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Sommario/riassunto

This review volume, co-edited by Nobel laureate G Ertl, provides a broad overview on current studies in the understanding of design and control of complex chemical systems of various origins, on scales ranging from single molecules and nano-phenomena to macroscopic chemical reactors. Self-organizational behavior and the emergence of coherent collective dynamics in reaction-diffusion systems, reactive soft matter and chemical networks are covered. Special attention is paid to the applications in molecular cell biology and to the problems of biological evolution, synthetic biology and design of