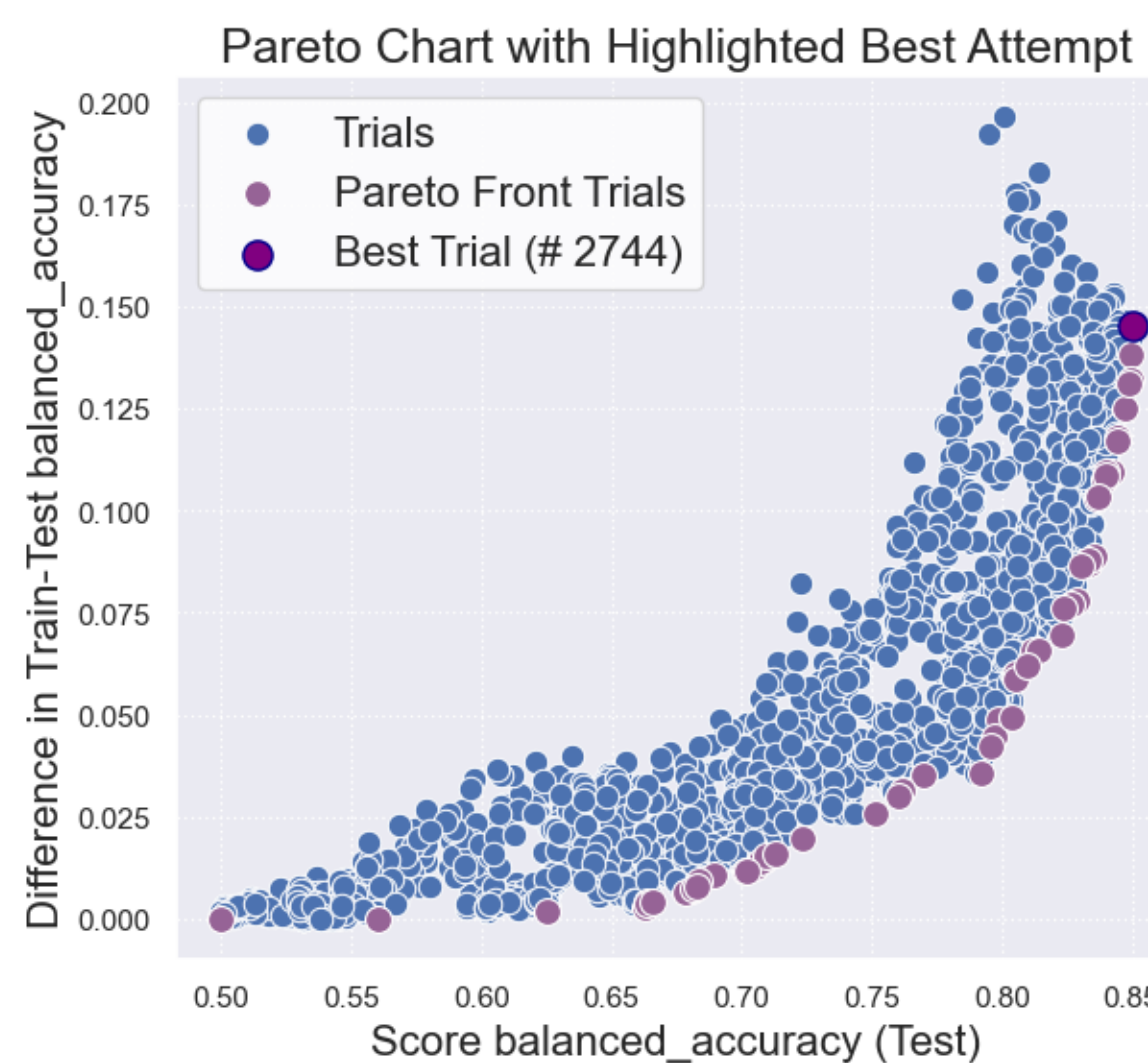
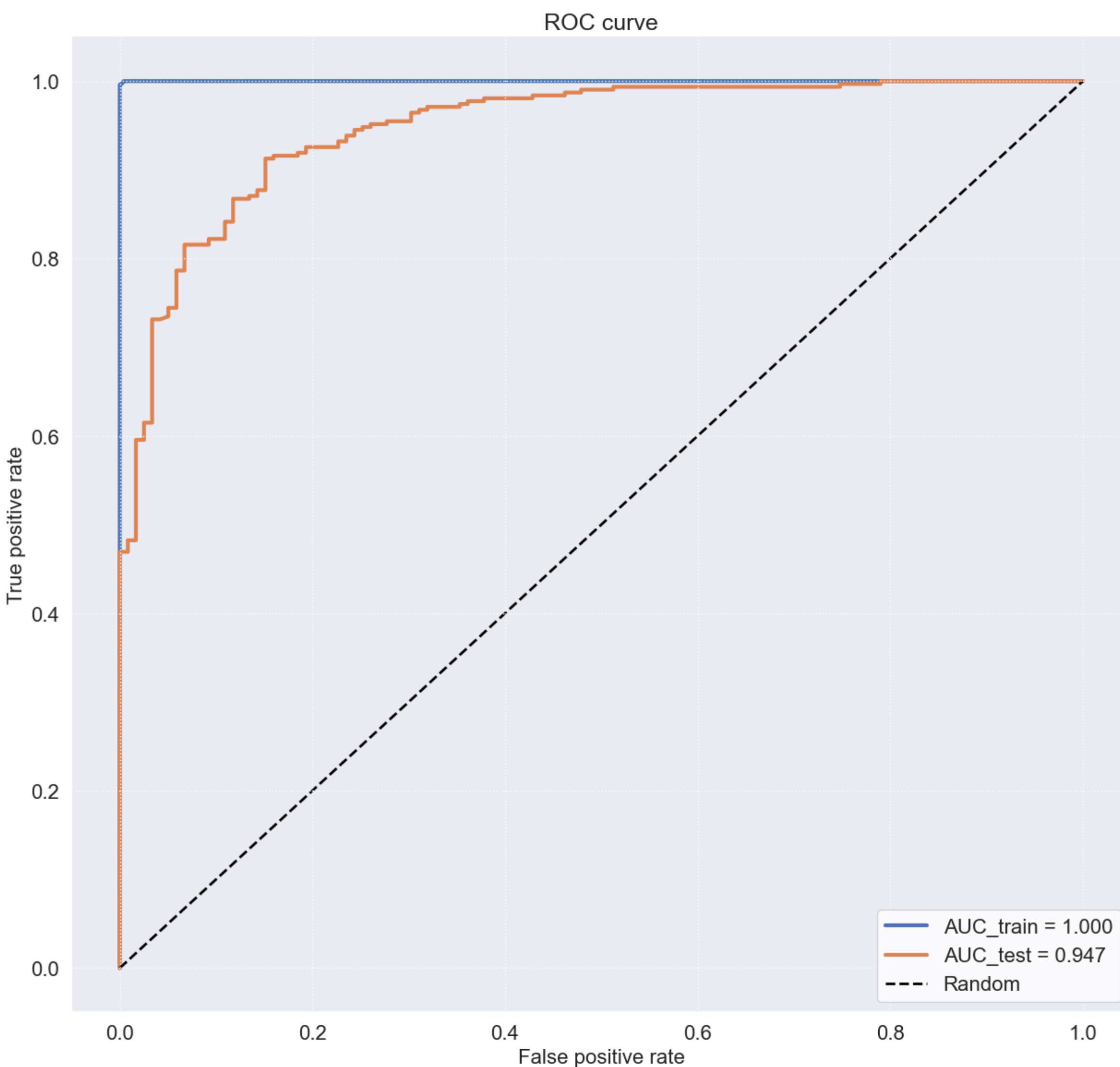
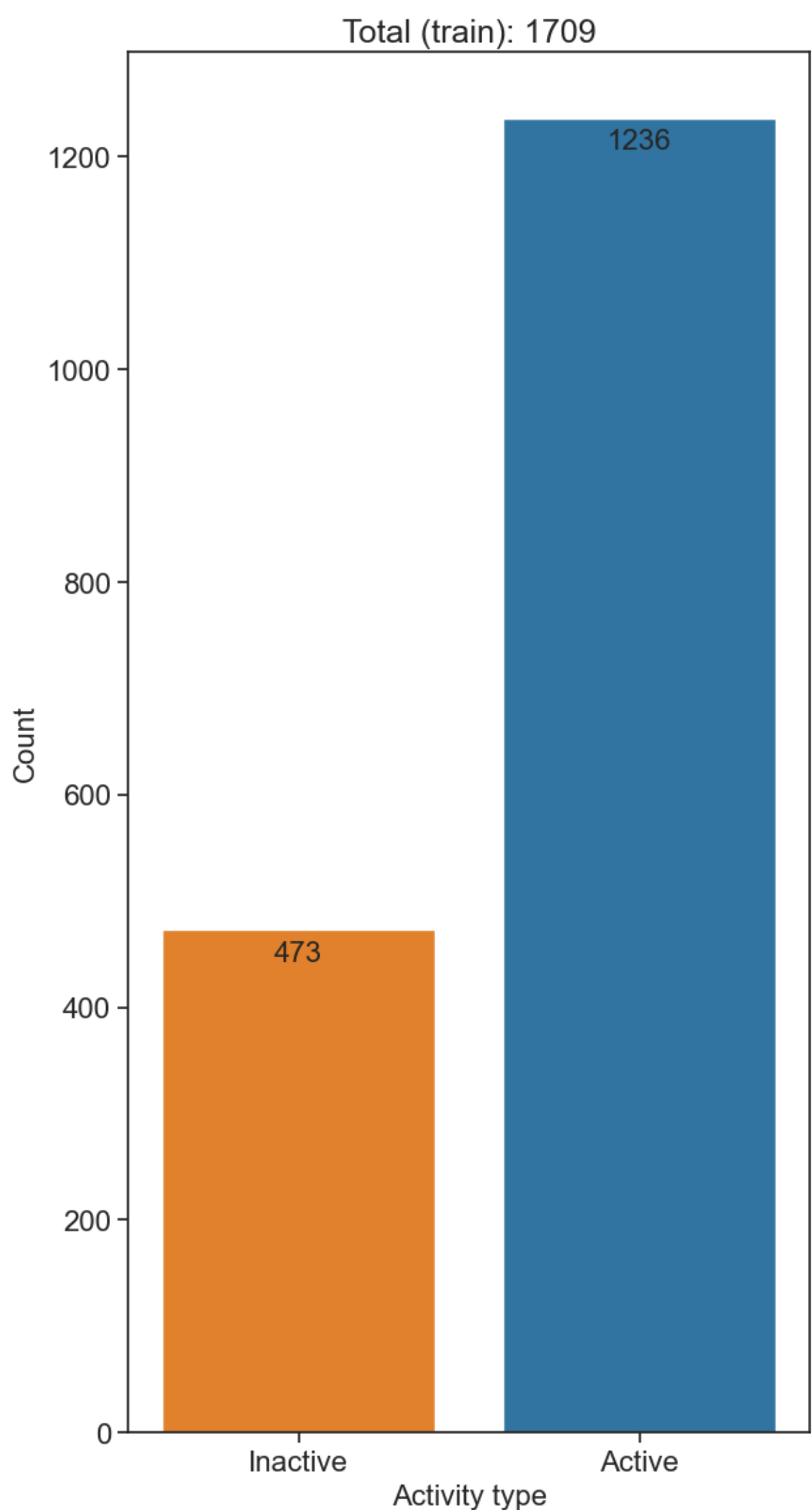
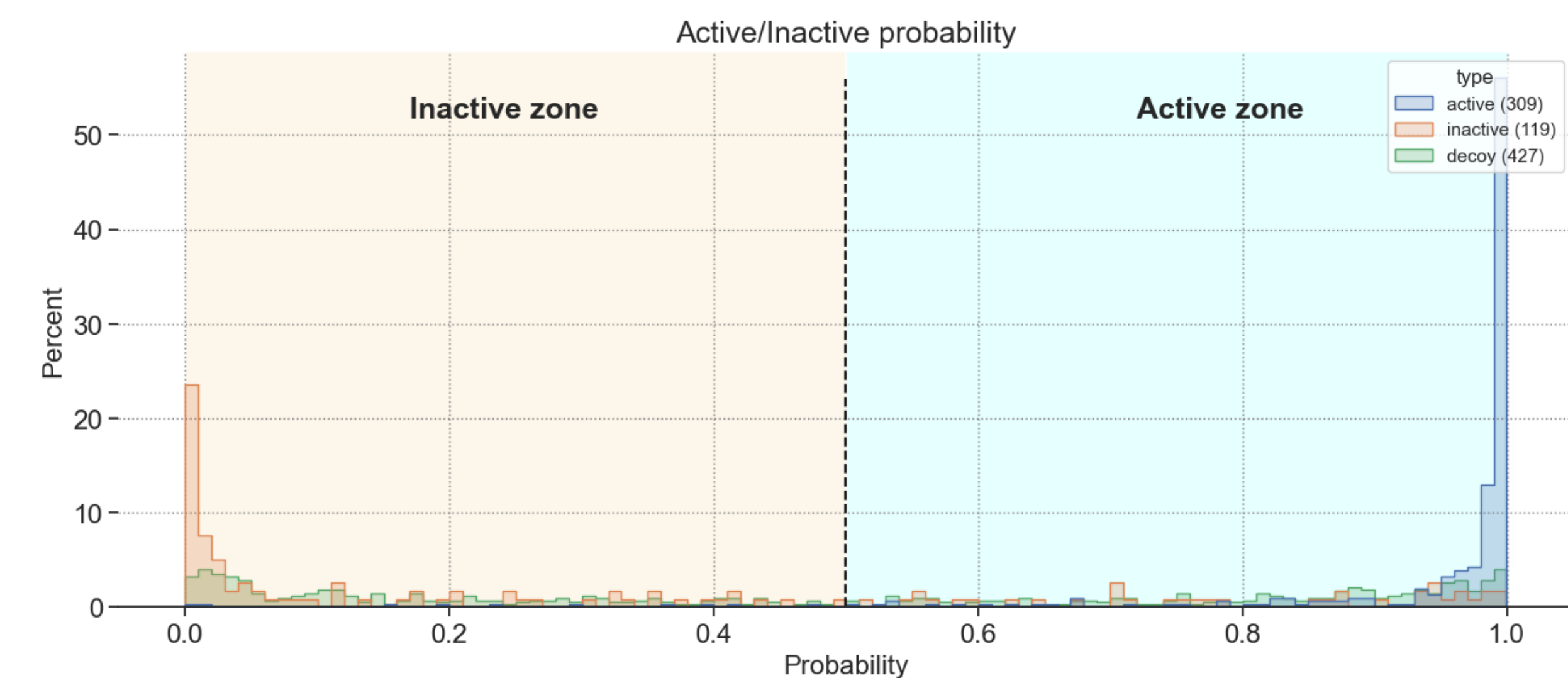
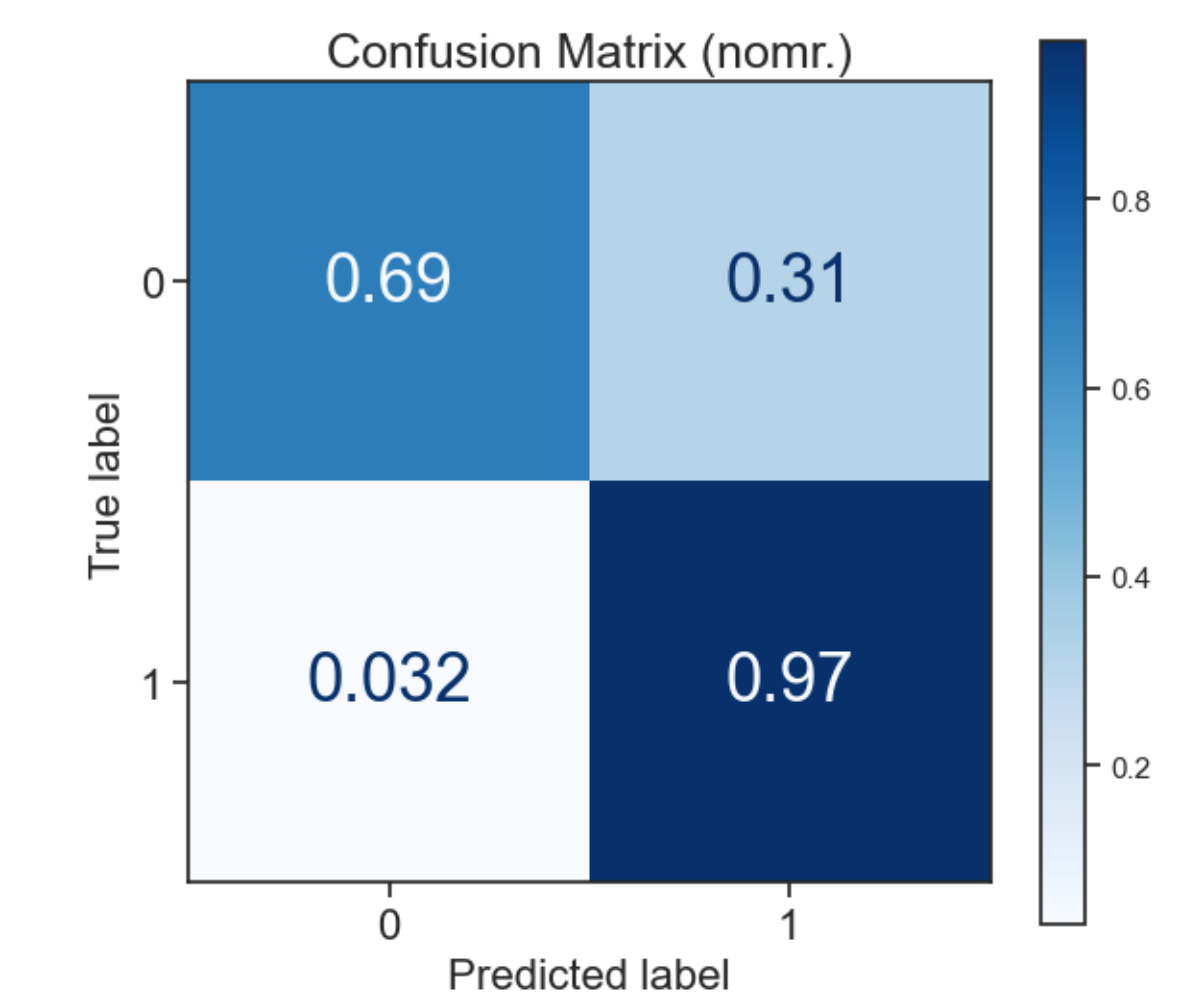
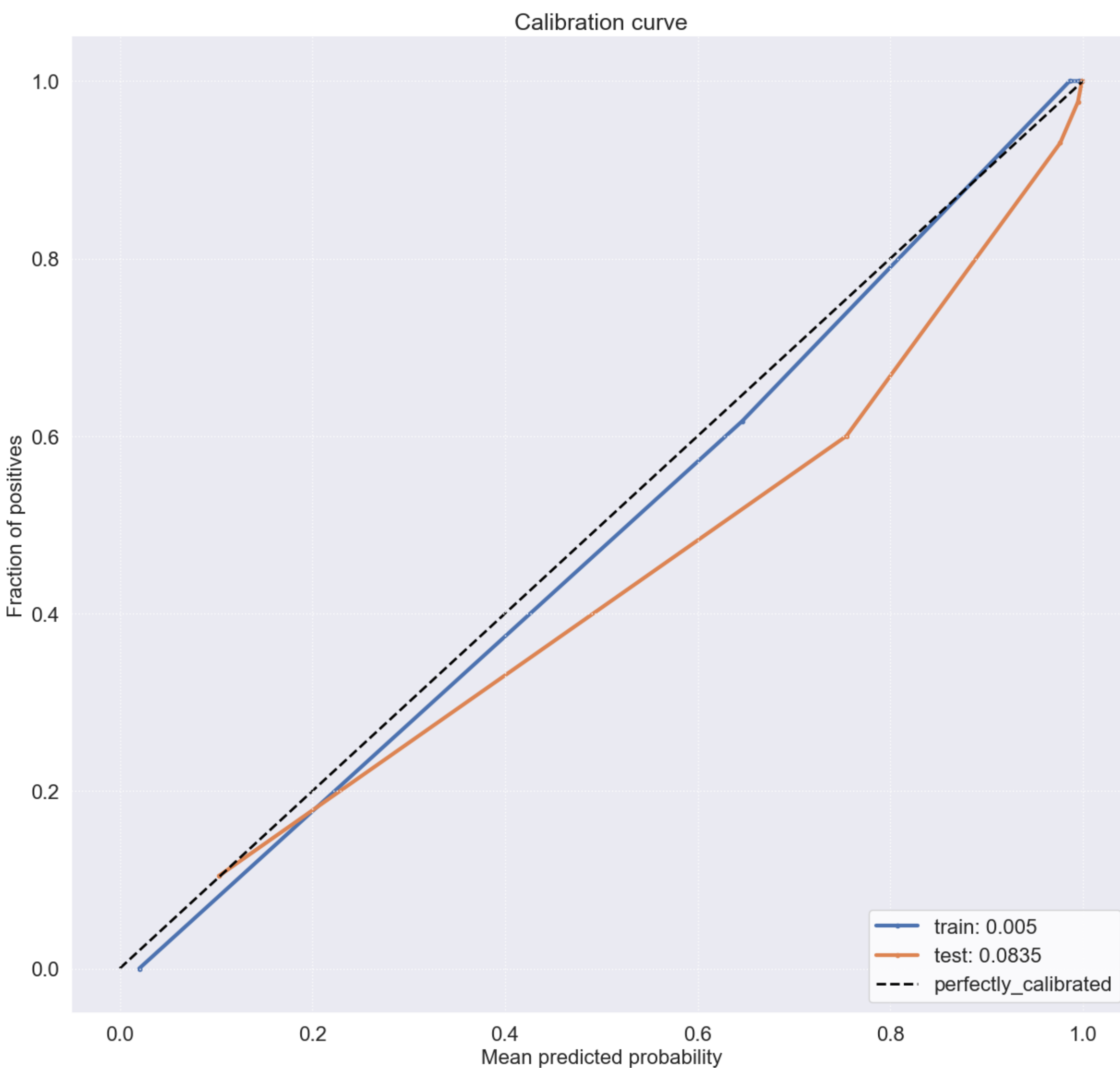
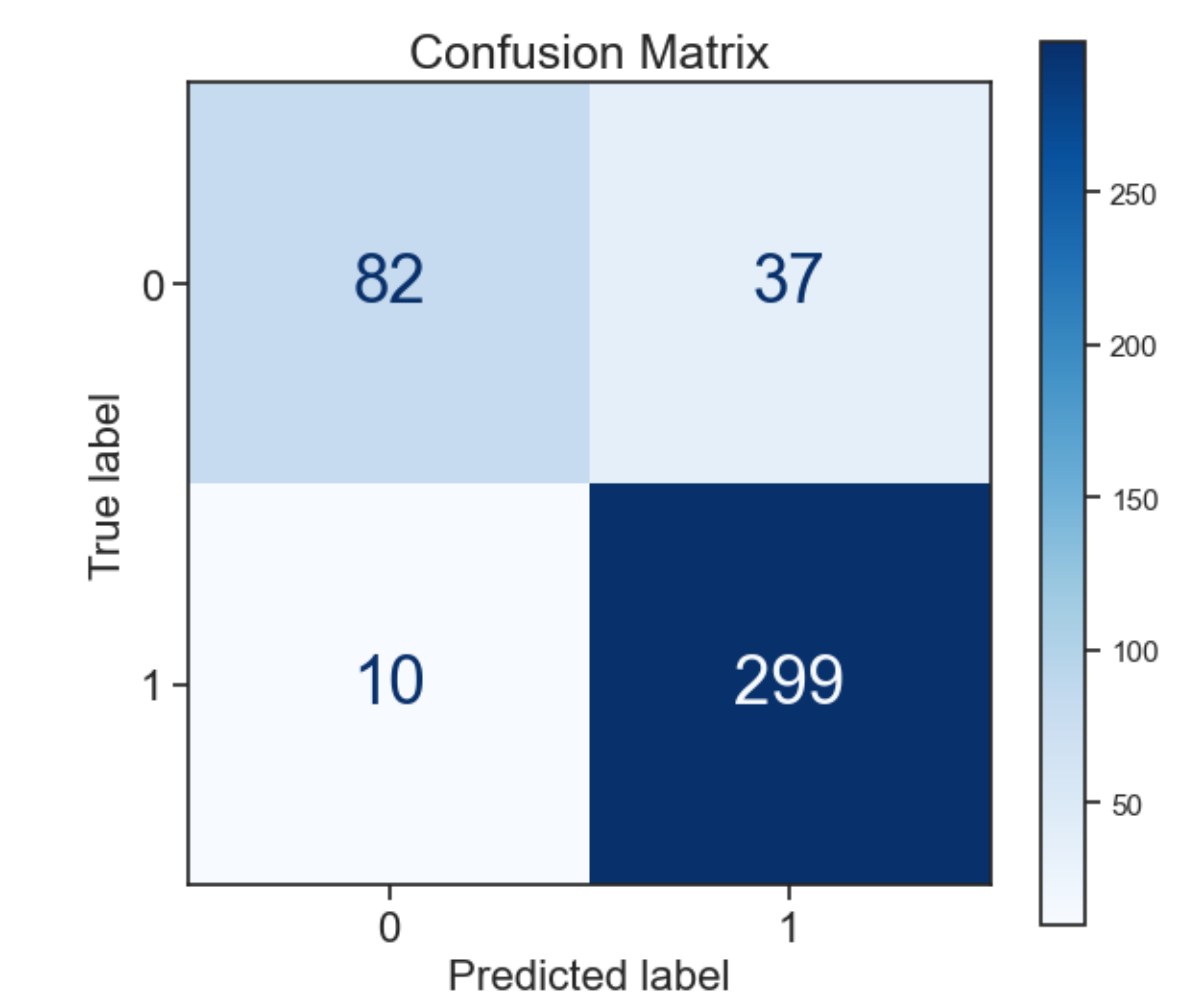


Protein: O43614 - metric: balanced_accuracy

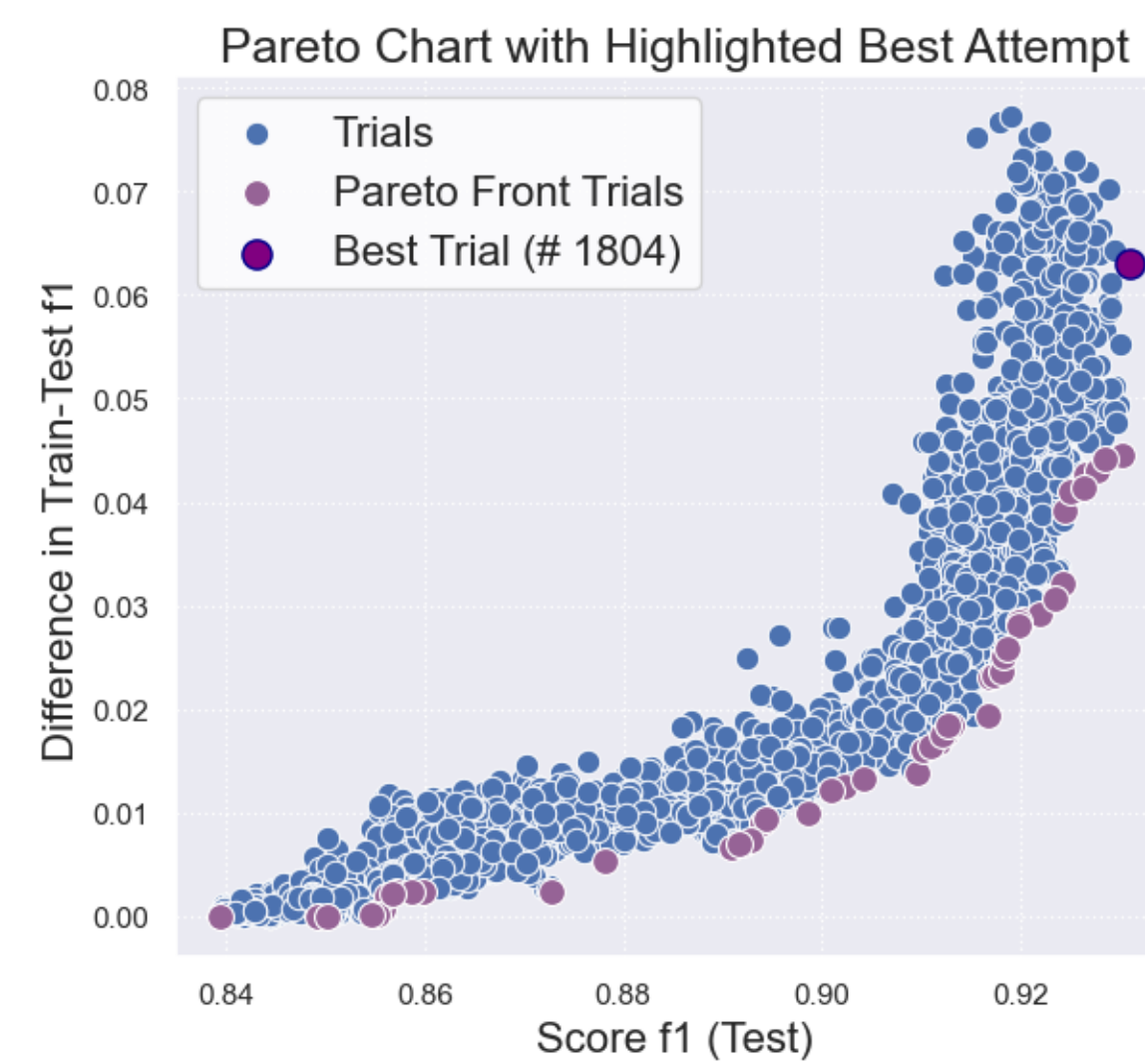
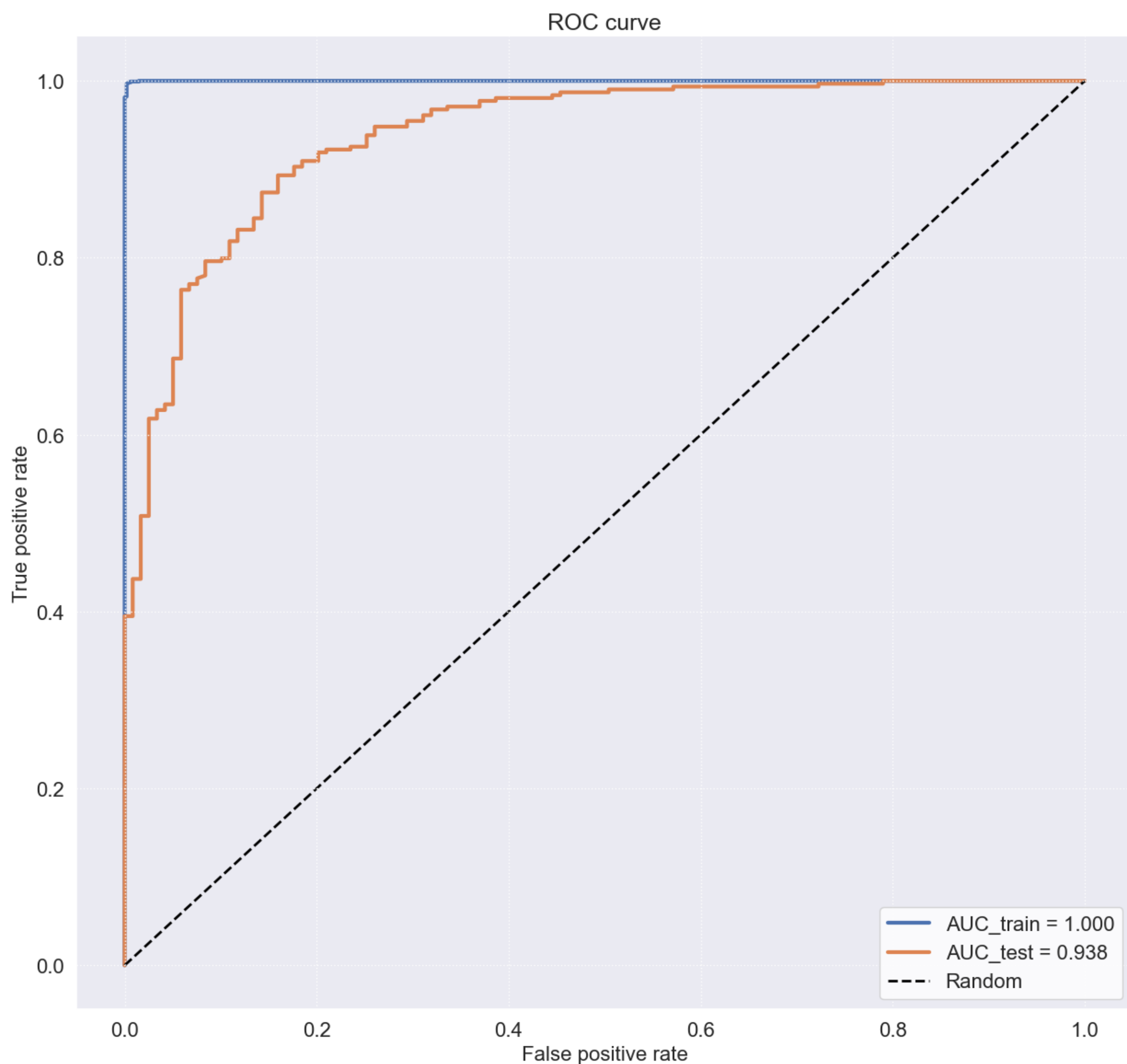
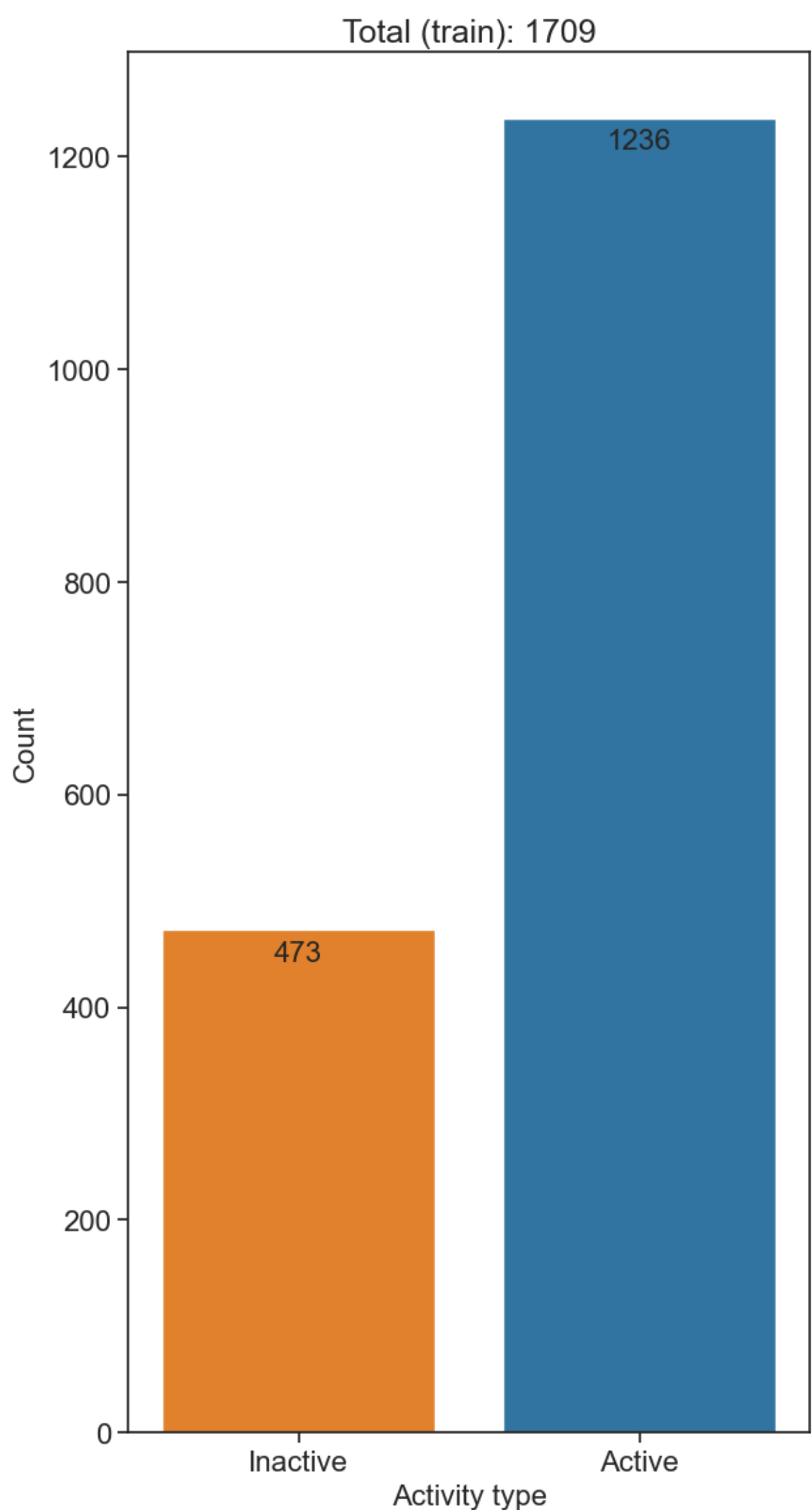


| XGBoost Parameters | Value |
|--------------------|--------|
| alpha | 3.1625 |
| colsample_bytree | 0.5865 |
| gamma | 0.0291 |
| lambda | 2.012 |
| learning_rate | 0.0591 |
| max_depth | 10.0 |
| min_child_weight | 1.0 |
| n_estimators | 770.0 |
| reg_alpha | 0.3664 |
| reg_lambda | 0.4586 |
| scale_pos_weight | 1.51 |
| subsample | 0.6147 |

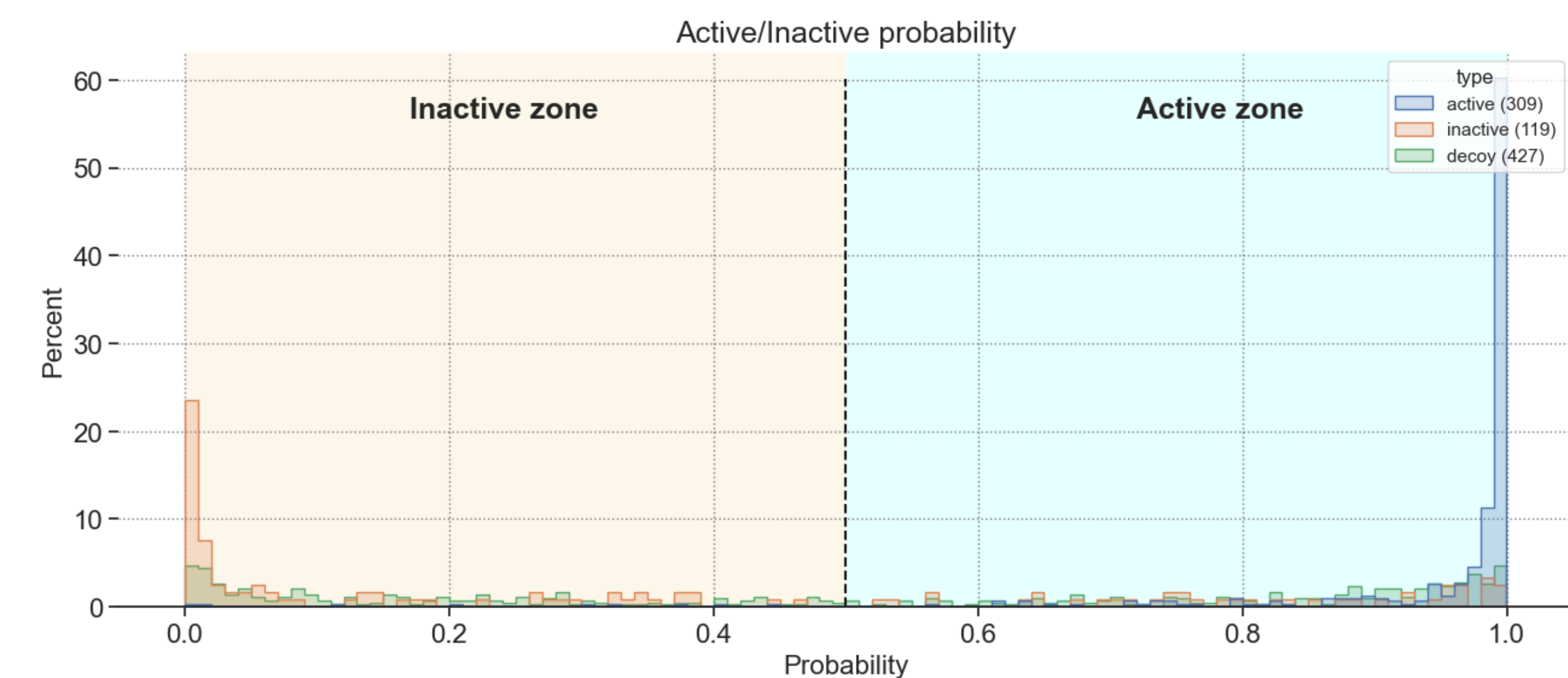
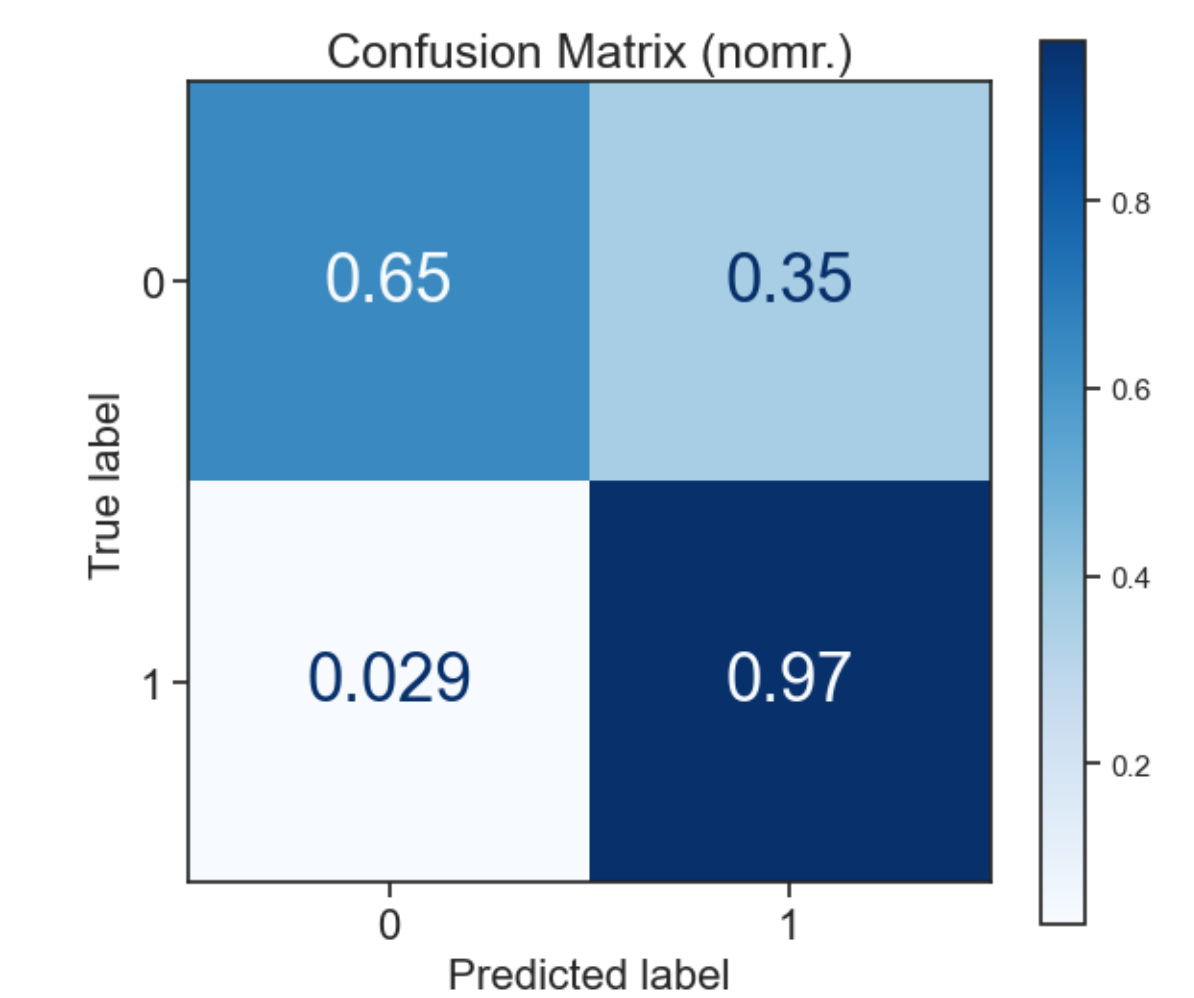
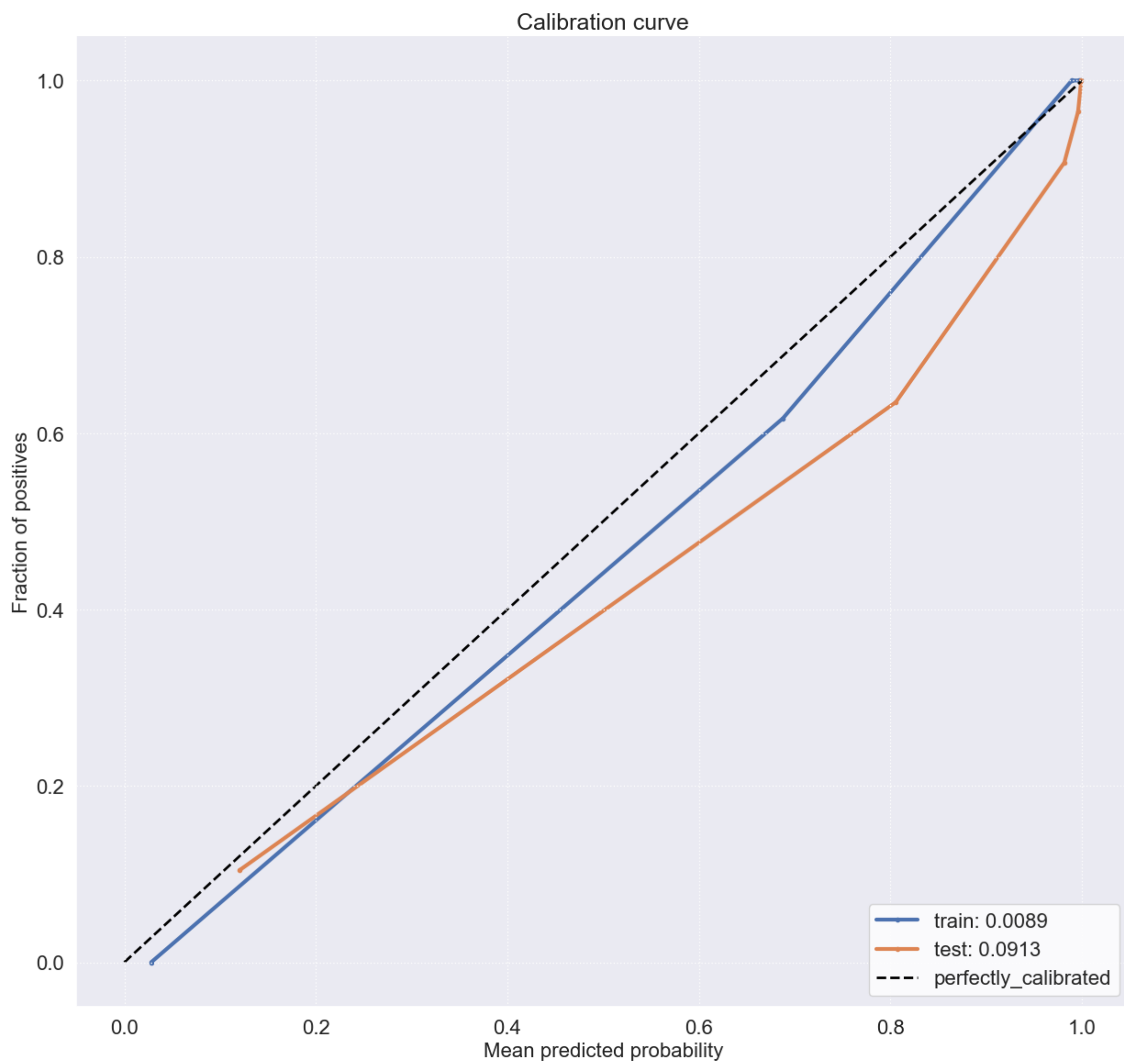
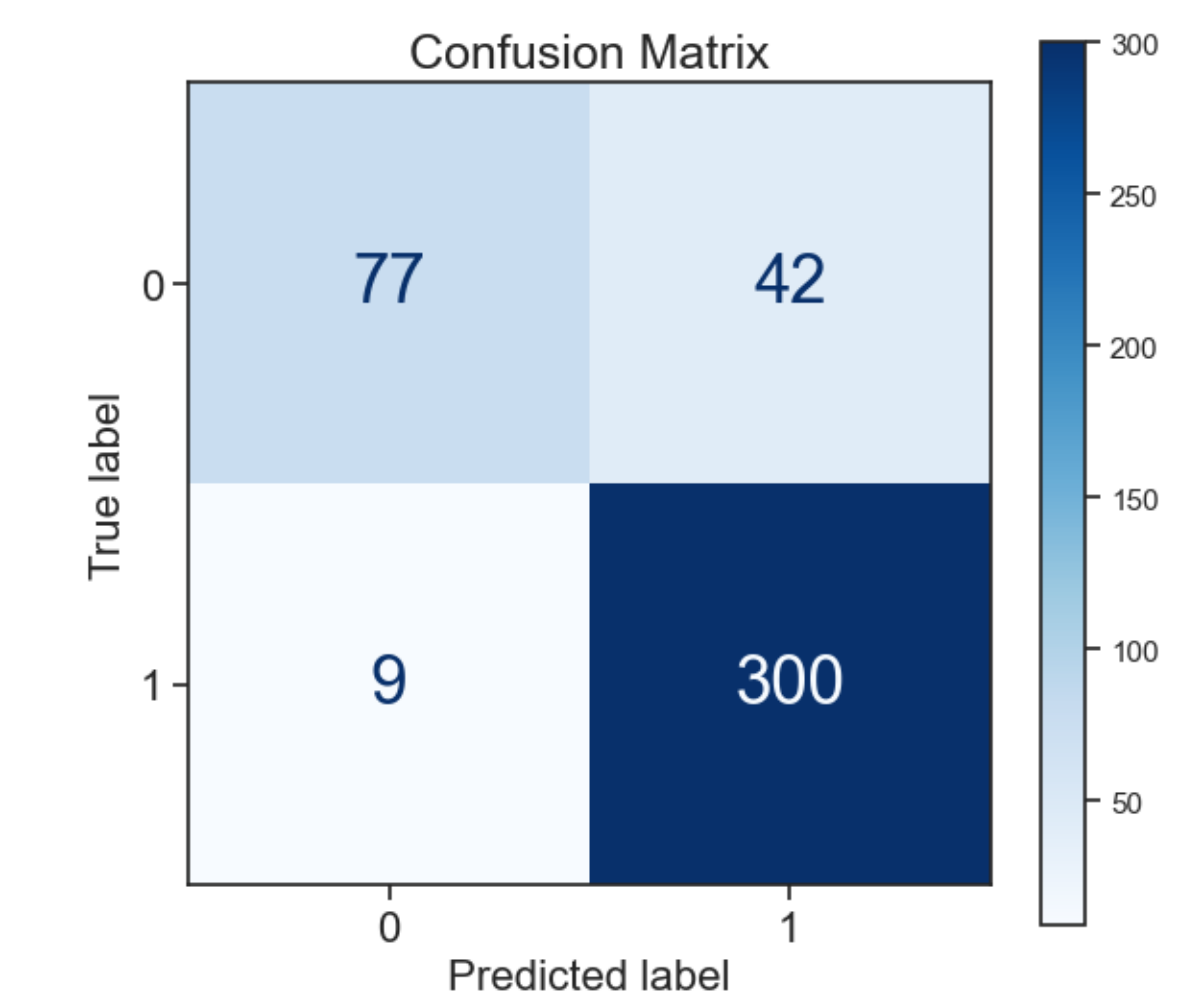


| Metric | Train | Test |
|-------------------|--------|--------|
| AUC | 1.0 | 0.9469 |
| accuracy | 0.9965 | 0.8902 |
| balanced accuracy | 0.9937 | 0.8284 |
| recall_(sens) | 1.0 | 0.9676 |
| specificity | 0.9873 | 0.6891 |
| precision | 0.9952 | 0.8899 |
| f1_score | 0.9965 | 0.8855 |

Protein: O43614 - metric: f1

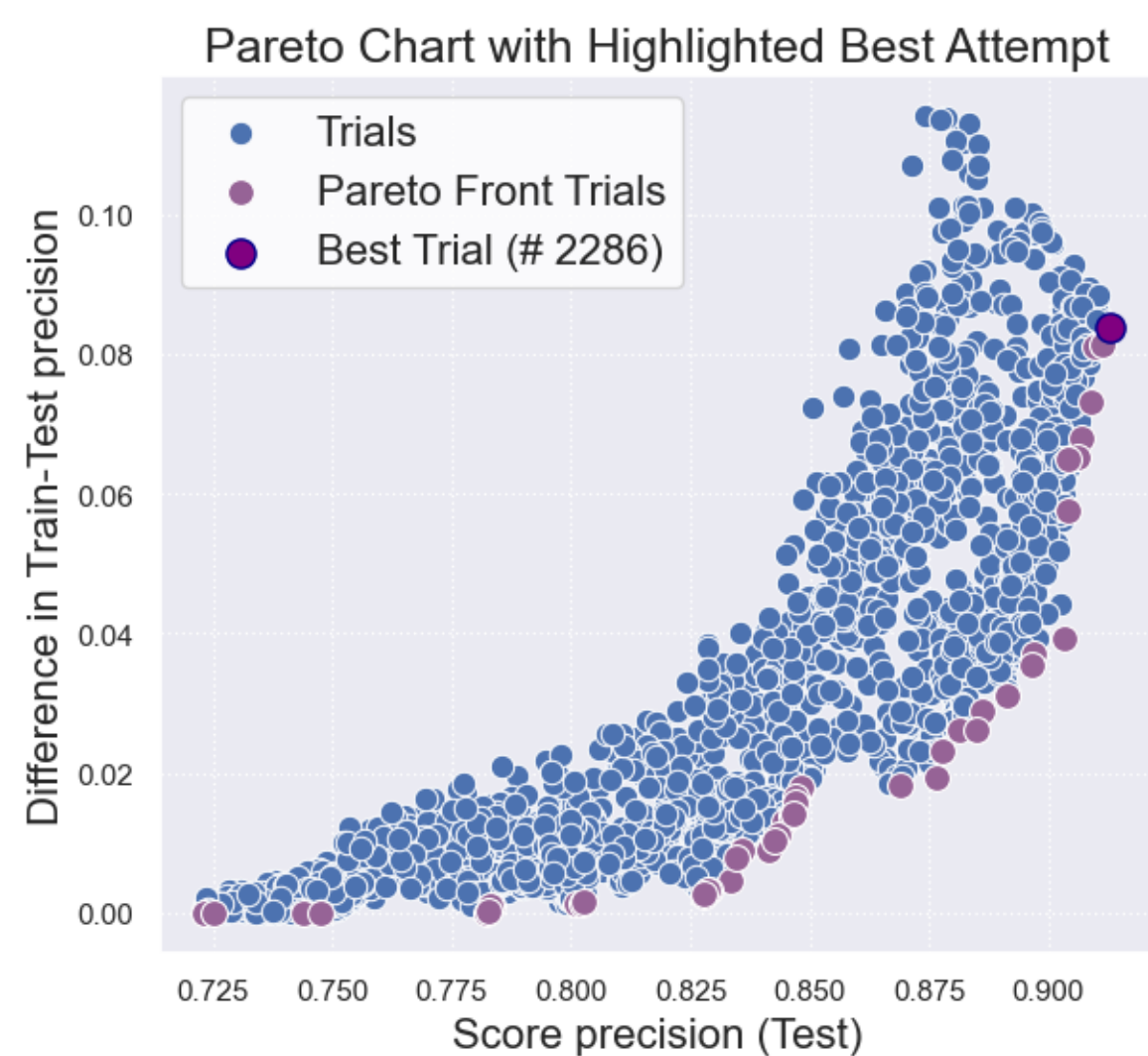
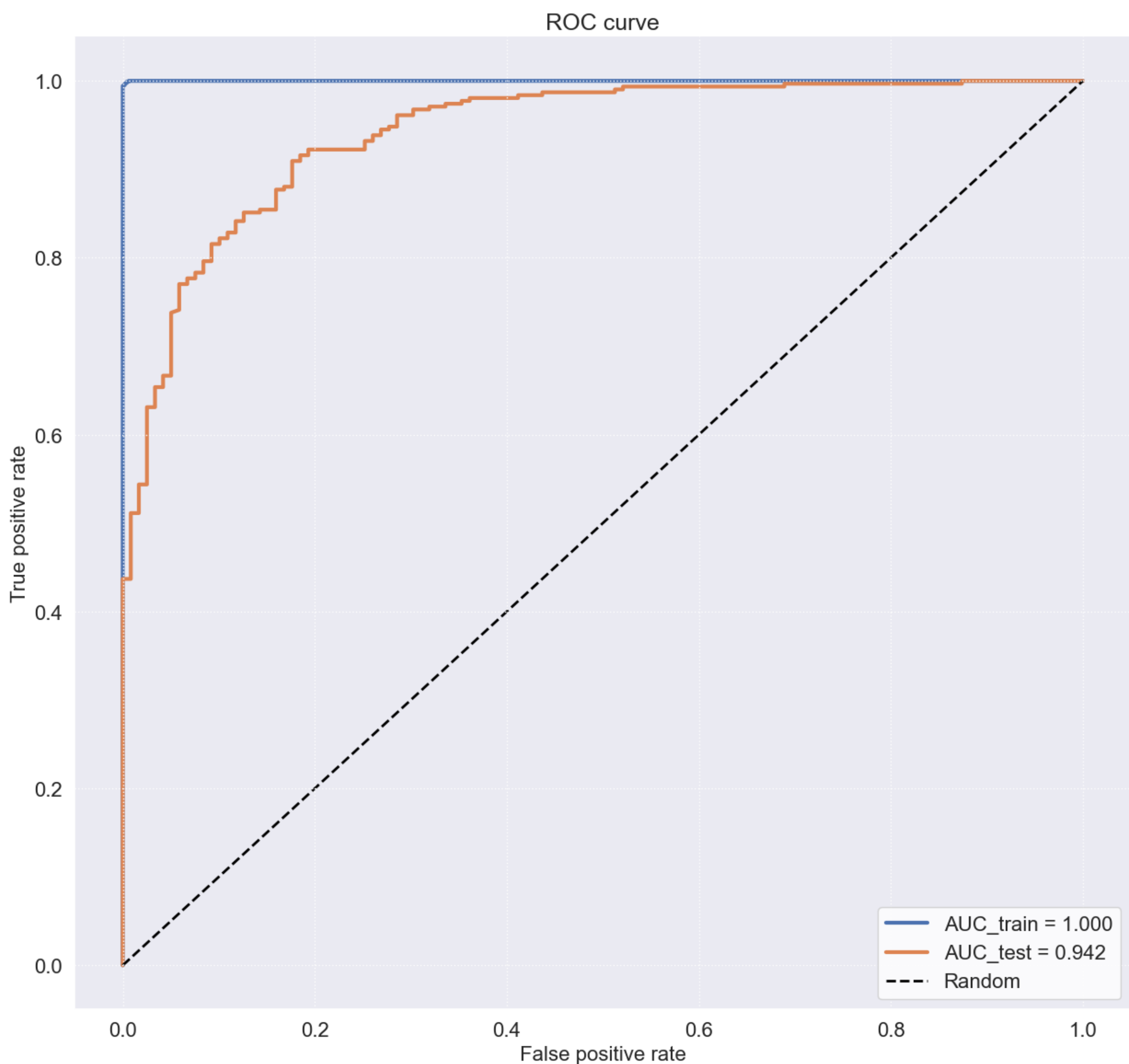
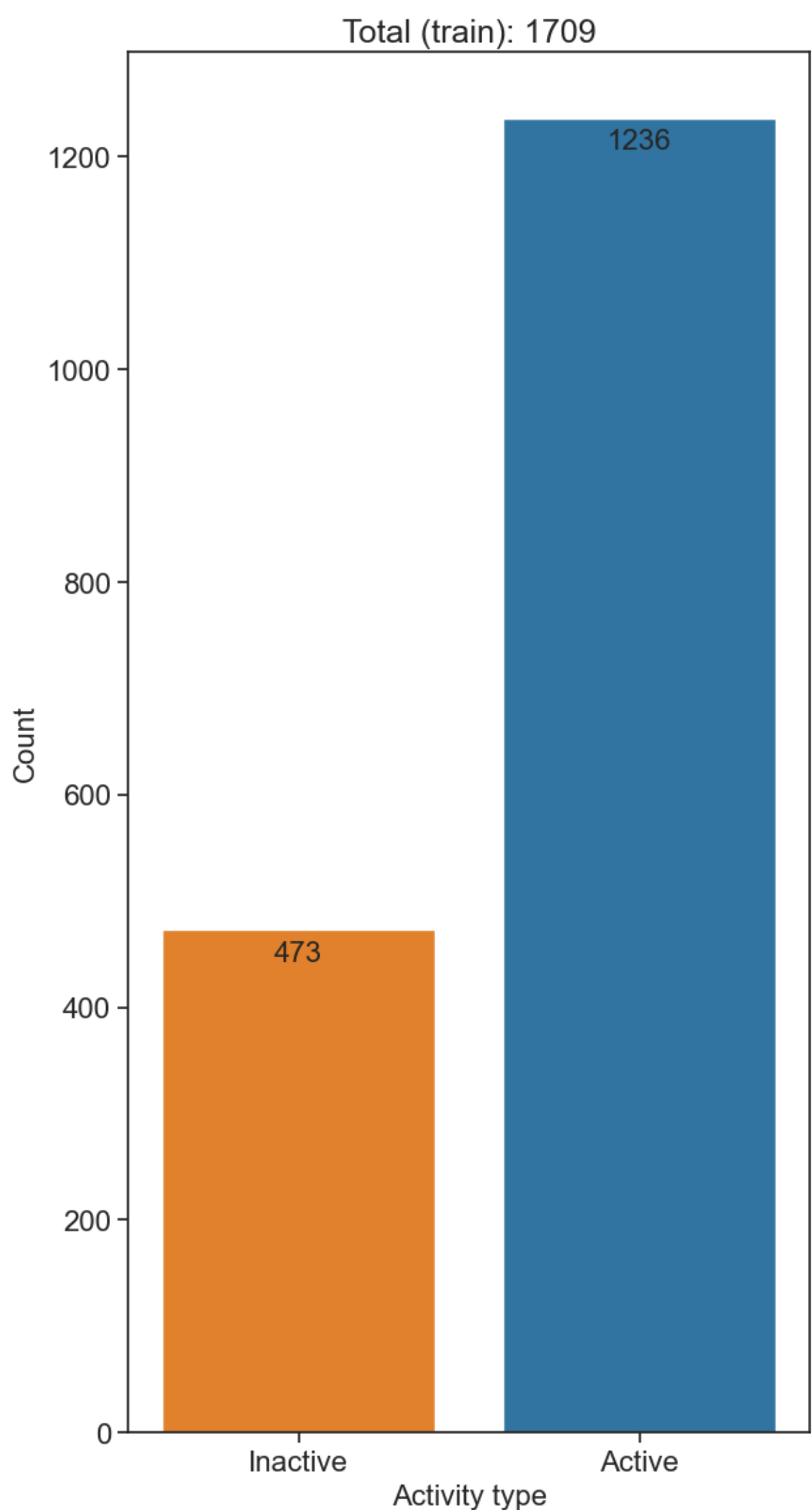


| XGBoost Parameters | Value |
|--------------------|--------|
| alpha | 4.8206 |
| colsample_bytree | 0.5035 |
| gamma | 0.0464 |
| lambda | 1.1819 |
| learning_rate | 0.087 |
| max_depth | 10.0 |
| min_child_weight | 4.0 |
| n_estimators | 968.0 |
| reg_alpha | 0.2787 |
| reg_lambda | 0.1302 |
| scale_pos_weight | 2.8238 |
| subsample | 0.9695 |

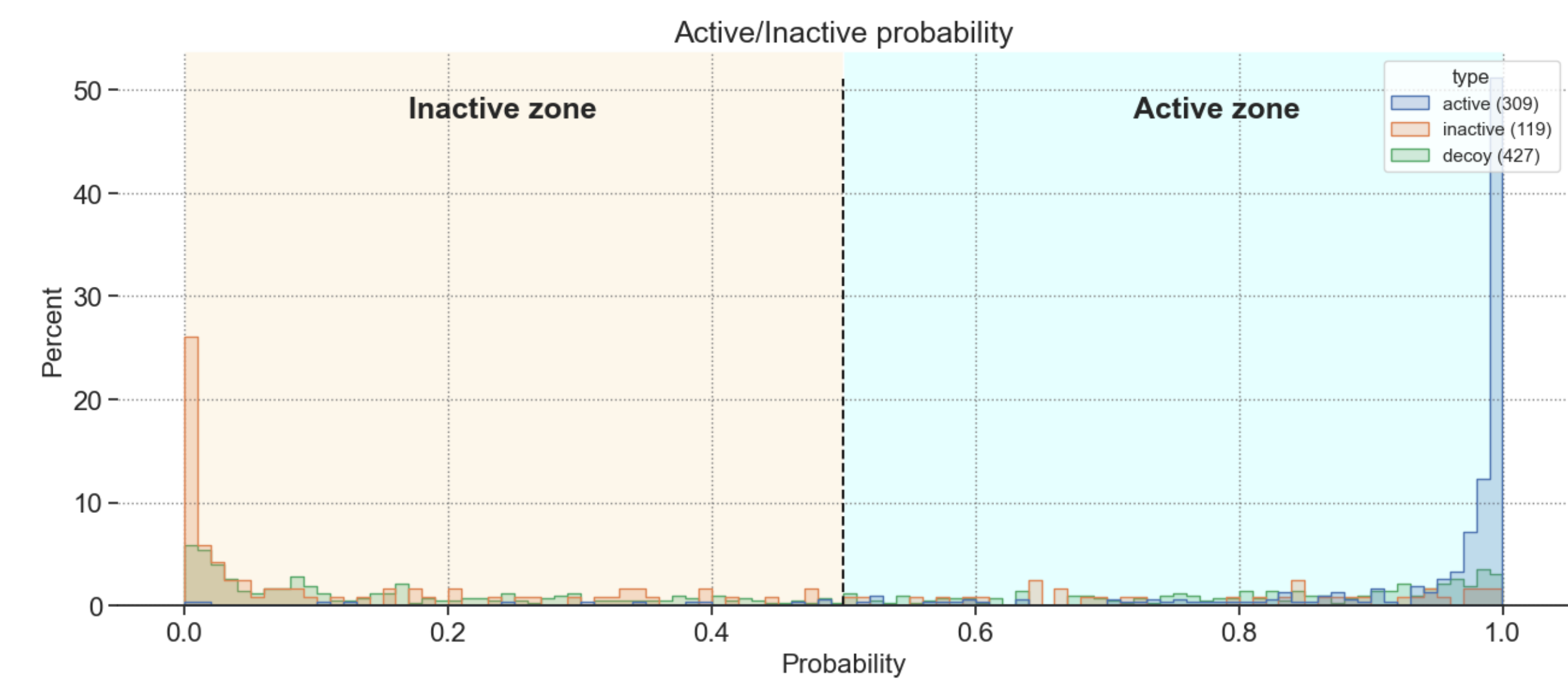
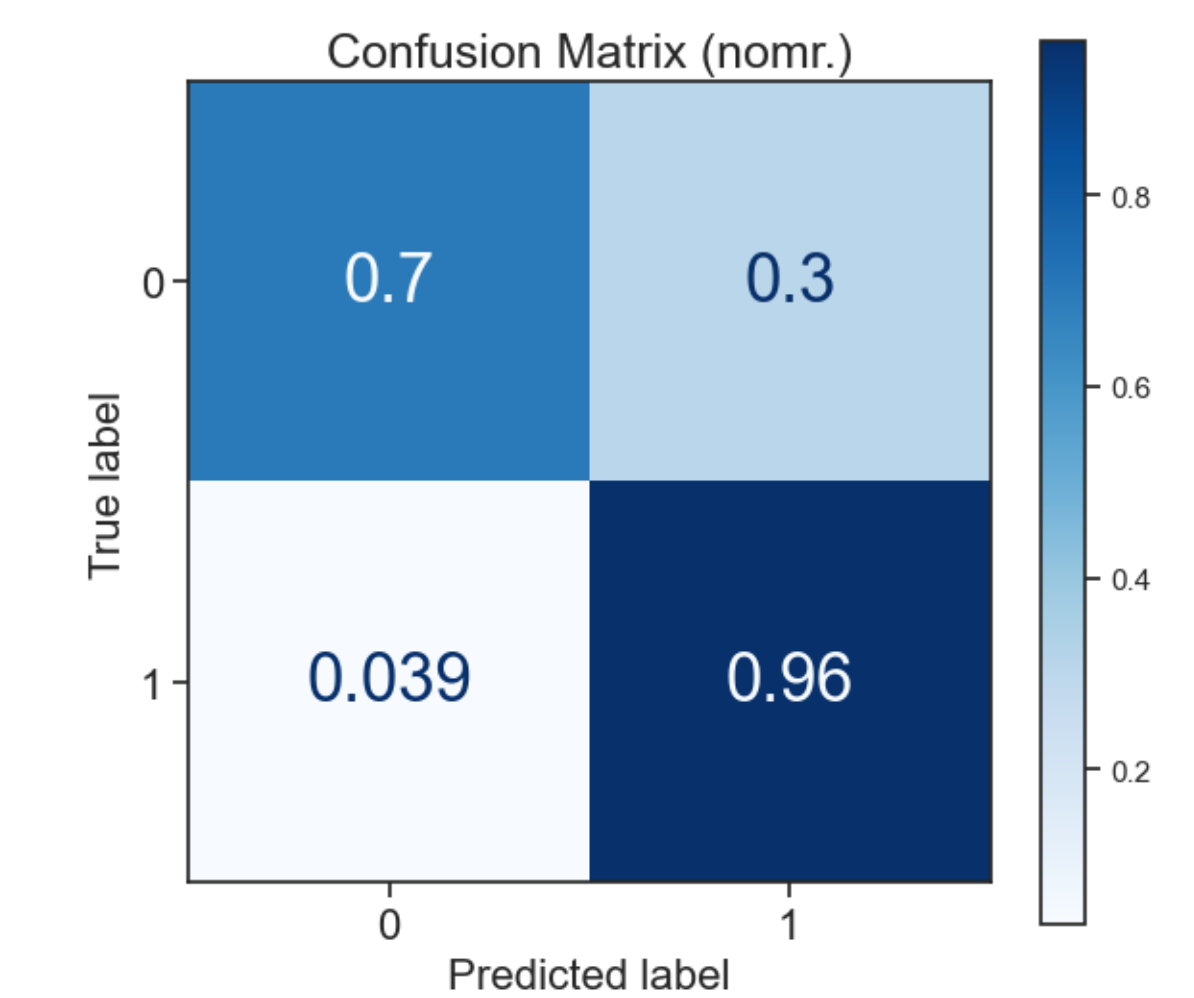
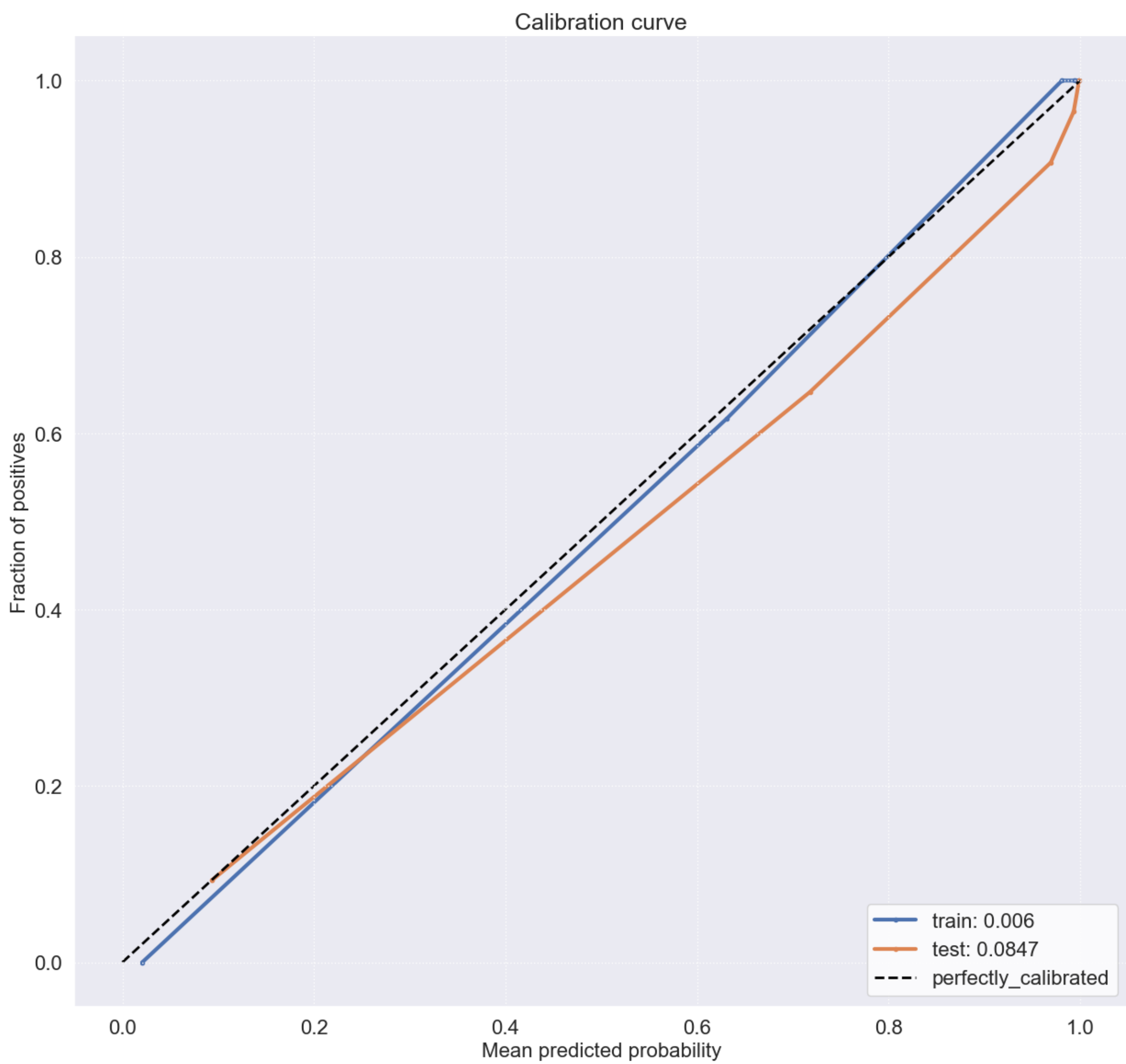
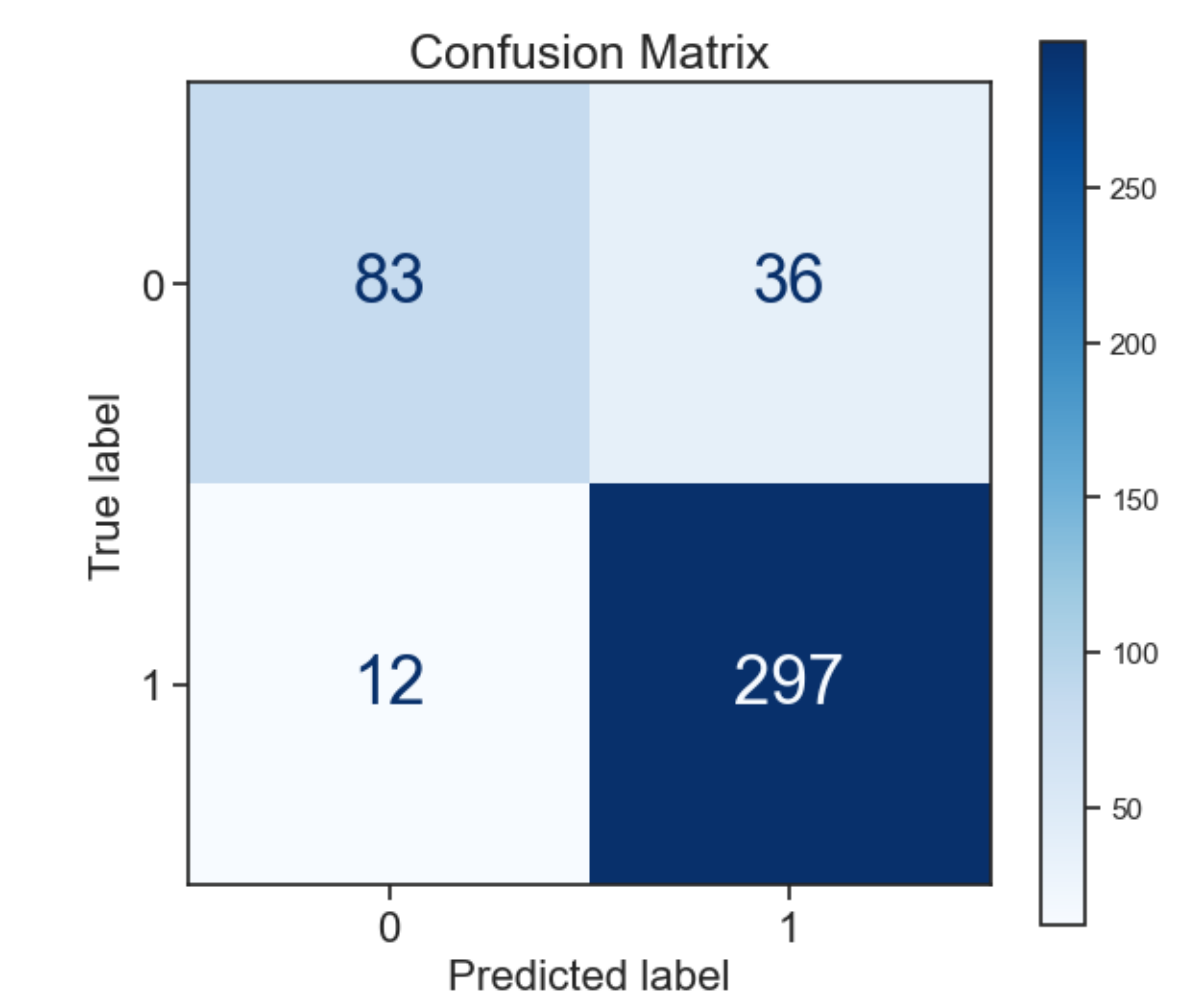


| Metric | Train | Test |
|-------------------|--------|--------|
| AUC | 0.9999 | 0.9383 |
| accuracy | 0.9906 | 0.8808 |
| balanced accuracy | 0.9831 | 0.809 |
| recall_(sens) | 1.0 | 0.9709 |
| specificity | 0.9662 | 0.6471 |
| precision | 0.9872 | 0.8772 |
| f1_score | 0.9906 | 0.8743 |

Protein: O43614 - metric: precision

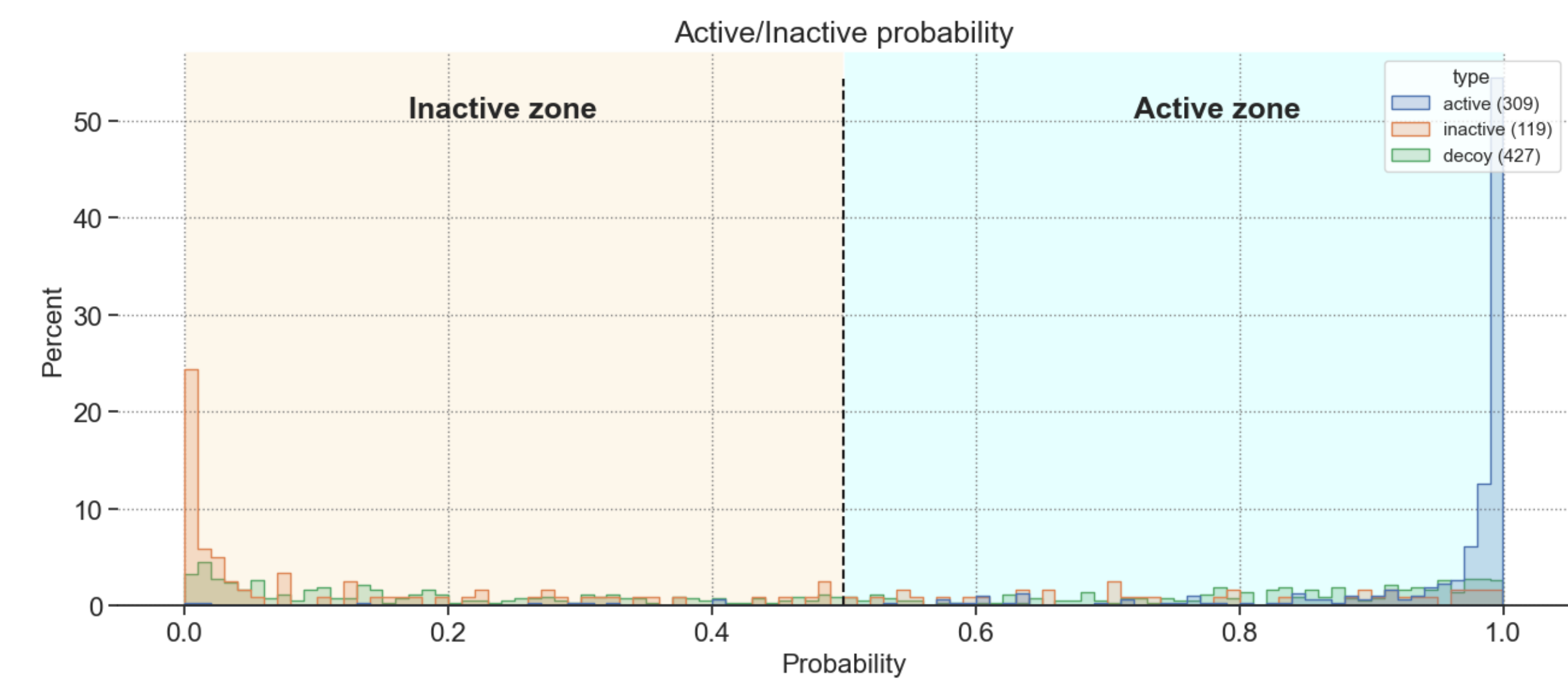
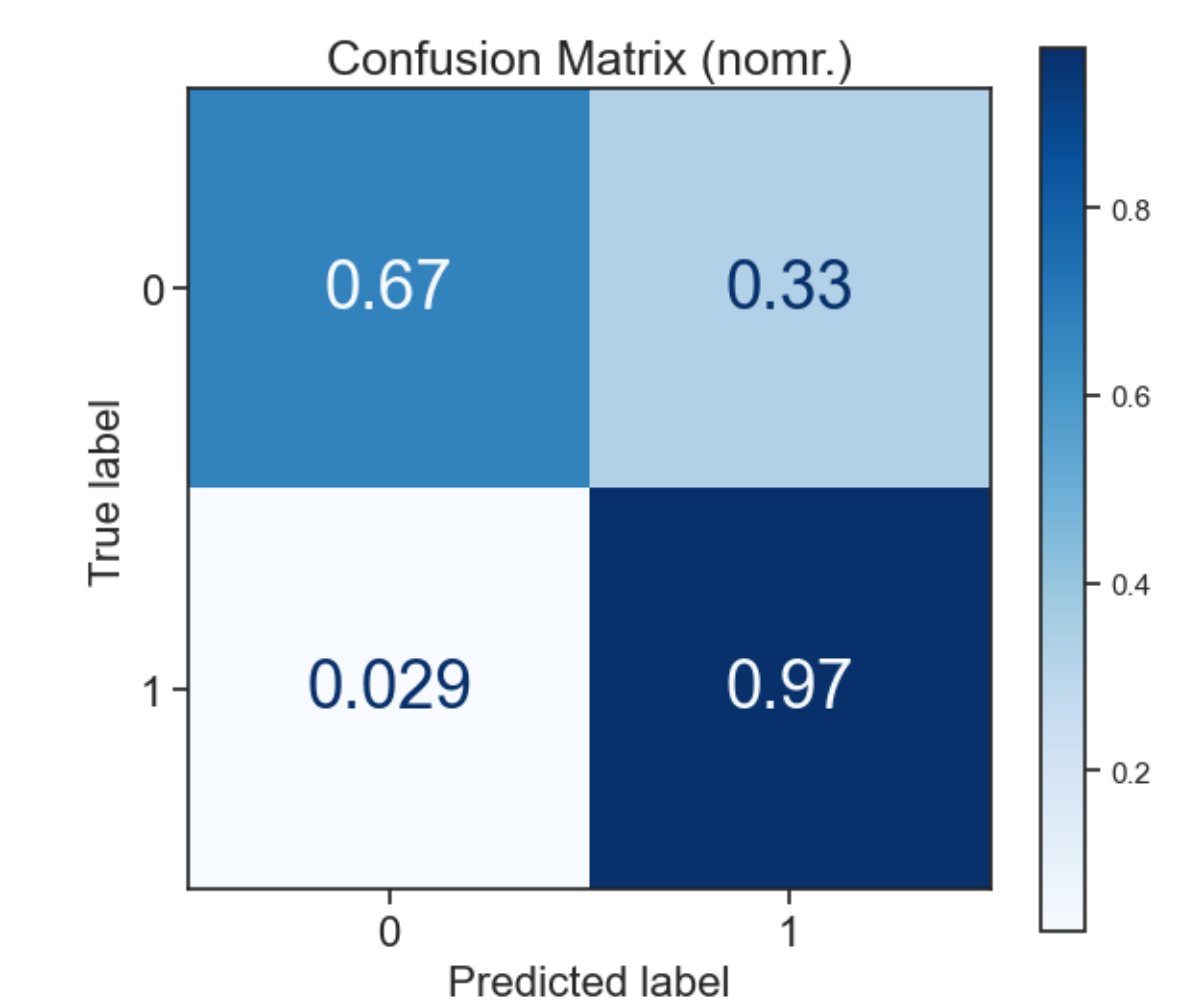
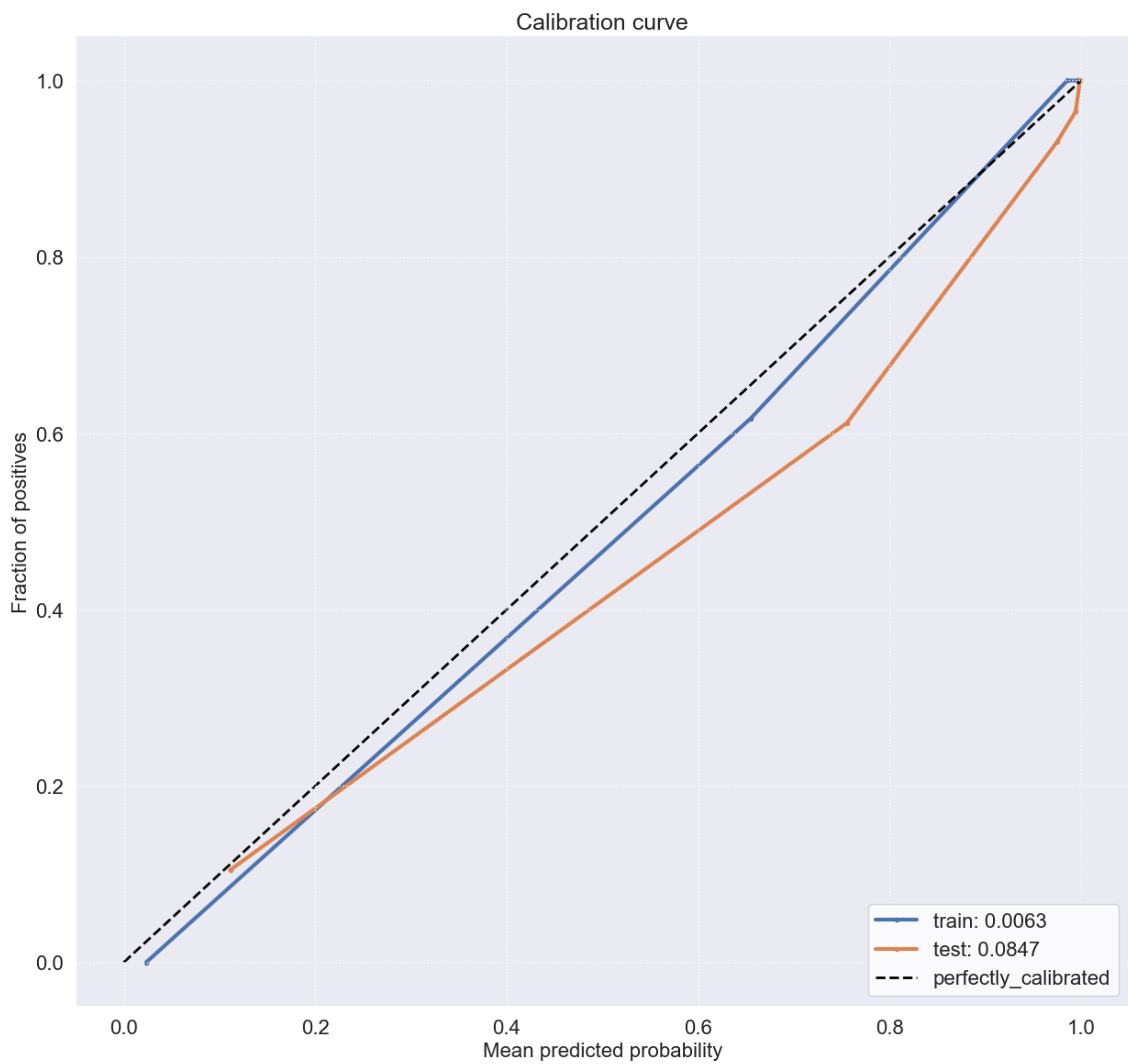
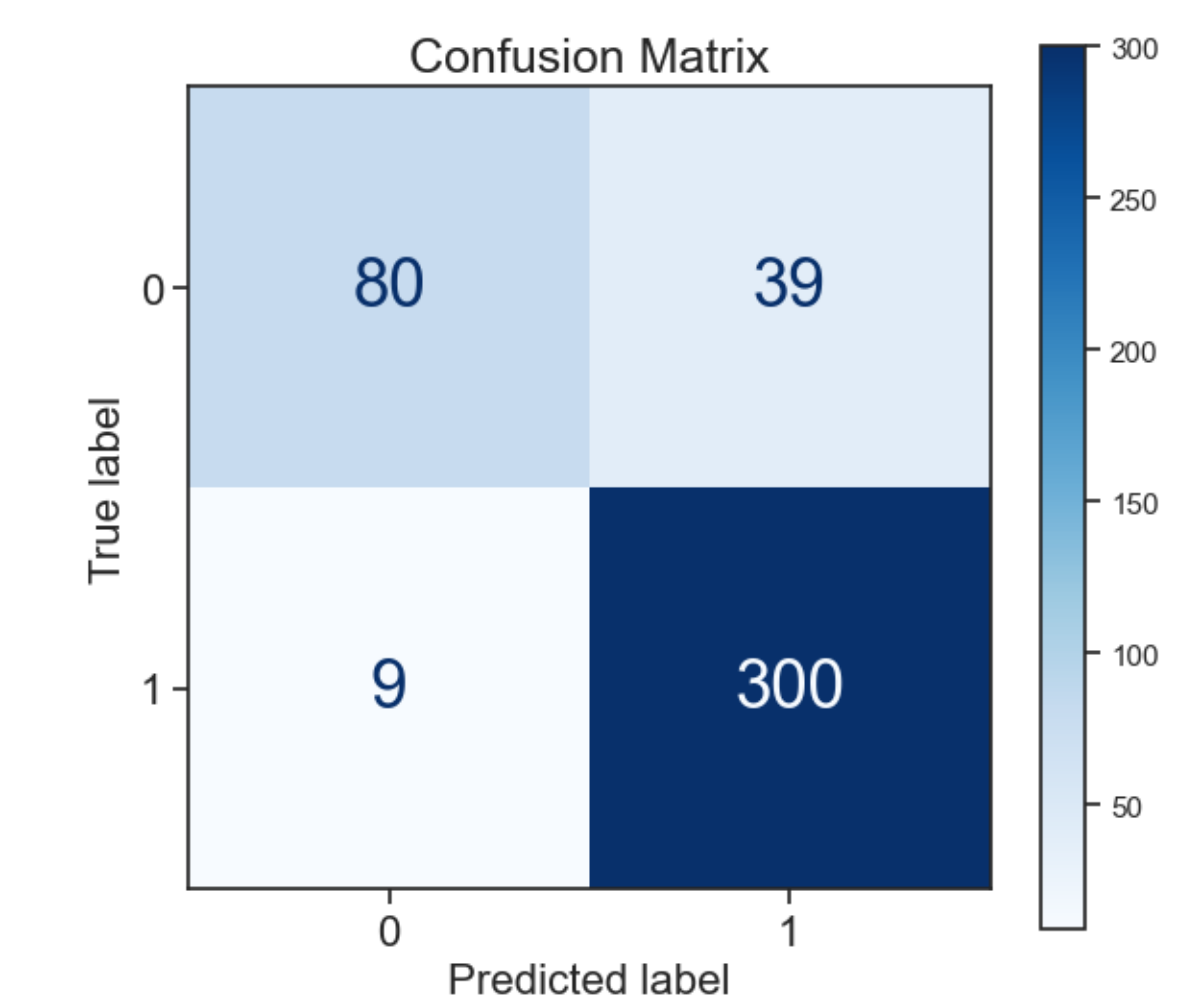
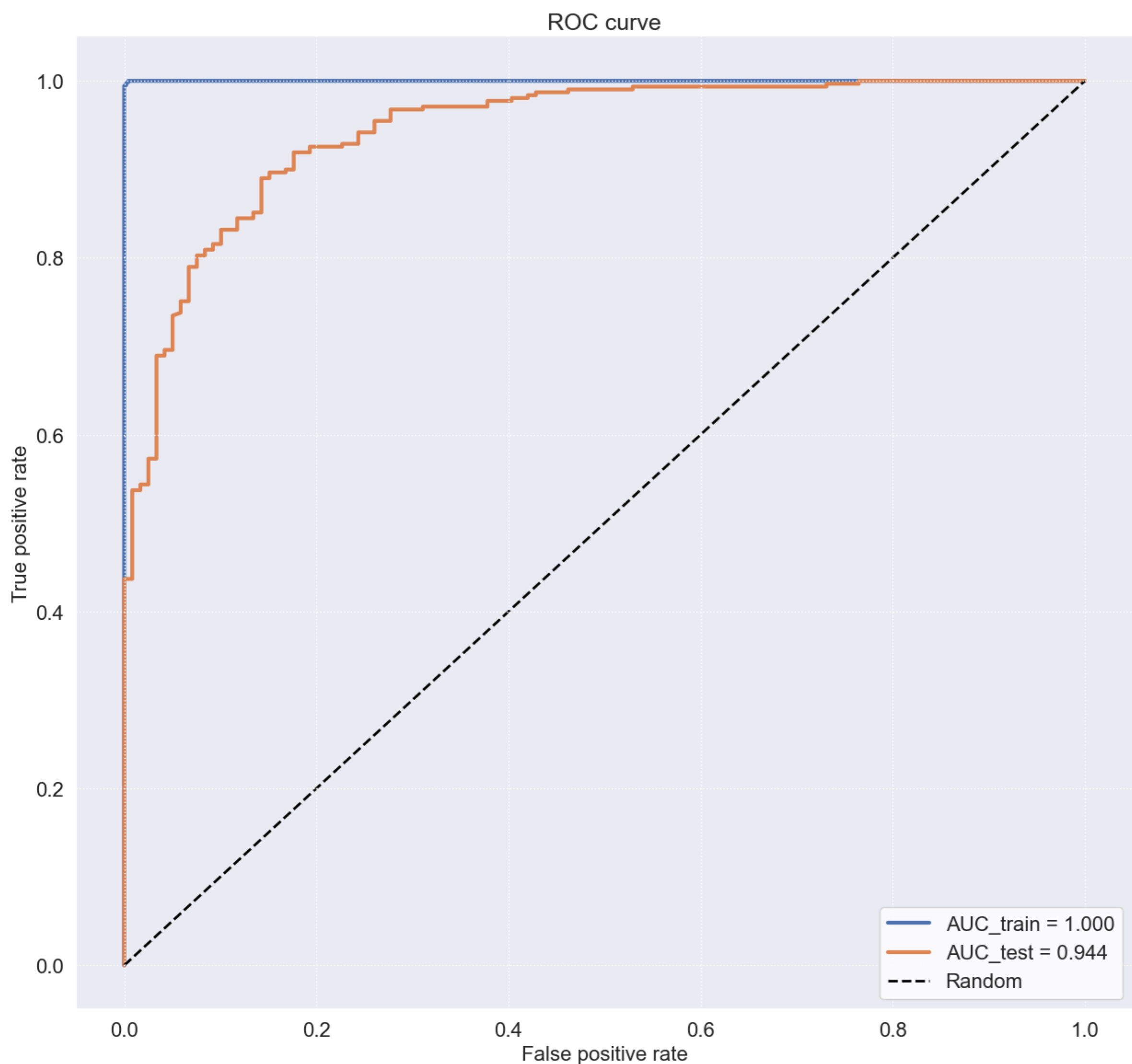
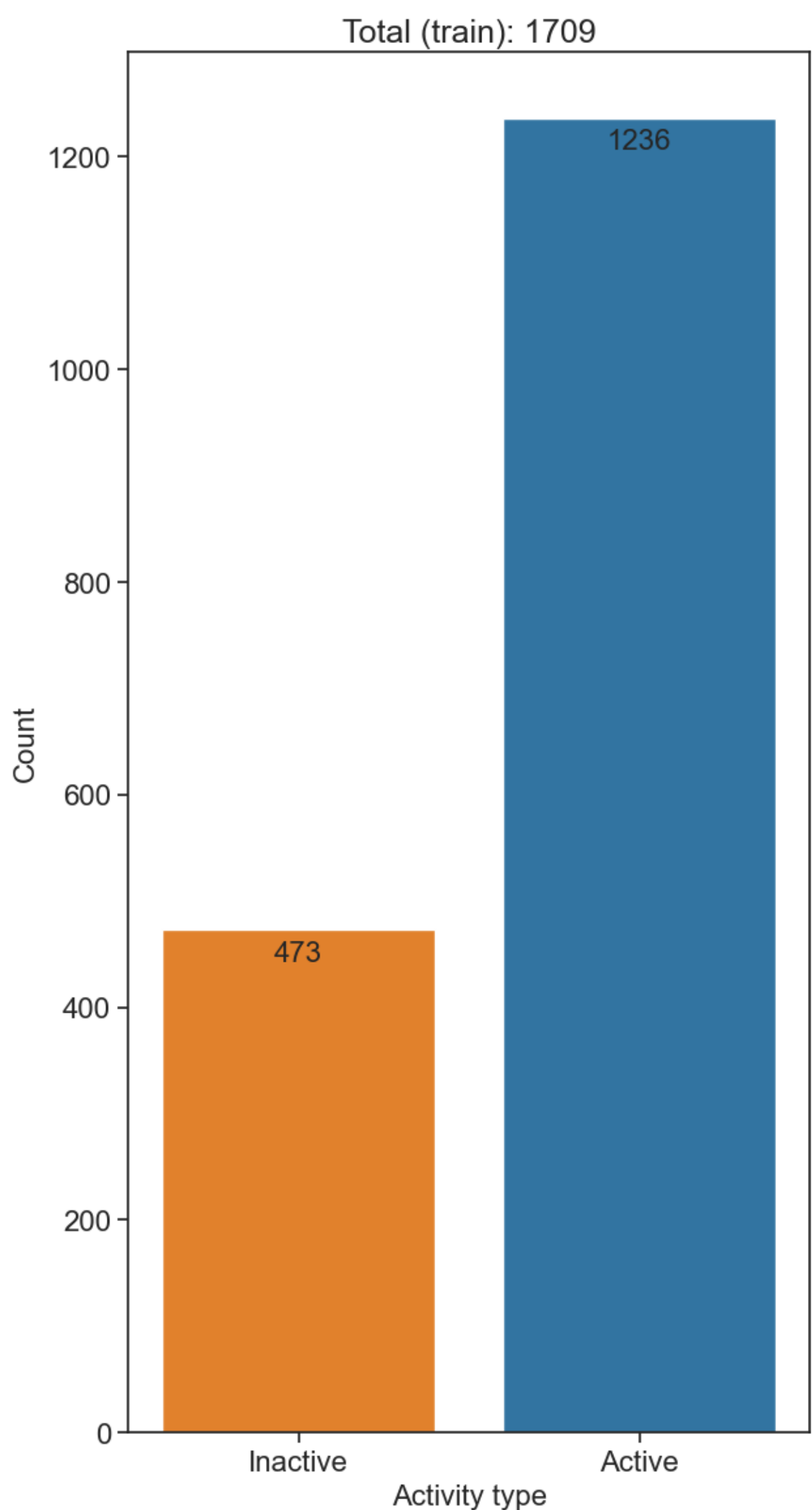


| XGBoost Parameters | | Value |
|--------------------|--|--------|
| alpha | | 3.4813 |
| colsample_bytree | | 0.9421 |
| gamma | | 0.0962 |
| lambda | | 2.2935 |
| learning_rate | | 0.128 |
| max_depth | | 6.0 |
| min_child_weight | | 1.0 |
| n_estimators | | 573.0 |
| reg_alpha | | 0.6375 |
| reg_lambda | | 0.1287 |
| scale_pos_weight | | 1.1046 |
| subsample | | 0.6379 |



| Metric | Train | Test |
|-------------------|--------|--------|
| AUC | 1.0 | 0.9417 |
| accuracy | 0.9977 | 0.8879 |
| balanced accuracy | 0.9958 | 0.8293 |
| recall_(sens) | 1.0 | 0.9612 |
| specificity | 0.9915 | 0.6975 |
| precision | 0.9968 | 0.8919 |
| f1_score | 0.9977 | 0.8837 |

Protein: O43614 - metric: SoftVotingXGBoostEnsemble



| Metric | Train | Test |
|-------------------|--------|--------|
| AUC | 1.0 | 0.9443 |
| accuracy | 0.9941 | 0.8879 |
| balanced accuracy | 0.9894 | 0.8216 |
| recall_(sens) | 1.0 | 0.9709 |
| specificity | 0.9789 | 0.6723 |
| precision | 0.992 | 0.885 |
| f1_score | 0.9941 | 0.8824 |