

Assignment #5

(Due: Monday, March 10, 2008)

Reading: Oehlert, Chapter 10.4-5; Chapter 15, Chapter 18.1-8, 18.10.

Written Assignment:

1. P10.7.
Use 3 methods for analyzing single replicate data (plot of estimated effects; pool higher order interactions into the SS(Error); Lenth's PSE). How do the results differ?
2. E15.1.
Solve the problem first "by hand", and then check with R.
3. E15.3 (do **not** submit for grading).
4. P15.4
Hint: It is advisable to use the log transformation; justify why.
5. Consider the data of P15.4, and assume that you have 4 judges instead of 8, but each of the 4 judges can find threshold concentrations for 8 solutions.
 - a) Suggest a design that uses partial confounding. Analyze the data with your suggested assignment of treatments to judges (never mind that the data was obtained for 8 judges – this is just a homework problem).
 - b) Discuss advantages and disadvantages of the design with 4 judges versus the design with 8 judges, with the number of observations ($N=32$) being equal.
6. E18.2
7. P18.5
Comment: Remember to provide the alias structure.