

# TAGUCHI METHOD IN BIOPROCESS ENGINEERING: *Case Studies*

► *Editors:*

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IIUM Press

# **Taguchi Method In Bioprocess Engineering:Case Studies**

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# Chapter 3

## Taguchi Robust Design Creation by STATISTICA Software

*Maizirwan Mel and Najiah Nadir*

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### 1. General Knowledge

STATISTICA design of experiments (DOE) will produce orthogonal arrays (OAs) for up to 31 factors; designs with up to 65 factors can be evaluated. The runs of the experiment can be randomized as in all other types of designs. The user can insert blank columns to the Spreadsheet to create convenient data entry forms and also study the aliases of two-way interactions. STATISTICA DOE will automatically calculate the standard signal-to-noise (S/N) ratios for these types of problems:

1. Smaller-the-better
2. Nominal-the-best
3. Larger-the-better
4. Signed target
5. Fraction defective
6. Number defective per interval (accumulation analysis)

Moreover, untransformed data can also be analyzed. Thus, via STATISTICA Visual Basic, the user can generate any type of customized S/N ratios and analyze them with this method. The user can also review the calculated S/N ratios besides to comprehensive