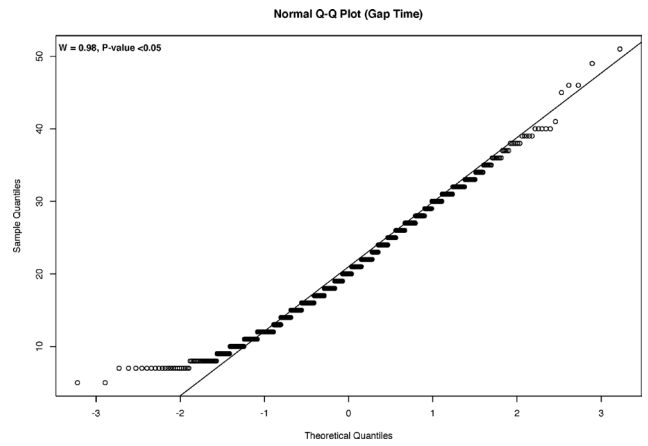
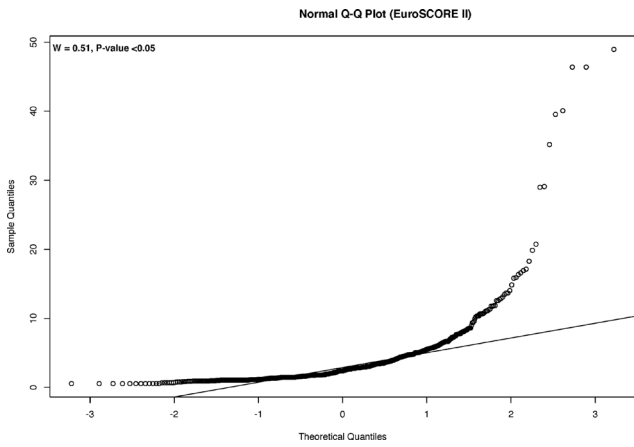


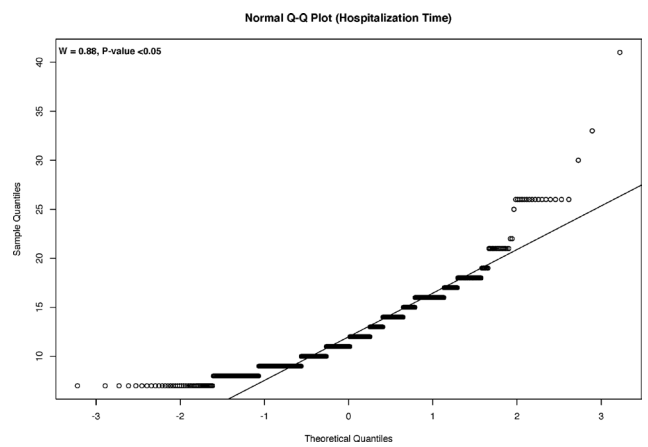
**Figure S1** Variable (age) distribution was analyzed by the Shapiro-Wilk test, and the test results were visualized in a normal Q-Q plot.



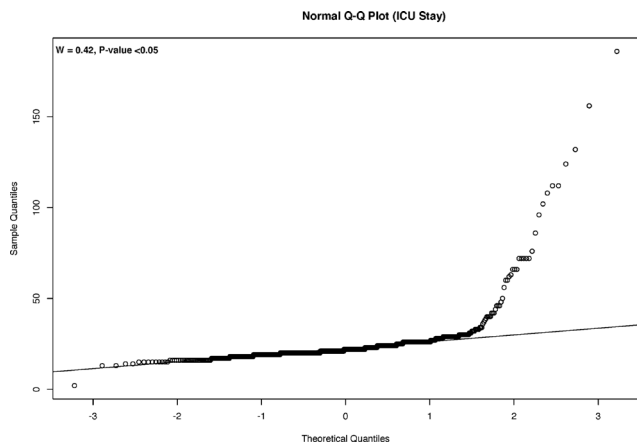
**Figure S3** Variable (gap time) distribution was analyzed by the Shapiro-Wilk test, and the test results were visualized in a normal Q-Q plot.



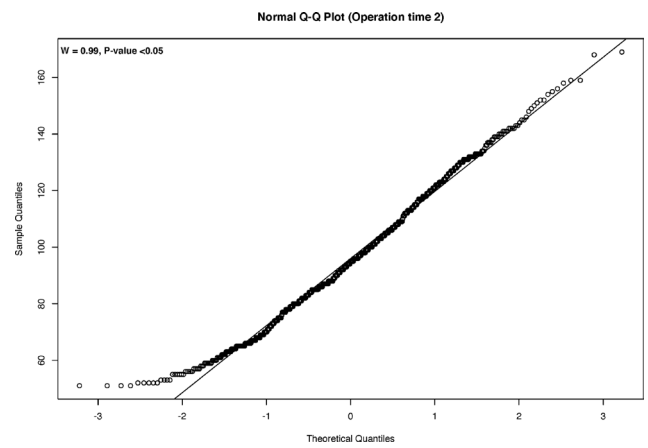
**Figure S2** Variable (EuroSCORE II) distribution was analyzed by the Shapiro-Wilk test, and the test results were visualized in a normal Q-Q plot.



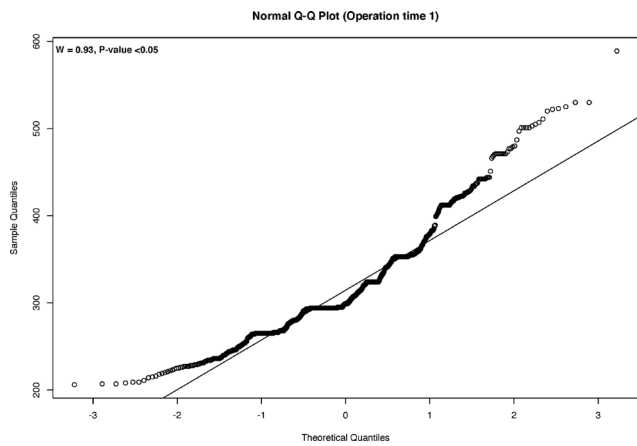
**Figure S4** Variable (hospitalization time) distribution was analyzed by the Shapiro-Wilk test, and the test results were visualized in a normal Q-Q plot.



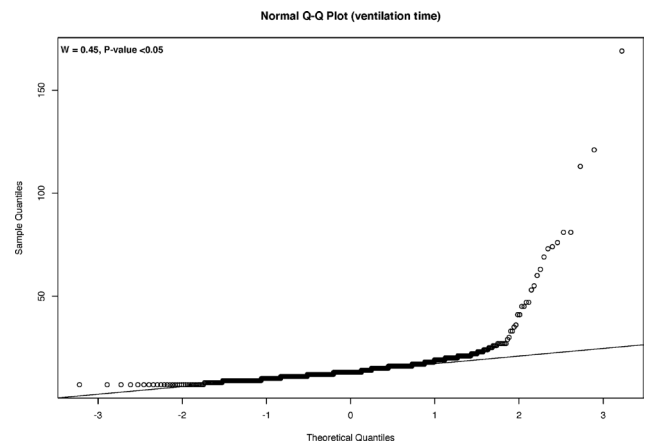
**Figure S5** Variable (ICU stay) distribution was analyzed by the Shapiro-Wilk test, and the test results were visualized in a normal Q-Q plot.



**Figure S7** Variable (operation time 2) distribution was analyzed by the Shapiro-Wilk test, and the test results were visualized in a normal Q-Q plot.



**Figure S6** Variable (operation time 1) distribution was analyzed by the Shapiro-Wilk test, and the test results were visualized in a normal Q-Q plot.



**Figure S8** Variable (ventilation time) distribution was analyzed by the Shapiro-Wilk test, and the test results were visualized in a normal Q-Q plot.

**Table S1** Univariate logistics regression results

Term	Estimate	STD error	Statistic	OR	2.5% CI	97.5% CI	P
Group							
Aorta	0.27	0.36	0.76	1.31	0.63	2.59	0.45
Complicated	0.08	0.28	0.29	1.08	0.62	1.87	0.77
Valve	-1.21	0.49	-2.47	0.3	0.1	0.71	0.01
Age	-0.01	0.01	-1.32	0.99	0.96	1.01	0.19
Sex (male)	0.29	0.26	1.13	1.34	0.82	2.26	0.26
Diabetes mellitus	0.66	0.25	2.67	1.94	1.2	3.18	0.008**
Obesity	0.66	0.26	2.6	1.94	1.19	3.25	0.009**
Smoker	0.31	0.24	1.28	2.05	1.24	3.51	0.006**
Creatinine clearance, mL/min							
<50	-0.55	1.05	-0.52	0.58	0.07	5.38	0.60
>85	-1.59	0.93	-1.72	0.2	0.03	1.58	0.09
50-85	-2.44	0.94	-2.58	0.09	0.01	0.69	0.01*
Abnormal liver function	1.07	0.3	3.5	2.9	1.56	5.19	<0.001***
NYHA III	-0.15	0.25	-0.6	0.86	0.52	1.4	0.55
Hypoalbuminemia	0.64	0.3	2.15	1.9	1.09	3.54	0.03*
Anemia	0.8	0.24	3.29	2.24	1.39	3.64	0.001**
Atrial fibrillation	-0.39	0.29	-1.37	0.68	0.37	1.16	0.17
Extracardiac arteriopathy	0.44	0.24	1.8	1.55	0.96	2.5	0.07
EuroSCORE II	0.03	0.02	1.78	1.03	0.99	1.07	0.08
Chronic infection	0.6	0.28	2.18	1.82	1.04	3.08	0.03*
Immune disease	1.45	0.37	3.95	4.24	2	8.51	<0.001***
Secondary surgery <sup>†</sup>	0.96	0.66	1.45	2.61	0.58	8.58	0.15
Salvage surgery <sup>†</sup>	2.39	0.43	5.57	10.89	4.66	25.49	<0.001***
Graft type							
Vein	0.41	0.31	1.34	1.51	0.84	2.84	0.18
Vein + BIMA	1.47	1.18	1.24	4.33	0.21	35.98	0.26
Vein + SIMA	0.48	0.33	1.45	1.62	0.85	3.14	0.15
Operation time 1 <sup>†</sup>	0	0	0.42	1	1	1	0.67
Low temperature <sup>†</sup>	1.87	0.4	4.63	6.5	2.86	14.17	<0.001***
Osteoporosis	0.34	0.25	1.35	1.41	0.85	2.29	0.18
Transfusion <sup>†</sup>	0.34	0.24	1.41	1.41	0.88	2.29	0.16
IABP <sup>†</sup>	2.28	0.72	3.18	9.79	2.27	42.21	0.001**
ECMO <sup>†</sup>	3.86	0.79	4.87	47.49	11.94	315.67	<0.001***
Redo <sup>†</sup>	2.31	0.59	3.9	10.04	3.07	32.91	<0.001***

Table S1 (continued)

**Table S1** (continued)

Term	Estimate	STD error	Statistic	OR	2.5% CI	97.5% CI	P
Ventilation time <sup>†</sup>	0.05	0.01	4.78	1.05	1.03	1.07	<0.001***
ICU stay <sup>†</sup>	0.04	0.01	5.16	1.04	1.02	1.05	<0.001***
Low cardiac output syndrome <sup>†</sup>	3.68	0.66	5.55	39.83	12.08	179.38	<0.001***
Hospital-acquired pneumonia <sup>†</sup>	1.18	0.37	3.2	3.26	1.52	6.54	0.001**
Gap time	0.14	0.02	8.04	1.14	1.11	1.18	<0.001***
Operation time 2 <sup>‡</sup>	0	0.01	0.43	1	0.99	1.01	0.67
Hospitalized time <sup>‡</sup>	0.07	0.02	2.82	1.07	1.02	1.13	0.005**
Bacterial culture	-16.57	723.49	-0.02	0	NA	1.23E+16	0.98

<sup>†</sup>, the information related to the previous cardiac surgery; <sup>‡</sup>, the information related to the debridement and pectoralis major flaps transposition. \*, P<0.05; \*\*, P<0.01; \*\*\*, P<0.001. P value <0.05 indicates a significant statistical difference. STD, standard deviation; OR, odds ratio; CI, confidence interval; NYHA, New York Heart Association; BIMA, bilateral internal mammary arteries; SIMA, single internal mammary arteries; IABP, intra-aortic balloon pump; ECMO, extracorporeal membrane oxygenation; ICU, intensive care unit.

**Table S2** Preoperative multivariate logistic regression model results

Term	Estimate	STD error	Statistic	OR	2.5% CI	97.5% CI	P
Group							
Aorta	0.16	0.51	0.32	1.18	0.42	3.17	0.75
Complicated	-0.17	0.37	-0.46	0.85	0.41	1.72	0.65
Valve	-1.88	0.66	-2.84	0.15	0.04	0.52	0.004**
Diabetes mellitus	1.10	0.34	3.21	2.99	1.56	5.96	0.001**
Obesity	0.70	0.30	2.30	2.01	1.12	3.70	0.02*
Smoker	0.80	0.30	2.69	2.24	1.26	4.09	0.007**
Creatinine clearance							
<50	-0.19	1.27	-0.15	0.83	0.07	10.84	0.88
>85	1.13	1.22	0.93	3.11	0.29	38.81	0.35
50-85	-0.45	1.20	-0.38	0.64	0.06	7.55	0.71
Abnormal liver function	1.38	0.46	3.02	3.99	1.61	9.79	0.003**
Hypoalbuminemia	0.46	0.34	1.36	1.58	0.83	3.13	0.17
Anemia	0.86	0.28	3.00	2.35	1.35	4.14	0.003**
Extracardiac arteriopathy	0.13	0.31	0.40	1.13	0.61	2.10	0.69
EuroSCORE II	0.05	0.03	1.87	1.05	0.99	1.11	0.06
Chronic infection	0.66	0.33	2.01	1.93	1.00	3.62	0.045*
Immune disease	1.66	0.46	3.57	5.25	2.08	12.97	<0.001***

P value <0.05 indicates a significant statistical difference. \*, P<0.05; \*\*, P<0.01; \*\*\*, P<0.001. STD, standard deviation; OR, odds ratio; CI, confidence interval.

**Table S3** Postoperative multivariate logistic regression model results

Term	Estimate	STD error	Statistic	OR	2.5% CI	97.5% CI	P
Salvage surgery <sup>†</sup>	2.22	0.67	3.32	9.24	2.39	33.74	0.001**
Low temperature <sup>†</sup>	1.45	0.64	2.26	4.26	1.16	14.58	0.02*
IABP <sup>†</sup>	1.50	1.29	1.16	4.47	0.35	59.44	0.25
ECMO <sup>†</sup>	3.44	1.32	2.61	31.14	2.59	517.33	0.009**
Redo <sup>†</sup>	2.01	0.92	2.19	7.44	1.16	45.59	0.03*
Ventilation time <sup>†</sup>	-0.02	0.03	-0.57	0.98	0.92	1.05	0.57
ICU stay <sup>†</sup>	0.02	0.03	0.59	1.02	0.96	1.07	0.56
Hospital acquired pneumonia <sup>†</sup>	0.53	0.62	0.85	1.70	0.46	5.44	0.39
Gap time	0.18	0.02	8.72	1.20	1.15	1.25	<0.001***
Hospitalized time <sup>‡</sup>	0.02	0.04	0.52	1.02	0.95	1.09	0.60

P<0.05 indicates a significant statistical difference. <sup>†</sup>, the information related to the previous cardiac surgery; <sup>‡</sup>, the information related to the debridement and pectoralis major flaps transposition. \*, P <0.05; \*\* P<0.01; \*\*\* P<0.001. STD, standard deviation; OR, odds ratio; CI, confidence interval; IABP, intra-aortic balloon pump; ECMO, extracorporeal membrane oxygenation; ICU, intensive care unit.