

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_3_Charge.pdf`.
5. Locate `TNeglin` and `TANeglin`. These variables contain linear regression information.
6. Locate `Figure_3_Charge_v4.svg` in the folder. Add Prediction/experiment label and simple linear regression values to `Figure_3_Charge.pdf` in inkscape. Add number of data points in inkscape.
7. From the folder locate `Figure_3_Charge`, locate `Figure_3_Charge_a_data.csv`. This is a data file that makes up panel **a** of `Figure_3_Charge.pdf`. First row is the header. Column names `"Diffusion constant"` is effective diffusion at 1 second, `"zeta"` is zeta potential and `"Particle_type"` is particle type. Remark that Antibody refers to Antibodies and proteins.
8. From the folder locate `Figure_3_Charge`, locate `Figure_3_Charge_b_data.csv`. This is a data file that makes up panel **b** of `Figure_3_Charge.pdf`. First row is the header. Column `"alpha"` is the anomalous exponent and column `"Data_type"` is the classification of predicted or experiment data.

Output(s):

`Figure_3_Charge.pdf` is a pdf that plots effective diffusion as a function of charge (zeta potential), and anomalous exponent as a function of charge.