Index

$\rightarrow$, 12, 17
$\vdash$, 8
δ-BPP, 12, 13, 22, 24
$^{\exists}\delta$-BPP, 12, 13, 23, 24, 26
δ-PP, 12, 13, 22, 24
$^{\exists}\delta$-PP, 12, 13, 23, 24, 26
δ-RP, 12, 13, 24
$^{\exists}\delta$-RP, 12, 13, 23, 24
δ-assignment, 13
δ-random source, 12, 21
δ-tree, 13, 21, 25
  best –, 14
  chimera –, 25
  clustered –, 14, 21, 25
  scattered –, 25
  worst –, 14

a-ary system, 12, 17
ABPP, 10
accepting
  – leaf, 13, 23
  – state, 9, 10
adversary argument, 30
algorithm
  approximation –, 44, 48, 54
  complete efficient –, 12
  efficient –, 11, 17
  Forest, 50
  Greedy, 45
  learning –, 29
  ParGreedy, 47
  randomized –, 32
  Reduce, 49
AM($poly$), 11
ancestor, 8
AND, 35
AND(k), 35
$\mathcal{A}_p$, 11
APP, 10
approximation algorithm, 44, 48, 54
arc, 7
  good –, 43, 47
ARP, 10, 24

best δ-tree, 14
bias, 1
  coin of –, 1, 17
  irrational –, 24, 26
  rational –, 24, 26
binary tree, 8
blank, 8
bound
  lower –, 29
  upper –, 29
BPP, 10, 13, 22, 24

chimera δ-tree, 25
choice
  0- –, 9
  1- –, 9
  nondeterministic –, 23, 24
  probabilistic –, 24
clustered δ-tree, 14, 21, 25
coin
  biased –, 1, 17
  fair –, 1
complete efficient algorithm, 12
compression, 45
computation
  efficiently –, 1
CRCW PRAM, 11, 40, 43, 48, 50, 53

de Morgan's rule, 15
degree, 7
  in–, 7
  out–, 7
  total –, 7
depth, 8
  – of a leaf, 11
  – of an efficient algorithm, 11
  – of an internal node, 11

derandomization, 44, 54
descendant, 8
deterministic Turing machine, 8
digraph, 7, 42
directed path set, 7
    maximal –, 7
DPS, 7, 47
DTM, 8

edge
    good –, 39
efficient algorithm, 11
    complete –, 12
    depth of –, 11
EREW PRAM, 11, 40, 47, 48, 54

function
    potential –, 40, 43, 52
    transition –, 8

girth, 7, 61, 64
good arc, 43, 47
good edge, 39
good vertex, 39, 43, 51
graph, 7
    3-connected –, 61, 63
    cubic –, 61, 63
    geometric dual –, 63
    overlap –, 45
    planar –, 61, 63
    proper –, 49
    representation of –, 11
    special bipartite –, 54
    underlying –, 7

Hamiltonian, 45
Hamiltonian Cycle Problem, 57
head, 7
Hi-Q, 57

ID, 8
indegree, 7
independent set, 5, 47, 50–52
    maximal –, 4
    maximum –, 6, 63
independent triangle set, 63
information theoretic lower bounds, 29
instantaneous description, 8
internal node, 8

IP, 11
isolated vertex, 7

leaf, 8
    accepting –, 13, 23
    rejecting –, 13, 23
learning algorithm, 29
legal, 45
LFS, 7
linear forest set, 7
    maximal –, 7
lower bound, 29

matching, 7, 39, 41, 42
    maximal –, 5, 7
    random –, 40, 42
mate, 45
maximal
    – directed path set, 7
    – edge-induced subgraph, 4
    – independent set, 4
    – linear forest set, 7
    – matching, 5, 7
    – path set, 7
    – triangular cactus, 54
    – vertex-induced subgraph, 4
maximum
    – assignment, 14
    – degree, 7
    – independent set, 6, 63
    – planar subgraph, 54
MDPS, 7, 42, 44
MEIS, 4
MIS, 4
MLF, 7, 49, 54
    restricted –, 49
MLFS, 7, 49
    valid –, 49
move, 8
MPS, 7, 44, 54
MTC, 54
MVIS, 4

n-sided die, 18
NC, 11, 50, 54
    – algorithm, 44, 47, 48, 50, 54
    – approximation algorithm, 44, 48, 54
neighborhood, 7
nondeterministic state, 9, 10

nondeterministic Turing machine, 9
NP, 9, 13, 23, 24, 57, 61, 63
– -complete, 57, 61, 63
NTM, 9

OR, 15, 29, 35
OR(k), 15, 29, 35
ordered tree, 8
outdegree, 7
overlap, 45
– graph, 45

P, 9, 13, 24
palindrome, 45, 48
PAR, 15, 29
PAR(k), 15, 29, 31
parallel random-access machine, 11
parent, 8
— of a subtree, 14
path, 7
path set, 7
directed –, 7
maximal –, 7
maximal directed –, 7
potential function argument, 40, 43, 52
PP, 10, 13, 24
PRAM, 11
CRCW –, 11, 40, 43, 48, 50, 53
EREW –, 11, 40, 47, 48, 50, 54
probabilistic state, 10
probabilistic Turing machine, 9
probability
– function, 9, 10
– of a δ-tree under a δ-assignment, 13
– of a leaf, 11
– of a node, 13
proper, 49
PSPACE, 9, 13, 23, 24, 26
PTM, 9

query, 15, 29

random matching, 40, 42
random source
δ- –, 12, 21
semi- –, 12, 21
randomized algorithm, 32
rejecting
– leaf, 13, 23
– state, 9, 10
reverse, 45
RNC, 11, 53
– algorithm, 39, 47, 53
root, 8
rooted directed tree, 8
RP, 10, 13, 24

$SBPP$, 12
scattered δ-tree, 25
semi-random source, 12, 21
shaping triangulation set, 63
shortest superstiring, 44
son, 8
left –, 8
right –, 8
$\mathcal{S}_p$, 12
special bipartite graph, 54
splitter, 32
SR_p, 12
state, 8
accepting –, 9, 10
final –, 8
nondeterministic –, 9, 10
probabilistic –, 10
rejecting –, 9, 10
start –, 8
STM, 10
stochastic Turing machine, 10
substring free, 45
subtree, 8
left –, 8
right –, 8
superstring, 45
superstring-with-flipping, 45
symbol, 8
input –, 8
tape –, 8

tail, 7
THR, 15, 29, 35
THR(k), 15, 29, 35
THR$_t$(k), 15, 29, 35
TM, 8
total degree, 7
transition function, 8
tree, 7, 8
binary –, 8
ordered –, 8

rooted –, 8
rooted directed –, 8
triangular cactus, 54
maximal –, 54
triangulation, 63
Turing machine, 8
deterministic –, 8
nondeterministic –, 9
probabilistic –, 9
stochastic –, 10
two-path cover, 45

underlying graph, 7
upper bound, 29

valid, 49
VC, 6, 61
vertex
– cover, 6, 61
good –, 39, 43, 51

weight, 45
winner, 15
worst δ-tree, 14, 21, 25

Bibliography

[AHK93] D. Angluin, L. Hellerstein, and M. Karpinski. Learning Read-Once Formulas with Queries. *Journal of the ACM*, 40(1):185–210, 1993.

[AKI87] H Adachi, H. Kamekawa, and S. Iwata. Shogi on $n \times n$ board is complete in exponential time (in Japanese) . *Trans. IEICE Japan*, J70-D(10):1843–1852, 10 87.

[And85] R. Anderson. A Parallel Algorithm for the Maximal Path Problem. In *Proc. 17th ACM Symp. on the Theory of Computing*, pages 33–37. ACM, 1985.

[Ang88] D. Angluin. Queries and Concept Learning. *Machine Learning*, 2:319–342, 1988.

[AW87] R. Ahlswede and I. Wegener. *Search Problems*. Wiley, 1987.

[Bab85] L. Babai. Trading Group Theory for Randomness. In *Proc. 17th ACM Symp. on the Theory of Computing*, pages 421–429. ACM, 1985.

[BDG88] J.L. Balcázar, J. Díaz, and J. Gabarró. *Structural Complexity I.* Springer-Verlag, 1988.

[BH96] N.H. Bshouty and L. Hellerstein. Attribute-efficient learning in query and mistake-bound models. In *Proc. 9th Ann. Conf. on Computing Learning Theory*, pages 235–243. ACM, 1996.

[BJL+91] A. Blum, T. Jiang, M. Li, J. Tromp, and M. Yannakakis. Linear Approximation of Shortest Superstrings. In *Proc. 23rd ACM Symp. on the Theory of Computing*, pages 328–336. ACM, 1991.

[BM76] J.A. Bondy and U.S.R. Murty. *Graph Theory with Applications.* The Macmillan Press, 1976.

[CFFK96] G. Călinescu, C.G. Fernandes, U. Finkler, and H. Karloff. A Better Approximation Algorithm for Finding Planar Subgraphs. In *Proc. 7th Ann. ACM-SIAM Symp. on Discrete Algorithms*, pages 16–25. ACM, 1996.

[CGPR94] A. Czumaj, L. Gąsieniec, M. Piotrów, and W. Rytter. Parallel and Sequential Approximation of Shortest Superstrings. In *Proc. 4th Scandinavian Workshop on Algorithm Theory*, pages 95–106. Springer-Verlag, 1994. LNCS 824.

[CH95] Z.-Z. Chen and X. He. Parallel Algorithms for Maximal Acyclic Sets. In *Proceedings of Aizu International Symposium on Parallel Algorithm/Architecture Synthesis*, pages 169–175. IEEE, 1995. to appear in *Algorithmica*.

[Che52] H. Chernoff. A Measure of Asymptotic Efficiency for Tests of a Hypothesis Based on the Sum of Observations. *Ann. of Math. Statist.*, 23:493–509, 1952.

[Che91] Z.-Z. Chen. A Randomized NC Algorithm for the Maximal Tree Cover Problem. *Information Processing Letters*, 40:241–246, 1991.

[Che95a] Z.-Z. Chen. A fast and efficient NC algorithm for maximal matching. *Information Processing Letters*, 55:303–307, 1995.

[Che95b] Z.-Z. Chen. The Maximal f-dependent Set Problem for Planar Graphs is in NC. *Theoretical Computer Science*, 143:309–318, 1995.

[Che96] Z.-Z. Chen. Parallel constructions of maximal path sets and applications to short superstrings. *Theoretical Computer Science*, 161:1–21, 1996. A preliminary version was presented at ICALP '96.

[CL95] A. Condon and R. Ladner. Interactive Proof Systems with Polynomially Bounded Strategies. *Journal of Computer and System Science*, 50:506–518, 1995.

[Cov73] T.M. Cover. On Determining the Irrationality of the Mean of a Random Variable. *The Annals of Statistics*, 1(5):862–871, 1973.

[DG95] G. Das and M.T. Goodrich. On the Complexity of Approximating and Illuminating Three-Dimensional Convex Polyhedra. In *4th International Workshop, WADS '95*, pages 74–85. Lecture Notes in Computer Science Vol. 955, Springer-Verlag, 1995.

[DGL91] K. Diks, O. Garrido, and A. Lingas. Parallel algorithms for finding maximal k-dependent sets and maximal f-matchings. In *ISA '91 Algorithms*, pages 385–395. Lecture Notes in Computer Science Vol. 557, Springer-Verlag, 1991.

[ET76] S. Even and R.E. Tarjan. A combinatorial problem which is complete in polynomial space. *Journal of the ACM*, 23(4):710–719, 1976.

[FIN+93] D. Feldman, R. Impagliazzo, M. Naor, N. Nisan, S. Rudich, and A. Shamir. On Dice and Coins: Models of Computation for Random Generation. *Information and Computation*, 104:159–174, 1993.

[FL81] A.S. Fraenkel and D. Lichtenstein. Computing a perfect strategy for $n \times n$ chess requires time exponential in n. *J. Combinatorial Theory*, 31(2):199–214, 1981.

[Fri84] J. Friedman. Constructing $O(n \log n)$ Size Monotone Formulae for the k-th Elementary Symmetric Polynomial of n Boolean Variables. In *Proc. 25th Symp. on Foundations of Computer Science*, pages 506–515. IEEE, 1984.

[Gil77] J. Gill. Computational Complexity of Probabilistic Turing Machines. *SIAM J. Comput.*, 6(4):675–695, Dec. 1977.

[GJ79] M.R. Garey and D.S. Johnson. *Computers and Intractability — A Guide to the Theory of NP-Completeness.* Freeman, 1979.

[GMR85] S. Goldwasser, S. Micali, and C. Rackoff. The Knowledge Complexity of Interactive Proof-Systems. In *Proc. 17th ACM Symp. on the Theory of Computing*, pages 291–304. ACM, 1985.

[GS86] S. Goldwasser and M. Sipser. Private Coins versus Public Coins in Interactive Proof Systems. In *Proc. 18th ACM Symp. on the Theory of Computing*, pages 59–68. ACM, 1986.

[GS89] M. Goldberg and T. Spencer. Constructing a Maximal Independent Set in Parallel. *SIAM J. Disc. Math.*, 2(3):322–328, 1989.

[Har72] F. Harary. *Graph Theory.* Addison-Wesley, 1972.

[Hof96] T. Hofmeister. Personal communication. 1996.

[HS70] W. Hoeffding and G. Simons. Unbiased Coin Tossing with a Biased Coin. *The Annals of Mathematical Statistics*, 41(2):341–352, 1970.

[HU79] J.E. Hopcroft and J.D. Ullman. *Introduction to Automata Theory, Languages, and Computation.* Addison-Wesley Publishing Company, 1979.

[HW91] R. Heiman and A. Wigderson. Randomized vs. Deterministic Decision Tree Complexity for Read-Once Boolean Functions. *Computational Complexity*, 1:311–329, 1991.

[HWWY94] J. Håstad, I. Wegener, N. Wurm, and S.-Z. Yi. Optimal Depth, Very Small Size Circuits for Symmetric Functions in AC^0. *Information and Computation*, 108:200–211, 1994.

[II86] A. Israeli and A. Itai. A Fast and Simple Randomized Parallel Algorithm for Maximal Matching. *Information Processing Letters*, 22:77–80, 1986.

[IK94] S. Iwata and T. Kasai. The Othello game on an $n \times n$ board is PSPACE-complete. *Theoretical Computer Science*, 123:329–340, 1994.

[IS86] A. Israeli and Y. Shiloach. An Improved Parallel Algorithm for Maximal Matching. *Information Processing Letters*, 22:57–60, 1986.

[JLD92] T. Jiang, M. Li, and D.-Z. Du. A note on shortest superstrings with flipping. *Information Processing Letters*, 44:195–199, 1992.

[Joh90] D.S. Johnson. A Catalog of Complexity Classes. In J. van Leeuwen, editor, *The Handbook of Theoretical Computer Science, Vol. I: Algorithms and Complexity*, pages 69–161. Elsevier, 1990.

[KKM96] T. Kloks, D. Kratsch, and H. Müller. Asteroidal sets in graphs. Technical Report Memorandum No. 1347, Universiteit Twente, 1996.

[Koz92] D.C. Kozen. *The Design and Analysis of Algorithms.* Springer-Verlag, 1992.

[KPS94] S.R. Kosaraju, J.K. Park, and C. Stein. Long Tours and Short Superstrings. In *Proc. 35th Symp. on Foundations of Computer Science*, pages 166–177. IEEE, 1994.

[KR90] R.M. Karp and V. Ramachandran. Parallel Algorithms for Shared-Memory Machines. In J. van Leeuwen, editor, *The Handbook of Theoretical Computer Science, Vol. I: Algorithms and Complexity*, pages 870–941. Elsevier, 1990.

[KR91] P. Kelsen and V. Ramachandran. On Finding Minimal 2-Connected Subgraphs. In *Proc. 2nd Ann. ACM-SIAM Symp. on Discrete Algorithms*, pages 178–187. ACM, 1991.

[KW85] R.M. Karp and A. Wigderson. A Fast Parallel Algorithm for the Maximal Independent Set Problem. *Journal of the ACM*, 32(4):762–773, 1985.

[KY76] D.E. Knuth and A.C. Yao. The complexity of nonuniform random number generation. In J.F.Traub, editor, *Algorithms and Complexity, New Directions and Results*, pages 357–428. Academic, New York, 1976.

[Lit88] N. Littlestone. Learning Quickly When Irrelevant Attributes Abound: A New Linear-threshold Algorithm. *Machine Learning*, 2:285–318, 1988.

[LR97] M. Liśkiewicz and R. Reischuk. Computational Limitations of Stochastic Turing Machines and Arthur-Merlin Games with Small Space Bounds. manuscript, July 1997.

[Lub86] M. Luby. A Simple Parallel Algorithm for the Maximal Independent Set Problem. *SIAM Journal on Computing*, 15(4):1036–1053, 1986.

[Lut90] J.H. Lutz. Pseudorandom Sources for BPP. *Journal of Computer and System Science*, 41:307–320, 1990.

[Meh82] K. Mehlhorn. On the Program size of Perfect and Universal Hash functions. In *Proc. 23rd Symp. on Foundations of Computer Science*, pages 170–175. IEEE, 1982.

[MR95] R. Motwani and P. Raghavan. *Randomized Algorithms*. Cambridge, 1995. 1995.

[Neu51] J. von Neumann. Various techniques used in connection with random digits. Notes by G.E.Forsythe. National Bureau of Standards. *Applied Math Series*, 12:36–38, 1951. Reprinted in von Neumann's Collected Works 5 (Pergamon Press, 1963), 768–770.

[NSS95] M. Naor, L.J. Schulman, and A. Srinivasan. Splitters and near-optimal derandomization. In *Proc. 36th Symp. on Foundations of Computer Science*, pages 182–191. IEEE, 1995.

[Pap83] C.H. Papadimitriou. Games Against Nature. In *Proc. 24th Symp. on Foundations of Computer Science*, pages 446–450. IEEE, 1983.

[Pap94] C.H. Papadimitriou. *Computational Complexity*. Addison-Wesley Publishing Company, 1994.

[Pic65] C. Picard. *Théorie des Questionnaires*. Gauthier-Villars, 1965.

[Ple79] J. Plesník. The NP-completeness of the Hamiltonian Cycle Problem in Planar Digraphs with Degree Bound Two. *Information Processing Letters*, 8(4):199–201, 1979.

[PS90] F.P. Preparata and M.I. Shamos. *Computational Geometry: An Introduction*. Springer-Verlag, 3rd edition, 1990.

[PV93] D. Pearson and V.V. Vazirani. Efficient Sequential and Parallel Algorithms for Maximal Bipartite Sets. *Journal of Algorithms*, 14:171–179, 1993.

[Rei80] S. Reisch. Gobang ist PSPACE–vollständig. *Acta Informatica*, 13(1):59–66, 1980.

[Rob83] J.M. Robson. The complexity of GO. *Proc. IFIP 1983*, pages 413–417, 1983.

[Rob84] J.M. Robson. N by N checkers is EXPTIME complete. *SIAM Journal on Computing*, 13(2):252–267, 1984.

[RW91] P. Ragde and A. Wigderson. Linear-size constant-depth polylog-threshold circuits. *Information Processing Letters*, 39:143–146, 1991.

[San71] E.S. Santos. Computability by Probabilistic Turing Machines. *Transactions of the American Mathematical Society*, 159:165–184, Sep. 1971.

[SC79] L.J. Stockmeyer and A.K. Chandra. Provably difficult combinatorial games. *SIAM Journal on Computing*, 8(2):151–174, 1979.

[Sch78] T.J. Schaefer. On the Complexity of Some Two-Person Perfect-Information Games. *Journal of Computer and System Science*, 16:185–225, 1978.

[Sha90] A. Shamir. IP=PSPACE. In *Proc. 31st Symp. on Foundations of Computer Science*, pages 11–15. IEEE, 1990.

[SM95] T. Shoudai and S. Miyano. Using Maximal Independent Sets to Solve Problems in Parallel. *Theoretical Computer Science*, 148:57–65, 1995.

[SV84] M.S. Satha and U.V. Vazirani. Generating Quasi-random Sequences from Slightly random Sources. In *Proc. 25th Symp. on Foundations of Computer Science*, pages 434–440. IEEE, 1984.

[SV86] M.S. Satha and U.V. Vazirani. Generating Quasi-random Sequences from Semi-random Sources. *Journal of Computer and System Science*, 33:75–87, 1986.

[SW84] Q.F. Stout and B. Warren. Tree Algorithms for Unbiased Coin Tossing with a Biased Coin. *The Annals of Probability*, 12(1):212–222, 1984.

[SW86] M. Saks and A. Wigderson. Probabilistic Boolean Decision Trees and the Complexity of Evaluating Game Trees. In *Proc. 27th Symp. on Foundations of Computer Science*, pages 29–38. IEEE, 1986.

[Tur89] J.S. Turner. Approximation Algorithms for the Shortest Common Superstring Problem. *Information and Computation*, 83:1–20, 1989.

[TY93] S.-H. Teng and F. Yao. Approximating Shortest Superstrings. In *Proc. 34th Symp. on Foundations of Computer Science*, pages 158–165. IEEE, 1993.

[UC97] R. Uehara and Z.-Z. Chen. Parallel Algorithms for Maximal Linear Forests. *The Transactions of the IEICE*, E80-A(4):627–634, 1997. A preliminary version was presented at Second Workshop on Randomized Parallel Computing of Eleventh International Parallel Processing Symposium (IPPS '97).

[UCH96] R. Uehara, Z.-Z. Chen, and X. He. Fast *RNC* and *NC* Algorithms for Finding a Maximal Set of Paths with an Application. In *Second Annual International Computing and Combinatorics Conference (COCOON '96)*, pages 209–218. Lecture Notes in Computer Science Vol. 1090, Springer-Verlag, 1996.

[UCH97] R. Uehara, Z.-Z. Chen, and X. He. Fast *RNC* and *NC* Algorithms for Maximal Path Sets. *Theoretical Computer Science*, 1997. to appear.

[Ueh95a] R. Uehara. Complexity Classes Characterized by Semi-Random Sources. In *Fundamental Studies on Computational Complexity*, pages 1–14. Research Institute for Mathematical Sciences, Vol. 943, Kyoto University, Kyoto, Japan, 1995.

[Ueh95b] R. Uehara. Efficient Simulations by a Biased Coin. *Information Processing Letters*, 56:245–248, 1995.

[Ueh97] R. Uehara. Collapse of PP with a Semi-Random Source to BPP. *Information Processing Letters*, 61:83–87, 1997.

[UI90] R. Uehara and S. Iwata. Generalized Hi-Q is NP-Complete. *The Transactions of the IEICE*, E73(2):270–273, 1990.

[UTW97] R. Uehara, K. Tsuchida, and I. Wegener. Optimal Attribute-Efficient Learning of Disjunction, Parity, and Threshold Functions. In *Third Europian Conference on Computational Learning Theory (EuroCOLT '97)*, pages 171–184. Lecture Notes in Artificial Intelligence Vol. 1208, Springer-Verlag, 1997.

[Vaz86] U. Vazirani. *Randomness, Adversaries and Computation.* PhD thesis, University of California, Berkeley, 1986.

[VV85] U.V. Vazirani and V.V. Vazirani. Random Polynomial Time is Equal to Slightly-random Polynomial Time. In *Proc. 26th Symp. on Foundations of Computer Science*, pages 417–428. IEEE, 1985.

[Weg87] I. Wegener. *The Complexity of Boolean Functions.* Wiley-Teubner, 1987.

List of Publications Related to the Thesis

[1] R. Uehara. Efficient Simulations by a Biased Coin. *Information Processing Letters*, 56:245–248, 1995. (Relation to Chapter 3.)

[2] R. Uehara. Collapse of PP with a Semi-Random Source to BPP. *Information Processing Letters*, 61:83–87, 1997. (Relation to Chapter 4.)

[3] R. Uehara, K. Tsuchida, and I. Wegener. Optimal Attribute-Efficient Learning of Disjunction, Parity, and Threshold Functions. In *Third Europian Conference on Computational Learning Theory (EuroCOLT '97)*, pages 171–184. Lecture Notes in Artificial Intelligence Vol. 1208, Springer-Verlag, 1997. (Relation to Chapter 5.)

[4] R. Uehara, Z.-Z. Chen, and X. He. Fast RNC and NC Algorithms for Maximal Path Sets. *Theoretical Computer Science*, 1997. to appear. (A preliminary version was presented at Second Annual International Computing and Combinatorics Conference (COCOON '96), pages 209–218. Lecture Notes in Computer Science Vol. 1090, Springer-Verlag, 1996.) (Relation to Section 6.1 and Section 6.2.)

[5] R. Uehara and Z.-Z. Chen. Parallel Algorithms for Maximal Linear Forests. *The Transactions of the IEICE*, E80-A(4):627–634, 1997. (A preliminary version was presented at Second Workshop on Randomized Parallel Computing of Eleventh International Parallel Processing Symposium (IPPS '97).) (Relation to Section 6.3 and Section 6.4.)

[6] R. Uehara and S. Iwata. Generalized Hi-Q is NP-Complete. *The Transactions of the IEICE*, E73(2):270–273, 1990. (Relation to Chapter 7.)