Table of Notation

Notation	*Meaning*
a, A	Action
A	Set of actions
c	Constraint
$C, \mathcal{C}$	Set of constraints
$\delta(u, m, \sigma)$	Task network produced from u by decomposing it with the method m under the substitution σ
$\delta(w, u, m, \sigma)$	Task network produced from w by decomposing u with the method m under the substitution σ
effects(o)	Effects of an operator or action
effects$^+(o)$	Positive effects of an operator or action
effects$^-(o)$	Negative effects of an operator or action
$\mathcal{F}$	Set of *tqes* (temporally qualified expressions) or temporal constraints
g	Goal formula
g^+, g^-	Sets of positive and negative literals in g
$\gamma(s, a)$	Progression, i.e., the state or set of states produced by applying a to s
$\gamma^{-1}(s, a)$	Regression
$\Gamma(s)$	Set of all immediate successors of s
$\hat{\Gamma}(s)$	Transitive closure of $\Gamma(s)$
$\Gamma^{-1}(g)$	Set of all states whose immediate successors satisfy g
$\hat{\Gamma}^{-1}(g)$	Transitive closure of $\Gamma^{-1}(g)$
h	Heuristic function, history
m, M	HTN method, set of methods
name(o)	Name of an operator or action
network(m)	Network of subtasks of a method m
o, O	Operator, set of operators
$P = (O, s_0, g)$	Statement of a classical planning problem
$P_a(s'\|s)$	Probability of s' if a is executed in s
$\mathcal{P}$	Planning problem
$\mathcal{P} = (\Sigma, s_0, S_g)$	Set-theoretic or classical planning problem
$\Phi = (\mathcal{F}, \mathcal{C})$	Chronicle or temporal database
π, Π	Plan, set of plans

(continued)

Notation	*Meaning*
$\text{precond}(o)$	Preconditions of an operator or action
$\text{precond}^+(o)$	Positive preconditions of an operator or action
$\text{precond}^-(o)$	Negative preconditions of an operator or action
s, S	State, set of states
s_0, S_0	Initial state, set of initial states
S_g	Set of goal states
σ	Substitution
$\Sigma = (S, A, \gamma)$	State-transition system, set-theoretic planning domain, or classical planning domain
$\text{subtasks}(m)$	Subtasks of a method m
t_u	Task associated with a task node u
τ	Decomposition tree
$\theta(e/\mathcal{F})$	Set of enabling conditions
u	Task node
w	Task network
.	Concatenation, e.g., $e.E$ or $E.e$ or $E.E'$, where e is an expression and E, E' are sequences
$\bullet$	Composition of two relations, e.g., $r_1 \bullet r_2$
$(a_1, a_2, \ldots, a_k)$	k-tuple (where k is fixed)
$\langle a_1, a_2, \ldots, a_n \rangle$	Sequence (where n may vary)