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BOOK REVIEW

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

This book contains chapters written by experts on various aspects of this interesting and important subject. It will provide a useful introduction and reference source for catalytic scientists interested in exploring new opportunities afforded by recent research in this area and it will be a great asset to those who are interested in the exciting fields of photocatalysis and photoassisted catalysis. Included are: Light-induced and thermal electron-transfer reactions, by Vincenzo Balzani and Franco Scandola; Dynamics of light-induced energy and electron transfer in organized assemblies, by Pierre P. Infelta; Molecular engineering in photoconversion systems, by Michael Grätzel; Photocatalytic water reduction to H_2: Principles of redox catalysis by colloidal–metal "microelectrodes," by George McLendon; Development of molecular photocatalytic systems for solar-energy conversion: Catalysts for oxygen and hydrogen evolution from water, by K. I. Zameraev and V. N. Parmon; The role of porphyrins in natural and artificial photosynthesis, by Anthony Harriman; Semiconductor particulate systems for photocatalysis and photosynthesis: An overview, by K. Kalyanasundaram; Bifunctional redox catalysis: Synthesis and operation in water-cleavage reactions, by Ezio Pelizzetti and Mario Visca; Examples for photogeneration of hydrogen and oxygen from water, by J. Kiwi; Photosynthesis and photocatalysis with semiconductor powders, by T. Sakata and T. Kawai; Photoelectrolysis of water and sensitization of semiconductors, by Tadashi Watanabe, Akira Fujishima, and Kenichi Honda; Hydrogen-generating solar cells based on platinum-group metal activated photocathodes, by Adam Heller; Photoelectrochemistry of cadmium and other metal chalcogenides in polysulfide electrolytes, by Gary Hodes; Electrically conductive polymer layers on semiconductor electrodes, by Arthur J. Frank; Photochemical fixation of carbon dioxide, by M. Halmann, and Catalytic nitrogen fixation in solution, by A. E. Shilov.

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