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Nota di contenuto	Self-correcting Self-assembly: Growth Models and the Hammersley Process -- Recognizing DNA Splicing -- On Computational Properties of Template-Guided DNA Recombination -- Towards Practical Biomolecular Computers Using Microfluidic Deoxyribozyme Logic Gate Networks -- DNA Recombination by XPCR -- An Algorithm for SAT Without an Extraction Phase -- Sensitivity and Capacity of Microarray Encodings -- Simple Operations for Gene Assembly -- Counting Time in Computing with Cells -- On Bounded Symport/Antiport P Systems -- Expectation and Variance of Self-assembled Graph Structures -- Hairpin Structures in DNA Words -- Efficient Algorithm for Testing Structure Freeness of Finite Set of Biomolecular Sequences -- Communicating Distributed H Systems: Optimal Results with Efficient Ways of Communication -- Intensive In Vitro Experiments of Implementing and Executing Finite Automata in Test Tube --

Development of an In Vivo Computer Based on Escherichia coli -- Control of DNA Molecules on a Microscopic Bead Using Optical Techniques for Photonic DNA Memory -- Linearizer and Doubler : Two Mappings to Unify Molecular Computing Models Based on DNA Complementarity -- Analysis and Simulation of Dynamics in Probabilistic P Systems -- Experimental Validation of DNA Sequences for DNA Computing: Use of a SYBR Green I Assay -- Complexity of Graph Self-assembly in Accretive Systems and Self-destructible Systems -- Designing Nucleotide Sequences for Computation: A Survey of Constraints -- A Self-assembly Model of Time-Dependent Glue Strength -- Complexity of Compact Proofreading for Self-assembled Patterns -- A Microfluidic Device for DNA Tile Self-assembly -- Photo- and Thermoregulation of DNA Nanomachines -- Chain Reaction Systems Based on Loop Dissociation of DNA -- A Local Search Based Barrier Height Estimation Algorithm for DNA Molecular Transitions -- Specificity of Hybridization Between DNA Sequences Based on Free Energy -- A Poor Man's Microfluidic DNA Computer -- Two Proteins for the Price of One: The Design of Maximally Compressed Coding Sequences -- Design of Autonomous DNA Cellular Automata -- Use of DNA Nanodevices in Modulating the Mechanical Properties of Polyacrylamide Gels -- Molecular Learning of wDNF Formulae.

Sommario/riassunto

This book constitutes the thoroughly refereed post-proceedings of the 11th International Workshop on DNA Based Computers, DNA11, held in London, ON, Canada, in June 2005. The 34 revised full papers presented were carefully selected during two rounds of reviewing and improvement from an initial total of 79 submissions. The wide-ranging topics include in vitro and in vivo biomolecular computation, algorithmic self-assembly, DNA device design, DNA coding theory, and membrane computing.
