

Antibiotic visualization write up

Given this limited dataset, I wanted to see how efficient each antibiotic is. Efficiency, as I define it, is how each antibiotic can prevent growth with a small amount of the compound. With the sparse information I had, I wanted to highlight the amount of antibiotic required to prevent growth in vitro—this is related to how efficient the drug is. Because penicillin requires astronomical amounts, the effect of the other two antibiotic cannot be seen. In order to fix this, a new graph was made with a few plots excluded. With this new plot, the effects between neomycin and streptomycin can be seen more clearly.

I decided a bar graph is the best visualization for this project because the lengths of the bars can be easily compared to quickly and easily determine which antibiotic is efficient. The size is as wide as the sheet to make the graphs readable, and to accentuate any minute differences that the antibiotics may have on the bacteria. The order in which the antibiotic appears is in chronological order of their respective discoveries—a handy legend is available on the right of the graph. The sorting allows for the reader to compare how effectiveness changes per new iteration of discovery. I chose a horizontal bar graph because words are easier to read horizontally. The two columns that describe the bars—one with the Bacteria name, and the other with the antibiotic names—create an easy to read bar graph, as the effect of each antibiotic can be compared against each other. Bars are color coded by whether they have been stained or not, so as to easily distinguish which is which for the knowledgeable reader. Cold colors (i.e. the blue) notate the absence of staining, and warm color (i.e. the orange) the presence of staining, as “cold” colors are reminiscent of scarcity, and “warm” colors of abundance.

All in all, the design decisions made to create these plots hopefully allow the user to compare the efficiency of the antibiotics. The bars allow users to quickly read off which drug has a shorter bar length, comparing that within the bacteria, and determining whether staining was done or not.