Summary of the replicated work

The first figure we tried to replicate was sample correlation between five samples (2 replicates and 1 control). We were able to replicate a similar heatmap showing similar information. There was slight variation among the treatment groups compared to within-sample variation. All the black hues on the heatmap showed little variation, just as the original analysis from the paper. Although, our figure has the position of the 3°C and 5°C treated samples switched. The long branches of the dendrogram and the position of the clusters were remarkably close to what the original authors had published, giving us the idea that there is significant variation among individual samples within the same treatment group than between treatments.

The second figure we tried to replicate was the relative expression heatmaps of differentially expressed contigs of the samples. For this analysis also, we came close to reproduce the original figure from the paper. We had problems figuring out what the original authors had used to cluster the contigs. Because of this, the position or the order of the contigs that we obtained does not match completely. The lower half of the heatmap in the original figure can be found on the top half of the figure that we generated. However, we can interpret that the treated sample had relatively low expression of the contigs than the control samples. Also, the figure shows that there is significant variation among samples compared to between treatments.

The third and final figure that we tried to replicate was the phylogenetic analysis of the HSP70 sequences. They were able to obtain four isoforms of and out of which HSP70A and HSP70B are believed to the paralogues. We were able to replicate this figure using R and some modifications using iTol, as we have mentioned earlier. We could not figure out how they have rooted the tree, so we used our best judgment to manually root the tree so that it resembles the original tree. Our result matches the original tree showing us that HSP70A and HSP70B had some ancestrally shared history which could be explained by the paralogy within Porifera.