Supplementary materials to Inference for meaningful estimands in factorial survival designs and competing risks settings

by Merle Munko

In this supplement, more detailed results of the simulation studies can be found. This includes the rejection rates under the null and under the alternative hypothesis as well as the empirical powers for all false hypotheses.

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A Tables of Simulation Results of Section 4.4

This section provides tables with detailed simulation results from Section 4.4, corresponding to the values reported in the supplement of [1].

A.1 Empirical Family-wise Error Rates

Tables S1–S18 contain the global rejection rates for all scenarios of Section 4.4 under the null hypothesis.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early,late,prop	equal	6.4	**5.2**	**5.6**	6.0	5.9	**5.0**	5.7	**4.8**
exp early,late,prop	unequal, high	6.9	**5.1**	5.9	5.9	6.1	**4.7**	**5.6**	4.3
exp early,late,prop	unequal, low	6.1	**5.1**	**5.4**	**5.4**	5.9	**4.5**	5.7	**4.7**
logn	equal	5.8	**4.7**	5.7	5.8	6.4	**4.8**	**4.9**	4.3
logn	unequal, high	6.6	**5.0**	6.8	6.8	7.5	**4.8**	5.9	**4.5**
logn	unequal, low	6.1	**5.0**	6.1	6.1	6.3	**5.2**	**4.8**	4.1
pwExp	equal	6.5	**5.3**	6.3	6.4	6.6	**5.5**	**5.1**	**4.6**
pwExp	unequal, high	6.9	**4.9**	6.0	6.1	6.4	**4.7**	**5.5**	4.3
pwExp	unequal, low	6.2	**5.0**	6.1	6.2	6.4	**5.1**	**5.3**	4.3
Weib late,prop	equal	6.3	**5.2**	6.0	6.0	6.4	**5.2**	5.8	**5.1**
Weib late,prop	unequal, high	7.1	**5.2**	6.5	6.8	7.0	**4.9**	**5.5**	**4.4**
Weib late,prop	unequal, low	6.3	**5.2**	5.9	6.1	6.3	**5.0**	**5.6**	**4.9**
Weib scale	equal	5.9	**4.8**	**5.4**	**5.5**	**5.6**	**4.5**	5.9	**5.2**
Weib scale	unequal, high	7.6	**5.6**	7.3	7.2	7.7	**5.4**	5.8	**4.7**
Weib scale	unequal, low	6.0	**5.1**	5.8	6.2	6.2	**4.7**	**5.4**	**4.8**
Weib shape	equal	**5.6**	**4.4**	**5.3**	**5.3**	**5.5**	**4.4**	5.8	**5.1**
Weib shape	unequal, high	7.1	**5.0**	6.7	6.9	7.3	**5.1**	5.9	**4.6**
Weib shape	unequal, low	**5.5**	**4.5**	**5.4**	**5.6**	5.8	4.3	**5.4**	**4.8**

All values in the binomial interval $[4.4, 5.62]$ are printed in bold type.

Table S1: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 0.0$ and balanced large sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early,late,prop	equal	7.3	**4.8**	6.7	7.0	7.4	**4.8**	6.1	4.3
exp early,late,prop	unequal, high	9.4	**5.3**	8.2	8.3	9.2	**4.8**	6.9	**4.8**
exp early,late,prop	unequal, low	7.8	**5.2**	7.4	7.6	8.0	**5.0**	6.2	**4.8**
logn	equal	7.3	**4.4**	6.2	6.6	7.3	4.0	6.4	**4.4**
logn	unequal, high	9.6	**5.0**	8.3	9.0	10.1	4.2	7.9	**4.9**
logn	unequal, low	8.1	**5.5**	7.3	7.6	8.4	**5.0**	6.8	**4.8**
pwExp	equal	7.6	**5.0**	7.1	7.1	7.6	**4.8**	6.0	**4.7**
pwExp	unequal, high	9.0	**5.0**	7.3	8.0	8.6	**4.5**	7.1	4.2
pwExp	unequal, low	7.7	**5.2**	6.6	6.7	7.1	**4.6**	6.3	**4.7**
Weib late,prop	equal	7.3	**4.6**	6.4	7.0	7.3	**4.6**	6.5	**4.7**
Weib late,prop	unequal, high	9.4	**5.4**	8.1	8.4	9.2	**4.4**	7.8	**4.8**
Weib late,prop	unequal, low	7.5	**4.7**	6.4	6.7	7.3	**4.6**	6.6	**5.1**
Weib scale	equal	8.1	**5.4**	7.2	7.5	8.4	**4.9**	6.6	**4.9**
Weib scale	unequal, high	8.9	**4.9**	7.5	8.1	9.1	3.9	8.0	**5.1**
Weib scale	unequal, low	8.2	**5.5**	7.5	7.7	8.5	**5.5**	6.7	**5.4**
Weib shape	equal	8.1	**5.2**	6.9	7.6	8.4	**4.8**	6.7	**4.9**
Weib shape	unequal, high	9.1	**5.2**	8.1	8.4	9.4	**4.4**	8.2	**5.1**
Weib shape	unequal, low	8.0	**5.1**	7.0	7.3	8.0	**4.7**	7.0	**5.4**

All values in the binomial interval $[4.4, 5.62]$ are printed in bold type.

Table S2: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 0.0$ and balanced medium sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early,late,prop	equal	10.1	**5.1**	8.0	8.5	9.5	4.0	7.3	**4.5**
exp early,late,prop	unequal, high	14.7	**4.9**	10.2	11.2	13.1	2.5	10.2	**4.6**
exp early,late,prop	unequal, low	11.2	**5.3**	8.7	9.1	10.1	3.8	8.2	**4.7**
logn	equal	11.5	**4.7**	9.2	10.3	11.9	3.8	8.6	**4.6**
logn	unequal, high	17.0	**5.2**	13.0	15.6	18.1	2.8	12.8	4.1
logn	unequal, low	12.1	**5.5**	10.1	10.8	12.4	4.3	9.2	**5.0**
pwExp	equal	10.2	**5.0**	8.4	8.8	10.0	4.0	7.9	4.3
pwExp	unequal, high	14.2	**4.9**	11.2	12.5	14.2	3.4	10.1	**4.4**
pwExp	unequal, low	11.4	**5.3**	9.1	9.5	10.7	3.9	8.3	**4.6**
Weib late,prop	equal	11.3	**5.4**	9.3	10.1	11.9	4.3	8.9	**4.7**
Weib late,prop	unequal, high	16.5	**5.1**	13.1	15.2	17.7	2.9	12.4	**4.4**
Weib late,prop	unequal, low	11.1	**5.2**	9.5	10.4	12.1	**4.4**	8.7	**5.1**
Weib scale	equal	10.6	**4.6**	8.7	9.5	11.3	3.7	9.4	**5.4**
Weib scale	unequal, high	16.6	**5.5**	13.0	15.5	18.3	3.2	12.6	**4.8**
Weib scale	unequal, low	11.1	**5.4**	9.5	10.2	11.9	3.9	9.1	**5.3**
Weib shape	equal	10.7	**5.1**	8.9	10.1	11.9	4.2	9.5	**5.5**
Weib shape	unequal, high	16.1	**5.4**	13.3	15.7	18.1	3.0	12.9	**4.9**
Weib shape	unequal, low	11.7	5.7	9.6	10.6	12.2	**4.4**	9.4	5.7

All values in the binomial interval $[4.4, 5.62]$ are printed in bold type.

Table S3: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 0.0$ and balanced small sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early,late,prop	equal	6.5	**4.8**	6.2	6.3	6.5	**5.1**	6.0	**5.0**
exp early,late,prop	unequal, high	7.1	**4.9**	6.8	6.8	7.2	**5.0**	6.1	**4.5**
exp early,late,prop	unequal, low	6.4	**4.7**	6.4	6.6	6.6	**5.2**	5.8	**4.7**
logn	equal	6.5	**4.8**	6.3	6.4	6.6	**4.9**	**5.2**	4.0
logn	unequal, high	7.7	**4.9**	7.2	7.6	8.1	**4.6**	5.7	3.9
logn	unequal, low	6.5	**4.9**	6.2	6.3	6.9	**4.8**	**5.2**	4.2
pwExp	equal	6.9	**5.2**	5.9	6.1	6.3	**5.0**	**5.2**	4.2
pwExp	unequal, high	7.2	**5.0**	6.0	6.1	6.5	**4.5**	5.9	4.0
pwExp	unequal, low	6.7	**5.0**	5.7	5.7	6.1	**4.4**	**5.0**	3.9
Weib late,prop	equal	7.0	**5.5**	6.5	6.8	6.7	**5.0**	**5.5**	**4.4**
Weib late,prop	unequal, high	7.2	**4.7**	6.8	7.1	7.4	**4.5**	6.3	4.2
Weib late,prop	unequal, low	6.4	**4.9**	5.9	6.1	6.5	**4.5**	**5.5**	**4.5**
Weib scale	equal	6.7	**5.0**	6.2	6.3	6.6	**4.7**	**5.4**	**4.5**
Weib scale	unequal, high	7.0	**4.8**	6.8	7.0	7.5	**4.5**	6.3	4.2
Weib scale	unequal, low	6.8	**5.3**	6.2	6.4	6.7	**5.0**	**5.4**	**4.4**
Weib shape	equal	6.7	**5.2**	6.1	6.4	6.7	**4.8**	**5.5**	**4.7**
Weib shape	unequal, high	7.2	**4.9**	6.6	6.8	7.5	**4.4**	6.5	**4.5**
Weib shape	unequal, low	6.7	**5.0**	**5.6**	5.9	6.3	**4.6**	**5.4**	**4.5**

All values in the binomial interval $[4.4, 5.62]$ are printed in bold type.

Table S4: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 0.0$ and unbalanced large sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early,late,prop	equal	8.4	**4.7**	7.0	7.2	7.7	**4.6**	6.0	3.6
exp early,late,prop	unequal, high	10.9	**5.6**	8.9	9.5	10.4	**4.8**	7.4	3.9
exp early,late,prop	unequal, low	9.0	**5.3**	7.4	7.4	8.2	**4.9**	6.1	3.7
logn	equal	8.8	**5.1**	7.7	8.1	9.0	**4.8**	6.9	4.2
logn	unequal, high	11.9	**5.5**	10.1	11.0	12.2	4.1	8.5	4.3
logn	unequal, low	9.2	**5.5**	7.7	8.2	9.1	**4.5**	7.4	**4.5**
pwExp	equal	7.6	4.3	6.7	7.0	7.5	**4.7**	6.2	4.0
pwExp	unequal, high	11.0	**5.3**	9.1	9.2	10.2	**4.7**	7.7	4.2
pwExp	unequal, low	8.1	**5.1**	7.2	7.5	7.9	**4.6**	6.6	4.3
Weib late,prop	equal	8.5	**4.9**	7.5	8.0	8.7	**4.8**	6.9	4.2
Weib late,prop	unequal, high	10.6	**4.8**	8.9	9.6	11.0	3.7	8.6	3.9
Weib late,prop	unequal, low	8.9	**5.5**	7.5	8.0	8.8	**4.5**	7.0	**4.6**
Weib scale	equal	9.2	**5.2**	7.8	8.1	9.1	**4.7**	6.8	**4.5**
Weib scale	unequal, high	10.8	**4.8**	9.8	10.4	12.0	3.8	8.5	3.9
Weib scale	unequal, low	8.8	**5.1**	7.6	7.9	9.0	**4.7**	7.0	**4.8**
Weib shape	equal	8.6	**4.7**	7.9	8.3	9.0	**4.9**	6.9	**4.5**
Weib shape	unequal, high	11.2	**5.2**	9.7	10.6	11.9	4.2	8.6	4.0
Weib shape	unequal, low	8.4	**5.1**	7.2	7.7	8.7	4.3	7.2	**4.7**

All values in the binomial interval $[4.4, 5.62]$ are printed in bold type.

Table S5: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 0.0$ and unbalanced medium sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early,late,prop	equal	12.3	**4.8**	9.6	10.0	11.5	4.1	8.3	4.0
exp early,late,prop	unequal, high	18.1	**5.2**	12.8	14.3	16.4	3.4	12.2	**4.4**
exp early,late,prop	unequal, low	13.8	**5.3**	10.0	10.9	12.4	4.1	9.6	**4.6**
logn	equal	12.7	**4.7**	10.8	12.0	13.8	3.7	9.4	4.0
logn	unequal, high	21.4	**4.5**	17.1	21.6	23.1	3.7	15.6	4.0
logn	unequal, low	14.5	6.4	11.1	12.9	14.5	4.0	10.8	**4.7**
pwExp	equal	11.3	**4.6**	8.6	9.3	10.6	3.7	9.1	4.3
pwExp	unequal, high	17.8	4.1	13.4	15.2	17.6	3.2	13.2	4.0
pwExp	unequal, low	13.2	**5.2**	10.1	10.9	12.8	3.6	10.3	**4.7**
Weib late,prop	equal	11.8	**4.6**	9.8	10.9	13.0	3.6	9.9	4.3
Weib late,prop	unequal, high	20.6	**4.9**	16.0	20.3	22.1	3.6	15.2	3.7
Weib late,prop	unequal, low	14.4	6.5	12.2	13.9	15.4	4.3	10.5	**5.0**
Weib scale	equal	12.2	**4.8**	10.3	11.8	13.7	3.9	10.0	4.1
Weib scale	unequal, high	20.8	**4.7**	16.4	20.7	22.9	3.0	15.1	3.8
Weib scale	unequal, low	13.5	5.9	11.0	12.5	14.8	3.9	10.5	**4.7**
Weib shape	equal	12.8	**4.9**	10.6	11.9	13.9	3.7	10.0	4.3
Weib shape	unequal, high	20.1	**4.7**	15.9	19.8	22.4	2.7	14.7	3.9
Weib shape	unequal, low	14.4	6.1	11.4	13.2	14.9	4.0	10.5	**4.7**

All values in the binomial interval $[4.4, 5.62]$ are printed in bold type.

Table S6: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 0.0$ and unbalanced small sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early,late,prop	equal	6.4	**5.2**	6.3	6.3	6.6	**5.2**	**4.9**	4.0
exp early,late,prop	unequal, high	6.9	**5.1**	6.5	6.6	7.2	**4.7**	5.7	**4.5**
exp early,late,prop	unequal, low	6.1	**5.1**	5.9	6.0	6.1	**5.0**	**5.5**	**4.4**
logn	equal	5.8	**4.7**	6.0	6.3	6.5	**4.9**	**5.0**	4.1
logn	unequal, high	6.6	**5.0**	6.9	7.2	8.0	**4.5**	**5.6**	3.9
logn	unequal, low	6.1	**5.0**	6.2	6.4	6.9	**4.9**	**4.8**	3.7
pwExp	equal	6.5	**5.3**	5.8	6.1	6.4	**4.6**	**5.1**	4.0
pwExp	unequal, high	6.9	**4.9**	6.6	6.9	7.1	**4.8**	**5.6**	4.3
pwExp	unequal, low	6.2	**5.0**	6.0	6.2	6.5	**4.8**	**4.9**	4.1
Weib late,prop	equal	6.3	**5.2**	6.3	6.9	6.9	**5.2**	**5.4**	4.2
Weib late,prop	unequal, high	7.1	**5.2**	7.0	7.2	8.1	**5.0**	**5.5**	4.2
Weib late,prop	unequal, low	6.3	**5.2**	6.4	6.9	7.3	**5.2**	**5.4**	**4.5**
Weib scale	equal	5.9	**4.8**	5.8	6.3	6.5	**4.8**	**5.4**	4.3
Weib scale	unequal, high	7.6	**5.6**	7.4	7.7	8.6	**5.3**	**5.6**	4.3
Weib scale	unequal, low	6.0	**5.1**	6.4	6.6	6.9	**5.2**	**5.4**	**4.6**
Weib shape	equal	**5.6**	**4.4**	**5.5**	5.8	6.2	**4.5**	**5.4**	**4.4**
Weib shape	unequal, high	7.1	**5.0**	7.1	7.5	8.2	**5.2**	**5.5**	4.3
Weib shape	unequal, low	**5.5**	**4.5**	**5.5**	5.9	6.3	**4.6**	**5.5**	**4.6**

All values in the binomial interval $[4.4, 5.62]$ are printed in bold type.

Table S7: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 0.0$ and balanced large sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early,late,prop	equal	7.3	**4.8**	6.9	7.2	7.8	**4.7**	6.0	4.3
exp early,late,prop	unequal, high	9.4	**5.3**	8.3	8.9	10.0	**4.6**	7.5	**4.5**
exp early,late,prop	unequal, low	7.8	**5.2**	7.6	8.1	8.6	**4.7**	6.3	4.2
logn	equal	7.3	**4.4**	7.0	7.5	8.5	4.1	6.2	4.1
logn	unequal, high	9.6	**5.0**	9.2	10.0	11.7	3.8	8.1	4.1
logn	unequal, low	8.1	**5.5**	7.7	8.2	9.4	**4.8**	6.2	3.9
pwExp	equal	7.6	**5.0**	7.1	7.5	8.3	**5.0**	5.9	4.1
pwExp	unequal, high	9.0	**5.0**	8.3	8.8	10.0	**4.4**	6.5	4.1
pwExp	unequal, low	7.7	**5.2**	7.4	7.7	8.3	**4.8**	6.0	4.3
Weib late,prop	equal	7.3	**4.6**	7.2	7.7	8.9	**4.7**	7.1	**4.8**
Weib late,prop	unequal, high	9.4	**5.4**	9.4	10.1	11.8	**4.5**	7.9	4.2
Weib late,prop	unequal, low	7.5	**4.7**	7.4	8.1	8.8	**4.7**	7.3	**4.9**
Weib scale	equal	8.1	**5.4**	8.0	8.7	9.7	**5.3**	7.1	**4.7**
Weib scale	unequal, high	8.9	**4.9**	8.3	9.5	11.3	3.9	8.0	**4.4**
Weib scale	unequal, low	8.2	**5.5**	8.5	9.0	10.3	**5.2**	7.2	**4.8**
Weib shape	equal	8.1	**5.2**	7.8	8.7	9.4	**5.0**	7.0	**4.7**
Weib shape	unequal, high	9.1	**5.2**	9.0	10.0	11.6	3.8	8.0	**4.5**
Weib shape	unequal, low	8.0	**5.1**	7.8	8.2	9.6	**4.5**	7.3	**4.7**

All values in the binomial interval $[4.4, 5.62]$ are printed in bold type.

Table S8: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 0.0$ and balanced medium sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early,late,prop	equal	10.1	**5.1**	9.2	10.1	11.9	4.0	7.7	4.2
exp early,late,prop	unequal, high	14.7	**4.9**	12.7	14.6	17.5	2.2	10.4	4.3
exp early,late,prop	unequal, low	11.2	**5.3**	10.4	11.5	13.1	4.2	8.5	**4.5**
logn	equal	11.5	**4.7**	11.1	12.5	15.1	3.7	10.0	4.1
logn	unequal, high	17.0	**5.2**	16.2	20.2	23.8	2.7	15.2	4.2
logn	unequal, low	12.1	**5.5**	11.7	13.2	16.0	4.0	10.1	**4.6**
pwExp	equal	10.2	**5.0**	9.3	10.4	12.2	3.5	8.1	4.1
pwExp	unequal, high	14.2	**4.9**	12.5	14.8	17.6	2.6	10.9	3.9
pwExp	unequal, low	11.4	**5.3**	10.1	11.4	13.5	3.3	8.6	3.9
Weib late,prop	equal	11.3	**5.4**	10.7	12.1	14.6	3.7	9.5	**4.4**
Weib late,prop	unequal, high	16.5	**5.1**	15.8	19.5	23.1	2.7	14.3	4.2
Weib late,prop	unequal, low	11.1	**5.2**	10.4	11.8	14.4	4.0	9.8	**4.8**
Weib scale	equal	10.6	**4.6**	10.0	11.3	14.0	3.4	9.5	**4.7**
Weib scale	unequal, high	16.6	**5.5**	15.9	19.6	22.9	3.1	14.1	4.2
Weib scale	unequal, low	11.1	**5.4**	10.7	12.5	15.2	3.7	9.9	**4.7**
Weib shape	equal	10.7	**5.1**	10.3	11.5	14.0	3.9	9.7	**4.8**
Weib shape	unequal, high	16.1	**5.4**	15.4	20.0	23.4	2.7	14.3	**4.6**
Weib shape	unequal, low	11.7	5.7	11.1	12.8	15.9	4.2	10.1	**5.1**

All values in the binomial interval $[4.4, 5.62]$ are printed in bold type.

Table S9: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 0.0$ and balanced small sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early,late,prop	equal	6.5	**4.8**	6.1	6.4	6.8	**4.7**	6.0	**4.6**
exp early,late,prop	unequal, high	7.1	**4.9**	6.9	7.4	7.9	**5.2**	6.2	4.2
exp early,late,prop	unequal, low	6.4	**4.7**	6.6	7.0	7.1	**4.9**	6.2	**4.7**
logn	equal	6.5	**4.8**	6.5	6.8	7.4	**5.0**	**5.2**	3.8
logn	unequal, high	7.7	**4.9**	7.1	7.7	8.8	**4.6**	6.3	3.9
logn	unequal, low	6.5	**4.9**	6.4	6.7	7.4	**4.6**	**5.3**	4.1
pwExp	equal	6.9	**5.2**	6.7	6.9	7.1	**5.3**	**5.1**	3.9
pwExp	unequal, high	7.2	**5.0**	6.9	7.1	7.6	**5.0**	5.7	3.8
pwExp	unequal, low	6.7	**5.0**	6.2	6.5	6.7	**4.8**	**5.0**	3.9
Weib late,prop	equal	7.0	**5.5**	6.4	7.0	7.3	**5.1**	**5.5**	**4.4**
Weib late,prop	unequal, high	7.2	**4.7**	7.0	7.5	8.3	**4.5**	6.4	**4.4**
Weib late,prop	unequal, low	6.4	**4.9**	6.3	6.8	7.4	**4.5**	5.9	**4.5**
Weib scale	equal	6.7	**5.0**	6.1	6.7	7.0	**4.8**	**5.6**	**4.4**
Weib scale	unequal, high	7.0	**4.8**	6.8	7.2	8.0	**4.5**	6.3	4.2
Weib scale	unequal, low	6.8	**5.3**	6.5	7.1	7.4	**4.7**	5.8	**4.6**
Weib shape	equal	6.7	**5.2**	6.3	6.8	7.3	**4.8**	**5.5**	4.1
Weib shape	unequal, high	7.2	**4.9**	6.7	7.1	8.2	**4.5**	6.2	4.1
Weib shape	unequal, low	6.7	**5.0**	6.6	6.9	7.3	**4.7**	5.7	**4.5**

All values in the binomial interval $[4.4, 5.62]$ are printed in bold type.

Table S10: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 0.0$ and unbalanced large sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early,late,prop	equal	8.4	**4.7**	8.0	8.4	9.4	**4.6**	6.5	3.8
exp early,late,prop	unequal, high	10.9	**5.6**	10.0	10.9	12.4	**5.3**	8.8	4.2
exp early,late,prop	unequal, low	9.0	**5.3**	8.4	8.7	9.6	**5.2**	6.9	4.1
logn	equal	8.8	**5.1**	8.4	9.3	10.4	**4.7**	7.2	4.1
logn	unequal, high	11.9	**5.5**	11.4	13.0	15.1	4.3	9.4	4.0
logn	unequal, low	9.2	**5.5**	9.2	10.0	11.4	**4.6**	7.6	**4.6**
pwExp	equal	7.6	4.3	7.4	7.8	8.3	**4.6**	6.7	3.8
pwExp	unequal, high	11.0	**5.3**	10.5	11.3	12.5	5.8	8.3	4.3
pwExp	unequal, low	8.1	**5.1**	7.8	8.6	9.4	**4.8**	7.1	4.3
Weib late,prop	equal	8.5	**4.9**	8.2	9.0	10.4	**4.9**	7.2	**4.6**
Weib late,prop	unequal, high	10.6	**4.8**	10.8	12.4	14.4	4.0	9.5	4.1
Weib late,prop	unequal, low	8.9	**5.5**	8.4	9.3	10.7	**4.8**	7.9	**4.8**
Weib scale	equal	9.2	**5.2**	8.4	9.2	10.5	**5.3**	7.2	4.3
Weib scale	unequal, high	10.8	**4.8**	10.9	12.4	14.4	3.9	9.0	3.8
Weib scale	unequal, low	8.8	**5.1**	8.4	9.3	10.9	4.2	7.7	4.3
Weib shape	equal	8.6	**4.7**	8.3	9.2	10.5	**4.9**	7.3	**4.4**
Weib shape	unequal, high	11.2	**5.2**	10.9	12.3	14.3	**4.4**	9.0	4.0
Weib shape	unequal, low	8.4	**5.1**	8.3	9.2	10.2	4.1	7.6	**4.4**

All values in the binomial interval $[4.4, 5.62]$ are printed in bold type.

Table S11: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 0.0$ and unbalanced medium sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early,late,prop	equal	12.3	**4.8**	11.3	12.5	14.9	**4.7**	9.4	3.6
exp early,late,prop	unequal, high	18.1	**5.2**	16.3	19.4	21.4	4.0	14.2	4.3
exp early,late,prop	unequal, low	13.8	**5.3**	12.6	13.9	16.4	**5.2**	11.4	**4.8**
logn	equal	12.7	**4.7**	12.7	14.8	17.2	**4.4**	10.3	3.8
logn	unequal, high	21.4	**4.5**	20.7	26.7	29.0	**4.7**	18.7	**4.5**
logn	unequal, low	14.5	6.4	14.0	16.8	19.0	**5.4**	12.4	**5.1**
pwExp	equal	11.3	**4.6**	10.3	11.3	13.5	4.2	9.9	3.9
pwExp	unequal, high	17.8	4.1	16.0	18.6	21.8	3.8	14.3	3.5
pwExp	unequal, low	13.2	**5.2**	12.4	14.0	16.0	**4.4**	11.5	4.2
Weib late,prop	equal	11.8	**4.6**	11.7	13.8	16.1	4.1	10.9	**4.4**
Weib late,prop	unequal, high	20.6	**4.9**	19.1	25.5	28.2	4.2	18.5	4.3
Weib late,prop	unequal, low	14.4	6.5	14.3	16.7	19.2	**5.2**	12.2	**5.4**
Weib scale	equal	12.2	**4.8**	11.7	13.5	16.3	4.0	10.5	4.1
Weib scale	unequal, high	20.8	**4.7**	19.8	25.7	28.1	3.8	17.3	3.6
Weib scale	unequal, low	13.5	5.9	12.9	15.2	17.3	4.3	11.5	**4.8**
Weib shape	equal	12.8	**4.9**	12.0	14.4	17.2	4.0	10.5	4.0
Weib shape	unequal, high	20.1	**4.7**	19.3	25.1	27.6	3.7	17.0	3.9
Weib shape	unequal, low	14.4	6.1	13.7	16.1	19.0	**4.5**	11.6	**4.8**

All values in the binomial interval $[4.4, 5.62]$ are printed in bold type.

Table S12: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 0.0$ and unbalanced small sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early,late,prop	equal	6.4	**5.2**	6.5	6.8	6.8	**5.2**	5.8	**4.7**
exp early,late,prop	unequal, high	6.9	**5.1**	6.7	6.9	7.3	**4.9**	6.5	**4.8**
exp early,late,prop	unequal, low	6.1	**5.1**	6.1	6.3	6.6	**4.9**	6.1	**4.8**
logn	equal	5.8	**4.7**	**5.6**	6.0	6.3	**4.5**	**5.6**	**4.4**
logn	unequal, high	6.6	**5.0**	6.8	7.3	7.8	**4.7**	6.1	**4.5**
logn	unequal, low	6.1	**5.0**	5.7	5.8	6.2	**4.6**	**5.3**	4.1
pwExp	equal	6.5	**5.3**	6.7	6.8	7.0	**5.3**	**5.5**	**4.5**
pwExp	unequal, high	6.9	**4.9**	7.2	7.4	7.8	**4.9**	6.3	**4.6**
pwExp	unequal, low	6.2	**5.0**	6.6	6.7	7.1	**5.0**	5.8	**4.5**
Weib late,prop	equal	6.3	**5.2**	6.3	6.6	6.9	**5.1**	5.8	**4.8**
Weib late,prop	unequal, high	7.1	**5.2**	7.2	7.6	8.1	**5.3**	5.8	4.3
Weib late,prop	unequal, low	6.3	**5.2**	6.3	6.6	6.9	**4.9**	5.8	**4.8**
Weib scale	equal	5.9	**4.8**	6.0	6.3	6.7	**5.0**	5.8	**4.8**
Weib scale	unequal, high	7.6	**5.6**	7.0	7.2	7.9	**4.9**	6.1	**4.5**
Weib scale	unequal, low	6.0	**5.1**	6.5	6.8	7.2	**5.1**	5.8	**4.8**
Weib shape	equal	**5.6**	**4.4**	**5.6**	5.9	6.1	**4.4**	5.8	**4.8**
Weib shape	unequal, high	7.1	**5.0**	6.4	6.9	7.3	**4.7**	5.9	**4.5**
Weib shape	unequal, low	**5.5**	**4.5**	**5.6**	5.7	6.4	**4.6**	6.1	**4.9**

All values in the binomial interval $[4.4, 5.62]$ are printed in bold type.

Table S13: Rejection rates in percent for the Grand-mean-type contrast matrix with $\delta = 0.0$ and balanced large sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early,late,prop	equal	7.3	**4.8**	7.4	7.7	8.1	**4.8**	7.8	**5.0**
exp early,late,prop	unequal, high	9.4	**5.3**	9.5	9.9	10.7	6.0	9.2	**4.8**
exp early,late,prop	unequal, low	7.8	**5.2**	7.5	8.0	8.9	**5.2**	7.4	**4.9**
logn	equal	7.3	**4.4**	7.5	8.0	8.6	**4.6**	7.1	**4.5**
logn	unequal, high	9.6	**5.0**	9.3	10.1	11.2	3.9	9.2	**4.9**
logn	unequal, low	8.1	**5.5**	7.6	8.2	9.3	**4.5**	7.2	**4.7**
pwExp	equal	7.6	**5.0**	7.9	8.2	8.6	**5.0**	6.8	**4.4**
pwExp	unequal, high	9.0	**5.0**	9.4	9.8	10.7	5.7	8.3	**4.6**
pwExp	unequal, low	7.7	**5.2**	7.8	8.1	8.5	**5.0**	6.9	**4.6**
Weib late,prop	equal	7.3	**4.6**	7.1	7.5	8.4	**4.7**	8.0	**5.4**
Weib late,prop	unequal, high	9.4	**5.4**	9.0	9.9	11.2	**5.0**	9.1	**4.9**
Weib late,prop	unequal, low	7.5	**4.7**	7.2	7.8	8.8	**4.7**	8.2	**5.3**
Weib scale	equal	8.1	**5.4**	7.9	8.6	9.4	**4.9**	7.8	**5.1**
Weib scale	unequal, high	8.9	**4.9**	8.3	9.3	10.7	4.0	9.2	**4.7**
Weib scale	unequal, low	8.2	**5.5**	8.6	9.4	9.9	**5.4**	7.9	**5.1**
Weib shape	equal	8.1	**5.2**	7.5	8.5	9.1	**4.8**	7.4	**4.9**
Weib shape	unequal, high	9.1	**5.2**	8.4	9.4	10.6	4.1	8.7	**4.7**
Weib shape	unequal, low	8.0	**5.1**	7.6	8.4	9.2	**4.6**	8.0	**5.0**

All values in the binomial interval $[4.4, 5.62]$ are printed in bold type.

Table S14: Rejection rates in percent for the Grand-mean-type contrast matrix with $\delta = 0.0$ and balanced medium sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early,late,prop	equal	10.1	**5.1**	10.2	11.0	11.9	5.9	9.7	4.3
exp early,late,prop	unequal, high	14.7	**4.9**	15.0	16.0	17.8	7.4	14.3	**5.0**
exp early,late,prop	unequal, low	11.2	**5.3**	11.5	12.2	13.2	6.2	10.6	**4.5**
logn	equal	11.5	**4.7**	11.1	12.5	14.3	**4.4**	11.2	**4.7**
logn	unequal, high	17.0	**5.2**	16.1	19.3	20.9	**5.4**	16.2	**4.9**
logn	unequal, low	12.1	**5.5**	11.5	12.8	14.3	**4.7**	10.8	**4.9**
pwExp	equal	10.2	**5.0**	10.3	11.1	12.5	**5.4**	10.1	4.3
pwExp	unequal, high	14.2	**4.9**	14.7	15.7	17.7	6.7	13.9	**4.6**
pwExp	unequal, low	11.4	**5.3**	11.3	12.0	13.5	5.7	10.7	4.0
Weib late,prop	equal	11.3	**5.4**	10.6	11.9	13.9	**4.8**	10.6	**5.0**
Weib late,prop	unequal, high	16.5	**5.1**	15.8	18.5	20.2	**4.6**	15.1	**4.7**
Weib late,prop	unequal, low	11.1	**5.2**	10.6	12.4	13.8	**4.4**	10.5	**5.3**
Weib scale	equal	10.6	**4.6**	9.5	11.0	12.7	3.9	10.5	**5.1**
Weib scale	unequal, high	16.6	**5.5**	16.4	19.2	20.7	**4.9**	14.9	**4.8**
Weib scale	unequal, low	11.1	**5.4**	10.4	11.9	13.6	**4.7**	10.9	**5.3**
Weib shape	equal	10.7	**5.1**	10.0	11.7	13.0	**4.5**	10.6	**5.1**
Weib shape	unequal, high	16.1	**5.4**	15.6	18.5	20.2	**4.7**	14.9	**4.9**
Weib shape	unequal, low	11.7	5.7	10.7	12.2	13.6	**4.7**	10.8	**5.1**

All values in the binomial interval $[4.4, 5.62]$ are printed in bold type.

Table S15: Rejection rates in percent for the Grand-mean-type contrast matrix with $\delta = 0.0$ and balanced small sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early,late,prop	equal	6.5	**4.8**	6.0	6.5	6.6	**4.6**	6.6	**5.0**
exp early,late,prop	unequal, high	7.1	**4.9**	7.5	7.6	8.4	**5.2**	7.4	**4.9**
exp early,late,prop	unequal, low	6.4	**4.7**	6.3	6.6	7.1	**4.5**	6.5	**4.6**
logn	equal	6.5	**4.8**	6.1	6.3	6.9	**4.7**	5.9	**4.5**
logn	unequal, high	7.7	**4.9**	7.5	8.0	8.9	**4.4**	6.8	**4.6**
logn	unequal, low	6.5	**4.9**	6.2	6.5	7.1	**4.7**	5.9	**4.6**
pwExp	equal	6.9	**5.2**	6.5	6.8	7.1	**5.2**	6.2	**4.5**
pwExp	unequal, high	7.2	**5.0**	7.2	7.6	7.8	**5.1**	6.4	**4.5**
pwExp	unequal, low	6.7	**5.0**	6.0	6.1	6.6	**4.5**	5.8	**4.4**
Weib late,prop	equal	7.0	**5.5**	6.6	7.2	7.1	**5.2**	6.0	**4.8**
Weib late,prop	unequal, high	7.2	**4.7**	6.8	7.4	8.1	**4.6**	6.7	4.3
Weib late,prop	unequal, low	6.4	**4.9**	6.3	6.8	7.6	**4.7**	6.2	**4.9**
Weib scale	equal	6.7	**5.0**	6.5	6.8	7.2	**5.1**	6.0	**4.4**
Weib scale	unequal, high	7.0	**4.8**	7.2	7.8	8.3	**4.8**	6.6	**4.6**
Weib scale	unequal, low	6.8	**5.3**	6.4	7.0	7.4	**4.8**	6.1	**4.7**
Weib shape	equal	6.7	**5.2**	6.5	7.0	7.3	**5.1**	6.0	**4.4**
Weib shape	unequal, high	7.2	**4.9**	6.8	7.5	8.0	**4.6**	6.8	**4.8**
Weib shape	unequal, low	6.7	**5.0**	6.1	6.8	7.3	**4.8**	6.2	**4.6**

All values in the binomial interval $[4.4, 5.62]$ are printed in bold type.

Table S16: Rejection rates in percent for the Grand-mean-type contrast matrix with $\delta = 0.0$ and unbalanced large sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early,late,prop	equal	8.4	**4.7**	7.9	8.4	9.1	**4.7**	7.3	4.3
exp early,late,prop	unequal, high	10.9	**5.6**	11.2	12.0	12.7	6.4	10.1	**4.6**
exp early,late,prop	unequal, low	9.0	**5.3**	8.5	8.9	9.5	**5.6**	7.4	**4.5**
logn	equal	8.8	**5.1**	8.1	8.9	9.7	4.3	7.9	**4.4**
logn	unequal, high	11.9	**5.5**	11.6	13.3	14.4	**4.5**	10.1	**4.5**
logn	unequal, low	9.2	**5.5**	9.3	9.9	11.4	**4.4**	8.1	**5.1**
pwExp	equal	7.6	4.3	7.6	7.8	8.7	**4.9**	7.7	4.3
pwExp	unequal, high	11.0	**5.3**	11.0	11.5	12.8	6.3	10.3	**4.9**
pwExp	unequal, low	8.1	**5.1**	8.0	8.5	9.3	**5.1**	8.2	**4.8**
Weib late,prop	equal	8.5	**4.9**	8.2	8.8	9.7	**4.8**	8.4	**4.8**
Weib late,prop	unequal, high	10.6	**4.8**	10.7	12.0	13.6	**4.5**	10.1	4.3
Weib late,prop	unequal, low	8.9	**5.5**	8.4	9.1	10.3	**4.8**	8.6	**5.5**
Weib scale	equal	9.2	**5.2**	8.9	9.3	10.4	5.8	8.1	**4.9**
Weib scale	unequal, high	10.8	**4.8**	10.5	12.1	13.4	**4.4**	9.8	4.2
Weib scale	unequal, low	8.8	**5.1**	8.2	8.9	10.0	**4.5**	8.8	**5.4**
Weib shape	equal	8.6	**4.7**	8.3	9.0	10.0	**4.8**	8.3	**4.8**
Weib shape	unequal, high	11.2	**5.2**	11.0	12.4	13.8	**4.9**	9.7	4.3
Weib shape	unequal, low	8.4	**5.1**	7.9	8.8	9.8	**4.5**	8.8	**5.2**

All values in the binomial interval $[4.4, 5.62]$ are printed in bold type.

Table S17: Rejection rates in percent for the Grand-mean-type contrast matrix with $\delta = 0.0$ and unbalanced medium sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early,late,prop	equal	12.3	**4.8**	12.1	13.2	14.8	6.2	10.9	4.3
exp early,late,prop	unequal, high	18.1	**5.2**	18.4	20.4	21.7	7.6	16.7	**4.7**
exp early,late,prop	unequal, low	13.8	**5.3**	13.2	14.4	16.0	6.3	12.3	**5.2**
logn	equal	12.7	**4.7**	12.4	14.7	16.4	**4.7**	11.1	**4.4**
logn	unequal, high	21.4	**4.5**	20.5	24.8	25.9	6.5	19.8	**4.4**
logn	unequal, low	14.5	6.4	13.5	16.2	17.7	**5.3**	13.0	**5.4**
pwExp	equal	11.3	**4.6**	11.1	12.1	13.5	5.7	11.4	**4.5**
pwExp	unequal, high	17.8	4.1	17.8	20.0	21.6	7.7	17.2	4.1
pwExp	unequal, low	13.2	**5.2**	12.8	13.8	15.4	7.1	13.0	**4.8**
Weib late,prop	equal	11.8	**4.6**	11.6	13.8	15.5	**4.6**	11.9	**5.0**
Weib late,prop	unequal, high	20.6	**4.9**	19.6	23.5	25.0	**5.3**	18.6	**4.9**
Weib late,prop	unequal, low	14.4	6.5	13.4	15.7	17.3	**5.4**	12.3	**5.5**
Weib scale	equal	12.2	**4.8**	11.6	13.5	14.5	**4.9**	11.4	**4.6**
Weib scale	unequal, high	20.8	**4.7**	19.8	23.4	24.7	5.7	18.4	**4.6**
Weib scale	unequal, low	13.5	5.9	13.0	15.5	16.5	**4.8**	12.2	**5.0**
Weib shape	equal	12.8	**4.9**	12.0	13.9	15.7	**4.6**	11.2	**4.8**
Weib shape	unequal, high	20.1	**4.7**	18.9	22.6	24.1	5.8	17.8	**4.4**
Weib shape	unequal, low	14.4	6.1	13.7	16.2	17.5	**5.3**	12.1	**4.9**

All values in the binomial interval $[4.4, 5.62]$ are printed in bold type.

Table S18: Rejection rates in percent for the Grand-mean-type contrast matrix with $\delta = 0.0$ and unbalanced small sample sizes.

A.2 Empirical Power for the Global Hypothesis

Tables S19–S36 contain the global rejection rates for all scenarios of Section 4.4 under the alternative hypothesis.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early	equal	71.9	68.6	57.5	57.7	58.4	55.0	57.3	55.0
exp early	unequal, high	63.0	57.0	47.2	47.8	48.3	43.1	46.4	42.0
exp early	unequal, low	73.3	69.6	57.0	57.0	57.6	54.3	57.0	53.9
exp late	equal	93.8	92.6	75.6	75.6	76.2	72.7	73.2	71.0
exp late	unequal, high	85.7	81.4	61.5	62.0	62.3	55.7	58.8	54.3
exp late	unequal, low	94.0	92.6	73.5	74.0	74.3	70.2	71.9	69.2
exp prop	equal	83.9	81.2	66.9	66.9	67.0	64.5	64.7	62.2
exp prop	unequal, high	73.0	67.7	53.1	53.4	54.0	48.7	51.0	47.3
exp prop	unequal, low	83.9	80.8	64.8	65.0	65.1	61.9	62.9	60.3
logn	equal	91.3	89.4	80.1	80.2	80.8	77.7	79.3	77.0
logn	unequal, high	79.3	73.9	64.2	64.7	65.8	59.5	63.8	59.8
logn	unequal, low	93.5	92.2	81.0	81.5	81.8	78.8	80.3	78.0
pwExp	equal	67.4	63.8	55.3	55.9	56.5	52.6	53.3	51.0
pwExp	unequal, high	58.8	53.0	46.0	46.4	46.9	41.3	43.1	39.1
pwExp	unequal, low	67.2	63.2	53.8	54.2	54.6	51.2	53.0	50.3
Weib late	equal	99.7	99.6	95.0	95.1	95.1	94.0	94.3	93.4
Weib late	unequal, high	97.1	95.6	83.8	84.2	84.8	80.5	82.0	79.0
Weib late	unequal, low	99.7	99.7	94.5	94.6	94.8	93.6	94.1	92.9
Weib prop	equal	97.8	97.3	90.5	90.6	90.8	89.1	89.8	88.1
Weib prop	unequal, high	90.6	87.8	76.1	76.7	77.2	72.1	75.3	71.4
Weib prop	unequal, low	98.2	97.7	90.4	90.6	90.9	88.6	89.6	88.1
Weib scale	equal	81.6	78.8	72.8	72.9	73.2	69.9	70.4	68.2
Weib scale	unequal, high	69.0	63.9	58.2	58.7	59.5	53.7	56.1	51.6
Weib scale	unequal, low	82.2	79.9	72.0	71.9	72.8	69.7	71.7	69.0
Weib shape	equal	55.0	51.0	50.4	50.7	51.6	46.7	49.1	46.4
Weib shape	unequal, high	48.8	43.1	42.8	43.2	44.5	38.3	40.8	37.2
Weib shape	unequal, low	55.9	51.9	50.2	50.7	51.5	46.7	48.7	46.0

Table S19: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and balanced large sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early	equal	45.7	38.0	34.1	34.4	35.4	28.6	31.8	27.1
exp early	unequal, high	40.7	29.3	28.4	29.1	30.2	20.9	26.6	20.7
exp early	unequal, low	46.6	37.8	32.1	32.7	33.8	26.7	30.6	25.7
exp late	equal	68.0	59.8	43.9	44.1	45.3	36.1	40.5	35.2
exp late	unequal, high	56.0	41.8	31.8	32.9	34.6	21.6	30.3	23.4
exp late	unequal, low	68.7	59.5	42.1	42.7	44.4	34.1	38.7	33.3
exp prop	equal	53.4	45.7	36.8	37.2	37.9	30.8	35.3	30.3
exp prop	unequal, high	46.8	34.5	30.2	30.8	31.9	22.2	28.7	22.1
exp prop	unequal, low	54.7	46.4	37.0	37.4	38.3	30.3	34.3	29.2
logn	equal	65.0	56.7	49.8	50.5	51.6	43.1	49.9	43.3
logn	unequal, high	53.7	40.3	40.1	41.4	43.3	29.1	38.2	28.9
logn	unequal, low	68.8	60.7	50.8	51.2	53.0	44.4	49.2	43.7
pwExp	equal	43.1	35.9	32.8	33.2	34.0	27.8	30.4	25.8
pwExp	unequal, high	37.8	26.1	27.0	27.6	29.2	19.7	25.4	19.8
pwExp	unequal, low	43.3	35.5	31.2	31.7	32.7	26.4	29.0	24.6
Weib late	equal	90.7	87.5	69.9	70.6	71.2	63.5	68.8	63.2
Weib late	unequal, high	77.7	66.8	54.6	55.6	58.1	42.6	53.1	43.4
Weib late	unequal, low	92.6	89.2	70.1	71.2	72.3	63.2	68.6	63.2
Weib prop	equal	78.9	73.4	61.5	62.3	63.3	55.0	60.6	55.0
Weib prop	unequal, high	66.1	53.3	47.3	48.5	50.4	36.9	46.6	37.7
Weib prop	unequal, low	81.8	76.0	60.8	61.6	63.0	54.3	61.2	55.4
Weib scale	equal	53.4	46.1	43.7	44.5	45.8	37.1	41.8	35.7
Weib scale	unequal, high	44.2	32.9	34.6	35.3	36.9	25.9	33.9	26.4
Weib scale	unequal, low	54.1	46.1	43.7	44.4	45.7	37.4	41.9	36.3
Weib shape	equal	32.3	25.2	27.4	28.2	29.5	22.0	26.5	22.2
Weib shape	unequal, high	29.2	20.1	25.4	26.3	27.9	17.2	24.4	18.0
Weib shape	unequal, low	32.6	25.8	28.3	28.8	30.8	22.2	27.2	22.4

Table S20: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and balanced medium sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early	equal	32.0	20.4	23.3	24.1	25.7	14.3	21.8	15.3
exp early	unequal, high	31.4	15.5	23.3	24.4	26.9	7.9	20.7	11.3
exp early	unequal, low	31.6	18.9	21.4	22.5	24.2	12.3	21.5	14.5
exp late	equal	42.3	27.3	24.5	25.8	28.1	13.8	23.1	15.6
exp late	unequal, high	38.2	17.2	22.4	24.0	27.3	7.3	19.7	10.3
exp late	unequal, low	42.2	25.6	24.7	25.8	28.3	12.3	22.4	14.9
exp prop	equal	34.3	22.1	22.3	22.9	24.5	13.3	21.1	14.8
exp prop	unequal, high	33.9	16.0	21.6	23.3	25.7	7.1	19.3	10.4
exp prop	unequal, low	35.7	22.0	23.0	23.9	26.3	12.3	20.7	13.9
logn	equal	42.7	27.6	30.2	31.7	34.3	18.4	30.6	20.7
logn	unequal, high	40.8	17.9	29.5	32.7	35.8	9.2	27.8	12.1
logn	unequal, low	44.8	29.2	30.8	32.2	35.8	17.9	30.5	20.6
pwExp	equal	30.8	19.9	22.5	23.4	25.0	14.1	21.3	15.0
pwExp	unequal, high	30.8	15.4	22.9	24.4	26.7	7.9	19.8	11.5
pwExp	unequal, low	31.0	17.8	21.7	22.7	24.6	12.2	20.7	14.3
Weib late	equal	64.8	49.9	41.6	43.3	46.6	27.7	40.5	29.7
Weib late	unequal, high	53.9	27.5	34.7	38.8	42.1	12.9	34.3	18.0
Weib late	unequal, low	66.9	51.2	41.7	43.7	47.3	25.8	40.7	29.5
Weib prop	equal	53.6	38.2	37.5	39.1	41.9	25.0	35.8	25.8
Weib prop	unequal, high	47.0	23.8	32.0	35.2	38.8	12.4	31.7	16.5
Weib prop	unequal, low	55.6	39.8	36.5	38.3	41.2	22.9	36.0	25.6
Weib scale	equal	34.3	21.6	27.2	28.4	31.0	16.8	25.9	17.5
Weib scale	unequal, high	34.5	15.6	26.2	28.8	32.2	10.4	25.9	12.8
Weib scale	unequal, low	34.8	21.7	26.9	28.0	30.3	15.9	26.0	17.5
Weib shape	equal	21.6	11.5	18.5	19.7	22.2	9.0	18.5	11.7
Weib shape	unequal, high	24.3	10.2	19.2	22.0	24.6	**5.2**	20.0	9.8
Weib shape	unequal, low	22.0	11.3	18.6	19.7	22.3	8.7	18.3	11.6

Table S21: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and balanced small sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early	equal	81.8	77.9	54.8	54.9	55.6	50.3	51.2	46.7
exp early	unequal, high	70.8	63.1	43.2	43.9	44.3	36.1	39.6	32.2
exp early	unequal, low	81.1	77.0	51.8	52.1	52.9	47.2	48.5	44.0
exp late	equal	95.7	94.5	65.2	65.6	66.3	59.2	59.7	54.8
exp late	unequal, high	88.2	82.3	50.7	50.8	52.5	40.2	45.4	37.6
exp late	unequal, low	96.1	94.6	63.1	63.7	64.2	55.2	56.8	51.3
exp prop	equal	88.5	86.1	58.4	58.7	59.2	53.3	54.6	49.8
exp prop	unequal, high	78.3	70.7	44.2	44.8	45.6	35.9	41.1	33.5
exp prop	unequal, low	89.5	86.4	56.1	56.5	56.9	49.6	51.8	46.4
logn	equal	96.0	94.5	77.9	77.9	78.8	74.3	75.7	71.6
logn	unequal, high	85.4	79.9	60.2	60.8	62.0	53.6	57.8	51.7
logn	unequal, low	96.8	95.8	76.0	76.0	77.0	72.0	74.6	71.0
pwExp	equal	75.9	71.2	51.0	51.3	51.9	47.4	47.4	42.9
pwExp	unequal, high	65.2	56.6	39.6	40.5	41.1	33.6	37.0	30.0
pwExp	unequal, low	75.3	71.2	49.6	50.0	50.8	45.1	45.1	40.6
Weib late	equal	99.9	99.9	90.1	90.2	90.8	86.9	88.1	85.7
Weib late	unequal, high	98.1	96.8	72.7	73.5	75.2	65.1	71.7	65.7
Weib late	unequal, low	100.0	99.9	88.0	88.5	89.1	84.0	86.3	84.0
Weib prop	equal	99.1	98.8	86.0	86.2	86.5	82.7	84.1	81.8
Weib prop	unequal, high	94.4	91.8	70.2	70.9	71.9	62.3	66.9	60.7
Weib prop	unequal, low	99.2	99.0	84.0	84.2	85.1	80.6	82.6	79.7
Weib scale	equal	89.1	86.9	71.4	71.7	72.1	68.5	70.1	66.0
Weib scale	unequal, high	76.8	71.0	56.1	56.4	57.7	50.6	54.6	48.3
Weib scale	unequal, low	90.1	87.9	70.9	71.0	71.7	67.0	69.0	65.2
Weib shape	equal	66.9	62.2	55.1	55.6	55.9	51.6	52.9	48.3
Weib shape	unequal, high	59.8	53.5	45.0	45.6	46.4	40.4	43.7	38.2
Weib shape	unequal, low	67.2	62.9	53.4	53.6	54.1	50.1	52.1	47.9

Table S22: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and unbalanced large sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early	equal	51.5	41.0	29.0	29.8	30.9	22.2	26.1	19.4
exp early	unequal, high	45.5	28.3	25.1	25.6	27.5	14.6	21.0	12.1
exp early	unequal, low	51.7	40.8	28.1	29.0	30.2	20.5	25.3	18.0
exp late	equal	72.7	61.8	35.5	36.1	37.8	24.7	29.9	22.5
exp late	unequal, high	59.1	38.8	26.2	27.5	30.1	12.6	22.4	12.9
exp late	unequal, low	71.8	60.8	32.9	34.1	36.2	22.1	28.4	20.6
exp prop	equal	59.6	48.9	31.1	32.0	33.4	22.4	27.8	20.1
exp prop	unequal, high	49.7	31.7	25.4	26.5	28.4	13.5	21.7	11.9
exp prop	unequal, low	59.8	48.7	31.6	32.4	34.0	21.8	25.9	18.3
logn	equal	73.3	63.2	46.8	47.8	49.5	37.7	45.0	35.9
logn	unequal, high	59.6	43.2	36.8	38.4	41.0	21.0	33.8	21.6
logn	unequal, low	76.4	67.5	46.5	47.6	49.5	36.0	44.5	36.0
pwExp	equal	48.3	37.7	28.7	29.4	30.2	22.5	24.8	18.2
pwExp	unequal, high	42.1	24.5	24.6	25.4	26.8	14.4	20.5	11.3
pwExp	unequal, low	48.4	36.6	27.7	28.4	29.4	20.5	23.3	16.8
Weib late	equal	93.1	89.8	60.7	62.5	64.6	49.5	58.4	50.0
Weib late	unequal, high	80.7	67.4	46.2	48.2	52.0	26.5	45.4	31.4
Weib late	unequal, low	94.3	91.3	59.4	60.7	63.3	46.7	56.2	48.2
Weib prop	equal	86.4	80.0	55.9	57.1	58.7	45.2	53.7	45.0
Weib prop	unequal, high	72.2	56.7	43.1	45.0	47.4	25.5	41.4	28.7
Weib prop	unequal, low	87.9	82.6	54.6	55.8	58.3	43.2	52.1	43.7
Weib scale	equal	61.4	51.5	43.2	43.9	45.7	35.8	40.4	32.9
Weib scale	unequal, high	50.3	35.4	34.9	36.1	38.3	22.9	32.9	21.1
Weib scale	unequal, low	62.4	52.6	42.0	43.0	44.6	34.7	40.0	32.1
Weib shape	equal	39.4	30.1	30.7	31.5	32.7	24.7	28.6	22.3
Weib shape	unequal, high	36.1	23.4	26.9	28.0	29.8	17.6	26.0	16.6
Weib shape	unequal, low	39.9	30.7	30.6	31.4	32.8	24.7	28.9	21.9

Table S23: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and unbalanced medium sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early	equal	34.6	17.4	19.9	21.2	23.5	8.6	18.8	9.9
exp early	unequal, high	33.7	10.6	20.6	23.3	26.3	3.6	19.2	7.2
exp early	unequal, low	34.0	15.7	19.5	20.7	23.7	7.0	18.9	9.3
exp late	equal	44.8	23.0	20.5	22.0	25.1	7.5	19.6	10.1
exp late	unequal, high	40.1	12.2	21.6	24.7	28.2	3.0	19.2	7.9
exp late	unequal, low	46.4	23.0	21.0	22.7	26.1	5.8	19.6	9.7
exp prop	equal	37.8	19.0	19.7	21.0	24.1	7.9	17.6	9.0
exp prop	unequal, high	36.9	12.0	20.9	23.7	27.4	3.5	18.1	7.3
exp prop	unequal, low	40.8	19.9	21.6	23.1	26.4	7.5	18.1	9.2
logn	equal	49.2	28.9	29.8	31.6	34.3	12.7	28.2	15.5
logn	unequal, high	46.2	15.1	30.2	37.1	37.7	8.3	27.9	9.2
logn	unequal, low	52.4	31.8	30.7	33.2	35.8	12.4	28.2	15.6
pwExp	equal	33.1	15.9	19.2	20.5	22.8	8.1	19.0	9.5
pwExp	unequal, high	31.5	10.2	19.7	22.3	25.5	3.0	19.5	7.7
pwExp	unequal, low	31.9	14.5	18.9	20.1	22.8	7.2	19.0	9.3
Weib late	equal	71.3	51.5	38.4	41.5	45.9	16.2	35.5	22.1
Weib late	unequal, high	60.7	26.6	36.3	44.0	45.2	10.2	32.8	12.9
Weib late	unequal, low	72.3	54.5	38.7	42.7	46.1	15.2	35.7	22.9
Weib prop	equal	59.3	40.6	35.2	37.5	40.8	16.9	32.7	20.0
Weib prop	unequal, high	54.4	20.8	33.0	39.9	41.9	9.1	31.3	11.5
Weib prop	unequal, low	64.5	45.1	35.6	39.4	42.8	15.6	33.0	20.7
Weib scale	equal	41.1	24.4	28.9	30.4	33.2	15.9	26.3	14.5
Weib scale	unequal, high	39.9	15.1	28.2	33.3	35.2	8.6	26.3	9.3
Weib scale	unequal, low	42.3	23.4	28.0	30.3	32.6	14.8	26.1	14.7
Weib shape	equal	27.1	12.5	20.1	21.5	24.2	10.7	19.9	9.7
Weib shape	unequal, high	31.9	11.0	24.4	29.3	31.3	7.4	22.0	8.0
Weib shape	unequal, low	28.0	13.2	22.0	23.7	26.0	10.7	19.8	10.1

Table S24: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and unbalanced small sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early	equal	71.9	68.6	71.0	71.1	71.7	67.9	69.2	66.2
exp early	unequal, high	63.0	57.0	60.9	61.3	62.4	55.8	58.2	53.2
exp early	unequal, low	73.3	69.6	71.1	71.5	72.5	68.5	69.4	66.2
exp late	equal	93.8	92.6	90.9	91.0	91.2	88.6	88.5	86.4
exp late	unequal, high	85.7	81.4	79.5	80.1	81.5	73.4	75.8	71.1
exp late	unequal, low	94.0	92.6	90.7	91.0	91.1	88.3	88.2	85.7
exp prop	equal	83.9	81.2	80.8	80.7	82.0	78.4	78.8	76.4
exp prop	unequal, high	73.0	67.7	68.6	69.2	69.8	63.4	65.2	60.3
exp prop	unequal, low	83.9	80.8	80.7	80.9	81.2	77.7	78.3	75.2
logn	equal	91.3	89.4	90.7	90.9	91.5	89.2	89.7	87.8
logn	unequal, high	79.3	73.9	78.5	79.2	80.2	73.2	76.8	71.5
logn	unequal, low	93.5	92.2	92.8	92.8	93.3	91.4	91.1	89.0
pwExp	equal	67.4	63.8	67.0	67.2	67.7	63.5	65.1	62.1
pwExp	unequal, high	58.8	53.0	57.2	57.7	58.9	51.7	53.6	49.0
pwExp	unequal, low	67.2	63.2	66.0	66.5	67.1	62.7	65.1	61.4
Weib late	equal	99.7	99.6	99.4	99.5	99.5	99.3	99.4	99.1
Weib late	unequal, high	97.1	95.6	95.0	95.1	95.7	92.7	94.8	92.2
Weib late	unequal, low	99.7	99.7	99.4	99.4	99.6	99.2	99.4	99.2
Weib prop	equal	97.8	97.3	97.4	97.4	97.7	96.6	97.1	96.2
Weib prop	unequal, high	90.6	87.8	88.9	89.1	89.9	85.9	88.2	84.6
Weib prop	unequal, low	98.2	97.7	97.5	97.6	97.9	96.8	97.6	96.8
Weib scale	equal	81.6	78.8	82.7	82.9	83.6	79.9	80.6	78.2
Weib scale	unequal, high	69.0	63.9	69.6	70.1	71.5	64.8	67.0	61.9
Weib scale	unequal, low	82.2	79.9	83.2	83.8	84.3	80.7	83.0	80.6
Weib shape	equal	55.0	51.0	58.3	58.9	59.9	54.4	55.2	51.9
Weib shape	unequal, high	48.8	43.1	50.9	51.5	53.2	46.0	47.7	42.5
Weib shape	unequal, low	55.9	51.9	58.5	59.1	60.5	54.9	55.5	52.0

Table S25: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and balanced large sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early	equal	45.7	38.0	43.4	44.8	46.0	37.3	40.8	35.2
exp early	unequal, high	40.7	29.3	37.8	38.9	41.2	26.2	34.5	26.0
exp early	unequal, low	46.6	37.8	44.1	44.6	46.6	36.8	40.4	34.1
exp late	equal	68.0	59.8	60.3	61.7	63.6	50.9	55.9	48.9
exp late	unequal, high	56.0	41.8	46.4	48.2	51.0	29.3	42.8	32.2
exp late	unequal, low	68.7	59.5	59.7	60.9	63.4	49.0	55.4	47.6
exp prop	equal	53.4	45.7	49.5	50.3	51.9	42.3	47.4	40.2
exp prop	unequal, high	46.8	34.5	41.3	42.9	45.8	28.8	38.2	28.6
exp prop	unequal, low	54.7	46.4	50.0	50.9	53.0	41.4	46.6	39.0
logn	equal	65.0	56.7	64.7	65.3	67.7	55.9	63.4	55.3
logn	unequal, high	53.7	40.3	52.3	54.1	57.2	36.2	49.6	36.6
logn	unequal, low	68.8	60.7	67.6	68.6	70.4	58.8	65.2	57.3
pwExp	equal	43.1	35.9	42.3	43.2	44.4	34.9	38.5	32.7
pwExp	unequal, high	37.8	26.1	35.0	36.4	38.6	24.9	32.6	23.9
pwExp	unequal, low	43.3	35.5	42.0	42.5	44.4	34.5	37.8	31.5
Weib late	equal	90.7	87.5	87.5	88.0	89.5	82.0	86.1	80.6
Weib late	unequal, high	77.7	66.8	73.0	75.1	78.2	56.6	70.6	57.9
Weib late	unequal, low	92.6	89.2	89.1	89.8	90.8	82.7	86.9	81.0
Weib prop	equal	78.9	73.4	76.9	78.1	79.4	71.1	76.2	69.0
Weib prop	unequal, high	66.1	53.3	63.4	64.9	68.8	48.6	61.1	48.9
Weib prop	unequal, low	81.8	76.0	79.7	80.5	82.0	72.1	77.5	70.9
Weib scale	equal	53.4	46.1	54.4	55.6	57.2	46.7	50.2	43.0
Weib scale	unequal, high	44.2	32.9	44.3	46.1	48.7	31.7	41.8	31.0
Weib scale	unequal, low	54.1	46.1	55.2	56.2	58.5	47.6	51.6	44.2
Weib shape	equal	32.3	25.2	33.3	34.4	36.6	26.1	30.0	24.5
Weib shape	unequal, high	29.2	20.1	30.4	31.6	34.8	20.2	27.7	19.7
Weib shape	unequal, low	32.6	25.8	33.8	35.0	37.3	26.2	30.7	24.3

Table S26: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and balanced medium sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early	equal	32.0	20.4	29.1	30.9	34.2	16.6	27.4	18.5
exp early	unequal, high	31.4	15.5	28.4	31.1	36.0	8.3	25.8	13.6
exp early	unequal, low	31.6	18.9	28.8	30.6	33.2	15.2	27.3	17.3
exp late	equal	42.3	27.3	35.0	37.0	41.2	18.1	31.5	20.3
exp late	unequal, high	38.2	17.2	30.3	34.6	40.2	6.4	27.0	12.7
exp late	unequal, low	42.2	25.6	34.5	37.1	42.2	15.0	31.5	19.4
exp prop	equal	34.3	22.1	30.8	32.3	35.8	17.0	28.7	19.3
exp prop	unequal, high	33.9	16.0	28.7	32.1	37.1	7.2	25.3	12.9
exp prop	unequal, low	35.7	22.0	31.6	33.3	37.0	15.7	28.2	18.0
logn	equal	42.7	27.6	41.4	43.3	47.8	23.2	40.2	26.0
logn	unequal, high	40.8	17.9	38.7	44.8	48.5	10.0	36.9	15.7
logn	unequal, low	44.8	29.2	43.4	45.5	49.9	24.0	41.4	26.4
pwExp	equal	30.8	19.9	28.8	30.8	33.3	16.4	26.0	17.7
pwExp	unequal, high	30.8	15.4	28.0	30.7	34.8	7.9	24.6	13.7
pwExp	unequal, low	31.0	17.8	28.7	30.5	33.3	14.6	25.7	16.7
Weib late	equal	64.8	49.9	61.1	64.0	68.3	39.4	58.7	43.0
Weib late	unequal, high	53.9	27.5	50.3	56.9	61.2	16.1	48.8	24.3
Weib late	unequal, low	66.9	51.2	62.2	65.6	70.2	38.7	60.5	43.9
Weib prop	equal	53.6	38.2	51.6	53.7	58.1	33.2	49.7	35.1
Weib prop	unequal, high	47.0	23.8	45.1	50.5	55.0	15.3	43.2	21.1
Weib prop	unequal, low	55.6	39.8	53.4	56.4	61.0	33.5	51.1	35.7
Weib scale	equal	34.3	21.6	34.3	36.3	40.7	19.7	32.1	20.8
Weib scale	unequal, high	34.5	15.6	33.7	38.0	42.2	11.0	31.6	14.5
Weib scale	unequal, low	34.8	21.7	35.0	37.3	41.3	19.9	32.8	20.4
Weib shape	equal	21.6	11.5	21.3	23.3	26.8	8.5	19.4	11.7
Weib shape	unequal, high	24.3	10.2	23.4	27.0	31.1	**4.8**	22.1	9.2
Weib shape	unequal, low	22.0	11.3	21.7	23.8	27.1	8.4	20.4	11.5

Table S27: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and balanced small sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early	equal	81.8	77.9	78.4	78.6	79.4	75.3	75.6	71.4
exp early	unequal, high	70.8	63.1	66.1	66.8	68.2	59.4	61.8	54.9
exp early	unequal, low	81.1	77.0	78.0	78.1	79.0	74.6	75.1	71.0
exp late	equal	95.7	94.5	91.8	91.9	92.5	89.0	89.8	88.0
exp late	unequal, high	88.2	82.3	79.9	80.6	82.0	72.0	77.1	70.3
exp late	unequal, low	96.1	94.6	92.2	92.4	92.9	89.4	90.1	87.6
exp prop	equal	88.5	86.1	85.1	85.2	85.6	82.7	82.4	79.2
exp prop	unequal, high	78.3	70.7	71.5	72.4	73.6	65.0	67.4	60.6
exp prop	unequal, low	89.5	86.4	85.4	85.9	86.0	82.7	81.4	78.1
logn	equal	96.0	94.5	94.8	95.0	95.1	93.5	94.4	92.9
logn	unequal, high	85.4	79.9	82.6	83.3	84.5	77.2	81.7	76.1
logn	unequal, low	96.8	95.8	95.8	95.8	95.9	94.3	94.9	93.8
pwExp	equal	75.9	71.2	73.4	73.9	74.6	70.3	70.3	66.2
pwExp	unequal, high	65.2	56.6	61.8	62.3	63.6	55.1	57.8	49.9
pwExp	unequal, low	75.3	71.2	73.2	73.7	74.2	69.8	69.3	65.4
Weib late	equal	99.9	99.9	99.7	99.8	99.8	99.5	99.6	99.4
Weib late	unequal, high	98.1	96.8	96.1	96.3	96.7	93.2	95.6	93.2
Weib late	unequal, low	100.0	99.9	99.8	99.8	99.9	99.6	99.6	99.5
Weib prop	equal	99.1	98.8	98.5	98.6	98.7	98.1	98.5	98.0
Weib prop	unequal, high	94.4	91.8	91.8	92.3	92.9	88.3	91.1	87.4
Weib prop	unequal, low	99.2	99.0	98.6	98.8	98.8	98.3	98.8	98.5
Weib scale	equal	89.1	86.9	89.1	89.0	89.7	87.2	88.3	85.7
Weib scale	unequal, high	76.8	71.0	76.2	77.2	77.7	71.2	74.2	68.7
Weib scale	unequal, low	90.1	87.9	89.5	89.7	90.2	87.9	89.4	87.1
Weib shape	equal	66.9	62.2	69.1	69.7	70.5	65.8	66.7	62.8
Weib shape	unequal, high	59.8	53.5	61.5	61.8	63.4	56.7	58.5	52.4
Weib shape	unequal, low	67.2	62.9	69.1	69.9	70.8	66.2	67.6	63.4

Table S28: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and unbalanced large sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early	equal	51.5	41.0	47.1	48.1	49.9	39.7	44.2	35.5
exp early	unequal, high	45.5	28.3	40.4	42.1	44.9	26.5	35.5	23.4
exp early	unequal, low	51.7	40.8	47.5	48.6	50.3	39.1	43.8	35.2
exp late	equal	72.7	61.8	62.8	64.2	66.3	51.5	57.8	48.2
exp late	unequal, high	59.1	38.8	47.7	49.9	53.8	27.9	43.5	29.8
exp late	unequal, low	71.8	60.8	62.7	63.6	66.1	50.3	57.4	47.6
exp prop	equal	59.6	48.9	53.5	54.2	56.6	44.5	50.0	41.4
exp prop	unequal, high	49.7	31.7	42.6	44.4	47.8	26.4	39.1	26.3
exp prop	unequal, low	59.8	48.7	53.6	54.7	57.0	43.9	49.6	40.2
logn	equal	73.3	63.2	70.8	71.6	73.6	62.0	68.2	59.9
logn	unequal, high	59.6	43.2	57.2	59.5	62.8	38.7	52.7	38.2
logn	unequal, low	76.4	67.5	73.7	74.7	76.7	64.1	70.8	62.2
pwExp	equal	48.3	37.7	45.5	46.5	47.7	38.0	40.6	32.8
pwExp	unequal, high	42.1	24.5	38.0	39.8	42.6	25.6	33.5	21.6
pwExp	unequal, low	48.4	36.6	44.9	46.0	48.0	36.2	39.9	31.9
Weib late	equal	93.1	89.8	89.9	90.6	91.8	83.3	88.4	83.1
Weib late	unequal, high	80.7	67.4	74.3	77.3	80.3	54.8	71.8	57.9
Weib late	unequal, low	94.3	91.3	90.9	91.4	92.7	84.3	88.5	83.7
Weib prop	equal	86.4	80.0	83.2	84.1	85.4	75.5	80.2	73.3
Weib prop	unequal, high	72.2	56.7	67.6	70.1	73.3	49.9	64.4	50.0
Weib prop	unequal, low	87.9	82.6	84.9	85.7	87.1	77.0	81.5	74.9
Weib scale	equal	61.4	51.5	61.6	62.7	64.6	53.5	57.9	49.7
Weib scale	unequal, high	50.3	35.4	50.2	51.8	54.4	35.4	46.7	34.3
Weib scale	unequal, low	62.4	52.6	62.2	62.9	65.0	54.0	59.3	51.2
Weib shape	equal	39.4	30.1	40.6	41.5	43.9	34.3	37.6	29.2
Weib shape	unequal, high	36.1	23.4	36.6	38.4	41.8	25.9	33.6	22.7
Weib shape	unequal, low	39.9	30.7	40.8	42.0	44.6	33.4	38.4	30.0

Table S29: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and unbalanced medium sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early	equal	34.6	17.4	31.4	33.4	36.8	16.5	29.6	18.1
exp early	unequal, high	33.7	10.6	29.5	34.3	38.6	6.3	27.1	12.5
exp early	unequal, low	34.0	15.7	31.0	33.2	36.5	15.1	30.3	17.5
exp late	equal	44.8	23.0	36.5	39.2	44.3	16.6	33.8	21.0
exp late	unequal, high	40.1	12.2	32.7	40.1	45.0	**5.3**	28.8	13.5
exp late	unequal, low	46.4	23.0	38.4	41.8	47.0	16.1	34.3	20.9
exp prop	equal	37.8	19.0	32.8	35.0	40.0	15.7	29.8	17.9
exp prop	unequal, high	36.9	12.0	31.7	36.6	40.8	6.2	27.5	12.2
exp prop	unequal, low	40.8	19.9	35.3	37.7	42.1	16.7	30.5	18.1
logn	equal	49.2	28.9	47.8	51.3	54.8	26.7	44.8	27.7
logn	unequal, high	46.2	15.1	44.1	52.5	53.6	14.0	41.2	16.5
logn	unequal, low	52.4	31.8	50.6	54.6	57.2	29.1	46.5	29.4
pwExp	equal	33.1	15.9	30.3	32.1	35.2	16.1	27.7	16.7
pwExp	unequal, high	31.5	10.2	27.9	32.4	36.3	6.6	26.3	11.5
pwExp	unequal, low	31.9	14.5	29.2	31.2	34.9	14.2	28.5	16.6
Weib late	equal	71.3	51.5	65.0	69.6	73.0	39.6	62.8	45.2
Weib late	unequal, high	60.7	26.6	56.5	65.6	67.5	19.3	52.6	26.0
Weib late	unequal, low	72.3	54.5	67.0	72.1	74.9	40.7	64.4	48.5
Weib prop	equal	59.3	40.6	56.2	59.8	63.3	34.8	54.8	37.8
Weib prop	unequal, high	54.4	20.8	51.2	59.5	61.6	18.2	48.4	21.9
Weib prop	unequal, low	64.5	45.1	60.7	65.3	68.8	37.3	56.5	40.1
Weib scale	equal	41.1	24.4	41.6	43.6	47.2	24.6	38.0	24.0
Weib scale	unequal, high	39.9	15.1	39.3	45.9	48.4	14.4	37.0	15.0
Weib scale	unequal, low	42.3	23.4	42.3	45.1	48.7	25.5	39.1	24.4
Weib shape	equal	27.1	12.5	26.8	28.9	32.8	13.3	24.1	12.3
Weib shape	unequal, high	31.9	11.0	31.5	37.4	39.8	9.9	27.8	10.0
Weib shape	unequal, low	28.0	13.2	28.4	31.1	34.8	14.3	25.3	12.6

Table S30: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and unbalanced small sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early	equal	71.9	68.6	73.3	73.7	74.3	69.2	74.2	70.9
exp early	unequal, high	63.0	57.0	65.1	65.4	66.3	58.1	64.4	58.6
exp early	unequal, low	73.3	69.6	75.0	75.1	75.9	71.1	74.5	70.9
exp late	equal	93.8	92.6	94.3	94.4	94.6	93.5	93.7	92.5
exp late	unequal, high	85.7	81.4	87.1	87.2	87.6	84.9	86.3	81.9
exp late	unequal, low	94.0	92.6	94.7	94.8	94.9	94.1	94.5	93.0
exp prop	equal	83.9	81.2	85.3	85.2	85.6	82.6	84.2	81.0
exp prop	unequal, high	73.0	67.7	75.1	75.1	75.7	69.6	74.0	68.0
exp prop	unequal, low	83.9	80.8	85.2	85.1	85.5	82.9	84.9	81.6
logn	equal	91.3	89.4	92.5	92.7	92.8	90.8	91.8	90.0
logn	unequal, high	79.3	73.9	79.9	80.3	81.3	75.1	79.7	74.9
logn	unequal, low	93.5	92.2	94.4	94.4	94.7	93.2	93.7	92.2
pwExp	equal	67.4	63.8	68.9	69.1	69.6	63.4	69.3	65.3
pwExp	unequal, high	58.8	53.0	60.5	61.0	61.6	52.5	60.5	53.1
pwExp	unequal, low	67.2	63.2	68.8	69.1	69.6	63.7	68.9	65.2
Weib late	equal	99.7	99.6	99.8	99.8	99.9	99.8	99.7	99.7
Weib late	unequal, high	97.1	95.6	97.4	97.4	97.6	96.6	97.3	96.3
Weib late	unequal, low	99.7	99.7	99.8	99.8	99.8	99.7	99.9	99.8
Weib prop	equal	97.8	97.3	98.2	98.3	98.3	97.7	98.2	97.7
Weib prop	unequal, high	90.6	87.8	91.8	91.9	92.3	89.6	91.8	89.2
Weib prop	unequal, low	98.2	97.7	98.5	98.5	98.6	98.3	98.7	98.4
Weib scale	equal	81.6	78.8	83.2	83.3	84.1	80.3	82.3	79.2
Weib scale	unequal, high	69.0	63.9	70.5	70.8	71.5	64.9	68.9	64.3
Weib scale	unequal, low	82.2	79.9	84.6	84.7	85.4	82.1	84.3	82.0
Weib shape	equal	55.0	51.0	58.3	59.2	60.7	54.2	57.1	52.9
Weib shape	unequal, high	48.8	43.1	50.2	51.1	52.6	45.4	49.5	44.1
Weib shape	unequal, low	55.9	51.9	58.2	58.6	60.2	54.4	57.5	53.1

Table S31: Rejection rates in percent for the Grand-mean-type contrast matrix with $\delta = 1.5$ and balanced large sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early	equal	45.7	38.0	46.3	46.9	47.9	37.0	46.0	38.2
exp early	unequal, high	40.7	29.3	41.4	42.2	43.2	30.8	39.7	28.8
exp early	unequal, low	46.6	37.8	47.6	48.1	49.1	37.9	46.0	37.8
exp late	equal	68.0	59.8	69.8	69.9	70.9	65.0	69.0	60.5
exp late	unequal, high	56.0	41.8	58.0	58.4	59.6	50.5	56.9	42.2
exp late	unequal, low	68.7	59.5	70.5	70.8	71.5	65.9	69.2	59.8
exp prop	equal	53.4	45.7	54.8	55.1	56.2	47.9	55.3	46.4
exp prop	unequal, high	46.8	34.5	47.8	48.3	49.4	39.4	46.8	34.1
exp prop	unequal, low	54.7	46.4	56.0	56.8	57.3	49.3	55.4	45.6
logn	equal	65.0	56.7	65.5	66.4	67.9	56.7	66.1	57.9
logn	unequal, high	53.7	40.3	53.3	54.5	56.5	39.4	52.4	39.0
logn	unequal, low	68.8	60.7	68.9	69.3	70.6	62.4	68.6	61.1
pwExp	equal	43.1	35.9	43.7	44.4	45.8	31.9	42.6	35.1
pwExp	unequal, high	37.8	26.1	38.1	38.9	40.4	25.3	37.1	25.6
pwExp	unequal, low	43.3	35.5	43.9	44.6	45.9	32.5	42.4	34.0
Weib late	equal	90.7	87.5	91.2	91.3	92.0	88.8	90.6	87.3
Weib late	unequal, high	77.7	66.8	78.1	78.8	80.1	69.9	76.6	66.1
Weib late	unequal, low	92.6	89.2	92.8	93.0	93.4	90.8	91.9	88.7
Weib prop	equal	78.9	73.4	80.3	80.9	81.8	75.4	79.8	74.2
Weib prop	unequal, high	66.1	53.3	65.9	67.0	68.5	55.4	65.3	53.6
Weib prop	unequal, low	81.8	76.0	82.6	83.0	83.9	77.9	81.8	76.3
Weib scale	equal	53.4	46.1	54.4	55.2	56.8	45.9	51.9	44.5
Weib scale	unequal, high	44.2	32.9	44.1	45.5	47.9	31.9	43.3	32.8
Weib scale	unequal, low	54.1	46.1	55.1	56.3	58.3	47.4	53.4	45.5
Weib shape	equal	32.3	25.2	34.0	35.1	37.1	26.0	32.8	25.6
Weib shape	unequal, high	29.2	20.1	30.7	31.7	33.8	19.4	29.4	20.2
Weib shape	unequal, low	32.6	25.8	34.2	35.5	38.1	27.1	32.3	25.1

Table S32: Rejection rates in percent for the Grand-mean-type contrast matrix with $\delta = 1.5$ and balanced medium sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early	equal	32.0	20.4	31.9	33.0	34.7	21.2	31.8	20.0
exp early	unequal, high	31.4	15.5	32.2	33.9	36.2	20.0	32.0	14.7
exp early	unequal, low	31.6	18.9	32.2	33.2	35.1	20.3	32.0	18.4
exp late	equal	42.3	27.3	43.7	44.7	46.2	33.9	42.8	26.7
exp late	unequal, high	38.2	17.2	39.9	41.4	43.4	25.7	38.3	15.5
exp late	unequal, low	42.2	25.6	44.1	45.3	47.1	33.6	43.2	25.4
exp prop	equal	34.3	22.1	35.4	36.6	38.7	25.8	35.8	22.5
exp prop	unequal, high	33.9	16.0	35.2	36.6	38.9	21.6	33.9	14.9
exp prop	unequal, low	35.7	22.0	36.2	37.6	39.3	26.6	35.9	20.8
logn	equal	42.7	27.6	42.2	43.6	46.2	26.2	41.8	28.4
logn	unequal, high	40.8	17.9	39.3	42.6	45.5	17.9	38.2	16.9
logn	unequal, low	44.8	29.2	44.1	46.2	48.8	28.7	43.6	27.9
pwExp	equal	30.8	19.9	31.4	32.4	34.4	19.2	29.5	18.6
pwExp	unequal, high	30.8	15.4	30.3	32.5	34.4	17.1	28.6	13.7
pwExp	unequal, low	31.0	17.8	30.9	32.1	34.0	17.9	29.5	17.1
Weib late	equal	64.8	49.9	64.6	66.1	68.1	51.4	63.8	49.0
Weib late	unequal, high	53.9	27.5	52.0	54.7	57.7	27.9	51.2	25.8
Weib late	unequal, low	66.9	51.2	66.5	68.1	70.3	54.6	66.6	49.9
Weib prop	equal	53.6	38.2	52.7	54.4	57.1	38.3	53.0	38.0
Weib prop	unequal, high	47.0	23.8	45.2	48.3	51.1	23.5	44.7	21.7
Weib prop	unequal, low	55.6	39.8	54.4	56.4	58.8	41.0	54.4	38.0
Weib scale	equal	34.3	21.6	34.6	36.2	39.1	19.7	33.6	21.6
Weib scale	unequal, high	34.5	15.6	33.6	36.4	39.0	14.1	32.8	15.3
Weib scale	unequal, low	34.8	21.7	35.0	37.2	39.6	20.8	33.8	20.7
Weib shape	equal	21.6	11.5	22.2	24.0	26.7	9.8	21.7	12.6
Weib shape	unequal, high	24.3	10.2	23.6	26.5	28.8	7.4	23.5	9.7
Weib shape	unequal, low	22.0	11.3	22.3	24.2	26.9	10.1	22.2	12.5

Table S33: Rejection rates in percent for the Grand-mean-type contrast matrix with $\delta = 1.5$ and balanced small sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early	equal	81.8	77.9	81.9	81.9	82.5	79.4	80.0	77.7
exp early	unequal, high	70.8	63.1	71.4	71.6	72.0	67.5	69.5	64.8
exp early	unequal, low	81.1	77.0	80.9	80.9	81.2	77.9	79.7	77.2
exp late	equal	95.7	94.5	96.1	96.0	96.2	95.3	95.6	94.9
exp late	unequal, high	88.2	82.3	88.9	89.1	89.0	87.1	88.3	85.4
exp late	unequal, low	96.1	94.6	96.0	96.1	96.3	95.2	95.2	94.1
exp prop	equal	88.5	86.1	89.1	89.0	89.2	87.6	88.4	86.6
exp prop	unequal, high	78.3	70.7	79.2	79.2	79.6	76.0	77.9	74.1
exp prop	unequal, low	89.5	86.4	89.0	89.1	89.2	87.5	87.8	86.2
logn	equal	96.0	94.5	95.9	96.0	96.2	94.9	95.9	94.9
logn	unequal, high	85.4	79.9	85.4	85.4	86.1	82.4	85.8	82.6
logn	unequal, low	96.8	95.8	96.9	96.8	96.9	96.2	96.1	95.5
pwExp	equal	75.9	71.2	76.2	76.6	76.9	73.2	75.3	72.3
pwExp	unequal, high	65.2	56.6	65.7	66.2	66.9	61.1	65.1	60.1
pwExp	unequal, low	75.3	71.2	75.5	75.3	75.7	72.5	74.6	71.8
Weib late	equal	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
Weib late	unequal, high	98.1	96.8	98.1	98.1	98.2	97.5	98.5	97.8
Weib late	unequal, low	100.0	99.9	100.0	100.0	100.0	100.0	99.9	99.8
Weib prop	equal	99.1	98.8	99.1	99.1	99.1	98.9	99.4	99.1
Weib prop	unequal, high	94.4	91.8	94.6	94.4	94.6	93.0	94.9	93.2
Weib prop	unequal, low	99.2	99.0	99.0	99.0	99.0	98.8	99.5	99.3
Weib scale	equal	89.1	86.9	89.0	89.3	89.6	87.4	90.0	88.3
Weib scale	unequal, high	76.8	71.0	76.8	76.9	77.8	72.9	77.4	73.3
Weib scale	unequal, low	90.1	87.9	90.4	90.6	90.9	88.7	90.8	89.5
Weib shape	equal	66.9	62.2	68.7	69.3	70.5	65.7	67.7	64.8
Weib shape	unequal, high	59.8	53.5	60.5	60.7	62.1	56.0	60.0	55.3
Weib shape	unequal, low	67.2	62.9	68.6	69.1	70.0	65.0	68.7	65.6

Table S34: Rejection rates in percent for the Grand-mean-type contrast matrix with $\delta = 1.5$ and unbalanced large sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early	equal	51.5	41.0	51.2	51.6	52.7	44.6	50.0	44.3
exp early	unequal, high	45.5	28.3	46.0	46.9	47.8	36.8	44.0	34.1
exp early	unequal, low	51.7	40.8	51.1	51.6	52.5	45.0	49.9	43.5
exp late	equal	72.7	61.8	72.7	72.9	73.7	68.4	70.7	65.2
exp late	unequal, high	59.1	38.8	60.1	60.1	61.6	50.6	58.9	48.2
exp late	unequal, low	71.8	60.8	71.8	71.8	72.7	66.1	70.2	64.3
exp prop	equal	59.6	48.9	59.5	60.3	61.1	54.3	58.9	52.4
exp prop	unequal, high	49.7	31.7	50.8	51.2	52.5	41.3	49.0	39.0
exp prop	unequal, low	59.8	48.7	59.8	60.3	61.3	54.1	58.3	51.3
logn	equal	73.3	63.2	72.1	72.8	73.7	66.5	71.8	66.4
logn	unequal, high	59.6	43.2	57.8	58.9	60.9	45.6	55.6	44.6
logn	unequal, low	76.4	67.5	74.2	74.6	76.0	68.6	73.6	68.0
pwExp	equal	48.3	37.7	47.9	48.4	49.8	40.1	45.8	39.4
pwExp	unequal, high	42.1	24.5	42.4	43.2	44.9	32.1	39.7	29.8
pwExp	unequal, low	48.4	36.6	48.1	48.7	49.7	40.3	45.1	38.3
Weib late	equal	93.1	89.8	92.9	92.8	93.3	90.6	92.5	90.1
Weib late	unequal, high	80.7	67.4	79.5	80.1	81.6	71.0	78.8	70.8
Weib late	unequal, low	94.3	91.3	93.1	93.4	93.9	90.7	92.4	90.4
Weib prop	equal	86.4	80.0	85.6	85.9	86.8	81.8	84.5	80.3
Weib prop	unequal, high	72.2	56.7	70.4	71.6	72.8	60.7	68.3	59.5
Weib prop	unequal, low	87.9	82.6	86.8	87.1	87.8	82.7	84.8	80.9
Weib scale	equal	61.4	51.5	60.6	61.4	63.1	53.9	59.5	52.9
Weib scale	unequal, high	50.3	35.4	48.7	50.4	52.2	37.1	47.8	38.3
Weib scale	unequal, low	62.4	52.6	62.0	63.1	64.0	55.1	61.0	54.2
Weib shape	equal	39.4	30.1	40.4	41.0	43.2	32.8	38.8	32.2
Weib shape	unequal, high	36.1	23.4	35.8	37.4	39.5	24.5	34.4	25.8
Weib shape	unequal, low	39.9	30.7	40.1	41.2	43.1	32.1	39.8	32.4

Table S35: Rejection rates in percent for the Grand-mean-type contrast matrix with $\delta = 1.5$ and unbalanced medium sample sizes.

distribution	censoring distribution	asymptotic global	permutation	asymptotic	wild Rademacher	wild Gaussian	groupwise	asymptotic bonf	permutation bonf
exp early	equal	34.6	17.4	34.4	35.6	37.2	23.6	33.7	23.4
exp early	unequal, high	33.7	10.6	34.0	35.9	38.1	18.1	33.4	17.3
exp early	unequal, low	34.0	15.7	33.7	34.9	36.6	22.0	34.2	22.6
exp late	equal	44.8	23.0	44.5	45.5	47.7	33.6	43.6	32.1
exp late	unequal, high	40.1	12.2	41.7	43.6	46.0	20.9	39.6	20.4
exp late	unequal, low	46.4	23.0	45.6	46.7	49.1	31.7	44.5	31.1
exp prop	equal	37.8	19.0	37.8	39.0	40.8	26.8	36.5	25.9
exp prop	unequal, high	36.9	12.0	36.9	39.0	41.1	19.6	35.6	19.0
exp prop	unequal, low	40.8	19.9	40.3	41.7	43.0	28.1	37.4	25.7
logn	equal	49.2	28.9	47.1	49.5	51.3	32.5	45.8	32.3
logn	unequal, high	46.2	15.1	43.9	47.6	49.4	19.9	41.5	19.7
logn	unequal, low	52.4	31.8	48.9	51.2	52.7	33.6	47.2	33.8
pwExp	equal	33.1	15.9	32.7	34.0	36.4	20.9	31.6	21.8
pwExp	unequal, high	31.5	10.2	31.8	34.1	36.2	16.1	31.7	15.9
pwExp	unequal, low	31.9	14.5	31.5	32.7	34.9	19.0	31.9	21.1
Weib late	equal	71.3	51.5	68.4	69.7	71.8	55.2	67.0	54.7
Weib late	unequal, high	60.7	26.6	56.5	59.3	62.1	29.5	54.9	32.2
Weib late	unequal, low	72.3	54.5	68.5	70.5	72.3	53.1	67.2	55.0
Weib prop	equal	59.3	40.6	57.0	58.8	60.8	44.0	56.6	44.4
Weib prop	unequal, high	54.4	20.8	50.6	54.3	57.0	25.3	49.4	27.5
Weib prop	unequal, low	64.5	45.1	60.5	62.9	65.5	45.5	58.3	44.9
Weib scale	equal	41.1	24.4	39.7	42.0	44.5	26.1	38.7	26.8
Weib scale	unequal, high	39.9	15.1	37.8	42.1	43.8	17.0	37.1	18.4
Weib scale	unequal, low	42.3	23.4	40.1	43.1	45.3	25.6	39.2	26.0
Weib shape	equal	27.1	12.5	26.8	28.9	31.3	14.0	25.7	14.6
Weib shape	unequal, high	31.9	11.0	30.2	34.4	36.2	11.0	28.5	12.3
Weib shape	unequal, low	28.0	13.2	28.1	30.8	33.3	15.1	26.0	14.1

Table S36: Rejection rates in percent for the Grand-mean-type contrast matrix with $\delta = 1.5$ and unbalanced small sample sizes.

A.3 Empirical Power for the Local Hypotheses

For analyzing whether the false local hypotheses are rejected, Tables S37–S54 contain the rejection rates of all false hypotheses (under the alternative hypothesis). In detail, the following hypotheses are false under the alternative hypothesis:

- $\mathcal{H}_{0,3} : \mu_1 = \mu_4$ for the Dunnett-type contrast matrix,
- $\mathcal{H}_{0,3} : \mu_1 = \mu_4, \mathcal{H}_{0,5} : \mu_2 = \mu_4, \mathcal{H}_{0,6} : \mu_3 = \mu_4$ for the Tukey-type contrast matrix, and
- $\mathcal{H}_{0,1} : \mu_1 = \overline{\mu}, \mathcal{H}_{0,2} : \mu_2 = \overline{\mu}, \mathcal{H}_{0,3} : \mu_3 = \overline{\mu}, \mathcal{H}_{0,4} : \mu_4 = \overline{\mu}$ for the Grand-mean-type contrast matrix.

distribution	method	equal censoring $\mathcal{H}_{0,3}$	unequal, high censoring $\mathcal{H}_{0,3}$	unequal, low censoring $\mathcal{H}_{0,3}$
exp early	asymptotic	55.7	44.7	55.2
	groupwise	53.2	41.1	52.8
	asymptotic_bonf	55.8	44.5	55.1
	permutation_bonf	53.7	40.6	52.5
exp late	asymptotic	73.9	59.2	71.8
	groupwise	71.1	53.9	68.6
	asymptotic_bonf	71.9	57.2	70.3
	permutation_bonf	69.8	53.2	67.9
exp prop	asymptotic	65.4	51.1	63.1
	groupwise	63.1	47.1	60.4
	asymptotic_bonf	63.0	49.3	61.2
	permutation_bonf	60.7	45.9	58.8
logn	asymptotic	78.9	62.1	79.7
	groupwise	76.6	57.7	77.6
	asymptotic_bonf	78.2	62.0	79.1
	permutation_bonf	75.9	58.4	76.9
pwExp	asymptotic	53.2	43.5	51.8
	groupwise	50.8	39.4	49.6
	asymptotic_bonf	51.8	41.3	51.2
	permutation_bonf	49.6	37.7	48.9
Weib late	asymptotic	94.0	82.3	93.5
	groupwise	93.2	79.2	92.5
	asymptotic_bonf	93.4	80.4	92.9
	permutation_bonf	92.5	77.7	91.8
Weib prop	asymptotic	89.5	74.7	89.3
	groupwise	88.2	70.9	87.6
	asymptotic_bonf	88.7	73.7	88.4
	permutation_bonf	86.9	70.1	87.0
Weib scale	asymptotic	71.3	55.8	70.7
	groupwise	68.5	51.8	68.5
	asymptotic_bonf	68.7	54.2	70.0
	permutation_bonf	66.6	50.1	67.5
Weib shape	asymptotic	48.6	40.0	48.5
	groupwise	45.3	36.3	45.3
	asymptotic_bonf	46.8	38.5	46.5
	permutation_bonf	44.3	35.5	43.9

Table S37: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and balanced large sample sizes.

distribution	method	equal censoring $\mathcal{H}_{0,3}$	unequal, high censoring $\mathcal{H}_{0,3}$	unequal, low censoring $\mathcal{H}_{0,3}$
exp early	asymptotic	31.1	25.1	29.3
	groupwise	26.5	18.9	24.6
	asymptotic_bonf	29.5	23.5	28.3
	permutation_bonf	25.3	18.6	24.0
exp late	asymptotic	41.5	28.7	39.6
	groupwise	34.5	19.7	32.3
	asymptotic_bonf	38.5	27.5	36.7
	permutation_bonf	33.5	21.5	31.9
exp prop	asymptotic	33.7	27.1	34.1
	groupwise	28.6	20.6	28.5
	asymptotic_bonf	32.6	25.7	31.6
	permutation_bonf	28.3	20.0	27.1
logn	asymptotic	47.2	36.7	48.3
	groupwise	41.3	27.4	42.5
	asymptotic_bonf	47.4	35.3	46.9
	permutation_bonf	41.6	27.2	42.0
pwExp	asymptotic	29.5	23.4	28.3
	groupwise	25.4	17.6	24.4
	asymptotic_bonf	27.8	22.1	26.5
	permutation_bonf	23.9	17.7	22.7
Weib late	asymptotic	67.6	51.5	68.0
	groupwise	61.8	40.8	61.8
	asymptotic_bonf	67.0	50.5	66.5
	permutation_bonf	61.9	41.8	61.7
Weib prop	asymptotic	59.3	44.4	58.7
	groupwise	53.3	35.3	52.8
	asymptotic_bonf	58.6	43.7	59.0
	permutation_bonf	53.7	36.0	53.9
Weib scale	asymptotic	40.9	31.0	41.3
	groupwise	35.2	23.8	35.8
	asymptotic_bonf	39.5	30.5	39.5
	permutation_bonf	33.9	24.2	34.5
Weib shape	asymptotic	23.9	21.3	24.5
	groupwise	19.3	15.0	19.9
	asymptotic_bonf	23.4	20.2	23.9
	permutation_bonf	19.8	15.3	19.8

Table S38: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and balanced medium sample sizes.

distribution	method	equal censoring $\mathcal{H}_{0,3}$	unequal, high censoring $\mathcal{H}_{0,3}$	unequal, low censoring $\mathcal{H}_{0,3}$
exp early	asymptotic	19.2	16.9	16.9
	groupwise	12.3	6.5	10.1
	asymptotic_bonf	17.8	15.2	17.2
	permutation_bonf	12.9	8.6	11.9
exp late	asymptotic	20.8	17.0	20.2
	groupwise	11.8	5.3	10.0
	asymptotic_bonf	19.5	14.8	18.7
	permutation_bonf	13.3	7.6	12.5
exp prop	asymptotic	18.5	15.7	18.9
	groupwise	11.3	5.5	10.3
	asymptotic_bonf	17.6	13.9	17.0
	permutation_bonf	12.5	7.6	11.6
logn	asymptotic	26.6	22.0	26.9
	groupwise	16.7	7.5	16.4
	asymptotic_bonf	26.7	21.2	26.2
	permutation_bonf	18.4	9.6	18.2
pwExp	asymptotic	17.8	16.8	17.4
	groupwise	11.9	6.2	10.1
	asymptotic_bonf	17.5	14.4	16.4
	permutation_bonf	12.6	8.7	11.6
Weib late	asymptotic	38.6	29.4	38.4
	groupwise	26.1	11.6	24.5
	asymptotic_bonf	36.9	28.8	37.1
	permutation_bonf	27.6	15.7	27.3
Weib prop	asymptotic	34.0	26.4	33.0
	groupwise	22.9	11.0	21.7
	asymptotic_bonf	32.0	25.8	32.3
	permutation_bonf	23.6	14.1	23.3
Weib scale	asymptotic	22.7	19.1	22.6
	groupwise	14.4	8.6	14.4
	asymptotic_bonf	21.4	19.1	21.6
	permutation_bonf	14.9	10.0	14.8
Weib shape	asymptotic	13.7	12.4	14.0
	groupwise	6.8	3.6	6.9
	asymptotic_bonf	13.4	12.5	13.0
	permutation_bonf	8.7	6.3	8.2

Table S39: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and balanced small sample sizes.

distribution	method	equal censoring $\mathcal{H}_{0,3}$	unequal, high censoring $\mathcal{H}_{0,3}$	unequal, low censoring $\mathcal{H}_{0,3}$
exp early	asymptotic	52.5	40.5	49.9
	groupwise	48.4	34.0	45.4
	asymptotic_bonf	49.1	36.8	46.5
	permutation_bonf	45.0	30.2	42.3
exp late	asymptotic	62.9	48.1	61.1
	groupwise	57.1	38.3	53.6
	asymptotic_bonf	57.6	42.7	54.8
	permutation_bonf	53.1	35.7	49.7
exp prop	asymptotic	55.8	41.5	53.3
	groupwise	51.3	34.0	47.5
	asymptotic_bonf	52.5	38.4	49.4
	permutation_bonf	48.2	31.4	44.8
logn	asymptotic	76.1	57.8	74.2
	groupwise	72.8	52.0	70.5
	asymptotic_bonf	74.1	56.0	73.1
	permutation_bonf	70.3	50.4	69.6
pwExp	asymptotic	48.7	37.2	47.3
	groupwise	45.5	31.6	43.1
	asymptotic_bonf	45.2	34.1	42.9
	permutation_bonf	41.1	27.9	38.8
Weib late	asymptotic	88.5	70.3	86.2
	groupwise	85.6	63.5	82.6
	asymptotic_bonf	86.2	69.3	84.5
	permutation_bonf	84.1	64.0	82.5
Weib prop	asymptotic	84.2	67.8	82.5
	groupwise	81.3	60.7	79.2
	asymptotic_bonf	82.2	64.5	80.9
	permutation_bonf	80.1	58.9	78.2
Weib scale	asymptotic	69.5	53.9	68.7
	groupwise	67.0	49.1	65.1
	asymptotic_bonf	67.9	52.0	67.1
	permutation_bonf	64.1	46.4	63.6
Weib shape	asymptotic	53.1	42.4	51.1
	groupwise	50.1	38.7	48.3
	asymptotic_bonf	50.5	40.9	50.0
	permutation_bonf	46.4	36.2	46.0

Table S40: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and unbalanced large sample sizes.

distribution	method	equal censoring $\mathcal{H}_{0,3}$	unequal, high censoring $\mathcal{H}_{0,3}$	unequal, low censoring $\mathcal{H}_{0,3}$
exp early	asymptotic	25.9	21.2	25.0
	groupwise	20.0	12.3	18.3
	asymptotic_bonf	22.9	17.1	21.8
	permutation_bonf	17.1	9.8	15.7
exp late	asymptotic	32.4	22.4	29.6
	groupwise	22.3	10.6	19.8
	asymptotic_bonf	26.9	18.8	25.3
	permutation_bonf	20.5	10.6	18.4
exp prop	asymptotic	27.9	21.2	28.3
	groupwise	20.3	11.1	19.7
	asymptotic_bonf	25.2	18.0	23.1
	permutation_bonf	18.4	9.9	16.3
logn	asymptotic	44.1	32.6	43.6
	groupwise	36.0	19.6	34.2
	asymptotic_bonf	42.3	30.2	41.3
	permutation_bonf	34.3	19.6	34.0
pwExp	asymptotic	25.5	20.6	24.2
	groupwise	20.2	12.0	18.0
	asymptotic_bonf	21.5	16.6	19.9
	permutation_bonf	16.1	9.0	14.4
Weib late	asymptotic	58.3	42.8	56.4
	groupwise	47.9	24.9	44.8
	asymptotic_bonf	56.0	42.1	54.0
	permutation_bonf	48.6	30.1	46.8
Weib prop	asymptotic	53.0	39.4	51.4
	groupwise	43.5	24.0	41.3
	asymptotic_bonf	51.2	38.1	49.9
	permutation_bonf	43.6	27.4	42.2
Weib scale	asymptotic	40.4	31.2	39.1
	groupwise	34.0	21.5	32.9
	asymptotic_bonf	37.8	29.2	37.6
	permutation_bonf	31.2	19.4	30.4
Weib shape	asymptotic	27.7	23.0	27.2
	groupwise	23.1	16.1	23.0
	asymptotic_bonf	25.6	21.9	25.9
	permutation_bonf	20.3	14.4	19.8

Table S41: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and unbalanced medium sample sizes.

distribution	method	equal censoring $\mathcal{H}_{0,3}$	unequal, high censoring $\mathcal{H}_{0,3}$	unequal, low censoring $\mathcal{H}_{0,3}$
exp early	asymptotic	14.8	13.2	14.3
	groupwise	6.3	2.1	4.8
	asymptotic_bonf	13.7	11.6	13.1
	permutation_bonf	7.3	4.3	6.4
exp late	asymptotic	16.4	15.3	15.8
	groupwise	5.2	1.6	3.5
	asymptotic_bonf	15.2	12.5	14.3
	permutation_bonf	7.7	4.9	7.0
exp prop	asymptotic	14.5	13.6	16.1
	groupwise	5.5	1.6	5.1
	asymptotic_bonf	13.6	11.8	13.4
	permutation_bonf	7.2	4.5	6.8
logn	asymptotic	25.1	22.9	25.0
	groupwise	11.1	7.1	10.6
	asymptotic_bonf	24.5	20.9	23.8
	permutation_bonf	13.7	6.9	13.6
pwExp	asymptotic	14.0	12.8	13.9
	groupwise	5.7	1.7	5.3
	asymptotic_bonf	14.0	11.8	13.3
	permutation_bonf	7.0	4.5	6.3
Weib late	asymptotic	34.4	29.7	34.9
	groupwise	14.6	9.1	14.2
	asymptotic_bonf	31.5	26.7	31.5
	permutation_bonf	20.1	10.8	20.6
Weib prop	asymptotic	31.4	26.1	31.0
	groupwise	15.4	8.1	14.1
	asymptotic_bonf	28.5	24.6	28.6
	permutation_bonf	18.0	9.4	18.3
Weib scale	asymptotic	24.4	20.5	22.6
	groupwise	14.3	7.2	13.0
	asymptotic_bonf	21.6	19.0	21.2
	permutation_bonf	12.3	6.8	12.1
Weib shape	asymptotic	15.2	15.4	15.9
	groupwise	8.9	6.1	9.0
	asymptotic_bonf	14.4	13.5	14.1
	permutation_bonf	7.2	4.5	7.0

Table S42: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and unbalanced small sample sizes.

distribution	method	equal censoring			unequal, high censoring			unequal, low censoring		
		$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$
exp early	asymptotic	47.3	48.2	48.0	36.3	34.9	38.3	46.6	49.0	45.6
	groupwise	44.5	45.3	45.4	32.1	30.2	33.8	43.8	46.8	42.6
	asymptotic_bonf	47.3	46.4	46.0	34.9	33.4	36.7	45.8	47.0	44.4
	permutation_bonf	44.0	43.2	43.3	30.8	29.2	32.4	42.3	43.9	40.9
exp late	asymptotic	65.8	67.1	66.3	50.4	47.5	52.1	63.6	68.1	63.0
	groupwise	61.5	63.0	62.4	43.5	39.4	44.8	58.9	63.9	57.5
	asymptotic_bonf	63.6	63.6	63.0	47.0	43.8	49.1	61.5	64.3	59.6
	permutation_bonf	60.6	59.9	60.3	41.6	39.1	44.4	57.9	61.0	56.1
exp prop	asymptotic	56.5	57.1	57.0	42.6	40.0	43.4	54.5	58.0	53.2
	groupwise	53.6	54.4	53.7	37.6	34.4	38.5	51.1	54.8	49.2
	asymptotic_bonf	53.8	53.6	52.7	40.1	36.5	40.5	51.7	54.3	49.0
	permutation_bonf	50.9	50.4	49.6	35.7	32.8	36.6	48.2	51.0	45.8
logn	asymptotic	72.1	72.5	72.7	54.0	51.3	54.6	73.0	76.3	72.0
	groupwise	69.0	69.3	69.8	48.3	45.1	48.1	69.9	73.5	68.9
	asymptotic_bonf	71.0	70.3	70.9	53.3	49.1	51.2	71.4	72.8	69.6
	permutation_bonf	67.4	66.8	67.4	47.1	44.0	45.4	67.8	69.2	66.0
pwExp	asymptotic	44.9	44.6	43.7	34.6	33.0	35.1	43.9	44.8	41.4
	groupwise	41.5	41.1	40.8	30.5	28.9	30.7	40.2	41.8	38.0
	asymptotic_bonf	43.0	43.4	43.1	32.6	30.8	33.1	41.9	43.9	41.0
	permutation_bonf	39.9	40.5	40.5	28.7	26.8	29.5	39.0	40.9	37.7
Weib late	asymptotic	91.2	91.4	91.1	76.0	72.3	74.5	90.4	92.4	88.3
	groupwise	89.9	89.4	89.4	70.9	66.5	68.5	88.4	91.2	86.2
	asymptotic_bonf	90.5	91.0	91.0	74.0	69.7	73.9	89.1	91.9	88.2
	permutation_bonf	88.5	89.1	89.5	69.3	64.3	68.9	87.3	90.2	85.8
Weib prop	asymptotic	85.5	84.9	84.6	67.1	63.3	66.1	84.5	86.3	81.9
	groupwise	83.5	82.8	82.7	62.7	58.3	60.7	82.0	84.2	79.0
	asymptotic_bonf	83.1	83.7	84.9	65.4	61.1	66.0	83.2	85.7	82.0
	permutation_bonf	80.8	81.3	82.3	60.5	56.2	60.7	80.2	83.2	79.4
Weib scale	asymptotic	64.0	62.9	64.9	47.6	44.5	48.0	63.4	64.5	62.9
	groupwise	60.6	59.2	61.3	42.7	39.5	43.1	60.7	61.3	59.4
	asymptotic_bonf	60.9	61.0	62.2	45.0	43.6	45.9	61.0	63.8	61.3
	permutation_bonf	57.5	57.3	59.2	40.0	38.7	40.8	57.4	60.3	57.8
Weib shape	asymptotic	41.4	40.8	41.4	32.4	31.4	32.3	40.8	40.9	40.3
	groupwise	37.7	37.4	37.6	29.0	27.6	28.3	36.9	37.7	36.7
	asymptotic_bonf	37.3	37.1	38.6	30.1	28.6	30.8	36.9	37.9	37.8
	permutation_bonf	34.5	34.0	35.6	26.3	24.9	26.4	34.2	34.6	34.6

Table S43: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and balanced large sample sizes.

distribution	method	equal censoring			unequal, high censoring			unequal, low censoring		
		$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$
exp early	asymptotic	23.2	23.4	23.9	19.0	17.6	19.4	22.3	24.3	23.2
	groupwise	19.2	19.4	20.1	12.3	10.4	12.3	18.1	19.7	17.9
	asymptotic_bonf	22.0	22.5	22.0	17.6	16.2	17.8	21.4	23.0	20.1
	permutation_bonf	17.9	18.8	18.3	12.6	11.3	12.4	17.5	19.0	15.7
exp late	asymptotic	32.5	32.4	31.9	21.5	20.3	23.0	31.0	32.8	29.0
	groupwise	25.4	25.2	24.5	12.2	10.5	12.4	22.6	25.8	20.6
	asymptotic_bonf	28.7	29.2	28.1	20.1	18.2	20.7	27.7	30.4	25.6
	permutation_bonf	23.6	24.5	22.8	14.4	12.7	13.8	22.5	24.3	20.7
exp prop	asymptotic	25.7	26.9	27.1	20.6	19.6	21.9	26.2	27.7	25.1
	groupwise	20.7	21.6	21.9	13.6	11.0	13.5	19.9	22.0	18.1
	asymptotic_bonf	24.7	25.6	25.1	18.4	17.3	19.2	23.4	26.2	22.9
	permutation_bonf	20.0	21.1	20.3	12.8	12.5	13.2	18.7	21.3	18.3
logn	asymptotic	39.4	39.2	40.0	29.7	26.6	28.2	40.6	42.0	38.5
	groupwise	32.9	32.1	32.4	19.2	16.0	17.3	33.4	35.0	30.3
	asymptotic_bonf	38.4	37.3	38.5	27.3	25.1	26.4	38.4	39.1	36.6
	permutation_bonf	31.5	30.6	32.5	18.5	16.9	17.7	31.6	32.4	30.1
pwExp	asymptotic	23.2	24.0	23.1	17.6	17.1	19.0	22.4	24.3	21.1
	groupwise	18.8	19.5	18.6	12.0	10.1	13.2	17.8	19.5	16.7
	asymptotic_bonf	20.7	20.9	20.8	16.8	15.5	17.2	20.2	20.8	19.4
	permutation_bonf	17.3	17.4	17.1	11.8	10.9	11.7	16.2	16.9	15.4
Weib late	asymptotic	59.6	60.5	59.7	42.7	41.0	41.7	59.9	62.7	57.1
	groupwise	52.6	52.5	52.0	30.4	26.9	27.9	51.4	54.9	47.6
	asymptotic_bonf	58.2	56.3	57.0	42.2	36.2	38.3	58.1	58.4	52.7
	permutation_bonf	51.8	48.9	49.6	31.1	27.0	27.8	50.9	50.9	45.4
Weib prop	asymptotic	50.9	50.7	51.0	37.1	34.8	35.5	50.2	54.1	48.6
	groupwise	43.9	44.3	44.1	27.2	23.1	24.1	42.7	46.5	40.5
	asymptotic_bonf	50.1	48.2	47.8	36.2	31.6	32.8	50.5	50.1	45.2
	permutation_bonf	42.7	40.8	41.5	26.4	22.6	23.5	43.2	43.0	38.3
Weib scale	asymptotic	34.0	33.5	33.5	25.3	24.1	24.1	33.8	34.0	31.5
	groupwise	28.2	27.5	27.3	16.8	15.7	16.1	27.6	27.7	25.9
	asymptotic_bonf	30.4	30.0	29.8	23.5	21.3	22.0	31.3	31.2	28.5
	permutation_bonf	25.1	24.6	24.5	16.6	14.7	15.2	25.6	25.2	23.3
Weib shape	asymptotic	19.0	18.8	19.2	16.0	15.0	15.7	19.3	19.7	18.9
	groupwise	14.0	14.0	14.4	10.2	9.1	10.0	14.4	14.4	14.3
	asymptotic_bonf	16.7	16.7	16.9	14.6	12.9	13.4	16.9	16.8	16.8
	permutation_bonf	13.0	13.3	13.0	9.8	8.6	9.2	12.8	13.0	12.4

Table S44: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and balanced medium sample sizes.

distribution	method	equal censoring			unequal, high censoring			unequal, low censoring		
		$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$
exp early	asymptotic	14.5	13.4	13.7	12.3	10.6	12.4	12.6	13.4	13.0
	groupwise	7.6	6.5	7.2	3.0	1.8	3.8	5.9	7.1	5.4
	asymptotic_bonf	13.2	12.2	12.6	11.1	10.1	11.0	12.6	12.5	11.2
	permutation_bonf	8.6	7.7	8.0	5.3	4.6	5.6	7.3	7.7	6.7
exp late	asymptotic	15.1	15.0	14.4	12.2	10.5	12.0	14.3	15.7	13.0
	groupwise	7.0	6.7	6.3	2.3	1.3	2.4	5.1	6.5	4.0
	asymptotic_bonf	13.6	12.6	13.0	9.9	9.2	10.5	13.3	13.2	11.6
	permutation_bonf	8.1	7.2	7.6	4.0	3.9	4.5	7.1	7.5	6.6
exp prop	asymptotic	13.5	13.5	13.2	11.2	10.7	11.8	13.8	14.6	13.1
	groupwise	6.9	6.5	6.3	2.7	1.5	2.6	5.7	7.1	5.0
	asymptotic_bonf	12.3	12.0	13.3	9.7	9.3	10.3	12.0	12.4	11.8
	permutation_bonf	7.9	7.2	8.1	4.4	4.1	4.6	6.8	7.2	6.6
logn	asymptotic	21.1	20.9	20.3	17.6	17.1	17.2	21.1	21.6	20.9
	groupwise	11.0	9.9	10.0	4.2	3.0	3.3	10.6	11.4	8.8
	asymptotic_bonf	20.6	19.4	20.4	16.3	15.4	16.5	20.5	20.2	19.3
	permutation_bonf	12.0	11.7	12.1	5.5	6.1	6.0	11.6	11.8	11.3
pwExp	asymptotic	14.1	13.8	14.2	13.0	10.9	13.1	12.9	13.4	13.7
	groupwise	6.8	7.1	7.3	2.7	2.1	3.4	5.4	6.9	5.4
	asymptotic_bonf	13.0	12.8	12.4	10.8	10.0	11.4	11.9	12.9	11.4
	permutation_bonf	8.4	8.4	8.6	5.9	5.1	6.4	7.1	8.2	7.5
Weib late	asymptotic	31.2	31.9	31.6	24.1	22.6	21.9	31.3	33.1	30.2
	groupwise	17.5	17.8	17.3	7.6	5.3	4.4	16.5	18.7	13.8
	asymptotic_bonf	29.3	29.2	28.9	22.9	20.7	21.8	29.7	31.0	27.4
	permutation_bonf	19.2	19.2	18.3	10.0	9.4	9.3	19.6	19.7	17.8
Weib prop	asymptotic	27.2	26.5	26.9	21.0	20.9	20.2	26.4	28.3	25.3
	groupwise	15.3	15.9	15.5	6.6	6.0	4.7	15.1	15.7	12.7
	asymptotic_bonf	25.3	24.2	24.8	20.1	18.7	19.6	25.3	25.3	23.5
	permutation_bonf	15.7	16.0	15.5	9.0	7.8	8.0	15.9	16.1	14.6
Weib scale	asymptotic	17.7	17.3	17.8	15.2	15.6	15.5	18.0	17.6	17.4
	groupwise	9.5	9.6	9.3	5.2	3.9	4.2	9.8	9.9	8.4
	asymptotic_bonf	16.1	15.3	16.1	14.6	13.7	14.1	16.2	15.6	15.1
	permutation_bonf	9.8	9.7	9.3	5.9	5.6	6.2	9.5	9.1	8.7
Weib shape	asymptotic	10.6	9.9	10.4	9.4	9.0	9.2	11.1	10.0	9.8
	groupwise	3.6	3.3	3.8	1.7	2.0	1.8	3.9	3.8	3.4
	asymptotic_bonf	9.2	9.2	8.5	9.2	8.1	8.4	9.1	9.1	8.4
	permutation_bonf	5.4	5.2	5.2	3.5	3.3	3.3	5.2	4.8	4.7

Table S45: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and balanced small sample sizes.

distribution	method	equal censoring			unequal, high censoring			unequal, low censoring		
		$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$
exp early	asymptotic	42.1	64.6	42.2	31.3	48.3	31.4	39.7	65.0	37.7
	groupwise	36.7	62.5	37.0	24.0	44.8	24.0	33.6	63.1	31.7
	asymptotic_bonf	39.6	61.1	38.9	27.7	45.2	28.8	36.9	61.5	34.8
	permutation_bonf	34.2	58.2	33.4	20.7	42.0	21.2	31.8	58.9	29.7
exp late	asymptotic	52.9	81.6	52.3	37.7	62.1	38.3	50.4	82.0	47.0
	groupwise	45.1	79.6	43.3	26.0	56.5	25.9	41.3	80.1	36.5
	asymptotic_bonf	47.3	78.8	47.3	33.0	58.9	34.0	44.0	79.8	42.1
	permutation_bonf	41.7	77.3	41.6	23.9	55.6	25.5	38.0	78.0	35.7
exp prop	asymptotic	46.3	72.6	46.0	32.0	53.7	35.1	43.1	73.3	42.6
	groupwise	39.6	70.6	39.6	24.4	49.8	25.5	36.1	71.7	35.5
	asymptotic_bonf	42.3	69.2	41.7	28.8	50.9	30.1	39.4	69.3	37.0
	permutation_bonf	36.6	66.9	36.8	21.2	47.8	22.7	33.2	67.1	31.5
logn	asymptotic	68.1	86.1	67.7	49.9	66.0	46.2	66.0	88.4	62.5
	groupwise	63.2	84.5	62.7	41.2	62.5	36.4	60.6	87.0	56.0
	asymptotic_bonf	65.9	85.2	65.9	47.9	63.5	44.6	64.2	87.5	60.7
	permutation_bonf	61.6	83.5	60.1	39.4	59.4	36.8	59.9	86.0	55.3
pwExp	asymptotic	39.6	58.8	40.0	28.3	44.6	30.5	37.8	60.3	36.1
	groupwise	35.2	56.8	35.8	21.6	41.1	23.3	33.2	58.0	31.0
	asymptotic_bonf	35.7	56.2	35.8	25.4	42.2	26.4	34.0	56.6	32.2
	permutation_bonf	30.8	54.0	30.7	18.1	38.5	19.1	28.8	54.1	27.1
Weib late	asymptotic	83.0	97.3	83.0	62.3	86.2	62.5	80.3	97.7	77.4
	groupwise	79.0	96.9	78.9	52.3	83.3	49.7	74.8	97.5	70.5
	asymptotic_bonf	80.9	97.6	81.5	61.1	83.7	61.0	78.0	97.9	75.5
	permutation_bonf	77.3	97.1	78.0	52.9	80.8	52.8	73.8	97.7	71.7
Weib prop	asymptotic	77.6	94.3	78.2	58.4	79.0	57.6	76.3	95.5	73.0
	groupwise	74.1	93.6	73.7	49.9	75.5	47.6	70.8	94.9	67.1
	asymptotic_bonf	75.7	94.2	76.9	55.8	76.4	55.7	73.3	95.3	71.4
	permutation_bonf	71.2	93.5	72.9	48.1	72.8	47.7	68.9	94.5	67.6
Weib scale	asymptotic	61.5	77.6	62.7	45.6	58.9	43.9	60.2	79.2	59.2
	groupwise	57.5	75.6	59.2	39.1	55.4	37.3	55.9	77.6	54.5
	asymptotic_bonf	59.1	76.6	60.2	43.1	56.4	42.2	58.2	79.0	57.4
	permutation_bonf	54.2	74.3	55.3	36.0	52.9	35.4	53.1	76.9	52.8
Weib shape	asymptotic	44.3	54.0	43.2	34.7	43.8	34.4	42.5	54.6	42.3
	groupwise	40.7	51.1	40.6	30.1	40.7	29.1	39.6	52.3	38.4
	asymptotic_bonf	41.0	51.7	42.4	32.8	40.3	31.5	40.6	52.4	40.2
	permutation_bonf	36.2	49.6	37.6	27.0	36.9	25.9	35.4	50.0	35.7

Table S46: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and unbalanced large sample sizes.

distribution	method	equal censoring			unequal, high censoring			unequal, low censoring		
		$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$
exp early	asymptotic	19.2	33.0	18.7	15.2	24.6	15.4	18.3	33.4	18.1
	groupwise	12.6	29.4	12.8	6.3	18.5	6.6	10.8	30.3	10.6
	asymptotic_bonf	16.3	30.0	17.6	11.6	20.9	13.9	15.4	29.9	16.0
	permutation_bonf	10.0	25.8	11.8	5.0	16.7	6.2	9.0	26.0	10.1
exp late	asymptotic	23.4	46.0	23.5	16.0	29.4	16.9	22.4	46.1	21.3
	groupwise	13.4	39.6	13.5	5.1	19.6	5.6	10.8	40.5	10.5
	asymptotic_bonf	19.3	40.8	20.7	12.9	26.5	15.0	17.4	42.0	17.8
	permutation_bonf	11.9	36.4	13.6	5.7	21.1	6.7	11.1	36.7	11.5
exp prop	asymptotic	20.3	37.6	20.9	14.8	27.1	15.1	20.4	39.4	18.4
	groupwise	12.6	33.6	12.8	5.4	19.0	5.4	11.5	35.1	8.6
	asymptotic_bonf	17.6	35.7	18.3	11.7	24.1	13.8	15.7	36.3	16.5
	permutation_bonf	11.1	31.3	12.4	5.4	18.9	6.8	9.9	31.5	10.5
logn	asymptotic	35.6	53.2	35.5	26.1	36.0	25.4	35.4	56.4	33.0
	groupwise	25.9	48.3	25.5	12.5	27.4	9.8	24.1	52.1	21.0
	asymptotic_bonf	33.4	50.5	33.4	23.7	33.3	21.7	33.3	53.3	31.0
	permutation_bonf	24.1	45.4	24.5	13.3	26.0	11.5	23.9	47.3	22.5
pwExp	asymptotic	19.1	31.2	19.1	14.4	22.8	15.1	17.8	31.0	16.8
	groupwise	13.1	27.8	12.8	6.1	17.6	6.6	11.1	27.5	9.9
	asymptotic_bonf	15.3	26.9	16.7	11.3	19.5	13.2	14.3	27.0	14.4
	permutation_bonf	9.8	23.9	10.8	4.5	15.4	5.5	9.1	23.9	9.1
Weib late	asymptotic	50.0	74.7	49.7	34.7	51.9	34.2	47.7	77.8	45.9
	groupwise	35.0	70.4	36.0	15.7	41.7	13.2	32.1	73.9	28.4
	asymptotic_bonf	47.0	72.2	45.7	33.9	48.6	30.3	45.6	74.0	41.7
	permutation_bonf	37.9	67.6	36.2	21.3	40.3	18.3	36.2	69.6	33.0
Weib prop	asymptotic	43.9	66.7	44.1	31.4	45.8	31.1	42.8	68.9	40.9
	groupwise	32.1	62.1	32.2	15.3	37.7	13.0	30.0	64.4	26.9
	asymptotic_bonf	42.3	62.5	40.4	30.6	41.8	27.6	40.8	64.9	37.7
	permutation_bonf	33.3	57.5	31.7	18.7	34.1	16.2	32.0	59.7	29.1
Weib scale	asymptotic	32.1	43.8	32.4	24.8	30.4	22.6	31.7	44.8	30.7
	groupwise	24.9	38.6	24.9	14.3	23.3	11.2	24.0	40.7	21.6
	asymptotic_bonf	29.9	40.2	29.5	22.4	28.2	21.3	29.5	41.9	27.5
	permutation_bonf	22.4	35.3	22.2	12.9	22.9	11.9	22.3	36.9	20.6
Weib shape	asymptotic	21.5	26.4	21.1	17.0	20.5	16.1	21.1	26.5	20.1
	groupwise	17.1	22.1	16.9	10.9	15.9	9.6	16.3	22.3	15.1
	asymptotic_bonf	19.2	22.6	19.0	15.9	18.3	15.3	18.9	23.2	18.4
	permutation_bonf	12.6	18.9	13.0	8.5	14.0	8.5	12.2	19.4	12.8

Table S47: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and unbalanced medium sample sizes.

distribution	method	equal censoring			unequal, high censoring			unequal, low censoring		
		$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$
exp early	asymptotic	10.4	17.4	11.2	9.3	12.5	9.2	9.7	17.3	9.6
	groupwise	2.5	11.9	2.5	0.6	4.3	0.6	1.5	11.4	1.3
	asymptotic_bonf	9.8	16.6	9.1	8.3	12.2	8.1	9.3	16.6	8.7
	permutation_bonf	3.8	12.3	4.0	2.4	7.4	2.6	3.6	11.7	3.3
exp late	asymptotic	11.7	20.6	11.2	10.7	13.4	10.1	10.9	22.2	11.1
	groupwise	1.6	12.5	1.9	0.7	3.4	0.5	1.2	13.0	1.1
	asymptotic_bonf	10.4	18.8	9.6	9.0	12.3	8.6	10.0	19.2	9.3
	permutation_bonf	4.2	13.6	4.2	2.8	7.4	2.7	4.2	13.4	3.9
exp prop	asymptotic	9.8	18.0	11.5	9.7	13.9	10.5	11.4	19.3	10.8
	groupwise	1.8	11.7	2.2	0.6	4.1	0.6	1.7	13.0	1.4
	asymptotic_bonf	9.6	16.5	9.4	8.4	11.7	8.4	9.4	16.9	8.6
	permutation_bonf	3.9	11.7	3.9	2.7	6.5	2.3	3.6	11.8	3.4
logn	asymptotic	19.7	27.5	20.6	18.6	20.9	17.2	19.8	29.1	20.4
	groupwise	6.0	18.8	6.3	4.7	6.5	3.5	6.4	20.0	6.3
	asymptotic_bonf	18.6	25.9	18.7	16.2	18.8	15.4	18.7	26.4	17.7
	permutation_bonf	8.6	17.8	7.9	4.2	9.3	4.1	8.9	18.1	8.4
pwExp	asymptotic	9.8	17.3	11.3	8.8	12.7	10.0	9.6	16.2	9.7
	groupwise	2.6	11.8	2.6	0.5	4.4	0.6	1.7	11.0	1.3
	asymptotic_bonf	10.0	15.5	9.0	8.7	11.4	8.3	9.5	15.5	8.7
	permutation_bonf	3.8	11.5	3.6	2.4	6.9	2.3	3.4	11.3	3.1
Weib late	asymptotic	27.2	41.3	29.0	24.9	28.3	23.0	28.7	43.2	26.9
	groupwise	8.3	30.0	8.8	6.1	10.3	4.5	9.5	30.9	7.0
	asymptotic_bonf	24.6	38.4	25.6	21.5	26.0	21.1	24.9	40.9	24.3
	permutation_bonf	13.1	29.2	13.6	6.9	14.8	6.7	14.1	31.8	14.1
Weib prop	asymptotic	25.2	34.5	24.5	21.6	25.2	21.7	24.9	37.0	26.5
	groupwise	9.1	25.0	8.6	5.2	9.8	4.7	9.1	27.0	8.3
	asymptotic_bonf	22.2	32.5	22.7	19.9	22.7	19.5	22.5	34.5	21.8
	permutation_bonf	11.0	24.2	11.5	5.8	12.5	5.7	11.8	25.7	12.0
Weib scale	asymptotic	19.4	23.3	18.9	16.3	17.4	16.1	18.0	23.1	17.5
	groupwise	8.6	15.7	8.1	4.5	7.4	3.8	8.3	16.2	6.5
	asymptotic_bonf	15.9	20.8	16.4	14.9	15.7	14.7	15.9	20.9	15.5
	permutation_bonf	7.7	14.7	7.9	3.6	9.0	3.7	7.2	14.5	7.6
Weib shape	asymptotic	11.4	12.4	11.5	12.4	11.4	11.9	12.2	12.4	11.3
	groupwise	4.7	6.5	5.2	3.4	3.9	2.9	5.3	6.9	4.9
	asymptotic_bonf	9.9	10.9	9.8	10.2	9.8	10.0	10.0	11.3	9.8
	permutation_bonf	3.6	7.0	3.9	1.9	5.2	2.1	3.4	7.0	3.5

Table S48: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and unbalanced small sample sizes.

distribution	method	equal censoring				unequal, high censoring				unequal, low censoring			
		$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,4}$
exp early	asymptotic	6.1	6.1	6.5	71.3	4.8	4.5	5.5	62.5	5.7	6.2	6.0	73.2
	groupwise	5.1	5.2	5.3	67.3	3.5	3.0	4.1	55.8	4.7	5.4	4.8	69.2
	asymptotic_bonf	5.8	6.1	5.9	72.6	4.2	4.1	4.6	62.5	5.4	6.1	5.4	73.1
	permutation_bonf	4.8	5.0	4.6	69.4	2.7	2.8	3.1	57.1	4.2	4.9	4.0	69.6
exp late	asymptotic	7.0	6.2	7.2	94.1	5.1	5.0	5.0	86.2	6.3	6.7	6.1	94.4
	groupwise	5.8	5.2	5.7	93.4	3.5	3.4	3.8	84.2	5.0	5.4	4.9	93.9
	asymptotic_bonf	6.1	6.3	6.1	93.4	4.4	4.1	4.7	85.6	5.8	6.3	5.3	94.1
	permutation_bonf	4.9	4.9	4.8	92.2	2.9	2.7	2.9	81.4	4.6	5.0	4.0	92.6
exp prop	asymptotic	6.6	6.2	6.6	84.3	5.3	4.7	4.9	73.2	5.8	6.4	5.8	84.2
	groupwise	5.1	5.2	5.4	81.6	3.8	3.3	3.5	68.1	4.6	5.5	4.9	81.9
	asymptotic_bonf	6.5	6.5	6.0	82.9	4.5	4.5	4.8	72.1	6.1	6.6	5.5	83.6
	permutation_bonf	5.4	5.2	4.7	79.8	3.3	3.3	3.2	66.3	4.9	5.2	4.1	80.5
logn	asymptotic	12.6	12.5	13.5	91.7	8.6	8.6	9.1	77.9	11.7	12.5	12.6	93.6
	groupwise	11.1	10.7	11.6	89.9	6.7	6.5	6.7	73.2	9.8	10.5	10.4	92.5
	asymptotic_bonf	12.1	12.5	12.7	90.9	8.3	8.8	8.9	77.4	11.8	12.7	12.0	93.1
	permutation_bonf	10.4	10.8	11.2	89.2	6.6	6.7	6.9	72.8	10.2	10.9	10.2	91.6
pwExp	asymptotic	6.3	6.2	6.5	66.4	4.4	5.2	5.1	57.6	5.7	6.2	5.9	66.6
	groupwise	5.2	5.5	5.2	60.8	3.4	3.5	3.9	49.9	4.9	5.2	4.5	61.7
	asymptotic_bonf	5.8	5.8	5.8	67.4	4.5	4.0	4.5	58.0	5.5	5.8	5.3	67.1
	permutation_bonf	4.9	4.5	4.6	63.7	3.1	2.7	3.1	51.3	4.4	4.7	4.0	63.4
Weib late	asymptotic	14.3	15.5	15.7	99.7	10.2	10.7	9.9	97.3	14.0	14.9	13.5	99.7
	groupwise	12.4	13.6	13.7	99.7	7.8	7.8	7.7	96.5	11.8	12.9	11.4	99.7
	asymptotic_bonf	14.3	14.3	15.6	99.7	9.9	9.2	10.6	97.3	13.1	14.1	14.8	99.9
	permutation_bonf	12.1	12.5	13.6	99.7	7.7	7.0	7.9	96.2	11.3	12.3	12.9	99.8
Weib prop	asymptotic	14.6	14.7	15.7	98.0	10.4	10.1	9.6	91.0	14.1	14.0	13.6	98.4
	groupwise	12.5	12.2	13.2	97.4	7.8	7.7	7.1	89.1	11.9	12.4	11.4	98.1
	asymptotic_bonf	14.2	14.0	15.1	98.1	9.6	9.0	10.2	91.3	12.6	13.9	14.8	98.7
	permutation_bonf	11.7	12.1	13.2	97.6	7.7	7.0	7.9	88.6	10.8	12.0	12.7	98.4
Weib scale	asymptotic	14.4	14.2	13.7	81.2	10.0	9.5	9.6	66.8	13.0	13.9	13.5	82.7
	groupwise	12.8	12.5	11.9	78.0	7.9	7.0	7.5	61.5	11.2	12.2	11.2	80.3
	asymptotic_bonf	12.7	13.1	13.9	80.2	9.1	8.4	9.5	65.9	11.8	12.8	13.7	82.5
	permutation_bonf	10.8	11.2	12.0	77.3	7.1	7.1	7.3	61.3	9.9	10.9	11.7	80.2
Weib shape	asymptotic	11.7	11.5	12.7	52.4	9.2	8.1	8.5	44.2	11.3	11.5	11.0	53.1
	groupwise	10.4	10.1	11.2	48.6	7.7	6.4	6.3	39.8	10.0	10.0	9.6	49.4
	asymptotic_bonf	10.8	11.2	12.5	51.7	8.2	8.2	8.7	43.6	10.7	11.3	11.9	51.6
	permutation_bonf	9.2	9.7	10.7	47.5	6.7	6.5	6.9	38.6	8.8	9.7	9.8	47.6

Table S49: Rejection rates in percent for the Grand-mean-type contrast matrix with $\delta = 1.5$ and balanced large sample sizes.

distribution	method	equal censoring				unequal, high censoring				unequal, low censoring			
		$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,4}$
exp early	asymptotic	4.1	4.2	3.8	42.8	3.8	3.7	4.0	36.9	4.1	3.8	3.8	44.0
	groupwise	2.8	3.0	2.5	34.1	2.1	1.6	1.8	27.8	2.7	2.6	2.5	35.1
	asymptotic_bonf	3.9	3.7	3.5	43.0	3.2	3.1	3.2	36.4	3.8	3.7	3.1	43.0
	permutation_bonf	2.5	2.1	2.1	36.0	1.5	1.4	1.2	26.8	2.3	2.3	1.9	35.5
exp late	asymptotic	4.0	4.0	4.1	67.9	3.8	3.8	3.3	55.0	4.1	4.2	4.3	68.6
	groupwise	2.4	2.4	2.5	63.8	2.0	1.6	1.6	48.7	2.5	2.7	2.3	64.5
	asymptotic_bonf	3.7	3.7	3.3	67.1	3.0	3.1	3.0	54.5	3.7	3.6	3.1	67.5
	permutation_bonf	2.5	2.2	2.0	59.0	1.3	1.3	1.3	40.7	2.3	2.3	1.9	58.3
exp prop	asymptotic	4.1	3.6	4.1	51.7	3.5	3.5	3.5	44.5	3.9	3.7	4.2	53.1
	groupwise	2.7	2.4	2.8	45.3	1.6	1.6	1.9	37.4	2.4	2.3	2.5	47.1
	asymptotic_bonf	3.5	3.9	3.4	52.5	2.9	3.1	3.0	43.6	3.6	4.0	3.2	52.6
	permutation_bonf	2.0	2.2	2.1	44.7	1.4	1.3	1.2	32.2	2.0	2.2	1.9	43.9
logn	asymptotic	7.6	7.8	7.6	61.6	6.7	6.2	6.3	47.8	7.8	7.3	7.2	65.6
	groupwise	4.8	5.2	5.1	53.8	3.2	2.3	2.4	36.3	5.0	4.9	4.4	59.9
	asymptotic_bonf	7.8	7.3	7.9	62.5	6.3	6.1	5.9	47.3	7.7	7.1	7.4	65.3
	permutation_bonf	5.5	5.4	5.9	54.5	3.7	3.3	3.3	35.3	5.6	5.2	5.4	57.9
pwExp	asymptotic	4.2	5.0	3.9	39.7	3.6	3.5	4.1	33.8	3.9	4.9	3.8	40.1
	groupwise	3.0	3.0	2.6	28.4	2.0	1.8	2.1	22.1	2.8	3.3	2.2	28.9
	asymptotic_bonf	3.7	3.5	3.3	39.3	3.2	3.1	3.1	33.4	3.7	3.6	3.3	38.8
	permutation_bonf	2.3	2.3	2.0	32.6	1.6	1.5	1.3	23.4	2.3	2.2	1.8	31.5
Weib late	asymptotic	8.2	8.5	8.7	90.3	6.5	7.1	6.4	76.0	8.2	8.6	8.4	92.2
	groupwise	5.8	6.2	6.1	88.1	3.8	3.0	2.8	68.5	5.5	6.2	5.6	90.3
	asymptotic_bonf	9.1	8.5	8.1	89.8	7.2	6.6	6.1	74.0	8.8	8.4	7.5	91.5
	permutation_bonf	6.6	6.3	5.8	86.4	4.5	3.9	3.5	63.9	6.4	6.3	5.6	88.2
Weib prop	asymptotic	7.7	7.7	8.3	78.7	6.8	7.3	6.1	62.7	7.8	8.0	8.0	81.0
	groupwise	5.6	5.4	5.6	73.8	3.4	3.6	2.7	53.4	5.2	5.7	5.1	76.5
	asymptotic_bonf	9.0	8.4	7.7	77.4	7.4	6.6	6.2	61.3	8.6	8.3	7.3	80.2
	permutation_bonf	6.5	6.3	5.7	71.9	4.4	4.0	3.3	50.2	6.1	6.1	5.5	74.6
Weib scale	asymptotic	8.1	8.0	7.7	48.6	6.5	6.6	6.4	37.7	8.1	7.6	7.3	50.0
	groupwise	6.0	5.6	5.7	40.4	3.8	3.3	3.4	27.2	5.7	5.5	4.9	43.2
	asymptotic_bonf	7.9	7.7	7.0	46.7	7.1	6.3	5.8	36.5	7.9	7.5	7.1	47.8
	permutation_bonf	6.0	5.8	5.0	39.8	4.4	3.6	3.3	27.7	5.6	5.6	5.2	40.5
Weib shape	asymptotic	7.0	7.4	7.6	25.8	6.4	6.0	6.1	22.2	7.4	6.5	7.2	25.6
	groupwise	5.1	5.6	5.8	18.6	3.7	3.3	3.0	14.0	5.3	4.9	5.0	19.8
	asymptotic_bonf	7.3	6.7	6.1	24.6	6.3	5.7	5.4	20.6	6.9	6.5	6.1	24.5
	permutation_bonf	5.0	5.0	4.4	18.9	4.1	3.4	3.0	13.8	4.8	4.7	4.2	18.9

Table S50: Rejection rates in percent for the Grand-mean-type contrast matrix with $\delta = 1.5$ and balanced medium sample sizes.

distribution	method	equal censoring				unequal, high censoring				unequal, low censoring			
		$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,4}$
exp early	asymptotic	3.5	3.1	3.6	26.9	4.4	4.1	3.7	25.5	3.5	3.5	3.6	27.6
	groupwise	1.4	1.5	1.6	18.2	1.1	1.2	1.1	17.4	1.1	1.5	1.3	17.7
	asymptotic_bonf	3.2	2.9	3.1	27.4	4.0	4.2	3.8	25.0	3.4	2.9	3.5	26.9
	permutation_bonf	1.3	1.2	1.1	17.7	0.8	1.1	0.7	12.7	1.0	1.0	1.1	16.4
exp late	asymptotic	3.7	3.5	3.3	39.8	4.8	4.6	3.6	33.8	3.4	3.6	3.7	39.8
	groupwise	1.6	1.4	1.6	31.7	1.5	1.4	0.9	22.9	1.2	1.5	1.2	31.2
	asymptotic_bonf	3.1	3.0	3.2	39.1	3.9	4.3	3.8	32.3	3.2	3.0	3.4	39.1
	permutation_bonf	1.3	1.1	1.2	24.9	0.9	1.3	0.8	13.4	1.1	1.0	1.1	23.4
exp prop	asymptotic	3.1	3.2	3.3	31.0	4.2	4.8	3.9	28.0	3.6	3.3	3.8	31.3
	groupwise	1.1	1.5	1.4	23.5	1.1	1.1	1.1	19.1	1.5	1.4	1.3	24.0
	asymptotic_bonf	3.4	2.9	3.3	31.4	3.9	3.8	3.9	27.7	3.5	3.3	3.4	31.3
	permutation_bonf	1.1	1.1	1.1	20.7	1.2	1.0	1.1	12.6	1.3	1.1	1.1	19.0
logn	asymptotic	6.4	6.3	6.0	35.0	6.8	7.4	7.8	28.6	6.2	5.7	6.2	37.4
	groupwise	2.5	2.0	2.1	22.6	1.4	2.1	1.7	14.1	2.5	2.2	1.8	25.3
	asymptotic_bonf	5.7	5.7	5.9	35.3	6.4	7.6	7.4	27.6	6.0	5.9	7.1	36.1
	permutation_bonf	3.0	2.8	3.1	24.2	1.9	2.5	2.6	12.1	2.8	2.9	3.2	23.6
pwExp	asymptotic	3.3	3.3	4.2	26.0	4.4	4.8	3.9	23.4	3.3	3.3	4.0	25.6
	groupwise	1.4	1.6	1.9	16.0	1.3	1.3	1.1	14.3	1.1	1.3	1.5	15.2
	asymptotic_bonf	2.9	3.1	3.0	25.0	3.7	4.0	3.5	22.1	2.9	3.0	3.5	24.6
	permutation_bonf	1.2	1.0	1.0	16.9	0.6	1.0	0.6	12.2	0.9	0.9	1.1	15.3
Weib late	asymptotic	6.7	7.0	6.4	60.7	7.7	7.5	6.9	44.4	6.6	6.1	7.0	63.1
	groupwise	2.8	2.3	2.6	49.3	2.0	1.6	1.1	25.5	2.5	2.5	2.4	52.7
	asymptotic_bonf	6.8	6.6	6.5	59.6	7.3	7.3	7.5	43.5	7.2	6.4	7.1	62.6
	permutation_bonf	3.6	3.3	3.5	45.9	2.2	2.8	2.5	21.7	3.6	3.3	4.0	46.8
Weib prop	asymptotic	6.8	6.1	6.4	46.7	6.7	8.0	7.2	36.5	6.6	6.3	6.4	49.3
	groupwise	2.9	2.6	2.4	34.9	1.6	2.0	1.5	20.6	2.7	2.6	2.3	38.2
	asymptotic_bonf	6.4	6.4	6.3	47.3	7.2	7.3	7.3	35.4	7.0	6.1	6.9	48.7
	permutation_bonf	3.4	3.2	3.5	33.7	2.2	2.7	2.5	17.4	3.5	3.1	3.8	34.1
Weib scale	asymptotic	5.9	6.2	5.8	26.3	6.5	7.3	6.6	22.8	6.3	6.1	6.1	26.3
	groupwise	2.7	2.7	2.8	14.7	1.7	2.0	1.4	10.5	3.0	2.5	2.4	15.4
	asymptotic_bonf	6.5	6.0	5.9	24.8	6.8	7.0	6.7	22.3	6.6	5.7	6.4	24.8
	permutation_bonf	3.2	2.9	3.2	16.1	2.4	2.5	2.4	10.7	3.4	2.9	3.4	15.3
Weib shape	asymptotic	5.5	4.8	5.1	13.6	5.7	6.1	6.3	12.3	5.9	5.4	4.9	13.1
	groupwise	2.6	2.2	2.9	3.5	1.9	1.8	1.8	2.8	3.2	2.5	2.1	4.1
	asymptotic_bonf	5.6	5.0	5.4	12.6	6.1	6.1	6.2	12.2	5.7	5.2	5.6	12.6
	permutation_bonf	2.7	2.6	2.7	7.3	2.1	2.2	2.2	4.9	3.1	2.5	2.7	6.7

Table S51: Rejection rates in percent for the Grand-mean-type contrast matrix with $\delta = 1.5$ and balanced small sample sizes.

distribution	method	equal censoring				unequal, high censoring				unequal, low censoring			
		$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,4}$
exp early	asymptotic	4.9	8.3	4.9	80.0	3.9	5.8	3.8	69.4	4.4	7.9	4.0	79.3
	groupwise	3.3	7.5	3.6	77.7	2.2	4.6	2.2	65.8	3.0	6.9	2.6	76.5
	asymptotic_bonf	4.6	7.2	4.5	78.7	3.8	5.6	4.0	67.3	4.1	7.2	4.2	78.1
	permutation_bonf	3.0	6.2	3.0	76.5	1.7	4.5	1.6	63.3	2.5	6.3	2.7	76.0
exp late	asymptotic	5.5	8.4	4.9	95.7	3.9	5.6	3.8	87.9	5.2	8.5	4.3	95.6
	groupwise	3.7	7.3	3.6	95.1	2.4	4.2	2.3	86.4	3.4	7.5	3.1	94.9
	asymptotic_bonf	4.6	7.6	4.5	95.3	3.8	5.6	4.2	87.4	4.3	7.6	4.4	94.8
	permutation_bonf	3.0	6.4	2.9	94.6	1.4	4.5	1.4	84.8	2.6	6.5	2.9	93.7
exp prop	asymptotic	5.5	8.8	4.5	88.1	4.5	6.0	3.4	77.8	5.2	8.8	4.7	87.7
	groupwise	4.2	7.6	3.3	86.7	2.7	4.6	1.8	74.9	3.7	7.4	3.1	86.4
	asymptotic_bonf	4.8	7.7	4.5	87.1	3.6	5.4	3.7	76.2	4.3	7.2	4.2	86.6
	permutation_bonf	3.1	6.6	3.0	85.6	2.0	4.3	1.6	73.0	2.8	6.3	3.0	85.1
logn	asymptotic	10.7	14.6	9.7	95.3	8.9	8.7	7.5	83.9	10.2	13.8	9.4	96.3
	groupwise	8.0	13.0	7.3	94.3	5.2	6.7	3.7	81.1	7.4	12.3	6.7	95.6
	asymptotic_bonf	10.3	14.1	10.1	95.3	7.8	8.7	7.6	84.1	9.1	13.5	9.1	95.5
	permutation_bonf	7.7	12.9	7.9	94.4	5.2	7.3	4.9	81.4	7.2	12.4	7.1	95.0
pwExp	asymptotic	4.8	8.2	4.7	74.3	3.6	5.9	3.7	63.4	4.4	8.1	4.3	73.4
	groupwise	3.2	7.2	3.5	71.3	2.1	4.5	2.1	59.2	3.2	7.1	2.9	70.5
	asymptotic_bonf	4.8	7.3	4.6	73.3	3.8	5.5	4.0	62.2	4.1	7.3	4.2	72.6
	permutation_bonf	2.8	6.4	3.1	70.7	1.4	4.5	1.8	58.2	2.5	6.4	2.8	70.1
Weib late	asymptotic	12.1	17.8	11.5	99.9	9.2	10.7	8.7	98.0	11.0	17.2	10.2	100.0
	groupwise	9.3	15.9	8.8	99.9	5.6	8.6	4.8	97.4	8.3	15.6	7.3	99.9
	asymptotic_bonf	10.8	16.7	11.2	99.8	8.5	10.0	8.0	98.4	10.3	16.2	10.4	99.8
	permutation_bonf	8.3	15.0	8.5	99.8	5.6	8.8	5.5	97.6	7.8	15.0	8.0	99.8
Weib prop	asymptotic	11.6	17.9	11.3	99.0	9.0	11.1	7.7	94.0	11.1	16.1	10.5	98.9
	groupwise	9.0	16.2	8.9	98.8	5.4	8.8	4.3	92.4	8.5	14.6	7.3	98.7
	asymptotic_bonf	10.4	16.5	11.2	99.3	8.6	9.8	7.9	94.2	10.1	16.0	10.4	99.3
	permutation_bonf	8.2	14.7	8.3	98.9	5.6	8.6	5.5	92.6	7.6	14.6	7.8	99.2
Weib scale	asymptotic	11.6	16.1	11.0	87.5	8.7	10.4	7.8	74.3	10.8	15.3	10.3	88.8
	groupwise	8.8	14.9	8.5	85.9	5.3	8.4	4.1	71.0	8.3	14.0	7.3	87.3
	asymptotic_bonf	10.0	15.1	10.8	88.5	8.3	9.4	7.7	74.6	9.5	14.9	10.0	89.7
	permutation_bonf	7.9	13.7	8.4	86.9	5.3	8.0	5.5	70.9	7.4	13.8	7.8	88.4
Weib shape	asymptotic	10.9	14.2	10.2	64.0	7.9	10.0	7.0	55.5	9.7	14.4	9.1	63.9
	groupwise	8.5	13.4	7.8	61.2	5.2	8.6	4.3	51.8	7.3	13.1	6.8	60.7
	asymptotic_bonf	9.2	13.4	9.9	63.6	8.0	8.9	7.2	54.8	8.9	13.5	9.1	64.0
	permutation_bonf	6.7	12.2	7.7	61.0	5.0	8.0	4.9	51.1	6.6	12.3	7.0	61.3

Table S52: Rejection rates in percent for the Grand-mean-type contrast matrix with $\delta = 1.5$ and unbalanced large sample sizes.

distribution	method	equal censoring				unequal, high censoring				unequal, low censoring			
		$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,4}$
exp early	asymptotic	3.4	4.9	3.5	47.6	4.0	3.4	3.6	41.8	3.4	4.3	3.4	47.5
	groupwise	1.8	3.6	1.6	42.1	1.6	1.9	1.1	34.6	1.3	3.4	1.3	42.8
	asymptotic_bonf	2.9	3.9	3.5	46.7	3.5	4.1	3.7	39.2	3.0	4.1	3.6	46.2
	permutation_bonf	1.0	3.1	1.4	42.1	0.8	2.4	0.9	32.0	1.3	3.1	1.3	41.1
exp late	asymptotic	3.9	5.3	3.8	70.0	4.0	3.5	4.1	57.0	4.1	4.7	3.9	69.2
	groupwise	1.9	3.9	2.0	66.5	1.4	1.9	1.3	48.9	1.7	3.4	1.6	64.2
	asymptotic_bonf	2.9	4.0	3.6	68.8	3.6	3.9	3.8	55.4	3.3	4.2	3.8	67.9
	permutation_bonf	1.1	3.0	1.4	64.1	0.9	2.6	0.8	46.3	1.1	3.2	1.2	62.7
exp prop	asymptotic	4.0	4.9	3.6	56.3	3.8	4.1	3.6	46.3	3.9	4.8	3.0	56.5
	groupwise	2.1	3.8	1.6	52.0	1.6	2.2	1.2	38.8	1.8	3.5	1.6	51.9
	asymptotic_bonf	2.9	4.4	3.2	56.2	3.4	3.3	3.6	45.2	3.1	4.4	3.4	55.4
	permutation_bonf	1.2	3.3	0.9	50.8	0.8	1.9	0.7	37.5	1.0	3.4	1.0	49.5
logn	asymptotic	7.1	8.0	6.5	69.5	7.1	6.6	8.0	52.3	7.0	7.8	7.3	71.3
	groupwise	3.2	6.1	3.4	64.5	2.0	3.4	1.7	43.3	2.6	6.0	2.6	66.7
	asymptotic_bonf	6.6	7.9	6.2	68.7	6.7	5.0	6.7	51.1	7.0	7.3	6.7	70.6
	permutation_bonf	3.9	6.1	3.8	63.9	2.6	3.5	2.5	41.9	4.1	5.8	3.8	65.5
pwExp	asymptotic	3.7	4.5	3.6	44.5	4.2	3.4	3.9	37.8	3.9	4.5	3.4	43.7
	groupwise	1.6	3.4	1.8	37.6	1.8	2.0	1.3	29.5	1.7	3.3	1.5	37.4
	asymptotic_bonf	3.0	3.8	3.7	42.2	3.5	3.8	3.8	34.6	3.3	3.9	3.6	41.0
	permutation_bonf	1.0	2.7	1.2	37.5	0.9	2.3	0.7	27.8	1.1	2.9	1.2	36.2
Weib late	asymptotic	7.1	9.5	7.3	91.9	7.2	7.3	7.7	77.2	7.0	9.5	7.7	92.0
	groupwise	3.5	7.6	3.4	89.7	1.9	4.6	1.6	69.5	3.5	7.2	3.2	89.6
	asymptotic_bonf	7.5	8.3	7.4	91.6	7.0	6.1	6.6	76.4	7.8	8.0	7.5	91.5
	permutation_bonf	4.8	6.6	4.7	89.3	2.9	4.1	2.8	69.0	4.8	6.4	5.0	89.5
Weib prop	asymptotic	6.7	8.9	7.3	83.8	7.0	7.2	6.9	67.0	7.0	9.0	8.3	84.9
	groupwise	3.4	6.9	3.7	80.5	2.2	4.2	1.7	58.8	3.2	6.7	3.5	81.3
	asymptotic_bonf	7.2	8.2	7.4	82.9	6.8	6.0	6.6	64.7	7.8	8.0	7.4	83.0
	permutation_bonf	4.7	6.4	4.7	78.8	2.9	4.1	2.7	57.2	4.7	6.4	4.9	79.5
Weib scale	asymptotic	7.0	8.6	7.2	56.0	6.8	6.4	6.9	42.6	7.3	7.7	7.1	57.7
	groupwise	3.8	7.0	3.4	50.4	2.3	3.7	1.7	34.3	3.5	6.2	3.3	52.2
	asymptotic_bonf	7.1	7.9	7.1	54.2	6.4	5.8	6.3	41.6	7.4	7.7	7.0	56.3
	permutation_bonf	4.1	6.3	4.3	49.0	2.8	4.0	2.6	34.7	4.3	6.1	4.4	50.6
Weib shape	asymptotic	6.5	7.8	6.1	32.5	6.6	6.1	6.6	27.1	6.6	7.7	6.5	32.3
	groupwise	3.9	6.2	3.4	27.2	2.4	3.4	1.9	20.4	3.2	6.0	2.7	27.2
	asymptotic_bonf	6.4	6.9	6.8	30.8	6.4	5.1	5.9	26.5	6.7	6.8	6.4	31.7
	permutation_bonf	3.7	5.6	3.9	26.6	2.9	3.8	2.6	21.0	3.6	5.3	3.6	26.8

Table S53: Rejection rates in percent for the Grand-mean-type contrast matrix with $\delta = 1.5$ and unbalanced medium sample sizes.

distribution	method	equal censoring				unequal, high censoring				unequal, low censoring			
		$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,4}$
exp early	asymptotic	3.8	3.9	3.9	28.6	6.6	4.0	5.5	24.3	4.2	3.1	4.4	27.0
	groupwise	1.1	1.9	1.3	20.8	1.7	1.1	1.4	14.5	1.2	1.6	1.4	19.1
	asymptotic_bonf	4.3	3.1	3.9	27.8	6.4	4.0	5.5	24.0	5.0	3.4	4.7	26.9
	permutation_bonf	0.8	1.7	0.8	21.3	1.0	1.6	0.8	14.9	0.7	1.7	1.0	20.0
exp late	asymptotic	3.4	3.5	4.0	39.8	7.3	4.3	5.9	33.3	4.3	3.6	5.4	39.2
	groupwise	1.3	1.6	1.2	31.0	1.8	1.2	1.2	17.6	1.4	1.6	1.6	28.2
	asymptotic_bonf	4.4	3.3	3.6	38.4	6.6	3.9	5.8	31.2	4.9	3.4	4.6	38.5
	permutation_bonf	0.9	1.6	0.9	30.0	1.1	1.7	1.0	17.8	1.0	1.9	1.4	28.3
exp prop	asymptotic	4.1	3.1	4.2	31.9	6.4	3.8	5.9	28.0	5.4	3.9	4.7	33.2
	groupwise	1.3	1.6	1.1	24.2	1.9	1.1	1.3	16.2	1.4	1.8	1.5	24.7
	asymptotic_bonf	3.9	2.6	4.1	31.8	6.6	3.2	5.3	27.6	4.4	2.9	4.6	31.7
	permutation_bonf	0.8	1.4	1.0	24.0	1.0	1.3	0.8	16.9	1.0	1.7	1.4	23.2
logn	asymptotic	7.2	5.5	7.0	40.1	10.8	6.5	9.9	32.0	7.8	6.3	8.8	40.2
	groupwise	1.8	2.6	1.5	29.3	3.5	1.3	3.1	15.3	2.1	3.2	2.3	29.9
	asymptotic_bonf	6.8	5.1	6.3	38.6	9.9	5.8	9.8	29.8	7.2	5.4	7.8	39.5
	permutation_bonf	2.4	3.0	1.7	29.1	2.0	2.7	2.2	16.1	2.9	3.4	2.9	29.5
pwExp	asymptotic	3.9	3.5	4.1	27.2	6.4	3.4	5.7	22.7	4.1	3.3	4.2	25.3
	groupwise	1.2	1.9	1.3	17.9	2.1	0.8	1.2	12.5	1.1	1.5	1.0	16.1
	asymptotic_bonf	4.3	3.2	3.6	25.6	6.4	3.5	5.6	22.6	4.7	3.2	4.6	24.6
	permutation_bonf	0.7	1.6	0.7	19.7	0.8	1.4	0.6	14.0	0.8	1.7	0.7	19.0
Weib late	asymptotic	7.1	6.1	7.3	64.2	10.8	6.3	10.6	48.6	8.6	6.3	7.8	64.1
	groupwise	1.6	3.4	1.7	53.2	2.3	1.2	2.4	27.4	2.3	3.0	1.8	50.8
	asymptotic_bonf	6.7	5.6	7.4	63.0	9.4	6.7	9.9	46.9	7.3	6.2	8.2	62.8
	permutation_bonf	2.6	3.5	3.3	51.9	2.0	3.2	2.6	28.6	3.0	3.6	3.6	52.2
Weib prop	asymptotic	7.3	5.9	6.9	51.6	10.1	6.1	10.2	41.2	8.0	6.1	8.9	54.5
	groupwise	1.7	3.0	1.8	41.3	2.1	1.4	2.2	22.8	2.4	3.1	2.5	42.5
	asymptotic_bonf	6.6	5.6	7.3	50.9	9.2	6.6	9.9	39.7	7.3	6.0	8.0	52.0
	permutation_bonf	2.5	3.6	3.2	41.0	1.8	3.3	2.4	23.8	2.9	3.5	3.3	41.4
Weib scale	asymptotic	7.1	5.7	6.7	31.4	9.7	5.9	10.2	25.1	7.2	5.7	7.3	31.1
	groupwise	2.1	3.1	2.1	22.0	2.6	1.7	2.6	12.5	2.4	3.1	2.2	21.2
	asymptotic_bonf	6.2	5.6	7.0	30.4	8.6	6.4	9.3	24.9	7.0	5.7	7.7	29.6
	permutation_bonf	2.1	3.3	2.8	22.5	1.5	3.3	2.0	14.2	2.3	3.3	3.0	21.2
Weib shape	asymptotic	5.7	5.7	6.1	16.8	9.4	5.8	8.9	15.2	6.5	5.6	7.4	16.2
	groupwise	2.0	3.7	1.8	8.7	2.8	1.8	2.5	5.2	2.5	3.1	2.5	9.0
	asymptotic_bonf	5.7	5.1	6.3	15.5	8.3	6.1	8.7	13.7	6.2	5.1	6.7	14.9
	permutation_bonf	1.6	3.0	2.2	10.1	1.4	2.9	2.2	7.5	1.7	3.0	2.3	9.3

Table S54: Rejection rates in percent for the Grand-mean-type contrast matrix with $\delta = 1.5$ and unbalanced small sample sizes.

B Tables of Simulation Results of Section 5.4

This section provides tables with detailed simulation results from Section 5.4.

B.1 Empirical Family-wise Error Rates

Tables S55–S90 contain the global rejection rates for all scenarios of Section 5.4 under the null hypothesis.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	**5.3**	**5.0**	**5.2**
exp early discrete	equal	**5.4**	**5.1**	**5.1**
exp early continuous	unequal, high	**5.2**	**5.1**	**5.3**
exp early discrete	unequal, high	**5.8**	**5.3**	**5.6**
exp early continuous	unequal, low	**5.3**	**5.1**	**5.6**
exp early discrete	unequal, low	**5.6**	**5.4**	**5.9**
logn continuous	equal	**4.4**	**4.3**	**4.8**
logn discrete	equal	**5.1**	**5.0**	**5.5**
logn continuous	unequal, high	**4.9**	**4.8**	**5.5**
logn discrete	unequal, high	**4.7**	**4.6**	**5.0**
logn continuous	unequal, low	**4.6**	**4.6**	**5.3**
logn discrete	unequal, low	**5.0**	**4.8**	**4.8**
pwExp continuous	equal	**5.8**	**5.4**	**5.4**
pwExp discrete	equal	**4.8**	**4.5**	**5.4**
pwExp continuous	unequal, high	**5.1**	**4.9**	**5.0**
pwExp discrete	unequal, high	**4.6**	**4.4**	**4.8**
pwExp continuous	unequal, low	**4.9**	**4.4**	**5.1**
pwExp discrete	unequal, low	**5.1**	**4.8**	**5.1**
Weib prop continuous	equal	**4.9**	**4.6**	**5.1**
Weib prop discrete	equal	**5.1**	**4.8**	**4.9**
Weib prop continuous	unequal, high	**5.3**	**5.1**	**5.2**
Weib prop discrete	unequal, high	**5.3**	**5.1**	**5.1**
Weib prop continuous	unequal, low	**4.7**	**4.6**	**5.1**
Weib prop discrete	unequal, low	**5.1**	**5.1**	**4.8**
Weib scale continuous	equal	**4.8**	**4.6**	**4.9**
Weib scale discrete	equal	**4.7**	**4.5**	**4.6**
Weib scale continuous	unequal, high	**5.4**	**5.3**	**5.5**
Weib scale discrete	unequal, high	**5.4**	**5.2**	**5.8**
Weib scale continuous	unequal, low	**4.5**	**4.4**	**4.8**
Weib scale discrete	unequal, low	**4.7**	**4.5**	**4.9**
Weib shape continuous	equal	**4.2**	**4.1**	**4.6**
Weib shape discrete	equal	**4.9**	**4.6**	**4.4**
Weib shape continuous	unequal, high	**5.3**	**5.0**	**5.2**
Weib shape discrete	unequal, high	**5.3**	**5.1**	**5.4**
Weib shape continuous	unequal, low	**4.9**	**4.4**	**5.1**
Weib shape discrete	unequal, low	**4.8**	**4.8**	**4.9**

All values in the binomial interval $[4.05, 6]$ are printed in bold type.

Table S55: Rejection rates in percent for the 2-by-2 design with $\delta = 0.0$ and balanced large sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	**5.2**	**5.1**	**4.9**
exp early discrete	equal	**5.0**	**4.8**	**4.7**
exp early continuous	unequal, high	**5.2**	**5.0**	**5.1**
exp early discrete	unequal, high	**5.3**	**5.1**	**5.2**
exp early continuous	unequal, low	**5.1**	**5.0**	**5.1**
exp early discrete	unequal, low	**5.4**	**5.0**	**5.1**
logn continuous	equal	**5.1**	**4.9**	**5.2**
logn discrete	equal	**4.4**	**4.3**	**4.8**
logn continuous	unequal, high	**4.6**	**4.4**	**4.3**
logn discrete	unequal, high	**5.1**	**5.0**	**5.1**
logn continuous	unequal, low	**4.4**	**4.2**	**5.1**
logn discrete	unequal, low	**4.4**	**4.2**	**4.5**
pwExp continuous	equal	**4.8**	**4.5**	**4.9**
pwExp discrete	equal	**4.8**	**4.8**	**4.9**
pwExp continuous	unequal, high	**4.1**	3.9	**4.3**
pwExp discrete	unequal, high	**4.2**	4.0	**4.3**
pwExp continuous	unequal, low	**5.0**	**4.5**	**5.0**
pwExp discrete	unequal, low	**4.6**	**4.4**	**5.1**
Weib prop continuous	equal	**4.8**	**4.6**	**5.2**
Weib prop discrete	equal	**5.1**	**4.8**	**5.0**
Weib prop continuous	unequal, high	**5.0**	**4.8**	**5.2**
Weib prop discrete	unequal, high	**4.9**	**4.8**	**5.3**
Weib prop continuous	unequal, low	**4.8**	**4.5**	**4.8**
Weib prop discrete	unequal, low	**4.8**	**4.5**	**4.5**
Weib scale continuous	equal	**5.1**	**4.8**	**5.5**
Weib scale discrete	equal	**5.0**	**4.9**	**5.5**
Weib scale continuous	unequal, high	**5.4**	**5.3**	**5.4**
Weib scale discrete	unequal, high	**5.4**	**5.2**	**5.6**
Weib scale continuous	unequal, low	**4.6**	**4.6**	**5.0**
Weib scale discrete	unequal, low	**4.5**	**4.3**	**4.6**
Weib shape continuous	equal	**5.1**	**5.0**	**5.8**
Weib shape discrete	equal	**5.1**	**4.8**	**5.6**
Weib shape continuous	unequal, high	**5.4**	**5.1**	**5.4**
Weib shape discrete	unequal, high	**5.1**	**4.9**	**5.0**
Weib shape continuous	unequal, low	**4.6**	**4.5**	**4.8**
Weib shape discrete	unequal, low	**4.6**	**4.4**	**4.8**

All values in the binomial interval $[4.05, 6]$ are printed in bold type.

Table S56: Rejection rates in percent for the 2-by-2 design with $\delta = 0.0$ and balanced medium sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	**5.8**	**5.5**	**5.1**
exp early discrete	equal	**5.7**	**5.5**	**4.6**
exp early continuous	unequal, high	6.6	6.3	**5.7**
exp early discrete	unequal, high	6.8	6.3	**5.5**
exp early continuous	unequal, low	**5.9**	**5.3**	**5.4**
exp early discrete	unequal, low	**5.8**	**5.7**	**5.1**
logn continuous	equal	**5.8**	**5.5**	**5.5**
logn discrete	equal	6.4	6.2	**5.8**
logn continuous	unequal, high	6.7	6.5	**5.3**
logn discrete	unequal, high	6.4	6.2	**5.6**
logn continuous	unequal, low	6.2	6.1	**5.9**
logn discrete	unequal, low	6.2	6.0	**5.5**
pwExp continuous	equal	**5.8**	**5.4**	**5.0**
pwExp discrete	equal	**5.7**	**5.4**	**5.2**
pwExp continuous	unequal, high	**5.2**	**4.9**	**4.3**
pwExp discrete	unequal, high	6.2	**5.8**	**5.5**
pwExp continuous	unequal, low	**5.8**	**5.4**	**5.1**
pwExp discrete	unequal, low	6.2	**5.9**	**5.3**
Weib prop continuous	equal	**5.6**	**5.5**	**5.0**
Weib prop discrete	equal	**5.8**	**5.4**	**4.8**
Weib prop continuous	unequal, high	7.3	6.8	6.0
Weib prop discrete	unequal, high	7.0	6.6	**5.8**
Weib prop continuous	unequal, low	6.0	**5.6**	**5.1**
Weib prop discrete	unequal, low	**5.9**	**5.8**	**5.4**
Weib scale continuous	equal	6.1	6.0	**5.2**
Weib scale discrete	equal	**5.4**	**5.3**	**5.1**
Weib scale continuous	unequal, high	7.8	7.3	6.7
Weib scale discrete	unequal, high	7.0	6.8	6.2
Weib scale continuous	unequal, low	**5.9**	**5.7**	**5.3**
Weib scale discrete	unequal, low	**5.9**	**5.7**	**5.4**
Weib shape continuous	equal	**5.9**	**5.8**	**5.3**
Weib shape discrete	equal	6.1	**5.8**	**5.7**
Weib shape continuous	unequal, high	7.3	7.1	6.2
Weib shape discrete	unequal, high	7.0	6.8	6.2
Weib shape continuous	unequal, low	**5.9**	**5.8**	**5.6**
Weib shape discrete	unequal, low	6.2	6.2	**5.8**

All values in the binomial interval $[4.05, 6]$ are printed in bold type.

Table S57: Rejection rates in percent for the 2-by-2 design with $\delta = 0.0$ and balanced small sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	**4.2**	3.8	**4.1**
exp early discrete	equal	**4.6**	**4.3**	**4.4**
exp early continuous	unequal, high	**5.1**	**4.6**	**4.7**
exp early discrete	unequal, high	**5.2**	**4.8**	**4.9**
exp early continuous	unequal, low	**4.8**	**4.4**	**4.6**
exp early discrete	unequal, low	**4.9**	**4.6**	**4.6**
logn continuous	equal	**5.5**	**4.8**	**5.4**
logn discrete	equal	**5.4**	**5.1**	**5.2**
logn continuous	unequal, high	**5.3**	**4.8**	**5.2**
logn discrete	unequal, high	**5.6**	**5.1**	**5.3**
logn continuous	unequal, low	**5.1**	**4.8**	**5.1**
logn discrete	unequal, low	**5.2**	**5.1**	**4.6**
pwExp continuous	equal	**4.8**	**4.2**	**4.4**
pwExp discrete	equal	**4.8**	4.0	**4.4**
pwExp continuous	unequal, high	3.9	3.8	4.0
pwExp discrete	unequal, high	4.0	3.6	**4.1**
pwExp continuous	unequal, low	**5.1**	**4.4**	**4.8**
pwExp discrete	unequal, low	**4.8**	**4.4**	**4.4**
Weib prop continuous	equal	**4.8**	**4.2**	4.0
Weib prop discrete	equal	**5.0**	**4.5**	**4.6**
Weib prop continuous	unequal, high	**5.1**	**4.7**	**4.8**
Weib prop discrete	unequal, high	6.0	**5.7**	**4.8**
Weib prop continuous	unequal, low	**5.3**	**4.8**	**4.6**
Weib prop discrete	unequal, low	**5.1**	**4.9**	**4.9**
Weib scale continuous	equal	**5.3**	**5.1**	**5.0**
Weib scale discrete	equal	**5.6**	**5.1**	**4.9**
Weib scale continuous	unequal, high	**5.1**	**4.8**	**5.1**
Weib scale discrete	unequal, high	**5.1**	**4.8**	**4.4**
Weib scale continuous	unequal, low	**4.9**	**4.5**	**4.8**
Weib scale discrete	unequal, low	**5.3**	**5.0**	**4.8**
Weib shape continuous	equal	**5.6**	**5.0**	**5.0**
Weib shape discrete	equal	**5.8**	**5.2**	**5.3**
Weib shape continuous	unequal, high	**5.6**	**5.1**	**4.8**
Weib shape discrete	unequal, high	**5.7**	**5.2**	**4.5**
Weib shape continuous	unequal, low	**5.3**	**4.8**	**4.9**
Weib shape discrete	unequal, low	**5.6**	**5.3**	**5.0**

All values in the binomial interval $[4.05, 6]$ are printed in bold type.

Table S58: Rejection rates in percent for the 2-by-2 design with $\delta = 0.0$ and unbalanced large sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	6.2	**5.5**	**5.0**
exp early discrete	equal	6.1	**5.8**	**5.0**
exp early continuous	unequal, high	6.3	**5.9**	**4.9**
exp early discrete	unequal, high	6.1	**5.8**	**4.5**
exp early continuous	unequal, low	**5.8**	**5.2**	**4.6**
exp early discrete	unequal, low	**5.8**	**5.2**	**4.5**
logn continuous	equal	7.8	7.4	**5.8**
logn discrete	equal	7.4	7.0	**5.5**
logn continuous	unequal, high	8.1	7.7	**5.1**
logn discrete	unequal, high	7.3	6.8	**4.8**
logn continuous	unequal, low	7.0	6.6	**5.1**
logn discrete	unequal, low	6.8	6.3	**5.0**
pwExp continuous	equal	**5.8**	**5.3**	**4.5**
pwExp discrete	equal	**5.5**	**5.1**	**4.3**
pwExp continuous	unequal, high	**5.3**	**4.9**	3.7
pwExp discrete	unequal, high	**4.8**	**4.2**	3.3
pwExp continuous	unequal, low	**5.9**	**5.4**	**4.4**
pwExp discrete	unequal, low	6.1	**5.6**	**4.3**
Weib prop continuous	equal	**5.6**	**5.1**	**4.1**
Weib prop discrete	equal	6.0	**5.9**	**4.6**
Weib prop continuous	unequal, high	7.6	7.0	**5.4**
Weib prop discrete	unequal, high	7.5	7.0	**5.1**
Weib prop continuous	unequal, low	**5.6**	**5.2**	**4.2**
Weib prop discrete	unequal, low	**5.7**	**5.6**	4.0
Weib scale continuous	equal	6.9	6.3	**5.4**
Weib scale discrete	equal	7.6	7.2	**5.3**
Weib scale continuous	unequal, high	7.5	7.2	**5.2**
Weib scale discrete	unequal, high	7.8	7.3	**5.1**
Weib scale continuous	unequal, low	6.9	6.3	**4.9**
Weib scale discrete	unequal, low	7.0	6.6	**5.1**
Weib shape continuous	equal	7.5	6.9	6.1
Weib shape discrete	equal	8.2	7.2	6.0
Weib shape continuous	unequal, high	8.0	7.4	**4.8**
Weib shape discrete	unequal, high	8.0	7.6	**5.1**
Weib shape continuous	unequal, low	7.8	7.2	**5.9**
Weib shape discrete	unequal, low	7.8	7.5	**5.6**

All values in the binomial interval $[4.05, 6]$ are printed in bold type.

Table S59: Rejection rates in percent for the 2-by-2 design with $\delta = 0.0$ and unbalanced medium sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	11.2	10.3	**5.1**
exp early discrete	equal	12.0	11.4	**5.4**
exp early continuous	unequal, high	12.8	11.8	**4.2**
exp early discrete	unequal, high	12.4	11.8	**4.2**
exp early continuous	unequal, low	10.3	9.7	4.0
exp early discrete	unequal, low	10.6	9.9	**4.2**
logn continuous	equal	15.6	15.0	6.2
logn discrete	equal	16.2	15.3	6.2
logn continuous	unequal, high	16.4	15.4	**4.8**
logn discrete	unequal, high	16.9	15.6	**5.0**
logn continuous	unequal, low	11.8	11.2	4.0
logn discrete	unequal, low	11.4	11.1	3.8
pwExp continuous	equal	13.2	12.1	6.2
pwExp discrete	equal	13.6	12.4	**5.9**
pwExp continuous	unequal, high	13.0	12.4	4.0
pwExp discrete	unequal, high	12.8	12.2	**4.2**
pwExp continuous	unequal, low	12.7	11.9	**5.8**
pwExp discrete	unequal, low	12.4	11.6	**5.6**
Weib prop continuous	equal	13.6	12.6	**5.5**
Weib prop discrete	equal	14.8	14.1	**5.3**
Weib prop continuous	unequal, high	17.3	16.1	**4.6**
Weib prop discrete	unequal, high	16.9	15.6	**4.8**
Weib prop continuous	unequal, low	11.1	10.3	3.0
Weib prop discrete	unequal, low	11.7	10.8	3.6
Weib scale continuous	equal	19.0	17.9	8.1
Weib scale discrete	equal	19.7	18.4	7.1
Weib scale continuous	unequal, high	18.7	17.2	**5.4**
Weib scale discrete	unequal, high	19.6	17.8	**5.8**
Weib scale continuous	unequal, low	15.8	15.0	**5.4**
Weib scale discrete	unequal, low	15.8	15.1	**5.4**
Weib shape continuous	equal	22.9	21.8	10.8
Weib shape discrete	equal	22.9	21.8	9.5
Weib shape continuous	unequal, high	20.8	19.2	6.2
Weib shape discrete	unequal, high	21.2	19.1	6.6
Weib shape continuous	unequal, low	19.8	18.8	7.5
Weib shape discrete	unequal, low	20.2	18.8	7.6

All values in the binomial interval $[4.05, 6]$ are printed in bold type.

Table S60: Rejection rates in percent for the 2-by-2 design with $\delta = 0.0$ and unbalanced small sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	**4.9**	**4.2**	**4.9**
exp early discrete	equal	**5.3**	**4.7**	**5.0**
exp early continuous	unequal, high	**5.3**	**4.8**	**5.0**
exp early discrete	unequal, high	**5.7**	**5.1**	**5.2**
exp early continuous	unequal, low	**5.0**	**4.6**	**4.8**
exp early discrete	unequal, low	**5.1**	**4.2**	**4.7**
logn continuous	equal	**4.5**	4.0	**4.2**
logn discrete	equal	**5.1**	**4.4**	**4.6**
logn continuous	unequal, high	**4.6**	**4.3**	**4.6**
logn discrete	unequal, high	**4.8**	**4.2**	**4.6**
logn continuous	unequal, low	**4.8**	**4.3**	**4.8**
logn discrete	unequal, low	**5.2**	**4.9**	**5.1**
pwExp continuous	equal	**4.3**	3.6	3.8
pwExp discrete	equal	**5.2**	**4.7**	**5.3**
pwExp continuous	unequal, high	**5.0**	**4.4**	**4.6**
pwExp discrete	unequal, high	**4.9**	**4.5**	**4.8**
pwExp continuous	unequal, low	**5.1**	**4.5**	**5.1**
pwExp discrete	unequal, low	**5.2**	**4.8**	**4.8**
Weib prop continuous	equal	**5.6**	**5.0**	**5.4**
Weib prop discrete	equal	**4.4**	**4.1**	**4.8**
Weib prop continuous	unequal, high	**5.2**	**4.9**	**5.3**
Weib prop discrete	unequal, high	**5.5**	**5.1**	**5.4**
Weib prop continuous	unequal, low	**5.3**	**4.8**	**4.9**
Weib prop discrete	unequal, low	**5.1**	**4.5**	**5.1**
Weib scale continuous	equal	**5.3**	**4.9**	**5.0**
Weib scale discrete	equal	**4.6**	**4.2**	**4.8**
Weib scale continuous	unequal, high	**5.0**	**4.6**	**5.3**
Weib scale discrete	unequal, high	**5.5**	**5.1**	**5.3**
Weib scale continuous	unequal, low	**5.2**	**4.6**	**5.1**
Weib scale discrete	unequal, low	**5.2**	**4.7**	**5.1**
Weib shape continuous	equal	**5.5**	**5.0**	**5.5**
Weib shape discrete	equal	**4.5**	**4.1**	**4.8**
Weib shape continuous	unequal, high	**5.1**	**4.8**	**5.1**
Weib shape discrete	unequal, high	**5.3**	**4.8**	**5.4**
Weib shape continuous	unequal, low	**5.4**	**5.0**	**5.4**
Weib shape discrete	unequal, low	**5.3**	**4.7**	**5.2**

All values in the binomial interval $[4.05, 6]$ are printed in bold type.

Table S61: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 0.0$ and balanced large sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	**5.4**	**4.3**	**4.3**
exp early discrete	equal	**5.1**	**4.6**	**4.8**
exp early continuous	unequal, high	**5.8**	**5.0**	**5.6**
exp early discrete	unequal, high	**5.6**	**5.1**	**5.4**
exp early continuous	unequal, low	**5.3**	**4.6**	**5.2**
exp early discrete	unequal, low	**5.5**	**4.8**	**5.1**
logn continuous	equal	**4.7**	4.0	**4.4**
logn discrete	equal	**4.8**	**4.2**	**4.8**
logn continuous	unequal, high	**4.9**	**4.4**	**4.4**
logn discrete	unequal, high	**5.1**	**4.7**	**4.5**
logn continuous	unequal, low	**4.8**	**4.2**	**4.4**
logn discrete	unequal, low	**5.4**	**4.8**	**5.0**
pwExp continuous	equal	6.1	**5.4**	**5.3**
pwExp discrete	equal	6.2	**5.3**	**5.7**
pwExp continuous	unequal, high	**5.5**	**5.0**	**5.0**
pwExp discrete	unequal, high	6.2	**5.3**	**4.8**
pwExp continuous	unequal, low	6.5	**5.5**	**5.3**
pwExp discrete	unequal, low	6.3	**5.5**	**5.5**
Weib prop continuous	equal	**4.6**	4.0	**4.6**
Weib prop discrete	equal	**4.6**	**4.2**	**4.7**
Weib prop continuous	unequal, high	**5.0**	**4.4**	**4.5**
Weib prop discrete	unequal, high	**5.1**	**4.4**	**4.8**
Weib prop continuous	unequal, low	**5.0**	**4.3**	**4.4**
Weib prop discrete	unequal, low	**4.4**	3.8	**4.1**
Weib scale continuous	equal	**4.6**	**4.1**	**4.6**
Weib scale discrete	equal	**4.3**	3.8	**4.4**
Weib scale continuous	unequal, high	**5.1**	**4.7**	**4.5**
Weib scale discrete	unequal, high	**5.4**	**4.8**	**5.4**
Weib scale continuous	unequal, low	**4.8**	**4.2**	**4.5**
Weib scale discrete	unequal, low	**4.6**	**4.2**	**4.5**
Weib shape continuous	equal	**4.8**	**4.2**	**4.8**
Weib shape discrete	equal	**4.5**	4.0	**4.6**
Weib shape continuous	unequal, high	**5.3**	**5.0**	**5.0**
Weib shape discrete	unequal, high	**5.2**	**4.9**	**5.5**
Weib shape continuous	unequal, low	**5.1**	**4.5**	**4.9**
Weib shape discrete	unequal, low	**4.5**	**4.2**	**5.1**

All values in the binomial interval $[4.05, 6]$ are printed in bold type.

Table S62: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 0.0$ and balanced medium sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	**5.1**	**4.8**	3.6
exp early discrete	equal	**5.1**	**4.6**	3.9
exp early continuous	unequal, high	6.6	6.3	**4.8**
exp early discrete	unequal, high	6.8	**5.9**	**5.0**
exp early continuous	unequal, low	**5.1**	**4.5**	**4.2**
exp early discrete	unequal, low	**4.8**	**4.2**	3.7
logn continuous	equal	6.3	**5.6**	**5.0**
logn discrete	equal	**5.8**	**5.1**	**5.1**
logn continuous	unequal, high	7.4	6.6	**5.8**
logn discrete	unequal, high	7.7	7.1	**5.6**
logn continuous	unequal, low	6.0	**5.4**	**4.6**
logn discrete	unequal, low	**5.7**	**4.8**	**5.0**
pwExp continuous	equal	6.2	**5.5**	**4.9**
pwExp discrete	equal	6.1	**5.3**	**4.7**
pwExp continuous	unequal, high	6.6	**5.6**	**4.3**
pwExp discrete	unequal, high	6.3	**5.5**	**4.6**
pwExp continuous	unequal, low	**5.9**	**5.2**	**4.8**
pwExp discrete	unequal, low	6.2	**5.4**	**4.8**
Weib prop continuous	equal	6.5	**5.7**	**4.9**
Weib prop discrete	equal	**5.8**	**5.1**	**4.6**
Weib prop continuous	unequal, high	6.6	**5.9**	**4.7**
Weib prop discrete	unequal, high	6.3	**5.8**	**4.5**
Weib prop continuous	unequal, low	6.2	**5.8**	**4.8**
Weib prop discrete	unequal, low	6.6	**5.8**	**5.5**
Weib scale continuous	equal	6.9	6.2	**5.5**
Weib scale discrete	equal	6.2	**5.4**	**4.8**
Weib scale continuous	unequal, high	6.2	**5.8**	**4.4**
Weib scale discrete	unequal, high	**5.9**	**5.3**	**4.8**
Weib scale continuous	unequal, low	6.2	**5.8**	**5.1**
Weib scale discrete	unequal, low	6.6	**5.8**	**5.6**
Weib shape continuous	equal	6.7	6.0	**5.6**
Weib shape discrete	equal	6.2	**5.8**	**5.2**
Weib shape continuous	unequal, high	6.2	**5.8**	**4.8**
Weib shape discrete	unequal, high	6.3	**5.7**	**5.0**
Weib shape continuous	unequal, low	6.2	**5.8**	**5.5**
Weib shape discrete	unequal, low	6.1	**5.4**	**5.2**

All values in the binomial interval $[4.05, 6]$ are printed in bold type.

Table S63: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 0.0$ and balanced small sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	**5.6**	**5.4**	**5.2**
exp early discrete	equal	**5.6**	**5.4**	**5.3**
exp early continuous	unequal, high	**5.0**	**4.8**	**4.5**
exp early discrete	unequal, high	**5.5**	**5.2**	**5.2**
exp early continuous	unequal, low	6.1	**5.6**	**5.7**
exp early discrete	unequal, low	6.2	**5.9**	**5.9**
logn continuous	equal	6.9	6.6	**5.9**
logn discrete	equal	**5.8**	**5.8**	**5.6**
logn continuous	unequal, high	6.3	6.0	**5.4**
logn discrete	unequal, high	6.3	6.1	**5.1**
logn continuous	unequal, low	6.0	**5.8**	**5.0**
logn discrete	unequal, low	**5.8**	**5.6**	**4.9**
pwExp continuous	equal	**5.0**	**4.5**	**4.5**
pwExp discrete	equal	**4.6**	**4.3**	**4.7**
pwExp continuous	unequal, high	**4.9**	**4.5**	**4.9**
pwExp discrete	unequal, high	**5.1**	**4.8**	**5.0**
pwExp continuous	unequal, low	**5.1**	**4.9**	**4.7**
pwExp discrete	unequal, low	**4.8**	**4.6**	**4.4**
Weib prop continuous	equal	6.0	**5.8**	**5.8**
Weib prop discrete	equal	6.1	**5.9**	**5.8**
Weib prop continuous	unequal, high	**4.6**	**4.3**	**4.5**
Weib prop discrete	unequal, high	**5.5**	**5.1**	**4.6**
Weib prop continuous	unequal, low	**5.7**	**5.3**	**5.5**
Weib prop discrete	unequal, low	6.2	**5.8**	**5.7**
Weib scale continuous	equal	6.1	**5.8**	**5.4**
Weib scale discrete	equal	6.0	**5.9**	**5.9**
Weib scale continuous	unequal, high	**5.1**	**4.9**	**4.4**
Weib scale discrete	unequal, high	**5.5**	**5.3**	**4.8**
Weib scale continuous	unequal, low	**5.9**	**5.6**	**5.8**
Weib scale discrete	unequal, low	6.3	6.0	**5.8**
Weib shape continuous	equal	6.3	**5.9**	6.3
Weib shape discrete	equal	6.0	**5.8**	6.0
Weib shape continuous	unequal, high	**5.8**	**5.4**	**5.1**
Weib shape discrete	unequal, high	**5.9**	**5.8**	**4.9**
Weib shape continuous	unequal, low	6.0	**5.7**	**5.7**
Weib shape discrete	unequal, low	6.3	6.0	**5.5**

All values in the binomial interval $[4.05, 6]$ are printed in bold type.

Table S64: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 0.0$ and unbalanced large sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	7.2	6.7	**4.8**
exp early discrete	equal	6.8	6.4	**4.7**
exp early continuous	unequal, high	7.5	7.0	**5.4**
exp early discrete	unequal, high	7.8	7.4	**5.8**
exp early continuous	unequal, low	6.8	6.6	**5.2**
exp early discrete	unequal, low	7.0	6.6	**5.1**
logn continuous	equal	10.1	9.6	6.6
logn discrete	equal	10.2	10.0	6.2
logn continuous	unequal, high	10.9	10.6	**5.0**
logn discrete	unequal, high	11.5	11.2	**5.0**
logn continuous	unequal, low	9.3	9.1	**5.6**
logn discrete	unequal, low	9.6	9.2	6.0
pwExp continuous	equal	7.3	7.0	**5.6**
pwExp discrete	equal	7.2	7.0	**5.6**
pwExp continuous	unequal, high	6.8	6.5	**5.1**
pwExp discrete	unequal, high	7.4	7.1	**5.1**
pwExp continuous	unequal, low	7.0	6.6	**5.5**
pwExp discrete	unequal, low	7.0	6.6	**5.5**
Weib prop continuous	equal	8.8	8.5	**5.9**
Weib prop discrete	equal	9.2	8.7	**5.9**
Weib prop continuous	unequal, high	10.7	10.2	6.1
Weib prop discrete	unequal, high	11.8	11.6	6.4
Weib prop continuous	unequal, low	8.1	7.9	**5.5**
Weib prop discrete	unequal, low	8.6	8.4	**5.6**
Weib scale continuous	equal	9.0	8.6	6.2
Weib scale discrete	equal	10.4	10.0	6.2
Weib scale continuous	unequal, high	11.6	11.1	6.3
Weib scale discrete	unequal, high	11.9	11.6	6.9
Weib scale continuous	unequal, low	9.6	9.3	**5.8**
Weib scale discrete	unequal, low	9.8	9.6	6.2
Weib shape continuous	equal	10.4	10.2	6.8
Weib shape discrete	equal	10.8	10.4	6.6
Weib shape continuous	unequal, high	11.1	10.7	6.8
Weib shape discrete	unequal, high	12.8	12.7	6.8
Weib shape continuous	unequal, low	10.2	9.8	6.6
Weib shape discrete	unequal, low	10.6	10.2	6.8

All values in the binomial interval $[4.05, 6]$ are printed in bold type.

Table S65: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 0.0$ and unbalanced medium sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	17.5	17.1	6.3
exp early discrete	equal	18.5	18.3	6.6
exp early continuous	unequal, high	21.6	21.1	**5.2**
exp early discrete	unequal, high	23.4	23.1	**4.9**
exp early continuous	unequal, low	16.7	16.2	**4.2**
exp early discrete	unequal, low	17.3	16.9	4.0
logn continuous	equal	28.3	28.1	**5.4**
logn discrete	equal	31.6	31.1	**5.5**
logn continuous	unequal, high	**44.8**	**44.5**	6.7
logn discrete	unequal, high	**48.0**	**47.5**	6.4
logn continuous	unequal, low	23.8	23.3	**4.4**
logn discrete	unequal, low	25.9	25.4	**4.6**
pwExp continuous	equal	18.9	18.7	6.1
pwExp discrete	equal	18.6	18.4	6.2
pwExp continuous	unequal, high	21.0	20.7	**4.4**
pwExp discrete	unequal, high	24.3	24.1	**4.7**
pwExp continuous	unequal, low	18.9	18.6	**5.4**
pwExp discrete	unequal, low	19.1	18.8	**5.1**
Weib prop continuous	equal	24.6	24.4	**5.2**
Weib prop discrete	equal	28.5	28.1	**5.1**
Weib prop continuous	unequal, high	39.1	38.6	**5.4**
Weib prop discrete	unequal, high	**44.4**	**44.0**	**5.9**
Weib prop continuous	unequal, low	22.2	21.8	**4.1**
Weib prop discrete	unequal, low	24.2	23.6	**4.3**
Weib scale continuous	equal	31.6	31.2	7.3
Weib scale discrete	equal	34.5	34.3	6.9
Weib scale continuous	unequal, high	**44.9**	**44.5**	6.2
Weib scale discrete	unequal, high	**50.6**	**50.2**	6.8
Weib scale continuous	unequal, low	30.2	29.9	**5.8**
Weib scale discrete	unequal, low	32.8	32.2	**5.6**
Weib shape continuous	equal	36.1	35.9	8.6
Weib shape discrete	equal	39.4	39.1	8.5
Weib shape continuous	unequal, high	**47.1**	**46.9**	6.6
Weib shape discrete	unequal, high	**54.0**	**53.7**	7.0
Weib shape continuous	unequal, low	35.2	34.9	7.6
Weib shape discrete	unequal, low	38.0	37.7	6.8

All values in the binomial interval $[4.05, 6]$ are printed in bold type.

Table S66: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 0.0$ and unbalanced small sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	**4.8**	3.9	**4.2**
exp early discrete	equal	**5.5**	**5.1**	**5.2**
exp early continuous	unequal, high	**5.5**	**5.0**	**4.8**
exp early discrete	unequal, high	**5.4**	**4.8**	**4.6**
exp early continuous	unequal, low	**5.5**	**4.5**	**4.7**
exp early discrete	unequal, low	**5.1**	**4.2**	**5.0**
logn continuous	equal	**4.5**	3.8	4.0
logn discrete	equal	**5.3**	**4.6**	**4.3**
logn continuous	unequal, high	**4.6**	3.7	**4.5**
logn discrete	unequal, high	**5.0**	**4.1**	**4.3**
logn continuous	unequal, low	**5.3**	**4.8**	**4.8**
logn discrete	unequal, low	**5.2**	**4.2**	**4.6**
pwExp continuous	equal	**4.5**	3.8	**4.7**
pwExp discrete	equal	**5.0**	**4.4**	**4.8**
pwExp continuous	unequal, high	**4.5**	4.0	**4.3**
pwExp discrete	unequal, high	**4.8**	**4.1**	**4.2**
pwExp continuous	unequal, low	**5.1**	**4.2**	**4.3**
pwExp discrete	unequal, low	**4.8**	**4.3**	**4.4**
Weib prop continuous	equal	**5.4**	**4.4**	**4.8**
Weib prop discrete	equal	**5.1**	**4.3**	**4.6**
Weib prop continuous	unequal, high	**5.8**	**5.1**	**5.1**
Weib prop discrete	unequal, high	**5.7**	**5.0**	**5.4**
Weib prop continuous	unequal, low	**5.5**	**4.8**	**4.9**
Weib prop discrete	unequal, low	**5.4**	**4.6**	**5.0**
Weib scale continuous	equal	**5.4**	**4.8**	**4.5**
Weib scale discrete	equal	**5.1**	**4.6**	**4.6**
Weib scale continuous	unequal, high	6.0	**5.1**	**5.0**
Weib scale discrete	unequal, high	**5.8**	**5.1**	**5.1**
Weib scale continuous	unequal, low	**5.4**	**4.5**	**5.0**
Weib scale discrete	unequal, low	**5.1**	**4.5**	**4.6**
Weib shape continuous	equal	**5.1**	**4.5**	**4.5**
Weib shape discrete	equal	**5.1**	**4.4**	**4.3**
Weib shape continuous	unequal, high	**5.6**	**5.0**	**4.4**
Weib shape discrete	unequal, high	**5.5**	**4.8**	**5.2**
Weib shape continuous	unequal, low	**5.2**	**4.3**	**4.5**
Weib shape discrete	unequal, low	**5.5**	**4.8**	**4.9**

All values in the binomial interval $[4.05, 6]$ are printed in bold type.

Table S67: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 0.0$ and balanced large sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	**4.8**	3.6	**4.5**
exp early discrete	equal	**5.3**	**4.2**	**4.5**
exp early continuous	unequal, high	**5.2**	**4.5**	**4.8**
exp early discrete	unequal, high	**5.8**	**4.7**	**5.0**
exp early continuous	unequal, low	**5.1**	4.0	**4.6**
exp early discrete	unequal, low	**5.3**	**4.5**	**5.0**
logn continuous	equal	**5.0**	**4.2**	**4.3**
logn discrete	equal	**5.0**	**4.3**	**4.1**
logn continuous	unequal, high	**4.6**	3.8	3.9
logn discrete	unequal, high	**4.8**	**4.2**	**4.3**
logn continuous	unequal, low	**4.4**	3.6	4.0
logn discrete	unequal, low	**4.3**	3.8	4.0
pwExp continuous	equal	**5.2**	**4.3**	**4.1**
pwExp discrete	equal	**5.5**	**4.7**	**4.7**
pwExp continuous	unequal, high	**5.2**	**4.7**	**4.8**
pwExp discrete	unequal, high	**5.0**	4.0	**4.1**
pwExp continuous	unequal, low	**5.9**	**4.8**	**5.1**
pwExp discrete	unequal, low	**5.8**	**4.9**	**5.0**
Weib prop continuous	equal	**4.7**	**4.3**	**4.6**
Weib prop discrete	equal	**5.0**	**4.2**	**4.6**
Weib prop continuous	unequal, high	**4.9**	**4.4**	**4.3**
Weib prop discrete	unequal, high	**4.4**	3.8	3.8
Weib prop continuous	unequal, low	**4.2**	3.6	4.0
Weib prop discrete	unequal, low	**5.1**	**4.3**	**4.4**
Weib scale continuous	equal	**5.1**	**4.4**	**4.3**
Weib scale discrete	equal	**5.0**	**4.3**	**4.8**
Weib scale continuous	unequal, high	**5.2**	**4.5**	**4.6**
Weib scale discrete	unequal, high	**4.6**	4.0	**4.2**
Weib scale continuous	unequal, low	**4.4**	3.6	**4.2**
Weib scale discrete	unequal, low	**5.2**	**4.3**	**4.4**
Weib shape continuous	equal	**5.2**	**4.8**	**4.8**
Weib shape discrete	equal	**5.5**	**4.9**	**5.1**
Weib shape continuous	unequal, high	**5.5**	**4.8**	**5.1**
Weib shape discrete	unequal, high	**5.1**	**4.3**	**4.9**
Weib shape continuous	unequal, low	**4.6**	3.9	**4.6**
Weib shape discrete	unequal, low	**5.4**	**4.5**	**4.8**

All values in the binomial interval $[4.05, 6]$ are printed in bold type.

Table S68: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 0.0$ and balanced medium sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	**5.8**	**4.8**	**4.1**
exp early discrete	equal	**5.8**	**5.0**	**4.3**
exp early continuous	unequal, high	7.1	6.2	**5.1**
exp early discrete	unequal, high	7.0	6.1	**4.6**
exp early continuous	unequal, low	6.0	**5.5**	**4.7**
exp early discrete	unequal, low	6.2	**5.2**	**4.3**
logn continuous	equal	6.0	**5.3**	**5.0**
logn discrete	equal	6.2	**5.2**	**4.9**
logn continuous	unequal, high	8.0	7.0	**5.2**
logn discrete	unequal, high	7.7	6.4	**5.8**
logn continuous	unequal, low	6.6	**5.5**	**5.1**
logn discrete	unequal, low	6.5	**5.6**	**4.9**
pwExp continuous	equal	**5.0**	4.0	**4.2**
pwExp discrete	equal	**5.1**	**4.2**	3.9
pwExp continuous	unequal, high	6.3	**5.2**	3.9
pwExp discrete	unequal, high	6.0	**5.1**	**4.2**
pwExp continuous	unequal, low	**5.9**	**5.2**	**4.3**
pwExp discrete	unequal, low	**5.8**	**4.8**	**4.3**
Weib prop continuous	equal	6.4	**5.3**	**4.6**
Weib prop discrete	equal	**5.4**	**4.8**	4.0
Weib prop continuous	unequal, high	7.3	6.3	**4.7**
Weib prop discrete	unequal, high	7.1	6.4	**4.8**
Weib prop continuous	unequal, low	6.3	**5.6**	**4.3**
Weib prop discrete	unequal, low	6.6	**5.5**	**4.5**
Weib scale continuous	equal	6.8	**5.7**	**4.7**
Weib scale discrete	equal	**5.9**	**5.2**	**4.4**
Weib scale continuous	unequal, high	6.9	**5.8**	**4.6**
Weib scale discrete	unequal, high	6.8	**5.9**	**4.6**
Weib scale continuous	unequal, low	6.6	**5.4**	**4.4**
Weib scale discrete	unequal, low	6.6	**5.7**	**5.1**
Weib shape continuous	equal	6.5	**5.5**	**4.4**
Weib shape discrete	equal	6.3	**5.5**	**4.6**
Weib shape continuous	unequal, high	7.0	**5.5**	**5.0**
Weib shape discrete	unequal, high	6.8	**5.8**	**4.6**
Weib shape continuous	unequal, low	6.8	**5.6**	**4.6**
Weib shape discrete	unequal, low	6.4	**5.4**	**5.2**

All values in the binomial interval $[4.05, 6]$ are printed in bold type.

Table S69: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 0.0$ and balanced small sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	**5.6**	**4.4**	**4.3**
exp early discrete	equal	**5.2**	**4.6**	4.0
exp early continuous	unequal, high	**5.2**	**4.5**	**4.4**
exp early discrete	unequal, high	**5.3**	**4.3**	**4.5**
exp early continuous	unequal, low	**5.8**	**4.8**	**4.8**
exp early discrete	unequal, low	**5.8**	**4.4**	**5.0**
logn continuous	equal	6.3	**5.2**	**4.8**
logn discrete	equal	6.2	**5.1**	**4.4**
logn continuous	unequal, high	6.2	**5.1**	**4.5**
logn discrete	unequal, high	6.0	**5.2**	**5.0**
logn continuous	unequal, low	6.0	**4.9**	**5.1**
logn discrete	unequal, low	**5.6**	**4.9**	**4.5**
pwExp continuous	equal	**4.8**	3.6	3.4
pwExp discrete	equal	**4.5**	3.9	4.0
pwExp continuous	unequal, high	**4.8**	3.5	4.0
pwExp discrete	unequal, high	**5.2**	**4.4**	4.0
pwExp continuous	unequal, low	**4.9**	3.4	3.9
pwExp discrete	unequal, low	**4.5**	3.4	3.7
Weib prop continuous	equal	**5.3**	**4.1**	4.0
Weib prop discrete	equal	**5.8**	**4.8**	**4.8**
Weib prop continuous	unequal, high	**4.7**	4.0	**4.3**
Weib prop discrete	unequal, high	**5.4**	**4.6**	**4.5**
Weib prop continuous	unequal, low	**5.8**	**4.7**	4.0
Weib prop discrete	unequal, low	**5.2**	**4.3**	**4.4**
Weib scale continuous	equal	**5.9**	**4.2**	4.0
Weib scale discrete	equal	6.2	**5.1**	**4.9**
Weib scale continuous	unequal, high	**5.1**	**4.3**	**4.2**
Weib scale discrete	unequal, high	**5.3**	**4.4**	**4.3**
Weib scale continuous	unequal, low	6.1	**5.0**	**4.5**
Weib scale discrete	unequal, low	**5.8**	**4.6**	**4.5**
Weib shape continuous	equal	6.1	**4.8**	**4.4**
Weib shape discrete	equal	6.5	**5.2**	**4.8**
Weib shape continuous	unequal, high	**5.3**	**4.7**	4.0
Weib shape discrete	unequal, high	**5.1**	**4.3**	**4.5**
Weib shape continuous	unequal, low	**5.9**	**5.0**	**4.6**
Weib shape discrete	unequal, low	**5.6**	**4.7**	**4.5**

All values in the binomial interval $[4.05, 6]$ are printed in bold type.

Table S70: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 0.0$ and unbalanced large sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	6.3	**5.8**	3.5
exp early discrete	equal	6.3	**5.4**	3.4
exp early continuous	unequal, high	7.0	6.4	**4.6**
exp early discrete	unequal, high	7.5	6.6	**4.3**
exp early continuous	unequal, low	6.6	**5.4**	4.0
exp early discrete	unequal, low	6.6	**5.3**	3.7
logn continuous	equal	9.2	8.3	**5.3**
logn discrete	equal	10.2	9.2	**5.2**
logn continuous	unequal, high	10.4	9.5	4.0
logn discrete	unequal, high	10.9	9.6	3.6
logn continuous	unequal, low	9.1	8.2	**4.8**
logn discrete	unequal, low	9.7	8.6	**4.5**
pwExp continuous	equal	8.0	6.3	**4.8**
pwExp discrete	equal	8.2	6.6	**4.7**
pwExp continuous	unequal, high	7.4	6.3	**4.8**
pwExp discrete	unequal, high	7.5	6.3	**4.3**
pwExp continuous	unequal, low	7.5	6.4	**4.5**
pwExp discrete	unequal, low	7.6	6.4	**4.8**
Weib prop continuous	equal	8.6	7.2	**4.6**
Weib prop discrete	equal	8.5	7.3	**4.5**
Weib prop continuous	unequal, high	10.3	9.2	**4.3**
Weib prop discrete	unequal, high	10.8	9.3	**4.8**
Weib prop continuous	unequal, low	8.1	6.4	3.6
Weib prop discrete	unequal, low	8.3	7.5	3.8
Weib scale continuous	equal	9.6	7.8	**5.2**
Weib scale discrete	equal	9.3	8.5	**5.4**
Weib scale continuous	unequal, high	10.6	9.4	**4.8**
Weib scale discrete	unequal, high	11.1	10.3	**5.1**
Weib scale continuous	unequal, low	9.3	7.4	**4.8**
Weib scale discrete	unequal, low	10.2	9.2	**5.0**
Weib shape continuous	equal	10.4	8.6	**5.6**
Weib shape discrete	equal	10.0	9.0	**5.8**
Weib shape continuous	unequal, high	10.8	9.6	**5.2**
Weib shape discrete	unequal, high	11.4	10.6	**5.0**
Weib shape continuous	unequal, low	9.8	8.2	**5.3**
Weib shape discrete	unequal, low	10.6	9.3	**5.7**

All values in the binomial interval $[4.05, 6]$ are printed in bold type.

Table S71: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 0.0$ and unbalanced medium sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	16.7	15.5	**4.6**
exp early discrete	equal	18.2	16.0	**4.4**
exp early continuous	unequal, high	20.8	19.5	**4.2**
exp early discrete	unequal, high	23.1	21.9	3.9
exp early continuous	unequal, low	15.6	14.1	3.0
exp early discrete	unequal, low	15.9	14.6	3.1
logn continuous	equal	28.0	26.9	**5.3**
logn discrete	equal	30.2	29.2	**5.9**
logn continuous	unequal, high	**42.7**	**41.0**	**4.8**
logn discrete	unequal, high	**45.8**	**43.4**	**4.9**
logn continuous	unequal, low	23.4	21.1	3.8
logn discrete	unequal, low	24.9	22.7	**4.1**
pwExp continuous	equal	19.1	17.2	**5.8**
pwExp discrete	equal	18.9	17.5	6.0
pwExp continuous	unequal, high	21.9	20.3	**4.5**
pwExp discrete	unequal, high	24.2	23.2	**4.8**
pwExp continuous	unequal, low	19.0	17.8	**5.3**
pwExp discrete	unequal, low	19.6	17.8	**5.1**
Weib prop continuous	equal	23.8	22.8	**5.4**
Weib prop discrete	equal	27.3	26.4	**5.5**
Weib prop continuous	unequal, high	37.9	35.9	**4.6**
Weib prop discrete	unequal, high	**43.1**	**41.2**	**4.8**
Weib prop continuous	unequal, low	21.6	19.8	3.6
Weib prop discrete	unequal, low	22.6	21.6	**4.2**
Weib scale continuous	equal	30.6	29.6	7.9
Weib scale discrete	equal	34.2	33.3	7.3
Weib scale continuous	unequal, high	**43.7**	**42.1**	**5.3**
Weib scale discrete	unequal, high	**49.5**	**48.0**	6.4
Weib scale continuous	unequal, low	28.7	27.1	**5.8**
Weib scale discrete	unequal, low	31.5	29.8	6.0
Weib shape continuous	equal	35.8	34.8	10.2
Weib shape discrete	equal	39.0	38.0	9.5
Weib shape continuous	unequal, high	**46.2**	**44.9**	**5.9**
Weib shape discrete	unequal, high	**52.8**	**51.4**	6.6
Weib shape continuous	unequal, low	34.7	33.2	7.8
Weib shape discrete	unequal, low	36.7	35.4	8.1

All values in the binomial interval $[4.05, 6]$ are printed in bold type.

Table S72: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 0.0$ and unbalanced small sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	100.0	100.0	100.0
exp early discrete	equal	100.0	100.0	100.0
exp early continuous	unequal, high	99.7	99.7	99.7
exp early discrete	unequal, high	99.9	99.8	99.9
exp early continuous	unequal, low	100.0	100.0	100.0
exp early discrete	unequal, low	100.0	100.0	100.0
exp late continuous	equal	100.0	100.0	100.0
exp late discrete	equal	100.0	100.0	100.0
exp late continuous	unequal, high	100.0	100.0	99.9
exp late discrete	unequal, high	100.0	100.0	100.0
exp late continuous	unequal, low	100.0	100.0	100.0
exp late discrete	unequal, low	100.0	100.0	100.0
exp prop continuous	equal	100.0	100.0	100.0
exp prop discrete	equal	100.0	100.0	100.0
exp prop continuous	unequal, high	99.9	99.9	99.9
exp prop discrete	unequal, high	100.0	100.0	99.9
exp prop continuous	unequal, low	100.0	100.0	100.0
exp prop discrete	unequal, low	100.0	100.0	100.0
logn continuous	equal	100.0	100.0	100.0
logn discrete	equal	100.0	100.0	100.0
logn continuous	unequal, high	100.0	100.0	100.0
logn discrete	unequal, high	100.0	100.0	100.0
logn continuous	unequal, low	100.0	100.0	100.0
logn discrete	unequal, low	100.0	100.0	100.0
pwExp continuous	equal	100.0	100.0	100.0
pwExp discrete	equal	100.0	100.0	100.0
pwExp continuous	unequal, high	99.5	99.5	99.6
pwExp discrete	unequal, high	100.0	100.0	100.0
pwExp continuous	unequal, low	100.0	100.0	100.0
pwExp discrete	unequal, low	100.0	100.0	100.0
Weib late continuous	equal	100.0	100.0	100.0
Weib late discrete	equal	100.0	100.0	100.0
Weib late continuous	unequal, high	100.0	100.0	100.0
Weib late discrete	unequal, high	100.0	100.0	100.0
Weib late continuous	unequal, low	100.0	100.0	100.0
Weib late discrete	unequal, low	100.0	100.0	100.0
Weib prop continuous	equal	100.0	100.0	100.0
Weib prop discrete	equal	100.0	100.0	100.0
Weib prop continuous	unequal, high	100.0	100.0	100.0
Weib prop discrete	unequal, high	100.0	100.0	100.0
Weib prop continuous	unequal, low	100.0	100.0	100.0
Weib prop discrete	unequal, low	100.0	100.0	100.0
Weib scale continuous	equal	100.0	100.0	100.0
Weib scale discrete	equal	100.0	100.0	100.0
Weib scale continuous	unequal, high	100.0	100.0	100.0
Weib scale discrete	unequal, high	100.0	100.0	100.0
Weib scale continuous	unequal, low	100.0	100.0	100.0
Weib scale discrete	unequal, low	100.0	100.0	100.0
Weib shape continuous	equal	100.0	100.0	100.0
Weib shape discrete	equal	100.0	100.0	100.0
Weib shape continuous	unequal, high	100.0	100.0	100.0
Weib shape discrete	unequal, high	100.0	100.0	100.0
Weib shape continuous	unequal, low	100.0	100.0	100.0
Weib shape discrete	unequal, low	100.0	100.0	100.0

Table S73: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and balanced large sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	50.2	49.1	50.3
exp early discrete	equal	55.8	54.3	56.3
exp early continuous	unequal, high	40.5	39.1	39.4
exp early discrete	unequal, high	42.2	41.4	42.4
exp early continuous	unequal, low	48.4	47.2	48.2
exp early discrete	unequal, low	53.3	52.3	52.1
exp late continuous	equal	53.4	51.8	52.3
exp late discrete	equal	59.1	57.0	58.4
exp late continuous	unequal, high	41.3	40.1	40.0
exp late discrete	unequal, high	45.1	43.4	43.6
exp late continuous	unequal, low	52.0	51.0	50.1
exp late discrete	unequal, low	56.1	54.9	54.9
exp prop continuous	equal	51.6	50.3	50.1
exp prop discrete	equal	56.0	54.4	54.8
exp prop continuous	unequal, high	41.3	40.0	40.1
exp prop discrete	unequal, high	44.9	43.6	44.2
exp prop continuous	unequal, low	50.1	49.0	49.1
exp prop discrete	unequal, low	54.8	53.5	53.7
logn continuous	equal	93.8	93.3	92.8
logn discrete	equal	97.5	97.2	96.9
logn continuous	unequal, high	75.1	74.3	74.4
logn discrete	unequal, high	82.2	81.4	81.4
logn continuous	unequal, low	93.1	92.7	92.2
logn discrete	unequal, low	97.7	97.5	96.9
pwExp continuous	equal	48.5	47.5	48.6
pwExp discrete	equal	55.4	54.1	54.2
pwExp continuous	unequal, high	39.7	38.5	38.9
pwExp discrete	unequal, high	42.8	41.6	41.9
pwExp continuous	unequal, low	48.1	47.0	46.8
pwExp discrete	unequal, low	52.7	51.6	52.8
Weib late continuous	equal	94.7	94.2	94.5
Weib late discrete	equal	96.7	96.4	95.9
Weib late continuous	unequal, high	75.5	74.8	73.8
Weib late discrete	unequal, high	81.5	80.0	80.2
Weib late continuous	unequal, low	94.0	93.6	93.3
Weib late discrete	unequal, low	97.1	96.9	96.5
Weib prop continuous	equal	93.1	92.7	92.8
Weib prop discrete	equal	96.9	96.7	96.5
Weib prop continuous	unequal, high	73.3	72.3	72.2
Weib prop discrete	unequal, high	81.9	80.8	80.0
Weib prop continuous	unequal, low	92.3	91.7	91.1
Weib prop discrete	unequal, low	96.6	96.3	96.3
Weib scale continuous	equal	86.9	86.4	85.7
Weib scale discrete	equal	92.8	92.0	92.0
Weib scale continuous	unequal, high	68.5	67.2	67.5
Weib scale discrete	unequal, high	75.6	74.9	73.9
Weib scale continuous	unequal, low	86.0	85.4	85.5
Weib scale discrete	unequal, low	92.2	92.0	92.5
Weib shape continuous	equal	78.3	77.2	76.6
Weib shape discrete	equal	86.2	85.5	84.8
Weib shape continuous	unequal, high	63.6	62.4	63.0
Weib shape discrete	unequal, high	70.2	69.2	69.9
Weib shape continuous	unequal, low	76.8	75.8	75.8
Weib shape discrete	unequal, low	85.1	84.4	84.5

Table S74: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and balanced medium sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	13.2	12.4	12.2
exp early discrete	equal	14.8	13.9	13.1
exp early continuous	unequal, high	11.9	11.2	9.7
exp early discrete	unequal, high	12.3	11.9	10.6
exp early continuous	unequal, low	12.8	12.2	11.4
exp early discrete	unequal, low	13.9	13.4	12.8
exp late continuous	equal	14.0	13.4	12.6
exp late discrete	equal	15.2	14.6	13.8
exp late continuous	unequal, high	12.4	12.0	10.2
exp late discrete	unequal, high	13.1	12.2	10.5
exp late continuous	unequal, low	13.9	13.1	12.7
exp late discrete	unequal, low	14.9	14.1	13.6
exp prop continuous	equal	13.2	12.7	11.6
exp prop discrete	equal	14.4	13.8	12.9
exp prop continuous	unequal, high	13.2	12.6	10.6
exp prop discrete	unequal, high	13.6	12.6	11.1
exp prop continuous	unequal, low	13.7	13.0	11.9
exp prop discrete	unequal, low	14.2	13.6	13.1
logn continuous	equal	27.5	26.6	25.1
logn discrete	equal	32.9	31.8	30.0
logn continuous	unequal, high	21.2	20.6	17.5
logn discrete	unequal, high	24.6	23.8	20.9
logn continuous	unequal, low	28.4	27.9	26.0
logn discrete	unequal, low	33.1	32.5	30.1
pwExp continuous	equal	13.1	12.3	11.8
pwExp discrete	equal	13.6	13.2	13.2
pwExp continuous	unequal, high	11.5	10.8	10.5
pwExp discrete	unequal, high	12.8	12.1	10.5
pwExp continuous	unequal, low	12.8	12.3	11.2
pwExp discrete	unequal, low	14.0	13.4	12.8
Weib late continuous	equal	29.8	28.7	26.7
Weib late discrete	equal	32.9	31.9	30.0
Weib late continuous	unequal, high	21.9	21.1	18.4
Weib late discrete	unequal, high	23.4	22.6	20.4
Weib late continuous	unequal, low	28.3	27.7	25.7
Weib late discrete	unequal, low	32.4	31.2	29.2
Weib prop continuous	equal	27.6	26.5	25.4
Weib prop discrete	equal	30.6	29.5	28.9
Weib prop continuous	unequal, high	21.2	20.8	18.6
Weib prop discrete	unequal, high	23.9	23.1	20.2
Weib prop continuous	unequal, low	26.9	26.4	24.6
Weib prop discrete	unequal, low	30.9	29.9	27.9
Weib scale continuous	equal	22.5	21.8	20.5
Weib scale discrete	equal	25.7	24.8	23.6
Weib scale continuous	unequal, high	19.1	18.2	16.7
Weib scale discrete	unequal, high	20.6	19.9	17.8
Weib scale continuous	unequal, low	23.1	22.5	21.6
Weib scale discrete	unequal, low	25.7	24.6	24.9
Weib shape continuous	equal	17.8	17.0	15.4
Weib shape discrete	equal	20.2	19.1	18.1
Weib shape continuous	unequal, high	16.2	15.6	14.8
Weib shape discrete	unequal, high	17.3	16.9	15.8
Weib shape continuous	unequal, low	17.2	16.2	15.7
Weib shape discrete	unequal, low	20.1	19.0	18.4

Table S75: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and balanced small sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	93.5	92.2	91.8
exp early discrete	equal	96.9	96.2	95.5
exp early continuous	unequal, high	86.1	84.2	84.5
exp early discrete	unequal, high	88.3	86.8	86.5
exp early continuous	unequal, low	93.5	92.4	92.0
exp early discrete	unequal, low	97.0	96.2	96.0
exp late continuous	equal	97.5	97.0	97.0
exp late discrete	equal	99.1	98.5	98.4
exp late continuous	unequal, high	90.7	88.8	88.3
exp late discrete	unequal, high	93.2	91.5	91.3
exp late continuous	unequal, low	98.1	97.6	97.2
exp late discrete	unequal, low	99.3	99.0	98.8
exp prop continuous	equal	95.4	94.8	94.7
exp prop discrete	equal	98.5	97.5	96.9
exp prop continuous	unequal, high	88.1	86.3	84.7
exp prop discrete	unequal, high	91.3	89.7	87.8
exp prop continuous	unequal, low	96.0	94.7	93.8
exp prop discrete	unequal, low	98.3	97.6	96.7
logn continuous	equal	100.0	100.0	100.0
logn discrete	equal	100.0	100.0	100.0
logn continuous	unequal, high	99.9	99.9	99.9
logn discrete	unequal, high	100.0	100.0	99.9
logn continuous	unequal, low	100.0	100.0	100.0
logn discrete	unequal, low	100.0	100.0	100.0
pwExp continuous	equal	92.8	90.5	90.6
pwExp discrete	equal	95.7	94.8	94.7
pwExp continuous	unequal, high	84.7	82.4	82.1
pwExp discrete	unequal, high	87.7	85.8	85.5
pwExp continuous	unequal, low	92.0	90.3	90.1
pwExp discrete	unequal, low	96.2	94.9	94.5
Weib late continuous	equal	100.0	100.0	100.0
Weib late discrete	equal	99.7	99.5	99.5
Weib late continuous	unequal, high	100.0	100.0	100.0
Weib late discrete	unequal, high	99.3	99.2	98.9
Weib late continuous	unequal, low	100.0	100.0	100.0
Weib late discrete	unequal, low	100.0	100.0	100.0
Weib prop continuous	equal	100.0	100.0	100.0
Weib prop discrete	equal	100.0	100.0	100.0
Weib prop continuous	unequal, high	99.9	99.9	99.9
Weib prop discrete	unequal, high	100.0	100.0	100.0
Weib prop continuous	unequal, low	100.0	100.0	100.0
Weib prop discrete	unequal, low	100.0	100.0	100.0
Weib scale continuous	equal	100.0	100.0	100.0
Weib scale discrete	equal	100.0	100.0	100.0
Weib scale continuous	unequal, high	98.9	98.5	98.3
Weib scale discrete	unequal, high	99.7	99.6	99.4
Weib scale continuous	unequal, low	100.0	100.0	100.0
Weib scale discrete	unequal, low	100.0	100.0	100.0
Weib shape continuous	equal	99.1	98.8	98.5
Weib shape discrete	equal	99.7	99.6	99.6
Weib shape continuous	unequal, high	96.6	95.6	94.8
Weib shape discrete	unequal, high	97.8	97.5	97.3
Weib shape continuous	unequal, low	99.2	98.8	98.2
Weib shape discrete	unequal, low	99.8	99.7	99.6

Table S76: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and unbalanced large sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	22.1	19.6	17.6
exp early discrete	equal	24.8	22.5	19.1
exp early continuous	unequal, high	19.9	18.1	14.3
exp early discrete	unequal, high	21.2	19.4	15.9
exp early continuous	unequal, low	21.1	19.3	16.6
exp early discrete	unequal, low	24.3	21.8	19.1
exp late continuous	equal	26.1	23.2	19.9
exp late discrete	equal	28.4	25.2	22.1
exp late continuous	unequal, high	21.1	19.2	16.1
exp late discrete	unequal, high	23.2	20.4	17.3
exp late continuous	unequal, low	25.1	22.6	19.7
exp late discrete	unequal, low	27.6	25.4	22.4
exp prop continuous	equal	23.9	21.6	19.0
exp prop discrete	equal	26.5	23.8	21.6
exp prop continuous	unequal, high	21.0	19.2	15.8
exp prop discrete	unequal, high	21.6	19.9	16.2
exp prop continuous	unequal, low	24.3	22.1	19.1
exp prop discrete	unequal, low	27.3	24.9	21.4
logn continuous	equal	51.8	48.8	41.7
logn discrete	equal	58.9	54.9	48.2
logn continuous	unequal, high	35.4	33.1	25.4
logn discrete	unequal, high	39.5	36.4	27.0
logn continuous	unequal, low	55.6	52.2	45.2
logn discrete	unequal, low	63.5	59.8	51.0
pwExp continuous	equal	21.2	18.4	17.1
pwExp discrete	equal	24.4	21.5	19.8
pwExp continuous	unequal, high	19.4	17.6	14.7
pwExp discrete	unequal, high	21.1	19.2	15.6
pwExp continuous	unequal, low	20.7	18.4	16.2
pwExp discrete	unequal, low	23.8	21.4	18.8
Weib late continuous	equal	56.8	52.8	47.1
Weib late discrete	equal	63.8	60.0	51.6
Weib late continuous	unequal, high	38.8	35.5	27.8
Weib late discrete	unequal, high	43.4	40.0	30.2
Weib late continuous	unequal, low	61.1	57.6	49.6
Weib late discrete	unequal, low	68.8	65.0	56.0
Weib prop continuous	equal	51.9	48.3	42.8
Weib prop discrete	equal	58.4	54.2	47.4
Weib prop continuous	unequal, high	36.4	33.4	25.9
Weib prop discrete	unequal, high	41.2	37.9	28.8
Weib prop continuous	unequal, low	55.5	52.5	44.5
Weib prop discrete	unequal, low	63.4	59.8	51.2
Weib scale continuous	equal	40.1	35.7	31.2
Weib scale discrete	equal	44.6	41.1	35.0
Weib scale continuous	unequal, high	29.0	26.0	19.9
Weib scale discrete	unequal, high	32.2	29.5	21.8
Weib scale continuous	unequal, low	41.2	37.0	30.8
Weib scale discrete	unequal, low	47.2	43.7	36.1
Weib shape continuous	equal	26.2	21.9	17.5
Weib shape discrete	equal	31.6	27.7	22.1
Weib shape continuous	unequal, high	22.2	19.9	14.0
Weib shape discrete	unequal, high	24.9	22.4	15.2
Weib shape continuous	unequal, low	26.5	22.1	17.3
Weib shape discrete	unequal, low	32.9	28.6	21.8

Table S77: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and unbalanced medium sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	10.0	9.0	4.0
exp early discrete	equal	9.6	9.0	4.0
exp early continuous	unequal, high	10.6	9.8	2.9
exp early discrete	unequal, high	11.2	10.1	2.9
exp early continuous	unequal, low	9.9	8.8	3.6
exp early discrete	unequal, low	9.5	8.6	3.6
exp late continuous	equal	9.8	8.9	3.9
exp late discrete	equal	10.9	9.8	4.2
exp late continuous	unequal, high	10.3	9.5	2.9
exp late discrete	unequal, high	12.1	11.2	2.8
exp late continuous	unequal, low	9.8	8.6	3.5
exp late discrete	unequal, low	10.1	9.0	3.2
exp prop continuous	equal	9.2	8.4	3.8
exp prop discrete	equal	9.8	8.8	3.9
exp prop continuous	unequal, high	10.5	9.7	3.0
exp prop discrete	unequal, high	9.8	9.3	3.5
exp prop continuous	unequal, low	8.8	7.8	3.0
exp prop discrete	unequal, low	9.5	8.6	3.1
logn continuous	equal	13.0	11.6	5.1
logn discrete	equal	14.0	12.2	4.6
logn continuous	unequal, high	14.8	13.2	3.9
logn discrete	unequal, high	15.8	14.0	4.2
logn continuous	unequal, low	11.6	10.4	3.6
logn discrete	unequal, low	12.8	11.5	3.8
pwExp continuous	equal	10.1	9.0	3.8
pwExp discrete	equal	10.8	9.3	3.5
pwExp continuous	unequal, high	10.3	9.6	2.6
pwExp discrete	unequal, high	11.5	10.3	2.4
pwExp continuous	unequal, low	10.1	8.3	3.1
pwExp discrete	unequal, low	9.8	8.7	3.1
Weib late continuous	equal	14.8	12.8	5.3
Weib late discrete	equal	15.9	14.1	5.1
Weib late continuous	unequal, high	15.3	13.5	4.0
Weib late discrete	unequal, high	16.4	14.7	4.7
Weib late continuous	unequal, low	15.3	13.8	4.4
Weib late discrete	unequal, low	17.2	15.2	4.9
Weib prop continuous	equal	13.6	12.0	4.4
Weib prop discrete	equal	14.3	12.8	4.5
Weib prop continuous	unequal, high	14.3	12.7	3.8
Weib prop discrete	unequal, high	14.8	13.4	4.0
Weib prop continuous	unequal, low	13.9	11.8	3.9
Weib prop discrete	unequal, low	14.5	13.1	4.3
Weib scale continuous	equal	11.8	10.8	4.8
Weib scale discrete	equal	12.8	11.6	4.5
Weib scale continuous	unequal, high	13.9	12.2	3.8
Weib scale discrete	unequal, high	14.0	12.0	3.8
Weib scale continuous	unequal, low	11.2	9.8	3.5
Weib scale discrete	unequal, low	11.6	10.3	3.5
Weib shape continuous	equal	14.7	13.5	7.0
Weib shape discrete	equal	14.6	13.3	5.7
Weib shape continuous	unequal, high	12.6	10.8	3.2
Weib shape discrete	unequal, high	13.4	11.8	3.9
Weib shape continuous	unequal, low	13.5	12.4	5.3
Weib shape discrete	unequal, low	13.1	12.0	4.9

Table S78: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and unbalanced small sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	100.0	100.0	100.0
exp early discrete	equal	100.0	100.0	100.0
exp early continuous	unequal, high	100.0	100.0	100.0
exp early discrete	unequal, high	100.0	100.0	100.0
exp early continuous	unequal, low	100.0	100.0	100.0
exp early discrete	unequal, low	100.0	100.0	100.0
exp late continuous	equal	100.0	100.0	100.0
exp late discrete	equal	100.0	100.0	100.0
exp late continuous	unequal, high	100.0	100.0	100.0
exp late discrete	unequal, high	100.0	100.0	100.0
exp late continuous	unequal, low	100.0	100.0	100.0
exp late discrete	unequal, low	100.0	100.0	100.0
exp prop continuous	equal	100.0	100.0	100.0
exp prop discrete	equal	100.0	100.0	100.0
exp prop continuous	unequal, high	100.0	100.0	100.0
exp prop discrete	unequal, high	100.0	100.0	100.0
exp prop continuous	unequal, low	100.0	100.0	100.0
exp prop discrete	unequal, low	100.0	100.0	100.0
logn continuous	equal	100.0	100.0	100.0
logn discrete	equal	100.0	100.0	100.0
logn continuous	unequal, high	100.0	100.0	100.0
logn discrete	unequal, high	100.0	100.0	100.0
logn continuous	unequal, low	100.0	100.0	100.0
logn discrete	unequal, low	100.0	100.0	100.0
pwExp continuous	equal	100.0	100.0	100.0
pwExp discrete	equal	100.0	100.0	100.0
pwExp continuous	unequal, high	100.0	100.0	100.0
pwExp discrete	unequal, high	100.0	100.0	100.0
pwExp continuous	unequal, low	100.0	100.0	100.0
pwExp discrete	unequal, low	100.0	100.0	100.0
Weib late continuous	equal	100.0	100.0	100.0
Weib late discrete	equal	100.0	100.0	100.0
Weib late continuous	unequal, high	100.0	100.0	100.0
Weib late discrete	unequal, high	100.0	100.0	100.0
Weib late continuous	unequal, low	100.0	100.0	100.0
Weib late discrete	unequal, low	100.0	100.0	100.0
Weib prop continuous	equal	100.0	100.0	100.0
Weib prop discrete	equal	100.0	100.0	100.0
Weib prop continuous	unequal, high	100.0	100.0	100.0
Weib prop discrete	unequal, high	100.0	100.0	100.0
Weib prop continuous	unequal, low	100.0	100.0	100.0
Weib prop discrete	unequal, low	100.0	100.0	100.0
Weib scale continuous	equal	100.0	100.0	100.0
Weib scale discrete	equal	100.0	100.0	100.0
Weib scale continuous	unequal, high	100.0	100.0	100.0
Weib scale discrete	unequal, high	100.0	100.0	100.0
Weib scale continuous	unequal, low	100.0	100.0	100.0
Weib scale discrete	unequal, low	100.0	100.0	100.0
Weib shape continuous	equal	100.0	100.0	100.0
Weib shape discrete	equal	100.0	100.0	100.0
Weib shape continuous	unequal, high	100.0	100.0	100.0
Weib shape discrete	unequal, high	100.0	100.0	100.0
Weib shape continuous	unequal, low	100.0	100.0	100.0
Weib shape discrete	unequal, low	100.0	100.0	100.0

Table S79: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and balanced large sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	46.5	43.8	43.6
exp early discrete	equal	53.2	50.1	50.7
exp early continuous	unequal, high	37.2	34.9	34.0
exp early discrete	unequal, high	40.0	38.0	37.1
exp early continuous	unequal, low	45.4	42.2	43.6
exp early discrete	unequal, low	52.2	49.1	48.8
exp late continuous	equal	51.1	47.9	48.3
exp late discrete	equal	59.3	55.4	55.7
exp late continuous	unequal, high	39.5	37.2	36.6
exp late discrete	unequal, high	43.2	40.2	40.2
exp late continuous	unequal, low	49.7	46.7	47.8
exp late discrete	unequal, low	56.8	54.0	53.8
exp prop continuous	equal	49.5	47.2	45.8
exp prop discrete	equal	55.5	52.8	51.7
exp prop continuous	unequal, high	39.7	37.0	35.6
exp prop discrete	unequal, high	41.9	39.5	39.4
exp prop continuous	unequal, low	48.0	45.2	44.4
exp prop discrete	unequal, low	53.9	51.3	50.1
logn continuous	equal	93.9	93.2	92.7
logn discrete	equal	97.1	96.5	96.6
logn continuous	unequal, high	76.4	74.3	73.2
logn discrete	unequal, high	83.8	82.6	80.8
logn continuous	unequal, low	94.1	92.9	92.6
logn discrete	unequal, low	97.5	96.8	96.6
pwExp continuous	equal	45.2	43.1	43.0
pwExp discrete	equal	51.6	49.1	49.3
pwExp continuous	unequal, high	36.2	34.3	33.2
pwExp discrete	unequal, high	40.2	38.0	36.8
pwExp continuous	unequal, low	44.1	41.4	41.7
pwExp discrete	unequal, low	50.7	47.7	47.4
Weib late continuous	equal	95.6	94.8	93.8
Weib late discrete	equal	96.7	95.9	96.0
Weib late continuous	unequal, high	79.3	77.5	75.7
Weib late discrete	unequal, high	83.3	81.8	80.3
Weib late continuous	unequal, low	96.8	95.7	95.3
Weib late discrete	unequal, low	98.0	97.8	97.5
Weib prop continuous	equal	93.7	92.7	91.5
Weib prop discrete	equal	97.3	96.7	96.6
Weib prop continuous	unequal, high	75.9	74.1	72.5
Weib prop discrete	unequal, high	84.0	82.6	81.2
Weib prop continuous	unequal, low	94.6	93.7	93.2
Weib prop discrete	unequal, low	97.8	97.0	97.2
Weib scale continuous	equal	85.7	84.0	83.4
Weib scale discrete	equal	91.1	90.1	89.5
Weib scale continuous	unequal, high	69.2	67.4	66.5
Weib scale discrete	unequal, high	77.7	76.5	74.5
Weib scale continuous	unequal, low	87.7	86.1	85.2
Weib scale discrete	unequal, low	93.1	92.3	91.6
Weib shape continuous	equal	70.3	68.5	66.8
Weib shape discrete	equal	81.5	79.7	79.7
Weib shape continuous	unequal, high	60.1	58.2	56.9
Weib shape discrete	unequal, high	67.0	65.6	65.3
Weib shape continuous	unequal, low	70.8	68.5	68.0
Weib shape discrete	unequal, low	82.3	80.5	79.3

Table S80: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and balanced medium sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	11.3	10.1	9.3
exp early discrete	equal	11.8	10.7	9.4
exp early continuous	unequal, high	11.6	10.5	8.6
exp early discrete	unequal, high	12.6	11.2	8.8
exp early continuous	unequal, low	11.1	10.2	9.2
exp early discrete	unequal, low	12.0	10.9	9.8
exp late continuous	equal	12.0	10.8	10.0
exp late discrete	equal	12.6	11.3	10.2
exp late continuous	unequal, high	12.2	11.0	8.8
exp late discrete	unequal, high	11.8	10.7	8.8
exp late continuous	unequal, low	12.2	11.0	10.1
exp late discrete	unequal, low	13.4	12.0	10.8
exp prop continuous	equal	10.3	9.8	8.3
exp prop discrete	equal	11.9	11.0	9.6
exp prop continuous	unequal, high	11.3	10.8	8.9
exp prop discrete	unequal, high	12.9	11.8	9.3
exp prop continuous	unequal, low	10.9	10.0	8.9
exp prop discrete	unequal, low	12.3	10.9	9.4
logn continuous	equal	22.8	21.3	19.8
logn discrete	equal	25.9	24.3	21.6
logn continuous	unequal, high	18.5	17.4	14.3
logn discrete	unequal, high	20.3	19.4	15.6
logn continuous	unequal, low	24.8	23.4	20.8
logn discrete	unequal, low	28.1	26.2	24.5
pwExp continuous	equal	10.4	9.3	8.2
pwExp discrete	equal	10.8	9.8	8.4
pwExp continuous	unequal, high	11.3	10.4	8.4
pwExp discrete	unequal, high	11.8	10.8	8.9
pwExp continuous	unequal, low	10.1	9.2	8.1
pwExp discrete	unequal, low	11.2	10.1	8.7
Weib late continuous	equal	23.6	21.9	19.5
Weib late discrete	equal	26.7	24.9	22.8
Weib late continuous	unequal, high	18.9	17.8	14.5
Weib late discrete	unequal, high	21.6	20.2	16.2
Weib late continuous	unequal, low	26.9	25.6	21.9
Weib late discrete	unequal, low	30.1	28.3	25.7
Weib prop continuous	equal	21.8	20.4	17.8
Weib prop discrete	equal	24.4	23.0	20.0
Weib prop continuous	unequal, high	17.6	16.6	13.5
Weib prop discrete	unequal, high	19.6	18.4	14.8
Weib prop continuous	unequal, low	24.9	22.9	20.0
Weib prop discrete	unequal, low	28.5	26.4	24.5
Weib scale continuous	equal	16.7	15.4	13.0
Weib scale discrete	equal	17.9	16.7	14.4
Weib scale continuous	unequal, high	14.0	13.2	11.0
Weib scale discrete	unequal, high	15.9	14.9	12.6
Weib scale continuous	unequal, low	17.7	16.3	14.0
Weib scale discrete	unequal, low	20.3	18.6	17.6
Weib shape continuous	equal	11.8	10.8	10.1
Weib shape discrete	equal	13.2	12.2	11.1
Weib shape continuous	unequal, high	10.9	10.1	8.6
Weib shape discrete	unequal, high	12.3	11.3	9.7
Weib shape continuous	unequal, low	11.7	10.9	9.8
Weib shape discrete	unequal, low	13.4	12.8	11.9

Table S81: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and balanced small sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	90.2	89.4	86.6
exp early discrete	equal	94.5	94.0	92.4
exp early continuous	unequal, high	83.5	82.3	78.3
exp early discrete	unequal, high	86.7	85.7	83.6
exp early continuous	unequal, low	90.7	89.7	88.2
exp early discrete	unequal, low	94.7	94.0	92.7
exp late continuous	equal	97.2	96.8	94.7
exp late discrete	equal	98.5	98.3	97.2
exp late continuous	unequal, high	89.5	88.2	85.2
exp late discrete	unequal, high	93.0	92.2	89.1
exp late continuous	unequal, low	97.5	97.2	95.6
exp late discrete	unequal, low	99.2	99.0	98.6
exp prop continuous	equal	94.6	94.2	91.8
exp prop discrete	equal	97.6	97.2	96.0
exp prop continuous	unequal, high	85.4	83.9	81.0
exp prop discrete	unequal, high	89.9	89.0	84.7
exp prop continuous	unequal, low	94.7	94.0	92.2
exp prop discrete	unequal, low	97.5	97.5	96.0
logn continuous	equal	100.0	100.0	100.0
logn discrete	equal	100.0	100.0	100.0
logn continuous	unequal, high	99.9	99.8	99.6
logn discrete	unequal, high	100.0	100.0	99.7
logn continuous	unequal, low	100.0	100.0	100.0
logn discrete	unequal, low	100.0	100.0	100.0
pwExp continuous	equal	89.1	88.1	85.0
pwExp discrete	equal	93.5	93.0	91.3
pwExp continuous	unequal, high	80.0	79.1	75.6
pwExp discrete	unequal, high	84.5	83.5	80.8
pwExp continuous	unequal, low	88.5	87.6	85.2
pwExp discrete	unequal, low	94.1	93.7	91.1
Weib late continuous	equal	100.0	100.0	100.0
Weib late discrete	equal	99.6	99.6	99.4
Weib late continuous	unequal, high	100.0	100.0	99.9
Weib late discrete	unequal, high	98.8	98.7	98.6
Weib late continuous	unequal, low	100.0	100.0	100.0
Weib late discrete	unequal, low	100.0	100.0	99.8
Weib prop continuous	equal	100.0	100.0	100.0
Weib prop discrete	equal	100.0	100.0	100.0
Weib prop continuous	unequal, high	100.0	100.0	99.7
Weib prop discrete	unequal, high	100.0	100.0	99.9
Weib prop continuous	unequal, low	100.0	100.0	100.0
Weib prop discrete	unequal, low	100.0	100.0	100.0
Weib scale continuous	equal	99.9	99.9	99.6
Weib scale discrete	equal	100.0	100.0	99.9
Weib scale continuous	unequal, high	98.4	98.2	96.6
Weib scale discrete	unequal, high	99.5	99.4	98.0
Weib scale continuous	unequal, low	100.0	100.0	100.0
Weib scale discrete	unequal, low	100.0	100.0	100.0
Weib shape continuous	equal	96.9	96.6	95.4
Weib shape discrete	equal	99.0	98.9	98.0
Weib shape continuous	unequal, high	93.6	93.2	89.6
Weib shape discrete	unequal, high	96.7	96.4	93.1
Weib shape continuous	unequal, low	97.2	96.8	95.5
Weib shape discrete	unequal, low	98.9	98.9	98.0

Table S82: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and unbalanced large sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	14.3	13.8	9.5
exp early discrete	equal	16.4	15.4	10.0
exp early continuous	unequal, high	13.1	12.5	7.1
exp early discrete	unequal, high	13.9	13.4	7.4
exp early continuous	unequal, low	14.1	13.4	9.2
exp early discrete	unequal, low	16.6	15.6	10.5
exp late continuous	equal	17.2	16.4	11.7
exp late discrete	equal	19.6	18.6	12.2
exp late continuous	unequal, high	14.3	13.6	7.8
exp late discrete	unequal, high	15.6	14.5	8.6
exp late continuous	unequal, low	17.1	16.2	11.2
exp late discrete	unequal, low	19.4	18.2	12.0
exp prop continuous	equal	15.3	14.5	9.9
exp prop discrete	equal	17.3	16.4	10.2
exp prop continuous	unequal, high	13.3	12.8	7.9
exp prop discrete	unequal, high	14.9	14.1	8.9
exp prop continuous	unequal, low	15.1	14.3	10.3
exp prop discrete	unequal, low	17.7	16.5	10.6
logn continuous	equal	36.7	35.5	18.9
logn discrete	equal	42.0	40.8	20.8
logn continuous	unequal, high	24.1	23.4	8.3
logn discrete	unequal, high	26.2	25.8	7.9
logn continuous	unequal, low	41.5	40.5	19.6
logn discrete	unequal, low	47.4	46.7	22.2
pwExp continuous	equal	13.9	13.3	9.8
pwExp discrete	equal	15.4	14.9	10.6
pwExp continuous	unequal, high	12.4	11.9	6.8
pwExp discrete	unequal, high	13.8	12.9	7.8
pwExp continuous	unequal, low	14.4	13.6	9.2
pwExp discrete	unequal, low	15.8	15.2	10.0
Weib late continuous	equal	42.5	41.2	23.7
Weib late discrete	equal	49.4	47.6	27.1
Weib late continuous	unequal, high	28.9	27.4	11.6
Weib late discrete	unequal, high	31.9	30.5	11.7
Weib late continuous	unequal, low	47.8	46.0	25.1
Weib late discrete	unequal, low	56.0	54.4	27.1
Weib prop continuous	equal	37.4	36.2	20.6
Weib prop discrete	equal	42.8	41.8	22.2
Weib prop continuous	unequal, high	25.9	25.2	10.3
Weib prop discrete	unequal, high	29.3	28.0	9.9
Weib prop continuous	unequal, low	42.0	40.9	20.3
Weib prop discrete	unequal, low	49.1	47.6	23.2
Weib scale continuous	equal	25.3	24.2	12.6
Weib scale discrete	equal	29.4	28.5	13.4
Weib scale continuous	unequal, high	19.7	18.6	7.4
Weib scale discrete	unequal, high	21.2	20.5	7.4
Weib scale continuous	unequal, low	26.4	25.4	11.8
Weib scale discrete	unequal, low	30.9	29.9	12.2
Weib shape continuous	equal	15.2	14.8	8.2
Weib shape discrete	equal	18.4	17.7	8.3
Weib shape continuous	unequal, high	15.2	14.3	6.0
Weib shape discrete	unequal, high	16.4	16.1	6.0
Weib shape continuous	unequal, low	15.2	14.8	7.0
Weib shape discrete	unequal, low	18.8	18.1	7.5

Table S83: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and unbalanced medium sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	12.8	12.4	4.4
exp early discrete	equal	12.7	12.2	4.5
exp early continuous	unequal, high	14.4	13.8	3.8
exp early discrete	unequal, high	16.4	16.2	4.2
exp early continuous	unequal, low	12.6	12.2	4.2
exp early discrete	unequal, low	12.9	12.2	4.3
exp late continuous	equal	12.3	11.8	3.9
exp late discrete	equal	12.8	12.2	4.3
exp late continuous	unequal, high	14.1	13.8	3.4
exp late discrete	unequal, high	16.4	16.0	4.2
exp late continuous	unequal, low	12.4	11.9	3.8
exp late discrete	unequal, low	12.6	11.8	4.2
exp prop continuous	equal	12.0	11.3	4.5
exp prop discrete	equal	12.3	11.9	4.4
exp prop continuous	unequal, high	15.1	14.8	4.6
exp prop discrete	unequal, high	17.1	16.7	4.4
exp prop continuous	unequal, low	11.6	10.9	3.5
exp prop discrete	unequal, low	11.8	11.3	3.6
logn continuous	equal	17.9	17.7	4.8
logn discrete	equal	18.6	18.1	4.6
logn continuous	unequal, high	30.6	30.1	5.3
logn discrete	unequal, high	31.8	31.2	5.3
logn continuous	unequal, low	15.8	15.4	4.2
logn discrete	unequal, low	16.6	16.3	4.3
pwExp continuous	equal	12.3	11.8	4.3
pwExp discrete	equal	12.2	11.8	4.3
pwExp continuous	unequal, high	14.0	13.6	3.6
pwExp discrete	unequal, high	16.4	16.0	4.0
pwExp continuous	unequal, low	12.2	11.9	4.3
pwExp discrete	unequal, low	12.6	11.9	4.1
Weib late continuous	equal	15.8	15.3	4.0
Weib late discrete	equal	17.5	16.9	4.0
Weib late continuous	unequal, high	22.9	22.4	4.6
Weib late discrete	unequal, high	26.8	26.2	4.8
Weib late continuous	unequal, low	14.9	14.5	3.6
Weib late discrete	unequal, low	16.7	16.2	4.2
Weib prop continuous	equal	15.6	15.1	3.8
Weib prop discrete	equal	17.2	16.7	4.0
Weib prop continuous	unequal, high	23.8	23.2	4.8
Weib prop discrete	unequal, high	27.8	27.2	4.8
Weib prop continuous	unequal, low	14.3	13.9	3.6
Weib prop discrete	unequal, low	15.8	15.4	4.1
Weib scale continuous	equal	17.3	17.0	4.3
Weib scale discrete	equal	19.5	19.2	4.2
Weib scale continuous	unequal, high	26.7	26.4	4.8
Weib scale discrete	unequal, high	30.3	29.8	5.1
Weib scale continuous	unequal, low	16.8	16.3	3.8
Weib scale discrete	unequal, low	17.9	17.5	4.0
Weib shape continuous	equal	23.7	23.5	6.2
Weib shape discrete	equal	25.1	24.9	5.2
Weib shape continuous	unequal, high	30.1	29.9	5.4
Weib shape discrete	unequal, high	34.6	34.4	5.6
Weib shape continuous	unequal, low	24.0	23.8	5.9
Weib shape discrete	unequal, low	24.7	24.4	5.3

Table S84: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and unbalanced small sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	100.0	100.0	100.0
exp early discrete	equal	100.0	100.0	100.0
exp early continuous	unequal, high	100.0	100.0	100.0
exp early discrete	unequal, high	100.0	100.0	100.0
exp early continuous	unequal, low	100.0	100.0	100.0
exp early discrete	unequal, low	100.0	100.0	100.0
exp late continuous	equal	100.0	100.0	100.0
exp late discrete	equal	100.0	100.0	100.0
exp late continuous	unequal, high	100.0	100.0	100.0
exp late discrete	unequal, high	100.0	100.0	100.0
exp late continuous	unequal, low	100.0	100.0	100.0
exp late discrete	unequal, low	100.0	100.0	100.0
exp prop continuous	equal	100.0	100.0	100.0
exp prop discrete	equal	100.0	100.0	100.0
exp prop continuous	unequal, high	100.0	100.0	100.0
exp prop discrete	unequal, high	100.0	100.0	100.0
exp prop continuous	unequal, low	100.0	100.0	100.0
exp prop discrete	unequal, low	100.0	100.0	100.0
logn continuous	equal	100.0	100.0	100.0
logn discrete	equal	100.0	100.0	100.0
logn continuous	unequal, high	100.0	100.0	100.0
logn discrete	unequal, high	100.0	100.0	100.0
logn continuous	unequal, low	100.0	100.0	100.0
logn discrete	unequal, low	100.0	100.0	100.0
pwExp continuous	equal	100.0	100.0	100.0
pwExp discrete	equal	100.0	100.0	100.0
pwExp continuous	unequal, high	100.0	100.0	100.0
pwExp discrete	unequal, high	100.0	100.0	100.0
pwExp continuous	unequal, low	100.0	100.0	100.0
pwExp discrete	unequal, low	100.0	100.0	100.0
Weib late continuous	equal	100.0	100.0	100.0
Weib late discrete	equal	100.0	100.0	100.0
Weib late continuous	unequal, high	100.0	100.0	100.0
Weib late discrete	unequal, high	100.0	100.0	100.0
Weib late continuous	unequal, low	100.0	100.0	100.0
Weib late discrete	unequal, low	100.0	100.0	100.0
Weib prop continuous	equal	100.0	100.0	100.0
Weib prop discrete	equal	100.0	100.0	100.0
Weib prop continuous	unequal, high	100.0	100.0	100.0
Weib prop discrete	unequal, high	100.0	100.0	100.0
Weib prop continuous	unequal, low	100.0	100.0	100.0
Weib prop discrete	unequal, low	100.0	100.0	100.0
Weib scale continuous	equal	100.0	100.0	100.0
Weib scale discrete	equal	100.0	100.0	100.0
Weib scale continuous	unequal, high	100.0	100.0	100.0
Weib scale discrete	unequal, high	100.0	100.0	100.0
Weib scale continuous	unequal, low	100.0	100.0	100.0
Weib scale discrete	unequal, low	100.0	100.0	100.0
Weib shape continuous	equal	100.0	100.0	100.0
Weib shape discrete	equal	100.0	100.0	100.0
Weib shape continuous	unequal, high	100.0	100.0	100.0
Weib shape discrete	unequal, high	100.0	100.0	100.0
Weib shape continuous	unequal, low	100.0	100.0	100.0
Weib shape discrete	unequal, low	100.0	100.0	100.0

Table S85: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and balanced large sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	64.7	60.8	59.7
exp early discrete	equal	71.8	68.5	66.1
exp early continuous	unequal, high	54.1	50.0	48.0
exp early discrete	unequal, high	58.9	54.4	52.5
exp early continuous	unequal, low	64.8	61.8	58.9
exp early discrete	unequal, low	72.0	68.2	66.1
exp late continuous	equal	71.2	67.4	65.4
exp late discrete	equal	78.2	74.2	73.2
exp late continuous	unequal, high	57.9	54.2	51.8
exp late discrete	unequal, high	62.6	58.6	56.8
exp late continuous	unequal, low	71.4	67.8	65.6
exp late discrete	unequal, low	78.3	74.8	72.7
exp prop continuous	equal	67.2	63.3	61.2
exp prop discrete	equal	74.9	71.3	69.8
exp prop continuous	unequal, high	57.0	52.5	51.4
exp prop discrete	unequal, high	61.7	57.9	55.8
exp prop continuous	unequal, low	67.2	63.3	61.5
exp prop discrete	unequal, low	74.8	71.4	68.9
logn continuous	equal	99.2	99.0	98.4
logn discrete	equal	99.8	99.6	99.5
logn continuous	unequal, high	90.3	88.7	87.2
logn discrete	unequal, high	94.8	93.5	92.4
logn continuous	unequal, low	99.4	99.1	98.8
logn discrete	unequal, low	99.9	99.8	99.7
pwExp continuous	equal	62.5	58.2	56.9
pwExp discrete	equal	68.7	65.2	63.9
pwExp continuous	unequal, high	52.0	48.9	46.6
pwExp discrete	unequal, high	57.6	53.7	52.4
pwExp continuous	unequal, low	61.9	58.0	56.1
pwExp discrete	unequal, low	68.0	64.9	63.2
Weib late continuous	equal	99.5	99.3	99.2
Weib late discrete	equal	99.0	98.7	98.5
Weib late continuous	unequal, high	93.2	91.2	90.0
Weib late discrete	unequal, high	95.0	93.8	92.0
Weib late continuous	unequal, low	99.6	99.5	99.1
Weib late discrete	unequal, low	99.6	99.6	99.4
Weib prop continuous	equal	99.2	98.7	98.6
Weib prop discrete	equal	99.9	99.8	99.7
Weib prop continuous	unequal, high	91.5	89.8	87.2
Weib prop discrete	unequal, high	95.8	94.5	93.3
Weib prop continuous	unequal, low	99.2	98.9	99.0
Weib prop discrete	unequal, low	99.9	99.9	99.8
Weib scale continuous	equal	95.3	94.2	92.9
Weib scale discrete	equal	98.0	97.2	96.9
Weib scale continuous	unequal, high	83.4	80.3	79.5
Weib scale discrete	unequal, high	89.9	87.2	86.8
Weib scale continuous	unequal, low	95.3	94.5	94.0
Weib scale discrete	unequal, low	98.6	97.8	97.7
Weib shape continuous	equal	83.7	79.8	80.2
Weib shape discrete	equal	91.8	89.4	89.2
Weib shape continuous	unequal, high	73.6	71.0	70.2
Weib shape discrete	unequal, high	80.4	78.2	77.3
Weib shape continuous	unequal, low	82.3	80.3	80.0
Weib shape discrete	unequal, low	91.5	89.1	89.8

Table S86: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and balanced medium sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	15.7	13.4	11.3
exp early discrete	equal	17.6	15.2	12.4
exp early continuous	unequal, high	16.4	14.0	11.2
exp early discrete	unequal, high	17.2	15.2	11.7
exp early continuous	unequal, low	16.6	14.5	11.9
exp early discrete	unequal, low	18.2	16.1	13.8
exp late continuous	equal	17.9	16.1	13.6
exp late discrete	equal	19.4	17.4	14.9
exp late continuous	unequal, high	17.6	15.5	11.2
exp late discrete	unequal, high	18.1	16.1	11.9
exp late continuous	unequal, low	18.3	17.0	14.0
exp late discrete	unequal, low	20.5	18.5	14.6
exp prop continuous	equal	14.4	12.4	10.5
exp prop discrete	equal	15.6	14.1	11.6
exp prop continuous	unequal, high	15.4	14.0	10.8
exp prop discrete	unequal, high	17.1	15.6	11.8
exp prop continuous	unequal, low	15.2	13.2	11.1
exp prop discrete	unequal, low	17.0	14.8	12.6
logn continuous	equal	31.8	28.6	25.1
logn discrete	equal	37.2	33.1	30.4
logn continuous	unequal, high	26.3	23.7	18.6
logn discrete	unequal, high	29.1	26.6	21.1
logn continuous	unequal, low	35.0	31.7	27.4
logn discrete	unequal, low	42.0	38.8	34.4
pwExp continuous	equal	13.6	11.7	10.4
pwExp discrete	equal	15.2	13.0	11.3
pwExp continuous	unequal, high	15.0	13.0	9.6
pwExp discrete	unequal, high	16.2	14.1	10.8
pwExp continuous	unequal, low	14.8	13.2	10.8
pwExp discrete	unequal, low	16.4	14.1	11.8
Weib late continuous	equal	34.5	31.4	27.3
Weib late discrete	equal	40.5	36.6	30.9
Weib late continuous	unequal, high	29.2	26.1	20.4
Weib late discrete	unequal, high	31.8	28.9	22.1
Weib late continuous	unequal, low	39.9	36.2	30.9
Weib late discrete	unequal, low	46.0	42.8	37.0
Weib prop continuous	equal	31.1	28.4	25.7
Weib prop discrete	equal	36.5	32.1	27.9
Weib prop continuous	unequal, high	27.0	24.1	18.9
Weib prop discrete	unequal, high	29.0	26.1	20.1
Weib prop continuous	unequal, low	35.5	31.8	28.0
Weib prop discrete	unequal, low	42.2	38.3	33.1
Weib scale continuous	equal	22.5	19.5	18.4
Weib scale discrete	equal	25.7	22.2	19.5
Weib scale continuous	unequal, high	21.2	18.2	14.9
Weib scale discrete	unequal, high	22.7	20.1	16.5
Weib scale continuous	unequal, low	23.5	21.4	18.2
Weib scale discrete	unequal, low	29.0	25.7	22.9
Weib shape continuous	equal	13.9	11.4	10.8
Weib shape discrete	equal	16.3	13.9	13.0
Weib shape continuous	unequal, high	15.1	13.2	11.3
Weib shape discrete	unequal, high	17.0	14.9	13.1
Weib shape continuous	unequal, low	14.8	12.6	11.2
Weib shape discrete	unequal, low	17.5	15.3	14.3

Table S87: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and balanced small sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	92.2	89.6	86.1
exp early discrete	equal	96.0	94.0	92.4
exp early continuous	unequal, high	85.5	81.3	77.5
exp early discrete	unequal, high	89.1	86.9	82.5
exp early continuous	unequal, low	92.2	90.1	87.4
exp early discrete	unequal, low	96.0	94.2	92.5
exp late continuous	equal	98.4	96.5	94.5
exp late discrete	equal	98.9	98.3	97.4
exp late continuous	unequal, high	92.0	88.0	84.8
exp late discrete	unequal, high	95.2	92.5	89.2
exp late continuous	unequal, low	98.5	97.0	95.7
exp late discrete	unequal, low	99.7	99.1	98.5
exp prop continuous	equal	96.2	93.5	91.3
exp prop discrete	equal	98.3	97.0	95.2
exp prop continuous	unequal, high	88.9	85.5	81.1
exp prop discrete	unequal, high	92.2	88.5	85.8
exp prop continuous	unequal, low	96.4	94.1	92.1
exp prop discrete	unequal, low	98.7	97.6	96.5
logn continuous	equal	100.0	100.0	100.0
logn discrete	equal	100.0	100.0	100.0
logn continuous	unequal, high	100.0	99.9	99.3
logn discrete	unequal, high	100.0	100.0	99.9
logn continuous	unequal, low	100.0	100.0	100.0
logn discrete	unequal, low	100.0	100.0	100.0
pwExp continuous	equal	90.0	86.6	84.0
pwExp discrete	equal	95.1	92.5	90.4
pwExp continuous	unequal, high	84.3	80.3	76.1
pwExp discrete	unequal, high	88.2	84.2	80.8
pwExp continuous	unequal, low	90.5	86.9	84.2
pwExp discrete	unequal, low	95.3	93.2	91.7
Weib late continuous	equal	100.0	100.0	100.0
Weib late discrete	equal	99.5	99.5	99.4
Weib late continuous	unequal, high	100.0	100.0	100.0
Weib late discrete	unequal, high	99.0	98.5	98.3
Weib late continuous	unequal, low	100.0	100.0	100.0
Weib late discrete	unequal, low	100.0	99.9	99.8
Weib prop continuous	equal	100.0	100.0	100.0
Weib prop discrete	equal	100.0	100.0	100.0
Weib prop continuous	unequal, high	100.0	100.0	99.7
Weib prop discrete	unequal, high	100.0	100.0	99.8
Weib prop continuous	unequal, low	100.0	100.0	100.0
Weib prop discrete	unequal, low	100.0	100.0	100.0
Weib scale continuous	equal	100.0	99.9	99.5
Weib scale discrete	equal	100.0	100.0	99.9
Weib scale continuous	unequal, high	98.8	98.4	96.7
Weib scale discrete	unequal, high	99.7	99.2	97.7
Weib scale continuous	unequal, low	100.0	100.0	99.9
Weib scale discrete	unequal, low	100.0	100.0	100.0
Weib shape continuous	equal	97.7	95.9	94.4
Weib shape discrete	equal	99.4	99.0	98.0
Weib shape continuous	unequal, high	95.0	93.1	88.4
Weib shape discrete	unequal, high	97.1	96.0	92.3
Weib shape continuous	unequal, low	97.8	96.6	94.8
Weib shape discrete	unequal, low	99.3	99.1	98.0

Table S88: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and unbalanced large sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	16.9	13.4	9.6
exp early discrete	equal	19.4	15.6	10.2
exp early continuous	unequal, high	15.3	12.6	7.6
exp early discrete	unequal, high	16.0	13.3	7.5
exp early continuous	unequal, low	16.3	13.5	9.6
exp early discrete	unequal, low	18.9	15.3	10.8
exp late continuous	equal	19.9	16.0	11.2
exp late discrete	equal	22.1	18.6	12.1
exp late continuous	unequal, high	17.1	13.5	8.0
exp late discrete	unequal, high	18.2	15.4	8.8
exp late continuous	unequal, low	18.9	16.1	11.2
exp late discrete	unequal, low	22.6	18.6	13.0
exp prop continuous	equal	17.5	14.5	9.5
exp prop discrete	equal	19.6	16.7	10.6
exp prop continuous	unequal, high	15.8	13.7	8.9
exp prop discrete	unequal, high	17.1	14.5	8.3
exp prop continuous	unequal, low	17.6	14.4	9.2
exp prop discrete	unequal, low	20.3	16.8	10.2
logn continuous	equal	41.5	35.9	20.4
logn discrete	equal	46.8	40.4	23.2
logn continuous	unequal, high	28.4	24.6	9.2
logn discrete	unequal, high	30.6	27.0	9.2
logn continuous	unequal, low	46.8	41.0	22.7
logn discrete	unequal, low	54.0	48.2	25.4
pwExp continuous	equal	15.4	12.4	9.3
pwExp discrete	equal	17.8	14.6	10.2
pwExp continuous	unequal, high	15.0	12.6	7.5
pwExp discrete	unequal, high	15.9	13.2	7.6
pwExp continuous	unequal, low	15.2	12.8	8.6
pwExp discrete	unequal, low	17.8	14.6	9.8
Weib late continuous	equal	48.6	41.8	25.6
Weib late discrete	equal	54.9	48.9	28.7
Weib late continuous	unequal, high	31.1	26.8	11.3
Weib late discrete	unequal, high	35.8	30.6	12.9
Weib late continuous	unequal, low	54.4	48.2	27.5
Weib late discrete	unequal, low	61.9	56.1	31.5
Weib prop continuous	equal	42.6	36.4	20.8
Weib prop discrete	equal	48.7	41.5	23.0
Weib prop continuous	unequal, high	29.5	24.9	10.2
Weib prop discrete	unequal, high	32.2	27.2	11.2
Weib prop continuous	unequal, low	46.9	40.6	22.4
Weib prop discrete	unequal, low	55.2	49.4	25.3
Weib scale continuous	equal	28.4	23.2	13.2
Weib scale discrete	equal	32.0	26.9	14.4
Weib scale continuous	unequal, high	21.7	17.8	7.5
Weib scale discrete	unequal, high	24.0	19.6	7.9
Weib scale continuous	unequal, low	28.4	22.9	13.0
Weib scale discrete	unequal, low	35.1	28.8	13.6
Weib shape continuous	equal	16.4	13.0	7.3
Weib shape discrete	equal	20.0	15.5	8.2
Weib shape continuous	unequal, high	16.2	12.9	5.8
Weib shape discrete	unequal, high	17.0	14.2	5.8
Weib shape continuous	unequal, low	16.2	12.2	6.9
Weib shape discrete	unequal, low	20.3	16.2	7.5

Table S89: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and unbalanced medium sample sizes.

distribution	censoring distribution	asymptotic	asymptotic_bonf	permutation_bonf
exp early continuous	equal	12.5	11.0	3.7
exp early discrete	equal	12.4	10.9	3.8
exp early continuous	unequal, high	14.3	12.7	3.1
exp early discrete	unequal, high	16.2	14.8	3.5
exp early continuous	unequal, low	12.3	11.1	3.6
exp early discrete	unequal, low	12.5	11.3	3.2
exp late continuous	equal	12.5	10.6	3.3
exp late discrete	equal	12.6	11.3	3.4
exp late continuous	unequal, high	14.1	12.6	3.0
exp late discrete	unequal, high	16.2	14.4	3.4
exp late continuous	unequal, low	11.9	10.6	3.2
exp late discrete	unequal, low	12.6	10.9	2.8
exp prop continuous	equal	11.5	10.2	2.9
exp prop discrete	equal	12.4	10.4	3.1
exp prop continuous	unequal, high	15.0	13.2	3.6
exp prop discrete	unequal, high	16.7	15.0	3.4
exp prop continuous	unequal, low	10.9	8.9	2.6
exp prop discrete	unequal, low	11.6	9.6	2.7
logn continuous	equal	17.2	15.6	3.8
logn discrete	equal	18.4	16.7	4.2
logn continuous	unequal, high	29.6	27.5	4.3
logn discrete	unequal, high	30.6	27.8	4.9
logn continuous	unequal, low	15.1	13.4	3.1
logn discrete	unequal, low	16.1	13.8	3.2
pwExp continuous	equal	13.0	10.9	3.4
pwExp discrete	equal	12.5	11.1	3.4
pwExp continuous	unequal, high	14.4	12.8	2.9
pwExp discrete	unequal, high	16.0	14.4	3.5
pwExp continuous	unequal, low	11.9	10.7	3.4
pwExp discrete	unequal, low	12.4	10.9	3.1
Weib late continuous	equal	16.1	14.1	3.7
Weib late discrete	equal	18.4	16.2	3.6
Weib late continuous	unequal, high	22.4	20.3	4.0
Weib late discrete	unequal, high	26.7	24.3	4.4
Weib late continuous	unequal, low	15.6	13.5	3.2
Weib late discrete	unequal, low	16.7	14.9	3.4
Weib prop continuous	equal	15.6	13.8	3.6
Weib prop discrete	equal	17.5	16.0	3.5
Weib prop continuous	unequal, high	22.8	20.3	3.7
Weib prop discrete	unequal, high	26.4	24.3	4.0
Weib prop continuous	unequal, low	15.2	13.2	3.0
Weib prop discrete	unequal, low	16.1	14.6	3.4
Weib scale continuous	equal	16.8	15.6	3.8
Weib scale discrete	equal	19.2	17.9	3.9
Weib scale continuous	unequal, high	26.0	24.3	3.5
Weib scale discrete	unequal, high	29.2	27.5	3.8
Weib scale continuous	unequal, low	16.4	14.5	3.4
Weib scale discrete	unequal, low	17.2	15.6	3.5
Weib shape continuous	equal	23.3	22.1	6.5
Weib shape discrete	equal	24.6	23.6	5.8
Weib shape continuous	unequal, high	29.5	27.6	4.1
Weib shape discrete	unequal, high	33.8	32.0	4.3
Weib shape continuous	unequal, low	23.5	22.1	5.4
Weib shape discrete	unequal, low	23.9	22.6	5.5

Table S90: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and unbalanced small sample sizes.

B.2 Empirical Power for the Local Hypotheses

For analyzing whether the false local hypotheses are rejected, Tables S91–S144 contain the rejection rates of all false hypotheses (under the alternative hypothesis). In detail, the following hypotheses are false under the alternative hypothesis:

- $\mathcal{H}_{0,1} = \mathcal{H}^A_{0,1}, \mathcal{H}_{0,2} = \mathcal{H}^A_{0,2}, \mathcal{H}_{0,3} = \mathcal{H}^A_{0,3}, \mathcal{H}_{0,4} = \mathcal{H}^B_{0,1}, \mathcal{H}_{0,5} = \mathcal{H}^B_{0,2}, \mathcal{H}_{0,6} = \mathcal{H}^B_{0,3}, \mathcal{H}_{0,7} = \mathcal{H}^{AB}_{0,1}, \mathcal{H}_{0,8} = \mathcal{H}^{AB}_{0,2}, \mathcal{H}_{0,9} = \mathcal{H}^{AB}_{0,3}$ for the 2-by-2 design,
- $\mathcal{H}_{0,7} : \eta_{11} = \eta_{41}, \mathcal{H}_{0,8} : \eta_{12} = \eta_{42}, \mathcal{H}_{0,9} : \eta_{13} = \eta_{43}$ for the Dunnett-type contrast matrix, and
- $\mathcal{H}_{0,7} : \eta_{11} = \eta_{41}, \mathcal{H}_{0,8} : \eta_{12} = \eta_{42}, \mathcal{H}_{0,9} : \eta_{13} = \eta_{43}, \mathcal{H}_{0,13} : \eta_{21} = \eta_{41}, \mathcal{H}_{0,14} : \eta_{22} = \eta_{42}, \mathcal{H}_{0,15} : \eta_{23} = \eta_{43}, \mathcal{H}_{0,16} : \eta_{31} = \eta_{41}, \mathcal{H}_{0,17} : \eta_{32} = \eta_{42}, \mathcal{H}_{0,18} : \eta_{33} = \eta_{43}$ for the Tukey-type contrast matrix.

distribution	method	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	50.1	32.2	70.7	49.8	33.5	70.5	50.0	32.9	69.8
	asymptotic_bonf	49.5	31.4	70.0	49.0	33.1	69.8	48.9	32.1	69.4
	permutation_bonf	49.4	31.6	70.0	48.6	32.3	69.6	49.1	31.9	70.1
exp early discrete	asymptotic	57.7	38.0	77.1	57.0	38.2	76.5	55.6	37.5	77.0
	asymptotic_bonf	56.5	37.5	76.5	56.3	37.5	76.0	55.3	36.9	76.4
	permutation_bonf	57.3	37.1	76.2	55.5	37.2	75.8	55.4	37.4	76.3
exp late continuous	asymptotic	52.8	34.5	73.4	53.9	34.5	72.5	52.0	32.8	72.6
	asymptotic_bonf	51.9	33.7	72.7	53.1	33.8	71.7	51.5	32.0	72.0
	permutation_bonf	52.1	34.2	72.9	52.9	33.9	71.8	51.4	32.6	71.4
exp late discrete	asymptotic	60.2	39.7	80.3	59.5	40.1	79.7	59.4	38.9	79.8
	asymptotic_bonf	59.2	39.1	79.8	58.9	39.5	79.0	58.6	38.4	79.0
	permutation_bonf	59.1	39.2	79.0	58.2	38.7	78.5	57.7	38.0	78.5
exp prop continuous	asymptotic	51.7	33.6	72.4	49.4	35.3	71.8	51.0	35.8	69.3
	asymptotic_bonf	50.9	32.9	71.8	48.8	34.8	71.5	50.0	35.0	68.7
	permutation_bonf	51.8	32.9	71.2	48.1	34.5	70.3	50.5	35.0	68.6
exp prop discrete	asymptotic	58.1	41.0	78.2	58.0	39.1	78.4	57.9	40.1	79.4
	asymptotic_bonf	57.5	40.4	77.8	57.1	38.4	77.5	57.0	39.8	79.0
	permutation_bonf	57.0	40.5	77.0	57.8	38.5	77.4	57.5	39.2	78.7
logn continuous	asymptotic	95.5	83.2	99.1	95.7	83.4	99.1	95.4	84.7	99.1
	asymptotic_bonf	95.2	82.8	99.0	95.5	83.0	99.1	95.3	84.2	99.1
	permutation_bonf	95.0	82.5	98.9	95.5	82.7	99.2	95.2	84.2	99.1
logn discrete	asymptotic	97.5	90.2	99.7	97.8	90.2	99.8	97.5	90.3	99.9
	asymptotic_bonf	97.5	90.0	99.7	97.8	89.9	99.8	97.4	90.2	99.8
	permutation_bonf	97.6	89.8	99.7	97.5	90.0	99.8	97.2	90.0	99.8
pwExp continuous	asymptotic	49.9	32.6	70.7	49.6	32.5	70.2	49.3	31.6	70.4
	asymptotic_bonf	49.1	32.1	69.8	49.3	32.0	69.8	48.9	31.1	69.8
	permutation_bonf	49.1	31.4	68.7	48.4	32.0	69.7	48.2	31.0	69.5
pwExp discrete	asymptotic	56.6	38.5	77.5	57.5	38.2	76.8	55.3	37.3	75.8
	asymptotic_bonf	56.0	38.0	76.6	56.8	37.3	76.2	54.9	37.0	75.5
	permutation_bonf	56.5	37.0	75.8	55.7	37.1	75.9	54.6	36.0	75.8
Weib late continuous	asymptotic	94.2	83.0	99.5	95.2	83.0	99.2	94.0	81.3	99.5
	asymptotic_bonf	94.2	82.5	99.5	95.0	82.3	99.1	94.0	80.9	99.5
	permutation_bonf	94.0	82.3	99.4	94.8	82.8	99.0	93.7	81.3	99.2
Weib late discrete	asymptotic	97.5	88.0	99.7	97.8	89.2	99.9	98.0	88.3	99.8
	asymptotic_bonf	97.5	87.8	99.7	97.8	88.9	99.9	98.0	88.0	99.8
	permutation_bonf	97.4	87.6	99.8	97.4	88.5	100.0	97.7	87.6	99.7
Weib prop continuous	asymptotic	94.2	80.0	98.8	94.0	80.9	99.2	94.6	81.8	99.2
	asymptotic_bonf	94.2	79.5	98.8	93.9	80.5	99.2	94.3	81.3	99.2
	permutation_bonf	93.7	79.4	98.6	93.8	80.2	99.2	94.2	81.5	99.2
Weib prop discrete	asymptotic	97.0	87.1	99.8	97.5	88.5	99.9	97.7	87.8	99.8
	asymptotic_bonf	96.9	87.0	99.8	97.5	88.3	99.8	97.5	87.5	99.8
	permutation_bonf	96.8	86.5	99.8	97.2	87.9	99.9	97.4	87.0	99.7
Weib scale continuous	asymptotic	92.2	76.2	98.2	92.2	77.3	98.8	92.0	78.3	98.5
	asymptotic_bonf	92.0	75.8	98.2	92.0	77.1	98.6	91.8	77.8	98.5
	permutation_bonf	91.6	75.8	98.2	91.6	77.0	98.5	91.7	78.0	98.5
Weib scale discrete	asymptotic	96.0	84.2	99.5	96.4	85.5	99.6	96.0	84.7	99.4
	asymptotic_bonf	95.8	83.9	99.4	96.2	85.2	99.6	96.0	84.5	99.4
	permutation_bonf	95.8	83.7	99.2	95.7	84.8	99.6	95.5	84.2	99.4
Weib shape continuous	asymptotic	87.6	70.2	96.6	88.1	71.2	96.3	88.1	71.8	96.9
	asymptotic_bonf	87.2	69.8	96.5	87.8	70.6	96.2	87.9	71.1	96.9
	permutation_bonf	87.1	69.0	96.5	87.4	70.7	96.0	87.5	70.9	96.9
Weib shape discrete	asymptotic	93.9	79.3	98.8	94.2	80.7	98.8	93.5	79.8	98.8
	asymptotic_bonf	93.7	78.8	98.7	94.1	80.2	98.8	93.5	79.5	98.8
	permutation_bonf	93.8	78.5	98.4	93.8	80.1	98.8	93.5	78.8	98.5

Table S91: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and balanced large sample sizes under equal censoring.

distribution	method	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
	asymptotic	7.2	5.2	9.7	7.2	4.2	11.0	6.3	3.8	10.0
exp early continuous	asymptotic_bonf	7.0	5.1	9.3	6.8	4.1	10.6	6.2	3.8	9.7
	permutation_bonf	6.6	4.9	9.8	6.8	4.2	10.8	6.4	3.8	9.8
	asymptotic	8.1	6.0	12.0	7.7	4.6	12.3	7.9	4.6	11.7
exp early discrete	asymptotic_bonf	7.8	5.8	11.2	7.5	4.5	11.9	7.6	4.4	11.6
	permutation_bonf	8.1	5.8	11.6	7.8	5.1	12.1	7.5	4.5	11.6
	asymptotic	7.3	5.5	10.2	7.1	4.5	11.1	6.9	4.2	11.0
exp late continuous	asymptotic_bonf	7.2	5.1	9.8	6.8	4.2	10.8	6.8	4.2	10.6
	permutation_bonf	7.2	5.7	10.3	6.8	4.5	10.6	6.6	4.2	10.1
	asymptotic	8.1	6.1	12.3	8.1	5.1	13.0	8.5	4.8	12.2
exp late discrete	asymptotic_bonf	7.8	5.9	11.6	7.8	4.8	12.6	8.1	4.7	11.9
	permutation_bonf	8.1	6.0	12.1	7.9	5.2	12.3	8.0	4.7	12.0
	asymptotic	7.0	4.8	9.4	6.8	4.7	10.6	6.9	5.1	9.0
exp prop continuous	asymptotic_bonf	7.0	4.6	9.0	6.6	4.5	10.3	6.4	5.0	8.8
	permutation_bonf	7.2	4.4	8.8	6.0	4.5	10.4	6.7	5.5	8.8
	asymptotic	7.8	5.2	10.8	7.5	5.2	12.3	7.6	5.6	11.1
exp prop discrete	asymptotic_bonf	7.7	5.1	10.4	7.2	5.1	12.0	7.3	5.3	10.2
	permutation_bonf	7.7	4.8	10.6	7.2	4.9	12.2	7.4	5.8	10.4
	asymptotic	21.1	14.0	32.5	22.1	13.6	32.4	22.8	12.8	34.9
logn continuous	asymptotic_bonf	20.4	13.4	31.9	21.8	13.2	31.8	22.4	12.6	34.4
	permutation_bonf	20.5	13.1	31.6	22.2	13.2	31.9	21.9	12.3	34.6
	asymptotic	26.3	17.9	39.8	27.5	17.5	39.6	27.6	16.6	41.0
logn discrete	asymptotic_bonf	25.8	17.4	39.1	27.2	16.9	38.7	27.1	16.4	40.7
	permutation_bonf	25.4	17.5	39.1	27.0	17.1	38.1	26.5	16.3	40.1
	asymptotic	7.3	4.9	9.2	6.2	4.4	9.6	5.9	3.6	9.6
pwExp continuous	asymptotic_bonf	7.1	4.9	8.9	6.0	4.2	9.3	5.6	3.6	9.4
	permutation_bonf	7.2	4.8	9.4	6.0	4.5	9.6	5.8	3.9	9.4
	asymptotic	8.6	5.8	11.7	6.8	5.1	11.6	7.6	4.4	11.1
pwExp discrete	asymptotic_bonf	8.5	5.5	11.3	6.8	5.0	11.2	7.3	4.2	10.8
	permutation_bonf	8.2	5.4	11.6	7.0	5.2	11.2	7.5	4.4	10.3
	asymptotic	20.8	12.8	33.8	19.8	13.6	33.2	21.4	12.4	34.2
Weib late continuous	asymptotic_bonf	20.3	12.3	33.1	19.3	13.4	33.0	21.0	12.0	33.8
	permutation_bonf	20.5	12.3	33.2	18.9	12.9	32.5	21.4	12.3	33.1
	asymptotic	24.3	15.8	38.6	24.3	16.2	38.6	25.7	14.9	39.8
Weib late discrete	asymptotic_bonf	24.1	15.4	38.2	23.8	16.1	37.8	24.7	14.5	39.3
	permutation_bonf	24.0	15.4	37.6	24.1	15.2	37.9	24.1	14.8	39.1
	asymptotic	20.4	12.3	31.9	18.8	13.2	31.8	20.9	12.3	33.0
Weib prop continuous	asymptotic_bonf	19.9	12.0	31.2	18.2	13.0	31.4	20.4	12.0	32.6
	permutation_bonf	19.9	12.4	31.4	18.0	13.3	31.4	20.2	12.3	32.6
	asymptotic	24.1	16.0	39.5	24.3	15.6	39.0	25.6	15.5	39.9
Weib prop discrete	asymptotic_bonf	23.8	15.6	38.8	23.9	15.4	38.4	25.0	15.1	39.1
	permutation_bonf	23.1	15.6	39.0	23.6	15.2	37.8	24.2	14.9	38.5
	asymptotic	17.9	11.1	27.5	17.2	11.7	28.6	17.1	10.8	29.0
Weib scale continuous	asymptotic_bonf	17.6	10.6	26.7	16.7	11.6	28.2	16.7	10.4	28.7
	permutation_bonf	17.2	10.9	27.0	16.4	11.5	27.6	17.3	10.3	28.6
	asymptotic	21.3	13.8	34.8	21.8	14.5	34.4	22.4	13.9	35.2
Weib scale discrete	asymptotic_bonf	20.9	13.6	33.8	21.3	14.3	33.8	21.6	13.2	34.7
	permutation_bonf	21.8	14.1	34.3	21.2	14.0	34.0	21.9	13.0	34.4
	asymptotic	14.4	9.2	22.6	14.3	9.9	22.9	14.8	8.4	24.6
Weib shape continuous	asymptotic_bonf	14.1	8.8	22.1	13.8	9.7	22.5	14.1	8.1	23.7
	permutation_bonf	13.8	9.0	22.4	13.6	9.6	21.9	14.1	8.0	23.7
	asymptotic	18.6	11.6	29.6	18.1	12.0	29.0	18.4	10.9	30.4
Weib shape discrete	asymptotic_bonf	18.4	11.3	29.1	17.6	11.5	28.1	17.8	10.5	29.9
	permutation_bonf	17.5	11.3	28.0	17.5	11.6	27.7	18.5	11.2	29.2

Table S92: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and balanced medium sample sizes under equal censoring.

distribution	method	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
	asymptotic	1.9	1.0	1.8	2.0	0.8	2.1	1.6	1.4	1.2
exp early continuous	asymptotic_bonf	1.8	1.0	1.4	1.9	0.8	2.1	1.6	1.4	1.1
	permutation_bonf	1.6	0.9	1.7	1.8	0.8	1.8	1.6	1.4	1.1
	asymptotic	2.2	1.1	1.8	2.0	1.2	2.2	2.0	1.6	1.7
exp early discrete	asymptotic_bonf	2.1	1.0	1.6	1.8	1.1	2.0	1.9	1.5	1.6
	permutation_bonf	2.1	0.9	1.4	1.8	1.1	2.0	1.6	1.4	1.4
	asymptotic	1.8	1.1	1.6	2.1	1.1	2.1	1.9	1.4	1.5
exp late continuous	asymptotic_bonf	1.7	1.1	1.4	2.1	1.1	2.0	1.8	1.4	1.4
	permutation_bonf	1.6	1.1	1.2	1.8	1.0	1.8	1.6	1.6	1.4
	asymptotic	2.1	1.2	1.6	2.2	1.2	2.5	2.1	1.6	1.6
exp late discrete	asymptotic_bonf	1.9	1.2	1.6	2.0	1.2	2.5	1.9	1.6	1.6
	permutation_bonf	1.8	1.0	1.6	1.8	1.2	2.1	1.9	1.6	1.6
	asymptotic	1.1	1.5	1.9	2.0	1.2	2.1	1.1	0.9	2.1
exp prop continuous	asymptotic_bonf	1.1	1.4	1.8	2.0	1.2	1.9	1.1	0.9	2.0
	permutation_bonf	1.1	1.4	1.7	1.8	1.1	1.7	1.0	0.6	1.7
	asymptotic	1.4	1.4	2.2	2.0	1.6	2.4	1.3	0.8	2.2
exp prop discrete	asymptotic_bonf	1.4	1.4	2.1	2.0	1.4	2.2	1.2	0.8	2.0
	permutation_bonf	1.2	1.2	2.0	1.6	1.4	2.0	1.2	0.7	1.9
	asymptotic	3.8	2.1	3.6	3.6	2.6	5.4	3.4	1.8	4.2
logn continuous	asymptotic_bonf	3.5	2.0	3.5	3.5	2.6	5.2	3.3	1.8	4.1
	permutation_bonf	3.3	1.9	3.3	3.2	2.7	4.8	2.9	1.5	3.8
	asymptotic	4.0	2.6	4.4	4.2	3.2	6.4	4.3	2.2	5.7
logn discrete	asymptotic_bonf	3.8	2.6	4.3	4.2	3.0	6.2	4.2	2.0	5.4
	permutation_bonf	3.6	2.5	4.2	4.0	2.7	6.0	3.7	2.0	5.0
	asymptotic	1.6	0.8	1.8	1.8	0.9	2.1	1.7	1.5	1.5
pwExp continuous	asymptotic_bonf	1.5	0.7	1.6	1.8	0.8	1.9	1.6	1.5	1.4
	permutation_bonf	1.4	0.8	1.2	1.9	0.9	1.7	1.4	1.4	1.4
	asymptotic	1.9	0.8	1.8	2.0	0.9	2.1	1.6	1.6	1.5
pwExp discrete	asymptotic_bonf	1.8	0.8	1.8	2.0	0.9	2.1	1.6	1.4	1.4
	permutation_bonf	1.6	0.8	1.4	2.1	0.9	2.1	1.6	1.4	1.6
	asymptotic	4.0	2.4	5.2	3.3	3.3	4.6	3.8	2.6	4.7
Weib late continuous	asymptotic_bonf	3.9	2.3	4.9	3.0	3.1	4.5	3.7	2.4	4.5
	permutation_bonf	3.5	1.9	4.4	2.9	2.8	4.2	3.4	2.2	4.2
	asymptotic	4.3	2.8	6.2	4.0	3.2	5.2	3.8	2.6	5.6
Weib late discrete	asymptotic_bonf	4.2	2.6	5.8	3.8	3.1	5.1	3.6	2.4	5.6
	permutation_bonf	3.7	2.5	5.5	3.6	2.9	4.7	3.1	2.8	5.1
	asymptotic	3.8	2.1	4.8	2.9	3.1	4.2	3.4	2.3	4.5
Weib prop continuous	asymptotic_bonf	3.6	2.0	4.5	2.8	3.0	4.0	3.4	2.1	4.4
	permutation_bonf	3.1	1.9	4.2	2.8	3.0	3.9	3.0	2.1	4.3
	asymptotic	4.0	2.5	5.8	3.6	2.9	4.9	3.5	2.4	5.7
Weib prop discrete	asymptotic_bonf	4.0	2.2	5.5	3.5	2.8	4.8	3.4	2.2	5.5
	permutation_bonf	3.5	2.2	5.0	3.5	3.0	4.5	3.2	2.5	5.3
	asymptotic	2.9	1.9	4.0	2.4	2.3	3.5	2.7	1.4	4.2
Weib scale continuous	asymptotic_bonf	2.8	1.8	3.8	2.3	2.2	3.4	2.7	1.4	4.1
	permutation_bonf	2.6	1.6	3.4	2.4	2.0	3.2	2.4	1.6	3.8
	asymptotic	3.0	1.9	4.8	2.8	2.8	4.2	2.9	1.9	5.0
Weib scale discrete	asymptotic_bonf	2.9	1.8	4.6	2.7	2.6	4.0	2.8	1.8	4.8
	permutation_bonf	2.8	1.8	4.4	2.4	2.5	3.5	2.9	2.0	4.2
	asymptotic	2.0	1.4	2.8	1.9	2.0	3.0	2.2	1.1	3.4
Weib shape continuous	asymptotic_bonf	2.0	1.2	2.8	1.8	1.9	2.8	2.1	1.0	3.0
	permutation_bonf	1.8	1.1	2.4	1.6	2.0	2.4	1.8	1.1	2.9
	asymptotic	2.6	1.2	3.5	2.1	2.1	3.4	2.4	1.4	4.0
Weib shape discrete	asymptotic_bonf	2.4	1.0	3.4	1.9	2.0	3.2	2.3	1.4	3.7
	permutation_bonf	2.5	1.1	3.0	1.8	2.1	2.8	2.1	1.6	3.5

Table S93: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and balanced small sample sizes under equal censoring.

distribution	method	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
	asymptotic	26.6	13.4	38.9	25.7	12.6	37.5	24.6	13.2	36.3
exp early continuous	asymptotic_bonf	24.9	11.8	36.8	24.1	11.6	35.8	22.9	11.9	34.6
	permutation_bonf	24.6	12.1	36.2	23.2	11.2	35.1	22.4	12.0	34.5
	asymptotic	30.9	15.8	44.9	29.6	15.3	44.2	29.5	16.3	42.7
exp early discrete	asymptotic_bonf	28.8	14.5	43.0	28.0	14.5	42.0	27.8	14.5	40.4
	permutation_bonf	29.0	14.1	42.1	26.9	13.8	40.9	27.5	14.2	39.9
	asymptotic	29.0	14.9	43.5	27.3	14.1	43.5	27.7	14.5	41.9
exp late continuous	asymptotic_bonf	27.2	13.4	41.9	25.4	12.8	41.4	26.1	13.4	39.9
	permutation_bonf	27.1	13.2	41.1	25.6	12.3	40.9	25.7	13.6	39.9
	asymptotic	33.9	18.0	50.7	31.1	16.6	50.4	32.2	17.3	47.9
exp late discrete	asymptotic_bonf	31.6	16.9	47.3	30.1	15.0	48.3	30.4	15.8	46.1
	permutation_bonf	31.1	16.2	47.5	29.9	15.2	47.5	30.0	15.6	45.1
	asymptotic	26.5	16.8	39.4	26.6	15.7	40.1	26.1	16.7	38.0
exp prop continuous	asymptotic_bonf	24.6	15.9	37.6	24.8	14.8	37.5	24.0	15.4	36.1
	permutation_bonf	24.6	14.7	37.2	24.2	13.4	38.1	24.0	14.9	35.9
	asymptotic	31.2	19.7	45.6	30.1	18.4	45.5	30.8	19.6	45.0
exp prop discrete	asymptotic_bonf	29.9	18.4	43.0	28.4	17.3	43.9	28.8	17.8	42.8
	permutation_bonf	29.4	17.8	42.0	28.2	16.2	43.0	28.4	17.4	42.4
	asymptotic	69.0	48.8	85.0	69.7	50.6	86.1	67.4	48.9	84.7
logn continuous	asymptotic_bonf	67.0	46.6	83.4	67.5	48.1	84.7	65.3	46.8	83.8
	permutation_bonf	65.9	45.5	82.8	66.0	46.9	84.2	64.9	45.1	83.1
	asymptotic	76.9	57.0	90.5	77.0	57.3	90.5	76.2	57.2	90.0
logn discrete	asymptotic_bonf	75.4	54.8	88.9	75.3	55.5	89.3	74.4	54.3	89.3
	permutation_bonf	74.5	53.9	88.7	74.4	54.1	89.0	73.5	53.6	89.0
	asymptotic	25.1	13.0	37.5	22.9	11.9	38.2	24.3	12.3	36.0
pwExp continuous	asymptotic_bonf	23.8	11.8	35.4	21.5	10.7	35.2	22.5	11.4	33.9
	permutation_bonf	23.1	11.3	35.4	21.4	10.4	35.4	21.6	11.4	33.2
	asymptotic	29.3	15.8	43.7	26.7	14.2	43.9	28.2	14.9	42.2
pwExp discrete	asymptotic_bonf	27.7	14.1	42.2	25.0	13.2	41.9	27.0	14.0	40.2
	permutation_bonf	27.5	14.5	41.5	25.2	13.1	41.1	26.2	13.3	39.9
	asymptotic	69.2	47.9	86.8	69.4	47.0	87.9	68.5	49.8	86.7
Weib late continuous	asymptotic_bonf	67.3	46.2	85.7	67.6	45.2	86.8	66.5	47.3	85.1
	permutation_bonf	65.5	45.2	85.4	66.5	43.7	86.4	65.4	46.7	84.9
	asymptotic	74.6	54.4	89.8	74.1	55.1	90.9	75.2	54.3	89.6
Weib late discrete	asymptotic_bonf	73.2	51.8	88.7	72.7	52.3	89.7	72.6	52.3	88.7
	permutation_bonf	71.8	51.4	88.1	71.4	50.8	89.2	71.7	50.8	88.4
	asymptotic	66.8	46.6	84.6	66.5	45.5	85.5	65.4	47.1	84.2
Weib prop continuous	asymptotic_bonf	65.1	43.9	83.7	64.5	43.5	84.4	63.5	44.5	82.3
	permutation_bonf	62.7	43.2	82.8	63.8	41.6	84.1	63.3	44.5	82.8
	asymptotic	75.4	55.1	90.4	75.5	54.4	90.7	74.8	54.1	90.6
Weib prop discrete	asymptotic_bonf	73.6	52.8	89.6	73.4	52.2	90.2	73.2	52.0	89.5
	permutation_bonf	72.4	51.4	89.1	72.3	50.5	89.3	72.5	51.3	89.3
	asymptotic	58.0	39.6	76.8	58.4	38.9	77.0	57.6	38.9	75.8
Weib scale continuous	asymptotic_bonf	55.8	37.0	75.0	56.1	36.8	75.0	55.4	36.4	73.9
	permutation_bonf	54.5	35.9	74.1	54.9	35.4	73.7	54.4	35.8	73.3
	asymptotic	66.0	47.2	83.8	66.8	46.2	84.4	66.9	46.3	83.5
Weib scale discrete	asymptotic_bonf	63.6	45.0	82.4	64.0	44.0	83.2	64.6	43.8	82.2
	permutation_bonf	63.1	42.5	81.6	63.2	42.0	82.0	63.5	43.5	82.2
	asymptotic	45.4	29.3	62.6	46.7	30.3	63.9	45.3	29.9	63.2
Weib shape continuous	asymptotic_bonf	42.2	26.2	60.0	43.7	27.6	61.2	42.5	27.7	60.5
	permutation_bonf	41.6	25.1	58.4	42.2	26.1	60.2	41.9	27.6	59.7
	asymptotic	55.1	37.2	73.6	56.1	37.2	74.6	54.6	37.5	73.2
Weib shape discrete	asymptotic_bonf	52.2	34.2	70.6	53.0	34.4	72.1	51.1	35.1	70.6
	permutation_bonf	51.4	32.4	69.6	51.6	32.9	71.2	51.1	34.0	70.5

Table S94: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and unbalanced large sample sizes under equal censoring.

distribution	method	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	2.8	2.0	4.2	2.9	1.7	4.2	2.5	2.2	5.0
	asymptotic_bonf	2.4	1.7	3.8	2.4	1.4	3.6	2.2	2.0	4.3
	permutation_bonf	1.8	1.6	3.4	2.0	1.1	3.2	2.0	1.8	4.2
exp early discrete	asymptotic	3.1	2.2	4.6	3.2	1.9	4.4	2.9	2.5	5.9
	asymptotic_bonf	2.8	2.0	4.3	3.1	1.6	4.2	2.4	2.2	5.5
	permutation_bonf	2.0	1.6	3.9	2.2	1.1	3.5	2.3	2.1	4.5
exp late continuous	asymptotic	2.9	2.0	5.0	3.4	2.0	5.1	2.9	2.4	5.9
	asymptotic_bonf	2.4	1.9	4.4	3.1	1.6	4.5	2.7	2.4	5.1
	permutation_bonf	2.0	1.6	3.8	2.0	1.0	3.9	2.1	2.1	4.8
exp late discrete	asymptotic	3.4	2.3	5.5	3.8	2.4	5.7	3.2	2.8	6.6
	asymptotic_bonf	2.6	1.8	5.1	3.4	2.0	4.9	2.9	2.4	6.0
	permutation_bonf	2.2	1.7	4.2	2.4	1.6	4.3	2.4	2.4	5.3
exp prop continuous	asymptotic	3.1	2.2	5.5	2.9	2.1	4.0	3.3	2.2	4.4
	asymptotic_bonf	2.8	2.1	5.0	2.5	1.8	3.6	3.0	1.9	4.1
	permutation_bonf	2.6	1.6	4.3	2.4	1.4	2.8	2.4	1.6	3.6
exp prop discrete	asymptotic	3.2	2.6	5.9	3.4	2.6	4.6	3.6	2.3	4.9
	asymptotic_bonf	2.9	2.4	5.3	2.8	2.3	4.1	3.3	2.1	4.3
	permutation_bonf	2.8	1.9	4.8	2.6	1.6	3.2	2.8	1.8	4.4
logn continuous	asymptotic	8.2	4.9	13.9	7.4	4.1	13.3	7.2	4.9	14.5
	asymptotic_bonf	7.4	4.6	12.7	6.6	3.5	12.7	6.5	4.3	13.1
	permutation_bonf	6.2	2.5	10.6	5.1	2.4	10.6	6.0	3.5	11.8
logn discrete	asymptotic	9.8	5.7	16.9	8.6	4.6	15.9	9.1	5.8	16.9
	asymptotic_bonf	8.6	4.8	15.3	8.0	4.0	14.8	8.0	5.1	15.7
	permutation_bonf	6.8	3.2	13.8	6.2	2.8	12.8	6.5	4.5	15.0
pwExp continuous	asymptotic	2.0	2.1	4.0	2.8	1.8	4.2	2.5	2.5	4.8
	asymptotic_bonf	1.7	1.8	3.4	2.1	1.4	3.5	1.9	2.2	4.6
	permutation_bonf	1.5	1.4	3.3	1.8	1.1	3.2	1.8	2.0	4.4
pwExp discrete	asymptotic	2.2	2.4	4.8	3.0	2.2	4.8	2.7	2.8	5.8
	asymptotic_bonf	1.8	2.1	4.1	2.6	1.9	4.2	2.3	2.4	5.2
	permutation_bonf	1.5	1.7	4.0	2.4	1.4	3.7	2.0	2.2	5.1
Weib late continuous	asymptotic	9.3	4.8	14.2	7.8	5.1	14.0	9.8	4.5	15.0
	asymptotic_bonf	8.3	4.2	12.8	6.9	4.5	12.6	8.9	4.0	13.6
	permutation_bonf	6.9	3.3	11.2	5.9	3.5	11.0	6.9	3.8	13.0
Weib late discrete	asymptotic	10.4	6.1	16.7	10.0	6.2	16.6	12.2	5.6	17.6
	asymptotic_bonf	9.3	5.3	15.2	8.9	5.6	14.9	11.1	5.2	15.7
	permutation_bonf	7.4	3.4	13.2	7.0	3.7	12.6	9.5	4.2	14.4
Weib prop continuous	asymptotic	8.5	4.5	12.2	7.0	5.0	12.2	8.9	4.2	13.8
	asymptotic_bonf	7.6	3.7	11.2	6.2	4.2	11.0	8.2	3.6	12.4
	permutation_bonf	6.5	2.8	9.8	5.4	2.8	9.6	7.1	3.2	11.3
Weib prop discrete	asymptotic	9.6	5.4	15.1	9.2	5.7	15.4	10.4	5.0	15.6
	asymptotic_bonf	8.6	4.6	13.9	8.2	4.8	13.5	9.5	4.4	14.8
	permutation_bonf	7.3	3.0	11.7	6.2	3.5	11.3	8.5	3.4	13.6
Weib scale continuous	asymptotic	6.5	3.3	9.0	6.1	3.6	9.3	6.4	3.4	10.3
	asymptotic_bonf	5.6	2.7	7.6	5.1	3.0	8.3	5.6	2.8	8.8
	permutation_bonf	4.6	1.9	6.8	4.3	2.1	7.5	5.1	2.2	7.3
Weib scale discrete	asymptotic	7.8	3.7	10.9	7.0	3.8	11.2	7.6	3.8	11.8
	asymptotic_bonf	6.8	3.4	9.6	6.2	3.4	10.1	7.0	3.3	10.6
	permutation_bonf	5.3	2.0	8.2	4.8	2.1	8.5	5.8	2.6	9.0
Weib shape continuous	asymptotic	4.2	2.2	5.9	3.9	2.1	6.1	4.0	2.5	6.2
	asymptotic_bonf	3.2	1.7	5.2	2.9	1.6	5.2	3.2	2.1	5.1
	permutation_bonf	2.4	1.0	4.1	1.6	1.2	4.4	2.7	1.6	4.2
Weib shape discrete	asymptotic	5.1	2.3	7.8	5.1	2.5	7.1	5.1	3.1	8.6
	asymptotic_bonf	4.5	1.8	6.6	3.9	2.1	6.2	4.2	2.8	7.4
	permutation_bonf	3.1	1.1	5.0	2.5	1.4	5.4	3.8	1.9	6.3

Table S95: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and unbalanced medium sample sizes under equal censoring.

distribution	method	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	1.2	1.2	1.8	1.4	1.4	1.4	1.1	1.1	1.8
	asymptotic_bonf	1.1	1.0	1.4	1.2	1.2	1.3	0.9	1.0	1.6
	permutation_bonf	0.4	0.4	0.6	0.2	0.5	0.8	0.5	0.4	0.8
exp early discrete	asymptotic	1.4	1.0	1.6	1.4	1.4	1.6	1.1	1.2	1.8
	asymptotic_bonf	1.2	1.0	1.5	1.3	1.2	1.5	1.0	0.9	1.6
	permutation_bonf	0.4	0.2	0.4	0.3	0.4	0.8	0.5	0.5	0.8
exp late continuous	asymptotic	1.4	0.8	1.5	1.3	1.3	1.8	1.0	0.9	1.9
	asymptotic_bonf	1.2	0.7	1.4	1.1	1.0	1.6	0.9	0.9	1.8
	permutation_bonf	0.4	0.2	0.5	0.4	0.4	0.5	0.4	0.4	1.1
exp late discrete	asymptotic	1.5	0.9	1.5	1.3	1.6	2.1	1.2	1.0	2.2
	asymptotic_bonf	1.2	0.8	1.1	1.2	1.4	2.0	1.0	0.9	1.9
	permutation_bonf	0.4	0.1	0.6	0.4	0.3	0.8	0.4	0.4	1.2
exp prop continuous	asymptotic	1.4	1.3	1.9	1.2	0.9	1.6	1.2	0.8	1.4
	asymptotic_bonf	1.2	1.1	1.8	1.2	0.9	1.5	1.0	0.7	1.2
	permutation_bonf	0.5	0.5	0.9	0.3	0.2	0.6	0.4	0.4	0.5
exp prop discrete	asymptotic	1.4	1.1	2.0	1.4	0.9	2.0	1.1	0.9	1.5
	asymptotic_bonf	1.4	1.1	1.8	1.1	0.8	1.9	1.0	0.6	1.4
	permutation_bonf	0.4	0.4	1.0	0.4	0.2	0.7	0.5	0.4	0.6
logn continuous	asymptotic	1.7	1.6	2.8	1.7	1.8	2.4	1.8	1.6	2.8
	asymptotic_bonf	1.4	1.3	2.6	1.6	1.6	2.2	1.6	1.0	2.4
	permutation_bonf	0.5	0.8	1.2	0.2	0.4	0.9	0.7	0.6	0.9
logn discrete	asymptotic	2.1	1.7	3.0	1.8	1.6	2.9	1.9	1.6	2.8
	asymptotic_bonf	1.9	1.4	2.8	1.6	1.4	2.4	1.6	1.1	2.4
	permutation_bonf	0.5	0.6	0.9	0.1	0.4	0.8	0.6	0.6	1.1
pwExp continuous	asymptotic	1.0	1.2	1.6	1.0	1.4	1.6	1.1	1.0	1.8
	asymptotic_bonf	0.8	1.1	1.5	0.8	1.1	1.6	1.0	0.9	1.6
	permutation_bonf	0.3	0.2	0.4	0.4	0.4	0.8	0.4	0.4	0.9
pwExp discrete	asymptotic	1.3	1.1	1.8	1.2	1.2	1.8	1.2	1.2	1.8
	asymptotic_bonf	0.9	0.9	1.4	0.9	1.1	1.8	1.2	1.0	1.6
	permutation_bonf	0.2	0.1	0.4	0.3	0.4	0.8	0.4	0.4	0.7
Weib late continuous	asymptotic	1.9	1.5	3.2	1.9	1.9	2.8	1.8	1.8	2.9
	asymptotic_bonf	1.7	1.4	2.7	1.6	1.6	2.4	1.4	1.6	2.6
	permutation_bonf	0.7	0.4	1.0	0.4	0.4	0.8	0.5	0.6	1.5
Weib late discrete	asymptotic	2.5	1.7	3.6	1.6	2.1	3.0	1.9	1.9	3.6
	asymptotic_bonf	2.0	1.6	3.0	1.5	1.8	2.6	1.8	1.7	3.3
	permutation_bonf	0.5	0.4	1.2	0.4	0.2	0.8	0.6	0.7	1.5
Weib prop continuous	asymptotic	1.9	1.5	3.0	1.6	1.9	2.3	1.2	1.8	2.4
	asymptotic_bonf	1.6	1.4	2.6	1.3	1.8	2.0	1.1	1.6	2.3
	permutation_bonf	0.4	0.4	1.0	0.4	0.4	0.8	0.4	0.6	1.3
Weib prop discrete	asymptotic	2.1	1.6	3.2	1.7	2.0	2.8	1.4	1.8	2.9
	asymptotic_bonf	1.8	1.5	2.9	1.4	1.8	2.3	1.2	1.5	2.5
	permutation_bonf	0.4	0.4	1.2	0.4	0.3	0.6	0.5	0.4	1.2
Weib scale continuous	asymptotic	1.9	1.4	2.6	1.5	1.8	1.8	1.4	1.6	2.4
	asymptotic_bonf	1.8	1.3	2.2	1.2	1.7	1.6	1.3	1.3	2.1
	permutation_bonf	0.4	0.4	0.8	0.5	0.4	0.8	0.6	0.8	1.0
Weib scale discrete	asymptotic	1.8	1.5	2.7	1.6	2.3	2.4	1.3	1.5	2.5
	asymptotic_bonf	1.6	1.4	2.4	1.4	2.1	1.9	1.2	1.4	2.2
	permutation_bonf	0.4	0.5	0.9	0.6	0.4	0.6	0.6	0.4	0.8
Weib shape continuous	asymptotic	2.4	1.8	2.4	2.2	3.1	2.0	1.8	2.3	2.0
	asymptotic_bonf	2.1	1.6	2.2	2.1	2.9	1.8	1.5	2.0	1.7
	permutation_bonf	0.8	0.8	0.9	0.9	0.7	1.0	1.0	1.0	0.6
Weib shape discrete	asymptotic	2.1	1.9	2.4	2.1	3.1	2.5	1.8	1.8	1.8
	asymptotic_bonf	1.9	1.8	2.2	1.9	2.6	2.0	1.6	1.5	1.6
	permutation_bonf	0.6	0.5	0.8	0.8	0.6	0.8	0.7	0.5	0.6

Table S96: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and unbalanced small sample sizes under equal censoring.

distribution	method	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	37.1	24.2	55.2	37.6	24.4	54.4	38.0	22.9	56.2
	asymptotic_bonf	36.4	23.8	54.3	37.0	24.1	53.8	37.1	22.6	55.9
	permutation_bonf	36.8	23.3	53.6	36.8	24.2	53.3	37.0	23.2	54.9
exp early discrete	asymptotic	41.4	26.8	59.4	41.0	27.4	59.2	41.1	25.8	60.4
	asymptotic_bonf	40.9	26.4	58.9	40.5	26.8	58.6	40.6	25.1	60.0
	permutation_bonf	40.7	26.4	58.5	39.6	27.2	59.0	40.4	25.5	59.6
exp late continuous	asymptotic	38.5	24.2	56.6	38.4	24.7	55.2	39.0	23.9	57.0
	asymptotic_bonf	38.0	23.6	55.8	37.8	24.1	54.6	38.1	23.4	56.4
	permutation_bonf	37.4	24.1	54.8	37.5	24.6	54.0	38.4	23.7	56.2
exp late discrete	asymptotic	43.1	27.5	61.3	41.8	27.4	61.2	42.0	25.9	62.0
	asymptotic_bonf	42.5	26.6	60.7	41.0	26.8	60.6	41.0	25.4	61.3
	permutation_bonf	42.5	26.3	59.8	40.8	26.6	60.2	40.8	26.1	61.1
exp prop continuous	asymptotic	39.1	25.1	54.6	37.5	22.7	56.0	37.9	24.8	55.1
	asymptotic_bonf	38.4	24.6	54.0	37.0	22.1	55.1	37.3	24.3	54.2
	permutation_bonf	38.5	24.8	54.2	36.9	22.7	54.0	37.0	24.1	54.0
exp prop discrete	asymptotic	43.0	27.5	59.5	41.3	25.7	59.3	41.9	27.6	59.5
	asymptotic_bonf	42.7	26.7	58.9	40.8	25.3	58.5	41.0	27.0	58.8
	permutation_bonf	42.4	27.3	59.2	40.8	25.3	58.2	41.6	27.5	59.1
logn continuous	asymptotic	79.0	60.5	91.5	79.8	61.3	92.0	79.5	62.3	91.8
	asymptotic_bonf	78.7	59.9	91.4	79.4	60.9	91.8	79.1	61.9	91.5
	permutation_bonf	78.3	59.8	91.5	78.8	60.4	91.3	78.8	62.3	91.5
logn discrete	asymptotic	86.9	69.5	95.3	86.5	71.4	96.3	85.7	70.7	95.7
	asymptotic_bonf	86.6	69.2	95.2	86.0	71.0	96.2	85.3	70.5	95.5
	permutation_bonf	86.5	69.2	94.9	85.9	70.0	95.6	85.5	70.5	95.0
pwExp continuous	asymptotic	37.2	23.9	55.0	37.0	24.4	54.5	37.4	23.1	56.5
	asymptotic_bonf	36.7	23.6	54.4	36.2	24.1	53.9	36.8	22.5	55.9
	permutation_bonf	36.6	23.1	53.2	36.5	24.6	54.4	36.7	22.4	55.9
pwExp discrete	asymptotic	41.7	26.2	58.1	40.3	26.1	58.6	40.5	25.8	60.1
	asymptotic_bonf	40.9	25.7	57.5	39.7	25.6	58.1	39.9	25.5	59.5
	permutation_bonf	40.6	25.4	57.4	39.2	26.2	58.6	40.2	25.0	59.4
Weib late continuous	asymptotic	79.2	59.1	92.0	78.6	60.0	92.1	79.2	60.7	92.5
	asymptotic_bonf	78.5	58.4	91.8	78.0	59.4	91.8	78.8	59.9	92.5
	permutation_bonf	77.6	58.1	91.2	78.2	59.4	91.5	78.6	59.3	91.9
Weib late discrete	asymptotic	85.4	67.5	95.8	85.0	68.5	96.5	85.9	70.3	95.9
	asymptotic_bonf	85.1	66.8	95.7	84.9	67.9	96.4	85.5	69.9	95.8
	permutation_bonf	84.7	66.5	95.3	85.0	67.7	95.7	85.3	69.4	95.4
Weib prop continuous	asymptotic	77.8	58.5	91.4	77.6	59.0	91.9	78.8	59.7	92.0
	asymptotic_bonf	77.5	57.9	91.2	77.2	58.0	91.6	78.3	58.8	91.8
	permutation_bonf	77.6	57.5	90.9	77.5	58.1	91.5	78.0	58.5	91.8
Weib prop discrete	asymptotic	84.7	66.9	95.2	84.8	68.0	96.2	85.2	69.8	95.5
	asymptotic_bonf	84.5	66.2	95.0	84.5	67.6	96.2	84.9	69.2	95.5
	permutation_bonf	84.4	66.1	94.9	84.4	67.2	95.4	84.9	68.8	95.2
Weib scale continuous	asymptotic	75.3	55.6	89.8	75.6	56.1	90.5	75.6	57.1	90.0
	asymptotic_bonf	74.5	55.0	89.8	75.4	55.4	90.4	75.1	56.5	89.8
	permutation_bonf	74.4	54.7	89.1	74.7	55.6	90.1	74.2	56.5	89.6
Weib scale discrete	asymptotic	82.5	63.3	94.0	82.7	64.9	94.5	83.5	66.3	94.2
	asymptotic_bonf	82.2	62.7	93.7	82.5	64.3	94.2	83.2	65.8	94.2
	permutation_bonf	82.2	62.2	93.3	82.6	63.8	94.2	82.4	65.0	93.8
Weib shape continuous	asymptotic	71.9	53.1	87.6	72.5	52.6	87.6	73.3	53.8	87.9
	asymptotic_bonf	71.4	52.1	87.2	72.0	52.1	87.4	72.9	53.1	87.8
	permutation_bonf	71.2	52.2	87.2	72.3	52.4	86.8	72.1	53.4	86.9
Weib shape discrete	asymptotic	79.5	61.4	91.8	80.2	62.6	92.4	80.7	62.7	92.3
	asymptotic_bonf	79.2	61.0	91.6	79.9	62.4	92.2	80.4	62.1	92.1
	permutation_bonf	78.6	60.5	91.6	80.7	61.7	92.2	80.5	62.3	91.8

Table S97: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and balanced large sample sizes under unequal, high censoring.

distribution	method	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
	asymptotic	5.0	4.0	7.5	5.1	3.0	8.0	5.5	3.0	6.4
exp early continuous	asymptotic_bonf	4.8	3.8	7.3	5.0	2.8	7.8	5.2	2.9	6.3
	permutation_bonf	4.9	4.0	7.3	5.1	3.2	7.2	5.2	3.2	6.3
	asymptotic	5.9	4.0	8.1	5.6	3.0	8.0	5.8	3.2	7.4
exp early discrete	asymptotic_bonf	5.6	4.0	8.1	5.6	3.0	7.8	5.5	3.1	7.1
	permutation_bonf	5.4	4.3	8.5	5.4	3.8	7.8	5.6	2.9	7.0
	asymptotic	5.4	3.9	7.8	5.0	3.3	8.2	5.5	3.5	6.6
exp late continuous	asymptotic_bonf	5.1	3.8	7.6	4.8	3.1	8.0	5.3	3.5	6.1
	permutation_bonf	4.8	4.0	7.6	4.8	3.3	7.7	5.3	3.3	6.2
	asymptotic	6.0	4.4	8.3	5.7	3.5	8.5	6.4	3.5	7.6
exp late discrete	asymptotic_bonf	5.8	4.2	8.1	5.4	3.4	8.3	6.2	3.4	7.1
	permutation_bonf	5.9	4.0	8.6	5.4	3.4	8.0	5.9	3.4	6.7
	asymptotic	5.6	4.0	6.6	4.8	3.2	8.2	5.4	4.2	6.6
exp prop continuous	asymptotic_bonf	5.5	3.8	6.5	4.6	3.1	8.0	5.1	4.1	6.3
	permutation_bonf	5.5	4.0	6.3	4.5	3.1	7.8	5.2	4.2	6.3
	asymptotic	5.8	4.5	8.2	4.8	4.2	9.2	5.9	4.3	7.3
exp prop discrete	asymptotic_bonf	5.4	4.4	8.0	4.6	4.0	8.8	5.7	4.2	7.3
	permutation_bonf	5.8	4.2	7.8	5.3	4.1	8.6	5.9	4.0	7.4
	asymptotic	12.0	8.2	19.9	12.5	7.4	19.1	12.7	8.3	21.1
logn continuous	asymptotic_bonf	11.6	7.8	19.4	12.4	7.3	18.6	12.3	8.1	20.6
	permutation_bonf	11.6	8.1	18.9	12.2	7.1	17.9	12.1	7.8	20.8
	asymptotic	14.1	10.0	23.3	14.6	9.3	22.9	15.5	9.8	24.9
logn discrete	asymptotic_bonf	13.8	9.8	22.8	14.3	9.2	22.3	15.0	9.5	24.4
	permutation_bonf	14.1	10.2	22.4	14.2	9.1	21.9	15.3	9.6	24.2
	asymptotic	4.8	4.0	7.2	4.2	3.5	7.3	5.3	3.4	6.2
pwExp continuous	asymptotic_bonf	4.8	3.8	6.9	4.0	3.5	7.0	5.0	3.2	6.2
	permutation_bonf	4.7	4.0	7.3	4.2	3.2	7.2	5.3	2.9	6.4
	asymptotic	5.6	4.1	8.0	5.2	3.5	7.8	5.9	3.2	7.2
pwExp discrete	asymptotic_bonf	5.5	4.1	7.6	5.1	3.4	7.5	5.7	3.0	7.1
	permutation_bonf	5.3	4.2	7.8	5.1	3.8	7.6	6.1	3.2	6.8
	asymptotic	11.8	7.4	19.3	11.2	8.7	19.1	11.5	8.0	19.8
Weib late continuous	asymptotic_bonf	11.5	7.3	19.1	10.7	8.5	18.6	11.3	7.7	19.4
	permutation_bonf	11.1	7.1	18.6	10.6	8.5	18.1	11.0	7.3	19.1
	asymptotic	14.1	9.2	23.5	13.5	9.1	23.0	13.5	8.9	22.1
Weib late discrete	asymptotic_bonf	13.7	8.6	22.8	13.1	8.8	22.6	13.1	8.6	21.6
	permutation_bonf	13.8	8.6	21.6	13.1	8.9	22.1	13.0	9.3	21.8
	asymptotic	11.5	6.7	18.8	10.6	8.2	18.6	11.3	7.6	19.1
Weib prop continuous	asymptotic_bonf	11.2	6.6	18.4	10.3	8.2	18.2	10.9	7.5	18.8
	permutation_bonf	11.1	6.8	17.6	10.4	7.8	17.4	11.1	7.3	18.6
	asymptotic	14.4	8.9	23.1	14.0	9.3	23.6	13.6	9.4	22.3
Weib prop discrete	asymptotic_bonf	14.1	8.6	22.5	13.6	8.9	22.7	13.1	9.2	21.9
	permutation_bonf	13.6	8.8	21.6	13.2	8.9	22.1	13.3	9.2	21.8
	asymptotic	10.6	6.8	17.1	10.4	7.2	17.0	10.8	6.7	17.5
Weib scale continuous	asymptotic_bonf	10.3	6.6	16.7	10.2	7.0	16.6	10.3	6.6	16.8
	permutation_bonf	10.2	6.9	16.6	10.2	7.0	16.0	10.2	6.6	17.0
	asymptotic	13.1	8.1	21.2	12.4	8.2	21.1	12.6	8.3	20.2
Weib scale discrete	asymptotic_bonf	12.8	7.9	20.9	12.0	8.1	20.5	12.2	8.2	20.0
	permutation_bonf	12.4	8.1	20.2	12.2	8.2	19.9	12.3	8.1	19.8
	asymptotic	10.4	6.2	16.0	9.3	6.8	15.3	9.3	5.8	16.5
Weib shape continuous	asymptotic_bonf	9.9	5.9	15.6	9.0	6.6	15.0	9.2	5.6	16.0
	permutation_bonf	10.1	5.9	15.4	9.2	6.4	15.3	9.4	6.2	15.4
	asymptotic	11.6	7.2	19.7	10.9	7.1	18.6	11.2	7.5	18.8
Weib shape discrete	asymptotic_bonf	11.4	6.8	19.2	10.8	6.8	18.2	11.0	7.4	18.5
	permutation_bonf	11.8	6.9	18.8	10.4	7.3	18.1	11.4	7.8	18.4

Table S98: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and balanced medium sample sizes under unequal, high censoring.

distribution	method	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
	asymptotic	1.2	1.1	1.7	2.0	1.2	1.4	1.6	1.4	1.1
exp early continuous	asymptotic_bonf	1.2	1.0	1.6	1.8	1.2	1.4	1.4	1.2	1.0
	permutation_bonf	1.2	0.8	1.4	1.6	0.9	1.0	1.3	1.1	0.9
	asymptotic	1.2	1.1	1.7	2.0	1.4	1.8	1.5	1.1	1.2
exp early discrete	asymptotic_bonf	1.2	1.1	1.6	1.9	1.3	1.8	1.4	1.0	1.1
	permutation_bonf	1.1	0.8	1.3	1.8	1.1	1.6	1.4	1.1	0.9
	asymptotic	1.2	1.0	1.8	1.8	1.1	1.4	1.9	1.2	1.5
exp late continuous	asymptotic_bonf	1.2	1.0	1.8	1.7	1.1	1.3	1.8	1.1	1.4
	permutation_bonf	1.1	0.9	1.4	1.6	1.0	1.1	1.6	1.0	1.0
	asymptotic	1.4	1.3	2.0	1.9	1.4	1.7	1.6	1.0	1.5
exp late discrete	asymptotic_bonf	1.1	1.1	1.8	1.9	1.4	1.6	1.6	1.0	1.4
	permutation_bonf	0.9	1.1	1.4	1.6	1.2	1.4	1.4	0.8	1.2
	asymptotic	1.9	1.2	2.2	1.2	1.4	2.1	1.6	0.9	1.6
exp prop continuous	asymptotic_bonf	1.8	1.2	2.1	1.1	1.3	1.8	1.6	0.8	1.5
	permutation_bonf	1.4	1.1	1.9	0.9	1.2	1.5	1.2	0.8	1.2
	asymptotic	1.8	1.4	2.0	1.9	1.1	1.8	1.8	0.9	1.8
exp prop discrete	asymptotic_bonf	1.8	1.3	1.8	1.7	1.0	1.7	1.6	0.8	1.8
	permutation_bonf	1.5	1.4	1.8	1.4	1.0	1.4	1.2	0.7	1.8
	asymptotic	2.1	1.5	3.4	2.8	1.9	3.6	2.6	1.8	3.6
logn continuous	asymptotic_bonf	2.1	1.4	3.2	2.6	1.9	3.5	2.6	1.6	3.5
	permutation_bonf	1.8	1.5	2.9	2.1	1.4	2.9	2.1	1.6	2.8
	asymptotic	2.5	1.9	3.6	3.0	2.6	4.4	3.1	2.2	4.0
logn discrete	asymptotic_bonf	2.4	1.8	3.5	2.9	2.5	4.3	3.0	2.1	3.9
	permutation_bonf	2.1	1.8	3.0	2.5	2.4	3.7	2.6	1.7	3.0
	asymptotic	1.2	1.1	1.6	1.5	1.0	1.4	1.7	1.2	1.4
pwExp continuous	asymptotic_bonf	1.1	1.0	1.6	1.4	0.9	1.2	1.6	1.1	1.3
	permutation_bonf	0.9	1.0	1.4	1.3	0.9	1.3	1.6	1.0	1.3
	asymptotic	1.2	1.2	1.9	1.6	1.3	1.8	1.7	1.4	1.4
pwExp discrete	asymptotic_bonf	1.2	1.1	1.8	1.6	1.2	1.5	1.6	1.1	1.4
	permutation_bonf	1.0	1.0	1.4	1.4	1.2	1.1	1.5	0.9	1.2
	asymptotic	2.4	2.1	3.4	2.3	1.8	3.3	2.8	2.0	3.8
Weib late continuous	asymptotic_bonf	2.4	1.9	3.2	2.3	1.8	3.1	2.6	1.8	3.6
	permutation_bonf	1.9	1.8	3.1	1.7	1.4	2.8	2.4	1.6	2.8
	asymptotic	2.4	2.5	3.7	2.3	2.2	3.5	2.9	2.2	4.2
Weib late discrete	asymptotic_bonf	2.4	2.4	3.6	2.1	2.2	3.2	2.9	2.0	4.0
	permutation_bonf	2.0	2.3	3.4	2.0	1.6	2.8	2.6	2.0	3.1
	asymptotic	2.5	2.0	3.1	2.2	1.9	3.2	2.5	1.8	3.8
Weib prop continuous	asymptotic_bonf	2.5	2.0	3.0	2.2	1.8	2.9	2.4	1.8	3.8
	permutation_bonf	2.3	1.8	2.9	1.8	1.4	2.8	2.4	1.6	2.9
	asymptotic	2.5	2.5	4.1	2.2	2.1	3.6	2.9	2.1	4.3
Weib prop discrete	asymptotic_bonf	2.4	2.4	3.9	2.1	1.9	3.5	2.8	2.0	4.0
	permutation_bonf	2.1	1.9	3.6	2.1	1.6	3.1	2.4	1.8	3.2
	asymptotic	2.0	1.8	3.0	2.0	1.8	2.8	2.5	2.0	2.9
Weib scale continuous	asymptotic_bonf	2.0	1.8	2.9	1.9	1.7	2.7	2.4	1.8	2.6
	permutation_bonf	1.8	1.8	2.6	1.7	1.6	2.5	2.0	1.5	2.4
	asymptotic	2.1	2.2	3.6	2.1	2.1	3.0	2.4	1.8	3.5
Weib scale discrete	asymptotic_bonf	2.0	1.9	3.4	2.0	2.0	2.9	2.4	1.8	3.5
	permutation_bonf	1.8	1.8	2.9	1.6	1.8	2.7	2.1	1.6	3.0
	asymptotic	1.4	1.6	2.6	1.8	1.6	2.2	2.2	1.6	2.6
Weib shape continuous	asymptotic_bonf	1.4	1.6	2.6	1.6	1.6	2.2	2.0	1.4	2.5
	permutation_bonf	1.3	1.4	2.7	1.4	1.7	2.2	1.9	1.4	2.4
	asymptotic	1.6	1.6	3.0	2.0	1.9	2.6	2.2	1.6	2.9
Weib shape discrete	asymptotic_bonf	1.5	1.6	2.9	1.9	1.8	2.5	2.2	1.4	2.9
	permutation_bonf	1.4	1.6	2.4	1.6	1.8	2.4	1.9	1.4	2.7

Table S99: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and balanced small sample sizes under unequal, high censoring.

distribution	method	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
	asymptotic	19.7	10.8	29.2	18.3	9.8	30.6	18.9	10.9	28.4
exp early continuous	asymptotic_bonf	18.9	10.1	27.8	17.4	8.9	28.8	18.1	9.6	27.0
	permutation_bonf	19.1	9.6	28.3	17.4	8.8	27.8	18.1	9.2	26.5
	asymptotic	21.9	12.6	33.0	19.6	10.9	32.1	21.3	11.5	31.1
exp early discrete	asymptotic_bonf	20.6	11.8	31.1	18.4	10.2	30.8	20.0	10.8	29.7
	permutation_bonf	21.1	11.1	30.9	17.8	9.8	30.8	19.9	9.8	29.0
	asymptotic	21.1	11.9	31.2	19.9	10.8	31.8	20.1	10.7	30.8
exp late continuous	asymptotic_bonf	20.3	11.0	29.6	18.7	10.1	30.2	18.8	9.5	29.4
	permutation_bonf	20.0	10.5	29.3	17.5	9.5	29.4	18.9	8.8	29.5
	asymptotic	23.1	12.6	35.1	21.9	11.8	34.3	21.7	12.2	33.3
exp late discrete	asymptotic_bonf	21.5	11.8	33.8	20.6	11.2	32.8	20.5	11.5	31.6
	permutation_bonf	21.1	11.5	33.2	19.6	10.5	32.3	20.9	10.8	30.9
	asymptotic	19.3	12.4	28.4	18.6	10.9	29.5	19.4	12.5	29.9
exp prop continuous	asymptotic_bonf	18.4	11.4	27.5	17.2	9.9	28.2	18.1	11.5	28.2
	permutation_bonf	18.4	10.5	26.8	16.6	9.5	27.8	17.6	10.8	27.3
	asymptotic	21.8	14.1	32.6	20.2	11.8	32.6	20.8	13.7	32.2
exp prop discrete	asymptotic_bonf	20.5	13.1	30.9	19.1	10.9	30.9	19.5	13.2	30.6
	permutation_bonf	19.9	12.4	30.3	18.7	10.9	29.8	19.4	12.2	30.2
	asymptotic	47.4	29.2	63.8	47.3	30.5	64.3	45.0	31.6	64.1
logn continuous	asymptotic_bonf	45.9	27.0	62.1	45.2	28.7	62.6	43.2	29.1	62.5
	permutation_bonf	44.5	26.4	60.4	43.5	26.9	61.4	42.4	28.7	62.2
	asymptotic	56.2	35.0	71.5	54.6	37.1	72.1	52.1	36.1	71.9
logn discrete	asymptotic_bonf	53.8	33.2	69.1	52.8	35.0	70.4	50.3	34.4	70.6
	permutation_bonf	52.1	31.3	68.2	50.2	32.8	69.2	48.9	33.0	69.0
	asymptotic	18.6	10.4	28.5	17.8	9.6	30.1	18.1	10.2	28.5
pwExp continuous	asymptotic_bonf	17.6	9.7	27.1	16.2	8.8	29.1	16.9	9.3	27.0
	permutation_bonf	17.3	9.4	27.6	16.0	8.7	28.1	16.7	8.6	26.3
	asymptotic	21.3	11.2	31.6	19.6	11.2	31.8	20.1	10.9	31.2
pwExp discrete	asymptotic_bonf	20.2	10.5	30.0	18.1	9.8	30.6	18.9	10.3	29.4
	permutation_bonf	20.0	10.2	29.8	17.8	10.1	29.9	18.1	9.4	28.9
	asymptotic	46.4	31.1	65.5	46.8	30.3	67.5	46.0	30.1	65.5
Weib late continuous	asymptotic_bonf	44.5	29.2	63.5	45.2	28.9	65.6	44.4	28.6	63.9
	permutation_bonf	43.0	27.3	62.3	43.7	26.9	64.4	42.5	28.1	63.2
	asymptotic	52.5	35.0	72.5	50.9	34.2	72.9	52.5	35.3	70.5
Weib late discrete	asymptotic_bonf	50.3	33.4	71.2	49.0	32.8	71.5	50.5	33.6	68.7
	permutation_bonf	48.4	31.6	68.9	46.8	31.1	70.2	49.0	32.4	68.4
	asymptotic	45.5	28.8	63.7	44.7	29.1	65.2	44.4	29.6	63.1
Weib prop continuous	asymptotic_bonf	43.2	27.6	61.3	43.1	27.1	63.4	42.3	27.8	61.2
	permutation_bonf	41.4	26.1	59.7	42.2	25.6	61.5	42.4	28.0	60.5
	asymptotic	52.9	34.5	72.2	51.5	35.1	72.8	52.8	35.4	71.0
Weib prop discrete	asymptotic_bonf	50.8	32.4	70.3	50.0	33.5	71.2	50.6	33.5	69.4
	permutation_bonf	49.5	31.2	68.8	47.6	31.1	70.0	49.4	31.9	68.2
	asymptotic	40.1	26.1	56.5	40.2	24.9	59.5	40.4	26.2	57.5
Weib scale continuous	asymptotic_bonf	37.6	24.3	54.2	38.5	23.4	57.5	38.6	24.2	55.4
	permutation_bonf	36.4	22.8	52.9	36.4	21.9	55.8	36.9	24.5	54.8
	asymptotic	47.4	30.2	64.8	46.9	30.6	66.2	46.8	30.9	63.5
Weib scale discrete	asymptotic_bonf	45.5	28.3	62.8	44.2	28.3	64.1	44.1	29.4	61.5
	permutation_bonf	43.5	26.6	61.2	43.1	26.6	62.9	43.4	28.3	60.9
	asymptotic	35.3	22.1	49.6	35.2	21.9	51.9	34.2	22.6	49.8
Weib shape continuous	asymptotic_bonf	33.1	20.6	47.3	33.0	20.0	49.6	31.9	20.4	47.9
	permutation_bonf	31.9	19.6	45.7	31.5	18.9	48.8	31.4	19.7	47.3
	asymptotic	40.9	26.5	57.3	41.3	26.4	59.3	40.8	26.2	56.9
Weib shape discrete	asymptotic_bonf	38.9	24.2	54.5	38.8	25.0	57.1	38.5	24.4	54.6
	permutation_bonf	38.0	22.6	52.9	37.1	23.1	56.0	37.5	23.9	54.0

Table S100: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and unbalanced large sample sizes under unequal, high censoring.

distribution	method	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
	asymptotic	2.4	1.8	3.4	2.2	1.4	4.0	2.4	2.1	4.1
exp early continuous	asymptotic_bonf	2.1	1.5	3.1	2.0	1.0	3.5	2.1	1.8	3.8
	permutation_bonf	1.6	0.9	2.5	1.6	0.6	2.6	1.6	1.4	3.0
	asymptotic	3.1	1.4	4.0	2.2	1.6	4.3	2.4	1.9	4.6
exp early discrete	asymptotic_bonf	2.9	1.2	3.6	1.9	1.4	4.0	2.2	1.7	4.2
	permutation_bonf	2.2	0.8	3.1	1.4	0.8	3.4	1.8	1.3	3.8
	asymptotic	2.4	2.0	3.6	2.6	1.7	3.6	2.4	2.4	4.1
exp late continuous	asymptotic_bonf	2.1	1.6	3.3	2.2	1.4	3.4	2.1	2.2	3.9
	permutation_bonf	1.6	1.0	2.9	1.6	0.9	3.1	1.8	1.7	3.5
	asymptotic	3.1	1.8	3.9	2.2	1.9	4.7	2.6	2.3	5.0
exp late discrete	asymptotic_bonf	3.0	1.4	3.5	2.0	1.4	3.8	2.2	2.0	4.4
	permutation_bonf	2.4	0.9	3.0	1.9	0.9	3.4	1.9	1.5	4.0
	asymptotic	2.4	1.8	4.0	3.0	2.1	3.4	2.8	1.8	3.4
exp prop continuous	asymptotic_bonf	2.2	1.6	3.7	2.6	2.1	3.2	2.4	1.6	3.2
	permutation_bonf	1.6	1.0	3.1	2.1	1.2	2.6	1.8	1.3	2.9
	asymptotic	2.9	1.6	4.3	2.9	1.9	3.9	2.9	2.1	3.6
exp prop discrete	asymptotic_bonf	2.5	1.6	4.0	2.7	1.7	3.4	2.6	1.8	3.2
	permutation_bonf	2.0	0.9	3.4	2.3	0.9	2.8	2.4	1.4	2.8
	asymptotic	4.8	2.8	8.1	4.2	3.0	7.9	5.3	2.8	8.9
logn continuous	asymptotic_bonf	4.5	2.5	7.3	3.9	2.8	7.4	4.5	2.7	8.2
	permutation_bonf	3.0	1.6	5.8	2.7	1.4	5.6	3.6	1.9	6.6
	asymptotic	5.6	3.1	9.2	5.1	3.1	9.4	5.8	3.6	10.6
logn discrete	asymptotic_bonf	5.3	2.9	8.4	4.5	2.8	8.7	4.8	2.9	9.6
	permutation_bonf	3.6	1.6	6.2	3.0	1.3	6.4	3.8	2.0	7.8
	asymptotic	1.8	1.8	3.6	2.1	1.5	3.6	1.9	2.6	4.2
pwExp continuous	asymptotic_bonf	1.6	1.6	3.4	1.9	1.3	3.3	1.7	2.3	3.8
	permutation_bonf	1.2	1.2	2.7	1.6	0.6	2.8	1.4	1.7	3.4
	asymptotic	2.2	1.6	3.9	2.4	1.7	4.0	2.5	2.7	4.6
pwExp discrete	asymptotic_bonf	2.2	1.4	3.6	2.0	1.5	3.5	2.2	2.4	4.2
	permutation_bonf	1.8	0.8	2.7	1.6	0.8	3.1	1.8	1.8	3.7
	asymptotic	5.4	3.5	8.3	4.2	2.9	8.8	6.2	3.4	8.2
Weib late continuous	asymptotic_bonf	4.8	3.2	7.5	3.8	2.6	8.2	5.5	2.8	7.7
	permutation_bonf	3.4	1.9	5.4	2.6	1.9	6.9	4.3	2.0	6.6
	asymptotic	6.8	3.6	9.8	4.9	3.2	10.2	6.6	3.6	9.9
Weib late discrete	asymptotic_bonf	6.2	3.1	8.8	4.3	3.0	9.0	6.2	3.0	9.0
	permutation_bonf	4.0	1.9	6.6	3.0	1.4	7.3	4.8	2.0	8.3
	asymptotic	5.1	3.4	7.5	4.2	2.6	8.3	5.6	2.9	7.9
Weib prop continuous	asymptotic_bonf	4.6	2.8	7.0	3.6	2.2	7.4	5.1	2.5	7.1
	permutation_bonf	3.2	1.6	5.4	2.5	1.6	6.2	3.8	1.8	6.4
	asymptotic	6.1	3.5	9.4	4.5	3.3	9.2	6.3	3.4	8.9
Weib prop discrete	asymptotic_bonf	5.4	3.1	8.7	3.9	2.9	8.8	5.6	2.9	8.2
	permutation_bonf	3.8	1.7	6.5	2.9	1.6	6.7	4.6	1.8	7.3
	asymptotic	3.7	2.8	6.2	3.4	2.4	6.0	4.2	2.5	5.8
Weib scale continuous	asymptotic_bonf	3.2	2.4	5.6	3.1	1.8	5.2	3.5	2.2	5.2
	permutation_bonf	2.5	1.4	4.1	1.9	0.9	4.2	3.0	1.4	4.8
	asymptotic	5.3	2.8	6.6	4.0	2.2	6.8	5.1	2.6	7.2
Weib scale discrete	asymptotic_bonf	4.8	2.4	6.2	3.5	2.0	6.2	4.7	2.3	6.3
	permutation_bonf	3.2	1.2	4.8	2.2	0.9	4.8	3.9	1.2	5.2
	asymptotic	3.1	1.9	5.0	2.7	1.6	4.3	3.5	1.6	5.0
Weib shape continuous	asymptotic_bonf	2.7	1.5	4.6	2.1	1.2	3.9	3.0	1.5	4.3
	permutation_bonf	2.1	0.7	3.4	1.3	0.7	2.6	2.0	0.9	3.2
	asymptotic	3.5	1.9	5.2	3.2	1.9	5.3	4.4	1.9	5.5
Weib shape discrete	asymptotic_bonf	3.1	1.7	4.3	2.8	1.6	4.7	3.9	1.6	5.1
	permutation_bonf	2.0	0.7	3.3	1.6	0.8	3.1	2.6	1.1	3.8

Table S101: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and unbalanced medium sample sizes under unequal, high censoring.

distribution	method	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
	asymptotic	1.5	1.0	1.6	1.1	1.8	1.4	1.4	1.1	1.8
exp early continuous	asymptotic_bonf	1.2	1.0	1.5	1.1	1.5	1.2	1.2	1.0	1.7
	permutation_bonf	0.4	0.1	0.4	0.2	0.4	0.3	0.4	0.4	0.5
	asymptotic	1.6	1.2	1.4	1.1	1.6	1.6	1.8	1.2	1.9
exp early discrete	asymptotic_bonf	1.3	0.9	1.2	1.0	1.6	1.4	1.6	1.1	1.6
	permutation_bonf	0.4	0.2	0.1	0.2	0.3	0.4	0.6	0.4	0.5
	asymptotic	1.6	0.9	1.4	1.4	1.5	1.4	1.3	1.1	1.7
exp late continuous	asymptotic_bonf	1.4	0.8	1.1	1.4	1.4	1.2	1.3	1.0	1.5
	permutation_bonf	0.4	0.1	0.2	0.4	0.2	0.3	0.5	0.5	0.4
	asymptotic	1.9	1.0	1.5	1.6	1.6	1.6	1.9	1.3	2.1
exp late discrete	asymptotic_bonf	1.5	0.8	1.4	1.6	1.4	1.4	1.8	1.1	1.9
	permutation_bonf	0.3	0.0	0.2	0.2	0.4	0.2	0.6	0.4	0.4
	asymptotic	1.2	1.0	2.4	1.8	1.4	1.8	1.3	1.1	1.5
exp prop continuous	asymptotic_bonf	1.1	0.9	2.2	1.5	1.2	1.8	1.1	1.0	1.4
	permutation_bonf	0.3	0.2	0.8	0.3	0.2	0.4	0.2	0.4	0.7
	asymptotic	1.5	1.1	2.2	1.6	1.4	1.6	1.2	1.1	1.6
exp prop discrete	asymptotic_bonf	1.4	1.0	2.0	1.4	1.3	1.6	1.2	1.1	1.4
	permutation_bonf	0.4	0.2	0.9	0.4	0.2	0.5	0.5	0.4	0.5
	asymptotic	1.8	2.2	2.3	1.9	2.9	2.7	1.9	1.7	3.2
logn continuous	asymptotic_bonf	1.6	1.8	1.9	1.7	2.6	2.5	1.6	1.4	2.9
	permutation_bonf	0.4	0.4	0.6	0.2	0.5	0.6	0.6	0.5	1.0
	asymptotic	2.1	2.1	2.2	2.2	2.6	3.4	1.8	1.7	3.5
logn discrete	asymptotic_bonf	1.8	2.0	2.0	1.8	2.3	2.8	1.6	1.4	3.0
	permutation_bonf	0.4	0.4	0.5	0.2	0.4	0.7	0.8	0.8	1.3
	asymptotic	1.1	0.9	1.5	1.3	1.5	1.6	1.5	0.8	1.8
pwExp continuous	asymptotic_bonf	1.0	0.8	1.4	1.2	1.1	1.4	1.5	0.8	1.7
	permutation_bonf	0.3	0.2	0.2	0.2	0.3	0.4	0.4	0.3	0.3
	asymptotic	1.4	1.1	1.6	1.4	1.5	1.6	1.8	1.3	1.9
pwExp discrete	asymptotic_bonf	1.1	1.0	1.2	1.3	1.3	1.5	1.8	1.1	1.7
	permutation_bonf	0.2	0.2	0.0	0.2	0.4	0.2	0.5	0.4	0.3
	asymptotic	2.5	1.7	3.0	2.2	2.3	2.9	2.1	1.4	3.1
Weib late continuous	asymptotic_bonf	1.8	1.6	2.8	1.8	2.0	2.8	1.8	1.3	2.8
	permutation_bonf	0.3	0.4	0.8	0.2	0.4	0.8	0.4	0.6	0.8
	asymptotic	2.4	1.6	3.6	2.1	2.2	3.4	2.8	1.8	2.8
Weib late discrete	asymptotic_bonf	2.1	1.3	3.2	1.9	1.8	3.4	2.5	1.6	2.6
	permutation_bonf	0.3	0.4	0.9	0.3	0.3	0.8	0.7	0.8	1.1
	asymptotic	2.2	1.6	2.8	1.9	2.2	2.5	2.0	1.4	2.4
Weib prop continuous	asymptotic_bonf	1.6	1.5	2.6	1.7	1.9	2.2	1.6	1.2	2.2
	permutation_bonf	0.3	0.3	0.7	0.2	0.4	0.8	0.4	0.6	0.9
	asymptotic	1.9	1.8	3.2	1.9	2.1	2.9	2.4	1.4	2.8
Weib prop discrete	asymptotic_bonf	1.6	1.6	2.9	1.8	1.7	2.7	2.2	1.2	2.5
	permutation_bonf	0.4	0.5	0.8	0.2	0.4	0.8	0.4	0.5	1.0
	asymptotic	2.0	2.0	2.6	1.8	2.4	2.5	1.4	1.8	2.4
Weib scale continuous	asymptotic_bonf	1.4	1.9	2.5	1.6	2.1	2.0	1.0	1.6	2.1
	permutation_bonf	0.3	0.4	0.5	0.1	0.4	0.6	0.4	0.4	0.8
	asymptotic	2.0	1.8	2.7	2.0	2.0	2.5	1.9	1.4	2.1
Weib scale discrete	asymptotic_bonf	1.9	1.4	2.4	1.6	1.5	2.2	1.5	1.2	1.9
	permutation_bonf	0.3	0.6	0.6	0.3	0.3	0.5	0.4	0.6	0.6
	asymptotic	1.8	1.6	2.1	1.7	2.6	2.2	1.1	0.9	1.6
Weib shape continuous	asymptotic_bonf	1.6	1.5	1.8	1.4	2.2	1.8	0.9	0.8	1.3
	permutation_bonf	0.2	0.4	0.5	0.1	0.4	0.5	0.4	0.3	0.6
	asymptotic	2.1	1.8	2.2	1.8	1.8	2.4	1.7	0.9	1.7
Weib shape discrete	asymptotic_bonf	2.0	1.2	1.9	1.6	1.6	2.2	1.2	0.6	1.5
	permutation_bonf	0.4	0.5	0.7	0.2	0.4	0.4	0.4	0.4	0.5

Table S102: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and unbalanced small sample sizes under unequal, high censoring.

distribution	method	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	48.0	30.9	68.4	48.4	32.4	67.5	47.6	30.7	68.5
	asymptotic_bonf	47.1	30.2	67.7	47.9	31.7	67.0	46.9	29.8	67.8
	permutation_bonf	47.4	29.6	67.7	47.2	30.9	67.5	47.6	29.8	67.3
exp early discrete	asymptotic	54.0	36.0	75.0	54.9	36.2	74.2	54.4	35.3	75.6
	asymptotic_bonf	53.5	35.2	74.7	54.1	35.6	73.7	53.8	34.6	75.0
	permutation_bonf	53.1	34.9	73.6	53.8	35.5	73.3	53.8	34.1	74.5
exp late continuous	asymptotic	50.1	32.5	70.9	50.8	33.9	70.7	49.5	31.6	71.3
	asymptotic_bonf	49.5	31.9	70.2	49.8	33.1	70.2	49.0	31.2	70.6
	permutation_bonf	49.9	31.2	69.4	49.2	32.2	69.2	49.1	30.7	70.6
exp late discrete	asymptotic	56.7	38.3	77.7	57.1	38.2	77.1	56.5	37.2	78.0
	asymptotic_bonf	56.0	37.6	77.2	56.3	37.4	76.4	55.9	36.1	77.5
	permutation_bonf	55.3	37.1	76.4	55.8	37.0	75.9	55.7	35.3	76.9
exp prop continuous	asymptotic	50.6	34.0	69.1	50.1	32.2	69.4	48.5	33.0	70.2
	asymptotic_bonf	49.9	32.9	68.2	49.4	31.9	68.7	47.7	32.1	69.3
	permutation_bonf	49.3	33.3	68.8	49.1	31.3	68.5	48.1	32.4	69.4
exp prop discrete	asymptotic	55.5	39.5	76.0	56.1	37.1	75.5	56.4	38.2	77.5
	asymptotic_bonf	55.1	38.9	75.4	55.5	36.5	74.8	55.5	37.3	76.8
	permutation_bonf	55.0	38.1	75.5	55.3	36.6	74.5	55.8	38.0	76.2
logn continuous	asymptotic	94.5	81.7	98.6	94.2	81.2	99.1	94.1	82.9	98.9
	asymptotic_bonf	94.3	81.4	98.5	94.1	81.0	99.1	94.0	82.7	98.8
	permutation_bonf	94.7	81.7	98.6	94.1	80.5	99.0	93.5	82.4	98.8
logn discrete	asymptotic	97.7	89.1	99.7	97.2	88.8	99.9	97.2	89.8	99.7
	asymptotic_bonf	97.6	88.7	99.7	97.2	88.6	99.9	97.2	89.6	99.7
	permutation_bonf	97.1	88.8	99.8	97.0	88.5	99.9	97.0	89.0	99.7
pwExp continuous	asymptotic	47.5	30.0	67.3	47.8	31.8	67.8	47.1	30.0	68.2
	asymptotic_bonf	46.8	29.5	66.8	47.0	31.2	67.3	46.7	29.1	67.7
	permutation_bonf	46.3	29.6	66.5	46.6	30.8	67.0	46.2	29.0	67.0
pwExp discrete	asymptotic	53.3	35.8	74.5	53.8	36.4	73.8	53.8	34.8	74.8
	asymptotic_bonf	52.5	35.4	74.0	53.1	35.8	73.2	53.1	34.2	74.4
	permutation_bonf	52.5	34.9	73.2	52.6	35.0	73.5	52.8	34.1	74.1
Weib late continuous	asymptotic	93.8	79.2	98.8	93.7	80.5	99.1	94.5	81.9	99.1
	asymptotic_bonf	93.8	78.5	98.8	93.5	80.1	99.1	94.3	81.5	99.0
	permutation_bonf	93.8	78.8	98.5	93.8	79.9	99.0	94.2	80.5	98.8
Weib late discrete	asymptotic	97.2	87.3	99.7	97.7	88.5	100.0	97.4	88.2	99.7
	asymptotic_bonf	97.2	87.0	99.7	97.7	88.4	100.0	97.2	88.0	99.7
	permutation_bonf	97.2	87.0	99.7	97.5	88.5	99.9	96.7	88.0	99.6
Weib prop continuous	asymptotic	93.4	78.1	98.6	93.2	79.5	99.0	93.8	80.5	98.9
	asymptotic_bonf	93.2	77.6	98.6	93.0	79.0	99.0	93.6	80.2	98.8
	permutation_bonf	93.5	77.6	98.6	93.0	78.8	98.9	93.7	80.2	98.7
Weib prop discrete	asymptotic	97.0	86.4	99.7	97.2	87.8	99.8	97.0	87.5	99.7
	asymptotic_bonf	97.0	85.7	99.6	97.0	87.6	99.8	96.9	87.2	99.6
	permutation_bonf	96.7	85.8	99.7	96.8	87.1	99.9	96.7	87.1	99.5
Weib scale continuous	asymptotic	91.0	74.2	98.0	91.5	76.1	98.1	91.2	76.8	98.2
	asymptotic_bonf	90.5	73.6	98.0	91.2	75.4	98.0	91.0	76.0	98.2
	permutation_bonf	90.7	73.1	97.7	91.0	75.3	97.9	91.1	76.0	98.0
Weib scale discrete	asymptotic	95.2	82.1	99.1	95.4	84.4	99.4	95.4	83.4	99.4
	asymptotic_bonf	95.2	81.9	99.1	95.3	84.2	99.4	95.3	83.2	99.2
	permutation_bonf	94.7	82.3	99.0	95.2	84.5	99.4	94.8	83.2	99.1
Weib shape continuous	asymptotic	86.0	66.9	96.2	86.6	68.6	95.6	86.1	68.9	95.8
	asymptotic_bonf	85.7	66.5	96.1	86.4	68.0	95.3	85.8	68.8	95.7
	permutation_bonf	85.9	66.5	96.0	86.1	67.9	95.4	86.1	68.9	95.8
Weib shape discrete	asymptotic	92.3	77.2	98.3	92.7	78.8	98.5	92.4	78.7	98.6
	asymptotic_bonf	92.1	76.8	98.3	92.5	78.5	98.4	92.0	78.3	98.5
	permutation_bonf	92.3	76.6	98.0	92.3	78.1	98.3	92.0	78.0	98.5

Table S103: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and balanced large sample sizes under unequal, low censoring.

distribution	method	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
	asymptotic	5.9	5.1	9.8	6.3	4.2	9.5	6.9	4.0	9.2
exp early continuous	asymptotic_bonf	5.7	5.0	9.4	5.9	4.0	9.3	6.6	3.8	9.0
	permutation_bonf	5.9	4.9	9.8	6.2	4.2	10.3	6.6	4.0	9.2
	asymptotic	7.1	5.7	10.9	7.0	4.6	11.5	7.3	4.4	10.3
exp early discrete	asymptotic_bonf	7.0	5.6	10.6	6.8	4.4	11.2	7.1	4.3	10.2
	permutation_bonf	7.3	5.6	10.6	7.0	4.6	11.1	7.4	4.2	10.0
	asymptotic	6.3	5.3	10.8	6.6	4.4	10.4	7.8	4.4	9.9
exp late continuous	asymptotic_bonf	6.2	5.2	10.6	6.3	4.2	10.2	7.5	4.2	9.4
	permutation_bonf	6.3	5.4	10.1	6.5	4.4	9.9	7.1	3.9	9.4
	asymptotic	7.8	5.8	11.6	7.6	5.0	12.0	8.2	4.6	11.1
exp late discrete	asymptotic_bonf	7.4	5.6	11.2	7.3	4.8	11.6	8.1	4.6	10.8
	permutation_bonf	7.5	5.5	11.8	7.3	5.1	11.6	7.6	4.5	11.1
	asymptotic	6.9	4.5	9.2	6.3	4.5	10.4	7.0	5.0	8.5
exp prop continuous	asymptotic_bonf	6.8	4.4	8.8	6.2	4.3	10.2	6.8	4.8	8.1
	permutation_bonf	6.8	4.2	8.5	5.9	4.2	9.8	6.6	5.1	8.2
	asymptotic	7.7	5.2	10.4	7.2	4.8	11.3	7.5	5.7	10.2
exp prop discrete	asymptotic_bonf	7.5	5.2	10.2	7.1	4.8	11.1	7.2	5.4	9.8
	permutation_bonf	7.8	5.1	10.1	6.6	4.3	11.6	7.4	5.8	9.3
	asymptotic	20.2	13.3	30.4	21.7	13.2	31.4	21.3	12.2	32.8
logn continuous	asymptotic_bonf	19.9	13.0	30.0	21.3	13.1	31.2	20.9	11.8	32.2
	permutation_bonf	19.5	13.5	30.0	21.0	13.4	30.2	20.6	11.8	32.5
	asymptotic	25.8	16.8	39.1	27.0	17.3	38.0	26.2	15.8	39.4
logn discrete	asymptotic_bonf	25.2	16.4	38.3	26.6	17.1	37.4	25.9	15.6	39.1
	permutation_bonf	25.3	16.6	38.2	26.1	16.7	37.5	25.1	15.8	39.0
	asymptotic	6.4	5.2	9.6	6.2	4.8	9.6	6.8	3.7	8.6
pwExp continuous	asymptotic_bonf	6.3	5.0	9.3	5.9	4.5	9.4	6.7	3.4	8.5
	permutation_bonf	6.2	4.8	9.9	5.7	4.6	9.4	6.4	3.8	8.2
	asymptotic	7.6	5.4	11.2	6.6	5.1	10.8	7.5	4.3	10.0
pwExp discrete	asymptotic_bonf	7.4	5.1	10.8	6.4	4.9	10.5	7.4	4.1	9.9
	permutation_bonf	7.4	5.5	11.3	6.4	5.5	10.5	7.2	4.2	9.9
	asymptotic	20.3	11.9	31.9	19.4	13.7	32.0	20.4	11.9	32.8
Weib late continuous	asymptotic_bonf	19.9	11.6	31.2	18.8	13.5	31.6	20.2	11.4	32.5
	permutation_bonf	19.5	11.8	30.8	18.9	13.0	31.4	20.1	11.5	31.9
	asymptotic	24.3	15.8	38.2	24.9	16.7	38.5	25.4	15.2	39.2
Weib late discrete	asymptotic_bonf	23.9	15.2	37.5	24.1	16.2	38.0	24.7	14.6	38.6
	permutation_bonf	24.1	16.2	36.9	24.0	16.0	37.4	24.6	14.5	38.5
	asymptotic	19.1	11.6	30.3	18.4	13.2	31.4	19.6	11.3	31.8
Weib prop continuous	asymptotic_bonf	18.7	11.6	30.1	18.1	12.8	30.9	19.1	11.0	31.1
	permutation_bonf	19.1	11.5	29.4	18.8	12.6	30.0	19.1	11.1	30.3
	asymptotic	23.9	15.2	36.9	24.4	16.2	38.0	24.6	14.8	38.9
Weib prop discrete	asymptotic_bonf	23.6	14.8	36.4	23.8	16.0	37.6	24.2	14.3	38.4
	permutation_bonf	23.4	14.9	36.2	24.2	15.8	37.0	24.2	14.1	37.7
	asymptotic	17.3	10.4	26.8	15.9	11.6	27.1	16.9	9.9	27.9
Weib scale continuous	asymptotic_bonf	16.9	10.2	26.3	15.6	11.3	26.4	16.5	9.6	27.4
	permutation_bonf	17.0	10.6	26.0	16.6	11.9	26.2	17.2	9.8	27.4
	asymptotic	21.6	12.6	32.6	21.2	13.7	33.7	21.6	12.7	34.0
Weib scale discrete	asymptotic_bonf	21.1	12.6	32.1	20.8	13.4	33.0	21.1	12.2	33.6
	permutation_bonf	20.6	13.1	31.9	20.4	13.6	32.7	21.1	11.9	33.2
	asymptotic	14.4	8.6	22.1	13.6	9.6	21.9	13.5	8.0	23.5
Weib shape continuous	asymptotic_bonf	13.9	8.2	21.5	13.1	9.3	21.2	13.1	7.8	23.1
	permutation_bonf	14.1	8.3	21.3	13.4	9.3	21.3	13.3	8.0	22.4
	asymptotic	17.8	10.8	27.6	17.8	11.6	28.5	17.9	11.1	28.3
Weib shape discrete	asymptotic_bonf	17.3	10.4	27.0	17.2	11.3	28.1	17.5	10.7	27.8
	permutation_bonf	17.2	10.5	27.0	17.0	11.6	26.9	17.4	10.5	28.4

Table S104: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and balanced medium sample sizes under unequal, low censoring.

distribution	method	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
	asymptotic	1.8	1.0	1.5	1.8	1.0	1.9	1.8	1.6	1.2
exp early continuous	asymptotic_bonf	1.6	0.9	1.4	1.7	0.9	1.8	1.7	1.4	1.1
	permutation_bonf	1.6	0.8	1.1	1.8	0.9	1.8	1.4	1.2	1.2
	asymptotic	1.6	1.2	1.6	1.9	1.1	2.2	1.7	1.6	1.8
exp early discrete	asymptotic_bonf	1.6	1.2	1.6	1.8	1.1	2.1	1.7	1.4	1.6
	permutation_bonf	1.6	1.1	1.4	1.7	1.3	1.8	1.5	1.4	1.4
	asymptotic	1.6	1.2	1.6	2.0	1.2	1.9	1.8	1.8	1.4
exp late continuous	asymptotic_bonf	1.4	1.1	1.5	2.0	1.2	1.8	1.6	1.6	1.4
	permutation_bonf	1.7	0.9	1.2	1.8	1.0	1.6	1.9	1.6	1.6
	asymptotic	1.6	1.1	1.6	1.9	1.4	2.2	2.1	1.8	1.8
exp late discrete	asymptotic_bonf	1.6	1.0	1.4	1.9	1.4	2.1	1.8	1.6	1.8
	permutation_bonf	1.6	1.0	1.6	1.6	1.4	1.9	1.7	1.6	1.5
	asymptotic	1.3	1.2	1.9	2.2	1.4	1.9	1.4	1.1	1.9
exp prop continuous	asymptotic_bonf	1.2	1.1	1.9	2.0	1.4	1.9	1.4	1.0	1.8
	permutation_bonf	1.2	0.9	1.8	1.8	1.4	1.8	1.1	0.8	1.6
	asymptotic	1.1	1.3	2.2	2.4	1.5	2.2	1.4	1.1	1.8
exp prop discrete	asymptotic_bonf	1.0	1.2	2.1	2.2	1.4	2.1	1.4	1.1	1.8
	permutation_bonf	1.2	1.1	2.2	1.8	1.4	2.0	1.1	1.0	1.7
	asymptotic	3.4	2.2	4.1	3.6	3.3	5.2	3.8	1.8	4.4
logn continuous	asymptotic_bonf	3.2	2.2	4.0	3.5	3.1	5.1	3.8	1.6	4.3
	permutation_bonf	3.0	2.3	3.8	3.1	2.6	4.8	3.4	1.6	4.0
	asymptotic	4.1	2.6	4.4	4.5	3.9	6.4	4.4	2.5	5.1
logn discrete	asymptotic_bonf	4.0	2.5	4.3	4.5	3.6	6.4	4.3	2.4	5.1
	permutation_bonf	3.4	2.6	3.8	4.0	3.6	5.9	4.0	2.4	4.6
	asymptotic	1.4	0.8	1.6	1.8	1.0	1.8	1.8	1.8	1.4
pwExp continuous	asymptotic_bonf	1.3	0.8	1.4	1.8	1.0	1.6	1.8	1.8	1.4
	permutation_bonf	1.4	0.6	1.4	1.6	1.1	1.4	1.5	1.4	1.3
	asymptotic	1.6	1.1	1.7	1.6	1.2	2.1	1.8	1.8	1.8
pwExp discrete	asymptotic_bonf	1.4	1.1	1.6	1.6	1.1	2.0	1.7	1.6	1.8
	permutation_bonf	1.6	0.8	1.6	1.6	1.0	1.9	1.7	1.4	1.6
	asymptotic	2.9	2.4	4.7	3.1	3.4	4.4	3.6	2.8	4.8
Weib late continuous	asymptotic_bonf	2.8	2.4	4.6	3.1	3.2	4.4	3.4	2.8	4.7
	permutation_bonf	2.5	2.1	4.1	2.9	3.3	4.0	2.8	2.6	4.0
	asymptotic	3.5	2.9	5.4	3.4	3.5	5.3	4.4	3.4	5.5
Weib late discrete	asymptotic_bonf	3.4	2.8	5.3	3.4	3.3	5.1	4.3	3.2	5.2
	permutation_bonf	3.1	2.4	4.7	3.1	3.2	4.8	3.8	2.9	5.1
	asymptotic	3.1	2.2	4.4	2.9	3.1	4.2	3.5	2.8	4.4
Weib prop continuous	asymptotic_bonf	3.1	2.2	4.3	2.8	3.0	4.2	3.4	2.8	4.3
	permutation_bonf	2.5	2.0	3.9	2.7	3.0	3.8	2.8	2.4	4.2
	asymptotic	3.5	2.6	5.4	3.6	3.2	5.1	4.0	3.0	5.2
Weib prop discrete	asymptotic_bonf	3.4	2.5	5.3	3.5	3.1	4.9	3.9	2.9	5.1
	permutation_bonf	2.9	2.1	4.6	3.2	3.2	4.6	3.5	2.6	4.8
	asymptotic	2.5	1.8	4.0	2.6	2.6	3.7	2.8	2.0	4.0
Weib scale continuous	asymptotic_bonf	2.4	1.8	3.8	2.6	2.5	3.6	2.7	2.0	3.8
	permutation_bonf	2.2	1.6	3.4	2.2	2.7	3.4	2.8	2.0	3.5
	asymptotic	2.7	2.1	4.6	2.8	2.9	4.4	3.4	2.4	4.3
Weib scale discrete	asymptotic_bonf	2.5	2.1	4.4	2.8	2.7	4.1	3.2	2.1	4.2
	permutation_bonf	2.6	1.9	4.2	2.6	2.9	4.0	3.0	2.2	4.4
	asymptotic	1.9	1.2	2.9	1.6	2.1	2.8	2.2	1.4	2.9
Weib shape continuous	asymptotic_bonf	1.9	1.2	2.6	1.5	1.9	2.6	2.0	1.3	2.8
	permutation_bonf	1.9	1.1	2.4	1.5	2.3	2.4	1.7	1.2	3.0
	asymptotic	2.4	1.4	3.1	1.9	2.4	3.4	2.4	1.8	3.7
Weib shape discrete	asymptotic_bonf	2.1	1.3	3.0	1.9	2.2	3.4	2.2	1.7	3.4
	permutation_bonf	2.1	1.2	2.8	2.0	2.3	3.1	2.1	1.5	3.4

Table S105: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and balanced small sample sizes under unequal, low censoring.

distribution	method	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
	asymptotic	25.8	13.1	38.3	24.6	12.7	37.6	24.7	12.5	36.6
exp early continuous	asymptotic_bonf	24.1	12.0	36.7	23.4	11.3	35.8	23.3	11.6	34.4
	permutation_bonf	23.8	11.9	36.4	22.9	11.2	35.1	23.2	11.7	35.2
	asymptotic	30.3	15.8	43.9	28.6	15.1	44.0	29.2	15.2	42.8
exp early discrete	asymptotic_bonf	28.3	14.8	41.9	27.0	13.9	42.0	27.6	14.0	40.5
	permutation_bonf	28.1	14.4	41.4	26.8	13.5	42.0	27.3	14.1	40.1
	asymptotic	28.2	14.8	43.1	27.2	14.0	44.0	28.0	14.4	41.0
exp late continuous	asymptotic_bonf	26.7	13.8	41.1	25.1	12.6	42.2	26.4	13.2	39.4
	permutation_bonf	26.5	13.6	40.3	25.4	12.0	40.9	26.1	13.0	39.0
	asymptotic	33.4	17.7	49.5	31.9	16.9	50.3	33.1	17.6	48.6
exp late discrete	asymptotic_bonf	31.6	16.9	47.1	30.2	15.6	48.5	31.2	16.2	46.5
	permutation_bonf	31.4	15.8	46.7	28.7	15.2	48.1	30.2	16.2	45.0
	asymptotic	26.2	16.8	38.6	25.9	15.2	38.4	25.7	16.2	37.9
exp prop continuous	asymptotic_bonf	24.9	14.8	37.0	24.1	14.1	36.6	23.9	15.4	36.5
	permutation_bonf	24.0	14.8	36.0	23.7	13.2	36.0	23.9	14.9	35.6
	asymptotic	30.3	19.4	44.8	29.0	18.2	44.1	29.9	19.1	44.5
exp prop discrete	asymptotic_bonf	28.8	17.9	42.4	27.7	16.8	42.2	28.6	17.8	42.4
	permutation_bonf	28.3	17.9	41.3	27.4	16.0	42.5	27.6	17.3	41.4
	asymptotic	70.9	49.4	86.4	70.3	50.6	86.5	67.5	49.2	86.2
logn continuous	asymptotic_bonf	68.8	47.1	85.2	68.3	48.5	85.2	65.8	47.4	85.3
	permutation_bonf	67.7	46.3	84.0	67.3	46.7	84.9	65.5	46.6	84.8
	asymptotic	79.0	58.1	92.0	78.2	60.1	91.6	77.0	58.7	91.5
logn discrete	asymptotic_bonf	77.5	56.1	91.4	77.0	58.1	90.7	75.6	56.4	90.8
	permutation_bonf	76.7	54.5	90.2	75.8	56.4	90.3	74.6	55.2	90.6
	asymptotic	24.0	13.5	36.6	22.7	11.5	36.9	23.3	11.6	35.1
pwExp continuous	asymptotic_bonf	22.6	12.3	34.8	21.3	10.9	35.1	22.2	10.7	33.7
	permutation_bonf	22.8	11.6	34.5	21.7	10.3	34.2	21.7	10.8	33.5
	asymptotic	28.1	15.2	42.7	26.1	14.4	42.9	27.4	14.4	41.4
pwExp discrete	asymptotic_bonf	26.7	14.4	40.9	25.1	12.8	41.1	26.1	13.6	39.5
	permutation_bonf	26.8	14.0	40.7	24.8	12.6	40.0	26.1	13.2	38.9
	asymptotic	70.7	51.0	88.6	69.9	48.8	88.1	70.5	49.8	87.9
Weib late continuous	asymptotic_bonf	69.3	48.9	87.5	68.4	46.6	87.4	69.0	48.4	86.8
	permutation_bonf	67.8	48.0	86.5	67.4	45.2	87.2	68.2	47.8	86.9
	asymptotic	78.9	59.5	92.5	78.5	58.0	93.5	78.8	59.0	93.5
Weib late discrete	asymptotic_bonf	77.8	57.3	91.8	77.0	55.9	93.0	77.1	57.2	93.0
	permutation_bonf	76.4	56.0	91.5	76.3	54.5	92.8	77.2	56.1	92.4
	asymptotic	68.2	48.4	86.4	67.5	46.2	86.1	68.2	47.9	85.7
Weib prop continuous	asymptotic_bonf	66.6	46.1	85.2	66.0	44.5	85.2	66.2	46.5	85.0
	permutation_bonf	65.0	44.8	84.2	64.5	42.8	84.5	65.6	45.1	84.2
	asymptotic	76.9	56.8	91.6	76.6	56.0	92.3	76.3	56.2	92.2
Weib prop discrete	asymptotic_bonf	75.1	55.0	90.8	75.5	54.1	91.7	75.3	54.7	91.1
	permutation_bonf	74.6	54.3	90.2	74.5	52.4	91.2	74.7	53.5	90.4
	asymptotic	58.1	39.2	77.8	58.6	38.6	77.6	58.1	39.0	76.8
Weib scale continuous	asymptotic_bonf	56.2	37.5	75.7	56.7	36.9	76.4	56.1	36.6	75.0
	permutation_bonf	54.9	36.2	74.9	55.5	34.9	75.4	55.0	36.2	74.5
	asymptotic	66.6	46.9	85.5	67.0	46.3	84.8	67.7	46.8	84.9
Weib scale discrete	asymptotic_bonf	64.9	45.0	84.5	65.1	44.4	83.6	66.0	44.4	83.9
	permutation_bonf	63.7	43.9	83.5	64.2	42.4	82.2	64.1	44.0	82.9
	asymptotic	44.9	28.7	61.5	45.1	29.0	63.2	44.7	29.3	62.8
Weib shape continuous	asymptotic_bonf	41.8	25.9	58.6	42.5	26.4	60.5	42.1	27.3	60.0
	permutation_bonf	41.4	24.9	56.8	41.8	25.1	59.3	41.1	26.2	59.1
	asymptotic	54.4	36.8	72.4	55.2	37.1	73.9	54.0	37.0	72.8
Weib shape discrete	asymptotic_bonf	51.6	34.1	70.0	52.6	33.9	71.0	51.1	34.6	69.8
	permutation_bonf	50.6	32.2	68.8	51.5	32.5	70.2	51.2	33.6	69.3

Table S106: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and unbalanced large sample sizes under unequal, low censoring.

distribution	method	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
	asymptotic	2.5	2.0	4.3	2.5	1.8	4.0	2.0	2.4	4.9
exp early continuous	asymptotic_bonf	2.2	1.8	4.0	2.4	1.6	3.5	1.8	2.0	4.3
	permutation_bonf	1.6	1.5	3.4	1.8	1.0	3.2	1.4	1.8	3.8
	asymptotic	2.9	2.4	4.8	2.9	2.2	4.8	2.7	2.5	5.4
exp early discrete	asymptotic_bonf	2.7	2.0	4.3	2.8	1.8	4.2	2.1	2.3	4.9
	permutation_bonf	2.0	1.8	4.0	2.1	1.4	3.8	1.6	2.0	4.5
	asymptotic	2.7	2.2	4.7	3.4	2.0	4.9	2.4	2.8	5.5
exp late continuous	asymptotic_bonf	2.3	1.9	4.0	3.1	1.8	4.4	2.1	2.8	5.1
	permutation_bonf	1.7	1.8	4.0	2.2	1.2	4.0	1.8	2.1	4.7
	asymptotic	3.2	2.2	5.2	3.6	2.4	5.5	2.8	2.8	6.3
exp late discrete	asymptotic_bonf	2.9	2.0	4.8	3.4	2.2	5.1	2.5	2.6	5.8
	permutation_bonf	2.1	1.7	4.5	2.8	1.5	4.4	1.9	2.3	5.4
	asymptotic	3.3	2.3	5.1	3.0	2.3	4.0	3.2	2.3	4.6
exp prop continuous	asymptotic_bonf	2.9	2.1	4.6	2.7	1.9	3.5	2.8	2.1	4.3
	permutation_bonf	2.8	1.7	4.2	2.2	1.7	2.7	2.4	1.8	3.6
	asymptotic	3.4	2.6	5.8	3.6	2.5	4.7	3.8	2.2	5.2
exp prop discrete	asymptotic_bonf	3.2	2.1	5.2	3.0	2.3	4.2	3.4	2.1	4.7
	permutation_bonf	2.9	1.8	4.5	2.8	1.6	3.3	2.8	1.9	4.2
	asymptotic	8.2	5.2	14.8	7.3	4.6	14.2	7.8	5.3	14.8
logn continuous	asymptotic_bonf	7.6	4.6	13.4	6.8	4.1	13.1	7.1	4.8	14.1
	permutation_bonf	6.3	3.1	11.1	5.3	2.7	11.2	6.2	3.3	12.7
	asymptotic	10.1	6.4	17.9	9.2	5.2	17.3	9.3	6.2	18.2
logn discrete	asymptotic_bonf	9.2	5.6	16.8	8.2	4.6	16.1	8.7	5.6	17.5
	permutation_bonf	7.0	3.7	14.0	6.3	3.2	13.5	7.6	4.0	15.6
	asymptotic	1.9	1.8	4.3	2.6	1.8	3.8	2.0	2.4	4.8
pwExp continuous	asymptotic_bonf	1.7	1.5	3.8	2.1	1.6	3.3	1.8	2.2	4.4
	permutation_bonf	1.4	1.1	3.3	1.9	0.9	3.0	1.5	2.1	4.0
	asymptotic	2.2	2.1	4.8	3.1	2.4	4.6	2.5	2.4	5.4
pwExp discrete	asymptotic_bonf	1.8	1.7	4.4	2.7	2.1	4.2	2.2	2.2	5.0
	permutation_bonf	1.7	1.3	4.0	2.1	1.6	3.4	1.7	2.3	4.8
	asymptotic	10.2	5.0	14.2	9.0	5.4	14.1	10.2	5.1	15.8
Weib late continuous	asymptotic_bonf	9.5	4.3	13.0	8.8	4.8	13.2	9.3	5.0	14.6
	permutation_bonf	7.7	3.1	11.1	6.4	3.5	11.6	7.7	4.0	12.6
	asymptotic	12.0	6.0	17.6	10.9	6.0	17.5	13.5	5.8	18.8
Weib late discrete	asymptotic_bonf	10.8	5.4	16.4	10.2	5.3	16.4	12.3	5.3	17.7
	permutation_bonf	8.2	3.5	13.5	7.6	3.7	13.8	10.1	4.4	15.0
	asymptotic	9.0	4.2	12.6	8.3	5.1	12.9	8.9	4.5	14.3
Weib prop continuous	asymptotic_bonf	8.5	3.9	11.8	7.5	4.4	11.7	8.2	4.1	13.2
	permutation_bonf	6.6	2.9	9.8	5.1	3.1	10.0	6.8	3.4	11.6
	asymptotic	11.1	5.2	15.4	10.4	5.9	16.0	11.6	5.4	17.0
Weib prop discrete	asymptotic_bonf	9.8	4.8	14.5	9.6	5.3	14.5	10.6	4.7	15.8
	permutation_bonf	7.7	3.4	11.6	7.0	3.4	11.8	9.0	4.2	13.6
	asymptotic	6.2	3.3	9.0	5.3	3.8	9.1	6.7	3.4	10.1
Weib scale continuous	asymptotic_bonf	5.9	2.8	8.0	4.5	3.2	8.1	5.8	3.0	9.2
	permutation_bonf	4.8	1.6	7.1	3.4	2.4	6.5	4.8	2.1	8.0
	asymptotic	8.1	3.8	10.4	7.4	4.2	11.3	8.1	4.1	12.2
Weib scale discrete	asymptotic_bonf	7.1	3.4	9.1	6.2	3.7	10.1	7.3	3.4	11.2
	permutation_bonf	5.4	2.2	7.7	4.9	2.4	7.8	5.6	2.6	9.5
	asymptotic	4.2	2.0	5.5	3.6	2.4	5.8	4.2	2.6	6.2
Weib shape continuous	asymptotic_bonf	3.4	1.4	4.8	2.7	1.6	5.0	3.4	1.9	5.2
	permutation_bonf	2.6	0.8	3.8	1.8	1.1	4.1	2.6	1.7	4.3
	asymptotic	5.4	2.6	7.2	4.5	3.0	7.0	5.3	3.1	8.0
Weib shape discrete	asymptotic_bonf	4.5	2.1	6.3	3.9	2.2	6.4	4.4	2.5	6.8
	permutation_bonf	3.3	1.2	4.8	2.5	1.3	5.1	3.4	1.8	5.7

Table S107: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and unbalanced medium sample sizes under unequal, low censoring.

distribution	method	$\mathcal{H}_{0,4}$	$\mathcal{H}_{0,5}$	$\mathcal{H}_{0,6}$	$\mathcal{H}_{0,1}$	$\mathcal{H}_{0,2}$	$\mathcal{H}_{0,3}$	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
	asymptotic	1.4	1.0	1.6	1.6	1.2	1.4	1.1	1.2	1.4
exp early continuous	asymptotic_bonf	1.2	0.9	1.4	1.4	1.2	1.2	0.9	0.9	1.4
	permutation_bonf	0.3	0.1	0.4	0.3	0.5	0.6	0.4	0.4	0.6
	asymptotic	1.3	0.9	1.6	1.3	1.1	1.4	1.0	1.2	1.6
exp early discrete	asymptotic_bonf	1.1	0.8	1.4	1.1	1.1	1.4	0.9	0.9	1.5
	permutation_bonf	0.3	0.2	0.5	0.3	0.3	0.8	0.4	0.4	0.7
	asymptotic	1.5	0.8	1.6	1.3	1.1	1.6	1.0	1.1	1.8
exp late continuous	asymptotic_bonf	1.2	0.8	1.2	1.2	1.0	1.5	0.9	0.9	1.6
	permutation_bonf	0.3	0.1	0.4	0.3	0.4	0.8	0.4	0.4	0.5
	asymptotic	1.4	0.8	1.5	1.4	1.1	1.8	1.2	1.0	1.9
exp late discrete	asymptotic_bonf	1.1	0.6	1.2	1.3	1.1	1.7	1.1	0.8	1.9
	permutation_bonf	0.2	0.1	0.4	0.3	0.1	0.7	0.4	0.5	0.9
	asymptotic	1.4	1.1	1.8	1.0	0.8	1.5	1.2	0.8	1.6
exp prop continuous	asymptotic_bonf	1.1	0.9	1.6	1.0	0.8	1.4	1.0	0.7	1.4
	permutation_bonf	0.4	0.3	0.9	0.1	0.2	0.5	0.4	0.2	0.5
	asymptotic	1.5	1.2	1.8	1.2	0.8	1.6	1.1	0.9	1.6
exp prop discrete	asymptotic_bonf	1.2	1.1	1.7	0.9	0.8	1.4	1.0	0.8	1.6
	permutation_bonf	0.3	0.4	0.9	0.3	0.1	0.4	0.4	0.2	0.6
	asymptotic	1.1	1.4	2.1	1.3	1.6	2.0	1.9	1.4	2.2
logn continuous	asymptotic_bonf	1.0	1.3	2.0	1.1	1.4	1.8	1.6	1.2	2.0
	permutation_bonf	0.2	0.4	0.6	0.2	0.2	0.5	0.6	0.4	1.0
	asymptotic	1.3	1.5	2.4	1.4	1.4	2.5	1.9	1.4	2.7
logn discrete	asymptotic_bonf	1.0	1.4	2.1	1.3	1.3	2.2	1.8	1.2	2.4
	permutation_bonf	0.1	0.4	0.4	0.1	0.1	0.5	0.6	0.6	1.1
	asymptotic	1.1	0.9	1.8	1.2	1.0	1.7	1.1	1.1	1.8
pwExp continuous	asymptotic_bonf	0.9	0.9	1.6	0.9	0.9	1.5	0.9	1.0	1.3
	permutation_bonf	0.2	0.2	0.4	0.2	0.4	0.7	0.4	0.2	0.6
	asymptotic	1.2	1.0	1.7	1.1	0.8	1.6	1.1	1.1	1.7
pwExp discrete	asymptotic_bonf	0.9	0.9	1.6	1.0	0.8	1.6	1.0	0.9	1.2
	permutation_bonf	0.4	0.2	0.3	0.4	0.2	0.7	0.4	0.4	0.5
	asymptotic	2.0	1.2	3.2	1.7	1.8	2.8	1.6	1.6	3.5
Weib late continuous	asymptotic_bonf	1.8	1.0	2.9	1.4	1.6	2.7	1.4	1.2	3.4
	permutation_bonf	0.4	0.4	1.1	0.1	0.0	1.0	0.4	0.4	1.4
	asymptotic	2.5	1.0	3.7	1.8	1.8	3.4	2.2	1.7	3.6
Weib late discrete	asymptotic_bonf	2.1	0.9	3.4	1.8	1.6	3.0	1.8	1.4	3.2
	permutation_bonf	0.4	0.4	1.2	0.2	0.2	0.8	0.5	0.6	1.5
	asymptotic	1.6	1.2	3.0	1.4	1.9	2.4	1.4	1.4	3.0
Weib prop continuous	asymptotic_bonf	1.6	1.0	2.6	1.3	1.6	2.2	1.1	1.2	2.5
	permutation_bonf	0.2	0.3	1.0	0.2	0.2	0.9	0.4	0.4	1.0
	asymptotic	2.0	1.0	3.4	1.6	1.8	2.8	1.6	1.2	3.0
Weib prop discrete	asymptotic_bonf	1.8	0.8	2.9	1.6	1.6	2.6	1.4	1.1	2.8
	permutation_bonf	0.4	0.2	1.1	0.2	0.2	0.8	0.4	0.5	1.2
	asymptotic	1.4	1.2	2.0	1.4	1.8	2.0	0.9	1.1	1.9
Weib scale continuous	asymptotic_bonf	1.1	0.9	1.9	1.2	1.6	1.9	0.8	1.0	1.6
	permutation_bonf	0.4	0.3	0.8	0.4	0.2	0.6	0.4	0.4	0.5
	asymptotic	1.5	1.1	2.3	1.5	1.7	2.3	1.1	1.2	2.0
Weib scale discrete	asymptotic_bonf	1.4	1.0	2.0	1.2	1.6	1.9	0.9	1.0	1.8
	permutation_bonf	0.4	0.2	0.9	0.2	0.2	0.5	0.4	0.4	0.6
	asymptotic	2.1	1.7	2.1	2.1	2.6	1.8	1.8	1.4	1.8
Weib shape continuous	asymptotic_bonf	1.9	1.4	1.8	1.9	2.4	1.8	1.6	1.3	1.6
	permutation_bonf	0.5	0.5	0.8	0.7	0.3	0.8	0.7	0.6	0.6
	asymptotic	2.3	1.6	2.1	1.8	2.5	2.1	1.7	1.4	1.7
Weib shape discrete	asymptotic_bonf	2.0	1.4	1.9	1.7	2.2	1.9	1.3	1.2	1.4
	permutation_bonf	0.5	0.4	0.8	0.5	0.4	0.7	0.8	0.4	0.6

Table S108: Rejection rates in percent for the 2-by-2 design with $\delta = 1.5$ and unbalanced small sample sizes under unequal, low censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	85.2	65.0	95.5
	asymptotic_bonf	84.2	63.6	95.2
	permutation_bonf	83.4	62.8	94.8
exp early discrete	asymptotic	89.8	71.4	97.5
	asymptotic_bonf	89.1	70.1	97.3
	permutation_bonf	89.0	69.2	97.0
exp late continuous	asymptotic	88.6	69.4	98.2
	asymptotic_bonf	87.9	67.7	98.0
	permutation_bonf	87.8	68.0	97.7
exp late discrete	asymptotic	92.3	74.8	98.3
	asymptotic_bonf	91.7	73.4	98.2
	permutation_bonf	91.6	73.3	98.2
exp prop continuous	asymptotic	87.1	69.9	96.8
	asymptotic_bonf	86.1	68.2	96.5
	permutation_bonf	85.9	68.0	96.2
exp prop discrete	asymptotic	90.0	75.0	98.3
	asymptotic_bonf	89.5	74.0	98.2
	permutation_bonf	89.0	74.6	98.1
logn continuous	asymptotic	100.0	98.8	100.0
	asymptotic_bonf	100.0	98.6	100.0
	permutation_bonf	100.0	98.8	100.0
logn discrete	asymptotic	100.0	99.6	100.0
	asymptotic_bonf	100.0	99.5	100.0
	permutation_bonf	100.0	99.6	100.0
pwExp continuous	asymptotic	84.2	62.8	95.2
	asymptotic_bonf	83.1	61.8	94.5
	permutation_bonf	82.9	62.0	94.2
pwExp discrete	asymptotic	88.9	70.2	97.0
	asymptotic_bonf	88.2	68.7	96.9
	permutation_bonf	88.1	68.1	96.5
Weib late continuous	asymptotic	99.9	98.6	100.0
	asymptotic_bonf	99.9	98.5	100.0
	permutation_bonf	99.9	98.4	100.0
Weib late discrete	asymptotic	100.0	99.3	100.0
	asymptotic_bonf	100.0	99.2	100.0
	permutation_bonf	100.0	99.2	100.0
Weib prop continuous	asymptotic	99.9	98.3	100.0
	asymptotic_bonf	99.9	98.2	100.0
	permutation_bonf	99.9	98.2	100.0
Weib prop discrete	asymptotic	100.0	99.4	100.0
	asymptotic_bonf	100.0	99.2	100.0
	permutation_bonf	100.0	99.2	100.0
Weib scale continuous	asymptotic	99.6	97.2	100.0
	asymptotic_bonf	99.6	96.9	100.0
	permutation_bonf	99.4	96.7	100.0
Weib scale discrete	asymptotic	99.9	98.5	100.0
	asymptotic_bonf	99.9	98.4	100.0
	permutation_bonf	99.9	98.5	100.0
Weib shape continuous	asymptotic	98.7	93.0	99.8
	asymptotic_bonf	98.7	92.6	99.7
	permutation_bonf	98.7	92.0	99.9
Weib shape discrete	asymptotic	99.7	96.7	100.0
	asymptotic_bonf	99.6	96.5	100.0
	permutation_bonf	99.5	96.3	100.0

Table S109: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and balanced large sample sizes under equal censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	15.3	10.0	22.4
	asymptotic_bonf	14.4	9.3	21.1
	permutation_bonf	14.1	9.5	20.5
exp early discrete	asymptotic	18.1	11.6	26.0
	asymptotic_bonf	17.0	11.0	24.1
	permutation_bonf	17.3	11.4	24.1
exp late continuous	asymptotic	17.3	11.6	23.9
	asymptotic_bonf	16.2	10.4	22.7
	permutation_bonf	16.6	10.3	22.5
exp late discrete	asymptotic	20.7	13.3	29.2
	asymptotic_bonf	18.9	12.3	27.3
	permutation_bonf	19.4	12.5	27.5
exp prop continuous	asymptotic	16.9	10.4	23.5
	asymptotic_bonf	16.0	9.4	22.4
	permutation_bonf	14.9	9.4	21.8
exp prop discrete	asymptotic	19.1	11.8	27.5
	asymptotic_bonf	18.1	10.8	26.1
	permutation_bonf	17.2	10.9	25.7
logn continuous	asymptotic	46.6	30.2	65.0
	asymptotic_bonf	45.1	29.1	63.7
	permutation_bonf	44.5	28.6	63.0
logn discrete	asymptotic	54.0	38.9	71.5
	asymptotic_bonf	52.5	37.1	70.7
	permutation_bonf	52.5	36.3	70.4
pwExp continuous	asymptotic	15.3	10.1	20.6
	asymptotic_bonf	14.3	9.4	19.9
	permutation_bonf	14.5	9.2	19.8
pwExp discrete	asymptotic	18.1	11.5	24.6
	asymptotic_bonf	16.8	11.2	23.0
	permutation_bonf	17.1	10.9	22.8
Weib late continuous	asymptotic	46.0	31.1	67.1
	asymptotic_bonf	44.1	29.4	65.6
	permutation_bonf	43.5	29.1	63.8
Weib late discrete	asymptotic	53.2	35.9	72.0
	asymptotic_bonf	51.8	34.4	70.8
	permutation_bonf	51.8	34.3	70.1
Weib prop continuous	asymptotic	43.0	28.7	64.4
	asymptotic_bonf	42.1	27.4	63.2
	permutation_bonf	41.4	27.2	61.0
Weib prop discrete	asymptotic	52.9	35.3	71.8
	asymptotic_bonf	51.3	34.0	71.0
	permutation_bonf	51.2	33.5	69.9
Weib scale continuous	asymptotic	35.4	24.1	54.8
	asymptotic_bonf	33.9	23.0	53.5
	permutation_bonf	33.3	23.3	52.8
Weib scale discrete	asymptotic	44.5	29.4	62.3
	asymptotic_bonf	43.0	28.3	60.8
	permutation_bonf	42.8	27.5	60.2
Weib shape continuous	asymptotic	26.0	17.1	41.0
	asymptotic_bonf	24.9	16.4	39.9
	permutation_bonf	24.0	16.4	38.6
Weib shape discrete	asymptotic	32.9	22.6	51.1
	asymptotic_bonf	31.9	21.8	49.4
	permutation_bonf	33.1	21.4	48.5

Table S110: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and balanced medium sample sizes under equal censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	2.9	1.4	3.5
	asymptotic_bonf	2.5	1.2	3.3
	permutation_bonf	2.4	1.3	2.9
exp early discrete	asymptotic	3.3	1.5	3.9
	asymptotic_bonf	3.0	1.4	3.7
	permutation_bonf	2.7	1.2	3.3
exp late continuous	asymptotic	3.2	1.9	3.5
	asymptotic_bonf	3.0	1.8	3.2
	permutation_bonf	2.8	1.4	3.3
exp late discrete	asymptotic	3.6	1.8	4.4
	asymptotic_bonf	3.2	1.5	4.1
	permutation_bonf	2.8	1.4	3.8
exp prop continuous	asymptotic	2.4	1.8	3.3
	asymptotic_bonf	2.2	1.7	3.1
	permutation_bonf	1.8	1.7	2.5
exp prop discrete	asymptotic	2.9	2.1	4.2
	asymptotic_bonf	2.6	2.0	3.7
	permutation_bonf	2.1	1.8	3.2
logn continuous	asymptotic	6.2	4.0	9.9
	asymptotic_bonf	6.0	3.6	9.4
	permutation_bonf	5.8	3.5	8.5
logn discrete	asymptotic	8.0	4.6	11.6
	asymptotic_bonf	7.5	4.4	10.8
	permutation_bonf	5.9	4.0	10.3
pwExp continuous	asymptotic	2.4	1.1	3.4
	asymptotic_bonf	2.2	1.1	2.8
	permutation_bonf	1.6	1.2	2.8
pwExp discrete	asymptotic	2.5	1.2	3.8
	asymptotic_bonf	2.4	1.1	3.5
	permutation_bonf	1.9	1.1	3.1
Weib late continuous	asymptotic	5.8	5.5	10.0
	asymptotic_bonf	5.2	5.0	9.4
	permutation_bonf	5.0	4.6	8.1
Weib late discrete	asymptotic	7.1	6.0	11.6
	asymptotic_bonf	6.8	5.6	10.6
	permutation_bonf	6.2	5.2	10.0
Weib prop continuous	asymptotic	5.5	5.0	8.9
	asymptotic_bonf	5.1	4.9	8.3
	permutation_bonf	4.4	4.5	7.1
Weib prop discrete	asymptotic	6.2	5.5	10.6
	asymptotic_bonf	5.8	5.1	10.1
	permutation_bonf	5.3	4.8	8.6
Weib scale continuous	asymptotic	4.1	3.4	6.4
	asymptotic_bonf	3.8	3.1	5.9
	permutation_bonf	3.2	2.7	4.6
Weib scale discrete	asymptotic	4.5	3.8	7.0
	asymptotic_bonf	4.2	3.5	6.6
	permutation_bonf	3.5	3.3	5.5
Weib shape continuous	asymptotic	2.1	2.1	4.0
	asymptotic_bonf	2.0	1.8	3.6
	permutation_bonf	1.9	2.0	3.1
Weib shape discrete	asymptotic	3.0	2.4	4.9
	asymptotic_bonf	2.7	2.4	4.4
	permutation_bonf	2.5	2.2	3.8

Table S111: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and balanced small sample sizes under equal censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	38.8	20.2	58.1
	asymptotic_bonf	38.1	19.6	57.1
	permutation_bonf	35.1	17.8	56.1
exp early discrete	asymptotic	45.0	24.6	64.5
	asymptotic_bonf	44.2	23.8	63.5
	permutation_bonf	41.4	21.4	62.8
exp late continuous	asymptotic	46.0	24.3	66.2
	asymptotic_bonf	44.6	23.4	65.2
	permutation_bonf	41.1	21.1	64.5
exp late discrete	asymptotic	52.3	28.6	72.5
	asymptotic_bonf	51.4	27.6	71.7
	permutation_bonf	47.9	24.9	69.8
exp prop continuous	asymptotic	41.9	24.3	61.9
	asymptotic_bonf	41.1	24.0	61.2
	permutation_bonf	38.6	21.4	59.2
exp prop discrete	asymptotic	48.1	29.9	68.3
	asymptotic_bonf	47.1	29.1	67.8
	permutation_bonf	44.9	25.8	66.0
logn continuous	asymptotic	87.2	66.5	96.2
	asymptotic_bonf	87.0	65.8	96.0
	permutation_bonf	84.4	62.3	95.5
logn discrete	asymptotic	92.3	75.8	98.2
	asymptotic_bonf	92.0	75.2	98.0
	permutation_bonf	90.0	69.8	97.5
pwExp continuous	asymptotic	37.0	19.4	57.0
	asymptotic_bonf	36.0	18.6	56.2
	permutation_bonf	34.2	16.6	54.2
pwExp discrete	asymptotic	43.7	23.1	63.6
	asymptotic_bonf	42.8	22.7	62.7
	permutation_bonf	40.6	20.0	61.4
Weib late continuous	asymptotic	87.5	68.0	97.5
	asymptotic_bonf	87.1	67.0	97.5
	permutation_bonf	84.8	62.7	96.7
Weib late discrete	asymptotic	89.2	72.9	96.5
	asymptotic_bonf	89.0	72.4	96.4
	permutation_bonf	87.2	68.4	95.8
Weib prop continuous	asymptotic	84.8	64.9	96.5
	asymptotic_bonf	84.2	64.0	96.2
	permutation_bonf	81.8	59.0	95.3
Weib prop discrete	asymptotic	90.1	73.5	98.2
	asymptotic_bonf	89.8	73.0	98.1
	permutation_bonf	87.4	67.7	97.8
Weib scale continuous	asymptotic	74.5	53.1	89.8
	asymptotic_bonf	73.9	52.2	89.5
	permutation_bonf	70.8	47.4	88.0
Weib scale discrete	asymptotic	81.2	60.3	95.0
	asymptotic_bonf	81.0	59.7	95.0
	permutation_bonf	78.5	54.3	93.2
Weib shape continuous	asymptotic	57.5	36.6	75.4
	asymptotic_bonf	56.5	36.4	75.0
	permutation_bonf	51.6	30.3	72.5
Weib shape discrete	asymptotic	68.5	46.8	84.3
	asymptotic_bonf	68.0	46.1	84.2
	permutation_bonf	63.0	39.8	82.2

Table S112: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and unbalanced large sample sizes under equal censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	3.1	2.3	5.2
	asymptotic_bonf	3.0	2.2	4.8
	permutation_bonf	1.6	0.7	3.5
exp early discrete	asymptotic	3.5	2.8	6.3
	asymptotic_bonf	3.3	2.5	6.0
	permutation_bonf	1.6	0.7	4.1
exp late continuous	asymptotic	3.7	2.5	7.1
	asymptotic_bonf	3.3	2.5	6.8
	permutation_bonf	1.8	0.9	5.1
exp late discrete	asymptotic	4.6	2.9	8.2
	asymptotic_bonf	4.2	2.9	7.8
	permutation_bonf	2.0	1.0	5.8
exp prop continuous	asymptotic	4.2	2.2	6.0
	asymptotic_bonf	4.0	2.0	5.7
	permutation_bonf	2.2	0.8	4.0
exp prop discrete	asymptotic	4.9	2.5	7.1
	asymptotic_bonf	4.6	2.3	6.8
	permutation_bonf	2.6	0.8	4.3
logn continuous	asymptotic	9.8	5.2	19.4
	asymptotic_bonf	9.2	5.1	19.0
	permutation_bonf	3.9	0.8	10.8
logn discrete	asymptotic	12.2	6.4	22.6
	asymptotic_bonf	11.7	6.2	22.0
	permutation_bonf	4.6	0.5	12.4
pwExp continuous	asymptotic	2.8	2.1	5.1
	asymptotic_bonf	2.6	2.0	5.0
	permutation_bonf	1.3	0.8	3.7
pwExp discrete	asymptotic	3.2	2.4	6.2
	asymptotic_bonf	3.1	2.4	5.9
	permutation_bonf	1.6	0.8	4.4
Weib late continuous	asymptotic	12.2	5.7	22.7
	asymptotic_bonf	11.9	5.4	22.0
	permutation_bonf	5.8	1.1	13.6
Weib late discrete	asymptotic	14.7	6.8	27.0
	asymptotic_bonf	14.0	6.3	26.2
	permutation_bonf	6.8	1.1	16.2
Weib prop continuous	asymptotic	10.8	4.7	19.6
	asymptotic_bonf	10.3	4.5	19.0
	permutation_bonf	4.5	1.2	11.6
Weib prop discrete	asymptotic	12.6	5.8	23.2
	asymptotic_bonf	12.2	5.7	22.6
	permutation_bonf	5.3	0.9	12.6
Weib scale continuous	asymptotic	7.6	2.9	11.6
	asymptotic_bonf	7.4	2.6	11.0
	permutation_bonf	2.8	0.5	5.9
Weib scale discrete	asymptotic	9.0	3.8	13.8
	asymptotic_bonf	8.6	3.6	13.3
	permutation_bonf	2.8	0.4	6.3
Weib shape continuous	asymptotic	3.8	1.4	6.0
	asymptotic_bonf	3.6	1.4	5.8
	permutation_bonf	1.3	0.2	3.0
Weib shape discrete	asymptotic	4.5	1.9	7.8
	asymptotic_bonf	4.4	1.8	7.5
	permutation_bonf	1.1	0.0	3.2

Table S113: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and unbalanced medium sample sizes under equal censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	1.7	2.9	2.2
	asymptotic_bonf	1.6	2.8	2.2
	permutation_bonf	0.1	0.3	0.2
exp early discrete	asymptotic	1.7	2.8	2.5
	asymptotic_bonf	1.6	2.8	2.4
	permutation_bonf	0.2	0.4	0.2
exp late continuous	asymptotic	2.0	2.0	2.6
	asymptotic_bonf	1.9	2.0	2.5
	permutation_bonf	0.0	0.1	0.1
exp late discrete	asymptotic	2.0	2.2	3.4
	asymptotic_bonf	2.0	2.1	3.1
	permutation_bonf	0.0	0.2	0.2
exp prop continuous	asymptotic	2.0	2.1	2.5
	asymptotic_bonf	1.9	2.1	2.3
	permutation_bonf	0.1	0.2	0.4
exp prop discrete	asymptotic	2.1	2.2	2.7
	asymptotic_bonf	2.0	2.2	2.6
	permutation_bonf	0.1	0.2	0.2
logn continuous	asymptotic	3.0	5.0	3.6
	asymptotic_bonf	2.9	5.0	3.6
	permutation_bonf	0.3	0.2	0.2
logn discrete	asymptotic	3.2	5.5	3.6
	asymptotic_bonf	3.2	5.5	3.5
	permutation_bonf	0.2	0.4	0.1
pwExp continuous	asymptotic	1.9	2.6	2.4
	asymptotic_bonf	1.8	2.5	2.1
	permutation_bonf	0.0	0.4	0.2
pwExp discrete	asymptotic	1.7	2.6	2.5
	asymptotic_bonf	1.7	2.6	2.4
	permutation_bonf	0.0	0.4	0.1
Weib late continuous	asymptotic	3.0	3.2	4.1
	asymptotic_bonf	2.9	3.2	3.8
	permutation_bonf	0.0	0.1	0.1
Weib late discrete	asymptotic	3.1	4.0	4.8
	asymptotic_bonf	2.9	4.0	4.6
	permutation_bonf	0.0	0.1	0.1
Weib prop continuous	asymptotic	2.6	4.0	3.6
	asymptotic_bonf	2.5	4.0	3.4
	permutation_bonf	0.1	0.1	0.2
Weib prop discrete	asymptotic	2.9	4.4	3.8
	asymptotic_bonf	2.8	4.3	3.8
	permutation_bonf	0.1	0.2	0.1
Weib scale continuous	asymptotic	3.4	5.3	2.9
	asymptotic_bonf	3.3	5.2	2.9
	permutation_bonf	0.2	0.3	0.2
Weib scale discrete	asymptotic	3.6	6.2	3.4
	asymptotic_bonf	3.6	6.2	3.4
	permutation_bonf	0.1	0.4	0.2
Weib shape continuous	asymptotic	5.8	9.8	3.7
	asymptotic_bonf	5.8	9.8	3.6
	permutation_bonf	1.0	0.8	1.1
Weib shape discrete	asymptotic	6.0	10.2	3.8
	asymptotic_bonf	6.0	10.2	3.8
	permutation_bonf	0.6	0.5	0.8

Table S114: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and unbalanced small sample sizes under equal censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	74.4	54.6	90.4
	asymptotic_bonf	73.0	53.0	89.5
	permutation_bonf	72.0	52.0	89.1
exp early discrete	asymptotic	78.7	58.7	92.1
	asymptotic_bonf	77.2	56.5	91.8
	permutation_bonf	77.1	57.0	91.1
exp late continuous	asymptotic	77.2	56.2	90.8
	asymptotic_bonf	75.6	54.3	90.1
	permutation_bonf	74.4	53.5	89.9
exp late discrete	asymptotic	80.5	60.5	92.7
	asymptotic_bonf	79.5	59.1	92.2
	permutation_bonf	79.0	58.6	92.2
exp prop continuous	asymptotic	75.2	56.3	91.6
	asymptotic_bonf	74.1	54.9	90.8
	permutation_bonf	73.9	54.2	90.5
exp prop discrete	asymptotic	79.5	61.7	94.0
	asymptotic_bonf	78.5	59.9	93.2
	permutation_bonf	78.6	59.2	93.0
logn continuous	asymptotic	98.9	93.2	99.7
	asymptotic_bonf	98.6	92.8	99.7
	permutation_bonf	98.6	92.8	99.6
logn discrete	asymptotic	99.6	96.7	100.0
	asymptotic_bonf	99.5	96.4	100.0
	permutation_bonf	99.6	96.5	100.0
pwExp continuous	asymptotic	74.5	53.0	89.6
	asymptotic_bonf	72.4	51.0	88.7
	permutation_bonf	71.7	51.0	88.2
pwExp discrete	asymptotic	78.5	57.0	91.9
	asymptotic_bonf	76.8	55.7	91.2
	permutation_bonf	77.0	55.8	91.4
Weib late continuous	asymptotic	98.5	92.5	100.0
	asymptotic_bonf	98.4	92.0	100.0
	permutation_bonf	98.2	91.8	100.0
Weib late discrete	asymptotic	99.5	95.8	99.9
	asymptotic_bonf	99.3	95.8	99.9
	permutation_bonf	99.3	95.3	99.8
Weib prop continuous	asymptotic	98.1	91.7	100.0
	asymptotic_bonf	97.9	91.1	100.0
	permutation_bonf	98.0	90.8	100.0
Weib prop discrete	asymptotic	99.3	95.3	100.0
	asymptotic_bonf	99.3	95.2	100.0
	permutation_bonf	99.2	94.9	100.0
Weib scale continuous	asymptotic	97.5	88.5	99.9
	asymptotic_bonf	97.2	87.7	99.9
	permutation_bonf	97.1	87.6	99.8
Weib scale discrete	asymptotic	99.0	93.5	100.0
	asymptotic_bonf	98.9	93.0	100.0
	permutation_bonf	98.8	93.0	100.0
Weib shape continuous	asymptotic	96.5	84.7	99.2
	asymptotic_bonf	96.0	84.0	99.1
	permutation_bonf	95.8	83.5	99.2
Weib shape discrete	asymptotic	98.4	90.8	99.8
	asymptotic_bonf	98.4	90.2	99.8
	permutation_bonf	98.0	89.3	99.7

Table S115: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and balanced large sample sizes under unequal, high censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	12.6	7.8	16.8
	asymptotic_bonf	11.9	7.0	15.8
	permutation_bonf	11.4	6.8	15.4
exp early discrete	asymptotic	13.7	7.4	18.8
	asymptotic_bonf	13.1	6.9	17.6
	permutation_bonf	12.8	7.0	17.2
exp late continuous	asymptotic	12.4	8.3	17.9
	asymptotic_bonf	11.9	7.8	16.9
	permutation_bonf	11.6	7.7	16.6
exp late discrete	asymptotic	14.8	8.0	20.0
	asymptotic_bonf	13.8	7.3	18.6
	permutation_bonf	13.5	7.6	18.8
exp prop continuous	asymptotic	13.1	8.1	18.5
	asymptotic_bonf	12.2	7.4	17.1
	permutation_bonf	11.9	7.2	15.9
exp prop discrete	asymptotic	13.9	8.5	19.9
	asymptotic_bonf	13.2	8.0	18.6
	permutation_bonf	13.2	8.0	18.2
logn continuous	asymptotic	29.4	18.1	46.1
	asymptotic_bonf	28.1	17.1	45.4
	permutation_bonf	27.3	16.7	44.1
logn discrete	asymptotic	35.1	21.4	53.0
	asymptotic_bonf	33.6	20.9	51.7
	permutation_bonf	32.6	20.5	50.5
pwExp continuous	asymptotic	11.7	7.4	16.4
	asymptotic_bonf	10.7	7.1	15.6
	permutation_bonf	10.6	7.0	14.9
pwExp discrete	asymptotic	13.8	7.8	18.3
	asymptotic_bonf	13.0	7.5	17.2
	permutation_bonf	12.7	7.1	16.8
Weib late continuous	asymptotic	30.7	19.4	46.4
	asymptotic_bonf	29.3	18.9	44.5
	permutation_bonf	28.4	18.2	43.0
Weib late discrete	asymptotic	34.5	23.2	51.2
	asymptotic_bonf	33.1	21.8	49.9
	permutation_bonf	32.8	21.2	48.3
Weib prop continuous	asymptotic	29.0	18.2	43.8
	asymptotic_bonf	28.1	17.5	42.3
	permutation_bonf	27.0	16.8	41.2
Weib prop discrete	asymptotic	34.8	22.8	51.5
	asymptotic_bonf	33.2	21.9	50.7
	permutation_bonf	33.1	21.2	48.9
Weib scale continuous	asymptotic	24.4	16.1	39.7
	asymptotic_bonf	23.5	15.3	38.6
	permutation_bonf	23.8	15.6	37.0
Weib scale discrete	asymptotic	29.8	19.1	46.7
	asymptotic_bonf	28.9	18.4	45.6
	permutation_bonf	28.1	18.6	43.6
Weib shape continuous	asymptotic	20.9	13.6	33.0
	asymptotic_bonf	20.2	12.7	31.8
	permutation_bonf	20.0	12.3	30.8
Weib shape discrete	asymptotic	24.9	15.8	39.1
	asymptotic_bonf	24.1	15.3	38.0
	permutation_bonf	23.4	15.1	37.4

Table S116: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and balanced medium sample sizes under unequal, high censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	2.8	2.0	3.5
	asymptotic_bonf	2.4	1.9	3.3
	permutation_bonf	2.0	1.7	2.5
exp early discrete	asymptotic	3.2	1.9	4.2
	asymptotic_bonf	2.8	1.8	3.8
	permutation_bonf	2.0	1.5	3.4
exp late continuous	asymptotic	2.7	2.1	4.0
	asymptotic_bonf	2.5	1.8	3.6
	permutation_bonf	2.0	1.6	2.8
exp late discrete	asymptotic	3.0	2.0	3.6
	asymptotic_bonf	2.9	1.9	3.2
	permutation_bonf	2.4	1.6	2.8
exp prop continuous	asymptotic	2.0	1.8	4.0
	asymptotic_bonf	1.9	1.8	3.8
	permutation_bonf	1.6	1.5	2.9
exp prop discrete	asymptotic	2.7	2.1	4.3
	asymptotic_bonf	2.5	1.8	4.0
	permutation_bonf	1.8	1.7	3.0
logn continuous	asymptotic	4.5	2.8	7.5
	asymptotic_bonf	4.2	2.6	7.2
	permutation_bonf	3.2	2.4	6.0
logn discrete	asymptotic	5.2	3.6	8.2
	asymptotic_bonf	5.1	3.3	8.0
	permutation_bonf	3.9	2.8	6.3
pwExp continuous	asymptotic	2.1	1.9	3.8
	asymptotic_bonf	2.1	1.8	3.4
	permutation_bonf	1.8	1.6	2.7
pwExp discrete	asymptotic	2.5	1.9	4.2
	asymptotic_bonf	2.4	1.8	3.9
	permutation_bonf	1.9	1.6	3.2
Weib late continuous	asymptotic	4.4	3.8	8.1
	asymptotic_bonf	4.2	3.6	7.5
	permutation_bonf	3.2	3.2	6.2
Weib late discrete	asymptotic	5.3	4.6	8.8
	asymptotic_bonf	4.9	4.4	8.4
	permutation_bonf	3.2	3.8	7.3
Weib prop continuous	asymptotic	4.0	3.7	7.4
	asymptotic_bonf	3.6	3.6	7.0
	permutation_bonf	3.0	3.1	5.5
Weib prop discrete	asymptotic	4.5	4.0	8.3
	asymptotic_bonf	4.2	3.8	8.1
	permutation_bonf	3.0	3.4	6.6
Weib scale continuous	asymptotic	3.1	2.9	5.2
	asymptotic_bonf	2.9	2.8	5.0
	permutation_bonf	2.2	2.6	4.0
Weib scale discrete	asymptotic	3.4	3.3	6.2
	asymptotic_bonf	3.2	2.9	6.0
	permutation_bonf	2.2	2.8	5.2
Weib shape continuous	asymptotic	2.3	1.8	4.0
	asymptotic_bonf	2.0	1.6	3.7
	permutation_bonf	1.7	1.7	2.9
Weib shape discrete	asymptotic	2.2	1.8	4.8
	asymptotic_bonf	2.1	1.6	4.5
	permutation_bonf	1.8	1.8	3.8

Table S117: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and balanced small sample sizes under unequal, high censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	32.8	17.5	51.5
	asymptotic_bonf	32.0	16.9	50.6
	permutation_bonf	29.1	15.1	48.9
exp early discrete	asymptotic	35.5	19.3	54.8
	asymptotic_bonf	34.8	18.6	54.1
	permutation_bonf	32.6	17.1	53.1
exp late continuous	asymptotic	35.5	18.1	56.3
	asymptotic_bonf	34.1	17.4	54.9
	permutation_bonf	32.1	15.7	53.4
exp late discrete	asymptotic	38.9	20.2	60.1
	asymptotic_bonf	38.0	19.5	59.2
	permutation_bonf	35.1	17.1	56.9
exp prop continuous	asymptotic	33.4	20.2	50.4
	asymptotic_bonf	32.2	19.3	49.3
	permutation_bonf	29.8	17.3	48.0
exp prop discrete	asymptotic	36.7	22.1	55.1
	asymptotic_bonf	35.7	21.6	54.2
	permutation_bonf	33.6	18.0	51.9
logn continuous	asymptotic	69.8	46.7	86.6
	asymptotic_bonf	68.8	45.7	86.2
	permutation_bonf	63.3	38.2	83.2
logn discrete	asymptotic	76.1	53.1	91.6
	asymptotic_bonf	75.6	52.5	91.5
	permutation_bonf	69.8	42.9	88.2
pwExp continuous	asymptotic	30.3	16.4	48.6
	asymptotic_bonf	29.5	15.8	47.8
	permutation_bonf	27.5	13.6	46.5
pwExp discrete	asymptotic	34.5	17.9	53.6
	asymptotic_bonf	33.6	17.5	52.8
	permutation_bonf	31.4	14.7	51.1
Weib late continuous	asymptotic	70.0	48.7	87.9
	asymptotic_bonf	69.0	47.9	87.2
	permutation_bonf	63.9	40.1	85.8
Weib late discrete	asymptotic	73.5	53.4	90.0
	asymptotic_bonf	73.1	52.8	89.5
	permutation_bonf	67.9	43.6	87.6
Weib prop continuous	asymptotic	67.3	46.4	85.6
	asymptotic_bonf	66.5	45.5	85.3
	permutation_bonf	61.5	37.5	83.1
Weib prop discrete	asymptotic	74.9	53.2	90.8
	asymptotic_bonf	74.4	52.2	90.3
	permutation_bonf	68.8	43.5	88.2
Weib scale continuous	asymptotic	60.1	39.1	78.0
	asymptotic_bonf	59.1	38.1	77.2
	permutation_bonf	54.0	31.0	73.8
Weib scale discrete	asymptotic	66.3	44.5	83.8
	asymptotic_bonf	65.8	43.6	83.5
	permutation_bonf	58.5	34.3	80.2
Weib shape continuous	asymptotic	49.5	30.9	68.2
	asymptotic_bonf	49.1	30.2	67.8
	permutation_bonf	43.8	23.3	63.7
Weib shape discrete	asymptotic	57.6	36.9	75.2
	asymptotic_bonf	56.7	36.3	74.4
	permutation_bonf	49.4	26.7	69.9

Table S118: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and unbalanced large sample sizes under unequal, high censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	2.9	1.9	4.2
	asymptotic_bonf	2.8	1.9	4.0
	permutation_bonf	1.1	0.3	2.4
exp early discrete	asymptotic	3.1	1.4	5.2
	asymptotic_bonf	3.1	1.4	4.9
	permutation_bonf	1.1	0.2	2.5
exp late continuous	asymptotic	3.7	2.1	4.5
	asymptotic_bonf	3.6	2.0	4.3
	permutation_bonf	1.1	0.1	3.0
exp late discrete	asymptotic	3.5	1.9	5.9
	asymptotic_bonf	3.4	1.8	5.3
	permutation_bonf	1.4	0.2	3.0
exp prop continuous	asymptotic	3.4	1.8	4.9
	asymptotic_bonf	3.2	1.7	4.8
	permutation_bonf	1.7	0.4	2.6
exp prop discrete	asymptotic	3.8	1.9	5.5
	asymptotic_bonf	3.5	1.8	5.3
	permutation_bonf	1.6	0.4	2.8
logn continuous	asymptotic	5.7	3.4	11.3
	asymptotic_bonf	5.6	3.4	11.1
	permutation_bonf	0.8	0.1	3.8
logn discrete	asymptotic	6.6	3.4	12.7
	asymptotic_bonf	6.4	3.4	12.4
	permutation_bonf	0.5	0.0	3.8
pwExp continuous	asymptotic	2.1	1.7	4.6
	asymptotic_bonf	2.0	1.7	4.3
	permutation_bonf	0.8	0.1	2.6
pwExp discrete	asymptotic	2.5	1.7	5.1
	asymptotic_bonf	2.4	1.7	4.6
	permutation_bonf	0.6	0.2	3.1
Weib late continuous	asymptotic	7.2	3.6	13.6
	asymptotic_bonf	6.7	3.3	13.2
	permutation_bonf	1.6	0.2	5.8
Weib late discrete	asymptotic	7.8	3.4	16.6
	asymptotic_bonf	7.4	3.3	15.8
	permutation_bonf	1.1	0.1	6.4
Weib prop continuous	asymptotic	6.8	2.6	12.0
	asymptotic_bonf	6.6	2.4	11.9
	permutation_bonf	1.2	0.1	4.9
Weib prop discrete	asymptotic	7.3	3.1	14.4
	asymptotic_bonf	7.0	2.8	14.0
	permutation_bonf	0.9	0.2	4.6
Weib scale continuous	asymptotic	5.0	2.1	7.8
	asymptotic_bonf	4.5	1.9	7.5
	permutation_bonf	0.6	0.1	2.6
Weib scale discrete	asymptotic	5.3	1.9	8.9
	asymptotic_bonf	5.2	1.8	8.6
	permutation_bonf	0.6	0.1	2.3
Weib shape continuous	asymptotic	3.4	1.6	5.1
	asymptotic_bonf	3.2	1.5	4.9
	permutation_bonf	0.5	0.0	1.4
Weib shape discrete	asymptotic	3.6	1.6	6.0
	asymptotic_bonf	3.5	1.6	5.8
	permutation_bonf	0.3	0.0	1.2

Table S119: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and unbalanced medium sample sizes under unequal, high censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	1.6	4.2	2.4
	asymptotic_bonf	1.5	4.0	2.2
	permutation_bonf	0.1	0.2	0.1
exp early discrete	asymptotic	2.3	5.0	2.2
	asymptotic_bonf	2.2	5.0	2.1
	permutation_bonf	0.2	0.1	0.1
exp late continuous	asymptotic	1.7	4.2	2.4
	asymptotic_bonf	1.6	4.1	2.4
	permutation_bonf	0.1	0.1	0.1
exp late discrete	asymptotic	2.2	4.9	2.6
	asymptotic_bonf	2.1	4.8	2.4
	permutation_bonf	0.2	0.0	0.1
exp prop continuous	asymptotic	2.6	4.0	2.9
	asymptotic_bonf	2.5	4.0	2.9
	permutation_bonf	0.2	0.2	0.2
exp prop discrete	asymptotic	3.4	4.8	3.0
	asymptotic_bonf	3.4	4.8	3.0
	permutation_bonf	0.2	0.3	0.2
logn continuous	asymptotic	6.8	11.2	4.2
	asymptotic_bonf	6.8	11.1	4.1
	permutation_bonf	0.4	0.5	0.4
logn discrete	asymptotic	7.4	11.7	4.5
	asymptotic_bonf	7.3	11.6	4.3
	permutation_bonf	0.5	0.5	0.2
pwExp continuous	asymptotic	1.6	4.1	2.0
	asymptotic_bonf	1.6	4.0	1.9
	permutation_bonf	0.0	0.1	0.2
pwExp discrete	asymptotic	2.0	5.1	2.0
	asymptotic_bonf	1.9	5.1	1.9
	permutation_bonf	0.0	0.0	0.1
Weib late continuous	asymptotic	5.4	7.6	4.8
	asymptotic_bonf	5.4	7.6	4.4
	permutation_bonf	0.4	0.3	0.4
Weib late discrete	asymptotic	6.6	8.3	5.8
	asymptotic_bonf	6.5	8.1	5.8
	permutation_bonf	0.1	0.4	0.5
Weib prop continuous	asymptotic	5.9	7.8	4.3
	asymptotic_bonf	5.8	7.8	4.2
	permutation_bonf	0.4	0.3	0.4
Weib prop discrete	asymptotic	6.6	9.0	5.8
	asymptotic_bonf	6.6	8.8	5.5
	permutation_bonf	0.2	0.2	0.5
Weib scale continuous	asymptotic	6.6	10.0	4.4
	asymptotic_bonf	6.6	10.0	4.4
	permutation_bonf	0.4	0.3	0.4
Weib scale discrete	asymptotic	8.2	10.8	5.0
	asymptotic_bonf	8.1	10.8	4.8
	permutation_bonf	0.3	0.2	0.5
Weib shape continuous	asymptotic	7.4	12.6	4.2
	asymptotic_bonf	7.4	12.5	4.2
	permutation_bonf	0.8	0.4	0.4
Weib shape discrete	asymptotic	9.3	14.0	5.4
	asymptotic_bonf	9.3	13.9	5.4
	permutation_bonf	0.4	0.3	0.7

Table S120: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and unbalanced small sample sizes under unequal, high censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	83.9	63.6	95.2
	asymptotic_bonf	83.2	61.6	94.8
	permutation_bonf	82.8	61.9	94.3
exp early discrete	asymptotic	88.6	70.5	96.9
	asymptotic_bonf	87.8	69.0	96.7
	permutation_bonf	87.5	69.0	96.1
exp late continuous	asymptotic	86.7	67.3	96.4
	asymptotic_bonf	86.1	65.5	96.0
	permutation_bonf	85.9	65.2	95.8
exp late discrete	asymptotic	91.3	74.2	97.9
	asymptotic_bonf	90.5	72.3	97.8
	permutation_bonf	90.1	72.8	97.7
exp prop continuous	asymptotic	85.0	67.7	96.8
	asymptotic_bonf	83.9	66.0	96.4
	permutation_bonf	82.9	66.6	96.2
exp prop discrete	asymptotic	89.8	74.4	98.4
	asymptotic_bonf	89.1	73.4	98.0
	permutation_bonf	88.1	73.2	98.0
logn continuous	asymptotic	100.0	98.9	100.0
	asymptotic_bonf	100.0	98.7	100.0
	permutation_bonf	100.0	98.6	100.0
logn discrete	asymptotic	100.0	99.7	100.0
	asymptotic_bonf	100.0	99.7	100.0
	permutation_bonf	100.0	99.7	100.0
pwExp continuous	asymptotic	83.5	62.0	94.8
	asymptotic_bonf	82.2	60.1	94.3
	permutation_bonf	81.7	60.0	94.2
pwExp discrete	asymptotic	87.2	69.5	96.5
	asymptotic_bonf	86.8	68.0	96.4
	permutation_bonf	87.1	67.0	96.0
Weib late continuous	asymptotic	99.9	99.0	100.0
	asymptotic_bonf	99.9	98.9	100.0
	permutation_bonf	99.9	99.0	100.0
Weib late discrete	asymptotic	100.0	99.7	100.0
	asymptotic_bonf	100.0	99.7	100.0
	permutation_bonf	100.0	99.6	100.0
Weib prop continuous	asymptotic	99.9	98.7	100.0
	asymptotic_bonf	99.9	98.6	100.0
	permutation_bonf	99.9	98.4	100.0
Weib prop discrete	asymptotic	100.0	99.6	100.0
	asymptotic_bonf	100.0	99.6	100.0
	permutation_bonf	100.0	99.5	100.0
Weib scale continuous	asymptotic	99.7	97.2	100.0
	asymptotic_bonf	99.6	97.0	100.0
	permutation_bonf	99.6	96.7	100.0
Weib scale discrete	asymptotic	100.0	98.8	100.0
	asymptotic_bonf	99.9	98.8	100.0
	permutation_bonf	100.0	98.8	100.0
Weib shape continuous	asymptotic	98.8	91.8	99.8
	asymptotic_bonf	98.6	91.5	99.8
	permutation_bonf	98.5	90.6	99.8
Weib shape discrete	asymptotic	99.6	96.7	100.0
	asymptotic_bonf	99.4	96.5	100.0
	permutation_bonf	99.6	96.6	100.0

Table S121: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and balanced large sample sizes under unequal, low censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	14.5	10.0	21.5
	asymptotic_bonf	13.5	9.2	19.7
	permutation_bonf	14.2	9.2	20.5
exp early discrete	asymptotic	17.8	11.5	25.2
	asymptotic_bonf	16.5	10.5	23.7
	permutation_bonf	17.0	10.5	22.9
exp late continuous	asymptotic	16.1	10.8	23.6
	asymptotic_bonf	15.1	10.3	22.0
	permutation_bonf	15.5	10.7	22.2
exp late discrete	asymptotic	19.6	12.4	27.6
	asymptotic_bonf	18.4	11.8	26.2
	permutation_bonf	18.6	11.9	25.8
exp prop continuous	asymptotic	16.2	9.6	23.1
	asymptotic_bonf	15.2	8.8	21.9
	permutation_bonf	14.9	9.0	21.4
exp prop discrete	asymptotic	18.4	11.0	26.8
	asymptotic_bonf	17.5	10.3	25.7
	permutation_bonf	16.9	10.1	24.8
logn continuous	asymptotic	47.6	32.1	65.7
	asymptotic_bonf	45.4	30.9	64.1
	permutation_bonf	45.5	30.9	62.9
logn discrete	asymptotic	56.1	39.9	73.6
	asymptotic_bonf	54.9	38.6	72.3
	permutation_bonf	54.1	38.0	71.7
pwExp continuous	asymptotic	14.4	9.8	20.6
	asymptotic_bonf	13.5	8.9	19.6
	permutation_bonf	13.2	9.3	19.7
pwExp discrete	asymptotic	17.4	11.4	23.9
	asymptotic_bonf	16.0	10.8	22.4
	permutation_bonf	15.8	10.5	22.7
Weib late continuous	asymptotic	48.1	32.8	67.0
	asymptotic_bonf	46.0	31.1	65.8
	permutation_bonf	45.6	30.6	64.9
Weib late discrete	asymptotic	56.6	39.0	74.7
	asymptotic_bonf	54.9	37.8	73.5
	permutation_bonf	54.1	37.2	72.1
Weib prop continuous	asymptotic	44.9	30.9	63.9
	asymptotic_bonf	43.3	29.3	62.7
	permutation_bonf	42.0	28.7	61.8
Weib prop discrete	asymptotic	54.0	37.5	72.6
	asymptotic_bonf	52.8	35.6	70.9
	permutation_bonf	52.8	35.4	70.5
Weib scale continuous	asymptotic	36.6	24.9	55.4
	asymptotic_bonf	35.4	24.2	53.9
	permutation_bonf	34.8	23.9	53.2
Weib scale discrete	asymptotic	45.2	30.1	63.3
	asymptotic_bonf	43.6	29.3	62.1
	permutation_bonf	43.1	29.2	61.6
Weib shape continuous	asymptotic	25.9	17.8	40.2
	asymptotic_bonf	25.0	16.7	38.8
	permutation_bonf	24.7	17.0	38.3
Weib shape discrete	asymptotic	34.4	22.7	50.9
	asymptotic_bonf	33.0	21.9	49.7
	permutation_bonf	32.5	21.3	48.5

Table S122: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and balanced medium sample sizes under unequal, low censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	3.1	1.3	3.5
	asymptotic_bonf	2.9	1.2	3.2
	permutation_bonf	2.6	1.2	3.1
exp early discrete	asymptotic	3.3	1.8	4.0
	asymptotic_bonf	3.1	1.5	3.8
	permutation_bonf	2.5	1.6	3.5
exp late continuous	asymptotic	3.4	1.7	4.0
	asymptotic_bonf	3.1	1.4	3.8
	permutation_bonf	2.8	1.6	3.5
exp late discrete	asymptotic	3.7	2.2	4.4
	asymptotic_bonf	3.4	1.9	4.2
	permutation_bonf	2.9	1.8	3.8
exp prop continuous	asymptotic	2.5	1.9	3.5
	asymptotic_bonf	2.1	1.8	3.3
	permutation_bonf	1.9	1.6	2.7
exp prop discrete	asymptotic	2.9	2.1	4.2
	asymptotic_bonf	2.5	1.8	4.0
	permutation_bonf	1.9	1.6	3.3
logn continuous	asymptotic	7.0	4.7	10.8
	asymptotic_bonf	6.6	4.3	10.3
	permutation_bonf	5.9	4.2	8.9
logn discrete	asymptotic	8.2	5.9	12.7
	asymptotic_bonf	7.8	5.4	11.8
	permutation_bonf	7.3	4.8	10.8
pwExp continuous	asymptotic	2.1	1.4	3.3
	asymptotic_bonf	2.0	1.2	2.9
	permutation_bonf	1.4	1.3	2.8
pwExp discrete	asymptotic	2.5	1.5	4.0
	asymptotic_bonf	2.4	1.4	3.5
	permutation_bonf	1.7	1.4	3.1
Weib late continuous	asymptotic	7.0	6.2	11.6
	asymptotic_bonf	6.8	5.7	11.1
	permutation_bonf	6.0	5.1	9.3
Weib late discrete	asymptotic	8.3	6.8	13.5
	asymptotic_bonf	8.1	6.2	12.6
	permutation_bonf	7.1	5.8	11.5
Weib prop continuous	asymptotic	6.4	5.8	10.3
	asymptotic_bonf	6.1	4.8	9.6
	permutation_bonf	5.3	4.5	8.5
Weib prop discrete	asymptotic	8.2	6.3	12.4
	asymptotic_bonf	7.5	5.8	11.6
	permutation_bonf	7.1	5.4	10.4
Weib scale continuous	asymptotic	4.2	3.4	7.3
	asymptotic_bonf	3.8	3.2	6.7
	permutation_bonf	3.6	2.8	5.5
Weib scale discrete	asymptotic	5.3	3.9	8.6
	asymptotic_bonf	5.0	3.5	7.8
	permutation_bonf	4.8	3.6	7.0
Weib shape continuous	asymptotic	2.2	2.0	3.8
	asymptotic_bonf	2.0	1.8	3.5
	permutation_bonf	1.8	1.8	3.1
Weib shape discrete	asymptotic	2.9	2.2	4.9
	asymptotic_bonf	2.8	2.2	4.6
	permutation_bonf	2.4	2.3	4.2

Table S123: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and balanced small sample sizes under unequal, low censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	39.6	20.9	58.6
	asymptotic_bonf	38.4	20.2	57.5
	permutation_bonf	36.4	18.6	57.1
exp early discrete	asymptotic	46.0	25.7	65.5
	asymptotic_bonf	45.3	24.9	64.6
	permutation_bonf	42.5	22.6	63.1
exp late continuous	asymptotic	45.8	24.6	67.7
	asymptotic_bonf	44.6	23.8	67.0
	permutation_bonf	42.8	21.8	65.6
exp late discrete	asymptotic	53.3	29.8	74.2
	asymptotic_bonf	52.6	28.9	73.6
	permutation_bonf	49.5	25.9	72.0
exp prop continuous	asymptotic	41.9	24.6	62.6
	asymptotic_bonf	41.1	24.0	61.6
	permutation_bonf	39.8	21.9	60.1
exp prop discrete	asymptotic	48.4	29.8	69.0
	asymptotic_bonf	47.9	28.9	68.5
	permutation_bonf	46.0	26.1	66.8
logn continuous	asymptotic	89.8	71.8	97.5
	asymptotic_bonf	89.5	71.0	97.5
	permutation_bonf	87.6	65.8	96.8
logn discrete	asymptotic	94.1	81.3	99.2
	asymptotic_bonf	94.0	80.9	99.0
	permutation_bonf	92.3	74.6	98.7
pwExp continuous	asymptotic	36.9	19.5	56.7
	asymptotic_bonf	36.2	18.6	56.0
	permutation_bonf	34.2	16.4	55.2
pwExp discrete	asymptotic	43.0	23.4	64.1
	asymptotic_bonf	42.4	23.1	63.5
	permutation_bonf	39.4	20.2	61.4
Weib late continuous	asymptotic	90.5	73.6	98.4
	asymptotic_bonf	90.3	73.0	98.2
	permutation_bonf	88.4	67.8	98.0
Weib late discrete	asymptotic	94.6	81.3	99.2
	asymptotic_bonf	94.4	80.5	99.2
	permutation_bonf	92.6	76.3	98.8
Weib prop continuous	asymptotic	87.6	68.8	97.5
	asymptotic_bonf	87.2	67.8	97.3
	permutation_bonf	84.9	63.7	96.5
Weib prop discrete	asymptotic	93.7	78.5	99.0
	asymptotic_bonf	93.5	77.8	99.0
	permutation_bonf	91.1	72.7	98.6
Weib scale continuous	asymptotic	76.4	54.5	91.8
	asymptotic_bonf	76.0	54.2	91.3
	permutation_bonf	73.2	48.4	89.8
Weib scale discrete	asymptotic	84.1	65.0	95.7
	asymptotic_bonf	83.8	64.1	95.5
	permutation_bonf	80.5	57.3	94.3
Weib shape continuous	asymptotic	58.0	37.2	76.1
	asymptotic_bonf	57.6	36.8	75.5
	permutation_bonf	52.6	29.8	73.2
Weib shape discrete	asymptotic	68.2	47.8	85.5
	asymptotic_bonf	67.8	46.9	85.1
	permutation_bonf	63.7	39.2	82.2

Table S124: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and unbalanced large sample sizes under unequal, low censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	3.2	2.4	5.0
	asymptotic_bonf	3.0	2.3	4.8
	permutation_bonf	1.4	0.7	3.6
exp early discrete	asymptotic	3.8	2.8	6.3
	asymptotic_bonf	3.4	2.7	6.0
	permutation_bonf	1.6	0.8	4.6
exp late continuous	asymptotic	3.8	2.8	6.9
	asymptotic_bonf	3.8	2.6	6.6
	permutation_bonf	1.7	0.9	5.0
exp late discrete	asymptotic	4.6	3.0	8.1
	asymptotic_bonf	4.3	2.9	7.7
	permutation_bonf	2.0	1.0	5.6
exp prop continuous	asymptotic	4.0	2.2	5.9
	asymptotic_bonf	3.8	2.2	5.4
	permutation_bonf	2.4	0.8	3.9
exp prop discrete	asymptotic	4.8	2.6	7.1
	asymptotic_bonf	4.3	2.5	6.6
	permutation_bonf	2.4	0.9	4.2
logn continuous	asymptotic	10.9	6.2	22.4
	asymptotic_bonf	10.5	5.9	21.9
	permutation_bonf	3.6	0.4	11.8
logn discrete	asymptotic	13.3	7.4	26.2
	asymptotic_bonf	12.8	7.2	26.1
	permutation_bonf	4.3	0.6	13.7
pwExp continuous	asymptotic	2.9	2.1	5.8
	asymptotic_bonf	2.6	2.0	5.4
	permutation_bonf	1.2	0.8	3.6
pwExp discrete	asymptotic	3.4	2.4	6.4
	asymptotic_bonf	3.2	2.3	6.2
	permutation_bonf	1.5	0.8	4.2
Weib late continuous	asymptotic	14.5	6.8	24.8
	asymptotic_bonf	13.8	6.4	24.2
	permutation_bonf	5.8	1.0	15.1
Weib late discrete	asymptotic	17.5	8.2	29.9
	asymptotic_bonf	16.8	7.8	29.3
	permutation_bonf	6.3	0.8	17.0
Weib prop continuous	asymptotic	12.6	5.9	21.5
	asymptotic_bonf	12.2	5.6	21.1
	permutation_bonf	4.4	0.7	11.9
Weib prop discrete	asymptotic	15.2	6.8	26.3
	asymptotic_bonf	14.7	6.6	25.4
	permutation_bonf	5.3	0.8	13.9
Weib scale continuous	asymptotic	7.8	3.1	12.2
	asymptotic_bonf	7.6	2.8	11.8
	permutation_bonf	2.2	0.2	5.7
Weib scale discrete	asymptotic	9.3	4.2	14.4
	asymptotic_bonf	8.8	3.8	14.2
	permutation_bonf	2.4	0.2	6.0
Weib shape continuous	asymptotic	3.8	1.4	5.9
	asymptotic_bonf	3.7	1.4	5.7
	permutation_bonf	0.9	0.0	2.4
Weib shape discrete	asymptotic	4.6	1.8	8.2
	asymptotic_bonf	4.4	1.8	8.0
	permutation_bonf	0.9	0.0	2.8

Table S125: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and unbalanced medium sample sizes under unequal, low censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$
exp early continuous	asymptotic	1.4	2.9	2.1
	asymptotic_bonf	1.4	2.9	2.1
	permutation_bonf	0.1	0.2	0.1
exp early discrete	asymptotic	1.6	3.0	2.2
	asymptotic_bonf	1.4	2.9	2.1
	permutation_bonf	0.1	0.1	0.2
exp late continuous	asymptotic	1.9	2.0	2.5
	asymptotic_bonf	1.8	2.0	2.5
	permutation_bonf	0.0	0.1	0.1
exp late discrete	asymptotic	1.9	2.1	2.7
	asymptotic_bonf	1.8	1.9	2.5
	permutation_bonf	0.0	0.0	0.1
exp prop continuous	asymptotic	1.9	2.2	2.5
	asymptotic_bonf	1.8	2.2	2.4
	permutation_bonf	0.0	0.2	0.3
exp prop discrete	asymptotic	2.1	2.1	2.6
	asymptotic_bonf	2.1	2.1	2.4
	permutation_bonf	0.0	0.3	0.3
logn continuous	asymptotic	2.0	3.8	2.9
	asymptotic_bonf	2.0	3.7	2.8
	permutation_bonf	0.1	0.3	0.0
logn discrete	asymptotic	2.1	4.0	3.1
	asymptotic_bonf	2.1	4.0	3.0
	permutation_bonf	0.1	0.2	0.1
pwExp continuous	asymptotic	1.8	2.4	2.1
	asymptotic_bonf	1.8	2.4	2.1
	permutation_bonf	0.0	0.3	0.2
pwExp discrete	asymptotic	1.9	2.5	2.2
	asymptotic_bonf	1.8	2.5	2.0
	permutation_bonf	0.0	0.1	0.1
Weib late continuous	asymptotic	1.8	2.6	4.3
	asymptotic_bonf	1.7	2.6	4.1
	permutation_bonf	0.0	0.0	0.0
Weib late discrete	asymptotic	2.3	2.8	4.4
	asymptotic_bonf	2.2	2.7	4.2
	permutation_bonf	0.0	0.0	0.0
Weib prop continuous	asymptotic	1.8	2.9	3.2
	asymptotic_bonf	1.7	2.9	3.1
	permutation_bonf	0.0	0.0	0.0
Weib prop discrete	asymptotic	1.8	3.0	3.7
	asymptotic_bonf	1.7	3.0	3.5
	permutation_bonf	0.0	0.0	0.0
Weib scale continuous	asymptotic	2.8	4.8	3.0
	asymptotic_bonf	2.8	4.6	2.9
	permutation_bonf	0.1	0.0	0.0
Weib scale discrete	asymptotic	3.0	4.8	2.9
	asymptotic_bonf	2.9	4.8	2.8
	permutation_bonf	0.1	0.1	0.0
Weib shape continuous	asymptotic	5.7	9.4	3.8
	asymptotic_bonf	5.7	9.4	3.7
	permutation_bonf	0.9	0.5	0.8
Weib shape discrete	asymptotic	5.7	9.6	3.8
	asymptotic_bonf	5.6	9.5	3.8
	permutation_bonf	0.6	0.5	0.5

Table S126: Rejection rates in percent for the Dunnett-type contrast matrix with $\delta = 1.5$ and unbalanced small sample sizes under unequal, low censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$	$\mathcal{H}_{0,13}$	$\mathcal{H}_{0,14}$	$\mathcal{H}_{0,15}$	$\mathcal{H}_{0,16}$	$\mathcal{H}_{0,17}$	$\mathcal{H}_{0,18}$
	asymptotic	79.5	57.0	93.2	78.4	56.2	93.5	78.5	57.0	95.0
exp early continuous	asymptotic_bonf	77.8	54.6	92.2	76.5	53.8	92.8	76.6	55.2	94.2
	permutation_bonf	76.2	53.7	91.6	75.0	52.6	92.2	74.8	53.5	93.2
	asymptotic	85.8	65.1	96.1	84.6	63.9	96.1	85.2	64.7	97.1
exp early discrete	asymptotic_bonf	84.3	62.4	95.8	83.3	61.4	95.7	83.6	62.0	96.8
	permutation_bonf	83.1	61.2	95.0	82.0	60.6	94.9	82.3	61.4	96.2
	asymptotic	85.0	62.4	96.7	84.0	62.7	96.5	83.4	61.3	95.0
exp late continuous	asymptotic_bonf	83.4	59.7	96.3	82.2	60.6	95.8	82.0	59.3	94.3
	permutation_bonf	82.8	58.3	95.5	80.9	59.5	95.4	81.0	57.4	94.1
	asymptotic	89.1	67.6	97.0	88.8	68.2	97.8	88.4	69.0	98.4
exp late discrete	asymptotic_bonf	87.9	65.8	96.7	87.1	66.0	97.3	87.2	67.2	98.0
	permutation_bonf	87.2	64.9	96.5	85.7	64.8	97.3	86.0	65.5	97.6
	asymptotic	81.8	61.6	95.2	80.9	61.2	95.0	80.3	61.8	95.3
exp prop continuous	asymptotic_bonf	79.8	59.7	94.7	79.1	58.2	94.3	78.6	60.1	94.5
	permutation_bonf	78.2	57.4	94.0	78.4	58.3	93.3	77.1	58.8	94.0
	asymptotic	86.4	69.3	97.2	87.1	68.2	97.3	87.0	68.3	97.8
exp prop discrete	asymptotic_bonf	85.4	67.5	96.8	85.6	66.2	97.0	85.4	66.8	97.5
	permutation_bonf	84.2	66.9	97.0	84.3	65.3	96.5	84.2	65.8	96.9
	asymptotic	99.9	98.4	100.0	99.9	98.7	100.0	99.9	98.3	100.0
logn continuous	asymptotic_bonf	99.9	98.2	100.0	99.8	98.0	100.0	99.8	98.0	100.0
	permutation_bonf	100.0	97.2	100.0	99.8	97.6	100.0	99.8	97.3	100.0
	asymptotic	100.0	99.2	100.0	100.0	99.5	100.0	100.0	99.4	100.0
logn discrete	asymptotic_bonf	100.0	99.2	100.0	100.0	99.4	100.0	100.0	99.2	100.0
	permutation_bonf	100.0	99.1	100.0	100.0	99.1	100.0	99.9	99.2	100.0
	asymptotic	79.0	55.9	92.8	76.9	56.0	92.8	77.8	56.0	94.5
pwExp continuous	asymptotic_bonf	77.3	53.5	92.2	75.4	53.2	92.0	76.2	54.1	93.6
	permutation_bonf	76.2	53.0	91.0	74.6	52.4	91.1	74.9	53.2	93.0
	asymptotic	85.2	62.8	95.9	84.0	63.3	96.0	84.6	64.6	97.0
pwExp discrete	asymptotic_bonf	83.5	60.8	95.2	82.8	61.3	95.5	83.0	62.9	96.3
	permutation_bonf	82.4	59.9	94.3	81.9	60.2	94.8	81.7	61.2	95.9
	asymptotic	99.9	97.7	100.0	100.0	97.9	100.0	100.0	97.7	100.0
Weib late continuous	asymptotic_bonf	99.9	97.5	100.0	100.0	97.7	100.0	99.9	97.5	100.0
	permutation_bonf	99.8	97.0	100.0	100.0	97.0	100.0	99.9	97.6	100.0
	asymptotic	100.0	99.1	100.0	100.0	99.1	100.0	100.0	98.9	100.0
Weib late discrete	asymptotic_bonf	99.9	98.9	100.0	100.0	99.1	100.0	100.0	98.7	100.0
	permutation_bonf	99.9	98.8	100.0	100.0	99.1	100.0	100.0	98.8	100.0
	asymptotic	99.7	97.8	100.0	99.7	97.7	100.0	99.9	97.2	100.0
Weib prop continuous	asymptotic_bonf	99.7	97.5	100.0	99.6	97.4	100.0	99.9	96.8	100.0
	permutation_bonf	99.7	96.7	100.0	99.4	97.2	100.0	99.8	96.5	100.0
	asymptotic	100.0	98.9	100.0	100.0	99.1	100.0	100.0	98.7	100.0
Weib prop discrete	asymptotic_bonf	100.0	98.8	100.0	100.0	99.1	100.0	100.0	98.5	100.0
	permutation_bonf	100.0	98.5	100.0	100.0	99.0	100.0	100.0	98.5	100.0
	asymptotic	99.3	95.8	100.0	99.2	95.2	100.0	99.4	95.3	100.0
Weib scale continuous	asymptotic_bonf	99.2	95.2	100.0	99.2	94.8	100.0	99.3	94.7	100.0
	permutation_bonf	99.1	94.6	100.0	98.9	94.0	99.9	99.0	93.7	100.0
	asymptotic	99.9	97.9	100.0	99.6	98.0	100.0	100.0	97.5	100.0
Weib scale discrete	asymptotic_bonf	99.9	97.8	100.0	99.6	97.8	100.0	100.0	97.3	100.0
	permutation_bonf	99.9	97.4	100.0	99.6	97.3	100.0	99.9	97.1	100.0
	asymptotic	98.3	89.6	99.7	97.7	89.8	99.7	97.7	89.3	99.8
Weib shape continuous	asymptotic_bonf	98.1	88.8	99.6	97.3	88.1	99.7	97.5	88.3	99.7
	permutation_bonf	97.7	87.6	99.5	97.0	87.4	99.7	97.2	87.2	99.5
	asymptotic	99.2	94.9	100.0	99.2	95.3	99.9	99.4	94.5	100.0
Weib shape discrete	asymptotic_bonf	99.2	94.2	100.0	99.2	94.7	99.9	99.2	93.8	100.0
	permutation_bonf	99.2	93.8	99.9	99.0	94.1	99.9	98.9	93.3	99.9

Table S127: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and balanced large sample sizes under equal censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$	$\mathcal{H}_{0,13}$	$\mathcal{H}_{0,14}$	$\mathcal{H}_{0,15}$	$\mathcal{H}_{0,16}$	$\mathcal{H}_{0,17}$	$\mathcal{H}_{0,18}$
	asymptotic	11.2	7.0	17.0	10.8	7.0	17.5	11.1	5.8	18.1
exp early continuous	asymptotic_bonf	10.1	6.0	15.6	9.6	6.5	15.8	9.7	5.1	16.8
	permutation_bonf	10.8	5.8	15.3	9.4	6.4	16.0	9.6	5.2	16.1
	asymptotic	13.4	8.0	19.9	12.8	8.3	20.5	13.2	7.0	21.4
exp early discrete	asymptotic_bonf	12.3	7.0	18.1	11.8	7.5	18.9	12.2	6.3	20.3
	permutation_bonf	12.3	6.8	17.3	11.2	7.5	18.4	11.5	6.2	18.6
	asymptotic	12.4	7.5	18.6	12.8	7.3	20.3	12.1	6.7	20.5
exp late continuous	asymptotic_bonf	11.2	6.2	17.1	11.6	6.6	18.9	11.5	6.1	18.9
	permutation_bonf	10.9	6.8	16.2	11.1	6.4	17.9	10.5	5.8	18.0
	asymptotic	14.6	9.2	21.7	14.6	9.0	23.5	14.3	8.2	24.4
exp late discrete	asymptotic_bonf	13.5	7.5	19.9	13.6	8.1	21.9	13.2	7.2	22.3
	permutation_bonf	13.3	8.0	19.1	12.8	8.2	21.2	13.1	7.0	21.1
	asymptotic	12.6	6.8	17.4	11.7	6.6	16.6	11.9	7.0	18.9
exp prop continuous	asymptotic_bonf	11.1	5.8	15.8	10.9	6.3	15.6	10.7	6.2	17.8
	permutation_bonf	10.2	6.2	14.5	10.5	5.3	14.7	10.0	6.0	16.6
	asymptotic	14.6	8.6	20.6	13.8	8.0	20.0	14.2	8.2	21.9
exp prop discrete	asymptotic_bonf	13.2	7.5	19.2	12.6	7.1	18.8	13.4	7.5	20.2
	permutation_bonf	12.2	7.9	18.8	12.4	6.3	17.3	12.7	7.3	18.9
	asymptotic	38.4	22.8	57.7	38.8	23.9	57.4	39.5	22.6	56.8
logn continuous	asymptotic_bonf	36.0	21.1	54.9	36.8	22.1	55.1	37.8	20.6	53.8
	permutation_bonf	35.4	20.0	53.5	35.9	21.6	53.5	36.1	20.1	52.0
	asymptotic	46.8	29.5	65.8	45.9	29.3	64.8	47.4	27.6	67.2
logn discrete	asymptotic_bonf	44.5	27.0	63.8	43.9	27.7	62.8	45.6	25.6	65.0
	permutation_bonf	42.2	26.1	62.2	43.0	26.8	61.7	43.7	25.1	62.6
	asymptotic	10.8	6.6	16.2	10.5	6.2	16.8	11.1	5.7	17.7
pwExp continuous	asymptotic_bonf	9.9	5.6	15.0	9.6	5.5	14.8	9.6	5.0	15.9
	permutation_bonf	9.8	5.2	14.5	9.4	5.7	14.2	9.6	4.9	14.5
	asymptotic	13.0	8.1	19.2	12.6	7.6	20.0	12.7	6.8	20.8
pwExp discrete	asymptotic_bonf	11.8	6.8	17.6	11.2	6.8	18.7	11.5	6.1	19.6
	permutation_bonf	12.2	6.6	17.1	11.0	6.5	17.5	11.2	6.2	17.4
	asymptotic	37.4	23.9	58.6	37.4	23.6	59.5	39.0	23.0	58.2
Weib late continuous	asymptotic_bonf	35.3	22.3	56.4	35.6	22.3	57.4	37.0	21.6	57.0
	permutation_bonf	34.5	21.8	54.0	34.2	21.5	55.6	35.4	20.9	54.8
	asymptotic	45.6	28.9	64.8	44.5	28.1	66.0	44.6	28.3	64.5
Weib late discrete	asymptotic_bonf	43.2	27.0	62.3	42.2	26.1	63.7	43.2	25.6	62.3
	permutation_bonf	42.0	25.6	60.2	41.3	25.1	62.7	41.6	25.8	60.8
	asymptotic	35.1	23.4	55.9	36.2	21.7	56.0	36.0	21.9	56.0
Weib prop continuous	asymptotic_bonf	32.8	21.4	53.8	33.9	20.5	53.7	34.1	20.1	53.8
	permutation_bonf	32.1	21.1	51.9	33.0	20.3	52.4	32.5	20.0	52.3
	asymptotic	44.6	28.2	64.8	43.3	27.8	64.8	44.6	27.2	63.9
Weib prop discrete	asymptotic_bonf	42.0	26.5	63.1	41.1	25.4	63.2	42.4	25.4	61.9
	permutation_bonf	40.6	25.6	60.6	40.2	25.1	62.0	41.9	25.1	60.3
	asymptotic	27.5	18.4	47.1	29.5	17.2	46.6	29.1	18.2	47.2
Weib scale continuous	asymptotic_bonf	25.6	16.8	44.6	27.7	15.8	44.8	27.2	16.4	45.0
	permutation_bonf	25.1	16.3	42.8	26.8	15.4	43.0	26.6	16.0	43.7
	asymptotic	35.5	23.2	55.2	36.4	22.1	55.7	36.5	22.5	54.9
Weib scale discrete	asymptotic_bonf	33.0	21.3	53.0	34.0	20.3	53.6	34.4	21.1	52.1
	permutation_bonf	32.0	21.0	51.0	33.0	20.1	51.4	34.0	19.9	50.3
	asymptotic	19.4	12.6	33.8	20.6	12.4	34.9	21.0	12.8	34.3
Weib shape continuous	asymptotic_bonf	17.9	11.6	31.2	18.9	10.7	32.6	19.3	11.2	32.0
	permutation_bonf	17.0	11.6	28.9	18.8	10.6	31.7	18.9	10.8	31.3
	asymptotic	25.9	16.7	41.9	28.1	16.6	43.8	28.3	17.2	43.9
Weib shape discrete	asymptotic_bonf	24.1	15.4	39.8	25.6	15.1	41.2	26.5	15.8	40.9
	permutation_bonf	23.6	15.1	37.5	25.4	14.8	40.1	26.4	14.4	39.5

Table S128: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and balanced medium sample sizes under equal censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$	$\mathcal{H}_{0,13}$	$\mathcal{H}_{0,14}$	$\mathcal{H}_{0,15}$	$\mathcal{H}_{0,16}$	$\mathcal{H}_{0,17}$	$\mathcal{H}_{0,18}$
	asymptotic	2.1	0.9	2.4	2.1	1.1	1.8	1.9	1.2	2.7
exp early continuous	asymptotic_bonf	2.0	0.6	2.2	1.7	0.9	1.6	1.6	0.9	2.5
	permutation_bonf	1.4	0.7	1.6	1.4	0.8	1.5	1.4	0.7	2.1
	asymptotic	2.2	0.8	2.8	2.2	1.2	2.5	2.4	1.4	3.2
exp early discrete	asymptotic_bonf	2.0	0.8	2.3	1.9	0.9	2.4	1.9	1.2	2.8
	permutation_bonf	1.4	0.8	1.6	1.6	0.8	1.9	1.7	0.7	2.4
	asymptotic	2.2	1.1	2.5	2.1	1.4	2.3	2.5	1.6	3.1
exp late continuous	asymptotic_bonf	1.9	1.0	2.2	2.0	1.3	2.0	2.1	1.4	2.8
	permutation_bonf	1.6	0.8	1.8	1.4	1.2	1.6	1.6	1.0	2.4
	asymptotic	2.4	1.1	3.1	2.4	1.7	2.8	2.8	1.8	3.1
exp late discrete	asymptotic_bonf	2.2	1.0	2.7	2.1	1.5	2.5	2.4	1.6	2.9
	permutation_bonf	1.8	0.9	2.0	1.8	1.2	2.0	1.9	1.1	2.6
	asymptotic	1.4	1.1	1.8	1.4	1.1	2.6	1.9	0.9	2.3
exp prop continuous	asymptotic_bonf	1.2	0.9	1.7	1.2	1.0	2.2	1.6	0.8	2.0
	permutation_bonf	1.2	0.8	1.4	1.0	0.8	1.9	1.1	0.5	1.6
	asymptotic	1.6	1.4	2.1	1.5	1.1	2.8	2.0	1.1	2.4
exp prop discrete	asymptotic_bonf	1.2	1.1	2.0	1.4	1.1	2.6	1.9	0.9	2.2
	permutation_bonf	1.0	0.9	1.6	1.1	0.9	1.9	1.2	0.6	1.8
	asymptotic	4.7	2.4	6.9	4.3	2.5	5.6	4.5	2.8	6.8
logn continuous	asymptotic_bonf	4.2	2.2	6.3	3.6	2.1	5.0	4.0	2.7	6.0
	permutation_bonf	3.4	1.9	5.1	3.1	1.9	3.9	3.6	2.3	5.0
	asymptotic	5.4	3.0	8.5	5.1	3.0	7.0	5.3	3.1	8.1
logn discrete	asymptotic_bonf	4.4	2.5	7.7	4.7	2.5	6.3	4.7	2.6	7.0
	permutation_bonf	4.2	2.2	6.6	3.9	2.4	5.2	4.4	2.8	5.8
	asymptotic	1.5	0.8	1.9	1.6	1.1	1.7	1.6	1.0	2.3
pwExp continuous	asymptotic_bonf	1.4	0.7	1.8	1.3	1.0	1.6	1.4	0.8	2.1
	permutation_bonf	0.8	0.6	1.4	1.0	0.8	1.2	1.4	0.6	1.9
	asymptotic	1.6	1.0	2.4	1.9	1.2	2.0	1.9	1.2	2.6
pwExp discrete	asymptotic_bonf	1.4	0.7	2.0	1.6	1.0	1.6	1.7	1.0	2.4
	permutation_bonf	1.0	0.8	1.6	1.1	1.0	1.3	1.4	0.8	2.1
	asymptotic	4.1	4.0	6.9	4.9	2.6	7.5	4.0	3.2	7.1
Weib late continuous	asymptotic_bonf	3.8	3.4	6.4	4.4	2.2	6.8	3.4	2.8	6.5
	permutation_bonf	3.0	2.9	5.3	3.6	2.1	5.7	2.7	2.5	5.3
	asymptotic	5.0	4.0	8.3	6.0	3.3	8.8	5.1	4.0	8.5
Weib late discrete	asymptotic_bonf	4.5	3.6	7.4	5.5	2.7	7.8	4.5	3.4	7.5
	permutation_bonf	3.8	3.3	5.8	4.5	2.5	7.0	3.2	3.1	5.8
	asymptotic	3.6	3.1	6.0	4.6	2.4	6.6	3.6	3.2	6.3
Weib prop continuous	asymptotic_bonf	3.4	2.9	5.3	4.2	2.1	5.9	3.2	2.6	5.8
	permutation_bonf	2.9	2.6	4.6	3.4	1.8	5.2	2.7	2.4	4.8
	asymptotic	4.4	3.7	6.9	5.4	2.7	8.2	4.6	3.4	7.4
Weib prop discrete	asymptotic_bonf	4.0	3.1	6.0	4.8	2.2	7.5	3.7	2.9	6.8
	permutation_bonf	3.1	3.0	5.1	4.0	2.1	6.4	3.0	2.5	5.7
	asymptotic	2.6	2.0	3.7	2.9	1.4	5.3	1.9	1.8	4.3
Weib scale continuous	asymptotic_bonf	2.1	1.8	3.4	2.5	1.2	4.9	1.8	1.6	3.6
	permutation_bonf	2.0	1.8	2.8	1.9	1.2	4.2	1.8	1.4	3.2
	asymptotic	3.2	2.2	4.5	4.0	1.8	5.8	2.4	2.0	5.2
Weib scale discrete	asymptotic_bonf	2.5	1.9	4.0	3.1	1.5	5.2	1.9	1.8	4.5
	permutation_bonf	2.3	1.9	3.1	3.0	1.4	4.5	1.8	1.8	3.4
	asymptotic	1.4	1.0	2.2	1.6	0.6	3.0	1.3	0.8	2.5
Weib shape continuous	asymptotic_bonf	1.0	0.9	2.1	1.2	0.4	2.5	1.2	0.8	1.8
	permutation_bonf	0.9	1.1	1.8	0.9	0.5	2.2	1.1	0.8	1.5
	asymptotic	1.8	1.3	3.0	1.9	0.7	3.6	1.6	1.0	3.1
Weib shape discrete	asymptotic_bonf	1.4	0.9	2.8	1.6	0.7	3.1	1.3	0.9	2.6
	permutation_bonf	1.4	1.1	2.2	1.5	0.6	2.8	1.2	1.1	2.3

Table S129: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and balanced small sample sizes under equal censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$	$\mathcal{H}_{0,13}$	$\mathcal{H}_{0,14}$	$\mathcal{H}_{0,15}$	$\mathcal{H}_{0,16}$	$\mathcal{H}_{0,17}$	$\mathcal{H}_{0,18}$
	asymptotic	33.5	15.9	52.2	28.4	12.5	42.2	27.9	13.2	44.2
exp early continuous	asymptotic_bonf	29.9	13.9	49.4	25.3	11.2	39.4	24.3	11.6	40.2
	permutation_bonf	26.8	11.6	46.6	23.5	10.2	36.8	22.9	10.4	37.8
	asymptotic	39.0	19.1	59.2	32.6	16.4	48.3	33.8	16.8	51.0
exp early discrete	asymptotic_bonf	35.8	16.8	56.0	29.9	14.0	45.2	29.9	13.9	47.2
	permutation_bonf	32.0	14.0	52.5	27.3	13.0	44.1	27.8	12.9	45.5
	asymptotic	38.2	19.8	61.2	32.4	15.3	49.4	32.6	15.6	51.8
exp late continuous	asymptotic_bonf	35.1	17.2	58.2	28.8	13.3	46.1	29.6	13.6	47.9
	permutation_bonf	31.2	14.3	55.2	26.7	11.8	44.4	27.1	12.4	45.2
	asymptotic	46.2	22.7	67.7	37.7	18.4	56.9	38.7	18.6	58.0
exp late discrete	asymptotic_bonf	41.3	20.2	64.1	34.4	16.1	53.6	35.1	16.0	55.4
	permutation_bonf	37.2	16.3	61.7	31.4	14.5	51.0	33.2	14.9	52.6
	asymptotic	35.5	19.7	55.1	29.5	16.8	44.1	28.7	17.4	46.6
exp prop continuous	asymptotic_bonf	32.3	17.2	51.2	26.2	14.1	40.2	25.6	15.1	42.8
	permutation_bonf	29.2	14.3	48.0	24.5	13.0	38.0	23.4	13.1	41.0
	asymptotic	41.2	24.1	62.8	34.5	20.1	50.8	35.2	20.6	53.9
exp prop discrete	asymptotic_bonf	38.1	20.8	58.8	31.4	17.5	47.4	31.4	18.2	50.6
	permutation_bonf	35.0	17.0	55.6	29.1	15.8	44.9	28.5	16.0	47.9
	asymptotic	83.3	60.9	94.9	74.2	51.5	89.9	75.5	55.1	91.6
logn continuous	asymptotic_bonf	81.0	57.7	94.1	71.8	47.5	88.1	72.5	51.2	90.0
	permutation_bonf	74.6	48.4	91.5	68.4	43.6	86.2	68.3	46.2	87.6
	asymptotic	90.2	69.8	97.5	81.7	61.0	94.2	83.5	63.8	95.2
logn discrete	asymptotic_bonf	87.8	66.1	97.0	79.5	57.0	93.2	81.4	60.6	94.4
	permutation_bonf	82.6	57.4	95.2	75.8	52.2	91.4	76.8	53.6	92.5
	asymptotic	30.9	14.7	50.4	24.9	12.4	41.2	26.2	12.4	41.9
pwExp continuous	asymptotic_bonf	27.6	12.4	46.9	22.9	10.3	38.2	23.4	10.7	39.3
	permutation_bonf	24.4	10.2	44.7	21.6	9.0	36.6	21.8	9.8	37.0
	asymptotic	36.9	18.7	58.1	30.8	15.0	48.1	31.4	15.2	49.0
pwExp discrete	asymptotic_bonf	33.9	15.4	54.4	27.3	12.9	44.0	28.4	13.5	45.6
	permutation_bonf	29.8	12.7	51.3	26.0	11.2	42.9	26.7	12.2	43.2
	asymptotic	83.8	62.2	96.4	76.6	54.4	92.2	77.3	56.0	93.7
Weib late continuous	asymptotic_bonf	81.7	58.7	95.7	73.8	51.0	91.1	74.7	52.1	92.8
	permutation_bonf	78.6	49.8	94.2	70.8	46.3	88.9	71.5	47.1	90.6
	asymptotic	86.5	68.4	95.5	80.5	59.9	93.2	80.5	61.1	94.5
Weib late discrete	asymptotic_bonf	85.0	65.2	95.1	78.0	56.8	92.0	78.6	58.4	93.7
	permutation_bonf	81.0	55.9	94.2	75.5	52.5	90.8	75.6	52.6	92.2
	asymptotic	80.5	58.7	94.9	73.7	51.3	90.4	74.2	52.6	91.7
Weib prop continuous	asymptotic_bonf	78.5	55.4	94.2	70.6	47.4	88.5	71.9	48.4	90.2
	permutation_bonf	74.2	46.2	92.1	67.7	43.2	86.7	68.7	44.2	87.4
	asymptotic	87.2	68.2	97.6	81.1	60.2	94.8	82.5	61.4	95.8
Weib prop discrete	asymptotic_bonf	85.1	64.5	97.0	78.5	56.1	93.9	80.0	58.1	95.0
	permutation_bonf	81.7	54.6	95.8	75.5	51.5	92.7	77.0	52.5	93.5
	asymptotic	69.0	46.7	86.9	62.5	40.8	81.2	63.4	42.1	82.0
Weib scale continuous	asymptotic_bonf	65.8	43.4	85.1	58.4	37.0	78.1	60.0	38.0	79.5
	permutation_bonf	60.2	34.5	81.3	55.1	32.6	75.6	55.9	34.0	76.0
	asymptotic	76.8	54.9	92.3	70.9	49.0	88.6	71.9	50.0	88.4
Weib scale discrete	asymptotic_bonf	74.1	51.6	90.8	67.8	44.9	86.5	68.9	46.2	87.2
	permutation_bonf	68.2	42.0	88.0	64.1	40.4	84.8	64.8	40.3	84.2
	asymptotic	50.8	30.9	70.6	45.1	27.7	63.3	46.7	29.1	65.9
Weib shape continuous	asymptotic_bonf	46.4	26.7	66.7	41.4	24.1	59.6	42.0	25.3	61.9
	permutation_bonf	39.8	20.0	61.2	38.1	21.0	56.2	38.8	21.1	58.2
	asymptotic	62.7	40.6	80.8	55.1	35.8	74.7	57.0	36.3	76.8
Weib shape discrete	asymptotic_bonf	58.1	36.4	77.8	51.5	32.5	70.8	53.4	33.1	73.5
	permutation_bonf	50.4	26.8	72.3	47.9	27.9	68.6	48.8	28.3	68.8

Table S130: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and unbalanced large sample sizes under equal censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$	$\mathcal{H}_{0,13}$	$\mathcal{H}_{0,14}$	$\mathcal{H}_{0,15}$	$\mathcal{H}_{0,16}$	$\mathcal{H}_{0,17}$	$\mathcal{H}_{0,18}$
	asymptotic	2.1	1.5	3.4	1.6	1.6	3.6	2.1	1.4	4.4
exp early continuous	asymptotic_bonf	1.8	1.1	2.8	1.2	1.0	3.0	1.8	1.0	3.8
	permutation_bonf	0.7	0.2	1.8	0.7	0.6	2.4	1.1	0.5	2.5
	asymptotic	2.4	1.7	4.2	1.9	1.8	4.2	2.5	1.6	5.0
exp early discrete	asymptotic_bonf	2.0	1.2	3.4	1.5	1.2	3.6	2.1	1.1	4.2
	permutation_bonf	0.9	0.2	2.1	0.8	0.6	2.5	1.1	0.5	2.8
	asymptotic	2.4	1.8	4.8	1.9	1.8	4.5	2.4	1.7	5.4
exp late continuous	asymptotic_bonf	2.0	1.4	3.9	1.3	1.6	3.6	1.8	1.1	4.5
	permutation_bonf	0.8	0.2	2.4	0.8	0.9	2.9	1.2	0.6	3.5
	asymptotic	2.6	1.8	5.8	2.2	2.0	4.8	2.8	1.8	6.0
exp late discrete	asymptotic_bonf	2.1	1.6	5.2	1.6	1.6	4.3	2.2	1.4	5.1
	permutation_bonf	0.8	0.4	3.0	1.0	0.8	3.4	1.3	0.7	3.8
	asymptotic	3.1	1.5	4.3	2.5	1.4	3.9	2.8	2.0	3.2
exp prop continuous	asymptotic_bonf	2.4	1.2	3.9	2.0	1.1	3.2	2.1	1.4	2.5
	permutation_bonf	1.1	0.3	1.6	1.4	0.7	2.5	1.2	0.4	2.1
	asymptotic	3.5	1.6	5.0	3.0	1.6	4.8	3.2	2.1	4.1
exp prop discrete	asymptotic_bonf	2.9	1.3	4.2	2.4	1.2	3.8	2.8	1.8	3.2
	permutation_bonf	1.1	0.3	2.1	1.5	0.7	2.8	1.4	0.5	2.2
	asymptotic	7.3	3.8	14.5	7.2	3.6	13.4	6.6	3.4	13.5
logn continuous	asymptotic_bonf	6.0	3.4	12.4	5.8	3.0	11.6	5.4	2.6	11.2
	permutation_bonf	1.4	0.0	5.8	2.4	0.9	7.5	2.8	0.8	7.0
	asymptotic	8.8	4.6	17.9	8.6	4.4	16.3	7.9	3.4	16.4
logn discrete	asymptotic_bonf	7.3	3.5	15.5	7.4	3.5	13.6	6.6	2.8	14.0
	permutation_bonf	1.1	0.0	6.3	3.2	1.0	9.6	2.9	0.8	8.8
	asymptotic	1.9	1.6	3.8	1.3	1.4	3.5	1.8	1.4	4.0
pwExp continuous	asymptotic_bonf	1.5	1.4	3.1	0.9	1.2	3.1	1.4	1.1	3.1
	permutation_bonf	0.6	0.2	2.1	0.5	0.9	2.5	0.8	0.4	2.2
	asymptotic	2.4	2.0	4.2	1.7	1.8	4.5	1.9	1.6	4.8
pwExp discrete	asymptotic_bonf	1.8	1.6	4.0	1.3	1.4	3.5	1.6	1.2	3.8
	permutation_bonf	0.5	0.2	2.4	0.7	0.9	3.0	0.8	0.4	2.7
	asymptotic	9.3	3.8	17.8	9.0	3.8	14.6	8.2	4.0	15.5
Weib late continuous	asymptotic_bonf	7.8	2.8	14.8	7.6	2.9	12.2	7.0	3.2	13.5
	permutation_bonf	2.0	0.4	7.8	5.1	1.0	8.3	3.0	1.0	9.3
	asymptotic	10.9	4.6	21.9	10.5	4.8	17.8	10.8	4.2	19.1
Weib late discrete	asymptotic_bonf	9.6	3.7	19.1	8.9	3.4	15.6	9.6	3.5	16.8
	permutation_bonf	2.2	0.2	8.2	5.5	1.0	10.5	3.8	1.0	10.8
	asymptotic	8.2	3.2	14.8	7.8	3.1	12.2	6.8	3.6	13.2
Weib prop continuous	asymptotic_bonf	6.3	2.5	12.4	6.3	2.3	10.4	5.5	2.8	11.5
	permutation_bonf	1.4	0.3	5.6	3.8	0.6	6.9	2.2	0.5	7.8
	asymptotic	9.6	4.1	18.1	8.7	3.8	15.2	9.0	4.3	16.1
Weib prop discrete	asymptotic_bonf	8.1	3.0	15.7	7.4	2.6	13.2	7.2	3.3	13.8
	permutation_bonf	1.7	0.2	5.8	4.4	0.6	8.6	2.9	0.6	8.5
	asymptotic	5.0	1.8	8.6	5.3	1.9	7.6	5.1	2.2	8.2
Weib scale continuous	asymptotic_bonf	4.0	1.4	7.0	4.4	1.1	6.3	3.9	1.9	6.8
	permutation_bonf	0.9	0.1	2.7	2.4	0.4	4.0	1.7	0.3	4.0
	asymptotic	5.9	2.1	10.2	6.1	2.3	9.4	6.1	2.6	9.8
Weib scale discrete	asymptotic_bonf	4.6	1.6	8.9	5.5	1.7	8.0	4.8	1.8	8.2
	permutation_bonf	0.8	0.1	3.1	2.8	0.2	4.5	1.9	0.4	4.7
	asymptotic	2.6	1.1	4.3	2.8	1.2	4.2	2.2	1.0	4.1
Weib shape continuous	asymptotic_bonf	1.9	0.8	3.2	2.4	0.8	3.4	1.7	0.8	3.2
	permutation_bonf	0.4	0.0	1.5	1.3	0.2	2.1	0.6	0.2	1.7
	asymptotic	3.5	1.1	5.6	3.6	1.1	5.6	3.0	1.2	5.5
Weib shape discrete	asymptotic_bonf	2.5	1.0	4.4	2.8	0.9	4.2	2.3	0.9	4.2
	permutation_bonf	0.2	0.0	1.5	1.4	0.1	2.4	0.8	0.1	2.0

Table S131: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and unbalanced medium sample sizes under equal censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$	$\mathcal{H}_{0,13}$	$\mathcal{H}_{0,14}$	$\mathcal{H}_{0,15}$	$\mathcal{H}_{0,16}$	$\mathcal{H}_{0,17}$	$\mathcal{H}_{0,18}$
	asymptotic	1.3	2.5	1.8	1.1	1.4	1.4	1.1	2.0	1.4
exp early continuous	asymptotic_bonf	1.2	2.5	1.6	0.9	1.4	1.1	1.0	1.8	1.2
	permutation_bonf	0.1	0.1	0.0	0.1	0.2	0.1	0.0	0.2	0.1
	asymptotic	1.4	2.6	2.0	1.4	1.3	1.3	1.2	1.8	1.6
exp early discrete	asymptotic_bonf	1.2	2.4	1.6	1.2	1.3	1.2	1.0	1.6	1.2
	permutation_bonf	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.2	0.1
	asymptotic	1.6	1.8	2.0	0.9	0.9	1.6	1.1	1.6	1.6
exp late continuous	asymptotic_bonf	1.3	1.8	1.7	0.7	0.8	1.4	0.9	1.4	1.4
	permutation_bonf	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1
	asymptotic	1.6	2.0	2.5	1.2	0.9	1.7	1.1	1.8	1.8
exp late discrete	asymptotic_bonf	1.4	1.9	2.1	0.9	0.9	1.2	1.1	1.6	1.6
	permutation_bonf	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1
	asymptotic	1.2	2.0	1.8	1.3	1.4	1.5	1.2	1.3	1.7
exp prop continuous	asymptotic_bonf	1.2	1.8	1.4	0.9	1.0	1.2	1.0	1.2	1.6
	permutation_bonf	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1
	asymptotic	1.6	2.0	2.1	1.2	1.2	1.7	1.0	1.3	1.8
exp prop discrete	asymptotic_bonf	1.4	2.0	1.8	0.9	1.0	1.3	0.7	1.2	1.4
	permutation_bonf	0.0	0.1	0.2	0.0	0.1	0.2	0.1	0.0	0.2
	asymptotic	2.4	4.7	2.9	1.8	1.6	2.5	1.7	2.0	2.2
logn continuous	asymptotic_bonf	2.1	4.6	2.5	1.4	1.3	2.1	1.1	1.8	2.0
	permutation_bonf	0.2	0.1	0.1	0.1	0.2	0.4	0.1	0.0	0.1
	asymptotic	2.8	5.3	3.3	2.4	1.6	2.7	2.0	1.7	2.7
logn discrete	asymptotic_bonf	2.6	5.1	2.9	1.9	1.3	2.3	1.6	1.4	2.2
	permutation_bonf	0.2	0.3	0.1	0.2	0.2	0.4	0.1	0.1	0.1
	asymptotic	1.6	2.5	1.8	0.9	1.6	1.3	1.1	2.0	1.5
pwExp continuous	asymptotic_bonf	1.3	2.5	1.6	0.8	1.3	1.0	0.9	1.8	1.1
	permutation_bonf	0.0	0.1	0.1	0.0	0.1	0.2	0.0	0.2	0.2
	asymptotic	1.4	2.5	1.8	0.9	1.3	1.5	1.2	2.0	1.6
pwExp discrete	asymptotic_bonf	1.4	2.4	1.7	0.8	1.1	1.0	0.8	1.6	1.4
	permutation_bonf	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.2	0.1
	asymptotic	1.9	3.2	3.2	1.6	1.6	2.9	1.8	1.9	2.8
Weib late continuous	asymptotic_bonf	1.7	3.0	2.8	1.4	1.4	2.4	1.6	1.7	2.4
	permutation_bonf	0.0	0.1	0.1	0.2	0.1	0.4	0.1	0.0	0.2
	asymptotic	2.6	3.8	3.6	2.0	1.6	3.1	1.8	1.9	3.4
Weib late discrete	asymptotic_bonf	2.2	3.6	3.0	1.6	1.4	2.8	1.7	1.7	2.8
	permutation_bonf	0.0	0.1	0.1	0.1	0.4	0.3	0.2	0.0	0.1
	asymptotic	2.1	3.8	2.9	1.4	1.6	2.1	1.6	2.4	2.4
Weib prop continuous	asymptotic_bonf	1.8	3.4	2.2	1.0	1.3	1.8	1.5	2.1	2.2
	permutation_bonf	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.1
	asymptotic	2.4	4.0	3.0	1.7	1.5	2.5	1.8	2.0	2.5
Weib prop discrete	asymptotic_bonf	2.2	3.9	2.7	1.3	1.4	2.2	1.6	1.9	2.1
	permutation_bonf	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1
	asymptotic	3.0	5.1	2.2	2.2	1.8	2.1	2.4	3.0	2.1
Weib scale continuous	asymptotic_bonf	3.0	5.0	2.2	1.8	1.6	1.7	2.0	2.6	1.8
	permutation_bonf	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.1	0.0
	asymptotic	3.4	5.9	2.6	2.0	2.0	2.4	2.4	2.7	2.1
Weib scale discrete	asymptotic_bonf	3.3	5.8	2.5	1.7	1.5	1.9	2.0	2.4	1.8
	permutation_bonf	0.0	0.2	0.1	0.1	0.2	0.1	0.4	0.2	0.1
	asymptotic	5.6	9.8	3.3	3.8	3.8	2.8	4.8	5.8	3.1
Weib shape continuous	asymptotic_bonf	5.5	9.6	3.0	3.4	3.3	2.5	4.3	5.1	2.8
	permutation_bonf	0.7	0.4	0.6	0.5	0.5	0.2	0.6	0.4	0.4
	asymptotic	5.9	10.1	3.5	3.1	2.6	2.5	4.2	4.5	3.1
Weib shape discrete	asymptotic_bonf	5.8	10.0	3.4	2.8	2.1	2.4	3.8	3.8	2.7
	permutation_bonf	0.2	0.4	0.5	0.7	0.3	0.1	0.6	0.4	0.4

Table S132: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and unbalanced small sample sizes under equal censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$	$\mathcal{H}_{0,13}$	$\mathcal{H}_{0,14}$	$\mathcal{H}_{0,15}$	$\mathcal{H}_{0,16}$	$\mathcal{H}_{0,17}$	$\mathcal{H}_{0,18}$
	asymptotic	67.3	45.7	86.2	64.2	43.2	85.2	69.4	46.4	89.1
exp early continuous	asymptotic_bonf	65.3	43.8	85.0	62.4	41.3	84.2	68.2	44.3	88.0
	permutation_bonf	63.1	42.8	83.7	60.8	40.3	82.5	66.4	43.1	86.1
	asymptotic	71.7	51.0	88.9	69.0	47.6	88.0	74.2	51.9	91.7
exp early discrete	asymptotic_bonf	70.3	48.8	87.5	66.9	45.9	86.6	72.2	49.4	90.3
	permutation_bonf	68.8	47.5	86.9	66.0	43.6	85.8	70.9	47.4	89.3
	asymptotic	69.8	47.7	87.7	66.3	44.1	87.1	71.8	48.4	90.5
exp late continuous	asymptotic_bonf	68.1	45.1	86.3	64.0	41.4	85.8	70.2	45.7	89.8
	permutation_bonf	66.5	44.5	85.9	63.2	41.5	84.4	68.2	44.9	88.6
	asymptotic	74.4	52.8	90.2	71.9	48.4	89.9	76.0	52.0	93.1
exp late discrete	asymptotic_bonf	72.8	50.0	89.3	69.3	46.4	88.5	74.5	49.5	92.2
	permutation_bonf	71.9	48.5	87.9	68.7	45.4	88.1	74.4	48.4	91.4
	asymptotic	69.2	48.6	88.8	66.5	46.6	87.0	70.7	51.5	89.1
exp prop continuous	asymptotic_bonf	67.5	46.7	87.1	64.5	44.8	85.8	68.5	49.0	88.1
	permutation_bonf	66.1	45.1	85.8	62.9	43.6	84.2	68.0	47.8	87.4
	asymptotic	74.2	53.0	91.0	71.4	51.1	89.5	75.6	55.1	91.4
exp prop discrete	asymptotic_bonf	72.3	50.4	90.0	69.7	49.0	88.4	73.6	53.0	90.4
	permutation_bonf	70.7	49.5	88.4	67.7	47.7	86.4	71.9	51.6	90.2
	asymptotic	98.0	89.8	99.6	96.5	88.0	99.3	98.0	88.6	99.9
logn continuous	asymptotic_bonf	97.5	88.6	99.5	96.1	87.4	99.2	97.8	87.5	99.9
	permutation_bonf	97.5	87.5	99.4	95.9	85.5	99.1	97.2	87.1	99.9
	asymptotic	99.1	95.1	100.0	98.3	93.2	99.8	99.2	93.5	100.0
logn discrete	asymptotic_bonf	98.9	94.3	100.0	98.0	92.6	99.7	99.1	92.5	100.0
	permutation_bonf	99.0	93.9	99.9	98.0	91.5	99.5	98.5	92.3	99.9
	asymptotic	66.6	44.7	85.5	65.3	42.1	84.7	67.8	45.9	88.3
pwExp continuous	asymptotic_bonf	64.8	42.0	84.0	63.4	40.2	83.3	66.1	44.0	87.2
	permutation_bonf	63.7	42.1	83.5	61.4	39.3	82.3	65.2	42.6	86.1
	asymptotic	71.5	49.2	88.3	70.2	45.8	88.0	73.1	50.3	91.5
pwExp discrete	asymptotic_bonf	69.8	47.0	87.2	68.0	44.0	86.8	71.5	48.0	90.8
	permutation_bonf	69.3	46.0	85.9	67.0	43.0	85.0	69.6	46.9	90.1
	asymptotic	97.6	89.2	100.0	96.9	87.8	99.7	97.5	88.8	99.8
Weib late continuous	asymptotic_bonf	97.2	88.1	100.0	96.4	86.4	99.7	97.4	88.0	99.7
	permutation_bonf	97.0	87.1	99.8	95.9	85.3	99.7	96.5	87.4	99.4
	asymptotic	99.0	93.9	99.8	98.2	92.5	99.9	98.5	93.0	99.8
Weib late discrete	asymptotic_bonf	98.8	93.4	99.8	98.0	91.4	99.8	98.2	92.2	99.8
	permutation_bonf	98.6	92.5	99.8	97.7	90.2	99.9	98.4	91.6	99.7
	asymptotic	97.2	88.1	100.0	96.5	86.7	99.7	97.0	88.1	99.6
Weib prop continuous	asymptotic_bonf	96.9	86.8	100.0	95.8	85.0	99.6	96.8	87.0	99.5
	permutation_bonf	96.6	86.6	99.8	95.4	84.5	99.7	96.2	86.5	99.5
	asymptotic	98.8	93.2	100.0	98.0	91.5	100.0	98.6	92.8	99.9
Weib prop discrete	asymptotic_bonf	98.7	92.7	100.0	97.9	90.8	99.9	98.2	92.1	99.8
	permutation_bonf	98.7	92.0	99.9	97.7	89.8	99.9	98.0	91.6	99.7
	asymptotic	95.9	84.5	99.7	94.9	82.2	99.4	96.0	84.1	99.2
Weib scale continuous	asymptotic_bonf	95.5	83.1	99.6	94.2	80.8	99.2	95.5	83.1	99.1
	permutation_bonf	94.8	81.9	99.4	93.3	80.0	99.1	95.1	82.2	99.1
	asymptotic	98.2	90.0	100.0	97.0	88.5	99.6	98.0	89.6	99.6
Weib scale discrete	asymptotic_bonf	98.0	89.2	99.9	96.8	87.5	99.6	97.7	88.5	99.5
	permutation_bonf	97.4	88.8	99.9	96.5	86.8	99.7	97.4	87.7	99.4
	asymptotic	94.4	79.9	98.5	92.7	76.8	98.5	94.0	79.9	98.3
Weib shape continuous	asymptotic_bonf	93.6	78.3	98.3	92.1	75.4	98.0	93.6	78.8	98.2
	permutation_bonf	92.8	76.7	98.0	90.8	74.4	97.6	93.2	77.4	97.8
	asymptotic	97.1	86.5	99.6	95.9	84.1	99.6	96.3	85.7	99.2
Weib shape discrete	asymptotic_bonf	96.5	85.0	99.5	95.5	82.5	99.3	96.1	84.8	99.2
	permutation_bonf	96.3	84.3	99.0	94.6	81.3	99.4	95.5	83.8	98.9

Table S133: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and balanced large sample sizes under unequal, high censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$	$\mathcal{H}_{0,13}$	$\mathcal{H}_{0,14}$	$\mathcal{H}_{0,15}$	$\mathcal{H}_{0,16}$	$\mathcal{H}_{0,17}$	$\mathcal{H}_{0,18}$
	asymptotic	9.2	5.3	12.4	8.5	5.6	11.5	9.2	4.6	13.4
exp early continuous	asymptotic_bonf	8.4	4.6	11.6	7.6	4.8	9.8	8.6	4.2	12.3
	permutation_bonf	7.8	4.2	11.2	7.2	4.4	9.6	7.6	4.1	11.5
	asymptotic	10.4	5.3	13.6	9.7	5.1	14.1	10.2	5.3	15.0
exp early discrete	asymptotic_bonf	9.6	5.0	13.0	8.9	4.5	12.4	9.3	4.4	13.4
	permutation_bonf	8.8	4.5	12.6	8.6	4.3	11.8	8.8	4.2	13.0
	asymptotic	9.7	5.2	13.8	9.3	5.2	12.1	10.2	5.1	14.2
exp late continuous	asymptotic_bonf	8.8	4.4	12.8	8.8	4.6	11.4	9.5	4.4	12.8
	permutation_bonf	7.8	4.2	12.2	7.9	4.4	10.4	8.3	4.5	12.1
	asymptotic	11.0	5.7	14.6	10.4	5.5	14.6	10.4	5.9	16.2
exp late discrete	asymptotic_bonf	10.2	5.1	13.8	9.6	5.0	13.4	9.3	5.1	14.4
	permutation_bonf	9.8	4.7	12.8	8.8	4.8	12.6	9.0	5.1	13.9
	asymptotic	9.1	5.6	12.6	8.6	5.4	12.3	9.5	6.4	14.4
exp prop continuous	asymptotic_bonf	8.2	5.0	11.2	7.5	4.9	11.1	8.7	5.3	13.2
	permutation_bonf	8.1	5.1	11.2	7.5	4.8	10.9	8.2	5.3	12.2
	asymptotic	10.1	6.5	13.9	9.8	6.0	13.7	10.8	6.7	16.0
exp prop discrete	asymptotic_bonf	9.3	5.8	12.8	8.8	5.3	12.7	10.0	5.8	14.8
	permutation_bonf	9.2	5.3	12.8	8.3	5.0	11.9	9.4	5.7	13.8
	asymptotic	22.3	13.1	38.7	20.9	14.1	36.5	23.6	12.0	37.1
logn continuous	asymptotic_bonf	20.8	12.3	36.6	19.4	13.1	34.6	22.1	10.6	34.7
	permutation_bonf	20.1	11.6	34.3	18.9	12.0	33.2	21.0	11.0	32.6
	asymptotic	28.1	16.8	45.2	25.1	17.3	42.4	28.4	15.2	43.0
logn discrete	asymptotic_bonf	25.7	15.6	42.9	23.5	16.2	40.9	26.5	13.5	40.8
	permutation_bonf	24.2	15.0	40.9	22.9	15.3	39.0	24.7	13.9	39.2
	asymptotic	8.4	5.2	12.2	8.6	4.9	10.4	9.0	4.3	12.9
pwExp continuous	asymptotic_bonf	7.9	4.5	11.7	8.0	4.4	9.6	8.2	3.6	11.8
	permutation_bonf	7.3	4.5	10.6	7.5	4.0	9.2	7.1	3.8	11.6
	asymptotic	9.8	5.4	14.1	9.2	4.9	13.2	9.6	5.2	14.1
pwExp discrete	asymptotic_bonf	8.8	4.9	13.2	8.3	4.6	12.2	8.8	4.6	13.1
	permutation_bonf	8.6	4.8	12.0	8.3	4.3	11.1	8.3	4.6	12.7
	asymptotic	23.5	15.2	37.6	21.3	13.3	36.0	22.2	14.8	37.9
Weib late continuous	asymptotic_bonf	21.4	14.0	35.9	19.9	12.0	34.1	20.8	13.5	36.0
	permutation_bonf	20.3	13.6	34.2	19.4	11.1	32.4	20.0	13.0	33.7
	asymptotic	27.2	17.4	43.4	24.8	15.6	40.8	26.4	17.2	42.6
Weib late discrete	asymptotic_bonf	25.5	16.0	41.4	22.8	14.4	38.6	24.6	15.8	40.5
	permutation_bonf	23.9	15.4	38.9	21.9	13.7	37.9	23.5	15.4	38.6
	asymptotic	21.6	14.4	36.0	20.2	12.6	34.7	21.6	14.3	35.6
Weib prop continuous	asymptotic_bonf	20.0	13.4	34.2	18.9	12.0	32.3	20.3	13.4	34.1
	permutation_bonf	19.1	12.7	32.2	17.6	10.5	31.1	19.2	12.6	31.7
	asymptotic	27.9	17.4	43.8	24.3	16.1	40.8	26.1	17.1	41.9
Weib prop discrete	asymptotic_bonf	26.0	15.9	41.6	22.9	15.0	38.6	24.4	15.6	39.9
	permutation_bonf	24.4	15.3	38.9	22.2	14.2	37.2	23.1	15.1	38.1
	asymptotic	18.9	11.7	31.5	17.9	10.7	28.8	18.5	11.3	29.8
Weib scale continuous	asymptotic_bonf	16.9	10.6	29.4	16.7	9.7	27.0	16.7	10.3	28.2
	permutation_bonf	16.4	10.5	27.2	15.8	9.3	26.1	16.1	10.5	27.1
	asymptotic	22.9	14.1	38.7	21.7	14.0	35.2	22.6	14.2	35.2
Weib scale discrete	asymptotic_bonf	21.1	13.1	37.0	19.9	12.6	32.8	20.9	13.0	33.0
	permutation_bonf	21.2	12.8	34.2	19.4	12.2	31.9	19.8	12.8	33.0
	asymptotic	16.0	9.9	25.6	15.5	9.1	24.9	15.9	9.9	25.4
Weib shape continuous	asymptotic_bonf	14.5	8.9	23.8	14.1	7.9	23.8	14.2	8.5	23.6
	permutation_bonf	13.9	8.6	22.3	13.7	7.8	22.7	14.0	8.3	22.2
	asymptotic	18.8	11.8	31.8	19.0	11.8	30.2	18.8	12.2	29.0
Weib shape discrete	asymptotic_bonf	17.3	10.8	29.4	17.6	10.2	27.8	17.8	10.5	27.6
	permutation_bonf	17.0	10.5	27.5	16.9	10.1	26.9	16.8	10.0	26.2

Table S134: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and balanced medium sample sizes under unequal, high censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$	$\mathcal{H}_{0,13}$	$\mathcal{H}_{0,14}$	$\mathcal{H}_{0,15}$	$\mathcal{H}_{0,16}$	$\mathcal{H}_{0,17}$	$\mathcal{H}_{0,18}$
	asymptotic	1.9	1.4	2.4	2.1	1.6	2.0	2.1	0.9	1.9
exp early continuous	asymptotic_bonf	1.7	1.2	2.1	1.8	1.4	1.8	1.9	0.6	1.6
	permutation_bonf	1.1	1.0	1.4	1.8	1.1	1.5	1.4	0.5	1.2
	asymptotic	2.0	1.2	2.8	2.0	1.4	2.2	2.6	1.1	2.4
exp early discrete	asymptotic_bonf	1.6	1.1	2.6	1.8	1.2	2.0	2.3	0.9	2.1
	permutation_bonf	1.2	1.0	1.7	1.4	1.1	1.3	1.5	0.8	1.4
	asymptotic	1.7	1.4	2.6	2.5	1.4	2.2	2.3	1.0	2.5
exp late continuous	asymptotic_bonf	1.4	1.2	2.2	2.2	1.2	1.9	2.1	0.8	2.2
	permutation_bonf	1.1	1.0	1.7	1.5	1.1	1.6	1.4	0.7	1.4
	asymptotic	2.1	1.6	2.4	2.4	1.5	2.6	2.6	1.4	2.2
exp late discrete	asymptotic_bonf	1.9	1.4	2.2	2.2	1.4	2.0	2.2	1.2	2.0
	permutation_bonf	1.4	1.0	1.7	1.6	1.2	1.5	1.6	0.8	1.4
	asymptotic	1.1	1.0	2.7	1.9	1.1	1.9	1.6	1.4	2.1
exp prop continuous	asymptotic_bonf	1.0	1.0	2.4	1.8	1.0	1.7	1.5	1.2	1.9
	permutation_bonf	0.6	0.8	1.8	1.3	0.7	1.0	1.0	0.9	1.2
	asymptotic	1.6	1.1	2.6	2.2	1.2	2.3	2.0	1.2	2.4
exp prop discrete	asymptotic_bonf	1.5	0.9	2.4	2.1	1.1	2.1	1.8	1.0	2.1
	permutation_bonf	1.0	0.7	1.9	1.6	0.9	1.6	1.2	0.8	1.2
	asymptotic	2.9	1.8	5.4	3.4	1.8	4.5	3.1	2.2	5.2
logn continuous	asymptotic_bonf	2.5	1.6	4.9	3.1	1.6	4.2	2.6	1.9	4.7
	permutation_bonf	1.9	1.5	3.5	2.4	1.1	3.0	2.1	1.6	3.3
	asymptotic	3.5	2.1	6.0	4.0	2.4	5.0	4.0	2.6	6.0
logn discrete	asymptotic_bonf	3.4	1.8	5.4	3.5	2.3	4.6	3.5	2.3	5.3
	permutation_bonf	2.5	1.6	4.2	2.4	1.8	3.8	2.6	2.4	3.8
	asymptotic	1.5	1.2	2.4	1.6	1.4	1.8	2.0	0.7	2.1
pwExp continuous	asymptotic_bonf	1.2	1.2	2.1	1.5	1.3	1.5	1.7	0.6	1.6
	permutation_bonf	0.8	1.1	1.7	1.0	0.8	1.0	1.2	0.5	1.2
	asymptotic	1.8	1.4	2.7	1.8	1.4	2.2	2.1	1.1	2.4
pwExp discrete	asymptotic_bonf	1.6	1.1	2.5	1.5	1.3	1.9	2.0	0.9	1.9
	permutation_bonf	1.0	0.8	1.6	1.1	0.9	1.4	1.6	0.7	1.6
	asymptotic	2.7	2.8	5.8	3.4	2.4	6.0	3.2	2.4	5.9
Weib late continuous	asymptotic_bonf	2.5	2.5	5.1	3.0	2.1	5.4	2.8	2.2	5.1
	permutation_bonf	2.1	2.1	3.4	2.3	1.7	3.8	2.3	1.7	3.6
	asymptotic	3.4	3.1	6.7	4.0	2.9	6.8	3.6	3.2	6.1
Weib late discrete	asymptotic_bonf	2.8	2.9	6.0	3.5	2.5	6.2	3.2	3.0	5.4
	permutation_bonf	2.0	2.2	4.2	2.4	2.1	4.5	2.4	2.3	4.0
	asymptotic	2.8	2.5	5.4	3.1	2.4	5.5	2.8	2.5	5.2
Weib prop continuous	asymptotic_bonf	2.4	2.1	4.6	2.7	2.1	4.8	2.7	1.8	4.8
	permutation_bonf	1.8	2.0	3.2	2.4	1.6	3.2	2.0	1.4	3.5
	asymptotic	2.9	2.8	6.0	3.4	2.4	6.4	3.2	3.0	5.7
Weib prop discrete	asymptotic_bonf	2.4	2.4	5.6	2.8	1.9	5.9	2.9	2.6	5.1
	permutation_bonf	1.9	2.1	3.8	2.4	1.8	4.0	2.0	1.9	3.8
	asymptotic	2.0	1.9	3.6	2.1	1.8	4.0	2.1	1.9	4.4
Weib scale continuous	asymptotic_bonf	1.6	1.8	3.3	1.8	1.4	3.0	1.7	1.8	3.8
	permutation_bonf	1.2	1.8	2.6	1.8	1.0	2.6	1.2	1.2	2.6
	asymptotic	2.2	2.0	4.5	2.4	1.7	5.0	2.2	1.9	4.3
Weib scale discrete	asymptotic_bonf	1.8	1.8	4.0	1.9	1.4	4.2	1.8	1.6	3.8
	permutation_bonf	1.1	1.7	3.2	1.9	1.4	2.9	1.6	1.4	2.5
	asymptotic	1.3	1.1	2.2	1.4	1.0	2.5	1.6	1.4	2.8
Weib shape continuous	asymptotic_bonf	1.0	0.9	2.0	1.2	0.8	2.4	1.1	1.1	2.4
	permutation_bonf	0.8	0.8	1.6	1.1	0.8	1.9	1.1	1.2	1.6
	asymptotic	1.4	1.2	2.9	1.8	1.1	3.2	1.4	1.8	3.2
Weib shape discrete	asymptotic_bonf	1.1	1.0	2.5	1.6	0.8	2.8	1.3	1.6	2.8
	permutation_bonf	1.0	0.9	1.8	1.4	0.8	2.4	1.0	1.4	2.3

Table S135: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and balanced small sample sizes under unequal, high censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$	$\mathcal{H}_{0,13}$	$\mathcal{H}_{0,14}$	$\mathcal{H}_{0,15}$	$\mathcal{H}_{0,16}$	$\mathcal{H}_{0,17}$	$\mathcal{H}_{0,18}$
	asymptotic	27.0	13.1	44.9	20.8	10.5	33.8	22.2	10.0	37.5
exp early continuous	asymptotic_bonf	24.5	11.4	42.0	18.5	8.6	30.7	19.5	8.5	34.4
	permutation_bonf	20.3	8.6	37.9	17.0	7.8	28.8	18.5	6.8	31.8
	asymptotic	29.8	14.8	48.9	23.5	11.6	36.4	25.5	11.8	40.5
exp early discrete	asymptotic_bonf	26.6	13.1	46.2	21.0	10.1	33.8	22.8	10.2	37.4
	permutation_bonf	23.8	9.8	41.6	19.7	8.6	31.9	20.3	8.2	35.1
	asymptotic	29.7	14.1	49.5	22.7	11.4	36.0	24.0	10.9	41.0
exp late continuous	asymptotic_bonf	26.2	12.4	46.6	20.3	9.4	32.9	21.4	9.0	37.7
	permutation_bonf	22.9	9.9	41.0	18.6	8.0	31.7	19.9	7.8	34.8
	asymptotic	33.2	15.8	54.0	25.3	12.2	39.1	26.7	12.8	44.5
exp late discrete	asymptotic_bonf	28.8	14.1	50.4	22.9	10.2	35.8	24.2	11.2	40.8
	permutation_bonf	25.4	11.2	46.1	21.0	9.1	34.8	22.4	9.1	38.9
	asymptotic	27.6	15.2	44.0	21.4	12.9	32.2	22.1	12.7	38.2
exp prop continuous	asymptotic_bonf	24.8	13.6	40.9	19.0	11.1	29.9	20.1	11.2	35.1
	permutation_bonf	21.2	10.2	37.2	18.0	9.8	28.3	17.2	9.8	33.1
	asymptotic	30.6	17.4	49.3	23.7	13.9	36.5	25.3	14.9	41.5
exp prop discrete	asymptotic_bonf	27.2	15.2	45.6	21.6	12.2	33.8	22.1	13.0	38.6
	permutation_bonf	24.3	11.3	42.0	19.4	11.1	32.0	19.4	10.5	36.2
	asymptotic	62.8	40.2	82.2	52.6	31.7	71.0	54.2	33.8	74.9
logn continuous	asymptotic_bonf	59.6	36.6	79.3	48.5	28.7	67.5	50.3	30.6	71.9
	permutation_bonf	50.8	24.9	72.2	44.0	25.0	64.1	44.3	25.4	67.9
	asymptotic	70.8	47.0	88.5	59.4	38.6	78.8	61.9	40.2	81.7
logn discrete	asymptotic_bonf	67.5	42.9	86.2	55.5	34.5	75.3	58.5	37.1	79.3
	permutation_bonf	56.8	29.1	80.0	51.3	29.8	71.2	52.1	30.1	75.9
	asymptotic	25.6	12.0	43.3	19.8	9.9	33.1	21.6	10.3	35.7
pwExp continuous	asymptotic_bonf	22.8	10.5	40.6	17.5	8.6	29.6	19.4	8.6	32.5
	permutation_bonf	19.8	8.1	36.6	15.6	7.7	27.3	17.8	7.2	29.8
	asymptotic	28.6	14.5	47.3	22.2	11.3	35.9	23.5	11.2	39.2
pwExp discrete	asymptotic_bonf	25.7	12.2	43.9	20.2	9.7	33.1	21.3	9.7	35.9
	permutation_bonf	22.3	9.2	40.3	18.1	8.7	31.6	20.3	8.8	33.2
	asymptotic	63.7	42.1	84.6	52.8	34.0	74.4	55.1	35.8	77.9
Weib late continuous	asymptotic_bonf	60.4	38.1	83.0	48.9	30.3	71.2	52.0	31.9	75.0
	permutation_bonf	51.1	26.8	77.3	44.0	26.5	67.7	46.5	26.2	71.1
	asymptotic	68.5	46.5	87.3	58.6	38.1	78.0	61.4	40.6	81.6
Weib late discrete	asymptotic_bonf	65.1	43.0	85.7	55.2	35.0	75.6	58.0	37.2	79.0
	permutation_bonf	56.4	30.4	81.1	49.8	30.2	71.8	52.1	31.2	75.2
	asymptotic	61.6	39.2	82.5	50.3	31.4	72.0	54.2	33.1	74.8
Weib prop continuous	asymptotic_bonf	57.9	35.2	80.0	46.6	28.5	68.3	49.9	30.0	71.5
	permutation_bonf	49.6	25.0	74.0	42.0	24.6	64.7	44.5	24.3	67.6
	asymptotic	69.3	46.4	87.8	58.9	37.2	79.4	61.9	39.9	81.3
Weib prop discrete	asymptotic_bonf	65.7	42.5	86.1	55.2	34.0	76.7	57.6	36.4	79.1
	permutation_bonf	56.3	29.2	80.7	50.0	29.0	72.7	51.2	30.6	74.8
	asymptotic	53.3	32.4	72.4	43.0	26.5	62.0	44.9	27.6	67.0
Weib scale continuous	asymptotic_bonf	48.9	29.3	69.3	39.7	23.4	58.9	41.5	24.9	63.3
	permutation_bonf	40.8	20.4	62.4	35.6	20.3	53.6	36.3	19.7	58.8
	asymptotic	60.4	37.8	79.5	49.9	31.0	69.5	52.4	32.5	73.9
Weib scale discrete	asymptotic_bonf	56.1	34.4	76.8	46.4	28.0	66.0	48.7	29.6	70.3
	permutation_bonf	46.1	22.6	69.7	41.5	23.4	61.1	42.6	23.2	65.2
	asymptotic	42.8	25.0	62.0	35.8	21.6	52.7	38.4	22.6	56.4
Weib shape continuous	asymptotic_bonf	39.6	22.2	58.0	31.6	18.6	48.9	34.0	19.7	53.0
	permutation_bonf	31.6	14.3	50.7	28.4	15.5	45.2	29.5	15.4	47.5
	asymptotic	50.1	30.4	69.1	42.1	26.1	60.1	44.1	27.4	63.2
Weib shape discrete	asymptotic_bonf	45.1	26.6	65.6	38.6	22.9	56.6	40.0	23.8	59.8
	permutation_bonf	35.9	16.6	57.5	34.0	18.4	51.2	34.8	18.8	55.4

Table S136: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and unbalanced large sample sizes under unequal, high censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$	$\mathcal{H}_{0,13}$	$\mathcal{H}_{0,14}$	$\mathcal{H}_{0,15}$	$\mathcal{H}_{0,16}$	$\mathcal{H}_{0,17}$	$\mathcal{H}_{0,18}$
	asymptotic	1.8	1.3	3.0	1.6	1.5	2.9	1.6	0.8	3.6
exp early continuous	asymptotic_bonf	1.3	0.8	2.5	1.1	1.0	2.5	1.4	0.6	2.9
	permutation_bonf	0.5	0.1	1.3	0.6	0.4	1.6	0.5	0.1	1.8
	asymptotic	2.2	0.9	3.3	1.9	1.0	3.4	1.4	0.8	3.7
exp early discrete	asymptotic_bonf	1.6	0.8	2.7	1.6	0.8	2.8	1.2	0.5	3.0
	permutation_bonf	0.6	0.0	1.0	0.6	0.4	1.6	0.4	0.1	1.8
	asymptotic	2.6	1.2	3.4	1.9	1.4	3.2	1.7	1.1	4.2
exp late continuous	asymptotic_bonf	1.9	0.9	2.8	1.6	1.1	2.6	1.4	0.8	3.2
	permutation_bonf	0.4	0.0	1.6	0.7	0.4	1.8	0.5	0.1	2.1
	asymptotic	2.3	1.4	3.8	2.2	1.4	3.8	1.8	1.4	4.3
exp late discrete	asymptotic_bonf	1.8	1.1	3.0	2.0	1.0	3.0	1.6	0.9	3.8
	permutation_bonf	0.5	0.0	1.2	0.9	0.4	2.0	0.7	0.1	2.4
	asymptotic	2.6	1.2	3.4	2.0	1.1	3.1	2.1	1.5	2.8
exp prop continuous	asymptotic_bonf	2.2	1.0	2.8	1.4	0.9	2.5	1.6	1.0	2.5
	permutation_bonf	0.7	0.0	1.3	1.1	0.4	1.9	0.9	0.4	1.6
	asymptotic	2.5	1.1	4.0	2.2	1.0	3.4	2.6	1.5	3.0
exp prop discrete	asymptotic_bonf	1.9	0.8	3.1	1.7	1.0	3.0	2.0	1.2	2.8
	permutation_bonf	0.7	0.0	1.4	0.8	0.4	1.8	0.8	0.4	1.6
	asymptotic	4.1	2.1	8.2	4.2	2.4	7.8	4.2	1.8	8.5
logn continuous	asymptotic_bonf	3.4	1.6	7.2	3.6	2.0	6.8	3.4	1.6	7.0
	permutation_bonf	0.1	0.0	1.4	0.9	0.2	2.9	0.9	0.1	2.8
	asymptotic	5.2	2.3	9.4	4.6	2.2	9.2	4.7	1.9	9.1
logn discrete	asymptotic_bonf	4.3	1.8	8.4	3.7	2.1	8.0	4.1	1.6	7.8
	permutation_bonf	0.1	0.0	1.4	0.9	0.2	3.0	0.9	0.1	2.8
	asymptotic	1.6	1.2	3.4	1.2	1.4	3.2	1.4	1.2	3.4
pwExp continuous	asymptotic_bonf	1.2	0.9	2.8	1.0	1.3	2.5	1.2	1.1	2.9
	permutation_bonf	0.3	0.0	1.2	0.5	0.4	1.6	0.4	0.3	1.8
	asymptotic	1.6	1.0	3.5	1.4	1.4	3.2	1.4	1.4	3.8
pwExp discrete	asymptotic_bonf	1.2	0.7	3.2	1.1	1.2	2.8	0.9	1.1	3.0
	permutation_bonf	0.4	0.0	1.0	0.5	0.5	1.8	0.4	0.2	1.6
	asymptotic	4.8	2.0	10.3	5.1	2.8	7.4	4.4	2.4	9.0
Weib late continuous	asymptotic_bonf	4.2	1.5	8.9	4.2	2.1	6.3	3.5	1.8	7.5
	permutation_bonf	0.3	0.0	3.1	1.6	0.4	3.6	1.0	0.2	3.8
	asymptotic	5.6	2.0	12.6	5.5	2.8	10.2	5.3	2.6	11.1
Weib late discrete	asymptotic_bonf	4.4	1.7	11.0	4.7	2.1	8.8	4.1	1.9	9.0
	permutation_bonf	0.4	0.0	3.0	1.7	0.3	4.1	0.8	0.2	4.2
	asymptotic	4.7	1.7	8.9	4.6	2.2	7.4	4.0	1.8	8.3
Weib prop continuous	asymptotic_bonf	3.6	1.3	7.6	3.8	1.8	6.5	3.2	1.3	7.0
	permutation_bonf	0.2	0.0	2.4	1.1	0.2	3.7	0.7	0.2	3.4
	asymptotic	4.9	1.9	10.5	5.3	2.4	8.8	4.8	2.4	9.6
Weib prop discrete	asymptotic_bonf	3.8	1.4	9.2	4.3	2.0	7.4	3.8	1.7	8.0
	permutation_bonf	0.2	0.0	2.4	1.6	0.2	3.2	0.8	0.2	3.3
	asymptotic	3.0	1.3	5.1	3.2	1.6	5.0	2.9	1.4	5.8
Weib scale continuous	asymptotic_bonf	2.1	1.0	4.3	2.5	1.2	4.3	2.2	0.8	4.6
	permutation_bonf	0.1	0.0	1.2	0.6	0.1	2.4	0.5	0.0	1.9
	asymptotic	3.6	1.4	6.4	3.6	1.7	5.9	3.4	1.2	7.2
Weib scale discrete	asymptotic_bonf	2.9	0.9	5.1	2.8	1.3	5.1	2.6	0.8	5.4
	permutation_bonf	0.1	0.0	1.1	0.9	0.1	2.4	0.4	0.0	1.9
	asymptotic	2.4	0.9	3.4	2.5	0.8	3.6	2.0	0.9	3.4
Weib shape continuous	asymptotic_bonf	1.6	0.6	2.7	1.9	0.6	2.9	1.5	0.6	2.8
	permutation_bonf	0.1	0.0	0.6	0.5	0.1	1.4	0.4	0.0	0.9
	asymptotic	2.1	0.8	4.0	2.6	0.9	3.9	2.4	0.9	4.0
Weib shape discrete	asymptotic_bonf	1.7	0.6	3.4	1.9	0.8	3.4	1.9	0.5	3.1
	permutation_bonf	0.1	0.0	0.2	0.6	0.1	1.3	0.3	0.0	0.8

Table S137: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and unbalanced medium sample sizes under unequal, high censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$	$\mathcal{H}_{0,13}$	$\mathcal{H}_{0,14}$	$\mathcal{H}_{0,15}$	$\mathcal{H}_{0,16}$	$\mathcal{H}_{0,17}$	$\mathcal{H}_{0,18}$
	asymptotic	1.2	4.0	1.7	1.1	1.3	1.2	1.1	2.2	1.6
exp early continuous	asymptotic_bonf	1.2	3.8	1.4	1.0	1.1	1.1	1.0	1.9	1.2
	permutation_bonf	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.2	0.0
	asymptotic	2.0	4.8	1.7	1.4	1.3	1.2	1.8	2.6	1.8
exp early discrete	asymptotic_bonf	1.9	4.7	1.6	1.2	1.1	1.1	1.6	2.1	1.5
	permutation_bonf	0.1	0.1	0.1	0.2	0.0	0.0	0.2	0.2	0.0
	asymptotic	1.2	3.8	1.8	1.2	1.4	1.1	1.1	1.9	1.6
exp late continuous	asymptotic_bonf	1.1	3.6	1.4	1.2	1.1	0.9	0.9	1.6	1.4
	permutation_bonf	0.1	0.0	0.1	0.2	0.0	0.0	0.1	0.1	0.0
	asymptotic	1.8	4.6	2.2	1.6	1.3	1.6	1.3	2.4	1.9
exp late discrete	asymptotic_bonf	1.6	4.3	2.0	1.2	1.2	1.3	1.2	1.9	1.5
	permutation_bonf	0.1	0.0	0.0	0.2	0.0	0.0	0.1	0.2	0.0
	asymptotic	2.2	3.8	2.2	1.2	1.3	1.8	1.8	2.1	1.8
exp prop continuous	asymptotic_bonf	2.0	3.8	1.9	0.8	1.0	1.7	1.7	1.9	1.4
	permutation_bonf	0.1	0.1	0.1	0.0	0.1	0.2	0.2	0.1	0.2
	asymptotic	3.1	4.6	2.4	1.8	1.3	2.0	2.4	2.4	1.8
exp prop discrete	asymptotic_bonf	2.8	4.5	2.2	1.5	1.0	1.8	2.0	2.1	1.5
	permutation_bonf	0.1	0.1	0.0	0.0	0.1	0.2	0.1	0.1	0.2
	asymptotic	6.4	10.2	3.8	2.1	1.4	2.2	2.8	1.4	3.4
logn continuous	asymptotic_bonf	6.0	9.8	3.4	1.4	1.2	2.0	2.4	1.1	3.0
	permutation_bonf	0.1	0.2	0.2	0.1	0.3	0.4	0.1	0.4	0.2
	asymptotic	6.8	10.6	4.0	1.6	1.2	2.4	2.4	1.2	3.4
logn discrete	asymptotic_bonf	6.3	9.4	3.7	1.1	1.0	2.0	2.0	0.8	2.9
	permutation_bonf	0.2	0.2	0.1	0.2	0.5	0.4	0.2	0.3	0.4
	asymptotic	1.4	4.0	1.6	1.2	1.4	1.2	1.0	2.1	1.5
pwExp continuous	asymptotic_bonf	1.3	4.0	1.3	1.0	1.0	1.0	1.0	1.9	1.0
	permutation_bonf	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0
	asymptotic	1.6	5.0	1.4	1.3	1.2	1.2	1.6	2.5	1.8
pwExp discrete	asymptotic_bonf	1.4	4.8	1.4	1.1	1.0	0.9	1.2	2.2	1.6
	permutation_bonf	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.2	0.0
	asymptotic	4.9	7.1	4.0	1.9	1.4	3.3	2.3	1.8	3.2
Weib late continuous	asymptotic_bonf	4.8	6.8	3.7	1.6	1.2	2.7	2.0	1.4	2.9
	permutation_bonf	0.1	0.1	0.3	0.2	0.2	0.3	0.0	0.1	0.4
	asymptotic	6.2	7.5	5.0	2.1	1.4	3.6	2.1	1.8	3.8
Weib late discrete	asymptotic_bonf	5.8	7.0	4.6	1.9	1.2	3.2	1.9	1.1	3.2
	permutation_bonf	0.0	0.2	0.4	0.2	0.5	0.5	0.1	0.3	0.3
	asymptotic	5.1	7.3	4.0	1.7	1.3	2.9	2.3	1.8	3.1
Weib prop continuous	asymptotic_bonf	5.0	6.9	3.8	1.3	1.1	2.5	2.1	1.4	2.6
	permutation_bonf	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.2	0.3
	asymptotic	6.1	8.1	4.8	1.8	1.2	3.1	2.3	1.6	2.8
Weib prop discrete	asymptotic_bonf	5.8	7.5	4.4	1.4	1.2	2.7	2.0	0.9	2.5
	permutation_bonf	0.0	0.1	0.4	0.1	0.5	0.3	0.0	0.1	0.3
	asymptotic	6.3	9.6	4.0	1.9	1.8	2.6	2.7	2.5	2.8
Weib scale continuous	asymptotic_bonf	6.2	9.1	3.9	1.6	1.6	2.5	2.2	2.1	2.6
	permutation_bonf	0.1	0.0	0.1	0.1	0.2	0.1	0.0	0.3	0.1
	asymptotic	7.6	9.9	4.6	2.0	1.2	2.6	2.4	2.1	2.5
Weib scale discrete	asymptotic_bonf	7.4	9.3	4.4	1.6	1.1	2.1	2.1	1.4	2.2
	permutation_bonf	0.0	0.1	0.4	0.2	0.4	0.1	0.4	0.2	0.2
	asymptotic	7.3	12.2	4.1	1.9	1.4	2.2	2.9	2.5	2.9
Weib shape continuous	asymptotic_bonf	7.1	11.8	4.1	1.6	1.1	2.2	2.2	1.9	2.6
	permutation_bonf	0.4	0.1	0.2	0.1	0.1	0.1	0.1	0.3	0.1
	asymptotic	9.0	13.2	5.1	2.1	0.9	2.1	2.6	1.8	3.1
Weib shape discrete	asymptotic_bonf	8.9	12.6	5.0	1.7	0.8	1.9	2.3	1.1	2.8
	permutation_bonf	0.1	0.1	0.4	0.2	0.2	0.1	0.2	0.1	0.1

Table S138: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and unbalanced small sample sizes under unequal, high censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$	$\mathcal{H}_{0,13}$	$\mathcal{H}_{0,14}$	$\mathcal{H}_{0,15}$	$\mathcal{H}_{0,16}$	$\mathcal{H}_{0,17}$	$\mathcal{H}_{0,18}$
	asymptotic	79.1	56.1	92.8	78.6	56.2	93.5	77.2	55.1	93.5
exp early continuous	asymptotic_bonf	76.9	53.6	91.9	76.8	54.0	93.0	75.2	52.6	92.8
	permutation_bonf	75.5	52.0	91.0	75.7	53.3	92.2	73.7	51.8	91.5
	asymptotic	84.2	63.0	95.8	85.1	64.2	96.2	83.2	61.9	96.2
exp early discrete	asymptotic_bonf	83.3	61.1	95.5	83.5	62.3	95.7	81.6	60.0	95.7
	permutation_bonf	81.2	58.8	94.3	82.0	62.4	95.1	79.9	58.1	94.8
	asymptotic	82.8	60.2	95.0	82.5	60.8	95.5	80.8	59.5	95.9
exp late continuous	asymptotic_bonf	81.2	57.8	94.3	80.8	58.5	94.9	79.1	57.1	95.2
	permutation_bonf	79.7	56.2	93.5	79.5	58.4	94.6	77.8	55.0	94.5
	asymptotic	87.5	67.5	97.0	88.9	69.3	97.7	86.4	65.8	97.9
exp late discrete	asymptotic_bonf	86.4	65.2	96.5	87.7	67.2	97.4	85.4	63.1	97.7
	permutation_bonf	85.8	63.8	95.9	86.5	66.2	97.0	84.2	61.3	97.0
	asymptotic	79.0	59.5	94.7	82.2	61.5	95.3	79.1	59.6	94.5
exp prop continuous	asymptotic_bonf	77.7	57.3	94.1	80.0	59.7	94.8	77.2	57.5	93.9
	permutation_bonf	75.8	56.2	93.6	79.4	58.3	94.3	76.5	55.9	93.2
	asymptotic	84.8	67.2	96.9	87.4	68.7	97.8	84.9	66.6	96.9
exp prop discrete	asymptotic_bonf	83.2	65.6	96.4	86.4	66.5	97.4	83.7	64.5	96.4
	permutation_bonf	82.2	64.5	96.2	85.3	66.4	96.6	82.0	63.4	95.7
	asymptotic	100.0	98.2	100.0	99.9	98.7	100.0	99.9	97.8	100.0
logn continuous	asymptotic_bonf	100.0	97.8	100.0	99.8	98.5	100.0	99.9	97.5	100.0
	permutation_bonf	99.9	97.3	100.0	99.8	98.1	100.0	99.7	97.0	100.0
	asymptotic	100.0	99.5	100.0	100.0	99.7	100.0	99.9	99.2	100.0
logn discrete	asymptotic_bonf	100.0	99.4	100.0	100.0	99.6	100.0	99.9	99.2	100.0
	permutation_bonf	100.0	99.2	100.0	100.0	99.4	100.0	99.9	99.1	100.0
	asymptotic	77.4	54.4	92.4	77.7	56.1	93.0	75.4	54.0	92.9
pwExp continuous	asymptotic_bonf	75.3	52.1	91.6	75.8	53.7	92.2	73.7	51.6	91.8
	permutation_bonf	74.0	51.4	90.9	74.0	53.3	91.3	72.3	50.3	91.4
	asymptotic	83.7	61.7	95.2	84.7	63.4	96.0	82.6	60.9	95.7
pwExp discrete	asymptotic_bonf	82.3	59.6	94.8	83.0	61.6	95.5	80.8	58.1	95.1
	permutation_bonf	81.3	58.7	94.0	81.9	60.4	95.0	79.8	56.9	94.2
	asymptotic	99.9	98.3	100.0	99.9	98.7	100.0	99.9	97.0	100.0
Weib late continuous	asymptotic_bonf	99.8	98.2	100.0	99.9	98.5	100.0	99.9	96.8	100.0
	permutation_bonf	99.8	98.0	100.0	99.7	98.6	100.0	99.6	96.6	100.0
	asymptotic	100.0	99.5	100.0	100.0	99.9	100.0	100.0	98.8	100.0
Weib late discrete	asymptotic_bonf	100.0	99.4	100.0	100.0	99.9	100.0	100.0	98.6	100.0
	permutation_bonf	100.0	99.3	100.0	100.0	99.7	100.0	100.0	98.7	100.0
	asymptotic	99.8	97.8	100.0	99.8	98.2	100.0	99.8	96.3	100.0
Weib prop continuous	asymptotic_bonf	99.7	97.4	100.0	99.8	97.9	100.0	99.8	96.0	100.0
	permutation_bonf	99.8	97.2	100.0	99.7	98.0	100.0	99.6	96.0	100.0
	asymptotic	100.0	99.2	100.0	100.0	99.7	100.0	100.0	98.4	100.0
Weib prop discrete	asymptotic_bonf	100.0	99.2	100.0	100.0	99.7	100.0	100.0	98.2	100.0
	permutation_bonf	99.9	99.1	100.0	100.0	99.4	100.0	100.0	98.2	100.0
	asymptotic	99.4	95.5	100.0	99.4	96.0	100.0	99.4	94.0	100.0
Weib scale continuous	asymptotic_bonf	99.1	94.7	100.0	99.4	95.5	100.0	99.2	93.3	100.0
	permutation_bonf	99.2	94.0	100.0	99.1	95.2	100.0	99.0	92.8	99.9
	asymptotic	99.8	98.3	100.0	99.9	98.7	100.0	99.9	97.2	100.0
Weib scale discrete	asymptotic_bonf	99.8	98.0	100.0	99.8	98.5	100.0	99.9	96.9	100.0
	permutation_bonf	99.8	97.8	100.0	99.7	98.0	100.0	99.8	96.6	100.0
	asymptotic	97.9	88.8	99.6	97.5	89.6	99.7	97.7	87.4	99.5
Weib shape continuous	asymptotic_bonf	97.7	87.9	99.6	97.3	88.4	99.7	97.2	86.7	99.4
	permutation_bonf	97.5	86.3	99.6	97.1	87.8	99.7	96.2	85.2	99.3
	asymptotic	99.2	94.5	100.0	99.3	95.8	99.9	99.1	93.3	99.9
Weib shape discrete	asymptotic_bonf	99.1	93.7	99.9	99.2	95.1	99.9	99.0	92.5	99.9
	permutation_bonf	99.0	93.0	100.0	99.0	94.8	100.0	98.9	92.2	99.9

Table S139: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and balanced large sample sizes under unequal, low censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$	$\mathcal{H}_{0,13}$	$\mathcal{H}_{0,14}$	$\mathcal{H}_{0,15}$	$\mathcal{H}_{0,16}$	$\mathcal{H}_{0,17}$	$\mathcal{H}_{0,18}$
	asymptotic	11.2	6.8	16.1	10.9	7.0	17.4	10.8	5.3	17.1
exp early continuous	asymptotic_bonf	10.3	6.2	14.9	10.2	6.5	15.8	10.0	5.0	16.0
	permutation_bonf	9.8	5.8	14.4	9.6	6.4	15.4	9.2	5.0	14.6
	asymptotic	13.0	8.3	19.0	13.2	8.3	20.9	12.0	7.4	19.8
exp early discrete	asymptotic_bonf	11.9	7.1	17.5	12.2	7.5	19.5	11.2	6.3	18.4
	permutation_bonf	12.4	7.0	17.2	11.3	7.3	18.1	10.5	6.3	16.9
	asymptotic	11.8	7.7	18.4	12.8	7.5	20.6	12.4	7.1	19.2
exp late continuous	asymptotic_bonf	10.9	7.2	17.0	11.6	6.8	18.7	11.5	6.0	17.6
	permutation_bonf	11.1	7.2	15.9	11.0	6.8	17.9	10.3	6.0	16.2
	asymptotic	14.3	9.3	21.1	14.9	9.3	23.8	14.2	8.2	22.6
exp late discrete	asymptotic_bonf	12.9	8.5	19.5	13.6	8.2	22.2	13.2	7.5	20.2
	permutation_bonf	13.2	8.3	18.4	13.1	7.9	21.3	12.2	7.4	19.3
	asymptotic	12.6	7.1	17.3	12.1	6.3	17.0	11.8	6.6	18.6
exp prop continuous	asymptotic_bonf	11.4	6.2	16.2	11.0	5.8	15.8	10.5	5.9	16.9
	permutation_bonf	10.3	5.8	14.6	10.1	5.8	14.6	10.4	5.8	15.4
	asymptotic	14.2	8.2	20.7	14.0	7.8	20.9	13.6	8.1	21.2
exp prop discrete	asymptotic_bonf	13.0	7.4	19.2	13.2	7.0	19.2	12.7	7.1	19.9
	permutation_bonf	12.2	6.9	17.9	12.1	6.8	17.8	11.9	6.6	18.8
	asymptotic	39.2	25.2	58.2	41.0	25.4	59.8	38.0	21.9	55.1
logn continuous	asymptotic_bonf	37.1	23.5	55.7	38.9	23.8	57.6	36.1	20.6	52.8
	permutation_bonf	36.1	22.6	53.8	37.7	23.4	56.2	35.9	19.5	51.1
	asymptotic	47.8	32.9	66.6	49.0	31.6	68.2	46.9	28.8	64.6
logn discrete	asymptotic_bonf	45.9	30.8	64.6	46.9	30.2	66.5	44.9	26.7	62.6
	permutation_bonf	44.5	29.5	62.6	45.4	29.1	65.5	43.1	26.1	60.4
	asymptotic	9.9	7.0	16.2	10.8	6.4	16.9	10.6	5.5	15.7
pwExp continuous	asymptotic_bonf	8.8	5.9	14.8	9.8	5.5	14.9	9.6	5.0	14.8
	permutation_bonf	9.1	5.9	14.3	9.2	5.5	13.6	9.0	4.8	13.4
	asymptotic	11.6	8.0	18.8	12.6	7.3	20.1	12.0	7.0	18.7
pwExp discrete	asymptotic_bonf	10.8	7.1	17.3	11.6	6.8	18.6	10.8	6.2	17.2
	permutation_bonf	10.8	6.6	16.8	11.3	6.7	17.2	10.2	5.9	15.7
	asymptotic	39.3	26.0	59.7	40.7	26.6	62.6	38.8	24.2	57.8
Weib late continuous	asymptotic_bonf	37.0	24.9	58.5	38.5	24.6	60.8	36.4	23.2	56.1
	permutation_bonf	35.9	24.0	55.1	37.1	24.4	59.4	35.7	21.8	54.1
	asymptotic	48.2	31.4	67.8	48.5	32.6	71.4	46.9	29.5	65.6
Weib late discrete	asymptotic_bonf	46.4	29.9	66.0	46.4	30.4	69.2	44.4	27.9	64.0
	permutation_bonf	44.6	28.9	63.5	45.6	29.7	68.0	42.8	26.9	62.0
	asymptotic	36.8	24.4	57.0	38.5	24.4	59.3	36.0	22.3	54.4
Weib prop continuous	asymptotic_bonf	34.9	22.9	54.6	36.8	22.7	57.3	33.8	20.9	52.4
	permutation_bonf	33.7	22.9	52.3	35.5	22.1	55.5	33.3	20.2	50.6
	asymptotic	45.9	29.8	65.6	46.8	30.9	68.5	44.8	28.1	63.7
Weib prop discrete	asymptotic_bonf	43.9	28.3	63.5	44.8	28.9	66.8	43.0	27.1	61.9
	permutation_bonf	42.7	27.3	61.5	43.4	29.1	65.3	41.9	26.0	59.8
	asymptotic	29.3	19.7	46.5	31.1	18.6	48.4	28.2	17.6	44.6
Weib scale continuous	asymptotic_bonf	27.4	17.8	43.9	29.2	16.9	46.3	26.1	16.0	42.8
	permutation_bonf	25.7	17.5	42.8	28.2	16.2	45.6	25.6	15.2	41.5
	asymptotic	36.4	23.7	56.5	38.4	23.8	57.5	35.2	21.9	53.2
Weib scale discrete	asymptotic_bonf	34.3	22.2	53.9	36.9	21.9	55.5	33.4	20.3	51.6
	permutation_bonf	32.5	21.6	52.4	34.8	21.9	54.3	33.0	19.9	49.7
	asymptotic	19.4	13.0	32.9	21.6	12.0	35.6	20.1	11.8	32.2
Weib shape continuous	asymptotic_bonf	18.2	12.0	30.9	19.6	10.7	33.6	18.5	10.3	30.0
	permutation_bonf	17.4	11.8	28.8	18.6	10.2	32.9	18.1	10.2	29.2
	asymptotic	26.0	17.6	41.3	28.4	16.4	44.4	26.5	16.3	41.7
Weib shape discrete	asymptotic_bonf	23.5	15.8	39.5	26.4	15.0	41.4	24.5	14.9	39.6
	permutation_bonf	23.3	15.6	37.5	25.7	15.1	41.1	24.4	13.6	39.0

Table S140: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and balanced medium sample sizes under unequal, low censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$	$\mathcal{H}_{0,13}$	$\mathcal{H}_{0,14}$	$\mathcal{H}_{0,15}$	$\mathcal{H}_{0,16}$	$\mathcal{H}_{0,17}$	$\mathcal{H}_{0,18}$
	asymptotic	2.1	0.9	2.4	2.2	1.2	2.0	2.4	1.0	2.8
exp early continuous	asymptotic_bonf	1.8	0.8	2.2	1.9	1.0	1.7	2.1	0.9	2.4
	permutation_bonf	1.4	0.9	1.8	1.4	0.8	1.5	1.9	0.6	1.9
	asymptotic	2.4	1.1	3.0	2.4	1.1	2.4	2.6	1.2	3.3
exp early discrete	asymptotic_bonf	1.9	0.9	2.7	2.1	1.0	2.2	2.4	1.0	2.9
	permutation_bonf	1.4	1.0	2.3	1.6	0.8	1.8	2.0	0.8	2.3
	asymptotic	2.2	1.1	2.6	2.2	1.4	2.3	2.9	1.4	2.9
exp late continuous	asymptotic_bonf	1.9	1.0	2.5	2.0	1.4	1.8	2.8	1.3	2.7
	permutation_bonf	1.4	0.9	2.0	1.5	1.1	1.5	1.9	1.0	2.2
	asymptotic	2.4	1.4	3.4	2.4	1.6	2.7	3.1	1.6	3.5
exp late discrete	asymptotic_bonf	2.0	1.2	3.1	2.2	1.4	2.5	2.9	1.4	3.2
	permutation_bonf	1.5	0.9	2.2	1.8	1.0	1.8	2.4	1.2	2.4
	asymptotic	1.4	1.0	2.4	1.3	1.2	2.4	1.9	1.2	2.2
exp prop continuous	asymptotic_bonf	1.2	0.9	2.1	1.1	1.0	1.9	1.7	1.0	1.8
	permutation_bonf	1.1	0.9	1.7	0.9	0.8	1.6	1.4	0.9	1.4
	asymptotic	1.8	1.1	2.6	1.4	1.4	2.8	2.2	1.4	2.8
exp prop discrete	asymptotic_bonf	1.4	1.0	2.2	1.4	1.2	2.4	1.9	1.3	2.4
	permutation_bonf	1.4	0.8	1.8	1.0	1.0	1.9	1.8	1.0	1.8
	asymptotic	5.0	3.3	7.0	4.1	2.9	5.9	4.9	3.3	7.3
logn continuous	asymptotic_bonf	4.4	2.8	6.2	3.6	2.4	5.3	4.5	3.0	7.0
	permutation_bonf	3.5	2.1	5.2	3.6	2.2	4.4	4.2	2.4	5.2
	asymptotic	6.2	4.0	9.3	5.8	3.4	7.6	5.9	4.1	8.8
logn discrete	asymptotic_bonf	5.4	3.6	8.2	5.1	2.9	6.9	5.4	3.6	8.3
	permutation_bonf	4.8	3.2	6.6	4.4	2.5	6.0	5.1	3.4	6.7
	asymptotic	1.4	0.9	2.2	1.6	1.2	1.7	1.9	1.1	2.5
pwExp continuous	asymptotic_bonf	1.4	0.8	2.0	1.2	0.9	1.5	1.8	1.0	2.2
	permutation_bonf	0.8	0.8	1.6	1.1	1.1	1.1	1.4	0.8	1.8
	asymptotic	1.6	0.9	2.7	1.8	1.3	2.1	2.2	1.2	2.8
pwExp discrete	asymptotic_bonf	1.5	0.8	2.1	1.7	1.0	1.7	2.0	1.0	2.5
	permutation_bonf	1.1	0.8	1.6	1.3	1.1	1.2	1.6	0.9	2.1
	asymptotic	4.8	4.0	8.5	5.8	3.2	8.2	4.2	4.0	7.3
Weib late continuous	asymptotic_bonf	4.2	3.6	7.4	5.2	2.8	7.2	4.0	3.8	6.6
	permutation_bonf	3.8	3.2	6.1	4.0	2.8	5.8	3.2	2.9	5.4
	asymptotic	6.0	4.2	10.0	6.9	3.9	9.6	5.7	4.8	9.1
Weib late discrete	asymptotic_bonf	5.6	3.9	8.6	6.4	3.4	8.9	5.1	4.5	8.6
	permutation_bonf	4.7	3.7	6.9	5.3	3.1	7.2	3.8	4.1	7.5
	asymptotic	4.4	3.5	7.1	5.3	2.7	6.8	3.7	3.6	6.6
Weib prop continuous	asymptotic_bonf	3.7	2.9	6.2	4.5	2.2	6.2	3.3	3.4	5.8
	permutation_bonf	3.3	2.8	5.1	3.7	1.9	5.4	2.6	2.7	4.8
	asymptotic	5.5	4.0	8.5	6.5	3.4	8.8	4.8	4.7	8.0
Weib prop discrete	asymptotic_bonf	5.1	3.4	7.6	5.9	2.8	8.2	4.0	4.0	7.5
	permutation_bonf	4.4	3.5	5.8	4.5	2.5	6.5	3.2	3.7	6.2
	asymptotic	2.8	2.1	4.5	2.8	1.2	5.1	2.3	2.0	4.3
Weib scale continuous	asymptotic_bonf	2.5	2.0	4.0	2.4	1.0	4.8	1.9	1.8	3.9
	permutation_bonf	2.2	1.8	3.0	1.7	1.0	4.0	1.8	1.6	3.0
	asymptotic	3.5	2.5	5.4	3.8	1.8	6.1	2.6	2.7	5.8
Weib scale discrete	asymptotic_bonf	2.8	2.4	4.7	3.2	1.6	5.6	2.3	2.2	5.0
	permutation_bonf	2.6	2.0	4.0	2.8	1.4	5.0	2.1	2.1	4.2
	asymptotic	1.4	1.4	2.4	1.6	0.7	3.1	1.2	1.0	2.2
Weib shape continuous	asymptotic_bonf	1.1	1.2	2.2	1.3	0.5	2.6	1.1	0.8	2.0
	permutation_bonf	1.1	1.0	1.6	1.0	0.7	2.4	0.9	0.8	1.9
	asymptotic	1.7	1.6	3.4	1.9	0.8	3.8	1.7	1.4	3.3
Weib shape discrete	asymptotic_bonf	1.4	1.4	2.8	1.8	0.8	3.2	1.4	1.0	3.0
	permutation_bonf	1.4	1.4	2.4	1.4	0.8	2.8	1.1	1.2	2.5

Table S141: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and balanced small sample sizes under unequal, low censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$	$\mathcal{H}_{0,13}$	$\mathcal{H}_{0,14}$	$\mathcal{H}_{0,15}$	$\mathcal{H}_{0,16}$	$\mathcal{H}_{0,17}$	$\mathcal{H}_{0,18}$
	asymptotic	33.5	15.7	53.0	28.6	13.2	42.8	27.9	12.8	43.8
exp early continuous	asymptotic_bonf	30.4	14.2	50.1	25.8	11.2	39.6	25.1	11.2	40.4
	permutation_bonf	26.3	11.7	47.0	23.2	10.8	37.5	23.3	9.9	38.1
	asymptotic	39.2	20.0	59.9	33.2	16.2	49.1	33.0	16.1	51.7
exp early discrete	asymptotic_bonf	35.6	17.1	57.1	30.1	14.1	45.6	29.4	13.6	47.4
	permutation_bonf	31.3	14.1	54.0	28.1	13.0	44.4	27.4	12.5	44.5
	asymptotic	39.6	19.5	61.7	33.1	15.3	50.2	32.3	15.2	51.3
exp late continuous	asymptotic_bonf	36.0	17.2	58.6	29.8	13.1	47.1	29.0	13.1	47.6
	permutation_bonf	32.4	14.5	56.2	27.6	12.2	44.8	27.4	12.0	44.3
	asymptotic	46.1	23.9	68.5	39.4	19.2	58.6	39.0	18.6	59.2
exp late discrete	asymptotic_bonf	42.6	21.3	66.2	36.1	16.7	54.9	35.8	16.4	56.4
	permutation_bonf	38.1	17.4	62.8	33.6	15.8	53.0	33.1	14.7	52.7
	asymptotic	36.2	20.0	55.1	30.1	17.2	44.4	29.0	17.2	46.1
exp prop continuous	asymptotic_bonf	32.8	17.5	51.3	27.0	14.8	40.7	26.1	15.2	42.9
	permutation_bonf	30.0	15.7	47.9	25.4	13.2	38.5	23.1	13.2	40.8
	asymptotic	42.0	23.6	63.5	35.5	20.7	51.7	34.2	20.7	53.3
exp prop discrete	asymptotic_bonf	38.9	21.3	60.7	32.4	18.1	48.3	30.4	18.1	49.9
	permutation_bonf	35.7	17.6	56.7	29.8	16.2	46.4	27.3	16.2	47.8
	asymptotic	86.4	65.3	96.4	77.3	56.1	92.3	77.5	56.9	92.3
logn continuous	asymptotic_bonf	84.5	62.5	95.3	75.8	53.1	91.3	74.7	53.6	90.9
	permutation_bonf	79.1	52.2	93.9	72.0	47.5	89.1	70.7	47.9	88.7
	asymptotic	92.2	75.4	98.5	85.8	65.5	95.9	85.5	66.6	96.3
logn discrete	asymptotic_bonf	91.3	72.6	98.2	83.9	62.2	95.2	83.7	63.8	95.5
	permutation_bonf	86.5	61.3	97.1	80.8	56.9	93.9	79.2	57.9	93.8
	asymptotic	31.2	14.9	50.1	25.7	12.5	41.9	25.7	12.7	40.9
pwExp continuous	asymptotic_bonf	27.9	12.3	46.8	23.0	10.4	37.9	23.2	10.8	38.0
	permutation_bonf	25.7	10.5	43.8	21.1	9.3	36.1	21.3	9.8	36.4
	asymptotic	36.8	18.6	58.2	31.0	15.5	48.4	30.3	15.8	49.1
pwExp discrete	asymptotic_bonf	34.4	15.6	54.4	27.8	13.1	45.1	27.5	13.6	45.4
	permutation_bonf	30.5	12.9	51.1	26.0	11.9	42.8	26.1	12.2	42.5
	asymptotic	87.9	66.6	97.4	81.0	58.6	94.5	80.1	57.8	95.2
Weib late continuous	asymptotic_bonf	86.7	63.9	97.0	79.1	54.9	93.5	78.4	55.0	93.8
	permutation_bonf	81.8	56.3	95.7	76.0	51.2	92.0	75.1	49.5	92.2
	asymptotic	92.5	76.6	98.7	87.4	68.6	97.2	87.0	67.3	97.8
Weib late discrete	asymptotic_bonf	91.8	74.0	98.6	85.8	65.1	96.5	85.7	64.8	97.4
	permutation_bonf	87.8	65.5	97.7	83.7	60.9	95.4	82.0	59.7	96.0
	asymptotic	84.1	63.2	96.4	77.3	55.0	92.2	77.0	54.5	92.9
Weib prop continuous	asymptotic_bonf	82.2	60.5	95.5	75.1	51.8	91.3	74.3	50.9	91.8
	permutation_bonf	77.8	51.8	93.8	72.6	47.2	89.5	71.5	46.2	89.6
	asymptotic	91.1	73.8	98.6	85.8	65.0	96.4	85.2	64.8	97.1
Weib prop discrete	asymptotic_bonf	89.3	70.2	98.2	83.8	61.3	96.0	83.2	61.7	96.2
	permutation_bonf	85.2	61.0	97.4	81.0	56.9	94.5	79.3	55.9	95.2
	asymptotic	71.9	48.6	88.8	65.2	43.5	84.0	64.2	42.0	83.5
Weib scale continuous	asymptotic_bonf	68.5	45.3	87.1	61.5	39.1	81.3	61.8	39.0	81.5
	permutation_bonf	63.0	35.9	83.5	57.8	34.7	79.0	56.9	33.7	77.7
	asymptotic	79.6	58.3	93.9	73.0	51.6	90.6	73.7	50.5	90.1
Weib scale discrete	asymptotic_bonf	77.1	54.3	92.9	70.8	48.8	89.0	71.2	47.1	88.5
	permutation_bonf	71.8	43.6	90.1	67.5	42.7	86.8	66.8	42.8	85.4
	asymptotic	51.3	31.6	71.2	45.9	28.3	64.4	46.0	28.7	65.0
Weib shape continuous	asymptotic_bonf	46.7	27.4	67.5	41.8	25.2	60.5	42.4	25.0	61.2
	permutation_bonf	38.9	20.2	60.7	38.6	21.3	57.1	37.9	21.0	57.8
	asymptotic	63.5	40.6	81.5	56.5	36.8	75.8	56.8	36.2	77.0
Weib shape discrete	asymptotic_bonf	59.6	37.0	78.8	52.5	33.2	72.2	52.8	33.4	73.6
	permutation_bonf	49.7	26.2	73.4	48.0	27.4	68.5	48.0	27.1	69.2

Table S142: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and unbalanced large sample sizes under unequal, low censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$	$\mathcal{H}_{0,13}$	$\mathcal{H}_{0,14}$	$\mathcal{H}_{0,15}$	$\mathcal{H}_{0,16}$	$\mathcal{H}_{0,17}$	$\mathcal{H}_{0,18}$
	asymptotic	1.9	1.5	3.7	1.5	1.4	3.7	1.8	1.4	4.4
exp early continuous	asymptotic_bonf	1.6	0.9	3.1	1.0	1.1	3.2	1.5	1.1	3.6
	permutation_bonf	0.6	0.2	2.0	0.6	0.7	2.4	0.8	0.4	2.4
	asymptotic	2.5	1.6	4.3	1.8	1.6	4.2	2.4	1.6	5.0
exp early discrete	asymptotic_bonf	1.8	1.3	3.5	1.1	1.4	3.8	1.9	1.2	4.0
	permutation_bonf	0.7	0.2	2.1	0.6	0.8	2.9	0.9	0.5	2.8
	asymptotic	2.2	1.8	5.1	1.7	1.8	4.3	2.4	1.8	5.2
exp late continuous	asymptotic_bonf	1.9	1.5	4.4	1.2	1.4	3.7	1.9	1.4	4.5
	permutation_bonf	0.9	0.4	2.5	0.8	0.8	2.9	1.0	0.5	3.4
	asymptotic	2.9	2.2	6.0	2.4	2.0	5.1	2.8	2.1	6.2
exp late discrete	asymptotic_bonf	2.2	1.8	5.1	1.6	1.5	4.4	2.1	1.5	5.3
	permutation_bonf	1.0	0.4	3.0	1.0	1.1	3.2	1.2	0.6	3.9
	asymptotic	2.8	1.6	4.2	2.8	1.5	4.1	2.5	1.8	3.3
exp prop continuous	asymptotic_bonf	2.4	1.1	3.5	2.1	1.4	3.2	1.8	1.4	2.8
	permutation_bonf	1.2	0.2	1.6	1.3	0.6	2.3	1.1	0.4	1.9
	asymptotic	3.4	1.8	4.8	3.0	1.6	4.6	3.4	2.0	3.8
exp prop discrete	asymptotic_bonf	2.8	1.4	4.2	2.4	1.5	4.0	2.5	1.6	3.3
	permutation_bonf	1.2	0.2	1.8	1.6	0.6	2.6	1.5	0.5	2.2
	asymptotic	7.8	4.5	17.6	7.7	4.2	15.0	7.2	3.6	15.6
logn continuous	asymptotic_bonf	6.8	3.6	15.8	6.3	3.5	13.2	5.6	2.9	13.6
	permutation_bonf	1.3	0.0	5.1	3.4	0.8	9.0	2.8	0.6	8.2
	asymptotic	10.1	5.5	21.4	9.2	5.4	18.6	8.8	4.4	18.4
logn discrete	asymptotic_bonf	8.4	4.5	19.0	8.3	4.4	16.1	7.3	3.6	16.8
	permutation_bonf	1.3	0.0	6.2	3.8	1.0	10.3	3.2	0.6	9.6
	asymptotic	1.8	1.6	4.0	1.2	1.4	3.6	1.6	1.4	3.6
pwExp continuous	asymptotic_bonf	1.3	1.3	3.3	0.8	1.2	3.2	1.4	1.0	3.1
	permutation_bonf	0.5	0.2	2.1	0.5	0.7	2.5	0.5	0.4	2.3
	asymptotic	2.2	1.8	4.8	1.7	1.7	4.2	2.0	1.6	4.5
pwExp discrete	asymptotic_bonf	1.6	1.4	4.0	1.0	1.3	3.5	1.6	1.2	3.7
	permutation_bonf	0.5	0.2	2.4	0.4	0.9	2.9	0.4	0.5	2.7
	asymptotic	10.8	4.4	20.2	9.8	4.6	16.4	9.8	4.6	17.2
Weib late continuous	asymptotic_bonf	9.0	3.6	17.8	8.5	3.8	14.2	8.1	3.8	14.7
	permutation_bonf	2.4	0.3	8.1	4.8	1.2	9.9	3.8	1.0	9.3
	asymptotic	13.2	5.2	24.6	11.3	5.4	20.0	12.2	5.3	20.5
Weib late discrete	asymptotic_bonf	11.6	4.3	22.2	10.2	4.5	17.6	10.1	4.3	18.5
	permutation_bonf	2.4	0.2	8.5	6.1	1.4	12.2	4.2	0.8	11.1
	asymptotic	8.5	3.2	17.0	8.6	3.8	14.2	8.3	3.8	14.2
Weib prop continuous	asymptotic_bonf	7.2	2.6	14.3	7.2	3.0	12.0	6.8	3.2	11.5
	permutation_bonf	2.0	0.3	5.7	4.2	0.7	8.1	3.0	0.5	7.8
	asymptotic	11.6	4.5	20.6	10.1	4.5	17.4	10.3	4.6	17.8
Weib prop discrete	asymptotic_bonf	9.6	3.2	18.1	9.0	3.6	15.5	8.8	3.8	15.4
	permutation_bonf	2.2	0.2	6.2	5.1	1.0	9.6	3.1	0.6	8.7
	asymptotic	5.1	1.8	9.0	5.1	2.2	8.0	4.8	2.0	7.6
Weib scale continuous	asymptotic_bonf	4.0	1.3	7.0	4.4	1.6	6.4	3.2	1.6	6.4
	permutation_bonf	0.9	0.0	2.6	2.4	0.4	4.2	1.5	0.1	4.2
	asymptotic	6.2	2.4	11.2	6.7	2.7	10.3	6.0	2.9	10.2
Weib scale discrete	asymptotic_bonf	5.2	1.6	9.3	5.6	1.8	8.5	4.5	2.0	8.0
	permutation_bonf	0.8	0.0	2.6	2.7	0.4	4.4	1.4	0.2	4.3
	asymptotic	2.4	1.0	4.1	2.9	1.0	3.8	2.4	1.0	3.9
Weib shape continuous	asymptotic_bonf	1.8	0.6	3.3	2.4	0.8	3.2	1.6	0.6	2.8
	permutation_bonf	0.4	0.0	0.8	1.4	0.2	2.1	0.7	0.0	1.3
	asymptotic	3.3	1.4	5.6	3.4	1.3	5.4	3.4	1.5	5.5
Weib shape discrete	asymptotic_bonf	2.4	0.9	4.5	2.8	1.0	4.3	2.4	1.1	4.2
	permutation_bonf	0.3	0.0	1.0	1.2	0.1	2.4	0.8	0.0	1.6

Table S143: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and unbalanced medium sample sizes under unequal, low censoring.

distribution	method	$\mathcal{H}_{0,7}$	$\mathcal{H}_{0,8}$	$\mathcal{H}_{0,9}$	$\mathcal{H}_{0,13}$	$\mathcal{H}_{0,14}$	$\mathcal{H}_{0,15}$	$\mathcal{H}_{0,16}$	$\mathcal{H}_{0,17}$	$\mathcal{H}_{0,18}$
exp early continuous	asymptotic	1.2	2.7	1.9	1.1	1.4	1.2	1.1	1.9	1.3
	asymptotic_bonf	1.1	2.5	1.6	1.0	1.2	1.0	0.9	1.8	1.0
	permutation_bonf	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.2	0.1
exp early discrete	asymptotic	1.2	2.8	1.9	1.2	1.2	1.2	1.1	1.8	1.5
	asymptotic_bonf	1.2	2.6	1.7	1.1	1.2	1.1	0.9	1.6	1.1
	permutation_bonf	0.1	0.0	0.0	0.2	0.1	0.1	0.0	0.2	0.1
exp late continuous	asymptotic	1.6	1.6	1.8	1.1	0.9	1.5	1.1	1.6	1.5
	asymptotic_bonf	1.2	1.5	1.7	0.8	0.8	1.2	0.9	1.4	1.4
	permutation_bonf	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1
exp late discrete	asymptotic	1.6	1.6	2.0	1.2	0.8	1.7	1.2	1.6	1.8
	asymptotic_bonf	1.4	1.4	1.8	0.8	0.8	1.4	0.8	1.4	1.4
	permutation_bonf	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
exp prop continuous	asymptotic	1.4	1.9	1.6	1.2	1.0	1.4	1.0	0.9	1.6
	asymptotic_bonf	1.2	1.8	1.5	0.8	0.8	1.2	0.8	0.8	1.3
	permutation_bonf	0.0	0.1	0.0	0.0	0.1	0.4	0.1	0.0	0.1
exp prop discrete	asymptotic	1.5	1.9	1.6	1.1	1.0	1.6	1.1	1.0	1.6
	asymptotic_bonf	1.5	1.8	1.6	0.8	0.8	1.3	0.9	0.8	1.3
	permutation_bonf	0.0	0.2	0.0	0.0	0.1	0.2	0.0	0.0	0.1
logn continuous	asymptotic	1.7	3.2	2.3	1.2	1.2	1.6	1.0	1.1	1.9
	asymptotic_bonf	1.4	3.1	2.0	0.8	0.9	1.4	0.9	1.0	1.5
	permutation_bonf	0.1	0.1	0.0	0.0	0.2	0.2	0.0	0.0	0.0
logn discrete	asymptotic	1.8	3.5	2.5	1.3	1.2	1.6	1.2	1.0	2.1
	asymptotic_bonf	1.6	3.4	2.2	1.2	1.0	1.5	0.8	0.8	1.7
	permutation_bonf	0.0	0.2	0.0	0.0	0.4	0.2	0.0	0.0	0.0
pwExp continuous	asymptotic	1.4	2.4	1.7	0.9	1.4	1.2	1.0	1.8	1.4
	asymptotic_bonf	1.3	2.4	1.4	0.8	1.2	1.0	0.8	1.8	1.1
	permutation_bonf	0.0	0.0	0.1	0.0	0.2	0.2	0.0	0.2	0.2
pwExp discrete	asymptotic	1.4	2.4	1.7	0.9	1.3	1.4	0.9	1.6	1.3
	asymptotic_bonf	1.2	2.4	1.6	0.8	1.1	1.1	0.8	1.4	1.0
	permutation_bonf	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1
Weib late continuous	asymptotic	1.4	2.1	2.7	1.2	1.0	2.9	1.4	0.9	2.8
	asymptotic_bonf	1.0	1.8	2.2	0.9	0.8	2.3	1.1	0.8	2.5
	permutation_bonf	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.0	0.1
Weib late discrete	asymptotic	1.4	2.3	3.4	1.4	1.0	3.2	1.4	1.1	2.8
	asymptotic_bonf	1.2	1.9	2.7	1.0	0.9	2.6	1.2	1.0	2.8
	permutation_bonf	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.0
Weib prop continuous	asymptotic	1.2	2.5	2.3	1.1	0.9	2.8	1.1	1.0	2.5
	asymptotic_bonf	1.0	2.2	1.9	0.8	0.9	2.1	0.9	0.9	2.1
	permutation_bonf	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0.0
Weib prop discrete	asymptotic	1.1	2.4	2.6	1.0	1.0	2.9	1.3	1.2	2.6
	asymptotic_bonf	0.9	2.4	2.4	0.8	0.8	2.5	0.9	1.0	2.4
	permutation_bonf	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
Weib scale continuous	asymptotic	2.5	4.2	2.4	1.5	1.4	1.6	1.1	1.6	1.8
	asymptotic_bonf	2.3	4.0	2.0	1.2	1.1	1.4	0.8	1.4	1.5
	permutation_bonf	0.0	0.0	0.0	0.1	0.3	0.0	0.1	0.1	0.0
Weib scale discrete	asymptotic	2.5	4.4	2.4	1.6	1.3	1.9	1.1	1.7	1.9
	asymptotic_bonf	2.4	4.2	2.1	1.0	0.9	1.5	0.8	1.4	1.6
	permutation_bonf	0.1	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.0
Weib shape continuous	asymptotic	5.5	9.2	3.4	3.6	3.5	2.8	3.6	3.8	2.9
	asymptotic_bonf	5.5	9.0	3.1	3.1	3.0	2.4	3.2	3.0	2.4
	permutation_bonf	0.4	0.2	0.4	0.3	0.8	0.4	0.2	0.1	0.4
Weib shape discrete	asymptotic	5.5	9.3	3.4	3.1	2.5	2.5	3.0	2.9	2.7
	asymptotic_bonf	5.5	8.9	3.2	2.7	2.0	2.2	2.7	2.2	2.4
	permutation_bonf	0.3	0.2	0.3	0.6	0.6	0.2	0.1	0.2	0.3

Table S144: Rejection rates in percent for the Tukey-type contrast matrix with $\delta = 1.5$ and unbalanced small sample sizes under unequal, low censoring.

References

[1] M. Munko, M. Ditzhaus, D. Dobler, and J. Genuneit. RMST-based multiple contrast tests in general factorial designs. *Statistics in Medicine*, 43(10):1849–1866, 2024.