



Catalysis From Principles To Applications

Minsuh Song

Catalysis From Principles To Applications:

Catalysis B. Viswanathan, 2002 Students contemplating careers in chemistry whether in research practice or academia obviously need a solid grounding in proper research methodology reasoning and analysis However there are few resources available that efficiently and effectively introduce these concepts and techniques and inspire students to undertake advanced research particularly in the area of catalysis Catalysis Principles and Applications evolved out of a special resoundingly successful short course for graduate students interested in catalysis It covers nearly the entire gamut of the subject from its fundamentals to its modern applied aspects The chapters were contributed by catalysis specialists from leading academic institutions national laboratories and industrial R D labs Because they are based on the authors lecture notes each chapter is highly accessible and for the most part self contained Topics include various spectroscopic methods biocatalysis x ray and thermal analysis photocatalysis and recent developments such as solid acid catalysts fine chemical synthesis and computer aided catalyst design The book also contains discussions on a variety of modern applications including environmental pollution control petroleum refining fuel cells and monomolecular films Logically presented well illustrated and thoroughly referenced Catalysis Principles and Applications offers an outstanding basis for courses in catalysis It not only imparts the fundamentals synthesis characterization and applications of catalysis but does so in a way that will motivate students to pursue more advanced studies and ultimately careers in the field Catalysis Matthias Beller, Albert Renken, Rutger A. van Santen, 2012-09-24 Catalysis has revolutionized the chemical industry as catalysts are used in the production of most chemicals resulting in a multi billion euro business This advanced textbook is a must have for all Master and PhD students in the field as it adopts a unique interdisciplinary approach to the topic of catalysis It presents a collection of chapters that explain the fundamentals of catalysis as the area has developed over the past decades and introduces new catalytic systems that are of becoming of increasing current importance It covers all the essential principles ranging from catalytic processes at the molecular level to catalytic reactor design and includes several case studies illustrating the importance of catalysts in the chemical industry Heterogeneous Catalysis-principles and Applications Geoffrey Colin Bond, 1974

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