Chemistry Issue
Edited by Philip H. Abelson

LETTERS

EDITORIAL
Federal Support for Chemistry ................................................... 847

ARTICLES
Gas-Phase Ion Chemistry: P. B. Comita and J. I. Brauman ...................... 863
Mechanisms of Coenzyme B12-Dependent Rearrangements: J. Halpern .......... 869
Toward a Coherent Theory of Chemisorption: E. Shustorovich and R. C. Baetzold .......... 876
Electrically Conductive Metallomacrocyclic Assemblies: T. J. Marks .......... 881
Laser Probing of Chemical Reaction Dynamics: S. R. Leone ............ 889
Understanding Molecular Dynamics Quantum-State by Quantum-State: W. D. Lawrence, C. B. Moore, H. Petek .......... 895
Surface Science and Catalysis: G. A. Somorjai ......................... 902
Sculpting Horizons in Organic Chemistry: B. M. Trost .................. 908
Theoretical Chemistry Comes Alive: Full Partner with Experiment: W. A. Goddard III ............ 917
NEWS AND COMMENT

“Nuclear Winter” Feels Budgetary Chill .......................................................... 924
Carnegie Launches Education Forum ............................................................... 925
A Push for European Patent Reform ................................................................. 926
Briefing: Brown Loses Bid to Head Space Subcommittee; Herrington Confirmed as Energy Secretary; Germany Announces Plans for Reprocessing Plant; Comings and Goings ................................................................. 928

RESEARCH NEWS

Could an Asteroid Be a Comet in Disguise? ...................................................... 930
Changing Bits to Magnetic Blips ........................................................................ 932
“Anxiety Peptide” Found in Brain ..................................................................... 934

BOOK REVIEWS

The Illogic of American Nuclear Strategy, reviewed by R. J. Lieber; Atlas of Lithological-Paleogeographical Maps of the World, W. T. Holser; Reversals of the Earth’s Magnetic Field, A. Cox; The Interferon Crusade, R. A. Rettig; Books Received ........................................................................................................... 935

REPORTS

High-Resolution Stratigraphy with Strontium Isotopes: D. J. DePaolo and B. L. Ingram ................................................................. 938
Chromosomal Locations of the Murine T-Cell Receptor Alpha-Chain Gene and the T-Cell Gamma Gene: D. M. Kranzet al. ......................... 941
Molecular Structure of Troponin C from Chicken Skeletal Muscle at 3-Angstrom Resolution: M. Sundaralingam et al. ............................... 945
Effects on Trichinella spiralis of Host Responses to Purified Antigens:
D. S. Silberstein and D. D. Despommier ................................................................ 948

COVER

Chemical transformations mediated by light (hv) provide photoproducts that can be employed in organic synthesis. The four-membered rings impart special properties on these compounds that facilitate their conversion to a variety of target systems, including molecules with important biological properties. See page 857. [Illustration by Christine M. Hoyeyda]