

APPENDIX E

GS1

In this section, we describe the results for use case GS1. First, for each problem and each time budget, we compare a pair of algorithms. Second, to compare the overall performance of the algorithms, we combine all objectives together by calculating average values of the objective functions (called *OFV*):

$$OFV = \frac{\sum_{i=1}^n Fitness_i}{n}$$

where n is the number of objectives for the prioritization problem, and $Fitness_i$ is the fitness value of the i th objective for the problem. Third, we used hypervolume (*HV*)—the most commonly used quality indicator to compare the overall performance of multi-objective search algorithms. Last, we calculated *Rank* and *Confidence* (as described in Section 4.1.5) for group comparison.

E.1 Experiment Results for RQ1

This section describes the results for Experiment Results for RQ1.

E.1.1 Problem 1

This section describes the results for prioritization problem $f(PET, PTR, AUM)$.

TABLE 1. Results for the Mann-Whitney U Test and Vargha and Delaney Statistics between Multi-Objective Algorithms and RS (GS1, f(PET, PTR, AUM))

TB	AlgorithmA	AlgorithmB	PET		PTR		AUM		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p
TB010	NSGA2	SimpleRS	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	CellIDE	SimpleRS	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	>0.9	<0.01
TB020	NSGA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	CellIDE	SimpleRS	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	>0.9	<0.01
TB030	NSGA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	CellIDE	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
TB040	NSGA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	CellIDE	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
TB050	NSGA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	CellIDE	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
TB060	NSGA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	CellIDE	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
TB070	NSGA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	CellIDE	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
TB080	NSGA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	CellIDE	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
TB090	NSGA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01

TB	AlgorithmA	AlgorithmB	PET		PTR		AUM		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p
TB090	CellDE	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
TB100	NSGA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	CellDE	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01

E.1.2 Problem 2

This section describes the results for prioritization problem $f(PET, PTR, PUS)$.

TABLE 2. Results for the Mann-Whitney U Test and Vargha and Delaney Statistics between Multi-Objective Algorithms and RS (GS1, f(PET, PTR, PUS))

[illegible]

E.1.3 Problem 3

This section describes the results for prioritization problem $f(PET, PTR, ANU)$.

TABLE 3. Results for the Mann-Whitney U Test and Vargha and Delaney Statistics between Multi-Objective Algorithms and RS (GS1, f(PET, PTR, ANU))

[illegible]

E.1.4 Problem 4

This section describes the results for prioritization problem $f(PET, PTR, PUU)$.

TABLE 4. Results for the Mann-Whitney U Test and Vargha and Delaney Statistics between Multi-Objective Algorithms and RS (GS1, f(PET, PTR, PUU))

TB	AlgorithmA	AlgorithmB	PET		PTR		PUU		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p
TB010	NSGA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	CellIDE	SimpleRS	<0.1	<0.01	<0.5	<0.01	<0.5	<0.01	<0.5	<0.01	>0.9	<0.01
TB020	NSGA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01

TB	AlgorithmA	AlgorithmB	PET		PTR		AUM		PUU		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p	A12	p
TB090	MoCell	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	CellDE	SimpleRS	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB100	NSGA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	CellDE	SimpleRS	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01

E.1.8 Problem 8

This section describes the results for prioritization problem $f(PET, PTR, PUS, ANU)$.

TABLE 8. Results for the Mann-Whitney U Test and Vargha and Delaney Statistics between Multi-Objective Algorithms and RS (GS1, f(PET, PTR, PUS, ANU))

[illegible]

E.1.9 Problem 9

This section describes the results for prioritization problem $f(PET, PTR, PUS, PUU)$.

TABLE 9. Results for the Mann-Whitney U Test and Vargha and Delaney Statistics between Multi-Objective Algorithms and RS (GS1, f(PET, PTR, PUS, PUU))

[illegible]

E.1.10 Problem 10

This section describes the results for prioritization problem $f(PET, PTR, ANU, PUU)$.

TABLE 10. Results for the Mann-Whitney U Test and Vargha and Delaney Statistics between Multi-Objective Algorithms and RS (GS1, f(PET, PTR, ANU, PUU))

TB	AlgorithmA	AlgorithmB	PET		PTR		ANU		PUU		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p	A12	p
TB010	NSGA2	SimpleRS	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01
	MoCell	SimpleRS	>0.5	<0.05	>0.5	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	>0.9	<0.01	>0.9	<0.01	<0.1	<0.01	>0.9	<0.01	>0.9	<0.01	<0.1	<0.01
	CellIDE	SimpleRS	<0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01
TB020	NSGA2	SimpleRS	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01
	MoCell	SimpleRS	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01

TB	AlgorithmA	AlgorithmB	PET		PTR		ANU		PUU		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p	A12	p
TB020	SPEA2	SimpleRS	>0.9	<0.01	>0.9	<0.01	<0.1	<0.01	>0.9	<0.01	>0.9	<0.01	<0.1	<0.01
	CellDE	SimpleRS	>0.5	>0.05	>0.5	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01
TB030	NSGA2	SimpleRS	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01
	MoCell	SimpleRS	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	>0.9	<0.01	>0.9	<0.01	<0.1	<0.01	>0.9	<0.01	>0.9	<0.01	<0.1	<0.01
	CellDE	SimpleRS	>0.5	<0.05	>0.9	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01
TB040	NSGA2	SimpleRS	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01
	MoCell	SimpleRS	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	>0.9	<0.01	>0.9	<0.01	<0.1	<0.01	>0.9	<0.01	>0.9	<0.01	<0.1	<0.01
	CellDE	SimpleRS	>0.5	<0.01	>0.9	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01
TB050	NSGA2	SimpleRS	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01
	MoCell	SimpleRS	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01	>0.9	<0.01	>0.9	<0.01	<0.1	<0.01
	CellDE	SimpleRS	>0.5	<0.01	>0.9	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01
TB060	NSGA2	SimpleRS	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01
	MoCell	SimpleRS	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01	>0.9	<0.01	>0.9	<0.01	<0.1	<0.01
	CellDE	SimpleRS	>0.5	<0.05	>0.9	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01
TB070	NSGA2	SimpleRS	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01
	MoCell	SimpleRS	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01	>0.9	<0.01	>0.9	<0.01	<0.1	<0.01
	CellDE	SimpleRS	>0.5	>0.05	>0.9	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01
TB080	NSGA2	SimpleRS	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01
	MoCell	SimpleRS	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01	>0.9	<0.01	>0.9	<0.01	<0.1	<0.01
	CellDE	SimpleRS	>0.5	>0.05	>0.9	<0.01	<0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01
TB090	NSGA2	SimpleRS	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01
	MoCell	SimpleRS	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01	>0.9	<0.01	>0.9	<0.01	<0.1	<0.01
	CellDE	SimpleRS	>0.5	>0.05	>0.9	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01
TB100	NSGA2	SimpleRS	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01
	MoCell	SimpleRS	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01
	SPEA2	SimpleRS	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01	>0.9	<0.01	>0.9	<0.01	<0.5	<0.01
	CellDE	SimpleRS	>0.5	<0.01	>0.9	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01

E.2 Experiment Results for RQ2

This section describes the results for Experiment Results for RQ2.

E.2.1 Problem 1

This section describes the results for prioritization problem $f(PET, PTR, AUM)$.

TABLE 11. Results for the Kruskal–Wallis Test among Multi-Objective Algorithms (GS1, f(PET, PTR, AUM))

TB	Metric	ChiSq	DF	p
TB010	ET	27926.73	3	<0.01
	CTR	3288.81	3	<0.01
	UM	26892.24	3	<0.01
	OFV	24265.11	3	<0.01
	HV	341.79	3	<0.01
TB020	ET	25404.75	3	<0.01
	CTR	2900.68	3	<0.01
	UM	24379.53	3	<0.01
	OFV	24741.28	3	<0.01
	HV	358.13	3	<0.01
TB030	ET	24324.22	3	<0.01
	CTR	2202.45	3	<0.01

TB	Metric	ChiSq	DF	p
TB030	UM	23137.36	3	<0.01
	OFV	24487.82	3	<0.01
	HV	362.31	3	<0.01
TB040	ET	17167.65	3	<0.01
	CTR	2412.61	3	<0.01
	UM	16283.69	3	<0.01
	OFV	17267.73	3	<0.01
	HV	362.68	3	<0.01
TB050	ET	14811.38	3	<0.01
	CTR	2923.23	3	<0.01
	UM	14532.51	3	<0.01
	OFV	14954.83	3	<0.01
	HV	366.5	3	<0.01
TB060	ET	11290.46	3	<0.01
	CTR	2844.64	3	<0.01
	UM	10975.68	3	<0.01
	OFV	11365.86	3	<0.01
	HV	362.38	3	<0.01
TB070	ET	9787.76	3	<0.01
	CTR	2299.46	3	<0.01
	UM	9577.27	3	<0.01
	OFV	9846.18	3	<0.01
	HV	362.27	3	<0.01
TB080	ET	8825.22	3	<0.01
	CTR	2628.34	3	<0.01
	UM	8761.78	3	<0.01
	OFV	8878.64	3	<0.01
	HV	361.05	3	<0.01
TB090	ET	8028.61	3	<0.01
	CTR	2609.39	3	<0.01
	UM	7700.71	3	<0.01
	OFV	8061.59	3	<0.01
	HV	360.03	3	<0.01
TB100	ET	7898.74	3	<0.01
	CTR	2326.44	3	<0.01
	UM	7768.88	3	<0.01
	OFV	7935.71	3	<0.01
	HV	363.86	3	<0.01

TABLE 12. Results for the Mann-Whitney U Test and Vargha and Delaney Statistics among Multi-Objective Algorithms (GS1, f(PET, PTR, AUM))

TB	AlgorithmA	AlgorithmB	ET		CTR		UM		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p
TB010	NSGA2	MoCell	<0.1	<0.01	>0.5	<0.01	<0.1	<0.01	<0.5	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
TB020	NSGA2	MoCell	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.1	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
TB030	NSGA2	MoCell	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01

TB	Metric	Rank				Confidence			
		NSGA2	MoCell	SPEA2	CellIDE	NSGA2	MoCell	SPEA2	CellIDE
TB020	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB030	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	4	1	3	20%	40%	10%	30%
	UM	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB040	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB050	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB060	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB070	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB080	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB090	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB100	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%

E.2.2 Problem 2

This section describes the results for prioritization problem $f(PET, PTR, PUS)$.

TABLE 14. Results for the Kruskal–Wallis Test among Multi-Objective Algorithms (GS1, f(PET, PTR, PUS))

TB	Metric	ChiSq	DF	p
TB010	ET	1877.67	3	<0.01
	CTR	253.4	3	<0.01
	USP	5.66	3	> 0.05
	OFV	1183.39	3	<0.01
	HV	356.39	3	<0.01

TB	Metric	ChiSq	DF	p
TB020	ET	768.49	3	<0.01
	CTR	238.1	3	<0.01
	USP	15.2	3	<0.01
	OFV	764.3	3	<0.01
	HV	352.55	3	<0.01
TB030	ET	502.81	3	<0.01
	CTR	208.24	3	<0.01
	USP	19.84	3	<0.01
	OFV	505.09	3	<0.01
	HV	354.24	3	<0.01
TB040	ET	466.69	3	<0.01
	CTR	127.81	3	<0.01
	USP	3	3	>0.05
	OFV	464.49	3	<0.01
	HV	356.71	3	<0.01
TB050	ET	425.13	3	<0.01
	CTR	178.26	3	<0.01
	USP	3.25	3	>0.05
	OFV	425.46	3	<0.01
	HV	356.56	3	<0.01
TB060	ET	394.88	3	<0.01
	CTR	125.55	3	<0.01
	USP	30.6	3	<0.01
	OFV	395.63	3	<0.01
	HV	349.16	3	<0.01
TB070	ET	401.81	3	<0.01
	CTR	209.43	3	<0.01
	USP	3	3	>0.05
	OFV	403.98	3	<0.01
	HV	343.68	3	<0.01
TB080	ET	387.38	3	<0.01
	CTR	216.55	3	<0.01
	USP	6.01	3	>0.05
	OFV	389.67	3	<0.01
	HV	338.67	3	<0.01
TB090	ET	339.42	3	<0.01
	CTR	172.1	3	<0.01
	USP	15.14	3	<0.01
	OFV	344.94	3	<0.01
	HV	335.87	3	<0.01
TB100	ET	350.38	3	<0.01
	CTR	174.3	3	<0.01
	USP	3.68	3	>0.05
	OFV	352.37	3	<0.01
	HV	340.83	3	<0.01

TABLE 15. Results for the Mann-Whitney U Test and Vargha and Delaney Statistics among Multi-Objective Algorithms (GS1, f(PET, PTR, PUS))

TB	AlgorithmA	AlgorithmB	ET		CTR		USP		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p
TB010	NSGA2	MoCell	<0.1	<0.01	<0.5	>0.05	<0.5	>0.05	<0.5	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.9	<0.01	<0.5	<0.01	>0.5	>0.05	>0.5	>0.05	<0.5	<0.01
	NSGA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	<0.5	<0.05	>0.5	<0.05	>0.5	<0.01	<0.1	<0.01
	MoCell	CellDE	<0.1	<0.01	<0.5	<0.01	>0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB020	NSGA2	MoCell	<0.1	<0.01	>0.5	>0.05	<0.5	<0.05	<0.1	<0.01	>0.9	<0.01

TB	AlgorithmA	AlgorithmB	ET		CTR		USP		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p
TB020	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	> 0.05	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellDE	<0.1	<0.01	<0.5	<0.01	>0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	<0.05	<0.1	<0.01	>0.9	<0.01
TB030	NSGA2	MoCell	<0.1	<0.01	>0.5	> 0.05	>0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	> 0.05	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	<0.05	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	<0.5	> 0.05	>0.9	<0.01	<0.1	<0.01
	MoCell	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB040	SPEA2	CellDE	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	NSGA2	MoCell	<0.1	<0.01	<0.5	> 0.05	= 0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.9	<0.01	>0.5	> 0.05	= 0.5	> 0.05	>0.9	<0.01	<0.5	<0.01
	NSGA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	> 0.05	= 0.5	> 0.05	>0.9	<0.01	<0.1	<0.01
TB050	MoCell	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	MoCell	<0.1	<0.01	<0.5	> 0.05	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.9	<0.01	>0.5	> 0.05	<0.5	> 0.05	>0.9	<0.01	<0.5	<0.01
	NSGA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
TB060	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.05	<0.5	> 0.05	>0.9	<0.01	<0.1	<0.01
	MoCell	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellDE	<0.1	<0.01	<0.1	<0.01	>0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	MoCell	<0.1	<0.01	>0.5	> 0.05	= 0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	<0.5	<0.05	= 0.5	> 0.05	>0.5	<0.01	<0.5	<0.01
TB070	NSGA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	<0.5	<0.01	= 0.5	> 0.05	>0.9	<0.01	<0.1	<0.01
	MoCell	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	MoCell	<0.1	<0.01	>0.5	<0.01	= 0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
TB080	NSGA2	SPEA2	>0.5	<0.01	<0.5	<0.01	= 0.5	> 0.05	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellDE	<0.1	<0.01	<0.1	<0.01	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	= 0.5	> 0.05	>0.9	<0.01	<0.1	<0.01
	MoCell	CellDE	<0.1	<0.01	<0.1	<0.01	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellDE	<0.1	<0.01	<0.1	<0.01	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
TB090	NSGA2	MoCell	<0.1	<0.01	<0.5	> 0.05	= 0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	<0.5	> 0.05	= 0.5	> 0.05	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	<0.05	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	> 0.05	= 0.5	> 0.05	>0.9	<0.01	<0.1	<0.01
	MoCell	CellDE	<0.5	<0.01	<0.1	<0.01	<0.5	<0.05	<0.5	<0.01	>0.5	<0.01
TB100	SPEA2	CellDE	<0.1	<0.01	<0.1	<0.01	<0.5	<0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	MoCell	<0.1	<0.01	>0.5	<0.05	>0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	<0.5	<0.01	>0.5	> 0.05	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellDE	<0.1	<0.01	<0.5	<0.01	>0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	<0.5	<0.01	= 0.5	> 0.05	>0.9	<0.01	<0.1	<0.01
TB100	MoCell	CellDE	<0.5	<0.01	<0.1	<0.01	<0.5	> 0.05	<0.5	<0.01	>0.5	<0.01
	SPEA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01

TABLE 16. Rank Results for each Multi-Objective Algorithms (GS1, $f(PET, PTR, PUS)$)

TB	Metric	Rank				Confidence			
		NSGA2	MoCell	SPEA2	CellIDE	NSGA2	MoCell	SPEA2	CellIDE
TB010	ET	3	2	4	1	30%	20%	40%	10%
	CTR	1	1	2	3	14%	14%	29%	43%
	USP	1	2	1	2	17%	33%	17%	33%
	OFV	1	2	1	3	14%	29%	14%	43%
	HV	3	2	4	1	30%	20%	40%	10%
TB020	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	2	1	3	25%	25%	12%	38%
	USP	1	2	1	2	17%	33%	17%	33%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB030	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	2	1	3	25%	25%	12%	38%
	USP	1	1	1	2	20%	20%	20%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB040	ET	3	2	4	1	30%	20%	40%	10%
	CTR	1	1	1	2	20%	20%	20%	40%
	USP	1	1	1	1	25%	25%	25%	25%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB050	ET	3	2	4	1	30%	20%	40%	10%
	CTR	1	2	1	3	14%	29%	14%	43%
	USP	1	1	1	1	25%	25%	25%	25%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB060	ET	3	2	4	1	30%	20%	40%	10%
	CTR	1	1	2	3	14%	14%	29%	43%
	USP	1	1	1	2	20%	20%	20%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB070	ET	3	2	4	1	30%	20%	40%	10%
	CTR	3	2	1	4	30%	20%	10%	40%
	USP	1	1	1	1	25%	25%	25%	25%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB080	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	2	1	3	25%	25%	12%	38%
	USP	1	1	1	1	25%	25%	25%	25%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB090	ET	3	2	4	1	30%	20%	40%	10%
	CTR	1	1	1	2	20%	20%	20%	40%
	USP	1	1	1	2	20%	20%	20%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB100	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	1	3	4	20%	10%	30%	40%
	USP	1	1	1	1	25%	25%	25%	25%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%

E.2.3 Problem 3

This section describes the results for prioritization problem $f(PET, PTR, ANU)$.

TABLE 17. Results for the Kruskal–Wallis Test among Multi-Objective Algorithms (GS1, f(PET, PTR, ANU))

TB	Metric	ChiSq	DF	p
TB010	ET	610.77	3	<0.01
	CTR	924.33	3	<0.01
	NU	2541.87	3	<0.01
	OFV	840.47	3	<0.01
	HV	355.11	3	<0.01
TB020	ET	831.87	3	<0.01
	CTR	1926.14	3	<0.01
	NU	3494.81	3	<0.01
	OFV	1826.97	3	<0.01
	HV	352.95	3	<0.01
TB030	ET	478.14	3	<0.01
	CTR	2920.67	3	<0.01
	NU	3026.75	3	<0.01
	OFV	2732.16	3	<0.01
	HV	339.94	3	<0.01
TB040	ET	562.68	3	<0.01
	CTR	3772.52	3	<0.01
	NU	3169.37	3	<0.01
	OFV	3484.69	3	<0.01
	HV	329.65	3	<0.01
TB050	ET	434.19	3	<0.01
	CTR	3595.17	3	<0.01
	NU	3002.03	3	<0.01
	OFV	3214.6	3	<0.01
	HV	310.74	3	<0.01
TB060	ET	350.28	3	<0.01
	CTR	2965.48	3	<0.01
	NU	2734.86	3	<0.01
	OFV	2440.93	3	<0.01
	HV	299.15	3	<0.01
TB070	ET	407.75	3	<0.01
	CTR	2511.89	3	<0.01
	NU	3370.04	3	<0.01
	OFV	2002.24	3	<0.01
	HV	286.34	3	<0.01
TB080	ET	468.64	3	<0.01
	CTR	1975.29	3	<0.01
	NU	3229.26	3	<0.01
	OFV	1371.44	3	<0.01
	HV	271.28	3	<0.01
TB090	ET	703.59	3	<0.01
	CTR	902.16	3	<0.01
	NU	3183.03	3	<0.01
	OFV	591.7	3	<0.01
	HV	269.7	3	<0.01
TB100	ET	617.21	3	<0.01
	CTR	926.77	3	<0.01
	NU	3587.09	3	<0.01
	OFV	580.36	3	<0.01
	HV	264.96	3	<0.01

TB	AlgorithmA	AlgorithmB	ET		CTR		NU		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p
TB100	NSGA2	MoCell	<0.5	<0.01	<0.5	<0.01	<0.5	<0.01	<0.5	<0.01	<0.5	>0.05
	NSGA2	SPEA2	>0.5	>0.05	<0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01
	NSGA2	CellDE	<0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01
	MoCell	SPEA2	>0.5	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01
	MoCell	CellDE	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01
	SPEA2	CellDE	<0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.5	<0.01	<0.1	<0.01

TABLE 19. Rank Results for each Multi-Objective Algorithms (GS1, f(PET, PTR, ANU))

TB	Metric	Rank				Confidence			
		NSGA2	MoCell	SPEA2	CellDE	NSGA2	MoCell	SPEA2	CellDE
TB010	ET	3	2	1	3	33%	22%	11%	33%
	CTR	2	1	4	3	20%	10%	40%	30%
	NU	2	3	1	4	20%	30%	10%	40%
	OFV	2	1	3	2	25%	12%	38%	25%
	HV	3	4	1	2	30%	40%	10%	20%
TB020	ET	3	2	1	4	30%	20%	10%	40%
	CTR	3	2	4	1	30%	20%	40%	10%
	NU	2	3	1	4	20%	30%	10%	40%
	OFV	3	2	4	1	30%	20%	40%	10%
	HV	3	4	1	2	30%	40%	10%	20%
TB030	ET	3	1	2	3	33%	11%	22%	33%
	CTR	3	2	4	1	30%	20%	40%	10%
	NU	3	2	1	4	30%	20%	10%	40%
	OFV	2	2	3	1	25%	25%	38%	12%
	HV	3	4	1	2	30%	40%	10%	20%
TB040	ET	3	1	1	2	43%	14%	14%	29%
	CTR	3	2	4	1	30%	20%	40%	10%
	NU	2	2	1	3	25%	25%	12%	38%
	OFV	2	2	3	1	25%	25%	38%	12%
	HV	3	4	1	2	30%	40%	10%	20%
TB050	ET	4	1	2	3	40%	10%	20%	30%
	CTR	3	2	4	1	30%	20%	40%	10%
	NU	2	2	1	3	25%	25%	12%	38%
	OFV	2	2	3	1	25%	25%	38%	12%
	HV	3	4	1	2	30%	40%	10%	20%
TB060	ET	4	1	2	3	40%	10%	20%	30%
	CTR	2	2	3	1	25%	25%	38%	12%
	NU	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	4	1	20%	30%	40%	10%
	HV	3	4	1	2	30%	40%	10%	20%
TB070	ET	4	1	2	3	40%	10%	20%	30%
	CTR	2	2	3	1	25%	25%	38%	12%
	NU	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	4	1	20%	30%	40%	10%
	HV	3	4	1	2	30%	40%	10%	20%
TB080	ET	4	1	3	2	40%	10%	30%	20%
	CTR	2	2	3	1	25%	25%	38%	12%
	NU	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	4	1	20%	30%	40%	10%
	HV	3	4	1	2	30%	40%	10%	20%
TB090	ET	4	1	3	2	40%	10%	30%	20%
	CTR	2	3	4	1	20%	30%	40%	10%
	NU	2	3	1	4	20%	30%	10%	40%
	OFV	2	4	3	1	20%	40%	30%	10%
	HV	3	3	1	2	33%	33%	11%	22%

TB	Metric	Rank				Confidence			
		NSGA2	MoCell	SPEA2	CellIDE	NSGA2	MoCell	SPEA2	CellIDE
TB100	ET	3	1	3	2	33%	11%	33%	22%
	CTR	2	3	4	1	20%	30%	40%	10%
	NU	2	3	1	4	20%	30%	10%	40%
	OFV	2	4	3	1	20%	40%	30%	10%
	HV	3	3	1	2	33%	33%	11%	22%

E.2.4 Problem 4

This section describes the results for prioritization problem $f(PET, PTR, PUU)$.

TABLE 20. Results for the Kruskal–Wallis Test among Multi-Objective Algorithms (GS1, $f(PET, PTR, PUU)$)

TB	Metric	ChiSq	DF	p
TB010	ET	2726.07	3	<0.01
	CTR	460.03	3	<0.01
	NUU	52.53	3	<0.01
	OFV	1739.1	3	<0.01
	HV	349.06	3	<0.01
TB020	ET	808.48	3	<0.01
	CTR	266.97	3	<0.01
	NUU	40.27	3	<0.01
	OFV	724.43	3	<0.01
	HV	349.41	3	<0.01
TB030	ET	532.31	3	<0.01
	CTR	233.73	3	<0.01
	NUU	54.15	3	<0.01
	OFV	537.87	3	<0.01
	HV	354.93	3	<0.01
TB040	ET	525.29	3	<0.01
	CTR	197.11	3	<0.01
	NUU	35.97	3	<0.01
	OFV	528.6	3	<0.01
	HV	352.87	3	<0.01
TB050	ET	438.11	3	<0.01
	CTR	175.06	3	<0.01
	NUU	42.71	3	<0.01
	OFV	443.82	3	<0.01
	HV	355.98	3	<0.01
TB060	ET	445.63	3	<0.01
	CTR	258.06	3	<0.01
	NUU	128.56	3	<0.01
	OFV	446.34	3	<0.01
	HV	354.23	3	<0.01
TB070	ET	406.58	3	<0.01
	CTR	175.08	3	<0.01
	NUU	53.31	3	<0.01
	OFV	408.06	3	<0.01
	HV	347.18	3	<0.01
TB080	ET	403.33	3	<0.01
	CTR	184.15	3	<0.01
	NUU	87.42	3	<0.01
	OFV	405.59	3	<0.01
	HV	353.23	3	<0.01
TB090	ET	381.34	3	<0.01
	CTR	229.57	3	<0.01
	NUU	109.13	3	<0.01
	OFV	385.52	3	<0.01
	HV	347.01	3	<0.01

TB	Metric	ChiSq	DF	p
TB100	ET	375.5	3	<0.01
	CTR	209.22	3	<0.01
	NUU	97.25	3	<0.01
	OFV	377.98	3	<0.01
	HV	346.54	3	<0.01

TABLE 21. Results for the Mann-Whitney U Test and Vargha and Delaney Statistics among Multi-Objective Algorithms (GS1, f(PET, PTR, PUU))

TB	AlgorithmA	AlgorithmB	ET		CTR		NUU		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p
TB010	NSGA2	MoCell	<0.1	<0.01	<0.5	<0.01	<0.5	<0.01	<0.5	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	> 0.05	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellDE	<0.1	<0.01	<0.5	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.1	<0.01
	MoCell	CellDE	<0.1	<0.01	<0.5	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
TB020	NSGA2	MoCell	<0.1	<0.01	>0.5	> 0.05	>0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	> 0.05	>0.5	> 0.05	>0.5	<0.01	>0.5	> 0.05	<0.5	<0.01
	NSGA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	<0.5	> 0.05	>0.5	<0.05	>0.5	<0.01	<0.1	<0.01
	MoCell	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	<0.05	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB030	NSGA2	MoCell	<0.1	<0.01	>0.5	<0.05	>0.5	<0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	<0.05	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellDE	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB040	NSGA2	MoCell	<0.1	<0.01	>0.5	> 0.05	>0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.5	<0.05	>0.9	<0.01	<0.5	<0.01
	NSGA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.5	<0.05	>0.9	<0.01	<0.1	<0.01
	MoCell	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	<0.05	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellDE	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB050	NSGA2	MoCell	<0.1	<0.01	>0.5	<0.05	>0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.9	<0.01	<0.5	> 0.05	<0.5	> 0.05	>0.9	<0.01	<0.5	<0.01
	NSGA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	<0.5	<0.01	<0.5	> 0.05	>0.9	<0.01	<0.1	<0.01
	MoCell	CellDE	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB060	NSGA2	MoCell	<0.1	<0.01	<0.5	> 0.05	>0.5	<0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01	<0.5	<0.01
	NSGA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.5	<0.05	>0.9	<0.01	<0.1	<0.01
	MoCell	CellDE	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellDE	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB070	NSGA2	MoCell	<0.1	<0.01	>0.5	> 0.05	>0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.9	<0.01	>0.5	<0.05	<0.5	<0.01	>0.9	<0.01	<0.5	<0.01
	NSGA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	> 0.05	<0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellDE	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellDE	<0.1	<0.01	<0.1	<0.01	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
TB080	NSGA2	MoCell	<0.1	<0.01	>0.5	<0.05	>0.5	<0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.9	<0.01	<0.5	> 0.05	>0.5	<0.05	>0.9	<0.01	<0.5	<0.01
	NSGA2	CellDE	<0.1	<0.01	<0.5	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	<0.5	<0.01	= 0.5	> 0.05	>0.9	<0.01	<0.1	<0.01
	MoCell	CellDE	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01

TB	AlgorithmA	AlgorithmB	ET		CTR		NUU		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p
TB080	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB090	NSGA2	MoCell	<0.1	<0.01	>0.5	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.5	> 0.05	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB100	NSGA2	MoCell	<0.1	<0.01	>0.5	> 0.05	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.5	> 0.05	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01

TABLE 22. Rank Results for each Multi-Objective Algorithms (GS1, f(PET, PTR, PUU))

TB	Metric	Rank				Confidence			
		NSGA2	MoCell	SPEA2	CellIDE	NSGA2	MoCell	SPEA2	CellIDE
TB010	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	NUU	1	2	1	1	20%	40%	20%	20%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB020	ET	3	2	3	1	33%	22%	33%	11%
	CTR	1	1	1	2	20%	20%	20%	40%
	NUU	2	2	1	2	29%	29%	14%	29%
	OFV	1	2	1	3	14%	29%	14%	43%
	HV	3	2	4	1	30%	20%	40%	10%
TB030	ET	3	2	4	1	30%	20%	40%	10%
	CTR	3	2	1	4	30%	20%	10%	40%
	NUU	3	2	1	3	33%	22%	11%	33%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB040	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	2	1	3	25%	25%	12%	38%
	NUU	2	2	1	3	25%	25%	12%	38%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB050	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	1	2	3	25%	12%	25%	38%
	NUU	1	1	1	2	20%	20%	20%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB060	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	2	1	3	25%	25%	12%	38%
	NUU	3	2	1	4	30%	20%	10%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB070	ET	3	2	4	1	30%	20%	40%	10%
	CTR	1	1	1	2	20%	20%	20%	40%
	NUU	1	1	2	2	17%	17%	33%	33%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB080	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	1	2	3	25%	12%	25%	38%
	NUU	2	1	1	3	29%	14%	14%	43%

TB	Metric	Rank				Confidence			
		NSGA2	MoCell	SPEA2	CellIDE	NSGA2	MoCell	SPEA2	CellIDE
TB080	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB090	ET	3	2	4	1	30%	20%	40%	10%
	CTR	3	2	1	4	30%	20%	10%	40%
	NUU	2	1	1	3	29%	14%	14%	43%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB100	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	2	1	3	25%	25%	12%	38%
	NUU	2	1	1	3	29%	14%	14%	43%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%

E.2.5 Problem 5

This section describes the results for prioritization problem $f(PET, PTR, AUM, PUS)$.

TABLE 23. Results for the Kruskal–Wallis Test among Multi-Objective Algorithms (GS1, f(PET, PTR, AUM, PUS))

TB	Metric	ChiSq	DF	p
TB010	ET	28423.92	3	<0.01
	CTR	2498.64	3	<0.01
	UM	26671.39	3	<0.01
	USP	2206.91	3	<0.01
	OFV	23767.89	3	<0.01
	HV	331.16	3	<0.01
TB020	ET	26215.56	3	<0.01
	CTR	3281.1	3	<0.01
	UM	24447.9	3	<0.01
	USP	1838.86	3	<0.01
	OFV	25193.7	3	<0.01
	HV	350.72	3	<0.01
TB030	ET	16284.87	3	<0.01
	CTR	1496.64	3	<0.01
	UM	15318.06	3	<0.01
	USP	549.35	3	<0.01
	OFV	16244.77	3	<0.01
	HV	356.16	3	<0.01
TB040	ET	10710.8	3	<0.01
	CTR	1962.15	3	<0.01
	UM	10136.71	3	<0.01
	USP	477.88	3	<0.01
	OFV	10792.74	3	<0.01
	HV	358.09	3	<0.01
TB050	ET	7792.66	3	<0.01
	CTR	1625.13	3	<0.01
	UM	7277.37	3	<0.01
	USP	151.58	3	<0.01
	OFV	7837.33	3	<0.01
	HV	363.16	3	<0.01
TB060	ET	6507.72	3	<0.01
	CTR	1119.09	3	<0.01
	UM	6284.14	3	<0.01
	USP	14.64	3	<0.01
	OFV	6523.68	3	<0.01
	HV	361.85	3	<0.01
TB070	ET	5520.02	3	<0.01
	CTR	1378.19	3	<0.01

TB	Metric	ChiSq	DF	p
TB070	UM	5318.91	3	<0.01
	USP	53.93	3	<0.01
	OFV	5562.51	3	<0.01
	HV	357.56	3	<0.01
TB080	ET	4829.83	3	<0.01
	CTR	1479.65	3	<0.01
	UM	4666.42	3	<0.01
	USP	77.51	3	<0.01
	OFV	4838.33	3	<0.01
	HV	360.45	3	<0.01
TB090	ET	4958.03	3	<0.01
	CTR	1744.4	3	<0.01
	UM	4838.68	3	<0.01
	USP	54.67	3	<0.01
	OFV	4982.69	3	<0.01
	HV	362.06	3	<0.01
TB100	ET	4773.04	3	<0.01
	CTR	1548.09	3	<0.01
	UM	4515.81	3	<0.01
	USP	62.92	3	<0.01
	OFV	4783	3	<0.01
	HV	365.25	3	<0.01

TABLE 24. Results for the Mann-Whitney U Test and Vargha and Delaney Statistics among Multi-Objective Algorithms (GS1, f(PET, PTR, AUM, PUS))

TB	AlgorithmA	AlgorithmB	ET		CTR		UM		USP		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p	A12	p
TB010	NSGA2	MoCell	<0.1	<0.01	>0.5	<0.05	<0.1	<0.01	<0.5	<0.01	<0.5	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	> 0.05	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	> 0.05	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB020	NSGA2	MoCell	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB030	NSGA2	MoCell	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB040	NSGA2	MoCell	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	> 0.05	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB050	NSGA2	MoCell	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.5	> 0.05	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01

TB	AlgorithmA	AlgorithmB	ET		CTR		UM		USP		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p	A12	p
TB060	NSGA2	MoCell	<0.1	<0.01	<0.5	>0.05	<0.1	<0.01	>0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.05	>0.5	<0.01	<0.1	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.5	>0.05	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.05	<0.1	<0.01	>0.9	<0.01
TB070	NSGA2	MoCell	<0.1	<0.01	>0.5	>0.05	<0.1	<0.01	>0.5	<0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB080	NSGA2	MoCell	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	>0.05	>0.5	<0.01	<0.1	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB090	NSGA2	MoCell	<0.1	<0.01	<0.5	>0.05	<0.1	<0.01	<0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	>0.05	>0.5	<0.01	<0.1	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB100	NSGA2	MoCell	<0.1	<0.01	<0.5	<0.05	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.05	>0.5	<0.01	<0.1	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01

TABLE 25. Rank Results for each Multi-Objective Algorithms (GS1, f(PET, PTR, AUM, PUS))

TB	Metric	Rank				Confidence			
		NSGA2	MoCell	SPEA2	CellIDE	NSGA2	MoCell	SPEA2	CellIDE
TB010	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	1	2	3	25%	12%	25%	38%
	UM	2	3	1	4	20%	30%	10%	40%
	USP	3	4	2	1	30%	40%	20%	10%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB020	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	USP	3	4	1	2	30%	40%	10%	20%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB030	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	USP	2	4	1	3	20%	40%	10%	30%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB040	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%

TB	Metric	Rank				Confidence			
		NSGA2	MoCell	SPEA2	CellDE	NSGA2	MoCell	SPEA2	CellDE
TB040	USP	1	3	1	2	14%	43%	14%	29%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB050	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	USP	2	2	1	2	29%	29%	14%	29%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB060	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	2	1	3	25%	25%	12%	38%
	UM	2	3	1	4	20%	30%	10%	40%
	USP	1	1	1	1	25%	25%	25%	25%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB070	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	2	1	3	25%	25%	12%	38%
	UM	2	3	1	4	20%	30%	10%	40%
	USP	3	2	1	3	33%	22%	11%	33%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB080	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	USP	1	3	1	2	14%	43%	14%	29%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB090	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	2	1	3	25%	25%	12%	38%
	UM	2	3	1	4	20%	30%	10%	40%
	USP	1	2	1	3	14%	29%	14%	43%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB100	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	USP	2	3	1	3	22%	33%	11%	33%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%

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This section describes the results for prioritization problem $f(PET, PTR, AUM, ANU)$.

TABLE 26. Results for the Kruskal–Wallis Test among Multi-Objective Algorithms (GS1, f(PET, PTR, AUM, ANU))

TB	Metric	ChiSq	DF	p
TB010	ET	324.34	3	<0.01
	CTR	1222.25	3	<0.01
	UM	1424.25	3	<0.01
	NU	1756.56	3	<0.01
	OFV	1435.72	3	<0.01
	HV	317.4	3	<0.01
TB020	ET	612.18	3	<0.01
	CTR	2126.97	3	<0.01
	UM	803.27	3	<0.01
	NU	2705.73	3	<0.01
	OFV	2079.02	3	<0.01

TB	Metric	ChiSq	DF	p
TB020	HV	357.58	3	<0.01
TB030	ET	745.94	3	<0.01
	CTR	2930.53	3	<0.01
	UM	643.46	3	<0.01
	NU	3305.44	3	<0.01
	OFV	2784.67	3	<0.01
	HV	361.53	3	<0.01
TB040	ET	745.9	3	<0.01
	CTR	2853.45	3	<0.01
	UM	553.26	3	<0.01
	NU	3435.94	3	<0.01
	OFV	2635.85	3	<0.01
	HV	359.08	3	<0.01
TB050	ET	619.54	3	<0.01
	CTR	2354.61	3	<0.01
	UM	240.06	3	<0.01
	NU	2949.43	3	<0.01
	OFV	2041.84	3	<0.01
	HV	348.58	3	<0.01
TB060	ET	604.83	3	<0.01
	CTR	2238.37	3	<0.01
	UM	108.95	3	<0.01
	NU	3072.22	3	<0.01
	OFV	1891.29	3	<0.01
	HV	346.3	3	<0.01
TB070	ET	549.28	3	<0.01
	CTR	1711.04	3	<0.01
	UM	75.18	3	<0.01
	NU	2518.26	3	<0.01
	OFV	1267.33	3	<0.01
	HV	335.54	3	<0.01
TB080	ET	435.91	3	<0.01
	CTR	1768.72	3	<0.01
	UM	106.91	3	<0.01
	NU	2613.96	3	<0.01
	OFV	1300.94	3	<0.01
	HV	334.49	3	<0.01
TB090	ET	574.08	3	<0.01
	CTR	1417.53	3	<0.01
	UM	302.61	3	<0.01
	NU	2603.37	3	<0.01
	OFV	950.73	3	<0.01
	HV	330.19	3	<0.01
TB100	ET	464.01	3	<0.01
	CTR	989.38	3	<0.01
	UM	880.28	3	<0.01
	NU	2252.5	3	<0.01
	OFV	587.62	3	<0.01
	HV	323.87	3	<0.01

TABLE 27. Results for the Mann-Whitney U Test and Vargha and Delaney Statistics among Multi-Objective Algorithms (GS1, f(PET, PTR, AUM, ANU))

TB	AlgorithmA	AlgorithmB	ET		CTR		UM		NU		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p	A12	p
TB010	NSGA2	MoCell	<0.5	>0.05	>0.5	>0.05	<0.5	>0.05	<0.5	<0.01	>0.5	>0.05	<0.5	<0.01
	NSGA2	SPEA2	<0.5	<0.01	<0.5	<0.01	<0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01
	NSGA2	CellDE	>0.5	<0.01	<0.5	<0.01	<0.5	<0.01	<0.5	<0.01	<0.5	<0.01	>0.9	<0.01
	MoCell	SPEA2	<0.5	<0.01	<0.5	<0.01	<0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01

TABLE 28. Rank Results for each Multi-Objective Algorithms (GS1, f(PET, PTR, AUM, ANU))

TB	Metric	Rank				Confidence			
		NSGA2	MoCell	SPEA2	CellDE	NSGA2	MoCell	SPEA2	CellDE
TB010	ET	2	2	1	3	25%	25%	12%	38%
	CTR	1	1	3	2	14%	14%	43%	29%
	UM	1	1	2	2	17%	17%	33%	33%
	NU	2	3	1	3	22%	33%	11%	33%
	OFV	1	1	3	2	14%	14%	43%	29%
	HV	3	4	1	2	30%	40%	10%	20%
TB020	ET	2	2	1	3	25%	25%	12%	38%
	CTR	1	1	3	2	14%	14%	43%	29%
	UM	1	1	3	2	14%	14%	43%	29%
	NU	2	3	1	4	20%	30%	10%	40%
	OFV	1	1	3	2	14%	14%	43%	29%
	HV	3	4	1	2	30%	40%	10%	20%
TB030	ET	3	1	2	4	30%	10%	20%	40%
	CTR	2	1	4	3	20%	10%	40%	30%
	UM	1	1	3	2	14%	14%	43%	29%
	NU	2	2	1	3	25%	25%	12%	38%
	OFV	2	1	3	2	25%	12%	38%	25%
	HV	3	4	1	2	30%	40%	10%	20%
TB040	ET	3	1	2	4	30%	10%	20%	40%
	CTR	1	1	3	2	14%	14%	43%	29%
	UM	1	2	3	2	12%	25%	38%	25%
	NU	2	2	1	3	25%	25%	12%	38%
	OFV	1	1	3	2	14%	14%	43%	29%
	HV	3	4	1	2	30%	40%	10%	20%
TB050	ET	2	1	3	4	20%	10%	30%	40%
	CTR	1	1	3	2	14%	14%	43%	29%
	UM	1	2	3	1	14%	29%	43%	14%
	NU	2	2	1	3	25%	25%	12%	38%
	OFV	2	1	4	3	20%	10%	40%	30%
	HV	3	4	1	2	30%	40%	10%	20%
TB060	ET	2	1	1	3	29%	14%	14%	43%
	CTR	2	1	4	3	20%	10%	40%	30%
	UM	1	2	3	1	14%	29%	43%	14%
	NU	2	2	1	3	25%	25%	12%	38%
	OFV	1	2	4	3	10%	20%	40%	30%
	HV	3	4	1	2	30%	40%	10%	20%
TB070	ET	2	1	2	3	25%	12%	25%	38%
	CTR	1	1	3	2	14%	14%	43%	29%
	UM	1	3	2	1	14%	43%	29%	14%
	NU	2	2	1	3	25%	25%	12%	38%
	OFV	2	1	4	3	20%	10%	40%	30%
	HV	3	4	1	2	30%	40%	10%	20%
TB080	ET	2	1	3	4	20%	10%	30%	40%
	CTR	2	1	4	3	20%	10%	40%	30%
	UM	1	2	1	1	20%	40%	20%	20%
	NU	2	2	1	3	25%	25%	12%	38%
	OFV	1	3	4	2	10%	30%	40%	20%
	HV	3	4	1	2	30%	40%	10%	20%
TB090	ET	2	1	3	4	20%	10%	30%	40%
	CTR	1	2	4	3	10%	20%	40%	30%
	UM	2	3	1	2	25%	38%	12%	25%
	NU	3	2	1	4	30%	20%	10%	40%
	OFV	1	3	4	2	10%	30%	40%	20%
	HV	3	4	1	2	30%	40%	10%	20%

TB	Metric	Rank				Confidence			
		NSGA2	MoCell	SPEA2	CellIDE	NSGA2	MoCell	SPEA2	CellIDE
TB100	ET	2	1	3	4	20%	10%	30%	40%
	CTR	1	3	4	2	10%	30%	40%	20%
	UM	2	3	1	2	25%	38%	12%	25%
	NU	2	2	1	3	25%	25%	12%	38%
	OFV	2	3	3	1	22%	33%	33%	11%
	HV	2	3	1	2	25%	38%	12%	25%

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This section describes the results for prioritization problem $f(PET, PTR, AUM, PUU)$.

TABLE 29. Results for the Kruskal–Wallis Test among Multi-Objective Algorithms (GS1, $f(PET, PTR, AUM, PUU)$)

TB	Metric	ChiSq	DF	p
TB010	ET	31821.62	3	<0.01
	CTR	6259.56	3	<0.01
	UM	30506.68	3	<0.01
	NUU	8803.89	3	<0.01
	OFV	20563.95	3	<0.01
	HV	317.44	3	<0.01
TB020	ET	33473.56	3	<0.01
	CTR	12343.82	3	<0.01
	UM	31033.13	3	<0.01
	NUU	5205.39	3	<0.01
	OFV	30031.94	3	<0.01
	HV	348.43	3	<0.01
TB030	ET	27425.29	3	<0.01
	CTR	8192.22	3	<0.01
	UM	25213.52	3	<0.01
	NUU	2974.57	3	<0.01
	OFV	26430.3	3	<0.01
	HV	358.62	3	<0.01
TB040	ET	21623.02	3	<0.01
	CTR	6183.42	3	<0.01
	UM	21231.81	3	<0.01
	NUU	2036.41	3	<0.01
	OFV	21573.67	3	<0.01
	HV	356.73	3	<0.01
TB050	ET	17487.42	3	<0.01
	CTR	5527.47	3	<0.01
	UM	16837.88	3	<0.01
	NUU	1683.01	3	<0.01
	OFV	17454.71	3	<0.01
	HV	356.64	3	<0.01
TB060	ET	14209.85	3	<0.01
	CTR	5751.97	3	<0.01
	UM	13945.15	3	<0.01
	NUU	1840.2	3	<0.01
	OFV	14486.93	3	<0.01
	HV	353.64	3	<0.01
TB070	ET	13829.27	3	<0.01
	CTR	4993.1	3	<0.01
	UM	12676.93	3	<0.01
	NUU	1680.86	3	<0.01
	OFV	13880.98	3	<0.01
	HV	356.3	3	<0.01
TB080	ET	9992.36	3	<0.01
	CTR	4241.75	3	<0.01

TB	Metric	ChiSq	DF	p
TB080	UM	9427.19	3	<0.01
	NUU	1235.49	3	<0.01
	OFV	10069.44	3	<0.01
	HV	353.17	3	<0.01
TB090	ET	9468.71	3	<0.01
	CTR	3570.32	3	<0.01
	UM	8661.83	3	<0.01
	NUU	878.76	3	<0.01
	OFV	9502.74	3	<0.01
	HV	358.27	3	<0.01
TB100	ET	8026.2	3	<0.01
	CTR	3509.65	3	<0.01
	UM	7473.86	3	<0.01
	NUU	895.87	3	<0.01
	OFV	8045.72	3	<0.01
	HV	357.89	3	<0.01

TABLE 30. Results for the Mann-Whitney U Test and Vargha and Delaney Statistics among Multi-Objective Algorithms (GS1, f(PET, PTR, AUM, PUU))

TB	AlgorithmA	AlgorithmB	ET		CTR		UM		NUU		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p	A12	p
TB010	NSGA2	MoCell	<0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.5	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB020	NSGA2	MoCell	<0.1	<0.01	<0.5	<0.01	<0.5	<0.01	<0.5	<0.01	<0.5	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.05	<0.1	<0.01	>0.9	<0.01
TB030	NSGA2	MoCell	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.5	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.1	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB040	NSGA2	MoCell	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB050	NSGA2	MoCell	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.1	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB060	NSGA2	MoCell	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01

TB	AlgorithmA	AlgorithmB	ET		CTR		UM		NUU		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p	A12	p
TB070	NSGA2	MoCell	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB080	NSGA2	MoCell	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.1	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB090	NSGA2	MoCell	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.1	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB100	NSGA2	MoCell	<0.1	<0.01	<0.5	>0.05	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01

TABLE 31. Rank Results for each Multi-Objective Algorithms (GS1, f(PET, PTR, AUM, PUU))

TB	Metric	Rank				Confidence			
		NSGA2	MoCell	SPEA2	CellIDE	NSGA2	MoCell	SPEA2	CellIDE
TB010	ET	3	2	4	1	30%	20%	40%	10%
	CTR	3	2	1	4	30%	20%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	NUU	4	3	2	1	40%	30%	20%	10%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB020	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	NUU	3	4	1	2	30%	40%	10%	20%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB030	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	NUU	3	4	1	2	30%	40%	10%	20%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB040	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	NUU	2	4	1	3	20%	40%	10%	30%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB050	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%

TB	Metric	Rank				Confidence			
		NSGA2	MoCell	SPEA2	CellIDE	NSGA2	MoCell	SPEA2	CellIDE
TB050	NUU	2	4	1	3	20%	40%	10%	30%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB060	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	NUU	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB070	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	NUU	2	3	1	3	22%	33%	11%	33%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB080	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	NUU	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB090	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	3	1	4	20%	30%	10%	40%
	UM	2	3	1	4	20%	30%	10%	40%
	NUU	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB100	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	2	1	3	25%	25%	12%	38%
	UM	2	3	1	4	20%	30%	10%	40%
	NUU	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%

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This section describes the results for prioritization problem $f(PET, PTR, PUS, ANU)$.

TABLE 32. Results for the Kruskal–Wallis Test among Multi-Objective Algorithms (GS1, $f(PET, PTR, PUS, ANU)$)

TB	Metric	ChiSq	DF	p
TB010	ET	487.75	3	<0.01
	CTR	971.99	3	<0.01
	USP	5507.16	3	<0.01
	NU	2594.5	3	<0.01
	OFV	865.54	3	<0.01
	HV	343.09	3	<0.01
TB020	ET	595.9	3	<0.01
	CTR	1882.26	3	<0.01
	USP	6056.19	3	<0.01
	NU	3313.61	3	<0.01
	OFV	1756.84	3	<0.01
	HV	336.01	3	<0.01
TB030	ET	429.42	3	<0.01
	CTR	2948.79	3	<0.01
	USP	6961.18	3	<0.01
	NU	3386.44	3	<0.01
	OFV	2770.21	3	<0.01

TB	Metric	ChiSq	DF	p
TB030	HV	336.23	3	<0.01
TB040	ET	199.95	3	<0.01
	CTR	3897.07	3	<0.01
	USP	6724.66	3	<0.01
	NU	3348.3	3	<0.01
	OFV	3592.21	3	<0.01
	HV	314.77	3	<0.01
TB050	ET	186.52	3	<0.01
	CTR	3914.47	3	<0.01
	USP	6733.53	3	<0.01
	NU	3490.03	3	<0.01
	OFV	3543.13	3	<0.01
	HV	298.17	3	<0.01
TB060	ET	107.08	3	<0.01
	CTR	3386.52	3	<0.01
	USP	7269.21	3	<0.01
	NU	3272.57	3	<0.01
	OFV	2841.08	3	<0.01
	HV	288.19	3	<0.01
TB070	ET	131.12	3	<0.01
	CTR	2171.87	3	<0.01
	USP	6838.49	3	<0.01
	NU	3372.7	3	<0.01
	OFV	1673.83	3	<0.01
	HV	268.95	3	<0.01
TB080	ET	217.97	3	<0.01
	CTR	2057.32	3	<0.01
	USP	7224.66	3	<0.01
	NU	3047.17	3	<0.01
	OFV	1422.75	3	<0.01
	HV	260.68	3	<0.01
TB090	ET	218.5	3	<0.01
	CTR	1444.56	3	<0.01
	USP	6959.2	3	<0.01
	NU	3957.17	3	<0.01
	OFV	943.62	3	<0.01
	HV	253.94	3	<0.01
TB100	ET	512.25	3	<0.01
	CTR	907.19	3	<0.01
	USP	7146.03	3	<0.01
	NU	3739.35	3	<0.01
	OFV	548.05	3	<0.01
	HV	263.94	3	<0.01

TABLE 33. Results for the Mann-Whitney U Test and Vargha and Delaney Statistics among Multi-Objective Algorithms (GS1, f(PET, PTR, PUS, ANU))

TB	AlgorithmA	AlgorithmB	ET		CTR		USP		NU		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p	A12	p
TB010	NSGA2	MoCell	<0.5	>0.05	>0.5	>0.05	<0.5	<0.01	<0.5	<0.01	<0.5	>0.05	<0.5	<0.01
	NSGA2	SPEA2	<0.5	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01
	NSGA2	CellDE	>0.5	<0.05	<0.5	<0.05	<0.5	<0.01	<0.5	<0.01	<0.5	>0.05	>0.9	<0.01
	MoCell	SPEA2	<0.5	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01
	MoCell	CellDE	>0.5	<0.01	<0.5	>0.05	>0.5	<0.01	<0.5	<0.01	<0.5	>0.05	>0.9	<0.01
	SPEA2	CellDE	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	<0.5	<0.01	>0.5	<0.01	<0.1	<0.01
TB020	NSGA2	MoCell	<0.5	<0.01	<0.5	<0.05	<0.5	<0.01	<0.5	<0.01	<0.5	<0.01	<0.5	<0.01
	NSGA2	SPEA2	<0.5	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.9	<0.01
	NSGA2	CellDE	>0.5	>0.05	>0.5	<0.01	<0.5	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01

[illegible]

TABLE 34. Rank Results for each Multi-Objective Algorithms (GS1, f(PET, PTR, PUS, ANU))

TB	Metric	Rank				Confidence			
		NSGA2	MoCell	SPEA2	CellIDE	NSGA2	MoCell	SPEA2	CellIDE
TB010	ET	2	2	1	3	25%	25%	12%	38%
	CTR	1	1	2	1	20%	20%	40%	20%
	USP	2	4	1	3	20%	40%	10%	30%
	NU	2	3	1	4	20%	30%	10%	40%
	OFV	1	1	2	1	20%	20%	40%	20%
	HV	3	4	1	2	30%	40%	10%	20%
TB020	ET	3	2	1	3	33%	22%	11%	33%
	CTR	2	3	4	1	20%	30%	40%	10%
	USP	2	4	1	3	20%	40%	10%	30%
	NU	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	4	1	20%	30%	40%	10%
	HV	3	4	1	2	30%	40%	10%	20%
TB030	ET	4	2	1	3	40%	20%	10%	30%
	CTR	2	3	4	1	20%	30%	40%	10%
	USP	2	4	1	3	20%	40%	10%	30%
	NU	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	4	1	20%	30%	40%	10%
	HV	3	4	1	2	30%	40%	10%	20%
TB040	ET	3	2	1	3	33%	22%	11%	33%
	CTR	2	2	3	1	25%	25%	38%	12%
	USP	2	4	1	3	20%	40%	10%	30%
	NU	2	3	1	4	20%	30%	10%	40%
	OFV	2	2	3	1	25%	25%	38%	12%
	HV	3	4	1	2	30%	40%	10%	20%
TB050	ET	3	2	1	3	33%	22%	11%	33%
	CTR	2	3	4	1	20%	30%	40%	10%
	USP	2	4	1	3	20%	40%	10%	30%
	NU	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	4	1	20%	30%	40%	10%
	HV	3	4	1	2	30%	40%	10%	20%
TB060	ET	3	1	1	2	43%	14%	14%	29%
	CTR	2	3	4	1	20%	30%	40%	10%
	USP	2	4	1	3	20%	40%	10%	30%
	NU	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	4	1	20%	30%	40%	10%
	HV	3	4	1	2	30%	40%	10%	20%
TB070	ET	3	1	2	2	38%	12%	25%	25%
	CTR	2	3	4	1	20%	30%	40%	10%
	USP	2	4	1	3	20%	40%	10%	30%
	NU	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	4	1	20%	30%	40%	10%
	HV	3	4	1	2	30%	40%	10%	20%
TB080	ET	4	1	3	2	40%	10%	30%	20%
	CTR	2	3	4	1	20%	30%	40%	10%
	USP	2	4	1	3	20%	40%	10%	30%
	NU	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	4	1	20%	30%	40%	10%
	HV	3	4	1	2	30%	40%	10%	20%
TB090	ET	4	1	3	2	40%	10%	30%	20%
	CTR	2	3	4	1	20%	30%	40%	10%
	USP	2	3	1	2	25%	38%	12%	25%
	NU	2	3	1	4	20%	30%	10%	40%
	OFV	2	3	3	1	22%	33%	33%	11%
	HV	3	3	1	2	33%	33%	11%	22%

TB	Metric	Rank				Confidence			
		NSGA2	MoCell	SPEA2	CellIDE	NSGA2	MoCell	SPEA2	CellIDE
TB100	ET	3	1	3	2	33%	11%	33%	22%
	CTR	2	3	4	1	20%	30%	40%	10%
	USP	3	4	1	2	30%	40%	10%	20%
	NU	2	3	1	4	20%	30%	10%	40%
	OFV	2	4	3	1	20%	40%	30%	10%
	HV	3	4	1	2	30%	40%	10%	20%

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This section describes the results for prioritization problem $f(PET, PTR, PUS, PUU)$.

TABLE 35. Results for the Kruskal–Wallis Test among Multi-Objective Algorithms (GS1, f(PET, PTR, PUS, PUU))

TB	Metric	ChiSq	DF	p
TB010	ET	2518.42	3	<0.01
	CTR	452.49	3	<0.01
	USP	27.91	3	<0.01
	NUU	49.6	3	<0.01
	OFV	1689.9	3	<0.01
	HV	352.8	3	<0.01
TB020	ET	1071.05	3	<0.01
	CTR	476.41	3	<0.01
	USP	27.51	3	<0.01
	NUU	90.41	3	<0.01
	OFV	1058.76	3	<0.01
	HV	350.8	3	<0.01
TB030	ET	535.27	3	<0.01
	CTR	111.01	3	<0.01
	USP	3	3	>0.05
	NUU	14.87	3	<0.01
	OFV	532.81	3	<0.01
	HV	354.56	3	<0.01
TB040	ET	429.38	3	<0.01
	CTR	141.37	3	<0.01
	USP	14.73	3	<0.01
	NUU	33.8	3	<0.01
	OFV	429.33	3	<0.01
	HV	348.39	3	<0.01
TB050	ET	462.86	3	<0.01
	CTR	231.64	3	<0.01
	USP	11.81	3	<0.01
	NUU	65.39	3	<0.01
	OFV	461.75	3	<0.01
	HV	356.85	3	<0.01
TB060	ET	429.12	3	<0.01
	CTR	186.03	3	<0.01
	USP	3	3	>0.05
	NUU	42.61	3	<0.01
	OFV	431.45	3	<0.01
	HV	354.19	3	<0.01
TB070	ET	418.7	3	<0.01
	CTR	226.34	3	<0.01
	USP	3	3	>0.05
	NUU	112.26	3	<0.01
	OFV	419.83	3	<0.01
	HV	356.76	3	<0.01
TB080	ET	385.77	3	<0.01
	CTR	188.9	3	<0.01

TB	Metric	ChiSq	DF	p
TB080	USP	1	3	>0.05
	NUU	56.83	3	<0.01
	OFV	387.25	3	<0.01
	HV	349.85	3	<0.01
TB090	ET	386.25	3	<0.01
	CTR	277.41	3	<0.01
	USP	3	3	>0.05
	NUU	116.97	3	<0.01
	OFV	391	3	<0.01
	HV	347.51	3	<0.01
TB100	ET	372.63	3	<0.01
	CTR	181.87	3	<0.01
	USP	NaN	3	>0.05
	NUU	72.96	3	<0.01
	OFV	379.02	3	<0.01
	HV	353.05	3	<0.01

TABLE 36. Results for the Mann-Whitney U Test and Vargha and Delaney Statistics among Multi-Objective Algorithms (GS1, f(PET, PTR, PUS, PUU))

TB	AlgorithmA	AlgorithmB	ET		CTR		USP		NUU		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p	A12	p
TB010	NSGA2	MoCell	<0.1	<0.01	>0.5	<0.05	>0.5	>0.05	>0.5	>0.05	<0.5	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	>0.05	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	>0.05	<0.5	>0.05	>0.5	<0.01	>0.5	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	>0.5	<0.01	<0.5	>0.05	<0.1	<0.01	>0.9	<0.01
TB020	NSGA2	MoCell	<0.1	<0.01	>0.5	>0.05	>0.5	<0.01	>0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	>0.5	<0.01	<0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	>0.5	>0.05	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	>0.5	>0.05	<0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.1	<0.01	>0.5	>0.05	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB030	NSGA2	MoCell	<0.1	<0.01	>0.5	<0.01	$=0.5$	>0.05	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.9	<0.01	>0.5	>0.05	$=0.5$	>0.05	>0.5	>0.05	>0.9	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.5	>0.05	>0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	<0.5	<0.01	$=0.5$	>0.05	>0.5	>0.05	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.5	>0.05	<0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.5	>0.05	<0.5	>0.05	<0.1	<0.01	>0.9	<0.01
TB040	NSGA2	MoCell	<0.1	<0.01	>0.5	<0.05	>0.5	<0.05	>0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	<0.5	>0.05	>0.5	>0.05	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	>0.5	<0.05	<0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	>0.05	<0.5	<0.01	<0.5	>0.05	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	$=0.5$	>0.05	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	>0.5	<0.01	<0.5	<0.05	<0.1	<0.01	>0.9	<0.01
TB050	NSGA2	MoCell	<0.1	<0.01	>0.5	>0.05	>0.5	>0.05	>0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.9	<0.01	>0.5	<0.01	<0.5	>0.05	>0.5	>0.05	>0.9	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	>0.5	>0.05	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	<0.5	<0.05	>0.5	>0.05	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	>0.5	>0.05	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.1	<0.01	>0.5	<0.05	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB060	NSGA2	MoCell	<0.1	<0.01	<0.5	>0.05	>0.5	>0.05	>0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.9	<0.01	>0.5	>0.05	>0.5	>0.05	<0.5	>0.05	>0.9	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	>0.5	>0.05	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	>0.05	$=0.5$	>0.05	<0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.1	<0.01	$=0.5$	>0.05	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.1	<0.01	$=0.5$	>0.05	<0.5	<0.05	<0.1	<0.01	>0.9	<0.01

TB	AlgorithmA	AlgorithmB	ET		CTR		USP		NUU		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p	A12	p
TB070	NSGA2	MoCell	<0.1	<0.01	>0.5	>0.05	=0.5	>0.05	>0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	=0.5	>0.05	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.5	>0.05	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	=0.5	>0.05	>0.5	<0.01	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.5	>0.05	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.1	<0.01	<0.5	>0.05	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB080	NSGA2	MoCell	<0.1	<0.01	<0.5	>0.05	=0.5	>0.05	>0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	<0.5	>0.05	<0.5	<0.01	>0.5	>0.05	<0.5	>0.05	<0.5	>0.05	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.1	<0.01	=0.5	>0.05	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	<0.5	<0.05	>0.5	>0.05	<0.5	<0.05	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.1	<0.01	=0.5	>0.05	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.5	<0.01	<0.5	>0.05	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB090	NSGA2	MoCell	<0.1	<0.01	<0.5	>0.05	>0.5	>0.05	>0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	<0.01	>0.5	>0.05	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	>0.5	>0.05	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	<0.01	=0.5	>0.05	>0.5	<0.05	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.1	<0.01	=0.5	>0.05	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.1	<0.01	=0.5	>0.05	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
TB100	NSGA2	MoCell	<0.1	<0.01	>0.5	>0.05	=0.5	>0.05	>0.5	>0.05	<0.1	<0.01	>0.9	<0.01
	NSGA2	SPEA2	>0.5	<0.01	>0.5	>0.05	=0.5	>0.05	>0.5	>0.05	>0.5	<0.01	<0.5	<0.01
	NSGA2	CellIDE	<0.1	<0.01	<0.5	<0.01	=0.5	>0.05	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	MoCell	SPEA2	>0.9	<0.01	>0.5	>0.05	=0.5	>0.05	<0.5	>0.05	>0.9	<0.01	<0.1	<0.01
	MoCell	CellIDE	<0.1	<0.01	<0.1	<0.01	=0.5	>0.05	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01
	SPEA2	CellIDE	<0.1	<0.01	<0.1	<0.01	=0.5	>0.05	<0.5	<0.01	<0.1	<0.01	>0.9	<0.01

TABLE 37. Rank Results for each Multi-Objective Algorithms (GS1, f(PET, PTR, PUS, PUU))

TB	Metric	Rank				Confidence			
		NSGA2	MoCell	SPEA2	CellIDE	NSGA2	MoCell	SPEA2	CellIDE
TB010	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	1	2	3	25%	12%	25%	38%
	USP	3	2	2	1	38%	25%	25%	12%
	NUU	2	2	1	1	33%	33%	17%	17%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB020	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	2	1	3	25%	25%	12%	38%
	USP	2	1	1	1	40%	20%	20%	20%
	NUU	2	2	1	2	29%	29%	14%	29%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB030	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	1	2	3	25%	12%	25%	38%
	USP	1	1	1	1	25%	25%	25%	25%
	NUU	2	1	2	2	29%	14%	29%	29%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB040	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	1	1	3	29%	14%	14%	43%
	USP	2	1	2	1	33%	17%	33%	17%
	NUU	2	1	2	3	25%	12%	25%	38%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB050	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	2	1	3	25%	25%	12%	38%
	USP	1	1	2	1	20%	20%	40%	20%

TB	Metric	Rank				Confidence			
		NSGA2	MoCell	SPEA2	CellIDE	NSGA2	MoCell	SPEA2	CellIDE
TB050	NUU	1	1	1	2	20%	20%	20%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB060	ET	3	2	4	1	30%	20%	40%	10%
	CTR	1	1	1	2	20%	20%	20%	40%
	USP	1	1	1	1	25%	25%	25%	25%
	NUU	1	1	2	3	14%	14%	29%	43%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB070	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	2	1	3	25%	25%	12%	38%
	USP	1	1	1	1	25%	25%	25%	25%
	NUU	2	2	1	3	25%	25%	12%	38%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB080	ET	3	2	3	1	33%	22%	33%	11%
	CTR	1	1	2	3	14%	14%	29%	43%
	USP	1	1	1	1	25%	25%	25%	25%
	NUU	1	1	2	3	14%	14%	29%	43%
	OFV	1	2	1	3	14%	29%	14%	43%
	HV	3	2	4	1	30%	20%	40%	10%
TB090	ET	3	2	4	1	30%	20%	40%	10%
	CTR	2	2	1	3	25%	25%	12%	38%
	USP	1	1	1	1	25%	25%	25%	25%
	NUU	2	2	1	3	25%	25%	12%	38%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%
TB100	ET	3	2	4	1	30%	20%	40%	10%
	CTR	1	1	1	2	20%	20%	20%	40%
	USP	1	1	1	1	25%	25%	25%	25%
	NUU	1	1	1	2	20%	20%	20%	40%
	OFV	2	3	1	4	20%	30%	10%	40%
	HV	3	2	4	1	30%	20%	40%	10%

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This section describes the results for prioritization problem $f(PET, PTR, ANU, PUU)$.

TABLE 38. Results for the Kruskal–Wallis Test among Multi-Objective Algorithms (GS1, $f(PET, PTR, ANU, PUU)$)

TB	Metric	ChiSq	DF	p
TB010	ET	1373.14	3	<0.01
	CTR	1866.83	3	<0.01
	NU	4338.07	3	<0.01
	NUU	898.31	3	<0.01
	OFV	1361.87	3	<0.01
	HV	364.8	3	<0.01
TB020	ET	1523.25	3	<0.01
	CTR	3897.47	3	<0.01
	NU	5559.88	3	<0.01
	NUU	1313.62	3	<0.01
	OFV	2715.09	3	<0.01
	HV	348.4	3	<0.01
TB030	ET	1456.39	3	<0.01
	CTR	5496.83	3	<0.01
	NU	5911.74	3	<0.01
	NUU	2000.7	3	<0.01
	OFV	4001.07	3	<0.01

TB	Metric	ChiSq	DF	p
TB030	HV	327.9	3	<0.01
TB040	ET	1132.36	3	<0.01
	CTR	5955	3	<0.01
	NU	5482.68	3	<0.01
	NUU	2241.63	3	<0.01
	OFV	4366.48	3	<0.01
	HV	311.82	3	<0.01
TB050	ET	945.89	3	<0.01
	CTR	5794.85	3	<0.01
	NU	4798.96	3	<0.01
	NUU	2097.03	3	<0.01
	OFV	4167.63	3	<0.01
	HV	291.02	3	<0.01
TB060	ET	879.56	3	<0.01
	CTR	5829.69	3	<0.01
	NU	5957.36	3	<0.01
	NUU	1862.41	3	<0.01
	OFV	4020.79	3	<0.01
	HV	270.27	3	<0.01
TB070	ET	793.2	3	<0.01
	CTR	4299.08	3	<0.01
	NU	5657.38	3	<0.01
	NUU	1309.42	3	<0.01
	OFV	2742.48	3	<0.01
	HV	268.8	3	<0.01
TB080	ET	1000.2	3	<0.01
	CTR	3534.88	3	<0.01
	NU	5250.43	3	<0.01
	NUU	1042.4	3	<0.01
	OFV	2134.15	3	<0.01
	HV	254.62	3	<0.01
TB090	ET	1107.68	3	<0.01
	CTR	2869.13	3	<0.01
	NU	5640.44	3	<0.01
	NUU	1033	3	<0.01
	OFV	1755.97	3	<0.01
	HV	239.29	3	<0.01
TB100	ET	1041.71	3	<0.01
	CTR	2782.62	3	<0.01
	NU	6528.2	3	<0.01
	NUU	961.07	3	<0.01
	OFV	1592.91	3	<0.01
	HV	249.8	3	<0.01

TABLE 39. Results for the Mann-Whitney U Test and Vargha and Delaney Statistics among Multi-Objective Algorithms (GS1, f(PET, PTR, ANU, PUU))

TB	AlgorithmA	AlgorithmB	ET		CTR		NU		NUU		OFV		HV	
			A12	p	A12	p	A12	p	A12	p	A12	p	A12	p
TB010	NSGA2	MoCell	<0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.1	<0.01
	NSGA2	SPEA2	<0.5	<0.01	<0.5	<0.01	>0.5	<0.01	<0.5	<0.01	<0.5	<0.01	>0.9	<0.01
	NSGA2	CellIDE	>0.5	<0.01	<0.5	>0.05	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.9	<0.01
	MoCell	SPEA2	<0.5	<0.01	<0.5	<0.01	>0.5	<0.01	<0.5	<0.01	<0.5	<0.01	>0.9	<0.01
	MoCell	CellIDE	>0.5	<0.01	<0.5	<0.01	<0.5	<0.01	>0.5	<0.01	<0.5	<0.05	>0.9	<0.01
	SPEA2	CellIDE	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	<0.1	<0.01
TB020	NSGA2	MoCell	<0.5	<0.01	>0.5	>0.05	>0.5	>0.05	>0.5	>0.05	>0.5	>0.05	<0.1	<0.01
	NSGA2	SPEA2	<0.5	<0.01	<0.5	<0.01	>0.5	<0.01	<0.5	<0.01	<0.5	<0.01	>0.9	<0.01
	NSGA2	CellIDE	>0.5	<0.01	>0.5	<0.01	<0.5	<0.01	>0.5	<0.01	>0.5	<0.01	>0.5	<0.01

TABLE 40. Rank Results for each Multi-Objective Algorithms (GS1, f(PET, PTR, ANU, PUU))

TB	Metric	Rank				Confidence			
		NSGA2	MoCell	SPEA2	CellIDE	NSGA2	MoCell	SPEA2	CellIDE
TB010	ET	3	2	1	4	30%	20%	10%	40%
	CTR	2	1	3	2	25%	12%	38%	25%
	NU	2	3	1	4	20%	30%	10%	40%
	NUU	3	2	4	1	30%	20%	40%	10%
	OFV	3	1	4	2	30%	10%	40%	20%
	HV	3	4	1	2	30%	40%	10%	20%
TB020	ET	3	2	1	4	30%	20%	10%	40%
	CTR	2	2	3	1	25%	25%	38%	12%
	NU	2	2	1	3	25%	25%	12%	38%
	NUU	2	2	3	1	25%	25%	38%	12%
	OFV	2	2	3	1	25%	25%	38%	12%
	HV	3	4	1	2	30%	40%	10%	20%
TB030	ET	3	1	2	4	30%	10%	20%	40%
	CTR	2	2	3	1	25%	25%	38%	12%
	NU	2	2	1	3	25%	25%	12%	38%
	NUU	2	2	3	1	25%	25%	38%	12%
	OFV	2	2	3	1	25%	25%	38%	12%
	HV	3	4	1	2	30%	40%	10%	20%
TB040	ET	2	1	1	3	29%	14%	14%	43%
	CTR	2	3	4	1	20%	30%	40%	10%
	NU	3	2	1	4	30%	20%	10%	40%
	NUU	2	3	4	1	20%	30%	40%	10%
	OFV	2	3	4	1	20%	30%	40%	10%
	HV	3	4	1	2	30%	40%	10%	20%
TB050	ET	2	1	3	4	20%	10%	30%	40%
	CTR	2	3	4	1	20%	30%	40%	10%
	NU	3	2	1	4	30%	20%	10%	40%
	NUU	2	3	4	1	20%	30%	40%	10%
	OFV	2	3	4	1	20%	30%	40%	10%
	HV	3	4	1	2	30%	40%	10%	20%
TB060	ET	3	1	2	4	30%	10%	20%	40%
	CTR	2	3	4	1	20%	30%	40%	10%
	NU	3	2	1	4	30%	20%	10%	40%
	NUU	2	3	4	1	20%	30%	40%	10%
	OFV	2	3	4	1	20%	30%	40%	10%
	HV	2	3	1	2	25%	38%	12%	25%
TB070	ET	2	1	3	4	20%	10%	30%	40%
	CTR	2	3	4	1	20%	30%	40%	10%
	NU	2	2	1	3	25%	25%	12%	38%
	NUU	2	3	4	1	20%	30%	40%	10%
	OFV	2	3	4	1	20%	30%	40%	10%
	HV	2	3	1	2	25%	38%	12%	25%
TB080	ET	2	1	2	3	25%	12%	25%	38%
	CTR	2	3	4	1	20%	30%	40%	10%
	NU	3	2	1	4	30%	20%	10%	40%
	NUU	2	3	4	1	20%	30%	40%	10%
	OFV	2	3	4	1	20%	30%	40%	10%
	HV	2	3	1	2	25%	38%	12%	25%
TB090	ET	2	1	3	4	20%	10%	30%	40%
	CTR	2	3	4	1	20%	30%	40%	10%
	NU	3	2	1	4	30%	20%	10%	40%
	NUU	3	4	2	1	30%	40%	20%	10%
	OFV	2	3	4	1	20%	30%	40%	10%
	HV	2	3	1	2	25%	38%	12%	25%

TB	Metric	Rank				Confidence			
		NSGA2	MoCell	SPEA2	CellIDE	NSGA2	MoCell	SPEA2	CellIDE
TB100	ET	2	1	3	4	20%	10%	30%	40%
	CTR	2	3	3	1	22%	33%	33%	11%
	NU	2	2	1	3	25%	25%	12%	38%
	NUU	3	4	2	1	30%	40%	20%	10%
	OFV	2	3	2	1	25%	38%	25%	12%
	HV	2	3	1	2	25%	38%	12%	25%

E.3 Experiment Results for RQ4

This section describes the results for Experiment Results for RQ4.

TABLE 41
Results for the Kruskal–Wallis Test among Test Case Prioritization Problems (GS1)

Metric	ChiSq	DF	p
ANOU	18411.63	10	<0.01

TABLE 42. Results for the Mann-Whitney U Test and Vargha and Delaney Statistics among Test Case Prioritization Problems (GS1)

ProblemA	ProblemB	BestAlgorithmA	BestAlgorithmB	A12	p
ET_CTR_UM	ET_CTR_USP	SPEA2	SPEA2	>0.9	<0.01
ET_CTR_UM	ET_CTR_NU	SPEA2	NSGA2	<0.1	<0.01
ET_CTR_UM	ET_CTR_NU	SPEA2	MoCell	<0.1	<0.01
ET_CTR_UM	ET_CTR_NUU	SPEA2	SPEA2	>0.9	<0.01
ET_CTR_UM	ET_CTR_UM_USP	SPEA2	SPEA2	>0.5	<0.01
ET_CTR_UM	ET_CTR_UM_NU	SPEA2	MoCell	<0.1	<0.01
ET_CTR_UM	ET_CTR_UM_NUU	SPEA2	SPEA2	>0.5	>0.05
ET_CTR_UM	ET_CTR_USP_NU	SPEA2	MoCell	<0.1	<0.01
ET_CTR_UM	ET_CTR_USP_NUU	SPEA2	SPEA2	>0.9	<0.01
ET_CTR_UM	ET_CTR_NU_NUU	SPEA2	MoCell	<0.1	<0.01
ET_CTR_USP	ET_CTR_NU	SPEA2	NSGA2	<0.1	<0.01
ET_CTR_USP	ET_CTR_NU	SPEA2	MoCell	<0.1	<0.01
ET_CTR_USP	ET_CTR_NUU	SPEA2	SPEA2	>0.9	<0.01
ET_CTR_USP	ET_CTR_UM_USP	SPEA2	SPEA2	<0.1	<0.01
ET_CTR_USP	ET_CTR_UM_NU	SPEA2	MoCell	<0.1	<0.01
ET_CTR_USP	ET_CTR_UM_NUU	SPEA2	SPEA2	<0.1	<0.01
ET_CTR_USP	ET_CTR_USP_NU	SPEA2	MoCell	<0.1	<0.01
ET_CTR_USP	ET_CTR_USP_NUU	SPEA2	SPEA2	<0.1	<0.01
ET_CTR_USP	ET_CTR_NU_NUU	SPEA2	MoCell	<0.1	<0.01
ET_CTR_NU	ET_CTR_NUU	NSGA2	SPEA2	>0.9	<0.01
ET_CTR_NU	ET_CTR_NUU	MoCell	SPEA2	>0.9	<0.01
ET_CTR_NU	ET_CTR_UM_USP	NSGA2	SPEA2	>0.9	<0.01
ET_CTR_NU	ET_CTR_UM_USP	MoCell	SPEA2	>0.9	<0.01
ET_CTR_NU	ET_CTR_UM_NU	NSGA2	MoCell	<0.5	<0.01
ET_CTR_NU	ET_CTR_UM_NU	MoCell	MoCell	<0.5	<0.01
ET_CTR_NU	ET_CTR_UM_NUU	NSGA2	SPEA2	>0.9	<0.01
ET_CTR_NU	ET_CTR_UM_NUU	MoCell	SPEA2	>0.9	<0.01
ET_CTR_NU	ET_CTR_USP_NU	NSGA2	MoCell	<0.5	<0.01
ET_CTR_NU	ET_CTR_USP_NU	MoCell	MoCell	>0.5	<0.01
ET_CTR_NU	ET_CTR_USP_NUU	NSGA2	SPEA2	>0.9	<0.01
ET_CTR_NU	ET_CTR_USP_NUU	MoCell	SPEA2	>0.9	<0.01
ET_CTR_NU	ET_CTR_NU_NUU	NSGA2	MoCell	<0.5	<0.01
ET_CTR_NU	ET_CTR_NU_NUU	MoCell	MoCell	<0.5	<0.01
ET_CTR_NUU	ET_CTR_UM_USP	SPEA2	SPEA2	<0.1	<0.01
ET_CTR_NUU	ET_CTR_UM_NU	SPEA2	MoCell	<0.1	<0.01
ET_CTR_NUU	ET_CTR_UM_NUU	SPEA2	SPEA2	<0.1	<0.01

ProblemA	ProblemB	BestAlgorithmA	BestAlgorithmB	A12	p
ET_CTR_NUU	ET_CTR_USP_NU	SPEA2	MoCell	<0.1	<0.01
ET_CTR_NUU	ET_CTR_USP_NUU	SPEA2	SPEA2	<0.1	<0.01
ET_CTR_NUU	ET_CTR_NU_NUU	SPEA2	MoCell	<0.1	<0.01
ET_CTR_UM_USP	ET_CTR_UM_NU	SPEA2	MoCell	<0.1	<0.01
ET_CTR_UM_USP	ET_CTR_UM_NUU	SPEA2	SPEA2	<0.5	<0.01
ET_CTR_UM_USP	ET_CTR_USP_NU	SPEA2	MoCell	<0.1	<0.01
ET_CTR_UM_USP	ET_CTR_USP_NUU	SPEA2	SPEA2	>0.9	<0.01
ET_CTR_UM_USP	ET_CTR_NU_NUU	SPEA2	MoCell	<0.1	<0.01
ET_CTR_UM_NU	ET_CTR_UM_NUU	MoCell	SPEA2	>0.9	<0.01
ET_CTR_UM_NU	ET_CTR_USP_NU	MoCell	MoCell	>0.5	<0.01
ET_CTR_UM_NU	ET_CTR_USP_NUU	MoCell	SPEA2	>0.9	<0.01
ET_CTR_UM_NU	ET_CTR_NU_NUU	MoCell	MoCell	>0.5	<0.01
ET_CTR_UM_NUU	ET_CTR_USP_NU	SPEA2	MoCell	<0.1	<0.01
ET_CTR_UM_NUU	ET_CTR_USP_NUU	SPEA2	SPEA2	>0.9	<0.01
ET_CTR_UM_NUU	ET_CTR_NU_NUU	SPEA2	MoCell	<0.1	<0.01
ET_CTR_USP_NU	ET_CTR_USP_NUU	MoCell	SPEA2	>0.9	<0.01
ET_CTR_USP_NU	ET_CTR_NU_NUU	MoCell	MoCell	<0.5	<0.01
ET_CTR_USP_NUU	ET_CTR_NU_NUU	SPEA2	MoCell	<0.1	<0.01