Molecular Level Design of Materials and Functions

Foreword

The focus of chemistry in the coming century will clearly be on the chemistry of performing materials. This will include the design of materials for highly defined functions in the area of catalysis, conduction, polymers, sensors and for those with nanostructures. Structure is the key to function and hence performances can be modulated by varying the structures. Our continuing understanding of the role of molecular recognition in inducing super structures and supermolecules has a major role to play in design of new materials with new functions.

For chemists, this means a shift of focus – from the *synthesis of molecules* to *synthesis of properties.* The most important recent developments comprise rational design of new materials for superconductivity, molecular electronics, novel and efficient catalysts and highly innovative material-processing strategies including biomimetics. An Indo-Japanese Joint Workshop, held at the National Chemical Laboratory, Pune during March 13–14, 1996, addressed some of the issues and provided an opportunity for Indian scientists, especially young investigators, for exposure to Japanese expertise and Indian capabilities. The present issue consists of scientific contributions from some of the Japanese and Indian scientists who participated in the above Workshop.

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