

# FAILED QUERIES

## Baseline

benchmark	query	mean_duration	std_dev
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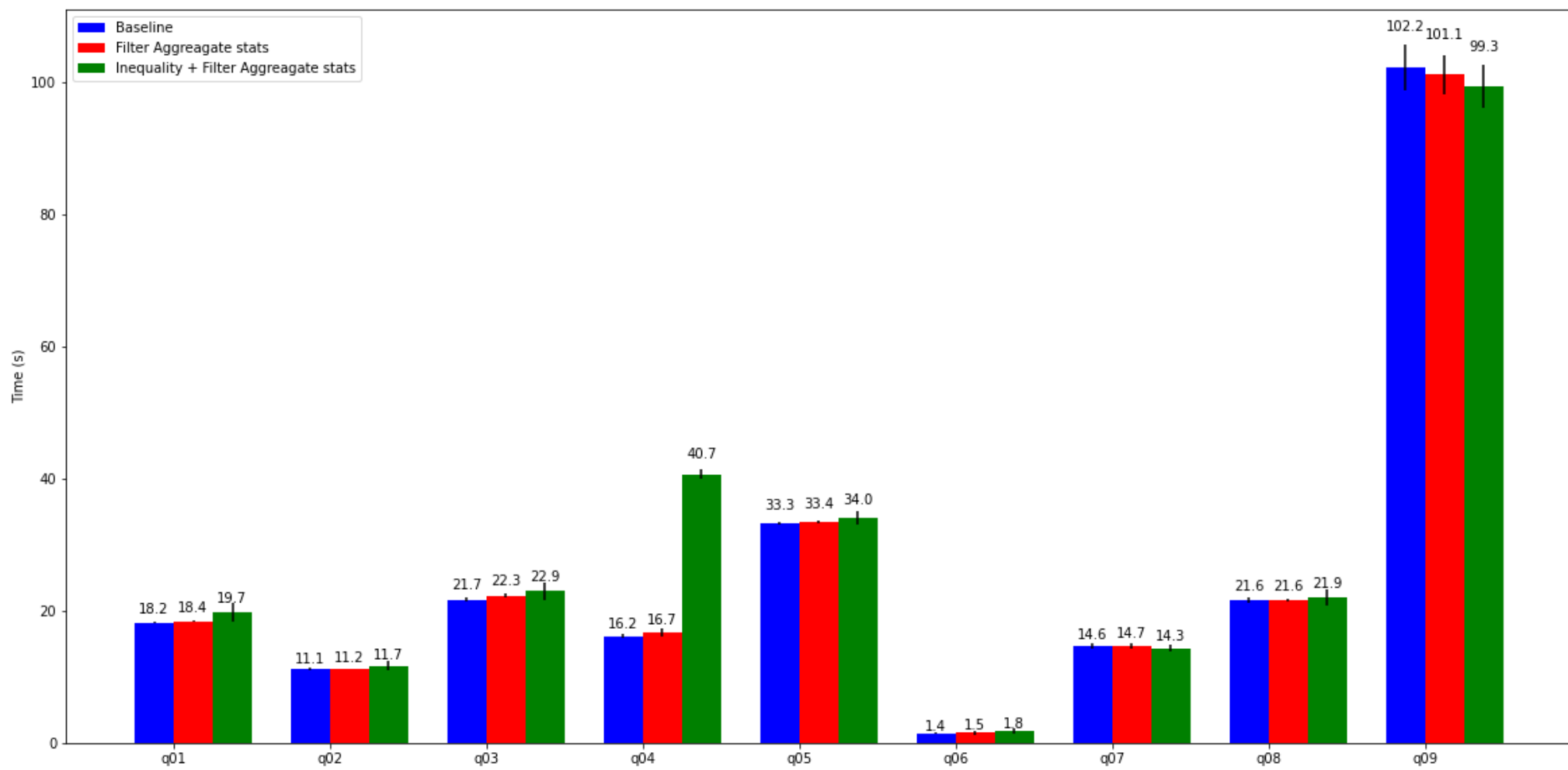
## Inequality + Filter Aggregate stats

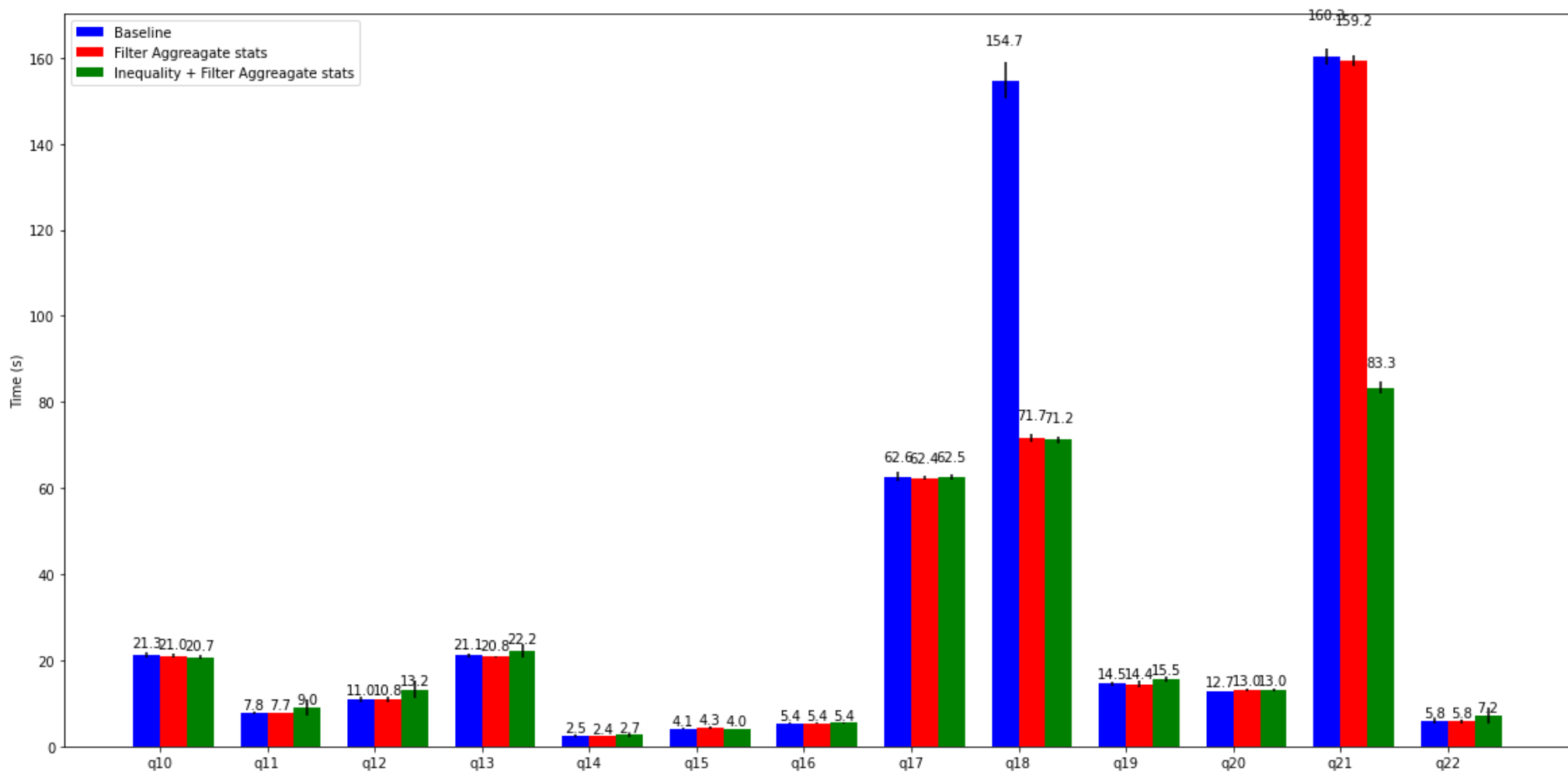
benchmark	query	mean_duration	std_dev
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# SUMMARY

	label	TPCH wall time	TPC-DS wall time	TPCH CPU time	TPC-DS CPU time	TPCH physicalInputDataSize	TPC-DS physicalInputDataSize	TPCH peak memory	TPC-DS peak memory
0	Baseline	724.102000	1040.693833	91324.400000	119426.730000	833.220 GiB	1.010 TiB	1.975 TiB	1.053 TiB
1	Filter Aggregate stats	639.821333	1067.610833	74194.300000	120238.063333	833.213 GiB	1.011 TiB	1.874 TiB	1.024 TiB
2	Inequality + Filter Aggregate stats	596.219333	1118.004167	64767.800000	121811.513500	833.244 GiB	1.009 TiB	1.691 TiB	1.023 TiB

# TPC-H Comparison (DURATION)

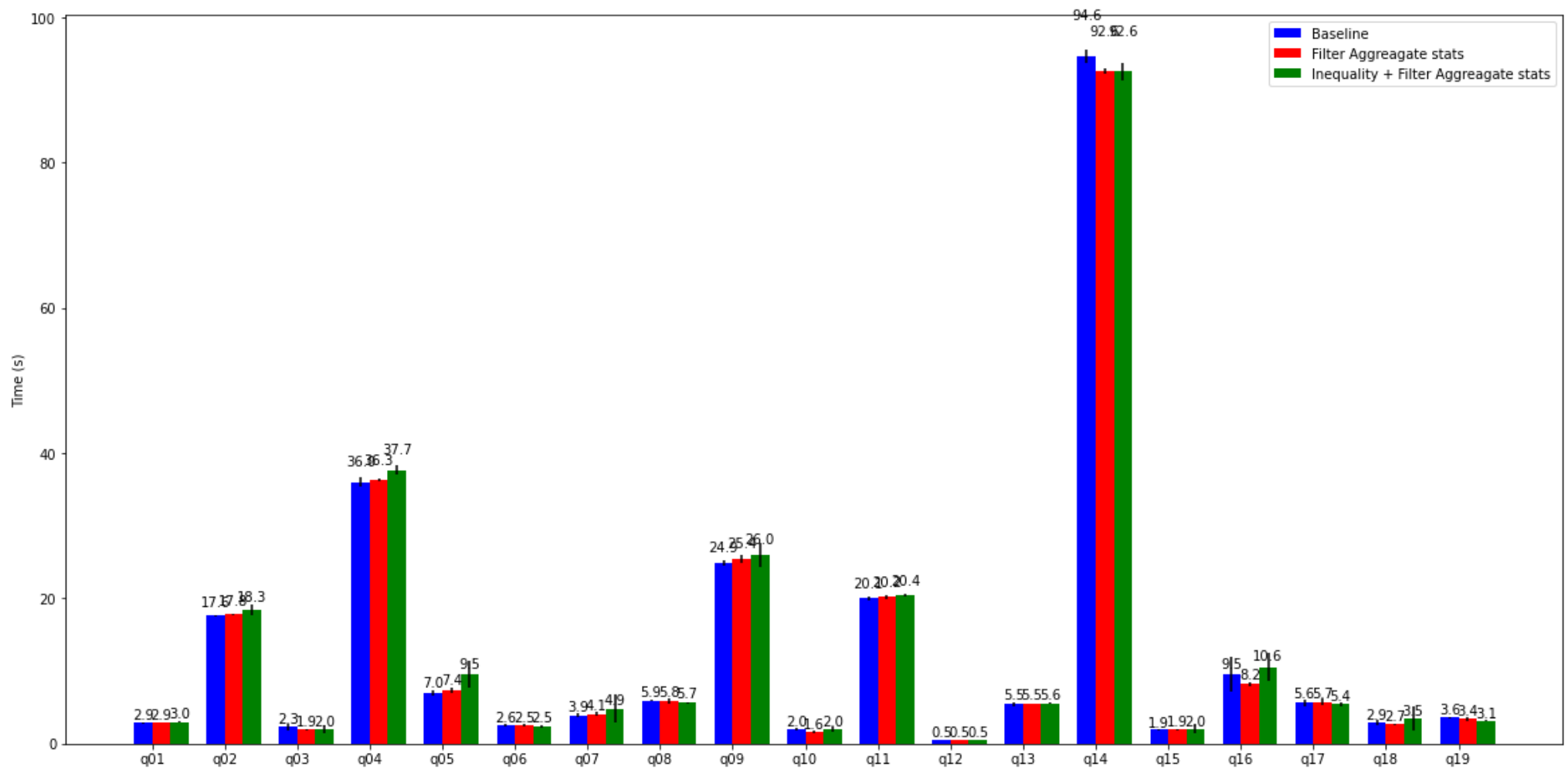


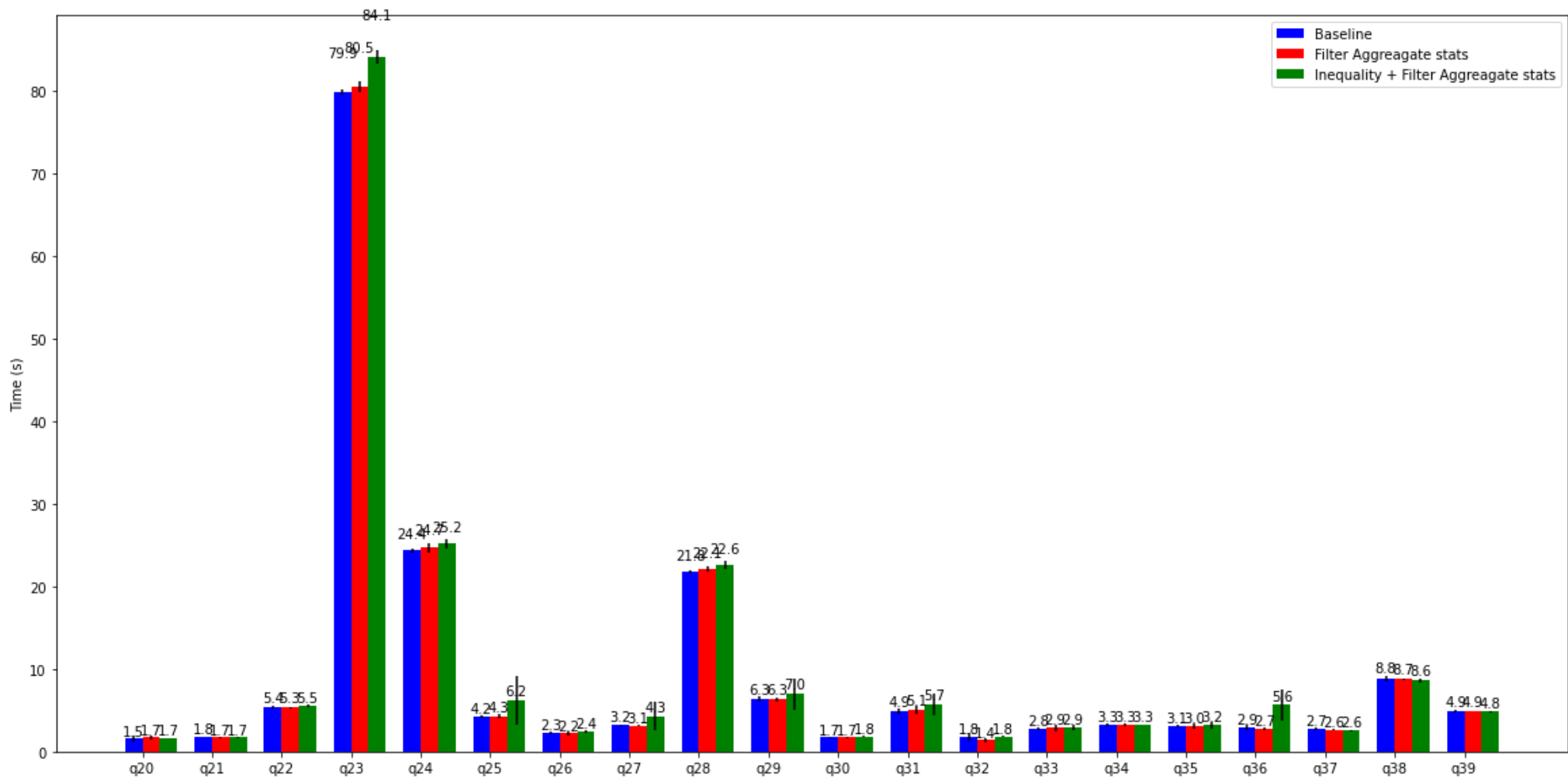


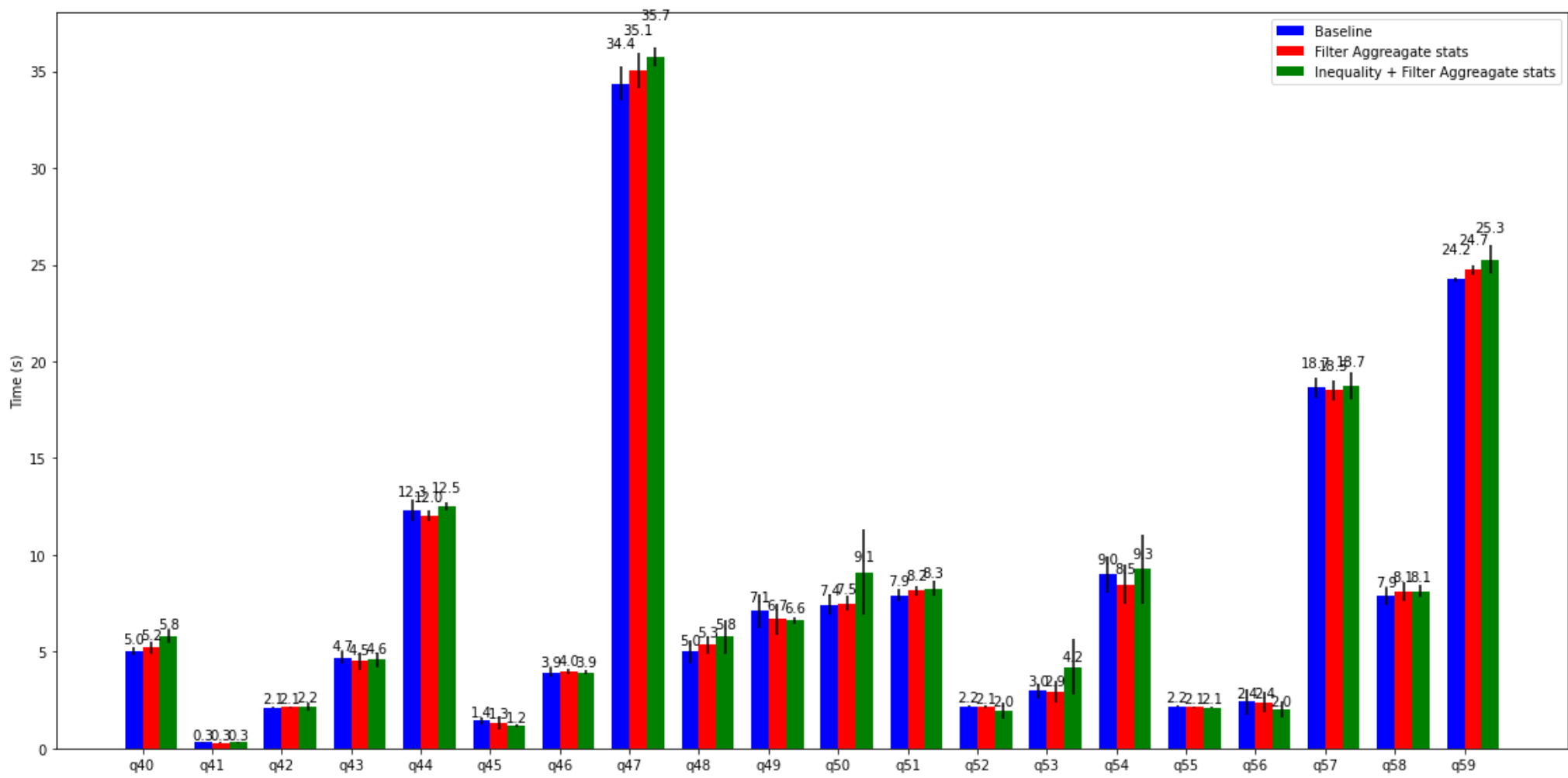
	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
0	presto/tpch: q01	18.205500	0.138741	18.377833	0.078009	19.746167	1.382982
1	presto/tpch: q02	11.125667	0.195185	11.167667	0.064164	11.661333	0.775338
2	presto/tpch: q03	21.662667	0.373309	22.297500	0.313427	22.947000	1.287454
3	presto/tpch: q04	16.160333	0.353508	16.701000	0.575324	40.670500	0.789557
4	presto/tpch: q05	33.274833	0.187175	33.418833	0.269154	34.041167	1.071131

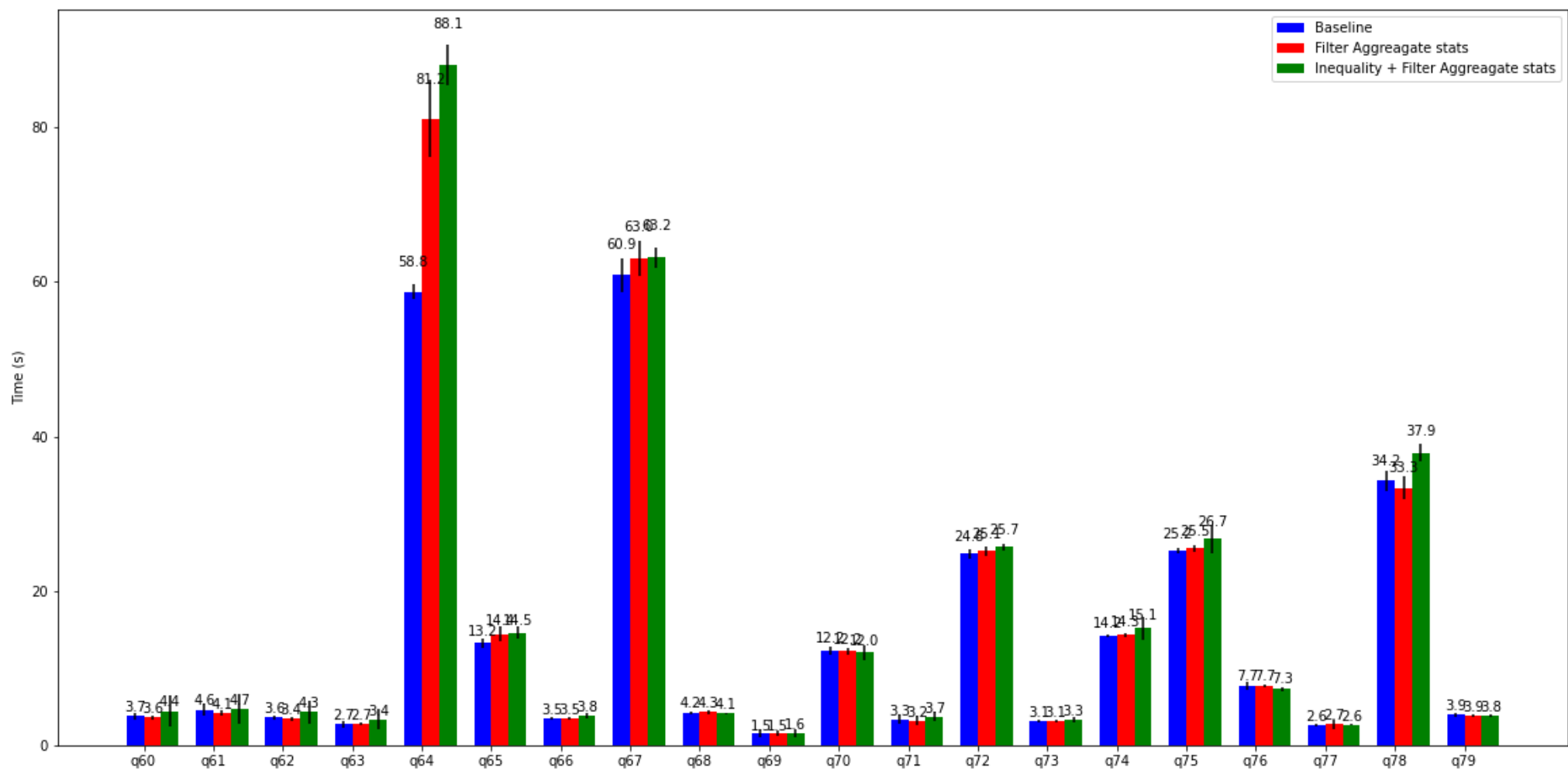
	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
5	presto/tpch: q06	1.411000	0.094505	1.533000	0.296580	1.768500	0.481033
6	presto/tpch: q07	14.632333	0.330446	14.664167	0.398562	14.341667	0.572916
7	presto/tpch: q08	21.568667	0.344802	21.619167	0.221417	21.909833	1.234025
8	presto/tpch: q09	102.227167	3.437235	101.124500	2.906365	99.289500	3.294278
9	presto/tpch: q10	21.318833	0.632381	21.043333	0.408495	20.716167	0.383124
10	presto/tpch: q11	7.759167	0.317553	7.746500	0.136148	8.975833	1.806876
11	presto/tpch: q12	10.963667	0.637058	10.821167	0.557899	13.179167	1.960981
12	presto/tpch: q13	21.087667	0.518678	20.802333	0.265737	22.151333	1.579815
13	presto/tpch: q14	2.520833	0.242805	2.391333	0.077997	2.670667	0.388159
14	presto/tpch: q15	4.068167	0.209650	4.279833	0.286093	3.977667	0.097920
15	presto/tpch: q16	5.390167	0.144733	5.413500	0.151710	5.423833	0.097165
16	presto/tpch: q17	62.624333	1.080127	62.375333	0.405435	62.486333	0.644363
17	presto/tpch: q18	154.729333	4.159184	71.734667	0.940095	71.224667	0.713792
18	presto/tpch: q19	14.518167	0.430007	14.423000	0.723719	15.522333	0.606874
19	presto/tpch: q20	12.738167	0.096585	12.980000	0.341290	13.011167	0.263586
20	presto/tpch: q21	160.267167	1.816791	159.218333	1.306092	83.315667	1.448876
21	presto/tpch: q22	5.848167	0.554686	5.762000	0.378111	7.188833	1.970512

# TPC-DS Comparison (DURATION)

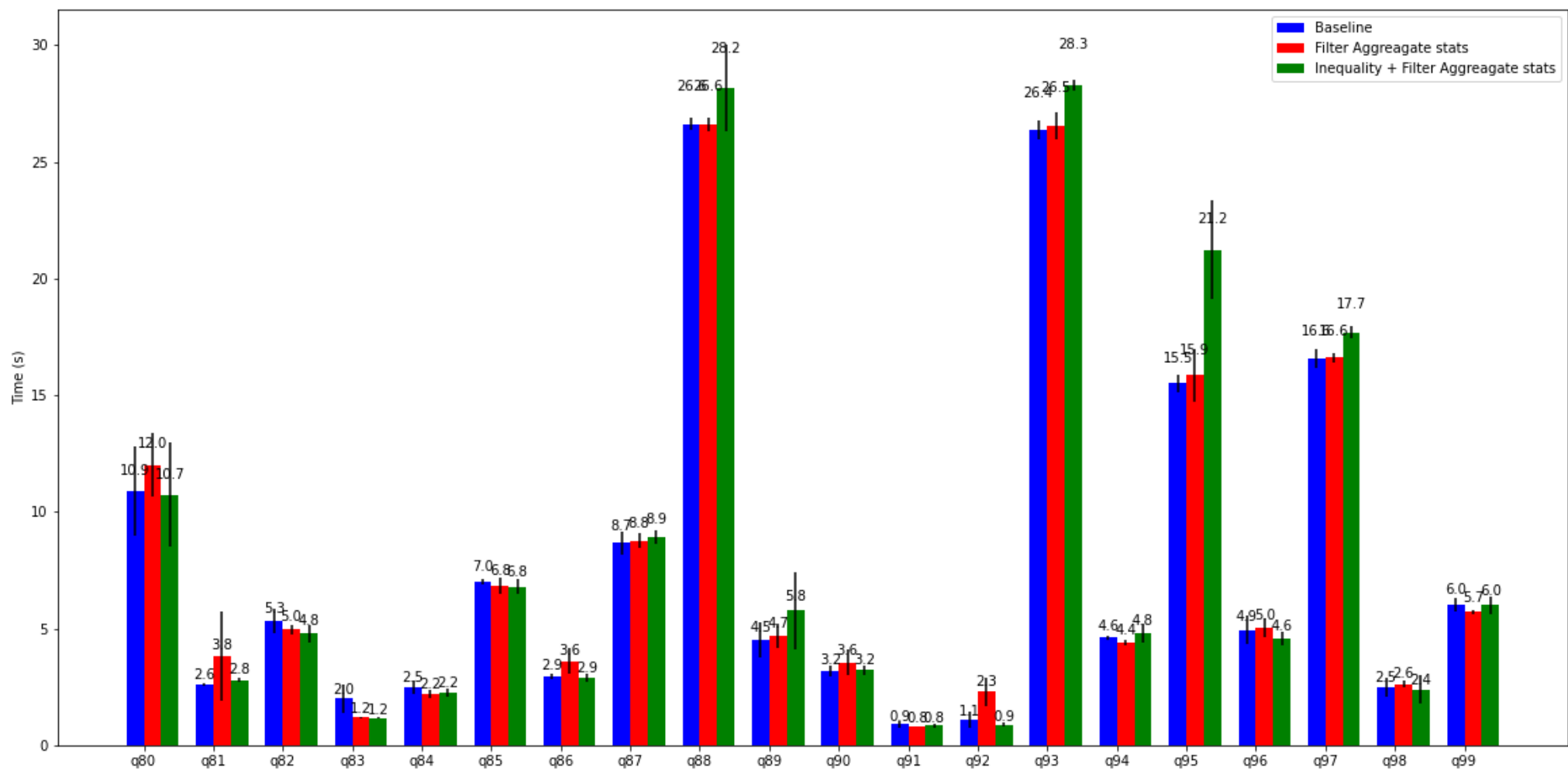


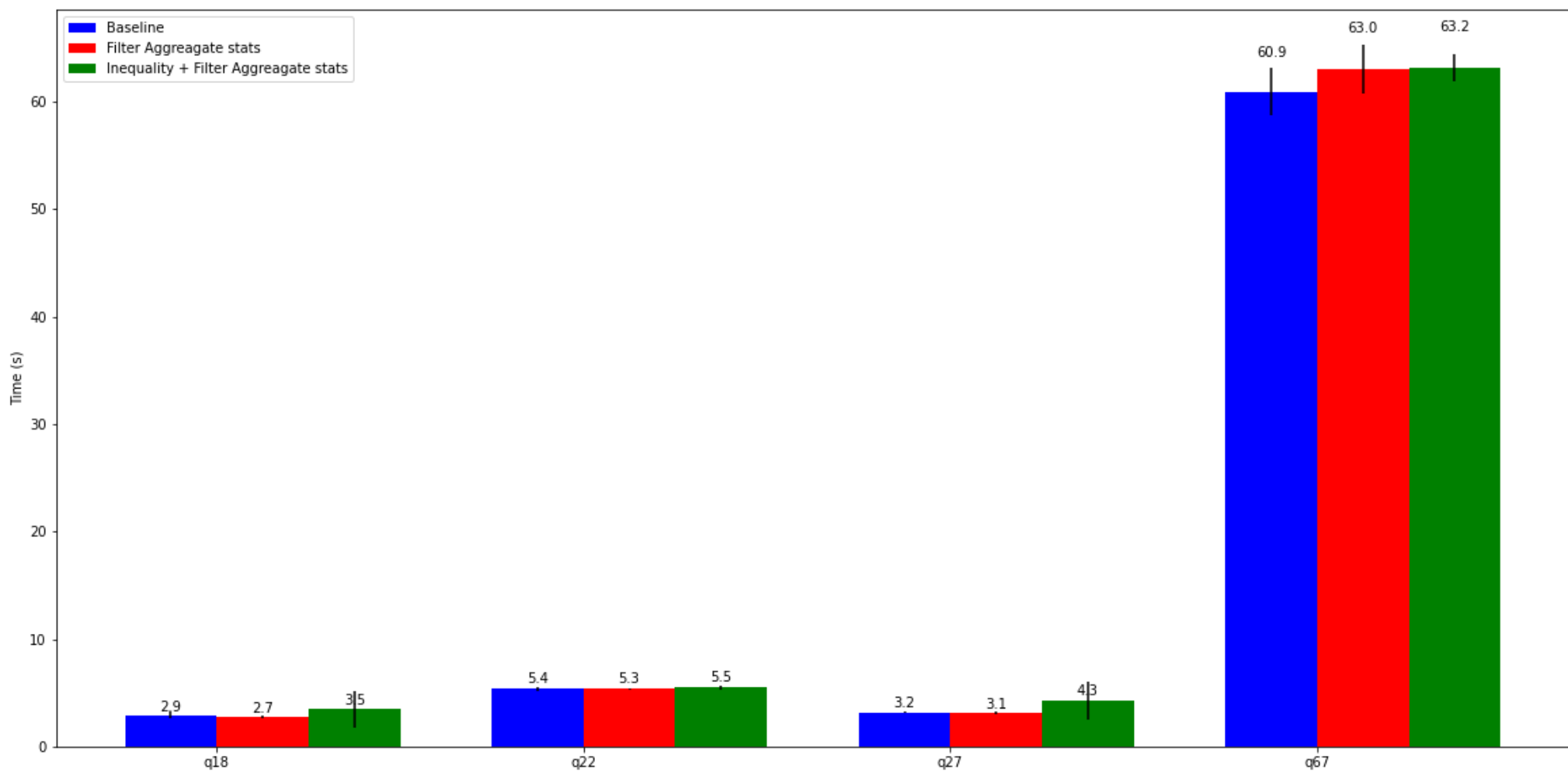












	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
0	presto/tpcds: q01	2.885333	0.080882	2.921167	0.066946	2.990000	0.143931
1	presto/tpcds: q02	17.604833	0.141504	17.827667	0.117004	18.345667	0.725818
2	presto/tpcds: q03	2.290333	0.415781	1.940667	0.053679	1.974167	0.486312
3	presto/tpcds: q04	36.045167	0.679837	36.335833	0.259668	37.671167	0.625673
4	presto/tpcds: q05	7.037167	0.365149	7.393667	0.353919	9.507500	1.823929

	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
5	presto/tpcds:q06	2.566667	0.243815	2.503000	0.150572	2.452833	0.183084
6	presto/tpcds:q07	3.928500	0.239453	4.095333	0.215013	4.854000	1.992274
7	presto/tpcds:q08	5.925167	0.111661	5.799000	0.350536	5.664667	0.106959
8	presto/tpcds:q09	24.873167	0.452752	25.443333	0.569370	25.971000	1.706782
9	presto/tpcds:q10	1.964167	0.242133	1.630000	0.200275	2.007333	0.295300
10	presto/tpcds:q11	20.050333	0.267223	20.212167	0.313392	20.434667	0.127246
11	presto/tpcds:q12	0.529833	0.017244	0.537333	0.028696	0.514333	0.028409
12	presto/tpcds:q13	5.490167	0.274421	5.504500	0.079641	5.580333	0.103413
13	presto/tpcds:q14	94.604167	0.947797	92.610500	0.359088	92.584167	1.197282
14	presto/tpcds:q15	1.912833	0.077603	1.948500	0.112205	2.048167	0.637224
15	presto/tpcds:q16	9.524833	2.383099	8.180000	0.300370	10.563333	1.873600
16	presto/tpcds:q17	5.621667	0.508524	5.732167	0.493321	5.420833	0.210431
17	presto/tpcds:q18	2.907833	0.293914	2.720333	0.093532	3.485667	1.706779
18	presto/tpcds:q19	3.577000	0.167244	3.419500	0.323355	3.118167	0.093011
19	presto/tpcds:q20	1.543167	0.456817	1.733500	0.216171	1.650667	0.038970
20	presto/tpcds:q21	1.765833	0.038071	1.725333	0.069128	1.703833	0.037680
21	presto/tpcds:q22	5.376333	0.177017	5.340500	0.068757	5.479167	0.179953

	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
22	presto/tpcds: q23	79.851167	0.261416	80.476500	0.634413	84.131833	0.802818
23	presto/tpcds: q24	24.354667	0.290134	24.716833	0.579944	25.171500	0.598498
24	presto/tpcds: q25	4.235667	0.086273	4.288167	0.257018	6.178167	2.923477
25	presto/tpcds: q26	2.251167	0.147096	2.211167	0.298354	2.384667	0.165710
26	presto/tpcds: q27	3.189667	0.115398	3.143667	0.120818	4.273167	1.716688
27	presto/tpcds: q28	21.776167	0.180710	22.074667	0.350559	22.600000	0.463195
28	presto/tpcds: q29	6.300167	0.317892	6.312500	0.231439	6.972000	1.872644
29	presto/tpcds: q30	1.701500	0.099605	1.734333	0.068372	1.827000	0.072754
30	presto/tpcds: q31	4.875833	0.274211	5.099833	0.481910	5.694167	1.278524
31	presto/tpcds: q32	1.761667	0.477650	1.364000	0.284632	1.849167	0.020094
32	presto/tpcds: q33	2.785500	0.157770	2.866167	0.450922	2.919833	0.392768
33	presto/tpcds: q34	3.267167	0.175391	3.260000	0.095900	3.271500	0.051586
34	presto/tpcds: q35	3.115000	0.193278	3.041500	0.316172	3.183667	0.368081
35	presto/tpcds: q36	2.881500	0.329072	2.731833	0.123849	5.640833	1.891535
36	presto/tpcds: q37	2.702500	0.160263	2.646333	0.126645	2.558500	0.086016
37	presto/tpcds: q38	8.846667	0.374846	8.749000	0.150473	8.618667	0.265972
38	presto/tpcds: q39	4.898000	0.104470	4.887667	0.057486	4.830000	0.028712

	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
39	presto/tpcds:q40	5.021000	0.197949	5.217333	0.325808	5.791667	0.364018
40	presto/tpcds:q41	0.304667	0.007737	0.296167	0.014552	0.315500	0.035030
41	presto/tpcds:q42	2.099167	0.037274	2.130667	0.038046	2.160500	0.182814
42	presto/tpcds:q43	4.693167	0.298319	4.510333	0.469148	4.587833	0.391597
43	presto/tpcds:q44	12.290833	0.553212	12.017833	0.266102	12.509000	0.237245
44	presto/tpcds:q45	1.442500	0.180972	1.344000	0.348719	1.189833	0.071879
45	presto/tpcds:q46	3.936333	0.221072	3.969500	0.120113	3.925333	0.118023
46	presto/tpcds:q47	34.362333	0.876487	35.060000	0.924924	35.748833	0.475878
47	presto/tpcds:q48	5.003333	0.581207	5.343000	0.449794	5.788000	0.872879
48	presto/tpcds:q49	7.092000	0.846935	6.677833	0.780676	6.600333	0.176222
49	presto/tpcds:q50	7.433833	0.508114	7.481667	0.386090	9.108000	2.181509
50	presto/tpcds:q51	7.920667	0.317639	8.158833	0.244654	8.276667	0.399002
51	presto/tpcds:q52	2.168833	0.033949	2.136000	0.077263	1.957000	0.399105
52	presto/tpcds:q53	2.963333	0.388460	2.945167	0.545947	4.187667	1.436327
53	presto/tpcds:q54	8.998000	0.940781	8.482000	1.031788	9.266667	1.800035
54	presto/tpcds:q55	2.185500	0.039672	2.123833	0.033379	2.114167	0.040598
55	presto/tpcds:q56	2.400833	0.687242	2.389833	0.522768	2.006000	0.421849

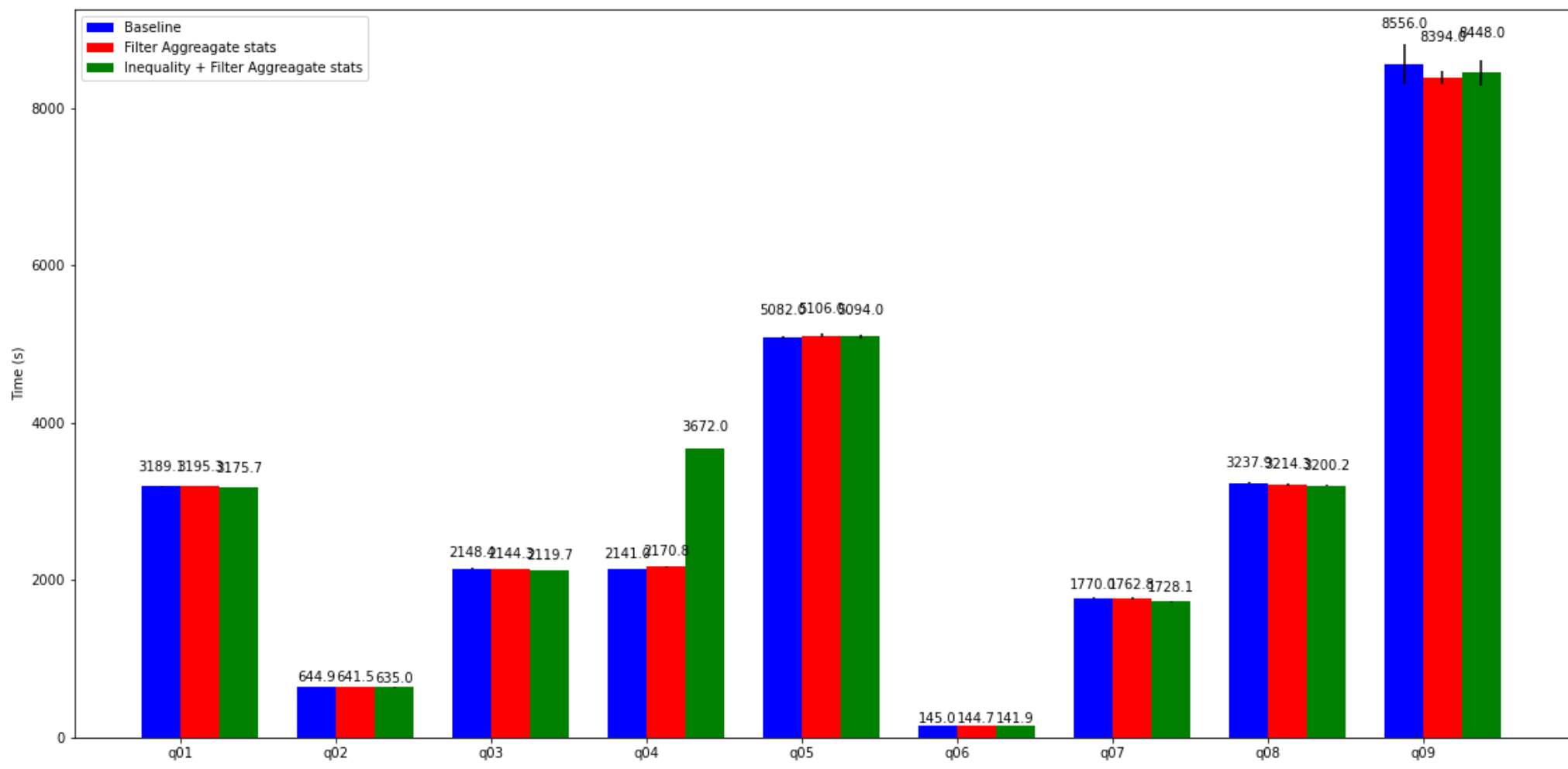
	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
56	presto/tpcds: q57	18.653667	0.518287	18.509833	0.528171	18.720333	0.702952
57	presto/tpcds: q58	7.865333	0.428275	8.105667	0.466911	8.127500	0.311094
58	presto/tpcds: q59	24.246500	0.102886	24.722667	0.267709	25.269167	0.718109
59	presto/tpcds: q60	3.737667	0.428162	3.559333	0.217489	4.401333	2.062507
60	presto/tpcds: q61	4.573500	0.739660	4.142833	0.346915	4.665667	1.907216
61	presto/tpcds: q62	3.563667	0.217011	3.431500	0.247904	4.269000	1.436477
62	presto/tpcds: q63	2.747333	0.420086	2.722333	0.172355	3.353500	1.352902
63	presto/tpcds: q64	58.759833	0.935230	81.174667	4.969141	88.146333	2.592697
64	presto/tpcds: q65	13.227500	0.633706	14.414333	0.979482	14.545833	0.816712
65	presto/tpcds: q66	3.480500	0.166813	3.544500	0.168920	3.805833	0.355197
66	presto/tpcds: q67	60.921333	2.218291	63.012667	2.293698	63.157333	1.290091
67	presto/tpcds: q68	4.228500	0.158005	4.296667	0.260032	4.112500	0.106393
68	presto/tpcds: q69	1.525500	0.458902	1.480667	0.341687	1.579500	0.545097
69	presto/tpcds: q70	12.238000	0.492506	12.183333	0.441118	12.009167	0.983389
70	presto/tpcds: q71	3.305167	0.605363	3.196000	0.557281	3.709333	0.674629
71	presto/tpcds: q72	24.790667	0.572266	25.117000	0.535691	25.653667	0.470755
72	presto/tpcds: q73	3.088667	0.161536	3.098500	0.168595	3.266167	0.332221

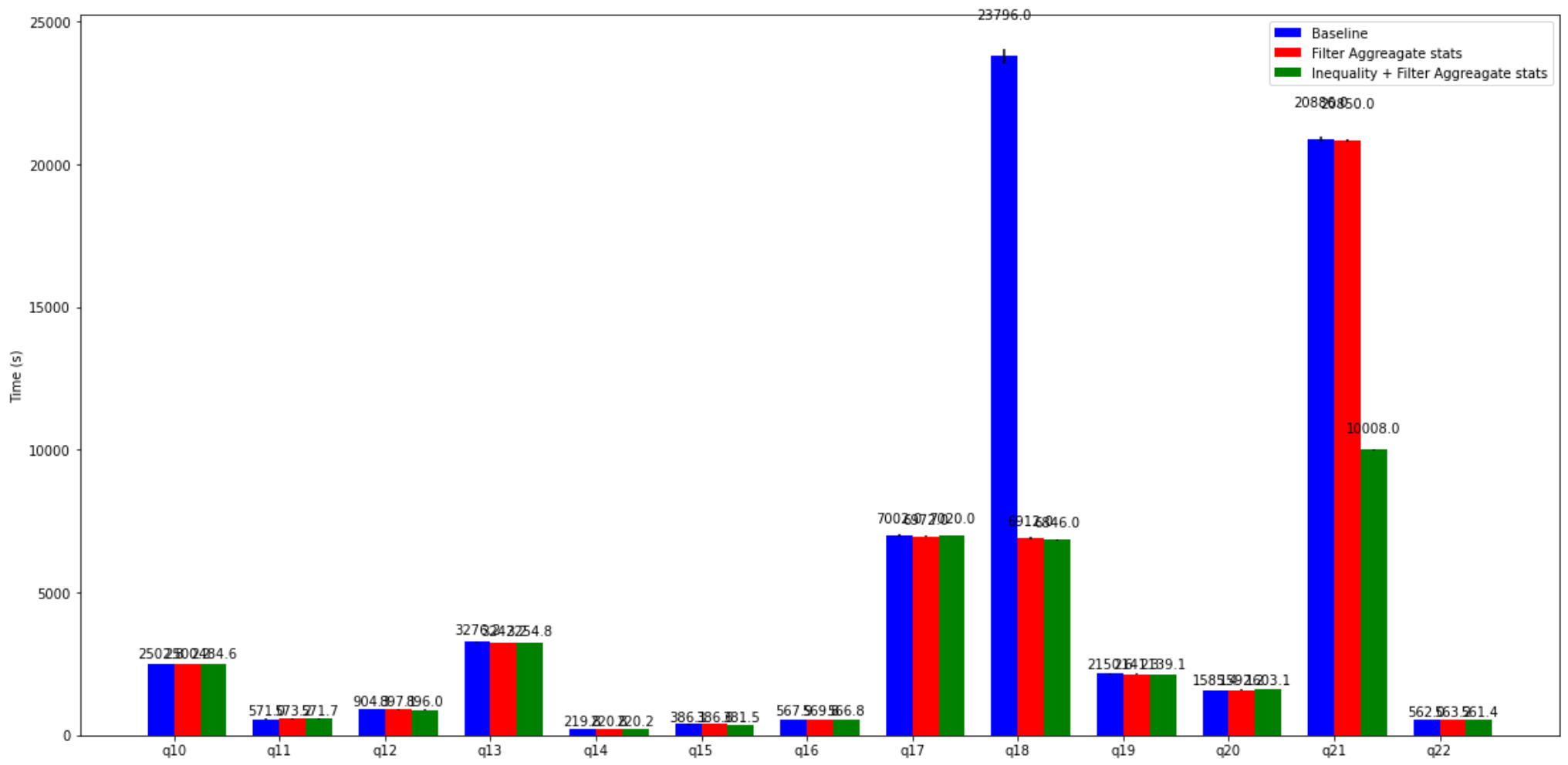
	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
73	presto/tpcds:q74	14.171500	0.184278	14.302667	0.231289	15.141000	1.427927
74	presto/tpcds:q75	25.170500	0.297854	25.506833	0.416528	26.715500	1.853005
75	presto/tpcds:q76	7.717667	0.556015	7.661833	0.226249	7.260000	0.306620
76	presto/tpcds:q77	2.634167	0.200443	2.739833	0.616566	2.634333	0.090822
77	presto/tpcds:q78	34.232167	1.366075	33.337000	1.484492	37.902333	1.108517
78	presto/tpcds:q79	3.936000	0.267191	3.853667	0.216247	3.842500	0.204992
79	presto/tpcds:q80	10.897167	1.932050	12.011333	1.381845	10.732167	2.228427
80	presto/tpcds:q81	2.606167	0.069657	3.813500	1.917011	2.784000	0.079370
81	presto/tpcds:q82	5.315333	0.510965	4.956833	0.193628	4.778167	0.394852
82	presto/tpcds:q83	1.995500	0.628380	1.188167	0.042649	1.154500	0.023688
83	presto/tpcds:q84	2.482500	0.316385	2.194167	0.168668	2.236167	0.162763
84	presto/tpcds:q85	7.016000	0.131604	6.835667	0.329126	6.776500	0.315099
85	presto/tpcds:q86	2.948000	0.131354	3.588500	0.546265	2.868167	0.164180
86	presto/tpcds:q87	8.673167	0.481422	8.766000	0.301985	8.906833	0.289628
87	presto/tpcds:q88	26.622167	0.257527	26.586333	0.284287	28.175333	1.840803
88	presto/tpcds:q89	4.513833	0.736972	4.707833	0.525756	5.760167	1.646058
89	presto/tpcds:q90	3.178333	0.258962	3.551000	0.551207	3.215833	0.194949

	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
90	presto/tpcds: q91	0.893833	0.159952	0.801167	0.010265	0.834833	0.083370
91	presto/tpcds: q92	1.104333	0.347053	2.289500	0.601419	0.881833	0.077536
92	presto/tpcds: q93	26.354667	0.409415	26.538000	0.570579	28.292500	0.239442
93	presto/tpcds: q94	4.599333	0.098026	4.392167	0.137264	4.788833	0.399683
94	presto/tpcds: q95	15.508667	0.360450	15.863000	1.128528	21.218667	2.108025
95	presto/tpcds: q96	4.943167	0.600721	5.028333	0.430137	4.567000	0.292853
96	presto/tpcds: q97	16.589667	0.406892	16.607500	0.221710	17.693333	0.246132
97	presto/tpcds: q98	2.457333	0.401303	2.624000	0.124913	2.389167	0.592887
98	presto/tpcds: q99	6.044500	0.288629	5.711333	0.099877	6.003000	0.371481

## TPC-H Comparison (CPU)



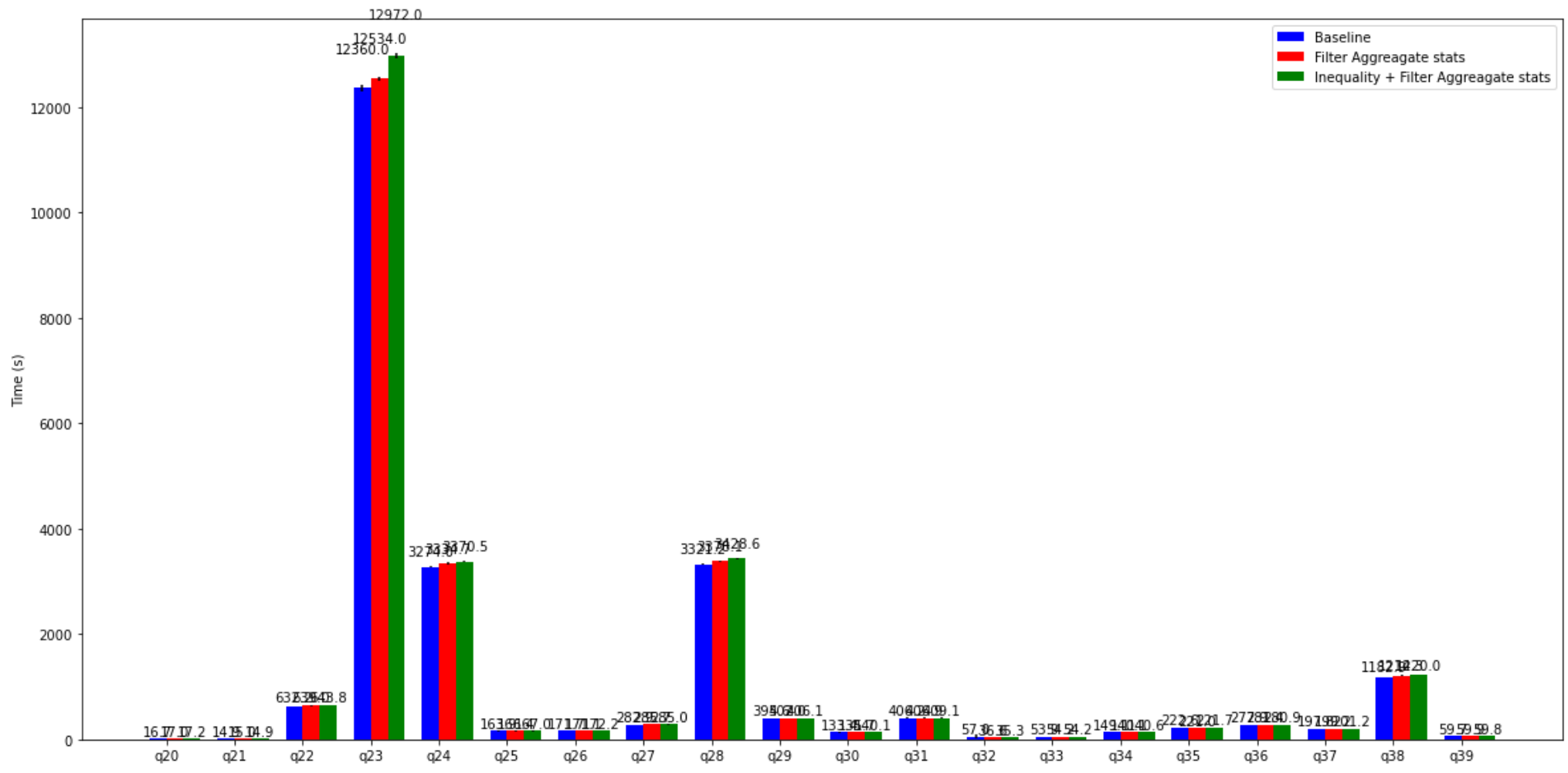


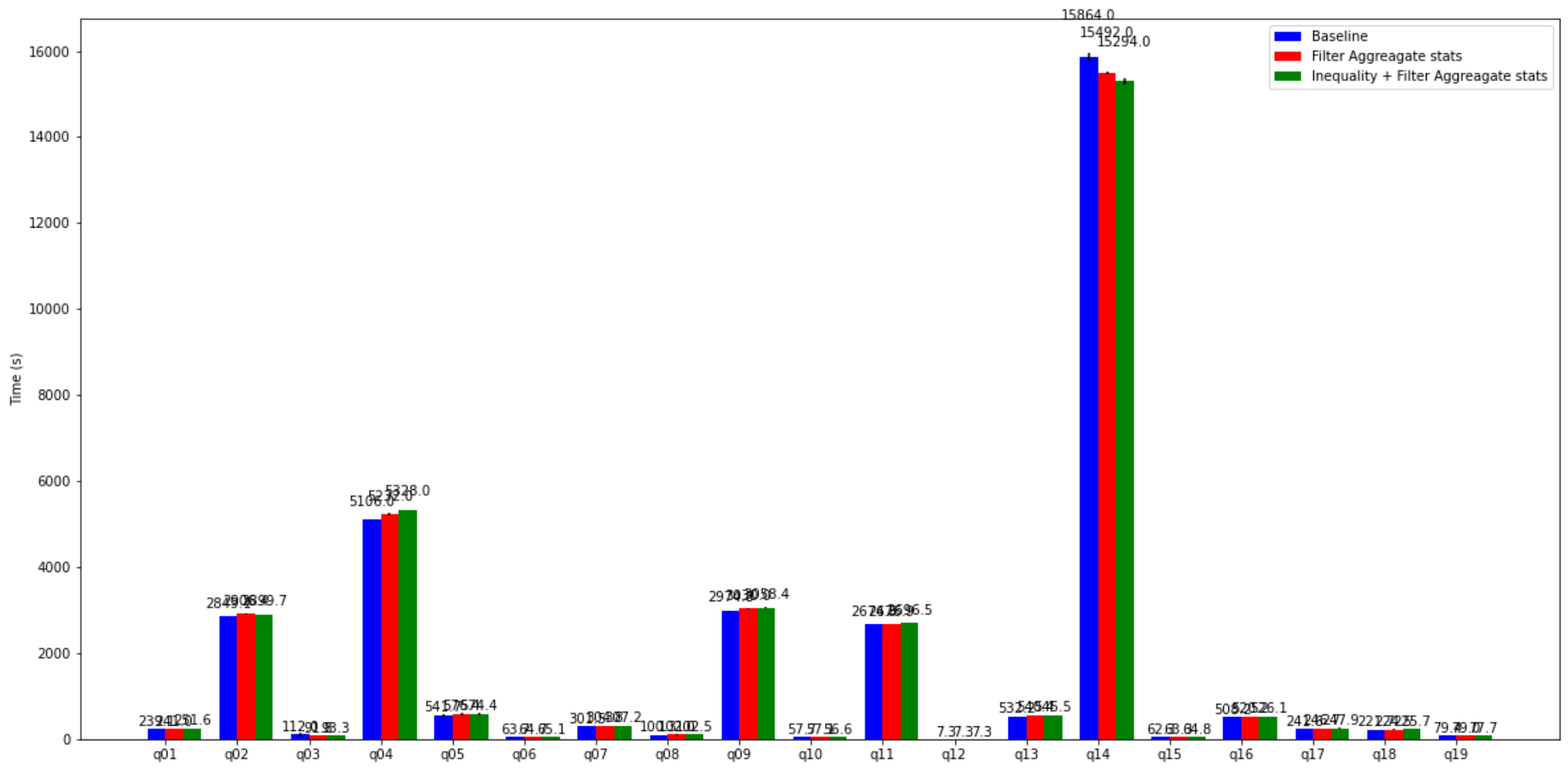


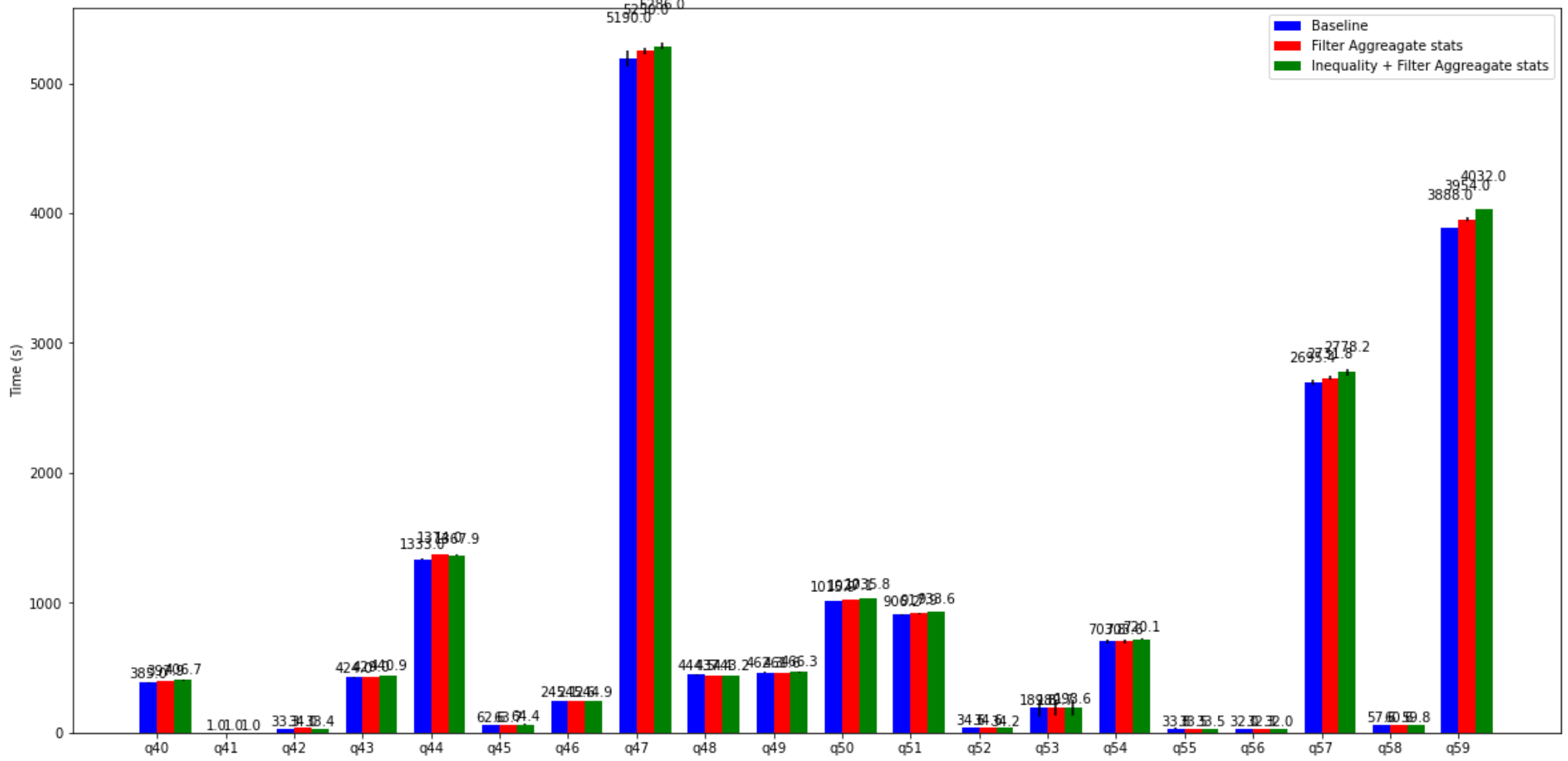
query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
0 presto/tpch: q01	3189.1	6.040861	3195.3	3.574913	3175.7	2.382436
1 presto/tpch: q02	644.9	4.791242	641.5	1.672124	635.0	1.549193
2 presto/tpch: q03	2148.4	3.863677	2144.3	2.382436	2119.7	2.585343
3 presto/tpch: q04	2141.0	6.590903	2170.8	5.244426	3672.0	0.000000
4 presto/tpch: q05	5082.0	14.696938	5106.0	27.099815	5094.0	19.718012

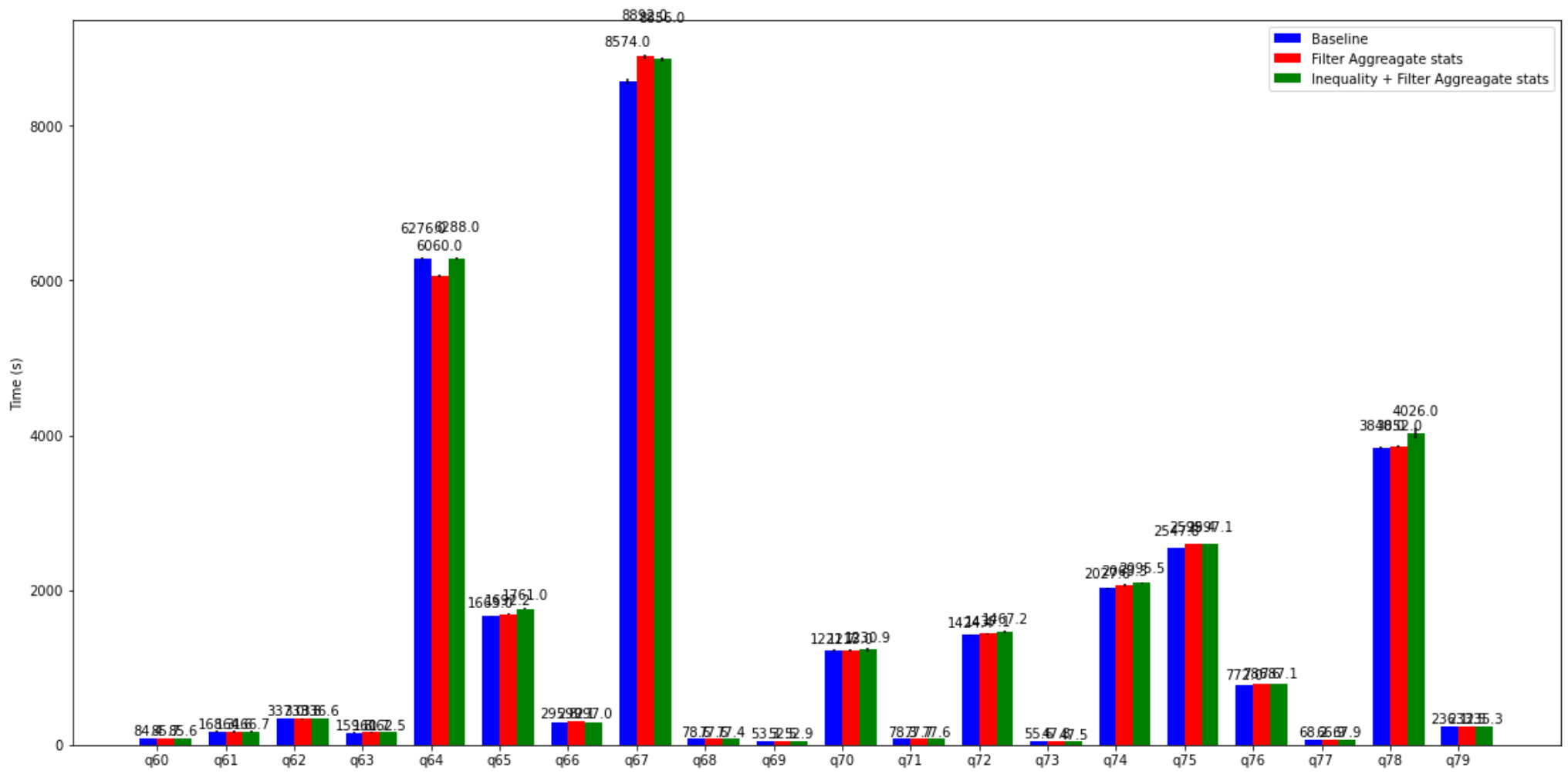
	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
5	presto/tpch:q06	145.0	0.309839	144.7	0.244949	141.9	0.328634
6	presto/tpch:q07	1770.0	11.547467	1762.8	14.843180	1728.1	5.747695
7	presto/tpch:q08	3237.9	11.029234	3214.3	12.455842	3200.2	9.049199
8	presto/tpch:q09	8556.0	255.236361	8394.0	86.449986	8448.0	166.795683
9	presto/tpch:q10	2502.8	7.956884	2500.2	8.058784	2484.6	6.819971
10	presto/tpch:q11	571.0	2.101428	573.2	2.101428	571.7	3.069202
11	presto/tpch:q12	904.3	3.859015	897.1	2.258318	896.0	1.995996
12	presto/tpch:q13	3276.2	18.896349	3242.2	7.364781	3254.8	4.321111
13	presto/tpch:q14	219.8	1.453272	220.8	2.545584	220.2	1.819890
14	presto/tpch:q15	386.1	1.769746	386.6	0.726636	381.5	0.589915
15	presto/tpch:q16	567.9	2.138224	569.8	1.296148	566.8	0.619677
16	presto/tpch:q17	7002.0	37.757119	6972.0	18.590320	7020.0	0.000000
17	presto/tpch:q18	23796.0	244.163879	6912.0	39.436024	6846.0	27.099815
18	presto/tpch:q19	2150.6	5.813089	2141.3	11.033585	2139.1	7.143948
19	presto/tpch:q20	1585.4	5.947773	1592.2	3.633180	1603.1	6.866440
20	presto/tpch:q21	20886.0	105.367927	20850.0	47.849765	10008.0	32.199379
21	presto/tpch:q22	562.0	2.753906	563.2	1.549193	561.4	2.779928

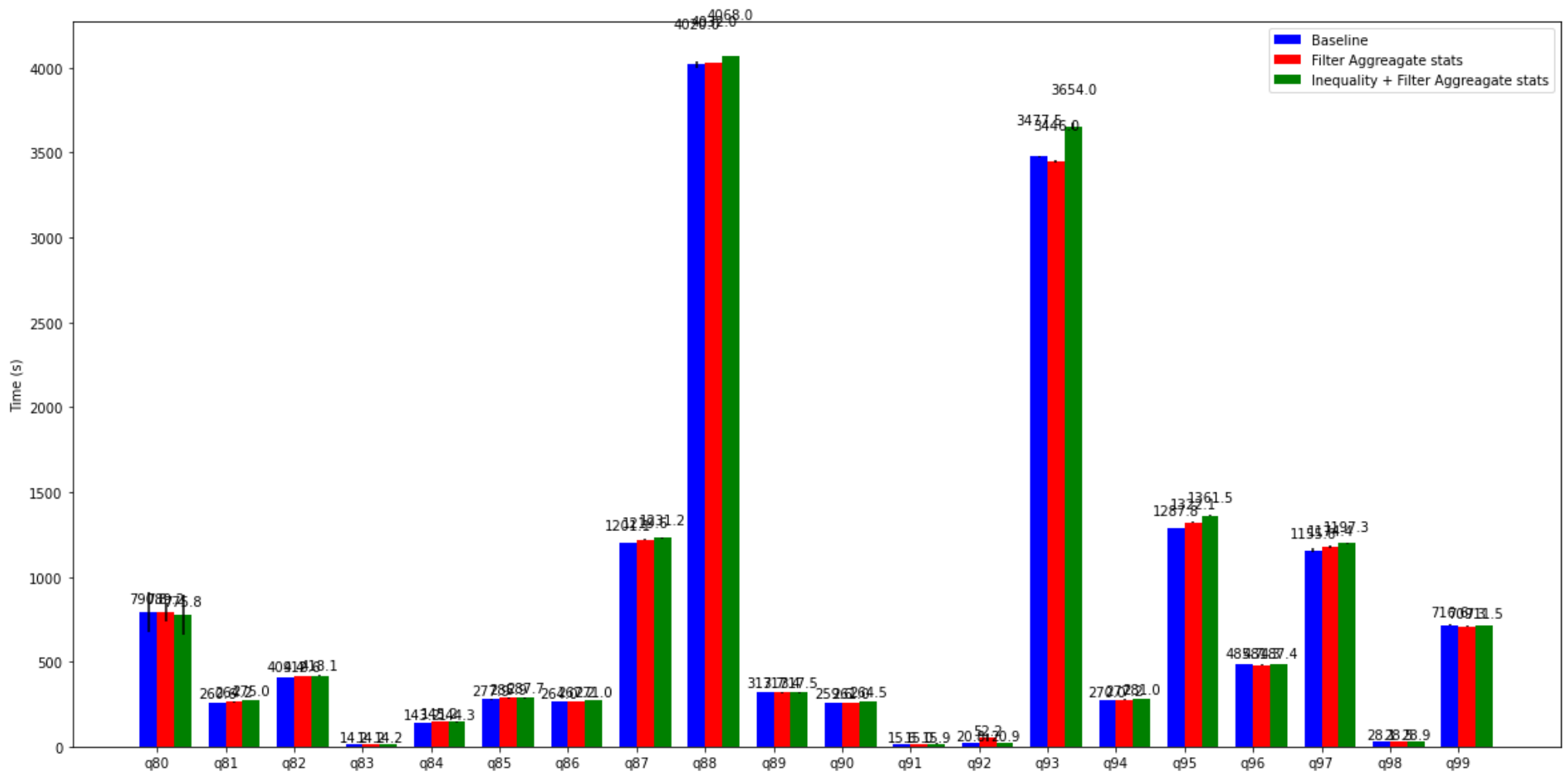
# TPC-DS Comparison (CPU)



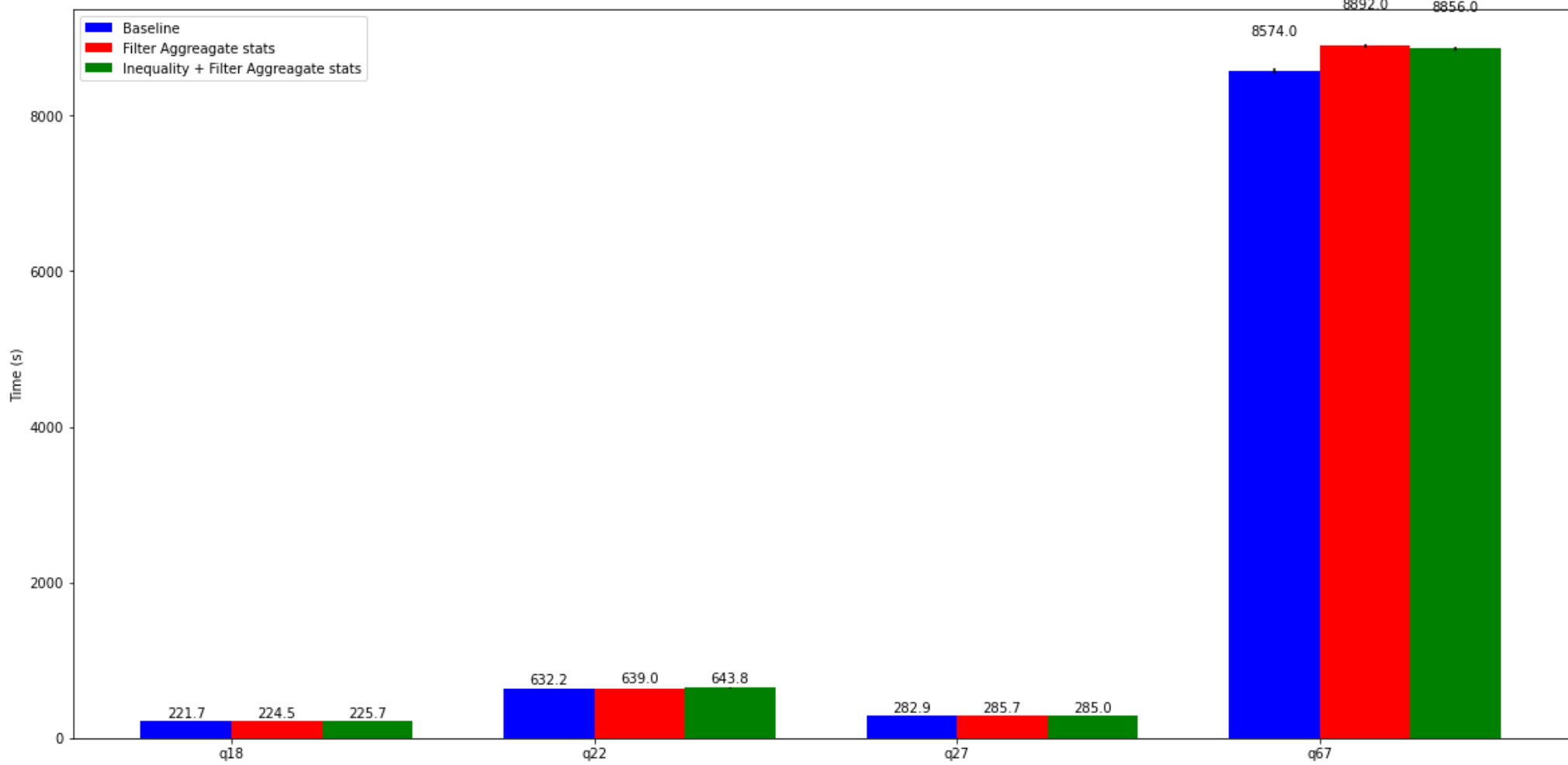












	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
0	presto/tpcds: q01	239.100000	3.191865	241.000000	2.619924	251.600000	2.856571
1	presto/tpcds: q02	2849.100000	2.756084	2906.400000	3.106123	2899.700000	1.672124
2	presto/tpcds: q03	112.000000	51.243887	91.800000	0.000000	93.300000	0.734847
3	presto/tpcds: q04	5106.000000	14.696938	5232.000000	18.590320	5328.000000	0.000000
4	presto/tpcds: q05	541.700000	35.021536	576.400000	31.922406	574.400000	27.742242

	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
5	presto/tpcds:q06	63.700000	0.451664	64.700000	0.701427	65.100000	0.501996
6	presto/tpcds:q07	301.500000	1.056409	304.800000	0.657267	307.200000	1.073313
7	presto/tpcds:q08	100.300000	0.244949	102.000000	0.379473	102.500000	0.451664
8	presto/tpcds:q09	2974.800000	10.672582	3030.000000	13.507331	3058.400000	9.484303
9	presto/tpcds:q10	57.680000	0.264877	57.113333	0.467789	56.583333	0.360148
10	presto/tpcds:q11	2674.500000	3.146427	2676.900000	2.362202	2696.500000	2.773446
11	presto/tpcds:q12	7.305000	0.039370	7.291667	0.047924	7.318333	0.048751
12	presto/tpcds:q13	532.200000	0.536656	540.400000	1.402854	545.500000	1.986957
13	presto/tpcds:q14	15864.000000	87.196330	15492.000000	18.590320	15294.000000	80.229670
14	presto/tpcds:q15	62.300000	0.451664	63.300000	0.328634	64.800000	0.536656
15	presto/tpcds:q16	508.200000	2.308246	520.200000	0.758947	526.100000	2.529031
16	presto/tpcds:q17	241.600000	6.558048	246.700000	6.522270	247.900000	8.124777
17	presto/tpcds:q18	221.700000	1.184905	224.500000	1.389964	225.700000	0.589915
18	presto/tpcds:q19	79.400000	5.170687	79.000000	2.619924	77.700000	1.505988
19	presto/tpcds:q20	16.740000	0.219180	16.998333	0.204687	17.190000	0.155306
20	presto/tpcds:q21	14.890000	0.241247	15.035000	0.183712	14.885000	0.227574
21	presto/tpcds:q22	632.200000	2.727636	639.000000	2.788548	643.800000	2.400000

	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
22	presto/tpcds: q23	12360.000000	58.787754	12534.000000	27.099815	12972.000000	49.185364
23	presto/tpcds: q24	3274.000000	14.802702	3334.700000	25.428724	3370.500000	13.863766
24	presto/tpcds: q25	163.900000	10.842693	166.400000	10.744301	167.000000	10.683820
25	presto/tpcds: q26	171.700000	0.701427	171.100000	0.701427	172.200000	0.536656
26	presto/tpcds: q27	282.900000	1.056409	285.700000	0.701427	285.000000	1.697056
27	presto/tpcds: q28	3321.200000	10.923736	3378.100000	5.883876	3428.600000	15.649153
28	presto/tpcds: q29	395.600000	0.309839	402.000000	0.929516	406.100000	0.589915
29	presto/tpcds: q30	133.400000	0.309839	135.700000	1.282186	140.100000	2.362202
30	presto/tpcds: q31	406.200000	9.162532	406.900000	3.295451	409.100000	5.735155
31	presto/tpcds: q32	57.045000	33.665418	36.593333	1.831498	35.280000	0.265707
32	presto/tpcds: q33	53.888333	0.197729	54.240000	0.160997	54.220000	0.123774
33	presto/tpcds: q34	149.100000	0.501996	140.100000	0.328634	140.600000	0.309839
34	presto/tpcds: q35	222.600000	1.314534	221.000000	1.549193	221.700000	1.769746
35	presto/tpcds: q36	277.900000	0.451664	281.400000	0.536656	280.900000	0.451664
36	presto/tpcds: q37	197.800000	0.726636	199.200000	0.379473	201.200000	0.489898
37	presto/tpcds: q38	1182.900000	6.044833	1214.300000	4.761092	1220.000000	2.955673
38	presto/tpcds: q39	59.711667	0.532369	59.873333	0.217133	59.840000	0.396131

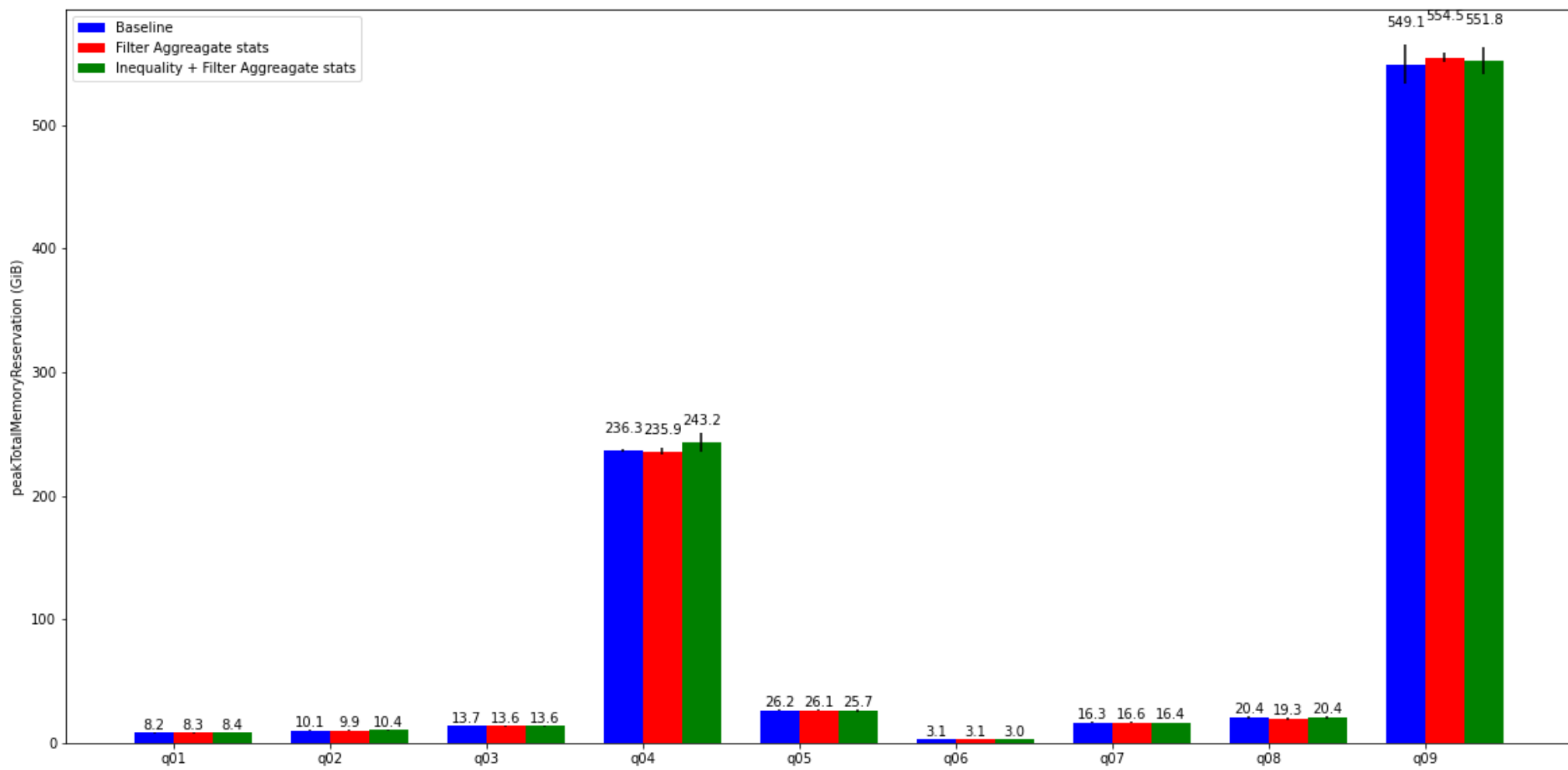
	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
39	presto/tpcds:q40	385.000000	4.824935	397.900000	2.092845	406.700000	6.544311
40	presto/tpcds:q41	1.015000	0.010488	1.040000	0.010954	1.013500	0.017085
41	presto/tpcds:q42	33.323333	0.166333	33.981667	0.093041	33.385000	0.072870
42	presto/tpcds:q43	424.000000	0.819756	429.000000	0.929516	440.900000	0.589915
43	presto/tpcds:q44	1333.000000	5.559856	1374.000000	2.459268	1367.900000	7.062861
44	presto/tpcds:q45	62.600000	0.619677	63.700000	0.451664	64.400000	0.309839
45	presto/tpcds:q46	245.100000	0.501996	245.600000	2.564371	244.900000	1.164474
46	presto/tpcds:q47	5190.000000	57.674951	5250.000000	27.099815	5286.000000	27.099815
47	presto/tpcds:q48	444.500000	0.451664	437.400000	1.517893	443.200000	0.489898
48	presto/tpcds:q49	462.300000	3.191865	461.600000	2.359661	466.300000	2.193627
49	presto/tpcds:q50	1015.900000	1.164474	1027.100000	1.033441	1035.800000	1.639512
50	presto/tpcds:q51	906.200000	2.101428	917.900000	2.557342	933.600000	2.788548
51	presto/tpcds:q52	34.555000	0.209261	34.591667	0.082077	34.213333	0.103859
52	presto/tpcds:q53	189.800000	64.865152	189.700000	60.797993	193.600000	63.630182
53	presto/tpcds:q54	703.800000	17.323279	703.600000	17.692032	720.100000	3.161645
54	presto/tpcds:q55	33.775000	0.117431	33.455000	0.070071	33.451667	0.078081
55	presto/tpcds:q56	32.045000	0.239896	32.283333	0.104817	32.046667	0.170020

	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
56	presto/tpcds:q57	2695.400000	17.516164	2731.800000	18.031972	2778.200000	25.480345
57	presto/tpcds:q58	57.571667	0.940626	60.605000	0.840089	59.838333	0.743893
58	presto/tpcds:q59	3888.000000	0.000000	3954.000000	14.696938	4032.000000	0.000000
59	presto/tpcds:q60	84.400000	0.489898	85.700000	0.451664	85.600000	0.903327
60	presto/tpcds:q61	168.300000	10.438965	164.600000	13.925516	166.700000	13.804782
61	presto/tpcds:q62	337.000000	2.359661	333.800000	1.846077	336.600000	2.078461
62	presto/tpcds:q63	159.800000	0.619677	160.700000	0.589915	162.500000	0.451664
63	presto/tpcds:q64	6276.000000	18.590320	6060.000000	18.590320	6288.000000	18.590320
64	presto/tpcds:q65	1663.000000	8.985321	1692.200000	11.152040	1761.000000	8.313844
65	presto/tpcds:q66	295.800000	0.536656	299.100000	0.501996	297.000000	0.657267
66	presto/tpcds:q67	8574.000000	35.394915	8892.000000	22.768399	8856.000000	22.768399
67	presto/tpcds:q68	78.600000	0.657267	77.600000	0.309839	77.400000	0.536656
68	presto/tpcds:q69	53.251667	0.506731	52.486667	0.721323	52.885000	0.407958
69	presto/tpcds:q70	1221.700000	13.893164	1213.000000	16.935171	1230.900000	26.797239
70	presto/tpcds:q71	78.300000	1.887856	77.700000	0.909945	77.600000	0.979796
71	presto/tpcds:q72	1424.400000	9.027957	1437.100000	8.035670	1467.200000	16.939421
72	presto/tpcds:q73	55.595000	0.206567	47.776667	0.062183	47.476667	0.051251

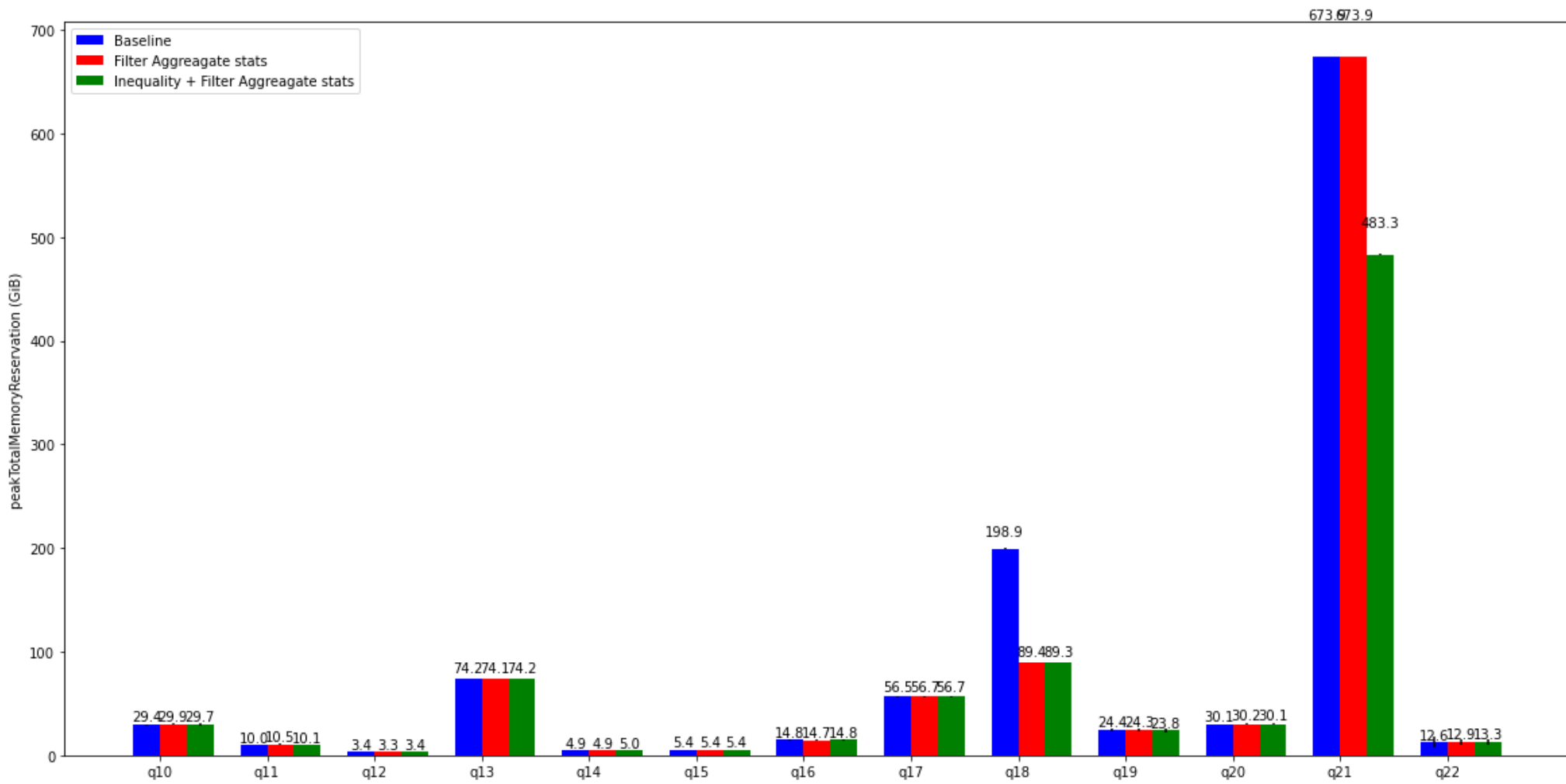
	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
73	presto/tpcds: q74	2027.600000	8.135847	2063.300000	10.688873	2095.500000	7.443386
74	presto/tpcds: q75	2547.800000	5.253570	2599.400000	5.775812	2597.100000	7.257272
75	presto/tpcds: q76	772.000000	5.415533	786.600000	5.147427	787.100000	2.352020
76	presto/tpcds: q77	68.200000	0.619677	66.900000	0.629285	67.900000	0.451664
77	presto/tpcds: q78	3840.000000	18.590320	3852.000000	22.768399	4026.000000	62.006451
78	presto/tpcds: q79	236.100000	0.827043	233.500000	0.701427	235.300000	0.797496
79	presto/tpcds: q80	790.800000	116.603328	789.200000	53.598060	775.800000	120.714871
80	presto/tpcds: q81	260.600000	0.903327	264.200000	2.779928	275.000000	1.179830
81	presto/tpcds: q82	409.400000	0.619677	412.600000	0.726636	418.100000	1.033441
82	presto/tpcds: q83	14.226667	0.649913	14.238333	0.485156	14.241667	0.539460
83	presto/tpcds: q84	143.200000	0.309839	145.200000	0.536656	144.300000	0.629285
84	presto/tpcds: q85	277.900000	4.560263	285.900000	6.425885	287.700000	3.258834
85	presto/tpcds: q86	264.000000	0.758947	267.200000	2.031748	271.000000	0.979796
86	presto/tpcds: q87	1201.100000	1.489966	1219.600000	1.594992	1231.200000	3.539491
87	presto/tpcds: q88	4020.000000	18.590320	4032.000000	0.000000	4068.000000	0.000000
88	presto/tpcds: q89	317.700000	0.827043	317.400000	0.758947	317.500000	1.282186
89	presto/tpcds: q90	259.600000	0.309839	261.000000	0.379473	264.500000	0.451664

	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
90	presto/tpcds: q91	15.608333	1.552165	14.963333	1.078864	15.853333	2.342884
91	presto/tpcds: q92	20.761667	0.250792	52.211667	24.158290	20.925000	0.256340
92	presto/tpcds: q93	3477.500000	2.640455	3446.000000	6.656125	3654.000000	19.718012
93	presto/tpcds: q94	270.000000	0.379473	277.200000	1.073313	281.000000	0.819756
94	presto/tpcds: q95	1287.800000	2.168871	1322.100000	3.451956	1361.500000	5.181120
95	presto/tpcds: q96	485.700000	0.629285	481.300000	0.451664	487.400000	0.726636
96	presto/tpcds: q97	1155.600000	11.167095	1174.400000	7.538700	1197.300000	4.987585
97	presto/tpcds: q98	28.141667	0.238614	28.485000	0.235690	28.866667	0.214818
98	presto/tpcds: q99	716.600000	0.979796	709.300000	1.389964	711.500000	0.961249

## TPC-H Comparison (Peak memory)



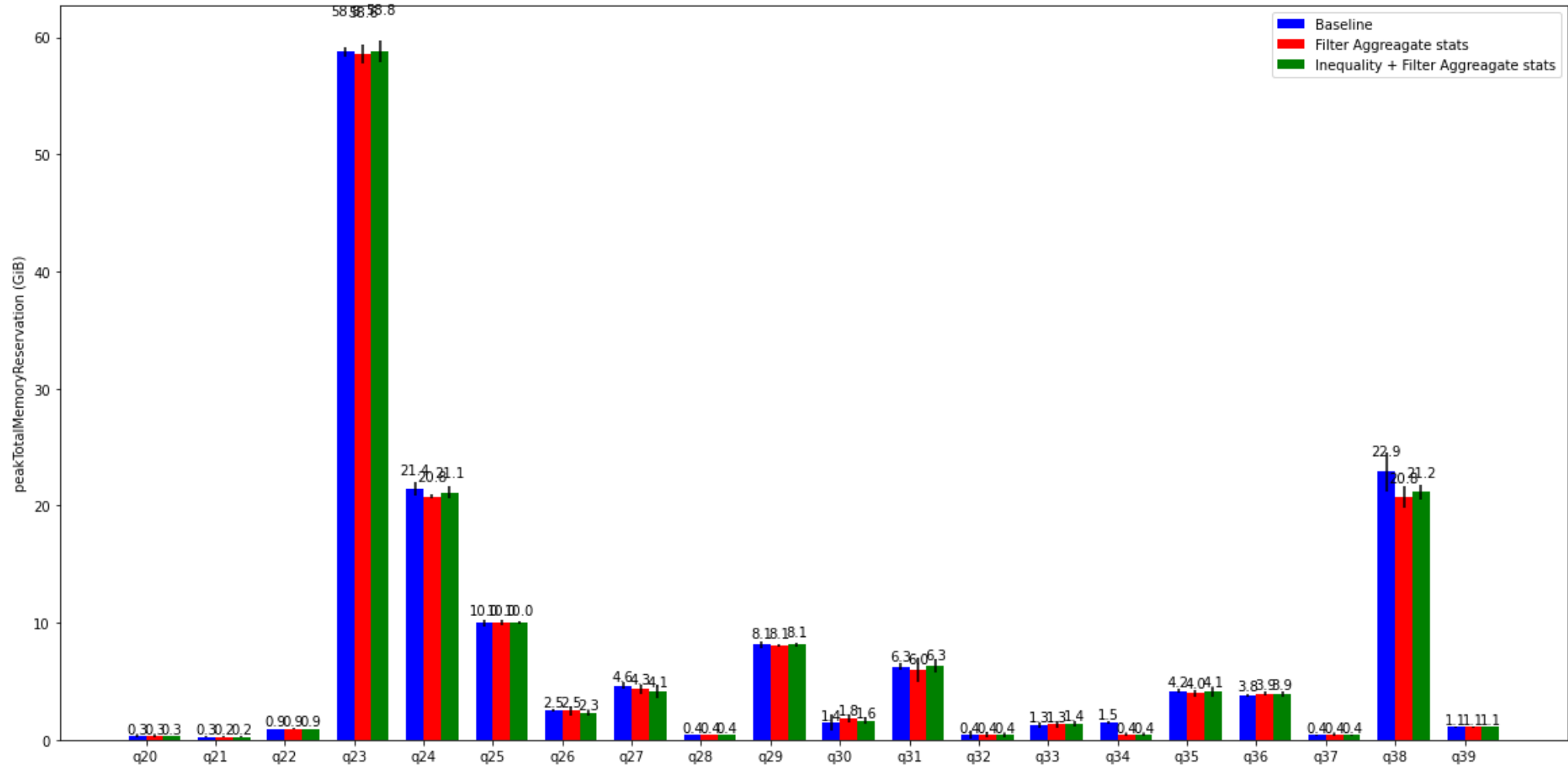


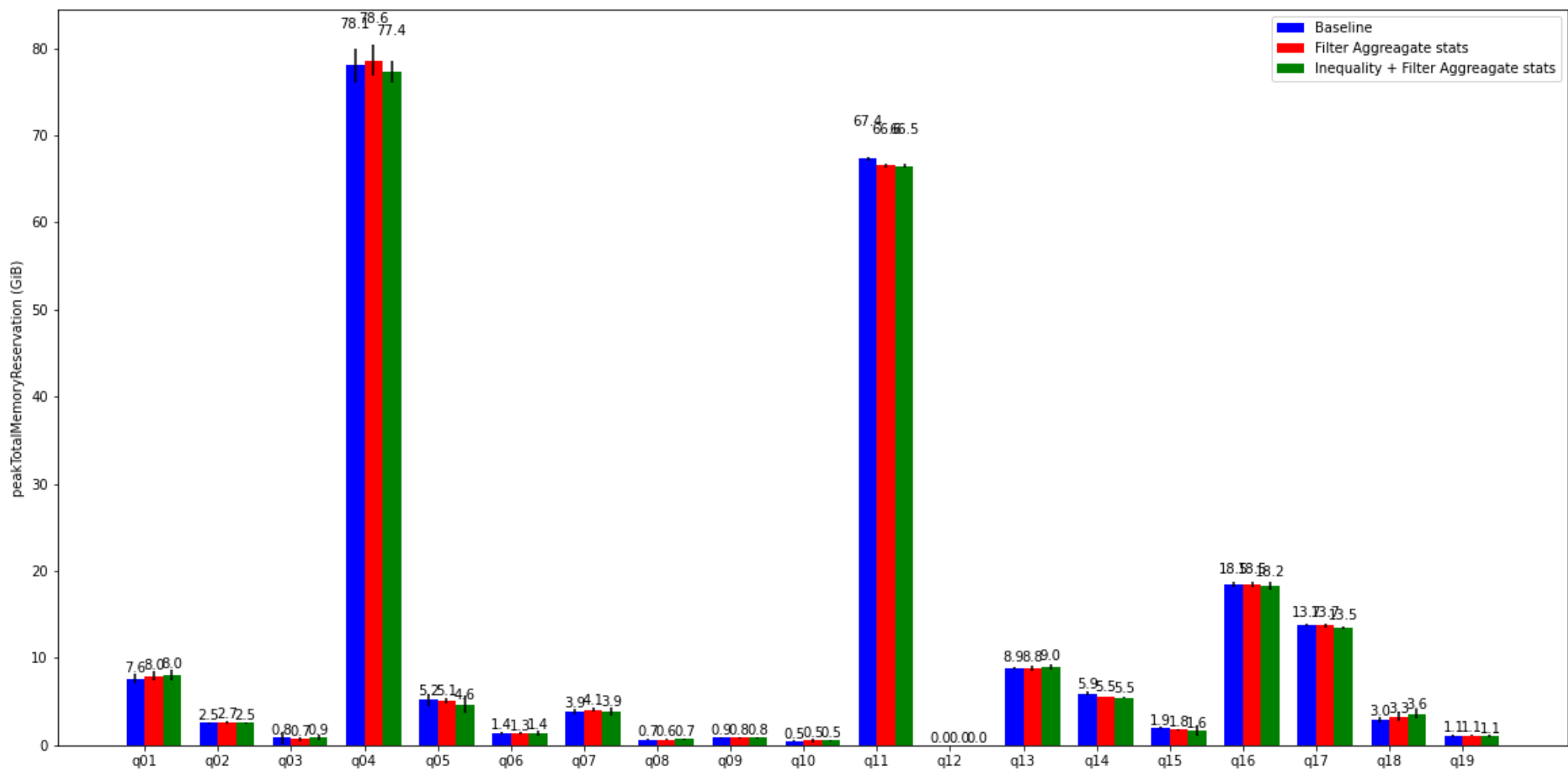


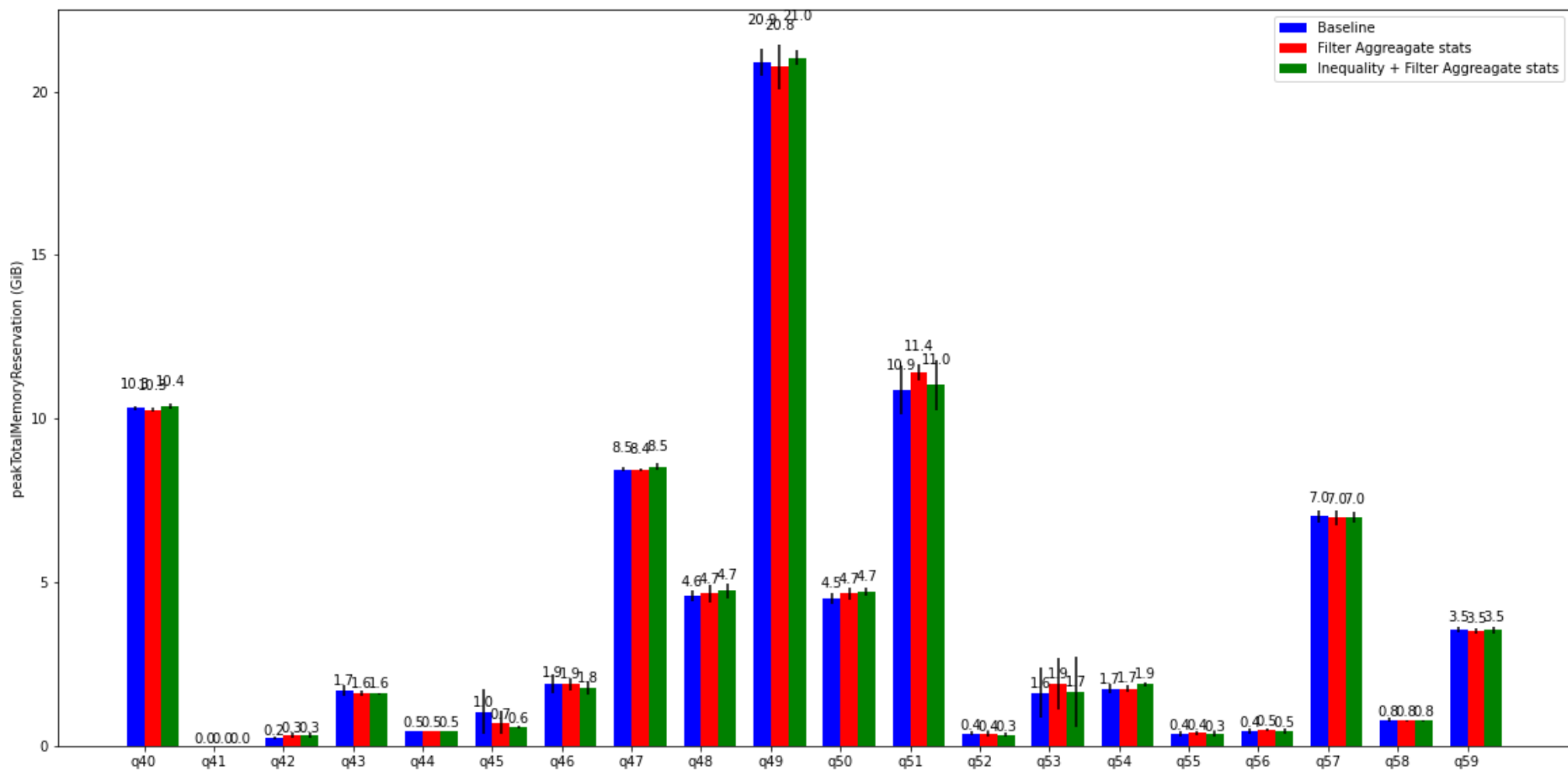
query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
0 presto/tpch: q01	8.249 GiB	506.304 MiB	8.309 GiB	497.874 MiB	8.438 GiB	266.282 MiB
1 presto/tpch: q02	10.105 GiB	435.733 MiB	9.867 GiB	331.084 MiB	10.430 GiB	743.819 MiB
2 presto/tpch: q03	13.693 GiB	138.082 MiB	13.584 GiB	250.115 MiB	13.619 GiB	281.430 MiB
3 presto/tpch: q04	236.327 GiB	1.039 GiB	235.922 GiB	3.078 GiB	243.210 GiB	7.427 GiB
4 presto/tpch: q05	26.237 GiB	658.417 MiB	26.142 GiB	537.809 MiB	25.716 GiB	824.707 MiB

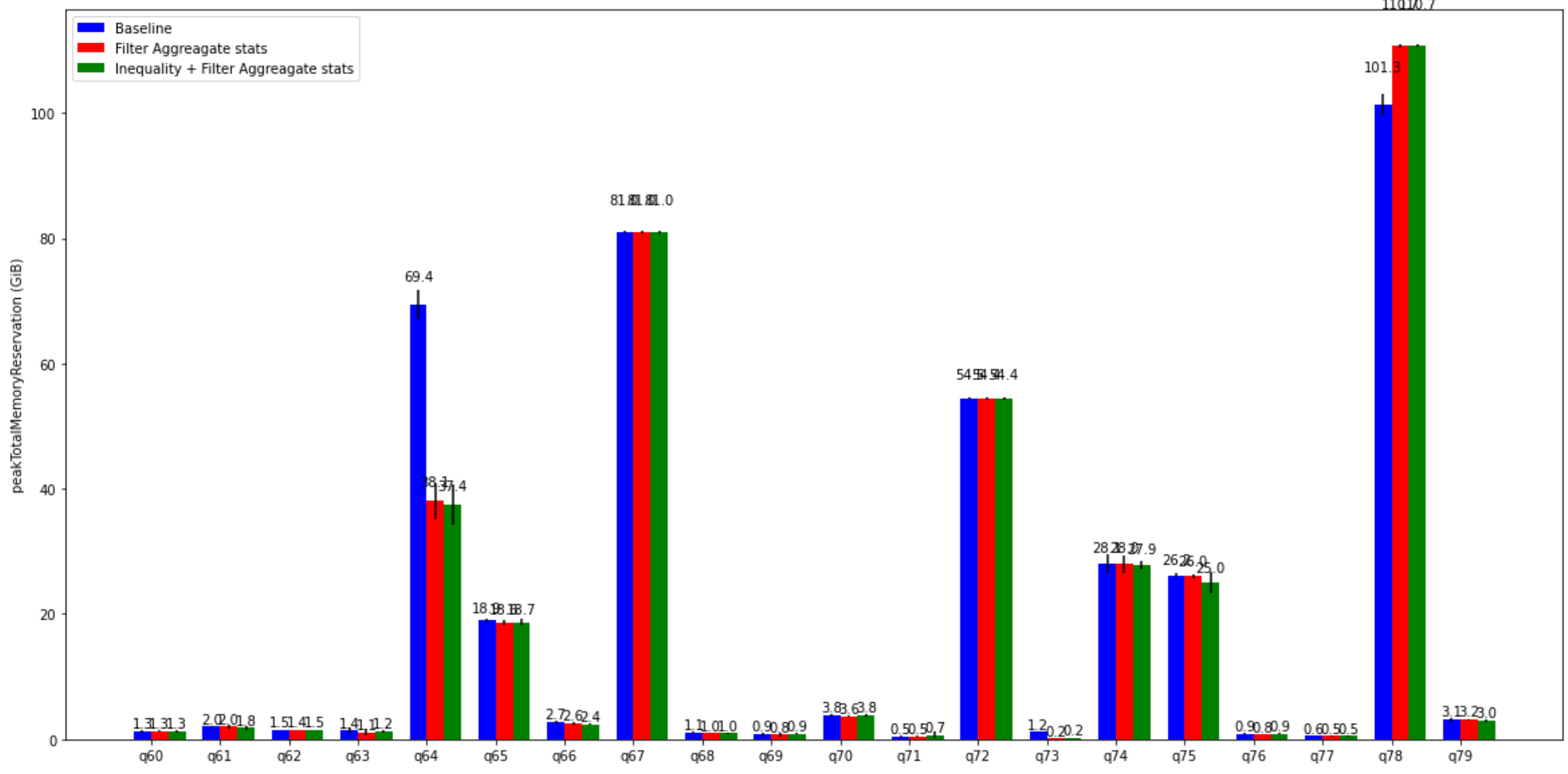
	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
5	presto/tpch: q06	3.082 GiB	187.588 MiB	3.113 GiB	263.360 MiB	3.018 GiB	445.795 MiB
6	presto/tpch: q07	16.300 GiB	537.619 MiB	16.599 GiB	875.070 MiB	16.384 GiB	262.856 MiB
7	presto/tpch: q08	20.391 GiB	1.495 GiB	20.902 GiB	1.489 GiB	20.389 GiB	0.968 GiB
8	presto/tpch: q09	549.088 GiB	15.821 GiB	553.913 GiB	5.155 GiB	551.786 GiB	10.569 GiB
9	presto/tpch: q10	29.420 GiB	653.044 MiB	29.873 GiB	499.829 MiB	29.728 GiB	0.924 GiB
10	presto/tpch: q11	10.041 GiB	374.339 MiB	10.537 GiB	295.868 MiB	10.063 GiB	247.258 MiB
11	presto/tpch: q12	3.359 GiB	67.110 MiB	3.287 GiB	168.087 MiB	3.430 GiB	151.322 MiB
12	presto/tpch: q13	74.170 GiB	64.488 MiB	74.139 GiB	66.432 MiB	74.176 GiB	35.169 MiB
13	presto/tpch: q14	4.918 GiB	104.336 MiB	4.916 GiB	62.462 MiB	4.971 GiB	49.288 MiB
14	presto/tpch: q15	5.436 GiB	37.801 MiB	5.432 GiB	41.971 MiB	5.409 GiB	37.264 MiB
15	presto/tpch: q16	14.778 GiB	255.530 MiB	14.710 GiB	291.101 MiB	14.778 GiB	240.810 MiB
16	presto/tpch: q17	56.511 GiB	483.961 MiB	56.690 GiB	595.468 MiB	56.713 GiB	449.773 MiB
17	presto/tpch: q18	198.920 GiB	663.826 MiB	89.356 GiB	126.371 MiB	89.291 GiB	162.964 MiB
18	presto/tpch: q19	24.429 GiB	1.485 GiB	24.346 GiB	1.375 GiB	23.825 GiB	1.711 GiB
19	presto/tpch: q20	30.065 GiB	144.381 MiB	30.171 GiB	266.481 MiB	30.113 GiB	242.197 MiB
20	presto/tpch: q21	673.888 GiB	54.298 MiB	673.912 GiB	41.925 MiB	483.282 GiB	797.132 MiB
21	presto/tpch: q22	12.581 GiB	4.812 GiB	12.931 GiB	2.332 GiB	13.268 GiB	2.623 GiB

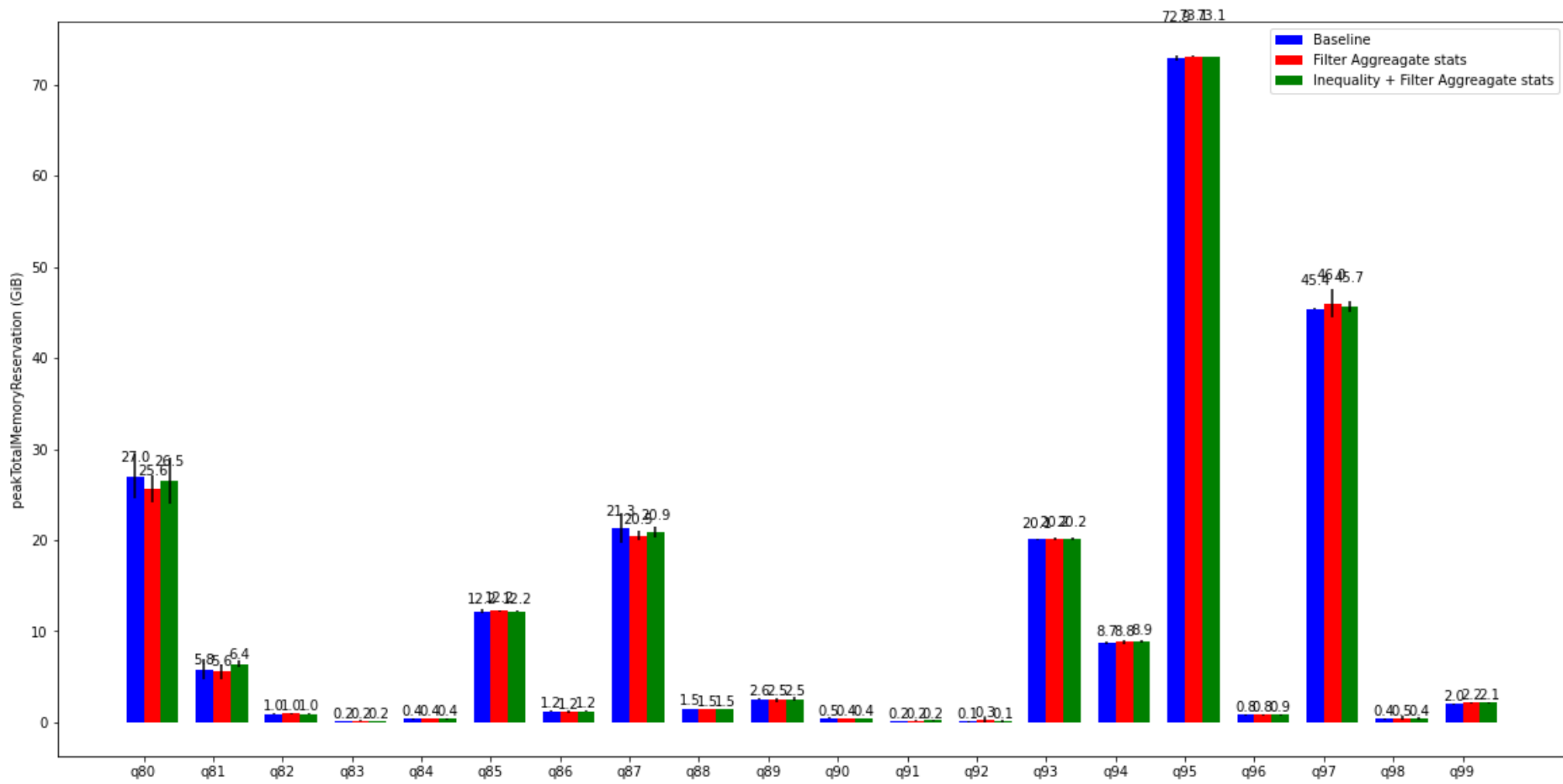
# TPC-DS Comparison (Peak memory)

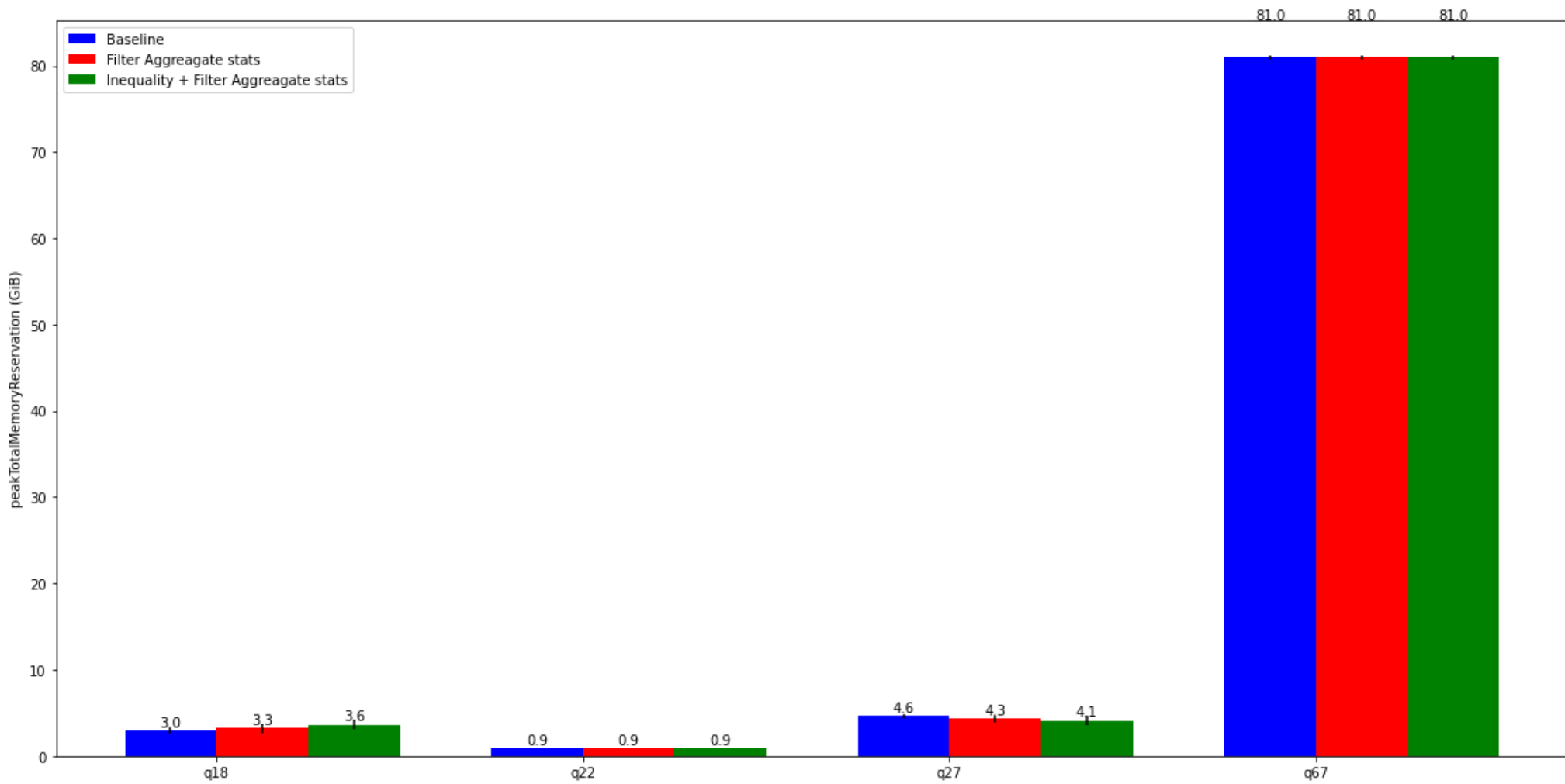












	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
0	presto/tpcds: q01	7.649 GiB	503.539 MiB	7.960 GiB	621.879 MiB	8.041 GiB	595.351 MiB
1	presto/tpcds: q02	2.535 GiB	56.378 MiB	2.654 GiB	171.760 MiB	2.538 GiB	67.222 MiB
2	presto/tpcds: q03	847.422 MiB	715.858 MiB	688.909 MiB	275.645 MiB	917.977 MiB	300.170 MiB
3	presto/tpcds: q04	78.061 GiB	1.971 GiB	78.606 GiB	1.805 GiB	77.366 GiB	1.236 GiB
4	presto/tpcds: q05	5.208 GiB	678.250 MiB	5.105 GiB	383.878 MiB	4.645 GiB	1.007 GiB



	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
5	presto/tpcds: q06	1.406 GiB	157.522 MiB	1.347 GiB	136.692 MiB	1.417 GiB	311.587 MiB
6	presto/tpcds: q07	3.858 GiB	314.433 MiB	4.068 GiB	286.659 MiB	3.900 GiB	448.931 MiB
7	presto/tpcds: q08	682.461 MiB	54.864 MiB	654.518 MiB	99.747 MiB	688.410 MiB	70.278 MiB
8	presto/tpcds: q09	879.408 MiB	89.902 MiB	851.649 MiB	60.438 MiB	868.435 MiB	56.762 MiB
9	presto/tpcds: q10	484.652 MiB	74.073 MiB	525.578 MiB	159.930 MiB	550.603 MiB	51.811 MiB
10	presto/tpcds: q11	67.350 GiB	244.228 MiB	66.553 GiB	283.292 MiB	66.508 GiB	268.918 MiB
11	presto/tpcds: q12	24.944 MiB	2.589 MiB	28.096 MiB	3.915 MiB	25.523 MiB	6.413 MiB
12	presto/tpcds: q13	8.887 GiB	167.775 MiB	8.834 GiB	269.263 MiB	8.977 GiB	278.255 MiB
13	presto/tpcds: q14	5.947 GiB	238.650 MiB	5.525 GiB	27.441 MiB	5.475 GiB	69.999 MiB
14	presto/tpcds: q15	1.950 GiB	175.078 MiB	1.762 GiB	143.246 MiB	1.633 GiB	667.329 MiB
15	presto/tpcds: q16	18.465 GiB	313.033 MiB	18.489 GiB	299.525 MiB	18.231 GiB	484.178 MiB
16	presto/tpcds: q17	13.746 GiB	186.251 MiB	13.720 GiB	242.311 MiB	13.475 GiB	227.985 MiB
17	presto/tpcds: q18	2.957 GiB	336.323 MiB	3.255 GiB	566.931 MiB	3.612 GiB	590.510 MiB
18	presto/tpcds: q19	1.108 GiB	144.327 MiB	1.128 GiB	111.518 MiB	1.064 GiB	132.840 MiB
19	presto/tpcds: q20	291.027 MiB	113.693 MiB	340.957 MiB	76.230 MiB	336.521 MiB	44.882 MiB
20	presto/tpcds: q21	264.763 MiB	24.763 MiB	252.006 MiB	34.127 MiB	243.005 MiB	30.035 MiB
21	presto/tpcds: q22	0.941 GiB	14.292 MiB	0.944 GiB	21.664 MiB	0.925 GiB	8.519 MiB

	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
22	presto/tpcds: q23	58.756 GiB	449.208 MiB	58.606 GiB	825.479 MiB	58.819 GiB	918.885 MiB
23	presto/tpcds: q24	21.414 GiB	591.487 MiB	20.795 GiB	222.661 MiB	21.138 GiB	502.284 MiB
24	presto/tpcds: q25	9.962 GiB	246.188 MiB	9.993 GiB	205.237 MiB	10.008 GiB	116.289 MiB
25	presto/tpcds: q26	2.512 GiB	118.159 MiB	2.489 GiB	391.652 MiB	2.285 GiB	180.402 MiB
26	presto/tpcds: q27	4.598 GiB	292.104 MiB	4.333 GiB	424.569 MiB	4.104 GiB	600.157 MiB
27	presto/tpcds: q28	407.968 MiB	10.029 MiB	410.514 MiB	5.816 MiB	413.889 MiB	8.601 MiB
28	presto/tpcds: q29	8.114 GiB	253.817 MiB	8.060 GiB	110.374 MiB	8.145 GiB	174.570 MiB
29	presto/tpcds: q30	1.430 GiB	708.128 MiB	1.836 GiB	317.934 MiB	1.634 GiB	270.963 MiB
30	presto/tpcds: q31	6.256 GiB	280.544 MiB	5.968 GiB	0.993 GiB	6.294 GiB	589.691 MiB
31	presto/tpcds: q32	401.492 MiB	348.567 MiB	417.481 MiB	210.477 MiB	398.237 MiB	173.095 MiB
32	presto/tpcds: q33	1.294 GiB	245.409 MiB	1.309 GiB	267.256 MiB	1.375 GiB	215.976 MiB
33	presto/tpcds: q34	1.454 GiB	88.308 MiB	443.196 MiB	69.245 MiB	450.304 MiB	78.779 MiB
34	presto/tpcds: q35	4.170 GiB	218.092 MiB	4.003 GiB	304.837 MiB	4.080 GiB	382.059 MiB
35	presto/tpcds: q36	3.797 GiB	161.507 MiB	3.941 GiB	166.718 MiB	3.868 GiB	226.592 MiB
36	presto/tpcds: q37	433.107 MiB	63.943 MiB	431.614 MiB	90.173 MiB	428.155 MiB	65.813 MiB
37	presto/tpcds: q38	22.879 GiB	1.641 GiB	20.751 GiB	930.788 MiB	21.155 GiB	633.476 MiB
38	presto/tpcds: q39	1.094 GiB	22.992 MiB	1.088 GiB	19.759 MiB	1.092 GiB	16.243 MiB

	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
39	presto/tpcds: q40	10.326 GiB	73.043 MiB	10.273 GiB	70.031 MiB	10.389 GiB	97.670 MiB
40	presto/tpcds: q41	210.168 KiB	3.116 KiB	208.260 KiB	5.072 KiB	210.168 KiB	1.971 KiB
41	presto/tpcds: q42	235.596 MiB	47.730 MiB	322.218 MiB	75.523 MiB	325.336 MiB	74.869 MiB
42	presto/tpcds: q43	1.681 GiB	177.823 MiB	1.613 GiB	87.810 MiB	1.602 GiB	23.217 MiB
43	presto/tpcds: q44	465.358 MiB	1.551 MiB	465.040 MiB	1.332 MiB	464.302 MiB	581.490 KiB
44	presto/tpcds: q45	1.047 GiB	683.403 MiB	723.609 MiB	360.309 MiB	579.651 MiB	36.502 MiB
45	presto/tpcds: q46	1.911 GiB	299.522 MiB	1.889 GiB	193.167 MiB	1.784 GiB	212.722 MiB
46	presto/tpcds: q47	8.452 GiB	77.411 MiB	8.443 GiB	46.391 MiB	8.524 GiB	102.661 MiB
47	presto/tpcds: q48	4.581 GiB	157.496 MiB	4.655 GiB	277.832 MiB	4.748 GiB	232.932 MiB
48	presto/tpcds: q49	20.911 GiB	421.970 MiB	20.759 GiB	688.678 MiB	21.033 GiB	222.394 MiB
49	presto/tpcds: q50	4.510 GiB	178.296 MiB	4.655 GiB	190.779 MiB	4.709 GiB	116.634 MiB
50	presto/tpcds: q51	10.874 GiB	751.758 MiB	11.421 GiB	253.187 MiB	11.037 GiB	779.129 MiB
51	presto/tpcds: q52	383.801 MiB	66.785 MiB	359.309 MiB	81.009 MiB	351.098 MiB	68.384 MiB
52	presto/tpcds: q53	1.624 GiB	771.705 MiB	1.879 GiB	807.148 MiB	1.651 GiB	1.080 GiB
53	presto/tpcds: q54	1.737 GiB	154.992 MiB	1.749 GiB	106.958 MiB	1.882 GiB	68.913 MiB
54	presto/tpcds: q55	382.252 MiB	82.472 MiB	400.331 MiB	56.741 MiB	357.681 MiB	87.766 MiB
55	presto/tpcds: q56	458.489 MiB	68.535 MiB	504.273 MiB	48.670 MiB	467.060 MiB	72.961 MiB

	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
56	presto/tpcds: q57	7.014 GiB	185.476 MiB	6.973 GiB	234.561 MiB	6.981 GiB	165.520 MiB
57	presto/tpcds: q58	811.983 MiB	63.004 MiB	788.888 MiB	19.065 MiB	786.269 MiB	25.355 MiB
58	presto/tpcds: q59	3.548 GiB	99.182 MiB	3.514 GiB	70.016 MiB	3.540 GiB	99.439 MiB
59	presto/tpcds: q60	1.264 GiB	147.164 MiB	1.328 GiB	163.865 MiB	1.305 GiB	230.990 MiB
60	presto/tpcds: q61	1.999 GiB	152.266 MiB	1.998 GiB	244.483 MiB	1.821 GiB	334.053 MiB
61	presto/tpcds: q62	1.461 GiB	51.629 MiB	1.448 GiB	81.968 MiB	1.472 GiB	34.323 MiB
62	presto/tpcds: q63	1.430 GiB	410.726 MiB	1.126 GiB	499.734 MiB	1.231 GiB	294.698 MiB
63	presto/tpcds: q64	69.413 GiB	2.456 GiB	38.076 GiB	2.871 GiB	37.432 GiB	3.170 GiB
64	presto/tpcds: q65	18.948 GiB	388.215 MiB	18.627 GiB	368.951 MiB	18.684 GiB	581.477 MiB
65	presto/tpcds: q66	2.685 GiB	232.194 MiB	2.578 GiB	193.133 MiB	2.373 GiB	104.759 MiB
66	presto/tpcds: q67	80.979 GiB	195.515 MiB	80.974 GiB	201.309 MiB	80.979 GiB	196.050 MiB
67	presto/tpcds: q68	1.052 GiB	108.197 MiB	1.007 GiB	43.049 MiB	0.962 GiB	76.714 MiB
68	presto/tpcds: q69	918.055 MiB	241.465 MiB	806.473 MiB	304.839 MiB	933.714 MiB	208.172 MiB
69	presto/tpcds: q70	3.823 GiB	132.065 MiB	3.637 GiB	126.721 MiB	3.769 GiB	223.528 MiB
70	presto/tpcds: q71	463.858 MiB	78.427 MiB	469.233 MiB	114.925 MiB	691.229 MiB	484.858 MiB
71	presto/tpcds: q72	54.494 GiB	40.857 MiB	54.436 GiB	197.737 MiB	54.387 GiB	155.449 MiB
72	presto/tpcds: q73	1.168 GiB	21.296 MiB	199.265 MiB	23.126 MiB	222.728 MiB	24.820 MiB

	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
73	presto/tpcds: q74	28.071 GiB	1.544 GiB	27.974 GiB	1.336 GiB	27.888 GiB	682.423 MiB
74	presto/tpcds: q75	26.172 GiB	374.921 MiB	26.006 GiB	401.212 MiB	25.034 GiB	1.625 GiB
75	presto/tpcds: q76	917.146 MiB	173.661 MiB	807.633 MiB	71.746 MiB	884.456 MiB	129.908 MiB
76	presto/tpcds: q77	563.455 MiB	48.433 MiB	525.910 MiB	52.964 MiB	541.416 MiB	76.176 MiB
77	presto/tpcds: q78	101.251 GiB	1.703 GiB	110.678 GiB	303.157 MiB	110.713 GiB	231.478 MiB
78	presto/tpcds: q79	3.098 GiB	283.807 MiB	3.150 GiB	87.841 MiB	2.989 GiB	215.623 MiB
79	presto/tpcds: q80	27.039 GiB	2.474 GiB	25.614 GiB	1.438 GiB	26.492 GiB	2.531 GiB
80	presto/tpcds: q81	5.808 GiB	1.120 GiB	5.610 GiB	824.705 MiB	6.399 GiB	376.652 MiB
81	presto/tpcds: q82	0.956 GiB	48.377 MiB	1.005 GiB	75.664 MiB	0.953 GiB	102.201 MiB
82	presto/tpcds: q83	177.761 MiB	30.936 MiB	199.789 MiB	60.474 MiB	192.904 MiB	25.272 MiB
83	presto/tpcds: q84	388.877 MiB	53.439 MiB	419.674 MiB	35.050 MiB	397.470 MiB	47.538 MiB
84	presto/tpcds: q85	12.212 GiB	228.809 MiB	12.241 GiB	108.369 MiB	12.220 GiB	104.311 MiB
85	presto/tpcds: q86	1.231 GiB	52.643 MiB	1.157 GiB	103.813 MiB	1.234 GiB	42.715 MiB
86	presto/tpcds: q87	21.317 GiB	1.578 GiB	20.460 GiB	530.612 MiB	20.859 GiB	626.327 MiB
87	presto/tpcds: q88	1.505 GiB	43.947 MiB	1.473 GiB	67.108 MiB	1.478 GiB	38.085 MiB
88	presto/tpcds: q89	2.561 GiB	86.195 MiB	2.493 GiB	231.204 MiB	2.538 GiB	251.933 MiB
89	presto/tpcds: q90	466.515 MiB	62.683 MiB	458.649 MiB	60.995 MiB	444.179 MiB	49.166 MiB

	query	Baseline mean	Baseline std.dev	Filter Aggregate stats mean	Filter Aggregate stats std.dev	Inequality + Filter Aggregate stats mean	Inequality + Filter Aggregate stats std.dev
<b>90</b>	presto/tpcds: q91	212.959 MiB	7.940 MiB	203.735 MiB	40.116 MiB	226.445 MiB	17.516 MiB
<b>91</b>	presto/tpcds: q92	92.460 MiB	79.594 MiB	332.115 MiB	273.431 MiB	147.992 MiB	168.288 MiB
<b>92</b>	presto/tpcds: q93	20.120 GiB	93.719 MiB	20.193 GiB	146.842 MiB	20.195 GiB	137.824 MiB
<b>93</b>	presto/tpcds: q94	8.713 GiB	186.133 MiB	8.831 GiB	269.804 MiB	8.866 GiB	179.415 MiB
<b>94</b>	presto/tpcds: q95	72.941 GiB	290.505 MiB	73.103 GiB	94.987 MiB	73.107 GiB	30.904 MiB
<b>95</b>	presto/tpcds: q96	837.559 MiB	44.980 MiB	846.643 MiB	71.077 MiB	871.069 MiB	71.304 MiB
<b>96</b>	presto/tpcds: q97	45.399 GiB	23.483 MiB	46.010 GiB	1.530 GiB	45.682 GiB	616.243 MiB
<b>97</b>	presto/tpcds: q98	407.852 MiB	65.105 MiB	503.883 MiB	204.652 MiB	402.444 MiB	155.336 MiB
<b>98</b>	presto/tpcds: q99	2.034 GiB	74.069 MiB	2.185 GiB	89.881 MiB	2.150 GiB	128.340 MiB