

S1 Table. Experimental Design. *P. tricornutum* was grown on a 12:12 light:dark regime. Lights were on at 9AM, and off at 9PM, therefore cultures were sampled 3 hours before (6AM/6PM) and 1 hour (10AM/10PM) after each light transition.

Experiment	[Fe]		Day 1				Day 2			
	pM		10AM	2PM	6PM	10PM	2AM	6AM	10AM	2PM
L1	15	27		X	X	X	X	X	X	X
L2	15	27	X	X	X	X	X	X	X	
M1	30	54		X	X	X	X	X	X	X
M2	30	54	X	X	X	X	X	X	X	
H1	300	540		X	X	X	X	X	X	X
H2	300	540	X	X	X	X	X	X	X	
H3	300	540	X	X	X	X	X	X	X	
Sample (n) Totals			10AM	2PM	6PM	10PM	2AM	6AM		
L Total	15	27	3	3	2	2	2	2		
M Total	30	54	3	3	2	2	2	2		
H Total	300	540	4	5	3	3	3	3		
Combined Total			10	11	7	7	7	7		