Appendices for Compromises in Dialogical Argumentation: Aggregated Policies for Biparty Decision Theory

Appendix A

Policy \ Height	4	5	6
bim	4.085	2.93	2.85
M_{-2}	1.662	2.393	2.223
M_{-1}	1.948	2.783	2.487
M_0	2.425	3.347	3.063
M_1	4.155	5.51	5.433
M_2	6.348	7.037	7.247
SMD_0	4.280	5.477	5.477
$SMD_{0.1}$	3.158	4.317	4.14
$SMD_{0.2}$	2.395	3.603	3.100
$SMD_{0.3}$	1.760	2.743	2.297
$SMD_{0.4}$	1.655	2.32	2.057
$SMD_{0.5}$	1.510	1.933	1.753
$SMD_{0.6}$	1.298	1.667	1.337
$SMD_{0.7}$	1.232	1.603	1.317
$SMD_{0.8}$	1.208	1.550	1.297
$SMD_{0.9}$	1.248	1.577	1.327
SMD_1	1.250	1.553	1.293
$MoSTD_1$	1.232	1.627	1.290

Policy \ Height	4	5	6
bim	7.940	7.317	7.490
M_{-2}	5.635	5.117	5.257
M_{-1}	5.558	4.990	5.190
M_0	5.385	4.710	4.917
M_1	4.888	3.660	3.770
M_2	3.995	2.807	2.707
SMD_0	4.750	3.680	3.763
$SMD_{0.1}$	5.292	4.293	4.463
$SMD_{0.2}$	5.420	4.620	4.947
$SMD_{0.3}$	5.575	5.00	5.253
$SMD_{0.4}$	5.620	5.187	5.367
$SMD_{0.5}$	5.605	5.263	5.420
$SMD_{0.6}$	5.558	5.360	5.547
$SMD_{0.7}$	5.582	5.357	5.510
$SMD_{0.8}$	5.590	5.397	5.500
$SMD_{0.9}$	5.555	5.367	5.483
SMD_1	5.510	5.280	5.443
$MoSTD_1$	5.590	5.337	5.533

Policy \ Height	4	5	6
bim	4.075	4.907	4.747
M_{-2}	6.782	7.437	7.413
M_{-1}	6.945	7.680	7.623
M_0	7.240	8.023	7.933
M_1	7.822	9.103	9.170
M_2	8.432	9.677	9.953
SMD_0	7.980	9.097	9.160
$SMD_{0.1}$	7.455	8.517	8.490
$SMD_{0.2}$	7.195	8.137	7.933
$SMD_{0.3}$	6.860	7.663	7.463
$SMD_{0.4}$	6.785	7.413	7.297
$SMD_{0.5}$	6.575	7.103	7.060
$SMD_{0.6}$	6.370	6.873	6.743
$SMD_{0.7}$	6.360	6.827	6.727
$SMD_{0.8}$	6.328	6.773	6.703
$SMD_{0.9}$	6.352	6.783	6.723
SMD_1	6.290	6.700	6.637
$MoSTD_1$	6.358	6.823	6.697

Table 1: Evaluation results for **don2022NoOPT**. AAD on the left, APU in the center, AOU on the right. The $\Pi_{\mathcal{A}}$ policies return arguments in the best compromise region with respect to Π_{bim}, see the lower AAD and balanced values for APU and AOU.

Policy \ Height	4	5	6
bim	3.543	2.012	2.274
M_{-2}	1.947	1.524	1.415
M_{-1}	2.061	1.545	1.411
M_0	2.123	1.574	1.434
M_1	2.318	1.694	1.545
M_2	2.759	1.86	1.644
SMD_0	2.327	1.711	1.537
$SMD_{0.1}$	2.166	1.574	1.445
$SMD_{0.2}$	2.087	1.553	1.422
$SMD_{0.3}$	1.974	1.477	1.359
$SMD_{0.4}$	1.880	1.443	1.351
$SMD_{0.5}$	1.657	1.350	1.165
$SMD_{0.6}$	1.403	1.191	0.961
$SMD_{0.7}$	1.284	1.039	0.806
$SMD_{0.8}$	1.028	0.773	0.604
$SMD_{0.9}$	0.799	0.677	0.433
SMD_1	0.734	0.628	0.387
$MoSTD_1$	1.025	0.843	0.509

Policy \ Height	4	5	6
bim	10.171	9.861	10.606
M_{-2}	9.403	9.301	10.038
M_{-1}	9.452	9.331	10.069
M_0	9.408	9.308	10.086
M_1	9.298	9.288	10.114
M_2	8.963	9.219	10.182
SMD_0	9.282	9.277	10.102
$SMD_{0.1}$	9.342	9.304	10.073
$SMD_{0.2}$	9.434	9.328	10.058
$SMD_{0.3}$	9.367	9.296	10.025
$SMD_{0.4}$	9.341	9.307	10.002
$SMD_{0.5}$	9.341	9.178	9.894
$SMD_{0.6}$	9.216	9.095	9.761
$SMD_{0.7}$	9.074	8.997	9.560
$SMD_{0.8}$	8.522	8.783	9.233
$SMD_{0.9}$	7.573	8.599	8.872
SMD_1	6.719	8.184	8.372
$MoSTD_1$	8.450	8.630	8.963

Policy \ Height	4	5	6
bim	7.111	8.235	8.362
M_{-2}	8.336	8.781	9.059
M_{-1}	8.289	8.778	9.054
M_0	8.271	8.782	9.052
M_1	8.206	8.753	9.021
M_2	8.194	8.717	8.994
SMD_0	8.209	8.749	9.026
$SMD_{0.1}$	8.246	8.786	9.045
$SMD_{0.2}$	8.251	8.782	9.049
$SMD_{0.3}$	8.316	8.778	9.072
$SMD_{0.4}$	8.354	8.777	9.075
$SMD_{0.5}$	8.349	8.775	9.072
$SMD_{0.6}$	8.345	8.756	9.06
$SMD_{0.7}$	8.296	8.712	9.013
$SMD_{0.8}$	8.167	8.574	8.905
$SMD_{0.9}$	7.605	8.434	8.713
SMD_1	6.989	8.152	8.371
$MoSTD_1$	8.086	8.534	8.770

Table 2: Evaluation results for **Don2022**. AAD on the left, APU in the center, AOU on the right. The $\Pi_{\mathcal{A}}$ policies return arguments in the best compromise region with respect to Π_{bim} even in presence of arguments in the optimal region. See the lower AAD and balanced values for APU and AOU.

Appendix B

Critical differences diagrams for the tested policies and adopted datasets.

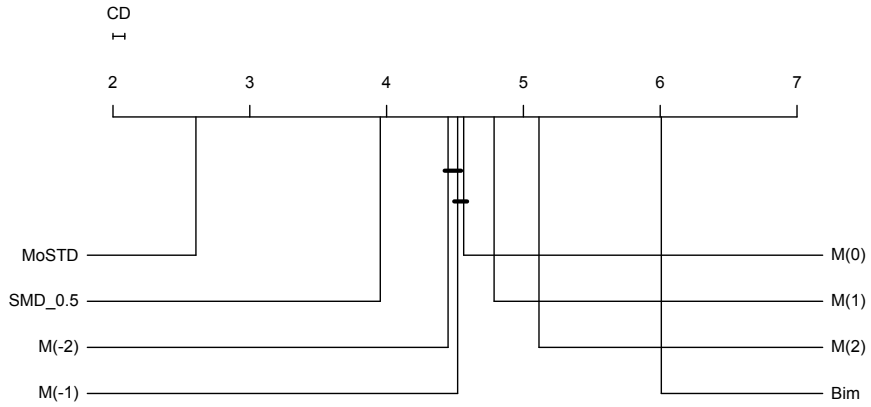

Figure 1: Comparison of the policies for the **don2022NoOPT** dataset with the Nemenyi test according to the best AD. Groups of policies that are not significantly different (p-value < 0.05) are connected.

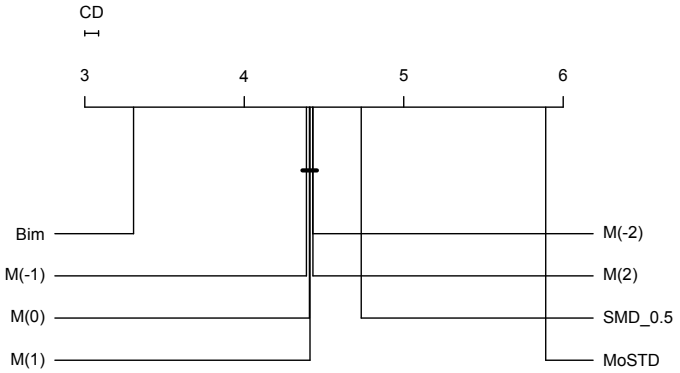

Figure 2: Comparison of the policies for the **don2022NoOPT** dataset with the Nemenyi test according to the best APU. Groups of policies that are not significantly different (p-value < 0.05) are connected.

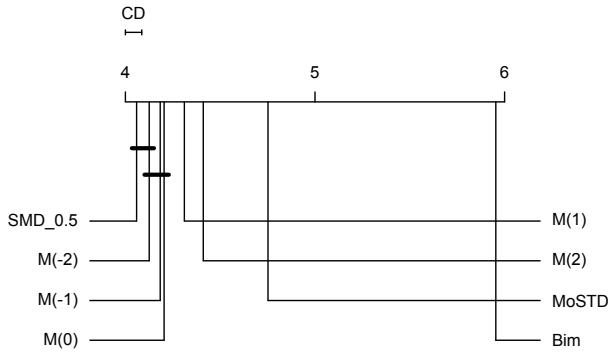

Figure 3: Comparison of the policies for the **don2022NoOPT** dataset with the Nemenyi test according to the best AOU. Groups of policies that are not significantly different (p-value < 0.05) are connected.

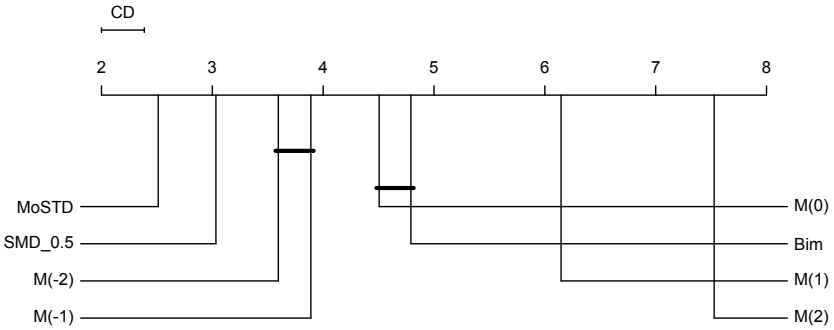

Figure 4: Comparison of the policies for the **Don2022** dataset with the Nemenyi test according to the best AD. Groups of policies that are not significantly different (p-value < 0.05) are connected.

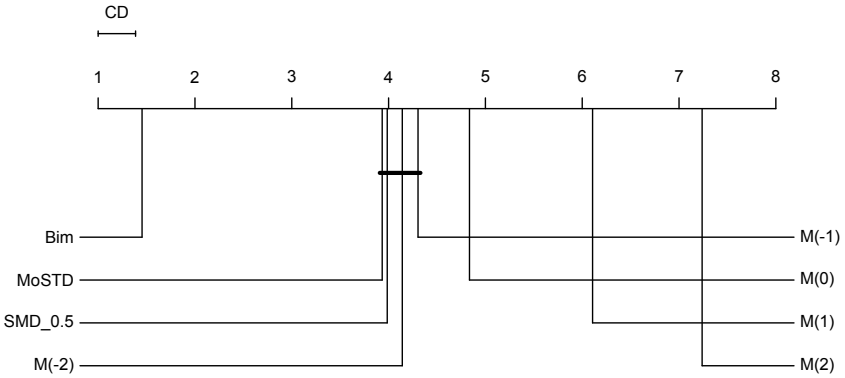

Figure 5: Comparison of the policies for the **Don2022** dataset with the Nemenyi test according to the best APU. Groups of policies that are not significantly different (p-value < 0.05) are connected.

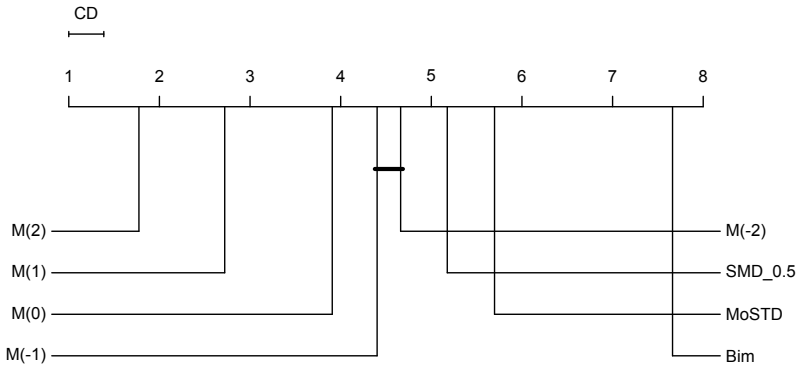

Figure 6: Comparison of the policies for the **Don2022** dataset with the Nemenyi test according to the best AOU. Groups of policies that are not significantly different (p-value < 0.05) are connected.