

BOOK REVIEW

"Energy Resources through Photochemistry and Catalysis." Edited by MICHAEL GRÄTZEL. Academic Press, New York, 1983. 573 pp. \$59.50.

The development of new energy resources presents a very interesting and challenging area of modern-day research. Catalysts must play an important role in the transformations where energy is converted or could be saved. The scope of the present book is much too broad to be covered by a single author. Consequently, 16 chapters have been written by leading researchers in their respective research areas. The result is an important contribution which will be of value to many catalytic chemists.

The topics covered are

1. "Light-Induced and Thermal Electron-Transfer Reactions," by Vincenzo Balzani and Franco Scandola
2. "Dynamics of Light-Induced Energy and Electron Transfer in Organized Assemblies," by Pierre P. Infelta
3. "Molecular Engineering in Photoconversion Systems," by Michael Grätzel
4. "Photocatalytic Water Reduction to H₂: Principles of Redox Catalysis by Colloidal-Metal 'Microelectrodes'," by George McLendon
5. "Development of Molecular Photocatalytic Systems for Solar-Energy Conversion: Catalysts for Oxygen and Hydrogen Evolution for Water," by K. I. Zamerayev and V. N. Parmon
6. "The Role of Porphyrins in Natural and Artificial Photosynthesis," by Anthony Harriman
7. "Semiconductor Particulate Systems for Photocatalysts and Photosynthesis: An Overview," by K. Kalyanasundaram
8. "Bifunctional Redox Catalysts: Synthesis and Operation in Water-Cleavage Reactions," by Ezio Pelizzetti and Mario Visca
9. "Examples for Photogeneration of Hydrogen and Oxygen from Water," by J. Kiwi
10. "Photosynthesis and Photocatalysts with Semiconductor Powders," by T. Sakata and T. Kawai
11. "Photoelectrolysis of Water and Sensitization of Semiconductors," by Tadashi Watanabe, Akira Fujishima, and Kenichi Honda
12. "Hydrogen-Generating Solar Cells Based on Platinum-Group Metal Activated Photocathodes," by Adam Heller
13. "Photoelectrochemistry of Cadmium and Other Metal Chalcogenides in Polysulfide Electrolytes," by Gary Hodes
14. "Electrically Conductive Polymer Layers on Semiconductor Electrodes," by Arthur J. Frank
15. "Photochemical Fixation of Carbon Dioxide," by M. Halmann
16. "Catalytic Nitrogen Fixation in Solution," by A. E. Shilov

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