BHH Chemical Stability

Ordered Data Plot

k = 4
n = 8

Response Y (Stability (R))

Factor Settings

X1: Acid Concentration
- : 20
+ : 30

X2: Catalyst Concentration
- : 1
+ : 2

X3: Temperature
- : 100
+ : 150

X4: Monomer Concentration
- : 25
+ : 50

X1:	+	+	+	+	-	-	-	-
X2:	+	+	-	-	+	+	-	-
X3:	-	+	+	-	+	-	+	-
X4:	-	+	-	+	-	+	+	-

1: Acid Concentration
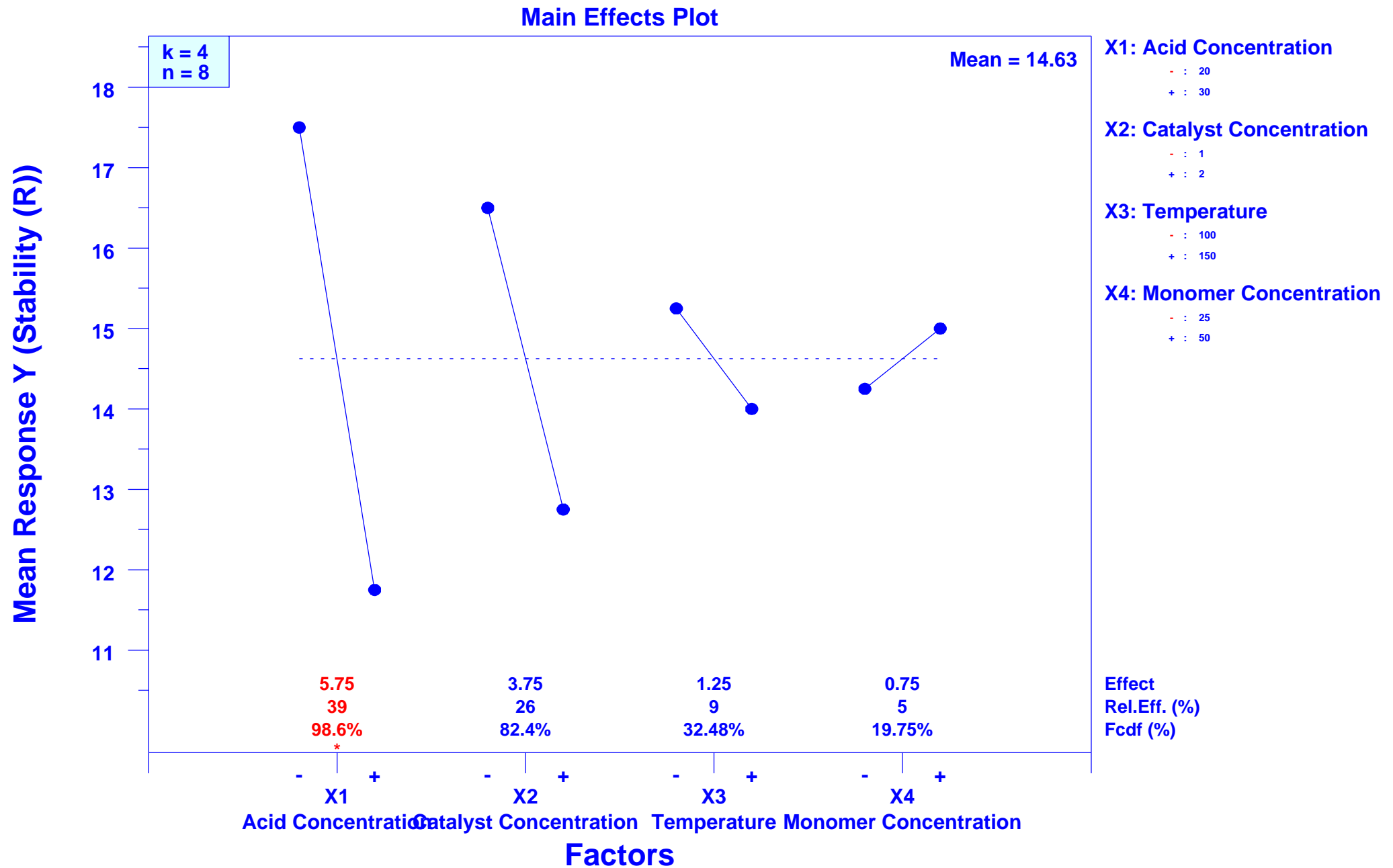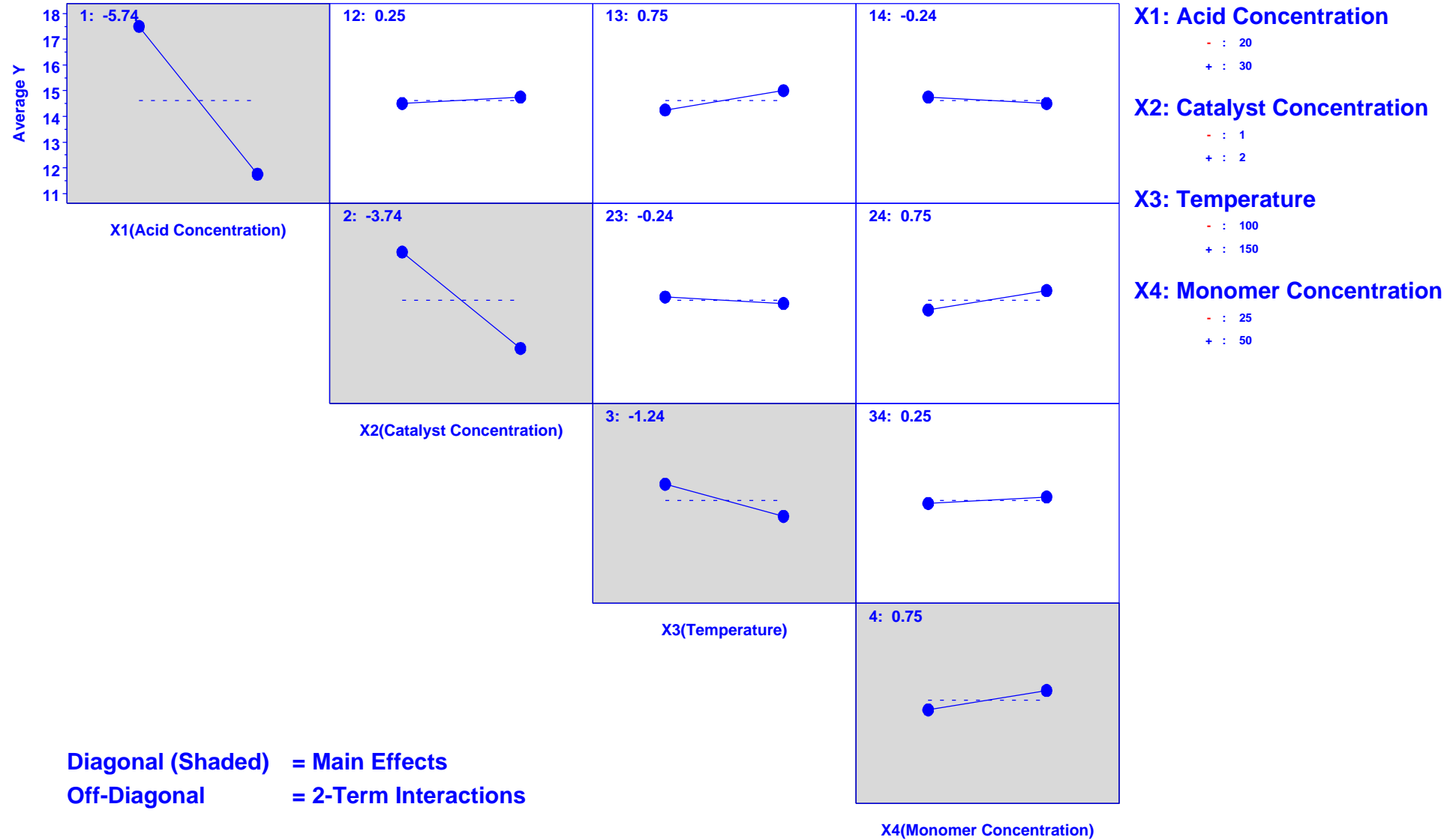2: Catalyst Concentration
3: Temperature 2
4: Monomer Concentration

BHH Chemical Stability

Scatter Plot

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BHH Chemical Stability

Main Effects Plot

k = 4
n = 8

Mean = 14.63

Mean Response Y (Stability (R))

X1: Acid Concentration
- : 20
+ : 30

X2: Catalyst Concentration
- : 1
+ : 2

X3: Temperature
- : 100
+ : 150

X4: Monomer Concentration
- : 25
+ : 50

	X1	X2	X3	X4	
	5.75	3.75	1.25	0.75	Effect
	39	26	9	5	Rel.Eff. (%)
	98.6%	82.4%	32.48%	19.75%	Fcdf (%)

- X1 +   - X2 +   - X3 +   - X4 +

Acid Concentration Catalyst Concentration Temperature Monomer Concentration

Factors

BHH Chemical Stability

Interaction Effects Matrix

X1: Acid Concentration
- : 20
+ : 30

X2: Catalyst Concentration
- : 1
+ : 2

X3: Temperature
- : 100
+ : 150

X4: Monomer Concentration
- : 25
+ : 50

Diagonal (Shaded) = Main Effects
Off-Diagonal = 2-Term Interactions

BHH Chemical Stability

Block Plot
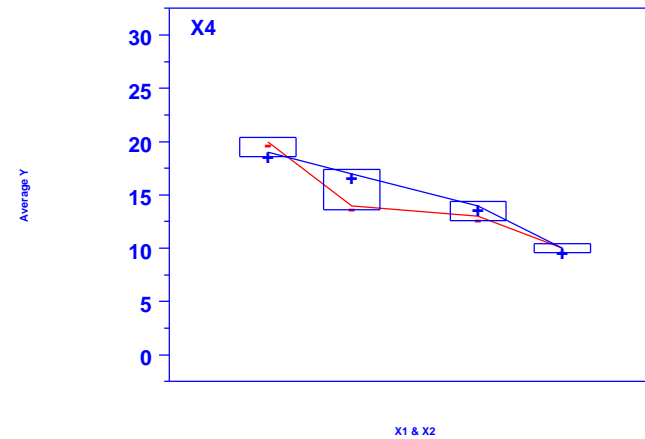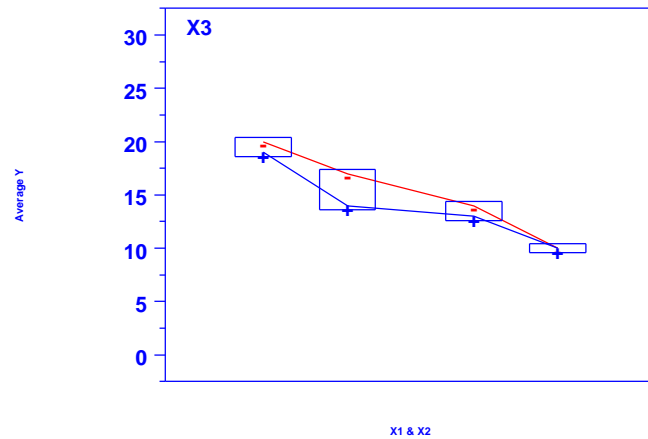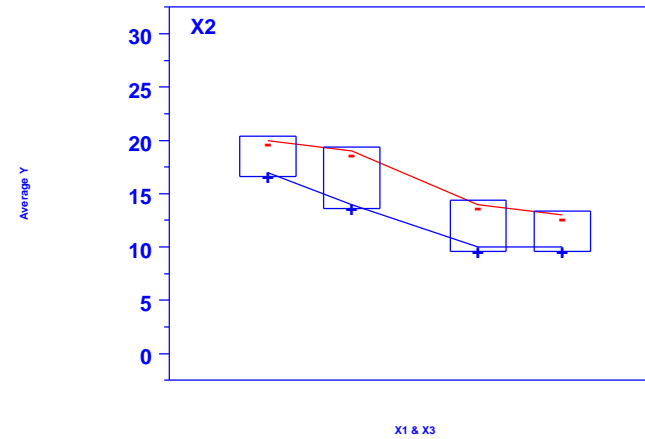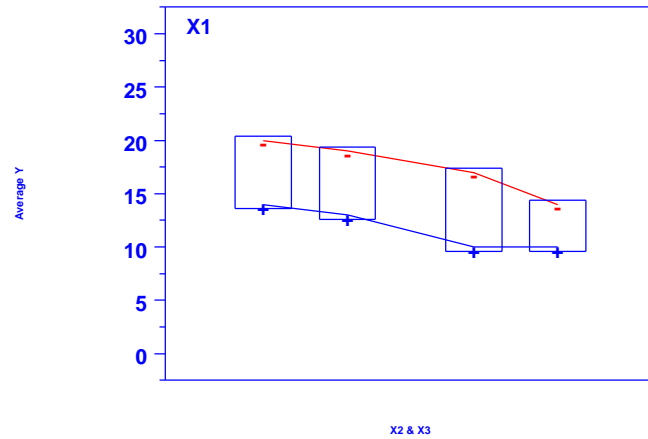
X1: Acid Concentration
- : 20
+ : 30

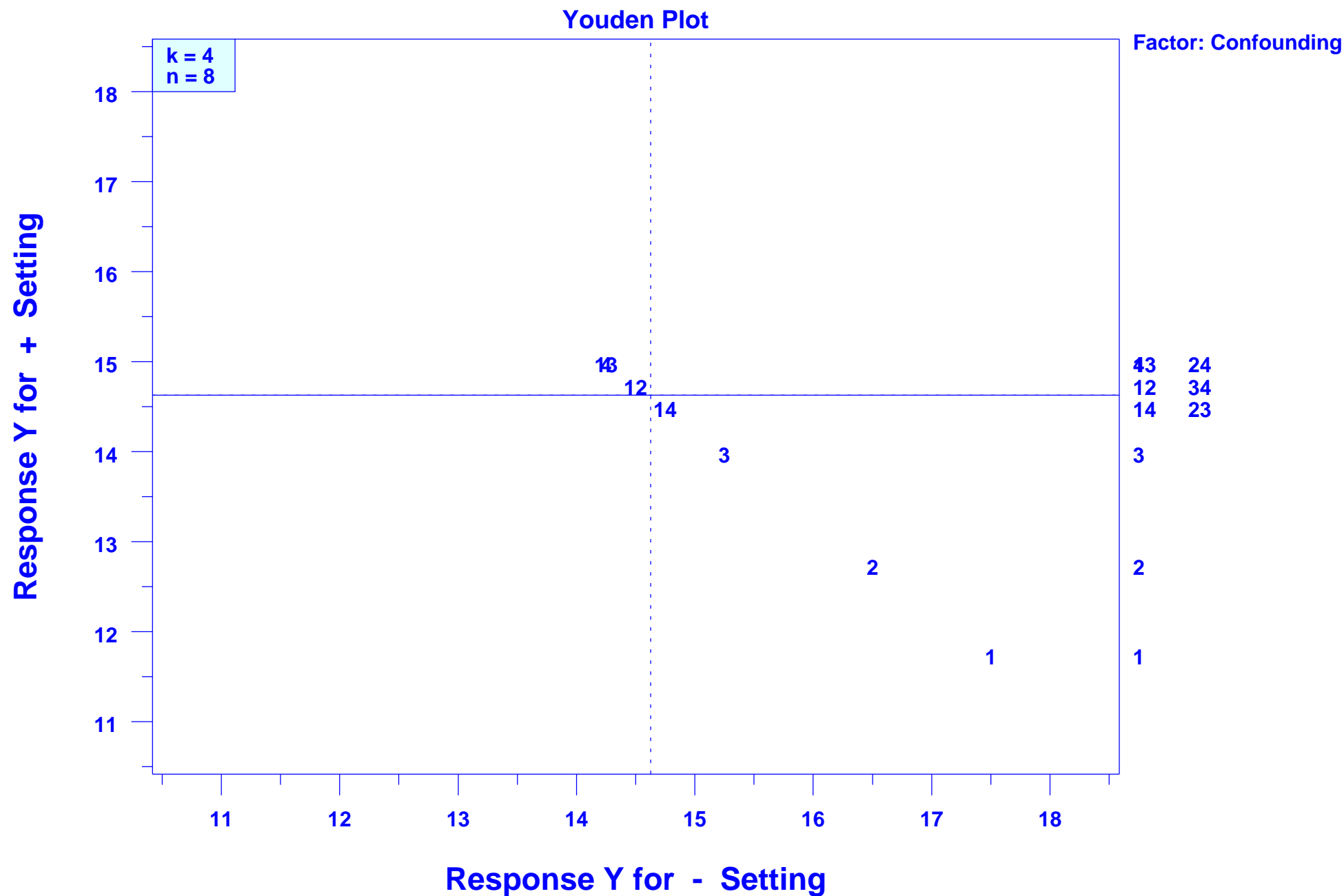X2: Catalyst Concentration
- : 1
+ : 2

X3: Temperature
- : 100
+ : 150

X4: Monomer Concentration
- : 25
+ : 50

BHH Chemical Stability

BHH Chemical Stability

|Effects| Plot

Average = 14.625

Factor	Effect	Confounding
1	-5.75	
2	-3.75	
3	-1.25	
4	0.75	
13	0.75	24
12	0.25	34
14	-0.25	23

X1: Acid Concentration
- : 20
+ : 30

X2: Catalyst Concentration
- : 1
+ : 2

X3: Temperature
- : 100
+ : 150

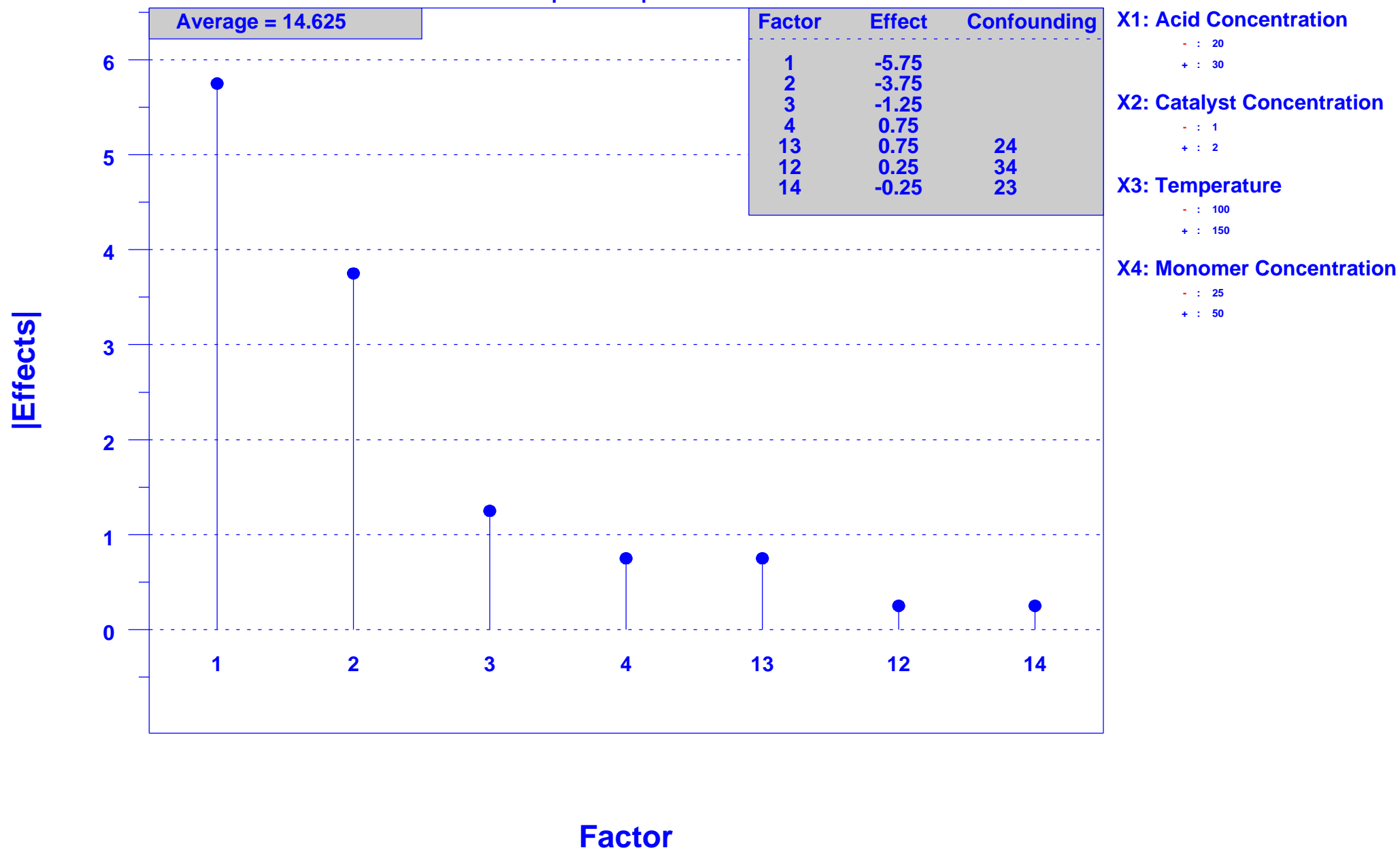**X4: Monomer Concentration**
- : 25
+ : 50

|Effects|

Factor

8
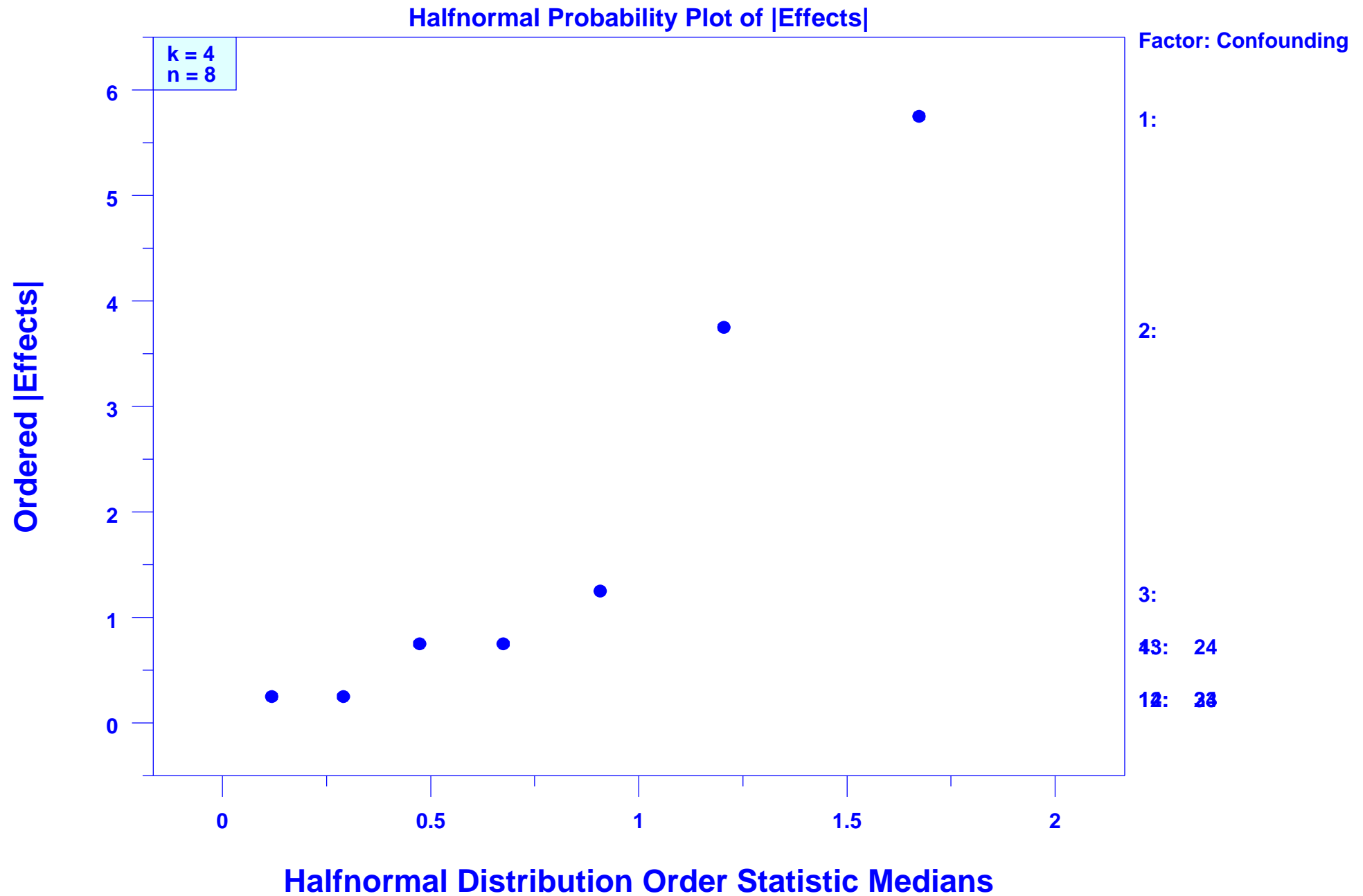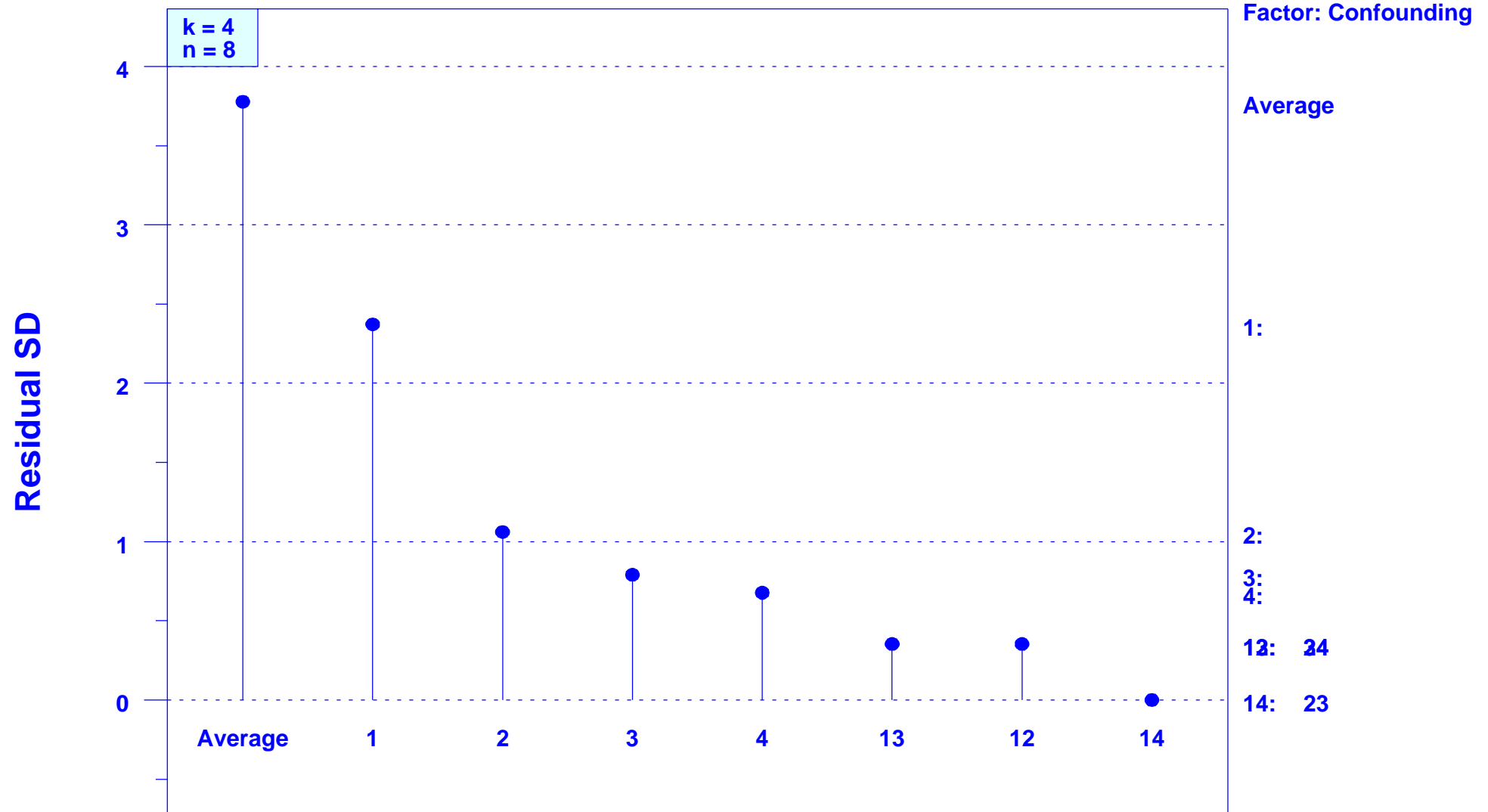
BHH Chemical Stability

### Halfnormal Probability Plot of |Effects|

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BHH Chemical Stability

Cumulative Residual SD Plot

BHH Chemical Stability

Contour Plot of 2 Dominant Factors: X1 (Acid Concentration) & X2 (Catalyst Concentration)

X1: Acid Concentration
- : 20
+ : 30

X2: Catalyst Concentration
- : 1
+ : 2

X3: Temperature
- : 100
+ : 150

X4: Monomer Concentration
- : 25
+ : 50

15.500   10.000

19.500   13.500

X2(Catalyst Concentration)

X1(Acid Concentration)
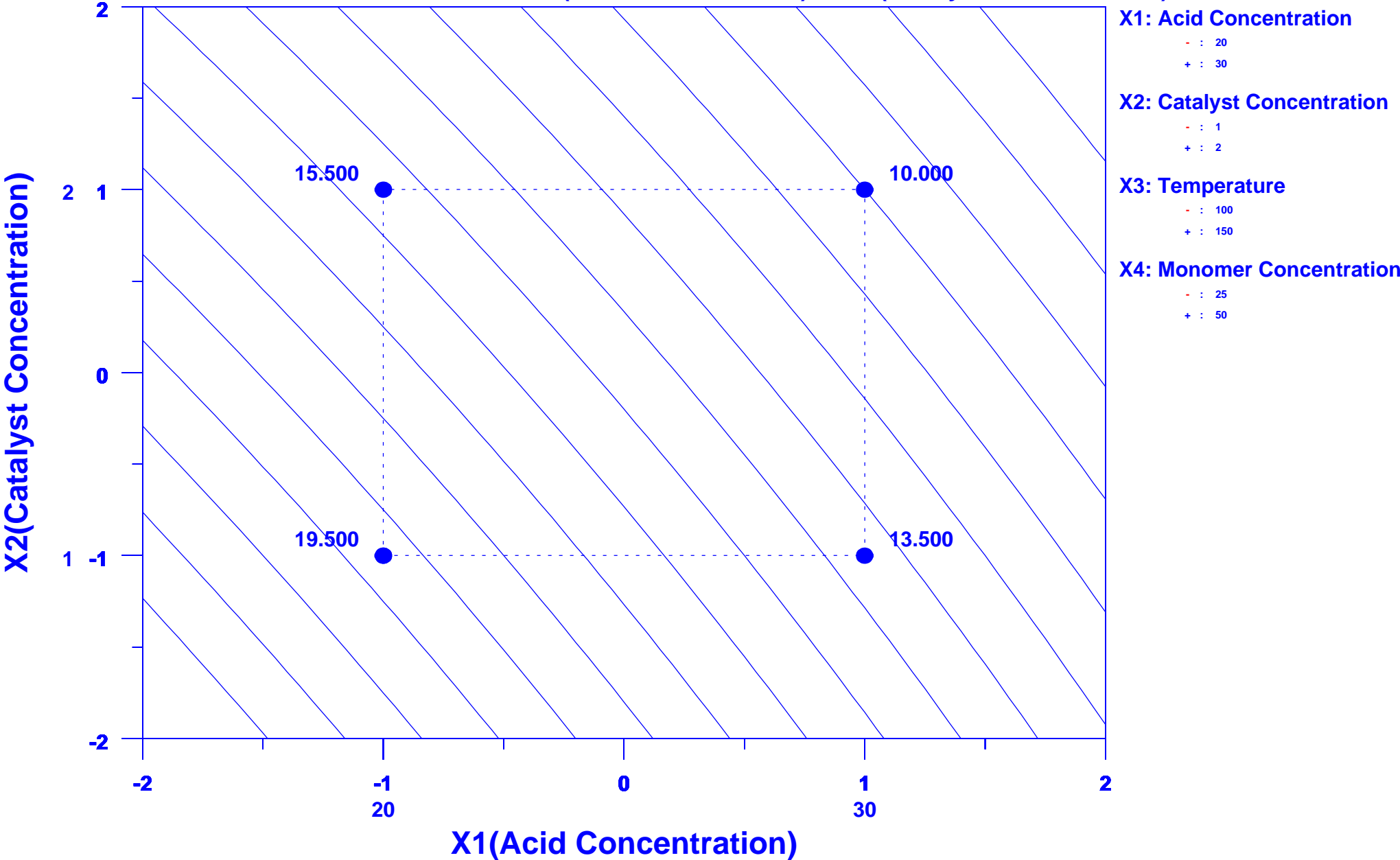
Model-Based Predicted Value at Center Point = 14.625