

Complete numerical results for the article
Estimation-based Metaheuristics for the
Probabilistic Traveling Salesman Problem

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1 Comparison between estimation-based algorithms

Table 1: Comparison of the average cost obtained by ILS-EE, MAGX-EE, ACS-EE and RRLS-EE, on clustered instances of size 1000 under 100 CPU seconds. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.050 - 00$	ILS-EE	3919043	338569
	MAGX-EE	3921652	339746
	ACS-EE	3938791	345129
	RRLS-EE	3926640	339381
$p = 0.050 - 16$	ILS-EE	3895405	336458
	MAGX-EE	3898054	336502
	ACS-EE	3903317	337600
	RRLS-EE	3899988	337056
$p = 0.050 - 50$	ILS-EE	3843499	316874
	MAGX-EE	3844667	316782
	ACS-EE	3844274	315022
	RRLS-EE	3845422	314858
$p = 0.050 - 83$	ILS-EE	3807143	355215
	MAGX-EE	3807458	354862
	ACS-EE	3807213	354419
	RRLS-EE	3807141	354854
$p = 0.075 - 00$	ILS-EE	4439652	346978
	MAGX-EE	4443585	346580
	ACS-EE	4455682	346720
	RRLS-EE	4463306	347050
$p = 0.075 - 16$	ILS-EE	4361591	362443
	MAGX-EE	4366199	361898
	ACS-EE	4375831	364101
	RRLS-EE	4382830	362044
$p = 0.075 - 50$	ILS-EE	4290971	341267
	MAGX-EE	4295314	342327
	ACS-EE	4301115	341885
	RRLS-EE	4305541	344377
$p = 0.075 - 83$	ILS-EE	4234735	370220
	MAGX-EE	4235883	370086
	ACS-EE	4237507	369947
	RRLS-EE	4242168	369417
$p = 0.100 - 00$	ILS-EE	4889248	354030
	MAGX-EE	4897795	353730
	ACS-EE	4920501	354763
	RRLS-EE	4965651	359040
$p = 0.100 - 16$	ILS-EE	4821332	349911
	MAGX-EE	4828866	349513
	ACS-EE	4851662	351284
	RRLS-EE	4866062	347636
$p = 0.100 - 50$	ILS-EE	4702437	357298
	MAGX-EE	4709729	357262
	ACS-EE	4721533	357272
	RRLS-EE	4738469	363009
$p = 0.100 - 83$	ILS-EE	4580801	373689
	MAGX-EE	4583576	372002
	ACS-EE	4593723	373316
	RRLS-EE	4605334	373532
$p = 0.150 - 00$	ILS-EE	5652994	364910
	MAGX-EE	5666085	365844
	ACS-EE	5678107	366466
	RRLS-EE	5756653	363073
$p = 0.150 - 16$	ILS-EE	5562330	384264
	MAGX-EE	5586960	382575
	ACS-EE	5605403	385734
	RRLS-EE	5670551	384899
$p = 0.150 - 50$	ILS-EE	5418707	368892
	MAGX-EE	5488990	377265
	ACS-EE	5520143	378928
	RRLS-EE	5540117	362977
$p = 0.150 - 83$	ILS-EE	5265990	398965
	MAGX-EE	5362262	411791
	ACS-EE	5410770	422814
	RRLS-EE	5397575	394618

Table 2: Comparison of the average cost obtained by ILS-EE, MAGX-EE, ACS-EE and RRLS-EE, on clustered instances of size 1000 under 100 CPU seconds. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.175 - 00$	ILS-EE	5992401	377748
	MAGX-EE	6003228	373247
	ACS-EE	6014874	375320
	RRLS-EE	6117231	371422
$p = 0.175 - 16$	ILS-EE	5888791	377664
	MAGX-EE	5915023	378625
	ACS-EE	5932540	377963
	RRLS-EE	6022407	379489
$p = 0.175 - 50$	ILS-EE	5733079	374785
	MAGX-EE	5798136	381571
	ACS-EE	5824118	379089
	RRLS-EE	5882143	379134
$p = 0.175 - 83$	ILS-EE	5576233	366839
	MAGX-EE	5666773	377874
	ACS-EE	5708010	383112
	RRLS-EE	5728328	367119
$p = 0.200 - 00$	ILS-EE	6304582	382875
	MAGX-EE	6320393	381937
	ACS-EE	6324316	380627
	RRLS-EE	6459895	373738
$p = 0.200 - 16$	ILS-EE	6184396	376880
	MAGX-EE	6209675	375695
	ACS-EE	6222664	378950
	RRLS-EE	6336770	381851
$p = 0.200 - 50$	ILS-EE	5991410	353531
	MAGX-EE	6054015	357391
	ACS-EE	6078183	357740
	RRLS-EE	6162193	354354
$p = 0.200 - 83$	ILS-EE	5824078	373805
	MAGX-EE	5917213	382147
	ACS-EE	5951134	380225
	RRLS-EE	6045464	521596
$p = 0.300 - 00$	ILS-EE	7383305	410128
	MAGX-EE	7395835	406944
	ACS-EE	7381900	404993
	RRLS-EE	7615105	405497
$p = 0.300 - 16$	ILS-EE	7280626	442143
	MAGX-EE	7292542	439301
	ACS-EE	7282793	439028
	RRLS-EE	7505689	445256
$p = 0.300 - 50$	ILS-EE	7064167	392191
	MAGX-EE	7095108	396535
	ACS-EE	7114309	395048
	RRLS-EE	7271552	395338
$p = 0.300 - 83$	ILS-EE	6933319	452787
	MAGX-EE	6987162	454910
	ACS-EE	7028861	456990
	RRLS-EE	7148540	466083
$p = 0.400 - 00$	ILS-EE	8258352	425120
	MAGX-EE	8271652	426517
	ACS-EE	8245361	425198
	RRLS-EE	8531561	423848
$p = 0.400 - 16$	ILS-EE	8166849	415307
	MAGX-EE	8181297	415096
	ACS-EE	8154479	416123
	RRLS-EE	8451127	415324
$p = 0.400 - 50$	ILS-EE	7931350	452760
	MAGX-EE	7954442	454744
	ACS-EE	7942672	453315
	RRLS-EE	8209419	457625
$p = 0.400 - 83$	ILS-EE	7834133	473673
	MAGX-EE	7872077	472243
	ACS-EE	7885688	473867
	RRLS-EE	8092111	478809
$p = 0.500 - 00$	ILS-EE	8999420	441392
	MAGX-EE	9015880	439986
	ACS-EE	8982777	439331
	RRLS-EE	9297068	452904
$p = 0.500 - 16$	ILS-EE	8895761	445365
	MAGX-EE	8914093	443512
	ACS-EE	8877727	446449
	RRLS-EE	9207986	460835
$p = 0.500 - 50$	ILS-EE	8720266	463059
	MAGX-EE	8732410	460337
	ACS-EE	8700306	459372
	RRLS-EE	9029258	457557
$p = 0.500 - 83$	ILS-EE	8486579	470562
	MAGX-EE	8532747	473555
	ACS-EE	8510177	470692
	RRLS-EE	8796049	489174

Table 3: Comparison of the average cost obtained by ILS-EE, MAGX-EE, ACS-EE and RRLS-EE, on clustered instances of size 1000 under 1000 CPU seconds. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.050 - 00$	ILS-EE	3914263	336671
	MAGX-EE	3914250	336535
	ACS-EE	3916498	336886
	RRLS-EE	3920785	337665
$p = 0.050 - 16$	ILS-EE	3891010	332997
	MAGX-EE	3890739	332814
	ACS-EE	3891785	332871
	RRLS-EE	3894353	335188
$p = 0.050 - 50$	ILS-EE	3839751	313900
	MAGX-EE	3839425	313700
	ACS-EE	3839819	313778
	RRLS-EE	3841678	315224
$p = 0.050 - 83$	ILS-EE	3805232	354627
	MAGX-EE	3804957	354467
	ACS-EE	3805173	354508
	RRLS-EE	3805608	354728
$p = 0.075 - 00$	ILS-EE	4432943	344353
	MAGX-EE	4432139	343744
	ACS-EE	4435908	344156
	RRLS-EE	4450298	345585
$p = 0.075 - 16$	ILS-EE	4356122	361059
	MAGX-EE	4356070	360874
	ACS-EE	4358876	361152
	RRLS-EE	4372112	364770
$p = 0.075 - 50$	ILS-EE	4287168	340446
	MAGX-EE	4287026	340525
	ACS-EE	4288198	340620
	RRLS-EE	4294334	341777
$p = 0.075 - 83$	ILS-EE	4232234	368621
	MAGX-EE	4231992	368461
	ACS-EE	4232283	368451
	RRLS-EE	4234964	369321
$p = 0.100 - 00$	ILS-EE	4878702	351951
	MAGX-EE	4879634	351373
	ACS-EE	4882447	351314
	RRLS-EE	4948925	360027
$p = 0.100 - 16$	ILS-EE	4812618	349838
	MAGX-EE	4813317	349173
	ACS-EE	4817662	349064
	RRLS-EE	4848704	349131
$p = 0.100 - 50$	ILS-EE	4695119	353860
	MAGX-EE	4695376	354169
	ACS-EE	4697661	354247
	RRLS-EE	4718055	357775
$p = 0.100 - 83$	ILS-EE	4576334	370471
	MAGX-EE	4576256	370436
	ACS-EE	4577171	370523
	RRLS-EE	4588166	371294
$p = 0.150 - 00$	ILS-EE	5634932	365276
	MAGX-EE	5632782	365468
	ACS-EE	5632146	364767
	RRLS-EE	5731553	366157
$p = 0.150 - 16$	ILS-EE	5544401	382283
	MAGX-EE	5545437	382051
	ACS-EE	5547629	380651
	RRLS-EE	5632491	383205
$p = 0.150 - 50$	ILS-EE	5404875	367529
	MAGX-EE	5414161	367698
	ACS-EE	5422655	369023
	RRLS-EE	5489486	368681
$p = 0.150 - 83$	ILS-EE	5259212	395880
	MAGX-EE	5270929	399254
	ACS-EE	5280580	398847
	RRLS-EE	5341317	400253

Table 4: Comparison of the average cost obtained by ILS-EE, MAGX-EE, ACS-EE and RRLS-EE, on clustered instances of size 1000 under 1000 CPU seconds. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.175 - 00$	ILS-EE	5967004	373819
	MAGX-EE	5963889	371716
	ACS-EE	5963237	372060
	RRLS-EE	6091065	369208
$p = 0.175 - 16$	ILS-EE	5866610	375119
	MAGX-EE	5869257	376809
	ACS-EE	5869274	374865
	RRLS-EE	5988748	372225
$p = 0.175 - 50$	ILS-EE	5716668	372655
	MAGX-EE	5726887	374455
	ACS-EE	5729162	373435
	RRLS-EE	5830370	376970
$p = 0.175 - 83$	ILS-EE	5565275	365728
	MAGX-EE	5577391	366421
	ACS-EE	5586296	366423
	RRLS-EE	5662673	374926
$p = 0.200 - 00$	ILS-EE	6275679	381097
	MAGX-EE	6271344	378400
	ACS-EE	6271727	377719
	RRLS-EE	6428022	377077
$p = 0.200 - 16$	ILS-EE	6157925	375413
	MAGX-EE	6157727	373378
	ACS-EE	6158313	376067
	RRLS-EE	6312942	385854
$p = 0.200 - 50$	ILS-EE	5970149	350383
	MAGX-EE	5980043	350841
	ACS-EE	5982240	351007
	RRLS-EE	6105839	350780
$p = 0.200 - 83$	ILS-EE	5810575	372767
	MAGX-EE	5824153	370807
	ACS-EE	5834681	373964
	RRLS-EE	5930740	380664
$p = 0.300 - 00$	ILS-EE	7333763	405101
	MAGX-EE	7320322	402465
	ACS-EE	7313484	401266
	RRLS-EE	7590300	398154
$p = 0.300 - 16$	ILS-EE	7226159	440230
	MAGX-EE	7215932	435742
	ACS-EE	7211353	435820
	RRLS-EE	7479885	444788
$p = 0.300 - 50$	ILS-EE	7000260	387271
	MAGX-EE	6998250	388410
	ACS-EE	7004914	385668
	RRLS-EE	7233462	395806
$p = 0.300 - 83$	ILS-EE	6849345	445873
	MAGX-EE	6855920	448040
	ACS-EE	6883933	448438
	RRLS-EE	7104675	459561
$p = 0.400 - 00$	ILS-EE	8196307	422920
	MAGX-EE	8178206	421679
	ACS-EE	8161231	420589
	RRLS-EE	8515317	422921
$p = 0.400 - 16$	ILS-EE	8099709	414936
	MAGX-EE	8081008	409619
	ACS-EE	8067824	413379
	RRLS-EE	8432905	413580
$p = 0.400 - 50$	ILS-EE	7862977	451849
	MAGX-EE	7848773	447111
	ACS-EE	7844715	445661
	RRLS-EE	8168809	453145
$p = 0.400 - 83$	ILS-EE	7735376	470277
	MAGX-EE	7728024	468990
	ACS-EE	7737176	466384
	RRLS-EE	8051670	479300
$p = 0.500 - 00$	ILS-EE	8930206	437735
	MAGX-EE	8904162	435241
	ACS-EE	8883404	435491
	RRLS-EE	9290221	450999
$p = 0.500 - 16$	ILS-EE	8826883	442088
	MAGX-EE	8803483	439982
	ACS-EE	8784331	440106
	RRLS-EE	9191633	458778
$p = 0.500 - 50$	ILS-EE	8642447	459786
	MAGX-EE	8618444	457844
	ACS-EE	8601951	456290
	RRLS-EE	9009681	454366
$p = 0.500 - 83$	ILS-EE	8394711	467843
	MAGX-EE	8383114	465374
	ACS-EE	8377578	465858
	RRLS-EE	8753795	481263

Table 5: Comparison of the expected cost obtained by ILS-EE, MAGX-EE, ACS-EE normalized by RRLS-EE, on clustered instances of size 1000 for 100 CPU seconds. The normalization is done on instance-by-instance basis. See Footnote 1 on this page for an explanation of the contents and the typographic conventions adopted in the table.

		ILS-EE vs. MAGX-EE		ILS-EE vs. ACS-EE		MAGX-EE vs. ACS-EE	
		p	d	d	d	d	d
			CI	CI	CI	CI	CI
Class I	0.050(00%)	-0.06	[-0.10, -0.03]	-0.50	[-0.59, -0.40]	-0.43	[-0.53, -0.33]
	0.050(16%)	-0.07	[-0.11, -0.02]	-0.20	[-0.25, -0.15]	-0.13	[-0.19, -0.08]
	0.050(50%)	-0.03	[-0.06, +0.00]	-0.02	[-0.05, +0.01]	+0.01	[-0.02, +0.04]
	0.050(83%)	-0.01	[-0.03, +0.01]	-0.00	[-0.02, +0.02]	+0.01	[-0.02, +0.03]
	0.075(00%)	-0.09	[-0.12, -0.06]	-0.36	[-0.40, -0.33]	-0.27	[-0.31, -0.24]
	0.075(16%)	-0.11	[-0.14, -0.08]	-0.32	[-0.35, -0.29]	-0.22	[-0.25, -0.18]
	0.075(50%)	-0.10	[-0.13, -0.07]	-0.24	[-0.26, -0.21]	-0.14	[-0.17, -0.10]
	0.075(83%)	-0.03	[-0.05, -0.01]	-0.07	[-0.09, -0.05]	-0.04	[-0.06, -0.02]
	0.100(00%)	-0.18	[-0.21, -0.14]	-0.64	[-0.68, -0.60]	-0.46	[-0.51, -0.42]
	0.100(16%)	-0.16	[-0.19, -0.13]	-0.63	[-0.66, -0.59]	-0.47	[-0.51, -0.43]
	0.100(50%)	-0.16	[-0.19, -0.12]	-0.41	[-0.44, -0.37]	-0.25	[-0.29, -0.21]
0.100(83%)	-0.06	[-0.09, -0.03]	-0.28	[-0.32, -0.24]	-0.22	[-0.25, -0.19]	
overall	-0.09	[-0.10, -0.08]	-0.31	[-0.32, -0.29]	-0.22	[-0.23, -0.21]	
Class II	0.150(00%)	-0.23	[-0.26, -0.20]	-0.44	[-0.48, -0.40]	-0.21	[-0.26, -0.17]
	0.150(16%)	-0.45	[-0.48, -0.41]	-0.77	[-0.82, -0.72]	-0.33	[-0.38, -0.27]
	0.150(50%)	-1.28	[-1.35, -1.21]	-1.84	[-1.92, -1.75]	-0.57	[-0.67, -0.46]
	0.150(83%)	-1.79	[-1.89, -1.69]	-2.67	[-2.82, -2.52]	-0.90	[-1.07, -0.72]
	0.175(00%)	-0.19	[-0.23, -0.15]	-0.38	[-0.43, -0.33]	-0.19	[-0.24, -0.15]
	0.175(16%)	-0.44	[-0.49, -0.40]	-0.74	[-0.79, -0.69]	-0.30	[-0.35, -0.24]
	0.175(50%)	-1.12	[-1.18, -1.06]	-1.57	[-1.63, -1.50]	-0.45	[-0.53, -0.37]
	0.175(83%)	-1.59	[-1.67, -1.51]	-2.30	[-2.41, -2.19]	-0.72	[-0.85, -0.59]
	0.200(00%)	-0.25	[-0.29, -0.21]	-0.32	[-0.36, -0.27]	-0.06	[-0.11, -0.02]
	0.200(16%)	-0.41	[-0.45, -0.36]	-0.62	[-0.67, -0.56]	-0.21	[-0.26, -0.15]
	0.200(50%)	-1.04	[-1.09, -0.98]	-1.43	[-1.49, -1.37]	-0.40	[-0.48, -0.32]
0.200(83%)	-1.57	[-1.64, -1.50]	-2.14	[-2.21, -2.06]	-0.57	[-0.66, -0.48]	
overall	-0.86	[-0.89, -0.84]	-1.27	[-1.30, -1.24]	-0.41	[-0.44, -0.38]	
Class III	0.300(00%)	-0.17	[-0.23, -0.11]	+0.02	[-0.04, +0.07]	<i>+0.19</i>	[+0.14, +0.24]
	0.300(16%)	-0.17	[-0.23, -0.11]	-0.03	[-0.09, +0.03]	<i>+0.13</i>	[+0.08, +0.19]
	0.300(50%)	-0.43	[-0.51, -0.36]	-0.70	[-0.78, -0.63]	-0.27	[-0.34, -0.20]
	0.300(83%)	-0.77	[-0.85, -0.69]	-1.36	[-1.45, -1.27]	-0.59	[-0.69, -0.50]
	0.400(00%)	-0.16	[-0.22, -0.10]	<i>+0.16</i>	[+0.09, +0.22]	<i>+0.32</i>	[+0.27, +0.37]
	0.400(16%)	-0.18	[-0.25, -0.10]	<i>+0.15</i>	[+0.08, +0.23]	<i>+0.33</i>	[+0.28, +0.38]
	0.400(50%)	-0.29	[-0.36, -0.21]	-0.14	[-0.22, -0.07]	<i>+0.15</i>	[+0.09, +0.21]
	0.400(83%)	-0.48	[-0.56, -0.41]	-0.65	[-0.74, -0.57]	-0.17	[-0.25, -0.09]
	0.500(00%)	-0.18	[-0.25, -0.11]	<i>+0.19</i>	[+0.11, +0.26]	<i>+0.37</i>	[+0.32, +0.42]
	0.500(16%)	-0.20	[-0.28, -0.13]	<i>+0.21</i>	[+0.13, +0.28]	<i>+0.41</i>	[+0.36, +0.46]
	0.500(50%)	-0.14	[-0.22, -0.06]	<i>+0.23</i>	[+0.15, +0.31]	<i>+0.37</i>	[+0.31, +0.43]
0.500(83%)	-0.54	[-0.62, -0.46]	-0.28	[-0.36, -0.20]	<i>+0.27</i>	[+0.20, +0.33]	
overall	-0.31	[-0.33, -0.29]	-0.19	[-0.21, -0.16]	<i>+0.12</i>	[+0.10, +0.14]	

¹ For a given comparison A vs. B, the table reports the observed relative difference (d) between the two algorithms A and B and the 95% confidence interval (CI) obtained through the t-test. If the value is positive, algorithm A obtained an average cost that is larger than the one obtained by algorithm B. In this case, the value is typeset in italics if it is significantly different from zero according to the t-test at a confidence level of 95%. If the value is negative, algorithm A obtained an average cost that is smaller than the one obtained by algorithm B. In this case, the value is typeset in boldface if it is significantly different from zero according to the t-test, at a confidence level of 95%.

Table 6: Comparison of the average cost obtained by ILS-EE, MAGX-EE, ACS-EE normalized by RRLS-EE, on clustered instances of size 1000 for 1000 CPU seconds. See Footnote for an explanation of the contents and the typographic conventions adopted in the table.

		ILS-EE vs. MAGX-EE		ILS-EE vs. ACS-EE		MAGX-EE vs. ACS-EE	
	p	d	CI	d	CI	d	CI
Class I	0.050(00%)	+0.00	[-0.01, +0.01]	-0.06	[-0.06, -0.05]	-0.06	[-0.06, -0.05]
	0.050(16%)	+0.01	[+0.00, +0.01]	-0.02	[-0.03, -0.01]	-0.03	[-0.03, -0.02]
	0.050(50%)	+0.01	[+0.00, +0.01]	-0.00	[-0.01, +0.00]	-0.01	[-0.01, -0.01]
	0.050(83%)	+0.01	[+0.00, +0.01]	+0.00	[-0.00, +0.01]	-0.01	[-0.01, -0.00]
	0.075(00%)	+0.02	[+0.01, +0.03]	-0.07	[-0.08, -0.06]	-0.08	[-0.09, -0.08]
	0.075(16%)	+0.00	[-0.01, +0.01]	-0.06	[-0.07, -0.06]	-0.06	[-0.07, -0.06]
	0.075(50%)	+0.00	[-0.00, +0.01]	-0.02	[-0.03, -0.02]	-0.03	[-0.03, -0.02]
	0.075(83%)	+0.01	[+0.00, +0.01]	-0.00	[-0.01, +0.00]	-0.01	[-0.01, -0.00]
	0.100(00%)	-0.02	[-0.03, -0.01]	-0.08	[-0.10, -0.06]	-0.06	[-0.07, -0.04]
	0.100(16%)	-0.02	[-0.02, -0.01]	-0.11	[-0.12, -0.09]	-0.09	[-0.10, -0.08]
0.100(50%)	-0.01	[-0.01, -0.00]	-0.05	[-0.06, -0.05]	-0.05	[-0.06, -0.04]	
0.100(83%)	+0.00	[-0.00, +0.01]	-0.02	[-0.02, -0.01]	-0.02	[-0.02, -0.02]	
overall	+0.00	[-0.00, +0.00]	-0.04	[-0.04, -0.04]	-0.04	[-0.04, -0.04]	
Class II	0.150(00%)	+0.04	[+0.02, +0.06]	+0.05	[+0.03, +0.07]	+0.01	[-0.01, +0.03]
	0.150(16%)	-0.02	[-0.04, +0.00]	-0.06	[-0.08, -0.04]	-0.04	[-0.06, -0.02]
	0.150(50%)	-0.17	[-0.19, -0.15]	-0.33	[-0.35, -0.30]	-0.16	[-0.18, -0.13]
	0.150(83%)	-0.22	[-0.25, -0.19]	-0.40	[-0.43, -0.38]	-0.18	[-0.22, -0.15]
	0.175(00%)	+0.05	[+0.02, +0.08]	+0.06	[+0.03, +0.09]	+0.01	[-0.02, +0.04]
	0.175(16%)	-0.04	[-0.07, -0.02]	-0.05	[-0.07, -0.02]	-0.00	[-0.03, +0.03]
	0.175(50%)	-0.18	[-0.20, -0.15]	-0.22	[-0.24, -0.19]	-0.04	[-0.07, -0.01]
	0.175(83%)	-0.22	[-0.24, -0.19]	-0.38	[-0.41, -0.35]	-0.16	[-0.19, -0.13]
	0.200(00%)	+0.07	[+0.04, +0.10]	+0.06	[+0.03, +0.09]	-0.01	[-0.03, +0.02]
	0.200(16%)	+0.00	[-0.03, +0.03]	-0.01	[-0.04, +0.02]	-0.01	[-0.03, +0.02]
0.200(50%)	-0.17	[-0.19, -0.14]	-0.20	[-0.23, -0.18]	-0.04	[-0.06, -0.01]	
0.200(83%)	-0.24	[-0.26, -0.21]	-0.41	[-0.44, -0.39]	-0.18	[-0.21, -0.15]	
overall	-0.09	[-0.10, -0.08]	-0.16	[-0.17, -0.15]	-0.07	[-0.07, -0.06]	
Class III	0.300(00%)	+0.18	[+0.14, +0.23]	+0.28	[+0.23, +0.32]	+0.09	[+0.06, +0.12]
	0.300(16%)	+0.14	[+0.10, +0.18]	+0.20	[+0.16, +0.24]	+0.06	[+0.03, +0.09]
	0.300(50%)	+0.03	[-0.01, +0.07]	-0.07	[-0.11, -0.02]	-0.10	[-0.13, -0.06]
	0.300(83%)	-0.09	[-0.13, -0.05]	-0.50	[-0.55, -0.45]	-0.41	[-0.46, -0.36]
	0.400(00%)	+0.22	[+0.17, +0.27]	+0.43	[+0.38, +0.48]	+0.21	[+0.18, +0.24]
	0.400(16%)	+0.23	[+0.18, +0.28]	+0.40	[+0.34, +0.45]	+0.17	[+0.13, +0.20]
	0.400(50%)	+0.18	[+0.13, +0.22]	+0.23	[+0.18, +0.28]	+0.05	[+0.02, +0.08]
	0.400(83%)	+0.10	[+0.05, +0.15]	-0.02	[-0.08, +0.03]	-0.12	[-0.16, -0.08]
	0.500(00%)	+0.29	[+0.24, +0.35]	+0.53	[+0.47, +0.59]	+0.23	[+0.20, +0.27]
	0.500(16%)	+0.27	[+0.21, +0.32]	+0.49	[+0.43, +0.55]	+0.22	[+0.19, +0.25]
0.500(50%)	+0.28	[+0.22, +0.33]	+0.47	[+0.41, +0.53]	+0.19	[+0.16, +0.22]	
0.500(83%)	+0.14	[+0.09, +0.19]	+0.21	[+0.15, +0.26]	+0.07	[+0.03, +0.10]	
overall	+0.16	[+0.15, +0.18]	+0.22	[+0.20, +0.23]	+0.05	[+0.04, +0.07]	

2 Comparison with pACS+1-shift

Table 7: Comparison of the average cost obtained by **MAGX-EE** and **pACS+1-shift** over 10 independent runs on the PTSPLIB instance rat783. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.050 - 00$	ILS-EE	2312	1
	MAGX-EE	2312	2
	ACS-EE	2312	0
	pACS+1-shift	2310	3
$p = 0.050 - 16$	ILS-EE	2239	40
	MAGX-EE	2232	41
	ACS-EE	2234	41
	pACS+1-shift	2418	116
$p = 0.050 - 50$	ILS-EE	2198	100
	MAGX-EE	2196	100
	ACS-EE	2196	100
	pACS+1-shift	2844	814
$p = 0.050 - 83$	ILS-EE	2110	163
	MAGX-EE	2109	163
	ACS-EE	2109	163
	pACS+1-shift	3965	440
$p = 0.075 - 00$	ILS-EE	2819	6
	MAGX-EE	2818	4
	ACS-EE	2813	0
	pACS+1-shift	2886	46
$p = 0.075 - 16$	ILS-EE	2748	98
	MAGX-EE	2744	101
	ACS-EE	2747	101
	pACS+1-shift	2951	179
$p = 0.075 - 50$	ILS-EE	2569	128
	MAGX-EE	2565	127
	ACS-EE	2566	128
	pACS+1-shift	3248	816
$p = 0.075 - 83$	ILS-EE	2517	145
	MAGX-EE	2516	144
	ACS-EE	2517	145
	pACS+1-shift	4987	483
$p = 0.100 - 00$	ILS-EE	3250	5
	MAGX-EE	3246	4
	ACS-EE	3251	0
	pACS+1-shift	3341	34
$p = 0.100 - 16$	ILS-EE	3133	83
	MAGX-EE	3124	81
	ACS-EE	3130	81
	pACS+1-shift	3476	207
$p = 0.100 - 50$	ILS-EE	2959	95
	MAGX-EE	2954	92
	ACS-EE	2956	94
	pACS+1-shift	4035	1035
$p = 0.100 - 83$	ILS-EE	2832	75
	MAGX-EE	2830	75
	ACS-EE	2830	75
	pACS+1-shift	5892	421
$p = 0.150 - 00$	ILS-EE	3960	6
	MAGX-EE	3961	8
	ACS-EE	3974	1
	pACS+1-shift	4166	77
$p = 0.150 - 16$	ILS-EE	3785	75
	MAGX-EE	3780	76
	ACS-EE	3786	76
	pACS+1-shift	4147	117
$p = 0.150 - 50$	ILS-EE	3590	108
	MAGX-EE	3584	106
	ACS-EE	3597	103
	pACS+1-shift	4734	1319
$p = 0.150 - 83$	ILS-EE	3450	82
	MAGX-EE	3449	83
	ACS-EE	3453	81
	pACS+1-shift	7291	269

Table 8: Comparison of the average cost obtained by **MAGX-EE** and **pACS+1-shift** over 10 independent runs on the PTSPLIB instance rat783. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.175 - 00$	ILS-EE	4272	9
	MAGX-EE	4271	9
	ACS-EE	4292	0
	pACS+1-shift	4513	60
$p = 0.175 - 16$	ILS-EE	4107	77
	MAGX-EE	4110	78
	ACS-EE	4111	78
	pACS+1-shift	4517	135
$p = 0.175 - 50$	ILS-EE	3883	134
	MAGX-EE	3888	132
	ACS-EE	3890	129
	pACS+1-shift	5100	1285
$p = 0.175 - 83$	ILS-EE	3702	75
	MAGX-EE	3703	74
	ACS-EE	3710	79
	pACS+1-shift	7912	339
$p = 0.200 - 00$	ILS-EE	4556	12
	MAGX-EE	4553	7
	ACS-EE	4570	0
	pACS+1-shift	4826	45
$p = 0.200 - 16$	ILS-EE	4404	66
	MAGX-EE	4395	66
	ACS-EE	4406	68
	pACS+1-shift	4911	145
$p = 0.200 - 50$	ILS-EE	4131	113
	MAGX-EE	4133	112
	ACS-EE	4138	117
	pACS+1-shift	5851	1604
$p = 0.200 - 83$	ILS-EE	3954	126
	MAGX-EE	3956	129
	ACS-EE	3961	127
	pACS+1-shift	8213	398
$p = 0.300 - 00$	ILS-EE	5498	8
	MAGX-EE	5494	12
	ACS-EE	5472	0
	pACS+1-shift	6085	93
$p = 0.300 - 16$	ILS-EE	5343	51
	MAGX-EE	5345	45
	ACS-EE	5334	55
	pACS+1-shift	6098	142
$p = 0.300 - 50$	ILS-EE	5043	127
	MAGX-EE	5053	128
	ACS-EE	5051	124
	pACS+1-shift	8660	1781
$p = 0.300 - 83$	ILS-EE	4802	158
	MAGX-EE	4795	168
	ACS-EE	4804	170
	pACS+1-shift	9688	610
$p = 0.400 - 00$	ILS-EE	6240	12
	MAGX-EE	6245	13
	ACS-EE	6245	0
	pACS+1-shift	6962	134
$p = 0.400 - 16$	ILS-EE	6090	74
	MAGX-EE	6093	74
	ACS-EE	6085	70
	pACS+1-shift	7040	123
$p = 0.400 - 50$	ILS-EE	5896	93
	MAGX-EE	5902	104
	ACS-EE	5888	94
	pACS+1-shift	10662	578
$p = 0.400 - 83$	ILS-EE	5589	100
	MAGX-EE	5591	98
	ACS-EE	5598	110
	pACS+1-shift	10662	436
$p = 0.500 - 00$	ILS-EE	6857	12
	MAGX-EE	6846	9
	ACS-EE	6854	0
	pACS+1-shift	7789	131
$p = 0.500 - 16$	ILS-EE	6743	45
	MAGX-EE	6743	45
	ACS-EE	6734	45
	pACS+1-shift	8020	146
$p = 0.500 - 50$	ILS-EE	6543	104
	MAGX-EE	6545	99
	ACS-EE	6524	96
	pACS+1-shift	11836	486
$p = 0.500 - 83$	ILS-EE	6282	152
	MAGX-EE	6278	159
	ACS-EE	6266	149
	pACS+1-shift	11559	546

Table 9: Comparison of the average cost obtained by **MAGX-EE** and **pACS+1-shift** over 10 independent runs on the PTSPLIB instance att532. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.050 - 00$	ILS-EE	25525	10
	MAGX-EE	25525	10
	ACS-EE	25525	0
	pACS+1-shift	25485	3
$p = 0.050 - 16$	ILS-EE	25227	841
	MAGX-EE	25224	840
	ACS-EE	25232	837
	pACS+1-shift	25444	840
$p = 0.050 - 50$	ILS-EE	24964	1391
	MAGX-EE	24964	1391
	ACS-EE	24966	1391
	pACS+1-shift	27738	4579
$p = 0.050 - 83$	ILS-EE	23814	3275
	MAGX-EE	23813	3275
	ACS-EE	23813	3275
	pACS+1-shift	32930	5549
$p = 0.075 - 00$	ILS-EE	29989	17
	MAGX-EE	29981	9
	ACS-EE	29981	0
	pACS+1-shift	30009	141
$p = 0.075 - 16$	ILS-EE	29497	976
	MAGX-EE	29496	981
	ACS-EE	29505	977
	pACS+1-shift	29874	1347
$p = 0.075 - 50$	ILS-EE	29074	994
	MAGX-EE	29073	994
	ACS-EE	29074	993
	pACS+1-shift	33029	5984
$p = 0.075 - 83$	ILS-EE	27936	1724
	MAGX-EE	27935	1724
	ACS-EE	27935	1723
	pACS+1-shift	42761	3928
$p = 0.100 - 00$	ILS-EE	33763	22
	MAGX-EE	33727	13
	ACS-EE	33708	0
	pACS+1-shift	33915	166
$p = 0.100 - 16$	ILS-EE	32979	1234
	MAGX-EE	32976	1231
	ACS-EE	32983	1231
	pACS+1-shift	33946	1404
$p = 0.100 - 50$	ILS-EE	32433	1464
	MAGX-EE	32429	1464
	ACS-EE	32428	1462
	pACS+1-shift	38020	8711
$p = 0.100 - 83$	ILS-EE	31422	2139
	MAGX-EE	31419	2136
	ACS-EE	31419	2136
	pACS+1-shift	49379	3327
$p = 0.150 - 00$	ILS-EE	39767	47
	MAGX-EE	39713	30
	ACS-EE	39826	0
	pACS+1-shift	40628	214
$p = 0.150 - 16$	ILS-EE	38602	751
	MAGX-EE	38610	759
	ACS-EE	38592	747
	pACS+1-shift	40667	568
$p = 0.150 - 50$	ILS-EE	37566	1731
	MAGX-EE	37558	1732
	ACS-EE	37563	1730
	pACS+1-shift	45182	9973
$p = 0.150 - 83$	ILS-EE	36018	1277
	MAGX-EE	36018	1277
	ACS-EE	36020	1277
	pACS+1-shift	61858	5280

Table 10: Comparison of the average cost obtained by **MAGX-EE** and **pACS+1-shift** over 10 independent runs on the PTSPLIB instance att532. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.175 - 00$	ILS-EE	42347	29
	MAGX-EE	42293	32
	ACS-EE	42320	0
	pACS+1-shift	43399	388
$p = 0.175 - 16$	ILS-EE	41583	1052
	MAGX-EE	41579	1044
	ACS-EE	41576	1069
	pACS+1-shift	43500	1243
$p = 0.175 - 50$	ILS-EE	39728	1839
	MAGX-EE	39728	1857
	ACS-EE	39724	1842
	pACS+1-shift	47508	9067
$p = 0.175 - 83$	ILS-EE	38727	1796
	MAGX-EE	38721	1791
	ACS-EE	38721	1791
	pACS+1-shift	65098	5872
$p = 0.200 - 00$	ILS-EE	44783	82
	MAGX-EE	44710	23
	ACS-EE	45113	0
	pACS+1-shift	45890	437
$p = 0.200 - 16$	ILS-EE	44546	806
	MAGX-EE	44523	767
	ACS-EE	44561	798
	pACS+1-shift	47163	956
$p = 0.200 - 50$	ILS-EE	41894	1614
	MAGX-EE	41873	1584
	ACS-EE	41875	1599
	pACS+1-shift	52533	11378
$p = 0.200 - 83$	ILS-EE	40583	1172
	MAGX-EE	40575	1182
	ACS-EE	40574	1182
	pACS+1-shift	70313	3403
$p = 0.300 - 00$	ILS-EE	53130	29
	MAGX-EE	53108	90
	ACS-EE	53529	0
	pACS+1-shift	56190	451
$p = 0.300 - 16$	ILS-EE	52352	557
	MAGX-EE	52403	597
	ACS-EE	52423	687
	pACS+1-shift	56799	1518
$p = 0.300 - 50$	ILS-EE	50950	1626
	MAGX-EE	50978	1639
	ACS-EE	50944	1654
	pACS+1-shift	62435	12029
$p = 0.300 - 83$	ILS-EE	48918	1329
	MAGX-EE	48894	1320
	ACS-EE	48908	1320
	pACS+1-shift	83546	4652
$p = 0.400 - 00$	ILS-EE	60044	102
	MAGX-EE	60018	82
	ACS-EE	59944	0
	pACS+1-shift	64667	1027
$p = 0.400 - 16$	ILS-EE	59236	818
	MAGX-EE	59335	757
	ACS-EE	59244	782
	pACS+1-shift	66097	1604
$p = 0.400 - 50$	ILS-EE	57219	1115
	MAGX-EE	57264	1166
	ACS-EE	57191	1158
	pACS+1-shift	90297	10456
$p = 0.400 - 83$	ILS-EE	55292	1517
	MAGX-EE	55306	1562
	ACS-EE	55359	1541
	pACS+1-shift	92812	7278
$p = 0.500 - 00$	ILS-EE	66155	122
	MAGX-EE	66147	123
	ACS-EE	66079	0
	pACS+1-shift	71868	816
$p = 0.500 - 16$	ILS-EE	65259	792
	MAGX-EE	65370	746
	ACS-EE	65325	798
	pACS+1-shift	73893	1488
$p = 0.500 - 50$	ILS-EE	63556	1208
	MAGX-EE	63606	1242
	ACS-EE	63647	1160
	pACS+1-shift	101022	6617
$p = 0.500 - 83$	ILS-EE	61022	2063
	MAGX-EE	61112	2180
	ACS-EE	61042	2096
	pACS+1-shift	101124	5498

Table 11: Comparison of the average cost obtained by **MAGX-EE** and **pACS+1-shift** over 10 independent runs on the PTSPLIB instance lin318. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.050 - 00$	ILS-EE	12577	3
	MAGX-EE	12578	2
	ACS-EE	12576	0
	pACS+1-shift	12558	0
$p = 0.050 - 16$	ILS-EE	12314	714
	MAGX-EE	12314	714
	ACS-EE	12313	714
	pACS+1-shift	12328	709
$p = 0.050 - 50$	ILS-EE	12497	825
	MAGX-EE	12496	825
	ACS-EE	12496	825
	pACS+1-shift	12587	809
$p = 0.050 - 83$	ILS-EE	12372	1536
	MAGX-EE	12369	1539
	ACS-EE	12368	1539
	pACS+1-shift	14618	2972
$p = 0.075 - 00$	ILS-EE	15094	5
	MAGX-EE	15092	6
	ACS-EE	15096	0
	pACS+1-shift	15068	0
$p = 0.075 - 16$	ILS-EE	14760	742
	MAGX-EE	14758	741
	ACS-EE	14763	745
	pACS+1-shift	14764	738
$p = 0.075 - 50$	ILS-EE	14374	1405
	MAGX-EE	14373	1405
	ACS-EE	14374	1406
	pACS+1-shift	14471	1424
$p = 0.075 - 83$	ILS-EE	14976	1336
	MAGX-EE	14975	1336
	ACS-EE	14975	1336
	pACS+1-shift	19159	2793
$p = 0.100 - 00$	ILS-EE	17220	7
	MAGX-EE	17211	4
	ACS-EE	17213	0
	pACS+1-shift	17194	4
$p = 0.100 - 16$	ILS-EE	17092	593
	MAGX-EE	17090	591
	ACS-EE	17091	593
	pACS+1-shift	17141	637
$p = 0.100 - 50$	ILS-EE	16358	952
	MAGX-EE	16357	952
	ACS-EE	16359	952
	pACS+1-shift	16500	933
$p = 0.100 - 83$	ILS-EE	16778	1416
	MAGX-EE	16772	1422
	ACS-EE	16771	1421
	pACS+1-shift	21642	2376
$p = 0.150 - 00$	ILS-EE	20718	30
	MAGX-EE	20699	10
	ACS-EE	20689	0
	pACS+1-shift	20732	66
$p = 0.150 - 16$	ILS-EE	20418	717
	MAGX-EE	20425	719
	ACS-EE	20426	715
	pACS+1-shift	20704	904
$p = 0.150 - 50$	ILS-EE	19428	1196
	MAGX-EE	19425	1192
	ACS-EE	19434	1199
	pACS+1-shift	19925	1212
$p = 0.150 - 83$	ILS-EE	19534	1629
	MAGX-EE	19534	1629
	ACS-EE	19534	1628
	pACS+1-shift	26607	2507

Table 12: Comparison of the average cost obtained by **MAGX-EE** and **pACS+1-shift** over 10 independent runs on the PTSPLIB instance lin318. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.175 - 00$	ILS-EE	22211	54
	MAGX-EE	22190	60
	ACS-EE	22162	0
	pACS+1-shift	22458	244
$p = 0.175 - 16$	ILS-EE	21995	780
	MAGX-EE	21975	786
	ACS-EE	21994	810
	pACS+1-shift	22731	1049
$p = 0.175 - 50$	ILS-EE	20825	878
	MAGX-EE	20825	879
	ACS-EE	20826	879
	pACS+1-shift	21668	1038
$p = 0.175 - 83$	ILS-EE	20848	1009
	MAGX-EE	20844	1008
	ACS-EE	20844	1008
	pACS+1-shift	28441	2184
$p = 0.200 - 00$	ILS-EE	23502	23
	MAGX-EE	23519	84
	ACS-EE	23804	1
	pACS+1-shift	23807	167
$p = 0.200 - 16$	ILS-EE	23112	625
	MAGX-EE	23117	649
	ACS-EE	23225	689
	pACS+1-shift	23704	926
$p = 0.200 - 50$	ILS-EE	21680	915
	MAGX-EE	21695	918
	ACS-EE	21680	919
	pACS+1-shift	24458	3249
$p = 0.200 - 83$	ILS-EE	21606	938
	MAGX-EE	21604	937
	ACS-EE	21605	936
	pACS+1-shift	29989	2293
$p = 0.300 - 00$	ILS-EE	27812	106
	MAGX-EE	27916	114
	ACS-EE	28026	0
	pACS+1-shift	29008	492
$p = 0.300 - 16$	ILS-EE	27340	294
	MAGX-EE	27332	290
	ACS-EE	27412	312
	pACS+1-shift	29018	888
$p = 0.300 - 50$	ILS-EE	25888	1325
	MAGX-EE	25885	1326
	ACS-EE	25917	1327
	pACS+1-shift	29439	3653
$p = 0.300 - 83$	ILS-EE	26335	1237
	MAGX-EE	26360	1278
	ACS-EE	26334	1228
	pACS+1-shift	36283	2419
$p = 0.400 - 00$	ILS-EE	31184	99
	MAGX-EE	31260	90
	ACS-EE	31161	0
	pACS+1-shift	32307	393
$p = 0.400 - 16$	ILS-EE	30919	551
	MAGX-EE	30981	480
	ACS-EE	31061	543
	pACS+1-shift	32966	501
$p = 0.400 - 50$	ILS-EE	29870	1093
	MAGX-EE	29874	1089
	ACS-EE	29872	1095
	pACS+1-shift	38531	3390
$p = 0.400 - 83$	ILS-EE	29211	1251
	MAGX-EE	29208	1254
	ACS-EE	29216	1269
	pACS+1-shift	40222	2417
$p = 0.500 - 00$	ILS-EE	33824	55
	MAGX-EE	33886	107
	ACS-EE	33991	1
	pACS+1-shift	35764	584
$p = 0.500 - 16$	ILS-EE	33576	202
	MAGX-EE	33603	270
	ACS-EE	33618	268
	pACS+1-shift	36478	688
$p = 0.500 - 50$	ILS-EE	32862	750
	MAGX-EE	32934	768
	ACS-EE	32986	656
	pACS+1-shift	43076	2127
$p = 0.500 - 83$	ILS-EE	31876	901
	MAGX-EE	31879	917
	ACS-EE	31884	902
	pACS+1-shift	43320	2262

Table 13: Comparison of the average cost obtained by **MAGX-EE** and **pACS+1-shift** over 10 independent runs on the PTSPLIB instance d198. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.050 - 00$	ILS-EE	5610	1
	MAGX-EE	5610	1
	ACS-EE	5607	0
	pACS+1-shift	5606	0
$p = 0.050 - 16$	ILS-EE	5470	562
	MAGX-EE	5470	562
	ACS-EE	5470	562
	pACS+1-shift	5478	558
$p = 0.050 - 50$	ILS-EE	5843	1148
	MAGX-EE	5843	1148
	ACS-EE	5843	1147
	pACS+1-shift	5873	1127
$p = 0.050 - 83$	ILS-EE	5331	1635
	MAGX-EE	5330	1635
	ACS-EE	5330	1635
	pACS+1-shift	5411	1602
$p = 0.075 - 00$	ILS-EE	6675	3
	MAGX-EE	6674	1
	ACS-EE	6676	0
	pACS+1-shift	6670	0
$p = 0.075 - 16$	ILS-EE	6392	339
	MAGX-EE	6391	340
	ACS-EE	6391	339
	pACS+1-shift	6392	339
$p = 0.075 - 50$	ILS-EE	6666	794
	MAGX-EE	6666	794
	ACS-EE	6665	795
	pACS+1-shift	6682	785
$p = 0.075 - 83$	ILS-EE	6620	948
	MAGX-EE	6620	948
	ACS-EE	6620	948
	pACS+1-shift	6745	936
$p = 0.100 - 00$	ILS-EE	7444	3
	MAGX-EE	7443	2
	ACS-EE	7445	0
	pACS+1-shift	7437	0
$p = 0.100 - 16$	ILS-EE	7244	500
	MAGX-EE	7243	500
	ACS-EE	7242	500
	pACS+1-shift	7241	499
$p = 0.100 - 50$	ILS-EE	7265	773
	MAGX-EE	7264	773
	ACS-EE	7265	774
	pACS+1-shift	7276	768
$p = 0.100 - 83$	ILS-EE	7225	549
	MAGX-EE	7225	549
	ACS-EE	7225	549
	pACS+1-shift	7516	589
$p = 0.150 - 00$	ILS-EE	8531	4
	MAGX-EE	8528	2
	ACS-EE	8526	0
	pACS+1-shift	8524	0
$p = 0.150 - 16$	ILS-EE	8441	603
	MAGX-EE	8441	603
	ACS-EE	8440	601
	pACS+1-shift	8438	602
$p = 0.150 - 50$	ILS-EE	8092	719
	MAGX-EE	8091	718
	ACS-EE	8091	718
	pACS+1-shift	8096	717
$p = 0.150 - 83$	ILS-EE	7949	568
	MAGX-EE	7949	568
	ACS-EE	7949	569
	pACS+1-shift	8355	588

Table 14: Comparison of the average cost obtained by **MAGX-EE** and **pACS+1-shift** over 10 independent runs on the PTSPLIB instance d198. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.175 - 00$	ILS-EE	8946	2
	MAGX-EE	8944	2
	ACS-EE	8942	0
	pACS+1-shift	8940	0
$p = 0.175 - 16$	ILS-EE	8880	628
	MAGX-EE	8880	627
	ACS-EE	8884	634
	pACS+1-shift	8879	628
$p = 0.175 - 50$	ILS-EE	8510	760
	MAGX-EE	8510	761
	ACS-EE	8510	760
	pACS+1-shift	8515	759
$p = 0.175 - 83$	ILS-EE	8265	568
	MAGX-EE	8264	567
	ACS-EE	8264	568
	pACS+1-shift	8824	587
$p = 0.200 - 00$	ILS-EE	9323	5
	MAGX-EE	9318	4
	ACS-EE	9322	0
	pACS+1-shift	9312	0
$p = 0.200 - 16$	ILS-EE	9416	449
	MAGX-EE	9414	448
	ACS-EE	9424	450
	pACS+1-shift	9412	448
$p = 0.200 - 50$	ILS-EE	9049	1050
	MAGX-EE	9049	1049
	ACS-EE	9049	1049
	pACS+1-shift	9164	993
$p = 0.200 - 83$	ILS-EE	8503	548
	MAGX-EE	8503	548
	ACS-EE	8503	548
	pACS+1-shift	9094	492
$p = 0.300 - 00$	ILS-EE	10542	5
	MAGX-EE	10538	5
	ACS-EE	10534	0
	pACS+1-shift	10533	4
$p = 0.300 - 16$	ILS-EE	10473	347
	MAGX-EE	10469	345
	ACS-EE	10468	344
	pACS+1-shift	10477	336
$p = 0.300 - 50$	ILS-EE	10120	932
	MAGX-EE	10118	933
	ACS-EE	10117	933
	pACS+1-shift	10237	925
$p = 0.300 - 83$	ILS-EE	9606	817
	MAGX-EE	9605	817
	ACS-EE	9605	817
	pACS+1-shift	10384	737
$p = 0.400 - 00$	ILS-EE	11544	6
	MAGX-EE	11541	4
	ACS-EE	11536	1
	pACS+1-shift	11567	35
$p = 0.400 - 16$	ILS-EE	11527	485
	MAGX-EE	11523	485
	ACS-EE	11522	483
	pACS+1-shift	11605	524
$p = 0.400 - 50$	ILS-EE	11440	951
	MAGX-EE	11438	952
	ACS-EE	11438	951
	pACS+1-shift	12034	912
$p = 0.400 - 83$	ILS-EE	10764	889
	MAGX-EE	10764	891
	ACS-EE	10762	888
	pACS+1-shift	11740	829
$p = 0.500 - 00$	ILS-EE	12424	6
	MAGX-EE	12421	5
	ACS-EE	12417	0
	pACS+1-shift	12464	44
$p = 0.500 - 16$	ILS-EE	12492	296
	MAGX-EE	12489	299
	ACS-EE	12486	304
	pACS+1-shift	12645	319
$p = 0.500 - 50$	ILS-EE	12170	958
	MAGX-EE	12167	960
	ACS-EE	12166	960
	pACS+1-shift	12965	944
$p = 0.500 - 83$	ILS-EE	11558	840
	MAGX-EE	11556	840
	ACS-EE	11556	840
	pACS+1-shift	12644	764

Table 15: Comparison of the average cost obtained by **MAGX-EE** and **pACS+1-shift** over 10 independent runs on the PTSP LIB instance ch150. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.050 - 00$	ILS-EE	1770	1
	MAGX-EE	1770	1
	ACS-EE	1770	0
	pACS+1-shift	1767	0
$p = 0.050 - 16$	ILS-EE	1744	147
	MAGX-EE	1744	147
	ACS-EE	1744	147
	pACS+1-shift	1746	146
$p = 0.050 - 50$	ILS-EE	1705	211
	MAGX-EE	1706	212
	ACS-EE	1705	211
	pACS+1-shift	1717	208
$p = 0.050 - 83$	ILS-EE	1767	272
	MAGX-EE	1768	272
	ACS-EE	1768	272
	pACS+1-shift	1791	264
$p = 0.075 - 00$	ILS-EE	2165	1
	MAGX-EE	2164	1
	ACS-EE	2164	0
	pACS+1-shift	2161	0
$p = 0.075 - 16$	ILS-EE	2172	145
	MAGX-EE	2173	144
	ACS-EE	2173	144
	pACS+1-shift	2172	144
$p = 0.075 - 50$	ILS-EE	2093	172
	MAGX-EE	2092	172
	ACS-EE	2093	174
	pACS+1-shift	2099	171
$p = 0.075 - 83$	ILS-EE	2143	178
	MAGX-EE	2143	178
	ACS-EE	2143	178
	pACS+1-shift	2173	177
$p = 0.100 - 00$	ILS-EE	2484	2
	MAGX-EE	2483	1
	ACS-EE	2481	0
	pACS+1-shift	2479	0
$p = 0.100 - 16$	ILS-EE	2456	135
	MAGX-EE	2456	136
	ACS-EE	2455	135
	pACS+1-shift	2454	136
$p = 0.100 - 50$	ILS-EE	2287	161
	MAGX-EE	2286	161
	ACS-EE	2286	161
	pACS+1-shift	2292	160
$p = 0.100 - 83$	ILS-EE	2343	163
	MAGX-EE	2343	163
	ACS-EE	2343	163
	pACS+1-shift	2393	155
$p = 0.150 - 00$	ILS-EE	3014	1
	MAGX-EE	3013	1
	ACS-EE	3013	0
	pACS+1-shift	3010	0
$p = 0.150 - 16$	ILS-EE	3004	130
	MAGX-EE	3002	127
	ACS-EE	3007	130
	pACS+1-shift	3000	128
$p = 0.150 - 50$	ILS-EE	2756	219
	MAGX-EE	2761	220
	ACS-EE	2756	219
	pACS+1-shift	2758	219
$p = 0.150 - 83$	ILS-EE	2779	152
	MAGX-EE	2779	152
	ACS-EE	2779	152
	pACS+1-shift	2916	171

Table 16: Comparison of the average cost obtained by **MAGX-EE** and **pACS+1-shift** over 10 independent runs on the PTSP LIB instance ch150. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.175 - 00$	ILS-EE	3241	8
	MAGX-EE	3236	4
	ACS-EE	3239	0
	pACS+1-shift	3233	3
$p = 0.175 - 16$	ILS-EE	3218	145
	MAGX-EE	3216	145
	ACS-EE	3233	159
	pACS+1-shift	3215	146
$p = 0.175 - 50$	ILS-EE	3051	153
	MAGX-EE	3051	152
	ACS-EE	3054	156
	pACS+1-shift	3053	153
$p = 0.175 - 83$	ILS-EE	2936	131
	MAGX-EE	2936	131
	ACS-EE	2936	131
	pACS+1-shift	3100	201
$p = 0.200 - 00$	ILS-EE	3423	5
	MAGX-EE	3420	5
	ACS-EE	3432	0
	pACS+1-shift	3417	0
$p = 0.200 - 16$	ILS-EE	3366	89
	MAGX-EE	3365	90
	ACS-EE	3369	89
	pACS+1-shift	3364	88
$p = 0.200 - 50$	ILS-EE	3191	147
	MAGX-EE	3188	141
	ACS-EE	3188	141
	pACS+1-shift	3232	153
$p = 0.200 - 83$	ILS-EE	3120	171
	MAGX-EE	3120	169
	ACS-EE	3120	169
	pACS+1-shift	3290	242
$p = 0.300 - 00$	ILS-EE	4065	10
	MAGX-EE	4056	3
	ACS-EE	4053	0
	pACS+1-shift	4054	6
$p = 0.300 - 16$	ILS-EE	4015	111
	MAGX-EE	4015	112
	ACS-EE	4012	110
	pACS+1-shift	4013	111
$p = 0.300 - 50$	ILS-EE	3853	203
	MAGX-EE	3852	204
	ACS-EE	3852	204
	pACS+1-shift	3898	225
$p = 0.300 - 83$	ILS-EE	3809	213
	MAGX-EE	3808	213
	ACS-EE	3808	213
	pACS+1-shift	4097	267
$p = 0.400 - 00$	ILS-EE	4577	17
	MAGX-EE	4575	7
	ACS-EE	4593	0
	pACS+1-shift	4580	10
$p = 0.400 - 16$	ILS-EE	4503	128
	MAGX-EE	4501	126
	ACS-EE	4505	131
	pACS+1-shift	4526	132
$p = 0.400 - 50$	ILS-EE	4403	142
	MAGX-EE	4403	141
	ACS-EE	4402	142
	pACS+1-shift	4596	202
$p = 0.400 - 83$	ILS-EE	4380	192
	MAGX-EE	4378	193
	ACS-EE	4379	192
	pACS+1-shift	4850	277
$p = 0.500 - 00$	ILS-EE	5005	2
	MAGX-EE	5005	4
	ACS-EE	5004	0
	pACS+1-shift	5033	28
$p = 0.500 - 16$	ILS-EE	4981	83
	MAGX-EE	4980	83
	ACS-EE	4978	85
	pACS+1-shift	5039	103
$p = 0.500 - 50$	ILS-EE	4920	126
	MAGX-EE	4924	130
	ACS-EE	4920	133
	pACS+1-shift	5248	282
$p = 0.500 - 83$	ILS-EE	4670	197
	MAGX-EE	4670	195
	ACS-EE	4670	195
	pACS+1-shift	5080	199

Table 17: Comparison of the average cost obtained by **MAGX-EE** and **pACS+1-shift** over 10 independent runs on the PTSP LIB instance eil101. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.050 - 00$	ILS-EE	133	0
	MAGX-EE	133	0
	ACS-EE	133	0
	pACS+1-shift	132	0
$p = 0.050 - 16$	ILS-EE	130	15
	MAGX-EE	130	15
	ACS-EE	130	15
	pACS+1-shift	130	15
$p = 0.050 - 50$	ILS-EE	136	18
	MAGX-EE	136	18
	ACS-EE	136	18
	pACS+1-shift	137	18
$p = 0.050 - 83$	ILS-EE	138	39
	MAGX-EE	138	39
	ACS-EE	138	39
	pACS+1-shift	139	38
$p = 0.075 - 00$	ILS-EE	169	0
	MAGX-EE	170	1
	ACS-EE	170	0
	pACS+1-shift	169	0
$p = 0.075 - 16$	ILS-EE	169	18
	MAGX-EE	169	18
	ACS-EE	169	18
	pACS+1-shift	168	18
$p = 0.075 - 50$	ILS-EE	162	20
	MAGX-EE	162	20
	ACS-EE	163	20
	pACS+1-shift	163	20
$p = 0.075 - 83$	ILS-EE	181	30
	MAGX-EE	181	30
	ACS-EE	181	30
	pACS+1-shift	182	30
$p = 0.100 - 00$	ILS-EE	197	0
	MAGX-EE	197	0
	ACS-EE	197	0
	pACS+1-shift	196	0
$p = 0.100 - 16$	ILS-EE	193	11
	MAGX-EE	193	11
	ACS-EE	193	11
	pACS+1-shift	192	11
$p = 0.100 - 50$	ILS-EE	187	15
	MAGX-EE	187	15
	ACS-EE	187	15
	pACS+1-shift	187	15
$p = 0.100 - 83$	ILS-EE	198	37
	MAGX-EE	198	37
	ACS-EE	198	37
	pACS+1-shift	199	37
$p = 0.150 - 00$	ILS-EE	243	0
	MAGX-EE	243	0
	ACS-EE	244	0
	pACS+1-shift	242	0
$p = 0.150 - 16$	ILS-EE	240	16
	MAGX-EE	240	16
	ACS-EE	240	16
	pACS+1-shift	239	16
$p = 0.150 - 50$	ILS-EE	218	16
	MAGX-EE	218	16
	ACS-EE	219	16
	pACS+1-shift	218	16
$p = 0.150 - 83$	ILS-EE	226	34
	MAGX-EE	226	34
	ACS-EE	226	34
	pACS+1-shift	228	34
$p = 0.175 - 00$	ILS-EE	264	0
	MAGX-EE	264	0
	ACS-EE	265	0
	pACS+1-shift	263	0
$p = 0.175 - 16$	ILS-EE	265	9
	MAGX-EE	265	9
	ACS-EE	265	9
	pACS+1-shift	264	9
$p = 0.175 - 50$	ILS-EE	242	27
	MAGX-EE	242	27
	ACS-EE	242	27
	pACS+1-shift	241	27
$p = 0.175 - 83$	ILS-EE	244	39
	MAGX-EE	244	39
	ACS-EE	244	39
	pACS+1-shift	245	40

Table 18: Comparison of the average cost obtained by **MAGX-EE** and **pACS+1-shift** over 10 independent runs on the PTSPLIB instance kroA100. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.050 - 00$	ILS-EE	6471	2
	MAGX-EE	6470	2
	ACS-EE	6469	0
	pACS+1-shift	6465	0
$p = 0.050 - 16$	ILS-EE	6191	868
	MAGX-EE	6190	869
	ACS-EE	6189	869
	pACS+1-shift	6207	862
$p = 0.050 - 50$	ILS-EE	6292	1245
	MAGX-EE	6291	1245
	ACS-EE	6291	1245
	pACS+1-shift	6346	1222
$p = 0.050 - 83$	ILS-EE	6668	1643
	MAGX-EE	6668	1643
	ACS-EE	6668	1643
	pACS+1-shift	6731	1590
$p = 0.075 - 00$	ILS-EE	8023	2
	MAGX-EE	8022	3
	ACS-EE	8020	0
	pACS+1-shift	8016	0
$p = 0.075 - 16$	ILS-EE	8117	555
	MAGX-EE	8117	555
	ACS-EE	8117	555
	pACS+1-shift	8120	553
$p = 0.075 - 50$	ILS-EE	7827	789
	MAGX-EE	7827	790
	ACS-EE	7826	789
	pACS+1-shift	7854	781
$p = 0.075 - 83$	ILS-EE	8358	1012
	MAGX-EE	8358	1012
	ACS-EE	8358	1012
	pACS+1-shift	8391	1000
$p = 0.100 - 00$	ILS-EE	9042	4
	MAGX-EE	9041	3
	ACS-EE	9036	0
	pACS+1-shift	9034	0
$p = 0.100 - 16$	ILS-EE	8946	300
	MAGX-EE	8945	300
	ACS-EE	8944	301
	pACS+1-shift	8944	299
$p = 0.100 - 50$	ILS-EE	8426	792
	MAGX-EE	8426	793
	ACS-EE	8426	793
	pACS+1-shift	8445	786
$p = 0.100 - 83$	ILS-EE	8834	891
	MAGX-EE	8834	891
	ACS-EE	8834	891
	pACS+1-shift	8861	885
$p = 0.150 - 00$	ILS-EE	10524	2
	MAGX-EE	10524	3
	ACS-EE	10521	0
	pACS+1-shift	10520	0
$p = 0.150 - 16$	ILS-EE	10447	461
	MAGX-EE	10447	461
	ACS-EE	10448	463
	pACS+1-shift	10444	461
$p = 0.150 - 50$	ILS-EE	9835	623
	MAGX-EE	9836	622
	ACS-EE	9835	622
	pACS+1-shift	9844	621
$p = 0.150 - 83$	ILS-EE	10092	1074
	MAGX-EE	10092	1074
	ACS-EE	10092	1074
	pACS+1-shift	10114	1071

Table 19: Comparison of the average cost obtained by **MAGX-EE** and **pACS+1-shift** over 10 independent runs on the PTSPLIB instance kroA100. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.175 - 00$	ILS-EE	11146	2
	MAGX-EE	11145	2
	ACS-EE	11143	0
	pACS+1-shift	11142	0
$p = 0.175 - 16$	ILS-EE	11192	415
	MAGX-EE	11191	414
	ACS-EE	11194	417
	pACS+1-shift	11189	413
$p = 0.175 - 50$	ILS-EE	10341	848
	MAGX-EE	10341	848
	ACS-EE	10340	847
	pACS+1-shift	10346	846
$p = 0.175 - 83$	ILS-EE	10572	1264
	MAGX-EE	10572	1264
	ACS-EE	10571	1263
	pACS+1-shift	10591	1266
$p = 0.200 - 00$	ILS-EE	11718	4
	MAGX-EE	11717	3
	ACS-EE	11716	0
	pACS+1-shift	11714	0
$p = 0.200 - 16$	ILS-EE	11615	352
	MAGX-EE	11615	352
	ACS-EE	11622	357
	pACS+1-shift	11613	353
$p = 0.200 - 50$	ILS-EE	11102	719
	MAGX-EE	11102	719
	ACS-EE	11104	723
	pACS+1-shift	11106	719
$p = 0.200 - 83$	ILS-EE	10980	1449
	MAGX-EE	10979	1449
	ACS-EE	10980	1449
	pACS+1-shift	11042	1500
$p = 0.300 - 00$	ILS-EE	13691	7
	MAGX-EE	13684	5
	ACS-EE	13683	0
	pACS+1-shift	13678	0
$p = 0.300 - 16$	ILS-EE	13399	432
	MAGX-EE	13398	431
	ACS-EE	13398	430
	pACS+1-shift	13396	431
$p = 0.300 - 50$	ILS-EE	12785	1109
	MAGX-EE	12784	1109
	ACS-EE	12786	1109
	pACS+1-shift	12786	1108
$p = 0.300 - 83$	ILS-EE	13114	721
	MAGX-EE	13113	721
	ACS-EE	13113	721
	pACS+1-shift	13284	773
$p = 0.400 - 00$	ILS-EE	15265	15
	MAGX-EE	15254	1
	ACS-EE	15253	0
	pACS+1-shift	15253	0
$p = 0.400 - 16$	ILS-EE	15350	280
	MAGX-EE	15348	281
	ACS-EE	15349	283
	pACS+1-shift	15347	282
$p = 0.400 - 50$	ILS-EE	14793	671
	MAGX-EE	14791	672
	ACS-EE	14794	668
	pACS+1-shift	14844	644
$p = 0.400 - 83$	ILS-EE	15064	808
	MAGX-EE	15062	811
	ACS-EE	15063	811
	pACS+1-shift	15448	1064
$p = 0.500 - 00$	ILS-EE	16576	17
	MAGX-EE	16569	1
	ACS-EE	16569	0
	pACS+1-shift	16569	0
$p = 0.500 - 16$	ILS-EE	16428	371
	MAGX-EE	16427	371
	ACS-EE	16427	371
	pACS+1-shift	16427	371
$p = 0.500 - 50$	ILS-EE	16340	426
	MAGX-EE	16337	426
	ACS-EE	16338	426
	pACS+1-shift	16524	478
$p = 0.500 - 83$	ILS-EE	16085	583
	MAGX-EE	16084	583
	ACS-EE	16084	584
	pACS+1-shift	16908	665

Table 20: Comparison of the average cost obtained by ILS-EE, MAGX-EE, ACS-EE, and pACS+1-shift on rat783. The results are obtained over 10 independent runs. For certain probability levels in large instances, pACS+1-shift suffers from numerical problems, where the the comparison is not meaningful. Those cases are marked as -. See Footnote 1 for an explanation of the contents and the typographic conventions adopted in the table.

		ILS-EE vs. pACS+1-shift			MAGX-EE vs. pACS+1-shift		ACS-EE vs. pACS+1-shift	
		p	d	CI	d	CI	d	CI
Class I	0.050-00		+0.04	[-0.06, +0.15]	+0.04	[-0.08, +0.16]	+0.07	[-0.03, +0.16]
	0.050-16		-7.28	[-9.65, -4.91]	-7.57	[-9.91, -5.23]	-7.47	[-9.79, -5.15]
	0.050-50		-	-	-	-	-	-
	0.050-83		-	-	-	-	-	-
	0.075-00		-2.29	[-3.43, -1.15]	-2.33	[-3.47, -1.19]	-2.50	[-3.62, -1.38]
	0.075-16		-6.69	[-9.89, -3.48]	-6.81	[-9.98, -3.64]	-6.71	[-9.89, -3.53]
	0.075-50		-	-	-	-	-	-
	0.075-83		-	-	-	-	-	-
	0.100-00		-2.72	[-3.38, -2.06]	-2.82	[-3.49, -2.14]	-2.68	[-3.39, -1.97]
	0.100-16		-9.66	[-12.75, -6.57]	-9.91	[-12.98, -6.85]	-9.74	[-12.83, -6.65]
0.100-50		-	-	-	-	-	-	
0.100-83		-	-	-	-	-	-	
	overall		-4.77	[-5.91, -3.62]	-4.90	[-6.06, -3.74]	-4.84	[-5.98, -3.69]
Class II	0.150-00		-4.91	[-6.13, -3.69]	-4.89	[-6.13, -3.64]	-4.57	[-5.83, -3.31]
	0.150-16		-8.69	[-10.04, -7.33]	-8.82	[-10.17, -7.47]	-8.66	[-10.12, -7.19]
	0.150-50		-	-	-	-	-	-
	0.150-83		-	-	-	-	-	-
	0.175-00		-5.32	[-6.22, -4.41]	-5.34	[-6.21, -4.46]	-4.88	[-5.77, -3.99]
	0.175-16		-9.03	[-10.71, -7.36]	-8.96	[-10.61, -7.31]	-8.94	[-10.70, -7.17]
	0.175-50		-	-	-	-	-	-
	0.175-83		-	-	-	-	-	-
	0.200-00		-5.59	[-6.19, -5.00]	-5.64	[-6.24, -5.04]	-5.29	[-5.93, -4.66]
	0.200-16		-10.26	[-11.78, -8.74]	-10.46	[-11.92, -8.99]	-10.23	[-11.69, -8.78]
0.200-50		-	-	-	-	-	-	
0.200-83		-	-	-	-	-	-	
	overall		-7.30	[-8.00, -6.60]	-7.35	[-8.05, -6.65]	-7.10	[-7.83, -6.36]
Class III	0.300-00		-9.62	[-10.67, -8.56]	-9.69	[-10.63, -8.74]	-10.05	[-11.06, -9.04]
	0.300-16		-12.34	[-13.60, -11.08]	-12.32	[-13.54, -11.09]	-12.49	[-13.68, -11.29]
	0.300-50		-	-	-	-	-	-
	0.300-83		-	-	-	-	-	-
	0.400-00		-10.35	[-11.57, -9.14]	-10.28	[-11.60, -8.95]	-10.28	[-11.51, -9.05]
	0.400-16		-13.48	[-14.48, -12.48]	-13.44	[-14.35, -12.52]	-13.55	[-14.57, -12.53]
	0.400-50		-	-	-	-	-	-
	0.400-83		-	-	-	-	-	-
	0.500-00		-11.95	[-13.00, -10.89]	-12.09	[-13.19, -11.00]	-11.98	[-13.05, -10.91]
	0.500-16		-15.90	[-16.89, -14.92]	-15.91	[-16.88, -14.93]	-16.02	[-16.93, -15.10]
0.500-50		-	-	-	-	-	-	
0.500-83		-	-	-	-	-	-	
	overall		-12.27	[-12.93, -11.62]	-12.29	[-12.94, -11.63]	-12.39	[-13.04, -11.75]

Table 21: Comparison of the average cost obtained by ILS-EE, MAGX-EE, ACS-EE, and pACS+1-shift on att532. The results are obtained over 10 independent runs. For certain probability levels in large instances, pACS+1-shift suffers from numerical problems, where the the comparison is not meaningful. Those cases are marked as $-$. See Footnote 1 for an explanation of the contents and the typographic conventions adopted in the table.

		ILS-EE vs. pACS+1-shift		MAGX-EE vs. pACS+1-shift		ACS-EE vs. pACS+1-shift		
		p	d	CI	d	CI	d	CI
Class I	0.050-00		$+0.16$	[+0.12, +0.19]	$+0.16$	[+0.13, +0.19]	$+0.16$	[+0.15, +0.17]
	0.050-16		-0.84	[-1.72, +0.03]	-0.86	[-1.74, +0.02]	-0.83	[-1.71, +0.06]
	0.050-50		-8.31	[-16.91, +0.30]	-8.31	[-16.91, +0.30]	-8.30	[-16.91, +0.30]
	0.050-83		-	-	-	-	-	-
	0.075-00		-0.06	[-0.41, +0.28]	-0.09	[-0.43, +0.25]	-0.09	[-0.42, +0.24]
	0.075-16		-1.22	[-2.17, -0.26]	-1.22	[-2.17, -0.27]	-1.19	[-2.15, -0.23]
	0.075-50		-9.92	[-19.13, -0.71]	-9.93	[-19.13, -0.72]	-9.93	[-19.13, -0.72]
	0.075-83		-	-	-	-	-	-
	0.100-00		-0.45	[-0.78, -0.11]	-0.55	[-0.91, -0.20]	-0.61	[-0.96, -0.26]
	0.100-16		-2.83	[-3.85, -1.80]	-2.84	[-3.86, -1.81]	-2.81	[-3.85, -1.78]
0.100-50		-11.80	[-22.09, -1.51]	-11.81	[-22.10, -1.52]	-11.81	[-22.11, -1.52]	
0.100-83		-	-	-	-	-	-	
	overall		-11.10	[-13.78, -8.43]	-11.12	[-13.79, -8.44]	-11.11	[-13.79, -8.44]
Class II	0.150-00		-2.12	[-2.50, -1.74]	-2.25	[-2.62, -1.88]	-1.97	[-2.34, -1.60]
	0.150-16		-5.08	[-6.01, -4.14]	-5.06	[-6.02, -4.10]	-5.10	[-6.03, -4.18]
	0.150-50		-13.78	[-25.05, -2.50]	-13.79	[-25.07, -2.51]	-13.78	[-25.06, -2.51]
	0.150-83		-	-	-	-	-	-
	0.175-00		-2.42	[-3.04, -1.80]	-2.54	[-3.13, -1.95]	-2.48	[-3.10, -1.86]
	0.175-16		-4.39	[-5.51, -3.27]	-4.40	[-5.54, -3.25]	-4.40	[-5.56, -3.25]
	0.175-50		-14.08	[-23.82, -4.35]	-14.08	[-23.82, -4.34]	-14.09	[-23.83, -4.35]
	0.175-83		-	-	-	-	-	-
	0.200-00		-2.40	[-3.04, -1.77]	-2.56	[-3.23, -1.89]	-1.69	[-2.35, -1.02]
	0.200-16		-5.54	[-6.15, -4.94]	-5.59	[-6.17, -5.01]	-5.51	[-6.10, -4.92]
0.200-50		-	-	-	-	-	-	
0.200-83		-	-	-	-	-	-	
	overall		-15.92	[-19.02, -12.81]	-15.96	[-19.06, -12.86]	-15.86	[-18.97, -12.74]
Class III	0.300-00		-5.44	[-5.99, -4.89]	-5.48	[-6.04, -4.92]	-4.73	[-5.28, -4.18]
	0.300-16		-7.78	[-9.37, -6.19]	-7.69	[-9.24, -6.15]	-7.66	[-9.12, -6.20]
	0.300-50		-	-	-	-	-	-
	0.300-83		-	-	-	-	-	-
	0.400-00		-7.13	[-8.18, -6.07]	-7.17	[-8.17, -6.17]	-7.28	[-8.32, -6.25]
	0.400-16		-10.35	[-11.31, -9.39]	-10.20	[-11.27, -9.13]	-10.34	[-11.36, -9.32]
	0.400-50		-	-	-	-	-	-
	0.400-83		-	-	-	-	-	-
	0.500-00		-7.94	[-8.67, -7.21]	-7.95	[-8.66, -7.24]	-8.04	[-8.79, -7.30]
	0.500-16		-11.67	[-12.60, -10.73]	-11.52	[-12.35, -10.69]	-11.58	[-12.44, -10.71]
0.500-50		-	-	-	-	-	-	
0.500-83		-	-	-	-	-	-	
	overall		-	-	-	-	-	

Table 22: Comparison of the average cost obtained by ILS-EE, MAGX-EE, ACS-EE, and pACS+1-shift on lin318. The results are obtained over 10 independent runs. For certain probability levels in large instances, pACS+1-shift suffers from numerical problems, where the the comparison is not meaningful. Those cases are marked as $-$. See Footnote 1 for an explanation of the contents and the typographic conventions adopted in the table.

		ILS-EE vs. pACS+1-shift			MAGX-EE vs. pACS+1-shift			ACS-EE vs. pACS+1-shift		
		p	d	CI	d	CI	d	CI		
Class I	0.050-00		$+0.15$	[+0.14, +0.17]	$+0.16$	[+0.15, +0.17]	$+0.14$	[+0.00, +0.00]		
	0.050-16		-0.12	[-0.18, -0.06]	-0.12	[-0.18, -0.05]	-0.13	[-0.17, -0.09]		
	0.050-50		-0.72	[-1.13, -0.31]	-0.73	[-1.14, -0.32]	-0.73	[-1.13, -0.32]		
	0.050-83		-14.06	[-20.30, -7.81]	-14.08	[-20.33, -7.83]	-14.08	[-20.34, -7.83]		
	0.075-00		$+0.18$	[+0.15, +0.20]	$+0.16$	[+0.13, +0.19]	$+0.19$	[+0.00, +0.00]		
	0.075-16		-0.03	[-0.09, +0.03]	-0.04	[-0.10, +0.02]	-0.01	[-0.09, +0.08]		
	0.075-50		-0.66	[-1.11, -0.21]	-0.67	[-1.11, -0.22]	-0.66	[-1.11, -0.21]		
	0.075-83		-	-	-	-	-	-		
	0.100-00		$+0.15$	[+0.11, +0.19]	$+0.10$	[+0.08, +0.12]	$+0.11$	[+0.10, +0.13]		
	0.100-16		-0.28	[-0.75, +0.19]	-0.28	[-0.76, +0.19]	-0.28	[-0.74, +0.18]		
0.100-50		-0.87	[-1.52, -0.21]	-0.87	[-1.53, -0.21]	-0.86	[-1.51, -0.21]			
0.100-83		-	-	-	-	-	-			
overall			-4.97	[-6.59, -3.34]	-4.98	[-6.60, -3.35]	-4.97	[-6.60, -3.35]		
Class II	0.150-00		-0.07	[-0.34, +0.20]	-0.16	[-0.39, +0.07]	-0.21	[-0.44, +0.02]		
	0.150-16		-1.35	[-2.24, -0.45]	-1.31	[-2.21, -0.42]	-1.31	[-2.19, -0.42]		
	0.150-50		-2.49	[-3.65, -1.32]	-2.50	[-3.67, -1.33]	-2.46	[-3.62, -1.30]		
	0.150-83		-	-	-	-	-	-		
	0.175-00		-1.09	[-1.89, -0.29]	-1.19	[-2.00, -0.38]	-1.31	[-2.07, -0.55]		
	0.175-16		-3.19	[-4.23, -2.15]	-3.28	[-4.30, -2.26]	-3.20	[-4.12, -2.28]		
	0.175-50		-3.85	[-5.41, -2.28]	-3.85	[-5.41, -2.28]	-3.84	[-5.41, -2.28]		
	0.175-83		-	-	-	-	-	-		
	0.200-00		-1.28	[-1.75, -0.80]	-1.21	[-1.83, -0.59]	-0.01	[-0.51, +0.50]		
	0.200-16		-2.44	[-3.91, -0.98]	-2.42	[-3.92, -0.92]	-1.97	[-3.38, -0.57]		
0.200-50		-9.99	[-18.37, -1.61]	-9.92	[-18.34, -1.51]	-9.99	[-18.38, -1.60]			
0.200-83		-	-	-	-	-	-			
overall			-8.86	[-10.92, -6.80]	-8.87	[-10.93, -6.81]	-8.74	[-10.82, -6.67]		
Class III	0.300-00		-4.10	[-5.25, -2.95]	-3.74	[-4.85, -2.63]	-3.36	[-4.52, -2.20]		
	0.300-16		-5.72	[-7.41, -4.03]	-5.75	[-7.41, -4.09]	-5.48	[-6.97, -3.99]		
	0.300-50		-11.21	[-17.30, -5.12]	-11.22	[-17.31, -5.13]	-11.11	[-17.19, -5.03]		
	0.300-83		-	-	-	-	-	-		
	0.400-00		-3.46	[-4.33, -2.59]	-3.23	[-4.15, -2.31]	-3.53	[-4.38, -2.69]		
	0.400-16		-6.21	[-6.78, -5.65]	-6.02	[-6.49, -5.55]	-5.78	[-6.31, -5.25]		
	0.400-50		-	-	-	-	-	-		
	0.400-83		-	-	-	-	-	-		
	0.500-00		-5.40	[-6.53, -4.27]	-5.23	[-6.25, -4.20]	-4.93	[-6.04, -3.82]		
	0.500-16		-7.93	[-9.09, -6.77]	-7.86	[-8.81, -6.91]	-7.82	[-8.80, -6.84]		
0.500-50		-	-	-	-	-	-			
0.500-83		-	-	-	-	-	-			
overall			-14.20	[-16.07, -12.32]	-14.09	[-15.98, -12.21]	-14.00	[-15.90, -12.11]		

Table 23: Comparison of the average cost obtained by ILS-EE, MAGX-EE, ACS-EE, and pACS+1-shift on d198. The results are obtained over 10 independent runs. For certain probability levels in large instances, pACS+1-shift suffers from numerical problems, where the the comparison is not meaningful. Those cases are marked as $-$. See Footnote 1 for an explanation of the contents and the typographic conventions adopted in the table.

		ILS-EE vs. pACS+1-shift		MAGX-EE vs. pACS+1-shift		ACS-EE vs. pACS+1-shift	
		p	d	d	d	d	CI
Class I	0.050-00	$+0.08$	[+0.06, +0.09]	$+0.07$	[+0.05, +0.08]	$+0.02$	[+0.00, +0.00]
	0.050-16	-0.16	[-0.23, -0.10]	-0.16	[-0.23, -0.09]	-0.16	[-0.24, -0.08]
	0.050-50	-0.62	[-1.09, -0.16]	-0.62	[-1.09, -0.15]	-0.61	[-1.06, -0.16]
	0.050-83	-1.82	[-2.84, -0.80]	-1.84	[-2.87, -0.81]	-1.84	[-2.87, -0.81]
	0.075-00	$+0.08$	[+0.05, +0.11]	$+0.06$	[+0.05, +0.07]	$+0.09$	[+0.00, +0.00]
	0.075-16	-0.01	[-0.03, +0.00]	-0.02	[-0.03, -0.01]	-0.02	[-0.03, -0.00]
	0.075-50	-0.26	[-0.40, -0.11]	-0.27	[-0.41, -0.12]	-0.28	[-0.43, -0.12]
	0.075-83	-1.92	[-2.65, -1.19]	-1.92	[-2.65, -1.19]	-1.92	[-2.64, -1.20]
	0.100-00	$+0.09$	[+0.06, +0.12]	$+0.08$	[+0.07, +0.10]	$+0.11$	[+0.00, +0.00]
	0.100-16	$+0.04$	[+0.03, +0.05]	$+0.03$	[+0.02, +0.04]	$+0.02$	[+0.00, +0.04]
0.100-50	-0.15	[-0.23, -0.08]	-0.16	[-0.23, -0.09]	-0.16	[-0.24, -0.08]	
0.100-83	-3.84	[-5.02, -2.66]	-3.85	[-5.03, -2.66]	-3.85	[-5.03, -2.66]	
overall	-0.71	[-0.95, -0.46]	-0.72	[-0.96, -0.47]	-0.72	[-0.96, -0.47]	
Class II	0.150-00	$+0.08$	[+0.04, +0.11]	$+0.05$	[+0.04, +0.07]	$+0.02$	[+0.00, +0.00]
	0.150-16	$+0.04$	[+0.02, +0.06]	$+0.04$	[+0.02, +0.07]	$+0.03$	[+0.01, +0.05]
	0.150-50	-0.06	[-0.08, -0.03]	-0.06	[-0.08, -0.04]	-0.07	[-0.09, -0.04]
	0.150-83	-4.85	[-6.11, -3.59]	-4.85	[-6.11, -3.59]	-4.85	[-6.11, -3.60]
	0.175-00	$+0.07$	[+0.06, +0.09]	$+0.05$	[+0.03, +0.07]	$+0.02$	[+0.02, +0.02]
	0.175-16	$+0.02$	[-0.02, +0.06]	$+0.02$	[-0.02, +0.06]	$+0.06$	[-0.02, +0.14]
	0.175-50	-0.05	[-0.10, -0.01]	-0.06	[-0.10, -0.01]	-0.06	[-0.10, -0.01]
	0.175-83	-6.33	[-8.05, -4.61]	-6.33	[-8.05, -4.62]	-6.34	[-8.05, -4.62]
	0.200-00	$+0.12$	[+0.08, +0.16]	$+0.06$	[+0.03, +0.09]	$+0.11$	[+0.10, +0.11]
	0.200-16	$+0.04$	[+0.01, +0.07]	$+0.02$	[-0.00, +0.04]	$+0.12$	[+0.03, +0.21]
0.200-50	-1.28	[-3.22, +0.65]	-1.29	[-3.22, +0.64]	-1.29	[-3.23, +0.64]	
0.200-83	-6.52	[-8.15, -4.89]	-6.53	[-8.16, -4.90]	-6.52	[-8.15, -4.89]	
overall	-1.56	[-2.08, -1.04]	-1.57	[-2.09, -1.06]	-1.56	[-2.08, -1.05]	
Class III	0.300-00	$+0.08$	[+0.05, +0.12]	$+0.04$	[-0.00, +0.09]	$+0.01$	[-0.02, +0.04]
	0.300-16	-0.04	[-0.16, +0.07]	-0.08	[-0.19, +0.03]	-0.09	[-0.20, +0.02]
	0.300-50	-1.12	[-2.76, +0.52]	-1.14	[-2.78, +0.50]	-1.15	[-2.79, +0.49]
	0.300-83	-7.56	[-9.05, -6.06]	-7.57	[-9.07, -6.07]	-7.56	[-9.06, -6.07]
	0.400-00	-0.19	[-0.39, +0.00]	-0.23	[-0.43, -0.02]	-0.27	[-0.48, -0.06]
	0.400-16	-0.66	[-1.19, -0.13]	-0.69	[-1.21, -0.18]	-0.70	[-1.22, -0.18]
	0.400-50	-4.93	[-7.25, -2.62]	-4.95	[-7.27, -2.63]	-4.95	[-7.27, -2.63]
	0.400-83	-8.37	[-9.68, -7.06]	-8.37	[-9.69, -7.05]	-8.38	[-9.69, -7.07]
	0.500-00	-0.32	[-0.58, -0.06]	-0.34	[-0.61, -0.07]	-0.37	[-0.62, -0.12]
	0.500-16	-1.21	[-1.72, -0.69]	-1.23	[-1.75, -0.71]	-1.25	[-1.76, -0.74]
0.500-50	-6.15	[-7.69, -4.61]	-6.18	[-7.72, -4.63]	-6.19	[-7.72, -4.65]	
0.500-83	-8.62	[-10.40, -6.85]	-8.64	[-10.42, -6.86]	-8.64	[-10.41, -6.86]	
overall	-3.26	[-3.94, -2.57]	-3.28	[-3.97, -2.60]	-3.30	[-3.98, -2.61]	

Table 24: Comparison of the average cost obtained by ILS-EE, MAGX-EE, ACS-EE, and pACS+1-shift on ch150. The results are obtained over 10 independent runs. See Footnote 1 for an explanation of the contents and the typographic conventions adopted in the table.

		ILS-EE vs. pACS+1-shift		MAGX-EE vs. pACS+1-shift		ACS-EE vs. pACS+1-shift	
	<i>p</i>	<i>d</i>	CI	<i>d</i>	CI	<i>d</i>	CI
Class I	0.050-00	<i>+0.20</i>	[+0.18, +0.22]	<i>+0.16</i>	[+0.14, +0.19]	<i>+0.17</i>	[+0.00, +0.00]
	0.050-16	-0.12	[-0.19, -0.05]	-0.11	[-0.17, -0.04]	-0.10	[-0.17, -0.03]
	0.050-50	-0.69	[-0.90, -0.49]	-0.68	[-0.90, -0.47]	-0.69	[-0.88, -0.49]
	0.050-83	-1.41	[-2.38, -0.43]	-1.40	[-2.38, -0.42]	-1.39	[-2.37, -0.41]
	0.075-00	<i>+0.17</i>	[+0.13, +0.20]	<i>+0.16</i>	[+0.13, +0.20]	<i>+0.14</i>	[+0.00, +0.00]
	0.075-16	<i>+0.03</i>	[+0.01, +0.06]	<i>+0.06</i>	[+0.02, +0.10]	<i>+0.04</i>	[+0.00, +0.07]
	0.075-50	-0.29	[-0.39, -0.20]	-0.32	[-0.40, -0.23]	-0.30	[-0.43, -0.16]
	0.075-83	-1.39	[-1.83, -0.95]	-1.40	[-1.84, -0.96]	-1.40	[-1.85, -0.95]
	0.100-00	<i>+0.19</i>	[+0.14, +0.23]	<i>+0.16</i>	[+0.14, +0.18]	<i>+0.08</i>	[+0.00, +0.00]
	0.100-16	<i>+0.08</i>	[+0.05, +0.11]	<i>+0.09</i>	[+0.03, +0.14]	<i>+0.07</i>	[+0.04, +0.10]
	0.100-50	-0.21	[-0.26, -0.15]	-0.23	[-0.29, -0.18]	-0.23	[-0.29, -0.17]
0.100-83	-2.10	[-2.72, -1.48]	-2.10	[-2.73, -1.47]	-2.11	[-2.72, -1.49]	
overall	-0.46	[-0.62, -0.30]	-0.47	[-0.63, -0.31]	-0.48	[-0.63, -0.32]	
Class II	0.150-00	<i>+0.14</i>	[+0.11, +0.17]	<i>+0.09</i>	[+0.06, +0.12]	<i>+0.10</i>	[+0.00, +0.00]
	0.150-16	<i>+0.11</i>	[+0.01, +0.21]	<i>+0.05</i>	[+0.02, +0.08]	<i>+0.22</i>	[-0.02, +0.47]
	0.150-50	-0.08	[-0.11, -0.05]	<i>+0.09</i>	[-0.32, +0.51]	-0.09	[-0.12, -0.07]
	0.150-83	-4.66	[-6.05, -3.26]	-4.66	[-6.06, -3.26]	-4.66	[-6.06, -3.25]
	0.175-00	<i>+0.24</i>	[+0.04, +0.45]	<i>+0.09</i>	[-0.02, +0.20]	<i>+0.19</i>	[+0.13, +0.26]
	0.175-16	<i>+0.09</i>	[+0.04, +0.13]	<i>+0.04</i>	[+0.02, +0.07]	<i>+0.56</i>	[+0.06, +1.06]
	0.175-50	-0.04	[-0.06, -0.02]	-0.05	[-0.07, -0.02]	<i>+0.03</i>	[-0.12, +0.19]
	0.175-83	-5.13	[-7.67, -2.59]	-5.13	[-7.67, -2.59]	-5.13	[-7.67, -2.59]
	0.200-00	<i>+0.17</i>	[+0.06, +0.28]	<i>+0.10</i>	[-0.01, +0.20]	<i>+0.44</i>	[+0.44, +0.45]
	0.200-16	<i>+0.04</i>	[-0.01, +0.10]	<i>+0.02</i>	[-0.06, +0.09]	<i>+0.15</i>	[-0.10, +0.39]
	0.200-50	<i>-1.22</i>	[-3.30, +0.86]	<i>-1.34</i>	[-3.37, +0.69]	<i>-1.33</i>	[-3.36, +0.71]
0.200-83	-5.01	[-7.12, -2.90]	-5.04	[-7.19, -2.89]	-5.04	[-7.18, -2.89]	
overall	-1.28	[-1.77, -0.80]	-1.31	[-1.80, -0.83]	-1.21	[-1.71, -0.72]	
Class III	0.300-00	<i>+0.27</i>	[+0.17, +0.38]	<i>+0.05</i>	[-0.05, +0.16]	<i>-0.02</i>	[-0.14, +0.09]
	0.300-16	<i>+0.05</i>	[-0.05, +0.15]	<i>+0.04</i>	[-0.07, +0.14]	<i>-0.03</i>	[-0.11, +0.05]
	0.300-50	-1.12	[-2.23, -0.00]	-1.15	[-2.25, -0.05]	-1.14	[-2.25, -0.04]
	0.300-83	-6.98	[-8.18, -5.77]	-7.00	[-8.20, -5.80]	-7.00	[-8.20, -5.80]
	0.400-00	<i>-0.06</i>	[-0.40, +0.27]	<i>-0.11</i>	[-0.31, +0.09]	<i>+0.28</i>	[+0.12, +0.44]
	0.400-16	-0.51	[-0.98, -0.03]	-0.55	[-1.04, -0.07]	<i>-0.48</i>	[-1.01, +0.06]
	0.400-50	-4.09	[-6.74, -1.44]	-4.10	[-6.75, -1.44]	-4.11	[-6.77, -1.45]
	0.400-83	-9.58	[-11.90, -7.26]	-9.61	[-11.93, -7.29]	-9.60	[-11.92, -7.28]
	0.500-00	-0.56	[-0.96, -0.16]	-0.57	[-0.94, -0.19]	-0.58	[-0.97, -0.19]
	0.500-16	-1.13	[-1.99, -0.28]	-1.14	[-1.99, -0.29]	-1.18	[-2.04, -0.33]
	0.500-50	-6.08	[-8.84, -3.33]	-6.01	[-8.77, -3.25]	-6.09	[-8.81, -3.37]
0.500-83	-8.06	[-10.04, -6.07]	-8.06	[-10.04, -6.08]	-8.05	[-10.04, -6.07]	
overall	-3.15	[-3.88, -2.43]	-3.18	[-3.91, -2.46]	-3.17	[-3.89, -2.44]	

Table 25: Comparison of the average cost obtained by ILS-EE, MAGX-EE, ACS-EE, and pACS+1-shift on eil101. The results are obtained over 10 independent runs. See Footnote 1 for an explanation of the contents and the typographic conventions adopted in the table.

		ILS-EE vs. pACS+1-shift			MAGX-EE vs. pACS+1-shift			ACS-EE vs. pACS+1-shift		
		<i>p</i>	<i>d</i>	CI	<i>d</i>	CI	<i>d</i>	CI		
Class I	0.050-00	<i>+0.76</i>	[+0.00, +0.00]	<i>+0.76</i>	[+0.00, +0.00]	<i>+0.76</i>	[+0.00, +0.00]			
	0.050-16	<i>+0.15</i>	[-0.07, +0.36]	<i>+0.15</i>	[-0.08, +0.37]	<i>+0.30</i>	[+0.02, +0.58]			
	0.050-50	-0.75	[-1.03, -0.47]	-0.75	[-1.03, -0.47]	-0.75	[-1.03, -0.47]			
	0.050-83	-1.45	[-2.77, -0.13]	-1.45	[-2.77, -0.13]	-1.40	[-2.74, -0.05]			
	0.075-00	<i>+0.18</i>	[-0.03, +0.38]	<i>+0.36</i>	[+0.14, +0.57]	<i>+0.59</i>	[+0.00, +0.00]			
	0.075-16	<i>+0.42</i>	[+0.21, +0.63]	<i>+0.42</i>	[+0.21, +0.63]	<i>+0.55</i>	[+0.28, +0.82]			
	0.075-50	-0.25	[-0.48, -0.01]	-0.25	[-0.48, -0.01]	<i>-0.12</i>	[-0.40, +0.16]			
	0.075-83	-0.94	[-1.78, -0.10]	-0.94	[-1.78, -0.10]	-0.83	[-1.57, -0.08]			
	0.100-00	<i>+0.51</i>	[+0.00, +0.00]	<i>+0.51</i>	[+0.00, +0.00]	<i>+0.51</i>	[+0.00, +0.00]			
	0.100-16	<i>+0.52</i>	[+0.50, +0.54]	<i>+0.42</i>	[+0.26, +0.58]	<i>+0.36</i>	[+0.18, +0.54]			
0.100-50	<i>-0.06</i>	[-0.19, +0.07]	<i>-0.01</i>	[-0.19, +0.17]	<i>+0.04</i>	[-0.18, +0.26]				
0.100-83	-0.50	[-0.88, -0.12]	-0.61	[-0.97, -0.25]	-0.54	[-0.93, -0.16]				
overall	<i>-0.12</i>	[-0.28, +0.05]	<i>-0.12</i>	[-0.28, +0.05]	<i>-0.04</i>	[-0.21, +0.12]				
Class II	0.150-00	<i>+0.50</i>	[+0.37, +0.62]	<i>+0.45</i>	[+0.36, +0.55]	<i>+0.79</i>	[+0.69, +0.88]			
	0.150-16	<i>+0.30</i>	[+0.15, +0.44]	<i>+0.34</i>	[+0.21, +0.47]	<i>+0.38</i>	[+0.28, +0.48]			
	0.150-50	<i>-0.00</i>	[-0.15, +0.15]	<i>-0.00</i>	[-0.15, +0.15]	<i>+0.14</i>	[-0.02, +0.31]			
	0.150-83	-0.64	[-0.90, -0.37]	-0.72	[-0.99, -0.46]	-0.60	[-0.93, -0.27]			
	0.175-00	<i>+0.38</i>	[+0.00, +0.00]	<i>+0.34</i>	[+0.26, +0.43]	<i>+0.76</i>	[+0.00, +0.00]			
	0.175-16	<i>+0.34</i>	[+0.25, +0.43]	<i>+0.27</i>	[+0.13, +0.40]	<i>+0.23</i>	[+0.09, +0.36]			
	0.175-50	<i>+0.29</i>	[+0.10, +0.47]	<i>+0.12</i>	[-0.02, +0.25]	<i>+0.25</i>	[+0.09, +0.40]			
	0.175-83	-0.68	[-1.34, -0.02]	-0.69	[-1.33, -0.04]	<i>-0.65</i>	[-1.31, +0.02]			
	0.200-00	<i>+0.32</i>	[+0.18, +0.46]	<i>+0.18</i>	[-0.00, +0.36]	<i>+0.35</i>	[+0.00, +0.00]			
	0.200-16	<i>+0.26</i>	[+0.13, +0.39]	<i>+0.29</i>	[+0.18, +0.40]	<i>+0.29</i>	[+0.13, +0.45]			
0.200-50	<i>+0.17</i>	[-0.04, +0.37]	<i>+0.04</i>	[-0.12, +0.20]	<i>+0.12</i>	[-0.07, +0.31]				
0.200-83	-0.94	[-1.62, -0.26]	-1.02	[-1.73, -0.31]	-0.93	[-1.75, -0.11]				
overall	<i>+0.02</i>	[-0.09, +0.14]	<i>-0.03</i>	[-0.15, +0.08]	<i>+0.09</i>	[-0.03, +0.22]				
Class III	0.300-00	<i>+0.32</i>	[+0.25, +0.38]	<i>+0.29</i>	[+0.00, +0.00]	<i>+0.58</i>	[+0.00, +0.00]			
	0.300-16	<i>+0.24</i>	[+0.15, +0.33]	<i>+0.15</i>	[+0.04, +0.26]	<i>+0.27</i>	[+0.15, +0.38]			
	0.300-50	<i>+0.20</i>	[+0.08, +0.33]	<i>+0.21</i>	[+0.08, +0.34]	<i>+0.20</i>	[+0.07, +0.33]			
	0.300-83	-2.79	[-4.39, -1.19]	-2.91	[-4.51, -1.31]	-2.76	[-4.38, -1.14]			
	0.400-00	<i>+0.25</i>	[+0.13, +0.37]	<i>+0.02</i>	[-0.08, +0.13]	<i>+0.22</i>	[+0.17, +0.28]			
	0.400-16	<i>+0.13</i>	[+0.03, +0.23]	<i>+0.10</i>	[+0.01, +0.20]	<i>+0.15</i>	[+0.00, +0.31]			
	0.400-50	<i>-0.42</i>	[-1.03, +0.19]	<i>-0.53</i>	[-1.15, +0.09]	<i>-0.47</i>	[-1.10, +0.16]			
	0.400-83	-5.69	[-7.36, -4.02]	-5.76	[-7.42, -4.11]	-5.69	[-7.34, -4.04]			
	0.500-00	<i>+0.11</i>	[-0.00, +0.22]	<i>+0.02</i>	[-0.03, +0.07]	<i>+1.33</i>	[+0.00, +0.00]			
	0.500-16	<i>+0.04</i>	[-0.14, +0.23]	<i>-0.02</i>	[-0.23, +0.18]	<i>+0.16</i>	[-0.08, +0.40]			
0.500-50	-3.43	[-5.54, -1.32]	-3.56	[-5.70, -1.42]	-3.34	[-5.55, -1.12]				
0.500-83	-5.30	[-6.19, -4.41]	-5.42	[-6.32, -4.52]	-5.37	[-6.26, -4.48]				
overall	-1.36	[-1.82, -0.90]	-1.45	[-1.91, -0.99]	-1.23	[-1.71, -0.74]				

Table 26: Comparison of the average cost obtained by ILS-EE, MAGX-EE, ACS-EE, and pACS+1-shift on kroA100. The results are obtained over 10 independent runs. See Footnote 1 for an explanation of the contents and the typographic conventions adopted in the table.

		ILS-EE vs. pACS+1-shift			MAGX-EE vs. pACS+1-shift			ACS-EE vs. pACS+1-shift		
		p	d	CI	d	CI	d	CI	d	CI
Class I	0.050-00	$+0.10$		[+0.07, +0.12]	$+0.08$		[+0.06, +0.11]	$+0.06$		[+0.00, +0.00]
	0.050-16	-0.27		[-0.39, -0.16]	-0.29		[-0.42, -0.16]	-0.30		[-0.42, -0.19]
	0.050-50	-0.99		[-1.52, -0.45]	-0.99		[-1.52, -0.46]	-0.99		[-1.53, -0.46]
	0.050-83	-1.34		[-2.84, +0.16]	-1.34		[-2.84, +0.17]	-1.34		[-2.84, +0.16]
	0.075-00	$+0.08$		[+0.07, +0.10]	$+0.08$		[+0.05, +0.10]	$+0.05$		[+0.00, +0.00]
	0.075-16	-0.03		[-0.06, +0.00]	-0.03		[-0.06, -0.01]	-0.04		[-0.07, -0.00]
	0.075-50	-0.36		[-0.48, -0.24]	-0.36		[-0.48, -0.24]	-0.37		[-0.49, -0.24]
	0.075-83	-0.42		[-0.60, -0.24]	-0.42		[-0.60, -0.24]	-0.42		[-0.60, -0.24]
	0.100-00	$+0.09$		[+0.06, +0.13]	$+0.08$		[+0.06, +0.10]	$+0.02$		[+0.00, +0.00]
	0.100-16	+0.01		[-0.00, +0.03]	+0.00		[-0.01, +0.02]	-0.00		[-0.02, +0.02]
	0.100-50	-0.23		[-0.31, -0.16]	-0.23		[-0.31, -0.15]	-0.23		[-0.31, -0.15]
0.100-83	-0.32		[-0.42, -0.22]	-0.32		[-0.41, -0.23]	-0.32		[-0.42, -0.23]	
overall	-0.31		[-0.44, -0.17]	-0.31		[-0.45, -0.17]	-0.32		[-0.46, -0.19]	
Class II	0.150-00	$+0.03$		[+0.02, +0.05]	$+0.03$		[+0.02, +0.05]	$+0.01$		[+0.00, +0.00]
	0.150-16	$+0.02$		[+0.01, +0.04]	$+0.02$		[+0.01, +0.03]	$+0.04$		[+0.01, +0.06]
	0.150-50	-0.09		[-0.12, -0.07]	-0.09		[-0.11, -0.06]	-0.09		[-0.11, -0.07]
	0.150-83	-0.23		[-0.31, -0.15]	-0.23		[-0.31, -0.15]	-0.23		[-0.31, -0.15]
	0.175-00	$+0.03$		[+0.02, +0.04]	$+0.03$		[+0.01, +0.04]	$+0.01$		[+0.00, +0.00]
	0.175-16	$+0.03$		[+0.01, +0.06]	$+0.02$		[+0.00, +0.04]	+0.04		[-0.01, +0.10]
	0.175-50	-0.05		[-0.07, -0.02]	-0.05		[-0.07, -0.02]	-0.05		[-0.07, -0.04]
	0.175-83	-0.18		[-0.23, -0.13]	-0.18		[-0.23, -0.13]	-0.18		[-0.23, -0.14]
	0.200-00	$+0.03$		[+0.01, +0.06]	$+0.02$		[+0.01, +0.04]	$+0.02$		[+0.01, +0.02]
	0.200-16	$+0.02$		[+0.01, +0.03]	$+0.02$		[+0.01, +0.03]	$+0.08$		[+0.01, +0.16]
	0.200-50	-0.04		[-0.07, +0.00]	-0.04		[-0.07, -0.00]	-0.02		[-0.07, +0.03]
0.200-83	-0.52		[-0.89, -0.15]	-0.52		[-0.89, -0.15]	-0.52		[-0.89, -0.14]	
overall	-0.08		[-0.12, -0.04]	-0.08		[-0.12, -0.04]	-0.07		[-0.12, -0.03]	
Class III	0.300-00	$+0.09$		[+0.06, +0.13]	$+0.05$		[+0.02, +0.07]	$+0.04$		[+0.00, +0.00]
	0.300-16	$+0.02$		[+0.01, +0.03]	$+0.01$		[+0.00, +0.02]	+0.01		[-0.00, +0.03]
	0.300-50	-0.01		[-0.02, +0.00]	-0.02		[-0.02, -0.01]	-0.01		[-0.02, +0.00]
	0.300-83	-1.26		[-2.14, -0.38]	-1.26		[-2.14, -0.38]	-1.26		[-2.14, -0.38]
	0.400-00	$+0.08$		[+0.01, +0.15]	+0.00		[-0.00, +0.01]	+0.00		[+0.00, +0.00]
	0.400-16	+0.02		[-0.00, +0.04]	+0.01		[-0.00, +0.02]	$+0.01$		[+0.00, +0.02]
	0.400-50	-0.35		[-0.80, +0.10]	-0.36		[-0.82, +0.09]	-0.34		[-0.76, +0.08]
	0.400-83	-2.39		[-3.78, -1.00]	-2.40		[-3.78, -1.02]	-2.40		[-3.78, -1.02]
	0.500-00	+0.04		[-0.03, +0.12]	+0.00		[-0.00, +0.00]	+0.00		[+0.00, +0.00]
	0.500-16	$+0.01$		[+0.00, +0.01]	+0.00		[-0.00, +0.01]	+0.00		[-0.00, +0.00]
	0.500-50	-1.10		[-1.79, -0.40]	-1.12		[-1.81, -0.42]	-1.11		[-1.81, -0.41]
0.500-83	-4.81		[-7.02, -2.60]	-4.82		[-7.03, -2.61]	-4.82		[-7.03, -2.61]	
overall	-0.80		[-1.13, -0.48]	-0.83		[-1.15, -0.50]	-0.82		[-1.15, -0.50]	

3 Comparison with Concorde

Table 27: Comparison with concorde over 10 independent runs on the PT-SPLIB instance kroA100. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.100 - 00$	ILS-EE	9042	4
	MAGX-EE	9041	3
	ACS-EE	9036	0
	concode	9080	0
$p = 0.200 - 00$	ILS-EE	11718	4
	MAGX-EE	11717	3
	ACS-EE	11716	0
	concode	11766	0
$p = 0.300 - 00$	ILS-EE	13691	7
	MAGX-EE	13684	5
	ACS-EE	13683	0
	concode	13721	0
$p = 0.400 - 00$	ILS-EE	15265	15
	MAGX-EE	15254	1
	ACS-EE	15253	0
	concode	15277	0
$p = 0.500 - 00$	ILS-EE	16576	17
	MAGX-EE	16569	1
	ACS-EE	16569	0
	concode	16584	0
$p = 0.600 - 00$	ILS-EE	17724	3
	MAGX-EE	17723	2
	ACS-EE	17722	0
	concode	17736	0
$p = 0.700 - 00$	ILS-EE	18738	3
	MAGX-EE	18737	0
	ACS-EE	18737	0
	concode	18768	0
$p = 0.800 - 00$	ILS-EE	19665	4
	MAGX-EE	19664	3
	ACS-EE	19663	0
	concode	19671	0
$p = 0.900 - 00$	ILS-EE	20508	0
	MAGX-EE	20508	0
	ACS-EE	20508	0
	concode	20509	0
$p = 1.000 - 00$	ILS-EE	21282	0
	MAGX-EE	21282	0
	ACS-EE	21282	0
	concode	21282	0

Table 28: Comparison with concorde over 10 independent runs on the PT-SPLIB instance kroA101. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.100 - 00$	ILS-EE	197	0
	MAGX-EE	197	0
	ACS-EE	197	0
	concode	200	0
$p = 0.200 - 00$	ILS-EE	283	1
	MAGX-EE	282	1
	ACS-EE	283	0
	concode	287	0
$p = 0.300 - 00$	ILS-EE	347	0
	MAGX-EE	347	0
	ACS-EE	348	0
	concode	353	0
$p = 0.400 - 00$	ILS-EE	402	1
	MAGX-EE	401	0
	ACS-EE	402	0
	concode	408	0
$p = 0.500 - 00$	ILS-EE	450	1
	MAGX-EE	450	0
	ACS-EE	456	0
	concode	456	0
$p = 0.600 - 00$	ILS-EE	495	1
	MAGX-EE	495	1
	ACS-EE	494	0
	concode	498	0
$p = 0.700 - 00$	ILS-EE	534	0
	MAGX-EE	534	0
	ACS-EE	541	0
	concode	537	0
$p = 0.800 - 00$	ILS-EE	569	0
	MAGX-EE	569	0
	ACS-EE	578	0
	concode	570	0
$p = 0.900 - 00$	ILS-EE	601	0
	MAGX-EE	601	0
	ACS-EE	603	0
	concode	602	0
$p = 1.000 - 00$	ILS-EE	629	0
	MAGX-EE	629	0
	ACS-EE	629	0
	concode	629	0

Table 29: Comparison with concorde over 10 independent runs on the PT-SPLIB instance kroA150. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.100 - 00$	ILS-EE	2484	2
	MAGX-EE	2483	1
	ACS-EE	2481	0
	concode	2520	0
$p = 0.200 - 00$	ILS-EE	3423	5
	MAGX-EE	3420	5
	ACS-EE	3432	0
	concode	3475	0
$p = 0.300 - 00$	ILS-EE	4065	10
	MAGX-EE	4056	3
	ACS-EE	4053	0
	concode	4108	0
$p = 0.400 - 00$	ILS-EE	4577	17
	MAGX-EE	4575	7
	ACS-EE	4593	0
	concode	4604	0
$p = 0.500 - 00$	ILS-EE	5005	2
	MAGX-EE	5005	4
	ACS-EE	5004	0
	concode	5017	0
$p = 0.600 - 00$	ILS-EE	5370	1
	MAGX-EE	5372	11
	ACS-EE	5369	0
	concode	5378	0
$p = 0.700 - 00$	ILS-EE	5702	0
	MAGX-EE	5702	0
	ACS-EE	5702	0
	concode	5707	0
$p = 0.800 - 00$	ILS-EE	6009	0
	MAGX-EE	6020	23
	ACS-EE	6063	0
	concode	6010	0
$p = 0.900 - 00$	ILS-EE	6292	1
	MAGX-EE	6292	0
	ACS-EE	6292	0
	concode	6292	0
$p = 1.000 - 00$	ILS-EE	6529	2
	MAGX-EE	6543	11
	ACS-EE	6533	0
	concode	6528	0

Table 30: Comparison with concorde over 10 independent runs on the PT-SPLIB instance kroA198. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.100 - 00$	ILS-EE	7444	3
	MAGX-EE	7443	2
	ACS-EE	7445	0
	concode	7525	0
$p = 0.200 - 00$	ILS-EE	9323	5
	MAGX-EE	9318	4
	ACS-EE	9322	0
	concode	9439	0
$p = 0.300 - 00$	ILS-EE	10542	5
	MAGX-EE	10538	5
	ACS-EE	10534	0
	concode	10696	0
$p = 0.400 - 00$	ILS-EE	11544	6
	MAGX-EE	11541	4
	ACS-EE	11536	1
	concode	11690	0
$p = 0.500 - 00$	ILS-EE	12424	6
	MAGX-EE	12421	5
	ACS-EE	12417	0
	concode	12538	0
$p = 0.600 - 00$	ILS-EE	13209	12
	MAGX-EE	13204	8
	ACS-EE	13200	0
	concode	13276	0
$p = 0.700 - 00$	ILS-EE	13922	7
	MAGX-EE	13914	0
	ACS-EE	13915	0
	concode	13980	0
$p = 0.800 - 00$	ILS-EE	14585	9
	MAGX-EE	14578	0
	ACS-EE	14578	0
	concode	14618	0
$p = 0.900 - 00$	ILS-EE	15213	6
	MAGX-EE	15207	5
	ACS-EE	15217	0
	concode	15225	0
$p = 1.000 - 00$	ILS-EE	15788	5
	MAGX-EE	15785	5
	ACS-EE	15785	0
	concode	15780	0

Table 31: Comparison with concorde over 10 independent runs on the PT-SPLIB instance kroA532. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.100 - 00$	ILS-EE	33763	22
	MAGX-EE	33727	13
	ACS-EE	33708	0
	concode	36586	0
$p = 0.200 - 00$	ILS-EE	44783	82
	MAGX-EE	44710	23
	ACS-EE	45113	0
	concode	47711	0
$p = 0.300 - 00$	ILS-EE	53130	29
	MAGX-EE	53108	90
	ACS-EE	53529	0
	concode	55697	0
$p = 0.400 - 00$	ILS-EE	60044	102
	MAGX-EE	60018	82
	ACS-EE	59944	0
	concode	62113	0
$p = 0.500 - 00$	ILS-EE	66155	122
	MAGX-EE	66147	123
	ACS-EE	66079	0
	concode	67531	0
$p = 0.600 - 00$	ILS-EE	71378	60
	MAGX-EE	71409	99
	ACS-EE	71428	1
	concode	72238	0
$p = 0.700 - 00$	ILS-EE	75989	97
	MAGX-EE	75975	184
	ACS-EE	76044	1
	concode	76410	0
$p = 0.800 - 00$	ILS-EE	80012	88
	MAGX-EE	80044	101
	ACS-EE	80758	0
	concode	80165	0
$p = 0.900 - 00$	ILS-EE	83729	97
	MAGX-EE	83847	211
	ACS-EE	83521	0
	concode	83584	0
$p = 1.000 - 00$	ILS-EE	87034	65
	MAGX-EE	86925	147
	ACS-EE	86980	0
	concode	86729	0

Table 32: Comparison with concorde over 10 independent runs on the PT-SPLIB instance kroA783. The table gives, for each probability level, the mean and the standard deviation (s.d.) of the final solution cost.

	Algorithm	Solution Cost	
		mean	s.d.
$p = 0.100 - 00$	ILS-EE	3250	5
	MAGX-EE	3246	4
	ACS-EE	3251	0
	concode	3618	0
$p = 0.200 - 00$	ILS-EE	4556	12
	MAGX-EE	4553	7
	ACS-EE	4570	0
	concode	4973	0
$p = 0.300 - 00$	ILS-EE	5498	8
	MAGX-EE	5494	12
	ACS-EE	5472	0
	concode	5865	0
$p = 0.400 - 00$	ILS-EE	6240	12
	MAGX-EE	6245	13
	ACS-EE	6245	0
	concode	6549	0
$p = 0.500 - 00$	ILS-EE	6857	12
	MAGX-EE	6846	9
	ACS-EE	6854	0
	concode	7098	0
$p = 0.600 - 00$	ILS-EE	7389	12
	MAGX-EE	7377	13
	ACS-EE	7378	0
	concode	7547	0
$p = 0.700 - 00$	ILS-EE	7852	16
	MAGX-EE	7829	15
	ACS-EE	7842	1
	concode	7945	0
$p = 0.800 - 00$	ILS-EE	8235	10
	MAGX-EE	8234	13
	ACS-EE	8225	0
	concode	8302	0
$p = 0.900 - 00$	ILS-EE	8577	7
	MAGX-EE	8577	24
	ACS-EE	8572	0
	concode	8625	0
$p = 1.000 - 00$	ILS-EE	8877	10
	MAGX-EE	8873	18
	ACS-EE	8883	0
	concode	8806	0

Table 33: Comparison of the solution cost obtained by ILS-EE, MAGX-EE, ACS-EE and concorde over 10 independent runs. See Footnote 1 for an explanation of the contents and the typographic conventions adopted in the table.

	ILS-EE vs. concorde			MAGX-EE vs. concorde		ACS-EE vs. concorde	
	<i>p</i>	<i>d</i>	[95% CI]	<i>d</i>	[95% CI]	<i>d</i>	[95% CI]
kroA100	0.100-00	-0.41	[-0.44, -0.38]	-0.43	[-0.45, -0.40]	-0.48	[+0.00, +0.00]
	0.200-00	-0.41	[-0.43, -0.38]	-0.41	[-0.43, -0.40]	-0.42	[-0.43, -0.42]
	0.300-00	-0.22	[-0.26, -0.18]	-0.27	[-0.30, -0.24]	-0.28	[+0.00, +0.00]
	0.400-00	-0.08	[-0.15, -0.01]	-0.16	[-0.16, -0.15]	-0.16	[+0.00, +0.00]
	0.500-00	-0.05	[-0.12, +0.02]	-0.09	[-0.09, -0.09]	-0.09	[+0.00, +0.00]
	0.600-00	-0.07	[-0.08, -0.06]	-0.07	[-0.08, -0.07]	-0.08	[+0.00, +0.00]
	0.700-00	-0.16	[-0.17, -0.14]	-0.16	[+0.00, +0.00]	-0.16	[+0.00, +0.00]
	0.800-00	-0.03	[-0.04, -0.02]	-0.04	[-0.05, -0.03]	-0.04	[+0.00, +0.00]
	0.900-00	-0.00	[+0.00, +0.00]	-0.00	[+0.00, +0.00]	-0.00	[+0.00, +0.00]
	1.000-00	+0.00	[+0.00, +0.00]	+0.00	[+0.00, +0.00]	+0.00	[+0.00, +0.00]
eil101	0.100-00	-1.51	[+0.00, +0.00]	-1.51	[+0.00, +0.00]	-1.51	[+0.00, +0.00]
	0.200-00	-1.40	[-1.55, -1.26]	-1.54	[-1.72, -1.37]	-1.37	[+0.00, +0.00]
	0.300-00	-1.79	[-1.85, -1.72]	-1.82	[+0.00, +0.00]	-1.53	[+0.00, +0.00]
	0.400-00	-1.56	[-1.69, -1.43]	-1.78	[-1.86, -1.71]	-1.59	[+0.00, +0.00]
	0.500-00	-1.15	[-1.26, -1.04]	-1.24	[-1.29, -1.19]	<i>+0.06</i>	[+0.00, +0.00]
	0.600-00	-0.71	[-0.81, -0.62]	-0.75	[-0.83, -0.68]	-0.87	[+0.00, +0.00]
	0.700-00	-0.46	[-0.50, -0.41]	-0.48	[+0.00, +0.00]	<i>+0.81</i>	[+0.77, +0.85]
	0.800-00	-0.07	[-0.12, -0.02]	-0.09	[-0.13, -0.05]	<i>+1.47</i>	[+0.00, +0.00]
	0.900-00	-0.08	[+0.00, +0.00]	-0.08	[+0.00, +0.00]	<i>+0.25</i>	[+0.00, +0.00]
	1.000-00	+0.03	[-0.02, +0.08]	+0.03	[-0.02, +0.08]	+0.00	[+0.00, +0.00]
ch150	0.100-00	-1.45	[-1.49, -1.40]	-1.47	[-1.50, -1.45]	-1.55	[+0.00, +0.00]
	0.200-00	-1.51	[-1.62, -1.41]	-1.58	[-1.68, -1.48]	-1.24	[-1.25, -1.23]
	0.300-00	-1.04	[-1.21, -0.86]	-1.25	[-1.30, -1.20]	-1.33	[+0.00, +0.00]
	0.400-00	-0.57	[-0.84, -0.30]	-0.62	[-0.73, -0.51]	-0.23	[+0.00, +0.00]
	0.500-00	-0.23	[-0.27, -0.20]	-0.24	[-0.29, -0.19]	-0.26	[+0.00, +0.00]
	0.600-00	-0.16	[-0.17, -0.15]	-0.11	[-0.25, +0.03]	-0.17	[+0.00, +0.00]
	0.700-00	-0.09	[+0.00, +0.00]	-0.09	[-0.09, -0.08]	-0.09	[+0.00, +0.00]
	0.800-00	-0.02	[-0.03, -0.02]	+0.16	[-0.11, +0.43]	<i>+0.87</i>	[+0.00, +0.00]
	0.900-00	+0.00	[-0.00, +0.01]	-0.00	[+0.00, +0.00]	-0.00	[+0.00, +0.00]
	1.000-00	+0.02	[-0.01, +0.04]	<i>+0.23</i>	[+0.12, +0.35]	<i>+0.08</i>	[+0.00, +0.00]
d198	0.100-00	-1.08	[-1.11, -1.05]	-1.09	[-1.10, -1.07]	-1.06	[+0.00, +0.00]
	0.200-00	-1.22	[-1.26, -1.19]	-1.28	[-1.31, -1.26]	-1.24	[-1.24, -1.24]
	0.300-00	-1.44	[-1.47, -1.40]	-1.48	[-1.51, -1.45]	-1.51	[-1.52, -1.51]
	0.400-00	-1.25	[-1.28, -1.21]	-1.28	[-1.30, -1.25]	-1.32	[-1.32, -1.31]
	0.500-00	-0.92	[-0.95, -0.88]	-0.94	[-0.96, -0.91]	-0.97	[+0.00, +0.00]
	0.600-00	-0.51	[-0.57, -0.44]	-0.54	[-0.59, -0.50]	-0.57	[+0.00, +0.00]
	0.700-00	-0.41	[-0.45, -0.38]	-0.47	[-0.47, -0.47]	-0.47	[-0.47, -0.46]
	0.800-00	-0.22	[-0.27, -0.18]	-0.27	[-0.27, -0.27]	-0.27	[+0.00, +0.00]
	0.900-00	-0.08	[-0.11, -0.05]	-0.12	[-0.14, -0.10]	-0.05	[+0.00, +0.00]
	1.000-00	<i>+0.05</i>	[+0.03, +0.07]	<i>+0.03</i>	[+0.01, +0.05]	<i>+0.03</i>	[+0.00, +0.00]
att532	0.100-00	-7.72	[-7.76, -7.67]	-7.82	[-7.84, -7.79]	-7.87	[+0.00, +0.00]
	0.200-00	-6.14	[-6.26, -6.01]	-6.29	[-6.32, -6.26]	-5.45	[-5.45, -5.45]
	0.300-00	-4.61	[-4.65, -4.57]	-4.65	[-4.76, -4.53]	-3.89	[-3.89, -3.89]
	0.400-00	-3.33	[-3.45, -3.21]	-3.37	[-3.47, -3.28]	-3.49	[+0.00, +0.00]
	0.500-00	-2.04	[-2.17, -1.91]	-2.05	[-2.18, -1.92]	-2.15	[-2.15, -2.15]
	0.600-00	-1.19	[-1.25, -1.13]	-1.15	[-1.25, -1.05]	-1.12	[-1.12, -1.12]
	0.700-00	-0.55	[-0.64, -0.46]	-0.57	[-0.74, -0.40]	-0.48	[-0.48, -0.48]
	0.800-00	-0.19	[-0.27, -0.11]	-0.15	[-0.24, -0.06]	<i>+0.74</i>	[+0.00, +0.00]
	0.900-00	<i>+0.17</i>	[+0.09, +0.26]	<i>+0.31</i>	[+0.13, +0.50]	-0.08	[+0.00, +0.00]
	1.000-00	<i>+0.35</i>	[+0.30, +0.41]	<i>+0.23</i>	[+0.10, +0.35]	<i>+0.29</i>	[+0.00, +0.00]
rat783	0.100-00	-10.18	[-10.27, -10.09]	-10.27	[-10.36, -10.19]	-10.14	[+0.00, +0.00]
	0.200-00	-8.39	[-8.57, -8.22]	-8.44	[-8.54, -8.34]	-8.10	[-8.11, -8.10]
	0.300-00	-6.25	[-6.34, -6.15]	-6.32	[-6.46, -6.17]	-6.69	[-6.70, -6.69]
	0.400-00	-4.72	[-4.85, -4.58]	-4.64	[-4.78, -4.49]	-4.64	[-4.64, -4.63]
	0.500-00	-3.39	[-3.51, -3.27]	-3.56	[-3.65, -3.46]	-3.43	[-3.44, -3.43]
	0.600-00	-2.10	[-2.21, -1.99]	-2.26	[-2.38, -2.13]	-2.25	[+0.00, +0.00]
	0.700-00	-1.17	[-1.32, -1.03]	-1.45	[-1.59, -1.32]	-1.29	[-1.29, -1.28]
	0.800-00	-0.81	[-0.90, -0.72]	-0.82	[-0.93, -0.71]	-0.93	[+0.00, +0.00]
	0.900-00	-0.56	[-0.62, -0.50]	-0.56	[-0.76, -0.37]	-0.62	[+0.00, +0.00]
	1.000-00	<i>+0.81</i>	[+0.71, +0.91]	<i>+0.76</i>	[+0.61, +0.91]	<i>+0.88</i>	[+0.87, +0.88]