**Table 7. GridSearchCV Results for Clusters based on SSTA data and using train test split**

|  |  |  |  |
| --- | --- | --- | --- |
| **Model** | **Best Score** | **Accuracy Score** | **Best Parameters** |
| Support Vector Machine | 0.926839827 | 1 | {'C': 10, 'coef0': 0.0, 'degree': 2, 'kernel': 'rbf', 'probability': True} |
| Random Forest | 0.789177489 | 1 | {'criterion': 'gini', 'max\_depth': None, 'min\_samples\_leaf': 1, 'min\_samples\_split': 10, 'n\_estimators': 20} |
| Logistic Regression | 0.733333333 | 0.692307692 | {'C': 10, 'penalty': 'l2'} |
| Naive Bayes Gaussian | 0.816017316 | 0.846153846 | {} |
| Naive Bayes Multinomial | 0.595670996 | 0.538461538 | {'alpha': 0.1} |
| Decision Tree | 0.66969697 | 0.692307692 | {'criterion': 'gini', 'max\_depth': None, 'min\_samples\_leaf': 1, 'min\_samples\_split': 5} |
| Linear Discriminant Analysis | 0.870995671 | 0.923076923 | {} |