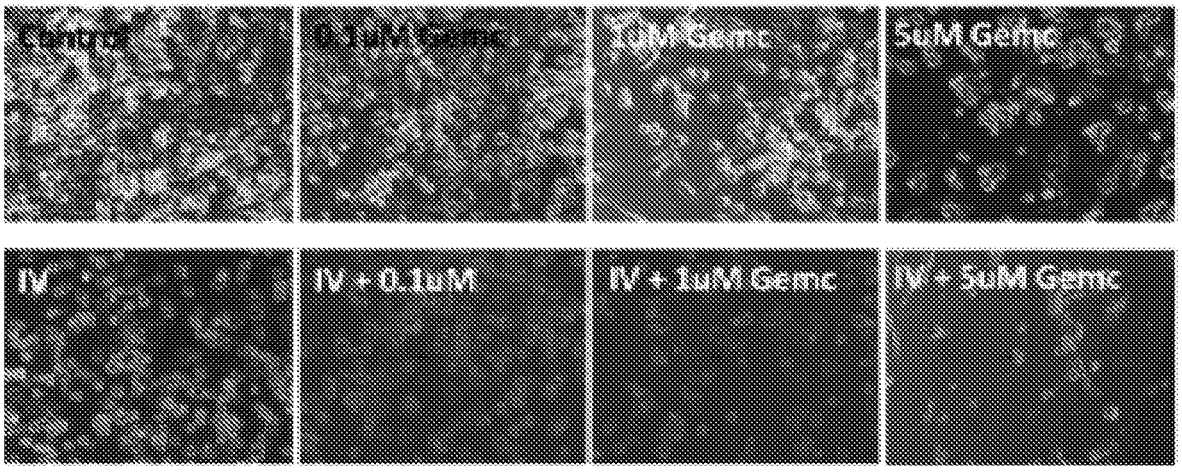

Control
0.1uM Gemc
1uM Gemc
5uM Gemc
IV
IV + 0.1uM
IV + 1uM Gemc
IV + 5uM Gemc

Figure 11

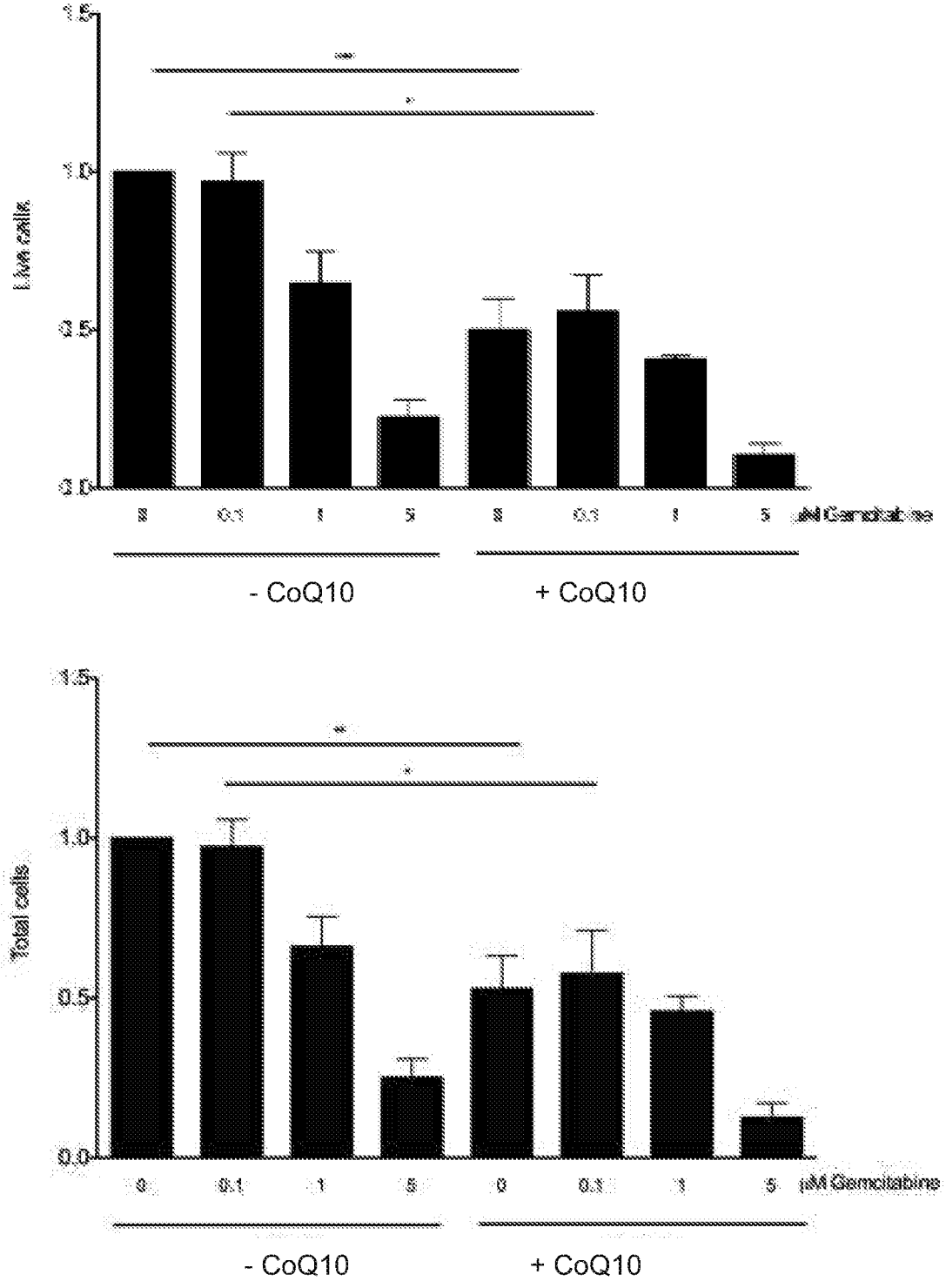

Live cells
1.5
1.0
0.5
0.0
- CoQ10
+ CoQ10
Total cells
1.5
1.0
0.5
0.0
0
0.1
1
5
0
0.1
1
5
- CoQ10
+ CoQ10

Figure 12A

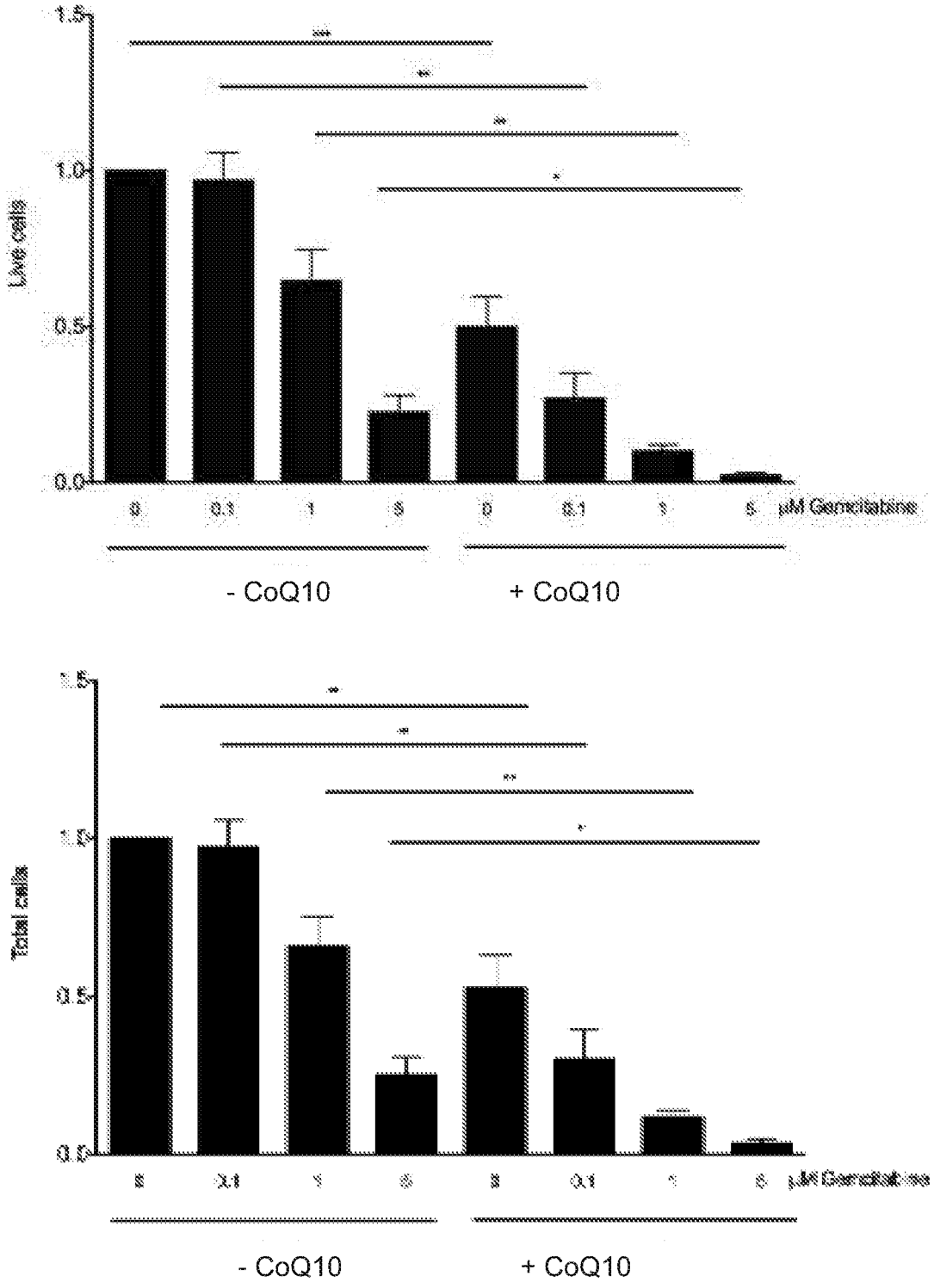

Live cells
1.5
1.0
0.5
0.0
0
0.1
1
5
0
0.1
1
5
μM Gemcitabine
- CoQ10
+ CoQ10
Total cells
μM Gemcitabine
- CoQ10
+ CoQ10

Figure 12B

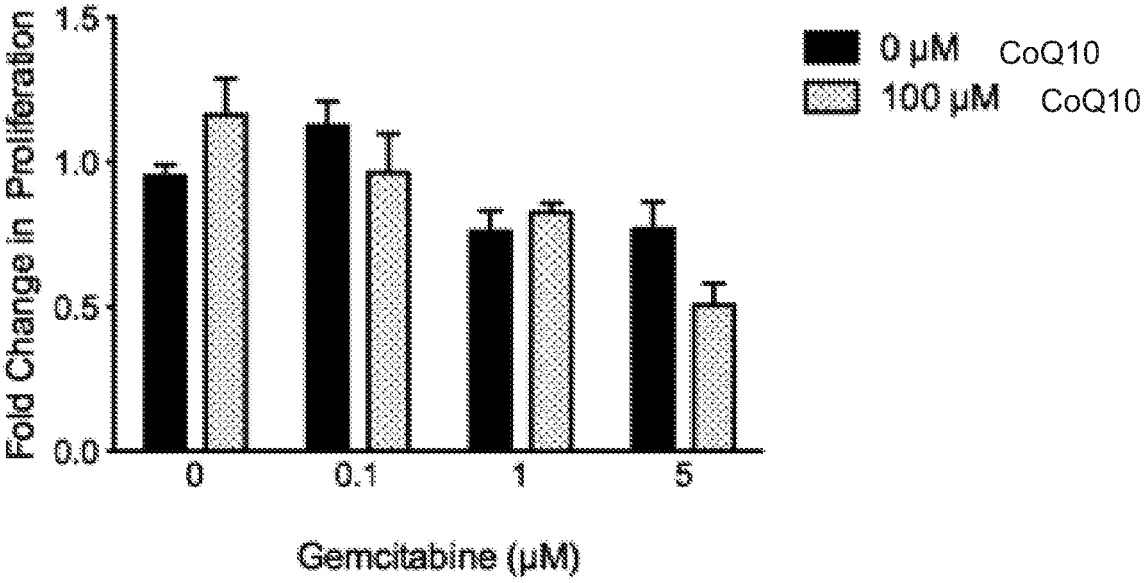


Figure 13

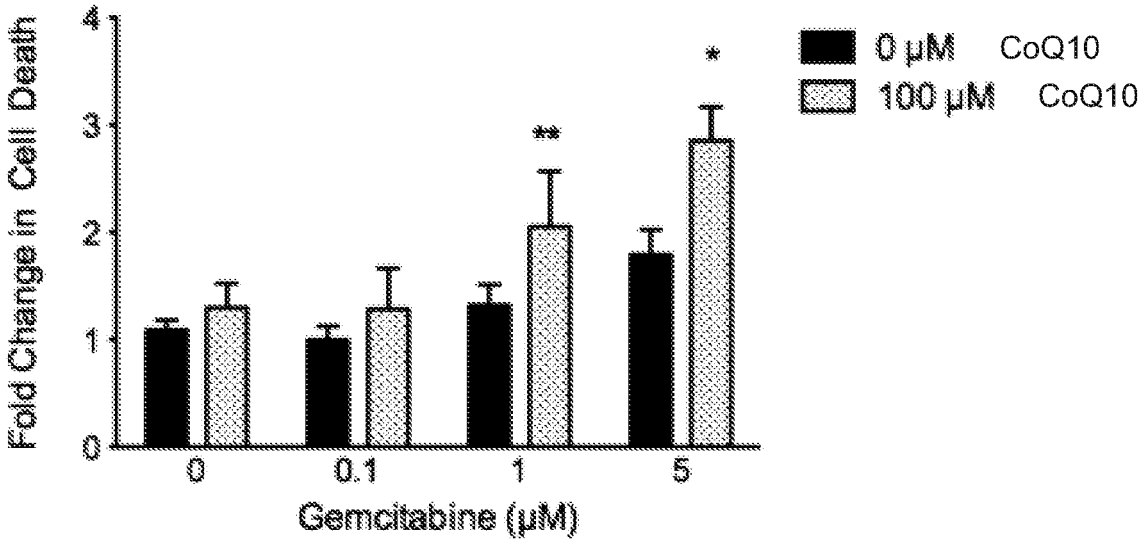


Figure 14

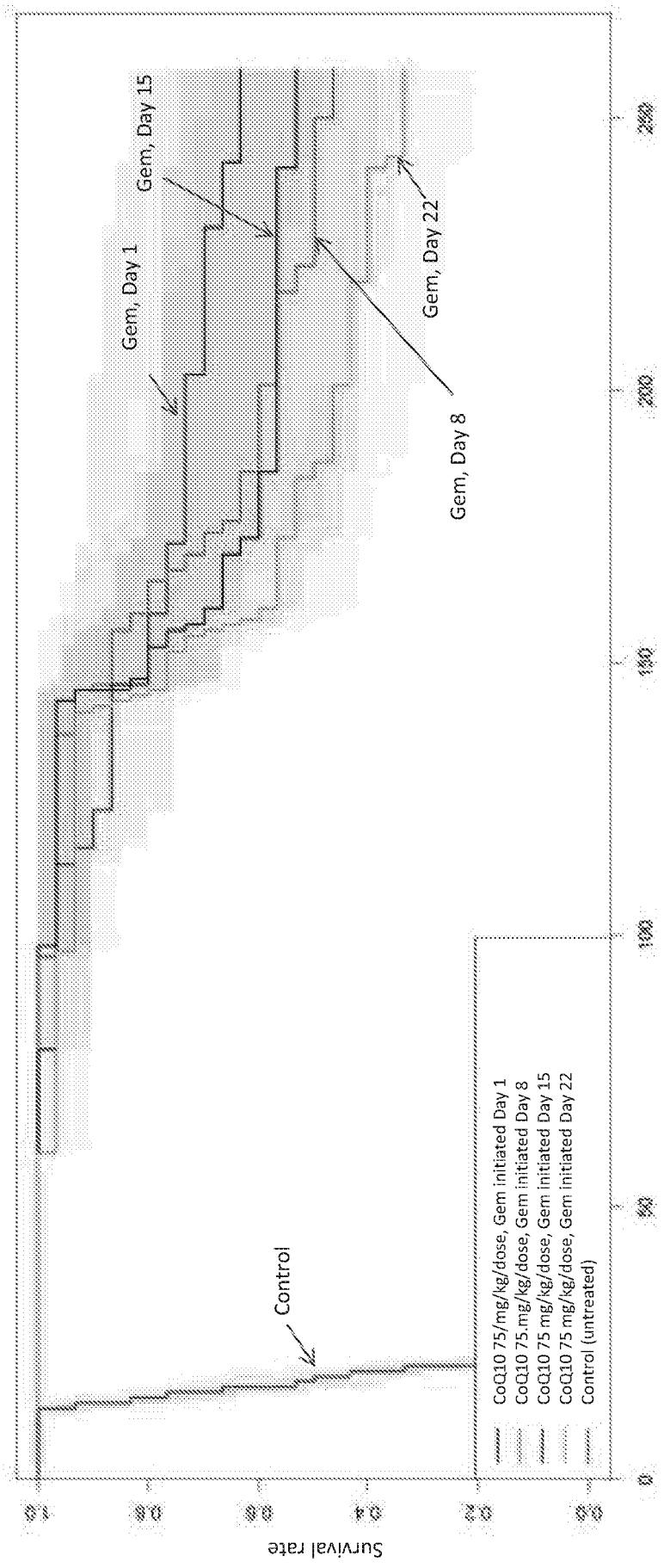

Survival rate
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Days
Gem, Day 1
Gem, Day 15
Gem, Day 22
Gem, Day 8
Control
CoQ10 75/mg/kg/dose, Gem initiated Day 1
CoQ10 75.mg/kg/dose, Gem initiated Day 8
CoQ10 75 mg/kg/dose, Gem initiated Day 15
CoQ10 75 mg/kg/dose, Gem initiated Day 22
Control (untreated)

Figure 15

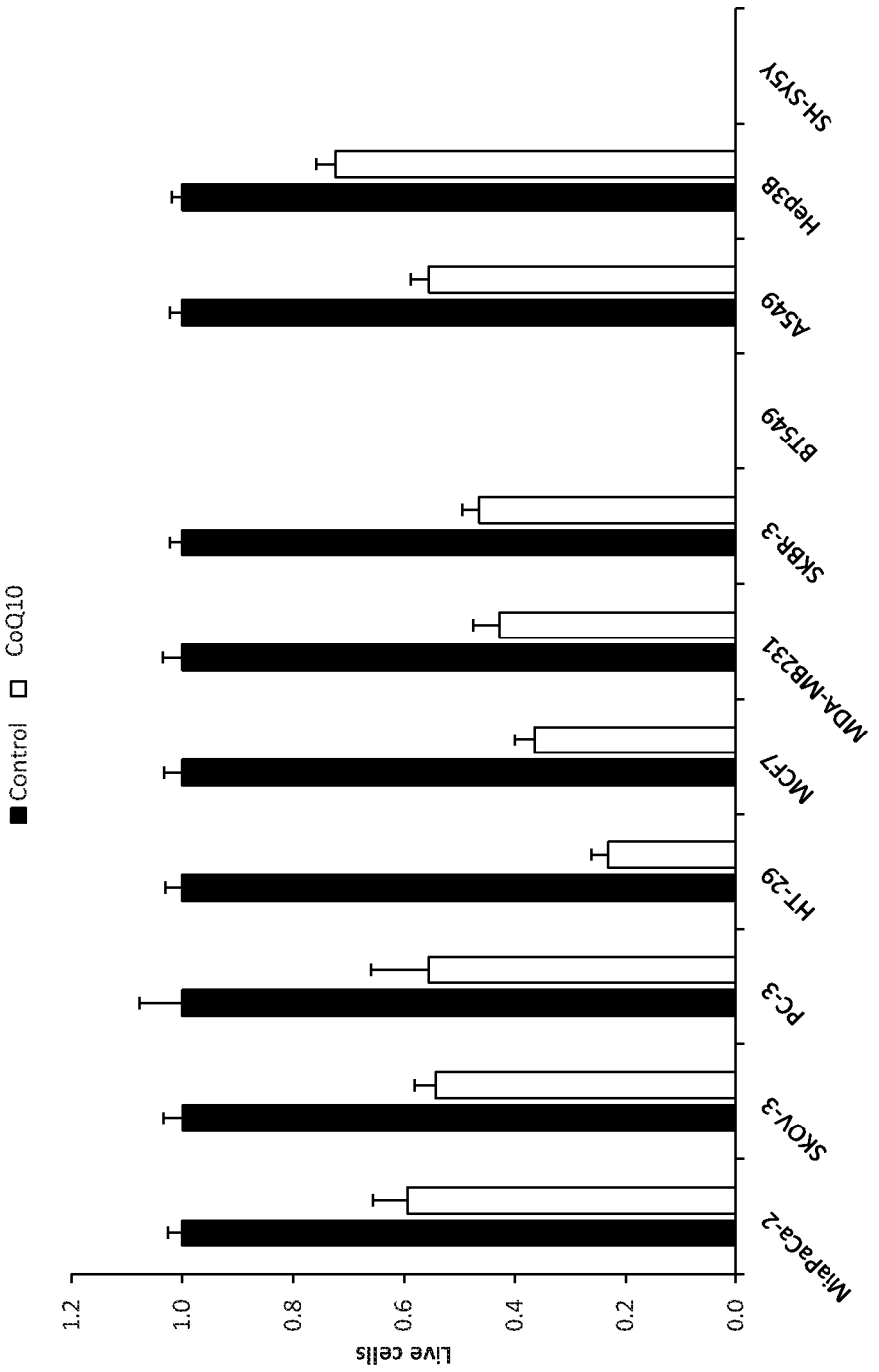

Control
CoQ10
Live cells
0.0
0.2
0.4
0.6
0.8
1.0
1.2
MiaPaCa-2
SKOV-3
PC-3
HT-29
MCF7
MDA-MB231
SKBR-3
BT549
A549
Hep3B
SH-SY5Y

Figure 16

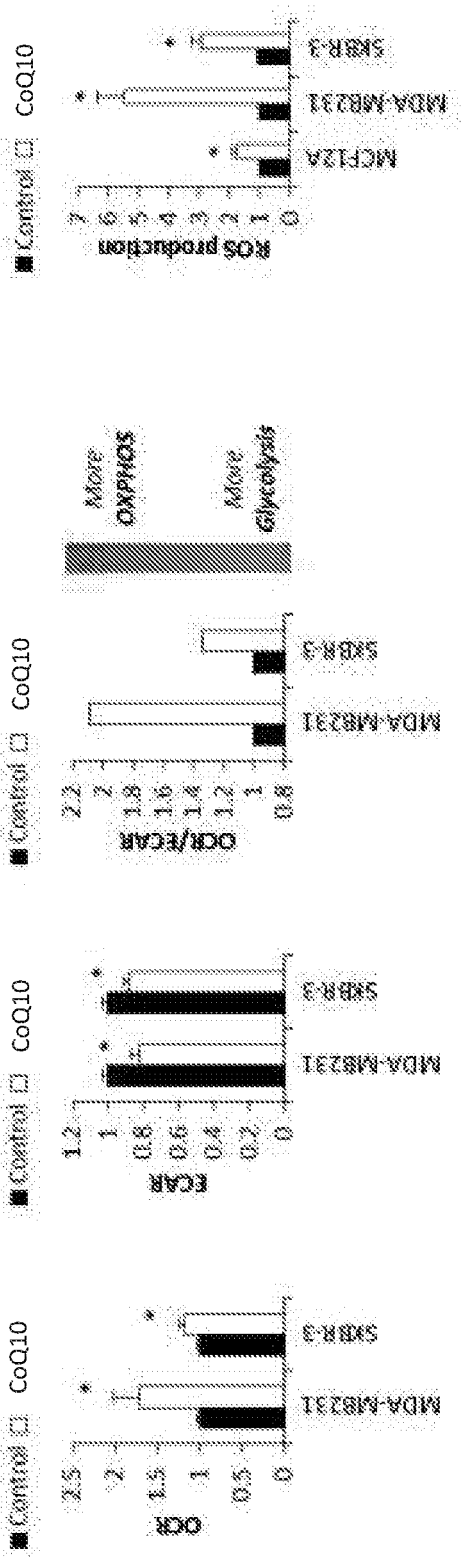

Control
CoQ10
ROS production
MCF12A
MDA-MB231
SKBR-3
More OXPHOS
More Glycolysis
OCR/ECAR
ECAR
OCR

Figure 17

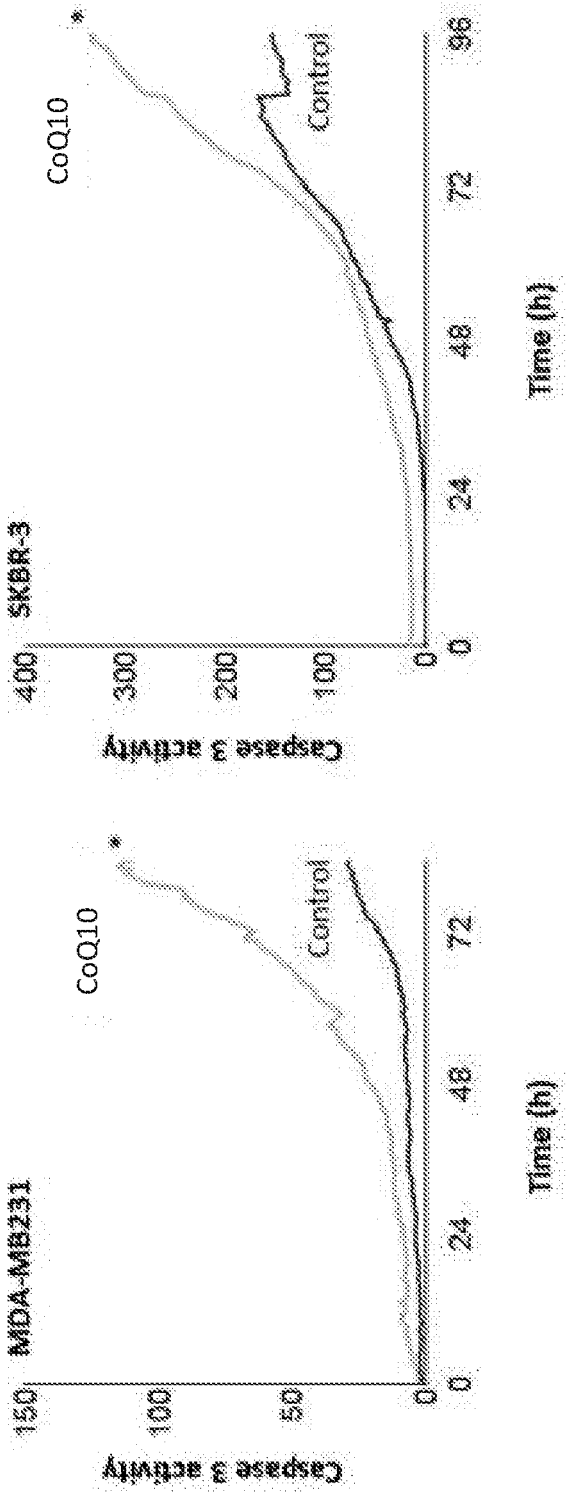

SKBR-3
Caspase 3 activity
400
300
200
100
0
CoQ10
Control
*
0
24
48
72
96
Time (h)
MDA-MB231
Caspase 3 activity
150
100
50
0
CoQ10
Control
*
0
24
48
72
Time (h)

Figure 18

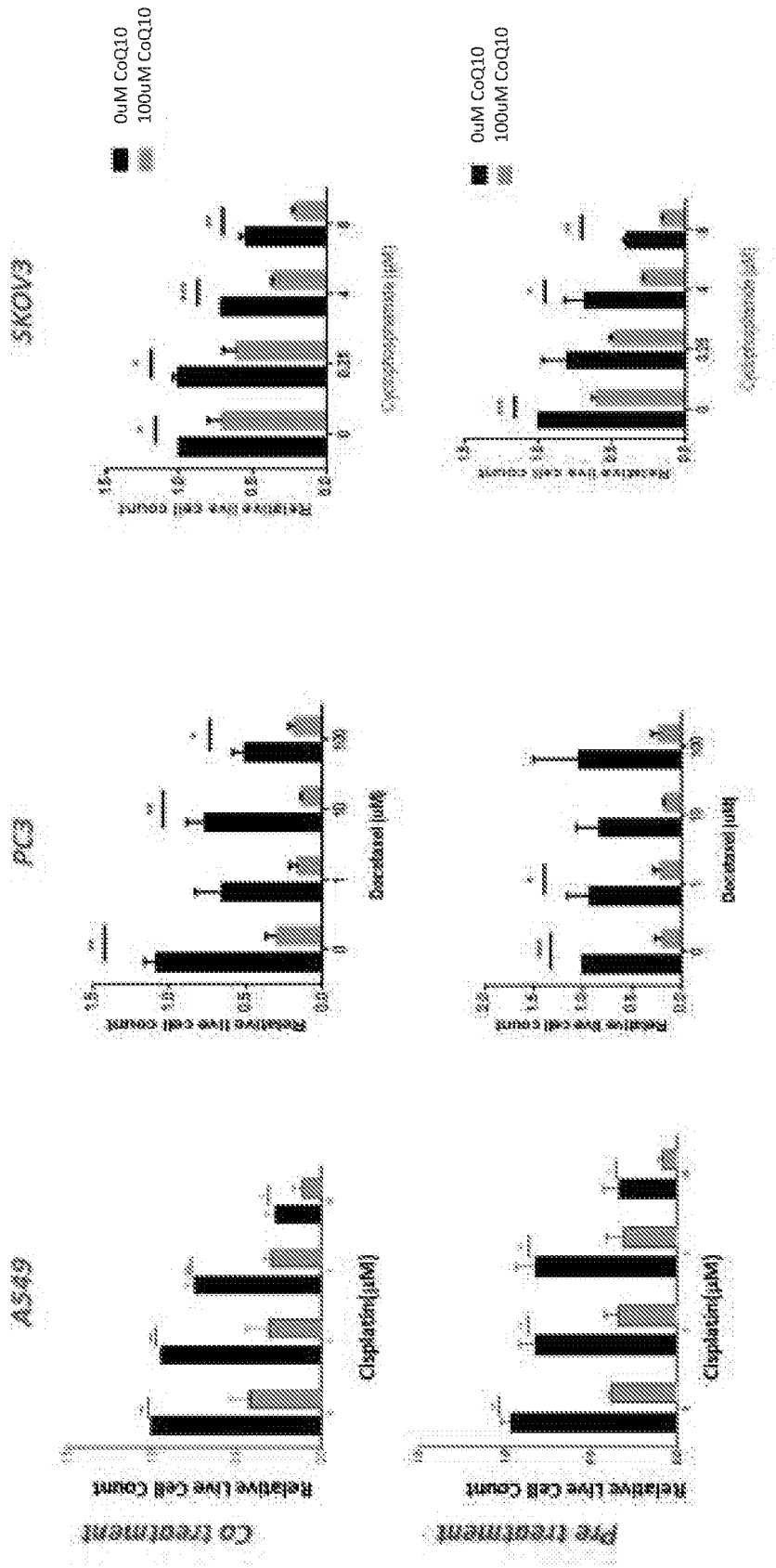

A549
PC3
SKOV3
Co treatment
Pre treatment
0uM CoQ10
100uM CoQ10
Relative live cell count
Cisplatin(μM)
Docetaxel (μM)
Cyclophosphamide (μM)

Figure 19

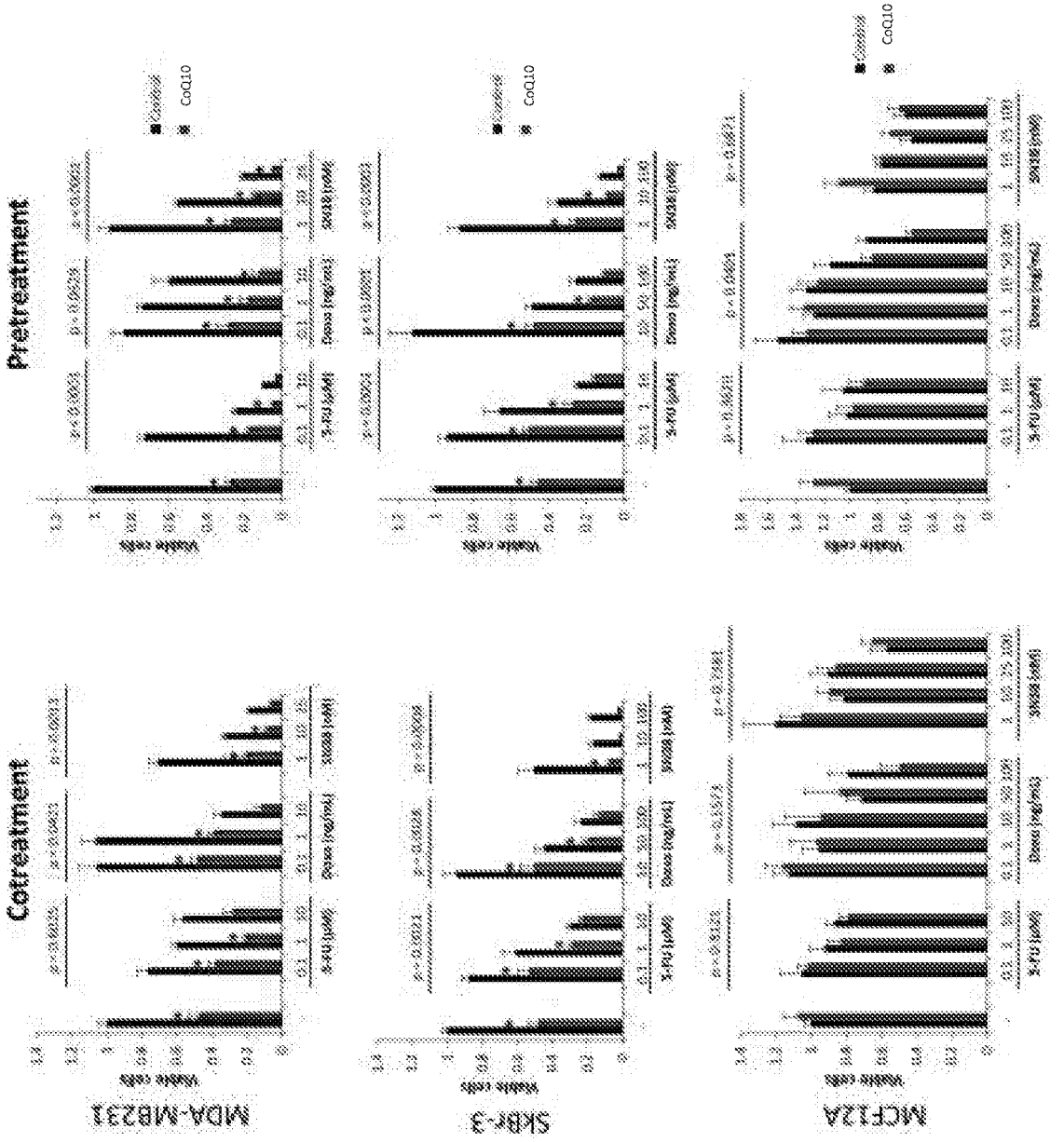

Pretreatment
Cotreatment
MDA-MB231
SKBr-3
MCF12A
CoQ10
5-FU (μM)
Dose (mg/mL)

Figure 20

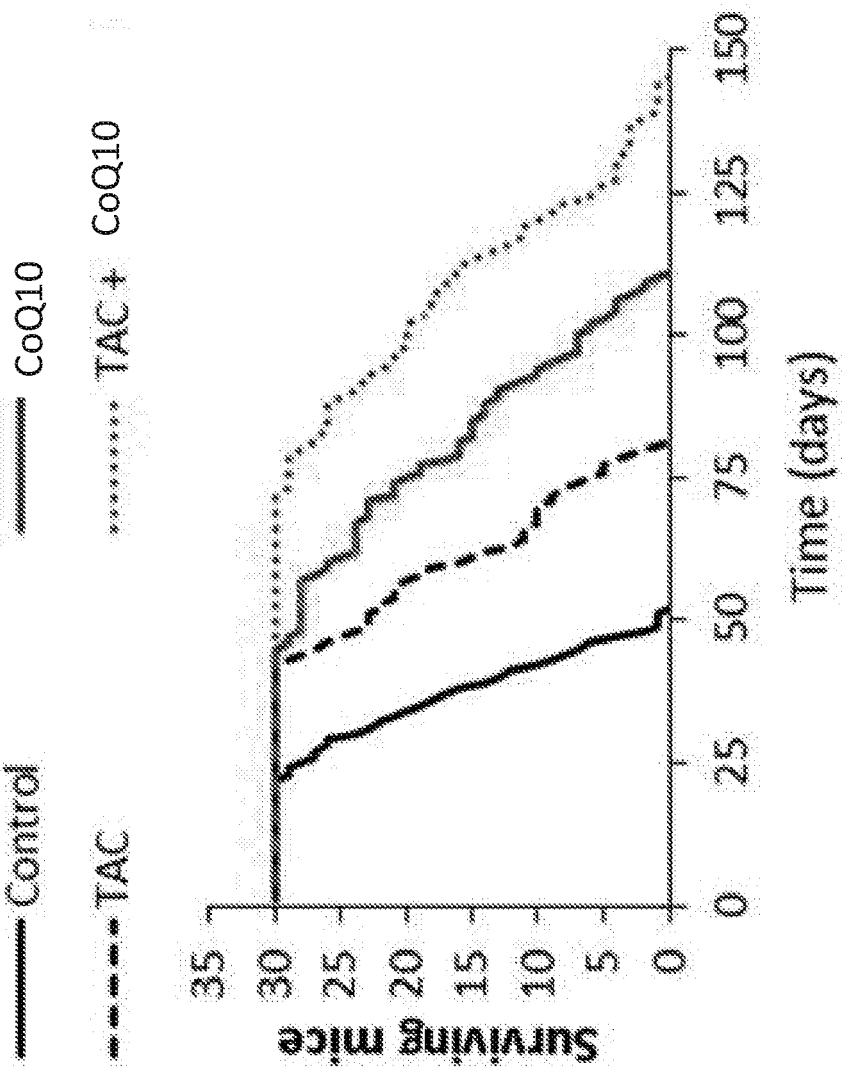

Control
CoQ10
TAC
TAC + CoQ10
Surviving mice
0
5
10
15
20
25
30
35
0
25
50
75
100
125
150
Time (days)

Figure 21

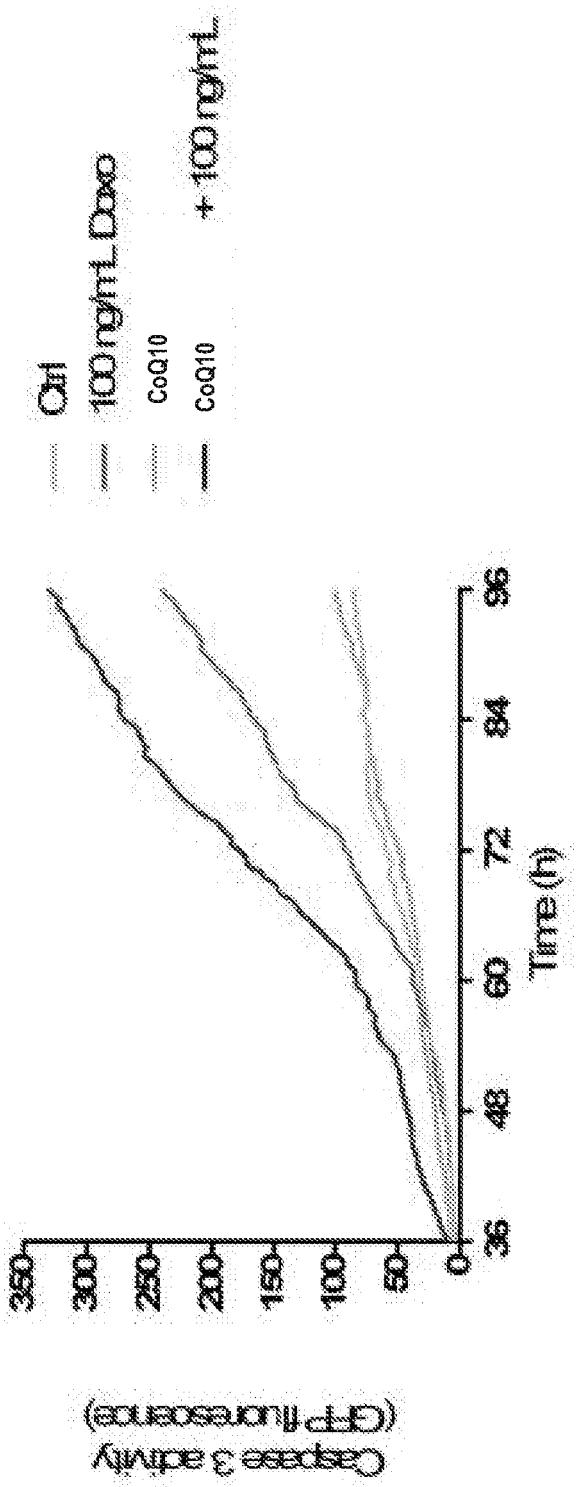

Ctrl
100 ng/mL Doxo
CoQ10
CoQ10 + 100 ng/mL
Caspase 3 activity (GFP fluorescence)
0
50
100
150
200
250
300
350
0
36
48
60
72
84
96
Time (h)

Figure 22

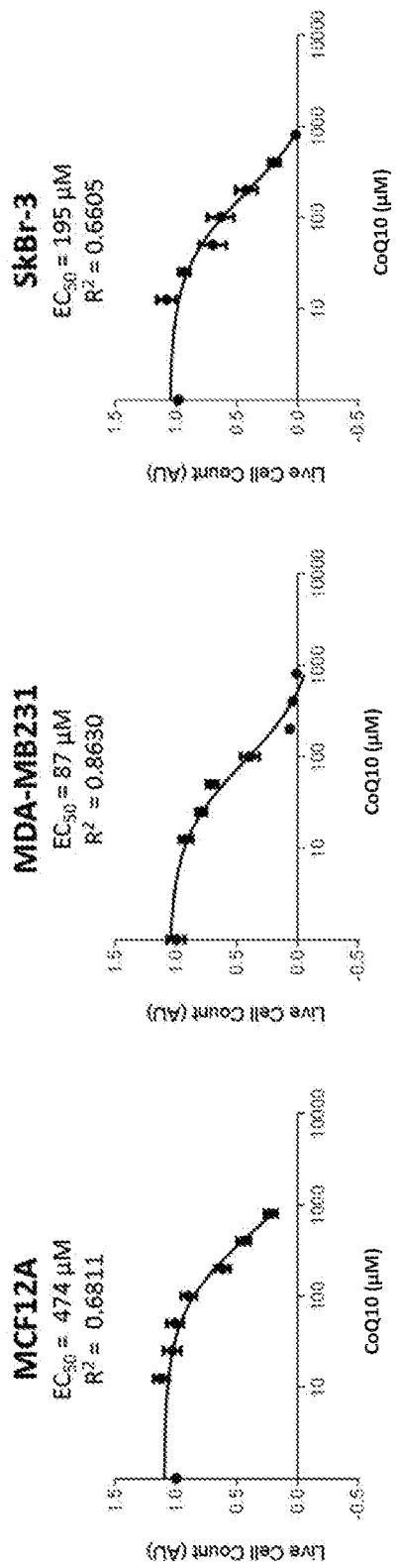

SkBr-3
EC50 = 195 µM
R2 = 0.6605
MDA-MB231
EC50 = 87 µM
R2 = 0.8630
MCF12A
EC50 = 474 µM
R2 = 0.6811
Live Cell Count (AU)
CoQ10 (µM)

Figure 23

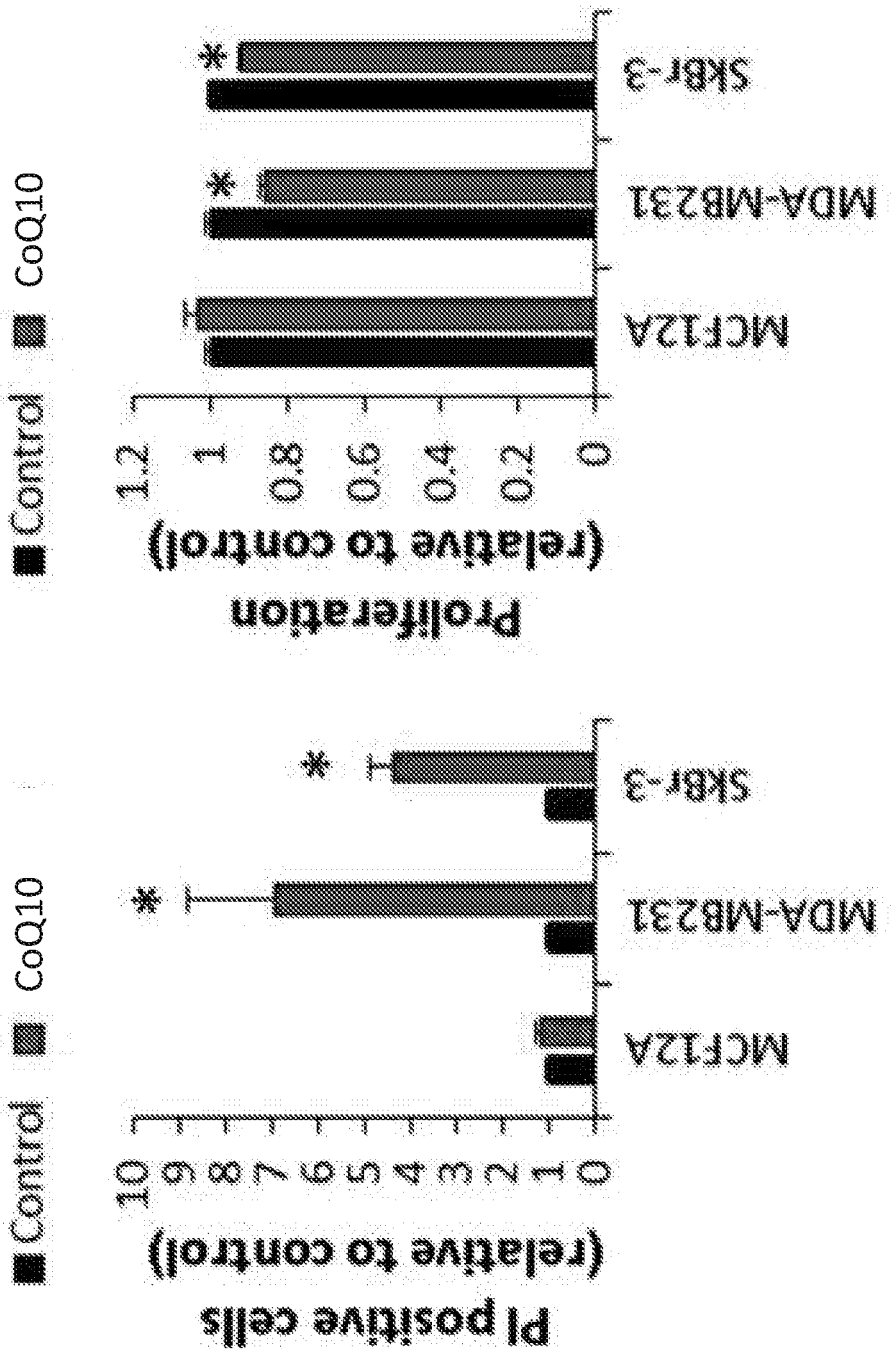

Control
CoQ10
Proliferation
(relative to control)
1.2
1
0.8
0.6
0.4
0.2
0
MCF12A
MDA-MB231
SkBr-3
*
Control
CoQ10
PI positive cells
(relative to control)
10
9
8
7
6
5
4
3
2
1
0
MCF12A
MDA-MB231
SkBr-3
*

Figure 24

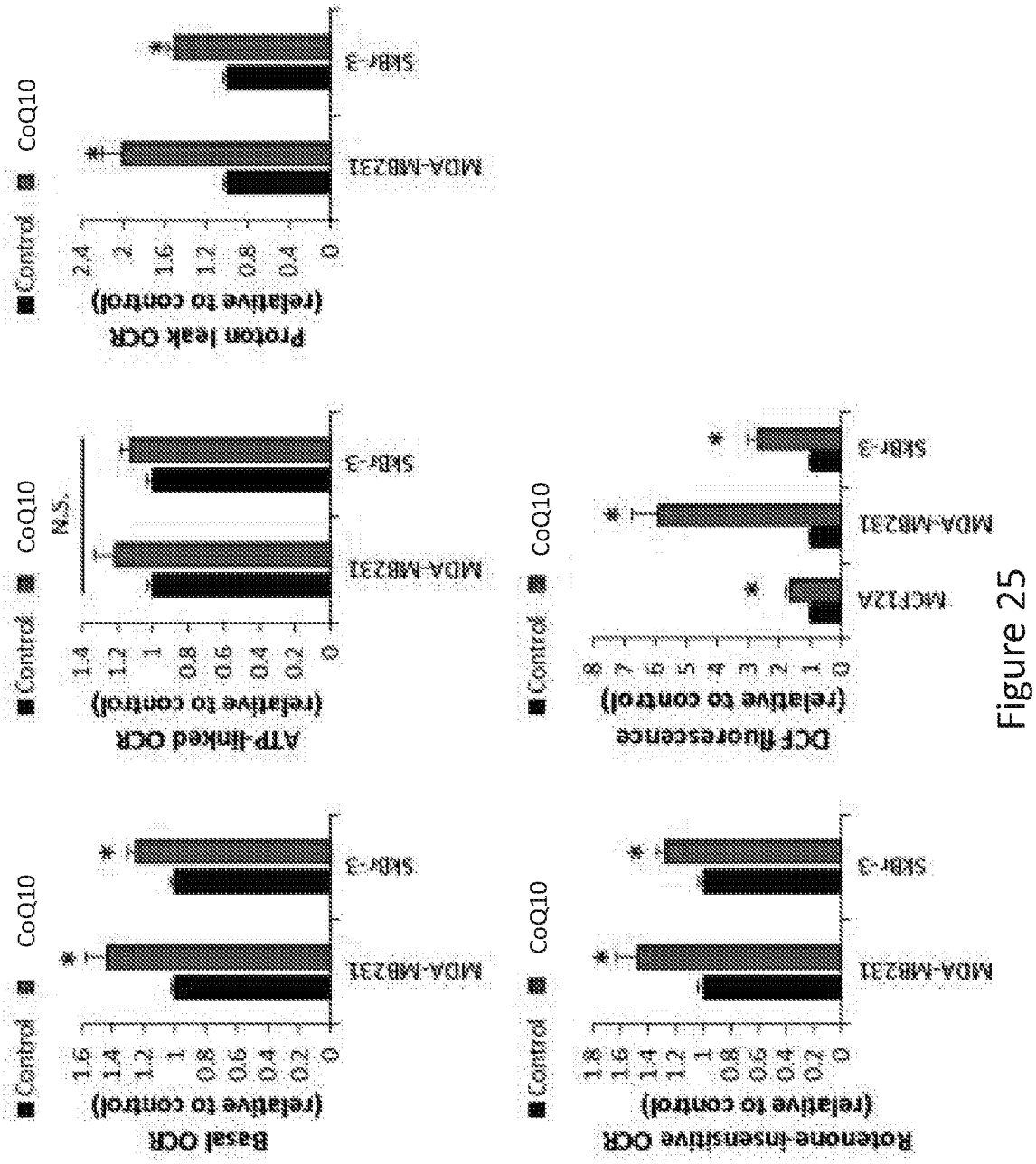

Control
CoQ10
Basal OCR
(relative to control)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
MDA-MB231
SkBr-3
*
ATP-linked OCR
(relative to control)
N.S.
Proton leak OCR
(relative to control)
2.4
2
1.6
1.2
0.8
0.4
0
Rotenone-insensitive OCR
(relative to control)
1.8
DCF fluorescence
(relative to control)
8
7
6
5
4
3
2
1
MCF12A

Figure 25

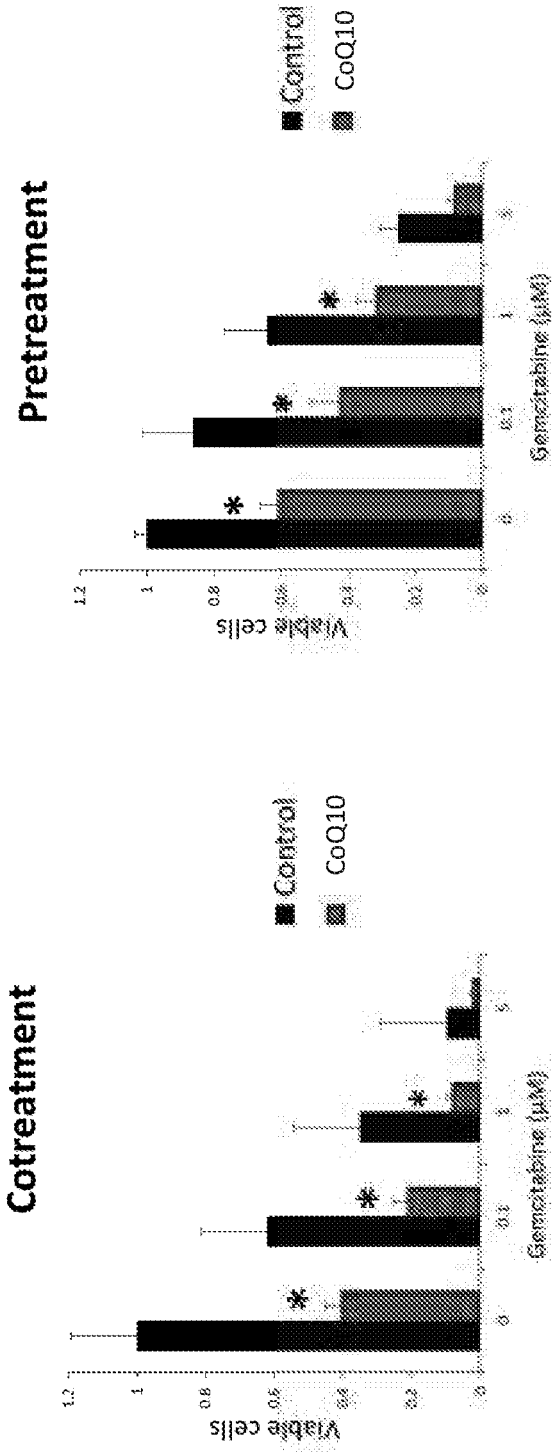

Pretreatment
Control
CoQ10
Viable cells
Gemcitabine (μM)
Cotreatment
Control
CoQ10
Viable cells
Gemcitabine (μM)

Figure 26

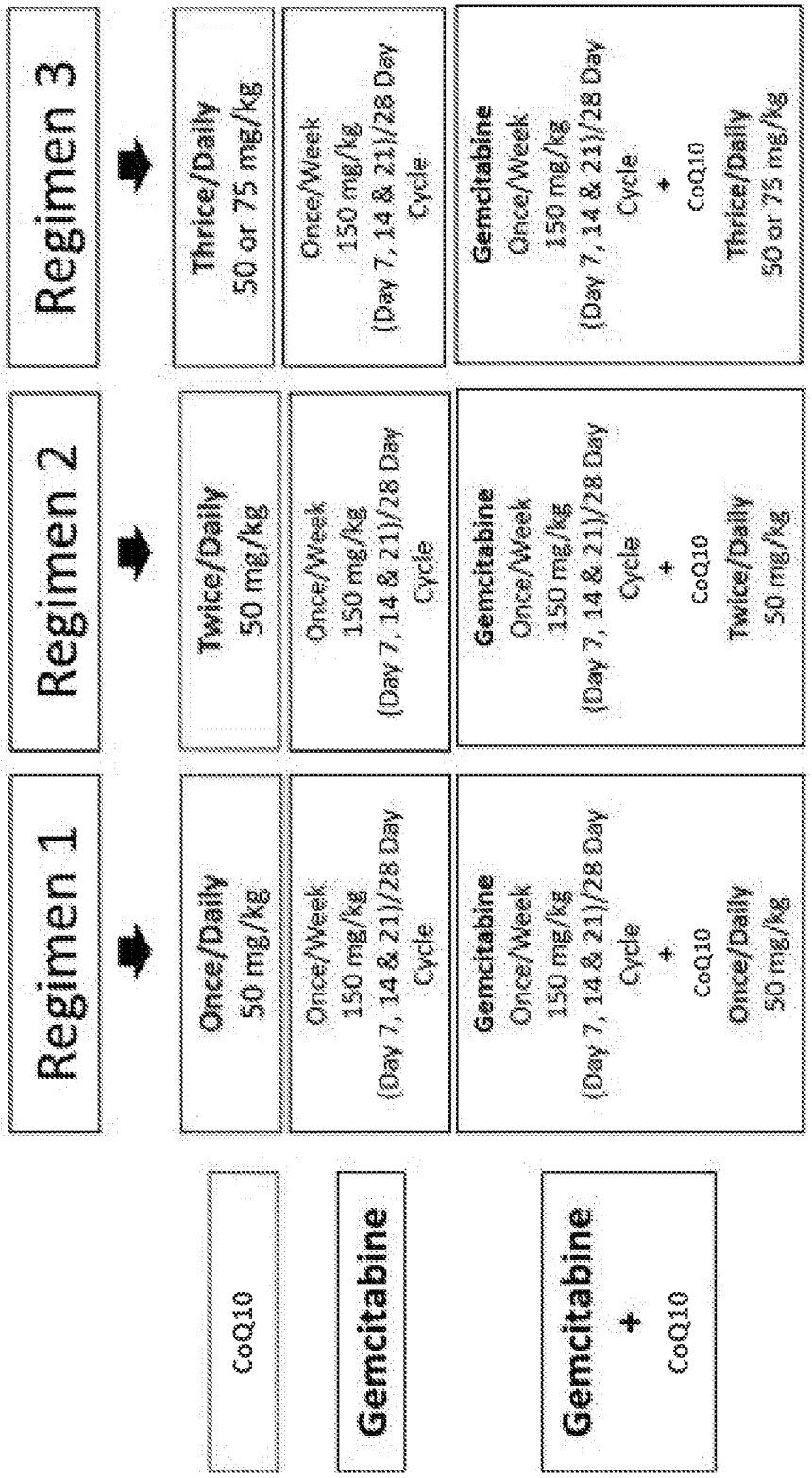

Regimen 1
Regimen 2
Regimen 3
CoQ10
Once/Daily 50 mg/kg
Twice/Daily 50 mg/kg
Thrice/Daily 50 or 75 mg/kg
Gemcitabine
Once/Week 150 mg/kg (Day 7, 14 & 21)/28 Day Cycle
Once/Week 150 mg/kg (Day 7, 14 & 21)/28 Day Cycle
Once/Week 150 mg/kg (Day 7, 14 & 21)/28 Day Cycle
Gemcitabine + CoQ10
Gemcitabine Once/Week 150 mg/kg (Day 7, 14 & 21)/28 Day Cycle + CoQ10 Once/Daily 50 mg/kg
Gemcitabine Once/Week 150 mg/kg (Day 7, 14 & 21)/28 Day Cycle + CoQ10 Twice/Daily 50 mg/kg
Gemcitabine Once/Week 150 mg/kg (Day 7, 14 & 21)/28 Day Cycle + CoQ10 Thrice/Daily 50 or 75 mg/kg

Figure 27

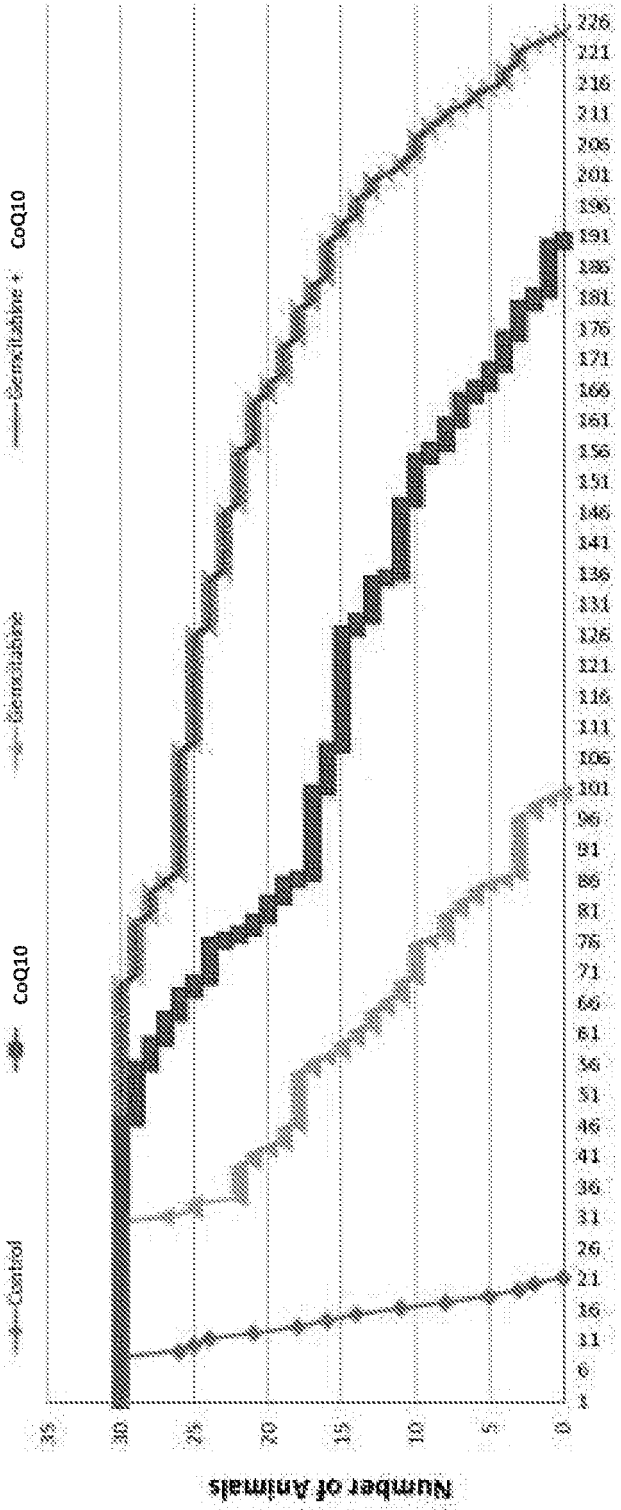

Control
CoQ10
Gemcitabine
Gemcitabine + CoQ10
Number of Animals
35
30
25
20
15
10
5
0
226
221
216
211
206
201
196
191
186
181
176
171
166
161
156
151
146
141
136
131
126
121
116
111
106
101
96
91
86
81
76
71
66
61
56
51
46
41
36
31
26
21
16
11
6
1

Figure 28

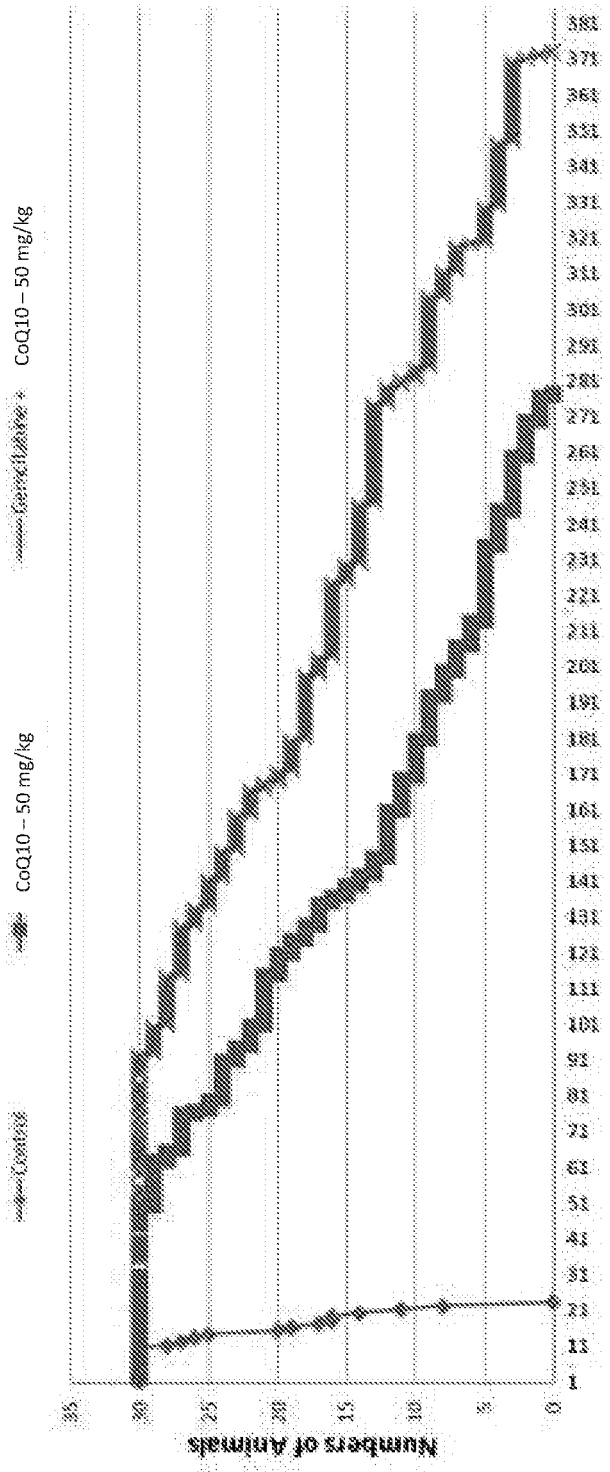

Control
CoQ10 – 50 mg/kg
Ferrostatin +
CoQ10 – 50 mg/kg
Numbers of Animals
0
5
10
15
20
25
30
35
1
11
21
31
41
51
61
71
81
91
101
111
121
131
141
151
161
171
181
191
201
211
221
231
241
251
261
271
281
291
301
311
321
331
341
351
361
371
381

Figure 29

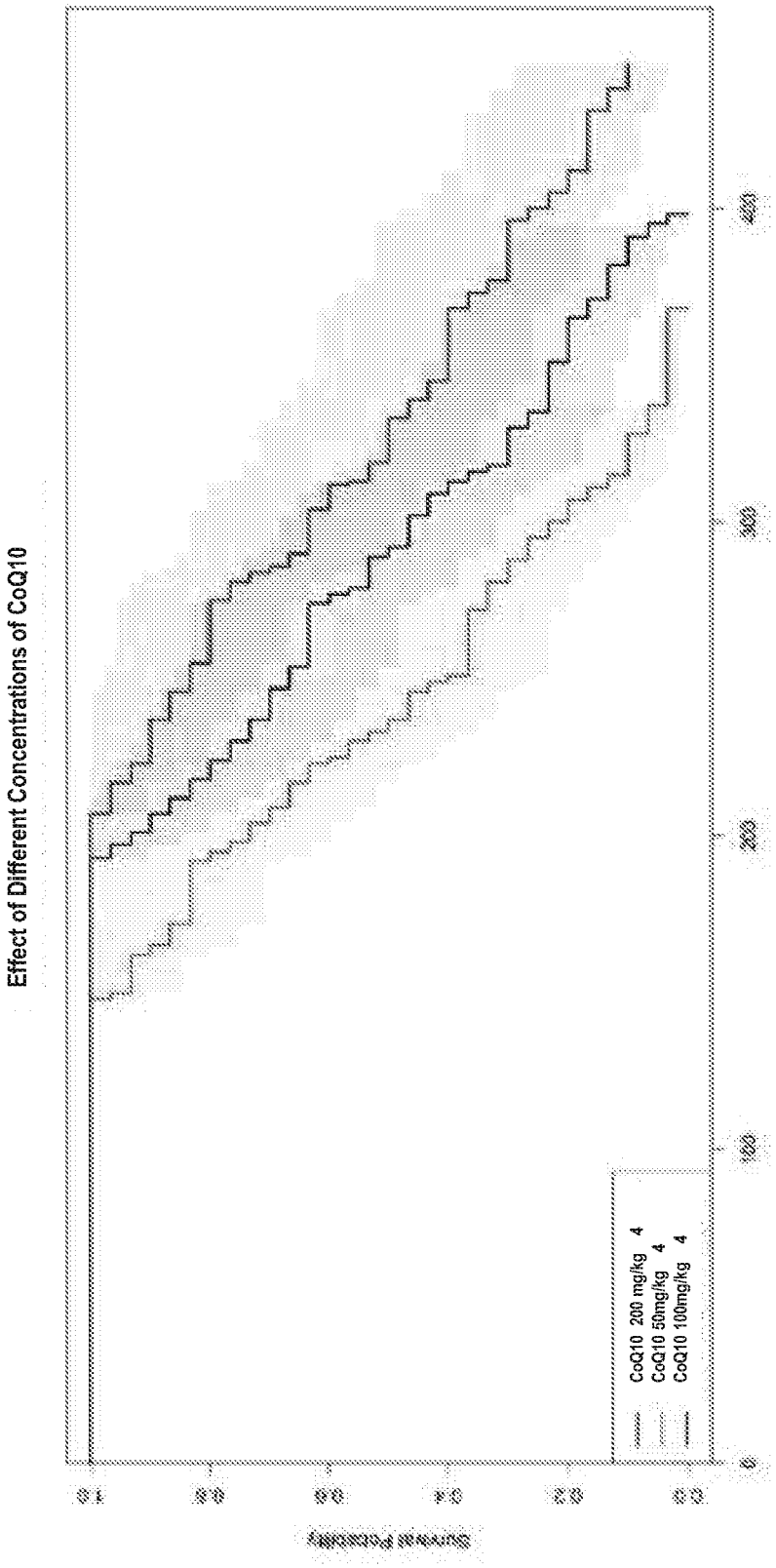

Effect of Different Concentrations of CoQ10
Survival Probability
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
CoQ10 200 mg/kg 4
CoQ10 50mg/kg 4
CoQ10 100mg/kg 4

Figure 30

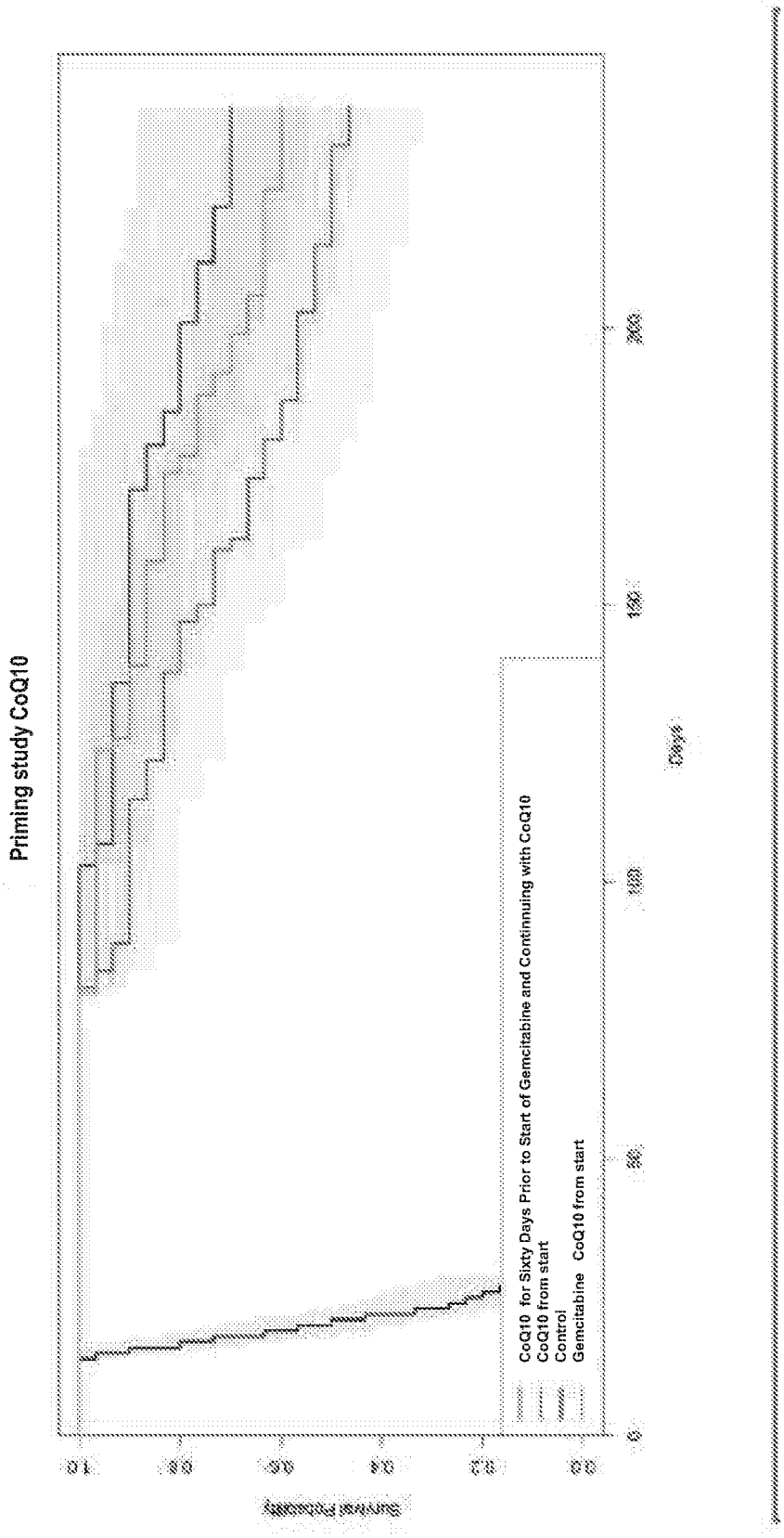

Priming study CoQ10
Survival Probability
1.0
0.8
0.6
0.4
0.2
0.0
0
50
100
150
200
Days
CoQ10 for Sixty Days Prior to Start of Gemcitabine and Continuing with CoQ10
CoQ10 from start
Control
Gemcitabine CoQ10 from start

Figure 31