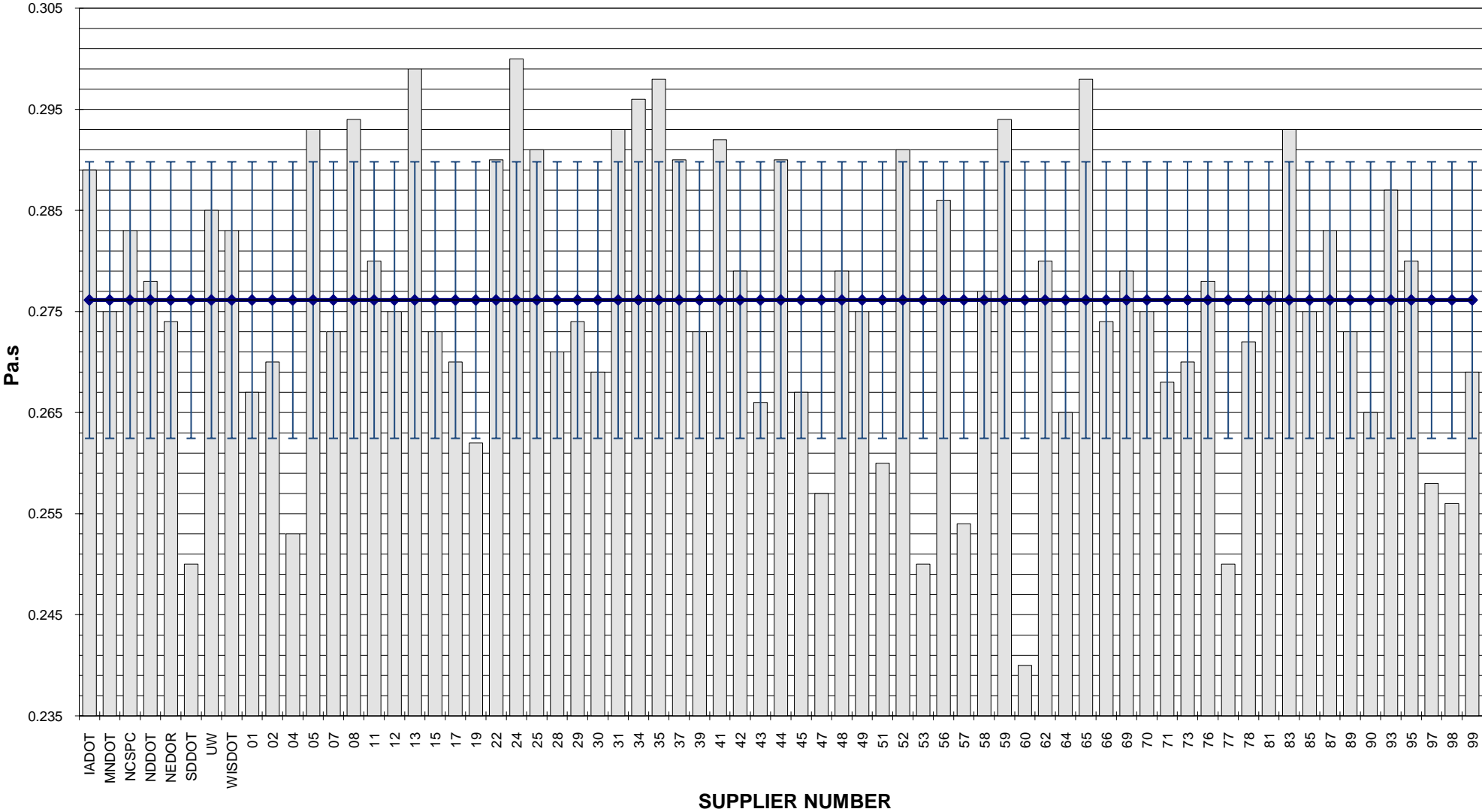


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Supplier Number	Rotational Viscosity (Pa.s) @135°C	DSR Original (kPa) @70°C	DSR RTFO (kPa) @70°C	DSR PAV (kPa) @25°C	Mass Loss (%) @163°C	BBR S-value (MPa) @-18°C	BBR m-value @-18°C	Strain (%) @-18°C	DTT Stress (MPa) @-18°C	CRITICAL CRACK TEMP (°C)	MSCR % RECOVERY @ 100Pa	MSCR % RECOVERY @ 3200Pa
IADOT	0.289	1.28	3.52	4010	-0.676	215	0.320				4.40	1.58
MNDOT	0.275	1.21	3.43	4307	-0.643	203	0.326					
NCSPC	0.283	1.32	3.27	4110	-0.955	199	0.319				4.39	2.62
NDDOT	0.278	1.26	3.30	4563	-0.749	223	0.321				6.29	1.36
NEDOR	0.274	1.17	3.65	3847	-0.691	218	0.325				9.86	1.54
SDDOT	0.250	1.32	3.70	4345	-0.661	214	0.328					
UW	0.285	1.86	5.40	5215	-0.221	229	0.320					
WISDOT	0.283	1.21	3.26		-0.707							
01	0.267	1.32	4.04	4455	-0.678	224	0.330					
02	0.270	1.33	3.48	4691	-0.651	224	0.327				3.40	1.30
04	0.253	1.32	3.43	4789	-0.679	227	0.318					
05	0.293	1.21	3.47	4010	-0.500	194	0.319				6.82	1.46
07	0.273	1.28	3.24	4939	-0.652	219	0.314				4.73	1.19
08	0.294	1.27	3.67	4069	-0.633	203	0.322				6.87	1.50
11	0.280	1.36	3.65	4318	-0.657	234	0.334				4.50	1.40
12	0.275	1.48	3.46	3955	-0.707	206	0.328					
13	0.299	1.27	3.59	3900	-0.691	212	0.352	3.85	1.53	-28.9	1.32	0.00
15	0.273	1.31	3.84	4278	-0.755	220	0.330				6.78	1.66
17	0.270	1.22	3.91	4411	-0.709	224	0.322					
19	0.262	1.25	3.69	3496	-0.781	232	0.331					
22	0.290	1.21	3.38	3865	-0.525	194	0.326				5.64	1.48
24	0.300	1.30	3.69	4280	-0.671	203	0.335	3.59	1.39	-29.1	0.93	0.00
25	0.291	1.28	3.93	4949	-0.773	226	0.325					
28	0.271	1.27	3.31	3952	-0.632	231	0.318				2.60	1.20
29	0.274	1.21	3.43	4506	-0.876	230	0.325				3.70	1.20
30	0.269	1.39	4.20	4084	-0.691	224	0.320					
31	0.293	1.25	3.35	4014	-0.492	196	0.324				5.74	1.42
34	0.296	1.36	3.66	3850	-0.709	232	0.329				4.60	1.60
35	0.298	1.31	3.81	4610	-0.750	220	0.314					
37	0.290	1.24	3.02	3934	-0.606	212	0.332	4.65	1.77	-29.5	2.85	0.96
39	0.273	1.23	3.50	4320	-0.629	231	0.330				6.41	0.80
41	0.292	1.24	3.47	4047	-0.617	205	0.325				5.74	1.47
42	0.279	1.23	3.67	3890	-0.855	223	0.326					
43	0.266	1.30	3.33	4380	-0.632	234	0.328				3.50	0.47
44	0.290	1.24	3.44	4054	-0.538	200	0.313				8.18	1.51
45	0.267	1.30	4.07	3812	-0.742	228	0.320					
47	0.257	1.23	3.52	4813	-0.683	227	0.318					
48	0.279	1.27	3.72	4164	-0.710	238	0.332				3.00	1.60
49	0.275	1.22	3.53	4120	-0.651	227	0.319				2.52	0.66
51	0.260	1.30	3.84	3391	-0.767	227	0.331					
52	0.291	1.26	3.46	3659	-0.646	200	0.315				5.92	1.46
53	0.250	1.23	3.48	4662	-0.673	223	0.316					
56	0.286	1.27	3.57	3236	-0.723	209	0.341				4.50	1.50
57	0.254	1.29	3.50	4810	-0.681	224	0.316					
58	0.277	1.29	3.77	4520	-0.730	229	0.326				3.67	0.79
59	0.294	1.28	3.85	4920	-0.734	228	0.325					
60	0.240	1.25	3.42	5000	-0.758	216	0.317					
62	0.280	1.26	3.60	3376	-0.761	213	0.354				3.90	1.40
64	0.265	1.28	3.52	4782	-0.682	224	0.316					
65	0.298	1.26	3.28	3460	-0.742	199	0.332					
66	0.274	1.27	3.55	4014	-0.618	235	0.320				2.80	1.20
69	0.279	1.30	3.27	4980	-0.605	223	0.318	5.31	2.03	-30.0	4.24	1.19
70	0.275	1.23	3.62	4348	-0.602	213	0.320					
71	0.268	1.38	3.49	3532	-0.426	197	0.344					
73	0.270	1.40	4.03	3866	-0.672	206	0.343					
76	0.278	1.22	3.50	4725	-0.613	227	0.326				4.50	0.90
77	0.250	1.30	3.95	4950	-0.938	235	0.318					
78	0.272	1.28	3.89	4550	-0.740	223	0.323				4.08	0.93
81	0.277	1.30	3.83	4290	-0.738	226	0.327				3.69	0.84
83	0.293	1.28	3.55	3958	-0.644	204	0.320				5.97	1.51
85	0.275	1.21	3.66	4016	-0.615	221	0.322				6.40	1.00
87	0.283	1.21	3.55	4370	-0.548	220	0.324				4.17	0.76
89	0.273	1.26	3.74	4328	-0.770	219	0.330				6.44	1.60
90	0.265	1.25	3.34	3783	-0.609	230	0.322				3.90	1.20
93	0.287	1.26	3.59	3855	-0.625	200	0.345	3.55	1.64	-29.5	2.30	0.00
95	0.280	1.22	3.44	4010	-0.522	216	0.331					
97	0.258	1.26	3.69	3586	-0.773	230	0.334					
98	0.256	1.31	3.85	3420	-0.758	229	0.333					
99	0.269	1.25	3.67	3986	-0.640	225	0.322				3.60	1.60
Average	0.276	1.28	3.62	4202	-0.674	219	0.326	4.19	1.67	-29.40	4.62	1.20
Std. Dev.	0.0137	0.0879	0.3146	461.48	0.1086	11.88	0.0086	0.7667	0.2442	0.4243	1.8251	0.5065
Coef. of Var.	4.954	6.857	8.698	10.983	16.107	5.434	2.649	18.298	14.604	-1.443	39.494	42.335

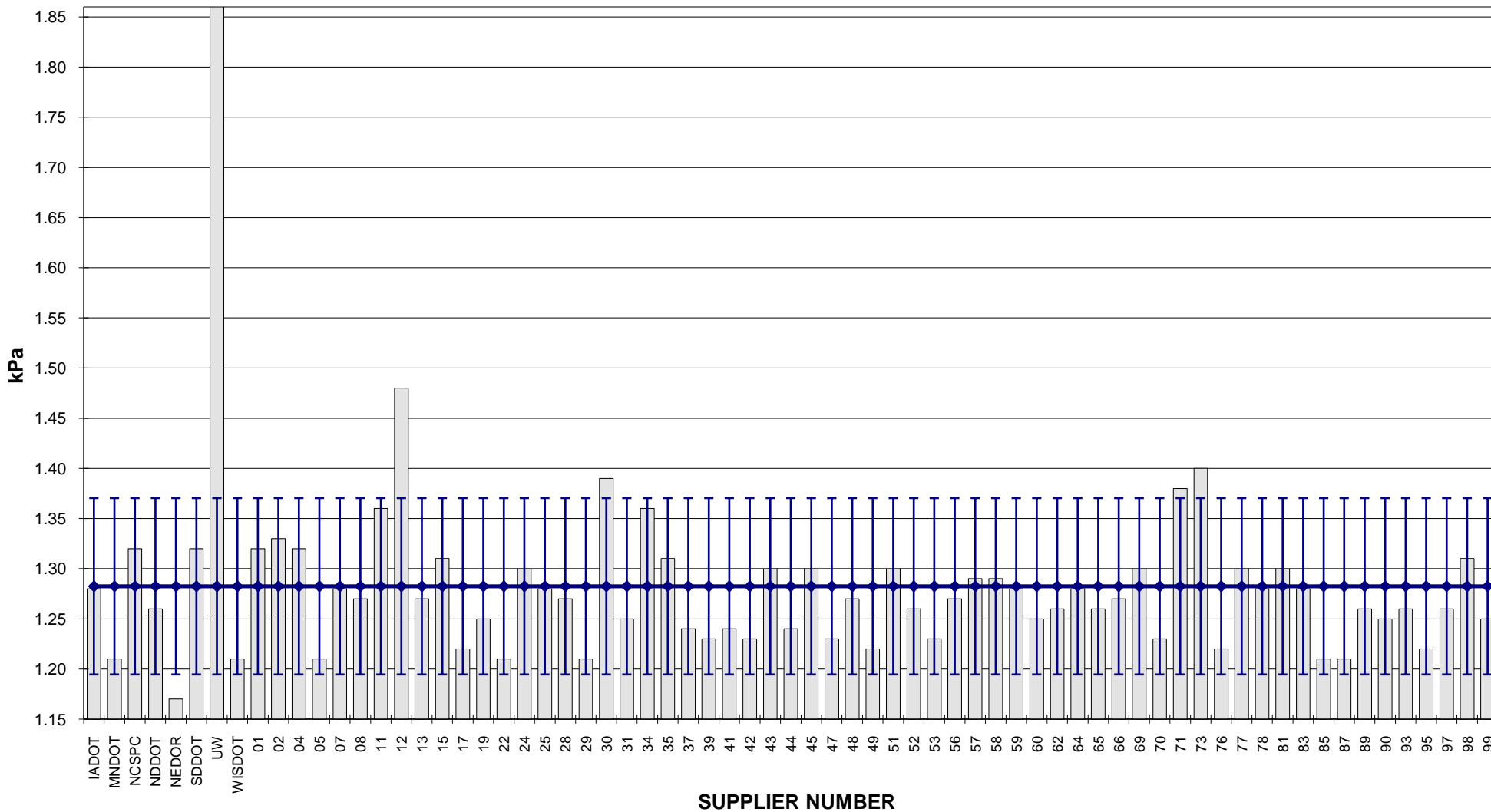
COMBINED STATE BINDER GROUP ROUND ROBIN 2010-4
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ROTATIONAL VISCOSITY



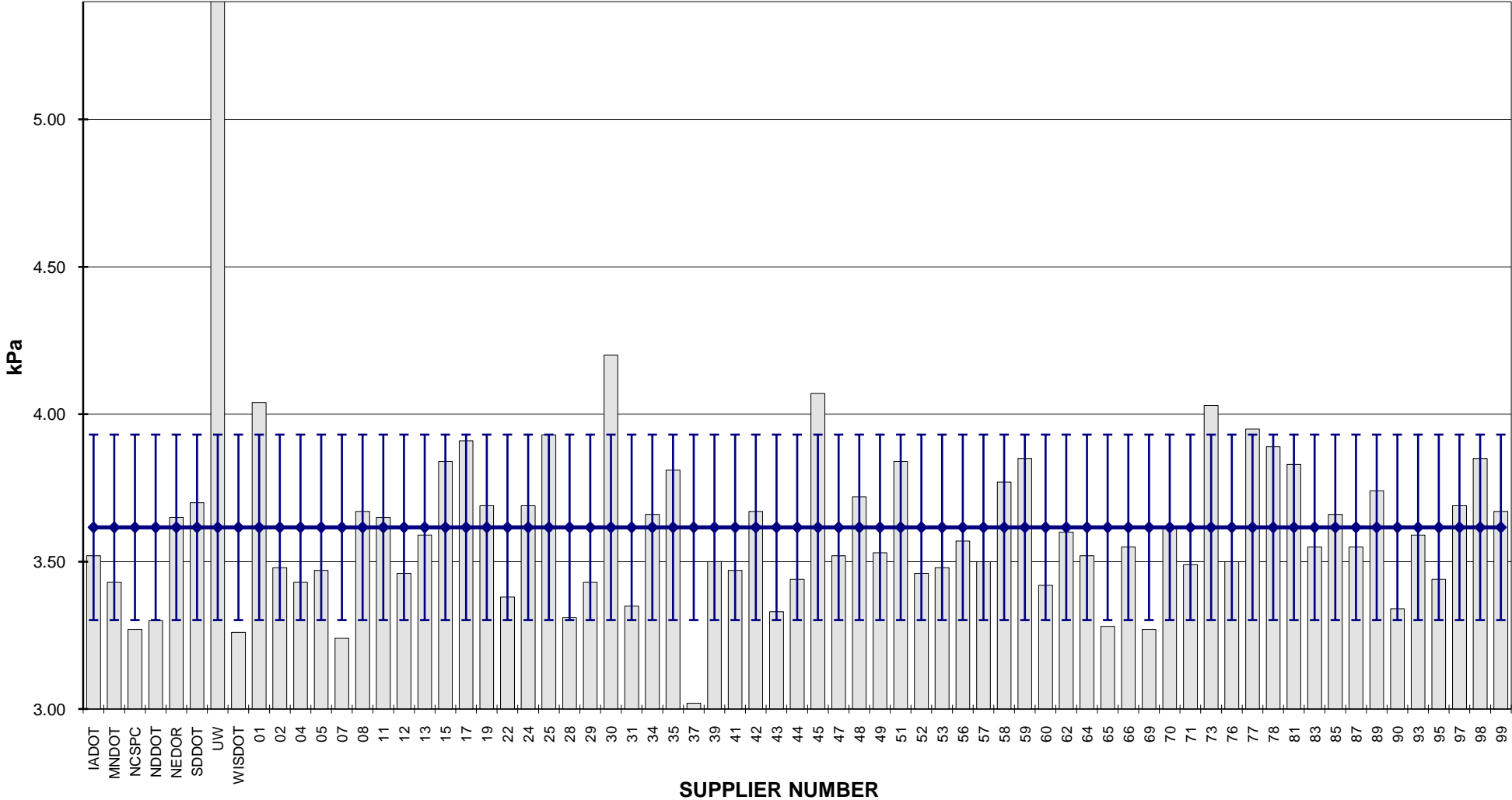
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DSR - ORIGINAL

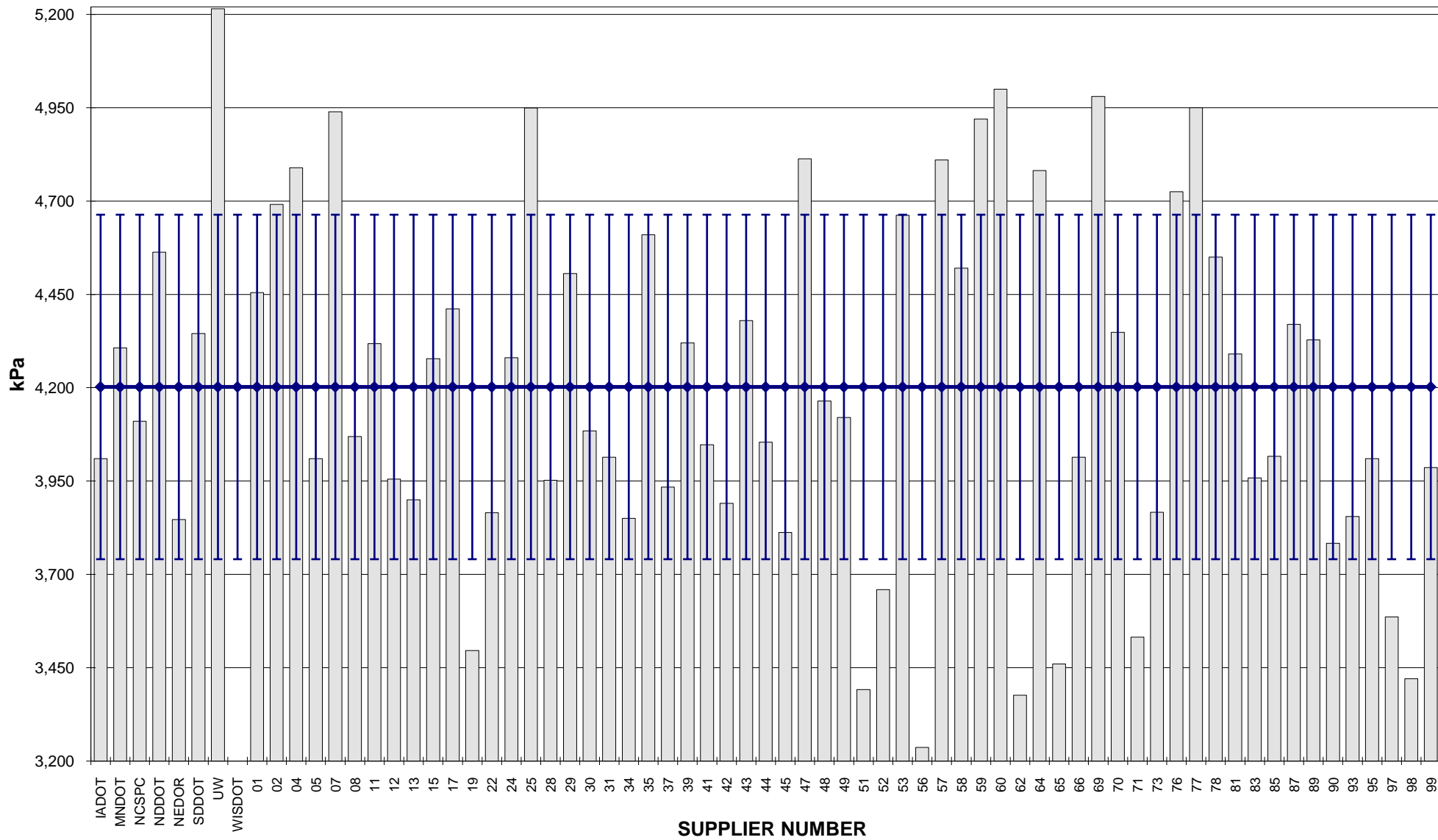


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DSR - RTFO



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DSR - PAV

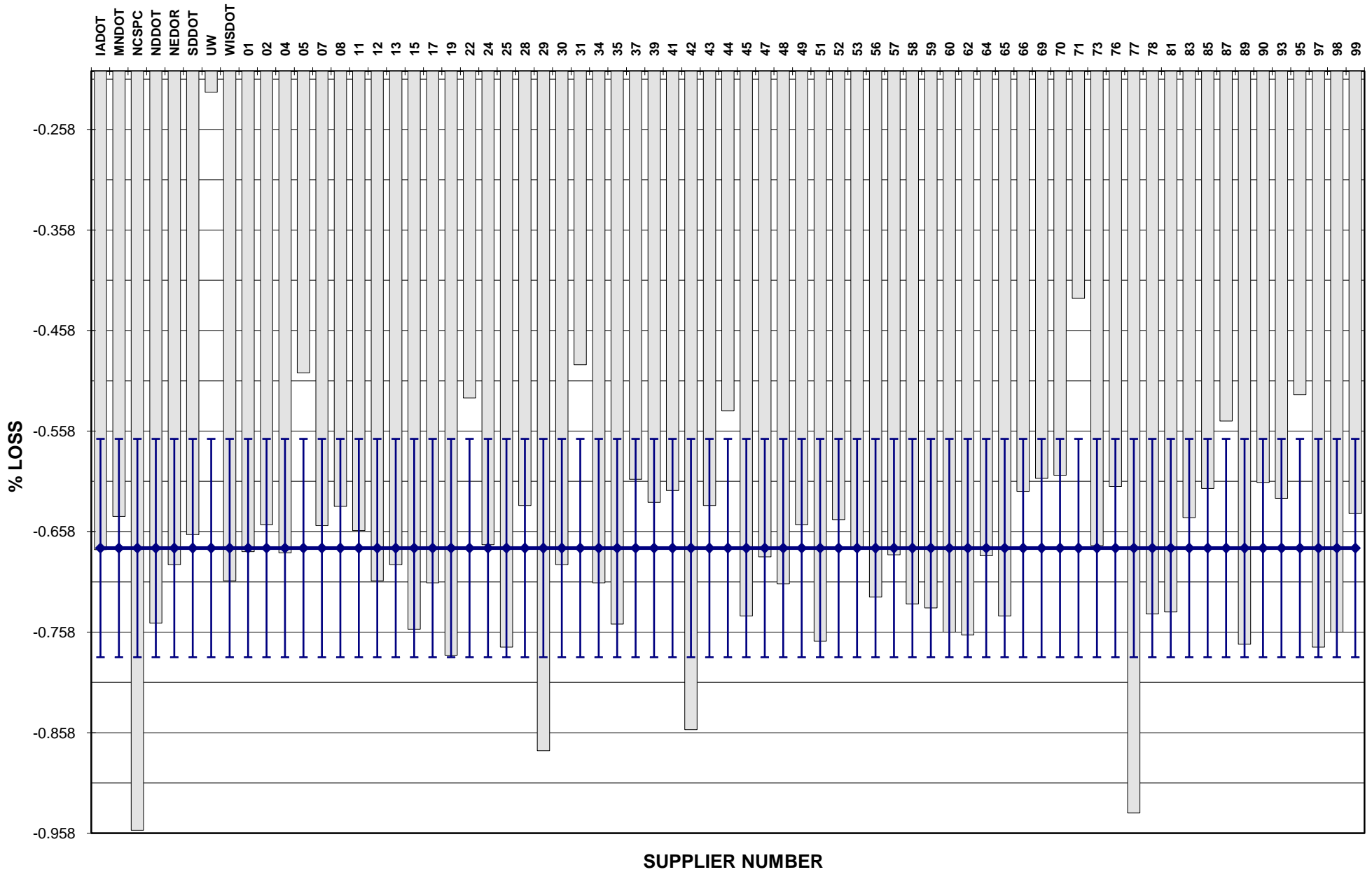


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RTFO MASS LOSS

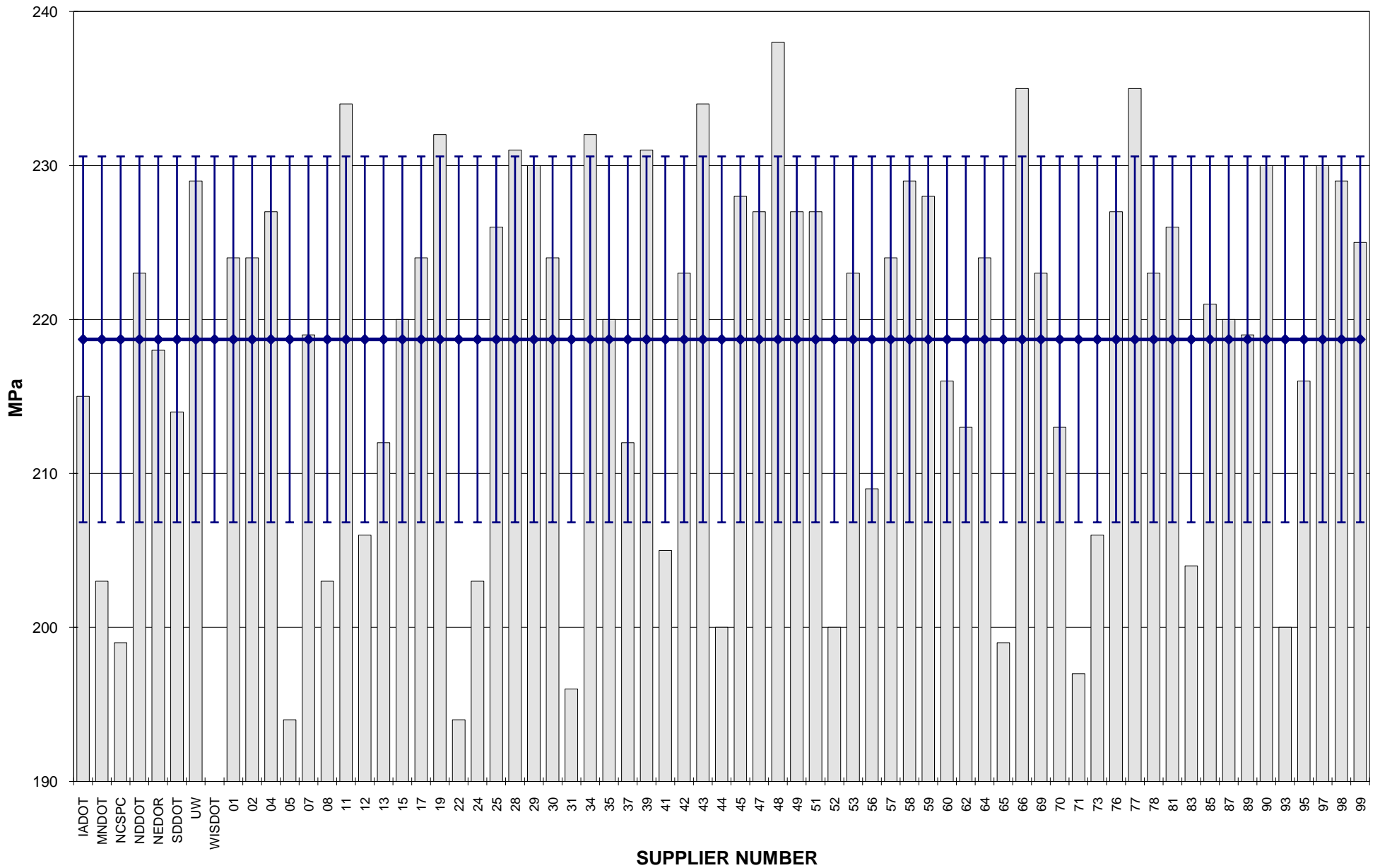


COMBINED STATE BINDER GROUP ROUND ROBIN 2010-4

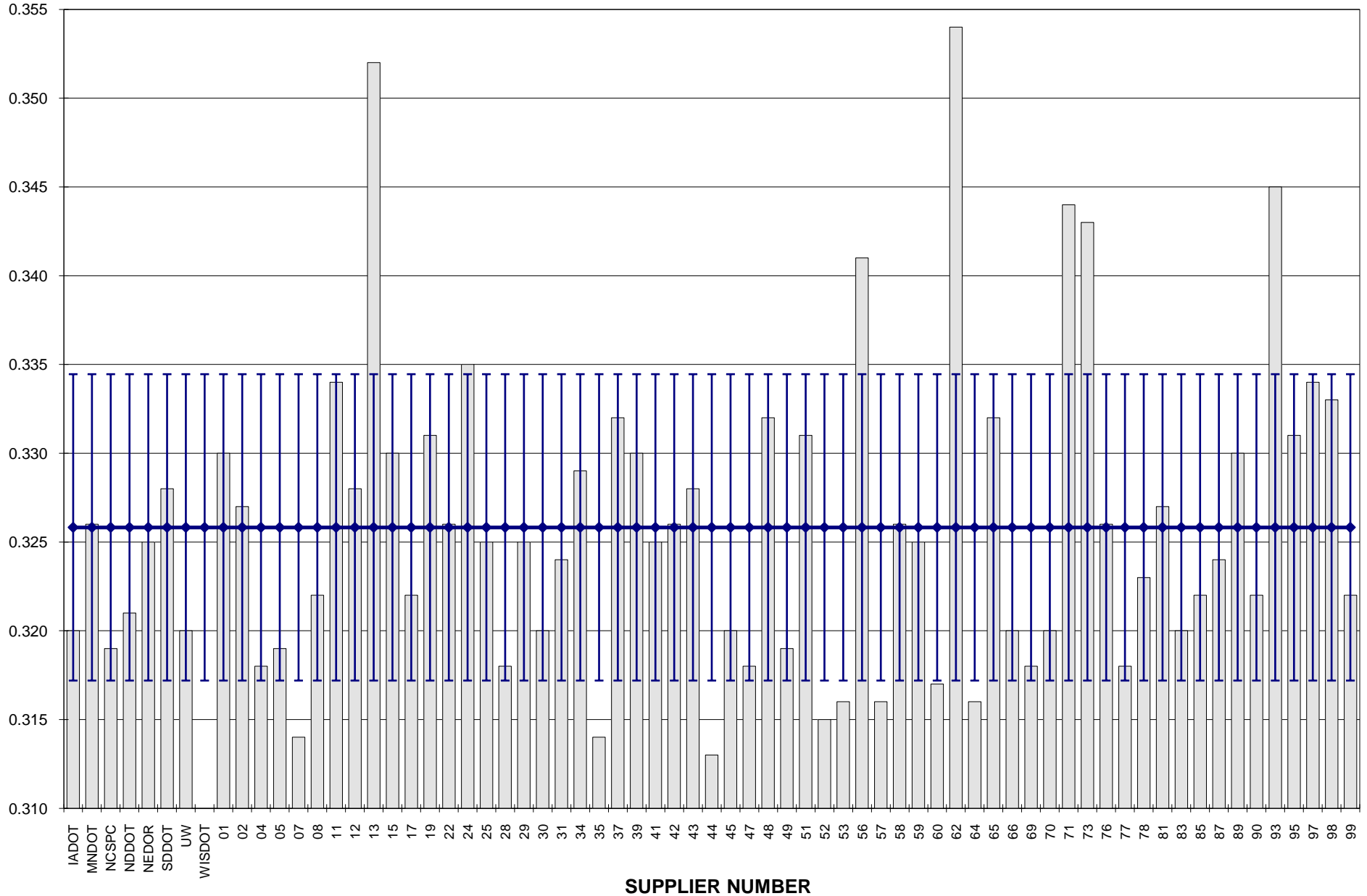
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BBR STIFFNESS



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BBR m-VALUE



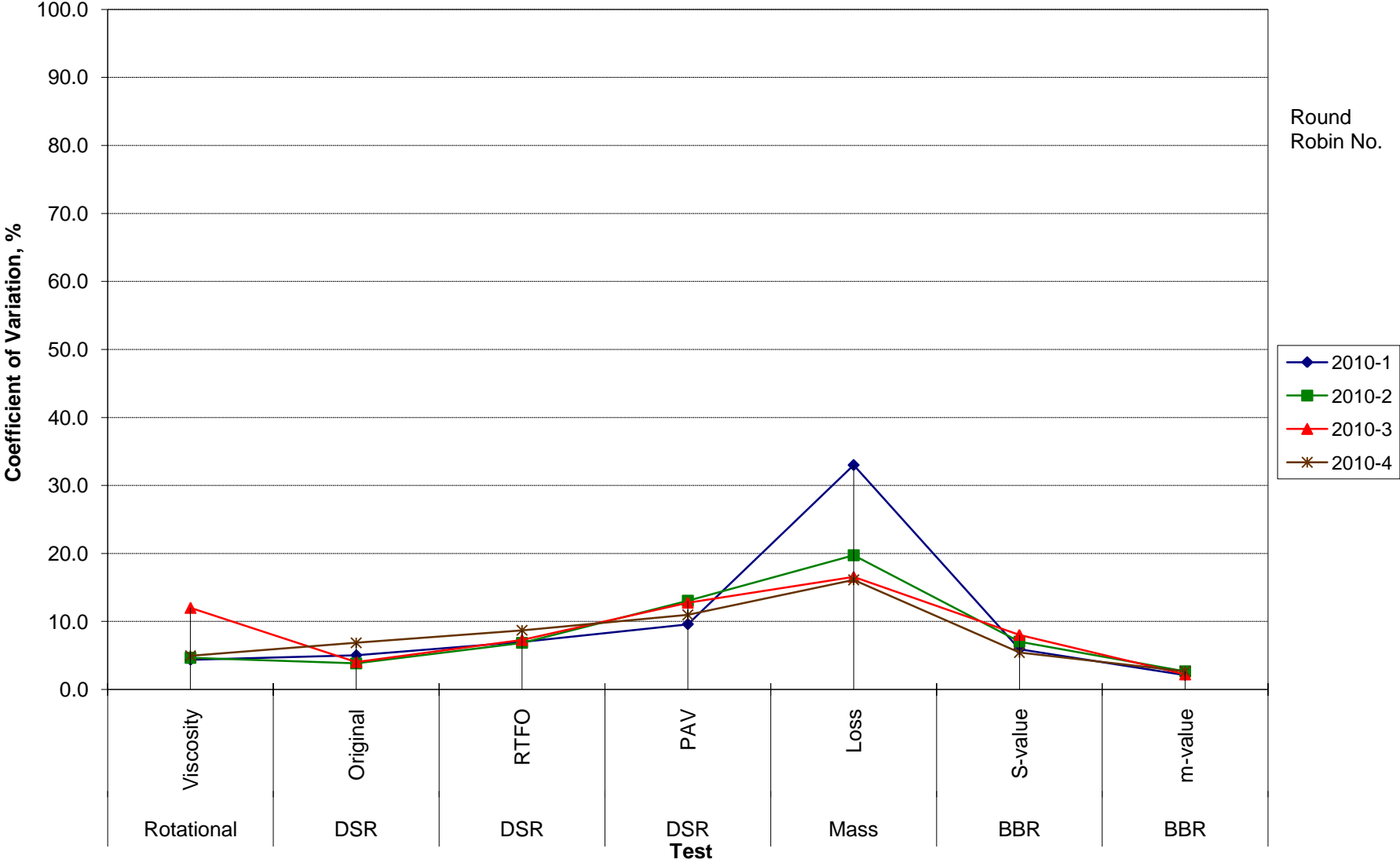
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COEFFICIENT OF VARIATION

Round Robin No.	Number of Participants	Coefficient of Variation, %							
		Rotational Viscosity	DSR Original	DSR RTFO	DSR PAV	Mass Loss	BBR S-value	BBR m-value	DTT Strain
2010-1	67	4.375	5.009	6.987	9.588	32.991	5.926	2.121	30.372
2010-2	66	4.651	3.829	6.852	13.055	19.736	7.036	2.666	33.142
2010-3	68	11.997	4.030	7.262	12.764	16.568	8.029	2.199	
2010-4	69	4.954	6.857	8.698	10.983	16.107	5.434	2.649	

**COMBINED STATE BINDER GROUP ROUND ROBIN 2010-4
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COEFFICIENT OF VARIATION



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STATISTICS WITH OUTLIERS REMOVED:

	Rotational Viscosity (Pa.s) @135°C	DSR Original (kPa) @64°C	DSR RTFO (kPa) @64°C	DSR PAV (kPa) @25°C	Mass Loss (%) @163°C	BBR S-value (MPa) @-12°C	BBR m-value @-12°C
Average	0.276	1.27	3.59	4202	-0.681	219	0.325
Std. Dev.	0.014	0.05	0.23	461	0.094	12	0.007
Coef. of Var.	4.954	3.680	6.367	10.983	13.822	5.434	2.247