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_S4_Indepth_SLR_analysis.pdf".
5. From folder Linear_analysis, locate "Figure_S4_Indepth_SLR_analysis.svg". Add labels and number of data points in inkscape.
6. From the folder locate “Figure_S4_Indepth_SLR_analysis”, locate “Figure_S4_Indepth_SLR_analysis_a_data.csv”. This is a data file that makes up panel **a** of “Figure_S4_Indepth_SLR_analysis.pdf”. First row is the header. Columns are variable and standardized residuals: “alpha” is the anomalous exponent and “stdresid” is standardized residual.
7. From the folder locate “Figure_S4_Indepth_SLR_analysis”, locate “Figure_S4_Indepth_SLR_analysis_b_data.csv”. This is a data file that makes up panel **b** of “Figure_S4_Indepth_SLR_analysis.pdf”. First row is the header. Columns are variable and standardized residuals: “Diameter” is particle diameter and “stdresid” is standardized residual.
8. From the folder locate “Figure_S4_Indepth_SLR_analysis”, locate “Figure_S4_Indepth_SLR_analysis_c_data.csv”. This is a data file that makes up panel **c** of “Figure_S4_Indepth_SLR_analysis.pdf”. First row is the header. Columns are variable and standardized residuals: “Diameter” is particle diameter and “stdresid” is standardized residual.
9. From the folder locate “Figure_S4_Indepth_SLR_analysis”, locate “Figure_S4_Indepth_SLR_analysis_d_data.csv”. This is a data file that makes up panel **d** of “Figure_S4_Indepth_SLR_analysis.pdf”. First row is the header. Columns are variable and standardized residuals: “Zeta” is zeta potential and “stdresid” is standardized residual.

Output:

"Figure_S4_Indepth_SLR_analysis.pdf" is a pdf file that contains plots of in-depth analysis of statistically significant linear regression analysis by plotting residual, standardized residual and normal probability.