

## Supplemental Information

### **Tuning Composition of Polymer and Porous Silicon Composite Nanoparticles for Early Endosome Escape of Anti-miRNA Peptide Nucleic Acids**

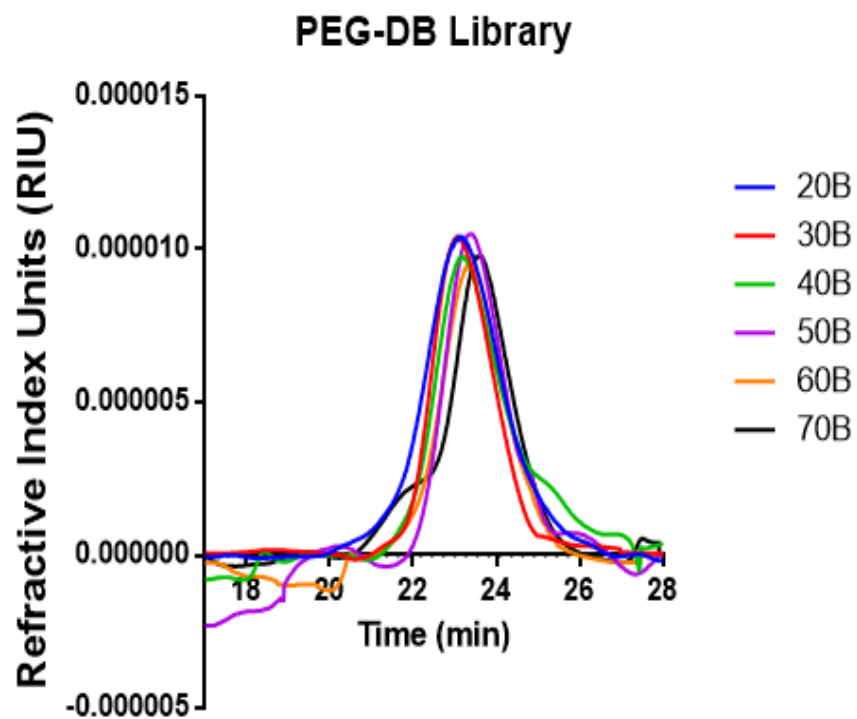
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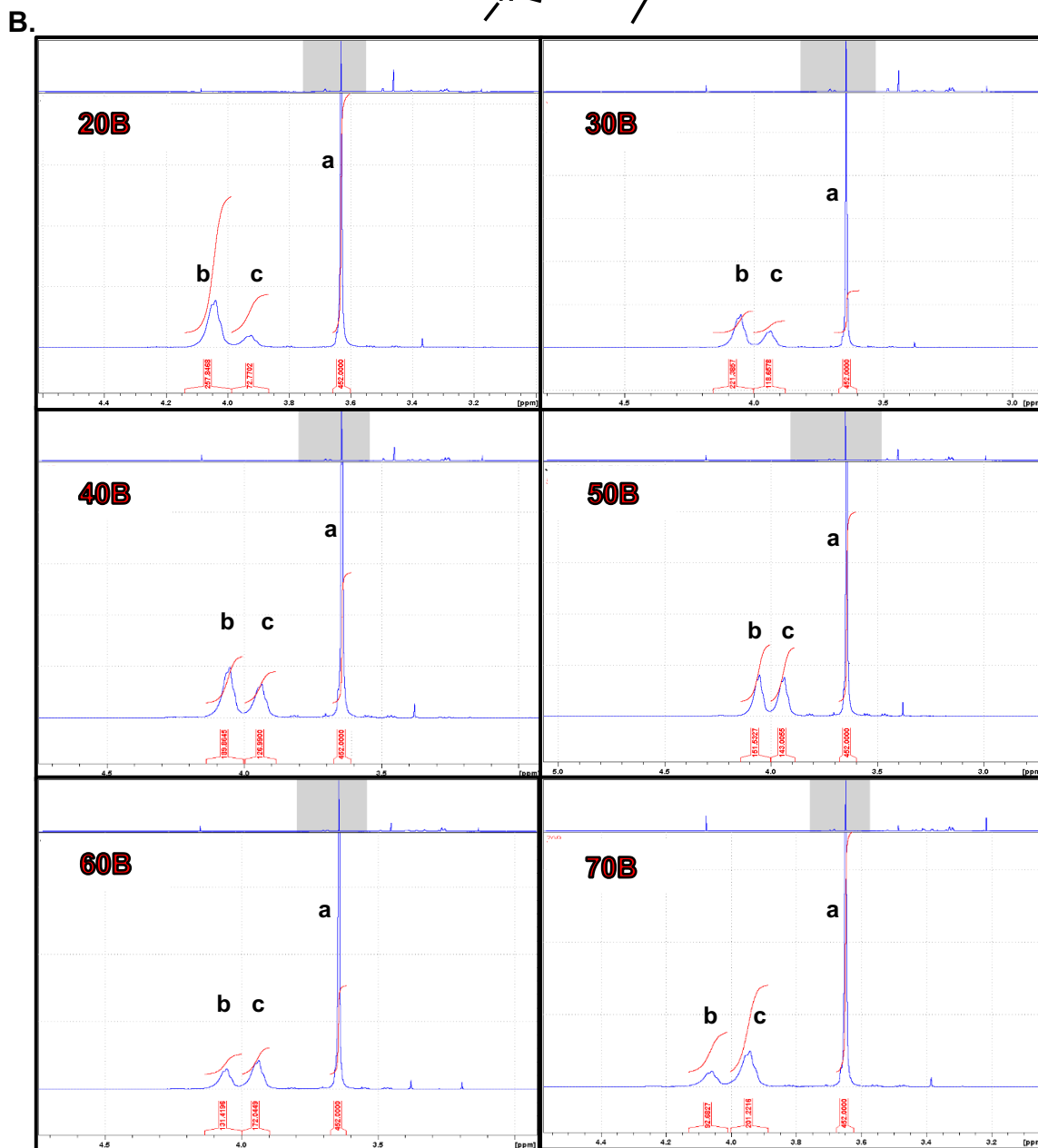
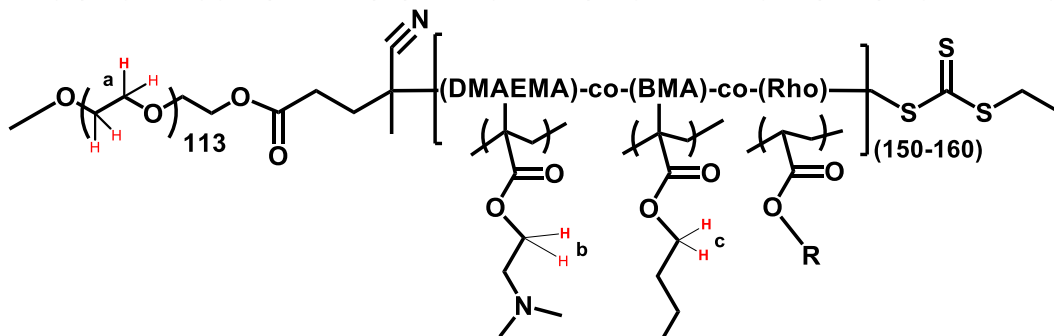
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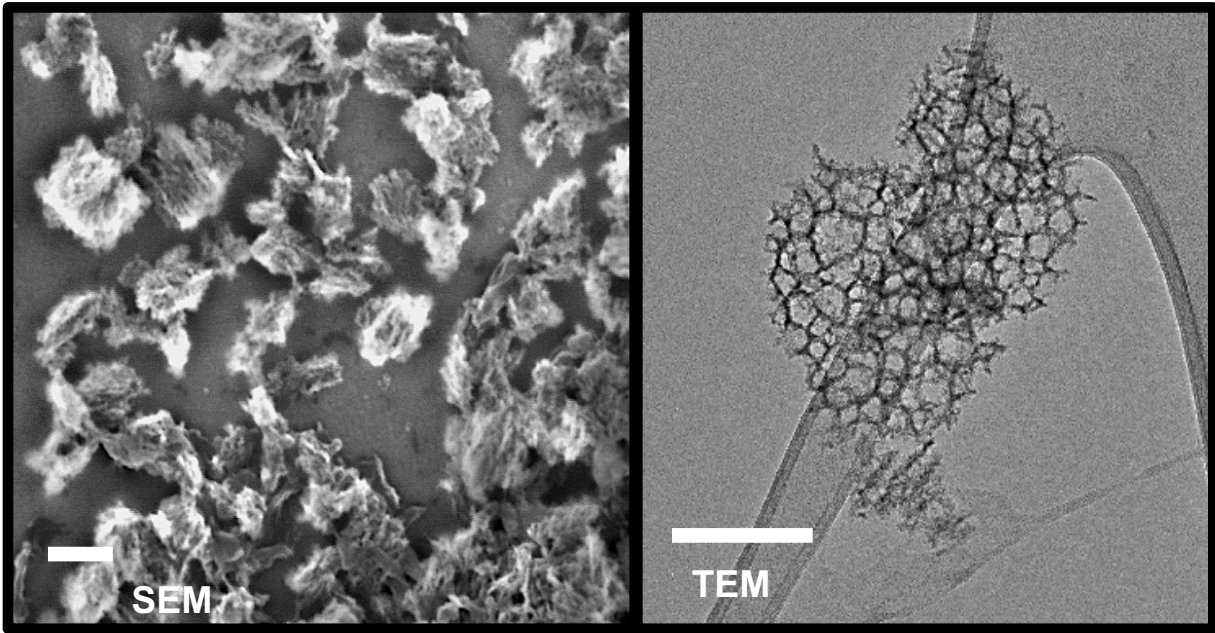


**Supplemental Figure 1.** Polymer GPC elution curves. These GPC spectra were acquired on an Agilent 1260 Infinity, with a mobile phase consisting of 0.1M Lithium Bromide (LiBr) in DMF.

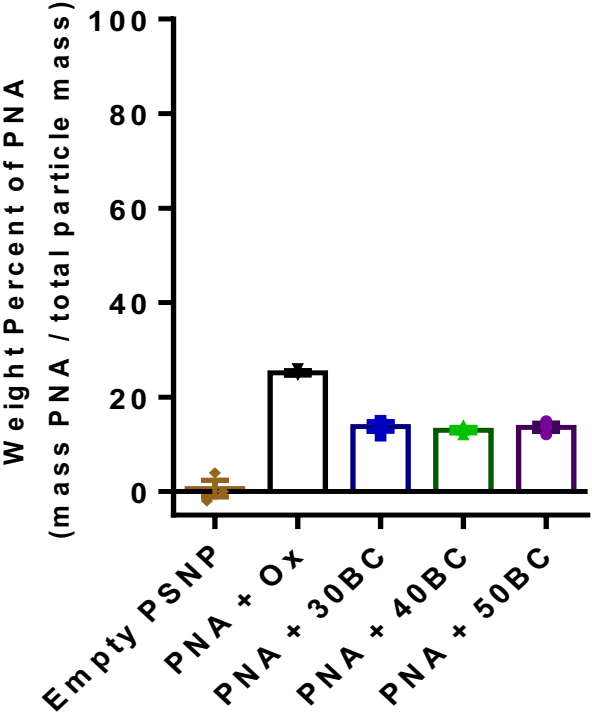
A. \* Hydrogen bond angles are not representative of actual stereochemistry  
 Poly[(ethylene glycol)-*block*-[(2-(dimethylamino)ethyl methacrylate)-*co*-(butyl methacrylate)]]



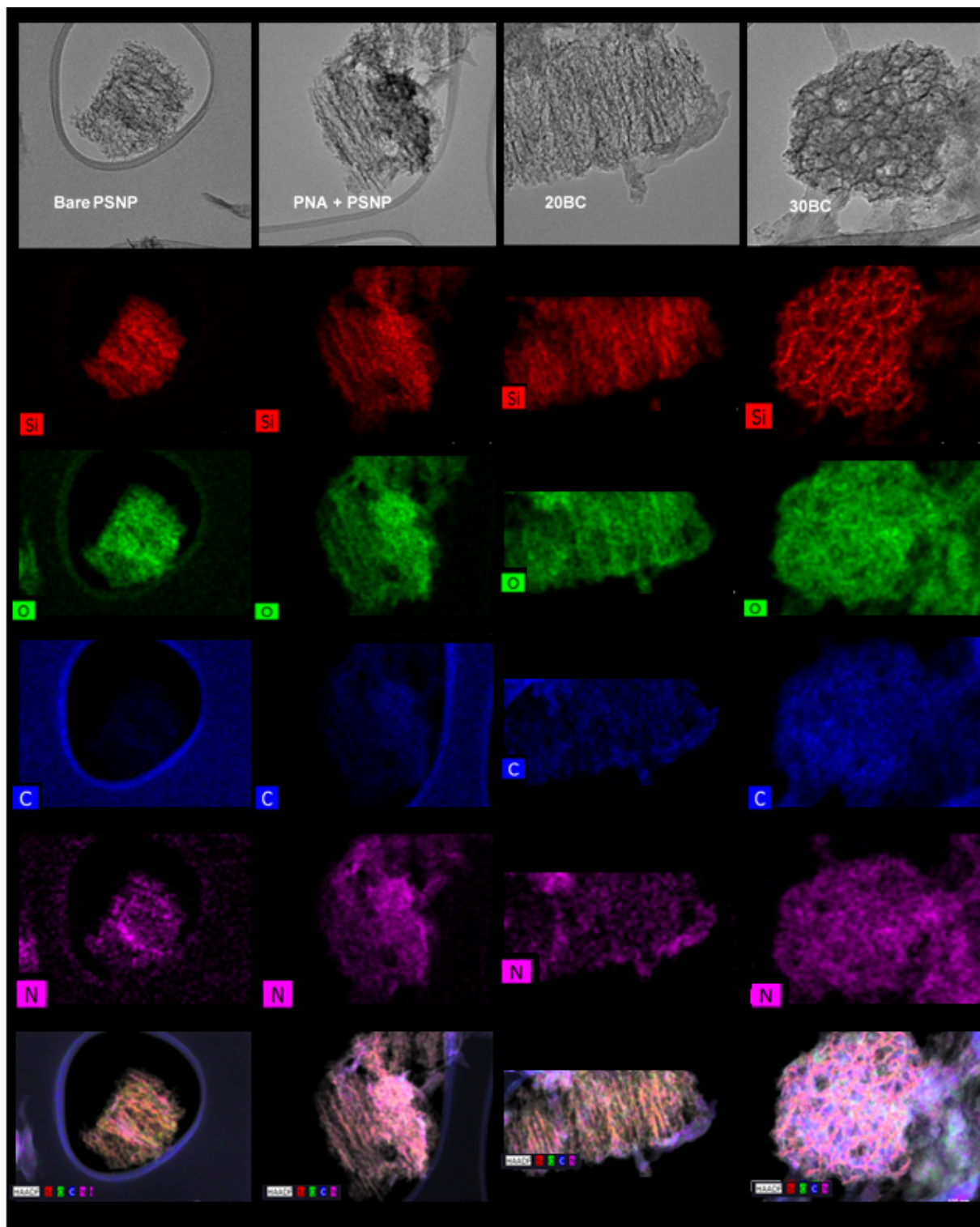
**Supplemental Figure 2. A)** Structure of PEG-DB. Red hydrogens on structure indicate the protons being measured in the  $^1\text{H}$ -nuclear magnetic resonance (NMR) below and their corresponding letter designations (a, b, and c); a= PEG protons, b= DMAEMA protons, and c= BMA protons. \*Rhodamine signal was too low to measure in these spectra. **B)**  $^1\text{H}$ -NMR spectroscopy for polymer library.



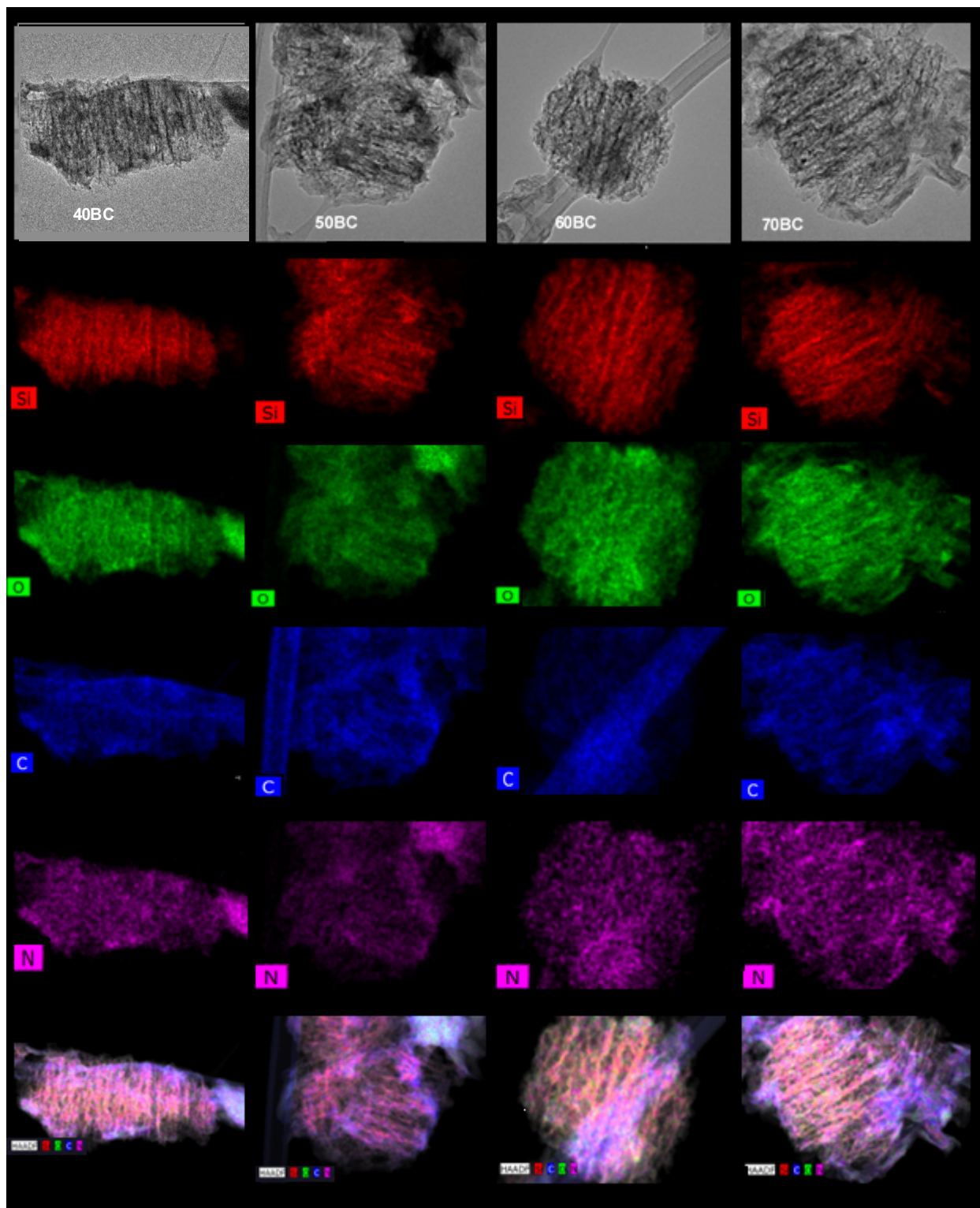
**Supplemental Figure 3.** The SEM image on the left shows the distribution of particles sizes and shapes. The sample was prepared by lyophilization of 0.33 mg/mL solution of PSNPs in biology grade water. The TEM image on the right shows the relevant pore size and porosity of the PSNPs. Scale bar for both images is 200 nm.



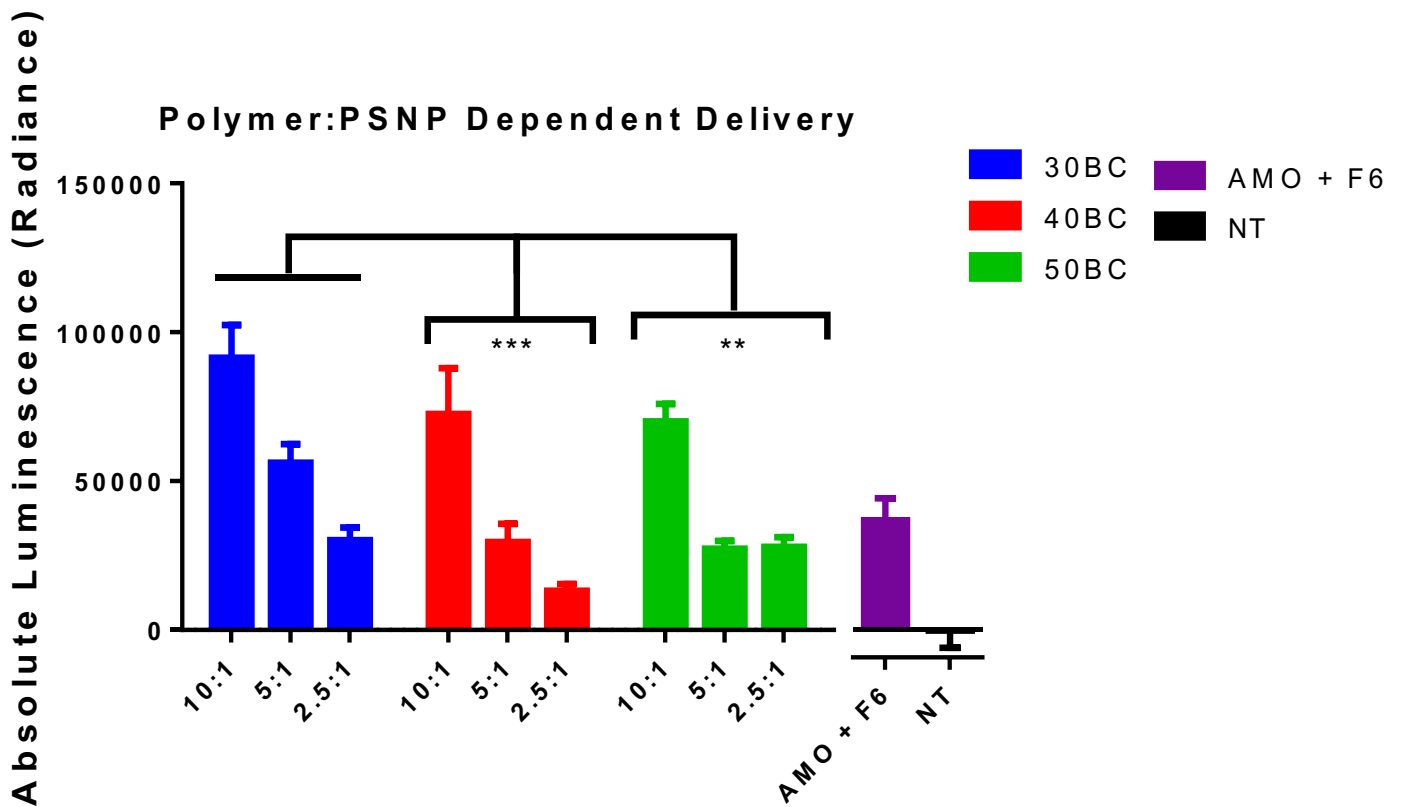
**Supplemental Figure 4.** PNA loading into porous silicon nanoparticles.



**Supplemental Figure 5A.** This image panel shows TEM with EDS elemental mapping for bare PSNP, PNA loaded PSNP, 20BC, and 30BC composites. The images illustrate the four most pertinent elements for these materials: Silicon (Si), Oxygen (O), Carbon (C), and Nitrogen (N). Silicon represents the silicon framework of the PSNPs, while the oxygen signal verifies the surface oxidation of the PSNPs. The carbon and nitrogen are used to visualize the PNA and polymer coating. The faint carbon signal seen in the oxidized particles is likely due to carbon contamination which is difficult to avoid in sample preparation. The width of each image is 400 nm.



**Supplemental Figure 5B.** This image panel includes shows TEM with EDS elemental mapping for 40BC, 50BC, 60BC, and 70BC polymer-coated porous silicon composites. The images illustrate the four most pertinent elements for these materials: Silicon (Si), Oxygen (O), Carbon (C), and Nitrogen (N). Silicon represents the silicon framework of the PSNPs, while oxygen signal verifies the surface oxidation of the PSNPs. The faint carbon and nitrogen are used to visualize the PNA and polymer coating. Width of each image is 400 nm.



**Supplemental Figure 6.** Polymer:PSNP ratio dependent activity of anti-miR-122 PNA delivered via PSNP composites 30BC, 40B, and 50BC. The different ratios lead to varying mass amounts of total polymer coated which had pronounced effects on PNA activity.

### Serum Stability Statistical Analysis Tabular Results (Figure 4A Study)

Table Analyzed	Stripping Kinetics							
Two-way RM ANOVA	Matching : Across row							
Alpha	0.05							
Source of Variation	% of total variation	P value	P value summary	Significant?				
Interaction	4.365	0.0055	**	Yes				
Polymer Composition	16.11	0.1518	ns	No				
Time	56.42	< 0.0001	****	Yes				
Subjects (matching)	19.39	< 0.0001	****	Yes				
ANOVA table	SS	DF	MS	F (DFn, DFd)	P value			
Interaction	641.4	15	42.76	F (15, 36) = 2.816	P = 0.0055			
Polymer Composition	2368	5	473.5	F (5, 12) = 1.995	P = 0.1518			
Time	8290	3	2763	F (3, 36) = 182.0	P < 0.0001			
Subjects (matching)	2849	12	237.4	F (12, 36) = 15.63	P < 0.0001			
Residual	546.7	36	15.19					
Number of missing values	0							
<b>Multiple Comparison</b>								
Within each column, compare rows (simple effects within columns)								
Number of families	4							
Number of comparisons per family	15							
Alpha	0.05							
Tukey's multiple comparisons test	Mean Diff.	95% CI of diff.	Significant?	Summary				
0 min								
20BC vs. 30BC	2.667	-17.71 to 23.05	No	ns				
20BC vs. 40BC	2	-18.38 to 22.38	No	ns				
20BC vs. 50BC	3.667	-16.71 to 24.05	No	ns				
20BC vs. 60BC	4.667	-15.71 to 25.05	No	ns				
20BC vs. 70BC	5.333	-15.05 to 25.71	No	ns				
30BC vs. 40BC	-0.6667	-21.05 to 19.71	No	ns				
30BC vs. 50BC	1	-19.38 to 21.38	No	ns				
30BC vs. 60BC	2	-18.38 to 22.38	No	ns				
30BC vs. 70BC	2.667	-17.71 to 23.05	No	ns				
40BC vs. 50BC	1.667	-18.71 to 22.05	No	ns				
40BC vs. 60BC	2.667	-17.71 to 23.05	No	ns				
40BC vs. 70BC	3.333	-17.05 to 23.71	No	ns				
50BC vs. 60BC	1	-19.38 to 21.38	No	ns				



50BC vs. 70BC	1.667	-18.71 to 22.05	No	ns				
60BC vs. 70BC	0.6667	-19.71 to 21.05	No	ns				
<b>10 Min</b>								
20BC vs. 30BC	3.667	-16.71 to 24.05	No	ns				
20BC vs. 40BC	4.667	-15.71 to 25.05	No	ns				
20BC vs. 50BC	9.333	-11.05 to 29.71	No	ns				
20BC vs. 60BC	12.33	-8.048 to 32.71	No	ns				
20BC vs. 70BC	12.67	-7.714 to 33.05	No	ns				
30BC vs. 40BC	1	-19.38 to 21.38	No	ns				
30BC vs. 50BC	5.667	-14.71 to 26.05	No	ns				
30BC vs. 60BC	8.667	-11.71 to 29.05	No	ns				
30BC vs. 70BC	9	-11.38 to 29.38	No	ns				
40BC vs. 50BC	4.667	-15.71 to 25.05	No	ns				
40BC vs. 60BC	7.667	-12.71 to 28.05	No	ns				
40BC vs. 70BC	8	-12.38 to 28.38	No	ns				
50BC vs. 60BC	3	-17.38 to 23.38	No	ns				
50BC vs. 70BC	3.333	-17.05 to 23.71	No	ns				
60BC vs. 70BC	0.3333	-20.05 to 20.71	No	ns				
<b>40 Min</b>								
20BC vs. 30BC	3.333	-17.05 to 23.71	No	ns				
20BC vs. 40BC	7.333	-13.05 to 27.71	No	ns				
20BC vs. 50BC	12	-8.381 to 32.38	No	ns				
20BC vs. 60BC	17.33	-3.048 to 37.71	No	ns				
20BC vs. 70BC	20	-0.3809 to 40.38	No	ns				
30BC vs. 40BC	4	-16.38 to 24.38	No	ns				
30BC vs. 50BC	8.667	-11.71 to 29.05	No	ns				
30BC vs. 60BC	14	-6.381 to 34.38	No	ns				
30BC vs. 70BC	16.67	-3.714 to 37.05	No	ns				
40BC vs. 50BC	4.667	-15.71 to 25.05	No	ns				
40BC vs. 60BC	10	-10.38 to 30.38	No	ns				
40BC vs. 70BC	12.67	-7.714 to 33.05	No	ns				
50BC vs. 60BC	5.333	-15.05 to 25.71	No	ns				
50BC vs. 70BC	8	-12.38 to 28.38	No	ns				
60BC vs. 70BC	2.667	-17.71 to 23.05	No	ns				
<b>60 Min</b>								
20BC vs. 30BC	2	-18.38 to 22.38	No	ns				
20BC vs. 40BC	5.333	-15.05 to 25.71	No	ns				
20BC vs. 50BC	13	-7.381 to 33.38	No	ns				
20BC vs. 60BC	21	0.6191 to 41.38	Yes	*				
20BC vs. 70BC	25.33	4.952 to 45.71	Yes	**				
30BC vs. 40BC	3.333	-17.05 to 23.71	No	ns				
30BC vs. 50BC	11	-9.381 to 31.38	No	ns				

30BC vs. 60BC	19	-1.381 to 39.38	No	ns				
30BC vs. 70BC	23.33	2.952 to 43.71	Yes	*				
40BC vs. 50BC	7.667	-12.71 to 28.05	No	ns				
40BC vs. 60BC	15.67	-4.714 to 36.05	No	ns				
40BC vs. 70BC	20	-0.3809 to 40.38	No	ns				
50BC vs. 60BC	8	-12.38 to 28.38	No	ns				
50BC vs. 70BC	12.33	-8.048 to 32.71	No	ns				
60BC vs. 70BC	4.333	-16.05 to 24.71	No	ns				
<b>Test details</b>	<b>Mean 1</b>	<b>Mean 2</b>	<b>Mean Diff.</b>	<b>SE of diff.</b>	<b>N1</b>	<b>N2</b>	<b>q</b>	<b>DF</b>
<b>0 min</b>								
20BC vs. 30BC	14	11.33	2.667	6.867	3	3	0.5492	48
20BC vs. 40BC	14	12	2	6.867	3	3	0.4119	48
20BC vs. 50BC	14	10.33	3.667	6.867	3	3	0.7551	48
20BC vs. 60BC	14	9.333	4.667	6.867	3	3	0.9611	48
20BC vs. 70BC	14	8.667	5.333	6.867	3	3	1.098	48
30BC vs. 40BC	11.33	12	-0.6667	6.867	3	3	0.1373	48
30BC vs. 50BC	11.33	10.33	1	6.867	3	3	0.2059	48
30BC vs. 60BC	11.33	9.333	2	6.867	3	3	0.4119	48
30BC vs. 70BC	11.33	8.667	2.667	6.867	3	3	0.5492	48
40BC vs. 50BC	12	10.33	1.667	6.867	3	3	0.3432	48
40BC vs. 60BC	12	9.333	2.667	6.867	3	3	0.5492	48
40BC vs. 70BC	12	8.667	3.333	6.867	3	3	0.6865	48
50BC vs. 60BC	10.33	9.333	1	6.867	3	3	0.2059	48
50BC vs. 70BC	10.33	8.667	1.667	6.867	3	3	0.3432	48
60BC vs. 70BC	9.333	8.667	0.6667	6.867	3	3	0.1373	48
<b>10 Min</b>								
20BC vs. 30BC	29.33	25.67	3.667	6.867	3	3	0.7551	48
20BC vs. 40BC	29.33	24.67	4.667	6.867	3	3	0.9611	48
20BC vs. 50BC	29.33	20	9.333	6.867	3	3	1.922	48
20BC vs. 60BC	29.33	17	12.33	6.867	3	3	2.54	48
20BC vs. 70BC	29.33	16.67	12.67	6.867	3	3	2.609	48
30BC vs. 40BC	25.67	24.67	1	6.867	3	3	0.2059	48
30BC vs. 50BC	25.67	20	5.667	6.867	3	3	1.167	48
30BC vs. 60BC	25.67	17	8.667	6.867	3	3	1.785	48
30BC vs. 70BC	25.67	16.67	9	6.867	3	3	1.853	48
40BC vs. 50BC	24.67	20	4.667	6.867	3	3	0.9611	48
40BC vs. 60BC	24.67	17	7.667	6.867	3	3	1.579	48
40BC vs. 70BC	24.67	16.67	8	6.867	3	3	1.648	48
50BC vs. 60BC	20	17	3	6.867	3	3	0.6178	48
50BC vs. 70BC	20	16.67	3.333	6.867	3	3	0.6865	48
60BC vs. 70BC	17	16.67	0.3333	6.867	3	3	0.0686 5	48

<b>40 Min</b>								
20BC vs. 30BC	42	38.67	3.333	6.867	3	3	0.6865	48
20BC vs. 40BC	42	34.67	7.333	6.867	3	3	1.51	48
20BC vs. 50BC	42	30	12	6.867	3	3	2.471	48
20BC vs. 60BC	42	24.67	17.33	6.867	3	3	3.57	48
20BC vs. 70BC	42	22	20	6.867	3	3	4.119	48
30BC vs. 40BC	38.67	34.67	4	6.867	3	3	0.8238	48
30BC vs. 50BC	38.67	30	8.667	6.867	3	3	1.785	48
30BC vs. 60BC	38.67	24.67	14	6.867	3	3	2.883	48
30BC vs. 70BC	38.67	22	16.67	6.867	3	3	3.432	48
40BC vs. 50BC	34.67	30	4.667	6.867	3	3	0.9611	48
40BC vs. 60BC	34.67	24.67	10	6.867	3	3	2.059	48
40BC vs. 70BC	34.67	22	12.67	6.867	3	3	2.609	48
50BC vs. 60BC	30	24.67	5.333	6.867	3	3	1.098	48
50BC vs. 70BC	30	22	8	6.867	3	3	1.648	48
60BC vs. 70BC	24.67	22	2.667	6.867	3	3	0.5492	48
<b>60 Min</b>								
20BC vs. 30BC	50.67	48.67	2	6.867	3	3	0.4119	48
20BC vs. 40BC	50.67	45.33	5.333	6.867	3	3	1.098	48
20BC vs. 50BC	50.67	37.67	13	6.867	3	3	2.677	48
20BC vs. 60BC	50.67	29.67	21	6.867	3	3	4.325	48
20BC vs. 70BC	50.67	25.33	25.33	6.867	3	3	5.217	48
30BC vs. 40BC	48.67	45.33	3.333	6.867	3	3	0.6865	48
30BC vs. 50BC	48.67	37.67	11	6.867	3	3	2.265	48
30BC vs. 60BC	48.67	29.67	19	6.867	3	3	3.913	48
30BC vs. 70BC	48.67	25.33	23.33	6.867	3	3	4.805	48
40BC vs. 50BC	45.33	37.67	7.667	6.867	3	3	1.579	48
40BC vs. 60BC	45.33	29.67	15.67	6.867	3	3	3.226	48
40BC vs. 70BC	45.33	25.33	20	6.867	3	3	4.119	48
50BC vs. 60BC	37.67	29.67	8	6.867	3	3	1.648	48
50BC vs. 70BC	37.67	25.33	12.33	6.867	3	3	2.54	48
60BC vs. 70BC	29.67	25.33	4.333	6.867	3	3	0.8924	48

**Supplemental Table 1.** Two-way RM ANOVA and Tukey's multiple comparisons results (Figure 4A Study), n=3. All calculations were made in Graphpad Prism

## pH Dependent Polymer Shedding Statistical Analysis Tabular Results (Figure 4B Study)

<b>Table Analyzed</b>	pH Dependent Stripping								
<b>Two-way RM ANOVA</b>	Matching: Across row								
<b>Alpha</b>	0.05								
<b>Source of Variation</b>	% of total variation	P value	P value summary	Significant?					
<b>Interaction</b>	2.567	0.9379	ns	No					
<b>pH</b>	31.21	0.0015	**	Yes					
<b>Composition</b>	44.03	< 0.0001	****	Yes					
<b>Subjects (matching)</b>	9.242	0.0389	*	Yes					
<b>ANOVA table</b>	SS	DF	MS	F (DFn, DFd)	P value				
<b>Interaction</b>	746.4	15	49.76	F (15, 36) = 0.4756	P = 0.9379				
<b>pH</b>	9071	5	1814	F (5, 12) = 8.103	P = 0.0015				
<b>Composition</b>	12799	3	4266	F (3, 36) = 40.78	P < 0.0001				
<b>Subjects (matching)</b>	2687	12	223.9	F (12, 36) = 2.140	P = 0.0389				
<b>Residual</b>	3766	36	104.6						
<b>Number of missing values</b>	0								
<b>Multiple Comparisons</b>									
<b>Within each column, compare rows (simple effects within columns)</b>									
<b>Number of families</b>	4								
<b>Number of comparisons per family</b>	15								
<b>Alpha</b>	0.05								
<b>Tukey's multiple comparisons test</b>	Mean Diff.	95% CI of diff.	Significant?	Summary					
<b>7.4</b>									
<b>20BC vs. 30BC</b>	11.37	-16.72 to 39.47	No	ns					
<b>20BC vs. 40BC</b>	31.51	3.414 to 59.61	Yes	*					
<b>20BC vs. 50BC</b>	31.16	3.060 to 59.25	Yes	*					
<b>20BC vs. 60BC</b>	31.88	3.779 to 59.97	Yes	*					
<b>20BC vs. 70BC</b>	33.18	5.080 to 61.27	Yes	*					
<b>30BC vs. 40BC</b>	20.14	-7.961 to 48.23	No	ns					
<b>30BC vs. 50BC</b>	19.78	-8.315 to 47.88	No	ns					
<b>30BC vs. 60BC</b>	20.5	-7.595 to 48.60	No	ns					
<b>30BC vs. 70BC</b>	21.8	-6.295 to 49.90	No	ns					
<b>40BC vs. 50BC</b>	-0.354	-28.45 to 27.74	No	ns					
<b>40BC vs. 60BC</b>	0.3657	-27.73 to 28.46	No	ns					
<b>40BC vs. 70BC</b>	1.666	-26.43 to 29.76	No	ns					

50BC vs. 60BC	0.7196	-27.38 to 28.82	No	ns				
50BC vs. 70BC	2.02	-26.08 to 30.12	No	ns				
60BC vs. 70BC	1.3	-26.80 to 29.40	No	ns				
6.8								
20BC vs. 30BC	-6.095	-34.19 to 22.00	No	ns				
20BC vs. 40BC	12.01	-16.09 to 40.11	No	ns				
20BC vs. 50BC	22.32	-5.777 to 50.42	No	ns				
20BC vs. 60BC	24.42	-3.677 to 52.52	No	ns				
20BC vs. 70BC	23.91	-4.182 to 52.01	No	ns				
30BC vs. 40BC	18.11	-9.992 to 46.20	No	ns				
30BC vs. 50BC	28.41	0.3175 to 56.51	Yes	*				
30BC vs. 60BC	30.51	2.417 to 58.61	Yes	*				
30BC vs. 70BC	30.01	1.912 to 58.11	Yes	*				
40BC vs. 50BC	10.31	-17.79 to 38.41	No	ns				
40BC vs. 60BC	12.41	-15.69 to 40.51	No	ns				
40BC vs. 70BC	11.9	-16.19 to 40.00	No	ns				
50BC vs. 60BC	2.1	-26.00 to 30.20	No	ns				
50BC vs. 70BC	1.595	-26.50 to 29.69	No	ns				
60BC vs. 70BC	-0.5048	-28.60 to 27.59	No	ns				
6.2								
20BC vs. 30BC	-9.224	-37.32 to 18.87	No	ns				
20BC vs. 40BC	11.82	-16.27 to 39.92	No	ns				
20BC vs. 50BC	14	-14.10 to 42.10	No	ns				
20BC vs. 60BC	21.4	-6.696 to 49.50	No	ns				
20BC vs. 70BC	17.31	-10.78 to 45.41	No	ns				
30BC vs. 40BC	21.05	-7.049 to 49.14	No	ns				
30BC vs. 50BC	23.22	-4.875 to 51.32	No	ns				
30BC vs. 60BC	30.62	2.528 to 58.72	Yes	*				
30BC vs. 70BC	26.54	-1.559 to 54.64	No	ns				
40BC vs. 50BC	2.174	-25.92 to 30.27	No	ns				
40BC vs. 60BC	9.577	-18.52 to 37.67	No	ns				
40BC vs. 70BC	5.49	-22.61 to 33.59	No	ns				
50BC vs. 60BC	7.402	-20.69 to 35.50	No	ns				
50BC vs. 70BC	3.316	-24.78 to 31.41	No	ns				
60BC vs. 70BC	-4.086	-32.18 to 24.01	No	ns				
5.6								
20BC vs. 30BC	-8.693	-36.79 to 19.40	No	ns				
20BC vs. 40BC	15.29	-12.81 to 43.39	No	ns				
20BC vs. 50BC	21.96	-6.137 to 50.06	No	ns				

20BC vs. 60BC	18.94	-9.162 to 47.03	No	ns				
20BC vs. 70BC	17.16	-10.94 to 45.26	No	ns				
30BC vs. 40BC	23.98	-4.115 to 52.08	No	ns				
30BC vs. 50BC	30.65	2.555 to 58.75	Yes	*				
30BC vs. 60BC	27.63	-0.4688 to 55.73	No	ns				
30BC vs. 70BC	25.85	-2.243 to 53.95	No	ns				
40BC vs. 50BC	6.67	-21.43 to 34.77	No	ns				
40BC vs. 60BC	3.646	-24.45 to 31.74	No	ns				
40BC vs. 70BC	1.872	-26.22 to 29.97	No	ns				
50BC vs. 60BC	-3.024	-31.12 to 25.07	No	ns				
50BC vs. 70BC	-4.798	-32.90 to 23.30	No	ns				
60BC vs. 70BC	-1.774	-29.87 to 26.32	No	ns				
Test details	Mean 1	Mean 2	Mean Diff.	SE of diff.	N1	N2	q	D F
7.4								
20BC vs. 30BC	36.84	25.47	11.37	9.467	3	3	1.699	48
20BC vs. 40BC	36.84	5.333	31.51	9.467	3	3	4.707	48
20BC vs. 50BC	36.84	5.687	31.16	9.467	3	3	4.654	48
20BC vs. 60BC	36.84	4.968	31.88	9.467	3	3	4.762	48
20BC vs. 70BC	36.84	3.667	33.18	9.467	3	3	4.956	48
30BC vs. 40BC	25.47	5.333	20.14	9.467	3	3	3.008	48
30BC vs. 50BC	25.47	5.687	19.78	9.467	3	3	2.955	48
30BC vs. 60BC	25.47	4.968	20.5	9.467	3	3	3.063	48
30BC vs. 70BC	25.47	3.667	21.8	9.467	3	3	3.257	48
40BC vs. 50BC	5.333	5.687	-0.354	9.467	3	3	0.05287	48
40BC vs. 60BC	5.333	4.968	0.3657	9.467	3	3	0.05463	48
40BC vs. 70BC	5.333	3.667	1.666	9.467	3	3	0.2489	48
50BC vs. 60BC	5.687	4.968	0.7196	9.467	3	3	0.1075	48
50BC vs. 70BC	5.687	3.667	2.02	9.467	3	3	0.3018	48
60BC vs. 70BC	4.968	3.667	1.3	9.467	3	3	0.1942	48
6.8								
20BC vs. 30BC	44.64	50.74	-6.095	9.467	3	3	0.9104	48
20BC vs. 40BC	44.64	32.63	12.01	9.467	3	3	1.794	48
20BC vs. 50BC	44.64	22.32	22.32	9.467	3	3	3.334	48
20BC vs. 60BC	44.64	20.22	24.42	9.467	3	3	3.648	48
20BC vs. 70BC	44.64	20.73	23.91	9.467	3	3	3.572	48
30BC vs. 40BC	50.74	32.63	18.11	9.467	3	3	2.705	48
30BC vs. 50BC	50.74	22.32	28.41	9.467	3	3	4.245	48
30BC vs. 60BC	50.74	20.22	30.51	9.467	3	3	4.558	48
30BC vs. 70BC	50.74	20.73	30.01	9.467	3	3	4.483	48
40BC vs. 50BC	32.63	22.32	10.31	9.467	3	3	1.54	48

40BC vs. 60BC	32.63	20.22	12.41	9.467	3	3	1.854	48
40BC vs. 70BC	32.63	20.73	11.9	9.467	3	3	1.778	48
50BC vs. 60BC	22.32	20.22	2.1	9.467	3	3	0.313 6	48
50BC vs. 70BC	22.32	20.73	1.595	9.467	3	3	0.238 2	48
60BC vs. 70BC	20.22	20.73	-0.5048	9.467	3	3	0.075 41	48
6.2								
20BC vs. 30BC	52.51	61.73	-9.224	9.467	3	3	1.378	48
20BC vs. 40BC	52.51	40.69	11.82	9.467	3	3	1.766	48
20BC vs. 50BC	52.51	38.51	14	9.467	3	3	2.091	48
20BC vs. 60BC	52.51	31.11	21.4	9.467	3	3	3.197	48
20BC vs. 70BC	52.51	35.2	17.31	9.467	3	3	2.587	48
30BC vs. 40BC	61.73	40.69	21.05	9.467	3	3	3.144	48
30BC vs. 50BC	61.73	38.51	23.22	9.467	3	3	3.469	48
30BC vs. 60BC	61.73	31.11	30.62	9.467	3	3	4.575	48
30BC vs. 70BC	61.73	35.2	26.54	9.467	3	3	3.964	48
40BC vs. 50BC	40.69	38.51	2.174	9.467	3	3	0.324 8	48
40BC vs. 60BC	40.69	31.11	9.577	9.467	3	3	1.431	48
40BC vs. 70BC	40.69	35.2	5.49	9.467	3	3	0.820 2	48
50BC vs. 60BC	38.51	31.11	7.402	9.467	3	3	1.106	48
50BC vs. 70BC	38.51	35.2	3.316	9.467	3	3	0.495 3	48
60BC vs. 70BC	31.11	35.2	-4.086	9.467	3	3	0.610 4	48
5.6								
20BC vs. 30BC	59.16	67.85	-8.693	9.467	3	3	1.299	48
20BC vs. 40BC	59.16	43.87	15.29	9.467	3	3	2.284	48
20BC vs. 50BC	59.16	37.2	21.96	9.467	3	3	3.28	48
20BC vs. 60BC	59.16	40.23	18.94	9.467	3	3	2.829	48
20BC vs. 70BC	59.16	42	17.16	9.467	3	3	2.564	48
30BC vs. 40BC	67.85	43.87	23.98	9.467	3	3	3.583	48
30BC vs. 50BC	67.85	37.2	30.65	9.467	3	3	4.579	48
30BC vs. 60BC	67.85	40.23	27.63	9.467	3	3	4.127	48
30BC vs. 70BC	67.85	42	25.85	9.467	3	3	3.862	48
40BC vs. 50BC	43.87	37.2	6.67	9.467	3	3	0.996 5	48
40BC vs. 60BC	43.87	40.23	3.646	9.467	3	3	0.544 7	48
40BC vs. 70BC	43.87	42	1.872	9.467	3	3	0.279 7	48
50BC vs. 60BC	37.2	40.23	-3.024	9.467	3	3	0.451 8	48
50BC vs. 70BC	37.2	42	-4.798	9.467	3	3	0.716 8	48
60BC vs. 70BC	40.23	42	-1.774	9.467	3	3	0.265	48

**Supplemental Table 2.** Two-way RM ANOVA and Tukey's multiple comparisons results (Figure 4B Study), n=3. All calculations were made in Graphpad Prism

## Red Blood Cell Hemolysis Assay Statistical Analysis Tabular Results (Figure 4C Study)

<b>Table Analyzed</b>	Hemolysis Library pH in X				
<b>Two-way RM ANOVA</b>	Matching: Across row				
<b>Alpha</b>	0.05				
<b>Source of Variation</b>	% of total variation	P value	P value summary	Significant?	
<b>Interaction</b>	12.31	< 0.0001	****	Yes	
<b>Composition</b>	21.73	< 0.0001	****	Yes	
<b>pH</b>	63.24	< 0.0001	****	Yes	
<b>Subjects (matching)</b>	0.5639	0.7441	ns	No	
<b>ANOVA table</b>	SS	DF	MS	F (DFn, DFd)	P value
<b>Interaction</b>	15612	33	473.1	F (33, 72) = 12.44	P < 0.0001
<b>Composition</b>	27574	11	2507	F (11, 24) = 84.09	P < 0.0001
<b>pH</b>	80232	3	26744	F (3, 72) = 703.1	P < 0.0001
<b>Subjects (matching)</b>	715.4	24	29.81	F (24, 72) = 0.7837	P = 0.7441
<b>Residual</b>	2739	72	38.04		
<b>Number of missing values</b>	0				
<b>Multiple Comparisons</b>					
<b>Within each column, compare rows (simple effects within columns)</b>					
<b>Number of families</b>	4				
<b>Number of comparisons per family</b>	66				
<b>Alpha</b>	0.05				
<b>Tukey's multiple comparisons test</b>	Mean Diff.	95% CI of diff.	Significant?	Summary	
<b>7.4</b>					
<b>20BC vs. 20B</b>	-6.333	-22.74 to 10.07	No	ns	
<b>20BC vs. 30BC</b>	-10	-26.41 to 6.408	No	ns	
<b>20BC vs. 30B</b>	-23.67	-40.07 to -7.259	Yes	***	
<b>20BC vs. 40BC</b>	2	-14.41 to 18.41	No	ns	
<b>20BC vs. 40B</b>	-9.667	-26.07 to 6.741	No	ns	
<b>20BC vs. 50BC</b>	7.683	-8.725 to 24.09	No	ns	
<b>20BC vs. 50B</b>	-2	-18.41 to 14.41	No	ns	
<b>20BC vs. 60BC</b>	9	-7.408 to 25.41	No	ns	
<b>20BC vs. 60B</b>	-4.667	-21.07 to 11.74	No	ns	
<b>20BC vs. 70BC</b>	6	-10.41 to 22.41	No	ns	
<b>20BC vs. 70B</b>	-2	-18.41 to 14.41	No	ns	
<b>20B vs. 30BC</b>	-3.667	-20.07 to 12.74	No	ns	



20B vs. 30B	-17.33	-33.74 to -0.9253	Yes	*				
20B vs. 40BC	8.333	-8.075 to 24.74	No	ns				
20B vs. 40B	-3.333	-19.74 to 13.07	No	ns				
20B vs. 50BC	14.02	-2.392 to 30.42	No	ns				
20B vs. 50B	4.333	-12.07 to 20.74	No	ns				
20B vs. 60BC	15.33	-1.075 to 31.74	No	ns				
20B vs. 60B	1.667	-14.74 to 18.07	No	ns				
20B vs. 70BC	12.33	-4.075 to 28.74	No	ns				
20B vs. 70B	4.333	-12.07 to 20.74	No	ns				
30BC vs. 30B	-13.67	-30.07 to 2.741	No	ns				
30BC vs. 40BC	12	-4.408 to 28.41	No	ns				
30BC vs. 40B	0.3333	-16.07 to 16.74	No	ns				
30BC vs. 50BC	17.68	1.275 to 34.09	Yes	*				
30BC vs. 50B	8	-8.408 to 24.41	No	ns				
30BC vs. 60BC	19	2.592 to 35.41	Yes	**				
30BC vs. 60B	5.333	-11.07 to 21.74	No	ns				
30BC vs. 70BC	16	-0.4080 to 32.41	No	ns				
30BC vs. 70B	8	-8.408 to 24.41	No	ns				
30B vs. 40BC	25.67	9.259 to 42.07	Yes	****				
30B vs. 40B	14	-2.408 to 30.41	No	ns				
30B vs. 50BC	31.35	14.94 to 47.76	Yes	****				
30B vs. 50B	21.67	5.259 to 38.07	Yes	**				
30B vs. 60BC	32.67	16.26 to 49.07	Yes	****				
30B vs. 60B	19	2.592 to 35.41	Yes	**				
30B vs. 70BC	29.67	13.26 to 46.07	Yes	****				
30B vs. 70B	21.67	5.259 to 38.07	Yes	**				
40BC vs. 40B	-11.67	-28.07 to 4.741	No	ns				
40BC vs. 50BC	5.683	-10.73 to 22.09	No	ns				
40BC vs. 50B	-4	-20.41 to 12.41	No	ns				
40BC vs. 60BC	7	-9.408 to 23.41	No	ns				
40BC vs. 60B	-6.667	-23.07 to 9.741	No	ns				
40BC vs. 70BC	4	-12.41 to 20.41	No	ns				
40BC vs. 70B	-4	-20.41 to 12.41	No	ns				
40B vs. 50BC	17.35	0.9417 to 33.76	Yes	*				
40B vs. 50B	7.667	-8.741 to 24.07	No	ns				
40B vs. 60BC	18.67	2.259 to 35.07	Yes	*				
40B vs. 60B	5	-11.41 to 21.41	No	ns				
40B vs. 70BC	15.67	-0.7414 to 32.07	No	ns				
40B vs. 70B	7.667	-8.741 to 24.07	No	ns				
50BC vs. 50B	-9.683	-26.09 to 6.725	No	ns				
50BC vs. 60BC	1.317	-15.09 to 17.73	No	ns				
50BC vs. 60B	-12.35	-28.76 to 4.058	No	ns				
50BC vs. 70BC	-1.683	-18.09 to 14.73	No	ns				

50BC vs. 70B	-9.683	-26.09 to 6.725	No	ns				
50B vs. 60BC	11	-5.408 to 27.41	No	ns				
50B vs. 60B	-2.667	-19.07 to 13.74	No	ns				
50B vs. 70BC	8	-8.408 to 24.41	No	ns				
50B vs. 70B	0	-16.41 to 16.41	No	ns				
60BC vs. 60B	-13.67	-30.07 to 2.741	No	ns				
60BC vs. 70BC	-3	-19.41 to 13.41	No	ns				
60BC vs. 70B	-11	-27.41 to 5.408	No	ns				
60B vs. 70BC	10.67	-5.741 to 27.07	No	ns				
60B vs. 70B	2.667	-13.74 to 19.07	No	ns				
70BC vs. 70B	-8	-24.41 to 8.408	No	ns				
6.8								
20BC vs. 20B	8.667	-7.741 to 25.07	No	ns				
20BC vs. 30BC	-10	-26.41 to 6.408	No	ns				
20BC vs. 30B	-26.33	-42.74 to -9.925	Yes	****				
20BC vs. 40BC	2	-14.41 to 18.41	No	ns				
20BC vs. 40B	-14	-30.41 to 2.408	No	ns				
20BC vs. 50BC	18	1.592 to 34.41	Yes	*				
20BC vs. 50B	-24.33	-40.74 to -7.925	Yes	***				
20BC vs. 60BC	24	7.592 to 40.41	Yes	***				
20BC vs. 60B	16.33	-0.07471 to 32.74	No	ns				
20BC vs. 70BC	26	9.592 to 42.41	Yes	****				
20BC vs. 70B	19.33	2.925 to 35.74	Yes	**				
20B vs. 30BC	-18.67	-35.07 to -2.259	Yes	*				
20B vs. 30B	-35	-51.41 to -18.59	Yes	****				
20B vs. 40BC	-6.667	-23.07 to 9.741	No	ns				
20B vs. 40B	-22.67	-39.07 to -6.259	Yes	***				
20B vs. 50BC	9.333	-7.075 to 25.74	No	ns				
20B vs. 50B	-33	-49.41 to -16.59	Yes	****				
20B vs. 60BC	15.33	-1.075 to 31.74	No	ns				
20B vs. 60B	7.667	-8.741 to 24.07	No	ns				
20B vs. 70BC	17.33	0.9253 to 33.74	Yes	*				
20B vs. 70B	10.67	-5.741 to 27.07	No	ns				
30BC vs. 30B	-16.33	-32.74 to 0.07471	No	ns				
30BC vs. 40BC	12	-4.408 to 28.41	No	ns				
30BC vs. 40B	-4	-20.41 to 12.41	No	ns				
30BC vs. 50BC	28	11.59 to 44.41	Yes	****				
30BC vs. 50B	-14.33	-30.74 to 2.075	No	ns				
30BC vs. 60BC	34	17.59 to 50.41	Yes	****				
30BC vs. 60B	26.33	9.925 to 42.74	Yes	****				
30BC vs. 70BC	36	19.59 to 52.41	Yes	****				
30BC vs. 70B	29.33	12.93 to 45.74	Yes	****				

30B vs. 40BC	28.33	11.93 to 44.74	Yes	****				
30B vs. 40B	12.33	-4.075 to 28.74	No	ns				
30B vs. 50BC	44.33	27.93 to 60.74	Yes	****				
30B vs. 50B	2	-14.41 to 18.41	No	ns				
30B vs. 60BC	50.33	33.93 to 66.74	Yes	****				
30B vs. 60B	42.67	26.26 to 59.07	Yes	****				
30B vs. 70BC	52.33	35.93 to 68.74	Yes	****				
30B vs. 70B	45.67	29.26 to 62.07	Yes	****				
40BC vs. 40B	-16	-32.41 to 0.4080	No	ns				
40BC vs. 50BC	16	-0.4080 to 32.41	No	ns				
40BC vs. 50B	-26.33	-42.74 to -9.925	Yes	****				
40BC vs. 60BC	22	5.592 to 38.41	Yes	**				
40BC vs. 60B	14.33	-2.075 to 30.74	No	ns				
40BC vs. 70BC	24	7.592 to 40.41	Yes	***				
40BC vs. 70B	17.33	0.9253 to 33.74	Yes	*				
40B vs. 50BC	32	15.59 to 48.41	Yes	****				
40B vs. 50B	-10.33	-26.74 to 6.075	No	ns				
40B vs. 60BC	38	21.59 to 54.41	Yes	****				
40B vs. 60B	30.33	13.93 to 46.74	Yes	****				
40B vs. 70BC	40	23.59 to 56.41	Yes	****				
40B vs. 70B	33.33	16.93 to 49.74	Yes	****				
50BC vs. 50B	-42.33	-58.74 to -25.93	Yes	****				
50BC vs. 60BC	6	-10.41 to 22.41	No	ns				
50BC vs. 60B	-1.667	-18.07 to 14.74	No	ns				
50BC vs. 70BC	8	-8.408 to 24.41	No	ns				
50BC vs. 70B	1.333	-15.07 to 17.74	No	ns				
50B vs. 60BC	48.33	31.93 to 64.74	Yes	****				
50B vs. 60B	40.67	24.26 to 57.07	Yes	****				
50B vs. 70BC	50.33	33.93 to 66.74	Yes	****				
50B vs. 70B	43.67	27.26 to 60.07	Yes	****				
60BC vs. 60B	-7.667	-24.07 to 8.741	No	ns				
60BC vs. 70BC	2	-14.41 to 18.41	No	ns				
60BC vs. 70B	-4.667	-21.07 to 11.74	No	ns				
60B vs. 70BC	9.667	-6.741 to 26.07	No	ns				
60B vs. 70B	3	-13.41 to 19.41	No	ns				
70BC vs. 70B	-6.667	-23.07 to 9.741	No	ns				
6.2								
20BC vs. 20B	18	1.592 to 34.41	Yes	*				
20BC vs. 30BC	-11.33	-27.74 to 5.075	No	ns				
20BC vs. 30B	-19.33	-35.74 to -2.925	Yes	**				
20BC vs. 40BC	-17.33	-33.74 to -0.9253	Yes	*				
20BC vs. 40B	-26.33	-42.74 to -9.925	Yes	****				

20BC vs. 50BC	-20.7	-37.11 to -4.296	Yes	**				
20BC vs. 50B	-11.67	-28.07 to 4.741	No	ns				
20BC vs. 60BC	-0.6667	-17.07 to 15.74	No	ns				
20BC vs. 60B	25	8.592 to 41.41	Yes	***				
20BC vs. 70BC	26	9.592 to 42.41	Yes	****				
20BC vs. 70B	35	18.59 to 51.41	Yes	****				
20B vs. 30BC	-29.33	-45.74 to -12.93	Yes	****				
20B vs. 30B	-37.33	-53.74 to -20.93	Yes	****				
20B vs. 40BC	-35.33	-51.74 to -18.93	Yes	****				
20B vs. 40B	-44.33	-60.74 to -27.93	Yes	****				
20B vs. 50BC	-38.7	-55.11 to -22.30	Yes	****				
20B vs. 50B	-29.67	-46.07 to -13.26	Yes	****				
20B vs. 60BC	-18.67	-35.07 to -2.259	Yes	*				
20B vs. 60B	7	-9.408 to 23.41	No	ns				
20B vs. 70BC	8	-8.408 to 24.41	No	ns				
20B vs. 70B	17	0.5920 to 33.41	Yes	*				
30BC vs. 30B	-8	-24.41 to 8.408	No	ns				
30BC vs. 40BC	-6	-22.41 to 10.41	No	ns				
30BC vs. 40B	-15	-31.41 to 1.408	No	ns				
30BC vs. 50BC	-9.371	-25.78 to 7.037	No	ns				
30BC vs. 50B	-0.3333	-16.74 to 16.07	No	ns				
30BC vs. 60BC	10.67	-5.741 to 27.07	No	ns				
30BC vs. 60B	36.33	19.93 to 52.74	Yes	****				
30BC vs. 70BC	37.33	20.93 to 53.74	Yes	****				
30BC vs. 70B	46.33	29.93 to 62.74	Yes	****				
30B vs. 40BC	2	-14.41 to 18.41	No	ns				
30B vs. 40B	-7	-23.41 to 9.408	No	ns				
30B vs. 50BC	-1.371	-17.78 to 15.04	No	ns				
30B vs. 50B	7.667	-8.741 to 24.07	No	ns				
30B vs. 60BC	18.67	2.259 to 35.07	Yes	*				
30B vs. 60B	44.33	27.93 to 60.74	Yes	****				
30B vs. 70BC	45.33	28.93 to 61.74	Yes	****				
30B vs. 70B	54.33	37.93 to 70.74	Yes	****				
40BC vs. 40B	-9	-25.41 to 7.408	No	ns				
40BC vs. 50BC	-3.371	-19.78 to 13.04	No	ns				
40BC vs. 50B	5.667	-10.74 to 22.07	No	ns				
40BC vs. 60BC	16.67	0.2586 to 33.07	Yes	*				
40BC vs. 60B	42.33	25.93 to 58.74	Yes	****				
40BC vs. 70BC	43.33	26.93 to 59.74	Yes	****				
40BC vs. 70B	52.33	35.93 to 68.74	Yes	****				
40B vs. 50BC	5.629	-10.78 to 22.04	No	ns				
40B vs. 50B	14.67	-1.741 to 31.07	No	ns				
40B vs. 60BC	25.67	9.259 to 42.07	Yes	****				

40B vs. 60B	51.33	34.93 to 67.74	Yes	****				
40B vs. 70BC	52.33	35.93 to 68.74	Yes	****				
40B vs. 70B	61.33	44.93 to 77.74	Yes	****				
50BC vs. 50B	9.038	-7.370 to 25.45	No	ns				
50BC vs. 60BC	20.04	3.630 to 36.45	Yes	**				
50BC vs. 60B	45.7	29.30 to 62.11	Yes	****				
50BC vs. 70BC	46.7	30.30 to 63.11	Yes	****				
50BC vs. 70B	55.7	39.30 to 72.11	Yes	****				
50B vs. 60BC	11	-5.408 to 27.41	No	ns				
50B vs. 60B	36.67	20.26 to 53.07	Yes	****				
50B vs. 70BC	37.67	21.26 to 54.07	Yes	****				
50B vs. 70B	46.67	30.26 to 63.07	Yes	****				
60BC vs. 60B	25.67	9.259 to 42.07	Yes	****				
60BC vs. 70BC	26.67	10.26 to 43.07	Yes	****				
60BC vs. 70B	35.67	19.26 to 52.07	Yes	****				
60B vs. 70BC	1	-15.41 to 17.41	No	ns				
60B vs. 70B	10	-6.408 to 26.41	No	ns				
70BC vs. 70B	9	-7.408 to 25.41	No	ns				
5.6								
20BC vs. 20B	26.67	10.26 to 43.07	Yes	****				
20BC vs. 30BC	-11	-27.41 to 5.408	No	ns				
20BC vs. 30B	-20.33	-36.74 to -3.925	Yes	**				
20BC vs. 40BC	-25.67	-42.07 to -9.259	Yes	****				
20BC vs. 40B	-40.67	-57.07 to -24.26	Yes	****				
20BC vs. 50BC	-29.41	-45.82 to -13.00	Yes	****				
20BC vs. 50B	-41.33	-57.74 to -24.93	Yes	****				
20BC vs. 60BC	-11	-27.41 to 5.408	No	ns				
20BC vs. 60B	-6	-22.41 to 10.41	No	ns				
20BC vs. 70BC	6.333	-10.07 to 22.74	No	ns				
20BC vs. 70B	12	-4.408 to 28.41	No	ns				
20B vs. 30BC	-37.67	-54.07 to -21.26	Yes	****				
20B vs. 30B	-47	-63.41 to -30.59	Yes	****				
20B vs. 40BC	-52.33	-68.74 to -35.93	Yes	****				
20B vs. 40B	-67.33	-83.74 to -50.93	Yes	****				
20B vs. 50BC	-56.08	-72.49 to -39.67	Yes	****				
20B vs. 50B	-68	-84.41 to -51.59	Yes	****				
20B vs. 60BC	-37.67	-54.07 to -21.26	Yes	****				
20B vs. 60B	-32.67	-49.07 to -16.26	Yes	****				
20B vs. 70BC	-20.33	-36.74 to -3.925	Yes	**				
20B vs. 70B	-14.67	-31.07 to 1.741	No	ns				
30BC vs. 30B	-9.333	-25.74 to 7.075	No	ns				
30BC vs. 40BC	-14.67	-31.07 to 1.741	No	ns				

30BC vs. 40B	-29.67	-46.07 to -13.26	Yes	****				
30BC vs. 50BC	-18.41	-34.82 to -2.003	Yes	*				
30BC vs. 50B	-30.33	-46.74 to -13.93	Yes	****				
30BC vs. 60BC	0	-16.41 to 16.41	No	ns				
30BC vs. 60B	5	-11.41 to 21.41	No	ns				
30BC vs. 70BC	17.33	0.9253 to 33.74	Yes	*				
30BC vs. 70B	23	6.592 to 39.41	Yes	***				
30B vs. 40BC	-5.333	-21.74 to 11.07	No	ns				
30B vs. 40B	-20.33	-36.74 to -3.925	Yes	**				
30B vs. 50BC	-9.078	-25.49 to 7.330	No	ns				
30B vs. 50B	-21	-37.41 to -4.592	Yes	**				
30B vs. 60BC	9.333	-7.075 to 25.74	No	ns				
30B vs. 60B	14.33	-2.075 to 30.74	No	ns				
30B vs. 70BC	26.67	10.26 to 43.07	Yes	****				
30B vs. 70B	32.33	15.93 to 48.74	Yes	****				
40BC vs. 40B	-15	-31.41 to 1.408	No	ns				
40BC vs. 50BC	-3.745	-20.15 to 12.66	No	ns				
40BC vs. 50B	-15.67	-32.07 to 0.7414	No	ns				
40BC vs. 60BC	14.67	-1.741 to 31.07	No	ns				
40BC vs. 60B	19.67	3.259 to 36.07	Yes	**				
40BC vs. 70BC	32	15.59 to 48.41	Yes	****				
40BC vs. 70B	37.67	21.26 to 54.07	Yes	****				
40B vs. 50BC	11.26	-5.153 to 27.66	No	ns				
40B vs. 50B	-0.6667	-17.07 to 15.74	No	ns				
40B vs. 60BC	29.67	13.26 to 46.07	Yes	****				
40B vs. 60B	34.67	18.26 to 51.07	Yes	****				
40B vs. 70BC	47	30.59 to 63.41	Yes	****				
40B vs. 70B	52.67	36.26 to 69.07	Yes	****				
50BC vs. 50B	-11.92	-28.33 to 4.486	No	ns				
50BC vs. 60BC	18.41	2.003 to 34.82	Yes	*				
50BC vs. 60B	23.41	7.003 to 39.82	Yes	***				
50BC vs. 70BC	35.74	19.34 to 52.15	Yes	****				
50BC vs. 70B	41.41	25.00 to 57.82	Yes	****				
50B vs. 60BC	30.33	13.93 to 46.74	Yes	****				
50B vs. 60B	35.33	18.93 to 51.74	Yes	****				
50B vs. 70BC	47.67	31.26 to 64.07	Yes	****				
50B vs. 70B	53.33	36.93 to 69.74	Yes	****				
60BC vs. 60B	5	-11.41 to 21.41	No	ns				
60BC vs. 70BC	17.33	0.9253 to 33.74	Yes	*				
60BC vs. 70B	23	6.592 to 39.41	Yes	***				
60B vs. 70BC	12.33	-4.075 to 28.74	No	ns				
60B vs. 70B	18	1.592 to 34.41	Yes	*				
70BC vs. 70B	5.667	-10.74 to 22.07	No	ns				

Test details	Mean 1	Mean 2	Mean Diff.	SE of diff.	N1	N2	q	D F
7.4								
20BC vs. 20B	6.333	12.67	-6.333	4.898	3	3	1.829	96
20BC vs. 30BC	6.333	16.33	-10	4.898	3	3	2.887	96
20BC vs. 30B	6.333	30	-23.67	4.898	3	3	6.834	96
20BC vs. 40BC	6.333	4.333	2	4.898	3	3	0.577 5	96
20BC vs. 40B	6.333	16	-9.667	4.898	3	3	2.791	96
20BC vs. 50BC	6.333	-1.35	7.683	4.898	3	3	2.218	96
20BC vs. 50B	6.333	8.333	-2	4.898	3	3	0.577 5	96
20BC vs. 60BC	6.333	-2.667	9	4.898	3	3	2.599	96
20BC vs. 60B	6.333	11	-4.667	4.898	3	3	1.347	96
20BC vs. 70BC	6.333	0.3333	6	4.898	3	3	1.732	96
20BC vs. 70B	6.333	8.333	-2	4.898	3	3	0.577 5	96
20B vs. 30BC	12.67	16.33	-3.667	4.898	3	3	1.059	96
20B vs. 30B	12.67	30	-17.33	4.898	3	3	5.005	96
20B vs. 40BC	12.67	4.333	8.333	4.898	3	3	2.406	96
20B vs. 40B	12.67	16	-3.333	4.898	3	3	0.962 5	96
20B vs. 50BC	12.67	-1.35	14.02	4.898	3	3	4.047	96
20B vs. 50B	12.67	8.333	4.333	4.898	3	3	1.251	96
20B vs. 60BC	12.67	-2.667	15.33	4.898	3	3	4.427	96
20B vs. 60B	12.67	11	1.667	4.898	3	3	0.481 2	96
20B vs. 70BC	12.67	0.3333	12.33	4.898	3	3	3.561	96
20B vs. 70B	12.67	8.333	4.333	4.898	3	3	1.251	96
30BC vs. 30B	16.33	30	-13.67	4.898	3	3	3.946	96
30BC vs. 40BC	16.33	4.333	12	4.898	3	3	3.465	96
30BC vs. 40B	16.33	16	0.3333	4.898	3	3	0.096 25	96
30BC vs. 50BC	16.33	-1.35	17.68	4.898	3	3	5.106	96
30BC vs. 50B	16.33	8.333	8	4.898	3	3	2.31	96
30BC vs. 60BC	16.33	-2.667	19	4.898	3	3	5.486	96
30BC vs. 60B	16.33	11	5.333	4.898	3	3	1.54	96
30BC vs. 70BC	16.33	0.3333	16	4.898	3	3	4.62	96
30BC vs. 70B	16.33	8.333	8	4.898	3	3	2.31	96
30B vs. 40BC	30	4.333	25.67	4.898	3	3	7.411	96
30B vs. 40B	30	16	14	4.898	3	3	4.042	96
30B vs. 50BC	30	-1.35	31.35	4.898	3	3	9.052	96
30B vs. 50B	30	8.333	21.67	4.898	3	3	6.256	96
30B vs. 60BC	30	-2.667	32.67	4.898	3	3	9.432	96
30B vs. 60B	30	11	19	4.898	3	3	5.486	96
30B vs. 70BC	30	0.3333	29.67	4.898	3	3	8.566	96
30B vs. 70B	30	8.333	21.67	4.898	3	3	6.256	96
40BC vs. 40B	4.333	16	-11.67	4.898	3	3	3.369	96
40BC vs. 50BC	4.333	-1.35	5.683	4.898	3	3	1.641	96

40BC vs. 50B	4.333	8.333	-4	4.898	3	3	1.155	96
40BC vs. 60BC	4.333	-2.667	7	4.898	3	3	2.021	96
40BC vs. 60B	4.333	11	-6.667	4.898	3	3	1.925	96
40BC vs. 70BC	4.333	0.3333	4	4.898	3	3	1.155	96
40BC vs. 70B	4.333	8.333	-4	4.898	3	3	1.155	96
40B vs. 50BC	16	-1.35	17.35	4.898	3	3	5.01	96
40B vs. 50B	16	8.333	7.667	4.898	3	3	2.214	96
40B vs. 60BC	16	-2.667	18.67	4.898	3	3	5.39	96
40B vs. 60B	16	11	5	4.898	3	3	1.444	96
40B vs. 70BC	16	0.3333	15.67	4.898	3	3	4.524	96
40B vs. 70B	16	8.333	7.667	4.898	3	3	2.214	96
50BC vs. 50B	-1.35	8.333	-9.683	4.898	3	3	2.796	96
50BC vs. 60BC	-1.35	-2.667	1.317	4.898	3	3	0.380 3	96
50BC vs. 60B	-1.35	11	-12.35	4.898	3	3	3.566	96
50BC vs. 70BC	-1.35	0.3333	-1.683	4.898	3	3	0.486	96
50BC vs. 70B	-1.35	8.333	-9.683	4.898	3	3	2.796	96
50B vs. 60BC	8.333	-2.667	11	4.898	3	3	3.176	96
50B vs. 60B	8.333	11	-2.667	4.898	3	3	0.77	96
50B vs. 70BC	8.333	0.3333	8	4.898	3	3	2.31	96
50B vs. 70B	8.333	8.333	0	4.898	3	3	0	96
60BC vs. 60B	-2.667	11	-13.67	4.898	3	3	3.946	96
60BC vs. 70BC	-2.667	0.3333	-3	4.898	3	3	0.866 2	96
60BC vs. 70B	-2.667	8.333	-11	4.898	3	3	3.176	96
60B vs. 70BC	11	0.3333	10.67	4.898	3	3	3.08	96
60B vs. 70B	11	8.333	2.667	4.898	3	3	0.77	96
70BC vs. 70B	0.3333	8.333	-8	4.898	3	3	2.31	96
6.8								
20BC vs. 20B	25	16.33	8.667	4.898	3	3	2.502	96
20BC vs. 30BC	25	35	-10	4.898	3	3	2.887	96
20BC vs. 30B	25	51.33	-26.33	4.898	3	3	7.604	96
20BC vs. 40BC	25	23	2	4.898	3	3	0.577 5	96
20BC vs. 40B	25	39	-14	4.898	3	3	4.042	96
20BC vs. 50BC	25	7	18	4.898	3	3	5.197	96
20BC vs. 50B	25	49.33	-24.33	4.898	3	3	7.026	96
20BC vs. 60BC	25	1	24	4.898	3	3	6.93	96
20BC vs. 60B	25	8.667	16.33	4.898	3	3	4.716	96
20BC vs. 70BC	25	-1	26	4.898	3	3	7.507	96
20BC vs. 70B	25	5.667	19.33	4.898	3	3	5.582	96
20B vs. 30BC	16.33	35	-18.67	4.898	3	3	5.39	96
20B vs. 30B	16.33	51.33	-35	4.898	3	3	10.11	96
20B vs. 40BC	16.33	23	-6.667	4.898	3	3	1.925	96
20B vs. 40B	16.33	39	-22.67	4.898	3	3	6.545	96
20B vs. 50BC	16.33	7	9.333	4.898	3	3	2.695	96
20B vs. 50B	16.33	49.33	-33	4.898	3	3	9.529	96



20B vs. 60BC	16.33	1	15.33	4.898	3	3	4.427	96
20B vs. 60B	16.33	8.667	7.667	4.898	3	3	2.214	96
20B vs. 70BC	16.33	-1	17.33	4.898	3	3	5.005	96
20B vs. 70B	16.33	5.667	10.67	4.898	3	3	3.08	96
30BC vs. 30B	35	51.33	-16.33	4.898	3	3	4.716	96
30BC vs. 40BC	35	23	12	4.898	3	3	3.465	96
30BC vs. 40B	35	39	-4	4.898	3	3	1.155	96
30BC vs. 50BC	35	7	28	4.898	3	3	8.085	96
30BC vs. 50B	35	49.33	-14.33	4.898	3	3	4.139	96
30BC vs. 60BC	35	1	34	4.898	3	3	9.817	96
30BC vs. 60B	35	8.667	26.33	4.898	3	3	7.604	96
30BC vs. 70BC	35	-1	36	4.898	3	3	10.39	96
30BC vs. 70B	35	5.667	29.33	4.898	3	3	8.47	96
30B vs. 40BC	51.33	23	28.33	4.898	3	3	8.181	96
30B vs. 40B	51.33	39	12.33	4.898	3	3	3.561	96
30B vs. 50BC	51.33	7	44.33	4.898	3	3	12.8	96
30B vs. 50B	51.33	49.33	2	4.898	3	3	0.577 5	96
30B vs. 60BC	51.33	1	50.33	4.898	3	3	14.53	96
30B vs. 60B	51.33	8.667	42.67	4.898	3	3	12.32	96
30B vs. 70BC	51.33	-1	52.33	4.898	3	3	15.11	96
30B vs. 70B	51.33	5.667	45.67	4.898	3	3	13.19	96
40BC vs. 40B	23	39	-16	4.898	3	3	4.62	96
40BC vs. 50BC	23	7	16	4.898	3	3	4.62	96
40BC vs. 50B	23	49.33	-26.33	4.898	3	3	7.604	96
40BC vs. 60BC	23	1	22	4.898	3	3	6.352	96
40BC vs. 60B	23	8.667	14.33	4.898	3	3	4.139	96
40BC vs. 70BC	23	-1	24	4.898	3	3	6.93	96
40BC vs. 70B	23	5.667	17.33	4.898	3	3	5.005	96
40B vs. 50BC	39	7	32	4.898	3	3	9.24	96
40B vs. 50B	39	49.33	-10.33	4.898	3	3	2.984	96
40B vs. 60BC	39	1	38	4.898	3	3	10.97	96
40B vs. 60B	39	8.667	30.33	4.898	3	3	8.759	96
40B vs. 70BC	39	-1	40	4.898	3	3	11.55	96
40B vs. 70B	39	5.667	33.33	4.898	3	3	9.625	96
50BC vs. 50B	7	49.33	-42.33	4.898	3	3	12.22	96
50BC vs. 60BC	7	1	6	4.898	3	3	1.732	96
50BC vs. 60B	7	8.667	-1.667	4.898	3	3	0.481 2	96
50BC vs. 70BC	7	-1	8	4.898	3	3	2.31	96
50BC vs. 70B	7	5.667	1.333	4.898	3	3	0.385	96
50B vs. 60BC	49.33	1	48.33	4.898	3	3	13.96	96
50B vs. 60B	49.33	8.667	40.67	4.898	3	3	11.74	96
50B vs. 70BC	49.33	-1	50.33	4.898	3	3	14.53	96
50B vs. 70B	49.33	5.667	43.67	4.898	3	3	12.61	96
60BC vs. 60B	1	8.667	-7.667	4.898	3	3	2.214	96
60BC vs. 70BC	1	-1	2	4.898	3	3	0.577 5	96

60BC vs. 70B	1	5.667	-4.667	4.898	3	3	1.347	96
60B vs. 70BC	8.667	-1	9.667	4.898	3	3	2.791	96
60B vs. 70B	8.667	5.667	3	4.898	3	3	0.866 2	96
70BC vs. 70B	-1	5.667	-6.667	4.898	3	3	1.925	96
6.2								
20BC vs. 20B	41	23	18	4.898	3	3	5.197	96
20BC vs. 30BC	41	52.33	-11.33	4.898	3	3	3.272	96
20BC vs. 30B	41	60.33	-19.33	4.898	3	3	5.582	96
20BC vs. 40BC	41	58.33	-17.33	4.898	3	3	5.005	96
20BC vs. 40B	41	67.33	-26.33	4.898	3	3	7.604	96
20BC vs. 50BC	41	61.7	-20.7	4.898	3	3	5.978	96
20BC vs. 50B	41	52.67	-11.67	4.898	3	3	3.369	96
20BC vs. 60BC	41	41.67	-0.6667	4.898	3	3	0.192 5	96
20BC vs. 60B	41	16	25	4.898	3	3	7.219	96
20BC vs. 70BC	41	15	26	4.898	3	3	7.507	96
20BC vs. 70B	41	6	35	4.898	3	3	10.11	96
20B vs. 30BC	23	52.33	-29.33	4.898	3	3	8.47	96
20B vs. 30B	23	60.33	-37.33	4.898	3	3	10.78	96
20B vs. 40BC	23	58.33	-35.33	4.898	3	3	10.2	96
20B vs. 40B	23	67.33	-44.33	4.898	3	3	12.8	96
20B vs. 50BC	23	61.7	-38.7	4.898	3	3	11.18	96
20B vs. 50B	23	52.67	-29.67	4.898	3	3	8.566	96
20B vs. 60BC	23	41.67	-18.67	4.898	3	3	5.39	96
20B vs. 60B	23	16	7	4.898	3	3	2.021	96
20B vs. 70BC	23	15	8	4.898	3	3	2.31	96
20B vs. 70B	23	6	17	4.898	3	3	4.909	96
30BC vs. 30B	52.33	60.33	-8	4.898	3	3	2.31	96
30BC vs. 40BC	52.33	58.33	-6	4.898	3	3	1.732	96
30BC vs. 40B	52.33	67.33	-15	4.898	3	3	4.331	96
30BC vs. 50BC	52.33	61.7	-9.371	4.898	3	3	2.706	96
30BC vs. 50B	52.33	52.67	-0.3333	4.898	3	3	0.096 25	96
30BC vs. 60BC	52.33	41.67	10.67	4.898	3	3	3.08	96
30BC vs. 60B	52.33	16	36.33	4.898	3	3	10.49	96
30BC vs. 70BC	52.33	15	37.33	4.898	3	3	10.78	96
30BC vs. 70B	52.33	6	46.33	4.898	3	3	13.38	96
30B vs. 40BC	60.33	58.33	2	4.898	3	3	0.577 5	96
30B vs. 40B	60.33	67.33	-7	4.898	3	3	2.021	96
30B vs. 50BC	60.33	61.7	-1.371	4.898	3	3	0.395 9	96
30B vs. 50B	60.33	52.67	7.667	4.898	3	3	2.214	96
30B vs. 60BC	60.33	41.67	18.67	4.898	3	3	5.39	96
30B vs. 60B	60.33	16	44.33	4.898	3	3	12.8	96
30B vs. 70BC	60.33	15	45.33	4.898	3	3	13.09	96
30B vs. 70B	60.33	6	54.33	4.898	3	3	15.69	96
40BC vs. 40B	58.33	67.33	-9	4.898	3	3	2.599	96

40BC vs. 50BC	58.33	61.7	-3.371	4.898	3	3	0.973 4	96
40BC vs. 50B	58.33	52.67	5.667	4.898	3	3	1.636	96
40BC vs. 60BC	58.33	41.67	16.67	4.898	3	3	4.812	96
40BC vs. 60B	58.33	16	42.33	4.898	3	3	12.22	96
40BC vs. 70BC	58.33	15	43.33	4.898	3	3	12.51	96
40BC vs. 70B	58.33	6	52.33	4.898	3	3	15.11	96
40B vs. 50BC	67.33	61.7	5.629	4.898	3	3	1.625	96
40B vs. 50B	67.33	52.67	14.67	4.898	3	3	4.235	96
40B vs. 60BC	67.33	41.67	25.67	4.898	3	3	7.411	96
40B vs. 60B	67.33	16	51.33	4.898	3	3	14.82	96
40B vs. 70BC	67.33	15	52.33	4.898	3	3	15.11	96
40B vs. 70B	67.33	6	61.33	4.898	3	3	17.71	96
50BC vs. 50B	61.7	52.67	9.038	4.898	3	3	2.61	96
50BC vs. 60BC	61.7	41.67	20.04	4.898	3	3	5.786	96
50BC vs. 60B	61.7	16	45.7	4.898	3	3	13.2	96
50BC vs. 70BC	61.7	15	46.7	4.898	3	3	13.49	96
50BC vs. 70B	61.7	6	55.7	4.898	3	3	16.08	96
50B vs. 60BC	52.67	41.67	11	4.898	3	3	3.176	96
50B vs. 60B	52.67	16	36.67	4.898	3	3	10.59	96
50B vs. 70BC	52.67	15	37.67	4.898	3	3	10.88	96
50B vs. 70B	52.67	6	46.67	4.898	3	3	13.47	96
60BC vs. 60B	41.67	16	25.67	4.898	3	3	7.411	96
60BC vs. 70BC	41.67	15	26.67	4.898	3	3	7.7	96
60BC vs. 70B	41.67	6	35.67	4.898	3	3	10.3	96
60B vs. 70BC	16	15	1	4.898	3	3	0.288 7	96
60B vs. 70B	16	6	10	4.898	3	3	2.887	96
70BC vs. 70B	15	6	9	4.898	3	3	2.599	96
5.6								
20BC vs. 20B	60	33.33	26.67	4.898	3	3	7.7	96
20BC vs. 30BC	60	71	-11	4.898	3	3	3.176	96
20BC vs. 30B	60	80.33	-20.33	4.898	3	3	5.871	96
20BC vs. 40BC	60	85.67	-25.67	4.898	3	3	7.411	96
20BC vs. 40B	60	100.7	-40.67	4.898	3	3	11.74	96
20BC vs. 50BC	60	89.41	-29.41	4.898	3	3	8.492	96
20BC vs. 50B	60	101.3	-41.33	4.898	3	3	11.93	96
20BC vs. 60BC	60	71	-11	4.898	3	3	3.176	96
20BC vs. 60B	60	66	-6	4.898	3	3	1.732	96
20BC vs. 70BC	60	53.67	6.333	4.898	3	3	1.829	96
20BC vs. 70B	60	48	12	4.898	3	3	3.465	96
20B vs. 30BC	33.33	71	-37.67	4.898	3	3	10.88	96
20B vs. 30B	33.33	80.33	-47	4.898	3	3	13.57	96
20B vs. 40BC	33.33	85.67	-52.33	4.898	3	3	15.11	96
20B vs. 40B	33.33	100.7	-67.33	4.898	3	3	19.44	96
20B vs. 50BC	33.33	89.41	-56.08	4.898	3	3	16.19	96

20B vs. 50B	33.33	101.3	-68	4.898	3	3	19.63	96
20B vs. 60BC	33.33	71	-37.67	4.898	3	3	10.88	96
20B vs. 60B	33.33	66	-32.67	4.898	3	3	9.432	96
20B vs. 70BC	33.33	53.67	-20.33	4.898	3	3	5.871	96
20B vs. 70B	33.33	48	-14.67	4.898	3	3	4.235	96
30BC vs. 30B	71	80.33	-9.333	4.898	3	3	2.695	96
30BC vs. 40BC	71	85.67	-14.67	4.898	3	3	4.235	96
30BC vs. 40B	71	100.7	-29.67	4.898	3	3	8.566	96
30BC vs. 50BC	71	89.41	-18.41	4.898	3	3	5.316	96
30BC vs. 50B	71	101.3	-30.33	4.898	3	3	8.759	96
30BC vs. 60BC	71	71	0	4.898	3	3	0	96
30BC vs. 60B	71	66	5	4.898	3	3	1.444	96
30BC vs. 70BC	71	53.67	17.33	4.898	3	3	5.005	96
30BC vs. 70B	71	48	23	4.898	3	3	6.641	96
30B vs. 40BC	80.33	85.67	-5.333	4.898	3	3	1.54	96
30B vs. 40B	80.33	100.7	-20.33	4.898	3	3	5.871	96
30B vs. 50BC	80.33	89.41	-9.078	4.898	3	3	2.621	96
30B vs. 50B	80.33	101.3	-21	4.898	3	3	6.064	96
30B vs. 60BC	80.33	71	9.333	4.898	3	3	2.695	96
30B vs. 60B	80.33	66	14.33	4.898	3	3	4.139	96
30B vs. 70BC	80.33	53.67	26.67	4.898	3	3	7.7	96
30B vs. 70B	80.33	48	32.33	4.898	3	3	9.336	96
40BC vs. 40B	85.67	100.7	-15	4.898	3	3	4.331	96
40BC vs. 50BC	85.67	89.41	-3.745	4.898	3	3	1.081	96
40BC vs. 50B	85.67	101.3	-15.67	4.898	3	3	4.524	96
40BC vs. 60BC	85.67	71	14.67	4.898	3	3	4.235	96
40BC vs. 60B	85.67	66	19.67	4.898	3	3	5.679	96
40BC vs. 70BC	85.67	53.67	32	4.898	3	3	9.24	96
40BC vs. 70B	85.67	48	37.67	4.898	3	3	10.88	96
40B vs. 50BC	100.7	89.41	11.26	4.898	3	3	3.25	96
40B vs. 50B	100.7	101.3	-0.6667	4.898	3	3	0.1925	96
40B vs. 60BC	100.7	71	29.67	4.898	3	3	8.566	96
40B vs. 60B	100.7	66	34.67	4.898	3	3	10.01	96
40B vs. 70BC	100.7	53.67	47	4.898	3	3	13.57	96
40B vs. 70B	100.7	48	52.67	4.898	3	3	15.21	96
50BC vs. 50B	89.41	101.3	-11.92	4.898	3	3	3.442	96
50BC vs. 60BC	89.41	71	18.41	4.898	3	3	5.316	96
50BC vs. 60B	89.41	66	23.41	4.898	3	3	6.76	96
50BC vs. 70BC	89.41	53.67	35.74	4.898	3	3	10.32	96
50BC vs. 70B	89.41	48	41.41	4.898	3	3	11.96	96
50B vs. 60BC	101.3	71	30.33	4.898	3	3	8.759	96
50B vs. 60B	101.3	66	35.33	4.898	3	3	10.2	96
50B vs. 70BC	101.3	53.67	47.67	4.898	3	3	13.76	96
50B vs. 70B	101.3	48	53.33	4.898	3	3	15.4	96
60BC vs. 60B	71	66	5	4.898	3	3	1.444	96

<b>60BC vs. 70BC</b>	71	53.67	17.33	4.898	3	3	5.005	96
<b>60BC vs. 70B</b>	71	48	23	4.898	3	3	6.641	96
<b>60B vs. 70BC</b>	66	53.67	12.33	4.898	3	3	3.561	96
<b>60B vs. 70B</b>	66	48	18	4.898	3	3	5.197	96
<b>70BC vs. 70B</b>	53.67	48	5.667	4.898	3	3	1.636	96

**Supplemental Table 3.** Two-way RM ANOVA and Tukey's multiple comparisons results (Figure 4C Study), n=3. All calculations were made in Graphpad Prism

## PNA Composite Activity Assay Statistical Analysis Tabular Results (Figure 5A Study)

Table Analyzed	A.A. New							
<b>Two-way RM ANOVA</b>	Matching: Across row							
<b>Alpha</b>	0.05							
<b>Source of Variation</b>	% of total variation	P value	P value summary	Significant?				
<b>Interaction</b>	21.2	< 0.0001	****	Yes				
<b>Composition</b>	52.47	< 0.0001	****	Yes				
<b>Concentration</b>	18.55	< 0.0001	****	Yes				
<b>Subjects (matching)</b>	5.328	< 0.0001	****	Yes				
<b>ANOVA table</b>	SS	DF	MS	F (DFn, DFd)	P value			
<b>Interaction</b>	15.48	21	0.7372	F (21, 48) = 19.78	P < 0.0001			
<b>Composition</b>	38.32	7	5.474	F (7, 16) = 22.51	P < 0.0001			
<b>Concentration</b>	13.55	3	4.515	F (3, 48) = 121.1	P < 0.0001			
<b>Subjects (matching)</b>	3.891	16	0.2432	F (16, 48) = 6.524	P < 0.0001			
<b>Residual</b>	1.789	48	0.03728					
<b>Multiple Comparisons</b>								
Within each column, compare rows (simple effects within columns)								
<b>Number of families</b>	4							
<b>Number of comparisons per family</b>	28							
<b>Alpha</b>	0.05							
<b>Tukey's multiple comparisons test</b>	Mean Diff.	95% CI of diff.	Significant?	Summary				
<b>1 uM</b>								
<b>20BC vs. 30BC</b>	-2.517	-3.279 to -1.755	Yes	****				
<b>20BC vs. 40BC</b>	-1.475	-2.237 to -0.7123	Yes	****				
<b>20BC vs. 50BC</b>	-1.273	-2.035 to -0.5109	Yes	****				
<b>20BC vs. 60BC</b>	0.8776	0.1155 to 1.640	Yes	*				
<b>20BC vs. 70BC</b>	0.9844	0.2223 to 1.747	Yes	**				
<b>20BC vs. PSNP</b>	1.017	0.2545 to 1.779	Yes	**				
<b>20BC vs. AMO</b>	0.1064	-0.6558 to 0.8686	No	ns				
<b>30BC vs. 40BC</b>	1.042	0.2802 to 1.805	Yes	**				
<b>30BC vs. 50BC</b>	1.244	0.4816 to 2.006	Yes	****				
<b>30BC vs. 60BC</b>	3.395	2.632 to 4.157	Yes	****				
<b>30BC vs. 70BC</b>	3.501	2.739 to 4.264	Yes	****				
<b>30BC vs. PSNP</b>	3.534	2.771 to 4.296	Yes	****				
<b>30BC vs. AMO</b>	2.623	1.861 to 3.385	Yes	****				
<b>40BC vs. 50BC</b>	0.2014	-0.5608 to 0.9636	No	ns				
<b>40BC vs. 60BC</b>	2.352	1.590 to 3.114	Yes	****				
<b>40BC vs. 70BC</b>	2.459	1.697 to 3.221	Yes	****				
<b>40BC vs. PSNP</b>	2.491	1.729 to 3.253	Yes	****				
<b>40BC vs. AMO</b>	1.581	0.8188 to 2.343	Yes	****				
<b>50BC vs. 60BC</b>	2.151	1.389 to 2.913	Yes	****				
<b>50BC vs. 70BC</b>	2.258	1.495 to 3.020	Yes	****				
<b>50BC vs. PSNP</b>	2.29	1.528 to 3.052	Yes	****				
<b>50BC vs. AMO</b>	1.38	0.6174 to 2.142	Yes	****				
<b>60BC vs. 70BC</b>	0.1068	-0.6554 to 0.8690	No	ns				
<b>60BC vs. PSNP</b>	0.139	-0.6232 to 0.9012	No	ns				
<b>60BC vs. AMO</b>	-0.7712	-1.533 to -0.009059	Yes	*				
<b>70BC vs. PSNP</b>	0.0322	-0.7300 to 0.7944	No	ns				
<b>70BC vs. AMO</b>	-0.878	-1.640 to -0.1159	Yes	*				
<b>PSNP vs. AMO</b>	-0.9102	-1.672 to -0.1481	Yes	**				
<b>0.5 uM</b>								

20BC vs. 30BC	-1.091	-1.854 to -0.3292	Yes	***				
20BC vs. 40BC	-0.6064	-1.369 to 0.1558	No	ns				
20BC vs. 50BC	-0.7963	-1.558 to -0.03408	Yes	*				
20BC vs. 60BC	0.4448	-0.3173 to 1.207	No	ns				
20BC vs. 70BC	0.5168	-0.2454 to 1.279	No	ns				
20BC vs. PSNP	0.5401	-0.2221 to 1.302	No	ns				
20BC vs. AMO	-0.3871	-1.149 to 0.3751	No	ns				
30BC vs. 40BC	0.485	-0.2772 to 1.247	No	ns				
30BC vs. 50BC	0.2951	-0.4671 to 1.057	No	ns				
30BC vs. 60BC	1.536	0.7740 to 2.298	Yes	****				
30BC vs. 70BC	1.608	0.8460 to 2.370	Yes	****				
30BC vs. PSNP	1.631	0.8693 to 2.394	Yes	****				
30BC vs. AMO	0.7043	-0.05787 to 1.466	No	ns				
40BC vs. 50BC	-0.1899	-0.9520 to 0.5723	No	ns				
40BC vs. 60BC	1.051	0.2891 to 1.813	Yes	**				
40BC vs. 70BC	1.123	0.3610 to 1.885	Yes	***				
40BC vs. PSNP	1.146	0.3843 to 1.909	Yes	***				
40BC vs. AMO	0.2193	-0.5428 to 0.9815	No	ns				
50BC vs. 60BC	1.241	0.4789 to 2.003	Yes	****				
50BC vs. 70BC	1.313	0.5509 to 2.075	Yes	****				
50BC vs. PSNP	1.336	0.5742 to 2.098	Yes	****				
50BC vs. AMO	0.4092	-0.3530 to 1.171	No	ns				
60BC vs. 70BC	0.07195	-0.6902 to 0.8341	No	ns				
60BC vs. PSNP	0.09523	-0.6669 to 0.8574	No	ns				
60BC vs. AMO	-0.8319	-1.594 to -0.06973	Yes	*				
70BC vs. PSNP	0.02327	-0.7389 to 0.7854	No	ns				
70BC vs. AMO	-0.9039	-1.666 to -0.1417	Yes	**				
PSNP vs. AMO	-0.9271	-1.689 to -0.1650	Yes	**				
<b>0.25 uM</b>								
20BC vs. 30BC	-0.9434	-1.706 to -0.1812	Yes	**				
20BC vs. 40BC	-0.2956	-1.058 to 0.4666	No	ns				
20BC vs. 50BC	-0.3552	-1.117 to 0.4069	No	ns				
20BC vs. 60BC	0.3508	-0.4113 to 1.113	No	ns				
20BC vs. 70BC	0.4478	-0.3143 to 1.210	No	ns				
20BC vs. PSNP	0.3655	-0.3967 to 1.128	No	ns				
20BC vs. AMO	-0.5772	-1.339 to 0.1850	No	ns				
30BC vs. 40BC	0.6478	-0.1143 to 1.410	No	ns				
30BC vs. 50BC	0.5882	-0.1740 to 1.350	No	ns				
30BC vs. 60BC	1.294	0.5321 to 2.056	Yes	****				
30BC vs. 70BC	1.391	0.6291 to 2.153	Yes	****				
30BC vs. PSNP	1.309	0.5467 to 2.071	Yes	****				
30BC vs. AMO	0.3662	-0.3960 to 1.128	No	ns				
40BC vs. 50BC	-0.05966	-0.8218 to 0.7025	No	ns				
40BC vs. 60BC	0.6464	-0.1158 to 1.409	No	ns				
40BC vs. 70BC	0.7434	-0.01878 to 1.506	No	ns				
40BC vs. PSNP	0.6611	-0.1011 to 1.423	No	ns				
40BC vs. AMO	-0.2817	-1.044 to 0.4805	No	ns				

50BC vs. 60BC	0.7061	-0.05610 to 1.468	No	ns				
50BC vs. 70BC	0.8031	0.04089 to 1.565	Yes	*				
50BC vs. PSNP	0.7207	-0.04145 to 1.483	No	ns				
50BC vs. AMO	-0.222	-0.9842 to 0.5402	No	ns				
60BC vs. 70BC	0.09699	-0.6652 to 0.8592	No	ns				
60BC vs. PSNP	0.01465	-0.7475 to 0.7768	No	ns				
60BC vs. AMO	-0.9281	-1.690 to -0.1659	Yes	**				
70BC vs. PSNP	-0.08233	-0.8445 to 0.6798	No	ns				
70BC vs. AMO	-1.025	-1.787 to -0.2629	Yes	**				
PSNP vs. AMO	-0.9427	-1.705 to -0.1805	Yes	**				
<b>0.125 uM</b>								
20BC vs. 30BC	-0.7118	-1.474 to 0.05039	No	ns				
20BC vs. 40BC	-0.01565	-0.7778 to 0.7465	No	ns				
20BC vs. 50BC	-0.1152	-0.8774 to 0.6470	No	ns				
20BC vs. 60BC	0.1456	-0.6166 to 0.9078	No	ns				
20BC vs. 70BC	0.266	-0.4961 to 1.028	No	ns				
20BC vs. PSNP	0.1948	-0.5674 to 0.9569	No	ns				
20BC vs. AMO	-0.7085	-1.471 to 0.05371	No	ns				
30BC vs. 40BC	0.6961	0.03803 to 1.354	Yes	*				
30BC vs. 50BC	0.5966	-0.1656 to 1.359	No	ns				
30BC vs. 60BC	0.8574	0.09519 to 1.620	Yes	*				
30BC vs. 70BC	0.9778	0.2156 to 1.740	Yes	**				
30BC vs. PSNP	0.9065	0.1444 to 1.669	Yes	**				
30BC vs. AMO	0.003311	-0.7589 to 0.7655	No	ns				
40BC vs. 50BC	-0.09954	-0.8617 to 0.6626	No	ns				
40BC vs. 60BC	0.1612	-0.6009 to 0.9234	No	ns				
40BC vs. 70BC	0.2817	-0.4805 to 1.044	No	ns				
40BC vs. PSNP	0.2104	-0.5518 to 0.9726	No	ns				
40BC vs. AMO	-0.6928	-1.455 to 0.06936	No	ns				
50BC vs. 60BC	0.2608	-0.5014 to 1.023	No	ns				
50BC vs. 70BC	0.3812	-0.3809 to 1.143	No	ns				
50BC vs. PSNP	0.31	-0.4522 to 1.072	No	ns				
50BC vs. AMO	-0.5933	-1.355 to 0.1689	No	ns				
60BC vs. 70BC	0.1205	-0.6417 to 0.8826	No	ns				
60BC vs. PSNP	0.04917	-0.7130 to 0.8113	No	ns				
60BC vs. AMO	-0.8541	-1.616 to -0.09188	Yes	*				
70BC vs. PSNP	-0.07128	-0.8335 to 0.6909	No	ns				
70BC vs. AMO	-0.9745	-1.737 to -0.2123	Yes	**				
PSNP vs. AMO	-0.9032	-1.665 to -0.1411	Yes	**				
<b>Test details</b>								
	Mean 1	Mean 2	Mean Diff.	SE of diff.	N1	N2	q	DF
<b>1 uM</b>								



20BC vs. 30BC	1.106	3.623	-2.517	0.2432	3	3	14.6 3	64
20BC vs. 40BC	1.106	2.581	-1.475	0.2432	3	3	8.57 3	64
20BC vs. 50BC	1.106	2.38	-1.273	0.2432	3	3	7.40 2	64
20BC vs. 60BC	1.106	0.2288	0.8776	0.2432	3	3	5.10 3	64
20BC vs. 70BC	1.106	0.122	0.9844	0.2432	3	3	5.72 4	64
20BC vs. PSNP	1.106	0.08977	1.017	0.2432	3	3	5.91 1	64
20BC vs. AMO	1.106	1	0.1064	0.2432	3	3	0.61 87	64
30BC vs. 40BC	3.623	2.581	1.042	0.2432	3	3	6.06 7.23	64
30BC vs. 50BC	3.623	2.38	1.244	0.2432	3	3	19.7 4	64
30BC vs. 60BC	3.623	0.2288	3.395	0.2432	3	3	20.3 6	64
30BC vs. 70BC	3.623	0.122	3.501	0.2432	3	3	20.5 4	64
30BC vs. PSNP	3.623	0.08977	3.534	0.2432	3	3	15.2 5	64
30BC vs. AMO	3.623	1	2.623	0.2432	3	3	1.17 1	64
40BC vs. 50BC	2.581	2.38	0.2014	0.2432	3	3	13.6 8	64
40BC vs. 60BC	2.581	0.2288	2.352	0.2432	3	3	14.3 8	64
40BC vs. 70BC	2.581	0.122	2.459	0.2432	3	3	14.4 8	64
40BC vs. PSNP	2.581	0.08977	2.491	0.2432	3	3	9.19 1	64
40BC vs. AMO	2.581	1	1.581	0.2432	3	3	12.5 3	64
50BC vs. 60BC	2.38	0.2288	2.151	0.2432	3	3	13.1 3	64
50BC vs. 70BC	2.38	0.122	2.258	0.2432	3	3	13.3 1	64
50BC vs. PSNP	2.38	0.08977	2.29	0.2432	3	3	8.02 1	64
50BC vs. AMO	2.38	1	1.38	0.2432	3	3	0.62 09	64
60BC vs. 70BC	0.2288	0.122	0.1068	0.2432	3	3	0.80 81	64
60BC vs. PSNP	0.2288	0.08977	0.139	0.2432	3	3	4.48 4	64
60BC vs. AMO	0.2288	1	-0.7712	0.2432	3	3	0.18 72	64
70BC vs. PSNP	0.122	0.08977	0.0322	0.2432	3	3	5.10 5	64
70BC vs. AMO	0.122	1	-0.878	0.2432	3	3	5.29 2	64
PSNP vs. AMO	0.08977	1	-0.9102	0.2432	3	3		64
0.5 uM								
20BC vs. 30BC	0.6129	1.704	-1.091	0.2432	3	3	6.34 5	64
20BC vs. 40BC	0.6129	1.219	-0.6064	0.2432	3	3	3.52 6	64
20BC vs. 50BC	0.6129	1.409	-0.7963	0.2432	3	3	4.62 9	64
20BC vs. 60BC	0.6129	0.1681	0.4448	0.2432	3	3	2.58 6	64
20BC vs. 70BC	0.6129	0.09615	0.5168	0.2432	3	3	3.00 5	64
20BC vs. PSNP	0.6129	0.07288	0.5401	0.2432	3	3	3.14 9.48	64
20BC vs. AMO	0.6129	1	-0.3871	0.2432	3	3	2.25 5	64
30BC vs. 40BC	1.704	1.219	0.485	0.2432	3	3	2.82 6	64
30BC vs. 50BC	1.704	1.409	0.2951	0.2432	3	3	8.93 1	64
30BC vs. 60BC	1.704	0.1681	1.536	0.2432	3	3	9.35 9.48	64
30BC vs. 70BC	1.704	0.09615	1.608	0.2432	3	3	4.09 5	64
30BC vs. PSNP	1.704	0.07288	1.631	0.2432	3	3	1.10 4	64
30BC vs. AMO	1.704	1	0.7043	0.2432	3	3	6.11 2	64
40BC vs. 50BC	1.219	1.409	-0.1899	0.2432	3	3	6.53 64	64
40BC vs. 60BC	1.219	0.1681	1.051	0.2432	3	3		64
40BC vs. 70BC	1.219	0.09615	1.123	0.2432	3	3		64

40BC vs. PSNP	1.219	0.07288	1.146	0.2432	3	3	6.665	64
40BC vs. AMO	1.219	1	0.2193	0.2432	3	3	1.275	64
50BC vs. 60BC	1.409	0.1681	1.241	0.2432	3	3	7.216	64
50BC vs. 70BC	1.409	0.09615	1.313	0.2432	3	3	7.634	64
50BC vs. PSNP	1.409	0.07288	1.336	0.2432	3	3	7.769	64
50BC vs. AMO	1.409	1	0.4092	0.2432	3	3	2.379	64
60BC vs. 70BC	0.1681	0.09615	0.07195	0.2432	3	3	0.4183	64
60BC vs. PSNP	0.1681	0.07288	0.09523	0.2432	3	3	0.5536	64
60BC vs. AMO	0.1681	1	-0.8319	0.2432	3	3	4.837	64
70BC vs. PSNP	0.09615	0.07288	0.02327	0.2432	3	3	0.1353	64
70BC vs. AMO	0.09615	1	-0.9039	0.2432	3	3	5.255	64
PSNP vs. AMO	0.07288	1	-0.9271	0.2432	3	3	5.39	64
0.25 uM								
20BC vs. 30BC	0.4228	1.366	-0.9434	0.2432	3	3	5.485	64
20BC vs. 40BC	0.4228	0.7183	-0.2956	0.2432	3	3	1.718	64
20BC vs. 50BC	0.4228	0.778	-0.3552	0.2432	3	3	2.065	64
20BC vs. 60BC	0.4228	0.07194	0.3508	0.2432	3	3	2.04	64
20BC vs. 70BC	0.4228	-0.02505	0.4478	0.2432	3	3	2.604	64
20BC vs. PSNP	0.4228	0.05728	0.3655	0.2432	3	3	2.125	64
20BC vs. AMO	0.4228	1	-0.5772	0.2432	3	3	3.356	64
30BC vs. 40BC	1.366	0.7183	0.6478	0.2432	3	3	3.766	64
30BC vs. 50BC	1.366	0.778	0.5882	0.2432	3	3	3.42	64
30BC vs. 60BC	1.366	0.07194	1.294	0.2432	3	3	7.525	64
30BC vs. 70BC	1.366	-0.02505	1.391	0.2432	3	3	8.089	64
30BC vs. PSNP	1.366	0.05728	1.309	0.2432	3	3	7.61	64
30BC vs. AMO	1.366	1	0.3662	0.2432	3	3	2.129	64
40BC vs. 50BC	0.7183	0.778	-0.05966	0.2432	3	3	0.3469	64
40BC vs. 60BC	0.7183	0.07194	0.6464	0.2432	3	3	3.758	64
40BC vs. 70BC	0.7183	-0.02505	0.7434	0.2432	3	3	4.322	64
40BC vs. PSNP	0.7183	0.05728	0.6611	0.2432	3	3	3.843	64
40BC vs. AMO	0.7183	1	-0.2817	0.2432	3	3	1.638	64
50BC vs. 60BC	0.778	0.07194	0.7061	0.2432	3	3	4.105	64
50BC vs. 70BC	0.778	-0.02505	0.8031	0.2432	3	3	4.669	64
50BC vs. PSNP	0.778	0.05728	0.7207	0.2432	3	3	4.19	64
50BC vs. AMO	0.778	1	-0.222	0.2432	3	3	1.291	64
60BC vs. 70BC	0.07194	-0.02505	0.09699	0.2432	3	3	0.5639	64
60BC vs. PSNP	0.07194	0.05728	0.01465	0.2432	3	3	0.0852	64
60BC vs. AMO	0.07194	1	-0.9281	0.2432	3	3	5.396	64
70BC vs. PSNP	-0.02505	0.05728	-0.08233	0.2432	3	3	0.4787	64
70BC vs. AMO	-0.02505	1	-1.025	0.2432	3	3	5.96	64
PSNP vs. AMO	0.05728	1	-0.9427	0.2432	3	3	5.481	64
0.125 uM								
20BC vs. 30BC	0.2915	1.003	-0.7118	0.2432	3	3	4.138	64
20BC vs. 40BC	0.2915	0.3072	-0.01565	0.2432	3	3	0.091	64

20BC vs. 50BC	0.2915	0.4067	-0.1152	0.2432	3	3	0.66 97	64
20BC vs. 60BC	0.2915	0.1459	0.1456	0.2432	3	3	0.84 64	64
20BC vs. 70BC	0.2915	0.02549	0.266	0.2432	3	3	1.54 7	64
20BC vs. PSNP	0.2915	0.09678	0.1948	0.2432	3	3	1.13 2	64
20BC vs. AMO	0.2915	1	-0.7085	0.2432	3	3	4.11 9	64
30BC vs. 40BC	1.003	0.3072	0.6961	0.2432	3	3	4.04 7	64
30BC vs. 50BC	1.003	0.4067	0.5966	0.2432	3	3	3.46 9	64
30BC vs. 60BC	1.003	0.1459	0.8574	0.2432	3	3	4.98 5	64
30BC vs. 70BC	1.003	0.02549	0.9778	0.2432	3	3	5.68 5	64
30BC vs. PSNP	1.003	0.09678	0.9065	0.2432	3	3	5.27 1	64
30BC vs. AMO	1.003	1	0.003311	0.2432	3	3	0.01 925	64
40BC vs. 50BC	0.3072	0.4067	-0.09954	0.2432	3	3	0.57 87	64
40BC vs. 60BC	0.3072	0.1459	0.1612	0.2432	3	3	0.93 74	64
40BC vs. 70BC	0.3072	0.02549	0.2817	0.2432	3	3	1.63 8	64
40BC vs. PSNP	0.3072	0.09678	0.2104	0.2432	3	3	1.22 3	64
40BC vs. AMO	0.3072	1	-0.6928	0.2432	3	3	4.02 8	64
50BC vs. 60BC	0.4067	0.1459	0.2608	0.2432	3	3	1.51 6	64
50BC vs. 70BC	0.4067	0.02549	0.3812	0.2432	3	3	2.21 6	64
50BC vs. PSNP	0.4067	0.09678	0.31	0.2432	3	3	1.80 2	64
50BC vs. AMO	0.4067	1	-0.5933	0.2432	3	3	3.44 9	64
60BC vs. 70BC	0.1459	0.02549	0.1205	0.2432	3	3	0.70 03	64
60BC vs. PSNP	0.1459	0.09678	0.04917	0.2432	3	3	0.28 59	64
60BC vs. AMO	0.1459	1	-0.8541	0.2432	3	3	4.96 5	64
70BC vs. PSNP	0.02549	0.09678	-0.07128	0.2432	3	3	0.41 44	64
70BC vs. AMO	0.02549	1	-0.9745	0.2432	3	3	5.66 6	64
PSNP vs. AMO	0.09678	1	-0.9032	0.2432	3	3	5.25 1	64

**Supplemental Table 4.** Two-way RM ANOVA and Tukey's multiple comparisons results for Figure 5A Study, n=3. All calculations were made in Graphpad Prism.

### Cytotoxicity Statistical Analysis Tabular Results (Figure 5B Study)

Table Analyzed	Cyto New							
Two-way RM ANOVA	Matching: Across row							
Alpha	0.05							
Source of Variation	% of total variation	P value	P value summary	Significant?				
Interaction	16.95	0.7686	ns	No				

composition	19.03	0.0059	**	Yes				
Concentration	0.5468	0.9355	ns	No				
Subjects (matching)	8.794	0.9299	ns	No				
<b>ANOVA table</b>	<b>SS</b>	<b>DF</b>	<b>MS</b>	<b>F (DFn, DFd)</b>	<b>P value</b>			
Interaction	6319	18	351	F (18, 42) = 0.7233	P = 0.7686			
composition	7096	6	1183	F (6, 14) = 5.050	P = 0.0059			
Concentration	203.8	3	67.95	F (3, 42) = 0.1400	P = 0.9355			
Subjects (matching)	3279	14	234.2	F (14, 42) = 0.4825	P = 0.9299			
Residual	20385	42	485.3					
Number of missing values	0							

### Multiple Comparisons

Within each column, compare rows (simple effects within columns)								
Number of families	4							
Number of comparisons per family	21							
Alpha	0.05							
<b>Tukey's multiple comparisons test</b>	<b>Mean Diff.</b>	<b>95% CI of diff.</b>	<b>Significant?</b>	<b>Summary</b>				
<b>1 uM</b>								
20BC vs. 30BC	18	-33.33 to 69.33	No	ns				
20BC vs. 40BC	12.67	-38.66 to 63.99	No	ns				
20BC vs. 50BC	-15.33	-66.66 to 35.99	No	ns				
20BC vs. 60BC	-17.33	-68.66 to 33.99	No	ns				
20BC vs. 70BC	-24.67	-75.99 to 26.66	No	ns				
20BC vs. PSNP	-20.33	-71.66 to 30.99	No	ns				
30BC vs. 40BC	-5.333	-56.66 to 45.99	No	ns				
30BC vs. 50BC	-33.33	-84.66 to 17.99	No	ns				
30BC vs. 60BC	-35.33	-86.66 to 15.99	No	ns				
30BC vs. 70BC	-42.67	-93.99 to 8.659	No	ns				
30BC vs. PSNP	-38.33	-89.66 to 12.99	No	ns				
40BC vs. 50BC	-28	-79.33 to 23.33	No	ns				
40BC vs. 60BC	-30	-81.33 to 21.33	No	ns				
40BC vs. 70BC	-37.33	-88.66 to 13.99	No	ns				
40BC vs. PSNP	-33	-84.33 to 18.33	No	ns				
50BC vs. 60BC	-2	-53.33 to 49.33	No	ns				
50BC vs. 70BC	-9.333	-60.66 to 41.99	No	ns				
50BC vs. PSNP	-5	-56.33 to 46.33	No	ns				
60BC vs. 70BC	-7.333	-58.66 to 43.99	No	ns				
60BC vs. PSNP	-3	-54.33 to 48.33	No	ns				
70BC vs. PSNP	4.333	-46.99 to 55.66	No	ns				
<b>0.5 uM</b>								
20BC vs. 30BC	14.67	-36.66 to 65.99	No	ns				
20BC vs. 40BC	13.67	-37.66 to 64.99	No	ns				

20BC vs. 50BC	0	-51.33 to 51.33	No	ns				
20BC vs. 60BC	-24	-75.33 to 27.33	No	ns				
20BC vs. 70BC	-8.667	-59.99 to 42.66	No	ns				
20BC vs. PSNP	-7.333	-58.66 to 43.99	No	ns				
30BC vs. 40BC	-1	-52.33 to 50.33	No	ns				
30BC vs. 50BC	-14.67	-65.99 to 36.66	No	ns				
30BC vs. 60BC	-38.67	-89.99 to 12.66	No	ns				
30BC vs. 70BC	-23.33	-74.66 to 27.99	No	ns				
30BC vs. PSNP	-22	-73.33 to 29.33	No	ns				
40BC vs. 50BC	-13.67	-64.99 to 37.66	No	ns				
40BC vs. 60BC	-37.67	-88.99 to 13.66	No	ns				
40BC vs. 70BC	-22.33	-73.66 to 28.99	No	ns				
40BC vs. PSNP	-21	-72.33 to 30.33	No	ns				
50BC vs. 60BC	-24	-75.33 to 27.33	No	ns				
50BC vs. 70BC	-8.667	-59.99 to 42.66	No	ns				
50BC vs. PSNP	-7.333	-58.66 to 43.99	No	ns				
60BC vs. 70BC	15.33	-35.99 to 66.66	No	ns				
60BC vs. PSNP	16.67	-34.66 to 67.99	No	ns				
70BC vs. PSNP	1.333	-49.99 to 52.66	No	ns				
<b>0.25 uM</b>								
20BC vs. 30BC	19	-32.33 to 70.33	No	ns				
20BC vs. 40BC	8.333	-42.99 to 59.66	No	ns				
20BC vs. 50BC	1.333	-49.99 to 52.66	No	ns				
20BC vs. 60BC	-22.33	-73.66 to 28.99	No	ns				
20BC vs. 70BC	-8	-59.33 to 43.33	No	ns				
20BC vs. PSNP	-6.667	-57.99 to 44.66	No	ns				
30BC vs. 40BC	-10.67	-61.99 to 40.66	No	ns				
30BC vs. 50BC	-17.67	-68.99 to 33.66	No	ns				
30BC vs. 60BC	-41.33	-92.66 to 9.993	No	ns				
30BC vs. 70BC	-27	-78.33 to 24.33	No	ns				
30BC vs. PSNP	-25.67	-76.99 to 25.66	No	ns				
40BC vs. 50BC	-7	-58.33 to 44.33	No	ns				
40BC vs. 60BC	-30.67	-81.99 to 20.66	No	ns				
40BC vs. 70BC	-16.33	-67.66 to 34.99	No	ns				
40BC vs. PSNP	-15	-66.33 to 36.33	No	ns				
50BC vs. 60BC	-23.67	-74.99 to 27.66	No	ns				
50BC vs. 70BC	-9.333	-60.66 to 41.99	No	ns				
50BC vs. PSNP	-8	-59.33 to 43.33	No	ns				
60BC vs. 70BC	14.33	-36.99 to 65.66	No	ns				
60BC vs. PSNP	15.67	-35.66 to 66.99	No	ns				
70BC vs. PSNP	1.333	-49.99 to 52.66	No	ns				
<b>0.125 uM</b>								

20BC vs. 30BC	-8.333	-59.66 to 42.99	No	ns					
20BC vs. 40BC	-21	-72.33 to 30.33	No	ns					
20BC vs. 50BC	-19.33	-70.66 to 31.99	No	ns					
20BC vs. 60BC	5	-46.33 to 56.33	No	ns					
20BC vs. 70BC	-11.67	-62.99 to 39.66	No	ns					
20BC vs. PSNP	-19.67	-70.99 to 31.66	No	ns					
30BC vs. 40BC	-12.67	-63.99 to 38.66	No	ns					
30BC vs. 50BC	-11	-62.33 to 40.33	No	ns					
30BC vs. 60BC	13.33	-37.99 to 64.66	No	ns					
30BC vs. 70BC	-3.333	-54.66 to 47.99	No	ns					
30BC vs. PSNP	-11.33	-62.66 to 39.99	No	ns					
40BC vs. 50BC	1.667	-49.66 to 52.99	No	ns					
40BC vs. 60BC	26	-25.33 to 77.33	No	ns					
40BC vs. 70BC	9.333	-41.99 to 60.66	No	ns					
40BC vs. PSNP	1.333	-49.99 to 52.66	No	ns					
50BC vs. 60BC	24.33	-26.99 to 75.66	No	ns					
50BC vs. 70BC	7.667	-43.66 to 58.99	No	ns					
50BC vs. PSNP	-0.3333	-51.66 to 50.99	No	ns					
60BC vs. 70BC	-16.67	-67.99 to 34.66	No	ns					
60BC vs. PSNP	-24.67	-75.99 to 26.66	No	ns					
70BC vs. PSNP	-8	-59.33 to 43.33	No	ns					
Test details	Mean 1	Mean 2	Mean Diff.	SE of diff.	N1	N2	q	D	F
1 uM									
20BC vs. 30BC	79.67	61.67	18	16.78	3	3	1.517	56	
20BC vs. 40BC	79.67	67	12.67	16.78	3	3	1.067	56	
20BC vs. 50BC	79.67	95	-15.33	16.78	3	3	1.292	56	
20BC vs. 60BC	79.67	97	-17.33	16.78	3	3	1.46	56	
20BC vs. 70BC	79.67	104.3	-24.67	16.78	3	3	2.078	56	
20BC vs. PSNP	79.67	100	-20.33	16.78	3	3	1.713	56	
							0.449		
30BC vs. 40BC	61.67	67	-5.333	16.78	3	3	4	56	
30BC vs. 50BC	61.67	95	-33.33	16.78	3	3	2.809	56	
30BC vs. 60BC	61.67	97	-35.33	16.78	3	3	2.977	56	
30BC vs. 70BC	61.67	104.3	-42.67	16.78	3	3	3.595	56	
30BC vs. PSNP	61.67	100	-38.33	16.78	3	3	3.23	56	
40BC vs. 50BC	67	95	-28	16.78	3	3	2.359	56	
40BC vs. 60BC	67	97	-30	16.78	3	3	2.528	56	
40BC vs. 70BC	67	104.3	-37.33	16.78	3	3	3.146	56	
40BC vs. PSNP	67	100	-33	16.78	3	3	2.781	56	
							0.168		
50BC vs. 60BC	95	97	-2	16.78	3	3	5	56	
							0.786		
50BC vs. 70BC	95	104.3	-9.333	16.78	3	3	4	56	
							0.421		
50BC vs. PSNP	95	100	-5	16.78	3	3	3	56	
							0.617		
60BC vs. 70BC	97	104.3	-7.333	16.78	3	3	9	56	
							0.252		
60BC vs. PSNP	97	100	-3	16.78	3	3	8	56	
							0.365		
70BC vs. PSNP	104.3	100	4.333	16.78	3	3	1	56	
0.5 uM									
20BC vs. 30BC	87.33	72.67	14.67	16.78	3	3	1.236	56	
20BC vs. 40BC	87.33	73.67	13.67	16.78	3	3	1.152	56	
20BC vs. 50BC	87.33	87.33	0	16.78	3	3	0	56	

20BC vs. 60BC	87.33	111.3	-24	16.78	3	3	2.022	56
20BC vs. 70BC	87.33	96	-8.667	16.78	3	3	0.730 2	56
20BC vs. PSNP	87.33	94.67	-7.333	16.78	3	3	0.617 9	56
30BC vs. 40BC	72.67	73.67	-1	16.78	3	3	0.084 26	56
30BC vs. 50BC	72.67	87.33	-14.67	16.78	3	3	1.236	56
30BC vs. 60BC	72.67	111.3	-38.67	16.78	3	3	3.258	56
30BC vs. 70BC	72.67	96	-23.33	16.78	3	3	1.966	56
30BC vs. PSNP	72.67	94.67	-22	16.78	3	3	1.854	56
40BC vs. 50BC	73.67	87.33	-13.67	16.78	3	3	1.152	56
40BC vs. 60BC	73.67	111.3	-37.67	16.78	3	3	3.174	56
40BC vs. 70BC	73.67	96	-22.33	16.78	3	3	1.882	56
40BC vs. PSNP	73.67	94.67	-21	16.78	3	3	1.769	56
50BC vs. 60BC	87.33	111.3	-24	16.78	3	3	2.022	56
50BC vs. 70BC	87.33	96	-8.667	16.78	3	3	0.730 2	56
50BC vs. PSNP	87.33	94.67	-7.333	16.78	3	3	0.617 9	56
60BC vs. 70BC	111.3	96	15.33	16.78	3	3	1.292	56
60BC vs. PSNP	111.3	94.67	16.67	16.78	3	3	1.404	56
70BC vs. PSNP	96	94.67	1.333	16.78	3	3	0.112 3	56
0.25 uM								
20BC vs. 30BC	88	69	19	16.78	3	3	1.601	56
20BC vs. 40BC	88	79.67	8.333	16.78	3	3	0.702 2	56
20BC vs. 50BC	88	86.67	1.333	16.78	3	3	0.112 3	56
20BC vs. 60BC	88	110.3	-22.33	16.78	3	3	1.882	56
20BC vs. 70BC	88	96	-8	16.78	3	3	0.674 1	56
20BC vs. PSNP	88	94.67	-6.667	16.78	3	3	0.561 7	56
30BC vs. 40BC	69	79.67	-10.67	16.78	3	3	0.898 8	56
30BC vs. 50BC	69	86.67	-17.67	16.78	3	3	1.489	56
30BC vs. 60BC	69	110.3	-41.33	16.78	3	3	3.483	56
30BC vs. 70BC	69	96	-27	16.78	3	3	2.275	56
30BC vs. PSNP	69	94.67	-25.67	16.78	3	3	2.163 0.589	56
40BC vs. 50BC	79.67	86.67	-7	16.78	3	3	8	56
40BC vs. 60BC	79.67	110.3	-30.67	16.78	3	3	2.584	56
40BC vs. 70BC	79.67	96	-16.33	16.78	3	3	1.376	56
40BC vs. PSNP	79.67	94.67	-15	16.78	3	3	1.264	56
50BC vs. 60BC	86.67	110.3	-23.67	16.78	3	3	1.994	56
50BC vs. 70BC	86.67	96	-9.333	16.78	3	3	0.786 4	56
50BC vs. PSNP	86.67	94.67	-8	16.78	3	3	0.674 1	56
60BC vs. 70BC	110.3	96	14.33	16.78	3	3	1.208	56
60BC vs. PSNP	110.3	94.67	15.67	16.78	3	3	1.32 0.112	56
70BC vs. PSNP	96	94.67	1.333	16.78	3	3	3	56
0.125 uM								
20BC vs. 30BC	80	88.33	-8.333	16.78	3	3	0.702 2	56
20BC vs. 40BC	80	101	-21	16.78	3	3	1.769	56
20BC vs. 50BC	80	99.33	-19.33	16.78	3	3	1.629	56
20BC vs. 60BC	80	75	5	16.78	3	3	0.421 3	56
20BC vs. 70BC	80	91.67	-11.67	16.78	3	3	0.983	56
20BC vs. PSNP	80	99.67	-19.67	16.78	3	3	1.657	56
30BC vs. 40BC	88.33	101	-12.67	16.78	3	3	1.067	56
30BC vs. 50BC	88.33	99.33	-11	16.78	3	3	0.926 8	56
30BC vs. 60BC	88.33	75	13.33	16.78	3	3	1.123	56
30BC vs. 70BC	88.33	91.67	-3.333	16.78	3	3	0.280 9	56
30BC vs. PSNP	88.33	99.67	-11.33	16.78	3	3	0.954 9	56
40BC vs. 50BC	101	99.33	1.667	16.78	3	3	0.140 4	56
40BC vs. 60BC	101	75	26	16.78	3	3	2.191	56
40BC vs. 70BC	101	91.67	9.333	16.78	3	3	0.786 4	56

40BC vs. PSNP	101	99.67	1.333	16.78	3	3	0.112	3	56
50BC vs. 60BC	99.33	75	24.33	16.78	3	3	2.05	3	56
50BC vs. 70BC	99.33	91.67	7.667	16.78	3	3	0.646	3	56
50BC vs. PSNP	99.33	99.67	-0.3333	16.78	3	3	0.028	09	56
60BC vs. 70BC	75	91.67	-16.67	16.78	3	3	1.404	3	56
60BC vs. PSNP	75	99.67	-24.67	16.78	3	3	2.078	3	56
70BC vs. PSNP	91.67	99.67	-8	16.78	3	3	0.674	1	56

**Supplemental Table 5.** Two-way RM ANOVA and Tukey's multiple comparisons results for Figure 5B Study, n=3. All calculations were made in Graphpad Prism.

**Gal-8 Recruitment Statistical Analysis Tabular Results (Figure 6B Study)**

<b>Table Analyzed</b>	Gal 8 Experiment								
<b>Two-way RM ANOVA</b>	Matching: Across row								
<b>Alpha</b>	0.05								
<b>Source of Variation</b>	% of total variation	P value	P value summary	Significant?					
<b>Interaction</b>	1.033	< 0.0001	****	Yes					
<b>Composition</b>	97.33	< 0.0001	****	Yes					
<b>Concentration</b>	1.2	< 0.0001	****	Yes					
<b>Subjects (matching)</b>	0.353	0.0191	*	Yes					



ANOVA table	SS	DF	MS	F (DFn, DFd)	P value				
Interaction	1428000000	4	357100000	F (4, 10) = 29.48	P < 0.0001				
Composition	1.346E+11	4	33650000000	F (4, 10) = 689.3	P < 0.0001				
Concentration	1660000000	1	1660000000	F (1, 10) = 137.0	P < 0.0001				
Subjects (matching)	488200000	10	48820000	F (10, 10) = 4.030	P = 0.0191				
Residual	121100000	10	12110000						
Number of missing values	0								
Multiple Comparisons (A)									
Within each column, compare rows (simple effects within columns)									
Number of families	2								
Number of comparisons per family	10								
Alpha	0.05								
Sidak's multiple comparisons test	Mean Diff.	95% CI of diff.	Significant?	Summary					
25 ug/m (5 ug/mL)									
30BC vs. 40BC	43000	28834 to 57166	Yes	****					
30BC vs. 50BC	130967	116801 to 145133	Yes	****					
30BC vs. PSNP	178597	164431 to 192763	Yes	****					
30BC vs. NT	177033	162867 to 191199	Yes	****					
40BC vs. 50BC	87967	73801 to 102133	Yes	****					
40BC vs. PSNP	135597	121431 to 149763	Yes	****					
40BC vs. NT	134033	119867 to 148199	Yes	****					
50BC vs. PSNP	47630	33464 to 61796	Yes	****					
50BC vs. NT	46067	31901 to 60233	Yes	****					
PSNP vs. NT	-1563	-15729 to 12603	No	ns					
12.5 ug/mL (2.5 ug/mL)									
30BC vs. 40BC	54667	40501 to 68833	Yes	****					
30BC vs. 50BC	132067	117901 to 146233	Yes	****					
30BC vs. PSNP	153993	139827 to 168159	Yes	****					
30BC vs. NT	156587	142421 to 170753	Yes	****					
40BC vs. 50BC	77400	63234 to 91566	Yes	****					
40BC vs. PSNP	99327	85161 to 113493	Yes	****					
40BC vs. NT	101920	87754 to 116086	Yes	****					
50BC vs. PSNP	21927	7761 to 36093	Yes	***					
50BC vs. NT	24520	10354 to 38686	Yes	***					
PSNP vs. NT	2593	-11573 to 16759	No	ns					
Test details	Mean 1	Mean 2	Mean Diff.	SE of diff.	N1	N2	t	D	F

<b>25 ug/m (5 ug/mL)</b>									
30BC vs. 40BC	181667	138667	43000	4507	3	3	9.541	20	
30BC vs. 50BC	181667	50700	130967	4507	3	3	29.06	20	
30BC vs. PSNP	181667	3070	178597	4507	3	3	39.63	20	
30BC vs. NT	181667	4633	177033	4507	3	3	39.28	20	
40BC vs. 50BC	138667	50700	87967	4507	3	3	19.52	20	
40BC vs. PSNP	138667	3070	135597	4507	3	3	30.09	20	
40BC vs. NT	138667	4633	134033	4507	3	3	29.74	20	
50BC vs. PSNP	50700	3070	47630	4507	3	3	10.57	20	
50BC vs. NT	50700	4633	46067	4507	3	3	10.22	20	
PSNP vs. NT	3070	4633	-1563	4507	3	3	0.346 9	20	
<b>12.5 ug.mL (2.5 ug/mL)</b>									
30BC vs. 40BC	160333	105667	54667	4507	3	3	12.13	20	
30BC vs. 50BC	160333	28267	132067	4507	3	3	29.3	20	
30BC vs. PSNP	160333	6340	153993	4507	3	3	34.17	20	
30BC vs. NT	160333	3747	156587	4507	3	3	34.75	20	
40BC vs. 50BC	105667	28267	77400	4507	3	3	17.17	20	
40BC vs. PSNP	105667	6340	99327	4507	3	3	22.04	20	
40BC vs. NT	105667	3747	101920	4507	3	3	22.62	20	
50BC vs. PSNP	28267	6340	21927	4507	3	3	4.865	20	
50BC vs. NT	28267	3747	24520	4507	3	3	5.441	20	
PSNP vs. NT	6340	3747	2593	4507	3	3	0.575 4	20	
<b>Multiple Comparisons (B)</b>									
Compare each cell mean with the other cell mean in that row.									
Number of families	1								
Number of comparisons per family	5								
Alpha	0.05								
Sidak's multiple comparisons test	Mean Diff.	95% CI of diff.	Significant?	Summary					
<b>25 ug/m (5 ug/mL) - 12.5 ug.mL (2.5 ug/mL)</b>									
30BC	21333	12361 to 30306	Yes	***					
40BC	33000	24027 to 41973	Yes	****					
50BC	22433	13461 to 31406	Yes	****					
PSNP	-3270	-12243 to 5703	No	ns					
NT	886.7	-8086 to 9859	No	ns					
Test details	Mean 1	Mean 2	Mean Diff.	SE of diff.	N1	N2	t	D	F
<b>25 ug/m (5 ug/mL) - 12.5 ug.mL (2.5 ug/mL)</b>									

30BC	181667	160333	21333	2842	3	3	7.507	10
40BC	138667	105667	33000	2842	3	3	11.61	10
50BC	50700	28267	22433	2842	3	3	7.894	10
PSNP	3070	6340	-3270	2842	3	3	1.151	10
NT	4633	3747	886.7	2842	3	3	0.312	10

**Supplemental Table 6.** Two-way RM ANOVA and Sidak's multiple comparisons results for Figure 6 Study, n=3. All calculations were made in Graphpad Prism.