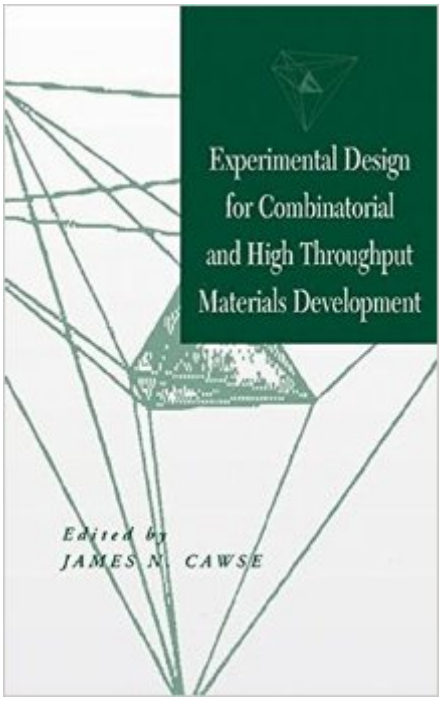
Experimental Design For Combinatorial And High Throughput Materials Development



Synopsis

In the past decade, combinatorial and high throughput experimental methods have revolutionized the pharmaceutical industry, allowing researchers to conduct more experiments in a week than was previously possible in a year. Now high throughput experimentation is rapidly spreading from its origins in the pharmaceutical world to larger industrial research establishments such as GE and DuPont, and even to smaller companies and universities. Consequently, researchers need to know the kinds of problems, desired outcomes, and appropriate patterns for these new strategies. Editor James Cawseâ ™s far-reaching study identifies and applies, with specific examples, these important new principles and techniques. Experimental Design for Combinatorial and High Throughput Materials Development progresses from methods that are now standard, such as gradient arrays, to mathematical developments that are breaking new ground. The former will be particularly useful to researchers entering the field, while the latter should inspire and challenge advanced practitioners. The bookâ ™s contents are contributed by leading researchers in their respective fields. Chapters include: -High Throughput Synthetic Approaches for the Investigation of Inorganic Phase Space -Combinatorial Mapping of Polymer Blends Phase Behavior -Split-Plot Designs -Artificial Neural Networks in Catalyst Development -The Monte Carlo Approach to Library Design and Redesign This book also contains over 200 useful charts and drawings. Industrial chemists, chemical engineers, materials scientists, and physicists working in combinatorial and high throughput chemistry will find James Cawseâ ™s study to be an invaluable resource.

Book Information

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