Supplementary Information

Repeated Pulses of Ultrasound Maintain Sperm Motility

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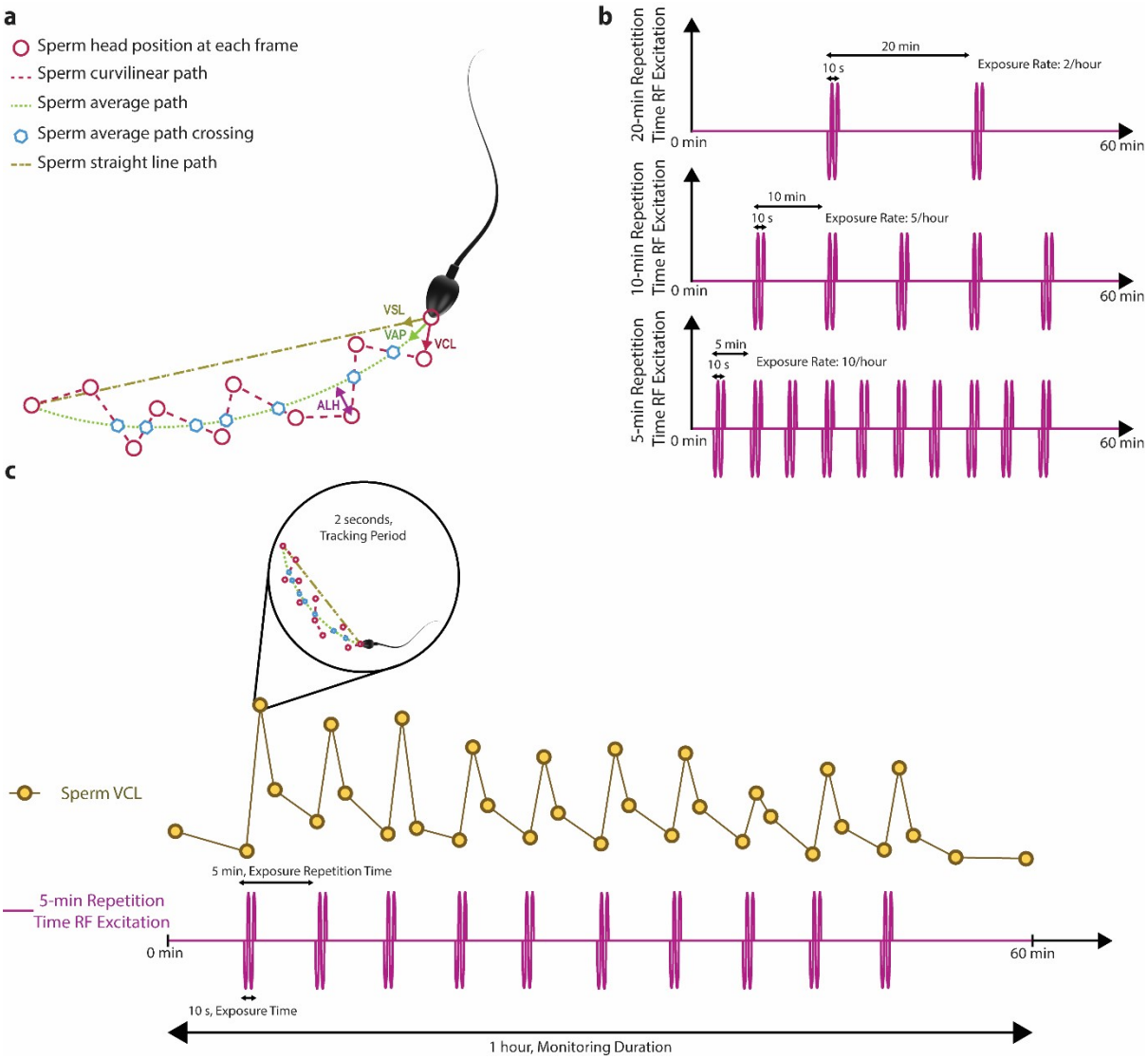

Figure S1. Schematic representation of sperm motility parameters and various ultrasound excitation setups and parameters used in this study. (**a**) Diagram illustrating the trajectory of sperm movement. The red dashed line represents the instantaneous swimming path, while the green dashed line depicts the projected average path. The positions of the sperm head at each frame are indicated by red circles, and intersections of the instantaneous swimming path with the average path are marked by blue hexagons. Sperm motility parameters used in this study include curvilinear velocity (VCL), representing the average point-to-point velocity of the sperm head in successive frames; average path velocity (VAP), denoting the projected point-to-point average velocity of the sperm head along its average path; straight-line velocity (VSL), reflecting the velocity of sperm based on its net displacement between the first and last frames; amplitude of lateral head displacement (ALH), indicating the average amplitude of lateral deviation of the sperm head from the average path; and beat cross frequency (BCF), representing the rate at which the sperm head crosses the average path. (**b**) Illustration of three different excitation setups involving pulsed ultrasound exposure at 20-minute, 10-minute, and 5-minute repetition times. (**c**) Schematic representation of exposure repetition time, monitoring duration, and tracking period for sperm cells exposed to pulsed ultrasound with the 5-minute repetition time.

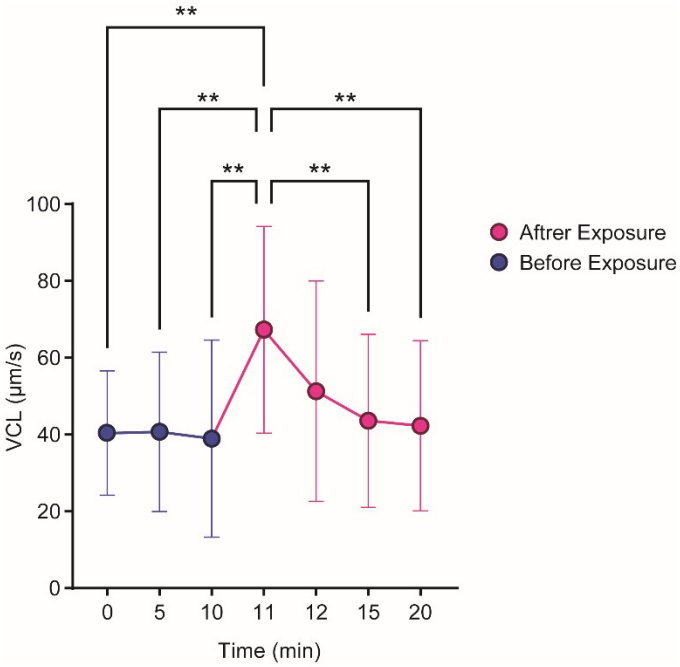

Figure S2. Temporal variation of sperm VCL upon exposure to a 10-second long, 800 mW, and 40 MHz ultrasound pulse at t = 10 minutes (n=20). Sperm motility significantly decreased to pre-exposure levels within 5 minutes post-exposure to a single pulse. Values are reported as mean ± s.d. Statistical significance was determined using one-way ANOVA matched values with Tukey's multiple-comparison test (** $P \leq 0.01$).

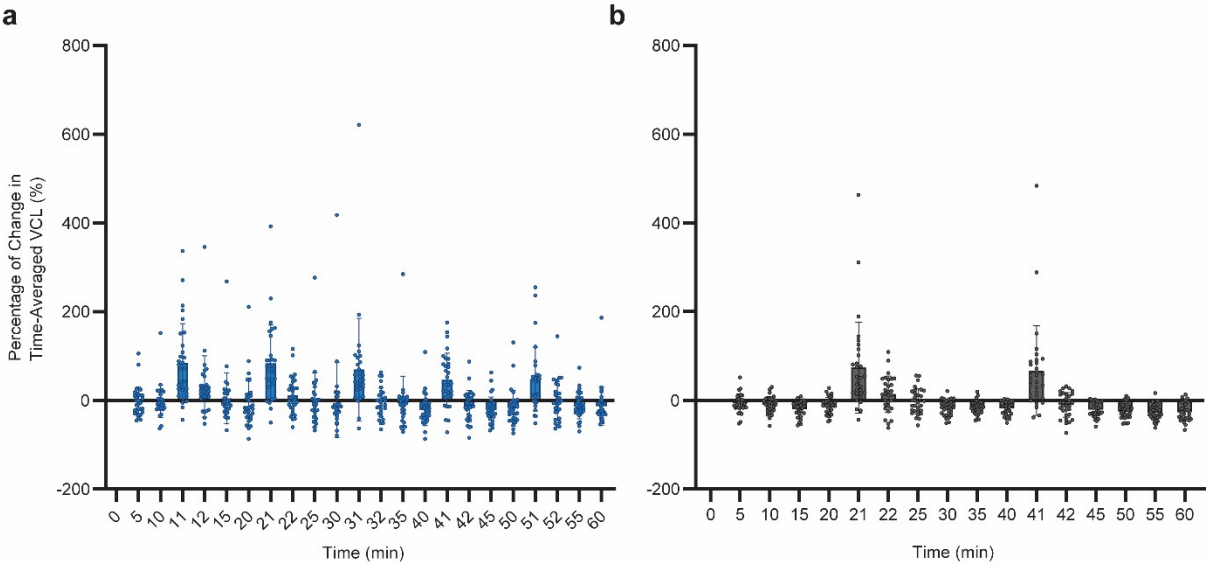

Figure S3. Percentage change in single sperm VCL with respect to corresponding single sperm initial VCL values. Sperm cells exposed to higher ultrasound exposure rates showed increased motility in a greater number of tracking periods. (**a**) Percentage change in single cell VCL for sperm cells exposed to pulsed ultrasound with the 10-minute repetition time and (**b**) percentage change in single cell VCL for sperm cells exposed to pulsed ultrasound with the 20-minute repetition time. Values are reported as mean ± s.d.

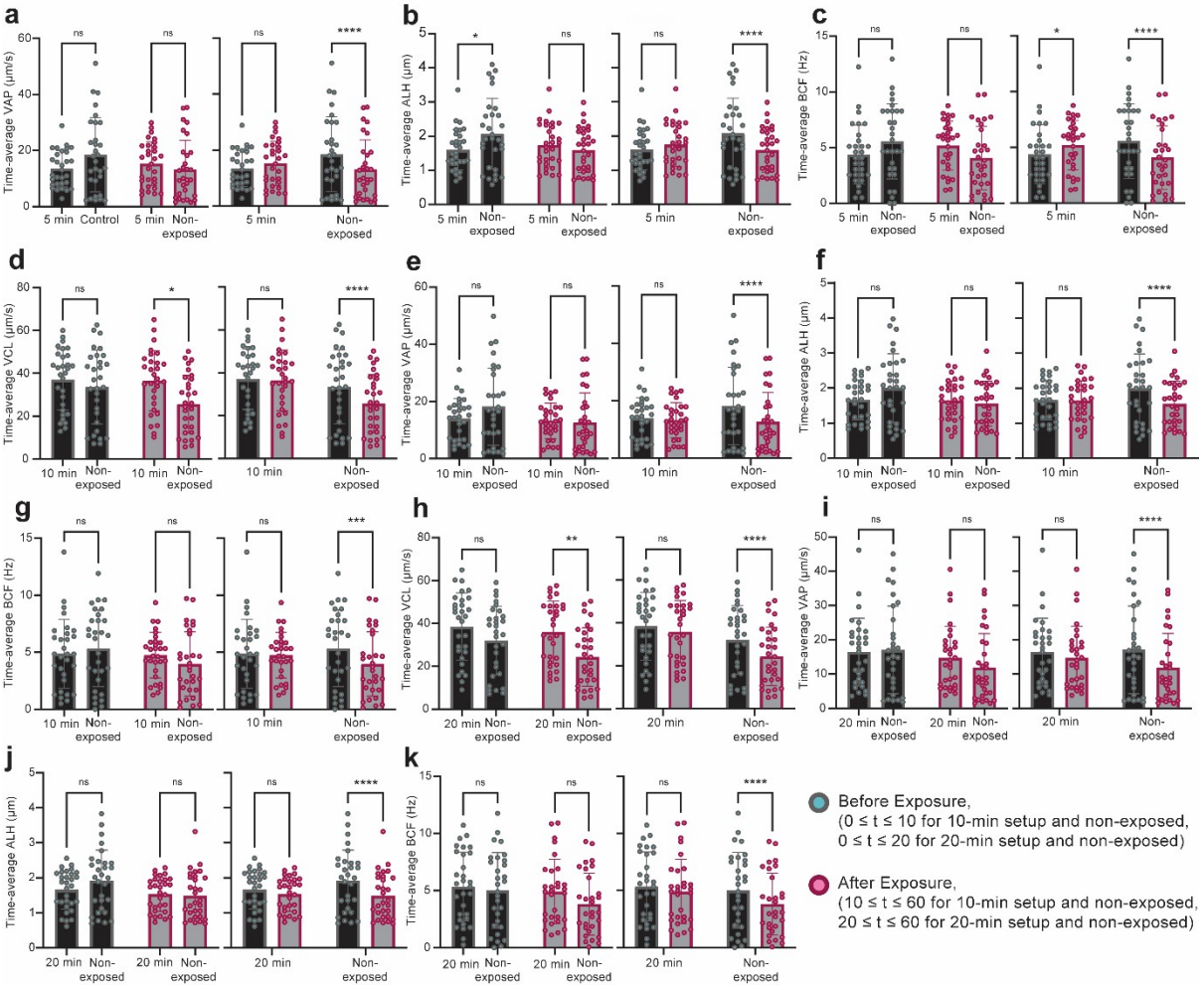

Figure S4. Comparison of time-average motility values between sperm exposed to pulsed ultrasound with 5-, 10-, and 20-minute repetition times and non-exposed sperm (n=30, at each category). Sperm cells exposed to higher ultrasound repetition rates showed a greater increase in average motility over the monitoring duration. Comparison of time-average (**a**) VAP, (**b**) ALH, and (**c**) BCF between sperm exposed to pulsed ultrasound with the 5-minute repetition time and non-exposed sperm. Comparison of time-average (**d**) VCL, (**e**) VAP, (**f**) ALH, (**g**) BCF between sperm exposed to pulsed ultrasound with the 10-minute repetition time and non-exposed sperm. Comparison of time-average (**h**) VCL, (**i**) VAP, (**j**) ALH, (**k**) BCF between sperm exposed to pulsed ultrasound with the 20-minute repetition time and non-exposed sperm. Values are reported as mean ± s.d. Statistical significance was determined using two-way ANOVA with Šídák's multiple comparisons test.

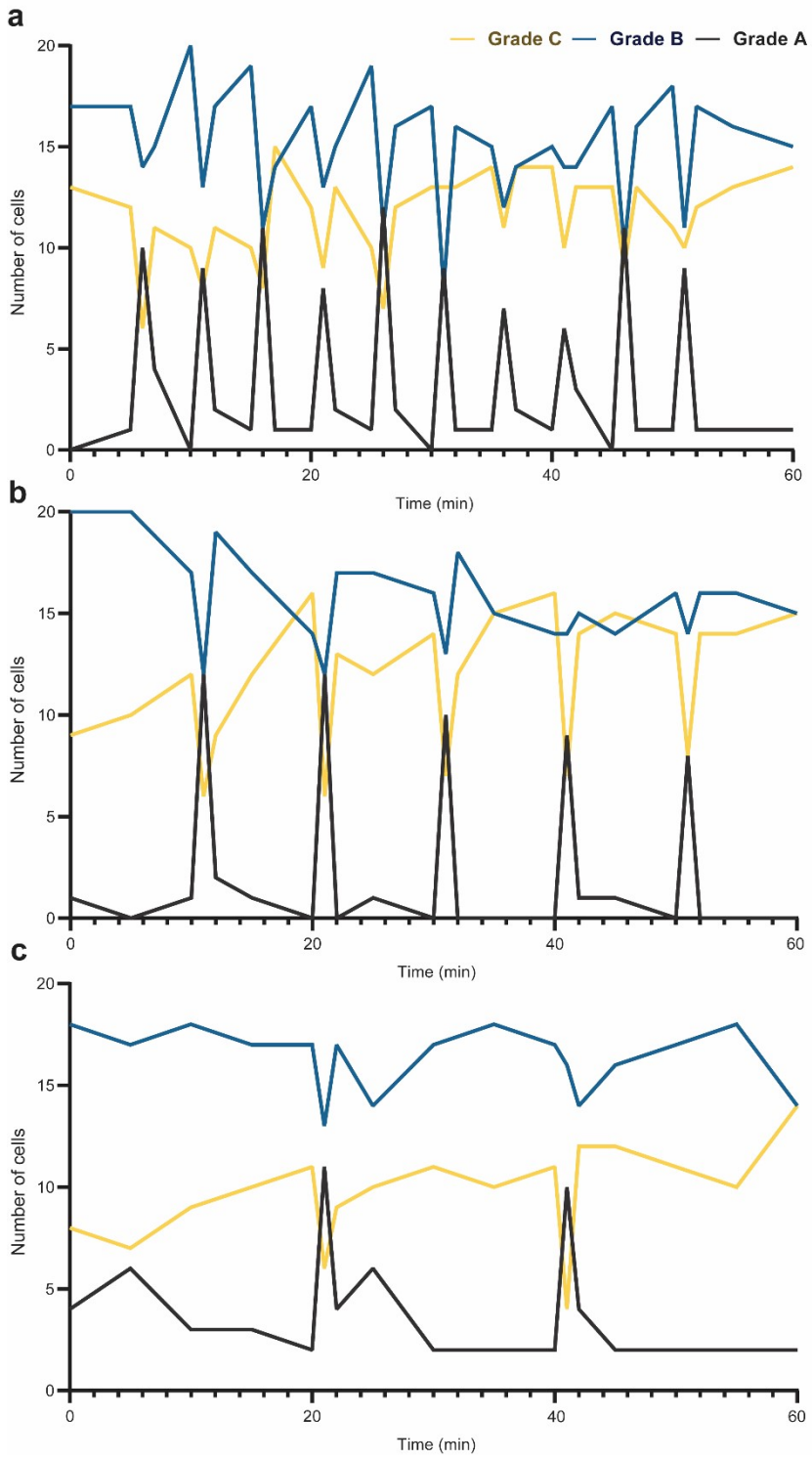

Figure S5. Variation of the number of sperm cells at Grade A, B, and C motility grades for (a) 5-, (b) 10-, and (c) 20-minute repetition time exposure setups. Higher ultrasound exposure rates were associated with better preservation of sperm grading throughout the monitoring period.

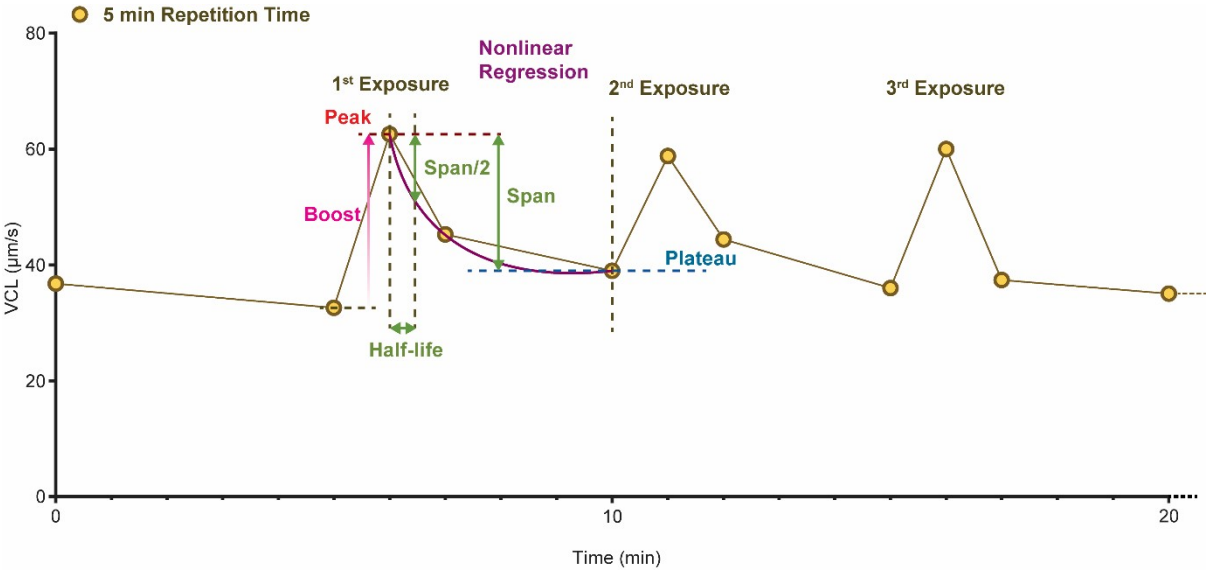

Figure S6. Schematic representation of parameters employed for characterizing ultrasound-induced motility enhancement. Boost is quantified as the percentage change in motility parameters following exposure relative to their respective pre-exposure values. Peak denotes the motility value immediately post-exposure. Plateau signifies the motility value reached after the settling period, defined by nonlinear regression analysis. Half-life represents the duration for the span (peak value minus plateau value) to decrease by half, as determined by nonlinear regression analysis.

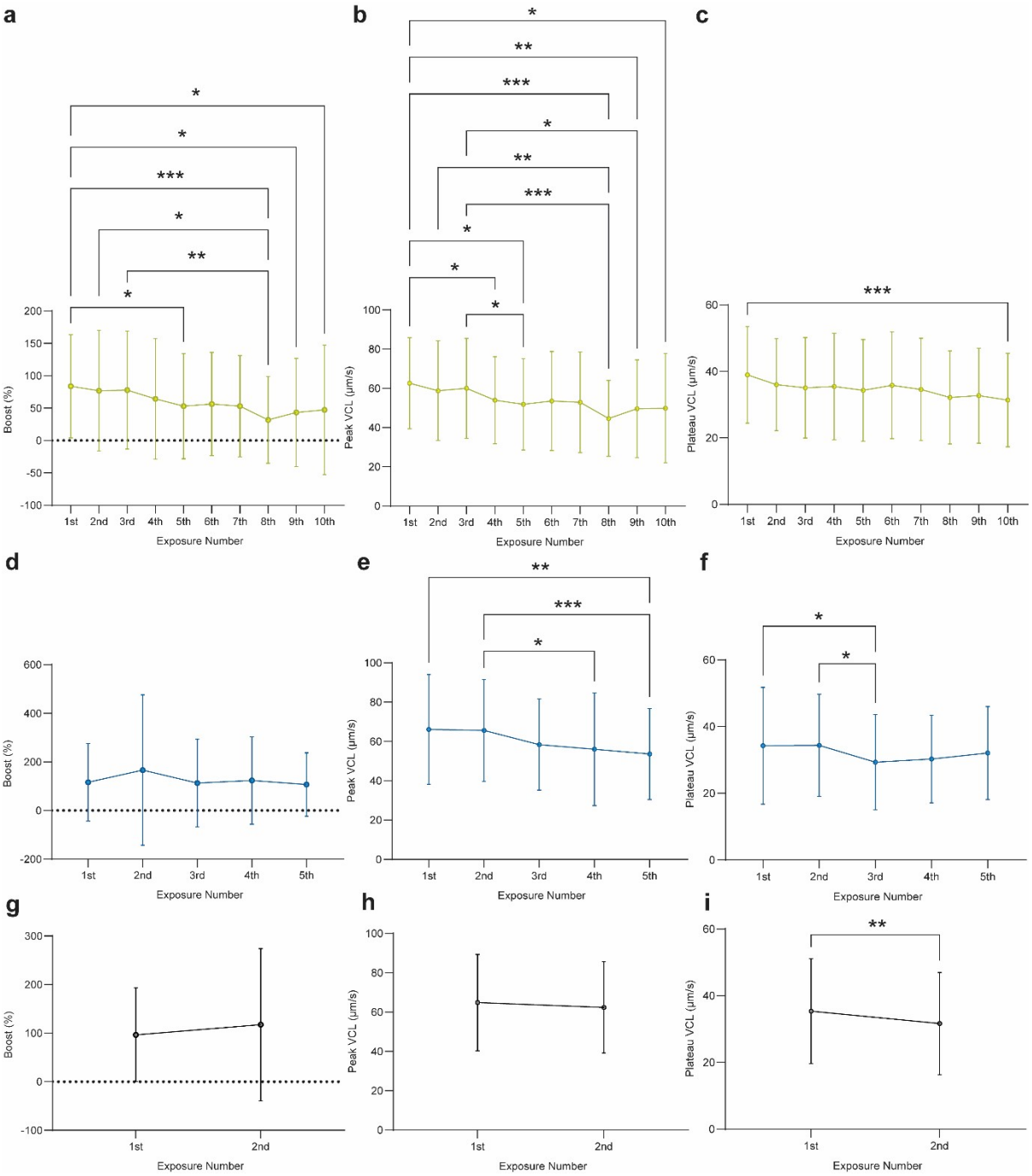

Figure S7. Statistical significance for temporal variations of boost, peak, and plateau values at each exposure period. Sperm cells exposed to 5-minute pulsed ultrasound exhibited lower average boost at the exposure tracking periods, with a decline over time. Boost, peak, and plateau values for sperm cells exposed to 5-minute (**a-c**), 10-minute (**d-f**), and 20-minute (**g-i**) repetition time pulsed ultrasound. Values are reported as mean ± s.d. Statistical significance was determined using one-way ANOVA matched values with Tukey's multiple comparisons test (* $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$, and **** $P \leq 0.0001$).

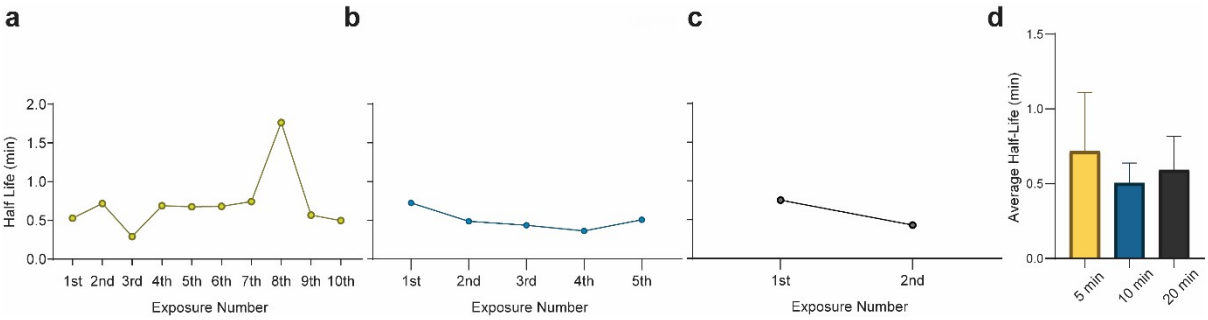

Figure S8. Half-life values obtained by applying nonlinear regression to average VCL profiles. Sperm cells in 5, 10, and 20-minute groups exhibited a 50% reduction in VCL boost 0.72, 0.50, and 0.59 minutes post-exposure, respectively. Half-life values of average VCL profile of sperm cells exposed to (**a**) 5-minute, (**b**) 10-minute, and (**c**) 20-minute repetition time pulsed ultrasound. (**d**) Average half-life values for each exposure setup. Values are reported as mean ± s.d.

Table S1. The statistical significance for comparison of VCL between different tracking periods for sperm cells exposed to 5-minute repetition time pulsed ultrasound (n=30, at each tracking period). Statistical significance was determined using ordinary one-way ANOVA matched values with Tukey's multiple-comparison test (* $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$, **** $P \leq 0.0001$, and ns denotes not significant).

Tukey's multiple comparisons test	Mean Diff.	95.00% CI of diff.	Below threshold?	Summary	Adjusted P Value
0 vs. 5	4.186	-4.422 to 12.79	No	ns	0.9565
0 vs. 6	-25.83	-39.47 to -12.20	Yes	****	<0.0001
0 vs. 7	-8.480	-22.01 to 5.049	No	ns	0.6963
0 vs. 10	-2.198	-12.11 to 7.714	No	ns	>0.9999
0 vs. 11	-22.04	-40.38 to -3.695	Yes	**	0.0068
0 vs. 12	-7.648	-16.78 to 1.487	No	ns	0.2021
0 vs. 15	0.7428	-9.196 to 10.68	No	ns	>0.9999
0 vs. 16	-23.24	-39.93 to -6.546	Yes	***	0.0009
0 vs. 17	-0.6414	-10.24 to 8.957	No	ns	>0.9999
0 vs. 20	1.698	-7.055 to 10.45	No	ns	>0.9999
0 vs. 21	-17.18	-34.10 to -0.2610	Yes	*	0.0433
0 vs. 22	-5.254	-16.92 to 6.417	No	ns	0.9811
0 vs. 25	1.310	-9.038 to 11.66	No	ns	>0.9999
0 vs. 26	-15.12	-31.83 to 1.585	No	ns	0.1167
0 vs. 27	-3.655	-16.00 to 8.685	No	ns	>0.9999
0 vs. 30	2.457	-7.361 to 12.28	No	ns	>0.9999
0 vs. 31	-16.77	-34.01 to 0.4687	No	ns	0.0643
0 vs. 32	-5.287	-19.57 to 8.996	No	ns	0.9986
0 vs. 35	0.9267	-9.090 to 10.94	No	ns	>0.9999
0 vs. 36	-16.08	-32.84 to 0.6785	No	ns	0.0725
0 vs. 37	-4.736	-16.61 to 7.137	No	ns	0.9959
0 vs. 40	2.178	-8.005 to 12.36	No	ns	>0.9999
0 vs. 41	-7.873	-22.42 to 6.675	No	ns	0.8861
0 vs. 42	-2.760	-12.88 to 7.356	No	ns	>0.9999
0 vs. 45	4.595	-8.367 to 17.56	No	ns	0.9993

0 vs. 46	-12.86	-29.66 to 3.937	No	ns	0.3370
0 vs. 47	-0.8591	-11.82 to 10.10	No	ns	>0.9999
0 vs. 50	4.050	-5.959 to 14.06	No	ns	0.9950
0 vs. 51	-13.14	-33.65 to 7.373	No	ns	0.6598
0 vs. 52	0.8320	-8.350 to 10.01	No	ns	>0.9999
0 vs. 55	5.390	-4.941 to 15.72	No	ns	0.9160
0 vs. 60	5.609	-3.257 to 14.48	No	ns	0.6808
5 vs. 6	-30.02	-42.93 to -17.11	Yes	****	<0.0001
5 vs. 7	-12.67	-29.86 to 4.530	No	ns	0.4146
5 vs. 10	-6.383	-13.47 to 0.6997	No	ns	0.1225
5 vs. 11	-26.22	-43.78 to -8.663	Yes	***	0.0003
5 vs. 12	-11.83	-20.90 to -2.772	Yes	**	0.0021
5 vs. 15	-3.443	-10.20 to 3.310	No	ns	0.9378
5 vs. 16	-27.42	-44.73 to -10.12	Yes	***	0.0001
5 vs. 17	-4.827	-16.83 to 7.177	No	ns	0.9962
5 vs. 20	-2.488	-10.00 to 5.028	No	ns	0.9998
5 vs. 21	-21.37	-36.79 to -5.939	Yes	***	0.0009
5 vs. 22	-9.440	-21.77 to 2.895	No	ns	0.3459
5 vs. 25	-2.875	-10.43 to 4.683	No	ns	0.9983
5 vs. 26	-19.31	-34.15 to -4.469	Yes	**	0.0022
5 vs. 27	-7.841	-17.77 to 2.087	No	ns	0.2930
5 vs. 30	-1.728	-10.46 to 7.002	No	ns	>0.9999
5 vs. 31	-20.96	-37.20 to -4.718	Yes	**	0.0025
5 vs. 32	-9.473	-22.00 to 3.056	No	ns	0.3671
5 vs. 35	-3.259	-10.44 to 3.918	No	ns	0.9817
5 vs. 36	-20.27	-37.69 to -2.843	Yes	**	0.0097
5 vs. 37	-8.921	-21.49 to 3.647	No	ns	0.4837
5 vs. 40	-2.007	-9.495 to 5.480	No	ns	>0.9999
5 vs. 41	-12.06	-24.78 to 0.6597	No	ns	0.0810
5 vs. 42	-6.945	-16.82 to 2.930	No	ns	0.5013
5 vs. 45	0.4093	-10.16 to 10.98	No	ns	>0.9999

5 vs. 46	-17.05	-33.36 to -0.7341	Yes	*	0.0323
5 vs. 47	-5.045	-17.65 to 7.558	No	ns	0.9964
5 vs. 50	-0.1351	-7.059 to 6.788	No	ns	>0.9999
5 vs. 51	-17.32	-36.99 to 2.340	No	ns	0.1453
5 vs. 52	-3.354	-13.71 to 7.000	No	ns	0.9999
5 vs. 55	1.205	-6.843 to 9.252	No	ns	>0.9999
5 vs. 60	1.424	-5.871 to 8.719	No	ns	>0.9999
6 vs. 7	17.35	-4.007 to 38.72	No	ns	0.2490
6 vs. 10	23.64	9.795 to 37.48	Yes	****	<0.0001
6 vs. 11	3.798	-7.105 to 14.70	No	ns	0.9996
6 vs. 12	18.19	4.942 to 31.43	Yes	**	0.0010
6 vs. 15	26.58	12.31 to 40.84	Yes	****	<0.0001
6 vs. 16	2.598	-7.684 to 12.88	No	ns	>0.9999
6 vs. 17	25.19	9.101 to 41.29	Yes	***	0.0001
6 vs. 20	27.53	14.54 to 40.53	Yes	****	<0.0001
6 vs. 21	8.655	-1.474 to 18.78	No	ns	0.1803
6 vs. 22	20.58	6.266 to 34.90	Yes	***	0.0005
6 vs. 25	27.15	12.01 to 42.28	Yes	****	<0.0001
6 vs. 26	10.71	-0.4323 to 21.85	No	ns	0.0719
6 vs. 27	22.18	7.984 to 36.38	Yes	***	0.0001
6 vs. 30	28.29	12.29 to 44.29	Yes	****	<0.0001
6 vs. 31	9.062	-4.186 to 22.31	No	ns	0.5535
6 vs. 32	20.55	6.828 to 34.27	Yes	***	0.0003
6 vs. 35	26.76	12.54 to 40.99	Yes	****	<0.0001
6 vs. 36	9.752	-3.749 to 23.25	No	ns	0.4508
6 vs. 37	21.10	2.753 to 39.45	Yes	*	0.0111
6 vs. 40	28.01	13.56 to 42.46	Yes	****	<0.0001
6 vs. 41	17.96	4.506 to 31.42	Yes	**	0.0016
6 vs. 42	23.08	8.973 to 37.18	Yes	****	<0.0001
6 vs. 45	30.43	13.27 to 47.59	Yes	****	<0.0001
6 vs. 46	12.98	0.1707 to 25.78	Yes	*	0.0440

6 vs. 47	24.98	11.53 to 38.42	Yes	****	<0.0001
6 vs. 50	29.89	15.33 to 44.44	Yes	****	<0.0001
6 vs. 51	12.70	-2.854 to 28.25	No	ns	0.2416
6 vs. 52	26.67	13.49 to 39.84	Yes	****	<0.0001
6 vs. 55	31.23	17.89 to 44.56	Yes	****	<0.0001
6 vs. 60	31.44	15.44 to 47.45	Yes	****	<0.0001
7 vs. 10	6.282	-10.87 to 23.43	No	ns	0.9991
7 vs. 11	-13.56	-38.70 to 11.59	No	ns	0.8979
7 vs. 12	0.8321	-15.25 to 16.92	No	ns	>0.9999
7 vs. 15	9.223	-7.136 to 25.58	No	ns	0.8545
7 vs. 16	-14.76	-38.03 to 8.518	No	ns	0.6900
7 vs. 17	7.839	-5.608 to 21.29	No	ns	0.8150
7 vs. 20	10.18	-4.845 to 25.20	No	ns	0.5716
7 vs. 21	-8.700	-32.17 to 14.77	No	ns	0.9989
7 vs. 22	3.226	-10.90 to 17.35	No	ns	>0.9999
7 vs. 25	9.790	-5.948 to 25.53	No	ns	0.7212
7 vs. 26	-6.644	-29.23 to 15.94	No	ns	>0.9999
7 vs. 27	4.825	-12.53 to 22.18	No	ns	>0.9999
7 vs. 30	10.94	-5.458 to 27.33	No	ns	0.6001
7 vs. 31	-8.293	-33.22 to 16.64	No	ns	0.9998
7 vs. 32	3.193	-17.68 to 24.07	No	ns	>0.9999
7 vs. 35	9.407	-6.227 to 25.04	No	ns	0.7719
7 vs. 36	-7.603	-31.57 to 16.36	No	ns	>0.9999
7 vs. 37	3.744	-10.17 to 17.66	No	ns	>0.9999
7 vs. 40	10.66	-4.912 to 26.23	No	ns	0.5522
7 vs. 41	0.6071	-20.45 to 21.66	No	ns	>0.9999
7 vs. 42	5.721	-10.66 to 22.11	No	ns	0.9996
7 vs. 45	13.08	-5.493 to 31.64	No	ns	0.4989
7 vs. 46	-4.380	-26.56 to 17.80	No	ns	>0.9999
7 vs. 47	7.621	-9.803 to 25.05	No	ns	0.9883
7 vs. 50	12.53	-4.640 to 29.70	No	ns	0.4317

7 vs. 51	-4.659	-30.79 to 21.47	No	ns	>0.9999
7 vs. 52	9.312	-7.658 to 26.28	No	ns	0.8820
7 vs. 55	13.87	-4.287 to 32.03	No	ns	0.3491
7 vs. 60	14.09	-1.122 to 29.30	No	ns	0.0985
10 vs. 11	-19.84	-37.50 to -2.182	Yes	*	0.0147
10 vs. 12	-5.450	-15.07 to 4.173	No	ns	0.8494
10 vs. 15	2.941	-3.853 to 9.735	No	ns	0.9898
10 vs. 16	-21.04	-38.57 to -3.509	Yes	**	0.0066
10 vs. 17	1.557	-8.275 to 11.39	No	ns	>0.9999
10 vs. 20	3.896	-3.432 to 11.22	No	ns	0.9093
10 vs. 21	-14.98	-30.56 to 0.5992	No	ns	0.0717
10 vs. 22	-3.056	-13.61 to 7.501	No	ns	>0.9999
10 vs. 25	3.508	-4.822 to 11.84	No	ns	0.9928
10 vs. 26	-12.93	-28.95 to 3.101	No	ns	0.2600
10 vs. 27	-1.457	-12.63 to 9.715	No	ns	>0.9999
10 vs. 30	4.655	-5.115 to 14.43	No	ns	0.9686
10 vs. 31	-14.57	-30.95 to 1.804	No	ns	0.1349
10 vs. 32	-3.089	-16.75 to 10.57	No	ns	>0.9999
10 vs. 35	3.125	-5.782 to 12.03	No	ns	0.9995
10 vs. 36	-13.88	-31.58 to 3.812	No	ns	0.3037
10 vs. 37	-2.538	-16.12 to 11.05	No	ns	>0.9999
10 vs. 40	4.376	-3.439 to 12.19	No	ns	0.8618
10 vs. 41	-5.675	-19.07 to 7.723	No	ns	0.9923
10 vs. 42	-0.5616	-11.87 to 10.75	No	ns	>0.9999
10 vs. 45	6.793	-3.498 to 17.08	No	ns	0.6195
10 vs. 46	-10.66	-26.52 to 5.194	No	ns	0.5855
10 vs. 47	1.339	-10.27 to 12.95	No	ns	>0.9999
10 vs. 50	6.248	-2.103 to 14.60	No	ns	0.3860
10 vs. 51	-10.94	-30.11 to 8.226	No	ns	0.8405
10 vs. 52	3.030	-7.048 to 13.11	No	ns	>0.9999
10 vs. 55	7.588	1.204 to 13.97	Yes	**	0.0074

10 vs. 60	7.807	-1.556 to 17.17	No	ns	0.2120
11 vs. 12	14.39	-2.988 to 31.77	No	ns	0.2216
11 vs. 15	22.78	4.660 to 40.90	Yes	**	0.0036
11 vs. 16	-1.201	-12.58 to 10.18	No	ns	>0.9999
11 vs. 17	21.40	1.673 to 41.12	Yes	*	0.0217
11 vs. 20	23.73	5.358 to 42.11	Yes	**	0.0025
11 vs. 21	4.856	-2.656 to 12.37	No	ns	0.6566
11 vs. 22	16.78	-0.3331 to 33.90	No	ns	0.0601
11 vs. 25	23.35	4.375 to 42.32	Yes	**	0.0048
11 vs. 26	6.913	-4.237 to 18.06	No	ns	0.7265
11 vs. 27	18.38	0.7134 to 36.05	Yes	*	0.0338
11 vs. 30	24.49	6.315 to 42.67	Yes	**	0.0014
11 vs. 31	5.264	-7.434 to 17.96	No	ns	0.9942
11 vs. 32	16.75	-1.488 to 34.99	No	ns	0.1055
11 vs. 35	22.96	4.769 to 41.16	Yes	**	0.0034
11 vs. 36	5.954	-6.420 to 18.33	No	ns	0.9651
11 vs. 37	17.30	-4.970 to 39.57	No	ns	0.3203
11 vs. 40	24.21	6.791 to 41.64	Yes	***	0.0009
11 vs. 41	14.16	0.01669 to 28.31	Yes	*	0.0494
11 vs. 42	19.28	1.567 to 36.99	Yes	*	0.0210
11 vs. 45	26.63	8.210 to 45.05	Yes	***	0.0005
11 vs. 46	9.177	-4.389 to 22.74	No	ns	0.5744
11 vs. 47	21.18	4.025 to 38.33	Yes	**	0.0046
11 vs. 50	26.09	8.655 to 43.52	Yes	***	0.0003
11 vs. 51	8.898	-5.314 to 23.11	No	ns	0.7108
11 vs. 52	22.87	5.899 to 39.84	Yes	**	0.0014
11 vs. 55	27.43	11.03 to 43.82	Yes	****	<0.0001
11 vs. 60	27.65	9.005 to 46.29	Yes	***	0.0003
12 vs. 15	8.391	-0.3352 to 17.12	No	ns	0.0716
12 vs. 16	-15.59	-29.65 to -1.527	Yes	*	0.0171
12 vs. 17	7.007	-4.358 to 18.37	No	ns	0.7353

12 vs. 20	9.346	0.9257 to 17.77	Yes	*	0.0169
12 vs. 21	-9.532	-25.17 to 6.105	No	ns	0.7527
12 vs. 22	2.394	-7.587 to 12.38	No	ns	>0.9999
12 vs. 25	8.958	0.3556 to 17.56	Yes	*	0.0335
12 vs. 26	-7.476	-21.04 to 6.088	No	ns	0.8778
12 vs. 27	3.993	-4.421 to 12.41	No	ns	0.9699
12 vs. 30	10.11	0.06951 to 20.14	Yes	*	0.0468
12 vs. 31	-9.125	-23.84 to 5.590	No	ns	0.7263
12 vs. 32	2.361	-8.266 to 12.99	No	ns	>0.9999
12 vs. 35	8.575	0.6202 to 16.53	Yes	*	0.0233
12 vs. 36	-8.435	-25.11 to 8.237	No	ns	0.9422
12 vs. 37	2.912	-7.551 to 13.38	No	ns	>0.9999
12 vs. 40	9.826	1.290 to 18.36	Yes	*	0.0110
12 vs. 41	-0.2251	-12.55 to 12.10	No	ns	>0.9999
12 vs. 42	4.889	-3.166 to 12.94	No	ns	0.7593
12 vs. 45	12.24	-0.4003 to 24.89	No	ns	0.0673
12 vs. 46	-5.212	-19.31 to 8.890	No	ns	0.9989
12 vs. 47	6.789	-2.414 to 15.99	No	ns	0.4117
12 vs. 50	11.70	3.469 to 19.93	Yes	***	0.0006
12 vs. 51	-5.491	-23.74 to 12.75	No	ns	>0.9999
12 vs. 52	8.480	0.3728 to 16.59	Yes	*	0.0320
12 vs. 55	13.04	3.061 to 23.02	Yes	**	0.0021
12 vs. 60	13.26	4.566 to 21.95	Yes	***	0.0002
15 vs. 16	-23.98	-40.38 to -7.583	Yes	***	0.0004
15 vs. 17	-1.384	-10.47 to 7.706	No	ns	>0.9999
15 vs. 20	0.9549	-5.185 to 7.094	No	ns	>0.9999
15 vs. 21	-17.92	-32.66 to -3.183	Yes	**	0.0056
15 vs. 22	-5.997	-16.91 to 4.920	No	ns	0.8810
15 vs. 25	0.5673	-8.050 to 9.185	No	ns	>0.9999
15 vs. 26	-15.87	-29.28 to -2.454	Yes	**	0.0079
15 vs. 27	-4.398	-15.05 to 6.250	No	ns	0.9945

15 vs. 30	1.714	-6.215 to 9.644	No	ns	>0.9999
15 vs. 31	-17.52	-32.03 to -2.997	Yes	**	0.0062
15 vs. 32	-6.030	-18.68 to 6.617	No	ns	0.9683
15 vs. 35	0.1839	-6.981 to 7.349	No	ns	>0.9999
15 vs. 36	-16.83	-32.77 to -0.8816	Yes	*	0.0292
15 vs. 37	-5.479	-17.58 to 6.627	No	ns	0.9824
15 vs. 40	1.435	-5.342 to 8.213	No	ns	>0.9999
15 vs. 41	-8.616	-21.26 to 4.025	No	ns	0.5602
15 vs. 42	-3.502	-14.96 to 7.957	No	ns	>0.9999
15 vs. 45	3.852	-6.168 to 13.87	No	ns	0.9980
15 vs. 46	-13.60	-28.15 to 0.9473	No	ns	0.0912
15 vs. 47	-1.602	-11.47 to 8.262	No	ns	>0.9999
15 vs. 50	3.308	-2.405 to 9.020	No	ns	0.8235
15 vs. 51	-13.88	-30.79 to 3.024	No	ns	0.2335
15 vs. 52	0.08914	-8.584 to 8.762	No	ns	>0.9999
15 vs. 55	4.647	-3.149 to 12.44	No	ns	0.7851
15 vs. 60	4.866	-3.550 to 13.28	No	ns	0.8252
16 vs. 17	22.60	4.734 to 40.46	Yes	**	0.0033
16 vs. 20	24.93	9.341 to 40.53	Yes	****	<0.0001
16 vs. 21	6.057	-4.748 to 16.86	No	ns	0.8607
16 vs. 22	17.98	2.298 to 33.67	Yes	*	0.0116
16 vs. 25	24.55	7.662 to 41.43	Yes	***	0.0004
16 vs. 26	8.113	-1.812 to 18.04	No	ns	0.2399
16 vs. 27	19.58	4.681 to 34.48	Yes	**	0.0019
16 vs. 30	25.69	8.256 to 43.13	Yes	***	0.0003
16 vs. 31	6.464	-4.769 to 17.70	No	ns	0.8310
16 vs. 32	17.95	3.636 to 32.26	Yes	**	0.0037
16 vs. 35	24.16	8.341 to 39.99	Yes	***	0.0002
16 vs. 36	7.154	-4.777 to 19.09	No	ns	0.7769
16 vs. 37	18.50	-0.9623 to 37.97	No	ns	0.0792
16 vs. 40	25.42	9.327 to 41.50	Yes	***	0.0001

16 vs. 41	15.36	3.063 to 27.66	Yes	**	0.0039
16 vs. 42	20.48	5.382 to 35.57	Yes	**	0.0012
16 vs. 45	27.83	9.483 to 46.18	Yes	***	0.0002
16 vs. 46	10.38	-0.8003 to 21.55	No	ns	0.0966
16 vs. 47	22.38	9.072 to 35.68	Yes	****	<0.0001
16 vs. 50	27.29	11.41 to 43.17	Yes	****	<0.0001
16 vs. 51	10.10	-2.363 to 22.56	No	ns	0.2527
16 vs. 52	24.07	9.366 to 38.77	Yes	****	<0.0001
16 vs. 55	28.63	12.96 to 44.30	Yes	****	<0.0001
16 vs. 60	28.85	10.97 to 46.72	Yes	****	<0.0001
17 vs. 20	2.339	-5.805 to 10.48	No	ns	>0.9999
17 vs. 21	-16.54	-34.52 to 1.445	No	ns	0.1044
17 vs. 22	-4.613	-16.76 to 7.531	No	ns	0.9983
17 vs. 25	1.951	-9.879 to 13.78	No	ns	>0.9999
17 vs. 26	-14.48	-31.39 to 2.421	No	ns	0.1771
17 vs. 27	-3.014	-15.06 to 9.033	No	ns	>0.9999
17 vs. 30	3.099	-8.659 to 14.86	No	ns	>0.9999
17 vs. 31	-16.13	-33.46 to 1.198	No	ns	0.0946
17 vs. 32	-4.646	-19.23 to 9.942	No	ns	>0.9999
17 vs. 35	1.568	-10.10 to 13.23	No	ns	>0.9999
17 vs. 36	-15.44	-33.91 to 3.027	No	ns	0.2083
17 vs. 37	-4.095	-17.73 to 9.545	No	ns	>0.9999
17 vs. 40	2.820	-7.133 to 12.77	No	ns	>0.9999
17 vs. 41	-7.232	-22.78 to 8.316	No	ns	0.9759
17 vs. 42	-2.118	-15.58 to 11.34	No	ns	>0.9999
17 vs. 45	5.236	-7.492 to 17.96	No	ns	0.9948
17 vs. 46	-12.22	-28.23 to 3.798	No	ns	0.3514
17 vs. 47	-0.2177	-12.29 to 11.86	No	ns	>0.9999
17 vs. 50	4.692	-6.883 to 16.27	No	ns	0.9957
17 vs. 51	-12.50	-31.18 to 6.190	No	ns	0.5955
17 vs. 52	1.473	-10.20 to 13.15	No	ns	>0.9999

17 vs. 55	6.031	-4.904 to 16.97	No	ns	0.8771
17 vs. 60	6.251	-5.884 to 18.39	No	ns	0.9316
20 vs. 21	-18.88	-34.66 to -3.092	Yes	**	0.0069
20 vs. 22	-6.952	-17.36 to 3.458	No	ns	0.5981
20 vs. 25	-0.3876	-8.415 to 7.639	No	ns	>0.9999
20 vs. 26	-16.82	-31.82 to -1.827	Yes	*	0.0149
20 vs. 27	-5.353	-15.26 to 4.552	No	ns	0.8958
20 vs. 30	0.7596	-8.954 to 10.47	No	ns	>0.9999
20 vs. 31	-18.47	-35.13 to -1.810	Yes	*	0.0171
20 vs. 32	-6.985	-17.66 to 3.690	No	ns	0.6351
20 vs. 35	-0.7710	-7.723 to 6.181	No	ns	>0.9999
20 vs. 36	-17.78	-35.08 to -0.4764	Yes	*	0.0384
20 vs. 37	-6.434	-17.91 to 5.046	No	ns	0.8609
20 vs. 40	0.4805	-6.970 to 7.931	No	ns	>0.9999
20 vs. 41	-9.571	-22.99 to 3.848	No	ns	0.4746
20 vs. 42	-4.457	-15.37 to 6.451	No	ns	0.9952
20 vs. 45	2.897	-8.486 to 14.28	No	ns	>0.9999
20 vs. 46	-14.56	-29.69 to 0.5779	No	ns	0.0715
20 vs. 47	-2.557	-12.01 to 6.896	No	ns	>0.9999
20 vs. 50	2.353	-5.297 to 10.00	No	ns	>0.9999
20 vs. 51	-14.84	-33.00 to 3.327	No	ns	0.2410
20 vs. 52	-0.8657	-9.243 to 7.512	No	ns	>0.9999
20 vs. 55	3.692	-4.513 to 11.90	No	ns	0.9835
20 vs. 60	3.912	-5.401 to 13.22	No	ns	0.9931
21 vs. 22	11.93	-3.854 to 27.71	No	ns	0.3679
21 vs. 25	18.49	1.315 to 35.67	Yes	*	0.0236
21 vs. 26	2.056	-6.017 to 10.13	No	ns	>0.9999
21 vs. 27	13.52	-3.039 to 30.09	No	ns	0.2416
21 vs. 30	19.64	3.684 to 35.59	Yes	**	0.0048
21 vs. 31	0.4074	-9.851 to 10.67	No	ns	>0.9999
21 vs. 32	11.89	-4.856 to 28.64	No	ns	0.4830

21 vs. 35	18.11	2.562 to 33.65	Yes	**	0.0096
21 vs. 36	1.097	-8.789 to 10.98	No	ns	>0.9999
21 vs. 37	12.44	-8.193 to 33.08	No	ns	0.7688
21 vs. 40	19.36	4.209 to 34.51	Yes	**	0.0029
21 vs. 41	9.307	-3.499 to 22.11	No	ns	0.4395
21 vs. 42	14.42	-2.549 to 31.39	No	ns	0.1872
21 vs. 45	21.78	5.204 to 38.35	Yes	**	0.0019
21 vs. 46	4.320	-6.654 to 15.30	No	ns	0.9972
21 vs. 47	16.32	1.682 to 30.96	Yes	*	0.0160
21 vs. 50	21.23	6.551 to 35.91	Yes	***	0.0005
21 vs. 51	4.041	-7.445 to 15.53	No	ns	0.9995
21 vs. 52	18.01	3.408 to 32.62	Yes	**	0.0046
21 vs. 55	22.57	8.616 to 36.53	Yes	****	<0.0001
21 vs. 60	22.79	5.750 to 39.83	Yes	**	0.0015
22 vs. 25	6.564	-4.245 to 17.37	No	ns	0.7584
22 vs. 26	-9.870	-24.78 to 5.039	No	ns	0.6142
22 vs. 27	1.599	-11.11 to 14.30	No	ns	>0.9999
22 vs. 30	7.711	-4.455 to 19.88	No	ns	0.6904
22 vs. 31	-11.52	-29.12 to 6.087	No	ns	0.6354
22 vs. 32	-0.03298	-13.43 to 13.37	No	ns	>0.9999
22 vs. 35	6.181	-2.877 to 15.24	No	ns	0.5581
22 vs. 36	-10.83	-28.13 to 6.475	No	ns	0.7115
22 vs. 37	0.5183	-9.526 to 10.56	No	ns	>0.9999
22 vs. 40	7.432	-2.731 to 17.60	No	ns	0.4279
22 vs. 41	-2.619	-17.25 to 12.01	No	ns	>0.9999
22 vs. 42	2.495	-8.274 to 13.26	No	ns	>0.9999
22 vs. 45	9.849	-3.395 to 23.09	No	ns	0.3971
22 vs. 46	-7.606	-22.78 to 7.572	No	ns	0.9473
22 vs. 47	4.395	-4.945 to 13.74	No	ns	0.9726
22 vs. 50	9.305	-1.446 to 20.05	No	ns	0.1650
22 vs. 51	-7.885	-25.90 to 10.13	No	ns	0.9883

22 vs. 52	6.086	-4.626 to 16.80	No	ns	0.8459
22 vs. 55	10.64	-0.7919 to 22.08	No	ns	0.0947
22 vs. 60	10.86	-0.3618 to 22.09	No	ns	0.0677
25 vs. 26	-16.43	-32.38 to -0.4833	Yes	*	0.0373
25 vs. 27	-4.965	-11.92 to 1.989	No	ns	0.4728
25 vs. 30	1.147	-9.585 to 11.88	No	ns	>0.9999
25 vs. 31	-18.08	-35.32 to -0.8507	Yes	*	0.0310
25 vs. 32	-6.597	-17.59 to 4.396	No	ns	0.7757
25 vs. 35	-0.3834	-6.611 to 5.844	No	ns	>0.9999
25 vs. 36	-17.39	-36.11 to 1.327	No	ns	0.0960
25 vs. 37	-6.046	-17.39 to 5.294	No	ns	0.9071
25 vs. 40	0.8681	-6.479 to 8.215	No	ns	>0.9999
25 vs. 41	-9.183	-22.96 to 4.598	No	ns	0.6022
25 vs. 42	-4.070	-12.90 to 4.758	No	ns	0.9782
25 vs. 45	3.285	-8.619 to 15.19	No	ns	>0.9999
25 vs. 46	-14.17	-30.49 to 2.146	No	ns	0.1610
25 vs. 47	-2.169	-13.95 to 9.607	No	ns	>0.9999
25 vs. 50	2.740	-3.993 to 9.474	No	ns	0.9955
25 vs. 51	-14.45	-35.35 to 6.456	No	ns	0.5340
25 vs. 52	-0.4782	-11.54 to 10.58	No	ns	>0.9999
25 vs. 55	4.080	-5.713 to 13.87	No	ns	0.9938
25 vs. 60	4.299	-2.523 to 11.12	No	ns	0.7002
26 vs. 27	11.47	-3.205 to 26.14	No	ns	0.3100
26 vs. 30	17.58	2.464 to 32.70	Yes	**	0.0097
26 vs. 31	-1.649	-10.52 to 7.223	No	ns	>0.9999
26 vs. 32	9.837	-3.992 to 23.67	No	ns	0.4797
26 vs. 35	16.05	2.084 to 30.02	Yes	*	0.0112
26 vs. 36	-0.9590	-11.85 to 9.934	No	ns	>0.9999
26 vs. 37	10.39	-7.951 to 28.73	No	ns	0.8493
26 vs. 40	17.30	3.417 to 31.19	Yes	**	0.0040
26 vs. 41	7.251	-4.289 to 18.79	No	ns	0.7049

26 vs. 42	12.36	-3.251 to 27.98	No	ns	0.2889
26 vs. 45	19.72	3.306 to 36.13	Yes	**	0.0065
26 vs. 46	2.264	-8.757 to 13.29	No	ns	>0.9999
26 vs. 47	14.26	0.3328 to 28.20	Yes	*	0.0397
26 vs. 50	19.17	5.967 to 32.38	Yes	***	0.0004
26 vs. 51	1.985	-7.708 to 11.68	No	ns	>0.9999
26 vs. 52	15.96	2.358 to 29.55	Yes	**	0.0087
26 vs. 55	20.51	5.654 to 35.37	Yes	***	0.0009
26 vs. 60	20.73	4.283 to 37.18	Yes	**	0.0035
27 vs. 30	6.113	-6.489 to 18.71	No	ns	0.9620
27 vs. 31	-13.12	-28.93 to 2.690	No	ns	0.2186
27 vs. 32	-1.632	-11.19 to 7.926	No	ns	>0.9999
27 vs. 35	4.582	-3.904 to 13.07	No	ns	0.8966
27 vs. 36	-12.43	-30.51 to 5.660	No	ns	0.5452
27 vs. 37	-1.081	-15.39 to 13.23	No	ns	>0.9999
27 vs. 40	5.834	-2.809 to 14.48	No	ns	0.5785
27 vs. 41	-4.218	-17.44 to 9.006	No	ns	>0.9999
27 vs. 42	0.8958	-8.376 to 10.17	No	ns	>0.9999
27 vs. 45	8.250	-4.337 to 20.84	No	ns	0.6322
27 vs. 46	-9.205	-23.97 to 5.564	No	ns	0.7181
27 vs. 47	2.796	-10.37 to 15.97	No	ns	>0.9999
27 vs. 50	7.706	-1.370 to 16.78	No	ns	0.1883
27 vs. 51	-9.484	-28.95 to 9.986	No	ns	0.9603
27 vs. 52	4.487	-8.198 to 17.17	No	ns	0.9995
27 vs. 55	9.045	-1.447 to 19.54	No	ns	0.1697
27 vs. 60	9.265	0.1176 to 18.41	Yes	*	0.0442
30 vs. 31	-19.23	-34.06 to -4.399	Yes	**	0.0023
30 vs. 32	-7.744	-23.29 to 7.802	No	ns	0.9503
30 vs. 35	-1.531	-10.09 to 7.025	No	ns	>0.9999
30 vs. 36	-18.54	-34.02 to -3.062	Yes	**	0.0068
30 vs. 37	-7.193	-18.62 to 4.232	No	ns	0.7017

30 vs. 40	-0.2791	-6.580 to 6.021	No	ns	>0.9999
30 vs. 41	-10.33	-22.30 to 1.636	No	ns	0.1681
30 vs. 42	-5.217	-15.19 to 4.753	No	ns	0.9211
30 vs. 45	2.138	-6.668 to 10.94	No	ns	>0.9999
30 vs. 46	-15.32	-31.47 to 0.8320	No	ns	0.0807
30 vs. 47	-3.316	-15.28 to 8.651	No	ns	>0.9999
30 vs. 50	1.593	-6.524 to 9.710	No	ns	>0.9999
30 vs. 51	-15.60	-33.31 to 2.118	No	ns	0.1460
30 vs. 52	-1.625	-9.053 to 5.803	No	ns	>0.9999
30 vs. 55	2.933	-4.786 to 10.65	No	ns	0.9983
30 vs. 60	3.152	-5.658 to 11.96	No	ns	0.9994
31 vs. 32	11.49	-4.118 to 27.09	No	ns	0.4158
31 vs. 35	17.70	1.825 to 33.57	Yes	*	0.0160
31 vs. 36	0.6900	-8.674 to 10.05	No	ns	>0.9999
31 vs. 37	12.04	-7.606 to 31.68	No	ns	0.7448
31 vs. 40	18.95	4.468 to 33.43	Yes	**	0.0021
31 vs. 41	8.900	-3.349 to 21.15	No	ns	0.4399
31 vs. 42	14.01	-1.671 to 29.70	No	ns	0.1309
31 vs. 45	21.37	4.581 to 38.15	Yes	**	0.0030
31 vs. 46	3.913	-6.447 to 14.27	No	ns	0.9985
31 vs. 47	15.91	1.520 to 30.31	Yes	*	0.0176
31 vs. 50	20.82	6.505 to 35.14	Yes	***	0.0004
31 vs. 51	3.634	-6.783 to 14.05	No	ns	0.9996
31 vs. 52	17.60	3.719 to 31.49	Yes	**	0.0032
31 vs. 55	22.16	8.223 to 36.10	Yes	****	<0.0001
31 vs. 60	22.38	5.045 to 39.72	Yes	**	0.0025
32 vs. 35	6.214	-3.843 to 16.27	No	ns	0.7320
32 vs. 36	-10.80	-29.31 to 7.717	No	ns	0.8145
32 vs. 37	0.5512	-13.89 to 14.99	No	ns	>0.9999
32 vs. 40	7.465	-4.249 to 19.18	No	ns	0.6813
32 vs. 41	-2.586	-16.80 to 11.63	No	ns	>0.9999

32 vs. 42	2.528	-10.13 to 15.19	No	ns	>0.9999
32 vs. 45	9.882	-5.534 to 25.30	No	ns	0.6713
32 vs. 46	-7.573	-21.80 to 6.657	No	ns	0.9085
32 vs. 47	4.428	-7.778 to 16.63	No	ns	0.9992
32 vs. 50	9.338	-1.585 to 20.26	No	ns	0.1798
32 vs. 51	-7.852	-25.79 to 10.08	No	ns	0.9882
32 vs. 52	6.119	-7.449 to 19.69	No	ns	0.9831
32 vs. 55	10.68	-2.443 to 23.80	No	ns	0.2465
32 vs. 60	10.90	-2.547 to 24.34	No	ns	0.2525
35 vs. 36	-17.01	-33.75 to -0.2725	Yes	*	0.0428
35 vs. 37	-5.663	-15.50 to 4.172	No	ns	0.8302
35 vs. 40	1.252	-3.844 to 6.347	No	ns	>0.9999
35 vs. 41	-8.800	-21.26 to 3.658	No	ns	0.4929
35 vs. 42	-3.686	-12.02 to 4.647	No	ns	0.9866
35 vs. 45	3.668	-6.387 to 13.72	No	ns	0.9991
35 vs. 46	-13.79	-28.92 to 1.342	No	ns	0.1123
35 vs. 47	-1.786	-11.63 to 8.058	No	ns	>0.9999
35 vs. 50	3.124	-2.069 to 8.317	No	ns	0.7723
35 vs. 51	-14.07	-31.84 to 3.710	No	ns	0.2899
35 vs. 52	-0.09472	-9.623 to 9.434	No	ns	>0.9999
35 vs. 55	4.463	-3.755 to 12.68	No	ns	0.8915
35 vs. 60	4.683	-2.801 to 12.17	No	ns	0.7117
36 vs. 37	11.35	-8.123 to 30.82	No	ns	0.8153
36 vs. 40	18.26	2.212 to 34.31	Yes	*	0.0126
36 vs. 41	8.210	-3.764 to 20.18	No	ns	0.5492
36 vs. 42	13.32	-3.992 to 30.64	No	ns	0.3365
36 vs. 45	20.68	3.865 to 37.49	Yes	**	0.0048
36 vs. 46	3.223	-6.954 to 13.40	No	ns	>0.9999
36 vs. 47	15.22	0.6676 to 29.78	Yes	*	0.0321
36 vs. 50	20.13	3.974 to 36.29	Yes	**	0.0040
36 vs. 51	2.944	-6.795 to 12.68	No	ns	>0.9999

36 vs. 52	16.91	2.456 to 31.37	Yes	**	0.0091
36 vs. 55	21.47	6.168 to 36.78	Yes	***	0.0007
36 vs. 60	21.69	3.752 to 39.63	Yes	**	0.0060
37 vs. 40	6.914	-3.984 to 17.81	No	ns	0.6889
37 vs. 41	-3.137	-19.17 to 12.90	No	ns	>0.9999
37 vs. 42	1.976	-9.070 to 13.02	No	ns	>0.9999
37 vs. 45	9.331	-5.601 to 24.26	No	ns	0.7139
37 vs. 46	-8.124	-26.49 to 10.24	No	ns	0.9866
37 vs. 47	3.877	-6.917 to 14.67	No	ns	0.9993
37 vs. 50	8.786	-3.328 to 20.90	No	ns	0.4432
37 vs. 51	-8.403	-29.74 to 12.94	No	ns	0.9972
37 vs. 52	5.568	-5.000 to 16.14	No	ns	0.9161
37 vs. 55	10.13	-4.003 to 24.26	No	ns	0.4657
37 vs. 60	10.35	-1.321 to 22.01	No	ns	0.1385
40 vs. 41	-10.05	-21.84 to 1.736	No	ns	0.1829
40 vs. 42	-4.938	-13.05 to 3.171	No	ns	0.7543
40 vs. 45	2.417	-5.873 to 10.71	No	ns	>0.9999
40 vs. 46	-15.04	-29.65 to -0.4254	Yes	*	0.0378
40 vs. 47	-3.037	-13.62 to 7.547	No	ns	>0.9999
40 vs. 50	1.872	-4.007 to 7.751	No	ns	>0.9999
40 vs. 51	-15.32	-32.49 to 1.857	No	ns	0.1326
40 vs. 52	-1.346	-9.633 to 6.940	No	ns	>0.9999
40 vs. 55	3.212	-3.073 to 9.497	No	ns	0.9364
40 vs. 60	3.431	-4.351 to 11.21	No	ns	0.9871
41 vs. 42	5.114	-8.224 to 18.45	No	ns	0.9981
41 vs. 45	12.47	1.741 to 23.20	Yes	**	0.0098
41 vs. 46	-4.987	-15.83 to 5.858	No	ns	0.9788
41 vs. 47	7.014	-6.794 to 20.82	No	ns	0.9400
41 vs. 50	11.92	-0.6564 to 24.50	No	ns	0.0812
41 vs. 51	-5.266	-18.54 to 8.008	No	ns	0.9968
41 vs. 52	8.705	-4.108 to 21.52	No	ns	0.5664

41 vs. 55	13.26	2.002 to 24.53	Yes	**	0.0083
41 vs. 60	13.48	-0.5730 to 27.54	No	ns	0.0732
42 vs. 45	7.354	-4.761 to 19.47	No	ns	0.7590
42 vs. 46	-10.10	-25.44 to 5.236	No	ns	0.6236
42 vs. 47	1.900	-10.38 to 14.18	No	ns	>0.9999
42 vs. 50	6.810	-2.280 to 15.90	No	ns	0.3836
42 vs. 51	-10.38	-30.23 to 9.472	No	ns	0.9216
42 vs. 52	3.592	-6.857 to 14.04	No	ns	0.9997
42 vs. 55	8.150	-1.535 to 17.83	No	ns	0.1998
42 vs. 60	8.369	-0.2117 to 16.95	No	ns	0.0631
45 vs. 46	-17.45	-32.42 to -2.492	Yes	**	0.0094
45 vs. 47	-5.454	-19.52 to 8.613	No	ns	0.9977
45 vs. 50	-0.5445	-10.50 to 9.407	No	ns	>0.9999
45 vs. 51	-17.73	-35.90 to 0.4288	No	ns	0.0625
45 vs. 52	-3.763	-15.97 to 8.440	No	ns	>0.9999
45 vs. 55	0.7952	-6.855 to 8.446	No	ns	>0.9999
45 vs. 60	1.014	-8.762 to 10.79	No	ns	>0.9999
46 vs. 47	12.00	-1.467 to 25.47	No	ns	0.1335
46 vs. 50	16.91	2.299 to 31.52	Yes	*	0.0103
46 vs. 51	-0.2790	-12.25 to 11.69	No	ns	>0.9999
46 vs. 52	13.69	-0.4608 to 27.84	No	ns	0.0679
46 vs. 55	18.25	4.713 to 31.79	Yes	**	0.0013
46 vs. 60	18.47	2.122 to 34.82	Yes	*	0.0137
47 vs. 50	4.910	-5.381 to 15.20	No	ns	0.9681
47 vs. 51	-12.28	-28.48 to 3.924	No	ns	0.3631
47 vs. 52	1.691	-6.280 to 9.662	No	ns	>0.9999
47 vs. 55	6.249	-5.203 to 17.70	No	ns	0.8872
47 vs. 60	6.468	-5.858 to 18.79	No	ns	0.9191
50 vs. 51	-17.19	-34.95 to 0.5670	No	ns	0.0675
50 vs. 52	-3.218	-12.62 to 6.178	No	ns	0.9997
50 vs. 55	1.340	-6.532 to 9.211	No	ns	>0.9999

50 vs. 60	1.559	-4.889 to 8.006	No	ns	>0.9999
51 vs. 52	13.97	-2.710 to 30.65	No	ns	0.2060
51 vs. 55	18.53	1.646 to 35.41	Yes	*	0.0191
51 vs. 60	18.75	-2.364 to 39.86	No	ns	0.1370
52 vs. 55	4.558	-4.857 to 13.97	No	ns	0.9628
52 vs. 60	4.777	-6.066 to 15.62	No	ns	0.9872
55 vs. 60	0.2192	-9.243 to 9.681	No	ns	>0.9999

Table S2. The statistical significance for comparison of VCL between different tracking periods for non-exposed sperm cells (n=30, at each tracking period). Statistical significance was determined using ordinary one-way ANOVA matched values with Tukey's multiple-comparison test (* $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$, **** $P \leq 0.0001$, and ns denotes not significant).

Tukey's multiple comparisons test	Mean Diff.	95.00% CI of diff.	Below threshold?	Summary	Adjusted P Value
0 vs. 5	4.131	-4.477 to 12.74	No	ns	0.8675
0 vs. 10	3.836	-2.533 to 10.21	No	ns	0.6193
0 vs. 15	4.843	-3.386 to 13.07	No	ns	0.6510
0 vs. 20	10.66	1.647 to 19.67	Yes	*	0.0102
0 vs. 25	8.513	0.7534 to 16.27	Yes	*	0.0219
0 vs. 30	11.64	1.850 to 21.43	Yes	**	0.0096
0 vs. 35	10.47	-0.1897 to 21.12	No	ns	0.0578
0 vs. 40	12.47	2.377 to 22.56	Yes	**	0.0063
0 vs. 45	12.80	2.300 to 23.30	Yes	**	0.0073
0 vs. 50	14.06	4.601 to 23.53	Yes	***	0.0006
0 vs. 55	14.45	3.299 to 25.60	Yes	**	0.0036
0 vs. 60	16.41	5.660 to 27.16	Yes	***	0.0004
5 vs. 10	-0.2947	-6.416 to 5.827	No	ns	>0.9999
5 vs. 15	0.7118	-5.703 to 7.127	No	ns	>0.9999
5 vs. 20	6.528	1.648 to 11.41	Yes	**	0.0024
5 vs. 25	4.382	-1.783 to 10.55	No	ns	0.3765
5 vs. 30	7.508	0.05269 to 14.96	Yes	*	0.0472
5 vs. 35	6.334	-3.251 to 15.92	No	ns	0.4841
5 vs. 40	8.336	0.2309 to 16.44	Yes	*	0.0395
5 vs. 45	8.668	-0.3679 to 17.70	No	ns	0.0695
5 vs. 50	9.933	2.436 to 17.43	Yes	**	0.0027
5 vs. 55	10.32	1.742 to 18.89	Yes	**	0.0085
5 vs. 60	12.28	3.785 to 20.77	Yes	***	0.0009
10 vs. 15	1.006	-4.000 to 6.013	No	ns	>0.9999
10 vs. 20	6.823	0.2223 to 13.42	Yes	*	0.0378
10 vs. 25	4.676	-1.530 to 10.88	No	ns	0.2957

10 vs. 30	7.802	-0.9974 to 16.60	No	ns	0.1213
10 vs. 35	6.629	-3.389 to 16.65	No	ns	0.4822
10 vs. 40	8.630	-0.4544 to 17.71	No	ns	0.0748
10 vs. 45	8.963	0.3023 to 17.62	Yes	*	0.0374
10 vs. 50	10.23	2.186 to 18.27	Yes	**	0.0045
10 vs. 55	10.61	2.244 to 18.98	Yes	**	0.0046
10 vs. 60	12.57	4.219 to 20.93	Yes	***	0.0005
15 vs. 20	5.816	-0.03055 to 11.66	No	ns	0.0522
15 vs. 25	3.670	-0.4386 to 7.778	No	ns	0.1155
15 vs. 30	6.796	-0.2702 to 13.86	No	ns	0.0681
15 vs. 35	5.622	-2.759 to 14.00	No	ns	0.4616
15 vs. 40	7.624	-0.2540 to 15.50	No	ns	0.0650
15 vs. 45	7.956	1.561 to 14.35	Yes	**	0.0058
15 vs. 50	9.221	3.079 to 15.36	Yes	***	0.0005
15 vs. 55	9.606	3.107 to 16.10	Yes	***	0.0006
15 vs. 60	11.57	4.991 to 18.15	Yes	****	<0.0001
20 vs. 25	-2.146	-6.446 to 2.153	No	ns	0.8357
20 vs. 30	0.9797	-5.431 to 7.391	No	ns	>0.9999
20 vs. 35	-0.1937	-9.632 to 9.245	No	ns	>0.9999
20 vs. 40	1.808	-5.507 to 9.122	No	ns	0.9993
20 vs. 45	2.140	-5.323 to 9.603	No	ns	0.9972
20 vs. 50	3.405	-2.530 to 9.340	No	ns	0.6848
20 vs. 55	3.790	-3.501 to 11.08	No	ns	0.7981
20 vs. 60	5.752	-0.2752 to 11.78	No	ns	0.0723
25 vs. 30	3.126	-2.092 to 8.344	No	ns	0.6268
25 vs. 35	1.953	-5.144 to 9.049	No	ns	0.9981
25 vs. 40	3.954	-1.727 to 9.635	No	ns	0.4071
25 vs. 45	4.287	-1.072 to 9.645	No	ns	0.2214
25 vs. 50	5.551	0.9382 to 10.16	Yes	**	0.0084
25 vs. 55	5.936	0.2033 to 11.67	Yes	*	0.0372
25 vs. 60	7.898	1.999 to 13.80	Yes	**	0.0024

30 vs. 35	-1.173	-7.281 to 4.934	No	ns	>0.9999
30 vs. 40	0.8280	-5.183 to 6.839	No	ns	>0.9999
30 vs. 45	1.160	-5.072 to 7.392	No	ns	>0.9999
30 vs. 50	2.425	-3.434 to 8.284	No	ns	0.9471
30 vs. 55	2.810	-4.251 to 9.871	No	ns	0.9597
30 vs. 60	4.772	-3.296 to 12.84	No	ns	0.6443
35 vs. 40	2.001	-3.914 to 7.917	No	ns	0.9883
35 vs. 45	2.334	-3.312 to 7.979	No	ns	0.9475
35 vs. 50	3.598	-2.736 to 9.933	No	ns	0.6974
35 vs. 55	3.984	-3.486 to 11.45	No	ns	0.7714
35 vs. 60	5.946	-3.032 to 14.92	No	ns	0.4808
40 vs. 45	0.3325	-5.278 to 5.943	No	ns	>0.9999
40 vs. 50	1.597	-3.127 to 6.321	No	ns	0.9884
40 vs. 55	1.982	-3.635 to 7.599	No	ns	0.9836
40 vs. 60	3.944	-2.864 to 10.75	No	ns	0.6721
45 vs. 50	1.265	-3.037 to 5.566	No	ns	0.9965
45 vs. 55	1.650	-2.529 to 5.828	No	ns	0.9619
45 vs. 60	3.612	-1.910 to 9.133	No	ns	0.4993
50 vs. 55	0.3851	-3.874 to 4.644	No	ns	>0.9999
50 vs. 60	2.347	-2.356 to 7.051	No	ns	0.8360
55 vs. 60	1.962	-2.743 to 6.667	No	ns	0.9443

Table S3. The statistical significance for comparison of VCL between different tracking periods for sperm cells exposed to 10-minute repetition time pulsed ultrasound (n=30, at each tracking period). Statistical significance was determined using ordinary one-way ANOVA matched values with Tukey's multiple-comparison test (* $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$, **** $P \leq 0.0001$, and ns denotes not significant).

Tukey's multiple comparisons test	Mean Diff.	95.00% CI of diff.	Below threshold?	Summary	Adjusted P Value
0 vs. 5	2.918	-3.860 to 9.697	No	ns	0.9782
0 vs. 10	2.548	-3.706 to 8.802	No	ns	0.9877
0 vs. 11	-27.02	-45.09 to -8.950	Yes	***	0.0003
0 vs. 12	-7.853	-17.51 to 1.808	No	ns	0.2314
0 vs. 15	0.9461	-7.295 to 9.187	No	ns	>0.9999
0 vs. 20	4.866	-6.484 to 16.22	No	ns	0.9791
0 vs. 21	-26.52	-43.23 to -9.809	Yes	***	0.0001
0 vs. 22	-3.617	-14.43 to 7.199	No	ns	0.9989
0 vs. 25	2.178	-7.604 to 11.96	No	ns	>0.9999
0 vs. 30	4.730	-6.032 to 15.49	No	ns	0.9733
0 vs. 31	-19.29	-34.39 to -4.180	Yes	**	0.0033
0 vs. 32	2.064	-6.914 to 11.04	No	ns	>0.9999
0 vs. 35	4.928	-6.676 to 16.53	No	ns	0.9810
0 vs. 40	9.817	0.9677 to 18.67	Yes	*	0.0179
0 vs. 41	-16.93	-33.38 to -0.4722	Yes	*	0.0384
0 vs. 42	4.830	-4.245 to 13.91	No	ns	0.8676
0 vs. 45	8.343	0.1975 to 16.49	Yes	*	0.0401
0 vs. 50	8.849	0.1113 to 17.59	Yes	*	0.0445
0 vs. 51	-14.48	-29.10 to 0.1415	No	ns	0.0546
0 vs. 52	1.185	-9.020 to 11.39	No	ns	>0.9999
0 vs. 55	5.815	-2.415 to 14.05	No	ns	0.4529
0 vs. 60	7.040	-0.7824 to 14.86	No	ns	0.1187
5 vs. 10	-0.3700	-6.533 to 5.793	No	ns	>0.9999
5 vs. 11	-29.94	-49.66 to -10.22	Yes	***	0.0003
5 vs. 12	-10.77	-19.48 to -2.059	Yes	**	0.0050

5 vs. 15	-1.972	-9.050 to 5.105	No	ns	>0.9999
5 vs. 20	1.948	-7.513 to 11.41	No	ns	>0.9999
5 vs. 21	-29.44	-47.55 to -11.33	Yes	****	<0.0001
5 vs. 22	-6.535	-17.47 to 4.398	No	ns	0.7300
5 vs. 25	-0.7409	-11.06 to 9.577	No	ns	>0.9999
5 vs. 30	1.811	-7.505 to 11.13	No	ns	>0.9999
5 vs. 31	-22.20	-37.98 to -6.432	Yes	***	0.0009
5 vs. 32	-0.8544	-10.35 to 8.642	No	ns	>0.9999
5 vs. 35	2.009	-7.914 to 11.93	No	ns	>0.9999
5 vs. 40	6.899	-0.7033 to 14.50	No	ns	0.1116
5 vs. 41	-19.85	-37.13 to -2.563	Yes	*	0.0122
5 vs. 42	1.912	-7.347 to 11.17	No	ns	>0.9999
5 vs. 45	5.425	-2.389 to 13.24	No	ns	0.4836
5 vs. 50	5.931	-2.964 to 14.82	No	ns	0.5539
5 vs. 51	-17.40	-34.19 to -0.6091	Yes	*	0.0358
5 vs. 52	-1.734	-12.52 to 9.057	No	ns	>0.9999
5 vs. 55	2.897	-6.028 to 11.82	No	ns	0.9993
5 vs. 60	4.121	-3.665 to 11.91	No	ns	0.8726
10 vs. 11	-29.57	-49.98 to -9.154	Yes	***	0.0006
10 vs. 12	-10.40	-18.73 to -2.071	Yes	**	0.0045
10 vs. 15	-1.602	-6.656 to 3.452	No	ns	0.9995
10 vs. 20	2.318	-5.126 to 9.762	No	ns	0.9996
10 vs. 21	-29.07	-47.88 to -10.25	Yes	***	0.0002
10 vs. 22	-6.165	-15.10 to 2.767	No	ns	0.4937
10 vs. 25	-0.3709	-7.655 to 6.914	No	ns	>0.9999
10 vs. 30	2.181	-5.962 to 10.32	No	ns	>0.9999
10 vs. 31	-21.83	-38.12 to -5.552	Yes	**	0.0017
10 vs. 32	-0.4844	-8.392 to 7.423	No	ns	>0.9999
10 vs. 35	2.379	-7.426 to 12.18	No	ns	>0.9999
10 vs. 40	7.269	0.3309 to 14.21	Yes	*	0.0322
10 vs. 41	-19.48	-37.05 to -1.903	Yes	*	0.0181

10 vs. 42	2.282	-6.053 to 10.62	No	ns	>0.9999
10 vs. 45	5.795	-1.724 to 13.31	No	ns	0.3087
10 vs. 50	6.301	-2.095 to 14.70	No	ns	0.3510
10 vs. 51	-17.03	-33.73 to -0.3290	Yes	*	0.0418
10 vs. 52	-1.364	-10.22 to 7.493	No	ns	>0.9999
10 vs. 55	3.267	-4.277 to 10.81	No	ns	0.9769
10 vs. 60	4.491	-1.740 to 10.72	No	ns	0.4185
11 vs. 12	19.17	-2.470 to 40.80	No	ns	0.1330
11 vs. 15	27.97	7.493 to 48.44	Yes	**	0.0013
11 vs. 20	31.89	10.89 to 52.89	Yes	***	0.0003
11 vs. 21	0.5007	-8.366 to 9.368	No	ns	>0.9999
11 vs. 22	23.40	1.492 to 45.31	Yes	*	0.0266
11 vs. 25	29.20	7.459 to 50.94	Yes	**	0.0017
11 vs. 30	31.75	10.36 to 53.14	Yes	***	0.0004
11 vs. 31	7.734	-5.719 to 21.19	No	ns	0.7828
11 vs. 32	29.08	8.426 to 49.74	Yes	***	0.0009
11 vs. 35	31.95	8.549 to 55.35	Yes	**	0.0013
11 vs. 40	36.84	16.98 to 56.69	Yes	****	<0.0001
11 vs. 41	10.09	-6.323 to 26.51	No	ns	0.6879
11 vs. 42	31.85	10.87 to 52.83	Yes	***	0.0003
11 vs. 45	35.36	14.66 to 56.07	Yes	****	<0.0001
11 vs. 50	35.87	16.46 to 55.28	Yes	****	<0.0001
11 vs. 51	12.54	-0.1169 to 25.20	No	ns	0.0543
11 vs. 52	28.20	3.996 to 52.41	Yes	*	0.0103
11 vs. 55	32.84	13.17 to 52.50	Yes	****	<0.0001
11 vs. 60	34.06	14.07 to 54.05	Yes	****	<0.0001
12 vs. 15	8.799	0.5170 to 17.08	Yes	*	0.0280
12 vs. 20	12.72	3.021 to 22.42	Yes	**	0.0023
12 vs. 21	-18.67	-38.07 to 0.7415	No	ns	0.0703
12 vs. 22	4.237	-6.246 to 14.72	No	ns	0.9888
12 vs. 25	10.03	2.810 to 17.25	Yes	**	0.0010

12 vs. 30	12.58	5.211 to 19.96	Yes	****	<0.0001
12 vs. 31	-11.43	-27.73 to 4.870	No	ns	0.4660
12 vs. 32	9.917	-0.2189 to 20.05	No	ns	0.0607
12 vs. 35	12.78	1.833 to 23.73	Yes	*	0.0101
12 vs. 40	17.67	9.115 to 26.23	Yes	****	<0.0001
12 vs. 41	-9.074	-25.85 to 7.705	No	ns	0.8523
12 vs. 42	12.68	2.584 to 22.78	Yes	**	0.0041
12 vs. 45	16.20	7.960 to 24.43	Yes	****	<0.0001
12 vs. 50	16.70	7.596 to 25.81	Yes	****	<0.0001
12 vs. 51	-6.626	-23.59 to 10.34	No	ns	0.9923
12 vs. 52	9.038	0.2922 to 17.78	Yes	*	0.0368
12 vs. 55	13.67	5.363 to 21.97	Yes	****	<0.0001
12 vs. 60	14.89	7.136 to 22.65	Yes	****	<0.0001
15 vs. 20	3.920	-2.753 to 10.59	No	ns	0.7543
15 vs. 21	-27.47	-46.03 to -8.904	Yes	***	0.0004
15 vs. 22	-4.563	-13.48 to 4.352	No	ns	0.9004
15 vs. 25	1.231	-6.304 to 8.767	No	ns	>0.9999
15 vs. 30	3.784	-3.048 to 10.62	No	ns	0.8273
15 vs. 31	-20.23	-36.83 to -3.629	Yes	**	0.0060
15 vs. 32	1.118	-8.360 to 10.60	No	ns	>0.9999
15 vs. 35	3.982	-5.858 to 13.82	No	ns	0.9886
15 vs. 40	8.871	1.664 to 16.08	Yes	**	0.0053
15 vs. 41	-17.87	-36.18 to 0.4354	No	ns	0.0619
15 vs. 42	3.884	-4.962 to 12.73	No	ns	0.9735
15 vs. 45	7.397	-1.778 to 16.57	No	ns	0.2427
15 vs. 50	7.903	-0.4186 to 16.22	No	ns	0.0781
15 vs. 51	-15.43	-32.73 to 1.875	No	ns	0.1270
15 vs. 52	0.2385	-8.384 to 8.861	No	ns	>0.9999
15 vs. 55	4.869	-2.942 to 12.68	No	ns	0.6664
15 vs. 60	6.094	-0.1880 to 12.38	No	ns	0.0653
20 vs. 21	-31.39	-50.32 to -12.45	Yes	****	<0.0001

20 vs. 22	-8.483	-18.28 to 1.317	No	ns	0.1561
20 vs. 25	-2.689	-11.64 to 6.262	No	ns	0.9998
20 vs. 30	-0.1368	-6.997 to 6.723	No	ns	>0.9999
20 vs. 31	-24.15	-40.44 to -7.862	Yes	***	0.0004
20 vs. 32	-2.802	-13.66 to 8.051	No	ns	>0.9999
20 vs. 35	0.06130	-9.285 to 9.408	No	ns	>0.9999
20 vs. 40	4.951	-0.8432 to 10.74	No	ns	0.1702
20 vs. 41	-21.79	-39.50 to -4.086	Yes	**	0.0053
20 vs. 42	-0.03604	-10.27 to 10.20	No	ns	>0.9999
20 vs. 45	3.477	-6.777 to 13.73	No	ns	0.9987
20 vs. 50	3.983	-5.457 to 13.42	No	ns	0.9823
20 vs. 51	-19.35	-36.97 to -1.718	Yes	*	0.0201
20 vs. 52	-3.682	-15.10 to 7.739	No	ns	0.9993
20 vs. 55	0.9488	-7.241 to 9.139	No	ns	>0.9999
20 vs. 60	2.173	-5.805 to 10.15	No	ns	>0.9999
21 vs. 22	22.90	1.692 to 44.11	Yes	*	0.0238
21 vs. 25	28.70	9.053 to 48.34	Yes	***	0.0005
21 vs. 30	31.25	11.71 to 50.79	Yes	***	0.0001
21 vs. 31	7.234	-4.693 to 19.16	No	ns	0.7085
21 vs. 32	28.58	9.807 to 47.36	Yes	***	0.0003
21 vs. 35	31.45	9.452 to 53.44	Yes	***	0.0007
21 vs. 40	36.34	18.50 to 54.18	Yes	****	<0.0001
21 vs. 41	9.592	-2.960 to 22.14	No	ns	0.3219
21 vs. 42	31.35	12.58 to 50.12	Yes	****	<0.0001
21 vs. 45	34.86	16.98 to 52.75	Yes	****	<0.0001
21 vs. 50	35.37	18.82 to 51.92	Yes	****	<0.0001
21 vs. 51	12.04	2.381 to 21.70	Yes	**	0.0045
21 vs. 52	27.70	6.278 to 49.13	Yes	**	0.0028
21 vs. 55	32.33	15.31 to 49.36	Yes	****	<0.0001
21 vs. 60	33.56	15.54 to 51.58	Yes	****	<0.0001
22 vs. 25	5.794	-4.146 to 15.73	No	ns	0.7648

22 vs. 30	8.346	-2.399 to 19.09	No	ns	0.2966
22 vs. 31	-15.67	-34.57 to 3.236	No	ns	0.2063
22 vs. 32	5.681	-3.711 to 15.07	No	ns	0.7126
22 vs. 35	8.544	-2.463 to 19.55	No	ns	0.2976
22 vs. 40	13.43	3.639 to 23.23	Yes	**	0.0013
22 vs. 41	-13.31	-32.05 to 5.430	No	ns	0.4438
22 vs. 42	8.447	-0.8012 to 17.70	No	ns	0.1063
22 vs. 45	11.96	0.7475 to 23.17	Yes	*	0.0269
22 vs. 50	12.47	-0.3228 to 25.25	No	ns	0.0627
22 vs. 51	-10.86	-29.70 to 7.974	No	ns	0.7789
22 vs. 52	4.801	-5.193 to 14.80	No	ns	0.9399
22 vs. 55	9.432	-0.6789 to 19.54	No	ns	0.0902
22 vs. 60	10.66	0.5660 to 20.75	Yes	*	0.0298
25 vs. 30	2.552	-4.156 to 9.260	No	ns	0.9943
25 vs. 31	-21.46	-38.35 to -4.572	Yes	**	0.0036
25 vs. 32	-0.1135	-9.179 to 8.952	No	ns	>0.9999
25 vs. 35	2.750	-7.262 to 12.76	No	ns	>0.9999
25 vs. 40	7.640	-0.1484 to 15.43	No	ns	0.0593
25 vs. 41	-19.10	-36.81 to -1.396	Yes	*	0.0240
25 vs. 42	2.653	-6.547 to 11.85	No	ns	0.9999
25 vs. 45	6.165	-1.349 to 13.68	No	ns	0.2192
25 vs. 50	6.672	-0.3326 to 13.68	No	ns	0.0762
25 vs. 51	-16.66	-33.03 to -0.2788	Yes	*	0.0428
25 vs. 52	-0.9930	-8.996 to 7.010	No	ns	>0.9999
25 vs. 55	3.638	-2.286 to 9.561	No	ns	0.6898
25 vs. 60	4.862	-0.5200 to 10.24	No	ns	0.1154
30 vs. 31	-24.02	-40.02 to -8.006	Yes	***	0.0003
30 vs. 32	-2.666	-12.81 to 7.479	No	ns	>0.9999
30 vs. 35	0.1981	-9.732 to 10.13	No	ns	>0.9999
30 vs. 40	5.088	-1.588 to 11.76	No	ns	0.3261
30 vs. 41	-21.66	-40.61 to -2.706	Yes	*	0.0129

30 vs. 42	0.1007	-9.876 to 10.08	No	ns	>0.9999
30 vs. 45	3.613	-6.055 to 13.28	No	ns	0.9954
30 vs. 50	4.119	-3.683 to 11.92	No	ns	0.8749
30 vs. 51	-19.21	-36.91 to -1.507	Yes	*	0.0226
30 vs. 52	-3.545	-13.44 to 6.350	No	ns	0.9973
30 vs. 55	1.086	-6.576 to 8.747	No	ns	>0.9999
30 vs. 60	2.310	-4.182 to 8.802	No	ns	0.9975
31 vs. 32	21.35	5.131 to 37.57	Yes	**	0.0022
31 vs. 35	24.21	4.936 to 43.49	Yes	**	0.0041
31 vs. 40	29.10	13.92 to 44.29	Yes	****	<0.0001
31 vs. 41	2.358	-10.27 to 14.99	No	ns	>0.9999
31 vs. 42	24.12	6.563 to 41.67	Yes	**	0.0012
31 vs. 45	27.63	11.15 to 44.11	Yes	****	<0.0001
31 vs. 50	28.13	13.27 to 43.00	Yes	****	<0.0001
31 vs. 51	4.806	-6.200 to 15.81	No	ns	0.9749
31 vs. 52	20.47	1.712 to 39.23	Yes	*	0.0213
31 vs. 55	25.10	9.918 to 40.28	Yes	****	<0.0001
31 vs. 60	26.33	11.71 to 40.94	Yes	****	<0.0001
32 vs. 35	2.864	-7.927 to 13.65	No	ns	>0.9999
32 vs. 40	7.753	-2.307 to 17.81	No	ns	0.3086
32 vs. 41	-18.99	-36.22 to -1.762	Yes	*	0.0192
32 vs. 42	2.766	-3.977 to 9.510	No	ns	0.9868
32 vs. 45	6.279	-2.434 to 14.99	No	ns	0.4189
32 vs. 50	6.785	-2.855 to 16.43	No	ns	0.4596
32 vs. 51	-16.54	-32.99 to -0.09731	Yes	*	0.0474
32 vs. 52	-0.8795	-10.30 to 8.546	No	ns	>0.9999
32 vs. 55	3.751	-4.677 to 12.18	No	ns	0.9698
32 vs. 60	4.976	-3.468 to 13.42	No	ns	0.7500
35 vs. 40	4.889	-4.601 to 14.38	No	ns	0.8953
35 vs. 41	-21.85	-42.39 to -1.319	Yes	*	0.0276
35 vs. 42	-0.09734	-8.143 to 7.948	No	ns	>0.9999

35 vs. 45	3.415	-6.284 to 13.12	No	ns	0.9978
35 vs. 50	3.921	-4.961 to 12.80	No	ns	0.9721
35 vs. 51	-19.41	-39.02 to 0.2056	No	ns	0.0550
35 vs. 52	-3.743	-14.33 to 6.846	No	ns	0.9977
35 vs. 55	0.8875	-7.064 to 8.839	No	ns	>0.9999
35 vs. 60	2.112	-7.150 to 11.37	No	ns	>0.9999
40 vs. 41	-26.74	-43.29 to -10.20	Yes	****	<0.0001
40 vs. 42	-4.987	-14.34 to 4.362	No	ns	0.8656
40 vs. 45	-1.474	-8.756 to 5.808	No	ns	>0.9999
40 vs. 50	-0.9682	-8.818 to 6.882	No	ns	>0.9999
40 vs. 51	-24.30	-40.08 to -8.516	Yes	***	0.0002
40 vs. 52	-8.633	-19.04 to 1.774	No	ns	0.2052
40 vs. 55	-4.002	-10.26 to 2.260	No	ns	0.6258
40 vs. 60	-2.777	-8.539 to 2.985	No	ns	0.9383
41 vs. 42	21.76	4.200 to 39.32	Yes	**	0.0049
41 vs. 45	25.27	10.18 to 40.36	Yes	****	<0.0001
41 vs. 50	25.78	9.024 to 42.53	Yes	***	0.0002
41 vs. 51	2.448	-7.858 to 12.75	No	ns	>0.9999
41 vs. 52	18.11	-1.614 to 37.84	No	ns	0.1021
41 vs. 55	22.74	6.992 to 38.49	Yes	***	0.0006
41 vs. 60	23.97	7.106 to 40.83	Yes	***	0.0007
42 vs. 45	3.513	-3.749 to 10.77	No	ns	0.9364
42 vs. 50	4.019	-4.568 to 12.60	No	ns	0.9521
42 vs. 51	-19.31	-35.47 to -3.150	Yes	**	0.0077
42 vs. 52	-3.646	-11.87 to 4.582	No	ns	0.9711
42 vs. 55	0.9848	-5.565 to 7.535	No	ns	>0.9999
42 vs. 60	2.210	-5.871 to 10.29	No	ns	>0.9999
45 vs. 50	0.5060	-6.851 to 7.863	No	ns	>0.9999
45 vs. 51	-22.82	-37.22 to -8.421	Yes	***	0.0001
45 vs. 52	-7.158	-16.65 to 2.334	No	ns	0.3430
45 vs. 55	-2.528	-8.513 to 3.457	No	ns	0.9821

45 vs. 60	-1.303	-8.191 to 5.584	No	ns	>0.9999
50 vs. 51	-23.33	-37.54 to -9.114	Yes	****	<0.0001
50 vs. 52	-7.664	-17.37 to 2.037	No	ns	0.2713
50 vs. 55	-3.034	-7.396 to 1.328	No	ns	0.4805
50 vs. 60	-1.809	-7.495 to 3.877	No	ns	0.9994
51 vs. 52	15.66	-3.535 to 34.86	No	ns	0.2266
51 vs. 55	20.29	6.160 to 34.43	Yes	***	0.0006
51 vs. 60	21.52	6.796 to 36.24	Yes	***	0.0005
52 vs. 55	4.631	-3.512 to 12.77	No	ns	0.7965
52 vs. 60	5.855	-2.067 to 13.78	No	ns	0.3760
55 vs. 60	1.225	-3.866 to 6.316	No	ns	>0.9999

Table S4. The statistical significance for comparison of VCL between different tracking periods for sperm cells exposed to 20-minute repetition time pulsed ultrasound (n=30, at each tracking period). Statistical significance was determined using ordinary one-way ANOVA matched values with Tukey's multiple-comparison test (* $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$, **** $P \leq 0.0001$, and ns denotes not significant).

Tukey's multiple comparisons test	Mean Diff.	95.00% CI of diff.	Below threshold?	Summary	Adjusted P Value
0 vs. 5	3.893	-1.265 to 9.050	No	ns	0.3307
0 vs. 10	5.045	-0.4267 to 10.52	No	ns	0.0980
0 vs. 15	7.794	2.887 to 12.70	Yes	***	0.0001
0 vs. 20	5.836	-0.09266 to 11.77	No	ns	0.0575
0 vs. 21	-19.36	-33.67 to -5.048	Yes	**	0.0015
0 vs. 22	-4.068	-14.20 to 6.063	No	ns	0.9813
0 vs. 25	2.879	-4.111 to 9.868	No	ns	0.9765
0 vs. 30	7.881	1.547 to 14.21	Yes	**	0.0046
0 vs. 35	6.982	1.978 to 11.99	Yes	***	0.0009
0 vs. 40	7.462	2.545 to 12.38	Yes	***	0.0002
0 vs. 41	-19.17	-33.37 to -4.964	Yes	**	0.0015
0 vs. 42	3.616	-4.187 to 11.42	No	ns	0.9380
0 vs. 45	8.728	3.729 to 13.73	Yes	****	<0.0001
0 vs. 50	11.84	5.766 to 17.92	Yes	****	<0.0001
0 vs. 55	12.36	7.058 to 17.67	Yes	****	<0.0001
0 vs. 60	12.16	6.026 to 18.30	Yes	****	<0.0001
5 vs. 10	1.153	-3.742 to 6.047	No	ns	>0.9999
5 vs. 15	3.902	-1.391 to 9.194	No	ns	0.3674
5 vs. 20	1.943	-2.894 to 6.780	No	ns	0.9812
5 vs. 21	-23.25	-36.72 to -9.787	Yes	****	<0.0001
5 vs. 22	-7.961	-18.11 to 2.187	No	ns	0.2739
5 vs. 25	-1.014	-7.541 to 5.512	No	ns	>0.9999
5 vs. 30	3.988	-1.322 to 9.298	No	ns	0.3384
5 vs. 35	3.089	-2.199 to 8.377	No	ns	0.7332
5 vs. 40	3.570	-1.656 to 8.795	No	ns	0.4920
5 vs. 41	-23.06	-36.82 to -9.300	Yes	****	<0.0001

5 vs. 42	-0.2769	-8.463 to 7.909	No	ns	>0.9999
5 vs. 45	4.835	-0.7838 to 10.45	No	ns	0.1597
5 vs. 50	7.950	2.056 to 13.84	Yes	**	0.0015
5 vs. 55	8.469	2.855 to 14.08	Yes	***	0.0003
5 vs. 60	8.272	2.437 to 14.11	Yes	***	0.0007
10 vs. 15	2.749	-1.945 to 7.443	No	ns	0.7298
10 vs. 20	0.7908	-3.689 to 5.270	No	ns	>0.9999
10 vs. 21	-24.40	-37.73 to -11.08	Yes	****	<0.0001
10 vs. 22	-9.113	-18.58 to 0.3559	No	ns	0.0697
10 vs. 25	-2.167	-7.816 to 3.483	No	ns	0.9878
10 vs. 30	2.835	-1.175 to 6.845	No	ns	0.4351
10 vs. 35	1.936	-3.737 to 7.609	No	ns	0.9962
10 vs. 40	2.417	-2.456 to 7.290	No	ns	0.8987
10 vs. 41	-24.21	-39.01 to -9.412	Yes	****	<0.0001
10 vs. 42	-1.429	-10.95 to 8.093	No	ns	>0.9999
10 vs. 45	3.683	-1.578 to 8.944	No	ns	0.4516
10 vs. 50	6.798	2.132 to 11.46	Yes	***	0.0005
10 vs. 55	7.317	2.651 to 11.98	Yes	***	0.0001
10 vs. 60	7.119	1.836 to 12.40	Yes	**	0.0016
15 vs. 20	-1.958	-6.753 to 2.837	No	ns	0.9782
15 vs. 21	-27.15	-40.73 to -13.58	Yes	****	<0.0001
15 vs. 22	-11.86	-20.62 to -3.107	Yes	**	0.0014
15 vs. 25	-4.916	-11.38 to 1.545	No	ns	0.3185
15 vs. 30	0.08624	-4.495 to 4.667	No	ns	>0.9999
15 vs. 35	-0.8127	-4.635 to 3.010	No	ns	>0.9999
15 vs. 40	-0.3320	-5.163 to 4.499	No	ns	>0.9999
15 vs. 41	-26.96	-42.15 to -11.77	Yes	****	<0.0001
15 vs. 42	-4.178	-12.06 to 3.701	No	ns	0.8439
15 vs. 45	0.9336	-3.138 to 5.005	No	ns	>0.9999
15 vs. 50	4.049	-0.8917 to 8.989	No	ns	0.2157
15 vs. 55	4.568	0.2806 to 8.855	Yes	*	0.0273

15 vs. 60	4.370	-0.6122 to 9.353	No	ns	0.1406
20 vs. 21	-25.20	-38.54 to -11.85	Yes	****	<0.0001
20 vs. 22	-9.904	-19.82 to 0.006465	No	ns	0.0503
20 vs. 25	-2.958	-9.329 to 3.414	No	ns	0.9372
20 vs. 30	2.044	-3.077 to 7.166	No	ns	0.9822
20 vs. 35	1.146	-3.323 to 5.614	No	ns	0.9999
20 vs. 40	1.626	-3.960 to 7.212	No	ns	0.9994
20 vs. 41	-25.00	-39.71 to -10.29	Yes	****	<0.0001
20 vs. 42	-2.220	-10.86 to 6.416	No	ns	0.9999
20 vs. 45	2.892	-3.060 to 8.844	No	ns	0.9123
20 vs. 50	6.007	0.1294 to 11.88	Yes	*	0.0409
20 vs. 55	6.526	1.816 to 11.24	Yes	**	0.0010
20 vs. 60	6.329	0.4129 to 12.24	Yes	*	0.0262
21 vs. 22	15.29	1.430 to 29.15	Yes	*	0.0190
21 vs. 25	22.24	9.284 to 35.19	Yes	****	<0.0001
21 vs. 30	27.24	14.33 to 40.15	Yes	****	<0.0001
21 vs. 35	26.34	12.38 to 40.30	Yes	****	<0.0001
21 vs. 40	26.82	12.37 to 41.28	Yes	****	<0.0001
21 vs. 41	0.1936	-11.43 to 11.82	No	ns	>0.9999
21 vs. 42	22.98	8.789 to 37.16	Yes	****	<0.0001
21 vs. 45	28.09	13.84 to 42.34	Yes	****	<0.0001
21 vs. 50	31.20	17.79 to 44.61	Yes	****	<0.0001
21 vs. 55	31.72	18.48 to 44.97	Yes	****	<0.0001
21 vs. 60	31.52	19.50 to 43.55	Yes	****	<0.0001
22 vs. 25	6.947	-3.331 to 17.22	No	ns	0.5097
22 vs. 30	11.95	2.098 to 21.80	Yes	**	0.0064
22 vs. 35	11.05	1.700 to 20.40	Yes	**	0.0087
22 vs. 40	11.53	1.342 to 21.72	Yes	*	0.0144
22 vs. 41	-15.10	-31.27 to 1.076	No	ns	0.0892
22 vs. 42	7.684	-2.329 to 17.70	No	ns	0.3058
22 vs. 45	12.80	3.040 to 22.55	Yes	**	0.0023

22 vs. 50	15.91	4.894 to 26.93	Yes	***	0.0005
22 vs. 55	16.43	5.830 to 27.03	Yes	***	0.0002
22 vs. 60	16.23	5.334 to 27.13	Yes	***	0.0003
25 vs. 30	5.002	0.1729 to 9.831	Yes	*	0.0361
25 vs. 35	4.103	-1.615 to 9.821	No	ns	0.4109
25 vs. 40	4.584	-1.616 to 10.78	No	ns	0.3629
25 vs. 41	-22.04	-37.25 to -6.835	Yes	***	0.0005
25 vs. 42	0.7374	-9.443 to 10.92	No	ns	>0.9999
25 vs. 45	5.849	-0.5786 to 12.28	No	ns	0.1082
25 vs. 50	8.965	2.743 to 15.19	Yes	***	0.0006
25 vs. 55	9.483	2.735 to 16.23	Yes	***	0.0008
25 vs. 60	9.286	2.944 to 15.63	Yes	***	0.0004
30 vs. 35	-0.8989	-5.542 to 3.744	No	ns	>0.9999
30 vs. 40	-0.4182	-5.079 to 4.242	No	ns	>0.9999
30 vs. 41	-27.05	-42.05 to -12.04	Yes	****	<0.0001
30 vs. 42	-4.265	-13.20 to 4.674	No	ns	0.9230
30 vs. 45	0.8474	-3.269 to 4.963	No	ns	>0.9999
30 vs. 50	3.963	-0.5012 to 8.426	No	ns	0.1294
30 vs. 55	4.481	-0.4076 to 9.370	No	ns	0.1025
30 vs. 60	4.284	-0.3763 to 8.945	No	ns	0.1003
35 vs. 40	0.4807	-3.820 to 4.781	No	ns	>0.9999
35 vs. 41	-26.15	-40.99 to -11.31	Yes	****	<0.0001
35 vs. 42	-3.366	-10.62 to 3.892	No	ns	0.9377
35 vs. 45	1.746	-2.603 to 6.095	No	ns	0.9813
35 vs. 50	4.862	-0.5032 to 10.23	No	ns	0.1116
35 vs. 55	5.380	0.6111 to 10.15	Yes	*	0.0149
35 vs. 60	5.183	0.04210 to 10.32	Yes	*	0.0464
40 vs. 41	-26.63	-41.04 to -12.22	Yes	****	<0.0001
40 vs. 42	-3.846	-11.44 to 3.751	No	ns	0.8837
40 vs. 45	1.266	-2.068 to 4.599	No	ns	0.9889
40 vs. 50	4.381	0.1251 to 8.637	Yes	*	0.0383

40 vs. 55	4.900	-0.09148 to 9.891	No	ns	0.0589
40 vs. 60	4.702	-0.2086 to 9.613	No	ns	0.0727
41 vs. 42	22.78	9.471 to 36.09	Yes	****	<0.0001
41 vs. 45	27.89	12.53 to 43.26	Yes	****	<0.0001
41 vs. 50	31.01	16.24 to 45.78	Yes	****	<0.0001
41 vs. 55	31.53	16.36 to 46.70	Yes	****	<0.0001
41 vs. 60	31.33	17.27 to 45.39	Yes	****	<0.0001
42 vs. 45	5.112	-2.519 to 12.74	No	ns	0.5244
42 vs. 50	8.227	-0.8539 to 17.31	No	ns	0.1118
42 vs. 55	8.746	0.03114 to 17.46	Yes	*	0.0484
42 vs. 60	8.549	0.1314 to 16.97	Yes	*	0.0434
45 vs. 50	3.115	-1.312 to 7.543	No	ns	0.4432
45 vs. 55	3.634	-1.286 to 8.554	No	ns	0.3643
45 vs. 60	3.437	-1.433 to 8.306	No	ns	0.4380
50 vs. 55	0.5188	-3.546 to 4.584	No	ns	>0.9999
50 vs. 60	0.3216	-3.359 to 4.002	No	ns	>0.9999
55 vs. 60	-0.1972	-4.163 to 3.769	No	ns	>0.9999

Table S5. The statistical significance for comparison of VCL between different tracking periods for Grade B sperm cells exposed to 5-minute repetition time pulsed ultrasound (n=17, at each tracking period). Statistical significance was determined using ordinary one-way ANOVA matched values with Tukey's multiple-comparison test (* $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$, **** $P \leq 0.0001$, and ns denotes not significant).

Tukey's multiple comparisons test	Mean Diff.	95.00% CI of diff.	Below threshold?	Summary	Adjusted P Value
0 vs. 5	6.893	-5.485 to 19.27	No	ns	0.7421
0 vs. 6	-30.00	-46.14 to -13.86	Yes	****	<0.0001
0 vs. 7	-5.726	-25.90 to 14.45	No	ns	0.9998
0 vs. 10	0.2348	-9.719 to 10.19	No	ns	>0.9999
0 vs. 11	-25.19	-52.14 to 1.761	No	ns	0.0815
0 vs. 12	-10.35	-23.20 to 2.495	No	ns	0.2029
0 vs. 15	3.910	-9.075 to 16.90	No	ns	0.9995
0 vs. 16	-28.13	-51.36 to -4.889	Yes	**	0.0100
0 vs. 17	0.3839	-13.71 to 14.48	No	ns	>0.9999
0 vs. 20	3.828	-5.866 to 13.52	No	ns	0.9822
0 vs. 21	-17.35	-40.39 to 5.678	No	ns	0.2843
0 vs. 22	-5.711	-22.92 to 11.49	No	ns	0.9978
0 vs. 25	4.036	-10.06 to 18.13	No	ns	0.9998
0 vs. 26	-16.28	-40.90 to 8.333	No	ns	0.4789
0 vs. 27	-2.923	-22.57 to 16.72	No	ns	>0.9999
0 vs. 30	5.495	-6.671 to 17.66	No	ns	0.9368
0 vs. 31	-19.74	-43.96 to 4.483	No	ns	0.1909
0 vs. 32	-6.211	-28.66 to 16.24	No	ns	0.9999
0 vs. 35	3.968	-6.872 to 14.81	No	ns	0.9924
0 vs. 36	-19.44	-43.79 to 4.911	No	ns	0.2132
0 vs. 37	-5.786	-23.51 to 11.94	No	ns	0.9983
0 vs. 40	5.503	-2.249 to 13.25	No	ns	0.3687
0 vs. 41	-6.956	-29.77 to 15.86	No	ns	0.9994
0 vs. 42	-5.002	-19.71 to 9.702	No	ns	0.9970
0 vs. 45	9.705	-7.654 to 27.06	No	ns	0.7367
0 vs. 46	-16.35	-40.39 to 7.696	No	ns	0.4352

0 vs. 47	-2.034	-18.48 to 14.41	No	ns	>0.9999
0 vs. 50	7.306	-5.544 to 20.16	No	ns	0.7135
0 vs. 51	-14.85	-44.92 to 15.22	No	ns	0.8753
0 vs. 52	0.2133	-12.56 to 12.98	No	ns	>0.9999
0 vs. 55	8.368	-2.771 to 19.51	No	ns	0.2883
0 vs. 60	7.577	-4.791 to 19.95	No	ns	0.6016
5 vs. 6	-36.89	-53.57 to -20.22	Yes	****	<0.0001
5 vs. 7	-12.62	-41.97 to 16.73	No	ns	0.9646
5 vs. 10	-6.658	-16.09 to 2.772	No	ns	0.3893
5 vs. 11	-32.08	-58.65 to -5.512	Yes	**	0.0097
5 vs. 12	-17.24	-29.40 to -5.086	Yes	**	0.0018
5 vs. 15	-2.983	-15.18 to 9.213	No	ns	>0.9999
5 vs. 16	-35.02	-60.54 to -9.496	Yes	**	0.0026
5 vs. 17	-6.509	-28.48 to 15.46	No	ns	0.9997
5 vs. 20	-3.065	-15.54 to 9.410	No	ns	>0.9999
5 vs. 21	-24.25	-48.50 to 0.003587	No	ns	0.0501
5 vs. 22	-12.60	-33.69 to 8.480	No	ns	0.6568
5 vs. 25	-2.856	-14.18 to 8.472	No	ns	>0.9999
5 vs. 26	-23.17	-47.64 to 1.288	No	ns	0.0750
5 vs. 27	-9.816	-26.20 to 6.572	No	ns	0.6538
5 vs. 30	-1.398	-16.29 to 13.49	No	ns	>0.9999
5 vs. 31	-26.63	-52.01 to -1.252	Yes	*	0.0340
5 vs. 32	-13.10	-33.75 to 7.546	No	ns	0.5620
5 vs. 35	-2.925	-14.70 to 8.846	No	ns	>0.9999
5 vs. 36	-26.33	-55.21 to 2.549	No	ns	0.0980
5 vs. 37	-12.68	-33.12 to 7.766	No	ns	0.5991
5 vs. 40	-1.390	-12.22 to 9.443	No	ns	>0.9999
5 vs. 41	-13.85	-36.26 to 8.560	No	ns	0.6047
5 vs. 42	-11.90	-26.35 to 2.563	No	ns	0.1860
5 vs. 45	2.812	-14.75 to 20.38	No	ns	>0.9999
5 vs. 46	-23.24	-49.46 to 2.976	No	ns	0.1182

5 vs. 47	-8.927	-30.62 to 12.76	No	ns	0.9771
5 vs. 50	0.4132	-10.78 to 11.60	No	ns	>0.9999
5 vs. 51	-21.74	-54.90 to 11.42	No	ns	0.5086
5 vs. 52	-6.680	-24.43 to 11.07	No	ns	0.9915
5 vs. 55	1.475	-11.75 to 14.70	No	ns	>0.9999
5 vs. 60	0.6842	-8.240 to 9.609	No	ns	>0.9999
6 vs. 7	24.27	-7.949 to 56.50	No	ns	0.2937
6 vs. 10	30.24	11.95 to 48.52	Yes	***	0.0003
6 vs. 11	4.813	-11.66 to 21.29	No	ns	0.9998
6 vs. 12	19.65	3.485 to 35.82	Yes	**	0.0091
6 vs. 15	33.91	13.99 to 53.83	Yes	***	0.0002
6 vs. 16	1.875	-13.23 to 16.98	No	ns	>0.9999
6 vs. 17	30.38	4.951 to 55.82	Yes	*	0.0107
6 vs. 20	33.83	16.22 to 51.43	Yes	****	<0.0001
6 vs. 21	12.65	-3.479 to 28.77	No	ns	0.2410
6 vs. 22	24.29	3.116 to 45.46	Yes	*	0.0156
6 vs. 25	34.04	15.87 to 52.21	Yes	****	<0.0001
6 vs. 26	13.72	-2.694 to 30.13	No	ns	0.1698
6 vs. 27	27.08	9.450 to 44.71	Yes	***	0.0007
6 vs. 30	35.50	15.96 to 55.03	Yes	****	<0.0001
6 vs. 31	10.26	-9.521 to 30.04	No	ns	0.8416
6 vs. 32	23.79	4.393 to 43.19	Yes	**	0.0083
6 vs. 35	33.97	17.47 to 50.47	Yes	****	<0.0001
6 vs. 36	10.56	-11.80 to 32.92	No	ns	0.9195
6 vs. 37	24.22	-1.705 to 50.14	No	ns	0.0828
6 vs. 40	35.50	20.92 to 50.09	Yes	****	<0.0001
6 vs. 41	23.04	3.509 to 42.58	Yes	*	0.0121
6 vs. 42	25.00	7.742 to 42.25	Yes	**	0.0015
6 vs. 45	39.71	20.11 to 59.30	Yes	****	<0.0001
6 vs. 46	13.65	-6.792 to 34.10	No	ns	0.4784
6 vs. 47	27.97	7.699 to 48.23	Yes	**	0.0025

6 vs. 50	37.31	20.68 to 53.93	Yes	****	<0.0001
6 vs. 51	15.15	-11.42 to 41.73	No	ns	0.7263
6 vs. 52	30.21	13.07 to 47.36	Yes	***	0.0001
6 vs. 55	38.37	22.28 to 54.46	Yes	****	<0.0001
6 vs. 60	37.58	19.58 to 55.58	Yes	****	<0.0001
7 vs. 10	5.960	-19.13 to 31.05	No	ns	>0.9999
7 vs. 11	-19.46	-60.35 to 21.43	No	ns	0.9144
7 vs. 12	-4.625	-30.70 to 21.45	No	ns	>0.9999
7 vs. 15	9.636	-16.61 to 35.88	No	ns	0.9937
7 vs. 16	-22.40	-59.42 to 14.63	No	ns	0.6383
7 vs. 17	6.110	-11.07 to 23.29	No	ns	0.9958
7 vs. 20	9.554	-12.74 to 31.84	No	ns	0.9656
7 vs. 21	-11.63	-50.15 to 26.89	No	ns	0.9996
7 vs. 22	0.01445	-20.86 to 20.89	No	ns	>0.9999
7 vs. 25	9.762	-16.70 to 36.22	No	ns	0.9933
7 vs. 26	-10.56	-49.34 to 28.23	No	ns	>0.9999
7 vs. 27	2.803	-26.97 to 32.57	No	ns	>0.9999
7 vs. 30	11.22	-16.47 to 38.91	No	ns	0.9805
7 vs. 31	-14.01	-54.06 to 26.03	No	ns	0.9966
7 vs. 32	-0.4849	-33.73 to 32.76	No	ns	>0.9999
7 vs. 35	9.694	-16.39 to 35.77	No	ns	0.9927
7 vs. 36	-13.71	-53.53 to 26.10	No	ns	0.9972
7 vs. 37	-0.05993	-20.96 to 20.84	No	ns	>0.9999
7 vs. 40	11.23	-13.16 to 35.62	No	ns	0.9346
7 vs. 41	-1.230	-37.69 to 35.23	No	ns	>0.9999
7 vs. 42	0.7232	-26.95 to 28.40	No	ns	>0.9999
7 vs. 45	15.43	-14.49 to 45.36	No	ns	0.8477
7 vs. 46	-10.62	-44.57 to 23.33	No	ns	0.9993
7 vs. 47	3.692	-22.09 to 29.47	No	ns	>0.9999
7 vs. 50	13.03	-16.18 to 42.24	No	ns	0.9502
7 vs. 51	-9.122	-51.23 to 32.98	No	ns	>0.9999

7 vs. 52	5.939	-21.47 to 33.35	No	ns	>0.9999
7 vs. 55	14.09	-13.56 to 41.75	No	ns	0.8591
7 vs. 60	13.30	-12.94 to 39.54	No	ns	0.8641
10 vs. 11	-25.42	-51.54 to 0.6965	No	ns	0.0615
10 vs. 12	-10.59	-23.38 to 2.210	No	ns	0.1802
10 vs. 15	3.675	-7.237 to 14.59	No	ns	0.9979
10 vs. 16	-28.36	-53.68 to -3.037	Yes	*	0.0194
10 vs. 17	0.1491	-17.44 to 17.73	No	ns	>0.9999
10 vs. 20	3.593	-7.801 to 14.99	No	ns	0.9992
10 vs. 21	-17.59	-40.40 to 5.223	No	ns	0.2625
10 vs. 22	-5.946	-23.79 to 11.90	No	ns	0.9982
10 vs. 25	3.802	-7.781 to 15.38	No	ns	0.9986
10 vs. 26	-16.52	-42.08 to 9.052	No	ns	0.5328
10 vs. 27	-3.158	-20.70 to 14.38	No	ns	>0.9999
10 vs. 30	5.260	-8.986 to 19.51	No	ns	0.9932
10 vs. 31	-19.97	-45.56 to 5.615	No	ns	0.2469
10 vs. 32	-6.445	-30.71 to 17.82	No	ns	>0.9999
10 vs. 35	3.733	-9.199 to 16.67	No	ns	0.9998
10 vs. 36	-19.67	-46.59 to 7.237	No	ns	0.3365
10 vs. 37	-6.020	-26.69 to 14.65	No	ns	0.9998
10 vs. 40	5.268	-4.367 to 14.90	No	ns	0.7817
10 vs. 41	-7.191	-29.76 to 15.38	No	ns	0.9991
10 vs. 42	-5.237	-20.04 to 9.562	No	ns	0.9960
10 vs. 45	9.470	-5.518 to 24.46	No	ns	0.5689
10 vs. 46	-16.58	-40.33 to 7.164	No	ns	0.4065
10 vs. 47	-2.269	-22.29 to 17.75	No	ns	>0.9999
10 vs. 50	7.071	-4.886 to 19.03	No	ns	0.6732
10 vs. 51	-15.08	-47.01 to 16.85	No	ns	0.9194
10 vs. 52	-0.02152	-17.04 to 16.99	No	ns	>0.9999
10 vs. 55	8.133	-1.809 to 18.08	No	ns	0.1921
10 vs. 60	7.342	-0.6204 to 15.30	No	ns	0.0907

11 vs. 12	14.84	-10.43 to 40.10	No	ns	0.6838
11 vs. 15	29.10	1.147 to 57.05	Yes	*	0.0363
11 vs. 16	-2.938	-22.70 to 16.83	No	ns	>0.9999
11 vs. 17	25.57	-7.808 to 58.95	No	ns	0.2710
11 vs. 20	29.02	-0.02317 to 58.05	No	ns	0.0503
11 vs. 21	7.833	-2.065 to 17.73	No	ns	0.2299
11 vs. 22	19.48	-7.745 to 46.70	No	ns	0.3688
11 vs. 25	29.22	0.7550 to 57.69	Yes	*	0.0406
11 vs. 26	8.906	-8.151 to 25.96	No	ns	0.8348
11 vs. 27	22.26	-4.322 to 48.85	No	ns	0.1679
11 vs. 30	30.68	5.456 to 55.91	Yes	**	0.0090
11 vs. 31	5.449	-14.05 to 24.95	No	ns	0.9999
11 vs. 32	18.98	-10.56 to 48.51	No	ns	0.5418
11 vs. 35	29.16	3.213 to 55.10	Yes	*	0.0188
11 vs. 36	5.748	-14.22 to 25.72	No	ns	0.9998
11 vs. 37	19.40	-15.94 to 54.74	No	ns	0.7767
11 vs. 40	30.69	6.846 to 54.53	Yes	**	0.0051
11 vs. 41	18.23	-2.872 to 39.33	No	ns	0.1392
11 vs. 42	20.18	-6.748 to 47.12	No	ns	0.3009
11 vs. 45	34.89	12.12 to 57.67	Yes	***	0.0008
11 vs. 46	8.840	-12.66 to 30.34	No	ns	0.9773
11 vs. 47	23.15	-5.128 to 51.44	No	ns	0.1913
11 vs. 50	32.49	7.576 to 57.41	Yes	**	0.0045
11 vs. 51	10.34	-13.08 to 33.76	No	ns	0.9546
11 vs. 52	25.40	0.05559 to 50.75	Yes	*	0.0492
11 vs. 55	33.56	10.86 to 56.25	Yes	**	0.0012
11 vs. 60	32.76	6.979 to 58.55	Yes	**	0.0059
12 vs. 15	14.26	4.110 to 24.41	Yes	**	0.0020
12 vs. 16	-17.78	-36.78 to 1.234	No	ns	0.0823
12 vs. 17	10.73	-7.812 to 29.28	No	ns	0.7050
12 vs. 20	14.18	4.572 to 23.79	Yes	**	0.0012

12 vs. 21	-7.004	-27.90 to 13.89	No	ns	0.9981
12 vs. 22	4.639	-12.38 to 21.66	No	ns	>0.9999
12 vs. 25	14.39	1.803 to 26.97	Yes	*	0.0161
12 vs. 26	-5.931	-26.14 to 14.28	No	ns	0.9997
12 vs. 27	7.428	-5.914 to 20.77	No	ns	0.7586
12 vs. 30	15.85	1.485 to 30.21	Yes	*	0.0221
12 vs. 31	-9.388	-30.62 to 11.84	No	ns	0.9540
12 vs. 32	4.140	-12.99 to 21.27	No	ns	>0.9999
12 vs. 35	14.32	5.603 to 23.03	Yes	***	0.0003
12 vs. 36	-9.089	-35.08 to 16.90	No	ns	0.9966
12 vs. 37	4.565	-12.89 to 22.02	No	ns	>0.9999
12 vs. 40	15.85	8.469 to 23.24	Yes	****	<0.0001
12 vs. 41	3.395	-16.80 to 23.59	No	ns	>0.9999
12 vs. 42	5.348	-8.109 to 18.81	No	ns	0.9842
12 vs. 45	20.06	2.571 to 37.54	Yes	*	0.0157
12 vs. 46	-5.996	-26.45 to 14.46	No	ns	0.9997
12 vs. 47	8.317	-5.296 to 21.93	No	ns	0.6229
12 vs. 50	17.66	7.946 to 27.37	Yes	****	<0.0001
12 vs. 51	-4.498	-32.28 to 23.29	No	ns	>0.9999
12 vs. 52	10.56	-2.424 to 23.55	No	ns	0.1984
12 vs. 55	18.72	6.488 to 30.95	Yes	***	0.0008
12 vs. 60	17.93	6.143 to 29.71	Yes	***	0.0008
15 vs. 16	-32.04	-54.88 to -9.195	Yes	**	0.0021
15 vs. 17	-3.526	-19.92 to 12.87	No	ns	>0.9999
15 vs. 20	-0.08203	-10.01 to 9.850	No	ns	>0.9999
15 vs. 21	-21.26	-43.99 to 1.461	No	ns	0.0819
15 vs. 22	-9.621	-27.97 to 8.732	No	ns	0.8305
15 vs. 25	0.1261	-13.67 to 13.92	No	ns	>0.9999
15 vs. 26	-20.19	-41.48 to 1.097	No	ns	0.0743
15 vs. 27	-6.833	-24.15 to 10.49	No	ns	0.9854
15 vs. 30	1.585	-11.14 to 14.31	No	ns	>0.9999

15 vs. 31	-23.65	-45.43 to -1.872	Yes	*	0.0254
15 vs. 32	-10.12	-31.70 to 11.46	No	ns	0.9240
15 vs. 35	0.05770	-11.72 to 11.84	No	ns	>0.9999
15 vs. 36	-23.35	-48.42 to 1.724	No	ns	0.0847
15 vs. 37	-9.696	-28.80 to 9.405	No	ns	0.8629
15 vs. 40	1.593	-8.446 to 11.63	No	ns	>0.9999
15 vs. 41	-10.87	-33.06 to 11.33	No	ns	0.8941
15 vs. 42	-8.913	-26.19 to 8.361	No	ns	0.8471
15 vs. 45	5.795	-11.16 to 22.75	No	ns	0.9975
15 vs. 46	-20.26	-42.25 to 1.732	No	ns	0.0913
15 vs. 47	-5.944	-22.28 to 10.39	No	ns	0.9943
15 vs. 50	3.396	-5.266 to 12.06	No	ns	0.9864
15 vs. 51	-18.76	-46.52 to 9.005	No	ns	0.4594
15 vs. 52	-3.697	-18.03 to 10.63	No	ns	>0.9999
15 vs. 55	4.458	-9.143 to 18.06	No	ns	0.9986
15 vs. 60	3.667	-6.823 to 14.16	No	ns	0.9966
16 vs. 17	28.51	0.1329 to 56.89	Yes	*	0.0482
16 vs. 20	31.95	9.577 to 54.33	Yes	**	0.0017
16 vs. 21	10.77	-5.689 to 27.23	No	ns	0.5117
16 vs. 22	22.41	-2.217 to 47.05	No	ns	0.0993
16 vs. 25	32.16	7.844 to 56.48	Yes	**	0.0039
16 vs. 26	11.84	-1.646 to 25.33	No	ns	0.1257
16 vs. 27	25.20	4.042 to 46.36	Yes	*	0.0110
16 vs. 30	33.62	10.87 to 56.37	Yes	**	0.0012
16 vs. 31	8.387	-5.854 to 22.63	No	ns	0.6794
16 vs. 32	21.91	0.07249 to 43.76	Yes	*	0.0487
16 vs. 35	32.09	11.78 to 52.41	Yes	***	0.0005
16 vs. 36	8.686	-9.218 to 26.59	No	ns	0.9009
16 vs. 37	22.34	-6.793 to 51.47	No	ns	0.2697
16 vs. 40	33.63	14.54 to 52.72	Yes	***	0.0001
16 vs. 41	21.17	3.933 to 38.41	Yes	**	0.0082

16 vs. 42	23.12	1.598 to 44.65	Yes	*	0.0279
16 vs. 45	37.83	15.39 to 60.27	Yes	***	0.0002
16 vs. 46	11.78	-4.858 to 28.41	No	ns	0.3850
16 vs. 47	26.09	7.082 to 45.10	Yes	**	0.0026
16 vs. 50	35.43	15.28 to 55.59	Yes	***	0.0001
16 vs. 51	13.28	-4.598 to 31.15	No	ns	0.3135
16 vs. 52	28.34	8.994 to 47.68	Yes	**	0.0013
16 vs. 55	36.49	16.44 to 56.55	Yes	****	<0.0001
16 vs. 60	35.70	10.79 to 60.62	Yes	**	0.0016
17 vs. 20	3.444	-10.63 to 17.52	No	ns	>0.9999
17 vs. 21	-17.74	-47.72 to 12.24	No	ns	0.6724
17 vs. 22	-6.095	-27.92 to 15.73	No	ns	0.9999
17 vs. 25	3.653	-16.95 to 24.25	No	ns	>0.9999
17 vs. 26	-16.67	-45.52 to 12.19	No	ns	0.7079
17 vs. 27	-3.307	-24.20 to 17.58	No	ns	>0.9999
17 vs. 30	5.111	-15.45 to 25.67	No	ns	>0.9999
17 vs. 31	-20.12	-49.33 to 9.089	No	ns	0.4282
17 vs. 32	-6.594	-33.25 to 20.06	No	ns	>0.9999
17 vs. 35	3.584	-16.57 to 23.73	No	ns	>0.9999
17 vs. 36	-19.82	-50.93 to 11.28	No	ns	0.5550
17 vs. 37	-6.169	-29.22 to 16.88	No	ns	>0.9999
17 vs. 40	5.119	-11.47 to 21.70	No	ns	0.9994
17 vs. 41	-7.340	-35.24 to 20.56	No	ns	>0.9999
17 vs. 42	-5.386	-28.64 to 17.86	No	ns	>0.9999
17 vs. 45	9.321	-12.40 to 31.05	No	ns	0.9653
17 vs. 46	-16.73	-42.66 to 9.200	No	ns	0.5348
17 vs. 47	-2.418	-24.90 to 20.07	No	ns	>0.9999
17 vs. 50	6.922	-13.83 to 27.68	No	ns	0.9982
17 vs. 51	-15.23	-46.97 to 16.51	No	ns	0.9088
17 vs. 52	-0.1706	-21.79 to 21.45	No	ns	>0.9999
17 vs. 55	7.984	-11.79 to 27.76	No	ns	0.9812

17 vs. 60	7.193	-12.66 to 27.04	No	ns	0.9946
20 vs. 21	-21.18	-45.99 to 3.624	No	ns	0.1495
20 vs. 22	-9.539	-27.73 to 8.648	No	ns	0.8300
20 vs. 25	0.2081	-11.60 to 12.02	No	ns	>0.9999
20 vs. 26	-20.11	-43.73 to 3.508	No	ns	0.1521
20 vs. 27	-6.751	-22.39 to 8.888	No	ns	0.9632
20 vs. 30	1.667	-13.94 to 17.27	No	ns	>0.9999
20 vs. 31	-23.57	-48.58 to 1.446	No	ns	0.0780
20 vs. 32	-10.04	-27.75 to 7.669	No	ns	0.7343
20 vs. 35	0.1397	-10.49 to 10.77	No	ns	>0.9999
20 vs. 36	-23.27	-50.35 to 3.812	No	ns	0.1439
20 vs. 37	-9.614	-25.94 to 6.716	No	ns	0.6799
20 vs. 40	1.675	-7.200 to 10.55	No	ns	>0.9999
20 vs. 41	-10.78	-33.27 to 11.70	No	ns	0.9092
20 vs. 42	-8.831	-24.93 to 7.273	No	ns	0.7781
20 vs. 45	5.877	-12.87 to 24.62	No	ns	0.9993
20 vs. 46	-20.18	-42.73 to 2.375	No	ns	0.1113
20 vs. 47	-5.862	-21.32 to 9.592	No	ns	0.9906
20 vs. 50	3.478	-8.352 to 15.31	No	ns	0.9997
20 vs. 51	-18.68	-48.54 to 11.19	No	ns	0.5856
20 vs. 52	-3.615	-17.62 to 10.39	No	ns	>0.9999
20 vs. 55	4.540	-9.634 to 18.71	No	ns	0.9990
20 vs. 60	3.749	-9.005 to 16.50	No	ns	0.9997
21 vs. 22	11.64	-12.72 to 36.00	No	ns	0.9116
21 vs. 25	21.39	-4.411 to 47.19	No	ns	0.1781
21 vs. 26	1.073	-11.91 to 14.06	No	ns	>0.9999
21 vs. 27	14.43	-10.70 to 39.56	No	ns	0.7161
21 vs. 30	22.85	1.391 to 44.31	Yes	*	0.0301
21 vs. 31	-2.384	-17.04 to 12.27	No	ns	>0.9999
21 vs. 32	11.14	-15.91 to 38.20	No	ns	0.9768
21 vs. 35	21.32	-0.9228 to 43.57	No	ns	0.0689

21 vs. 36	-2.085	-18.27 to 14.10	No	ns	>0.9999
21 vs. 37	11.57	-20.46 to 43.59	No	ns	0.9948
21 vs. 40	22.86	2.686 to 43.03	Yes	*	0.0175
21 vs. 41	10.40	-10.49 to 31.29	No	ns	0.8802
21 vs. 42	12.35	-12.40 to 37.11	No	ns	0.8783
21 vs. 45	27.06	5.975 to 48.14	Yes	**	0.0053
21 vs. 46	1.008	-16.76 to 18.77	No	ns	>0.9999
21 vs. 47	15.32	-7.174 to 37.82	No	ns	0.4465
21 vs. 50	24.66	4.740 to 44.58	Yes	**	0.0076
21 vs. 51	2.507	-17.21 to 22.22	No	ns	>0.9999
21 vs. 52	17.57	-2.309 to 37.44	No	ns	0.1205
21 vs. 55	25.72	6.285 to 45.16	Yes	**	0.0039
21 vs. 60	24.93	2.206 to 47.66	Yes	*	0.0233
22 vs. 25	9.748	-9.173 to 28.67	No	ns	0.8486
22 vs. 26	-10.57	-35.48 to 14.34	No	ns	0.9688
22 vs. 27	2.788	-20.19 to 25.76	No	ns	>0.9999
22 vs. 30	11.21	-8.722 to 31.13	No	ns	0.7454
22 vs. 31	-14.03	-42.23 to 14.18	No	ns	0.8811
22 vs. 32	-0.4994	-24.65 to 23.65	No	ns	>0.9999
22 vs. 35	9.679	-4.753 to 24.11	No	ns	0.4714
22 vs. 36	-13.73	-41.63 to 14.17	No	ns	0.8899
22 vs. 37	-0.07438	-15.84 to 15.69	No	ns	>0.9999
22 vs. 40	11.21	-4.182 to 26.61	No	ns	0.3420
22 vs. 41	-1.245	-26.88 to 24.39	No	ns	>0.9999
22 vs. 42	0.7087	-17.46 to 18.88	No	ns	>0.9999
22 vs. 45	15.42	-5.572 to 36.40	No	ns	0.3296
22 vs. 46	-10.64	-34.28 to 13.01	No	ns	0.9465
22 vs. 47	3.677	-11.89 to 19.25	No	ns	>0.9999
22 vs. 50	13.02	-4.394 to 30.43	No	ns	0.3043
22 vs. 51	-9.137	-38.87 to 20.60	No	ns	0.9995
22 vs. 52	5.924	-13.81 to 25.65	No	ns	0.9996

22 vs. 55	14.08	-4.484 to 32.64	No	ns	0.2844
22 vs. 60	13.29	-3.595 to 30.17	No	ns	0.2366
25 vs. 26	-20.32	-46.22 to 5.588	No	ns	0.2409
25 vs. 27	-6.959	-19.48 to 5.561	No	ns	0.7607
25 vs. 30	1.458	-17.54 to 20.46	No	ns	>0.9999
25 vs. 31	-23.78	-49.87 to 2.323	No	ns	0.0986
25 vs. 32	-10.25	-28.64 to 8.149	No	ns	0.7580
25 vs. 35	-0.06841	-10.08 to 9.946	No	ns	>0.9999
25 vs. 36	-23.48	-52.93 to 5.978	No	ns	0.2215
25 vs. 37	-9.822	-28.86 to 9.221	No	ns	0.8474
25 vs. 40	1.466	-9.738 to 12.67	No	ns	>0.9999
25 vs. 41	-10.99	-35.41 to 13.43	No	ns	0.9461
25 vs. 42	-9.039	-22.54 to 4.461	No	ns	0.4741
25 vs. 45	5.669	-15.35 to 26.69	No	ns	>0.9999
25 vs. 46	-20.38	-44.75 to 3.979	No	ns	0.1688
25 vs. 47	-6.070	-25.07 to 12.93	No	ns	0.9990
25 vs. 50	3.270	-7.314 to 13.85	No	ns	0.9994
25 vs. 51	-18.88	-52.89 to 15.12	No	ns	0.7621
25 vs. 52	-3.823	-22.87 to 15.23	No	ns	>0.9999
25 vs. 55	4.332	-11.04 to 19.70	No	ns	0.9999
25 vs. 60	3.541	-6.372 to 13.45	No	ns	0.9955
26 vs. 27	13.36	-10.43 to 37.15	No	ns	0.7471
26 vs. 30	21.78	-0.8476 to 44.40	No	ns	0.0668
26 vs. 31	-3.457	-16.90 to 9.987	No	ns	>0.9999
26 vs. 32	10.07	-12.13 to 32.27	No	ns	0.9424
26 vs. 35	20.25	-1.068 to 41.57	No	ns	0.0735
26 vs. 36	-3.158	-22.74 to 16.42	No	ns	>0.9999
26 vs. 37	10.50	-20.24 to 41.23	No	ns	0.9975
26 vs. 40	21.78	1.195 to 42.37	Yes	*	0.0317
26 vs. 41	9.326	-11.21 to 29.86	No	ns	0.9418
26 vs. 42	11.28	-14.00 to 36.56	No	ns	0.9502

26 vs. 45	25.99	2.286 to 49.69	Yes	*	0.0234
26 vs. 46	-0.06550	-19.27 to 19.14	No	ns	>0.9999
26 vs. 47	14.25	-8.233 to 36.73	No	ns	0.5640
26 vs. 50	23.59	4.634 to 42.54	Yes	**	0.0072
26 vs. 51	1.433	-14.38 to 17.25	No	ns	>0.9999
26 vs. 52	16.49	-4.174 to 37.16	No	ns	0.2199
26 vs. 55	24.65	1.729 to 47.57	Yes	*	0.0276
26 vs. 60	23.86	-0.6457 to 48.36	No	ns	0.0613
27 vs. 30	8.418	-14.24 to 31.08	No	ns	0.9927
27 vs. 31	-16.82	-40.63 to 6.993	No	ns	0.3888
27 vs. 32	-3.288	-19.01 to 12.44	No	ns	>0.9999
27 vs. 35	6.891	-7.362 to 21.14	No	ns	0.9034
27 vs. 36	-16.52	-45.78 to 12.75	No	ns	0.7404
27 vs. 37	-2.863	-28.17 to 22.44	No	ns	>0.9999
27 vs. 40	8.426	-5.241 to 22.09	No	ns	0.6085
27 vs. 41	-4.033	-27.54 to 19.47	No	ns	>0.9999
27 vs. 42	-2.080	-18.23 to 14.07	No	ns	>0.9999
27 vs. 45	12.63	-8.469 to 33.72	No	ns	0.6548
27 vs. 46	-13.42	-35.29 to 8.437	No	ns	0.6148
27 vs. 47	0.8890	-21.20 to 22.98	No	ns	>0.9999
27 vs. 50	10.23	-4.709 to 25.17	No	ns	0.4378
27 vs. 51	-11.93	-43.36 to 19.51	No	ns	0.9906
27 vs. 52	3.136	-19.45 to 25.72	No	ns	>0.9999
27 vs. 55	11.29	-5.351 to 27.93	No	ns	0.4527
27 vs. 60	10.50	-4.142 to 25.14	No	ns	0.3654
30 vs. 31	-25.23	-44.61 to -5.855	Yes	**	0.0046
30 vs. 32	-11.71	-38.27 to 14.86	No	ns	0.9556
30 vs. 35	-1.527	-16.67 to 13.62	No	ns	>0.9999
30 vs. 36	-24.93	-46.08 to -3.793	Yes	*	0.0121
30 vs. 37	-11.28	-29.76 to 7.201	No	ns	0.6244
30 vs. 40	0.008022	-10.90 to 10.92	No	ns	>0.9999

30 vs. 41	-12.45	-31.31 to 6.410	No	ns	0.4973
30 vs. 42	-10.50	-26.61 to 5.617	No	ns	0.5191
30 vs. 45	4.210	-10.78 to 19.20	No	ns	0.9999
30 vs. 46	-21.84	-44.29 to 0.6070	No	ns	0.0616
30 vs. 47	-7.529	-25.80 to 10.75	No	ns	0.9768
30 vs. 50	1.811	-13.02 to 16.64	No	ns	>0.9999
30 vs. 51	-20.34	-46.46 to 5.772	No	ns	0.2494
30 vs. 52	-5.282	-15.82 to 5.262	No	ns	0.8749
30 vs. 55	2.873	-8.721 to 14.47	No	ns	>0.9999
30 vs. 60	2.082	-12.49 to 16.66	No	ns	>0.9999
31 vs. 32	13.53	-12.58 to 39.64	No	ns	0.8429
31 vs. 35	23.71	1.640 to 45.77	Yes	*	0.0279
31 vs. 36	0.2994	-14.47 to 15.06	No	ns	>0.9999
31 vs. 37	13.95	-17.74 to 45.65	No	ns	0.9558
31 vs. 40	25.24	5.522 to 44.96	Yes	**	0.0054
31 vs. 41	12.78	-7.441 to 33.01	No	ns	0.5684
31 vs. 42	14.74	-8.445 to 37.92	No	ns	0.5590
31 vs. 45	29.44	7.180 to 51.71	Yes	**	0.0039
31 vs. 46	3.392	-14.10 to 20.88	No	ns	>0.9999
31 vs. 47	17.70	-5.470 to 40.88	No	ns	0.2747
31 vs. 50	27.04	7.771 to 46.32	Yes	**	0.0021
31 vs. 51	4.891	-11.60 to 21.38	No	ns	0.9997
31 vs. 52	19.95	0.7647 to 39.14	Yes	*	0.0366
31 vs. 55	28.11	8.311 to 47.90	Yes	**	0.0018
31 vs. 60	27.32	3.309 to 51.32	Yes	*	0.0168
32 vs. 35	10.18	-4.658 to 25.01	No	ns	0.4347
32 vs. 36	-13.23	-44.24 to 17.78	No	ns	0.9672
32 vs. 37	0.4250	-23.52 to 24.37	No	ns	>0.9999
32 vs. 40	11.71	-6.591 to 30.02	No	ns	0.5483
32 vs. 41	-0.7452	-26.17 to 24.68	No	ns	>0.9999
32 vs. 42	1.208	-19.57 to 21.99	No	ns	>0.9999

32 vs. 45	15.92	-10.03 to 41.86	No	ns	0.6163
32 vs. 46	-10.14	-33.56 to 13.29	No	ns	0.9624
32 vs. 47	4.177	-17.73 to 26.09	No	ns	>0.9999
32 vs. 50	13.52	-3.370 to 30.40	No	ns	0.2165
32 vs. 51	-8.637	-39.08 to 21.80	No	ns	0.9999
32 vs. 52	6.424	-17.79 to 30.63	No	ns	>0.9999
32 vs. 55	14.58	-8.678 to 37.84	No	ns	0.5817
32 vs. 60	13.79	-7.180 to 34.76	No	ns	0.5037
35 vs. 36	-23.41	-48.75 to 1.932	No	ns	0.0896
35 vs. 37	-9.754	-24.46 to 4.955	No	ns	0.4899
35 vs. 40	1.535	-5.758 to 8.827	No	ns	>0.9999
35 vs. 41	-10.92	-31.98 to 10.14	No	ns	0.8417
35 vs. 42	-8.970	-20.38 to 2.435	No	ns	0.2374
35 vs. 45	5.737	-12.13 to 23.60	No	ns	0.9990
35 vs. 46	-20.31	-41.82 to 1.191	No	ns	0.0765
35 vs. 47	-6.002	-19.90 to 7.899	No	ns	0.9632
35 vs. 50	3.338	-3.912 to 10.59	No	ns	0.9347
35 vs. 51	-18.82	-46.79 to 9.159	No	ns	0.4667
35 vs. 52	-3.755	-19.48 to 11.97	No	ns	>0.9999
35 vs. 55	4.400	-8.288 to 17.09	No	ns	0.9970
35 vs. 60	3.609	-6.665 to 13.88	No	ns	0.9964
36 vs. 37	13.65	-18.27 to 45.58	No	ns	0.9663
36 vs. 40	24.94	1.818 to 48.07	Yes	*	0.0270
36 vs. 41	12.48	-6.959 to 31.93	No	ns	0.5427
36 vs. 42	14.44	-13.71 to 42.58	No	ns	0.8528
36 vs. 45	29.14	7.200 to 51.09	Yes	**	0.0037
36 vs. 46	3.092	-15.19 to 21.38	No	ns	>0.9999
36 vs. 47	17.41	-5.691 to 40.50	No	ns	0.2932
36 vs. 50	26.75	2.608 to 50.88	Yes	*	0.0213
36 vs. 51	4.591	-11.07 to 20.25	No	ns	0.9997
36 vs. 52	19.65	-1.099 to 40.40	No	ns	0.0752

36 vs. 55	27.81	5.932 to 49.68	Yes	**	0.0058
36 vs. 60	27.02	0.6193 to 53.41	Yes	*	0.0416
37 vs. 40	11.29	-5.454 to 28.03	No	ns	0.4628
37 vs. 41	-1.170	-28.44 to 26.10	No	ns	>0.9999
37 vs. 42	0.7831	-18.73 to 20.30	No	ns	>0.9999
37 vs. 45	15.49	-9.782 to 40.76	No	ns	0.6177
37 vs. 46	-10.56	-40.06 to 18.94	No	ns	0.9954
37 vs. 47	3.752	-12.49 to 19.99	No	ns	>0.9999
37 vs. 50	13.09	-6.571 to 32.75	No	ns	0.4833
37 vs. 51	-9.062	-43.57 to 25.45	No	ns	>0.9999
37 vs. 52	5.999	-12.25 to 24.25	No	ns	0.9985
37 vs. 55	14.15	-7.641 to 35.95	No	ns	0.5241
37 vs. 60	13.36	-6.171 to 32.90	No	ns	0.4394
40 vs. 41	-12.46	-31.33 to 6.411	No	ns	0.4970
40 vs. 42	-10.51	-20.45 to -0.5642	Yes	*	0.0320
40 vs. 45	4.202	-10.01 to 18.42	No	ns	0.9997
40 vs. 46	-21.85	-40.77 to -2.935	Yes	*	0.0147
40 vs. 47	-7.537	-22.60 to 7.525	No	ns	0.8758
40 vs. 50	1.803	-6.880 to 10.49	No	ns	>0.9999
40 vs. 51	-20.35	-46.87 to 6.167	No	ns	0.2687
40 vs. 52	-5.290	-17.40 to 6.822	No	ns	0.9590
40 vs. 55	2.865	-4.695 to 10.43	No	ns	0.9907
40 vs. 60	2.074	-6.858 to 11.01	No	ns	>0.9999
41 vs. 42	1.953	-20.05 to 23.95	No	ns	>0.9999
41 vs. 45	16.66	2.632 to 30.69	Yes	*	0.0113
41 vs. 46	-9.391	-26.96 to 8.174	No	ns	0.8087
41 vs. 47	4.922	-19.09 to 28.93	No	ns	>0.9999
41 vs. 50	14.26	-7.195 to 35.72	No	ns	0.4861
41 vs. 51	-7.892	-29.15 to 13.36	No	ns	0.9928
41 vs. 52	7.169	-13.78 to 28.12	No	ns	0.9975
41 vs. 55	15.32	-2.671 to 33.32	No	ns	0.1520

41 vs. 60	14.53	-8.230 to 37.30	No	ns	0.5520
42 vs. 45	14.71	-3.107 to 32.52	No	ns	0.1823
42 vs. 46	-11.34	-34.23 to 11.54	No	ns	0.8839
42 vs. 47	2.969	-17.26 to 23.20	No	ns	>0.9999
42 vs. 50	12.31	-1.166 to 25.78	No	ns	0.0968
42 vs. 51	-9.846	-41.55 to 21.86	No	ns	0.9994
42 vs. 52	5.216	-12.91 to 23.34	No	ns	0.9998
42 vs. 55	13.37	2.588 to 24.15	Yes	**	0.0075
42 vs. 60	12.58	-0.8462 to 26.01	No	ns	0.0811
45 vs. 46	-26.05	-43.28 to -8.825	Yes	***	0.0009
45 vs. 47	-11.74	-34.56 to 11.08	No	ns	0.8500
45 vs. 50	-2.399	-19.68 to 14.89	No	ns	>0.9999
45 vs. 51	-24.55	-50.79 to 1.685	No	ns	0.0819
45 vs. 52	-9.492	-29.39 to 10.41	No	ns	0.9130
45 vs. 55	-1.337	-11.72 to 9.042	No	ns	>0.9999
45 vs. 60	-2.128	-17.33 to 13.07	No	ns	>0.9999
46 vs. 47	14.31	-7.174 to 35.80	No	ns	0.4825
46 vs. 50	23.65	3.755 to 43.55	Yes	*	0.0112
46 vs. 51	1.499	-19.58 to 22.58	No	ns	>0.9999
46 vs. 52	16.56	-3.819 to 36.94	No	ns	0.1994
46 vs. 55	24.72	6.127 to 43.30	Yes	**	0.0037
46 vs. 60	23.92	2.088 to 45.76	Yes	*	0.0236
47 vs. 50	9.340	-6.529 to 25.21	No	ns	0.6803
47 vs. 51	-12.81	-39.59 to 13.96	No	ns	0.9106
47 vs. 52	2.247	-10.80 to 15.29	No	ns	>0.9999
47 vs. 55	10.40	-8.339 to 29.14	No	ns	0.7626
47 vs. 60	9.611	-9.408 to 28.63	No	ns	0.8670
50 vs. 51	-22.15	-49.36 to 5.057	No	ns	0.1973
50 vs. 52	-7.093	-22.48 to 8.297	No	ns	0.9341
50 vs. 55	1.062	-11.50 to 13.62	No	ns	>0.9999
50 vs. 60	0.2711	-8.801 to 9.343	No	ns	>0.9999

51 vs. 52	15.06	-10.86 to 40.98	No	ns	0.6991
51 vs. 55	23.22	-4.075 to 50.51	No	ns	0.1530
51 vs. 60	22.43	-9.348 to 54.20	No	ns	0.3899
52 vs. 55	8.155	-6.877 to 23.19	No	ns	0.7913
52 vs. 60	7.364	-9.862 to 24.59	No	ns	0.9665
55 vs. 60	-0.7912	-11.44 to 9.860	No	ns	>0.9999

Table S6. The statistical significance for comparison of VCL between different tracking periods for Grade C sperm cells exposed to 5-minute repetition time pulsed ultrasound (n=13, at each tracking period). Statistical significance was determined using ordinary one-way ANOVA matched values with Tukey's multiple-comparison test (* $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$, **** $P \leq 0.0001$, and ns denotes not significant).

Tukey's multiple comparisons test	Mean Diff.	95.00% CI of diff.	Below threshold?	Summary	Adjusted P Value
0 vs. 5	0.3867	-13.11 to 13.89	No	ns	>0.9999
0 vs. 6	-20.65	-49.01 to 7.714	No	ns	0.2796
0 vs. 7	-12.34	-35.86 to 11.18	No	ns	0.7299
0 vs. 10	-5.638	-27.86 to 16.58	No	ns	0.9998
0 vs. 11	-18.18	-50.64 to 14.29	No	ns	0.6438
0 vs. 12	-4.373	-20.30 to 11.55	No	ns	0.9993
0 vs. 15	-3.658	-21.86 to 14.54	No	ns	>0.9999
0 vs. 16	-17.10	-47.52 to 13.31	No	ns	0.6376
0 vs. 17	-2.241	-19.22 to 14.73	No	ns	>0.9999
0 vs. 20	-1.347	-19.95 to 17.26	No	ns	>0.9999
0 vs. 21	-17.21	-50.20 to 15.78	No	ns	0.7372
0 vs. 22	-4.915	-25.65 to 15.82	No	ns	>0.9999
0 vs. 25	-2.514	-20.73 to 15.71	No	ns	>0.9999
0 vs. 26	-13.87	-43.53 to 15.79	No	ns	0.8545
0 vs. 27	-4.872	-23.69 to 13.95	No	ns	0.9997
0 vs. 30	-1.774	-20.74 to 17.19	No	ns	>0.9999
0 vs. 31	-13.15	-45.07 to 18.77	No	ns	0.9399
0 vs. 32	-4.338	-27.29 to 18.61	No	ns	>0.9999
0 vs. 35	-3.309	-23.97 to 17.35	No	ns	>0.9999
0 vs. 36	-11.95	-41.86 to 17.95	No	ns	0.9531
0 vs. 37	-3.622	-24.35 to 17.10	No	ns	>0.9999
0 vs. 40	-2.428	-26.18 to 21.32	No	ns	>0.9999
0 vs. 41	-9.332	-32.34 to 13.68	No	ns	0.9471
0 vs. 42	-0.08507	-17.98 to 17.81	No	ns	>0.9999
0 vs. 45	-2.346	-23.31 to 18.61	No	ns	>0.9999
0 vs. 46	-8.559	-38.56 to 21.44	No	ns	0.9989

0 vs. 47	0.4184	-18.62 to 19.45	No	ns	>0.9999
0 vs. 50	-0.4655	-18.76 to 17.83	No	ns	>0.9999
0 vs. 51	-11.16	-47.88 to 25.56	No	ns	0.9974
0 vs. 52	1.382	-16.13 to 18.90	No	ns	>0.9999
0 vs. 55	1.237	-20.61 to 23.08	No	ns	>0.9999
0 vs. 60	2.778	-12.88 to 18.43	No	ns	>0.9999
5 vs. 6	-21.03	-40.89 to -1.179	Yes	*	0.0333
5 vs. 7	-12.73	-34.33 to 8.878	No	ns	0.5979
5 vs. 10	-6.024	-19.81 to 7.762	No	ns	0.9226
5 vs. 11	-18.56	-44.32 to 7.194	No	ns	0.3069
5 vs. 12	-4.760	-16.55 to 7.031	No	ns	0.9595
5 vs. 15	-4.044	-10.36 to 2.269	No	ns	0.4724
5 vs. 16	-17.49	-41.37 to 6.387	No	ns	0.2865
5 vs. 17	-2.627	-12.06 to 6.800	No	ns	0.9995
5 vs. 20	-1.734	-11.97 to 8.498	No	ns	>0.9999
5 vs. 21	-17.60	-40.67 to 5.477	No	ns	0.2391
5 vs. 22	-5.302	-18.72 to 8.115	No	ns	0.9665
5 vs. 25	-2.900	-15.72 to 9.916	No	ns	>0.9999
5 vs. 26	-14.26	-32.85 to 4.342	No	ns	0.2335
5 vs. 27	-5.259	-18.27 to 7.752	No	ns	0.9590
5 vs. 30	-2.160	-13.13 to 8.807	No	ns	>0.9999
5 vs. 31	-13.54	-35.28 to 8.204	No	ns	0.5148
5 vs. 32	-4.725	-19.95 to 10.50	No	ns	0.9977
5 vs. 35	-3.696	-13.84 to 6.452	No	ns	0.9849
5 vs. 36	-12.34	-31.47 to 6.791	No	ns	0.4621
5 vs. 37	-4.008	-19.83 to 11.81	No	ns	0.9999
5 vs. 40	-2.815	-16.07 to 10.44	No	ns	>0.9999
5 vs. 41	-9.718	-23.02 to 3.579	No	ns	0.2893
5 vs. 42	-0.4717	-13.08 to 12.14	No	ns	>0.9999
5 vs. 45	-2.733	-16.03 to 10.56	No	ns	>0.9999
5 vs. 46	-8.945	-28.18 to 10.29	No	ns	0.8796

5 vs. 47	0.03176	-12.18 to 12.24	No	ns	>0.9999
5 vs. 50	-0.8522	-10.95 to 9.248	No	ns	>0.9999
5 vs. 51	-11.55	-35.01 to 11.91	No	ns	0.8278
5 vs. 52	0.9958	-9.001 to 10.99	No	ns	>0.9999
5 vs. 55	0.8504	-10.49 to 12.19	No	ns	>0.9999
5 vs. 60	2.391	-12.69 to 17.47	No	ns	>0.9999
6 vs. 7	8.305	-23.49 to 40.10	No	ns	0.9998
6 vs. 10	15.01	-7.061 to 37.08	No	ns	0.3852
6 vs. 11	2.471	-15.62 to 20.56	No	ns	>0.9999
6 vs. 12	16.27	-11.12 to 43.66	No	ns	0.5852
6 vs. 15	16.99	-2.835 to 36.81	No	ns	0.1312
6 vs. 16	3.543	-14.33 to 21.41	No	ns	>0.9999
6 vs. 17	18.41	-3.114 to 39.93	No	ns	0.1327
6 vs. 20	19.30	-0.5015 to 39.10	No	ns	0.0594
6 vs. 21	3.435	-8.640 to 15.51	No	ns	0.9993
6 vs. 22	15.73	-7.367 to 38.83	No	ns	0.3831
6 vs. 25	18.13	-9.161 to 45.43	No	ns	0.4187
6 vs. 26	6.777	-11.21 to 24.76	No	ns	0.9787
6 vs. 27	15.77	-11.01 to 42.56	No	ns	0.5983
6 vs. 30	18.87	-9.658 to 47.40	No	ns	0.4250
6 vs. 31	7.493	-14.91 to 29.90	No	ns	0.9941
6 vs. 32	16.31	-7.595 to 40.21	No	ns	0.3807
6 vs. 35	17.34	-7.911 to 42.59	No	ns	0.3716
6 vs. 36	8.694	-9.860 to 27.25	No	ns	0.8734
6 vs. 37	17.02	-15.77 to 49.82	No	ns	0.7696
6 vs. 40	18.22	-9.635 to 46.07	No	ns	0.4415
6 vs. 41	11.31	-9.197 to 31.83	No	ns	0.6917
6 vs. 42	20.56	-8.426 to 49.55	No	ns	0.3276
6 vs. 45	18.30	-11.55 to 48.15	No	ns	0.5381
6 vs. 46	12.09	-7.202 to 31.38	No	ns	0.5054
6 vs. 47	21.06	-0.3534 to 42.48	No	ns	0.0560

6 vs. 50	20.18	-5.907 to 46.27	No	ns	0.2236
6 vs. 51	9.484	-9.043 to 28.01	No	ns	0.7859
6 vs. 52	22.03	-2.732 to 46.79	No	ns	0.1056
6 vs. 55	21.88	-0.2587 to 44.02	No	ns	0.0542
6 vs. 60	23.42	-8.344 to 55.19	No	ns	0.2784
7 vs. 10	6.703	-23.40 to 36.80	No	ns	>0.9999
7 vs. 11	-5.834	-39.43 to 27.77	No	ns	>0.9999
7 vs. 12	7.968	-11.55 to 27.48	No	ns	0.9552
7 vs. 15	8.683	-15.77 to 33.14	No	ns	0.9885
7 vs. 16	-4.762	-35.13 to 25.61	No	ns	>0.9999
7 vs. 17	10.10	-16.70 to 36.91	No	ns	0.9786
7 vs. 20	10.99	-14.82 to 36.81	No	ns	0.9366
7 vs. 21	-4.870	-37.38 to 27.64	No	ns	>0.9999
7 vs. 22	7.426	-15.79 to 30.64	No	ns	0.9966
7 vs. 25	9.828	-10.99 to 30.64	No	ns	0.8669
7 vs. 26	-1.528	-27.65 to 24.60	No	ns	>0.9999
7 vs. 27	7.469	-13.36 to 28.30	No	ns	0.9872
7 vs. 30	10.57	-10.78 to 31.91	No	ns	0.8223
7 vs. 31	-0.8118	-35.38 to 33.75	No	ns	>0.9999
7 vs. 32	8.003	-22.49 to 38.50	No	ns	0.9998
7 vs. 35	9.032	-12.12 to 30.19	No	ns	0.9353
7 vs. 36	0.3889	-28.98 to 29.75	No	ns	>0.9999
7 vs. 37	8.719	-12.96 to 30.40	No	ns	0.9608
7 vs. 40	9.913	-14.53 to 34.36	No	ns	0.9578
7 vs. 41	3.010	-21.63 to 27.65	No	ns	>0.9999
7 vs. 42	12.26	-5.393 to 29.91	No	ns	0.3561
7 vs. 45	9.995	-16.91 to 36.90	No	ns	0.9815
7 vs. 46	3.783	-29.37 to 36.93	No	ns	>0.9999
7 vs. 47	12.76	-15.84 to 41.36	No	ns	0.9096
7 vs. 50	11.88	-9.923 to 33.67	No	ns	0.7084
7 vs. 51	1.179	-36.03 to 38.39	No	ns	>0.9999

7 vs. 52	13.72	-9.937 to 37.38	No	ns	0.6206
7 vs. 55	13.58	-16.44 to 43.59	No	ns	0.9003
7 vs. 60	15.12	-3.144 to 33.38	No	ns	0.1586
10 vs. 11	-12.54	-39.97 to 14.89	No	ns	0.8929
10 vs. 12	1.265	-12.90 to 15.43	No	ns	>0.9999
10 vs. 15	1.980	-8.005 to 11.97	No	ns	>0.9999
10 vs. 16	-11.47	-37.36 to 14.43	No	ns	0.9146
10 vs. 17	3.397	-5.954 to 12.75	No	ns	0.9853
10 vs. 20	4.291	-7.369 to 15.95	No	ns	0.9832
10 vs. 21	-11.57	-38.17 to 15.03	No	ns	0.9251
10 vs. 22	0.7228	-11.12 to 12.57	No	ns	>0.9999
10 vs. 25	3.124	-12.41 to 18.66	No	ns	>0.9999
10 vs. 26	-8.231	-30.93 to 14.47	No	ns	0.9856
10 vs. 27	0.7659	-16.24 to 17.78	No	ns	>0.9999
10 vs. 30	3.864	-13.30 to 21.03	No	ns	>0.9999
10 vs. 31	-7.515	-29.93 to 14.90	No	ns	0.9940
10 vs. 32	1.300	-10.58 to 13.18	No	ns	>0.9999
10 vs. 35	2.329	-13.40 to 18.05	No	ns	>0.9999
10 vs. 36	-6.314	-32.15 to 19.52	No	ns	>0.9999
10 vs. 37	2.016	-18.86 to 22.89	No	ns	>0.9999
10 vs. 40	3.210	-12.83 to 19.25	No	ns	>0.9999
10 vs. 41	-3.694	-20.93 to 13.54	No	ns	>0.9999
10 vs. 42	5.553	-13.82 to 24.93	No	ns	0.9992
10 vs. 45	3.292	-13.71 to 20.29	No	ns	>0.9999
10 vs. 46	-2.921	-25.79 to 19.95	No	ns	>0.9999
10 vs. 47	6.056	-4.978 to 17.09	No	ns	0.6984
10 vs. 50	5.172	-9.770 to 20.11	No	ns	0.9913
10 vs. 51	-5.525	-29.60 to 18.55	No	ns	>0.9999
10 vs. 52	7.020	-3.897 to 17.94	No	ns	0.4666
10 vs. 55	6.875	-3.191 to 16.94	No	ns	0.3791
10 vs. 60	8.415	-14.18 to 31.01	No	ns	0.9810

11 vs. 12	13.80	-16.93 to 44.54	No	ns	0.9053
11 vs. 15	14.52	-10.57 to 39.61	No	ns	0.6241
11 vs. 16	1.072	-11.62 to 13.76	No	ns	>0.9999
11 vs. 17	15.93	-7.531 to 39.40	No	ns	0.3873
11 vs. 20	16.83	-8.589 to 42.25	No	ns	0.4237
11 vs. 21	0.9644	-11.97 to 13.90	No	ns	>0.9999
11 vs. 22	13.26	-12.03 to 38.55	No	ns	0.7572
11 vs. 25	15.66	-13.19 to 44.51	No	ns	0.7133
11 vs. 26	4.306	-13.35 to 21.97	No	ns	>0.9999
11 vs. 27	13.30	-14.98 to 41.59	No	ns	0.8702
11 vs. 30	16.40	-14.19 to 47.00	No	ns	0.7295
11 vs. 31	5.022	-15.67 to 25.72	No	ns	>0.9999
11 vs. 32	13.84	-12.32 to 39.99	No	ns	0.7464
11 vs. 35	14.87	-14.60 to 44.34	No	ns	0.8023
11 vs. 36	6.223	-12.03 to 24.48	No	ns	0.9927
11 vs. 37	14.55	-19.19 to 48.29	No	ns	0.9299
11 vs. 40	15.75	-13.45 to 44.94	No	ns	0.7215
11 vs. 41	8.844	-13.26 to 30.94	No	ns	0.9625
11 vs. 42	18.09	-11.18 to 47.36	No	ns	0.5261
11 vs. 45	15.83	-16.68 to 48.34	No	ns	0.8389
11 vs. 46	9.617	-11.20 to 30.44	No	ns	0.8848
11 vs. 47	18.59	-4.930 to 42.12	No	ns	0.2013
11 vs. 50	17.71	-9.816 to 45.24	No	ns	0.4659
11 vs. 51	7.013	-12.60 to 26.63	No	ns	0.9876
11 vs. 52	19.56	-8.727 to 47.84	No	ns	0.3620
11 vs. 55	19.41	-7.588 to 46.41	No	ns	0.3100
11 vs. 60	20.95	-11.81 to 53.72	No	ns	0.4749
12 vs. 15	0.7152	-11.65 to 13.08	No	ns	>0.9999
12 vs. 16	-12.73	-39.23 to 13.77	No	ns	0.8516
12 vs. 17	2.132	-11.53 to 15.80	No	ns	>0.9999
12 vs. 20	3.026	-11.11 to 17.16	No	ns	>0.9999

12 vs. 21	-12.84	-42.60 to 16.92	No	ns	0.9299
12 vs. 22	-0.5421	-11.93 to 10.84	No	ns	>0.9999
12 vs. 25	1.859	-5.799 to 9.518	No	ns	>0.9999
12 vs. 26	-9.496	-32.40 to 13.41	No	ns	0.9491
12 vs. 27	-0.4990	-10.44 to 9.442	No	ns	>0.9999
12 vs. 30	2.599	-9.193 to 14.39	No	ns	>0.9999
12 vs. 31	-8.780	-35.08 to 17.52	No	ns	0.9943
12 vs. 32	0.03481	-15.10 to 15.17	No	ns	>0.9999
12 vs. 35	1.064	-9.930 to 12.06	No	ns	>0.9999
12 vs. 36	-7.579	-33.98 to 18.82	No	ns	0.9992
12 vs. 37	0.7512	-12.84 to 14.35	No	ns	>0.9999
12 vs. 40	1.945	-12.65 to 16.54	No	ns	>0.9999
12 vs. 41	-4.959	-20.20 to 10.28	No	ns	0.9958
12 vs. 42	4.288	-6.511 to 15.09	No	ns	0.9650
12 vs. 45	2.027	-12.55 to 16.60	No	ns	>0.9999
12 vs. 46	-4.186	-29.15 to 20.78	No	ns	>0.9999
12 vs. 47	4.791	-10.69 to 20.27	No	ns	0.9978
12 vs. 50	3.907	-6.245 to 14.06	No	ns	0.9738
12 vs. 51	-6.790	-36.87 to 23.29	No	ns	>0.9999
12 vs. 52	5.755	-5.340 to 16.85	No	ns	0.7704
12 vs. 55	5.610	-10.03 to 21.25	No	ns	0.9871
12 vs. 60	7.151	-5.167 to 19.47	No	ns	0.6194
15 vs. 16	-13.45	-37.11 to 10.21	No	ns	0.6501
15 vs. 17	1.417	-5.632 to 8.467	No	ns	>0.9999
15 vs. 20	2.311	-6.350 to 10.97	No	ns	0.9997
15 vs. 21	-13.55	-36.03 to 8.927	No	ns	0.5634
15 vs. 22	-1.257	-12.77 to 10.26	No	ns	>0.9999
15 vs. 25	1.144	-11.77 to 14.06	No	ns	>0.9999
15 vs. 26	-10.21	-27.94 to 7.516	No	ns	0.6307
15 vs. 27	-1.214	-15.49 to 13.07	No	ns	>0.9999
15 vs. 30	1.884	-9.965 to 13.73	No	ns	>0.9999

15 vs. 31	-9.495	-29.20 to 10.21	No	ns	0.8488
15 vs. 32	-0.6803	-13.19 to 11.83	No	ns	>0.9999
15 vs. 35	0.3488	-9.743 to 10.44	No	ns	>0.9999
15 vs. 36	-8.294	-27.63 to 11.05	No	ns	0.9330
15 vs. 37	0.03600	-15.77 to 15.84	No	ns	>0.9999
15 vs. 40	1.230	-10.46 to 12.92	No	ns	>0.9999
15 vs. 41	-5.674	-18.72 to 7.369	No	ns	0.9252
15 vs. 42	3.573	-10.66 to 17.81	No	ns	>0.9999
15 vs. 45	1.312	-10.79 to 13.41	No	ns	>0.9999
15 vs. 46	-4.901	-23.30 to 13.50	No	ns	0.9997
15 vs. 47	4.076	-4.739 to 12.89	No	ns	0.8841
15 vs. 50	3.192	-6.318 to 12.70	No	ns	0.9939
15 vs. 51	-7.505	-28.35 to 13.35	No	ns	0.9866
15 vs. 52	5.040	-2.905 to 12.99	No	ns	0.4869
15 vs. 55	4.895	-4.066 to 13.86	No	ns	0.7049
15 vs. 60	6.435	-10.62 to 23.49	No	ns	0.9784
16 vs. 17	14.86	-8.464 to 38.19	No	ns	0.4804
16 vs. 20	15.76	-6.701 to 38.21	No	ns	0.3421
16 vs. 21	-0.1074	-13.93 to 13.71	No	ns	>0.9999
16 vs. 22	12.19	-9.931 to 34.31	No	ns	0.6931
16 vs. 25	14.59	-9.532 to 38.71	No	ns	0.5586
16 vs. 26	3.235	-13.49 to 19.96	No	ns	>0.9999
16 vs. 27	12.23	-11.34 to 35.81	No	ns	0.7702
16 vs. 30	15.33	-13.56 to 44.22	No	ns	0.7428
16 vs. 31	3.950	-18.38 to 26.28	No	ns	>0.9999
16 vs. 32	12.77	-8.823 to 34.35	No	ns	0.5923
16 vs. 35	13.79	-11.69 to 39.28	No	ns	0.7170
16 vs. 36	5.151	-14.71 to 25.01	No	ns	0.9998
16 vs. 37	13.48	-18.28 to 45.25	No	ns	0.9383
16 vs. 40	14.68	-13.22 to 42.57	No	ns	0.7533
16 vs. 41	7.772	-10.24 to 25.78	No	ns	0.9297

16 vs. 42	17.02	-9.616 to 43.65	No	ns	0.4761
16 vs. 45	14.76	-14.98 to 44.50	No	ns	0.8198
16 vs. 46	8.545	-10.31 to 27.40	No	ns	0.8990
16 vs. 47	17.52	-4.851 to 39.89	No	ns	0.2107
16 vs. 50	16.64	-8.951 to 42.23	No	ns	0.4502
16 vs. 51	5.941	-15.16 to 27.04	No	ns	0.9994
16 vs. 52	18.49	-8.593 to 45.56	No	ns	0.3798
16 vs. 55	18.34	-6.972 to 43.65	No	ns	0.3001
16 vs. 60	19.88	-9.048 to 48.81	No	ns	0.3705
17 vs. 20	0.8937	-8.502 to 10.29	No	ns	>0.9999
17 vs. 21	-14.97	-39.19 to 9.253	No	ns	0.5262
17 vs. 22	-2.674	-14.06 to 8.715	No	ns	>0.9999
17 vs. 25	-0.2729	-13.39 to 12.84	No	ns	>0.9999
17 vs. 26	-11.63	-32.21 to 8.951	No	ns	0.6582
17 vs. 27	-2.631	-16.85 to 11.59	No	ns	>0.9999
17 vs. 30	0.4671	-12.02 to 12.96	No	ns	>0.9999
17 vs. 31	-10.91	-31.51 to 9.689	No	ns	0.7448
17 vs. 32	-2.097	-13.84 to 9.648	No	ns	>0.9999
17 vs. 35	-1.068	-14.20 to 12.07	No	ns	>0.9999
17 vs. 36	-9.712	-31.60 to 12.17	No	ns	0.9132
17 vs. 37	-1.381	-18.40 to 15.64	No	ns	>0.9999
17 vs. 40	-0.1874	-12.53 to 12.15	No	ns	>0.9999
17 vs. 41	-7.091	-22.48 to 8.303	No	ns	0.8870
17 vs. 42	2.156	-11.97 to 16.28	No	ns	>0.9999
17 vs. 45	-0.1056	-12.75 to 12.54	No	ns	>0.9999
17 vs. 46	-6.318	-27.14 to 14.50	No	ns	0.9983
17 vs. 47	2.659	-4.063 to 9.381	No	ns	0.9662
17 vs. 50	1.775	-8.434 to 11.98	No	ns	>0.9999
17 vs. 51	-8.922	-31.89 to 14.05	No	ns	0.9714
17 vs. 52	3.623	-4.314 to 11.56	No	ns	0.8938
17 vs. 55	3.478	-5.686 to 12.64	No	ns	0.9771

17 vs. 60	5.018	-12.17 to 22.20	No	ns	0.9990
20 vs. 21	-15.86	-39.90 to 8.174	No	ns	0.4283
20 vs. 22	-3.568	-13.72 to 6.587	No	ns	0.9897
20 vs. 25	-1.167	-15.08 to 12.74	No	ns	>0.9999
20 vs. 26	-12.52	-34.47 to 9.429	No	ns	0.6447
20 vs. 27	-3.525	-18.48 to 11.43	No	ns	>0.9999
20 vs. 30	-0.4265	-14.75 to 13.90	No	ns	>0.9999
20 vs. 31	-11.81	-37.19 to 13.58	No	ns	0.8795
20 vs. 32	-2.991	-15.72 to 9.734	No	ns	>0.9999
20 vs. 35	-1.962	-13.17 to 9.250	No	ns	>0.9999
20 vs. 36	-10.61	-34.48 to 13.27	No	ns	0.9124
20 vs. 37	-2.275	-21.71 to 17.16	No	ns	>0.9999
20 vs. 40	-1.081	-16.60 to 14.43	No	ns	>0.9999
20 vs. 41	-7.985	-25.66 to 9.695	No	ns	0.9014
20 vs. 42	1.262	-14.47 to 17.00	No	ns	>0.9999
20 vs. 45	-0.9993	-15.30 to 13.30	No	ns	>0.9999
20 vs. 46	-7.212	-29.33 to 14.90	No	ns	0.9957
20 vs. 47	1.765	-9.190 to 12.72	No	ns	>0.9999
20 vs. 50	0.8815	-11.14 to 12.90	No	ns	>0.9999
20 vs. 51	-9.816	-33.71 to 14.07	No	ns	0.9528
20 vs. 52	2.729	-6.417 to 11.88	No	ns	0.9986
20 vs. 55	2.584	-7.054 to 12.22	No	ns	0.9997
20 vs. 60	4.125	-13.53 to 21.78	No	ns	>0.9999
21 vs. 22	12.30	-13.19 to 37.78	No	ns	0.8474
21 vs. 25	14.70	-13.48 to 42.87	No	ns	0.7636
21 vs. 26	3.342	-8.427 to 15.11	No	ns	0.9993
21 vs. 27	12.34	-15.13 to 39.81	No	ns	0.9053
21 vs. 30	15.44	-14.38 to 45.25	No	ns	0.7725
21 vs. 31	4.058	-13.26 to 21.38	No	ns	>0.9999
21 vs. 32	12.87	-11.74 to 37.48	No	ns	0.7604
21 vs. 35	13.90	-13.09 to 40.90	No	ns	0.7789

21 vs. 36	5.259	-6.593 to 17.11	No	ns	0.9132
21 vs. 37	13.59	-19.37 to 46.55	No	ns	0.9513
21 vs. 40	14.78	-13.51 to 43.08	No	ns	0.7619
21 vs. 41	7.879	-10.36 to 26.12	No	ns	0.9291
21 vs. 42	17.13	-12.37 to 46.62	No	ns	0.6189
21 vs. 45	14.86	-16.19 to 45.91	No	ns	0.8547
21 vs. 46	8.652	-5.338 to 22.64	No	ns	0.5252
21 vs. 47	17.63	-6.090 to 41.35	No	ns	0.2688
21 vs. 50	16.75	-10.12 to 43.61	No	ns	0.5131
21 vs. 51	6.048	-7.605 to 19.70	No	ns	0.9143
21 vs. 52	18.59	-9.256 to 46.44	No	ns	0.4115
21 vs. 55	18.45	-6.425 to 43.32	No	ns	0.2713
21 vs. 60	19.99	-12.76 to 52.74	No	ns	0.5450
22 vs. 25	2.401	-7.189 to 11.99	No	ns	>0.9999
22 vs. 26	-8.954	-28.97 to 11.06	No	ns	0.9078
22 vs. 27	0.04309	-11.56 to 11.64	No	ns	>0.9999
22 vs. 30	3.142	-12.01 to 18.29	No	ns	>0.9999
22 vs. 31	-8.238	-33.97 to 17.49	No	ns	0.9966
22 vs. 32	0.5769	-12.30 to 13.46	No	ns	>0.9999
22 vs. 35	1.606	-9.297 to 12.51	No	ns	>0.9999
22 vs. 36	-7.037	-31.67 to 17.60	No	ns	0.9993
22 vs. 37	1.293	-14.37 to 16.96	No	ns	>0.9999
22 vs. 40	2.487	-11.83 to 16.81	No	ns	>0.9999
22 vs. 41	-4.417	-20.57 to 11.74	No	ns	0.9996
22 vs. 42	4.830	-8.569 to 18.23	No	ns	0.9864
22 vs. 45	2.569	-12.78 to 17.92	No	ns	>0.9999
22 vs. 46	-3.643	-26.63 to 19.35	No	ns	>0.9999
22 vs. 47	5.333	-7.214 to 17.88	No	ns	0.9375
22 vs. 50	4.450	-8.525 to 17.42	No	ns	0.9922
22 vs. 51	-6.247	-31.21 to 18.72	No	ns	>0.9999
22 vs. 52	6.298	-2.305 to 14.90	No	ns	0.2873

22 vs. 55	6.152	-8.319 to 20.62	No	ns	0.9375
22 vs. 60	7.693	-10.32 to 25.71	No	ns	0.9353
25 vs. 26	-11.36	-32.60 to 9.885	No	ns	0.7331
25 vs. 27	-2.358	-7.124 to 2.407	No	ns	0.8225
25 vs. 30	0.7401	-10.73 to 12.21	No	ns	>0.9999
25 vs. 31	-10.64	-35.94 to 14.66	No	ns	0.9427
25 vs. 32	-1.825	-13.69 to 10.04	No	ns	>0.9999
25 vs. 35	-0.7954	-10.03 to 8.443	No	ns	>0.9999
25 vs. 36	-9.439	-34.71 to 15.83	No	ns	0.9804
25 vs. 37	-1.108	-13.12 to 10.91	No	ns	>0.9999
25 vs. 40	0.08557	-11.95 to 12.12	No	ns	>0.9999
25 vs. 41	-6.818	-20.87 to 7.233	No	ns	0.8421
25 vs. 42	2.429	-5.824 to 10.68	No	ns	0.9989
25 vs. 45	0.1673	-11.43 to 11.77	No	ns	>0.9999
25 vs. 46	-6.045	-29.54 to 17.45	No	ns	0.9999
25 vs. 47	2.932	-11.74 to 17.60	No	ns	>0.9999
25 vs. 50	2.048	-8.391 to 12.49	No	ns	>0.9999
25 vs. 51	-8.649	-36.99 to 19.69	No	ns	0.9982
25 vs. 52	3.896	-6.885 to 14.68	No	ns	0.9861
25 vs. 55	3.751	-11.58 to 19.08	No	ns	>0.9999
25 vs. 60	5.291	-6.657 to 17.24	No	ns	0.9145
26 vs. 27	8.997	-11.95 to 29.94	No	ns	0.9321
26 vs. 30	12.10	-11.54 to 35.73	No	ns	0.7863
26 vs. 31	0.7159	-13.42 to 14.85	No	ns	>0.9999
26 vs. 32	9.531	-11.12 to 30.19	No	ns	0.8857
26 vs. 35	10.56	-10.13 to 31.25	No	ns	0.7890
26 vs. 36	1.917	-7.360 to 11.19	No	ns	>0.9999
26 vs. 37	10.25	-14.23 to 34.72	No	ns	0.9447
26 vs. 40	11.44	-9.931 to 32.81	No	ns	0.7314
26 vs. 41	4.537	-6.419 to 15.49	No	ns	0.9495
26 vs. 42	13.78	-8.949 to 36.52	No	ns	0.5548

26 vs. 45	11.52	-13.64 to 36.68	No	ns	0.8913
26 vs. 46	5.310	-6.145 to 16.77	No	ns	0.8821
26 vs. 47	14.29	-6.286 to 34.86	No	ns	0.3561
26 vs. 50	13.40	-7.881 to 34.69	No	ns	0.4980
26 vs. 51	2.706	-11.17 to 16.58	No	ns	>0.9999
26 vs. 52	15.25	-7.265 to 37.77	No	ns	0.3909
26 vs. 55	15.11	-6.792 to 37.00	No	ns	0.3653
26 vs. 60	16.65	-10.49 to 43.78	No	ns	0.5375
27 vs. 30	3.098	-7.919 to 14.12	No	ns	0.9994
27 vs. 31	-8.281	-33.36 to 16.80	No	ns	0.9950
27 vs. 32	0.5338	-12.32 to 13.38	No	ns	>0.9999
27 vs. 35	1.563	-8.232 to 11.36	No	ns	>0.9999
27 vs. 36	-7.080	-31.74 to 17.58	No	ns	0.9992
27 vs. 37	1.250	-13.56 to 16.06	No	ns	>0.9999
27 vs. 40	2.444	-9.357 to 14.25	No	ns	>0.9999
27 vs. 41	-4.460	-18.33 to 9.407	No	ns	0.9964
27 vs. 42	4.787	-3.253 to 12.83	No	ns	0.5820
27 vs. 45	2.526	-10.59 to 15.64	No	ns	>0.9999
27 vs. 46	-3.687	-27.10 to 19.73	No	ns	>0.9999
27 vs. 47	5.290	-11.65 to 22.23	No	ns	0.9975
27 vs. 50	4.406	-6.823 to 15.64	No	ns	0.9686
27 vs. 51	-6.291	-34.39 to 21.81	No	ns	>0.9999
27 vs. 52	6.254	-6.528 to 19.04	No	ns	0.8341
27 vs. 55	6.109	-9.056 to 21.27	No	ns	0.9602
27 vs. 60	7.650	-5.781 to 21.08	No	ns	0.6469
30 vs. 31	-11.38	-36.99 to 14.23	No	ns	0.9123
30 vs. 32	-2.565	-19.53 to 14.40	No	ns	>0.9999
30 vs. 35	-1.535	-10.72 to 7.647	No	ns	>0.9999
30 vs. 36	-10.18	-35.30 to 14.94	No	ns	0.9581
30 vs. 37	-1.848	-15.46 to 11.77	No	ns	>0.9999
30 vs. 40	-0.6545	-8.113 to 6.804	No	ns	>0.9999

30 vs. 41	-7.558	-25.44 to 10.32	No	ns	0.9403
30 vs. 42	1.688	-5.698 to 9.075	No	ns	>0.9999
30 vs. 45	-0.5728	-10.57 to 9.428	No	ns	>0.9999
30 vs. 46	-6.785	-32.56 to 18.99	No	ns	0.9998
30 vs. 47	2.192	-14.71 to 19.10	No	ns	>0.9999
30 vs. 50	1.308	-5.723 to 8.339	No	ns	>0.9999
30 vs. 51	-9.389	-37.98 to 19.20	No	ns	0.9953
30 vs. 52	3.156	-7.169 to 13.48	No	ns	0.9981
30 vs. 55	3.011	-10.03 to 16.05	No	ns	>0.9999
30 vs. 60	4.551	-7.384 to 16.49	No	ns	0.9760
31 vs. 32	8.815	-11.53 to 29.16	No	ns	0.9275
31 vs. 35	9.844	-16.06 to 35.75	No	ns	0.9768
31 vs. 36	1.201	-13.30 to 15.70	No	ns	>0.9999
31 vs. 37	9.531	-19.12 to 38.18	No	ns	0.9945
31 vs. 40	10.72	-12.42 to 33.87	No	ns	0.8822
31 vs. 41	3.821	-10.49 to 18.13	No	ns	0.9997
31 vs. 42	13.07	-14.03 to 40.16	No	ns	0.8478
31 vs. 45	10.81	-15.69 to 37.31	No	ns	0.9557
31 vs. 46	4.594	-8.857 to 18.05	No	ns	0.9925
31 vs. 47	13.57	-7.352 to 34.49	No	ns	0.4538
31 vs. 50	12.69	-10.55 to 35.92	No	ns	0.7054
31 vs. 51	1.990	-13.76 to 17.74	No	ns	>0.9999
31 vs. 52	14.54	-10.94 to 40.01	No	ns	0.6445
31 vs. 55	14.39	-6.641 to 35.42	No	ns	0.3766
31 vs. 60	15.93	-14.35 to 46.21	No	ns	0.7531
32 vs. 35	1.029	-13.61 to 15.66	No	ns	>0.9999
32 vs. 36	-7.614	-31.67 to 16.44	No	ns	0.9970
32 vs. 37	0.7163	-19.17 to 20.60	No	ns	>0.9999
32 vs. 40	1.910	-13.54 to 17.36	No	ns	>0.9999
32 vs. 41	-4.993	-18.66 to 8.673	No	ns	0.9844
32 vs. 42	4.253	-13.38 to 21.88	No	ns	>0.9999

32 vs. 45	1.992	-12.27 to 16.25	No	ns	>0.9999
32 vs. 46	-4.220	-23.23 to 14.79	No	ns	>0.9999
32 vs. 47	4.757	-7.301 to 16.81	No	ns	0.9670
32 vs. 50	3.873	-10.59 to 18.34	No	ns	0.9997
32 vs. 51	-6.824	-29.74 to 16.09	No	ns	0.9987
32 vs. 52	5.721	-8.174 to 19.62	No	ns	0.9520
32 vs. 55	5.575	-4.798 to 15.95	No	ns	0.7263
32 vs. 60	7.116	-13.04 to 27.27	No	ns	0.9891
35 vs. 36	-8.643	-31.99 to 14.70	No	ns	0.9821
35 vs. 37	-0.3128	-13.86 to 13.24	No	ns	>0.9999
35 vs. 40	0.8810	-8.294 to 10.06	No	ns	>0.9999
35 vs. 41	-6.023	-21.37 to 9.328	No	ns	0.9686
35 vs. 42	3.224	-6.232 to 12.68	No	ns	0.9927
35 vs. 45	0.9627	-8.378 to 10.30	No	ns	>0.9999
35 vs. 46	-5.250	-27.91 to 17.41	No	ns	>0.9999
35 vs. 47	3.727	-11.23 to 18.69	No	ns	>0.9999
35 vs. 50	2.843	-6.792 to 12.48	No	ns	0.9988
35 vs. 51	-7.854	-33.10 to 17.39	No	ns	0.9976
35 vs. 52	4.691	-5.297 to 14.68	No	ns	0.8714
35 vs. 55	4.546	-8.728 to 17.82	No	ns	0.9923
35 vs. 60	6.087	-7.833 to 20.01	No	ns	0.9222
36 vs. 37	8.330	-18.76 to 35.42	No	ns	0.9980
36 vs. 40	9.524	-14.33 to 33.38	No	ns	0.9632
36 vs. 41	2.621	-11.46 to 16.71	No	ns	>0.9999
36 vs. 42	11.87	-13.12 to 36.85	No	ns	0.8618
36 vs. 45	9.606	-16.83 to 36.04	No	ns	0.9852
36 vs. 46	3.394	-6.606 to 13.39	No	ns	0.9930
36 vs. 47	12.37	-9.311 to 34.05	No	ns	0.6444
36 vs. 50	11.49	-11.03 to 34.00	No	ns	0.7898
36 vs. 51	0.7897	-13.16 to 14.74	No	ns	>0.9999
36 vs. 52	13.33	-11.84 to 38.51	No	ns	0.7450

36 vs. 55	13.19	-9.951 to 36.33	No	ns	0.6459
36 vs. 60	14.73	-13.79 to 43.25	No	ns	0.7755
37 vs. 40	1.194	-13.13 to 15.52	No	ns	>0.9999
37 vs. 41	-5.710	-25.56 to 14.14	No	ns	0.9992
37 vs. 42	3.537	-8.086 to 15.16	No	ns	0.9982
37 vs. 45	1.276	-11.16 to 13.71	No	ns	>0.9999
37 vs. 46	-4.937	-31.69 to 21.82	No	ns	>0.9999
37 vs. 47	4.040	-14.15 to 22.23	No	ns	>0.9999
37 vs. 50	3.156	-11.15 to 17.46	No	ns	>0.9999
37 vs. 51	-7.541	-38.86 to 23.77	No	ns	>0.9999
37 vs. 52	5.004	-7.647 to 17.66	No	ns	0.9662
37 vs. 55	4.859	-15.86 to 25.57	No	ns	>0.9999
37 vs. 60	6.399	-7.442 to 20.24	No	ns	0.8841
40 vs. 41	-6.904	-23.66 to 9.852	No	ns	0.9517
40 vs. 42	2.343	-7.944 to 12.63	No	ns	>0.9999
40 vs. 45	0.08171	-9.223 to 9.387	No	ns	>0.9999
40 vs. 46	-6.131	-30.30 to 18.04	No	ns	0.9999
40 vs. 47	2.846	-13.09 to 18.78	No	ns	>0.9999
40 vs. 50	1.962	-8.221 to 12.15	No	ns	>0.9999
40 vs. 51	-8.735	-33.70 to 16.23	No	ns	0.9902
40 vs. 52	3.810	-7.267 to 14.89	No	ns	0.9919
40 vs. 55	3.665	-9.537 to 16.87	No	ns	0.9995
40 vs. 60	5.206	-11.32 to 21.73	No	ns	0.9972
41 vs. 42	9.247	-7.787 to 26.28	No	ns	0.7132
41 vs. 45	6.985	-11.72 to 25.69	No	ns	0.9804
41 vs. 46	0.7731	-11.07 to 12.62	No	ns	>0.9999
41 vs. 47	9.750	-5.586 to 25.09	No	ns	0.4837
41 vs. 50	8.866	-5.955 to 23.69	No	ns	0.5750
41 vs. 51	-1.831	-20.75 to 17.09	No	ns	>0.9999
41 vs. 52	10.71	-7.233 to 28.66	No	ns	0.5781
41 vs. 55	10.57	-5.696 to 26.83	No	ns	0.4512

41 vs. 60	12.11	-8.314 to 32.53	No	ns	0.5883
42 vs. 45	-2.261	-13.89 to 9.363	No	ns	>0.9999
42 vs. 46	-8.473	-34.48 to 17.54	No	ns	0.9957
42 vs. 47	0.5035	-16.55 to 17.55	No	ns	>0.9999
42 vs. 50	-0.3804	-8.836 to 8.076	No	ns	>0.9999
42 vs. 51	-11.08	-41.05 to 18.89	No	ns	0.9824
42 vs. 52	1.468	-10.23 to 13.16	No	ns	>0.9999
42 vs. 55	1.322	-15.90 to 18.54	No	ns	>0.9999
42 vs. 60	2.863	-6.128 to 11.85	No	ns	0.9968
45 vs. 46	-6.212	-31.10 to 18.68	No	ns	>0.9999
45 vs. 47	2.765	-11.15 to 16.68	No	ns	>0.9999
45 vs. 50	1.881	-8.914 to 12.68	No	ns	>0.9999
45 vs. 51	-8.816	-36.80 to 19.17	No	ns	0.9972
45 vs. 52	3.729	-7.212 to 14.67	No	ns	0.9927
45 vs. 55	3.583	-10.14 to 17.31	No	ns	0.9998
45 vs. 60	5.124	-8.525 to 18.77	No	ns	0.9794
46 vs. 47	8.977	-10.65 to 28.61	No	ns	0.8924
46 vs. 50	8.093	-14.60 to 30.79	No	ns	0.9879
46 vs. 51	-2.604	-15.07 to 9.861	No	ns	>0.9999
46 vs. 52	9.941	-14.47 to 34.35	No	ns	0.9563
46 vs. 55	9.796	-10.58 to 30.17	No	ns	0.8508
46 vs. 60	11.34	-17.60 to 40.27	No	ns	0.9690
47 vs. 50	-0.8839	-13.71 to 11.94	No	ns	>0.9999
47 vs. 51	-11.58	-34.08 to 10.92	No	ns	0.7797
47 vs. 52	0.9640	-10.33 to 12.26	No	ns	>0.9999
47 vs. 55	0.8186	-12.13 to 13.77	No	ns	>0.9999
47 vs. 60	2.359	-16.09 to 20.81	No	ns	>0.9999
50 vs. 51	-10.70	-37.20 to 15.80	No	ns	0.9595
50 vs. 52	1.848	-7.781 to 11.48	No	ns	>0.9999
50 vs. 55	1.703	-10.20 to 13.60	No	ns	>0.9999
50 vs. 60	3.243	-8.225 to 14.71	No	ns	0.9994

51 vs. 52	12.55	-13.96 to 39.05	No	ns	0.8648
51 vs. 55	12.40	-9.739 to 34.54	No	ns	0.6706
51 vs. 60	13.94	-20.53 to 48.41	No	ns	0.9588
52 vs. 55	-0.1454	-11.47 to 11.18	No	ns	>0.9999
52 vs. 60	1.395	-13.97 to 16.76	No	ns	>0.9999
55 vs. 60	1.541	-19.00 to 22.08	No	ns	>0.9999