Results

May 9, 2024

1 Tables of Friedman, Bonferroni-Dunn, Holm, Hochberg and Hommel Tests

Table 1: Average Rankings of the algorithms

$\operatorname{Algorithm}$	Ranking
CRSPT	1.60
SPT	3.40
—Deep MARL-AS (S)-model-2	3.41
—Deep MARL-AS (GDT)-model-1	4.63
LWRK	4.97
—Deep MARL-AS Beefy (S)-model-4	5.68
MS	7.23
WINQ	7.71
—Deep MARL-MR Beefy (S)-model-3	7.84
—Deep MARL-MR (S)-model-0	8.54

Friedman statistic considering reduction performance (distributed according to chi-square with 9 degrees of freedom: 1559.7478181817926. P-value computed by Friedman Test: 0.0.

Iman and Davenport statistic considering reduction performance (distributed according to F-distribution with 9 and 2691 degrees of freedom: 409.001276272681. P-value computed by Iman and Daveport Test: 0.0.

Table 2: Holm / Hochberg Table for $\alpha = 0.05$

i	algorithm	$z = (R_0 - R_i)/SE$	p	Holm/Hochberg/Hommel
9	—Deep MARL-MR (S)-model-0	28.06019827572006	2.9995069416019552E-173	0.0055555555555556
8	—Deep MARL-MR Beefy (S)-model-3	25.228558853374423	1.9473882188151497E-140	0.00625
7	WINQ	24.72965095515171	5.133288615808282E-135	0.0071428571428571435
6	MS	22.76772935538365	9.578109919259873E-115	0.008333333333333333
5	—Deep MARL-AS Beefy (S)-model-4	16.524638628974042	2.4389721047841317E-61	0.01
4	LWRK	13.618837221757438	3.0945551873345884E-42	0.0125
3	—Deep MARL-AS (GDT)-model-1	12.256953499581693	1.5418836463194526E-34	0.016666666666666666
2	—Deep MARL-AS (S)-model-2	7.308326509101512	2.704898839872765E-13	0.025
1	SPT	7.267874517353723	3.651877694531481E-13	0.05

Hochberg's procedure rejects those hypotheses that have a p-value ≤ 0.05 .

Hommel's procedure rejects all hypotheses.

Hochberg's procedure rejects those hypotheses that have a p-value ≤ 0.1 .

 $Hommel's \ procedure \ rejects \ all \ hypotheses.$

Table 3: Holm / Hochberg Table for $\alpha=0.10$

i algorithm		$z = (R_0 - R_i)/SE$	p	Holm/Hochberg/Hommel	
9	—Deep MARL-MR (S)-model-0	28.06019827572006	2.9995069416019552E-173	0.011111111111111111	
8	—Deep MARL-MR Beefy (S)-model-3	25.228558853374423	1.9473882188151497E-140	0.0125	
7	WINQ	24.72965095515171	5.133288615808282E-135	0.014285714285714287	
6	MS	22.76772935538365	9.578109919259873E-115	0.01666666666666666	
5	—Deep MARL-AS Beefy (S)-model-4	16.524638628974042	2.4389721047841317E-61	0.02	
4	LWRK	13.618837221757438	3.0945551873345884E-42	0.025	
3	—Deep MARL-AS (GDT)-model-1	12.256953499581693	1.5418836463194526E-34	0.0333333333333333	
2	—Deep MARL-AS (S)-model-2	7.308326509101512	2.704898839872765E-13	0.05	
1	SPT	7.267874517353723	3.651877694531481E-13	0.1	

Table 4: Adjusted p-values

i	algorithm	unadjusted p	p_{Bonf}	p_{Holm}	p_{Hoch}	p_{Homm}
1	—Deep MARL-MR (S)-model-0	2.9995069416019552E-173	2.69955624744176E-172	2.69955624744176E-172	2.69955624744176E-172	2.69955624744176E-172
2	—Deep MARL-MR Beefy (S)-model-3	1.9473882188151497E-140	1.752649396933635E-139	1.5579105750521197E-139	1.5579105750521197E-139	1.5579105750521197E-139
3	WINQ	5.133288615808282E-135	4.619959754227453E-134	3.5933020310657975E-134	3.5933020310657975E-134	3.5933020310657975E-134
4	MS	9.578109919259873E-115	8.620298927333885E-114	5.7468659515559235E-114	5.7468659515559235E-114	5.7468659515559235E-114
5	—Deep MARL-AS Beefy (S)-model-4	2.4389721047841317E-61	2.1950748943057184E-60	1.2194860523920659E-60	1.2194860523920659E-60	1.2194860523920659E-60
6	LWRK	3.0945551873345884E-42	2.7850996686011297E-41	1.2378220749338354E-41	1.2378220749338354E-41	1.2378220749338354E-41
7	—Deep MARL-AS (GDT)-model-1	1.5418836463194526E-34	1.3876952816875073E-33	4.625650938958358E-34	4.625650938958358E-34	4.625650938958358E-34
8	—Deep MARL-AS (S)-model-2	2.704898839872765E-13	2.4344089558854883E-12	5.40979767974553E-13	3.651877694531481E-13	3.651877694531481E-13
9	SPT	3.651877694531481E-13	3.286689925078333E-12	5.40979767974553E-13	3.651877694531481E-13	3.651877694531481E-13

Table 5: Holm / Shaffer Table for $\alpha = 0.05$

	Table 5: Holm / Shaffer Table for $\alpha = 0.05$						
i	algorithms	$z = (R_0 - R_i)/SE$	p	Holm	Shaffer		
45	CRSPT vs. —Deep MARL-MR (S)-model-0	28.06019827572006	2.9995069416019552E-173	0.00111111111111111111	0.001111111111111111111		
44	CRSPT vs. —Deep MARL-MR Beefy (S)-model-3	25.228558853374423	1.9473882188151497E-140	0.0011363636363636365	0.00138888888888889		
43	CRSPT vs. WINQ	24.72965095515171	5.133288615808282E-135	0.0011627906976744186	0.00138888888888889		
42	CRSPT vs. MS	22.76772935538365	9.578109919259873E-115	0.0011904761904761906	0.00138888888888889		
41	SPT vs. —Deep MARL-MR (S)-model-0	20.792323758366337	5.0790802815806095E-96	0.0012195121951219512	0.00138888888888889		
40	—Deep MARL-AS (S)-model-2 vs. —Deep MARL-MR (S)-model-0	20.751871766618553	1.1791057697771304E-95	0.00125	0.00138888888888889		
39	SPT vs. —Deep MARL-MR Beefy (S)-model-3	17.9606843360207	3.958966420233319E-72	0.001282051282051282	0.00138888888888889		
38	—Deep MARL-AS (S)-model-2 vs. —Deep MARL-MR Beefy (S)-model-3	17.92023234427291	8.19850034736076E-72	0.0013157894736842105	0.00138888888888889		
37	SPT vs. WINQ	17.461776437797983	2.800811923845609E-68	0.0013513513513513514	0.00138888888888889		
36	—Deep MARL-AS (S)-model-2 vs. WINQ	17.421324446050196	5.684590476947583E-68	0.00138888888888889	0.00138888888888889		
35	CRSPT vs. —Deep MARL-AS Beefy (S)-model-4	16.524638628974042	2.4389721047841317E-61	0.0014285714285714286	0.001724137931034483		
34	—Deep MARL-AS (GDT)-model-1 vs. —Deep MARL-MR (S)-model-0	15.80324477613837	2.9550661376183665E-56	0.0014705882352941176	0.001724137931034483		
33	SPT vs. MS	15.499854838029927	3.4767677393232836E-54	0.001515151515151515152	0.001724137931034483		
32	—Deep MARL-AS (S)-model-2 vs. MS	15.45940284628214	6.520015424269446E-54	0.0015625	0.001724137931034483		
31	LWRK vs. —Deep MARL-MR (S)-model-0	14.441361053962625	2.8417450140388116E-47	0.0016129032258064516	0.001724137931034483		
30	CRSPT vs. LWRK	13.618837221757438	3.0945551873345884E-42	0.001666666666666668	0.001724137931034483		
29	—Deep MARL-AS (GDT)-model-1 vs. —Deep MARL-MR Beefy (S)-model-3	12.971605353792732	1.772780842932238E-38	0.001724137931034483	0.001724137931034483		
28	—Deep MARL-AS (GDT)-model-1 vs. WINQ	12.472697455570017	1.0520346561024089E-35	0.0017857142857142859	0.0017857142857142859		
27	CRSPT vs. —Deep MARL-AS (GDT)-model-1	12.256953499581693	1.5418836463194526E-34	0.001851851851851852	0.00208333333333333333		
26	LWRK vs. —Deep MARL-MR Beefy (S)-model-3	11.609721631616987	3.6781104835167057E-31	0.0019230769230769232	0.00208333333333333333		
25	—Deep MARL-AS Beefy (S)-model-4 vs. —Deep MARL-MR (S)-model-0	11.535559646746021	8.731745232702565E-31	0.002	0.00208333333333333333		
24	LWRK vs. WINQ	11.11081373339427	1.111420474017441E-28	0.00208333333333333333	0.00208333333333333333		
23	—Deep MARL-AS (GDT)-model-1 vs. MS	10.51077585580196	7.705697900467891E-26	0.002173913043478261	0.002272727272727273		
22	SPT vs. —Deep MARL-AS Beefy (S)-model-4	9.256764111620319	2.1072149172745405E-20	0.002272727272727273	0.002272727272727273		
21	—Deep MARL-AS (S)-model-2 vs. —Deep MARL-AS Beefy (S)-model-4	9.21631211987253	3.074941694632472E-20	0.002380952380952381	0.002380952380952381		
20	LWRK vs. MS	9.148892133626214	5.752038900235457E-20	0.0025	0.0025		
19	—Deep MARL-AS Beefy (S)-model-4 vs. —Deep MARL-MR Beefy (S)-model-3	8.703920224400383	3.206124502501101E-18	0.002631578947368421	0.00277777777777778		
18	—Deep MARL-AS Beefy (S)-model-4 vs. WINQ	8.205012326177666	2.3056722791840337E-16	0.00277777777777778	0.00277777777777778		
17	CRSPT vs. —Deep MARL-AS (S)-model-2	7.308326509101512	2.704898839872765E-13	0.0029411764705882353	0.0029411764705882353		
16	CRSPT vs. SPT	7.267874517353723	3.651877694531481E-13	0.003125	0.003125		
15	SPT vs. LWRK	6.350962704403715	2.1397158605917757E-10	0.0033333333333333335	0.0033333333333333335		
14	—Deep MARL-AS (S)-model-2 vs. LWRK	6.310510712655926	2.781161608272404E-10	0.0035714285714285718	0.0035714285714285718		
13	—Deep MARL-AS Beefy (S)-model-4 vs. MS	6.243090726409609	4.290078864039383E-10	0.0038461538461538464	0.0038461538461538464		
12	MS vs. —Deep MARL-MR (S)-model-0	5.292468920336412	1.2067598319270765E-7	0.004166666666666667	0.004166666666666667		
11	SPT vs. —Deep MARL-AS (GDT)-model-1	4.989078982227968	6.066784070099178E-7	0.004545454545454546	0.004545454545454546		
10	—Deep MARL-AS (S)-model-2 vs. —Deep MARL-AS (GDT)-model-1	4.94862699048018	7.473882085383279E-7	0.005	0.005		
9	—Deep MARL-AS (GDT)-model-1 vs. —Deep MARL-AS Beefy (S)-model-4	4.26768512939235	1.9751184256371582E-5	0.0055555555555556	0.00555555555555556		
8	WINQ vs. —Deep MARL-MR (S)-model-0	3.3305473205683547	8.667543001665035E-4	0.00625	0.00625		
7	LWRK vs. —Deep MARL-AS Beefy (S)-model-4	2.905801407216604	0.003663138596794163	0.0071428571428571435	0.0071428571428571435		
6	—Deep MARL-MR Beefy (S)-model-3 vs. —Deep MARL-MR (S)-model-0	2.831639422345639	0.004631003912661998	0.008333333333333333	0.008333333333333333		
5	MS vs. —Deep MARL-MR Beefy (S)-model-3	2.460829497990773	0.013861622336633577	0.01	0.01		
4	MS vs. WINQ	1.9619215997680572	0.049771612653497145	0.0125	0.0125		
3	—Deep MARL-AS (GDT)-model-1 vs. LWRK	1.3618837221757463	0.17323458406862693	0.016666666666666666	0.016666666666666666		
2	WINQ vs. —Deep MARL-MR Beefy (S)-model-3	0.4989078982227155	0.6178442696271758	0.025	0.025		
1	SPT vs. —Deep MARL-AS (S)-model-2	0.040451991747788275	0.9677327807213284	0.05	0.05		

Table 6: Holm / Shaffer Table for $\alpha = 0.10$

	Table 6. From f bilance to $\alpha = 0.10$							
1	algorithms ODGETT D MARK MR (G) 110	$z = (R_0 - R_i)/SE$	p	Holm	Shaffer 0.00222222222222222			
45	CRSPT vs. —Deep MARL-MR (S)-model-0	28.06019827572006	2.9995069416019552E-173	0.00222222222222222				
44	CRSPT vs. —Deep MARL-MR Beefy (S)-model-3	25.228558853374423	1.9473882188151497E-140	0.002272727272727273	0.0027777777777778			
43	CRSPT vs. WINQ	24.72965095515171	5.133288615808282E-135	0.002325581395348837	0.0027777777777778			
42	CRSPT vs. MS	22.76772935538365	9.578109919259873E-115	0.002380952380952381	0.0027777777777778			
41	SPT vs. —Deep MARL-MR (S)-model-0 —Deep MARL-AS (S)-model-2 vs. —Deep MARL-MR (S)-model-0	20.792323758366337	5.0790802815806095E-96	0.00243902439024	0.002777777777777			
40 39		20.751871766618553	1.1791057697771304E-95	0.0025	0.0027777777777778			
	SPT vs. —Deep MARL-MR Beefy (S)-model-3	17.9606843360207	3.958966420233319E-72	0.002564102564102564	0.002777777777777			
38 37	—Deep MARL-AS (S)-model-2 vs. —Deep MARL-MR Beefy (S)-model-3	17.92023234427291	8.19850034736076E-72	0.002631578947368421	0.0027777777777778			
	SPT vs. WINQ	17.461776437797983	2.800811923845609E-68	0.002702702702702703	0.0027777777777778			
36	—Deep MARL-AS (S)-model-2 vs. WINQ	17.421324446050196	5.684590476947583E-68	0.0027777777777778	0.0027777777777778			
35	CRSPT vs. —Deep MARL-AS Beefy (S)-model-4	16.524638628974042	2.4389721047841317E-61	0.002857142857142857	0.003448275862068966			
34	—Deep MARL-AS (GDT)-model-1 vs. —Deep MARL-MR (S)-model-0	15.80324477613837	2.9550661376183665E-56	0.0029411764705882353	0.003448275862068966			
33	SPT vs. MS	15.499854838029927	3.4767677393232836E-54	0.0030303030303030303	0.003448275862068966			
32	—Deep MARL-AS (S)-model-2 vs. MS	15.45940284628214	6.520015424269446E-54	0.003125	0.003448275862068966			
31	LWRK vs. —Deep MARL-MR (S)-model-0	14.441361053962625	2.8417450140388116E-47	0.0032258064516129032	0.003448275862068966			
30	CRSPT vs. LWRK	13.618837221757438	3.0945551873345884E-42	0.003333333333333333	0.003448275862068966			
29	—Deep MARL-AS (GDT)-model-1 vs. —Deep MARL-MR Beefy (S)-model-3	12.971605353792732	1.772780842932238E-38	0.003448275862068966	0.003448275862068966			
28	—Deep MARL-AS (GDT)-model-1 vs. WINQ	12.472697455570017	1.0520346561024089E-35	0.0035714285714285718	0.0035714285714285718			
27	CRSPT vs. —Deep MARL-AS (GDT)-model-1	12.256953499581693	1.5418836463194526E-34	0.003703703703703704	0.00416666666666666666666666666666666666			
26	LWRK vs. —Deep MARL-MR Beefy (S)-model-3	11.609721631616987	3.6781104835167057E-31	0.0038461538461538464	0.00416666666666666			
25	—Deep MARL-AS Beefy (S)-model-4 vs. —Deep MARL-MR (S)-model-0	11.535559646746021	8.731745232702565E-31	0.004	0.00416666666666666			
24	LWRK vs. WINQ	11.11081373339427	1.111420474017441E-28	0.004166666666666667	0.0041666666666666667			
23	—Deep MARL-AS (GDT)-model-1 vs. MS	10.51077585580196	7.705697900467891E-26	0.004347826086956522	0.004545454545454546			
22	SPT vs. —Deep MARL-AS Beefy (S)-model-4	9.256764111620319	2.1072149172745405E-20	0.004545454545454546	0.004545454545454546			
21	—Deep MARL-AS (S)-model-2 vs. —Deep MARL-AS Beefy (S)-model-4	9.21631211987253	3.074941694632472E-20	0.004761904761904762	0.004761904761904762			
20	LWRK vs. MS	9.148892133626214	5.752038900235457E-20	0.005	0.005			
19	—Deep MARL-AS Beefy (S)-model-4 vs. —Deep MARL-MR Beefy (S)-model-3	8.703920224400383	3.206124502501101E-18	0.005263157894736842	0.0055555555555556			
18	—Deep MARL-AS Beefy (S)-model-4 vs. WINQ	8.205012326177666	2.3056722791840337E-16	0.005555555555555	0.0055555555555556			
17	CRSPT vs. —Deep MARL-AS (S)-model-2	7.308326509101512	2.704898839872765E-13	0.0058823529411764705	0.0058823529411764705			
16	CRSPT vs. SPT	7.267874517353723	3.651877694531481E-13	0.00625	0.00625			
15	SPT vs. LWRK	6.350962704403715	2.1397158605917757E-10	0.0066666666666666	0.0066666666666666			
14	—Deep MARL-AS (S)-model-2 vs. LWRK	6.310510712655926	2.781161608272404E-10	0.0071428571428571435	0.0071428571428571435			
13	—Deep MARL-AS Beefy (S)-model-4 vs. MS	6.243090726409609	4.290078864039383E-10	0.007692307692307693	0.007692307692307693			
12	MS vs. —Deep MARL-MR (S)-model-0	5.292468920336412	1.2067598319270765E-7	0.008333333333333333	0.008333333333333333			
11	SPT vs. —Deep MARL-AS (GDT)-model-1	4.989078982227968	6.066784070099178E-7	0.009090909090909092	0.009090909090909092			
10	—Deep MARL-AS (S)-model-2 vs. —Deep MARL-AS (GDT)-model-1	4.94862699048018	7.473882085383279E-7	0.01	0.01			
9	—Deep MARL-AS (GDT)-model-1 vs. —Deep MARL-AS Beefy (S)-model-4	4.26768512939235	1.9751184256371582E-5	0.0111111111111111111	0.0111111111111111111			
8	WINQ vs. —Deep MARL-MR (S)-model-0	3.3305473205683547	8.667543001665035E-4	0.0125	0.0125			
7	LWRK vs. —Deep MARL-AS Beefy (S)-model-4	2.905801407216604	0.003663138596794163	0.014285714285714287	0.014285714285714287			
6	—Deep MARL-MR Beefy (S)-model-3 vs. —Deep MARL-MR (S)-model-0	2.831639422345639	0.004631003912661998	0.0166666666666666	0.0166666666666666			
5	MS vs. —Deep MARL-MR Beefy (S)-model-3	2.460829497990773	0.013861622336633577	0.02	0.02			
4	MS vs. WINQ	1.9619215997680572	0.049771612653497145	0.025	0.025			
3	—Deep MARL-AS (GDT)-model-1 vs. LWRK	1.3618837221757463	0.17323458406862693	0.0333333333333333	0.0333333333333333			
2	WINQ vs. —Deep MARL-MR Beefy (S)-model-3	0.4989078982227155	0.6178442696271758	0.05	0.05			
1	SPT vs. —Deep MARL-AS (S)-model-2	0.040451991747788275	0.9677327807213284	0.1	0.1			

Table 7: Adjusted p-values

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i	hypothesis	unadjusted p	p_{Neme}	p_{Holm}	p_{Shaf}	p_{Berg}		
1	CRSPT vs .—Deep MARL-MR (S)-model-0	2.9995069416019552E-173	1.34977812372088E-171	1.34977812372088E-171	1.34977812372088E-171	0.0		
2	CRSPT vs .—Deep MARL-MR Beefy (S)-model-3	1.9473882188151497E-140	8.763246984668173E-139	8.568508162786659E-139	7.01059758773454E-139	0.0		
3	CRSPT vs .WINQ	5.133288615808282E-135	2.3099798771137268E-133	2.207314104797561E-133	1.8479839016909813E-133	0.0		
4	CRSPT vs .MS	9.578109919259873E-115	4.3101494636669426E-113	4.0228061660891464E-113	3.448119570933554E-113	0.0		
5	SPT vs .—Deep MARL-MR (S)-model-0	5.0790802815806095E-96	2.2855861267112742E-94	2.0824229154480499E-94	1.8284689013690193E-94	0.0		
6	—Deep MARL-AS (S)-model-2 vs .—Deep MARL-MR (S)-model-0	1.1791057697771304E-95	5.305975963997087E-94	4.7164230791085216E-94	4.244780771197669E-94	0.0		
7	SPT vs .—Deep MARL-MR Beefy (S)-model-3	3.958966420233319E-72	1.7815348891049936E-70	1.5439969038909945E-70	1.425227911283995E-70	0.0		
8	—Deep MARL-AS (S)-model-2 vs .—Deep MARL-MR Beefy (S)-model-3	8.19850034736076E- 72	3.689325156312342E-70	3.115430131997089E-70	2.951460125049874E-70	0.0		
9	SPT vs .WINQ	2.800811923845609E-68	1.260365365730524E-66	1.0363004118228753E-66	1.0082922925844192E-66	0.0		
10	—Deep MARL-AS (S)-model-2 vs .WINQ	5.684590476947583E-68	2.558065714626412E-66	2.0464525717011299E-66	2.0464525717011299E-66	0.0		
11	CRSPT vs .—Deep MARL-AS Beefy (S)-model-4	2.4389721047841317E-61	1.0975374471528593E-59	8.53640236674446E-60	7.073019103873982E-60	0.0		
12	—Deep MARL-AS (GDT)-model-1 vs .—Deep MARL-MR (S)-model-0	2.9550661376183665E-56	1.329779761928265E-54	1.0047224867902446E-54	8.569691799093263E-55	0.0		
13	SPT vs .MS	3.4767677393232836E-54	1.5645454826954776E-52	1.1473333539766836E-52	1.0082626444037522E-52	0.0		
14	—Deep MARL-AS (S)-model-2 vs .MS	6.520015424269446E-54	2.9340069409212508E-52	2.0864049357662227E-52	1.8908044730381395E-52	0.0		
15	LWRK vs .—Deep MARL-MR (S)-model-0	2.8417450140388116E-47	1.2787852563174653E-45	8.809409543520315E-46	8.241060540712553E-46	0.0		
16	CRSPT vs .LWRK	3.0945551873345884E-42	1.3925498343005647E-40	9.283665562003766E-41	8.974210043270307E-41	0.0		
17	—Deep MARL-AS (GDT)-model-1 vs .—Deep MARL-MR Beefy (S)-model-3	1.772780842932238E-38	7.97751379319507E-37	5.14106444450349E-37	$5.14106444450349 ext{E-} 37$	0.0		
18	—Deep MARL-AS (GDT)-model-1 vs .WINQ	1.0520346561024089E-35	4.73415595246084E-34	2.945697037086745E-34	2.945697037086745E-34	0.0		
19	CRSPT vs .—Deep MARL-AS (GDT)-model-1	1.5418836463194526E-34	6.938476408437536E-33	4.163085845062522E-33	3.7005207511666864E-33	0.0		
20	LWRK vs.—Deep MARL-MR Beefy (S)-model-3	3.6781104835167057E-31	1.6551497175825175E-29	9.563087257143435E-30	8.827465160440094E-30	0.0		
21	—Deep MARL-AS Beefy (S)-model-4 vs .—Deep MARL-MR (S)-model-0	8.731745232702565E-31	3.9292853547161543E-29	2.182936308175641E-29	2.0956188558486155E-29	0.0		
22	LWRK vs .WINQ	1.111420474017441E-28	5.001392133078484E-27	2.667409137641858E-27	2.667409137641858E-27	0.0		
23	—Deep MARL-AS (GDT)-model-1 vs .MS	7.705697900467891E-26	3.467564055210551E-24	1.772310517107615E-24	1.695253538102936E-24	0.0		
24	SPT vs.—Deep MARL-AS Beefy (S)-model-4	2.1072149172745405E-20	9.482467127735433E-19	4.635872818003989E-19	4.635872818003989E-19	0.0		
25	—Deep MARL-AS (S)-model-2 vs .—Deep MARL-AS Beefy (S)-model-4	3.074941694632472E-20	1.3837237625846125E-18	6.457377558728191E-19	6.457377558728191E-19	0.0		
26	LWRK vs .MS	5.752038900235457E-20	2.5884175051059557E-18	1.1504077800470915E-18	1.1504077800470915E-18	0.0		
27	—Deep MARL-AS Beefy (S)-model-4 vs .—Deep MARL-MR Beefy (S)-model-3	3.206124502501101E-18	1.4427560261254955E-16	6.091636554752092E-17	5.771024104501982E-17	0.0		
28	—Deep MARL-AS Beefy (S)-model-4 vs .WINQ	2.3056722791840337E-16	1.0375525256328152E-14	4.150210102531261E-15	4.150210102531261E-15	0.0		
29	CRSPT vs .—Deep MARL-AS (S)-model-2	2.704898839872765E-13	1.2172044779427442E-11	4.5983280277837E-12	4.5983280277837E-12	0.0		
30	CRSPT vs .SPT	3.651877694531481E-13	1.6433449625391665E-11	5.84300431125037E-12	5.84300431125037E-12	0.0		
31	SPT vs .LWRK	2.1397158605917757E-10	9.628721372662991E-9	3.2095737908876635E-9	3.2095737908876635E-9	0.0		
32	—Deep MARL-AS (S)-model-2 vs .LWRK	2.781161608272404E-10	1.2515227237225819E-8	3.893626251581366E-9	3.893626251581366E-9	0.0		
33	—Deep MARL-AS Beefy (S)-model-4 vs .MS	4.290078864039383E-10	1.9305354888177222E-8	5.577102523251198E-9	5.577102523251198E-9	0.0		
34	MS vs .—Deep MARL-MR (S)-model-0	1.2067598319270765E-7	5.430419243671845E-6	1.4481117983124918E-6	1.4481117983124918E-6	0.0		
35	SPT vs .—Deep MARL-AS (GDT)-model-1	6.066784070099178E-7	2.73005283154463E-5	6.673462477109095E-6	6.673462477109095E-6	0.0		
36	—Deep MARL-AS (S)-model-2 vs .—Deep MARL-AS (GDT)-model-1	7.473882085383279E-7	3.363246938422476E-5	7.473882085383279E-6	7.473882085383279E-6	0.0		
37	—Deep MARL-AS (GDT)-model-1 vs .—Deep MARL-AS Beefy (S)-model-4	1.9751184256371582E-5	8.888032915367212E-4	1.7776065830734424E-4	1.7776065830734424E-4	0.0		
38	WINQ vs .—Deep MARL-MR (S)-model-0	8.667543001665035E-4	0.03900394350749266	0.006934034401332028	0.006934034401332028	0.0		
39	LWRK vs.—Deep MARL-AS Beefy (S)-model-4	0.003663138596794163	0.16484123685573734	0.02564197017755914	0.02564197017755914	0.0		
40	—Deep MARL-MR Beefy (S)-model-3 vs .—Deep MARL-MR (S)-model-0	0.004631003912661998	0.2083951760697899	0.027786023475971987	0.027786023475971987	0.0		
41	MS vs .—Deep MARL-MR Beefy (S)-model-3	0.013861622336633577	0.623773005148511	0.06930811168316789	0.06930811168316789	0.0		
42	MS vs .WINQ	0.049771612653497145	2.2397225694073715	0.19908645061398858	0.19908645061398858	0.0		
43	—Deep MARL-AS (GDT)-model-1 vs .LWRK	0.17323458406862693	7.795556283088212	0.5197037522058808	0.5197037522058808	0.0		
44	WINQ vs.—Deep MARL-MR Beefy (S)-model-3	0.6178442696271758	27.802992133222908	1.2356885392543515	1.2356885392543515	0.0		
45	SPT vs .—Deep MARL-AS (S)-model-2	0.9677327807213284	43.547975132459776	1.2356885392543515	1.2356885392543515	0.0		