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Heuristics for the flow shop problem with conflict graphs: computational results

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Abstract: We consider the problem of scheduling jobs on flow shops subject to constraints represented by an undirected graph G (called the conflict graph), in which each edge joins a pair of conflicting jobs that cannot be processed simultaneously. The problem of minimizing the maximum completion time (makespan) is known to be NP-hard in the strong sense. We report the computational results we obtained on 128 heuristic variants proposed for this problem and we discuss the performance of these variants.

Keywords: Scheduling, flow shop, conflict graph, complexity, lower bounds, heuristics.

Résumé : On considère le problème d'ordonnancement de type flow shop où certaines tâches ne peuvent pas être exécutées simultanément sur deux machines différentes. Ces contraintes sont données par un graphe non orienté G, appelé graphe de conflit. Le problème de minimisation de la date de fin de traitement est NP-difficile au sens fort. Nous rapportons les résultats expérimentaux que nous avons obtenus sur 128 heuristiques proposées pour ce problème et nous étudions la performance de ces heuristiques.

Mots clés : Ordonnancement, flow shop, graphe de conflit, complexité, bornes inférieures, heuristiques.

We report in this paper the computational results we obtained on the *heuristic approaches* H1mFSCn and H2mFSCn [3]. For each *heuristic approach*, 64 *heuristic variants* are derived, each one represents a combination of a priority order (PO_k used in H1mFSCn and PO'_k used in H2mFSCn) and an order of selection (OS_k used when calling the algorithm of "Makespan computation" in H1mFSCn and H2mFSCn). Thus, each *heuristic variant* of H1mFSCn (resp. H2mFSCn) is denoted by the couple (OS_k, $PO_{k'}$) (resp.(OS_k, $PO'_{k'}$)), $k = \overline{1,8}$, $k' = \overline{1,8}$.

The runs of the heuristic approches were made with Microsoft Visual Studio 2012 (using C++ language) which was executed on a Pentium(R) Dual-Core PC with CPU@3.00 GHz and 1,00 Go RAM. All experiments are carried out on 4500 instances. The conflict graph of each instance is generated using the $G(n, p)$ Erdős Rényi method [1, 2]. Given n vertices, the $G(n, p)$ method generates a graph where each element of the $\binom{n}{2}$ possible edges is present with probability p. Note that the density of a graph $G = (V, E)$ measures how many edges are in set E compared to the maximum possible number of edges between vertices in set V. Thus, when the value of p increases, the graph density increases too.

The number of machines and jobs that we have considered are $m \in \{5, 10, 20\}$, $n \in \{10, 20, 50, 100, 200\}$, and mFSCn represents the class of instances having m machines and n jobs. For each pair (n, m), a set of 100 instances is generated for each value of p, $p \in \{0.2, 0.5, 0.8\}$, let $S(n, m, p)$ denotes this set. The processing times of the jobs are randomly generated from a uniform distribution ranging from 1 to 10 for 25 instances of $S(n, m, p)$, from 1 to 20 for 25 instances of $S(n, m, p)$, from 1 to 50 for 25 instances of $S(n, m, p)$ and from 50 to 100 for the remaining 25 instances of $S(n, m, p)$.

Since the optimal solutions of the instances are not known, the error calculation is based on the deviation of the solution H_{sol} of a heuristic variant from the best lower bound LB, which is given by $(H_{sol} - LB)/LB$. The performance criteria used are:

- $B\%$: number of times (in percentage) where a given heuristic variant yields to the best solution among all the 64 heuristic variants of a given heuristic approach.
- AD: average deviation from the best lower bound of a given heuristic variant.
- CPU(s): average CPU times in seconds.

For each set $S(n, m, p)$, we run all the 64 heuristic variants of a given heuristic approach and we report in Tables 1-30 the obtained results. Then, we select for each set $S(n, m, p)$ the heuristic variant that yields to the best AD and the heuristic variant that yields to the best $B\%$, and we recapitulate in Tables 31 and 32 the selected heuristic variants of H1mFSCn and H2mFSCn respectively. Note that the bold values in Tables 1-30 indicate the best results obtained for each set $S(n, m, p)$ and this is for the two criteria $B\%$ and AD.

			H1mFSCn							
5FSC10			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO_1	AD(B%)	0.292(15)	0.275(22)	0.285(19)	0.277(19)	0.284(18)	0.273(21)	0.291(17)	0.294(13)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_2	AD(B%)	0.282(20)	0.276(12)	0.282(17)	0.272(14)	0.284(17)	0.277(13)	0.289(12)	0.289(16)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_3	AD(B%)	0.276(25)	0.268(22)	0.268(25)	0.266(18)	0.268(**28**)	0.271(18)	0.277(17)	0.277(22)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_4	AD(B%)	0.309(11)	0.287(11)	0.304(11)	0.286(15)	0.309(11)	0.284(14)	0.303(11)	0.300(16)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_5	AD(B%)	0.277(22)	0.270(27)	0.268(24)	0.272(19)	0.271(26)	0.276(22)	0.274(23)	0.285(16)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_6	AD(B%)	0.305(14)	0.283(12)	0.298(12)	0.288(14)	0.309(11)	0.284(17)	0.300(13)	0.299(16)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_7	AD(B%)	0.277(22)	0.268(14)	0.277(19)	**0.265**(18)	0.279(20)	0.273(15)	0.287(11)	0.277(20)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_8	AD(B%)	0.294(12)	0.280(16)	0.285(16)	0.282(19)	0.289(15)	0.280(20)	0.294(14)	0.288(15)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
$p = 0.5$	PO_1	AD(B%)	0.328(5)	0.285(5)	0.310(2)	0.305(3)	0.327(2)	0.302(3)	0.304(3)	0.343(2)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_2	AD(B%)	0.313(2)	0.283(0)	0.309(4)	0.300(3)	0.332(3)	0.297(2)	0.307(0)	0.334(0)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_3	AD(B%)	0.312(3)	**0.267**(7)	0.304(5)	0.298(3)	0.323(1)	0.279(2)	0.288(3)	0.327(1)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_4	AD(B%)	0.332(6)	0.295(5)	0.316(5)	0.324(1)	0.331(3)	0.310(2)	0.316(2)	0.347(2)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_5	AD(B%)	0.325(2)	0.271(**11**)	0.299(5)	0.302(3)	0.321(4)	0.280(7)	0.283(9)	0.344(0)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_6	AD(B%)	0.325(5)	0.298(2)	0.330(5)	0.312(2)	0.334(3)	0.304(3)	0.308(3)	0.349(2)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_7	AD(B%)	0.315(5)	0.288(6)	0.304(1)	0.309(3)	0.316(2)	0.293(3)	0.300(3)	0.335(0)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_8	AD(B%)	0.344(4)	0.298(5)	0.321(1)	0.309(4)	0.336(2)	0.301(0)	0.324(2)	0.352(0)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
$p = 0.8$	PO_1	AD(B%)	0.129(8)	0.108(9)	0.109(**16**)	0.126(5)	0.127(9)	0.116(6)	0.120(6)	0.159(0)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_2	AD(B%)	0.146(2)	0.121(4)	0.121(7)	0.148(4)	0.141(5)	0.128(5)	0.122(4)	0.193(0)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_3	AD(B%)	0.144(5)	0.110(7)	0.118(12)	0.129(5)	0.134(5)	0.122(7)	0.112(5)	0.180(0)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_4	AD(B%)	0.140(7)	0.112(9)	0.125(13)	0.136(4)	0.140(9)	0.121(9)	0.125(6)	0.158(0)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_5	AD(B%)	0.138(4)	**0.106**(10)	0.114(**16**)	0.142(6)	0.135(5)	0.117(6)	0.120(8)	0.171(0)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_6	AD(B%)	0.149(5)	0.119(4)	0.125(12)	0.157(7)	0.147(4)	0.136(6)	0.121(6)	0.186(1)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_7	AD(B%)	0.148(4)	0.109(13)	0.124(4)	0.142(6)	0.141(5)	0.122(7)	0.117(4)	0.185(1)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO_8	AD(B%)	0.136(5)	0.112(11)	0.120(12)	0.129(7)	0.133(8)	0.118(9)	0.118(6)	0.151(2)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 1: H1mFSCn: Performance of the heuristic variants for 5FSC10.

			H1mFSCn							
5FSC20			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO_1	AD(B%)	0.259(4)	0.251(4)	0.257(2)	0.251(3)	0.265(2)	0.244(4)	0.264(2)	0.260(2)
		CPU(s)	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003
	PO_2	AD(B%)	0.269(1)	0.253(3)	0.268(1)	0.245(2)	0.274(0)	0.249(2)	0.274(2)	0.266(0)
		CPU(s)	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003
	PO_3	AD(B%)	0.244(6)	0.228(6)	0.252(1)	0.225(8)	0.256(3)	0.228(**11**)	0.248(3)	0.242(5)
		CPU(s)	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003
	PO_4	AD(B%)	0.291(0)	0.262(4)	0.280(2)	0.266(4)	0.287(0)	0.263(3)	0.278(0)	0.280(0)
		CPU(s)	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003
	PO_5	AD(B%)	0.236(4)	0.231(5)	0.252(1)	**0.221**(10)	0.253(1)	0.226(10)	0.241(4)	0.238(3)
		CPU(s)	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003
	PO_6	AD(B%)	0.283(2)	0.264(2)	0.286(1)	0.256(4)	0.285(1)	0.258(3)	0.278(1)	0.287(1)
		CPU(s)	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003
	PO_7	AD(B%)	0.246(4)	0.243(8)	0.252(3)	0.250(5)	0.258(3)	0.250(1)	0.257(3)	0.254(3)
		CPU(s)	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003
	PO_8	AD(B%)	0.286(0)	0.262(1)	0.282(0)	0.257(3)	0.287(0)	0.265(2)	0.277(1)	0.273(1)
		CPU(s)	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003
$p = 0.5$	PO_1	AD(B%)	0.609(0)	0.559(4)	0.594(2)	0.562(2)	0.623(0)	0.548(3)	0.585(1)	0.604(0)
		CPU(s)	0.005	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	PO_2	AD(B%)	0.607(2)	0.558(3)	0.605(1)	0.584(1)	0.619(0)	0.569(1)	0.588(0)	0.616(0)
		CPU(s)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	PO_3	AD(B%)	0.573(1)	**0.529**(5)	0.559(4)	0.547(4)	0.582(2)	0.542(2)	0.562(0)	0.593(1)
		CPU(s)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	PO_4	AD(B%)	0.642(0)	0.592(0)	0.630(1)	0.612(0)	0.645(0)	0.607(1)	0.612(1)	0.642(0)
		CPU(s)	0.005	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	PO_5	AD(B%)	0.575(2)	0.542(6)	0.563(1)	0.542(6)	0.579(2)	0.540(8)	0.546(2)	0.586(1)
		CPU(s)	0.005	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	PO_6	AD(B%)	0.634(1)	0.599(0)	0.623(2)	0.597(0)	0.637(0)	0.596(0)	0.617(0)	0.642(0)
		CPU(s)	0.005	0.004	0.004	0.004	0.003	0.004	0.004	0.004
	PO_7	AD(B%)	0.591(0)	0.556(**7**)	0.583(4)	0.558(6)	0.587(3)	0.549(3)	0.566(0)	0.612(3)
		CPU(s)	0.005	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	PO_8	AD(B%)	0.629(0)	0.570(3)	0.614(0)	0.597(2)	0.635(1)	0.584(2)	0.612(1)	0.625(0)
		CPU(s)	0.005	0.004	0.004	0.004	0.003	0.004	0.004	0.004
$p = 0.8$	PO_1	AD(B%)	0.306(2)	0.285(1)	0.285(4)	0.297(3)	0.313(2)	0.296(4)	0.295(2)	0.336(0)
		CPU(s)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	PO_2	AD(B%)	0.339(0)	0.304(0)	0.316(3)	0.345(0)	0.349(3)	0.317(1)	0.309(4)	0.396(0)
		CPU(s)	0.004	0.004	0.004	0.004	0.003	0.004	0.004	0.004
	PO_3	AD(B%)	0.308(1)	0.275(5)	0.293(2)	0.299(5)	0.305(2)	0.298(2)	0.280(1)	0.360(0)
		CPU(s)	0.004	0.004	0.004	0.004	0.003	0.004	0.004	0.004
	PO_4	AD(B%)	0.344(0)	0.312(0)	0.320(2)	0.332(0)	0.344(0)	0.319(0)	0.325(1)	0.363(0)
		CPU(s)	0.004	0.004	0.004	0.004	0.003	0.004	0.004	0.004
	PO_5	AD(B%)	0.297(4)	0.283(5)	0.289(6)	0.304(3)	0.305(1)	0.290(1)	**0.271**(**9**)	0.334(0)
		CPU(s)	0.004	0.004	0.004	0.004	0.003	0.004	0.004	0.004
	PO_6	AD(B%)	0.349(0)	0.307(1)	0.324(3)	0.341(1)	0.350(0)	0.319(3)	0.307(1)	0.391(0)
		CPU(s)	0.004	0.004	0.004	0.004	0.003	0.004	0.004	0.004
	PO_7	AD(B%)	0.322(1)	0.286(2)	0.305(4)	0.308(1)	0.318(1)	0.302(2)	0.287(2)	0.367(0)
		CPU(s)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	PO_8	AD(B%)	0.328(0)	0.297(2)	0.320(0)	0.309(1)	0.331(0)	0.307(1)	0.322(1)	0.351(0)
		CPU(s)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004

Table 2: H1mFSCn: Performance of the heuristic variants for 5FSC20.

			H1mFSCn							
5FSC50			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO_1	AD(B%)	0.162(0)	0.153(1)	0.169(2)	0.149(5)	0.168(0)	0.145(2)	0.156(2)	0.156(1)
		CPU(s)	0.055	0.051	0.055	0.052	0.047	0.049	0.050	0.053
	PO_2	AD(B%)	0.190(1)	0.170(0)	0.194(0)	0.173(1)	0.193(0)	0.170(2)	0.186(0)	0.187(0)
		CPU(s)	0.056	0.053	0.057	0.054	0.048	0.051	0.052	0.055
	PO_3	AD(B%)	0.155(4)	0.136(7)	0.151(4)	**0.130**(**9**)	0.151(2)	0.137(6)	0.153(1)	0.152(4)
		CPU(s)	0.056	0.052	0.056	0.053	0.048	0.051	0.051	0.054
	PO_4	AD(B%)	0.192(0)	0.192(0)	0.203(0)	0.180(0)	0.210(0)	0.181(0)	0.196(0)	0.190(0)
		CPU(s)	0.055	0.051	0.055	0.052	0.047	0.050	0.050	0.053
	PO_5	AD(B%)	0.151(8)	0.138(5)	0.154(4)	0.131(8)	0.155(3)	0.133(8)	0.153(1)	0.148(4)
		CPU(s)	0.055	0.052	0.056	0.052	0.047	0.050	0.051	0.054
	PO_6	AD(B%)	0.198(1)	0.182(0)	0.197(0)	0.181(0)	0.200(0)	0.177(0)	0.202(0)	0.192(0)
		CPU(s)	0.055	0.052	0.055	0.053	0.047	0.050	0.051	0.054
	PO_7	AD(B%)	0.179(1)	0.156(7)	0.181(0)	0.158(0)	0.181(1)	0.156(5)	0.170(2)	0.168(5)
		CPU(s)	0.057	0.053	0.057	0.054	0.048	0.051	0.052	0.055
	PO_8	AD(B%)	0.180(0)	0.169(1)	0.187(0)	0.167(0)	0.187(0)	0.165(0)	0.177(0)	0.174(0)
		CPU(s)	0.054	0.050	0.054	0.051	0.046	0.049	0.049	0.053
$p = 0.5$	PO_1	AD(B%)	0.734(0)	0.677(6)	0.725(1)	0.665(1)	0.740(1)	0.675(4)	0.717(2)	0.702(0)
		CPU(s)	0.067	0.063	0.068	0.064	0.058	0.061	0.062	0.065
	PO_2	AD(B%)	0.790(0)	0.734(0)	0.774(1)	0.735(1)	0.785(1)	0.737(1)	0.750(1)	0.780(0)
		CPU(s)	0.067	0.064	0.068	0.065	0.058	0.062	0.063	0.066
	PO_3	AD(B%)	0.664(**10**)	0.662(3)	0.687(3)	0.668(8)	0.676(3)	0.671(4)	0.680(3)	0.711(2)
		CPU(s)	0.067	0.064	0.068	0.064	0.058	0.062	0.063	0.066
	PO_4	AD(B%)	0.799(0)	0.739(0)	0.784(0)	0.753(0)	0.797(0)	0.741(0)	0.777(0)	0.783(0)
		CPU(s)	0.067	0.063	0.067	0.064	0.057	0.062	0.062	0.065
	PO_5	AD(B%)	0.702(1)	0.665(9)	0.703(2)	**0.654**(3)	0.710(2)	0.664(**10**)	0.692(1)	0.694(3)
		CPU(s)	0.067	0.063	0.068	0.064	0.058	0.062	0.063	0.066
	PO_6	AD(B%)	0.800(1)	0.735(1)	0.791(0)	0.752(0)	0.819(1)	0.749(0)	0.773(0)	0.779(0)
		CPU(s)	0.067	0.064	0.068	0.064	0.058	0.062	0.062	0.065
	PO_7	AD(B%)	0.738(2)	0.687(2)	0.719(1)	0.700(1)	0.739(0)	0.701(1)	0.715(0)	0.770(0)
		CPU(s)	0.067	0.064	0.068	0.065	0.058	0.062	0.063	0.066
	PO_8	AD(B%)	0.780(0)	0.715(0)	0.777(1)	0.728(0)	0.793(0)	0.715(1)	0.781(1)	0.761(0)
		CPU(s)	0.067	0.063	0.067	0.064	0.058	0.061	0.062	0.065
$p = 0.8$	PO_1	AD(B%)	0.833(1)	0.803(5)	0.833(1)	0.798(5)	0.854(0)	0.830(2)	0.828(2)	0.847(2)
		CPU(s)	0.067	0.065	0.069	0.066	0.059	0.062	0.063	0.065
	PO_2	AD(B%)	0.904(2)	0.856(1)	0.902(0)	0.856(2)	0.925(0)	0.858(1)	0.869(0)	0.916(0)
		CPU(s)	0.066	0.065	0.068	0.066	0.058	0.062	0.063	0.064
	PO_3	AD(B%)	0.816(6)	0.792(**11**)	0.794(7)	0.795(5)	0.815(5)	0.803(4)	0.792(4)	0.876(1)
		CPU(s)	0.067	0.065	0.068	0.066	0.058	0.061	0.063	0.064
	PO_4	AD(B%)	0.927(0)	0.867(0)	0.920(0)	0.888(0)	0.942(0)	0.883(0)	0.911(0)	0.942(0)
		CPU(s)	0.067	0.065	0.068	0.066	0.059	0.062	0.063	0.065
	PO_5	AD(B%)	0.826(2)	**0.791**(3)	0.815(2)	0.793(8)	0.834(2)	0.806(2)	0.802(4)	0.833(2)
		CPU(s)	0.067	0.065	0.068	0.066	0.059	0.061	0.063	0.065
	PO_6	AD(B%)	0.917(0)	0.870(0)	0.905(0)	0.879(0)	0.942(0)	0.877(0)	0.888(0)	0.920(0)
		CPU(s)	0.066	0.065	0.068	0.066	0.058	0.062	0.063	0.064
	PO_7	AD(B%)	0.846(2)	0.805(3)	0.832(1)	0.841(1)	0.853(0)	0.817(0)	0.818(1)	0.915(0)
		CPU(s)	0.067	0.065	0.068	0.066	0.058	0.061	0.063	0.064
	PO_8	AD(B%)	0.910(0)	0.860(0)	0.883(0)	0.872(0)	0.914(0)	0.864(0)	0.931(0)	0.906(0)
		CPU(s)	0.067	0.065	0.068	0.066	0.059	0.062	0.063	0.065

Table 3: H1mFSCn: Performance of the heuristic variants for 5FSC50.

			H1mFSCn							
5FSC100			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO_1	AD(B%)	0.109(2)	0.098(2)	0.113(0)	0.099(2)	0.113(1)	0.096(1)	0.107(3)	0.103(1)
		CPU(s)	0.476	0.391	0.432	0.402	0.360	0.385	0.385	0.415
	PO_2	AD(B%)	0.154(3)	0.139(0)	0.154(0)	0.131(0)	0.158(0)	0.137(1)	0.149(2)	0.140(0)
		CPU(s)	0.470	0.413	0.449	0.421	0.378	0.403	0.407	0.431
	PO_3	AD(B%)	0.103(3)	0.090(7)	0.103(6)	**0.087**(9)	0.106(5)	0.089(5)	0.102(3)	0.097(5)
		CPU(s)	0.436	0.399	0.439	0.407	0.368	0.391	0.395	0.421
	PO_4	AD(B%)	0.157(0)	0.139(0)	0.159(0)	0.136(0)	0.159(0)	0.139(0)	0.154(0)	0.147(0)
		CPU(s)	0.435	0.399	0.439	0.408	0.367	0.392	0.393	0.422
	PO_5	AD(B%)	0.104(4)	0.088(9)	0.104(3)	0.090(7)	0.106(0)	0.088(**10**)	0.101(4)	0.092(7)
		CPU(s)	0.434	0.396	0.437	0.406	0.365	0.389	0.393	0.418
	PO_6	AD(B%)	0.155(0)	0.140(0)	0.160(0)	0.135(0)	0.158(0)	0.140(0)	0.154(0)	0.150(0)
		CPU(s)	0.437	0.403	0.441	0.412	0.370	0.395	0.398	0.425
	PO_7	AD(B%)	0.136(0)	0.128(1)	0.141(1)	0.124(0)	0.144(0)	0.123(0)	0.132(1)	0.133(1)
		CPU(s)	0.447	0.415	0.451	0.423	0.382	0.404	0.409	0.434
	PO_8	AD(B%)	0.136(0)	0.121(0)	0.137(0)	0.128(0)	0.140(0)	0.124(0)	0.134(0)	0.128(0)
		CPU(s)	0.427	0.390	0.430	0.401	0.358	0.384	0.384	0.414
$p = 0.5$	PO_1	AD(B%)	0.682(0)	0.619(7)	0.687(2)	0.633(5)	0.689(2)	0.640(3)	0.672(4)	0.661(2)
		CPU(s)	0.578	0.493	0.527	0.504	0.453	0.477	0.486	0.510
	PO_2	AD(B%)	0.749(0)	0.710(1)	0.753(2)	0.706(0)	0.766(0)	0.711(0)	0.739(0)	0.748(1)
		CPU(s)	0.541	0.502	0.529	0.508	0.454	0.482	0.493	0.511
	PO_3	AD(B%)	0.657(3)	0.625(**10**)	0.652(5)	0.633(7)	0.672(3)	0.639(3)	0.660(1)	0.681(1)
		CPU(s)	0.528	0.500	0.529	0.507	0.457	0.480	0.492	0.513
	PO_4	AD(B%)	0.766(0)	0.711(0)	0.758(0)	0.703(1)	0.782(0)	0.716(0)	0.759(0)	0.749(0)
		CPU(s)	0.521	0.496	0.524	0.504	0.451	0.476	0.487	0.508
	PO_5	AD(B%)	0.660(1)	**0.617**(8)	0.665(3)	0.631(2)	0.677(1)	0.633(5)	0.653(1)	0.648(6)
		CPU(s)	0.524	0.496	0.530	0.506	0.456	0.478	0.489	0.510
	PO_6	AD(B%)	0.770(0)	0.702(1)	0.754(0)	0.718(1)	0.776(0)	0.722(0)	0.756(0)	0.747(0)
		CPU(s)	0.521	0.498	0.526	0.507	0.452	0.479	0.490	0.509
	PO_7	AD(B%)	0.712(0)	0.665(2)	0.705(1)	0.680(0)	0.721(2)	0.680(1)	0.677(2)	0.782(0)
		CPU(s)	0.527	0.504	0.533	0.511	0.457	0.483	0.495	0.511
	PO_8	AD(B%)	0.761(0)	0.688(0)	0.742(0)	0.691(1)	0.757(0)	0.697(0)	0.761(0)	0.711(0)
		CPU(s)	0.522	0.494	0.523	0.503	0.451	0.476	0.483	0.509
$p = 0.8$	PO_1	AD(B%)	1.414(1)	1.375(7)	1.429(1)	1.379(4)	1.448(1)	1.413(3)	1.422(1)	1.404(3)
		CPU(s)	0.594	0.522	0.547	0.528	0.471	0.496	0.509	0.525
	PO_2	AD(B%)	1.540(0)	1.461(1)	1.536(1)	1.484(0)	1.596(0)	1.485(0)	1.491(0)	1.532(0)
		CPU(s)	0.548	0.525	0.541	0.528	0.467	0.498	0.507	0.521
	PO_3	AD(B%)	1.365(8)	**1.353**(8)	1.389(7)	1.394(**9**)	1.415(2)	1.401(0)	1.374(5)	1.459(1)
		CPU(s)	0.538	0.522	0.543	0.524	0.467	0.494	0.509	0.516
	PO_4	AD(B%)	1.557(0)	1.488(0)	1.564(0)	1.507(0)	1.597(0)	1.509(0)	1.545(0)	1.533(0)
		CPU(s)	0.537	0.524	0.541	0.531	0.469	0.499	0.506	0.523
	PO_5	AD(B%)	1.397(3)	1.383(5)	1.397(2)	1.373(6)	1.423(5)	1.425(1)	1.392(0)	1.397(0)
		CPU(s)	0.538	0.523	0.546	0.528	0.468	0.494	0.508	0.524
	PO_6	AD(B%)	1.541(0)	1.482(0)	1.553(0)	1.487(0)	1.616(0)	1.499(0)	1.504(0)	1.541(0)
		CPU(s)	0.534	0.524	0.542	0.529	0.466	0.498	0.508	0.522
	PO_7	AD(B%)	1.423(1)	1.389(1)	1.423(4)	1.443(1)	1.451(3)	1.428(4)	1.405(2)	1.569(0)
		CPU(s)	0.531	0.522	0.540	0.524	0.465	0.495	0.509	0.514
	PO_8	AD(B%)	1.523(0)	1.470(0)	1.538(0)	1.480(0)	1.543(0)	1.481(0)	1.597(0)	1.500(0)
		CPU(s)	0.541	0.524	0.546	0.523	0.471	0.500	0.501	0.527

Table 4: H1mFSCn: Performance of the heuristic variants for 5FSC100.

			H1mFSCn							
5FSC200			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO_1	AD(B%)	0.076(3)	0.067(2)	0.078(0)	0.066(2)	0.077(1)	0.068(3)	0.071(1)	0.068(2)
		CPU(s)	3.313	3.034	3.321	3.104	2.768	2.962	2.978	3.194
	PO_2	AD(B%)	0.117(0)	0.110(0)	0.124(0)	0.105(1)	0.125(0)	0.106(1)	0.117(0)	0.112(0)
		CPU(s)	3.437	3.202	3.459	3.253	2.923	3.093	3.152	3.327
	PO_3	AD(B%)	0.073(3)	0.061(7)	0.074(2)	0.061(**11**)	0.071(2)	**0.060**(8)	0.070(2)	0.065(**11**)
		CPU(s)	3.350	3.065	3.365	3.137	2.802	2.988	3.036	3.232
	PO_4	AD(B%)	0.119(0)	0.109(0)	0.122(0)	0.110(0)	0.121(0)	0.111(0)	0.118(0)	0.114(0)
		CPU(s)	3.378	3.128	3.391	3.208	2.849	3.050	3.077	3.282
	PO_5	AD(B%)	0.069(5)	0.061(9)	0.074(2)	0.062(8)	0.071(2)	0.064(4)	0.069(4)	0.065(9)
		CPU(s)	3.324	3.053	3.354	3.127	2.791	2.985	3.023	3.220
	PO_6	AD(B%)	0.123(0)	0.110(0)	0.117(0)	0.110(0)	0.121(0)	0.113(0)	0.119(0)	0.113(0)
		CPU(s)	3.398	3.154	3.397	3.225	2.861	3.068	3.103	3.295
	PO_7	AD(B%)	0.107(0)	0.091(1)	0.107(0)	0.088(1)	0.112(0)	0.093(0)	0.100(0)	0.103(1)
		CPU(s)	3.460	3.200	3.472	3.251	2.932	3.103	3.156	3.350
	PO_8	AD(B%)	0.104(0)	0.094(0)	0.105(0)	0.097(0)	0.109(0)	0.095(0)	0.104(0)	0.101(0)
		CPU(s)	3.311	3.043	3.315	3.124	2.768	2.967	2.983	3.218
$p = 0.5$	PO_1	AD(B%)	0.622(2)	0.574(6)	0.629(2)	0.568(7)	0.634(0)	0.585(6)	0.620(0)	0.614(3)
		CPU(s)	4.176	3.997	4.197	4.049	3.634	3.793	3.928	4.092
	PO_2	AD(B%)	0.695(0)	0.650(0)	0.699(1)	0.648(0)	0.717(1)	0.655(1)	0.689(0)	0.687(0)
		CPU(s)	4.165	4.036	4.198	4.088	3.635	3.821	3.962	4.082
	PO_3	AD(B%)	0.602(4)	0.575(**9**)	0.605(3)	0.577(5)	0.620(0)	0.586(5)	0.606(2)	0.607(3)
		CPU(s)	4.175	4.022	4.205	4.077	3.646	3.815	3.955	4.089
	PO_4	AD(B%)	0.710(0)	0.665(0)	0.700(0)	0.648(0)	0.725(0)	0.671(0)	0.693(0)	0.697(0)
		CPU(s)	4.156	4.015	4.172	4.053	3.621	3.807	3.922	4.078
	PO_5	AD(B%)	0.606(2)	**0.561**(8)	0.602(2)	0.562(8)	0.620(4)	0.567(5)	0.608(2)	0.605(3)
		CPU(s)	4.167	3.996	4.189	4.055	3.631	3.792	3.939	4.088
	PO_6	AD(B%)	0.708(0)	0.655(0)	0.704(0)	0.654(0)	0.725(0)	0.664(1)	0.689(0)	0.694(0)
		CPU(s)	4.165	4.024	4.183	4.078	3.635	3.817	3.940	4.085
	PO_7	AD(B%)	0.638(2)	0.635(0)	0.660(0)	0.638(0)	0.677(0)	0.641(1)	0.626(0)	0.746(0)
		CPU(s)	4.177	4.076	4229	4.122	3.666	3.857	3.985	4.111
	PO_8	AD(B%)	0.688(0)	0.634(0)	0.696(0)	0.626(1)	0.701(0)	0.642(2)	0.729(0)	0.648(0)
		CPU(s)	4.163	3.989	4.179	4.042	3.617	3.790	3.908	4.071
$p = 0.8$	PO_1	AD(B%)	1.362(4)	1.335(3)	1.380(1)	1.331(3)	1.394(2)	1.379(0)	1.369(5)	1.360(4)
		CPU(s)	4.350	4.264	4.406	4.333	3.817	4.002	4.161	4.266
	PO_2	AD(B%)	1.497(0)	1.441(0)	1.486(0)	1.446(0)	1.587(0)	1.463(0)	1.464(0)	1.477(1)
		CPU(s)	4.304	4.294	4.362	4.341	3.776	4.029	4.154	4.226
	PO_3	AD(B%)	1.333(8)	**1.314**(7)	1.333(**9**)	1.355(7)	1.358(3)	1.375(5)	1.330(2)	1.418(1)
		CPU(s)	4.333	4.262	4.373	4.294	3.797	3.985	4.168	4.201
	PO_4	AD(B%)	1.520(0)	1.453(0)	1.523(0)	1.450(0)	1.553(0)	1.479(0)	1.513(0)	1.481(0)
		CPU(s)	4.336	4.297	4.373	4.347	3.796	4.039	4.158	4.252
	PO_5	AD(B%)	1.354(5)	1.352(2)	1.377(2)	1.331(7)	1.404(2)	1.385(0)	1.358(2)	1.327(7)
		CPU(s)	4.351	4.275	4.408	4.322	3.824	3.996	4.165	4.239
	PO_6	AD(B%)	1.504(0)	1.435(0)	1.517(0)	1.445(0)	1.581(0)	1.468(0)	1.470(0)	1.484(0)
		CPU(s)	4.308	4.290	4.369	4.339	3.784	4.028	4.153	4.237
	PO_7	AD(B%)	1.405(0)	1.362(2)	1.380(1)	1.421(0)	1.445(2)	1.406(1)	1.359(1)	1.586(0)
		CPU(s)	4.304	4.287	4.360	4.312	3.781	4.015	4.162	4.136
	PO_8	AD(B%)	1.465(0)	1.426(1)	1.495(0)	1.429(0)	1.506(0)	1.446(0)	1.608(0)	1.428(0)
		CPU(s)	4.364	4.295	4.403	4.365	3.830	4.041	4.111	4.281

Table 5: H1mFSCn: Performance of the heuristic variants for 5FSC200.

			H2mFSCn							
5FSC10			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO'_1	AD(B%)	0.311(21)	0.294(33)	0.309(23)	0.294(34)	0.315(23)	0.294(32)	0.310(21)	0.315(23)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_2	AD(B%)	0.318(22)	0.294(34)	0.312(19)	0.306(27)	0.315(22)	0.302(30)	0.310(23)	0.316(23)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_3	AD(B%)	0.326(20)	0.308(23)	0.324(16)	0.308(22)	0.329(19)	0.303(25)	0.324(14)	0.329(19)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_4	AD(B%)	0.307(22)	0.283(**43**)	0.301(24)	0.291(38)	0.304(23)	0.293(38)	0.305(24)	0.311(25)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_5	AD(B%)	0.306(22)	0.283(39)	0.300(23)	0.290(38)	0.305(24)	0.294(37)	0.309(22)	0.311(25)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_6	AD(B%)	0.328(21)	0.306(24)	0.326(17)	0.310(23)	0.329(19)	0.308(25)	0.321(15)	0.327(20)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_7	AD(B%)	0.306(23)	**0.282**(41)	0.300(23)	0.288(39)	0.306(24)	0.291(39)	0.307(24)	0.311(26)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_8	AD(B%)	0.319(21)	0.297(33)	0.316(17)	0.298(30)	0.322(20)	0.300(32)	0.310(17)	0.321(23)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
$p = 0.5$	PO'_1	AD(B%)	0.325(5)	**0.273**(13)	0.294(13)	0.313(5)	0.309(7)	0.292(12)	0.287(14)	0.333(0)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_2	AD(B%)	0.324(6)	0.283(13)	0.303(9)	0.311(5)	0.309(5)	0.296(13)	0.293(10)	0.333(1)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_3	AD(B%)	0.328(5)	0.284(12)	0.307(8)	0.311(3)	0.320(4)	0.304(10)	0.301(7)	0.335(1)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_4	AD(B%)	0.321(8)	0.275(**16**)	0.298(10)	0.304(4)	0.304(5)	0.289(**16**)	0.289(13)	0.335(2)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_5	AD(B%)	0.323(6)	0.276(13)	0.299(10)	0.300(6)	0.305(5)	0.288(14)	0.292(12)	0.330(2)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_6	AD(B%)	0.331(6)	0.279(12)	0.308(7)	0.314(4)	0.320(5)	0.305(14)	0.298(8)	0.341(1)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_7	AD(B%)	0.324(5)	0.279(**16**)	0.302(7)	0.306(8)	0.307(5)	0.289(14)	0.288(13)	0.329(2)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_8	AD(B%)	0.327(8)	0.280(13)	0.302(8)	0.317(5)	0.312(8)	0.300(12)	0.293(12)	0.342(1)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
$p = 0.8$	PO'_1	AD(B%)	0.132(6)	0.099(18)	0.105(18)	0.132(6)	0.126(9)	0.111(12)	0.102(14)	0.162(3)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_2	AD(B%)	0.119(15)	0.098(17)	0.109(14)	0.111(9)	0.117(16)	0.108(12)	0.109(11)	0.140(4)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_3	AD(B%)	0.130(8)	0.100(19)	0.109(14)	0.118(8)	0.128(10)	0.106(17)	0.108(11)	0.150(4)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_4	AD(B%)	0.118(15)	**0.095**(**23**)	0.107(13)	0.108(10)	0.115(15)	0.101(15)	0.103(14)	0.135(3)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_5	AD(B%)	0.116(13)	0.102(13)	0.105(15)	0.108(9)	0.117(15)	0.107(12)	0.104(10)	0.138(3)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_6	AD(B%)	0.130(10)	0.107(9)	0.111(18)	0.139(4)	0.127(12)	0.117(8)	0.110(11)	0.168(2)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_7	AD(B%)	0.114(17)	0.098(17)	0.105(12)	0.109(8)	0.114(15)	0.108(10)	0.112(7)	0.139(3)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_8	AD(B%)	0.146(6)	0.108(11)	0.110(14)	0.157(4)	0.140(7)	0.127(5)	0.108(13)	0.183(2)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 6: H2mFSCn: Performance of the heuristic variants for 5FSC10.

			H2mFSCn							
5FSC20			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO'_1	AD(B%)	0.314(8)	0.285(10)	0.308(6)	0.291(6)	0.314(4)	0.290(7)	0.300(7)	0.313(6)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_2	AD(B%)	0.300(7)	0.278(15)	0.293(6)	0.275(17)	0.296(8)	0.278(14)	0.292(5)	0.294(5)
		CPU(s)	0.001	0.001	0.001	0.001	0.000	0.001	0.001	0.001
	PO'_3	AD(B%)	0.325(5)	0.306(5)	0.322(4)	0.308(4)	0.325(3)	0.310(5)	0.317(4)	0.331(2)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_4	AD(B%)	0.290(15)	0.272(18)	0.286(10)	0.270(**23**)	0.286(12)	0.273(19)	0.284(8)	0.294(12)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO'_5	AD(B%)	0.291(13)	**0.268**(**23**)	0.288(9)	0.270(21)	0.288(10)	0.274(19)	0.282(10)	0.294(8)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO'_6	AD(B%)	0.322(6)	0.311(5)	0.321(4)	0.307(4)	0.327(3)	0.309(5)	0.318(5)	0.328(1)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_7	AD(B%)	0.288(14)	0.274(19)	0.287(8)	0.270(22)	0.287(12)	0.275(17)	0.282(11)	0.294(9)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO'_8	AD(B%)	0.329(7)	0.304(8)	0.325(4)	0.306(5)	0.329(3)	0.306(5)	0.307(7)	0.332(3)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
$p = 0.5$	PO'_1	AD(B%)	0.619(1)	0.563(3)	0.605(1)	0.578(2)	0.620(1)	0.580(0)	0.579(1)	0.639(1)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO'_2	AD(B%)	0.588(0)	0.545(4)	0.573(2)	0.562(2)	0.588(2)	0.555(0)	0.565(2)	0.597(0)
		CPU(s)	0.002	0.002	0.002	0.002	0.001	0.002	0.002	0.002
	PO'_3	AD(B%)	0.619(2)	0.578(0)	0.603(3)	0.590(2)	0.620(1)	0.594(1)	0.587(2)	0.639(0)
		CPU(s)	0.001	0.001	0.001	0.001	0.000	0.000	0.001	0.001
	PO'_4	AD(B%)	0.580(1)	0.535(8)	0.566(2)	0.554(7)	0.580(3)	0.546(6)	0.551(2)	0.597(1)
		CPU(s)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	PO'_5	AD(B%)	0.581(2)	**0.534**(**12**)	0.558(5)	0.558(7)	0.567(4)	0.547(3)	0.547(8)	0.588(0)
		CPU(s)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	PO'_6	AD(B%)	0.623(1)	0.573(2)	0.601(2)	0.594(2)	0.621(0)	0.586(1)	0.585(5)	0.633(1)
		CPU(s)	0.001	0.001	0.001	0.001	0.000	0.001	0.001	0.001
	PO'_7	AD(B%)	0.577(2)	0.542(9)	0.566(3)	0.557(6)	0.573(2)	0.553(2)	0.560(4)	0.594(0)
		CPU(s)	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.002
	PO'_8	AD(B%)	0.620(1)	0.563(1)	0.607(1)	0.601(1)	0.617(1)	0.590(0)	0.580(2)	0.642(1)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
$p = 0.8$	PO'_1	AD(B%)	0.300(0)	0.259(4)	0.272(1)	0.303(0)	0.301(1)	0.270(2)	0.268(2)	0.332(0)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	.0.001	0.001	0.001
	PO'_2	AD(B%)	0.268(0)	0.255(5)	0.255(4)	0.275(1)	0.270(2)	0.261(1)	0.265(1)	0.301(0)
		CPU(s)	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.003
	PO'_3	AD(B%)	0.294(1)	0.258(4)	0.273(2)	0.274(1)	0.297(1)	0.269(1)	0.278(1)	0.310(0)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO'_4	AD(B%)	0.273(2)	0.252(6)	0.259(5)	0.270(1)	0.279(0)	0.257(7)	0.259(5)	0.297(0)
		CPU(s)	0.003	0.003	0.003	0.003	0.001	0.002	0.001	0.003
	PO'_5	AD(B%)	0.270(2)	**0.249**(6)	0.255(**8**)	0.268(4)	0.272(2)	0.256(4)	0.263(4)	0.290(1)
		CPU(s)	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002
	PO'_6	AD(B%)	0.295(0)	0.267(3)	0.272(2)	0.294(1)	0.294(0)	0.280(1)	0.273(0)	0.328(0)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO'_7	AD(B%)	0.275(1)	0.254(3)	0.262(1)	0.271(0)	0.277(2)	0.270(0)	0.260(1)	0.294(0)
		CPU(s)	0.003	0.003	0.003	0.003	0.002	0.003	0.003	0.003
	PO'_8	AD(B%)	0.317(0)	0.264(2)	0.278(1)	0.330(0)	0.314(0)	0.291(1)	0.278(2)	0.356(0)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001

Table 7: H2mFSCn: Performance of the heuristic variants for 5FSC20.

			H2mFSCn							
5FSC50			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO'_1	AD(B%)	0.226(1)	0.211(2)	0.224(2)	0.212(0)	0.223(3)	0.213(0)	0.219(0)	0.221(1)
		CPU(s)	0.006	0.006	0.006	0.006	0.005	0.006	0.006	0.006
	PO'_2	AD(B%)	0.204(0)	0.191(5)	0.205(3)	0.190(9)	0.203(4)	0.189(5)	0.195(4)	0.19.9(2)
		CPU(s)	0.011	0.010	0.011	0.010	0.009	0.010	0.010	0.011
	PO'_3	AD(B%)	0.233(0)	0.216(1)	0.230(0)	0.215(2)	0.237(0)	0.216(3)	0.228(0)	0.229(0)
		CPU(s)	0.005	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	PO'_4	AD(B%)	0.199(6)	0.183(13)	0.200(4)	**0.183**(9)	0.203(2)	0.184(**14**)	0.194(5)	0.193(5)
		CPU(s)	0.013	0.012	0.013	0.012	0.011	0.011	0.011	0.012
	PO'_5	AD(B%)	0.202(3)	0.186(6)	0.198(3)	0.186(6)	0.200(0)	0.186(7)	0.196(7)	0.193(6)
		CPU(s)	0.013	0.012	0.013	0.012	0.011	0.011	0.011	0.013
	PO'_6	AD(B%)	0.236(0)	0.216(1)	0.231(0)	0.212(4)	0.237(0)	0.215(2)	0.232(0)	0.228(0)
		CPU(s)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	PO'_7	AD(B%)	0.201(5)	0.184(7)	0.199(4)	0.184(8)	0.199(3)	0.185(7)	0.198(4)	0.195(6)
		CPU(s)	0.013	0.012	0.013	0.012	0.011	0.011	0.011	0.012
	PO'_8	AD(B%)	0.233(0)	0.215(1)	0.233(0)	0.215(4)	0.237(0)	0.218(2)	0.230(1)	0.228(0)
		CPU(s)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
$p = 0.5$	PO'_1	AD(B%)	0.681(0)	0.646(1)	0.672(1)	0.661(0)	0.688(0)	0.662(0)	0.665(0)	0.699(0)
		CPU(s)	0.012	0.012	0.012	0.012	0.010	0.011	0.011	0.012
	PO'_2	AD(B%)	0.641(2)	0.610(8)	0.642(2)	0.617(8)	0.653(1)	0.616(**9**)	0.634(1)	0.655(0)
		CPU(s)	0.022	0.021	0.022	0.022	0.019	0.020	0.021	0.022
	PO'_3	AD(B%)	0.689(1)	0.656(1)	0.677(0)	0.670(1)	0.702(2)	0.671(0)	0.673(0)	0.702(0)
		CPU(s)	0.011	0.010	0.011	0.010	0.009	0.010	0.010	0.011
	PO'_4	AD(B%)	0.651(0)	**0.607**(6)	0.641(2)	0.621(4)	0.656(1)	0.613(6)	0.641(1)	0.660(2)
		CPU(s)	0.023	0.022	0.023	0.022	0.020	0.021	0.021	0.023
	PO'_5	AD(B%)	0.640(4)	0.613(3)	0.643(1)	0.622(5)	0.653(1)	0.626(2)	0.641(1)	0.652(1)
		CPU(s)	0.023	0.022	0.023	0.022	0.020	0.021	0.021	0.022
	PO'_6	AD(B%)	0.685(1)	0.649(1)	0.684(0)	0.666(1)	0.692(4)	0.652(1)	0.670(1)	0.709(0)
		CPU(s)	0.011	0.010	0.011	0.010	0.009	0.010	0.010	0.011
	PO'_7	AD(B%)	0.642(1)	0.617(6)	0.644(2)	0.619(6)	0.652(0)	0.625(4)	0.643(3)	0.657(0)
		CPU(s)	0.023	0.023	0.023	0.023	0.020	0.022	0.022	0.023
	PO'_8	AD(B%)	0.691(0)	0.656(1)	0.678(0)	0.668(0)	0.691(0)	0.678(0)	0.680(0)	0.717(0)
		CPU(s)	0.011	0.010	0.010	0.010	0.009	0.010	0.010	0.010
$p = 0.8$	PO'_1	AD(B%)	0.756(0)	0.715(2)	0.738(4)	0.745(0)	0.770(0)	0.730(0)	0.729(0)	0.793(0)
		CPU(s)	0.021	0.021	0.021	0.021	0.018	0.019	0.020	0.020
	PO'_2	AD(B%)	0.709(2)	0.693(0)	0.698(5)	0.711(1)	0.718(1)	0.705(2)	0.729(2)	0.732(1)
		CPU(s)	0.036	0.036	0.036	0.036	0.032	0.034	0.034	0.036
	PO'_3	AD(B%)	0.760(1)	0.715(3)	0.738(1)	0.733(0)	0.766(1)	0.733(0)	0.730(1)	0.780(0)
		CPU(s)	0.020	0.019	0.020	0.020	0.017	0.018	0.018	0.019
	PO'_4	AD(B%)	0.712(3)	0.693(1)	0.696(3)	0.714(0)	0.722(2)	0.706(0)	0.702(8)	0.748(0)
		CPU(s)	0.037	0.036	0.037	0.036	0.032	0.034	0.035	0.036
	PO'_5	AD(B%)	0.713(1)	**0.683**(**15**)	0.700(3)	0.709(3)	0.716(1)	0.705(1)	0.709(0)	0.735(0)
		CPU(s)	0.036	0.036	0.036	0.036	0.031	0.033	0.034	0.035
	PO'_6	AD(B%)	0.745(0)	0.718(4)	0.734(0)	0.745(1)	0.758(0)	0.733(1)	0.730(0)	0.784(0)
		CPU(s)	0.020	0.020	0.020	0.020	0.018	0.019	0.019	0.020
	PO'_7	AD(B%)	0.708(0)	0.685(11)	0.699(4)	0.706(2)	0.721(0)	0.706(4)	0.708(4)	0.739(0)
		CPU(s)	0.038	0.037	0.038	0.037	0.033	0.035	0.036	0.037
	PO'_8	AD(B%)	0.772(0)	0.723(3)	0.746(2)	0.774(0)	0.776(0)	0.755(2)	0.736(1)	0.818(0)
		CPU(s)	0.019	0.019	0.019	0.019	0.017	0.017	0.018	0.018

Table 8: H2mFSCn: Performance of the heuristic variants for 5FSC50.

			H2mFSCn							
5FSC100			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO'_1	AD(B%)	0.168(0)	0.158(0)	0.168(0)	0.158(0)	0.171(0)	0.157(1)	0.162(1)	0.166(1)
		CPU(s)	0.035	0.033	0.035	0.034	0.030	0.032	0.032	0.034
	PO'_2	AD(B%)	0.155(0)	0.142(3)	0.154(1)	0.140(**11**)	0.155(1)	0.141(6)	0.149(5)	0.150(5)
		CPU(s)	0.060	0.057	0.060	0.058	0.052	0.054	0.055	0.059
	PO'_3	AD(B%)	0.174(0)	0.160(0)	0.174(2)	0.159(1)	0.176(0)	0.158(1)	0.169(0)	0.169(0)
		CPU(s)	0.028	0.027	0.028	0.027	0.024	0.025	0.025	0.027
	PO'_4	AD(B%)	0.152(1)	0.139(9)	0.151(4)	0.140(9)	0.152(2)	0.141(9)	0.145(3)	0.146(3)
		CPU(s)	0.068	0.065	0.068	0.065	0.058	0.061	0.062	0.067
	PO'_5	AD(B%)	0.151(1)	0.138(10)	0.149(4)	**0.137**(8)	0.151(1)	0.138(7)	0.146(3)	0.146(3)
		CPU(s)	0.069	0.065	0.068	0.065	0.059	0.061	0.063	0.067
	PO'_6	AD(B%)	0.176(0)	0.163(0)	0.174(1)	0.161(1)	0.178(0)	0.160(1)	0.171(0)	0.172(1)
		CPU(s)	0.027	0.026	0.027	0.026	0.023	0.024	0.025	0.026
	PO'_7	AD(B%)	0.152(1)	0.139(7)	0.152(2)	0.138(9)	0.153(2)	0.139(6)	0.145(2)	0.145(2)
		CPU(s)	0.069	0.065	0.069	0.066	0.059	0.062	0.063	0.067
	PO'_8	AD(B%)	0.176(0)	0.161(1)	0.174(1)	0.159(0)	0.176(0)	0.159(1)	0.168(0)	0.174(1)
		CPU(s)	0.027	0.026	0.027	0.026	0.023	0.024	0.025	0.027
$p = 0.5$	PO'_1	AD(B%)	0.587(0)	0.554(0)	0.586(0)	0.561(1)	0.599(0)	0.561(1)	0.589(0)	0.606(0)
		CPU(s)	0.073	0.071	0.073	0.072	0.063	0.067	0.068	0.072
	PO'_2	AD(B%)	0.549(2)	0.525(4)	0.553(0)	0.524(5)	0.563(0)	0.528(2)	0.548(2)	0.560(0)
		CPU(s)	0.135	0.131	0.135	0.132	0.117	0.124	0.125	0.134
	PO'_3	AD(B%)	0.593(0)	0.557(2)	0.591(0)	0.567(0)	0.600(0)	0.571(1)	0.590(0)	0.605(0)
		CPU(s)	0.069	0.067	0.069	0.067	0.060	0.063	0.064	0.068
	PO'_4	AD(B%)	0.552(1)	0.524(3)	0.550(0)	0.530(5)	0.558(1)	0.533(3)	0.549(2)	0.559(1)
		CPU(s)	0.140	0.135	0.139	0.135	0.120	0.128	0.129	0.138
	PO'_5	AD(B%)	0.552(2)	0.521(3)	0.549(3)	0.525(**12**)	0.559(1)	0.527(6)	0.550(2)	0.559(1)
		CPU(s)	0.140	0.135	0.139	0.135	0.120	0.128	0.129	0.137
	PO'_6	AD(B%)	0.588(0)	0.566(2)	0.586(0)	0.566(2)	0.592(1)	0.574(0)	0.587(0)	0.604(0)
		CPU(s)	0.069	0.065	0.069	0.068	0.060	0.064	0.064	0.068
	PO'_7	AD(B%)	0.553(1)	**0.518**(8)	0.548(2)	0.527(6)	0.558(2)	0.529(5)	0.550(0)	0.564(2)
		CPU(s)	0.142	0.137	0.141	0.137	0.122	0.130	0.131	0.140
	PO'_8	AD(B%)	0.589(1)	0.563(3)	0.594(0)	0.571(3)	0.595(2)	0.577(0)	0.586(0)	0.608(0)
		CPU(s)	0.068	0.065	0.067	0.066	0.058	0.062	0.063	0.066
$p = 0.8$	PO'_1	AD(B%)	1.212(0)	1.170(1)	1.198(0)	1.191(0)	1.225(0)	1.187(0)	1.196(0)	1.241(0)
		CPU(s)	0.137	0.136	0.137	0.136	0.119	0.127	0.130	0.135
	PO'_2	AD(B%)	1.147(4)	1.126(6)	1.141(2)	1.143(2)	1.165(0)	1.142(3)	1.151(2)	1.185(1)
		CPU(s)	0.237	0.233	0.236	0.234	0.205	0.220	0.222	0.233
	PO'_3	AD(B%)	1.201(1)	1.173(1)	1.195(0)	1.178(1)	1.230(0)	1.189(0)	1.205(1)	1.236(0)
		CPU(s)	0.133	0.131	0.132	0.132	0.115	0.122	0.124	0.130
	PO'_4	AD(B%)	1.146(1)	1.120(8)	1.140(3)	1.147(2)	1.159(1)	1.142(0)	1.156(1)	1.189(0)
		CPU(s)	0.241	0.237	0.239	0.238	0.208	0.223	0.225	0.236
	PO'_5	AD(B%)	1.142(3)	1.120(**12**)	1.136(6)	1.136(5)	1.158(1)	1.138(4)	1.155(1)	1.188(0)
		CPU(s)	0.236	0.233	0.235	0.234	0.204	0.219	0.222	0.232
	PO'_6	AD(B%)	1.198(0)	1.177(0)	1.136(0)	1.193(1)	1.217(0)	1.195(0)	1.193(0)	1.232(0)
		CPU(s)	0.137	0.135	0.136	0.135	0.118	0.126	0.127	0.133
	PO'_7	AD(B%)	1.149(3)	**1.119**(10)	1.146(5)	1.138(6)	1.164(0)	1.142(1)	1.151(3)	1.189(0)
		CPU(s)	0.245	0.242	0.244	0.242	0.212	0.227	0.229	0.241
	PO'_8	AD(B%)	1.216(0)	1.178(0)	1.202(0)	1.210(0)	1.239(0)	1.199(0)	1.195(0)	1.259(0)
		CPU(s)	0.130	0.128	0.129	0.128	0.112	0.119	0.122	0.126

Table 9: H2mFSCn: Performance of the heuristic variants for 5FSC100.

			H2mFSCn							
5FSC200			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO'_1	AD(B%)	0.128(0)	0.119(1)	0.128(0)	0.117(0)	0.129(0)	0.119(1)	0.125(0)	0.123(0)
		CPU(s)	0.209	0.199	0.209	0.200	0.179	0.187	0.190	0.203
	PO'_2	AD(B%)	0.119(1)	0.108(9)	0.128(0)	0.109(7)	0.117(0)	0.110(7)	0.115(1)	0.113(1)
		CPU(s)	0.363	0.344	0.361	0.347	0.311	0.324	0.329	0.352
	PO'_3	AD(B%)	0.130(0)	0.121(0)	0.131(0)	0.120(0)	0.131(0)	0.119(0)	0.127(0)	0.127(0)
		CPU(s)	0.180	0.171	0.180	0.171	0.153	0.161	0.163	0.174
	PO'_4	AD(B%)	0.117(0)	0.108(3)	0.115(1)	0.107(10)	0.117(2)	0.108(5)	0.114(5)	0.113(2)
		CPU(s)	0.393	0.373	0.391	0.376	0.338	0.352	0.357	0.382
	PO'_5	AD(B%)	0.115(0)	0.106(4)	0.117(0)	0.107(8)	0.115(3)	0.108(4)	0.112(3)	0.110(4)
		CPU(s)	0.403	0.382	0.401	0.382	0.342	0.358	0.361	0.388
	PO'_6	AD(B%)	0.132(0)	0.121(1)	0.132(0)	0.121(0)	0.134(0)	0.120(2)	0.128(0)	0.128(0)
		CPU(s)	0.173	0.164	0.172	0.165	0.149	0.155	0.157	0.168
	PO'_7	AD(B%)	0.115(1)	0.107(5)	0.116(2)	**0.106**(**13**)	0.116(1)	0.108(4)	0.113(0)	0.112(2)
		CPU(s)	0.403	0.382	0.401	0.384	0.342	0.358	0.363	0.390
	PO'_8	AD(B%)	0.132(0)	0.120(0)	0.132(1)	0.122(1)	0.132(1)	0.120(0)	0.129(0)	0.128(1)
		CPU(s)	0.172	0.163	0.171	0.165	0.148	0.154	0.157	0.168
$p = 0.5$	PO'_1	AD(B%)	0.477(0)	0.454(3)	0.478(0)	0.458(1)	0.485(0)	0.466(0)	0.480(0)	0.493(0)
		CPU(s)	0.490	0.474	0.488	0.476	0.422	0.450	0.454	0.489
	PO'_2	AD(B%)	0.453(1)	0.431(6)	0.451(4)	**0.428**(10)	0.462(0)	0.434(6)	0.453(1)	0.458(0)
		CPU(s)	0.827	0.799	0.822	0.802	0.713	0.758	0.764	0.827
	PO'_3	AD(B%)	0.479(0)	0.459(0)	0.474(1)	0.462(0)	0.485(0)	0.467(1)	0.479(0)	0.489(0)
		CPU(s)	0.467	0.452	0.464	0.454	0.402	0.429	0.433	0.466
	PO'_4	AD(B%)	0.450(4)	0.431(8)	0.450(1)	0.433(3)	0.457(2)	0.435(5)	0.453(1)	0.459(0)
		CPU(s)	0.846	0.818	0.841	0.822	0.728	0.776	0.781	0.847
	PO'_5	AD(B%)	0.455(1)	0.430(6)	0.450(2)	0.433(5)	0.459(0)	0.437(2)	0.453(0)	0.459(0)
		CPU(s)	0.854	0.824	0.849	0.829	0.735	0.782	0.788	0.852
	PO'_6	AD(B%)	0.476(0)	0.461(0)	0.478(0)	0.460(1)	0.487(0)	0.467(0)	0.481(0)	0.497(0)
		CPU(s)	0.460	0.446	0.457	0.448	0.397	0.422	0.427	0.461
	PO'_7	AD(B%)	0.451(1)	0.431(**11**)	0.451(1)	0.433(7)	0.459(0)	0.435(6)	0.454(2)	0.457(0)
		CPU(s)	0.865	0.835	0.860	0.838	0.744	0.792	0.798	0.864
	PO'_8	AD(B%)	0.482(1)	0.458(0)	0.480(0)	0.462(0)	0.487(0)	0.473(1)	0.482(0)	0.492(0)
		CPU(s)	0.451	0.439	0.450	0.440	0.389	0.415	0.419	0.451
$p = 0.8$	PO'_1	AD(B%)	1.039(0)	1.009(1)	1.023(1)	1.027(1)	1.056(0)	1.035(0)	1.039(0)	1.073(0)
		CPU(s)	1.007	1.003	1.001	1.007	0.888	0.948	0.953	0.993
	PO'_2	AD(B%)	0.999(0)	**0.971**(9)	0.996(4)	0.985(5)	1.018(2)	0.988(1)	1.005(0)	1.033(0)
		CPU(s)	1.630	1.620	1.616	1.629	1.433	1.540	1.533	1.612
	PO'_3	AD(B%)	1.037(0)	1.018(1)	1.037(1)	1.021(3)	1.057(0)	1.033(0)	1.041(0)	1.072(0)
		CPU(s)	0.976	1.018	0.971	0.976	0.860	0.921	0.924	0.965
	PO'_4	AD(B%)	0.998(2)	0.974(5)	0.996(2)	0.990(0)	1.017(1)	0.991(2)	1.007(1)	1.034(0)
		CPU(s)	1.656	1.645	1.639	1.652	1.451	1.561	1.554	1.634
	PO'_5	AD(B%)	1.001(3)	0.979(**11**)	0.996(3)	0.988(8)	1.016(2)	0.992(5)	1.007(2)	1.031(0)
		CPU(s)	1.632	1.623	1.617	1.627	1.434	1.539	1.533	1.609
	PO'_6	AD(B%)	1.033(1)	1.019(1)	1.029(0)	1.029(0)	1.056(0)	1.037(1)	1.037(0)	1.064(0)
		CPU(s)	0.986	0.987	0.982	0.988	0.868	0.932	0.934	0.974
	PO'_7	AD(B%)	1.000(5)	0.977(8)	0.999(1)	0.987(3)	1.019(2)	0.992(3)	1.008(1)	1.036(0)
		CPU(s)	1.688	1.678	1.675	1.685	1.486	1.594	1.589	1.667
	PO'_8	AD(B%)	1.040(0)	1.018(0)	1.038(0)	1.032(1)	1.061(1)	1.039(0)	1.040(0)	1.081(0)
		CPU(s)	0.947	0.945	0.940	0.945	0.832	0.891	0.897	0.932

Table 10: H2mFSCn: Performance of the heuristic variants for 5FSC200.

			H1mFSCn							
10FSC10			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO_1	AD(B%)	0.283(3)	0.250(7)	0.265(5)	0.281(7)	0.277(3)	0.272(2)	0.274(2)	0.311(2)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO_2	AD(B%)	0.268(8)	0.244(**15**)	0.270(6)	0.251(9)	0.272(6)	0.254(9)	0.259(8)	0.275(3)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO_3	AD(B%)	0.257(6)	**0.237**(12)	0.256(8)	0.248(10)	0.257(8)	0.242(8)	0.259(4)	0.280(3)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO_4	AD(B%)	0.286(4)	0.258(8)	0.278(8)	0.281(8)	0.284(5)	0.272(5)	0.279(3)	0.297(4)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO_5	AD(B%)	0.268(5)	0.243(11)	0.262(5)	0.261(10)	0.266(5)	0.254(7)	0.259(5)	0.288(3)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO_6	AD(B%)	0.288(4)	0.253(11)	0.273(9)	0.270(7)	0.277(5)	0.265(8)	0.268(5)	0.286(5)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO_7	AD(B%)	0.264(6)	0.240(11)	0.268(7)	0.251(11)	0.267(5)	0.246(8)	0.264(3)	0.276(3)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO_8	AD(B%)	0.293(3)	0.257(10)	0.283(5)	0.285(7)	0.290(3)	0.276(7)	0.276(4)	0.305(2)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
$p = 0.5$	PO_1	AD(B%)	0.224(2)	0.187(6)	0.198(2)	0.213(3)	0.217(2)	0.205(0)	0.191(2)	0.225(1)
		CPU(s)	0.002	0.001	0.002	0.001	0.001	0.001	0.001	0.002
	PO_2	AD(B%)	0.229(2)	0.176(**9**)	0.193(0)	0.213(2)	0.211(1)	0.195(3)	0.178(7)	0.240(1)
		CPU(s)	0.002	0.001	0.002	0.001	0.001	0.001	0.001	0.001
	PO_3	AD(B%)	0.206(5)	0.169(7)	0.179(6)	0.196(5)	0.195(7)	0.175(6)	0.173(3)	0.231(0)
		CPU(s)	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.002
	PO_4	AD(B%)	0.241(0)	0.198(7)	0.209(0)	0.227(3)	0.224(1)	0.205(4)	0.203(2)	0.238(0)
		CPU(s)	0.002	0.001	0.002	0.001	0.001	0.001	0.001	0.001
	PO_5	AD(B%)	0.210(1)	**0.166**(5)	0.185(6)	0.205(5)	0.206(1)	0.188(2)	0.182(5)	0.236(0)
		CPU(s)	0.002	0.001	0.002	0.001	0.001	0.001	0.001	0.002
	PO_6	AD(B%)	0.231(0)	0.188(5)	0.197(1)	0.221(3)	0.215(0)	0.210(1)	0.193(5)	0.243(1)
		CPU(s)	0.002	0.001	0.002	0.001	0.001	0.001	0.001	0.002
	PO_7	AD(B%)	0.212(3)	0.172(7)	0.190(2)	0.202(3)	0.212(1)	0.193(3)	0.179(5)	0.238(0)
		CPU(s)	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001
	PO_8	AD(B%)	0.226(1)	0.187(2)	0.199(1)	0.216(3)	0.214(0)	0.201(3)	0.198(3)	0.225(0)
		CPU(s)	0.002	0.001	0.002	0.001	0.001	0.001	0.001	0.001
$p = 0.8$	PO_1	AD(B%)	0.115(4)	0.097(10)	0.096(**13**)	0.127(2)	0.114(4)	0.106(4)	0.093(6)	0.150(0)
		CPU(s)	0.002	0.002	0.002	0.001	0.001	0.002	0.002	0.002
	PO_2	AD(B%)	0.122(1)	0.098(4)	0.095(9)	0.140(2)	0.122(2)	0.121(1)	0.092(9)	0.176(0)
		CPU(s)	0.002	0.002	0.002	0.001	0.001	0.002	0.002	0.002
	PO_3	AD(B%)	0.112(2)	0.090(8)	0.088(8)	0.114(3)	0.107(2)	0.105(4)	0.087(7)	0.158(0)
		CPU(s)	0.002	0.002	0.002	0.001	0.001	0.002	0.001	0.002
	PO_4	AD(B%)	0.115(3)	0.090(9)	0.101(7)	0.119(4)	0.114(4)	0.109(3)	0.099(5)	0.145(0)
		CPU(s)	0.002	0.002	0.002	0.001	0.001	0.002	0.001	0.002
	PO_5	AD(B%)	0.117(1)	0.093(8)	0.091(11)	0.133(1)	0.114(0)	0.110(3)	0.087(8)	0.172(0)
		CPU(s)	0.002	0.002	0.002	0.001	0.001	0.002	0.001	0.002
	PO_6	AD(B%)	0.123(1)	0.102(4)	0.102(11)	0.142(2)	0.123(0)	0.114(2)	0.090(10)	0.175(0)
		CPU(s)	0.002	0.002	0.002	0.001	0.001	0.002	0.001	0.002
	PO_7	AD(B%)	0.113(5)	0.093(8)	0.089(7)	0.119(5)	0.114(5)	0.107(5)	**0.082**(9)	0.160(0)
		CPU(s)	0.002	0.002	0.002	0.001	0.001	0.002	0.001	0.002
	PO_8	AD(B%)	0.112(5)	0.095(7)	0.098(7)	0.115(3)	0.117(3)	0.108(6)	0.098(9)	0.142(1)
		CPU(s)	0.002	0.002	0.002	0.001	0.001	0.002	0.001	0.002

Table 11: H1mFSCn: Performance of the heuristic variants for 10FSC10.

			H1mFSCn							
10FSC20			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO_1	AD(B%)	0.603(1)	0.559(2)	0.584(1)	0.571(1)	0.597(0)	0.568(1)	0.580(1)	0.607(1)
		CPU(s)	0.016	0.013	0.014	0.013	0.012	0.013	0.013	0.014
	PO_2	AD(B%)	0.572(1)	0.533(**7**)	0.563(0)	0.538(2)	0.562(1)	0.539(2)	0.546(4)	0.557(1)
		CPU(s)	0.015	0.013	0.014	0.013	0.012	0.013	0.013	0.014
	PO_3	AD(B%)	0.554(4)	0.523(6)	0.552(3)	**0.514**(5)	0.563(0)	0.527(5)	0.540(2)	0.562(0)
		CPU(s)	0.015	0.013	0.014	0.013	0.012	0.013	0.013	0.014
	PO_4	AD(B%)	0.613(1)	0.571(2)	0.594(0)	0.582(1)	0.602(1)	0.591(0)	0.600(0)	0.628(0)
		CPU(s)	0.015	0.013	0.014	0.013	0.012	0.013	0.013	0.013
	PO_5	AD(B%)	0.570(1)	0.526(6)	0.583(0)	0.539(3)	0.579(0)	0.547(4)	0.560(2)	0.561(0)
		CPU(s)	0.016	0.013	0.014	0.013	0.012	0.013	0.013	0.014
	PO_6	AD(B%)	0.595(2)	0.561(2)	0.591(0)	0.568(4)	0.596(0)	0.573(0)	0.579(0)	0.601(0)
		CPU(s)	0.015	0.013	0.014	0.013	0.012	0.013	0.013	0.014
	PO_7	AD(B%)	0.561(4)	0.522(6)	0.552(2)	0.540(3)	0.552(2)	0.534(2)	0.538(1)	0.564(1)
		CPU(s)	0.016	0.013	0.014	0.013	0.012	0.013	0.013	0.014
	PO_8	AD(B%)	0.624(2)	0.563(3)	0.596(1)	0.591(2)	0.612(0)	0.568(1)	0.585(1)	0.620(0)
		CPU(s)	0.017	0.013	0.014	0.013	0.012	0.013	0.013	0.013
$p = 0.5$	PO_1	AD(B%)	0.547(0)	0.493(4)	0.535(0)	0.518(3)	0.540(1)	0.501(0)	0.505(1)	0.564(0)
		CPU(s)	0.017	0.015	0.016	0.015	0.014	0.015	0.015	0.015
	PO_2	AD(B%)	0.511(2)	0.468(3)	0.508(0)	0.501(1)	0.517(0)	0.493(1)	0.483(5)	0.540(0)
		CPU(s)	0.017	0.015	0.016	0.015	0.014	0.015	0.015	0.015
	PO_3	AD(B%)	0.500(1)	**0.450**(7)	0.480(3)	0.477(1)	0.493(4)	0.477(4)	0.454(**9**)	0.512(3)
		CPU(s)	0.017	0.015	0.016	0.015	0.014	0.015	0.015	0.015
	PO_4	AD(B%)	0.568(0)	0.503(0)	0.542(0)	0.542(0)	0.556(0)	0.520(0)	0.517(0)	0.577(1)
		CPU(s)	0.017	0.015	0.016	0.015	0.014	0.015	0.015	0.015
	PO_5	AD(B%)	0.519(3)	0.469(4)	0.504(0)	0.494(3)	0.524(1)	0.501(2)	0.476(4)	0.533(0)
		CPU(s)	0.017	0.015	0.016	0.015	0.014	0.015	0.015	0.015
	PO_6	AD(B%)	0.545(0)	0.500(0)	0.536(0)	0.515(0)	0.558(0)	0.511(2)	0.516(0)	0.545(0)
		CPU(s)	0.017	0.015	0.016	0.015	0.014	0.015	0.015	0.015
	PO_7	AD(B%)	0.503(0)	0.458(7)	0.486(5)	0.480(1)	0.503(2)	0.470(3)	0.469(5)	0.540(3)
		CPU(s)	0.018	0.015	0.016	0.015	0.014	0.015	0.015	0.015
	PO_8	AD(B%)	0.565(0)	0.496(1)	0.537(0)	0.534(1)	0.549(0)	0.523(1)	0.521(0)	0.567(0)
		CPU(s)	0.018	0.015	0.016	0.015	0.013	0.015	0.015	0.015
$p = 0.8$	PO_1	AD(B%)	0.276(0)	0.244(3)	0.253(2)	0.276(2)	0.280(0)	0.262(1)	0.237(7)	0.297(0)
		CPU(s)	0.016	0.015	0.016	0.015	0.014	0.015	0.015	0.015
	PO_2	AD(B%)	0.284(0)	0.249(0)	0.253(2)	0.282(0)	0.293(0)	0.258(0)	0.230(1)	0.328(0)
		CPU(s)	0.017	0.015	0.016	0.015	0.014	0.015	0.015	0.015
	PO_3	AD(B%)	0.258(1)	0.227(6)	0.230(**9**)	0.246(1)	0.268(1)	0.234(2)	**0.216**(6)	0.306(0)
		CPU(s)	0.018	0.015	0.016	0.015	0.014	0.015	0.015	0.016
	PO_4	AD(B%)	0.292(0)	0.252(2)	0.271(0)	0.284(1)	0.304(0)	0.271(0)	0.262(1)	0.310(0)
		CPU(s)	0.017	0.015	0.016	0.015	0.014	0.015	0.015	0.015
	PO_5	AD(B%)	0.260(0)	0.234(5)	0.238(4)	0.283(1)	0.273(1)	0.265(1)	0.220(5)	0.302(0)
		CPU(s)	0.016	0.015	0.016	0.015	0.014	0.015	0.015	0.015
	PO_6	AD(B%)	0.293(2)	0.251(1)	0.264(2)	0.299(0)	0.293(1)	0.271(1)	0.243(2)	0.324(0)
		CPU(s)	0.017	0.016	0.016	0.015	0.014	0.015	0.015	0.015
	PO_7	AD(B%)	0.262(3)	0.232(6)	0.231(3)	0.249(1)	0.273(1)	0.245(1)	0.223(8)	0.310(0)
		CPU(s)	0.017	0.015	0.016	0.015	0.014	0.015	0.015	0.015
	PO_8	AD(B%)	0.285(0)	0.258(1)	0.267(2)	0.290(0)	0.294(0)	0.277(1)	0.268(0)	0.303(0)
		CPU(s)	0.016	0.016	0.016	0.015	0.014	0.015	0.015	0.015

Table 12: H1mFSCn: Performance of the heuristic variants for 10FSC20.

			H1mFSCn							
10FSC50			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO_1	AD(B%)	0.786(0)	0.738(2)	0.792(1)	0.743(2)	0.790(0)	0.730(0)	0.771(1)	0.771(0)
		CPU(s)	0.242	0.211	0.226	0.212	0.196	0.210	0.209	0.221
	PO_2	AD(B%)	0.772(1)	0.742(2)	0.778(1)	0.744(3)	0.790(0)	0.757(3)	0.765(1)	0.764(2)
		CPU(s)	0.257	0.217	0.229	0.215	0.199	0.215	0.214	0.224
	PO_3	AD(B%)	0.773(1)	0.729(2)	0.762(4)	0.733(**8**)	0.768(4)	0.745(2)	0.753(2)	0.741(2)
		CPU(s)	0.249	0.217	0.231	0.216	0.200	0.215	0.214	0.225
	PO_4	AD(B%)	0.809(0)	0.765(0)	0.801(1)	0.770(1)	0.806(0)	0.772(0)	0.779(1)	0.791(0)
		CPU(s)	0.232	0.211	0.224	0.211	0.195	0.210	0.208	0.221
	PO_5	AD(B%)	0.751(2)	0.727(6)	0.767(1)	**0.718**(7)	0.777(0)	0.736(6)	0.758(2)	0.744(3)
		CPU(s)	0.229	0.215	0.229	0.214	0.200	0.213	0.213	0.224
	PO_6	AD(B%)	0.803(0)	0.755(0)	0.803(1)	0.755(1)	0.808(0)	0.765(2)	0.779(0)	0.787(0)
		CPU(s)	0.225	0.213	0.226	0.212	0.196	0.211	0.210	0.222
	PO_7	AD(B%)	0.786(3)	0.742(3)	0.781(2)	0.745(4)	0.781(0)	0.754(0)	0.752(5)	0.782(1)
		CPU(s)	0.230	0.218	0.231	0.217	0.201	0.216	0.215	0.225
	PO_8	AD(B%)	0.804(1)	0.749(3)	0.794(0)	0.756(1)	0.815(0)	0.753(2)	0.787(0)	0.787(0)
		CPU(s)	0.223	0.209	0.223	0.209	0.195	0.209	0.206	0.220
$p = 0.5$	PO_1	AD(B%)	1.441(0)	1.366(2)	1.431(0)	1.376(1)	1.448(0)	1.376(0)	1.402(1)	1.421(2)
		CPU(s)	0.269	0.239	0.253	0.238	0.219	0.235	0.234	0.248
	PO_2	AD(B%)	1.452(0)	1.360(3)	1.431(1)	1.378(2)	1.436(3)	1.371(0)	1.360(6)	1.440(2)
		CPU(s)	0.276	0.239	0.250	0.236	0.216	0.233	0.234	0.243
	PO_3	AD(B%)	1.393(2)	**1.323**(**9**)	1.377(4)	1.376(2)	1.403(2)	1.358(2)	1.331(7)	1.406(3)
		CPU(s)	0.268	0.239	0.252	0.237	0.218	0.234	0.235	0.246
	PO_4	AD(B%)	1.488(0)	1.383(0)	1.474(0)	1.408(1)	1.481(0)	1.393(0)	1.403(0)	1.431(1)
		CPU(s)	0.261	0.238	0.250	0.237	0.217	0.234	0.233	0.247
	PO_5	AD(B%)	1.415(2)	1.349(3)	1.402(1)	1.380(1)	1.406(2)	1.370(2)	1.352(2)	1.386(3)
		CPU(s)	0.252	0.239	0.253	0.238	0.219	0.235	0.236	0.247
	PO_6	AD(B%)	1.474(0)	1.367(1)	1.457(0)	1.388(1)	1.483(1)	1.385(1)	1.387(0)	1.434(1)
		CPU(s)	0.249	0.238	0.249	0.236	0.216	0.233	0.234	0.245
	PO_7	AD(B%)	1.409(3)	1.333(5)	1.392(2)	1.378(3)	1.429(1)	1.377(0)	1.325(5)	1.454(1)
		CPU(s)	0.249	0.239	0.251	0.237	0.216	0.234	0.235	0.245
	PO_8	AD(B%)	1.469(0)	1.387(0)	1.464(0)	1.398(0)	1.471(0)	1.382(2)	1.427(0)	1.415(1)
		CPU(s)	0.251	0.239	0.252	0.238	0.218	0.234	0.233	0.247
$p = 0.8$	PO_1	AD(B%)	0.843(0)	0.822(3)	0.848(2)	0.834(1)	0.855(0)	0.851(0)	0.814(1)	0.841(0)
		CPU(s)	0.271	0.244	0.257	0.244	0.221	0.239	0.238	0.247
	PO_2	AD(B%)	0.864(1)	0.807(2)	0.845(2)	0.840(1)	0.897(0)	0.840(0)	0.813(1)	0.882(0)
		CPU(s)	0.279	0.243	0.253	0.240	0.218	0.238	0.235	0.244
	PO_3	AD(B%)	0.796(4)	0.774(**9**)	0.787(3)	0.801(2)	0.813(5)	0.798(2)	**0.756**(7)	0.858(2)
		CPU(s)	0.273	0.243	0.253	0.239	0.217	0.237	0.239	0.244
	PO_4	AD(B%)	0.918(0)	0.856(0)	0.905(0)	0.859(0)	0.925(0)	0.872(0)	0.877(0)	0.897(0)
		CPU(s)	0.262	0.245	0.255	0.243	0.221	0.240	0.237	0.249
	PO_5	AD(B%)	0.815(3)	0.798(3)	0.807(1)	0.804(5)	0.832(1)	0.812(2)	0.788(8)	0.823(1)
		CPU(s)	0.253	0.243	0.255	0.242	0.219	0.237	0.237	0.247
	PO_6	AD(B%)	0.883(0)	0.828(0)	0.872(1)	0.863(0)	0.917(0)	0.855(1)	0.828(1)	0.878(0)
		CPU(s)	0.251	0.244	0.253	0.242	0.219	0.239	0.236	0.244
	PO_7	AD(B%)	0.801(5)	0.780(5)	0.794(3)	0.815(4)	0.835(3)	0.811(1)	0.768(3)	0.894(0)
		CPU(s)	0.250	0.243	0.253	0.241	0.217	0.237	0.238	0.247
	PO_8	AD(B%)	0.906(1)	0.855(1)	0.901(0)	0.854(0)	0.917(0)	0.859(0)	0.893(0)	0.869(2)
		CPU(s)	0.255	0.245	0.253	0.245	0.223	0.239	0.236	0.248

Table 13: H1mFSCn: Performance of the heuristic variants for 10FSC50.

			H1mFSCn							
10FSC100			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO_1	AD(B%)	0.737(0)	0.705(2)	0.752(1)	0.710(6)	0.737(2)	**0.695**(3)	0.733(1)	0.717(2)
		CPU(s)	1.813	1.698	1.818	1.701	1.576	1.690	1.678	1.787
	PO_2	AD(B%)	0.779(0)	0.704(1)	0.779(0)	0.744(1)	0.791(0)	0.744(0)	0.762(0)	0.759(2)
		CPU(s)	1.839	1.757	1.857	1.748	1.612	1.736	1.742	1.812
	PO_3	AD(B%)	0.740(0)	0.712(4)	0.753(2)	0.708(**10**)	0.756(2)	0.716(2)	0.727(0)	0.725(6)
		CPU(s)	1.852	1.757	1.870	1.741	1.628	1.734	1.734	1.821
	PO_4	AD(B%)	0.782(0)	0.725(3)	0.777(0)	0.727(3)	0.786(0)	0.730(1)	0.755(0)	0.762(2)
		CPU(s)	1.809	1.700	1.809	1.698	1.570	1.692	1.681	1.784
	PO_5	AD(B%)	0.732(4)	0.711(5)	0.746(2)	0.702(6)	0.757(0)	0.709(4)	0.734(2)	0.723(3)
		CPU(s)	1.843	1.744	1.856	1.731	1.621	1.725	1.723	1.812
	PO_6	AD(B%)	0.775(1)	0.745(0)	0.771(0)	0.735(0)	0.787(1)	0.760(0)	0.765(1)	0.751(1)
		CPU(s)	1.817	1.722	1.824	1.715	1.588	1.714	1.701	1.790
	PO_7	AD(B%)	0.775(0)	0.734(1)	0.775(1)	0.741(0)	0.772(2)	0.739(3)	0.749(1)	0.784(0)
		CPU(s)	1.855	1.771	1.875	1.757	1.625	1.749	1.755	1.824
	PO_8	AD(B%)	0.760(0)	0.713(1)	0.762(0)	0.703(1)	0.770(0)	0.716(3)	0.754(0)	0.737(2)
		CPU(s)	1.792	1.678	1.803	1.674	1.563	1.672	1.654	1.777
$p = 0.5$	PO_1	AD(B%)	2.057(2)	1.966(5)	2.064(0)	1.964(1)	2.072(0)	1.977(1)	1.993(0)	2.002(3)
		CPU(s)	2.044	1.952	2.065	1.956	1.803	1.918	1.924	2.033
	PO_2	AD(B%)	2.115(0)	1.974(1)	2.089(1)	1.995(2)	2.120(0)	1.997(0)	1.983(3)	2.075(0)
		CPU(s)	2.009	1.946	2.038	1.937	1.769	1.907	1.923	1.984
	PO_3	AD(B%)	2.048(2)	**1.936**(**9**)	2.039(1)	1.973(3)	2.045(0)	1.968(2)	1.940(**9**)	2.033(1)
		CPU(s)	2.030	1.954	2.064	1.940	1.791	1.908	1.935	2.002
	PO_4	AD(B%)	2.113(0)	1.989(2)	2.122(0)	2.003(0)	2.147(0)	1.998(1)	2.030(1)	2.053(1)
		CPU(s)	2.014	1.943	2.037	1.944	1.778	1.911	1.901	2.005
	PO_5	AD(B%)	2.050(3)	1.948(4)	2.035(2)	1.963(2)	2.048(1)	1.988(1)	1.955(5)	2.013(1)
		CPU(s)	2.038	1.956	2.068	1.950	1.799	1.915	1.929	2.021
	PO_6	AD(B%)	2.124(1)	1.982(0)	2.118(0)	1.992(1)	2.129(0)	2.000(0)	2.013(0)	2.070(1)
		CPU(s)	2.007	1.941	2.035	1.938	1.771	1.907	1.911	1.996
	PO_7	AD(B%)	2.062(6)	1.956(4)	2.050(4)	1.985(0)	2.077(2)	1.985(0)	1.939(**9**)	2.135(0)
		CPU(s)	2.013	1.952	2.052	1.934	1.781	1.904	1.940	1.971
	PO_8	AD(B%)	2.116(0)	1.988(1)	2.118(0)	1.978(1)	2.118(0)	1.987(0)	2.072(0)	2.005(1)
		CPU(s)	2.033	1.942	2.052	1.949	1.795	1.916	1.893	2.029
$p = 0.8$	PO_1	AD(B%)	1.685(2)	1.672(1)	1.705(2)	1.669(1)	1.729(1)	1.707(1)	1.661(0)	1.645(5)
		CPU(s)	2.081	2.001	2.098	2.006	1.821	1.955	1.957	2.026
	PO_2	AD(B%)	1.765(0)	1.658(1)	1.724(2)	1.697(2)	1.824(0)	1.700(0)	1.656(3)	1.730(1)
		CPU(s)	2.047	2.004	2.069	1.997	1.800	1.955	1.942	2.005
	PO_3	AD(B%)	1.621(6)	1.600(**8**)	1.622(6)	1.669(4)	1.660(4)	1.667(0)	1.580(7)	1.748(4)
		CPU(s)	2.048	1.992	2.078	1.975	1.789	1.946	1.960	2.003
	PO_4	AD(B%)	1.802(0)	1.713(0)	1.812(0)	1.715(0)	1.866(0)	1.738(0)	1.751(0)	1.740(0)
		CPU(s)	2.075	2.014	2.079	2.017	1.818	1.964	1.936	2.041
	PO_5	AD(B%)	1.676(3)	1.648(2)	1.643(6)	1.654(0)	1.713(0)	1.688(0)	1.611(5)	1.656(4)
		CPU(s)	2.076	1.998	2.087	1.992	1.812	1.947	1.950	2.022
	PO_6	AD(B%)	1.788(0)	1.683(0)	1.782(0)	1.718(0)	1.844(0)	1.713(0)	1.689(1)	1.721(1)
		CPU(s)	2.057	2.008	2.075	2.000	1.803	1.955	1.950	2.009
	PO_7	AD(B%)	1.683(4)	1.603(1)	1.647(5)	1.671(0)	1.719(1)	1.664(3)	**1.579**(3)	1.816(0)
		CPU(s)	2.048	1.997	2.071	1.977	1.789	1.945	1.970	2.006
	PO_8	AD(B%)	1.814(0)	1.718(0)	1.814(0)	1.701(0)	1.823(0)	1.725(0)	1.813(0)	1.686(0)
		CPU(s)	2.095	2.013	2.096	2.026	1.828	1.961	1.918	2.055

Table 14: H1mFSCn: Performance of the heuristic variants for 10FSC100.

			H1mFSCn							
10FSC200			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO_1	AD(B%)	0.749(0)	0.700(2)	0.748(2)	0.698(6)	0.751(0)	0.698(2)	0.736(0)	0.719(4)
		CPU(s)	15.164	13.945	15.094	13.951	13.051	13.996	13.827	14.884
	PO_2	AD(B%)	0.790(0)	0.748(0)	0.793(0)	0.752(1)	0.795(0)	0.756(0)	0.769(0)	0.766(1)
		CPU(s)	15.238	14.377	15.335	14.288	13.272	14.350	14.231	15.004
	PO_3	AD(B%)	0.742(1)	0.711(3)	0.748(1)	**0.697**(6)	0.757(1)	0.707(**7**)	0.732(2)	0.723(3)
		CPU(s)	15.347	14.327	15.424	14.226	13.392	14.298	14.215	15.089
	PO_4	AD(B%)	0.774(0)	0.745(1)	0.787(0)	0.738(1)	0.790(0)	0.748(0)	0.765(1)	0.767(1)
		CPU(s)	14.951	14.025	15.027	13.955	12.979	14.050	13.834	14.836
	PO_5	AD(B%)	0.738(2)	0.704(5)	0.752(1)	0.711(4)	0.747(1)	0.714(1)	0.732(2)	0.723(**7**)
		CPU(s)	15.308	14.233	15.366	14.241	13.296	14.298	14.146	15.072
	PO_6	AD(B%)	0.782(2)	0.744(2)	0.783(2)	0.746(0)	0.792(0)	0.755(0)	0.768(0)	0.775(0)
		CPU(s)	15.024	14.090	15.060	14.065	13.044	14.137	13.959	14.907
	PO_7	AD(B%)	0.776(1)	0.750(0)	0.783(0)	0.746(0)	0.792(1)	0.749(1)	0.752(1)	0.788(0)
		CPU(s)	15.397	14.532	15.495	14.434	13.436	14.460	14.416	15.069
	PO_8	AD(B%)	0.757(3)	0.705(6)	0.765(1)	0.717(1)	0.774(1)	0.715(5)	0.773(1)	0.730(4)
		CPU(s)	14.861	13.708	14.869	13.780	12.890	13.808	13.576	14.716
$p = 0.5$	PO_1	AD(B%)	2.108(1)	1.997(2)	2.100(1)	2.001(3)	2.111(0)	2.008(5)	2.043(2)	2.044(1)
		CPU(s)	16.670	15.874	16.729	15.907	14.705	15.548	15.662	16.496
	PO_2	AD(B%)	2.155(0)	2.022(0)	2.141(0)	2.042(0)	2.178(0)	2.030(0)	2.031(3)	2.102(0)
		CPU(s)	16.421	15.792	16.513	15.792	14.476	15.442	15.589	16.170
	PO_3	AD(B%)	2.079(5)	1.986(7)	2.071(3)	2.012(3)	2.109(1)	2.004(4)	1.995(6)	2.069(2)
		CPU(s)	16.593	15.871	16.708	15.858	14.654	15.526	15.750	16.317
	PO_4	AD(B%)	2.165(0)	2.029(1)	2.169(1)	2.044(0)	2.185(0)	2.036(0)	2.051(1)	2.086(1)
		CPU(s)	16.452	15.788	16.480	15.804	14.462	15.476	15.478	16.267
	PO_5	AD(B%)	2.109(0)	1.991(3)	2.072(3)	2.010(4)	2.113(1)	2.011(1)	2.009(1)	2.046(3)
		CPU(s)	16.679	15.879	16.717	15.885	14.688	15.547	15.709	16.405
	PO_6	AD(B%)	2.163(0)	2.015(1)	2.160(0)	2.041(0)	2.184(0)	2.040(0)	2.049(1)	2.099(0)
		CPU(s)	16.443	15.779	16.485	15.796	14.449	15.460	15.536	16.218
	PO_7	AD(B%)	2.136(0)	2.005(6)	2.098(3)	2.021(1)	2.130(1)	2.021(0)	**1.981**(**12**)	2.204(0)
		CPU(s)	16.544	15.893	16.605	15.812	14.543	15.490	15.766	15.987
	PO_8	AD(B%)	2.156(0)	2.027(3)	2.160(0)	2.023(1)	2.179(0)	2.032(0)	2.148(0)	2.037(2)
		CPU(s)	16.599	15.815	16.634	15.862	14.616	15.525	15.309	16.499
$p = 0.8$	PO_1	AD(B%)	3.188(2)	3.169(0)	3.215(0)	3.200(1)	3.260(0)	3.219(0)	3.131(2)	3.104(8)
		CPU(s)	17.096	16.499	17.239	16.593	14.987	16.139	16.061	16.694
	PO_2	AD(B%)	3.309(2)	3.182(0)	3.293(1)	2.220(0)	3.449(0)	3.228(0)	3.137(1)	3.188(2)
		CPU(s)	16.925	16.571	17.065	16.557	14.924	16.190	15.975	16.468
	PO_3	AD(B%)	3.099(9)	3.102(1)	3.091(5)	3.165(2)	3.206(1)	3.167(3)	3.023(7)	3.238(3)
		CPU(s)	16.896	16.464	17.056	16.358	14.871	16.100	16.100	16.454
	PO_4	AD(B%)	3.374(0)	3.235(0)	3.388(0)	3.258(0)	3.450(0)	3.267(0)	3.282(0)	3.249(0)
		CPU(s)	17.082	16.570	17.123	16.654	14.957	16.206	15.931	16.787
	PO_5	AD(B%)	3.185(3)	3.167(0)	3.164(4)	3.140(3)	3.236(1)	3.220(0)	3.089(3)	3.091(**10**)
		CPU(s)	17.112	16.524	17.186	16.434	14.949	16.129	16.082	16.612
	PO_6	AD(B%)	3.339(0)	3.215(0)	3.338(0)	3.253(0)	3.464(0)	3.242(0)	3.166(0)	3.158(2)
		CPU(s)	16.933	16.591	17.069	16.614	14.920	16.207	15.962	16.468
	PO_7	AD(B%)	3.179(2)	3.123(1)	3.125(5)	3.188(1)	3.254(2)	3.170(0)	**3.010**(9)	3.451(0)
		CPU(s)	16.875	16.566	16.994	16.437	14.808	16.138	16.046	16.501
	PO_8	AD(B%)	3.372(0)	3.235(0)	3.388(1)	3.219(0)	3.436(0)	3.238(0)	3.445(0)	3.156(3)
		CPU(s)	17.205	16.599	17.233	16.708	15.068	16.179	15.777	16.917

Table 15: H1mFSCn: Performance of the heuristic variants for 10FSC200.

			H2mFSCn							
10FSC10			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO'_1	AD(B%)	0.296(6)	0.259(21)	0.281(9)	0.287(7)	0.285(7)	0.275(12)	0.278(14)	0.308(6)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_2	AD(B%)	0.293(5)	0.259(21)	0.282(5)	0.285(11)	0.286(6)	0.274(14)	0.265(18)	0.303(9)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_3	AD(B%)	0.303(4)	0.261(22)	0.286(8)	0.291(6)	0.294(4)	0.274(13)	0.279(14)	0.312(9)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_4	AD(B%)	0.296(5)	0.257(19)	0.281(5)	0.286(10)	0.284(7)	0.276(11)	0.273(18)	0.306(4)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_5	AD(B%)	0.298(6)	0.260(17)	0.287(4)	0.283(10)	0.286(6)	0.273(10)	0.274(17)	0.307(4)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_6	AD(B%)	0.307(4)	0.259(22)	0.289(8)	0.291(7)	0.295(4)	0.281(13)	0.276(13)	0.317(10)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_7	AD(B%)	0.297(5)	0.260(17)	0.278(6)	0.285(9)	0.282(7)	0.276(9)	0.271(17)	0.306(4)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_8	AD(B%)	0.293(5)	**0.252**(**24**)	0.286(10)	0.283(6)	0.285(7)	0.276(11)	0.276(15)	0.313(6)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
$p = 0.5$	PO'_1	AD(B%)	0.205(1)	0.171(7)	0.179(9)	0.196(1)	0.198(1)	0.189(5)	0.180(6)	0.219(2)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_2	AD(B%)	0.193(6)	0.172(11)	0.179(8)	0.193(6)	0.194(4)	0.184(4)	0.181(7)	0.214(2)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO'_3	AD(B%)	0.201(1)	0.174(5)	0.187(6)	0.200(3)	0.203(3)	0.186(7)	0.186(3)	0.224(2)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_4	AD(B%)	0.197(3)	0.170(**16**)	0.183(10)	0.192(8)	0.195(3)	0.185(4)	0.179(11)	0.217(2)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO'_5	AD(B%)	0.200(1)	**0.167**(14)	0.181(10)	0.193(6)	0.197(3)	0.183(4)	0.176(10)	0.220(0)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO'_6	AD(B%)	0.200(1)	0.174(8)	0.183(8)	0.200(4)	0.198(3)	0.190(6)	0.190(4)	0.224(4)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PO'_7	AD(B%)	0.200(4)	0.178(8)	0.182(10)	0.192(7)	0.199(4)	0.187(5)	0.179(10)	0.219(2)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO'_8	AD(B%)	0.206(1)	0.168(6)	0.178(12)	0.205(1)	0.199(2)	0.191(3)	0.176(9)	0.228(2)
		CPU(s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
$p = 0.8$	PO'_1	AD(B%)	0.116(4)	0.079(14)	0.081(16)	0.128(1)	0.107(5)	0.102(4)	0.076(12)	0.149(0)
		CPU(s)	0.001	0.001	0.001	0.000	0.000	0.001	0.001	0.001
	PO'_2	AD(B%)	0.097(8)	0.077(11)	0.075(14)	0.093(3)	0.095(9)	0.092(5)	0.076(9)	0.125(0)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO'_3	AD(B%)	0.101(10)	0.074(18)	0.080(14)	0.101(10)	0.093(7)	0.087(9)	0.075(10)	0.133(1)
		CPU(s)	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000
	PO'_4	AD(B%)	0.093(9)	**0.071**(17)	0.077(**19**)	0.094(5)	0.091(8)	0.092(5)	0.075(9)	0.121(1)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO'_5	AD(B%)	0.094(6)	0.072(12)	0.077(13)	0.093(6)	0.089(7)	0.090(8)	0.080(4)	0.119(2)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO'_6	AD(B%)	0.103(6)	0.077(13)	0.077(16)	0.115(5)	0.098(7)	0.098(2)	0.077(10)	0.145(0)
		CPU(s)	0.001	0.001	0.001	0.001	0.000	0.001	0.001	0.001
	PO'_7	AD(B%)	0.099(6)	0.076(11)	0.081(13)	0.095(4)	0.098(8)	0.094(3)	0.080(5)	0.122(1)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO'_8	AD(B%)	0.125(2)	0.079(9)	0.084(13)	0.139(2)	0.118(3)	0.110(1)	0.076(8)	0.162(0)
		CPU(s)	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000

Table 16: H2mFSCn: Performance of the heuristic variants for 10FSC10.

			H2mFSCn							
10FSC20			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO'_1	AD(B%)	0.612(1)	0.548(8)	0.593(4)	0.568(5)	0.600(3)	0.569(6)	0.576(4)	0.612(1)
		CPU(s)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	PO'_2	AD(B%)	0.599(2)	**0.541**(16)	0.593(3)	0.563(6)	0.591(2)	0.566(9)	0.562(7)	0.603(3)
		CPU(s)	0.004	0.003	0.004	0.004	0.003	0.004	0.003	0.004
	PO'_3	AD(B%)	0.614(2)	0.568(5)	0.603(3)	0.594(3)	0.615(2)	0.580(7)	0.585(4)	0.629(0)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO'_4	AD(B%)	0.601(2)	0.547(16)	0.593(5)	0.571(6)	0.595(2)	0.562(9)	0.563(11)	0.607(3)
		CPU(s)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	PO'_5	AD(B%)	0.599(1)	0.548(17)	0.592(4)	0.569(9)	0.598(3)	0.563(9)	0.563(8)	0.608(2)
		CPU(s)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	PO'_6	AD(B%)	0.621(2)	0.565(7)	0.599(3)	0.585(3)	0.611(1)	0.577(8)	0.586(4)	0.632(0)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO'_7	AD(B%)	0.600(1)	0.543(**18**)	0.596(4)	0.570(7)	0.593(2)	0.565(11)	0.561(7)	0.607(2)
		CPU(s)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	PO'_8	AD(B%)	0.614(2)	0.558(8)	0.597(3)	0.585(4)	0.609(2)	0.581(8)	0.580(2)	0.631(0)
		CPU(s)	0.002	0.001	0.002	0.001	0.001	0.001	0.001	0.001
$p = 0.5$	PO'_1	AD(B%)	0.516(0)	0.460(2)	0.481(1)	0.503(0)	0.504(1)	0.491(5)	0.466(2)	0.534(1)
		CPU(s)	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
	PO'_2	AD(B%)	0.504(0)	0.450(6)	0.484(1)	0.483(1)	0.492(2)	0.477(5)	0.461(5)	0.511(0)
		CPU(s)	0.007	0.007	0.007	0.007	0.006	0.007	0.007	0.007
	PO'_3	AD(B%)	0.508(1)	0.457(6)	0.487(3)	0.498(0)	0.493(3)	0.477(2)	0.469(5)	0.523(1)
		CPU(s)	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
	PO'_4	AD(B%)	0.500(0)	0.449(8)	0.478(3)	0.486(2)	0.497(2)	0.480(4)	0.459(6)	0.518(0)
		CPU(s)	0.007	0.007	0.007	0.007	0.006	0.007	0.007	0.007
	PO'_5	AD(B%)	0.500(0)	**0.442**(**14**)	0.479(1)	0.483(1)	0.498(1)	0.468(5)	0.455(7)	0.507(0)
		CPU(s)	0.007	0.007	0.007	0.007	0.006	0.007	0.007	0.007
	PO'_6	AD(B%)	0.508(0)	0.455(7)	0.482(3)	0.500(1)	0.505(0)	0.486(1)	0.469(2)	0.531(0)
		CPU(s)	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
	PO'_7	AD(B%)	0.501(0)	0.451(6)	0.479(2)	0.484(1)	0.494(2)	0.475(4)	0.464(3)	0.511(1)
		CPU(s)	0.007	0.007	0.007	0.007	0.006	0.007	0.007	0.007
	PO'_8	AD(B%)	0.515(1)	0.462(4)	0.484(1)	0.514(0)	0.498(2)	0.493(5)	0.468(2)	0.542(1)
		CPU(s)	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
$p = 0.8$	PO'_1	AD(B%)	0.254(0)	0.213(1)	0.223(0)	0.257(0)	0.252(0)	0.239(1)	0.201(7)	0.281(0)
		CPU(s)	0.006	0.006	0.006	0.005	0.005	0.006	0.005	0.006
	PO'_2	AD(B%)	0.237(0)	0.215(4)	0.218(5)	0.233(1)	0.237(1)	0.233(1)	0.204(5)	0.247(0)
		CPU(s)	0.011	0.011	0.011	0.010	0.009	0.010	0.010	0.011
	PO'_3	AD(B%)	0.236(1)	0.210(1)	0.218(2)	0.233(0)	0.238(0)	0.223(2)	0.207(6)	0.258(0)
		CPU(s)	0.006	0.005	0.006	0.005	0.005	0.005	0.005	0.005
	PO'_4	AD(B%)	0.234(0)	0.210(1)	0.215(3)	0.239(1)	0.232(0)	0.228(0)	0.204(4)	0.246(0)
		CPU(s)	0.011	0.011	0.011	0.010	0.010	0.010	0.010	0.011
	PO'_5	AD(B%)	0.230(3)	0.207(2)	0.214(4)	0.230(1)	0.237(1)	0.220(3)	**0.196**(**9**)	0.249(0)
		CPU(s)	0.011	0.010	0.011	0.010	0.009	0.010	0.010	0.010
	PO'_6	AD(B%)	0.237(1)	0.215(5)	0.219(2)	0.248(0)	0.242(1)	0.235(1)	0.207(5)	0.270(0)
		CPU(s)	0.006	0.006	0.006	0.006	0.005	0.006	0.006	0.006
	PO'_7	AD(B%)	0.238(3)	0.213(4)	0.222(2)	0.236(1)	0.243(0)	0.233(0)	0.206(4)	0.241(0)
		CPU(s)	0.011	0.011	0.011	0.010	0.010	0.011	0.010	0.011
	PO'_8	AD(B%)	0.257(0)	0.220(1)	0.223(3)	0.275(0)	0.256(0)	0.249(0)	0.199(8)	0.298(0)
		CPU(s)	0.006	0.005	0.006	0.005	0.005	0.005	0.005	0.005

Table 17: H2mFSCn: Performance of the heuristic variants for 10FSC20.

			H2mFSCn							
10FSC50			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO'_1	AD(B%)	0.791(2)	0.730(8)	0.782(1)	0.756(2)	0.789(0)	0.749(3)	0.764(3)	0.789(1)
		CPU(s)	0.021	0.020	0.022	0.021	0.019	0.020	0.020	0.021
	PO'_2	AD(B%)	0.772(2)	0.725(2)	0.760(1)	0.727(5)	0.778(3)	0.735(3)	0.739(3)	0.768(2)
		CPU(s)	0.047	0.044	0.047	0.045	0.041	0.044	0.043	0.046
	PO'_3	AD(B%)	0.800(1)	0.745(6)	0.790(2)	0.755(1)	0.797(0)	0.756(1)	0.762(3)	0.812(1)
		CPU(s)	0.018	0.017	0.018	0.017	0.015	0.017	0.016	0.017
	PO'_4	AD(B%)	0.776(2)	0.720(5)	0.764(0)	0.726(6)	0.775(2)	0.729(3)	0.738(2)	0.766(2)
		CPU(s)	0.050	0.047	0.050	0.047	0.043	0.047	0.046	0.049
	PO'_5	AD(B%)	0.771(3)	**0.718**(10)	0.761(0)	0.725(**12**)	0.775(1)	0.729(6)	0.744(2)	0.766(2)
		CPU(s)	0.049	0.047	0.049	0.047	0.043	0.047	0.046	0.049
	PO'_6	AD(B%)	0.800(1)	0.746(6)	0.782(5)	0.764(1)	0.798(0)	0.764(2)	0.767(1)	0.815(0)
		CPU(s)	0.018	0.017	0.018	0.017	0.015	0.017	0.016	0.018
	PO'_7	AD(B%)	0.777(2)	0.722(5)	0.762(0)	0.719(7)	0.776(1)	0.726(5)	0.738(3)	0.765(2)
		CPU(s)	0.050	0.047	0.050	0.047	0.043	0.047	0.046	0.049
	PO'_8	AD(B%)	0.794(1)	0.746(7)	0.791(2)	0.758(1)	0.792(1)	0.763(1)	0.766(2)	0.806(1)
		CPU(s)	0.018	0.017	0.018	0.017	0.016	0.017	0.017	0.018
$p = 0.5$	PO'_1	AD(B%)	1.262(1)	1.209(4)	1.257(1)	1.244(2)	1.271(0)	1.241(0)	1.226(1)	1.284(0)
		CPU(s)	0.041	0.040	0.041	0.040	0.036	0.039	0.039	0.041
	PO'_2	AD(B%)	1.223(4)	1.199(5)	1.217(**6**)	1.218(1)	1.235(4)	1.228(1)	1.197(2)	1.250(0)
		CPU(s)	0.085	0.082	0.086	0.082	0.074	0.081	0.080	0.085
	PO'_3	AD(B%)	1.255(0)	1.212(3)	1.246(2)	1.226(2)	1.270(2)	1.246(0)	1.236(1)	1.289(0)
		CPU(s)	0.040	0.038	0.040	0.038	0.034	0.037	0.037	0.039
	PO'_4	AD(B%)	1.228(0)	1.202(3)	1.214(4)	1.224(0)	1.241(1)	1.225(3)	1.211(5)	1.254(4)
		CPU(s)	0.046	0.083	0.086	0.083	0.075	0.083	0.081	0.086
	PO'_5	AD(B%)	1.227(1)	**1.195**(3)	1.214(2)	1.211(1)	1.230(2)	1.231(0)	1.202(5)	1.245(0)
		CPU(s)	0.085	0.082	0.085	0.081	0.074	0.081	0.080	0.084
	PO'_6	AD(B%)	1.261(0)	1.225(3)	1.247(0)	1.243(1)	1.270(1)	1.251(0)	1.225(4)	1.288(0)
		CPU(s)	0.041	0.039	0.041	0.039	0.035	0.039	0.038	0.040
	PO'_7	AD(B%)	1.230(2)	1.197(2)	1.213(3)	1.214(5)	1.230(1)	1.220(0)	1.204(3)	1.249(0)
		CPU(s)	0.087	0.083	0.087	0.083	0.075	0.083	0.081	0.086
	PO'_8	AD(B%)	1.260(0)	1.209(4)	1.246(2)	1.246(1)	1.265(0)	1.253(0)	1.229(1)	1.283(0)
		CPU(s)	0.039	0.038	0.040	0.038	0.034	0.037	0.037	0.039
$p = 0.8$	PO'_1	AD(B%)	0.675(0)	0.650(1)	0.654(0)	0.680(0)	0.696(1)	0.672(0)	0.639(2)	0.705(0)
		CPU(s)	0.071	0.070	0.072	0.068	0.062	0.068	0.067	0.070
	PO'_2	AD(B%)	0.653(0)	0.642(2)	0.636(0)	0.661(0)	0.660(2)	0.657(1)	0.618(9)	0.677(0)
		CPU(s)	0.133	0.128	0.133	0.128	0.114	0.127	0.123	0.132
	PO'_3	AD(B%)	0.675(0)	0.642(1)	0.653(1)	0.663(0)	0.684(0)	0.655(1)	0.641(5)	0.691(0)
		CPU(s)	0.071	0.068	0.071	0.068	0.061	0.067	0.066	0.069
	PO'_4	AD(B%)	0.652(0)	0.639(2)	0.634(4)	0.666(1)	0.661(0)	0.663(0)	0.619(6)	0.680(0)
		CPU(s)	0.134	0.129	0.134	0.128	0.115	0.127	0.124	0.132
	PO'_5	AD(B%)	0.651(2)	0.634(3)	0.635(4)	0.652(1)	0.659(1)	0.657(2)	**0.615**(**14**)	0.671(0)
		CPU(s)	0.128	0.124	0.129	0.123	0.111	0.122	0.119	0.127
	PO'_6	AD(B%)	0.661(0)	0.641(1)	0.645(1)	0.670(1)	0.678(0)	0.659(3)	0.636(3)	0.689(0)
		CPU(s)	0.075	0.072	0.075	0.072	0.065	0.071	0.070	0.073
	PO'_7	AD(B%)	0.651(1)	0.639(3)	0.639(2)	0.663(0)	0.660(1)	0.663(1)	0.623(5)	0.677(1)
		CPU(s)	0.134	0.130	0.135	0.129	0.116	0.128	0.125	0.133
	PO'_8	AD(B%)	0.679(1)	0.648(3)	0.651(2)	0.692(0)	0.698(0)	0.678(0)	0.634(6)	0.723(0)
		CPU(s)	0.070	0.068	0.071	0.066	0.060	0.066	0.066	0.067

Table 18: H2mFSCn: Performance of the heuristic variants for 10FSC50.

			H2mFSCn							
10FSC100			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO'_1	AD(B%)	0.692(0)	0.650(3)	0.680(1)	0.662(4)	0.703(1)	0.669(0)	0.670(3)	0.700(0)
		CPU(s)	0.122	0.117	0.122	0.117	0.106	0.116	0.113	0.121
	PO'_2	AD(B%)	0.664(0)	0.630(6)	0.656(2)	0.636(5)	0.673(0)	0.639(6)	0.645(3)	0.669(2)
		CPU(s)	0.267	0.254	0.266	0.254	0.230	0.252	0.246	0.264
	PO'_3	AD(B%)	0.707(0)	0.650(3)	0.701(0)	0.669(2)	0.709(2)	0.672(1)	0.677(1)	0.711(0)
		CPU(s)	0.110	0.105	0.110	0.105	0.095	0.104	0.101	0.109
	PO'_4	AD(B%)	0.665(1)	**0.625**(5)	0.665(0)	0.633(5)	0.673(1)	0.645(3)	0.646(2)	0.673(0)
		CPU(s)	0.277	0.264	0.277	0.264	0.239	0.262	0.256	0.275
	PO'_5	AD(B%)	0.665(1)	0.629(5)	0.663(0)	0.630(7)	0.676(0)	0.640(8)	0.644(3)	0.673(0)
		CPU(s)	0.276	0.264	0.276	0.264	0.239	0.262	0.255	0.274
	PO'_6	AD(B%)	0.702(0)	0.648(7)	0.703(0)	0.671(1)	0.709(2)	0.677(1)	0.679(0)	0.703(0)
		CPU(s)	0.110	0.104	0.110	0.105	0.095	0.104	0.101	0.109
	PO'_7	AD(B%)	0.664(1)	0.625(6)	0.660(2)	0.627(**10**)	0.672(0)	0.647(5)	0.649(1)	0.672(2)
		CPU(s)	0.277	0.265	0.277	0.264	0.240	0.262	0.256	0.275
	PO'_8	AD(B%)	0.707(1)	0.655(5)	0.704(0)	0.667(2)	0.708(2)	0.677(1)	0.672(2)	0.703(0)
		CPU(s)	0.110	0.104	0.110	0.105	0.095	0.104	0.101	0.108
$p = 0.5$	PO'_1	AD(B%)	1.609(2)	1.604(2)	1.604(0)	1.622(1)	1.640(2)	1.647(0)	1.625(1)	1.651(0)
		CPU(s)	0.265	0.256	0.266	0.256	0.231	0.253	0.250	0.263
	PO'_2	AD(B%)	1.551(5)	1.560(2)	1.551(3)	1.577(0)	1.574(1)	1.597(0)	1.576(4)	1.602(1)
		CPU(s)	0.518	0.500	0.518	0.502	0.450	0.499	0.487	0.517
	PO'_3	AD(B%)	1.610(0)	1.618(1)	1.599(1)	1.615(0)	1.646(0)	1.652(0)	1.633(2)	1.656(0)
		CPU(s)	0.256	0.248	0.256	0.247	0.223	0.245	0.241	0.254
	PO'_4	AD(B%)	1.550(3)	1.567(2)	**1.540**(6)	1.581(1)	1.576(2)	1.595(2)	1.575(4)	1.624(0)
		CPU(s)	0.525	0.508	0.525	0.509	0.457	0.505	0.493	0.525
	PO'_5	AD(B%)	1.557(**7**)	1.569(3)	1.552(1)	1.583(2)	1.588(1)	1.594(2)	1.571(5)	1.601(3)
		CPU(s)	0.519	0.502	0.519	0.502	0.450	0.499	0.486	0.517
	PO'_6	AD(B%)	1.600(1)	1.609(1)	1.591(1)	1.629(0)	1.642(1)	1.651(2)	1.631(0)	1.666(0)
		CPU(s)	0.260	0.252	0.261	0.252	0.227	0.249	0.246	0.260
	PO'_7	AD(B%)	1.558(2)	1.570(4)	1.542(3)	1.576(1)	1.578(1)	1.604(2)	1.584(6)	1.609(1)
		CPU(s)	0.528	0.510	0.528	0.511	0.459	0.507	0.495	0.526
	PO'_8	AD(B%)	1.600(1)	1.619(1)	1.605(0)	1.641(0)	1.648(0)	1.649(1)	1.632(3)	1.654(0)
		CPU(s)	0.254	0.246	0.254	0.246	0.221	0.242	0.240	0.252
$p = 0.8$	PO'_1	AD(B%)	1.249(1)	1.224(2)	1.236(0)	1.247(0)	1.269(0)	1.255(1)	1.215(3)	1.270(0)
		CPU(s)	0.487	0.474	0.490	0.496	0.422	0.465	0.457	0.478
	PO'_2	AD(B%)	1.207(0)	1.206(1)	1.192(8)	1.219(2)	1.219(0)	1.227(0)	1.187(8)	1.232(0)
		CPU(s)	0.876	0.847	0.878	0.849	0.759	0.838	0.812	0.870
	PO'_3	AD(B%)	1.241(0)	1.227(2)	1.241(0)	1.233(2)	1.267(0)	1.257(0)	1.229(1)	1.272(0)
		CPU(s)	0.482	0.466	0.482	0.465	0.415	0.459	0.448	0.474
	PO'_4	AD(B%)	1.210(1)	1.199(3)	1.190(5)	1.221(0)	1.221(1)	1.225(1)	1.187(**10**)	1.241(1)
		CPU(s)	0.882	0.850	0.881	0.851	0.763	0.843	0.816	0.873
	PO'_5	AD(B%)	1.206(1)	1.200(3)	1.189(4)	1.218(2)	1.225(0)	1.226(0)	**1.185**(7)	1.236(2)
		CPU(s)	0.848	0.818	0.848	0.820	0.733	0.811	0.785	0.840
	PO'_6	AD(B%)	1.230(1)	1.226(1)	1.225(1)	1.245(0)	1.255(0)	1.260(1)	1.216(2)	1.257(0)
		CPU(s)	0.506	0.490	0.507	0.486	0.439	0.482	0.473	0.497
	PO'_7	AD(B%)	1.207(2)	1.200(4)	1.188(5)	1.218(3)	1.217(0)	1.219(1)	1.189(4)	1.233(2)
		CPU(s)	0.885	0.855	0.886	0.856	0.765	0.847	0.820	0.879
	PO'_8	AD(B%)	1.250(0)	1.226(0)	1.230(1)	1.255(1)	1.273(0)	1.259(0)	1.218(1)	1.291(0)
		CPU(s)	0.478	0.464	0.480	0.458	0.413	0.455	0.454	0.476

Table 19: H2mFSCn: Performance of the heuristic variants for 10FSC100.

			H2mFSCn							
10FSC200			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO'_1	AD(B%)	0.602(0)	0.579(2)	0.603(1)	0.590(2)	0.615(1)	0.592(2)	0.593(0)	0.618(0)
		CPU(s)	0.757	0.722	0.759	0.724	0.658	0.721	0.707	0.760
	PO'_2	AD(B%)	0.572(1)	**0.540(8)**	0.562(4)	0.548(4)	0.581(1)	0.555(2)	0.559(3)	0.575(2)
		CPU(s)	1.567	1.472	1.557	1.481	1.351	1.483	1.446	1.562
	PO'_3	AD(B%)	0.607(0)	0.578(3)	0.601(0)	0.587(1)	0.625(0)	0.602(0)	0.598(0)	0.615(1)
		CPU(s)	0.699	0.664	0.698	0.667	0.608	0.668	0.649	0.699
	PO'_4	AD(B%)	0.572(2)	0.548(6)	0.569(4)	0.551(1)	0.580(2)	0.559(2)	0.565(2)	0.578(3)
		CPU(s)	1.613	1.517	1.610	1.524	1.392	1.530	1.490	1.610
	PO'_5	AD(B%)	0.565(2)	0.548(5)	0.566(0)	0.547(5)	0.582(1)	0.555(2)	0.566(4)	0.579(1)
		CPU(s)	1.613	1.521	1.612	1.526	1.394	1.529	1.490	1.612
	PO'_6	AD(B%)	0.611(0)	0.581(3)	0.601(0)	0.586(0)	0.622(0)	0.600(0)	0.601(0)	0.621(1)
		CPU(s)	0.698	0.662	0.695	0.664	0.606	0.664	0.649	0.696
	PO'_7	AD(B%)	0.572(1)	0.543(5)	0.562(1)	0.550(6)	0.581(1)	0.557(1)	0.561(1)	0.574(1)
		CPU(s)	1.617	1.521	1.612	1.531	1.396	1.531	1.494	1.614
	PO'_8	AD(B%)	0.611(0)	0.583(2)	0.601(0)	0.592(0)	0.618(0)	0.610(0)	0.598(1)	0.618(0)
		CPU(s)	0.695	0.659	0.692	0.663	0.603	0.664	0.646	0.693
$p = 0.5$	PO'_1	AD(B%)	1.422(1)	1.438(1)	1.412(4)	1.459(1)	1.452(0)	1.482(1)	1.456(2)	1.500(0)
		CPU(s)	1.772	1.716	1.771	1.716	1.543	1.699	1.667	1.768
	PO'_2	AD(B%)	1.378(4)	1.385(5)	1.365(6)	1.395(1)	1.409(2)	1.429(0)	1.398(1)	1.451(0)
		CPU(s)	3.265	3.146	3.261	3.152	2.838	3.140	3.032	3.256
	PO'_3	AD(B%)	1.418(3)	1.439(2)	1.406(1)	1.453(1)	1.462(1)	1.471(0)	1.448(0)	1.498(0)
		CPU(s)	1.737	1.679	1.734	1.679	1.513	1.662	1.630	1.728
	PO'_4	AD(B%)	1.371(3)	1.378(5)	**1.363(7)**	1.408(0)	1.409(0)	1.424(1)	1.400(2)	1.446(0)
		CPU(s)	3.291	3.169	3.289	3.182	2.864	3.165	3.059	3.285
	PO'_5	AD(B%)	1.376(1)	1.390(6)	1.369(5)	1.398(3)	1.406(0)	0.435(0)	1.407(4)	1.449(0)
		CPU(s)	3.271	3.148	3.263	3.151	2.841	3.138	3.037	3.265
	PO'_6	AD(B%)	1.424(0)	1.443(1)	1.407(0)	1.463(0)	1.454(0)	0.503(0)	1.448(0)	1.501(0)
		CPU(s)	1.753	1.696	1.750	1.698	1.527	1.690	1.648	1.748
	PO'_7	AD(B%)	1.375(2)	1.386(5)	1.369(5)	1.402(4)	1.414(1)	1.425(1)	1.396(3)	1.457(0)
		CPU(s)	3.313	3.191	3.304	3.201	2.883	3.177	3.077	3.309
	PO'_8	AD(B%)	1.424(0)	1.441(0)	1.411(3)	1.439(0)	1.445(1)	1.484(0)	1.463(0)	1.499(0)
		CPU(s)	1.714	1.660	1.715	1.656	1.495	1.649	1.616	1.710
$p = 0.8$	PO'_1	AD(B%)	2.168(0)	2.169(1)	2.159(0)	2.184(0)	2.201(0)	2.197(0)	2.160(2)	2.216(0)
		CPU(s)	3.369	3.277	3.375	3.271	2.930	3.230	3.152	3.321
	PO'_2	AD(B%)	2.121(1)	2.125(4)	2.113(5)	2.144(0)	2.148(2)	2.160(1)	2.124(7)	2.175(0)
		CPU(s)	5.732	5.560	5.722	5.576	4.978	5.519	5.304	5.671
	PO'_3	AD(B%)	2.167(0)	2.171(0)	2.160(2)	2.176(1)	2.202(0)	2.202(0)	2.177(0)	2.209(0)
		CPU(s)	3.339	3.245	3.339	3.244	2.901	3.202	3.125	3.290
	PO'_4	AD(B%)	2.117(1)	2.125(5)	2.114(6)	2.145(1)	2.153(1)	2.156(0)	2.127(**9**)	2.175(0)
		CPU(s)	5.758	5.583	5.747	5.598	5.002	5.545	5.320	5.700
	PO'_5	AD(B%)	2.117(4)	2.128(1)	**2.107**(4)	2.149(2)	2.138(3)	2.164(3)	2.118(8)	2.173(1)
		CPU(s)	5.592	5.419	5.588	5.430	4.859	5.373	5.166	5.527
	PO'_6	AD(B%)	2.157(0)	2.177(0)	2.150(0)	2.187(0)	2.193(0)	2.206(0)	2.163(0)	2.201(0)
		CPU(s)	3.447	3.355	3.450	3.361	2.995	3.317	3.234	3.401
	PO'_7	AD(B%)	2.117(4)	2.132(4)	2.113(7)	2.143(1)	2.145(2)	2.164(0)	2.126(4)	2.175(1)
		CPU(s)	5.796	5.622	5.782	5.626	5.032	5.579	5.362	5.732
	PO'_8	AD(B%)	2.169(0)	2.175(0)	2.161(1)	2.186(2)	2.203(0)	2.212(0)	2.160(0)	2.222(0)
		CPU(s)	3.300	3.210	3.307	3.198	2.869	3.169	3.096	3.246

Table 20: H2mFSCn: Performance of the heuristic variants for 10FSC200.

			H1mFSCn							
20FSC10			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO_1	AD(B%)	0.261(10)	0.213(11)	0.247(10)	0.256(4)	0.257(6)	0.241(7)	0.222(5)	0.266(4)
		CPU(s)	0.006	0.005	0.006	0.005	0.005	0.006	0.005	0.006
	PO_2	AD(B%)	0.234(9)	0.201(18)	0.215(5)	0.223(11)	0.216(8)	0.225(5)	0.200(16)	0.239(6)
		CPU(s)	0.007	0.005	0.006	0.005	0.005	0.005	0.005	0.006
	PO_3	AD(B%)	0.230(10)	**0.196(22)**	0.208(8)	0.217(9)	0.216(8)	0.211(6)	0.202(15)	0.232(7)
		CPU(s)	0.006	0.005	0.006	0.005	0.005	0.005	0.005	0.005
	PO_4	AD(B%)	0.257(7)	0.226(6)	0.236(4)	0.257(4)	0.248(6)	0.241(6)	0.223(5)	0.269(3)
		CPU(s)	0.007	0.005	0.006	0.005	0.005	0.005	0.005	0.005
	PO_5	AD(B%)	0.243(8)	0.208(14)	0.226(7)	0.235(7)	0.232(8)	0.219(3)	0.209(12)	0.241(6)
		CPU(s)	0.006	0.005	0.006	0.005	0.005	0.005	0.005	0.005
	PO_6	AD(B%)	0.256(8)	0.211(8)	0.225(6)	0.252(7)	0.241(6)	0.249(3)	0.213(8)	0.265(5)
		CPU(s)	0.007	0.005	0.006	0.005	0.005	0.005	0.005	0.005
	PO_7	AD(B%)	0.235(11)	0.200(17)	0.215(6)	0.224(10)	0.220(9)	0.222(4)	0.202(19)	0.236(7)
		CPU(s)	0.006	0.005	0.006	0.005	0.005	0.005	0.005	0.005
	PO_8	AD(B%)	0.262(10)	0.217(8)	0.246(10)	0.257(4)	0.255(6)	0.244(7)	0.222(6)	0.267(4)
		CPU(s)	0.006	0.005	0.006	0.005	0.005	0.005	0.005	0.005
$p = 0.5$	PO_1	AD(B%)	0.215(1)	0.171(4)	0.192(1)	0.220(1)	0.203(0)	0.190(2)	0.177(4)	0.241(0)
		CPU(s)	0.007	0.007	0.007	0.007	0.006	0.007	0.007	0.007
	PO_2	AD(B%)	0.208(1)	0.155(8)	0.168(4)	0.205(3)	0.190(1)	0.170(4)	0.151(9)	0.227(0)
		CPU(s)	0.007	0.007	0.007	0.006	0.006	0.007	0.006	0.007
	PO_3	AD(B%)	0.192(2)	**0.138(12)**	0.157(1)	0.191(1)	0.183(3)	0.171(2)	0.147(10)	0.211(0)
		CPU(s)	0.008	0.007	0.007	0.006	0.006	0.007	0.006	0.007
	PO_4	AD(B%)	0.227(0)	0.178(2)	0.199(2)	0.219(0)	0.223(1)	0.197(2)	0.181(3)	0.243(0)
		CPU(s)	0.007	0.007	0.007	0.006	0.006	0.007	0.006	0.007
	PO_5	AD(B%)	0.201(1)	0.162(6)	0.180(4)	0.202(3)	0.193(2)	0.183(1)	0.162(6)	0.225(0)
		CPU(s)	0.007	0.007	0.007	0.006	0.006	0.007	0.006	0.007
	PO_6	AD(B%)	0.211(2)	0.162(6)	0.196(1)	0.213(2)	0.200(2)	0.190(4)	0.172(5)	0.230(0)
		CPU(s)	0.007	0.007	0.007	0.006	0.006	0.007	0.006	0.007
	PO_7	AD(B%)	0.203(2)	0.143(8)	0.166(1)	0.186(4)	0.182(0)	0.167(6)	0.148(10)	0.211(0)
		CPU(s)	0.008	0.007	0.007	0.006	0.006	0.007	0.006	0.007
	PO_8	AD(B%)	0.223(1)	0.174(2)	0.193(2)	0.216(1)	0.213(0)	0.196(0)	0.176(5)	0.239(0)
		CPU(s)	0.007	0.007	0.007	0.006	0.006	0.007	0.006	0.007
$p = 0.8$	PO_1	AD(B%)	0.095(2)	0.078(3)	0.080(8)	0.109(3)	0.094(1)	0.095(2)	0.077(5)	0.121(2)
		CPU(s)	0.009	0.007	0.007	0.007	0.007	0.007	0.007	0.007
	PO_2	AD(B%)	0.099(1)	0.078(5)	0.077(8)	0.113(2)	0.101(2)	0.097(1)	0.073(**14**)	0.140(0)
		CPU(s)	0.008	0.007	0.007	0.007	0.007	0.007	0.007	0.007
	PO_3	AD(B%)	0.094(1)	0.077(5)	0.077(11)	0.093(7)	0.091(0)	0.085(2)	**0.071(14)**	0.127(1)
		CPU(s)	0.008	0.007	0.008	0.007	0.007	0.007	0.007	0.007
	PO_4	AD(B%)	0.101(6)	0.077(7)	0.089(9)	0.100(5)	0.102(4)	0.098(4)	0.085(7)	0.114(3)
		CPU(s)	0.008	0.007	0.007	0.006	0.006	0.007	0.007	0.007
	PO_5	AD(B%)	0.102(1)	0.079(3)	0.080(7)	0.124(3)	0.099(1)	0.098(1)	0.073(11)	0.146(2)
		CPU(s)	0.008	0.007	0.007	0.007	0.006	0.007	0.007	0.007
	PO_6	AD(B%)	0.110(1)	0.082(6)	0.084(8)	0.125(3)	0.110(1)	0.097(0)	0.081(6)	0.145(1)
		CPU(s)	0.008	0.007	0.007	0.007	0.007	0.007	0.007	0.007
	PO_7	AD(B%)	0.097(5)	0.075(5)	0.078(8)	0.096(5)	0.090(3)	0.089(2)	0.072(10)	0.140(1)
		CPU(s)	0.008	0.007	0.007	0.007	0.007	0.007	0.007	0.007
	PO_8	AD(B%)	0.099(4)	0.078(5)	0.083(10)	0.099(6)	0.100(2)	0.089(3)	0.078(6)	0.113(2)
		CPU(s)	0.007	0.007	0.007	0.006	0.006	0.007	0.007	0.007

Table 21: H1mFSCn: Performance of the heuristic variants for 20FSC10.

			H1mFSCn							
20FSC20			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO_1	AD(B%)	0.516(0)	0.440(3)	0.487(1)	0.489(1)	0.498(1)	0.478(1)	0.449(1)	0.515(0)
		CPU(s)	0.063	0.051	0.054	0.050	0.048	0.052	0.050	0.052
	PO_2	AD(B%)	0.461(1)	0.401(6)	0.442(1)	0.437(0)	0.454(0)	0.435(0)	0.399(6)	0.475(0)
		CPU(s)	0.060	0.051	0.054	0.050	0.048	0.052	0.050	0.052
	PO_3	AD(B%)	0.454(3)	**0.393**(8)	0.440(0)	0.430(1)	0.449(1)	0.427(3)	0.398(5)	0.455(3)
		CPU(s)	0.063	0.051	0.054	0.051	0.048	0.052	0.050	0.053
	PO_4	AD(B%)	0.511(0)	0.446(3)	0.493(0)	0.489(0)	0.503(0)	0.477(1)	0.442(3)	0.540(0)
		CPU(s)	0.061	0.051	0.054	0.050	0.048	0.051	0.050	0.052
	PO_5	AD(B%)	0.472(1)	0.412(4)	0.461(0)	0.447(3)	0.472(0)	0.444(2)	0.419(6)	0.481(0)
		CPU(s)	0.058	0.051	0.054	0.051	0.048	0.052	0.050	0.053
	PO_6	AD(B%)	0.488(1)	0.431(0)	0.461(4)	0.464(0)	0.471(1)	0.461(0)	0.429(3)	0.502(0)
		CPU(s)	0.065	0.051	0.054	0.050	0.048	0.051	0.050	0.052
	PO_7	AD(B%)	0.468(1)	0.394(**11**)	0.450(1)	0.423(4)	0.448(1)	0.426(0)	0.404(4)	0.474(0)
		CPU(s)	0.059	0.051	0.054	0.051	0.049	0.052	0.050	0.053
	PO_8	AD(B%)	0.517(1)	0.448(1)	0.487(0)	0.492(1)	0.490(0)	0.479(1)	0.439(2)	0.534(0)
		CPU(s)	0.061	0.051	0.054	0.050	0.048	0.051	0.050	0.052
$p = 0.5$	PO_1	AD(B%)	0.482(0)	0.424(2)	0.459(1)	0.477(0)	0.478(0)	0.457(0)	0.415(0)	0.504(0)
		CPU(s)	0.067	0.057	0.060	0.055	0.053	0.057	0.056	0.057
	PO_2	AD(B%)	0.441(1)	0.391(5)	0.421(2)	0.429(0)	0.438(2)	0.409(1)	0.387(4)	0.464(1)
		CPU(s)	0.061	0.056	0.060	0.055	0.053	0.057	0.055	0.057
	PO_3	AD(B%)	0.430(0)	0.379(9)	0.410(3)	0.431(1)	0.419(2)	0.410(6)	0.375(**11**)	0.457(1)
		CPU(s)	0.066	0.056	0.059	0.056	0.053	0.057	0.055	0.057
	PO_4	AD(B%)	0.480(0)	0.429(0)	0.461(0)	0.485(0)	0.476(0)	0.450(0)	0.424(2)	0.505(0)
		CPU(s)	0.065	0.056	0.060	0.055	0.053	0.056	0.055	0.057
	PO_5	AD(B%)	0.461(0)	0.397(6)	0.418(3)	0.447(0)	0.456(0)	0.438(0)	0.393(4)	0.488(0)
		CPU(s)	0.067	0.057	0.059	0.055	0.053	0.056	0.055	0.057
	PO_6	AD(B%)	0.475(0)	0.407(3)	0.449(1)	0.454(0)	0.465(0)	0.443(1)	0.409(3)	0.489(0)
		CPU(s)	0.068	0.056	0.059	0.055	0.053	0.057	0.055	0.057
	PO_7	AD(B%)	0.428(1)	0.385(2)	0.403(3)	0.414(3)	0.428(2)	0.413(0)	**0.369**(10)	0.466(1)
		CPU(s)	0.068	0.056	0.059	0.055	0.053	0.057	0.055	0.057
	PO_8	AD(B%)	0.489(0)	0.431(2)	0.451(0)	0.486(0)	0.484(1)	0.461(2)	0.431(0)	0.512(0)
		CPU(s)	0.064	0.056	0.060	0.055	0.053	0.056	0.055	0.057
$p = 0.8$	PO_1	AD(B%)	0.244(1)	0.216(2)	0.230(0)	0.246(1)	0.248(0)	0.243(0)	0.207(0)	0.275(1)
		CPU(s)	0.065	0.057	0.061	0.055	0.054	0.058	0.056	0.056
	PO_2	AD(B%)	0.240(1)	0.200(2)	0.211(2)	0.249(2)	0.253(0)	0.236(0)	0.180(10)	0.306(0)
		CPU(s)	0.065	0.058	0.060	0.055	0.054	0.058	0.055	0.056
	PO_3	AD(B%)	0.231(1)	0.188(4)	0.193(3)	0.225(1)	0.239(0)	0.214(2)	**0.177**(11)	0.284(0)
		CPU(s)	0.067	0.058	0.061	0.056	0.054	0.057	0.056	0.058
	PO_4	AD(B%)	0.259(1)	0.222(1)	0.233(1)	0.249(0)	0.266(0)	0.245(0)	0.230(0)	0.273(0)
		CPU(s)	0.065	0.058	0.061	0.055	0.054	0.057	0.056	0.056
	PO_5	AD(B%)	0.238(1)	0.206(1)	0.209(4)	0.255(0)	0.241(1)	0.234(0)	0.190(8)	0.282(0)
		CPU(s)	0.068	0.058	0.060	0.055	0.054	0.057	0.056	0.056
	PO_6	AD(B%)	0.265(0)	0.214(0)	0.223(2)	0.269(0)	0.268(1)	0.245(0)	0.202(2)	0.298(1)
		CPU(s)	0.067	0.058	0.061	0.055	0.054	0.057	0.056	0.057
	PO_7	AD(B%)	0.230(0)	0.195(2)	0.196(5)	0.231(5)	0.236(0)	0.218(1)	0.177(**12**)	0.295(1)
		CPU(s)	0.070	0.058	0.061	0.056	0.054	0.058	0.056	0.058
	PO_8	AD(B%)	0.260(0)	0.229(1)	0.232(1)	0.246(2)	0.258(0)	0.244(0)	0.228(0)	0.276(0)
		CPU(s)	0.067	0.058	0.061	0.055	0.054	0.057	0.056	0.056

Table 22: H1mFSCn: Performance of the heuristic variants for 20FSC20.

			H1mFSCn							
20FSC50			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO_1	AD(B%)	1.276(1)	1.203(3)	1.273(0)	1.233(1)	1.281(0)	1.212(1)	1.215(1)	1.269(1)
		CPU(s)	0.941	0.881	0.926	0.876	0.838	0.886	0.868	0.911
	PO_2	AD(B%)	1.237(3)	1.184(**6**)	1.243(1)	1.200(3)	1.251(1)	1.198(4)	1.196(4)	1.246(2)
		CPU(s)	0.967	0.884	0.928	0.873	0.833	0.887	0.880	0.904
	PO_3	AD(B%)	1.240(0)	1.198(2)	1.247(5)	1.208(0)	1.249(0)	1.212(3)	1.191(4)	1.228(3)
		CPU(s)	0.920	0.891	0.935	0.880	0.843	0.888	0.879	0.909
	PO_4	AD(B%)	1.273(0)	1.205(3)	1.266(0)	1.220(1)	1.270(0)	1.203(1)	1.195(3)	1.258(0)
		CPU(s)	0.918	0.876	0.923	0.869	0.827	0.882	0.867	0.905
	PO_5	AD(B%)	1.253(0)	1.186(3)	1.251(0)	1.209(1)	1.259(2)	1.216(1)	1.198(3)	1.222(1)
		CPU(s)	0.923	0.885	0.933	0.878	0.840	0.887	0.877	0.913
	PO_6	AD(B%)	1.264(0)	1.184(2)	1.246(0)	1.213(3)	1.264(1)	1.211(2)	1.212(1)	1.246(1)
		CPU(s)	0.917	0.879	0.922	0.874	0.827	0.887	0.871	0.904
	PO_7	AD(B%)	1.243(2)	1.182(5)	1.231(3)	1.207(2)	1.259(1)	1.205(0)	**1.179**(**6**)	1.249(3)
		CPU(s)	0.916	0.888	0.928	0.877	0.838	0.887	0.877	0.902
	PO_8	AD(B%)	1.293(0)	1.196(0)	1.282(0)	1.232(0)	1.294(0)	1.225(1)	1.211(1)	1.263(0)
		CPU(s)	0.920	0.878	0.926	0.871	0.832	0.886	0.869	0.905
$p = 0.5$	PO_1	AD(B%)	1.252(0)	1.165(1)	1.235(0)	1.209(2)	1.241(0)	1.187(0)	1.157(2)	1.237(0)
		CPU(s)	0.987	0.921	0.967	0.918	0.868	0.922	0.908	0.950
	PO_2	AD(B%)	1.247(0)	1.147(4)	1.206(0)	1.189(1)	1.229(1)	1.171(2)	1.123(5)	1.247(0)
		CPU(s)	0.987	0.915	0.958	0.898	0.853	0.913	0.906	0.925
	PO_3	AD(B%)	1.209(2)	1.135(3)	1.193(2)	1.180(2)	1.211(2)	1.164(3)	1.110(9)	1.242(2)
		CPU(s)	0.950	0.917	0.960	0.899	0.859	0.912	0.909	0.927
	PO_4	AD(B%)	1.266(0)	1.160(1)	1.245(0)	1.211(0)	1.257(0)	1.189(1)	1.160(2)	1.244(0)
		CPU(s)	0.961	0.918	0.963	0.911	0.863	0.921	0.906	0.942
	PO_5	AD(B%)	1.236(0)	1.156(2)	1.221(2)	1.185(2)	1.221(1)	1.177(1)	1.132(8)	1.218(2)
		CPU(s)	0.959	0.920	0.968	0.911	0.867	0.917	0.918	0.942
	PO_6	AD(B%)	1.251(1)	1.161(1)	1.247(1)	1.205(0)	1.255(0)	1.179(2)	1.159(1)	1.245(1)
		CPU(s)	0.949	0.917	0.959	0.907	0.855	0.916	0.906	0.938
	PO_7	AD(B%)	1.228(0)	1.130(4)	1.205(4)	1.182(2)	1.231(0)	1.160(1)	**1.106**(**16**)	1.256(1)
		CPU(s)	0.947	0.915	0.958	0.898	0.855	0.910	0.906	0.924
	PO_8	AD(B%)	1.269(0)	1.170(1)	1.251(0)	1.212(0)	1.267(0)	1.194(0)	1.174(0)	1.239(0)
		CPU(s)	0.961	0.919	0.969	0.914	0.867	0.922	0.905	0.945
$p = 0.8$	PO_1	AD(B%)	0.792(1)	0.746(0)	0.784(1)	0.767(0)	0.811(0)	0.763(0)	0.720(0)	0.777(1)
		CPU(s)	1.004	0.940	0.986	0.929	0.884	0.938	0.923	0.943
	PO_2	AD(B%)	0.773(0)	0.707(1)	0.755(1)	0.752(0)	0.808(0)	0.735(0)	0.672(9)	0.794(0)
		CPU(s)	0.997	0.934	0.972	0.908	0.865	0.929	0.905	0.925
	PO_3	AD(B%)	0.728(4)	0.691(2)	0.722(3)	0.714(5)	0.769(1)	0.718(1)	0.651(**19**)	0.778(2)
		CPU(s)	0.956	0.931	0.974	0.907	0.868	0.928	0.918	0.927
	PO_4	AD(B%)	0.824(0)	0.762(0)	0.818(0)	0.787(0)	0.840(0)	0.769(0)	0.752(0)	0.793(0)
		CPU(s)	0.980	0.943	0.982	0.932	0.881	0.935	0.917	0.949
	PO_5	AD(B%)	0.750(0)	0.724(2)	0.747(2)	0.731(2)	0.782(0)	0.748(1)	0.686(6)	0.747(1)
		CPU(s)	0.965	0.936	0.985	0.911	0.877	0.928	0.917	0.928
	PO_6	AD(B%)	0.822(0)	0.733(0)	0.782(0)	0.769(0)	0.833(0)	0.756(1)	0.713(0)	0.789(0)
		CPU(s)	0.967	0.942	0.978	0.919	0.870	0.936	0.919	0.934
	PO_7	AD(B%)	0.728(3)	0.690(3)	0.720(2)	0.724(5)	0.772(0)	0.725(2)	**0.641**(17)	0.800(1)
		CPU(s)	0.954	0.932	0.973	0.908	0.867	0.924	0.916	0.934
	PO_8	AD(B%)	0.825(0)	0.759(0)	0.806(0)	0.776(0)	0.830(0)	0.772(1)	0.757(0)	0.790(0)
		CPU(s)	0.982	0.940	0.985	0.932	0.882	0.935	0.914	0.950

Table 23: H1mFSCn: Performance of the heuristic variants for 20FSC50.

			H1mFSCn							
20FSC100			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO_1	AD(B%)	1.736(0)	1.654(5)	1.738(0)	1.672(2)	1.748(0)	1.665(3)	1.679(2)	1.695(1)
		CPU(s)	7.579	7.192	7.604	7.203	6.876	7.294	7.107	7.520
	PO_2	AD(B%)	1.748(0)	1.659(5)	1.732(1)	1.682(3)	1.746(0)	1.688(1)	1.670(7)	1.728(0)
		CPU(s)	7.452	7.233	7.552	7.125	6.796	7.247	7.218	7.314
	PO_3	AD(B%)	1.737(1)	1.657(1)	1.737(4)	1.670(0)	1.736(1)	1.677(1)	1.667(0)	1.711(0)
		CPU(s)	7.555	7.291	7.681	7.206	6.887	7.298	7.252	7.465
	PO_4	AD(B%)	1.753(0)	**1.645**(7)	1.738(0)	1.675(4)	1.733(1)	1.675(1)	1.673(3)	1.698(0)
		CPU(s)	7.494	7.165	7.517	7.147	6.773	7.230	7.074	7.449
	PO_5	AD(B%)	1.726(1)	1.647(5)	1.729(0)	1.675(1)	1.736(1)	1.670(2)	1.663(5)	0.710(1)
		CPU(s)	7.599	7.268	7.662	7.223	6.918	7.335	7.229	7.526
	PO_6	AD(B%)	1.745(0)	1.672(1)	1.735(0)	1.669(4)	1.749(1)	1.683(0)	1.684(2)	1.717(0)
		CPU(s)	7.478	7.190	7.520	7.140	6.760	7.247	7.137	7.421
	PO_7	AD(B%)	1.754(0)	1.677(1)	1.746(0)	1.679(2)	1.753(0)	1.690(0)	1.649(5)	1.748(1)
		CPU(s)	7.501	7.279	7.592	7.171	6.820	7.271	7.253	7.350
	PO_8	AD(B%)	1.749(0)	1.650(**8**)	1.748(0)	1.670(3)	1.748(0)	1.658(3)	1.681(0)	1.701(1)
		CPU(s)	7.560	7.136	7.589	7.170	6.823	7.254	7.021	7.472
$p = 0.5$	PO_1	AD(B%)	2.467(0)	2.335(2)	2.456(0)	2.346(1)	2.461(0)	2.336(1)	2.330(4)	2.392(0)
		CPU(s)	7.990	7.546	7.970	7.552	7.169	7.556	7.449	7.863
	PO_2	AD(B%)	2.452(1)	2.308(2)	2.454(0)	2.355(0)	2.454(1)	2.336(1)	2.304(11)	2.423(1)
		CPU(s)	7.718	7.502	7.833	7.403	6.996	7.454	7.483	7.581
	PO_3	AD(B%)	2.444(0)	2.298(6)	2.415(1)	2.333(1)	2.438(2)	2.330(1)	2.285(5)	2.436(2)
		CPU(s)	7.812	7.524	7.900	7.419	7.079	7.463	7.529	7.622
	PO_4	AD(B%)	2.476(0)	2.330(2)	2.474(0)	2.361(0)	2.479(0)	2.336(1)	2.343(0)	0.406(1)
		CPU(s)	7.837	7.514	7.862	7.518	7.083	7.525	7.384	7.789
	PO_5	AD(B%)	2.458(0)	2.318(2)	2.448(0)	2.349(2)	2.458(0)	2.338(3)	2.315(1)	2.399(1)
		CPU(s)	7.882	7.528	7.951	7.491	7.136	7.507	7.506	7.761
	PO_6	AD(B%)	2.499(0)	2.321(1)	2.475(0)	2.348(0)	2.493(0)	2.329(1)	2.328(3)	2.423(0)
		CPU(s)	7.769	7.508	7.840	7.440	7.024	7.488	7.429	7.688
	PO_7	AD(B%)	2.456(0)	2.290(7)	2.429(1)	2.333(0)	2.440(0)	2.333(1)	**2.258**(**22**)	2.456(1)
		CPU(s)	7.757	7.500	7.873	7.376	7.031	7.448	7.515	7.526
	PO_8	AD(B%)	2.462(0)	2.340(2)	2.480(0)	2.354(1)	2.485(0)	2.344(3)	2.350(1)	2.376(0)
		CPU(s)	7.884	7.539	7.921	7.551	7.134	7.565	7.363	7.861
$p = 0.8$	PO_1	AD(B%)	1.601(0)	1.502(0)	1.596(0)	1.528(0)	1.608(0)	1.517(0)	1.466(2)	1.525(2)
		CPU(s)	8.148	7.839	8.213	7.832	7.347	7.754	7.630	7.952
	PO_2	AD(B%)	1.604(1)	1.475(0)	1.573(2)	1.508(2)	1.616(1)	1.499(1)	1.440(2)	1.557(2)
		CPU(s)	7.957	7.836	8.080	7.672	7.229	7.742	7.689	7.718
	PO_3	AD(B%)	1.519(4)	1.449(4)	1.489(4)	1.498(0)	1.560(2)	1.466(0)	**1.385**(**19**)	1.557(2)
		CPU(s)	7.908	7.784	8.026	7.617	7.233	7.690	7.641	7.675
	PO_4	AD(B%)	1.655(0)	1.515(0)	1.654(0)	1.532(1)	1.657(0)	1.522(0)	1.513(0)	0.559(0)
		CPU(s)	8.129	7.833	8.136	7.855	7.352	7.762	7.571	8.012
	PO_5	AD(B%)	1.584(0)	1.485(1)	1.548(1)	1.518(2)	1.594(0)	1.510(0)	1.426(4)	1.514(4)
		CPU(s)	8.086	7.839	8.148	7.717	7.357	7.724	7.646	7.854
	PO_6	AD(B%)	1.612(1)	1.492(0)	1.598(1)	1.535(1)	1.652(0)	1.515(0)	1.454(1)	1.546(1)
		CPU(s)	7.973	7.840	8.049	7.751	7.284	7.759	7.620	7.806
	PO_7	AD(B%)	1.545(3)	1.451(3)	1.520(2)	1.514(1)	1.568(1)	1.479(3)	1.390(**19**)	1.599(0)
		CPU(s)	7.910	7.816	8.047	7.653	7.217	7.699	7.739	7.746
	PO_8	AD(B%)	1.636(0)	1.516(0)	1.637(0)	1.527(0)	1.638(0)	1.515(0)	1.540(0)	1.520(0)
		CPU(s)	8.148	7.829	8.159	7.884	7.371	7.768	7.536	8.000

Table 24: H1mFSCn: Performance of the heuristic variants for 20FSC100.

			H1mFSCn							
20FSC200			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO_1	AD(B%)	1.762(0)	1.669(4)	1.757(0)	1.672(2)	1.758(0)	1.672(4)	1.702(0)	1.705(3)
		CPU(s)	63.130	59.057	62.627	59.152	56.800	59.630	58.411	62.190
	PO_2	AD(B%)	1.765(0)	1.686(4)	1.765(0)	1.691(1)	1.762(0)	1.690(0)	1.703(3)	1.720(1)
		CPU(s)	61.868	59.217	62.036	58.473	55.827	59.281	59.314	60.031
	PO_3	AD(B%)	1.756(0)	1.674(3)	1.758(0)	1.681(0)	1.754(1)	1.675(2)	1.699(1)	1.718(1)
		CPU(s)	63.131	59.649	63.149	59.191	57.025	59.939	59.692	61.570
	PO_4	AD(B%)	1.752(0)	1.670(4)	1.765(0)	1.688(4)	1.763(0)	1.680(2)	1.700(0)	1.722(2)
		CPU(s)	61.799	58.508	61.472	58.654	55.591	59.219	57.946	61.154
	PO_5	AD(B%)	1.758(0)	1.672(3)	1.751(0)	1.685(1)	1.756(1)	1.680(2)	1.682(4)	1.708(2)
		CPU(s)	63.369	59.616	63.133	59.272	57.196	60.055	59.304	61.860
	PO_6	AD(B%)	1.760(0)	1.673(1)	1.766(0)	1.686(1)	1.759(0)	1.684(2)	1.697(3)	1.719(0)
		CPU(s)	61.676	58.702	61.466	58.472	55.444	59.251	58.394	60.657
	PO_7	AD(B%)	1.763(0)	1.674(6)	1.762(1)	1.692(4)	1.773(1)	1.679(3)	1.683(**10**)	1.750(0)
		CPU(s)	62.183	59.533	62.538	58.741	56.370	59.387	59.955	59.911
	PO_8	AD(B%)	1.761(0)	1.676(4)	1.770(0)	1.669(7)	1.769(0)	**1.666**(2)	1.712(0)	1.695(1)
		CPU(s)	62.573	58.420	62.202	58.670	56.237	59.229	57.253	62.064
$p = 0.5$	PO_1	AD(B%)	4.145(0)	3.920(2)	4.129(0)	3.936(0)	4.136(0)	3.911(6)	3.947(0)	4.018(0)
		CPU(s)	65.579	62.554	65.877	62.684	59.578	62.352	61.832	65.193
	PO_2	AD(B%)	4.151(0)	3.923(3)	4.116(2)	3.943(0)	4.146(0)	3.932(0)	3.941(4)	4.047(1)
		CPU(s)	64.149	62.250	64.659	61.727	58.369	61.686	62.107	62.992
	PO_3	AD(B%)	4.129(0)	3.903(6)	4.120(0)	3.932(1)	4.129(0)	3.916(2)	3.908(10)	4.057(0)
		CPU(s)	64.977	62.541	65.445	61.898	59.130	61.944	62.559	63.594
	PO_4	AD(B%)	4.179(0)	3.933(3)	4.168(0)	3.960(3)	4.151(0)	3.943(1)	3.945(1)	4.067(0)
		CPU(s)	64.670	62.267	64.780	62.340	58.659	62.125	61.234	64.525
	PO_5	AD(B%)	4.141(0)	3.917(9)	4.130(0)	3.937(4)	4.142(0)	3.932(2)	3.928(4)	4.032(1)
		CPU(s)	65.313	62.570	65.815	62.217	59.499	62.148	62.430	64.466
	PO_6	AD(B%)	4.168(0)	3.938(2)	4.149(0)	3.956(1)	4.161(0)	3.951(1)	3.942(0)	4.045(0)
		CPU(s)	64.295	62.193	64.643	62.002	58.395	61.839	61.723	63.615
	PO_7	AD(B%)	4.132(1)	3.909(5)	4.103(1)	3.926(3)	4.125(0)	3.921(1)	**3.896**(**11**)	4.121(0)
		CPU(s)	64.412	62.413	65.031	61.616	58.671	61.688	62.788	62.118
	PO_8	AD(B%)	4.160(0)	3.933(2)	4.160(0)	3.944(2)	4.149(0)	3.925(6)	4.006(0)	3.989(0)
		CPU(s)	65.257	62.333	65.369	62.675	59.249	62.305	60.419	65.440
$p = 0.8$	PO_1	AD(B%)	3.110(0)	2.892(0)	3.070(0)	2.921(2)	3.101(0)	2.905(0)	2.862(2)	2.959(1)
		CPU(s)	68.377	65.463	68.268	65.431	61.952	64.636	63.692	66.605
	PO_2	AD(B%)	3.129(0)	2.886(3)	3.087(0)	2.934(1)	3.143(0)	2.908(0)	2.833(7)	2.984(5)
		CPU(s)	67.028	65.658	67.380	65.139	61.229	64.793	63.788	64.902
	PO_3	AD(B%)	3.041(1)	2.838(5)	3.023(0)	2.925(0)	3.071(0)	2.865(1)	**2.783**(**24**)	3.054(1)
		CPU(s)	67.052	65.163	67.690	64.496	61.411	64.429	64.373	64.774
	PO_4	AD(B%)	3.167(0)	2.904(0)	3.155(0)	2.947(0)	3.169(0)	2.909(0)	2.955(0)	3.020(0)
		CPU(s)	67.731	65.498	67.585	65.850	61.587	64.726	62.836	67.057
	PO_5	AD(B%)	3.076(0)	2.886(3)	3.034(2)	2.900(2)	3.094(0)	2.893(2)	2.832(7)	2.931(7)
		CPU(s)	67.795	65.534	68.165	64.673	61.822	64.436	64.005	65.579
	PO_6	AD(B%)	3.149(0)	2.894(0)	3.103(0)	2.941(0)	3.150(0)	2.913(0)	2.871(2)	2.983(1)
		CPU(s)	67.171	65.816	67.335	65.427	61.216	64.834	63.777	65.479
	PO_7	AD(B%)	3.050(2)	2.857(1)	3.008(3)	2.924(0)	3.073(0)	2.876(1)	2.803(11)	3.117(1)
		CPU(s)	66.689	65.664	67.600	64.582	61.028	64.677	64.676	64.724
	PO_8	AD(B%)	3.151(0)	2.905(0)	3.147(0)	2.931(0)	3.150(0)	2.912(0)	3.028(0)	2.940(2)
		CPU(s)	68.252	65.383	67.877	66.056	61.864	64.739	62.158	67.340

Table 25: H1mFSCn: Performance of the heuristic variants for 20FSC200.

			H2mFSCn							
20FSC10			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO'_1	AD(B%)	0.240(11)	0.202(27)	0.219(20)	0.238(8)	0.223(19)	0.230(8)	0.207(20)	0.258(7)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO'_2	AD(B%)	0.239(12)	0.208(25)	0.222(17)	0.236(9)	0.230(17)	0.232(10)	0.212(19)	0.253(9)
		CPU(s)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	PO'_3	AD(B%)	0.247(12)	0.204(21)	0.224(18)	0.243(7)	0.231(19)	0.234(8)	0.213(14)	0.263(7)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO'_4	AD(B%)	0.241(12)	0.202(28)	0.221(18)	0.233(10)	0.230(17)	0.229(10)	0.204(23)	0.254(9)
		CPU(s)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	PO'_5	AD(B%)	0.241(12)	0.202(**29**)	0.219(18)	0.230(10)	0.227(17)	0.226(10)	0.203(23)	0.251(9)
		CPU(s)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	PO'_6	AD(B%)	0.243(12)	**0.201**(20)	0.220(19)	0.241(7)	0.227(20)	0.232(8)	0.216(14)	0.261(6)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	PO'_7	AD(B%)	0.242(12)	0.204(**29**)	0.222(18)	0.235(10)	0.230(17)	0.230(10)	0.207(20)	0.255(9)
		CPU(s)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	PO'_8	AD(B%)	0.243(11)	0.204(26)	0.219(19)	0.241(8)	0.226(19)	0.233(7)	0.212(16)	0.261(7)
		CPU(s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
$p = 0.5$	PO'_1	AD(B%)	0.200(0)	0.143(17)	0.164(9)	0.205(3)	0.191(2)	0.173(5)	**0.141**(15)	0.221(0)
		CPU(s)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	PO'_2	AD(B%)	0.201(0)	0.156(17)	0.174(6)	0.191(4)	0.193(0)	0.176(4)	0.158(8)	0.221(1)
		CPU(s)	0.004	0.004	0.004	0.004	0.003	0.004	0.004	0.004
	PO'_3	AD(B%)	0.200(0)	0.146(14)	0.169(6)	0.201(4)	0.185(1)	0.174(2)	0.147(13)	0.213(0)
		CPU(s)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	PO'_4	AD(B%)	0.202(1)	0.150(16)	0.172(6)	0.196(4)	0.194(1)	0.180(2)	0.154(8)	0.220(1)
		CPU(s)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	PO'_5	AD(B%)	0.201(0)	0.153(16)	0.172(5)	0.188(5)	0.193(1)	0.173(2)	0.155(9)	0.226(1)
		CPU(s)	0.004	0.004	0.004	0.004	0.003	0.004	0.004	0.004
	PO'_6	AD(B%)	0.200(1)	0.146(**18**)	0.170(7)	0.200(4)	0.189(0)	0.179(2)	0.147(11)	0.214(0)
		CPU(s)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	PO'_7	AD(B%)	0.201(0)	0.154(13)	0.176(6)	0.190(4)	0.196(1)	0.179(3)	0.157(12)	0.221(1)
		CPU(s)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	PO'_8	AD(B%)	0.203(1)	0.145(16)	0.169(8)	0.210(3)	0.193(1)	0.178(5)	0.145(14)	0.225(0)
		CPU(s)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
$p = 0.8$	PO'_1	AD(B%)	0.102(1)	0.064(5)	0.062(11)	0.115(2)	0.094(0)	0.092(3)	0.058(14)	0.130(0)
		CPU(s)	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
	PO'_2	AD(B%)	0.084(6)	0.064(8)	0.064(10)	0.085(5)	0.084(7)	0.078(4)	0.059(11)	0.101(2)
		CPU(s)	0.006	0.006	0.006	0.005	0.005	0.006	0.005	0.005
	PO'_3	AD(B%)	0.077(9)	0.064(12)	0.064(13)	0.082(7)	0.076(9)	0.073(9)	0.058(16)	0.097(1)
		CPU(s)	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
	PO'_4	AD(B%)	0.082(9)	0.061(7)	0.060(11)	0.081(6)	0.078(9)	0.075(1)	0.059(10)	0.098(3)
		CPU(s)	0.006	0.006	0.006	0.005	0.005	0.006	0.005	0.005
	PO'_5	AD(B%)	0.082(7)	0.060(8)	0.062(13)	0.079(6)	0.078(7)	0.077(4)	0.059(**19**)	0.095(4)
		CPU(s)	0.005	0.005	0.005	0.006	0.005	0.005	0.005	0.005
	PO'_6	AD(B%)	0.087(4)	0.064(10)	0.064(9)	0.093(3)	0.082(5)	0.080(6)	**0.057**(13)	0.108(0)
		CPU(s)	0.004	0.003	0.004	0.003	0.003	0.003	0.003	0.003
	PO'_7	AD(B%)	0.083(6)	0.063(9)	0.063(10)	0.086(5)	0.081(6)	0.080(3)	0.063(14)	0.101(2)
		CPU(s)	0.006	0.006	0.006	0.005	0.005	0.006	0.005	0.006
	PO'_8	AD(B%)	0.103(0)	0.065(5)	0.061(12)	0.118(0)	0.095(0)	0.092(3)	0.058(13)	0.130(0)
		CPU(s)	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003

Table 26: H2mFSCn: Performance of the heuristic variants for 20FSC10.

			H2mFSCn							
20FSC20			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO'_1	AD(B%)	0.490(2)	0.425(13)	0.467(1)	0.474(3)	0.475(1)	0.462(6)	0.434(8)	0.512(0)
		CPU(s)	0.008	0.007	0.008	0.007	0.007	0.007	0.007	0.008
	PO'_2	AD(B%)	0.474(4)	0.418(16)	0.458(2)	0.459(9)	0.468(2)	0.451(7)	0.418(17)	0.494(0)
		CPU(s)	0.018	0.017	0.018	0.017	0.016	0.018	0.017	0.018
	PO'_3	AD(B%)	0.489(2)	0.425(15)	0.465(1)	0.473(3)	0.477(2)	0.466(5)	0.435(7)	0.512(0)
		CPU(s)	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
	PO'_4	AD(B%)	0.475(4)	0.416(14)	0.461(3)	0.459(8)	0.471(0)	0.452(7)	0.419(17)	0.495(0)
		CPU(s)	0.019	0.019	0.019	0.018	0.017	0.019	0.018	0.019
	PO'_5	AD(B%)	0.473(4)	0.415(17)	0.465(2)	0.459(8)	0.462(0)	0.449(6)	0.423(17)	0.494(0)
		CPU(s)	0.019	0.018	0.019	0.018	0.017	0.018	0.018	0.019
	PO'_6	AD(B%)	0.496(1)	0.422(16)	0.468(1)	0.475(3)	0.479(1)	0.468(4)	0.438(7)	0.511(0)
		CPU(s)	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
	PO'_7	AD(B%)	0.471(4)	**0.414**(16)	0.462(2)	0.463(8)	0.467(1)	0.457(6)	0.418(**18**)	0.494(0)
		CPU(s)	0.019	0.018	0.019	0.018	0.017	0.018	0.018	0.019
	PO'_8	AD(B%)	0.491(2)	0.428(14)	0.467(2)	0.475(4)	0.475(2)	0.467(4)	0.437(6)	0.511(0)
		CPU(s)	0.007	0.006	0.007	0.006	0.006	0.006	0.006	0.006
$p = 0.5$	PO'_1	AD(B%)	0.423(1)	0.372(6)	0.398(2)	0.413(3)	0.416(0)	0.395(2)	**0.362**(**9**)	0.431(1)
		CPU(s)	0.013	0.013	0.014	0.013	0.012	0.013	0.013	0.013
	PO'_2	AD(B%)	0.416(0)	0.369(8)	0.397(2)	0.417(1)	0.413(0)	0.404(1)	0.374(6)	0.431(1)
		CPU(s)	0.028	0.027	0.028	0.027	0.025	0.027	0.027	0.028
	PO'_3	AD(B%)	0.420(1)	0.373(7)	0.396(4)	0.410(0)	0.410(0)	0.398(2)	0.367(6)	0.427(0)
		CPU(s)	0.013	0.012	0.013	0.012	0.011	0.012	0.012	0.012
	PO'_4	AD(B%)	0.420(0)	0.372(7)	0.391(2)	0.414(1)	0.414(0)	0.403(1)	0.370(4)	0.437(1)
		CPU(s)	0.029	0.028	0.029	0.027	0.026	0.028	0.027	0.028
	PO'_5	AD(B%)	0.414(1)	0.368(8)	0.393(3)	0.407(3)	0.411(0)	0.393(4)	0.370(7)	0.439(1)
		CPU(s)	0.027	0.026	0.028	0.026	0.025	0.026	0.026	0.027
	PO'_6	AD(B%)	0.419(0)	0.368(8)	0.397(4)	0.417(0)	0.413(0)	0.397(1)	0.368(6)	0.433(0)
		CPU(s)	0.014	0.013	0.014	0.013	0.012	0.013	0.013	0.013
	PO'_7	AD(B%)	0.419(0)	0.369(5)	0.397(2)	0.419(2)	0.415(0)	0.407(0)	0.379(6)	0.433(2)
		CPU(s)	0.029	0.028	0.029	0.027	0.026	0.028	0.027	0.028
	PO'_8	AD(B%)	0.425(0)	0.371(6)	0.396(2)	0.419(2)	0.421(0)	0.405(1)	0.363(6)	0.436(1)
		CPU(s)	0.013	0.012	0.013	0.012	0.012	0.012	0.012	0.012
$p = 0.8$	PO'_1	AD(B%)	0.218(0)	0.172(4)	0.176(4)	0.226(0)	0.216(0)	0.196(1)	**0.156**(2)	0.241(0)
		CPU(s)	0.021	0.021	0.022	0.020	0.019	0.021	0.021	0.020
	PO'_2	AD(B%)	0.197(1)	0.183(0)	0.181(1)	0.191(1)	0.205(0)	0.193(1)	0.163(**10**)	0.203(0)
		CPU(s)	0.042	0.040	0.042	0.039	0.037	0.040	0.039	0.040
	PO'_3	AD(B%)	0.197(0)	0.169(2)	0.178(4)	0.190(0)	0.193(0)	0.182(0)	0.161(6)	0.211(1)
		CPU(s)	0.022	0.021	0.021	0.021	0.019	0.021	0.020	0.021
	PO'_4	AD(B%)	0.195(2)	0.177(5)	0.179(1)	0.195(0)	0.200(2)	0.191(0)	0.158(**10**)	0.211(1)
		CPU(s)	0.041	0.040	0.042	0.038	0.037	0.040	0.039	0.039
	PO'_5	AD(B%)	0.194(0)	0.173(5)	0.174(4)	0.182(3)	0.196(0)	0.182(1)	0.159(9)	0.199(1)
		CPU(s)	0.039	0.037	0.039	0.036	0.035	0.038	0.036	0.037
	PO'_6	AD(B%)	0.202(0)	0.170(0)	0.176(1)	0.200(1)	0.202(1)	0.187(2)	0.159(6)	0.218(0)
		CPU(s)	0.024	0.023	0.024	0.022	0.021	0.023	0.022	0.022
	PO'_7	AD(B%)	0.196(1)	0.182(1)	0.182(1)	0.188(0)	0.200(0)	0.192(0)	0.161(5)	0.202(2)
		CPU(s)	0.042	0.040	0.042	0.039	0.037	0.040	0.039	0.040
	PO'_8	AD(B%)	0.219(0)	0.171(0)	0.175(2)	0.235(0)	0.216(0)	0.203(0)	0.157(5)	0.250(0)
		CPU(s)	0.021	0.021	0.022	0.019	0.019	0.020	0.020	0.020

Table 27: H2mFSCn: Performance of the heuristic variants for 20FSC20.

			H2mFSCn							
20FSC50			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO'_1	AD(B%)	1.219(0)	1.140(8)	1.196(0)	1.179(4)	1.211(2)	1.173(1)	1.151(4)	1.122(1)
		CPU(s)	0.077	0.074	0.077	0.074	0.070	0.075	0.073	0.076
	PO'_2	AD(B%)	1.203(1)	1.126(13)	1.185(0)	1.172(4)	1.204(0)	1.155(2)	1.137(5)	1.201(2)
		CPU(s)	0.186	0.181	0.187	0.180	0.169	0.182	0.177	0.186
	PO'_3	AD(B%)	1.220(1)	1.139(9)	1.207(1)	1.183(3)	1.219(1)	1.182(2)	1.153(5)	1.219(1)
		CPU(s)	0.069	0.066	0.069	0.066	0.062	0.067	0.065	0.068
	PO'_4	AD(B%)	1.205(1)	1.126(**15**)	1.188(1)	1.161(6)	1.209(0)	1.157(2)	1.137(6)	1.216(2)
		CPU(s)	0.193	0.187	0.193	0.186	0.174	0.188	0.184	0.191
	PO'_5	AD(B%)	1.202(1)	**1.124**(13)	1.193(2)	1.160(4)	1.209(0)	1.148(3)	1.135(7)	1.209(3)
		CPU(s)	0.192	0.186	0.193	0.185	0.173	0.188	0.183	0.191
	PO'_6	AD(B%)	1.219(0)	1.140(8)	1.208(0)	1.182(6)	1.213(1)	1.178(1)	1.164(4)	1.227(1)
		CPU(s)	0.069	0.067	0.070	0.067	0.063	0.067	0.066	0.068
	PO'_7	AD(B%)	1.207(1)	1.127(12)	1.190(1)	1.165(6)	1.208(0)	1.152(3)	1.135(8)	1.206(2)
		CPU(s)	0.192	0.186	0.193	0.185	0.173	0.188	0.183	0.191
	PO'_8	AD(B%)	1.222(0)	1.141(9)	1.200(2)	1.183(4)	1.212(1)	1.175(4)	1.151(7)	1.229(1)
		CPU(s)	0.070	0.068	0.071	0.068	0.064	0.068	0.067	0.069
$p = 0.5$	PO'_1	AD(B%)	1.063(0)	1.014(1)	1.037(2)	1.063(0)	1.067(0)	1.049(2)	1.008(7)	1.083(2)
		CPU(s)	0.150	0.146	0.151	0.145	0.135	0.146	0.143	0.148
	PO'_2	AD(B%)	1.045(2)	1.014(4)	1.036(0)	1.042(2)	1.047(1)	1.036(2)	0.999(**12**)	1.067(1)
		CPU(s)	0.322	0.312	0.323	0.312	0.289	0.314	0.305	0.321
	PO'_3	AD(B%)	1.060(1)	1.016(6)	1.042(5)	1.048(0)	1.055(1)	1.050(0)	1.009(3)	1.077(1)
		CPU(s)	0.147	0.143	0.147	0.141	0.132	0.142	0.139	0.145
	PO'_4	AD(B%)	1.040(3)	1.014(3)	1.043(0)	1.046(0)	1.053(0)	1.039(1)	1.001(3)	1.067(0)
		CPU(s)	0.325	0.316	0.325	0.314	0.292	0.317	0.308	0.322
	PO'_5	AD(B%)	1.048(2)	1.007(2)	1.039(1)	1.049(1)	1.048(1)	1.042(3)	**0.995**(6)	1.064(0)
		CPU(s)	0.317	0.308	0.317	0.307	0.285	0.310	0.300	0.316
	PO'_6	AD(B%)	1.055(1)	1.021(0)	1.054(0)	1.049(0)	1.063(2)	1.047(0)	0.008(4)	1.074(2)
		CPU(s)	0.152	0.148	0.152	0.146	0.137	0.147	0.144	0.150
	PO'_7	AD(B%)	1.045(1)	1.011(2)	1.032(1)	1.044(0)	1.050(1)	1.033(2)	0.997(4)	1.062(0)
		CPU(s)	0.324	0.315	0.325	0.314	0.292	0.316	0.308	0.323
	PO'_8	AD(B%)	1.065(0)	1.021(4)	1.043(0)	1.061(1)	1.068(2)	1.052(3)	1.003(2)	1.087(1)
		CPU(s)	0.147	0.143	0.148	0.141	0.132	0.143	0.140	0.145
$p = 0.8$	PO'_1	AD(B%)	0.600(0)	0.567(1)	0.577(0)	0.597(0)	0.612(0)	0.593(0)	0.548(3)	0.614(2)
		CPU(s)	0.263	0.260	0.267	0.249	0.238	0.257	0.255	0.252
	PO'_2	AD(B%)	0.587(0)	0.575(0)	0.573(1)	0.585(0)	0.597(0)	0.587(0)	0.551(5)	0.582(2)
		CPU(s)	0.502	0.487	0.501	0.482	0.449	0.489	0.468	0.493
	PO'_3	AD(B%)	0.589(1)	0.562(2)	0.576(0)	0.575(0)	0.598(0)	0.584(1)	0.552(4)	0.593(0)
		CPU(s)	0.266	0.258	0.265	0.255	0.238	0.258	0.249	0.257
	PO'_4	AD(B%)	0.586(0)	0.573(2)	0.573(1)	0.589(0)	0.590(1)	0.592(1)	**0.543**(9)	0.592(0)
		CPU(s)	0.501	0.486	0.501	0.482	0.448	0.489	0.469	0.490
	PO'_5	AD(B%)	0.582(1)	0.563(4)	0.568(1)	0.578(0)	0.592(0)	0.582(2)	0.548(**14**)	0.580(2)
		CPU(s)	0.475	0.461	0.477	0.457	0.426	0.463	0.446	0.465
	PO'_6	AD(B%)	0.589(0)	0.570(1)	0.571(3)	0.585(0)	0.601(1)	0.588(1)	0.549(11)	0.599(0)
		CPU(s)	0.287	0.279	0.289	0.272	0.258	0.277	0.269	0.276
	PO'_7	AD(B%)	0.588(0)	0.569(3)	0.574(2)	0.579(1)	0.596(0)	0.586(1)	0.552(2)	0.580(2)
		CPU(s)	0.503	0.486	0.502	0.484	0.451	0.489	0.469	0.493
	PO'_8	AD(B%)	0.602(0)	0.566(5)	0.570(2)	0.610(0)	0.610(0)	0.596(0)	0.544(5)	0.624(0)
		CPU(s)	0.262	0.256	0.266	0.246	0.236	0.255	0.253	0.248

Table 28: H2mFSCn: Performance of the heuristic variants for 20FSC50.

			H2mFSCn							
20FSC100			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO'_1	AD(B%)	1.586(1)	1.539(4)	1.569(4)	1.547(3)	1.585(0)	1.560(0)	1.551(2)	1.590(0)
		CPU(s)	0.461	0.447	0.461	0.447	0.417	0.450	0.437	0.460
	PO'_2	AD(B%)	1.550(0)	**1.487(15)**	1.541(3)	1.522(7)	1.552(0)	1.525(7)	1.514(6)	1.570(1)
		CPU(s)	1.083	1.052	1.080	1.053	0.976	1.067	1.031	1.087
	PO'_3	AD(B%)	1.589(0)	1.529(6)	1.571(4)	1.547(0)	1.590(0)	1.548(1)	1.542(4)	1.591(0)
		CPU(s)	0.435	0.421	0.434	0.421	0.393	0.425	0.411	0.434
	PO'_4	AD(B%)	1.550(1)	1.504(6)	1.538(4)	1.527(1)	1.557(2)	1.517(2)	1.529(1)	1.568(3)
		CPU(s)	1.103	1.068	1.099	1.069	0.993	1.083	1.046	1.105
	PO'_5	AD(B%)	1.547(1)	1.502(5)	1.535(2)	1.528(2)	1.556(1)	1.521(1)	1.524(2)	1.569(1)
		CPU(s)	1.098	1.066	1.095	1.065	0.991	1.081	1.045	1.100
	PO'_6	AD(B%)	1.582(0)	1.533(3)	1.570(3)	1.555(0)	1.585(0)	1.553(1)	1.551(3)	1.574(0)
		CPU(s)	0.436	0.424	0.436	0.423	0.394	0.426	0.412	0.435
	PO'_7	AD(B%)	1.557(1)	1.501(3)	1.541(2)	1.527(0)	1.554(0)	1.527(0)	1.524(2)	1.560(2)
		CPU(s)	1.103	1.069	1.097	1.071	0.993	1.083	1.047	1.103
	PO'_8	AD(B%)	1.584(1)	1.532(6)	1.570(3)	1.545(0)	1.587(0)	1.553(1)	1.553(3)	1.595(0)
		CPU(s)	0.437	0.425	0.437	0.425	0.395	0.427	0.414	0.437
$p = 0.5$	PO'_1	AD(B%)	1.937(2)	1.927(1)	1.945(0)	1.957(1)	1.960(1)	1.974(1)	1.931(2)	1.985(0)
		CPU(s)	0.982	0.961	0.987	0.954	0.888	0.963	0.941	0.977
	PO'_2	AD(B%)	1.881(0)	1.884(3)	1.877(3)	1.906(1)	1.899(1)	1.912(2)	1.871(**9**)	1.938(1)
		CPU(s)	1.985	1.921	1.982	1.927	1.788	1.944	1.874	1.990
	PO'_3	AD(B%)	1.932(0)	1.930(1)	1.941(2)	1.944(1)	1.958(0)	1.974(2)	1.936(2)	1.982(0)
		CPU(s)	0.969	0.946	0.971	0.940	0.875	0.947	0.924	0.963
	PO'_4	AD(B%)	1.890(2)	1.879(3)	1.873(1)	1.903(0)	1.904(3)	1.912(1)	1.877(2)	1.951(0)
		CPU(s)	1.998	1.933	1.993	1.937	1.800	1.955	1.884	1.999
	PO'_5	AD(B%)	1.879(1)	1.888(2)	**1.870**(3)	1.901(1)	1.902(1)	1.910(1)	1.871(6)	1.941(2)
		CPU(s)	1.959	1.902	1.956	1.900	1.768	1.921	1.851	1.966
	PO'_6	AD(B%)	1.923(0)	1.932(4)	1.918(2)	1.970(0)	1.952(0)	1.982(0)	1.929(3)	1.971(1)
		CPU(s)	0.993	0.972	0.992	0.968	0.896	0.976	0.950	0.989
	PO'_7	AD(B%)	1.884(3)	1.875(3)	1.881(2)	1.907(0)	1.910(1)	1.913(2)	1.872(6)	1.939(3)
		CPU(s)	2.000	1.935	1.994	1.938	1.802	1.955	1.885	2.002
	PO'_8	AD(B%)	1.926(2)	1.935(1)	1.911(0)	1.952(1)	1.960(0)	1.983(1)	1.926(0)	1.989(0)
		CPU(s)	0.966	0.945	0.966	0.942	0.872	0.948	0.923	0.963
$p = 0.8$	PO'_1	AD(B%)	1.099(0)	1.081(0)	1.088(1)	1.100(0)	1.124(0)	1.107(0)	1.065(2)	1.103(1)
		CPU(s)	1.795	1.766	1.806	1.736	1.618	1.764	1.719	1.742
	PO'_2	AD(B%)	1.066(0)	1.072(2)	1.062(6)	1.079(0)	1.086(1)	1.089(0)	1.044(9)	1.078(4)
		CPU(s)	3.285	3.203	3.271	3.195	2.947	3.217	3.052	3.246
	PO'_3	AD(B%)	1.090(1)	1.082(3)	1.084(1)	1.084(2)	1.112(0)	1.105(0)	1.073(3)	1.090(2)
		CPU(s)	1.796	1.761	1.795	1.744	1.616	1.759	1.698	1.757
	PO'_4	AD(B%)	1.072(2)	1.067(0)	1.058(2)	1.084(0)	1.084(1)	1.092(0)	1.044(6)	1.077(1)
		CPU(s)	3.291	3.202	3.276	3.196	2.950	3.219	3.052	3.247
	PO'_5	AD(B%)	1.069(1)	1.065(2)	1.062(0)	1.078(0)	1.085(0)	1.082(1)	**1.037(12)**	1.073(2)
		CPU(s)	3.134	3.052	3.125	3.038	2.815	3.061	2.913	3.087
	PO'_6	AD(B%)	1.082(3)	1.086(0)	1.068(1)	1.092(1)	1.105(0)	1.108(1)	1.061(4)	1.093(0)
		CPU(s)	1.903	1.876	1.908	1.854	1.710	1.879	1.811	1.862
	PO'_7	AD(B%)	1.072(0)	1.067(0)	1.063(3)	1.072(2)	1.080(1)	1.086(0)	1.045(6)	1.072(1)
		CPU(s)	3.293	3.204	3.277	3.201	2.952	3.221	3.058	3.250
	PO'_8	AD(B%)	1.096(0)	1.083(0)	1.083(2)	1.102(1)	1.119(0)	1.104(1)	1.064(4)	1.110(1)
		CPU(s)	1.784	1.764	1.802	1.722	1.606	1.750	1.712	1.727

Table 29: H2mFSCn: Performance of the heuristic variants for 20FSC100.

			H2mFSCn							
20FSC200			OS_1	OS_2	OS_3	OS_4	OS_5	OS_6	OS_7	OS_8
$p = 0.2$	PO'_1	AD(B%)	1.506(2)	1.481(2)	1.489(1)	1.491(0)	1.535(0)	1.503(0)	1.501(0)	1.506(0)
		CPU(s)	2.956	2.875	2.931	2.879	2.665	2.908	2.798	2.950
	PO'_2	AD(B%)	1.433(2)	1.419(5)	1.419(6)	1.432(2)	1.449(2)	1.451(3)	1.424(3)	1.458(0)
		CPU(s)	6.512	6.327	6.475	6.339	5.855	6.446	6.115	6.513
	PO'_3	AD(B%)	1.509(2)	1.490(0)	1.504(1)	1.498(0)	1.523(0)	1.510(0)	1.508(0)	0.507(0)
		CPU(s)	2.844	2.767	2.833	2.774	2.557	2.800	2.688	2.835
	PO'_4	AD(B%)	1.436(5)	1.424(4)	**1.412**(4)	1.441(3)	1.454(2)	1.450(0)	1.419(**12**)	1.464(0)
		CPU(s)	6.569	6.391	6.528	6.395	5.933	6.502	6.207	6.593
	PO'_5	AD(B%)	1.447(4)	1.419(3)	1.426(5)	1.437(3)	1.455(1)	1.455(1)	1.432(5)	1.474(2)
		CPU(s)	6.593	6.387	6.536	6.378	5.934	6.511	6.215	6.583
	PO'_6	AD(B%)	1.489(1)	1.478(1)	1.496(0)	1.500(0)	1.511(0)	1.504(0)	1.508(0)	1.505(0)
		CPU(s)	2.840	2.767	2.831	2.783	2.569	2.805	2.701	2.850
	PO'_7	AD(B%)	1.434(5)	1.426(5)	1.423(5)	1.442(3)	1.456(0)	1.444(1)	1.425(8)	1.456(3)
		CPU(s)	6.594	6.417	6.548	6.410	5.940	6.487	6.203	6.589
	PO'_8	AD(B%)	1.513(1)	1.492(0)	1.501(3)	1.503(0)	1.526(0)	1.515(0)	1.501(0)	1.505(1)
		CPU(s)	2.852	2.769	2.833	2.778	2.568	2.800	2.694	2.838
$p = 0.5$	PO'_1	AD(B%)	2.980(1)	3.050(0)	2.993(2)	3.046(0)	3.084(0)	3.128(0)	3.064(3)	3.102(0)
		CPU(s)	6.766	6.642	6.769	6.624	6.157	6.691	6.502	6.784
	PO'_2	AD(B%)	2.908(**6**)	2.937(3)	2.907(2)	2.972(1)	2.961(1)	3.004(0)	2.948(4)	3.033(1)
		CPU(s)	12.992	12.621	12.938	12.668	11.742	12.783	12.265	13.047
	PO'_3	AD(B%)	2.969(2)	3.046(0)	2.997(1)	3.068(1)	3.063(0)	3.136(0)	3.064(2)	3.107(0)
		CPU(s)	6.700	6.572	6.705	6.570	6.081	6.634	6.438	6.720
	PO'_4	AD(B%)	2.910(5)	2.942(2)	**2.900**(4)	2.970(1)	2.955(1)	3.007(0)	2.964(2)	3.052(0)
		CPU(s)	13.039	12.686	12.979	12.697	11.781	12.826	12.301	13.112
	PO'_5	AD(B%)	2.907(4)	2.956(1)	2.900(3)	2.966(0)	2.955(0)	2.994(0)	2.953(**6**)	3.034(2)
		CPU(s)	12.875	12.517	12.810	12.514	11.612	12.651	12.154	12.922
	PO'_6	AD(B%)	2.993(2)	3.057(0)	2.968(3)	3.065(1)	3.062(1)	3.146(0)	3.045(3)	3.096(0)
		CPU(s)	6.819	6.701	6.797	6.682	6.188	6.771	6.544	6.840
	PO'_7	AD(B%)	2.914(4)	2.944(4)	2.904(5)	2.948(1)	2.956(2)	3.015(0)	2.965(4)	3.022(1)
		CPU(s)	13.058	12.686	12.983	12.709	11.789	12.849	12.344	13.132
	PO'_8	AD(B%)	2.994(1)	3.053(0)	2.983(3)	3.064(0)	3.088(1)	3.111(0)	3.066(4)	3.114(0)
		CPU(s)	6.679	6.566	6.673	6.537	6.086	6.601	6.426	6.686
$p = 0.8$	PO'_1	AD(B%)	1.974(0)	1.962(1)	1.964(2)	1.975(1)	2.006(0)	1.998(0)	1.944(3)	1.988(0)
		CPU(s)	12.725	12.325	12.525	12.211	11.290	12.338	11.829	12.265
	PO'_2	AD(B%)	1.946(0)	1.950(1)	1.942(1)	1.959(1)	1.966(1)	1.972(0)	1.914(13)	1.959(0)
		CPU(s)	22.259	21.487	21.857	21.486	19.808	21.648	20.368	21.704
	PO'_3	AD(B%)	1.972(0)	1.963(0)	1.965(2)	1.972(1)	2.004(0)	2.013(0)	1.954(1)	1.981(0)
		CPU(s)	12.731	12.272	12.461	12.204	11.278	12.369	11.794	12.258
	PO'_4	AD(B%)	1.950(1)	1.947(1)	1.935(1)	1.959(1)	1.966(1)	1.972(0)	1.918(8)	1.966(1)
		CPU(s)	22.254	21.479	21.866	21.500	19.814	21.647	20.355	21.707
	PO'_5	AD(B%)	1.946(1)	1.942(2)	1.939(2)	1.957(1)	1.968(0)	1.968(0)	**1.911**(**17**)	1.965(2)
		CPU(s)	21.453	20.652	21.055	20.679	19.079	20.805	19.626	20.912
	PO'_6	AD(B%)	1.966(0)	1.972(0)	1.956(2)	1.976(0)	2.003(0)	2.011(0)	1.946(2)	1.976(1)
		CPU(s)	13.282	12.891	13.028	12.791	11.810	12.952	12.331	12.809
	PO'_7	AD(B%)	1.946(1)	1.948(1)	1.940(0)	1.957(1)	1.966(1)	1.976(0)	1.912(10)	1.962(4)
		CPU(s)	22.280	21.492	21.901	21.534	19.826	21.676	20.421	21.765
	PO'_8	AD(B%)	1.974(0)	1.967(1)	1.960(1)	1.980(1)	2.008(1)	2.001(1)	1.931(5)	1.997(0)
		CPU(s)	12.752	12.256	12.432	12.122	11.248	12.269	11.755	12.164

Table 30: H2mFSCn: Performance of the heuristic variants for 20FSC200.

		Best heuristic variants according to $B\%$ followed by the values of this criterion		
m	n	$p = 0.2$	$p = 0.5$	$p = 0.8$
5	10	(OS_5, PO_3): 28%	(OS_2, PO_5): 11%	(OS_3, PO_1), (OS_3, PO_5): 16%
	20	(OS_6, PO_3): 11%	(OS_2, PO_7): 7%	(OS_7, PO_5): 9%
	50	(OS_4, PO_3): 9%	(OS_1, PO_3), (OS_6, PO_5): 10%	(OS_2, PO_3): 11%
	100	(OS_6, PO_5): 10%	(OS_2, PO_3): 10%	(OS_4, PO_3): 9%
	200	(OS_8, PO_3), (OS_4, PO_3): 11%	(OS_2, PO_3): 9%	(OS_3, PO_3): 9%
10	10	(OS_2, PO_2): 15%	(OS_2, PO_2): 9%	(OS_3, PO_1): 13%
	20	(OS_2, PO_2): 7%	(OS_7, PO_3): 9%	(OS_3, PO_3): 9%
	50	(OS_4, PO_3): 8%	(OS_2, PO_3): 9%	(OS_2, PO_3): 9%
	100	(OS_4, PO_3): 10%	(OS_2, PO_3), (OS_7, PO_3), (OS_7, PO_7): 9%	(OS_2, PO_3): 8%
	200	(OS_6, PO_3), (OS_8, PO_5): 7%	(OS_7, PO_7): 12%	(OS_8, PO_5): 10%
20	10	(OS_2, PO_3): 22%	(OS_2, PO_3): 12%	(OS_7, PO_2),(OS_7, PO_3): 14%
	20	(OS_2, PO_7): 11%	(OS_7, PO_3): 11%	(OS_7, PO_7): 12%
	50	(OS_2, PO_2), (OS_7, PO_7): 6%	(OS_7, PO_7): 16%	(OS_7, PO_3): 19%
	100	(OS_2, PO_8): 8%	(OS_7, PO_7): 22%	(OS_7, PO_3), (OS_7, PO_7): 19%
	200	(OS_7, PO_7): 10%	(OS_7, PO_7): 11%	(OS_7, PO_3): 24%
		Best heuristic variants according to AD followed by the values of this criterion		
m	n	$p = 0.2$	$p = 0.5$	$p = 0.8$
5	10	(OS_4, PO_7): 0.265	(OS_2, PO_3): 0.267	(OS_2, PO_5): 0.106
	20	(OS_4, PO_5): 0.221	(OS_2, PO_3): 0.529	(OS_7, PO_5): 0.271
	50	(OS_4, PO_3): 0.130	(OS_4, PO_5): 0.654	(OS_2, PO_5): 0.791
	100	(OS_4, PO_3): 0.087	(OS_2, PO_5): 0.617	(OS_2, PO_3): 1.353
	200	(OS_6, PO_3): 0.060	(OS_2, PO_5): 0.561	(OS_2, PO_3): 1.314
10	10	(OS_2, PO_3): 0.237	(OS_2, PO_5): 0.166	(OS_7, PO_7): 0.082
	20	(OS_4, PO_3): 0.514	(OS_2, PO_3): 0.450	(OS_7, PO_3): 0.216
	50	(OS_4, PO_5): 0.718	(OS_2, PO_3): 1.323	(OS_7, PO_3): 0.756
	100	(OS_6, PO_1): 0.695	(OS_2, PO_3): 1.936	(OS_7, PO_7): 1.579
	200	(OS_4, PO_3): 0.697	(OS_7, PO_7): 1.981	(OS_7, PO_7): 3.010
20	10	(OS_2, PO_3): 0.196	(OS_2, PO_3): 0.138	(OS_7, PO_3): 0.071
	20	(OS_2, PO_3): 0.393	(OS_7, PO_7): 0.369	(OS_7, PO_3): 0.177
	50	(OS_7, PO_7): 1.179	(OS_7, PO_7): 1.106	(OS_7, PO_7): 0.641
	100	(OS_2, PO_4): 1.645	(OS_7, PO_7): 2.258	(OS_7, PO_3): 1.385
	200	(OS_6, PO_8): 1.666	(OS_7, PO_7): 3.896	(OS_7, PO_3): 2.783

Table 31: H1mFSCn: Best heuristic variants in terms of AD and $B\%$.

		Best heuristic variants according to $B\%$ followed by the values of this criterion		
m	n	$p = 0.2$	$p = 0.5$	$p = 0.8$
5	10	$(OS_2, PO_4^{'})$: 43%	$(OS_2, PO_4^{'})$,$(OS_2, PO_7^{'})$, $(OS_6, PO_4^{'})$: 16%	$(OS_2, PO_4^{'})$: 23%
	20	$(OS_4, PO_4^{'})$,$(OS_2, PO_5^{'})$: 23%	$(OS_2, PO_5^{'})$: 12%	$(OS_3, PO_5^{'})$: 8%
	50	$(OS_6, PO_4^{'})$: 14%	$(OS_6, PO_2^{'})$: 9%	$(OS_2, PO_5^{'})$: 15%
	100	$(OS_4, PO_2^{'})$: 11%	$(OS_4, PO_5^{'})$: 12%	$(OS_2, PO_5^{'})$: 12%
	200	$(OS_4, PO_7^{'})$: 13%	$(OS_2, PO_7^{'})$: 11%	$(OS_2, PO_5^{'})$: 11%
10	10	$(OS_2, PO_8^{'})$: 24%	$(OS_2, PO_4^{'})$: 16%	$(OS_3, PO_4^{'})$: 19%
	20	$(OS_2, PO_7^{'})$: 18%	$(OS_2, PO_5^{'})$: 14%	$(OS_7, PO_5^{'})$: 9%
	50	$(OS_4, PO_5^{'})$: 12%	$(OS_3, PO_2^{'})$: 6%	$(OS_7, PO_5^{'})$: 14%
	100	$(OS_4, PO_7^{'})$: 10%	$(OS_1, PO_5^{'})$: 7%	$(OS_7, PO_4^{'})$: 10%
	200	$(OS_2, PO_2^{'})$: 8%	$(OS_3, PO_4^{'})$: 7%	$(OS_7, PO_4^{'})$: 9%
20	10	$(OS_2, PO_5^{'})$, $(OS_2, PO_7^{'})$: 29%	$(OS_2, PO_6^{'})$: 18%	$(OS_7, PO_5^{'})$: 19%
	20	$(OS_7, PO_7^{'})$: 18%	$(OS_7, PO_1^{'})$: 9%	$(OS_7, PO_2^{'})$, $(OS_7, PO_4^{'})$: 10%
	50	$(OS_2, PO_4^{'})$: 15%	$(OS_7, PO_2^{'})$: 12%	$(OS_7, PO_5^{'})$: 14%
	100	$(OS_2, PO_2^{'})$: 15%	$(OS_7, PO_2^{'})$: 9%	$(OS_7, PO_5^{'})$: 12%
	200	$(OS_7, PO_4^{'})$: 12%	$(OS_1, PO_2^{'})$, $(OS_7, PO_5^{'})$: 6%	$(OS_7, PO_5^{'})$: 17%
		Best heuristic variants according to AD followed by the values of this criterion		
m	n	$p = 0.2$	$p = 0.5$	$p = 0.8$
5	10	$(OS_2, PO_7^{'})$: 0.282	$(OS_2, PO_1^{'})$: 0.273	$(OS_2, PO_4^{'})$: 0.095
	20	$(OS_2, PO_5^{'})$: 0.268	$(OS_2, PO_5^{'})$: 0.534	$(OS_2, PO_5^{'})$: 0.249
	50	$(OS_4, PO_4^{'})$: 0.183	$(OS_2, PO_4^{'})$: 0.607	$(OS_2, PO_5^{'})$: 0.683
	100	$(OS_4, PO_5^{'})$: 0.137	$(OS_2, PO_7^{'})$: 0.518	$(OS_2, PO_7^{'})$: 1.119
	200	$(OS_4, PO_7^{'})$: 0.106	$(OS_4, PO_2^{'})$: 0.428	$(OS_2, PO_2^{'})$: 0.971
10	10	$(OS_2, PO_8^{'})$: 0.252	$(OS_2, PO_5^{'})$: 0.167	$(OS_2, PO_4^{'})$: 0.071
	20	$(OS_2, PO_2^{'})$: 0.541	$(OS_2, PO_5^{'})$: 0.442	$(OS_7, PO_5^{'})$: 0.196
	50	$(OS_2, PO_5^{'})$: 0.718	$(OS_2, PO_5^{'})$: 1.195	$(OS_7, PO_5^{'})$: 0.615
	100	$(OS_2, PO_4^{'})$: 0.625	$(OS_3, PO_4^{'})$: 1.540	$(OS_7, PO_5^{'})$: 1.185
	200	$(OS_2, PO_2^{'})$: 0.540	$(OS_3, PO_4^{'})$: 1.363	$(OS_3, PO_5^{'})$: 2.107
20	10	$(OS_2, PO_6^{'})$: 0.201	$(OS_7, PO_1^{'})$: 0.141	$(OS_7, PO_6^{'})$: 0.057
	20	$(OS_2, PO_7^{'})$: 0.414	$(OS_7, PO_1^{'})$: 0.362	$(OS_7, PO_1^{'})$: 0.156
	50	$(OS_2, PO_5^{'})$: 1.124	$(OS_7, PO_5^{'})$: 0.995	$(OS_7, PO_4^{'})$: 0.543
	100	$(OS_2, PO_2^{'})$: 1.487	$(OS_3, PO_5^{'})$: 1.870	$(OS_7, PO_5^{'})$: 1.037
	200	$(OS_3, PO_4^{'})$: 1.412	$(OS_3, PO_4^{'})$: 2.900	$(OS_7, PO_5^{'})$: 1.911

Table 32: H2mFSCn: Best heuristic variants in terms of AD and $B\%$.

1 Discussion

From Tables 1-30 and the summary Tables 31 and 32, we can observe that, no heuristic variant clearly appears better than the others for all the sets $S(n, m, p)$ and for the performance criteria $B\%$ and AD. The performance of each variant depends on the instance. The results of the criterion $B\%$ show that, for each set $S(n, m, p)$, the heuristic variants of each heuristic approach yielded to the best solutions in less than 30% of the instances and in most of the cases in less than 20%, except for the set $S(10, 5, 0.2)$ in which some heuristic variants of H2mFSCn produced the best solutions in more than 30% of the instances of this set.

Regarding the CPU time, the heuristic variants of H2mFSCn require less CPU time than those of H1mFSCn for all the sets of instances. This can be explained by the fact that the number of partial sequences computed by the heuristic variants of H1mFSCn is greater than the number of partial sequences generated by the heuristic variants of H2mFSCn. Furthermore, while increasing the density of the conflict graph, the CPU time of the heuristic variants increases. For the heuristic variants of H1mFSCn, this is due to the fact that the size of the independent set S decreases when increasing the value of p, which increases the number of partial sequences generated. For the heuristic variants of H2mFSCn, when increasing p , the number of independent sets partitioning the conflict graph increases too, which in trun increases the number of partial sequences evaluated.

Conclusion

The computational results presented in this paper show that none of the heuristic variants clearly appears better than the others for all the sets $S(n, m, p)$ and for all the performance criteria (except the CPU time). The best results found by the 128 heuristic variants of H1mFSCn and H2mFSCn can be summarized as follows: the average deviation from the best lower bound is about 0.469 for $p = 0.2$, 0.818 for $p = 0.5$ and 0.693 for $p = 0.8$. Regarding the CPU time, the heuristic variants of H2mFSCn require less CPU time than those of H1mFSCn for all the sets of instances. It should be noticed that the running time is quite sensitive to the density of the conflict graph, and the CPU time required is less than 20 seconds for the heuristic variants of H2mFSCn and less than 64 seconds for the heuristic variants of H1mFSCn.

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