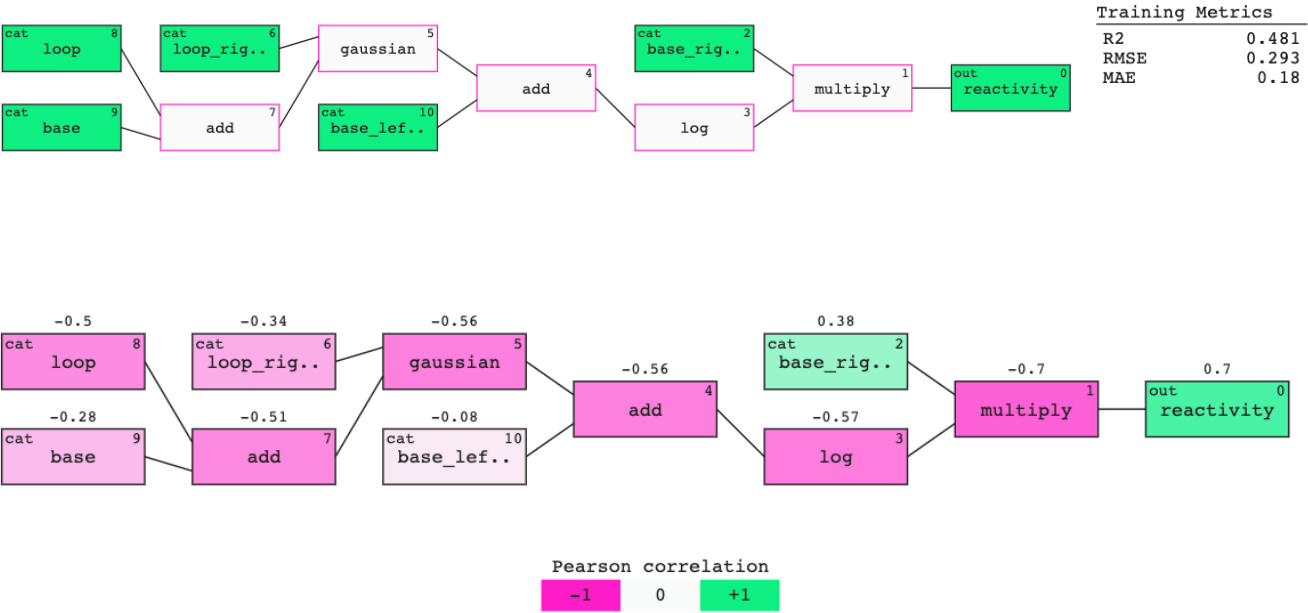


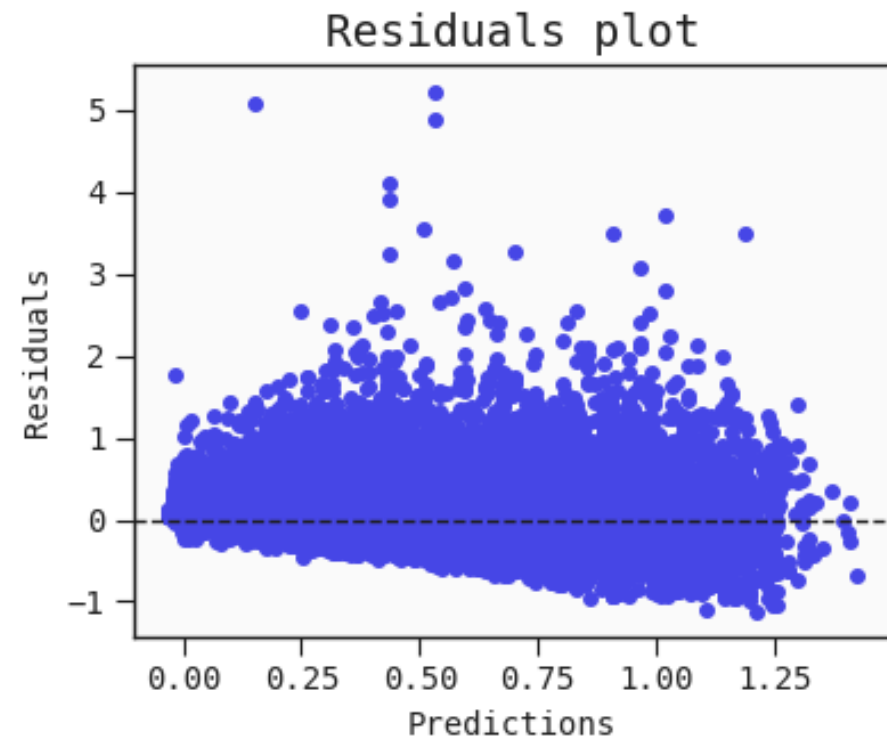
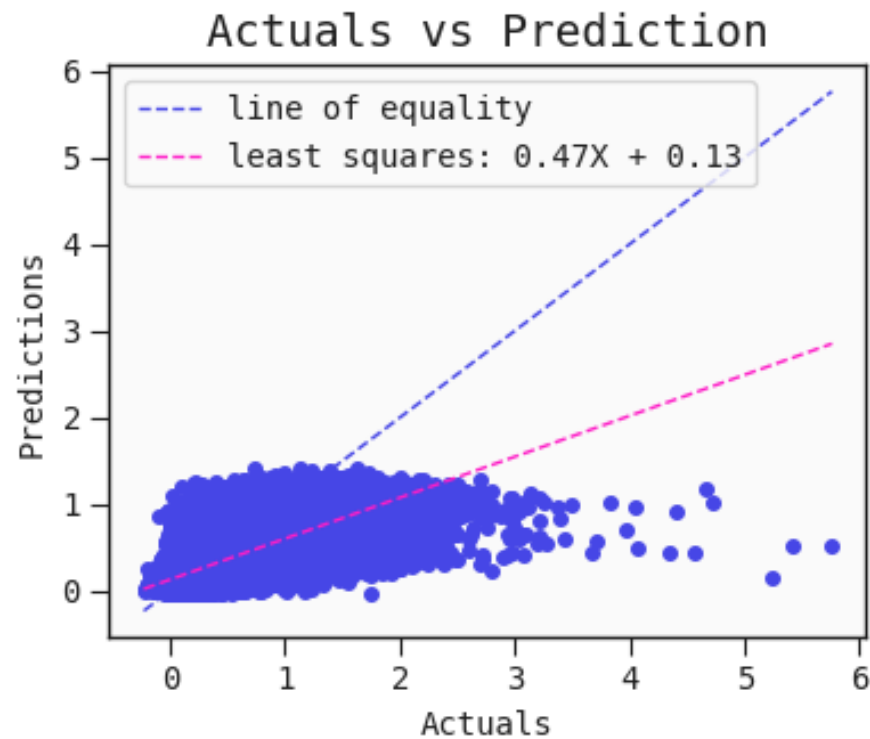
# COVID19 mRNA Vaccine Degradation

- **Base-model (unconstrained model)**
- **Constrained model**
- **Three feature model**

# BASE MODEL

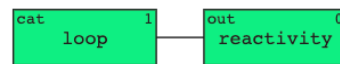


# TRAINING MATRICES

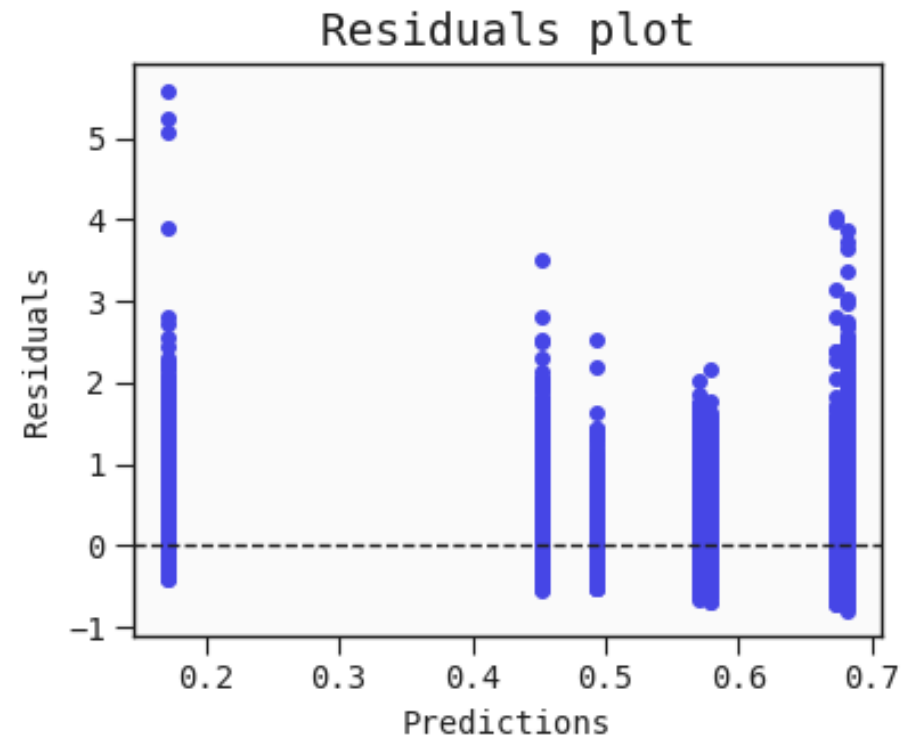
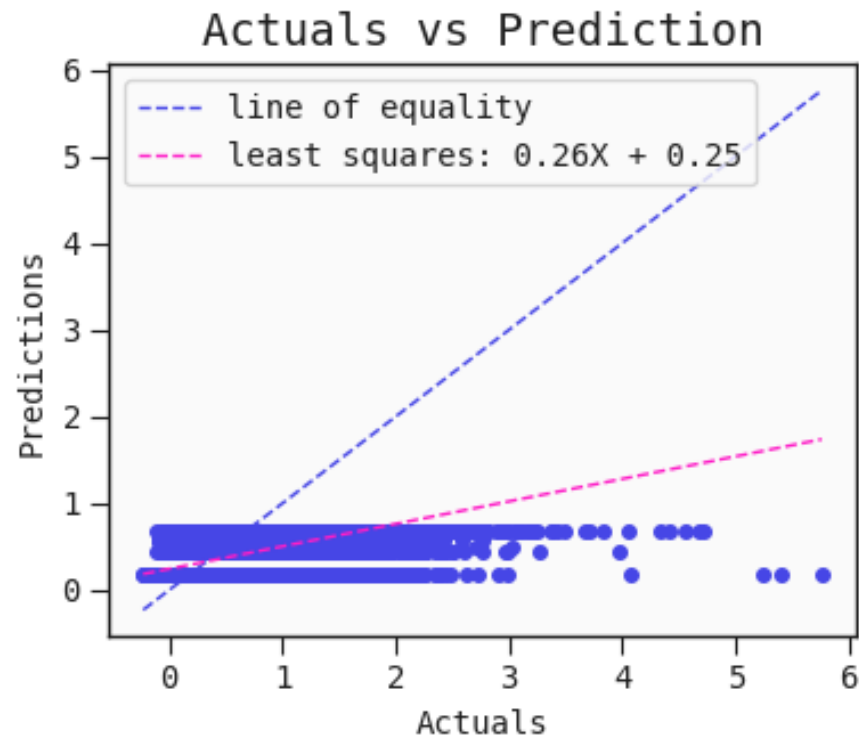


# TRAINING MATRICES

The constrained model:

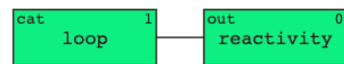


Training Metrics		Test
R2	0.258	0.284
RMSE	0.351	0.347
MAE	0.238	0.235

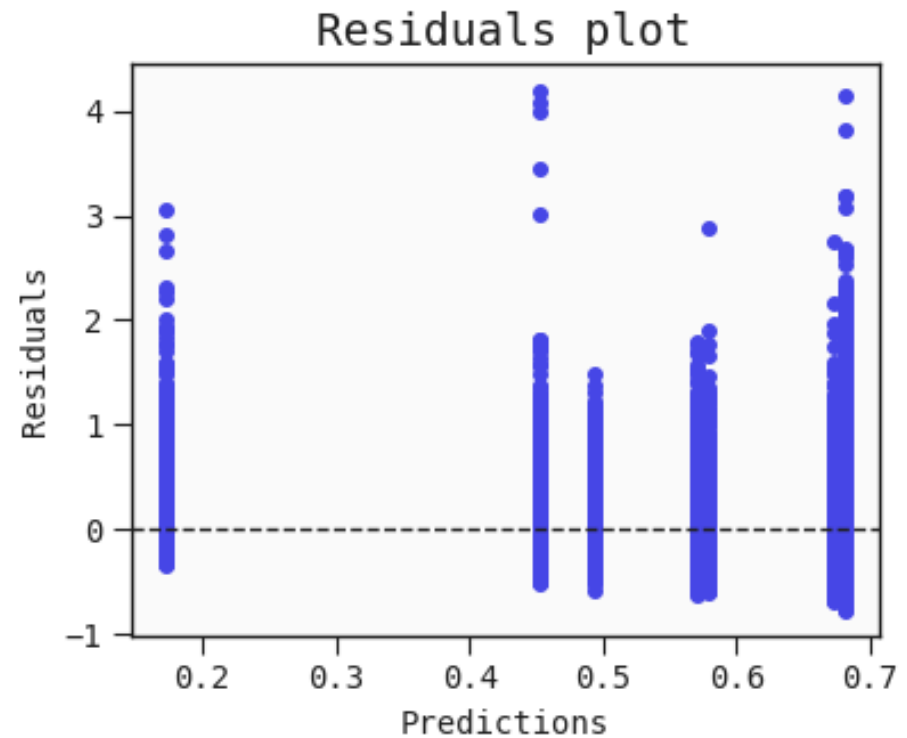
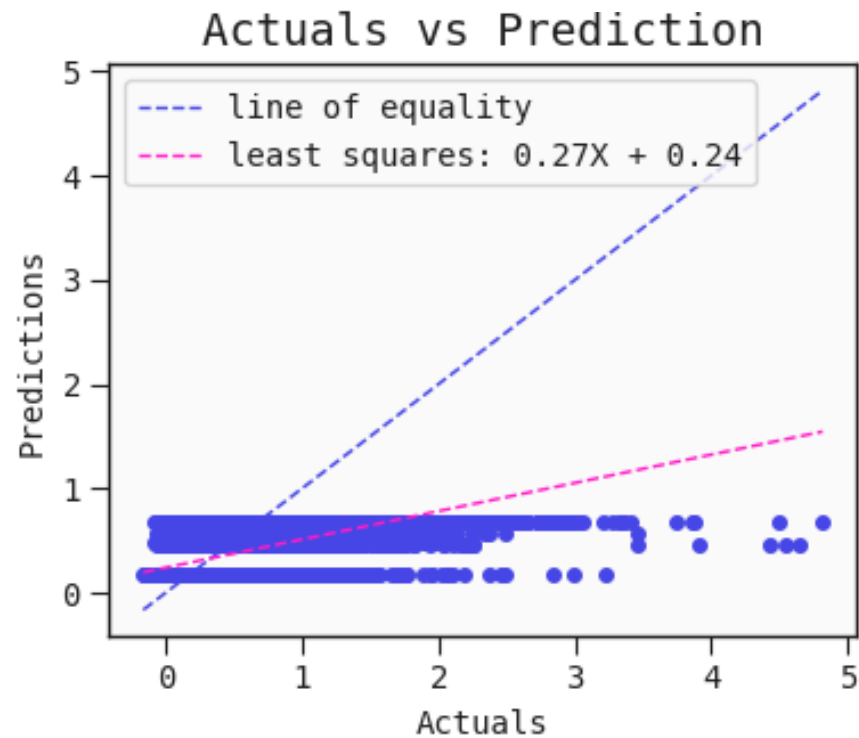


# TEST MATRICES

The constrained model:

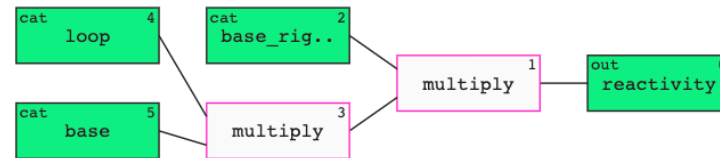


Training Metrics		Test
R2	0.258	0.284
RMSE	0.351	0.347
MAE	0.238	0.235

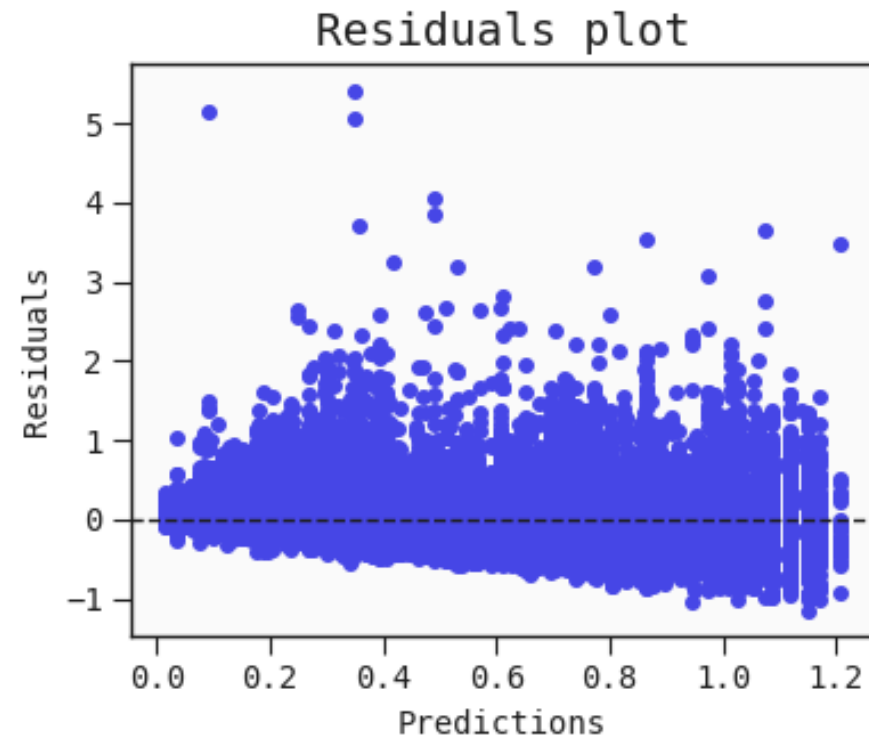
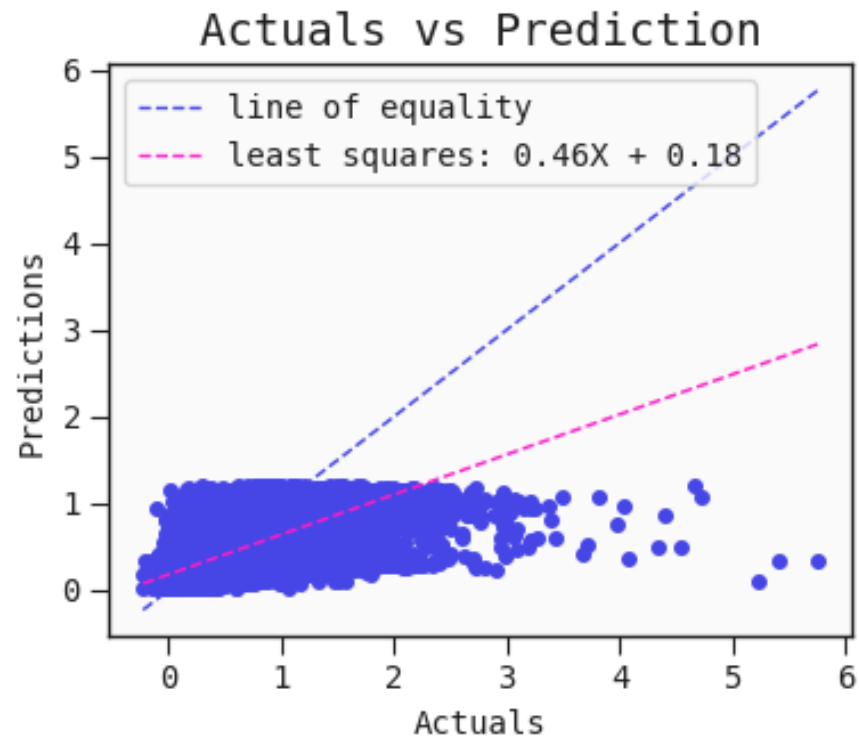


# TRAINING MATRICES

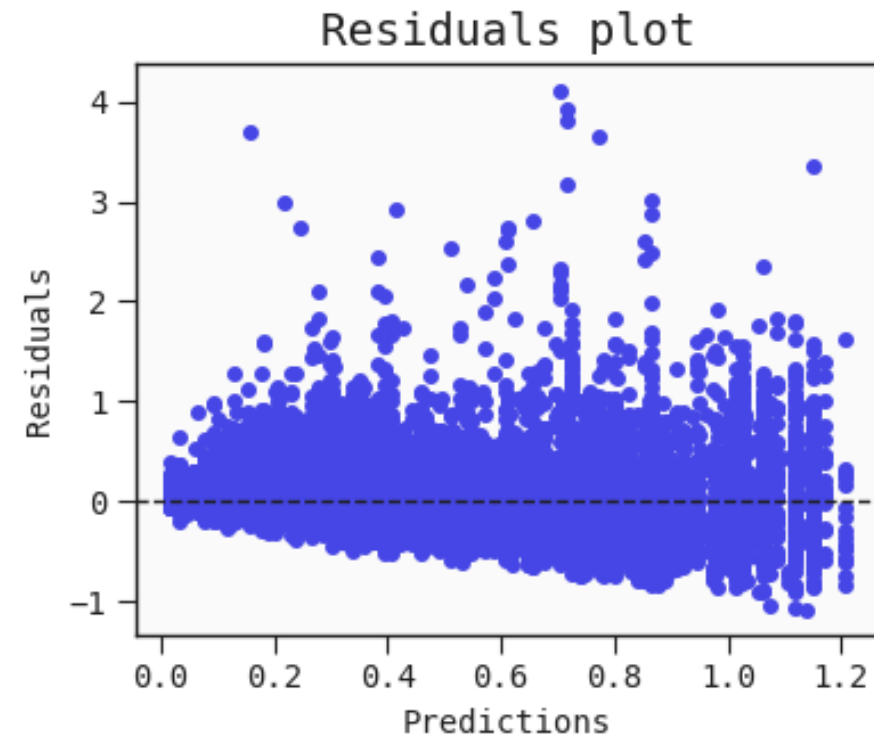
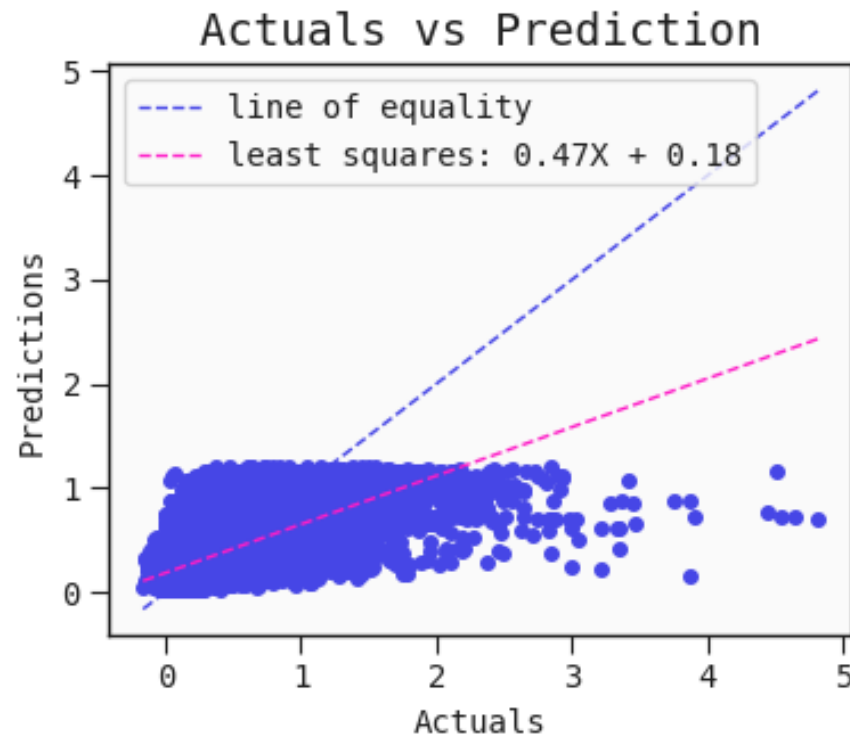
The three feature model:



Training Metrics		Test
R2	0.464	0.479
RMSE	0.298	0.296
MAE	0.193	0.193

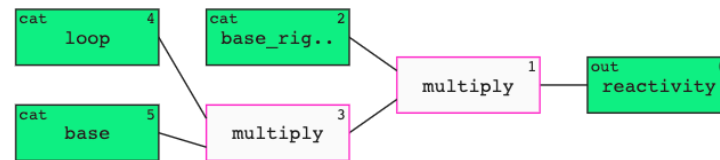


# TEST MATRICES

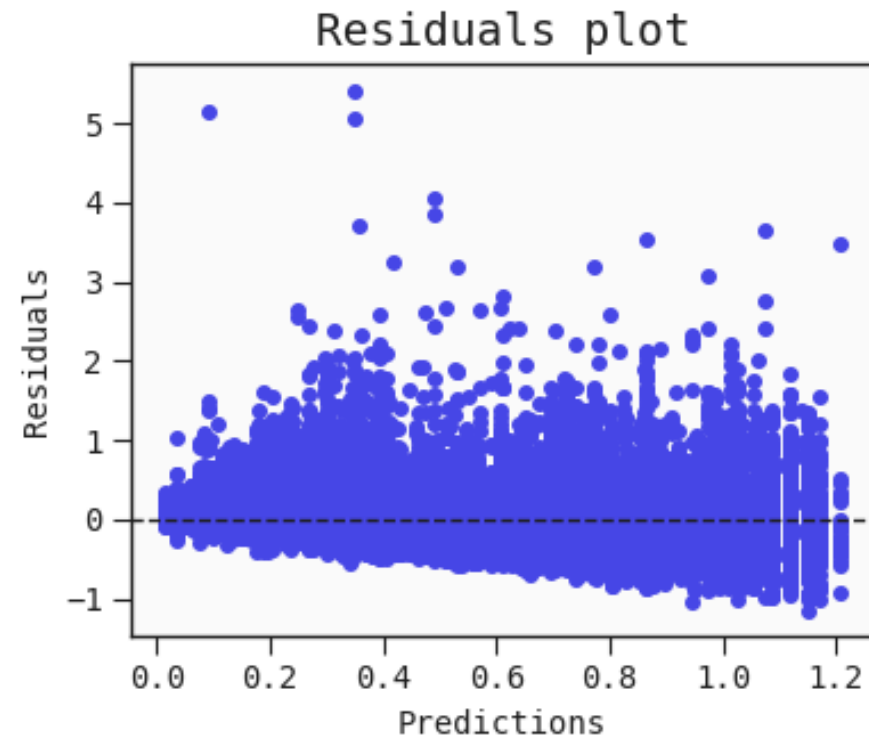
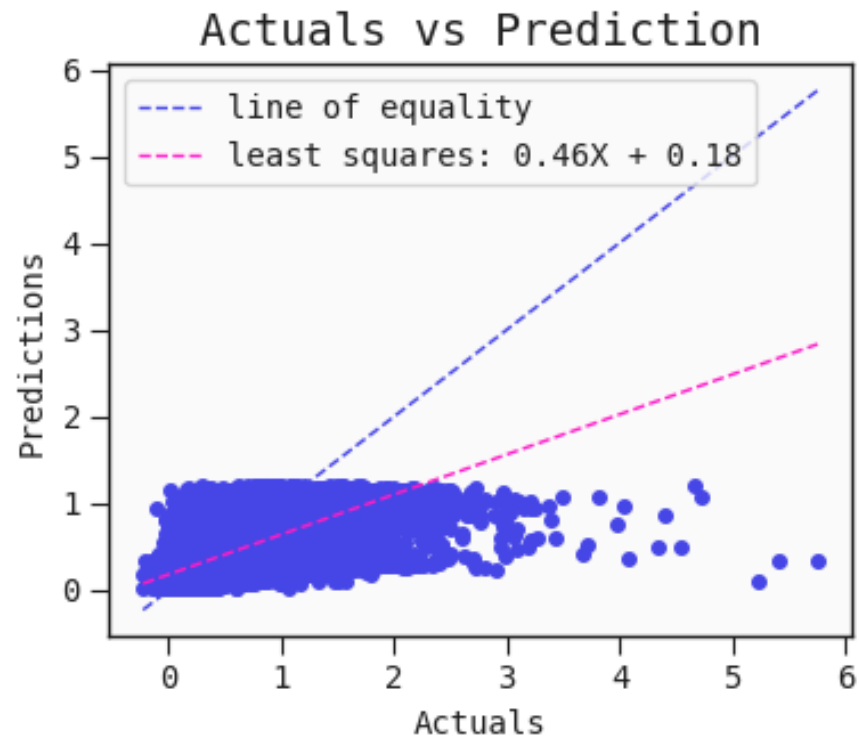


# TRAINING MATRICES

The three feature model:

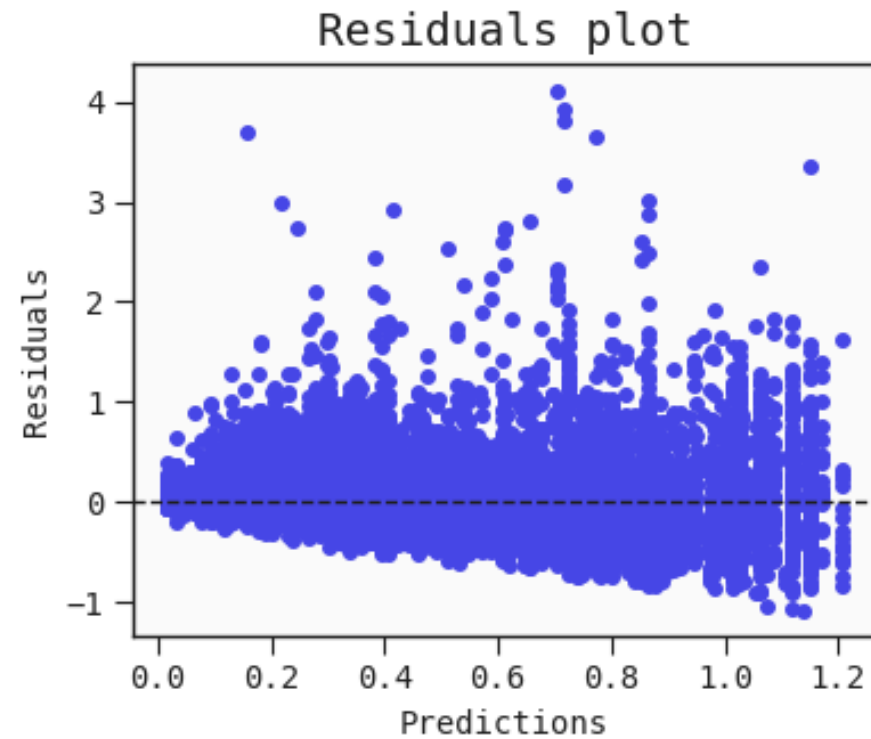
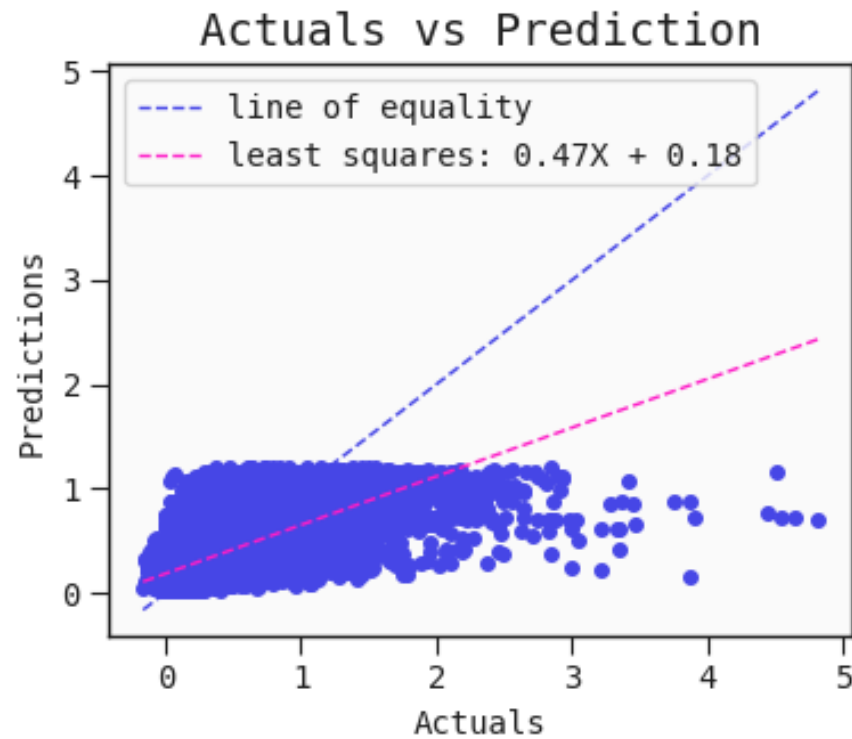


Training Metrics		Test
R2	0.464	0.479
RMSE	0.298	0.296
MAE	0.193	0.193



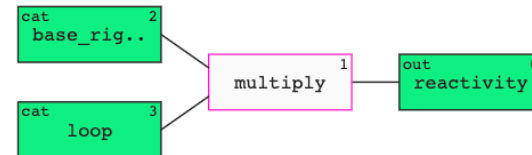


# TEST MATRICES

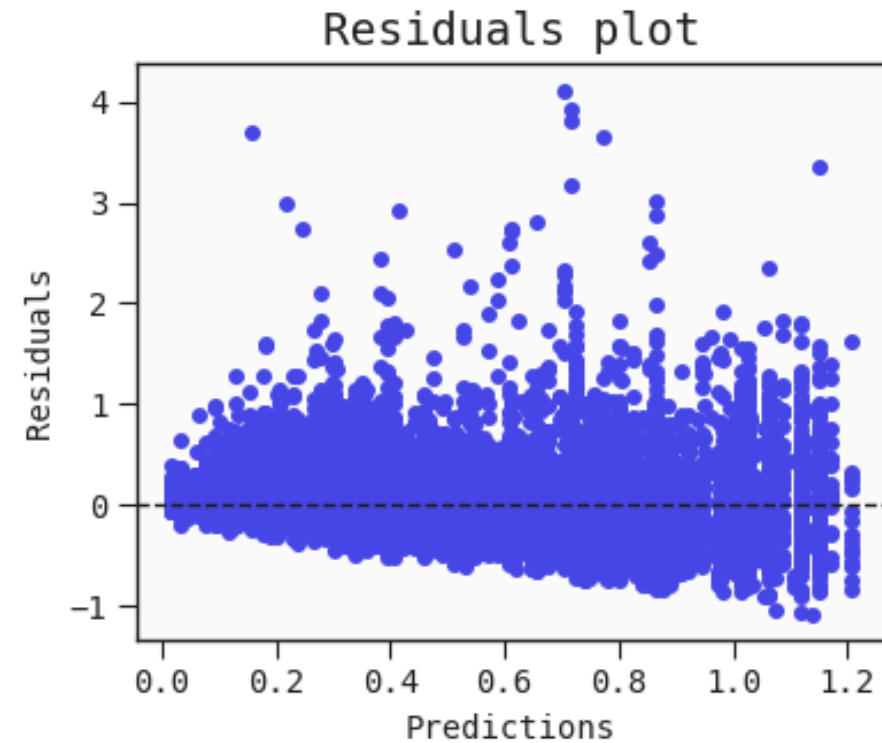
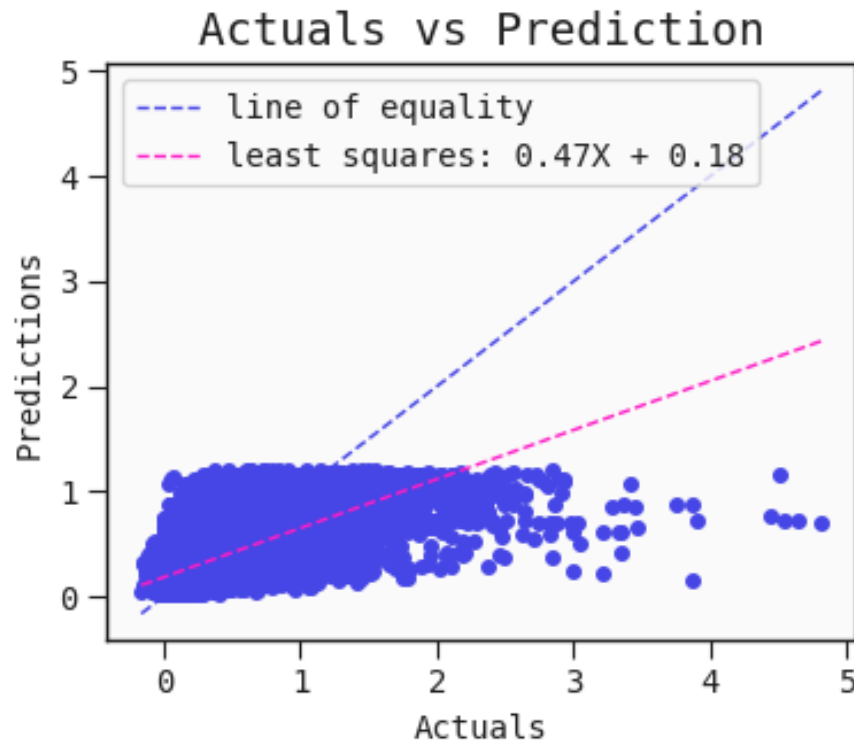


# TRAINING MATRICES

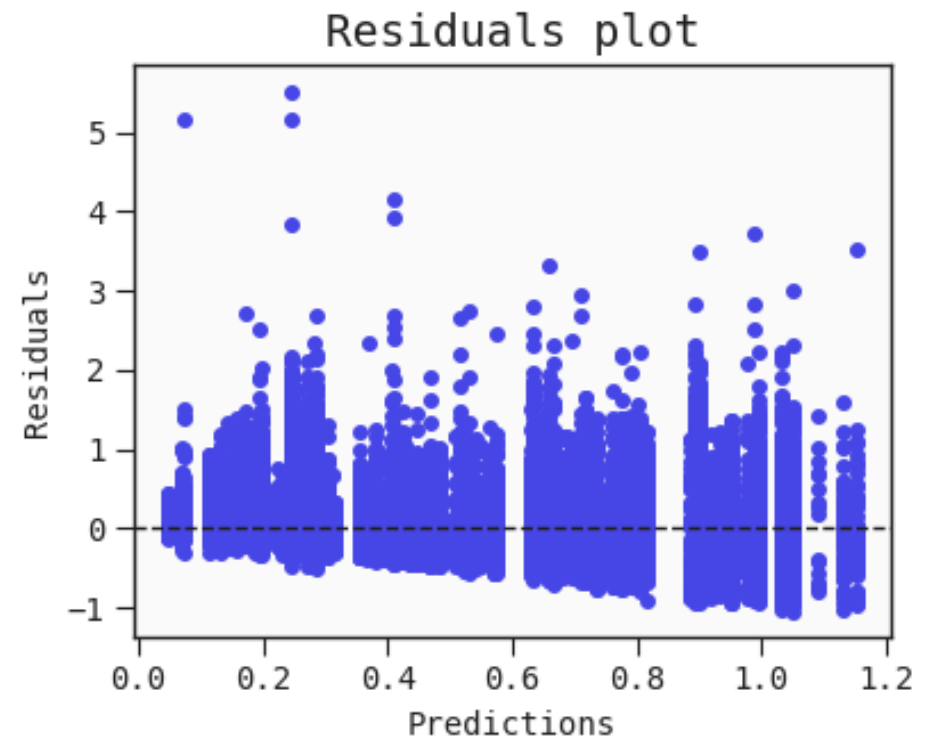
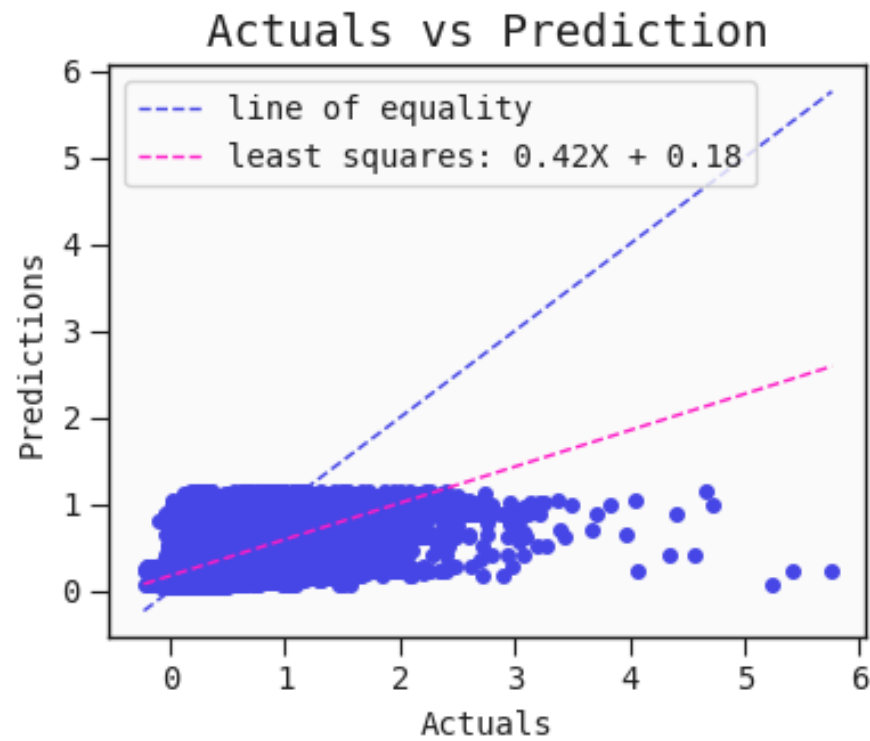
The two feature model:



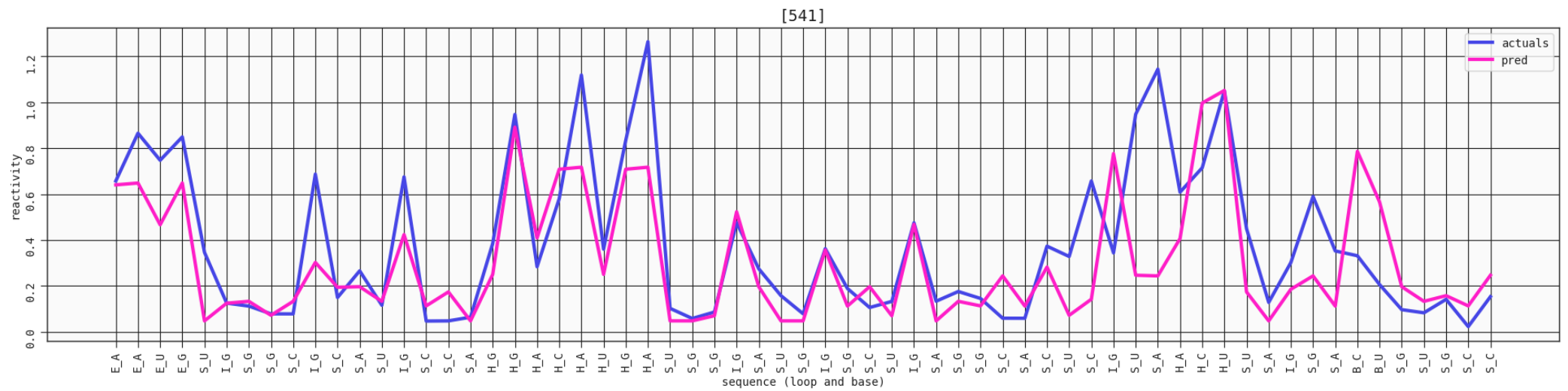
Training Metrics		Test
R2	0.423	0.444
RMSE	0.309	0.306
MAE	0.199	0.197



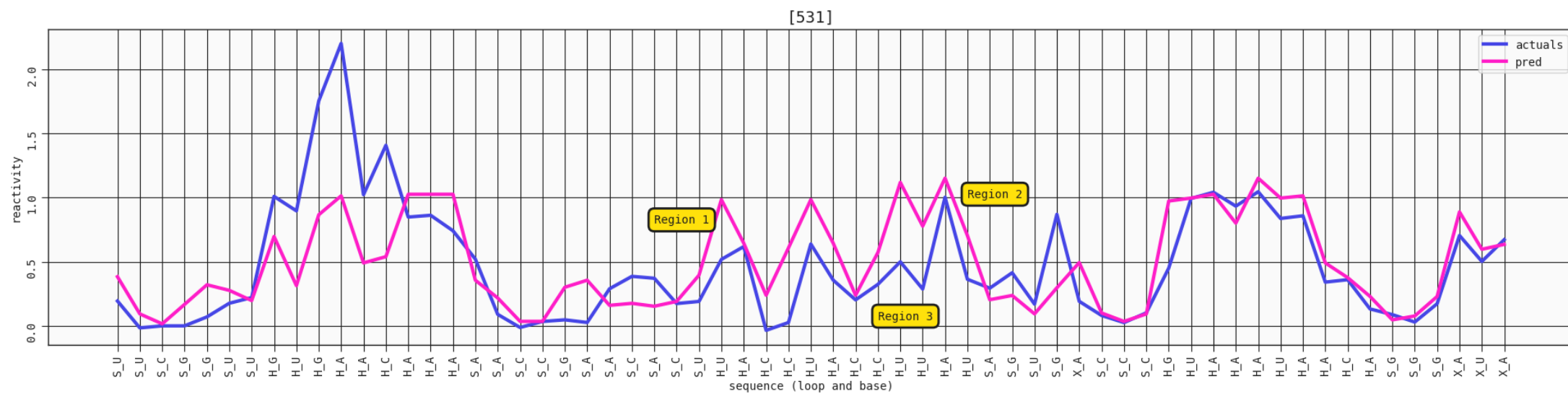
# TEST MATRICES



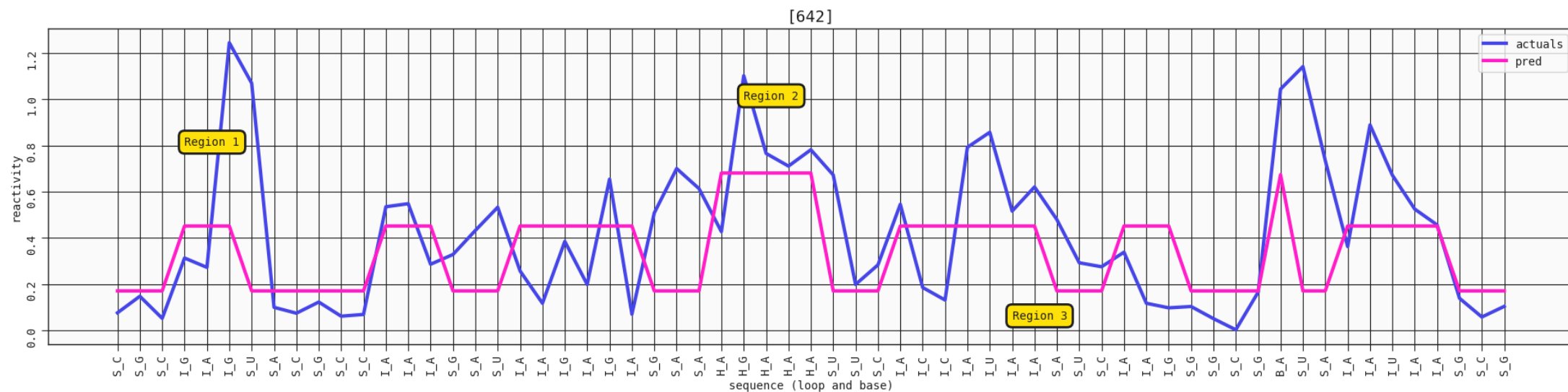
# TWO FEATURE MODEL



# THREE FEATURE MODEL



# CONSTRAINED MODEL



# BASE MODEL

