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(Note: The following are links to the subsequent sections) **First Paper Reviews and Perspectives Artificial Intelligence (Reviews and Perspectives)** Modeling Languages Multi-scale, Multi-Resolution Modeling and Engineering Modeling in Logic and Logical Inferences Modeling National and Industry-Wide Production Systems **Optimization Continuous and Batch Process Synthesis and Design** Synthesis of Reaction and Metabolic Pathways **Synthesis of Control Structures for Chemical Plants** Synthesis of Operating Procedures **Process Dynamics Estimation and Control Operations Monitoring and Diagnosis** Interaction of Design and Control Controlled Self-Assembly Systems Approaches in Bioengineering Modeling and Control of Traffic Networks

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