Supporting Information-Prediction of biochar yield and specific surface area based on integrated machine learning algorithm models

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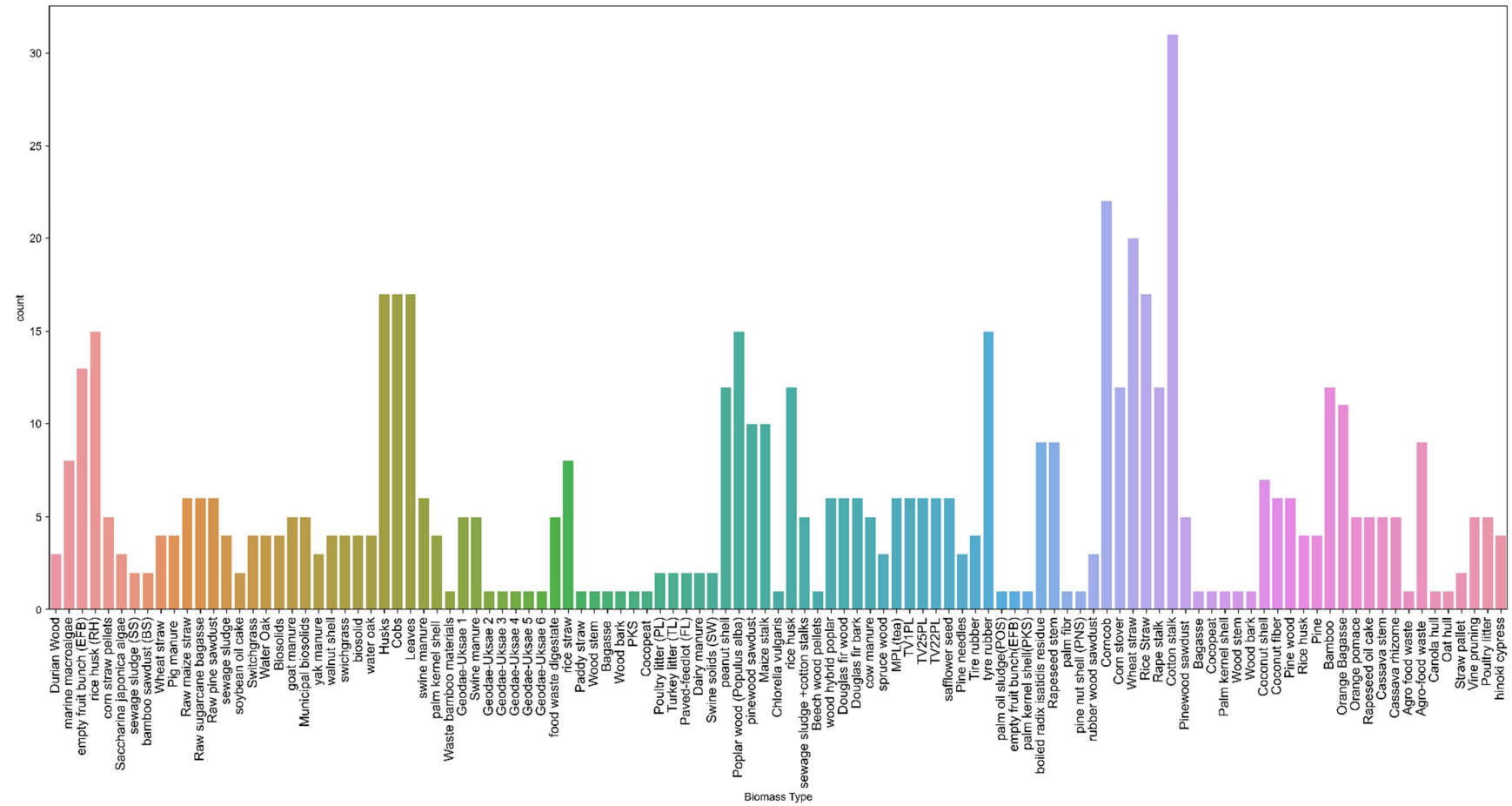
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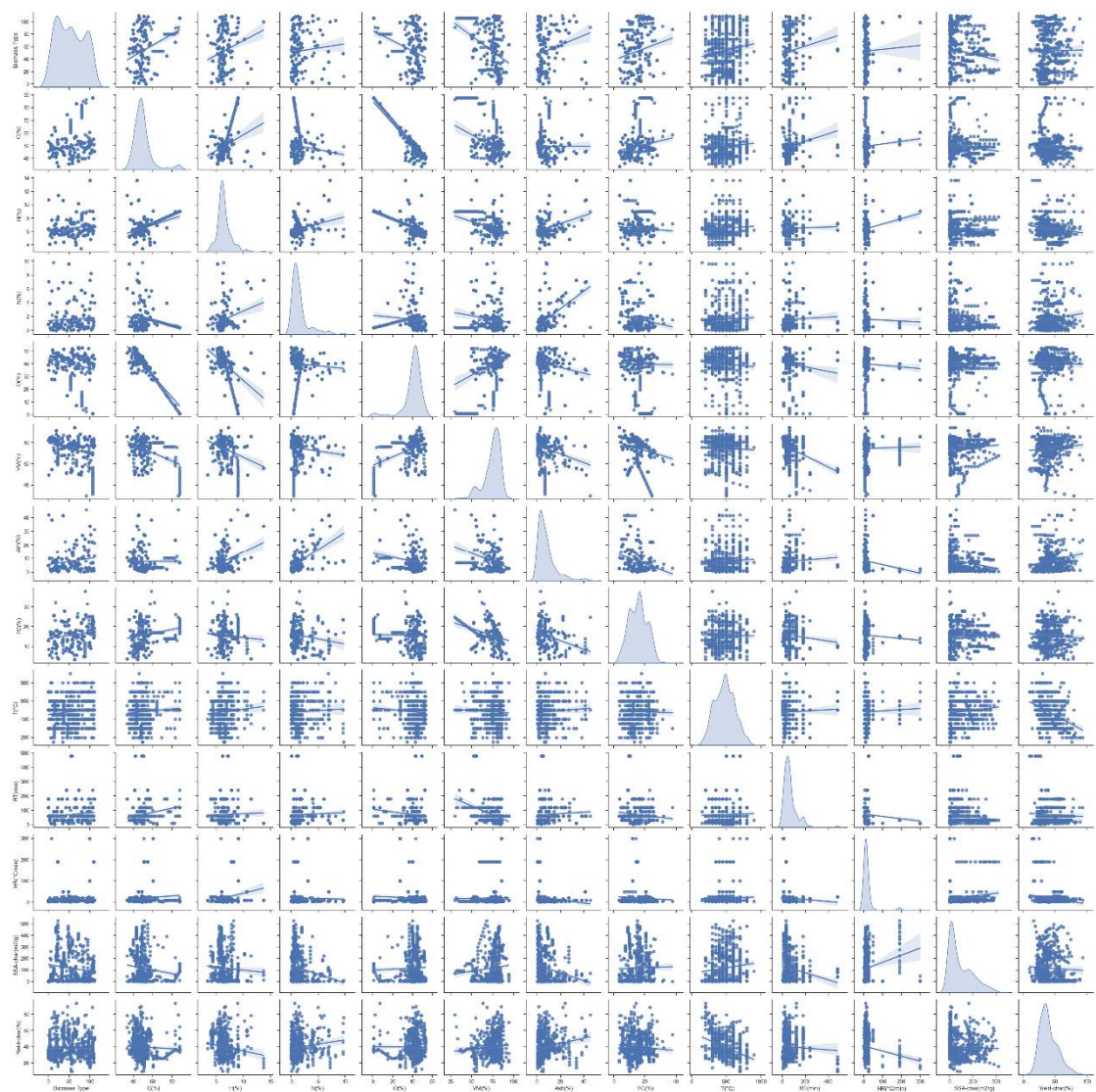Figure S1 Statistical bar chart of biomass feedstocks in the dataset

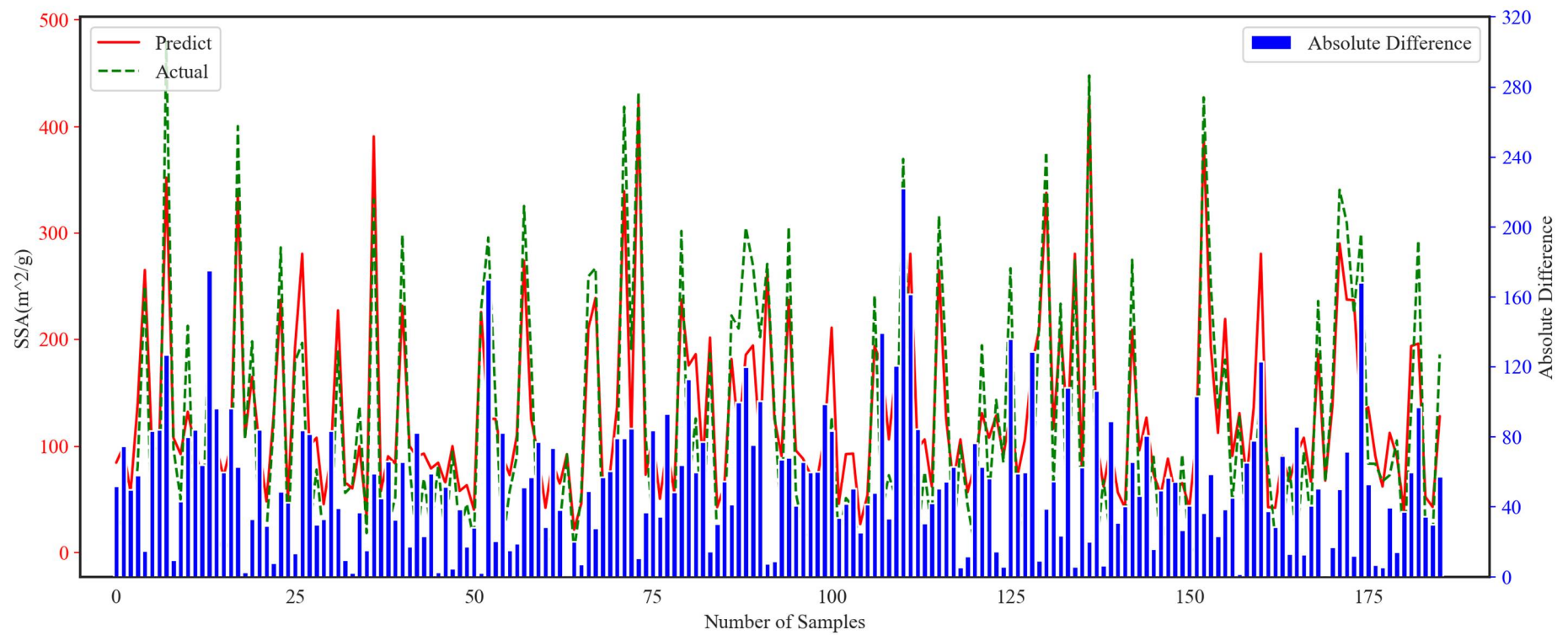Figure S2 Multivariate joint distribution plots for the biochar dataset

Figure S3 The graph displays AdaBoost's fitting curve for SSA-char. The red dashed line represents the predicted value, the green dashed line represents the true value, and the blue bar represents the absolute difference between the predicted and true values. The left axis indicates the value of SSA, while the right axis indicates the absolute difference.
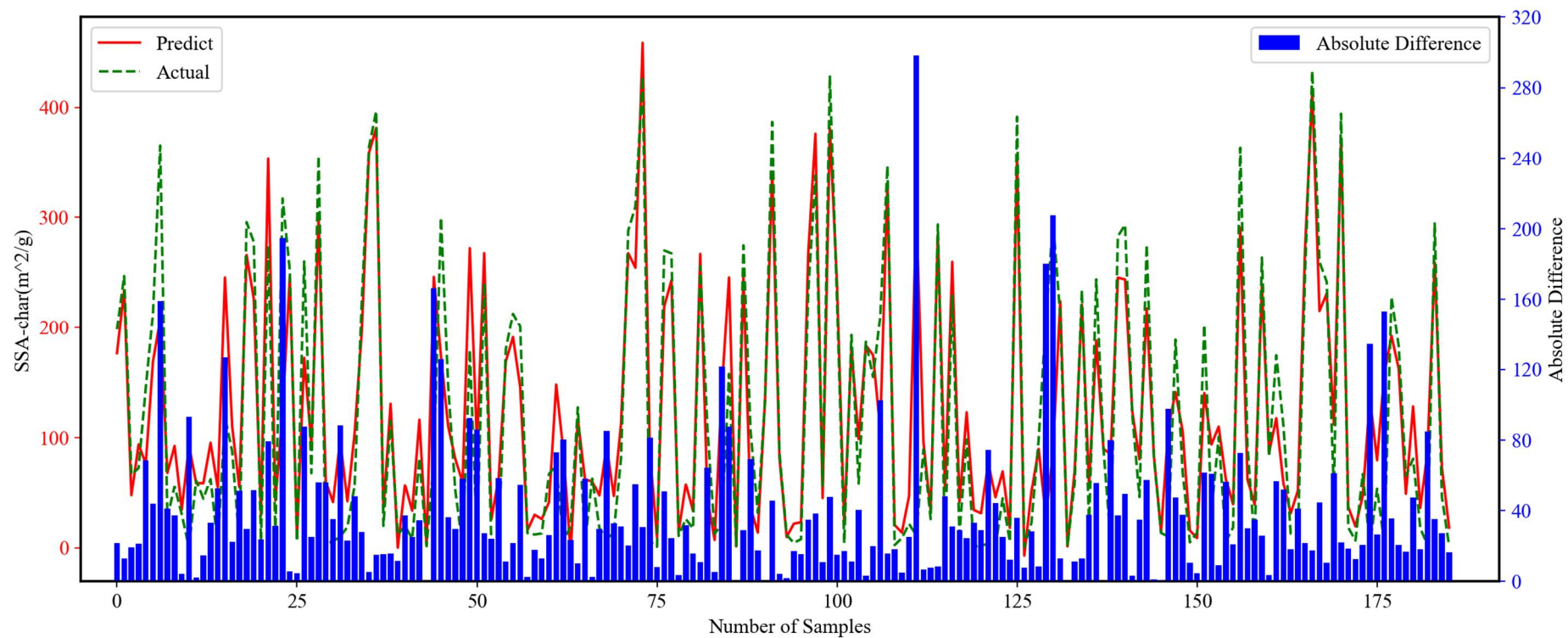
Figure S4 The graph displays GBDT's fitting curve for SSA-char. The red dashed line represents the predicted value, the green dashed line represents the true value, and the blue bar represents the absolute difference between the predicted and true values. The left axis indicates the value of SSA, while the right axis indicates the absolute difference.
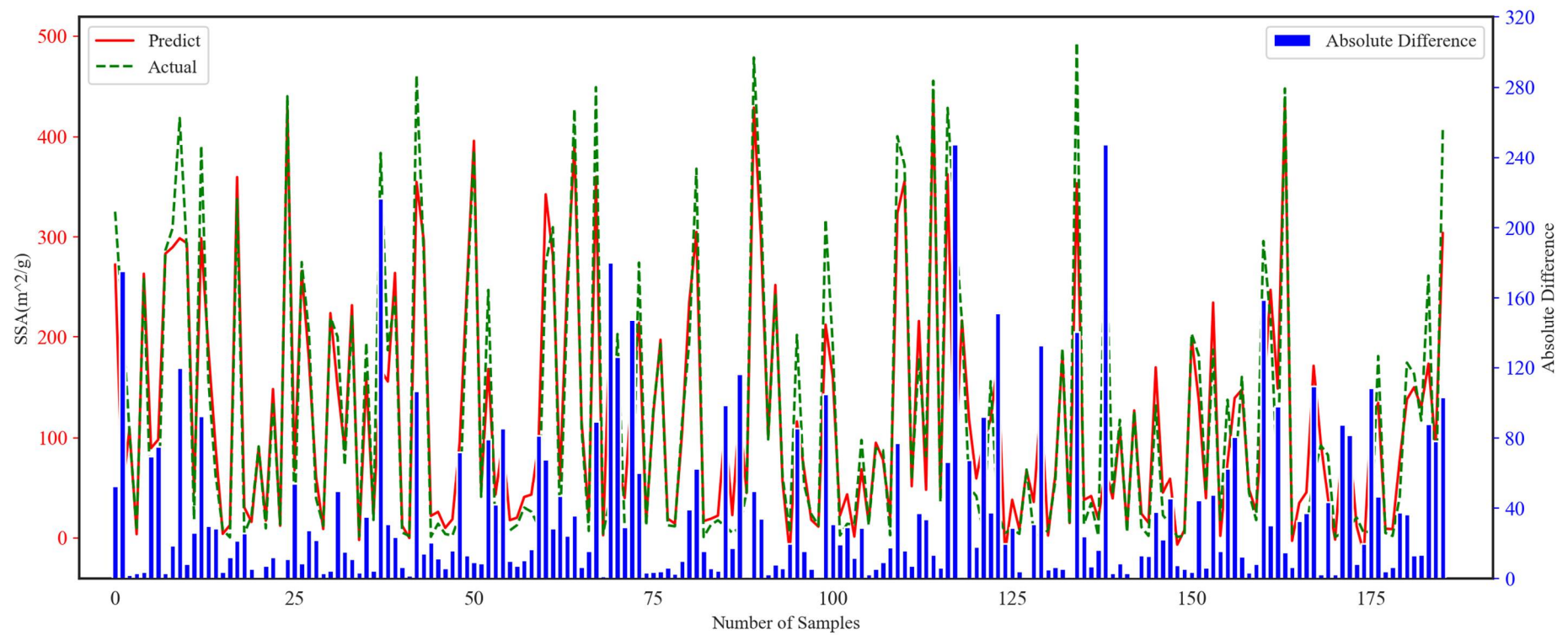
Figure S5 The graph displays LightGBM's fitting curve for SSA-char. The red dashed line represents the predicted value, the green dashed line represents the true value, and the blue bar represents the absolute difference between the predicted and true values. The left axis indicates the value of SSA, while the right axis indicates the absolute difference.
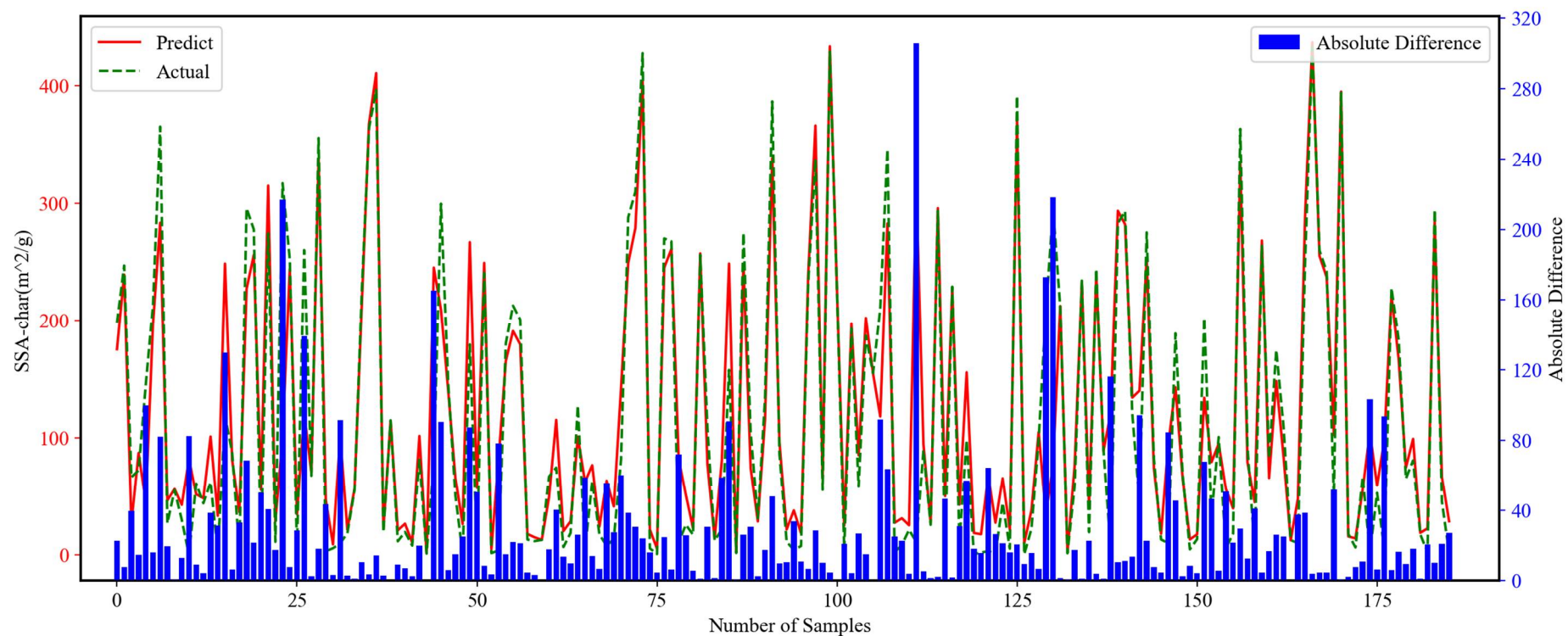
Figure S6 The graph displays RandomForest's fitting curve for SSA-char. The red dashed line represents the predicted value, the green dashed line represents the true value, and the blue bar represents the absolute difference between the predicted and true values. The left axis indicates the value of SSA, while the right axis indicates the absolute difference.
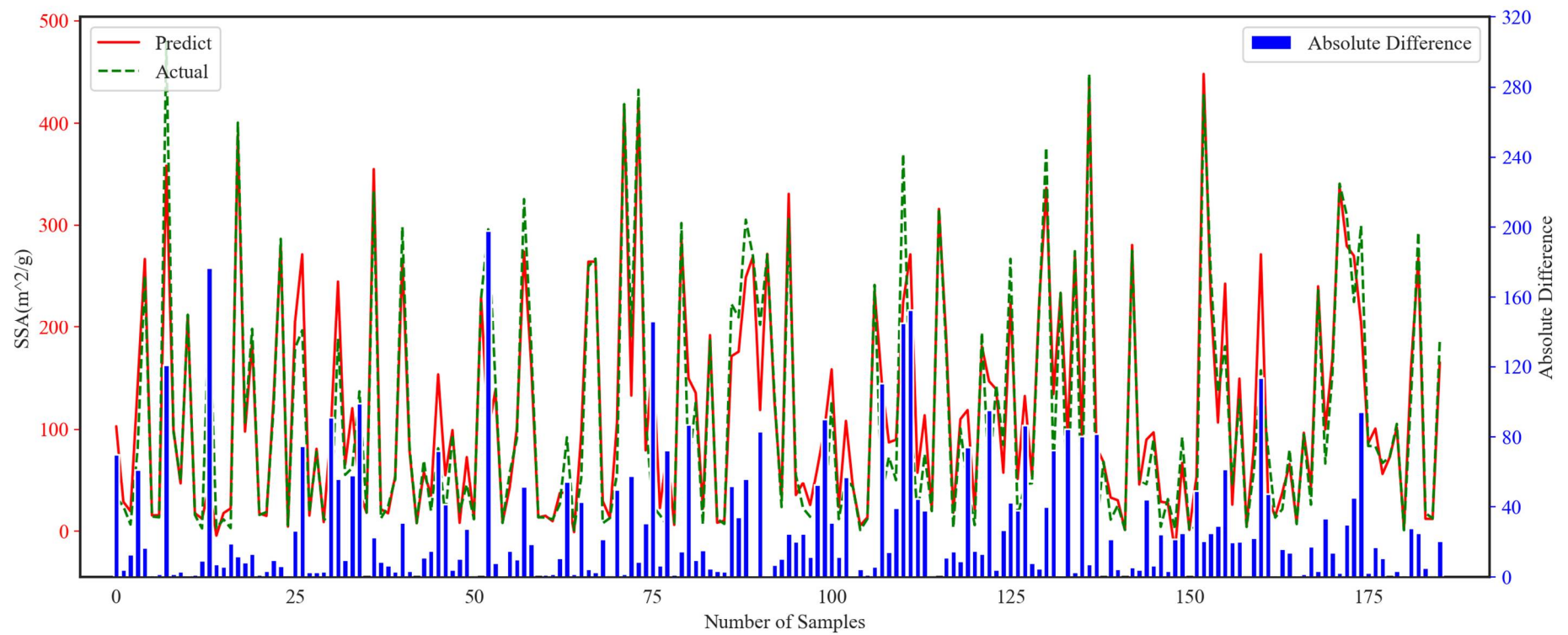
Figure S7 The graph displays XGBoost's fitting curve for SSA-char. The red dashed line represents the predicted value, the green dashed line represents the true value, and the blue bar represents the absolute difference between the predicted and true values. The left axis indicates the value of SSA, while the right axis indicates the absolute difference.
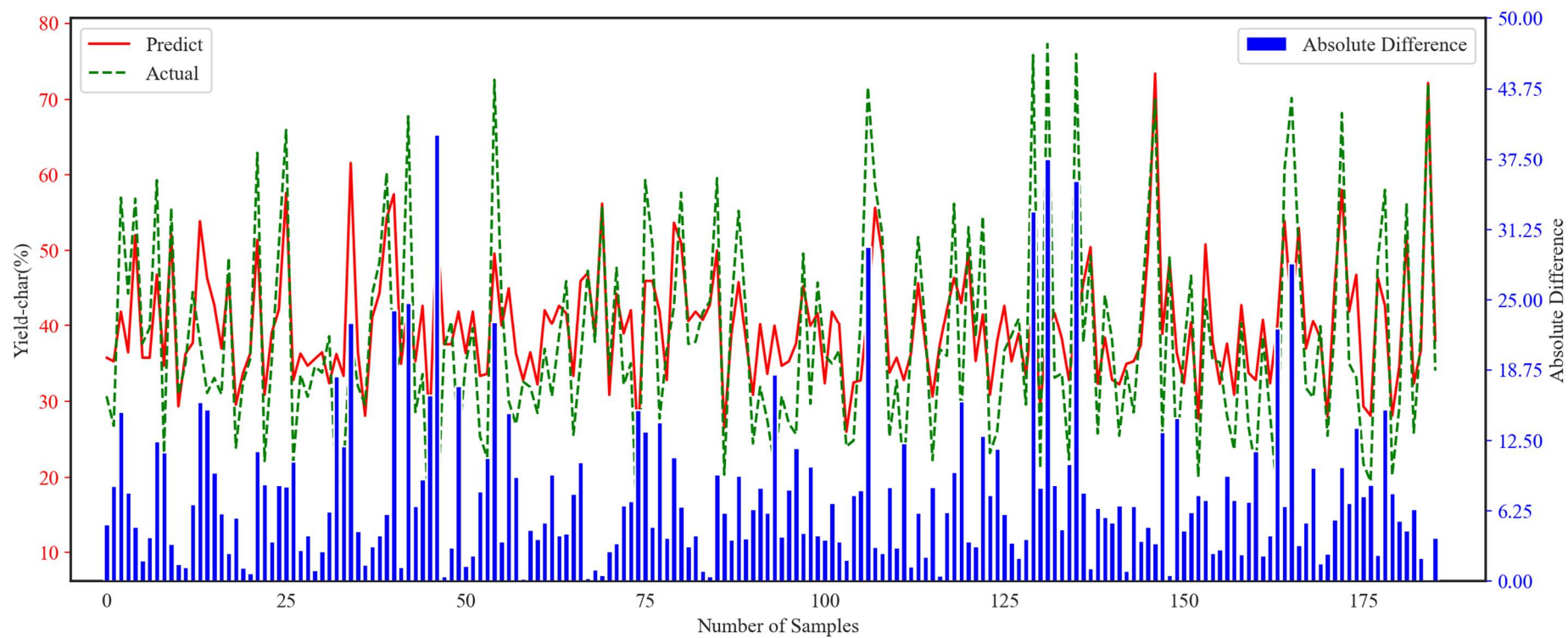
Figure S8 The graph displays Adaboost's fitting curve for Yield-char. The red dashed line represents the predicted value, the green dashed line represents the true value, and the blue bar represents the absolute difference between the predicted and true values. The left axis indicates the value of Yield, while the right axis indicates the absolute difference.
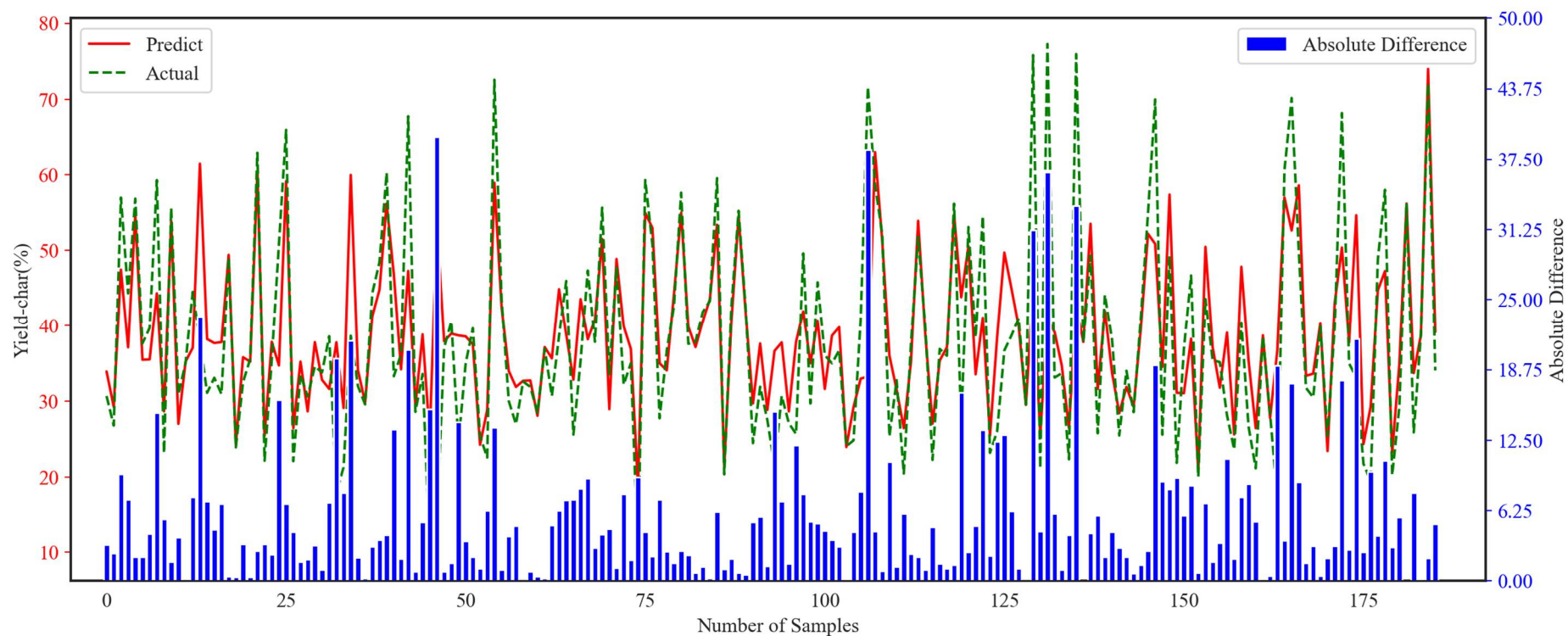
Figure S9 The graph displays GBDT's fitting curve for Yield-char. The red dashed line represents the predicted value, the green dashed line represents the true value, and the blue bar represents the absolute difference between the predicted and true values. The left axis indicates the value of Yield, while the right axis indicates the absolute difference.
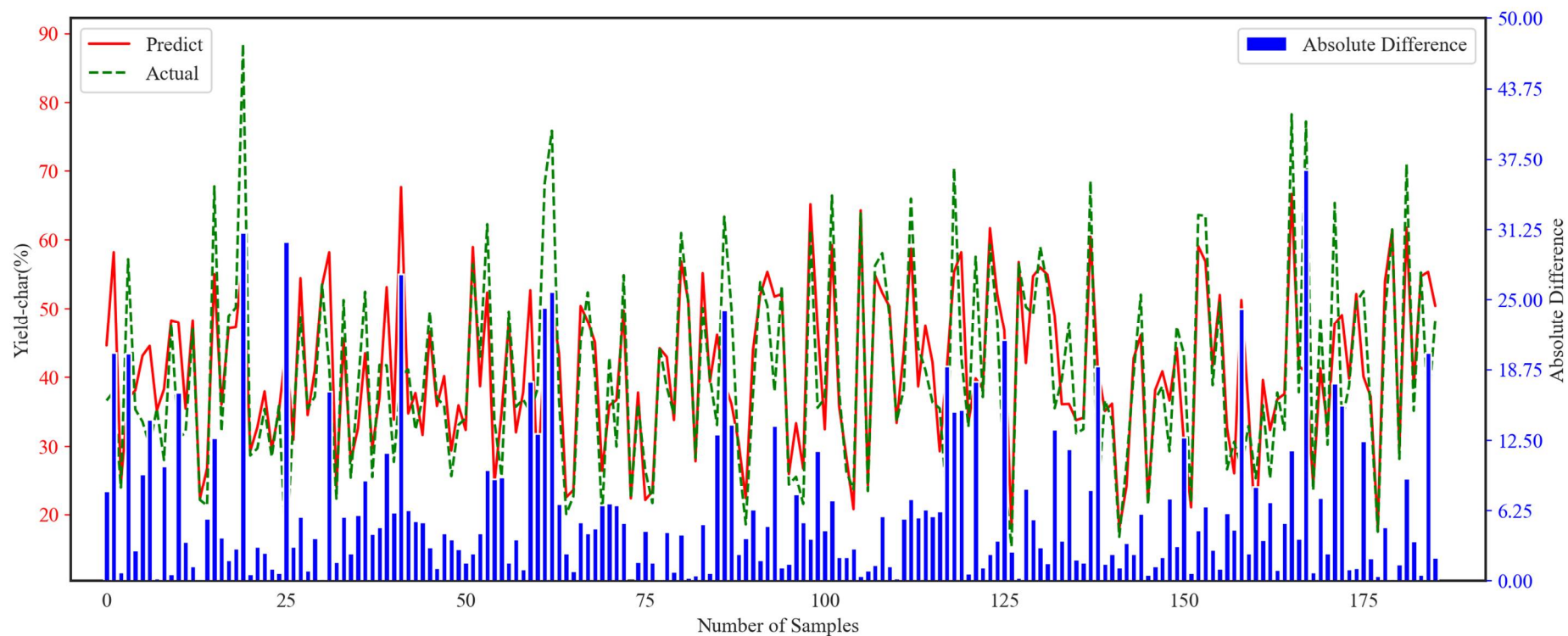
Figure S10 The graph displays LightGBM's fitting curve for Yield-char. The red dashed line represents the predicted value, the green dashed line represents the true value, and the blue bar represents the absolute difference between the predicted and true values. The left axis indicates the value of Yield, while the right axis indicates the absolute difference.
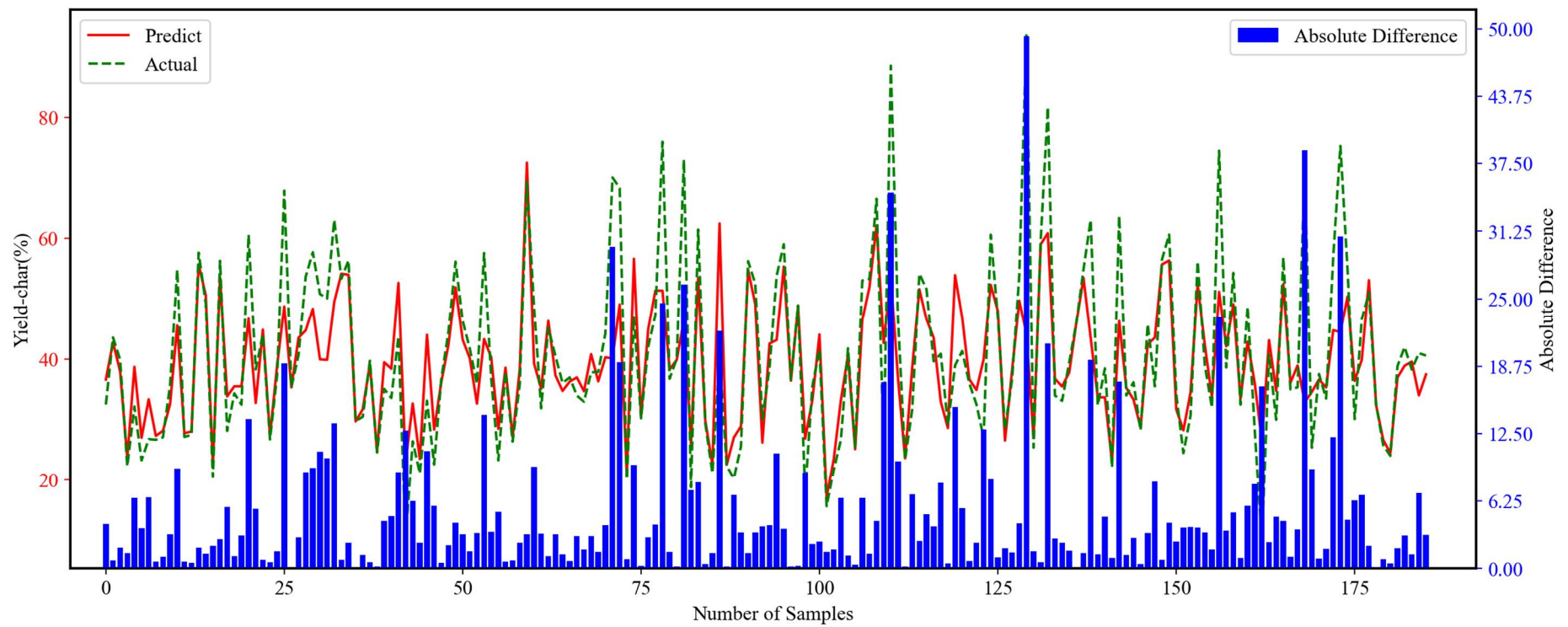
Figure S11 The graph displays RandomForest's fitting curve for Yield-char. The red dashed line represents the predicted value, the green dashed line represents the true value, and the blue bar represents the absolute difference between the predicted and true values. The left axis indicates the value of Yield, while the right axis indicates the absolute difference.
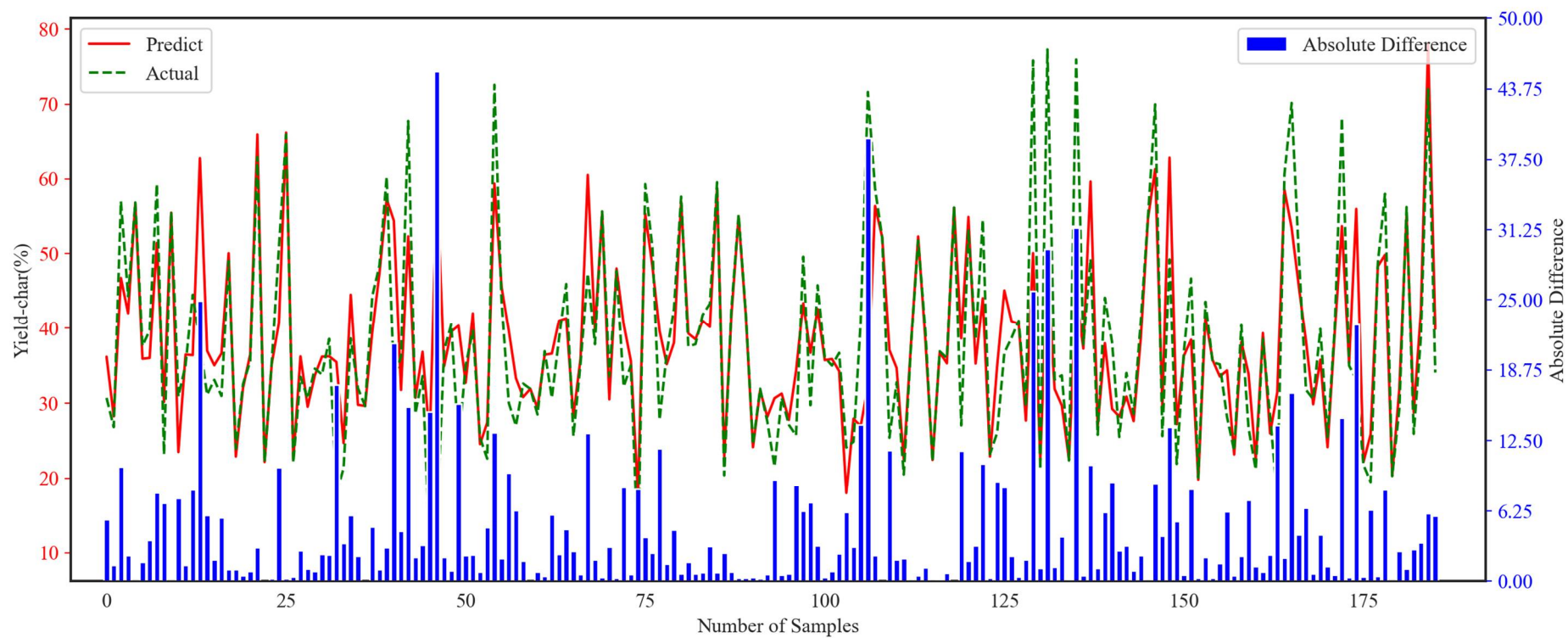
Figure S12 The graph displays XGBoost's fitting curve for Yield-char. The red dashed line represents the predicted value, the green dashed line represents the true value, and the blue bar represents the absolute difference between the predicted and true values. The left axis indicates the value of Yield, while the right axis indicates the absolute difference.
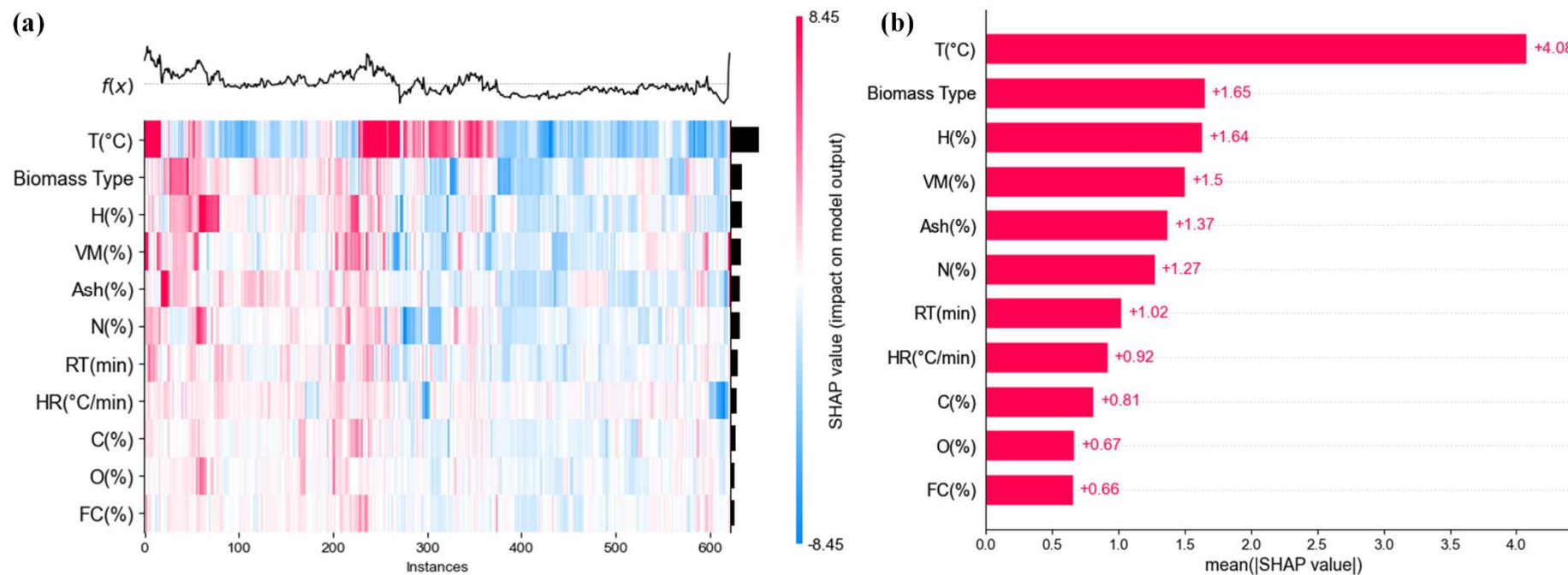
Figure S13 Dispaly information Yiled-char:(a) Characteristic importance heatmap, (b)Characteristic Importance Bar Chart
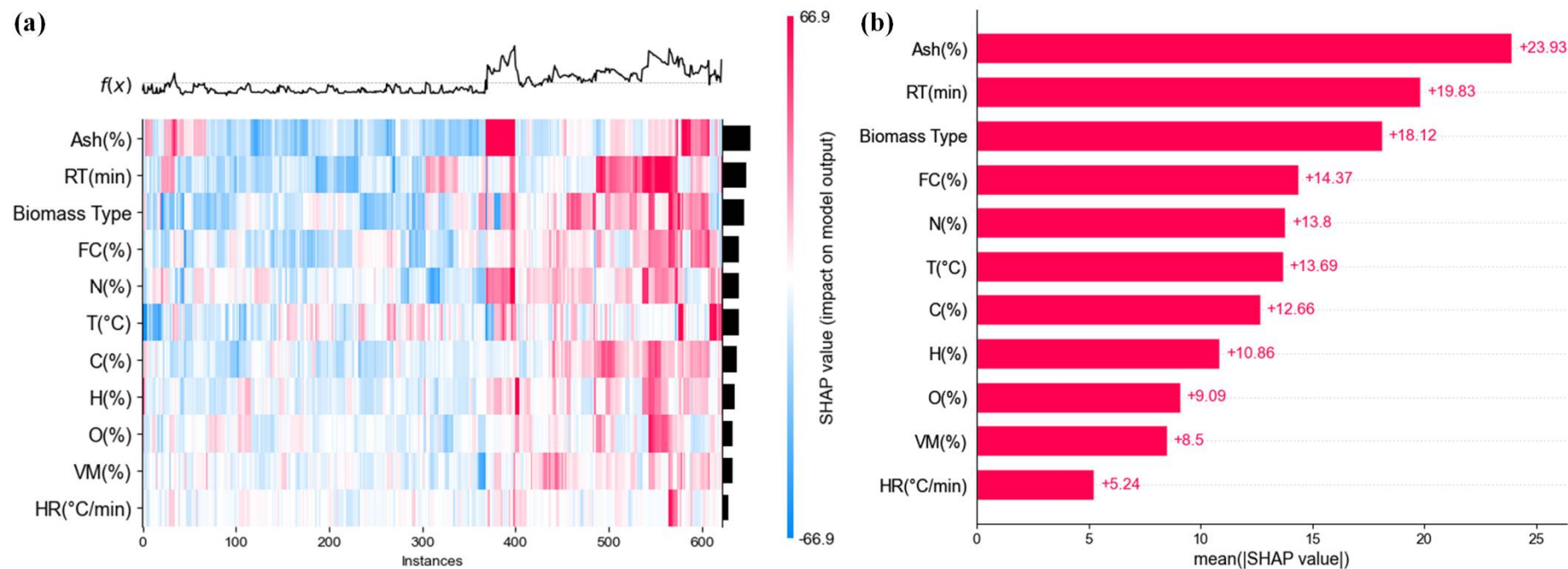
Figure S14 Dispaly information SSA-char:(a) Characteristic importance heatmap, (b)Characteristic Importance Bar Chart