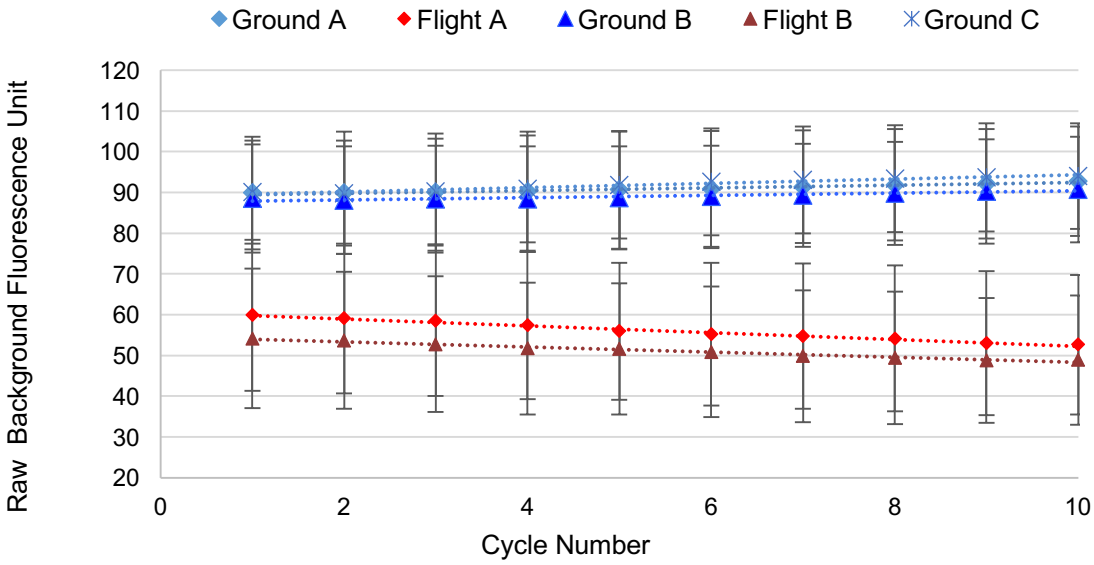
**S1 File. Background fluorescence data**

Raw background fluorescence data was collated from cycles 1 to 10 from all genomic DNA microgravity and 1 g control runs to determine if there were differences in the background/baseline as well (Fig S3). Individual microgravity runs exhibit significantly reduced background fluorescence intensity as compared to 1 g controls, for run 1 (56.05 +/- 17.49, 90.96 +/-12.69, respectively, $p<0.0001$), and for run 2 (51.16 +/- 15.90, 89.08 +/- 12.54, respectively, $p<0.0001$). The figure also shows a clear difference in the trend of the background values from cycles 1 to 10 between microgravity and 1 g. Specifically, the microgravity background fluorescence values decrease with increasing cycle number while the 1 g control values remain flat or have a slight upward trend. Linear regression analysis revealed a significant difference between microgravity and 1 g control groups ($p< 0.0082$). These alterations may have been due to the formation of bubble in early cycles resulting in a reduction in the baseline signal.




**Background fluorescence from cycles 1 to 10**. 1 g controls (blue) show a flat to upward slope and microgravity runs (red) show a downward slope.