

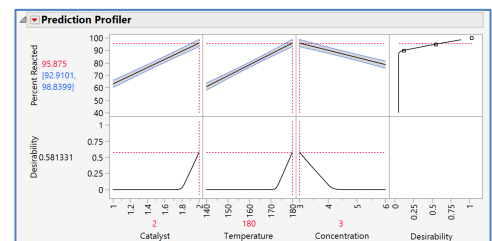
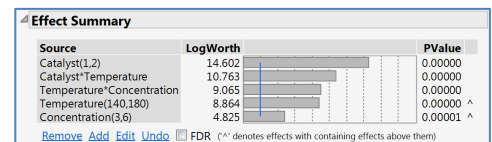
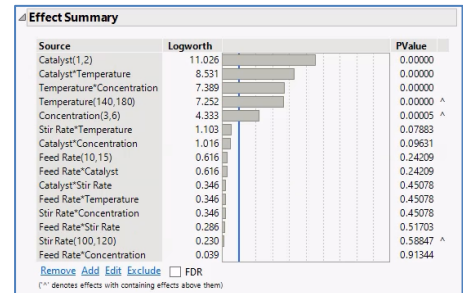
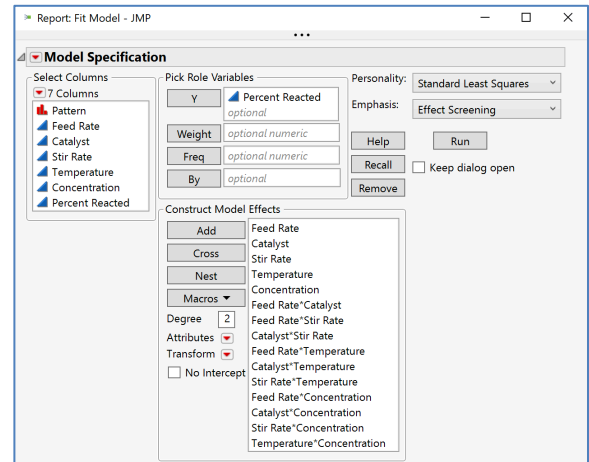
DOE Full Factorial Analysis

This guide provides information on analyzing a full factorial experiment (experiments where every possible treatment combination is run). For instructions on designing of full factorial experiments, see the **DOE Full Factorial Design** guide.

Specify the Model and Analyze

Reactor 32 Runs.jmp (Help > Sample Data Folder > Design Experiment)
This is a 2⁵ full factorial design

- From an open JMP® table (for a completed full factorial experiment) select **Analyze > Fit Model**.
Note: The **Fit Model** platform can also be accessed from the **Model** script saved to the data table made when the Designed Experiment was created.
- In the **Model Specification** window:
 - Click on the response under **Select Columns**, and click **Y** (under **Pick Role Variables**).
 - Select the factors of interest. Under **Macros**, select **Full Factorial** (with Degree = 2) to enter all 5 main effects and all 10 2-way interactions into the model.
 - To remove higher-order interactions, select the interactions under **Construct Model Effects** and hit **Remove**.
- Click **Run**. JMP will display the following results:
 - The Actual by Predicted plot.
 - The Effect Summary (shown).
 - Some diagnostics plots.
 - The Lack of Fit table (if replicates were used).
 - Parameter estimates and effect tests.
 - The Prediction Profiler and more.
 - Other options are available under the **top red triangle**.



- To **reduce the model**, remove non-significant terms bottom-up. To remove a term:
 - In the Effect Summary, select the least significant term(s).
 - Click **Remove**.
 - Effect Heredity: Keep lower-order components with containing effects above them (indicated by '^' in the right-most column).
 - Repeat until the model has been reduced.
 - Use the **Prediction Profiler** to explore the model, to optimize, and/or to simulate response values.
 - Surface** and **Contour Profiler**, and **Interaction Plots** are other graphs available to visualize the results.
 - Model diagnostics** and **savings columns** to the data table are available under the **red triangle**.

Note: The **Easy DOE** platform (under DOE menu) provides a guided workflow to step through the process of creating and analyzing experiments and is an alternative to the steps above for analyzing the experimental data.

Visit **Design of Experiments Guide** in **JMP Help** to learn more.