Instructions:

1. Download common_core8.csv and Mucus_Code.R from Codes_and_data folder.

2. Download all the packages listed in Rstudio_package_list from Codes_and_data folder.

3. Run Mucus_Code.R in the same directory as common_core8.csv (This code was found to have issues with some computers running Windows OS, specifically with points not popping up on the plots).

4. Locate "Figure_2_difvalp.pdf".

5. Locate 't1'. This variable contains linear regression information.

6. From folder "Figure_2_Effective_diffusion_versus_anomalous_exponent", locate "Figure_2_difvalp_v4.svg". Prediction/experiment labels and linear regression analysis were added in inkscape. Add number of data points in inkscape.

7. From the folder locate "Figure_2_Effective_diffusion_versus_anomalous_exponent", locate "Figure_2_difvalp_a_data.csv". This is a data file that makes up panel **a** of "Figure_2_difvalp.pdf". First row is the header. Column names "Diffusion constant" is effective diffusion at 1 second, "alpha" is anomalous exponent" and "Particle_type" is particle type. Remark that Antibody refers to Antibodies and proteins.

8. From the folder locate "Figure_2_Effective_diffusion_versus_anomalous_exponent", locate "Figure_2_difvalp_b_data.csv". This is a data file that makes up panel **b** of "Figure_2_difvalp.pdf". First row is the header.

Outputs:

"Figure_2_difvalp.pdf" is a vectorial pdf file of a plot of effective diffusion at one second versus anomalous exponent.