

Supplementary Materials 3:
Estimates of the relative performances
of 11 normalization methods

Contents

1	Bladder cancer data set	2
1.1	<i>sigma</i>	2
1.2	<i>smt</i>	3
1.3	<i>dyn</i>	4
2	Breast cancer data set	5
2.1	<i>sigma</i>	5
2.2	<i>smt</i>	6
2.3	<i>dyn</i>	7
3	Neuroblastoma data set	8
3.1	<i>sigma</i>	8
3.2	<i>smt</i>	9
3.3	<i>dyn</i>	10

1 Bladder cancer data set

1.1 *sigma*

	seg	seg +2dLoess	none	2dLoess	adjSeg	adjSeg +2dLoess	block	block +2dLoess	ptl	ptl+movMed	mnNorm
seg+2dLoess	seg		0.015	0.015	0.031	0.0346	0.0676	0.0691	0.127	0.154	0.28
	none	-0.0036	0.0115	0.0117	0.0276	0.0314	0.0646	0.0662	0.125	0.152	0.279
	2dLoess	-0.0158	-0.0124	-6.86e-05	0.0167	0.0204	0.0534	0.0549	0.114	0.141	0.269
	adjSeg	-0.0159	-0.0123	-0.000175	0.0165	0.0203	0.0536	0.0552	0.114	0.142	0.271
	adjSeg+2dLoess	-0.0344	-0.0309	-0.0178	-0.00393	0.00373	0.0368	0.0381	0.0985	0.127	0.257
	block	-0.0385	-0.0348	-0.0218	-0.0398		0.0332	0.0348	0.0959	0.124	0.256
	block+2dLoess	-0.0744	-0.0704	-0.0576	-0.042	-0.0356	-0.00186	0.00172	0.0647	0.0942	0.231
	ptl	-0.0765	-0.0724	-0.0598	-0.042	-0.0377	-0.00186		0.0635	0.0932	0.23
	ptl+movMed	-0.165	-0.159	-0.146	-0.126	-0.121	-0.0825	-0.08			0.183
	mnNorm	-0.21	-0.204	-0.19	-0.169	-0.163	-0.123	-0.12	-0.0354		0.157
		-0.471	-0.463	-0.447	-0.421	-0.413	-0.363	-0.359	-0.249	-0.204	

Table 1: sigma

1.2 smt

	seg +2dLoess	block +2dLoess	2dLoess	adjSeg +2dLoess	mnNorm	ptl+movMed	ptl	seg	block	adjSeg	none
seg+2dLoess		0.0024	0.00926	0.0305	0.0361	0.0591	0.0879	0.109	0.12	0.12	0.139
block+2dLoess	-0.00773		0.0051	0.0249	0.032	0.0512	0.0826	0.1	0.111	0.112	0.131
2dLoess	-0.0106	-0.00932		0.0215	0.022	0.047	0.077	0.0977	0.109	0.109	0.128
adjSeg+2dLoess	-0.035	-0.0342	-0.0247		-4.37e-05	0.0248	0.0532	0.0792	0.0822	0.0851	0.104
mnNorm	-0.0563	-0.0495	-0.0397	-0.0179		0.0232	0.0543	0.0627	0.0685	0.0733	0.0959
ptl+movMed	-0.0882	-0.0682	-0.0729	-0.0487	-0.0268		0.0324	0.0431	0.0257	0.0546	0.0769
ptl	-0.117	-0.104	-0.101	-0.0708	-0.0647	-0.037		0.0104	0.0181	0.0226	0.0471
seg	-0.135	-0.124	-0.12	-0.1	-0.0954	-0.0707	-0.0308		0.00895	0.0101	0.0337
block	-0.156	-0.138	-0.139	-0.102	-0.103	-0.0728	-0.0357	-0.0152		-0.00405	0.0229
adjSeg	-0.149	-0.137	-0.133	-0.105	-0.106	-0.0813	-0.0402	-0.0111	-0.000632		0.0241
none	-0.179	-0.166	-0.163	-0.128	-0.137	-0.11	-0.0675	-0.0386	-0.0265	-0.0267	

Table 2: smt

1.3 *dyn*

	seg +2dLoess	2dLoess	block +2dLoess	adjSeg +2dLoess	seg	adjSeg	block	none	nnNorm	ptl	ptl+movMed
seg+2dLoess		0.00935	0.0185	0.0347	0.119	0.133	0.155	0.156	0.173	0.183	0.203
2dLoess	-0.00768		0.00468	0.0197	0.107	0.119	0.133	0.142	0.155	0.169	0.187
block+2dLoess	-0.0118	0.000366		0.0158	0.0928	0.105	0.12	0.127	0.15	0.16	0.162
adjSeg+2dLoess	-0.0296	-0.0147	-0.00377		0.0856	0.103	0.0997	0.106	0.136	0.141	0.171
seg	-0.0972	-0.0866	-0.0706	-0.0663		0.0117	0.0323	0.0363	0.0543	0.0635	0.049
adjSeg	-0.109	-0.0985	-0.0824	-0.0822	-0.0105		0.0193	0.0225	0.0458	0.0483	0.0557
block	-0.12	-0.105	-0.0971	-0.0806	-0.0206	-0.00898		0.014	0.0357	0.0432	0.0795
none	-0.124	-0.114	-0.099	-0.0886	-0.0317	-0.0204	-0.00671		0.0215	0.0259	0.0312
nnNorm	-0.113	-0.101	-0.1	-0.0866	-0.00595	-0.00215	0.00986	0.026		0.0186	0.0112
ptl	-0.127	-0.119	-0.116	-0.0984	-0.029	-0.0184	-0.0149	0.00446	-0.00724		0.000936
ptl+movMed	-0.131	-0.121	-0.113	-0.107	-0.0278	-0.0174	-0.00735	0.00956	-0.00626	0.00493	

Table 3: *dyn*

2 Breast cancer data set

2.1 *sigma*

	seg +2dLoess	block +2dLoess	2dLoess	adjSeg +2dLoess	ptl+movMed	ptl	mnNorm	block	seg	none	adjSeg
seg+2dLoess		0.0103	0.0178	0.0204	0.0412	0.0636	0.0787	0.161	0.165	0.173	0.174
block+2dLoess	-0.0131		0.00606	0.00879	0.0317	0.0546	0.0696	0.154	0.155	0.164	0.165
2dLoess	-0.0191	-0.00756		0.00275	0.0241	0.0471	0.0623	0.147	0.15	0.158	0.16
adjSeg+2dLoess	-0.0222	-0.0105	-0.00294		0.0212	0.0443	0.0595	0.144	0.147	0.156	0.157
ptl+movMed	-0.0501	-0.0361	-0.03	-0.0272		0.0239	0.0393	0.127	0.128	0.137	0.138
ptl	-0.0771	-0.0626	-0.0564	-0.0535	-0.0252		0.0158	0.107	0.107	0.116	0.117
mnNorm	-0.095	-0.0804	-0.0741	-0.0711	-0.0426	-0.0169		0.0924	0.0925	0.102	0.103
block	-0.23	-0.212	-0.206	-0.203	-0.169	-0.139	-0.12		-0.000228	0.00994	0.0112
seg	-0.231	-0.216	-0.207	-0.204	-0.173	-0.143	-0.124	-0.00486		0.00952	0.0109
none	-0.243	-0.228	-0.219	-0.215	-0.184	-0.154	-0.134	-0.0143	-0.0101		0.00132
adjSeg	-0.245	-0.229	-0.22	-0.217	-0.186	-0.155	-0.136	-0.0159	-0.0115	-0.00142	

Table 4: sigma

2.2 smt

	seg +2dLoess	2dLoess	adjSeg +2dLoess	block +2dLoess	ptl+movMed	ptl	mnNorm	seg	adjSeg	none	block
seg+2dLoess		0.00983	0.0143	0.0141	0.0447	0.102	0.108	0.291	0.296	0.303	0.309
2dLoess	-0.0105		0.00379	0.00336	0.0349	0.0935	0.101	0.279	0.289	0.296	0.303
adjSeg+2dLoess	-0.0154	-0.00411		-0.000155	0.0305	0.0904	0.0979	0.279	0.288	0.295	0.302
block+2dLoess	-0.0154	-0.00398	-0.000682		0.0295	0.0895	0.096	0.278	0.287	0.293	0.301
ptl+movMed	-0.0589	-0.0474	-0.0432	-0.0408		0.0617	0.0684	0.256	0.264	0.269	0.276
ptl	-0.131	-0.12	-0.116	-0.113	-0.0699		0.00781	0.207	0.217	0.223	0.231
mnNorm	-0.139	-0.128	-0.125	-0.122	-0.0779	-0.00893		0.199	0.211	0.216	0.224
seg	-0.522	-0.498	-0.495	-0.496	-0.446	-0.338	-0.324		0.008	0.016	0.00947
adjSeg	-0.534	-0.517	-0.51	-0.513	-0.459	-0.352	-0.338	-0.00855		0.00869	0.0126
none	-0.555	-0.534	-0.527	-0.531	-0.472	-0.363	-0.349	-0.0192	-0.0111		0.00407
block	-0.565	-0.545	-0.541	-0.54	-0.475	-0.37	-0.356	-0.0227	-0.0176	-0.00657	

Table 5: smt

2.3 d_{dyn}

	seg +2dLoess	2dLoess	adjSeg +2dLoess	block +2dLoess	ptl+movMed	mnNorm	ptl	seg	adjSeg	none	block
seg+2dLoess		0.00965	0.013	0.0147	0.138	0.196	0.204	0.451	0.482	0.496	0.514
2dLoess	-0.009		0.00399	0.00393	0.127	0.188	0.192	0.443	0.479	0.477	0.497
adjSeg+2dLoess	-0.012	-0.00361		0.000917	0.126	0.186	0.188	0.453	0.465	0.486	0.516
block+2dLoess	-0.0131	-0.00306	0.000227		0.123	0.183	0.187	0.441	0.475	0.476	0.492
ptl+movMed	-0.107	-0.0983	-0.097	-0.0969		0.0551	0.0627	0.329	0.34	0.35	0.36
mnNorm	-0.149	-0.143	-0.141	-0.141	-0.0475		0.00607	0.246	0.262	0.265	0.278
ptl	-0.154	-0.146	-0.143	-0.143	-0.0545	-0.00384		0.247	0.258	0.269	0.288
seg	-0.269	-0.263	-0.265	-0.262	-0.187	-0.146	-0.143		0.00935	0.0165	0.0264
adjSeg	-0.28	-0.275	-0.273	-0.273	-0.195	-0.157	-0.151	-0.00804		0.0113	0.0222
none	-0.285	-0.279	-0.28	-0.277	-0.2	-0.16	-0.156	-0.014	-0.00852		0.0115
block	-0.295	-0.291	-0.294	-0.289	-0.214	-0.175	-0.172	-0.0125	-0.016	-0.00848	

Table 6: d_{dyn}

3 Neuroblastoma data set

3.1 *sigma*

	seg +2dLoess	block +2dLoess	2dLoess	adjSeg +2dLoess	ptl+movMed	ptl	mnNorm	seg	block	adjSeg	none
seg+2dLoess		0.00661	0.00853	0.00852	0.0222	0.037	0.0482	0.142	0.142	0.144	0.144
block+2dLoess	-0.00705		0.00191	0.00195	0.0158	0.0306	0.0418	0.136	0.137	0.138	0.139
2dLoess	-0.00897	-0.00194		3.22e-05	0.0138	0.0287	0.0399	0.134	0.135	0.136	0.137
adjSeg+2dLoess	-0.00908	-0.00199	-5.67e-05		0.0138	0.0287	0.04	0.134	0.135	0.136	0.137
ptl+movMed	-0.0241	-0.0169	-0.015	-0.0149		0.0149	0.0263	0.123	0.124	0.125	0.126
ptl	-0.0396	-0.0323	-0.0303	-0.0302	-0.0153		0.0117	0.11	0.111	0.112	0.113
mnNorm	-0.052	-0.0447	-0.0427	-0.0426	-0.0275	-0.0119		0.1	0.101	0.102	0.103
seg	-0.192	-0.184	-0.182	-0.182	-0.163	-0.145	-0.131		0.000649	0.00226	0.00294
block	-0.193	-0.185	-0.183	-0.183	-0.164	-0.146	-0.131	-0.000769		0.00154	0.00224
adjSeg	-0.195	-0.187	-0.184	-0.184	-0.166	-0.147	-0.133	-0.00229	-0.0016		0.000693
none	-0.196	-0.188	-0.185	-0.185	-0.166	-0.148	-0.134	-0.00302	-0.00229	-0.000709	

∞

Table 7: sigma

3.2 smt

	seg +2dLoess	adjSeg +2dLoess	2dLoess	block +2dLoess	ptl+movMed	ptl	mnNorm	seg	adjSeg	none	block
seg+2dLoess		0.0014	0.00434	0.00705	0.0153	0.0638	0.0735	0.262	0.265	0.269	0.276
adjSeg+2dLoess	-0.00154		0.00342	0.00638	0.0136	0.0619	0.0711	0.26	0.264	0.268	0.275
2dLoess	-0.00446	-0.00353		0.00258	0.0101	0.0584	0.0676	0.257	0.261	0.266	0.273
block+2dLoess	-0.00737	-0.0067	-0.00277		0.00597	0.0556	0.0626	0.253	0.257	0.262	0.27
ptl+movMed	-0.0241	-0.0223	-0.0186	-0.0138		0.0462	0.0529	0.243	0.247	0.251	0.263
ptl	-0.077	-0.0747	-0.0709	-0.0675	-0.0526		0.00879	0.212	0.216	0.221	0.229
mnNorm	-0.0876	-0.0846	-0.0806	-0.0754	-0.0601	-0.00991		0.201	0.204	0.21	0.222
seg	-0.387	-0.384	-0.379	-0.373	-0.366	-0.297	-0.28		0.0042	0.00967	0.017
adjSeg	-0.394	-0.391	-0.386	-0.38	-0.372	-0.303	-0.286	-0.00443		0.00551	0.013
none	-0.402	-0.4	-0.395	-0.389	-0.38	-0.311	-0.293	-0.0109	-0.00595		0.00721
block	-0.415	-0.413	-0.408	-0.402	-0.397	-0.323	-0.312	-0.019	-0.0145	-0.0084	

Table 8: smt

3.3 d_{dyn}

	adjSeg +2dLoess	seg +2dLoess	2dLoess	block +2dLoess	ptl+movMed	mmNorm	ptl	seg	adjSeg	none	block
adjSeg+2dLoess		0.00231	0.0038	0.0092	0.124	0.178	0.178	0.379	0.385	0.396	0.407
seg+2dLoess	-0.00223		0.00051	0.00598	0.123	0.178	0.177	0.378	0.382	0.393	0.404
2dLoess	-0.0037	-0.00042		0.0055	0.118	0.172	0.171	0.374	0.379	0.39	0.401
block+2dLoess	-0.00876	-0.00556	-0.00519		0.114	0.158	0.167	0.363	0.369	0.379	0.393
ptl+movMed	-0.1	-0.0994	-0.0953	-0.0934		0.0441	0.051	0.236	0.24	0.251	0.256
mmNorm	-0.142	-0.143	-0.138	-0.127	-0.0359		0.00524	0.18	0.184	0.194	0.206
ptl	-0.142	-0.141	-0.136	-0.134	-0.0437	-0.0037		0.18	0.184	0.193	0.205
seg	-0.255	-0.255	-0.253	-0.245	-0.162	-0.132	-0.132		0.00374	0.0104	0.0185
adjSeg	-0.258	-0.257	-0.256	-0.248	-0.164	-0.134	-0.134	-0.00358		0.00729	0.0159
none	-0.264	-0.263	-0.261	-0.254	-0.17	-0.141	-0.141	-0.00902	-0.00641		0.00938
block	-0.271	-0.27	-0.268	-0.263	-0.177	-0.153	-0.151	-0.0158	-0.0136	-0.0078	

Table 9: d_{dyn}