Simulation using Made Up data. Strain effects and Variances chosen freely. No Adjusting the effects. 1:7

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Part I

A=0.02 ,B=0.1

Simulation Parameters

	strain1	strain2	strain3	sd.gxl
EP1	0.00	0.00	0.00	0.02
EP2	0.00	0.00	0.00	0.04
EP3	0.00	0.00	0.00	0.06
EP4	0.00	0.00	0.00	0.08
EP5	0.00	0.00	0.00	0.12
EP6	0.00	0.00	0.00	0.16
EP7	0.00	0.00	0.00	0.20
EP8	0.00	0.00	0.20	0.02
EP9	0.00	0.00	0.40	0.04
EP10	0.00	0.00	0.60	0.06
EP11	0.00	0.00	0.80	0.08
EP12	0.00	0.00	1.00	0.12
EP13	0.00	0.00	1.20	0.16
EP14	0.00	0.00	1.40	0.20
EP15	-0.10	0.00	0.20	0.02
EP16	-0.20	0.00	0.40	0.04
EP17	-0.30	0.00	0.60	0.06
EP18	-0.40	0.00	0.80	0.08
EP19	-0.50	0.00	1.00	0.12
EP20	-0.60	0.00	1.20	0.16
EP21	-0.70	0.00	1.40	0.20

Mean results over All Single labs

	Exact	Mixed-Model Calls
StandardI-single	0.09821	0.15053
StandardII-single	0.17857	0.01923
GxLI-single	0.06250	0.12312
GxLII-single	0.20000	0.04736

Mean results of the multi-lab data sets, over All endpoints in all rounds

	Type I Error	Power	Type I Error-Exact	Power-Exact
standard	0.04	0.86	0.04	0.66
Gxl adjusted	0.03	0.82	0.02	0.62

Mean counts of (not)rejected hypothesis in the GxL-t-tests from Multi lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	1.50	65.50	67.00
Declared non-significant	82.50	39.50	122.00
Total	84.00	105.00	283.50

Mean counts of (not)rejected hypothesis in the Standard-t-tests from New single lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	3.50	27.50	31.00
Declared non-significant	24.50	7.50	32.00
Total	28.00	35.00	63.00

Part II

A=0.05 ,B=0.1

Simulation Parameters

	strain1	strain2	strain3	sd.gxl
EP1	0.00	0.00	0.00	0.05
EP2	0.00	0.00	0.00	0.10
EP3	0.00	0.00	0.00	0.15
EP4	0.00	0.00	0.00	0.20
EP5	0.00	0.00	0.00	0.30
EP6	0.00	0.00	0.00	0.40
EP7	0.00	0.00	0.00	0.50
EP8	0.00	0.00	0.20	0.05
EP9	0.00	0.00	0.40	0.10
EP10	0.00	0.00	0.60	0.15
EP11	0.00	0.00	0.80	0.20
EP12	0.00	0.00	1.00	0.30
EP13	0.00	0.00	1.20	0.40
EP14	0.00	0.00	1.40	0.50
EP15	-0.10	0.00	0.20	0.05
EP16	-0.20	0.00	0.40	0.10
EP17	-0.30	0.00	0.60	0.15
EP18	-0.40	0.00	0.80	0.20
EP19	-0.50	0.00	1.00	0.30
EP20	-0.60	0.00	1.20	0.40
EP21	-0.70	0.00	1.40	0.50

Mean results over All Single labs

	Exact	Mixed-Model Calls
StandardI-single	0.19643	0.25688
StandardII-single	0.26429	0.08902
GxLI-single	0.08036	0.11898
GxLII-single	0.40714	0.20833

Mean results of the multi-lab data sets, over All endpoints in all rounds

	Type I Error	Power	Type I Error-Exact	Power-Exact
standard	0.15	0.79	0.16	0.55
Gxl adjusted	0.03	0.67	0.03	0.44

Mean counts of (not)rejected hypothesis in the GxL-t-tests from Multi lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	2.50	46.00	48.50
Declared non-significant	81.50	59.00	140.50
Total	84.00	105.00	283.50

Mean counts of (not)rejected hypothesis in the Standard-t-tests from New single lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	5.00	23.50	28.50
Declared non-significant	23.00	11.50	34.50
Total	28.00	35.00	63.00

Part III

A=0.1 ,B=0.1

Simulation Parameters

	strain1	strain2	strain3	sd.gxl
EP1	0.00	0.00	0.00	0.10
EP2	0.00	0.00	0.00	0.20
EP3	0.00	0.00	0.00	0.30
EP4	0.00	0.00	0.00	0.40
EP5	0.00	0.00	0.00	0.60
EP6	0.00	0.00	0.00	0.80
EP7	0.00	0.00	0.00	1.00
EP8	0.00	0.00	0.20	0.10
EP9	0.00	0.00	0.40	0.20
EP10	0.00	0.00	0.60	0.30
EP11	0.00	0.00	0.80	0.40
EP12	0.00	0.00	1.00	0.60
EP13	0.00	0.00	1.20	0.80
EP14	0.00	0.00	1.40	1.00
EP15	-0.10	0.00	0.20	0.10
EP16	-0.20	0.00	0.40	0.20
EP17	-0.30	0.00	0.60	0.30
EP18	-0.40	0.00	0.80	0.40
EP19	-0.50	0.00	1.00	0.60
EP20	-0.60	0.00	1.20	0.80
EP21	-0.70	0.00	1.40	1.00

Mean results over All Single labs

	Exact	Mixed-Model Calls
StandardI-single	0.27679	0.40578
StandardII-single	0.42857	0.41188
GxLI-single	0.05357	0.10195
GxLII-single	0.89286	1.00000

Mean results of the multi-lab data sets, over All endpoints in all rounds

	Type I Error	Power	Type I Error-Exact	Power-Exact
standard	0.38	0.72	0.36	0.55
Gxl adjusted	0.03	0.36	0.05	0.16

Mean counts of (not)rejected hypothesis in the GxL-t-tests from Multi lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	4.50	16.50	21.00
Declared non-significant	79.50	88.50	168.00
Total	84.00	105.00	283.50

Mean counts of (not)rejected hypothesis in the Standard-t-tests from New single lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	8.50	21.00	29.50
Declared non-significant	19.50	14.00	33.50
Total	28.00	35.00	63.00

Part IV

A=0.2 ,B=0.1

Simulation Parameters

	strain1	strain2	strain3	sd.gxl
EP1	0.00	0.00	0.00	0.20
EP2	0.00	0.00	0.00	0.40
EP3	0.00	0.00	0.00	0.60
EP4	0.00	0.00	0.00	0.80
EP5	0.00	0.00	0.00	1.20
EP6	0.00	0.00	0.00	1.60
EP7	0.00	0.00	0.00	2.00
EP8	0.00	0.00	0.20	0.20
EP9	0.00	0.00	0.40	0.40
EP10	0.00	0.00	0.60	0.60
EP11	0.00	0.00	0.80	0.80
EP12	0.00	0.00	1.00	1.20
EP13	0.00	0.00	1.20	1.60
EP14	0.00	0.00	1.40	2.00
EP15	-0.10	0.00	0.20	0.20
EP16	-0.20	0.00	0.40	0.40
EP17	-0.30	0.00	0.60	0.60
EP18	-0.40	0.00	0.80	0.80
EP19	-0.50	0.00	1.00	1.20
EP20	-0.60	0.00	1.20	1.60
EP21	-0.70	0.00	1.40	2.00

Mean results over All Single labs

	Exact	Mixed-Model Calls
StandardI-single	0.72321	0.70377
StandardII-single	0.32143	0.45000
GxLI-single	0.11607	0.12749
GxLII-single	0.84286	0.55000

Mean results of the multi-lab data sets, over All endpoints in all rounds

	Type I Error	Power	Type I Error-Exact	Power-Exact
standard	0.63	0.64	0.55	0.70
Gxl adjusted	0.01	0.47	0.04	0.02

Mean counts of (not)rejected hypothesis in the GxL-t-tests from Multi lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	3.00	2.00	5.00
Declared non-significant	81.00	103.00	184.00
Total	84.00	105.00	283.50

Mean counts of (not)rejected hypothesis in the Standard-t-tests from New single lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	20.50	24.50	45.00
Declared non-significant	7.50	10.50	18.00
Total	28.00	35.00	63.00

Part V

A=0.02 ,B=0.2

Simulation Parameters

	strain1	strain2	strain3	sd.gxl
EP1	0.00	0.00	0.00	0.02
EP2	0.00	0.00	0.00	0.04
EP3	0.00	0.00	0.00	0.06
EP4	0.00	0.00	0.00	0.08
EP5	0.00	0.00	0.00	0.12
EP6	0.00	0.00	0.00	0.16
EP7	0.00	0.00	0.00	0.20
EP8	0.00	0.00	0.40	0.02
EP9	0.00	0.00	0.80	0.04
EP10	0.00	0.00	1.20	0.06
EP11	0.00	0.00	1.60	0.08
EP12	0.00	0.00	2.00	0.12
EP13	0.00	0.00	2.40	0.16
EP14	0.00	0.00	2.80	0.20
EP15	-0.20	0.00	0.40	0.02
EP16	-0.40	0.00	0.80	0.04
EP17	-0.60	0.00	1.20	0.06
EP18	-0.80	0.00	1.60	0.08
EP19	-1.00	0.00	2.00	0.12
EP20	-1.20	0.00	2.40	0.16
EP21	-1.40	0.00	2.80	0.20

Mean results over All Single labs

	Exact	Mixed-Model Calls
StandardI-single	0.00000	0.03009
StandardII-single	0.22857	0.12634
GxLI-single	0.00000	0.03009
GxLII-single	0.25000	0.15178

Mean results of the multi-lab data sets, over All endpoints in all rounds

	Type I Error	Power	Type I Error-Exact	Power-Exact
standard	0.09	0.90	0.06	0.82
Gxl adjusted	0.04	0.86	0.01	0.77

Mean counts of (not)rejected hypothesis in the GxL-t-tests from Multi lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	1.00	81.00	82.00
Declared non-significant	83.00	24.00	107.00
Total	84.00	105.00	283.50

Mean counts of (not)rejected hypothesis in the Standard-t-tests from New single lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	0.00	28.00	28.00
Declared non-significant	28.00	7.00	35.00
Total	28.00	35.00	63.00

Part VI

A=0.05 ,B=0.2

Simulation Parameters

	strain1	strain2	strain3	sd.gxl
EP1	0.00	0.00	0.00	0.05
EP2	0.00	0.00	0.00	0.10
EP3	0.00	0.00	0.00	0.15
EP4	0.00	0.00	0.00	0.20
EP5	0.00	0.00	0.00	0.30
EP6	0.00	0.00	0.00	0.40
EP7	0.00	0.00	0.00	0.50
EP8	0.00	0.00	0.40	0.05
EP9	0.00	0.00	0.80	0.10
EP10	0.00	0.00	1.20	0.15
EP11	0.00	0.00	1.60	0.20
EP12	0.00	0.00	2.00	0.30
EP13	0.00	0.00	2.40	0.40
EP14	0.00	0.00	2.80	0.50
EP15	-0.20	0.00	0.40	0.05
EP16	-0.40	0.00	0.80	0.10
EP17	-0.60	0.00	1.20	0.15
EP18	-0.80	0.00	1.60	0.20
EP19	-1.00	0.00	2.00	0.30
EP20	-1.20	0.00	2.40	0.40
EP21	-1.40	0.00	2.80	0.50

Mean results over All Single labs

	Exact	Mixed-Model Calls
StandardI-single	0.10714	0.11895
StandardII-single	0.27857	0.22278
GxLI-single	0.00000	0.00000
GxLII-single	0.42857	0.36643

Mean results of the multi-lab data sets, over All endpoints in all rounds

	Type I Error	Power	Type I Error-Exact	Power-Exact
standard	0.21	0.91	0.21	0.85
Gxl adjusted	0.05	0.88	0.05	0.81

Mean counts of (not)rejected hypothesis in the GxL-t-tests from Multi lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	4.00	85.50	89.50
Declared non-significant	80.00	19.50	99.50
Total	84.00	105.00	283.50

Mean counts of (not)rejected hypothesis in the Standard-t-tests from New single lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	3.00	26.50	29.50
Declared non-significant	25.00	8.50	33.50
Total	28.00	35.00	63.00

Part VII

A=0.1 ,B=0.2

Simulation Parameters

	strain1	strain2	strain3	sd.gxl
EP1	0.00	0.00	0.00	0.10
EP2	0.00	0.00	0.00	0.20
EP3	0.00	0.00	0.00	0.30
EP4	0.00	0.00	0.00	0.40
EP5	0.00	0.00	0.00	0.60
EP6	0.00	0.00	0.00	0.80
EP7	0.00	0.00	0.00	1.00
EP8	0.00	0.00	0.40	0.10
EP9	0.00	0.00	0.80	0.20
EP10	0.00	0.00	1.20	0.30
EP11	0.00	0.00	1.60	0.40
EP12	0.00	0.00	2.00	0.60
EP13	0.00	0.00	2.40	0.80
EP14	0.00	0.00	2.80	1.00
EP15	-0.20	0.00	0.40	0.10
EP16	-0.40	0.00	0.80	0.20
EP17	-0.60	0.00	1.20	0.30
EP18	-0.80	0.00	1.60	0.40
EP19	-1.00	0.00	2.00	0.60
EP20	-1.20	0.00	2.40	0.80
EP21	-1.40	0.00	2.80	1.00

Mean results over All Single labs

	Exact	Mixed-Model Calls
StandardI-single	0.42857	0.37050
StandardII-single	0.30000	0.14714
GxLI-single	0.01786	0.01408
GxLII-single	0.65000	0.55084

Mean results of the multi-lab data sets, over All endpoints in all rounds

	Type I Error	Power	Type I Error-Exact	Power-Exact
standard	0.42	0.93	0.41	0.83
Gxl adjusted	0.01	0.65	0.02	0.51

Mean counts of (not)rejected hypothesis in the GxL-t-tests from Multi lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	1.50	54.00	55.50
Declared non-significant	82.50	51.00	133.50
Total	84.00	105.00	283.50

Mean counts of (not)rejected hypothesis in the Standard-t-tests from New single lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	11.00	26.00	37.00
Declared non-significant	17.00	9.00	26.00
Total	28.00	35.00	63.00

Part VIII

A=0.2 ,B=0.2

Simulation Parameters

	strain1	strain2	strain3	sd.gxl
EP1	0.00	0.00	0.00	0.20
EP2	0.00	0.00	0.00	0.40
EP3	0.00	0.00	0.00	0.60
EP4	0.00	0.00	0.00	0.80
EP5	0.00	0.00	0.00	1.20
EP6	0.00	0.00	0.00	1.60
EP7	0.00	0.00	0.00	2.00
EP8	0.00	0.00	0.40	0.20
EP9	0.00	0.00	0.80	0.40
EP10	0.00	0.00	1.20	0.60
EP11	0.00	0.00	1.60	0.80
EP12	0.00	0.00	2.00	1.20
EP13	0.00	0.00	2.40	1.60
EP14	0.00	0.00	2.80	2.00
EP15	-0.20	0.00	0.40	0.20
EP16	-0.40	0.00	0.80	0.40
EP17	-0.60	0.00	1.20	0.60
EP18	-0.80	0.00	1.60	0.80
EP19	-1.00	0.00	2.00	1.20
EP20	-1.20	0.00	2.40	1.60
EP21	-1.40	0.00	2.80	2.00

Mean results over All Single labs

	Exact	Mixed-Model Calls
StandardI-single	0.66964	0.69792
StandardII-single	0.19286	0.10000
GxLI-single	0.11607	0.14583
GxLII-single	0.65000	0.43333

Mean results of the multi-lab data sets, over All endpoints in all rounds

	Type I Error	Power	Type I Error-Exact	Power-Exact
standard	0.56	0.92	0.49	0.78
Gxl adjusted	0.03	0.58	0.03	0.27

Mean counts of (not)rejected hypothesis in the GxL-t-tests from Multi lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	2.50	28.00	30.50
Declared non-significant	81.50	77.00	158.50
Total	84.00	105.00	283.50

Mean counts of (not)rejected hypothesis in the Standard-t-tests from New single lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	18.50	28.50	47.00
Declared non-significant	9.50	6.50	16.00
Total	28.00	35.00	63.00

Part IX

A=0.02 ,B=0.5

Simulation Parameters

	strain1	strain2	strain3	sd.gxl
EP1	0.00	0.00	0.00	0.02
EP2	0.00	0.00	0.00	0.04
EP3	0.00	0.00	0.00	0.06
EP4	0.00	0.00	0.00	0.08
EP5	0.00	0.00	0.00	0.12
EP6	0.00	0.00	0.00	0.16
EP7	0.00	0.00	0.00	0.20
EP8	0.00	0.00	1.00	0.02
EP9	0.00	0.00	2.00	0.04
EP10	0.00	0.00	3.00	0.06
EP11	0.00	0.00	4.00	0.08
EP12	0.00	0.00	5.00	0.12
EP13	0.00	0.00	6.00	0.16
EP14	0.00	0.00	7.00	0.20
EP15	-0.50	0.00	1.00	0.02
EP16	-1.00	0.00	2.00	0.04
EP17	-1.50	0.00	3.00	0.06
EP18	-2.00	0.00	4.00	0.08
EP19	-2.50	0.00	5.00	0.12
EP20	-3.00	0.00	6.00	0.16
EP21	-3.50	0.00	7.00	0.20

Mean results over All Single labs

	Exact	Mixed-Model Calls
StandardI-single	0.18750	0.18640
StandardII-single	0.05000	0.04306
GxLI-single	0.08036	0.07989
GxLII-single	0.05000	0.04306

Mean results of the multi-lab data sets, over All endpoints in all rounds

	Type I Error	Power	Type I Error-Exact	Power-Exact
standard	0.09	1.00	0.09	0.99
Gxl adjusted	0.01	0.98	0.01	0.97

Mean counts of (not)rejected hypothesis in the GxL-t-tests from Multi lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	0.50	101.50	102.00
Declared non-significant	83.50	3.50	87.00
Total	84.00	105.00	283.50

Mean counts of (not)rejected hypothesis in the Standard-t-tests from New single lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	3.50	33.50	37.00
Declared non-significant	24.50	1.50	26.00
Total	28.00	35.00	63.00

Part X

A=0.05 ,B=0.5

Simulation Parameters

	strain1	strain2	strain3	sd.gxl
EP1	0.00	0.00	0.00	0.05
EP2	0.00	0.00	0.00	0.10
EP3	0.00	0.00	0.00	0.15
EP4	0.00	0.00	0.00	0.20
EP5	0.00	0.00	0.00	0.30
EP6	0.00	0.00	0.00	0.40
EP7	0.00	0.00	0.00	0.50
EP8	0.00	0.00	1.00	0.05
EP9	0.00	0.00	2.00	0.10
EP10	0.00	0.00	3.00	0.15
EP11	0.00	0.00	4.00	0.20
EP12	0.00	0.00	5.00	0.30
EP13	0.00	0.00	6.00	0.40
EP14	0.00	0.00	7.00	0.50
EP15	-0.50	0.00	1.00	0.05
EP16	-1.00	0.00	2.00	0.10
EP17	-1.50	0.00	3.00	0.15
EP18	-2.00	0.00	4.00	0.20
EP19	-2.50	0.00	5.00	0.30
EP20	-3.00	0.00	6.00	0.40
EP21	-3.50	0.00	7.00	0.50

Mean results over All Single labs

	Exact	Mixed-Model Calls
StandardI-single	0.06250	0.08681
StandardII-single	0.00000	0.00000
GxLI-single	0.00000	0.02601
GxLII-single	0.00000	0.00000

Mean results of the multi-lab data sets, over All endpoints in all rounds

	Type I Error	Power	Type I Error-Exact	Power-Exact
standard	0.20	0.99	0.20	0.97
Gxl adjusted	0.04	0.98	0.04	0.96

Mean counts of (not)rejected hypothesis in the GxL-t-tests from Multi lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	3.50	101.00	104.50
Declared non-significant	80.50	4.00	84.50
Total	84.00	105.00	283.50

Mean counts of (not)rejected hypothesis in the Standard-t-tests from New single lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	1.50	35.00	36.50
Declared non-significant	26.50	0.00	26.50
Total	28.00	35.00	63.00

Part XI

A=0.1 ,B=0.5

Simulation Parameters

	strain1	strain2	strain3	sd.gxl
EP1	0.00	0.00	0.00	0.10
EP2	0.00	0.00	0.00	0.20
EP3	0.00	0.00	0.00	0.30
EP4	0.00	0.00	0.00	0.40
EP5	0.00	0.00	0.00	0.60
EP6	0.00	0.00	0.00	0.80
EP7	0.00	0.00	0.00	1.00
EP8	0.00	0.00	1.00	0.10
EP9	0.00	0.00	2.00	0.20
EP10	0.00	0.00	3.00	0.30
EP11	0.00	0.00	4.00	0.40
EP12	0.00	0.00	5.00	0.60
EP13	0.00	0.00	6.00	0.80
EP14	0.00	0.00	7.00	1.00
EP15	-0.50	0.00	1.00	0.10
EP16	-1.00	0.00	2.00	0.20
EP17	-1.50	0.00	3.00	0.30
EP18	-2.00	0.00	4.00	0.40
EP19	-2.50	0.00	5.00	0.60
EP20	-3.00	0.00	6.00	0.80
EP21	-3.50	0.00	7.00	1.00

Mean results over All Single labs

	Exact	Mixed-Model Calls
StandardI-single	0.39286	0.33155
StandardII-single	0.02143	0.00000
GxLI-single	0.11607	0.03846
GxLII-single	0.19286	0.16479

Mean results of the multi-lab data sets, over All endpoints in all rounds

	Type I Error	Power	Type I Error-Exact	Power-Exact
standard	0.50	0.97	0.53	0.97
Gxl adjusted	0.03	0.87	0.08	0.89

Mean counts of (not)rejected hypothesis in the GxL-t-tests from Multi lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	6.50	93.00	99.50
Declared non-significant	77.50	12.00	89.50
Total	84.00	105.00	283.50

Mean counts of (not)rejected hypothesis in the Standard-t-tests from New single lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	13.00	34.50	47.50
Declared non-significant	15.00	0.50	15.50
Total	28.00	35.00	63.00

Part XII

A=0.2 ,B=0.5

Simulation Parameters

	strain1	strain2	strain3	sd.gxl
EP1	0.00	0.00	0.00	0.20
EP2	0.00	0.00	0.00	0.40
EP3	0.00	0.00	0.00	0.60
EP4	0.00	0.00	0.00	0.80
EP5	0.00	0.00	0.00	1.20
EP6	0.00	0.00	0.00	1.60
EP7	0.00	0.00	0.00	2.00
EP8	0.00	0.00	1.00	0.20
EP9	0.00	0.00	2.00	0.40
EP10	0.00	0.00	3.00	0.60
EP11	0.00	0.00	4.00	0.80
EP12	0.00	0.00	5.00	1.20
EP13	0.00	0.00	6.00	1.60
EP14	0.00	0.00	7.00	2.00
EP15	-0.50	0.00	1.00	0.20
EP16	-1.00	0.00	2.00	0.40
EP17	-1.50	0.00	3.00	0.60
EP18	-2.00	0.00	4.00	0.80
EP19	-2.50	0.00	5.00	1.20
EP20	-3.00	0.00	6.00	1.60
EP21	-3.50	0.00	7.00	2.00

Mean results over All Single labs

	Exact	Mixed-Model Calls
StandardI-single	0.65179	0.67262
StandardII-single	0.06429	0.07316
GxLI-single	0.08929	0.13810
GxLII-single	0.27143	0.29437

Mean results of the multi-lab data sets, over All endpoints in all rounds

	Type I Error	Power	Type I Error-Exact	Power-Exact
standard	0.58	0.98	0.60	0.94
Gxl adjusted	0.01	0.75	0.04	0.69

Mean counts of (not)rejected hypothesis in the GxL-t-tests from Multi lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	3.00	72.50	75.50
Declared non-significant	81.00	32.50	113.50
Total	84.00	105.00	283.50

Mean counts of (not)rejected hypothesis in the Standard-t-tests from New single lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	17.50	33.50	51.00
Declared non-significant	10.50	1.50	12.00
Total	28.00	35.00	63.00

Part XIII

A=0.02 ,B=1

Simulation Parameters

	strain1	strain2	strain3	sd.gxl
EP1	0.00	0.00	0.00	0.02
EP2	0.00	0.00	0.00	0.04
EP3	0.00	0.00	0.00	0.06
EP4	0.00	0.00	0.00	0.08
EP5	0.00	0.00	0.00	0.12
EP6	0.00	0.00	0.00	0.16
EP7	0.00	0.00	0.00	0.20
EP8	0.00	0.00	2.00	0.02
EP9	0.00	0.00	4.00	0.04
EP10	0.00	0.00	6.00	0.06
EP11	0.00	0.00	8.00	0.08
EP12	0.00	0.00	10.00	0.12
EP13	0.00	0.00	12.00	0.16
EP14	0.00	0.00	14.00	0.20
EP15	-1.00	0.00	2.00	0.02
EP16	-2.00	0.00	4.00	0.04
EP17	-3.00	0.00	6.00	0.06
EP18	-4.00	0.00	8.00	0.08
EP19	-5.00	0.00	10.00	0.12
EP20	-6.00	0.00	12.00	0.16
EP21	-7.00	0.00	14.00	0.20

Mean results over All Single labs

	Exact	Mixed-Model Calls
StandardI-single	0.02679	0.02679
StandardII-single	0.00000	0.00000
GxLI-single	0.00000	0.00000
GxLII-single	0.00000	0.00000

Mean results of the multi-lab data sets, over All endpoints in all rounds

	Type I Error	Power	Type I Error-Exact	Power-Exact
standard	0.08	1.00	0.08	1.00
Gxl adjusted	0.03	1.00	0.03	1.00

Mean counts of (not)rejected hypothesis in the GxL-t-tests from Multi lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	2.50	105.00	107.50
Declared non-significant	81.50	0.00	81.50
Total	84.00	105.00	283.50

Mean counts of (not)rejected hypothesis in the Standard-t-tests from New single lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	0.50	35.00	35.50
Declared non-significant	27.50	0.00	27.50
Total	28.00	35.00	63.00

Part XIV

A=0.05 ,B=1

Simulation Parameters

	strain1	strain2	strain3	sd.gxl
EP1	0.00	0.00	0.00	0.05
EP2	0.00	0.00	0.00	0.10
EP3	0.00	0.00	0.00	0.15
EP4	0.00	0.00	0.00	0.20
EP5	0.00	0.00	0.00	0.30
EP6	0.00	0.00	0.00	0.40
EP7	0.00	0.00	0.00	0.50
EP8	0.00	0.00	2.00	0.05
EP9	0.00	0.00	4.00	0.10
EP10	0.00	0.00	6.00	0.15
EP11	0.00	0.00	8.00	0.20
EP12	0.00	0.00	10.00	0.30
EP13	0.00	0.00	12.00	0.40
EP14	0.00	0.00	14.00	0.50
EP15	-1.00	0.00	2.00	0.05
EP16	-2.00	0.00	4.00	0.10
EP17	-3.00	0.00	6.00	0.15
EP18	-4.00	0.00	8.00	0.20
EP19	-5.00	0.00	10.00	0.30
EP20	-6.00	0.00	12.00	0.40
EP21	-7.00	0.00	14.00	0.50

Mean results over All Single labs

	Exact	Mixed-Model Calls
StandardI-single	0.23214	0.23214
StandardII-single	0.00000	0.00000
GxLI-single	0.08929	0.08929
GxLII-single	0.00000	0.00000

Mean results of the multi-lab data sets, over All endpoints in all rounds

	Type I Error	Power	Type I Error-Exact	Power-Exact
standard	0.23	1.00	0.23	1.00
Gxl adjusted	0.05	1.00	0.05	1.00

Mean counts of (not)rejected hypothesis in the GxL-t-tests from Multi lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	4.00	105.00	109.00
Declared non-significant	80.00	0.00	80.00
Total	84.00	105.00	283.50

Mean counts of (not)rejected hypothesis in the Standard-t-tests from New single lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	7.00	35.00	42.00
Declared non-significant	21.00	0.00	21.00
Total	28.00	35.00	63.00

Part XV
A=0.1 ,B=1

Simulation Parameters

	strain1	strain2	strain3	sd.gxl
EP1	0.00	0.00	0.00	0.10
EP2	0.00	0.00	0.00	0.20
EP3	0.00	0.00	0.00	0.30
EP4	0.00	0.00	0.00	0.40
EP5	0.00	0.00	0.00	0.60
EP6	0.00	0.00	0.00	0.80
EP7	0.00	0.00	0.00	1.00
EP8	0.00	0.00	2.00	0.10
EP9	0.00	0.00	4.00	0.20
EP10	0.00	0.00	6.00	0.30
EP11	0.00	0.00	8.00	0.40
EP12	0.00	0.00	10.00	0.60
EP13	0.00	0.00	12.00	0.80
EP14	0.00	0.00	14.00	1.00
EP15	-1.00	0.00	2.00	0.10
EP16	-2.00	0.00	4.00	0.20
EP17	-3.00	0.00	6.00	0.30
EP18	-4.00	0.00	8.00	0.40
EP19	-5.00	0.00	10.00	0.60
EP20	-6.00	0.00	12.00	0.80
EP21	-7.00	0.00	14.00	1.00

Mean results over All Single labs

	Exact	Mixed-Model Calls
StandardI-single	0.48214	0.46835
StandardII-single	0.00714	0.00704
GxLI-single	0.08036	0.08283
GxLII-single	0.01429	0.03502

Mean results of the multi-lab data sets, over All endpoints in all rounds

	Type I Error	Power	Type I Error-Exact	Power-Exact
standard	0.34	0.99	0.35	1.00
Gxl adjusted	0.02	0.99	0.03	1.00

Mean counts of (not)rejected hypothesis in the GxL-t-tests from Multi lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	2.50	104.50	107.00
Declared non-significant	81.50	0.50	82.00
Total	84.00	105.00	283.50

Mean counts of (not)rejected hypothesis in the Standard-t-tests from New single lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	12.00	34.50	46.50
Declared non-significant	16.00	0.50	16.50
Total	28.00	35.00	63.00

Part XVI

A=0.2 ,B=1

Simulation Parameters

	strain1	strain2	strain3	sd.gxl
EP1	0.00	0.00	0.00	0.20
EP2	0.00	0.00	0.00	0.40
EP3	0.00	0.00	0.00	0.60
EP4	0.00	0.00	0.00	0.80
EP5	0.00	0.00	0.00	1.20
EP6	0.00	0.00	0.00	1.60
EP7	0.00	0.00	0.00	2.00
EP8	0.00	0.00	2.00	0.20
EP9	0.00	0.00	4.00	0.40
EP10	0.00	0.00	6.00	0.60
EP11	0.00	0.00	8.00	0.80
EP12	0.00	0.00	10.00	1.20
EP13	0.00	0.00	12.00	1.60
EP14	0.00	0.00	14.00	2.00
EP15	-1.00	0.00	2.00	0.20
EP16	-2.00	0.00	4.00	0.40
EP17	-3.00	0.00	6.00	0.60
EP18	-4.00	0.00	8.00	0.80
EP19	-5.00	0.00	10.00	1.20
EP20	-6.00	0.00	12.00	1.60
EP21	-7.00	0.00	14.00	2.00

Mean results over All Single labs

	Exact	Mixed-Model Calls
StandardI-single	0.71429	0.71429
StandardII-single	0.00000	0.00000
GxLI-single	0.09821	0.09821
GxLII-single	0.08571	0.08571

Mean results of the multi-lab data sets, over All endpoints in all rounds

	Type I Error	Power	Type I Error-Exact	Power-Exact
standard	0.53	0.99	0.52	0.99
Gxl adjusted	0.01	0.94	0.02	0.94

Mean counts of (not)rejected hypothesis in the GxL-t-tests from Multi lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	1.50	98.50	100.00
Declared non-significant	82.50	6.50	89.00
Total	84.00	105.00	283.50

Mean counts of (not)rejected hypothesis in the Standard-t-tests from New single lab data. Considering Exact equality between parameters

	No Difference between genotypes	Difference between genotypes	Total
Declared significant	18.00	35.00	53.00
Declared non-significant	10.00	0.00	10.00
Total	28.00	35.00	63.00

Key to the column names in the following tables

MMS : Multi lab data standard analysisi-H0 is true according to RLM calls = Multi-MixedD.-Standard

MMG : Multi lab data GxL analysisi-H0 is true according to RLM calls = Multi-MixedD.-GxL

MES : Multi lab data standard analysisi-H0 is true if the simulation parameters are exactly equal = Multi-ExactD.-Standard

MEG : Multi lab data GxL analysisi- H0 is true if the simulation parameters are exactly equal = Multi-ExactD.-GxL

SMS : Single lab data standard analysisi-H0 is true according to RLM calls = NewSingle-MixedD.-Standard

SMG : Single lab data GxL analysisi-H0 is true according to RLM calls = NewSingle-MixedD.-GxL

SES : Single lab data standard analysisi- H0 is true if the simulation parameters are exactly equal = NewSingle-ExactD.-Standard

SEG : Single lab data GxL analysisi- H0 is true if the simulation parameters are exactly equal = NewSingle-ExactD.-GxL

Mean Type I errors

	A	B	MMS	MMG	MES	MEG	SMS	SMG	SES	SEG
1	0.02	0.10	0.04	0.03	0.04	0.02	0.15	0.12	0.10	0.06
2	0.05	0.10	0.15	0.03	0.16	0.03	0.26	0.12	0.20	0.08
3	0.10	0.10	0.38	0.03	0.36	0.05	0.41	0.10	0.28	0.05
4	0.20	0.10	0.63	0.01	0.55	0.04	0.70	0.13	0.72	0.12
5	0.02	0.20	0.09	0.04	0.06	0.01	0.03	0.03	0.00	0.00
6	0.05	0.20	0.21	0.05	0.21	0.05	0.12	0.00	0.11	0.00
7	0.10	0.20	0.42	0.01	0.41	0.02	0.37	0.01	0.43	0.02
8	0.20	0.20	0.56	0.03	0.49	0.03	0.70	0.15	0.67	0.12
9	0.02	0.50	0.09	0.01	0.09	0.01	0.19	0.08	0.19	0.08
10	0.05	0.50	0.20	0.04	0.20	0.04	0.09	0.03	0.06	0.00
11	0.10	0.50	0.50	0.03	0.53	0.08	0.33	0.04	0.39	0.12
12	0.20	0.50	0.58	0.01	0.60	0.04	0.67	0.14	0.65	0.09
13	0.02	1.00	0.08	0.03	0.08	0.03	0.03	0.00	0.03	0.00
14	0.05	1.00	0.23	0.05	0.23	0.05	0.23	0.09	0.23	0.09
15	0.10	1.00	0.34	0.02	0.35	0.03	0.47	0.08	0.48	0.08
16	0.20	1.00	0.53	0.01	0.52	0.02	0.71	0.10	0.71	0.10

Variance Of type I errors

	A	B	MMS	MMG	MES	MEG
1	0.0200	0.1000	0.0002	0.0007	0.0016	0.0016
2	0.0500	0.1000	0.0035	0.0035	0.0083	0.0065
3	0.1000	0.1000	0.0000	0.0175	0.0001	0.0307
4	0.2000	0.1000	0.0050	0.0386	0.0037	0.0002
5	0.0200	0.2000	0.0009	0.0010	0.0026	0.0002
6	0.0500	0.2000	0.0145	0.0023	0.0147	0.0022
7	0.1000	0.2000	0.0035	0.0006	0.0026	0.0022
8	0.2000	0.2000	0.0022	0.0002	0.0001	0.0004
9	0.0200	0.5000	0.0004	0.0000	0.0001	0.0000
10	0.0500	0.5000	0.0000	0.0000	0.0000	0.0002
11	0.1000	0.5000	0.0018	0.0000	0.0026	0.0000
12	0.2000	0.5000	0.0001	0.0003	0.0004	0.0002
13	0.0200	1.0000	0.0000	0.0000	0.0000	0.0000
14	0.0500	1.0000	0.0000	0.0000	0.0000	0.0000
15	0.1000	1.0000	0.0001	0.0002	0.0004	0.0000
16	0.2000	1.0000	0.0016	0.0004	0.0016	0.0002

	A	B	SMS	SMG	SES	SEG
1	0.0200	0.1000	0.0003	0.0003	0.0014	0.0014
2	0.0500	0.1000	0.0013	0.0002	0.0006	0.0002
3	0.1000	0.1000	0.0006	0.0002	0.0014	0.0006
4	0.2000	0.1000	0.0005	0.0008	0.0002	0.0002
5	0.0200	0.2000	0.0000	0.0000	0.0000	0.0000
6	0.0500	0.2000	0.0001	0.0000	0.0000	0.0000
7	0.1000	0.2000	0.0007	0.0004	0.0026	0.0006
8	0.2000	0.2000	0.0002	0.0009	0.0002	0.0002
9	0.0200	0.5000	0.0081	0.0015	0.0078	0.0014
10	0.0500	0.5000	0.0006	0.0001	0.0002	0.0000
11	0.1000	0.5000	0.0105	0.0030	0.0102	0.0040
12	0.2000	0.5000	0.0001	0.0000	0.0014	0.0006
13	0.0200	1.0000	0.0002	0.0000	0.0002	0.0000
14	0.0500	1.0000	0.0006	0.0006	0.0006	0.0006
15	0.1000	1.0000	0.0050	0.0016	0.0057	0.0014
16	0.2000	1.0000	0.0102	0.0002	0.0102	0.0002

Se Of type I errors

	A	B	MMS	MMG	MES	MEG
1	0.0200	0.1000	0.0103	0.0183	0.0286	0.0286
2	0.0500	0.1000	0.0417	0.0417	0.0643	0.0571
3	0.1000	0.1000	0.0000	0.0935	0.0071	0.1238
4	0.2000	0.1000	0.0500	0.1389	0.0429	0.0095
5	0.0200	0.2000	0.0206	0.0223	0.0357	0.0095
6	0.0500	0.2000	0.0852	0.0337	0.0857	0.0333
7	0.1000	0.2000	0.0418	0.0170	0.0357	0.0333
8	0.2000	0.2000	0.0333	0.0111	0.0071	0.0143
9	0.0200	0.5000	0.0141	0.0048	0.0071	0.0048
10	0.0500	0.5000	0.0000	0.0046	0.0000	0.0095
11	0.1000	0.5000	0.0297	0.0037	0.0357	0.0000
12	0.2000	0.5000	0.0087	0.0114	0.0143	0.0095
13	0.0200	1.0000	0.0000	0.0000	0.0000	0.0000
14	0.0500	1.0000	0.0000	0.0000	0.0000	0.0000
15	0.1000	1.0000	0.0072	0.0093	0.0143	0.0048
16	0.2000	1.0000	0.0286	0.0143	0.0286	0.0095

	A	B	SMS	SMG	SES	SEG
1	0.0200	0.1000	0.0116	0.0120	0.0268	0.0268
2	0.0500	0.1000	0.0252	0.0092	0.0179	0.0089
3	0.1000	0.1000	0.0169	0.0092	0.0268	0.0179
4	0.2000	0.1000	0.0152	0.0201	0.0089	0.0089
5	0.0200	0.2000	0.0007	0.0007	0.0000	0.0000
6	0.0500	0.2000	0.0060	0.0000	0.0000	0.0000
7	0.1000	0.2000	0.0184	0.0141	0.0357	0.0179
8	0.2000	0.2000	0.0104	0.0208	0.0089	0.0089
9	0.0200	0.5000	0.0636	0.0273	0.0625	0.0268
10	0.0500	0.5000	0.0166	0.0085	0.0089	0.0000
11	0.1000	0.5000	0.0723	0.0385	0.0714	0.0446
12	0.2000	0.5000	0.0060	0.0048	0.0268	0.0179
13	0.0200	1.0000	0.0089	0.0000	0.0089	0.0000
14	0.0500	1.0000	0.0179	0.0179	0.0179	0.0179
15	0.1000	1.0000	0.0502	0.0283	0.0536	0.0268
16	0.2000	1.0000	0.0714	0.0089	0.0714	0.0089