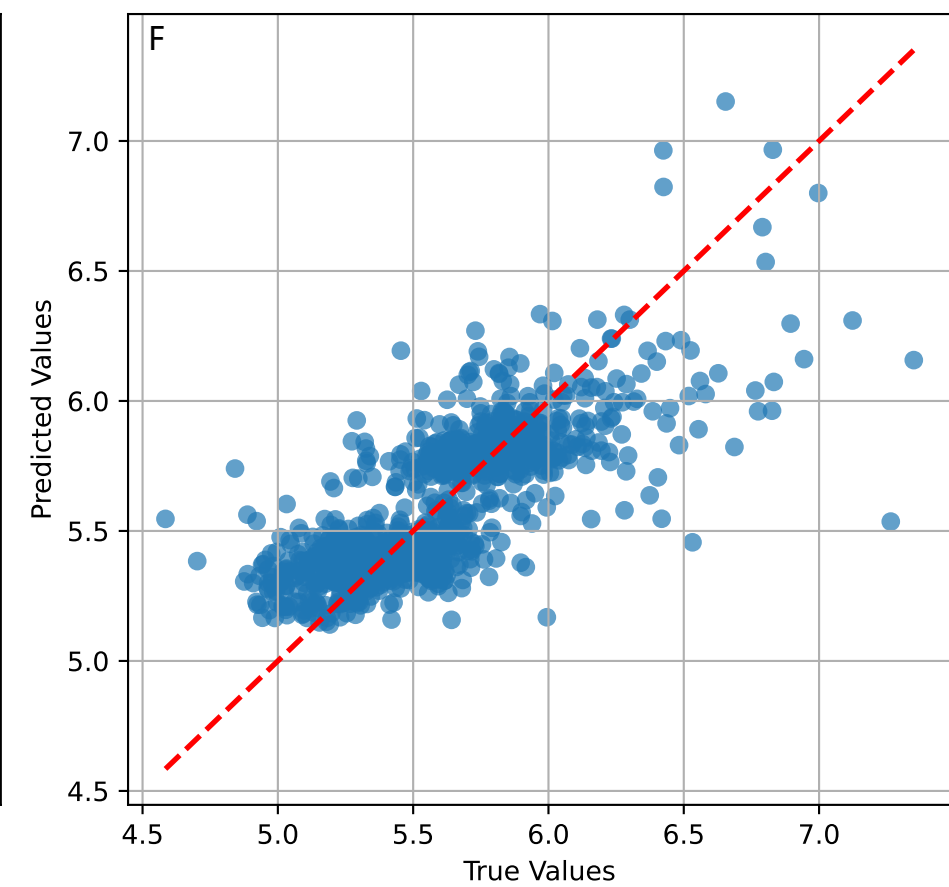
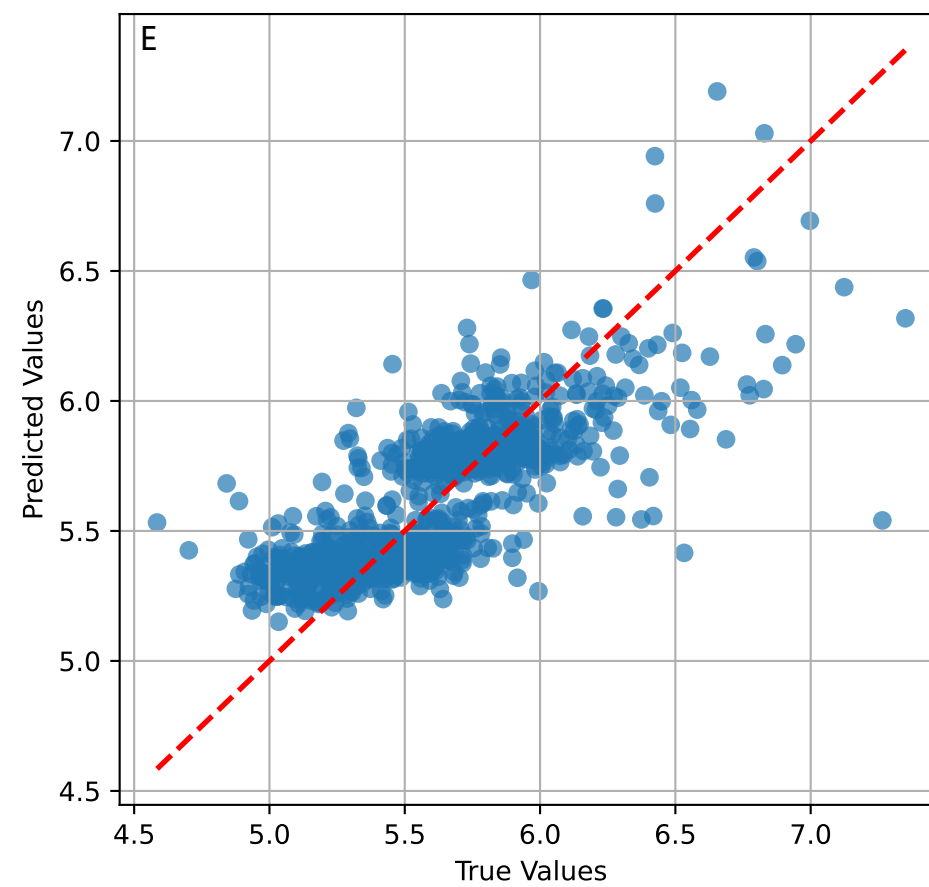
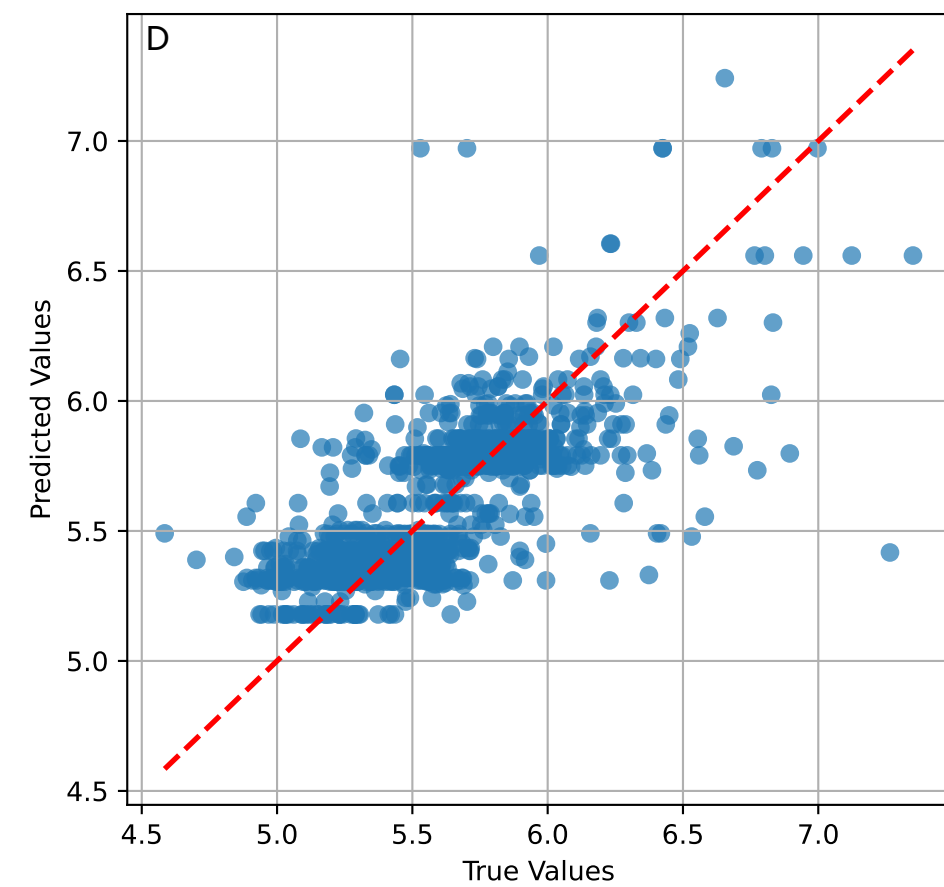
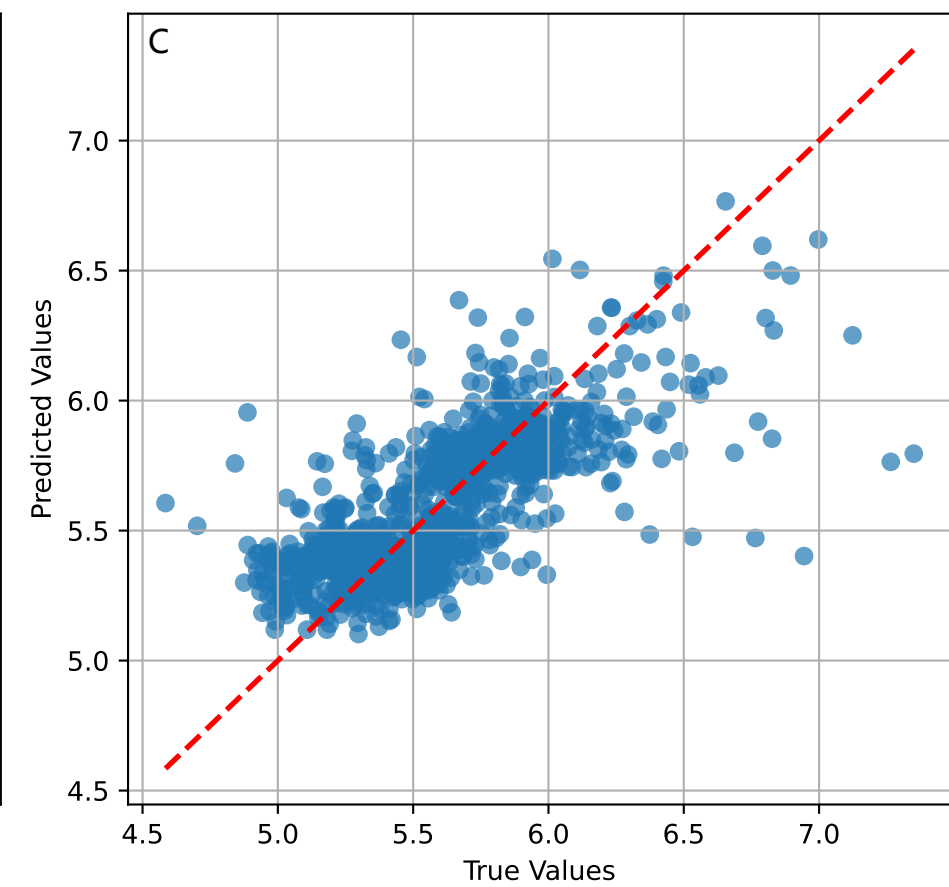
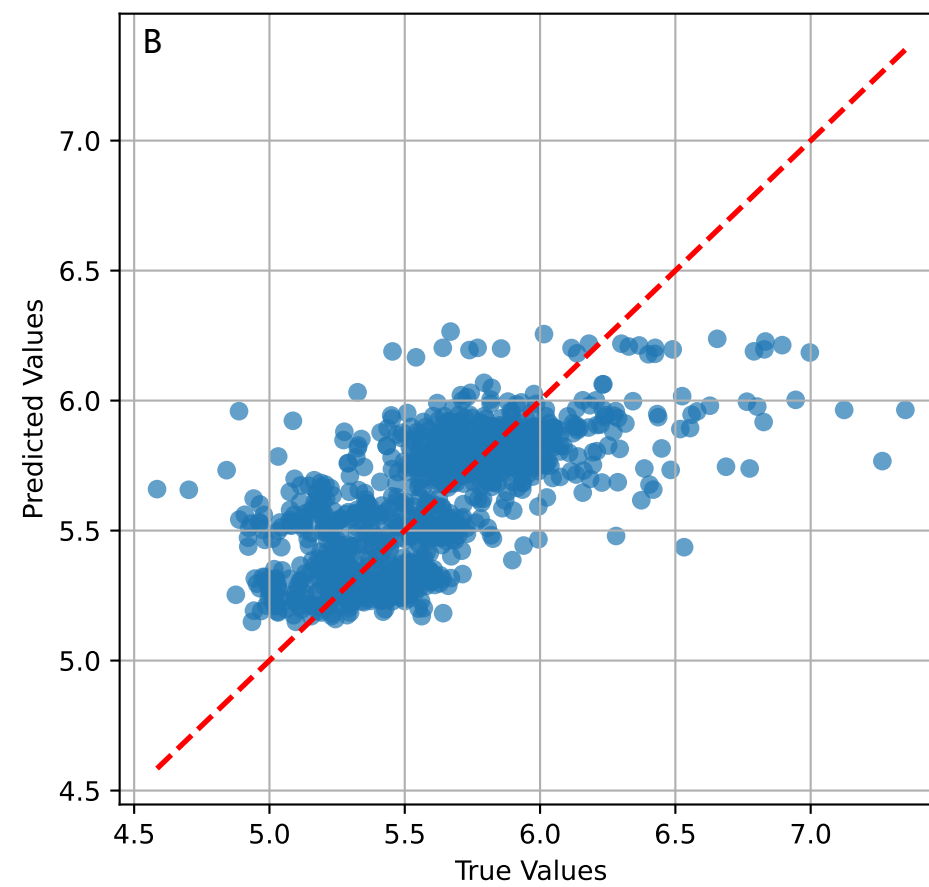
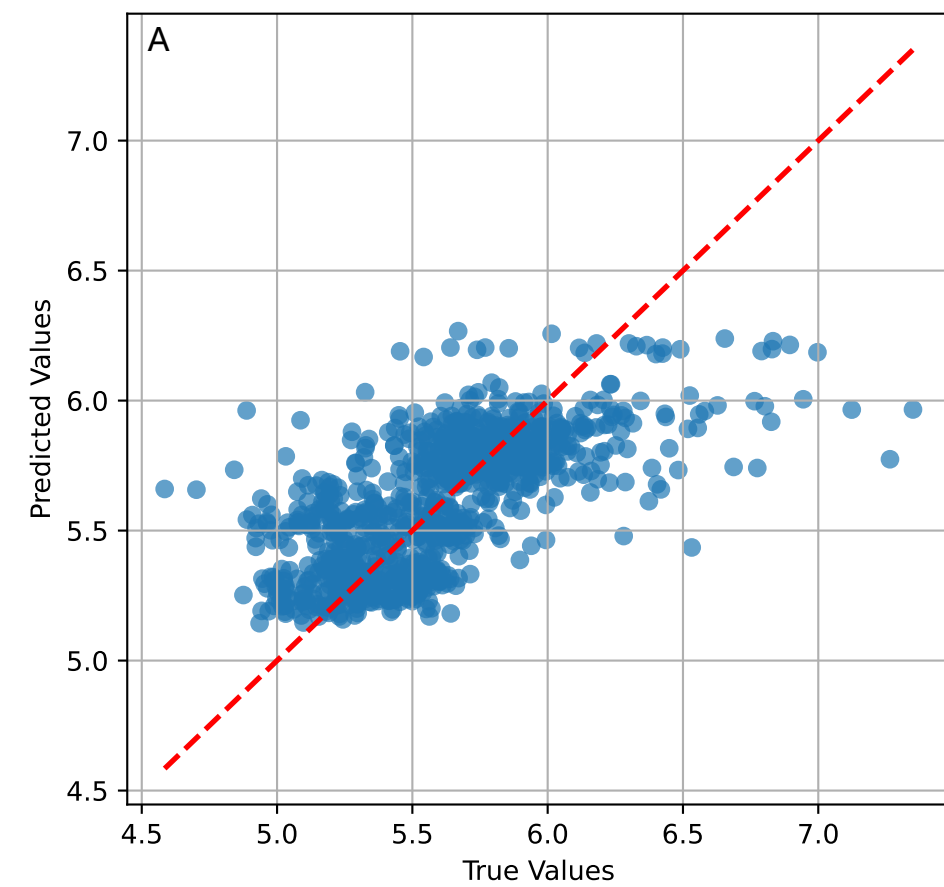
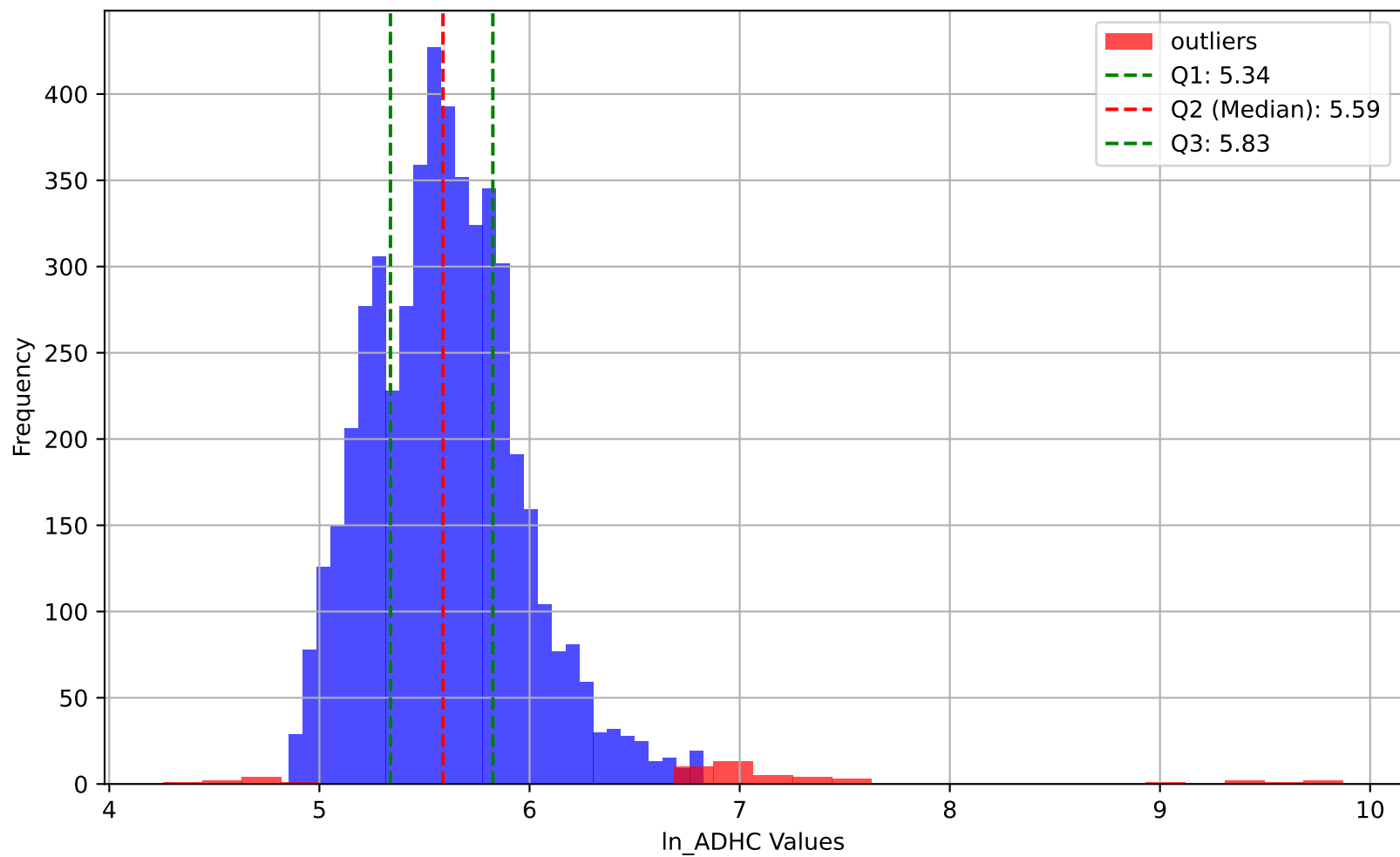




Supplementary Figure 1. Comparison of actual versus predicted values with all variables included. A The GLR model. B The LASSO model. C The SVR model. D The CART model. E The RF model. F The XGBoost model.



Supplementary Figure 2. Distribution of ADHC logarithm value. Outlier detection using the IsolationForest method.

A

Partial dependence

5.8

5.7

5.6

5.5

5.4

1.0

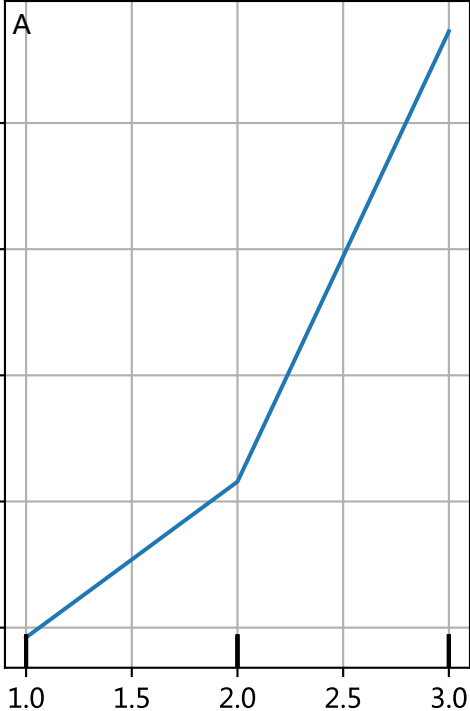
1.5

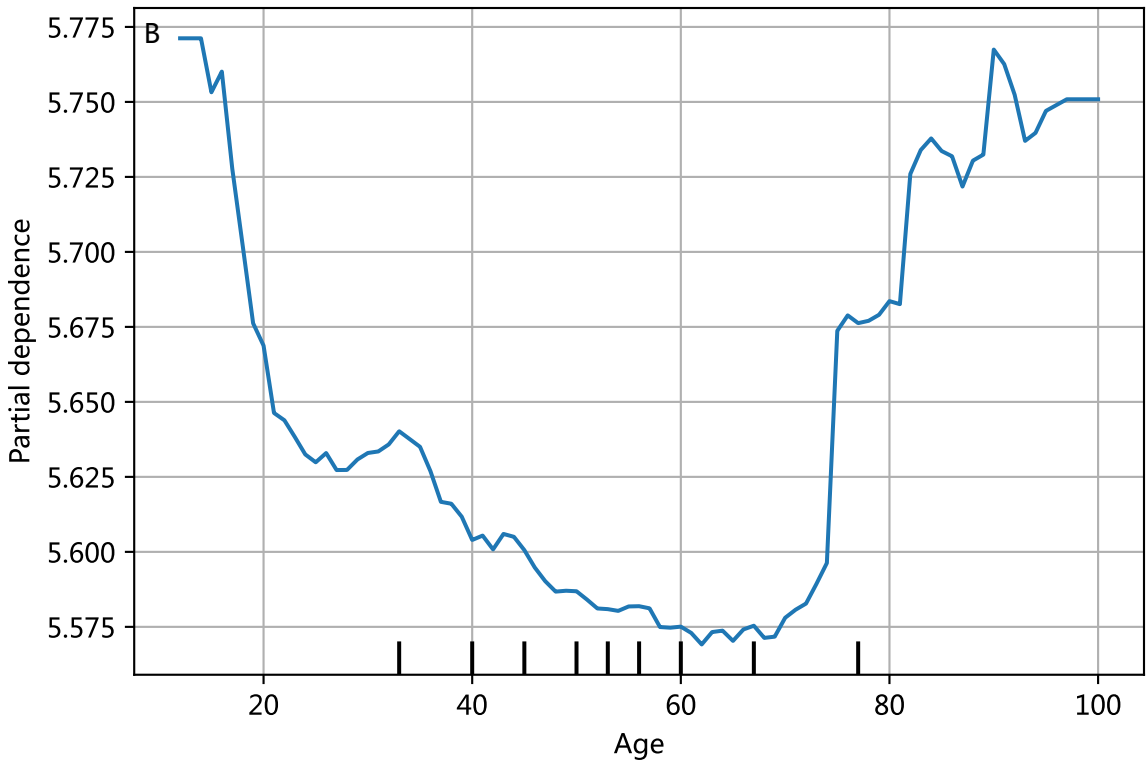
2.0

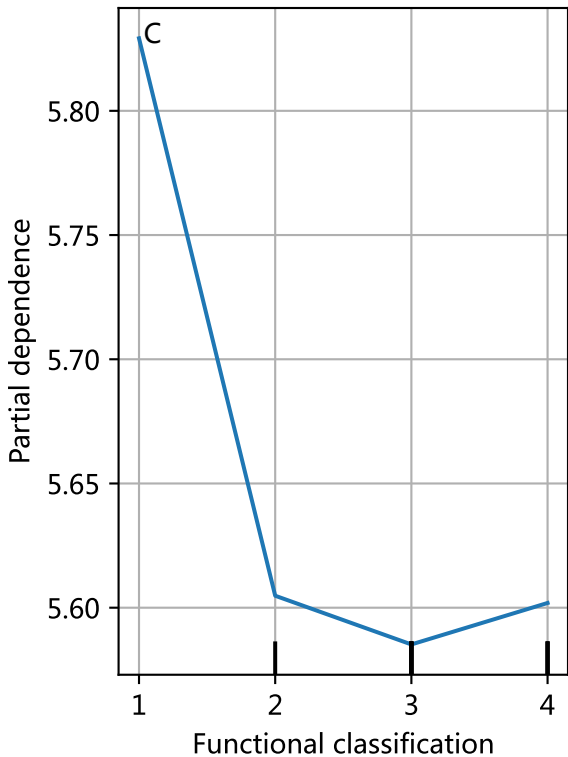
2.5

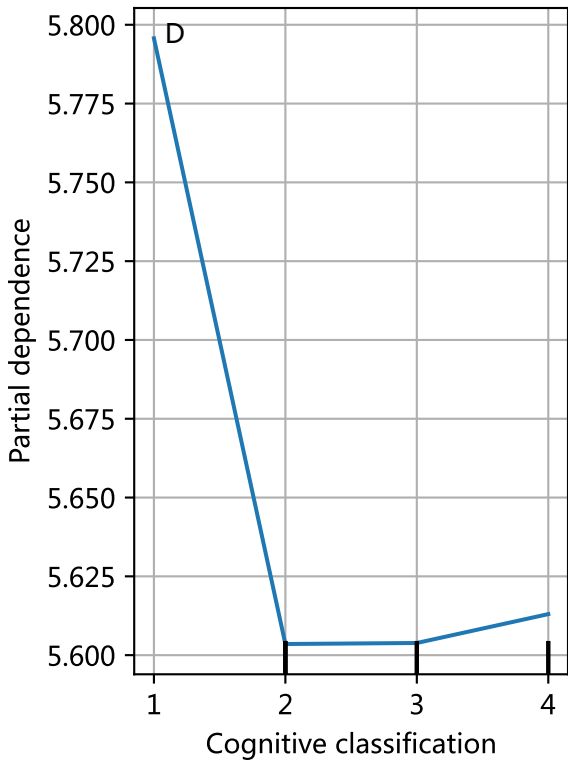
3.0

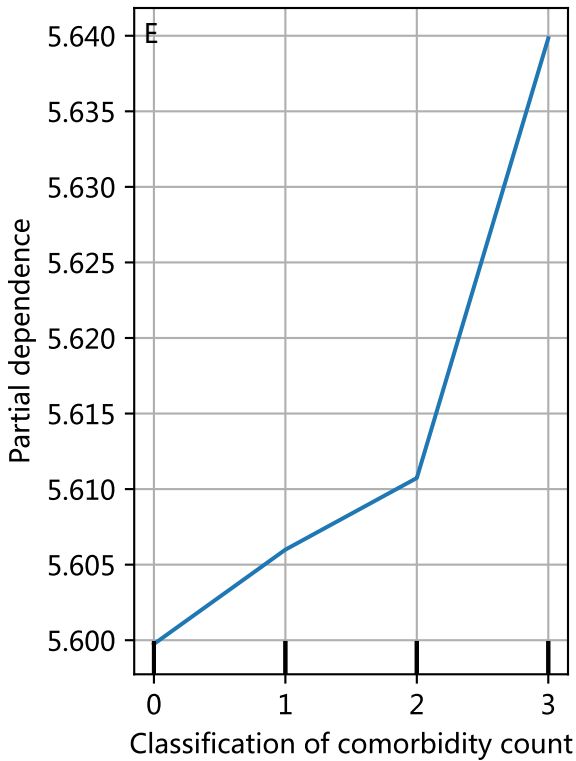
Level of medical institutions

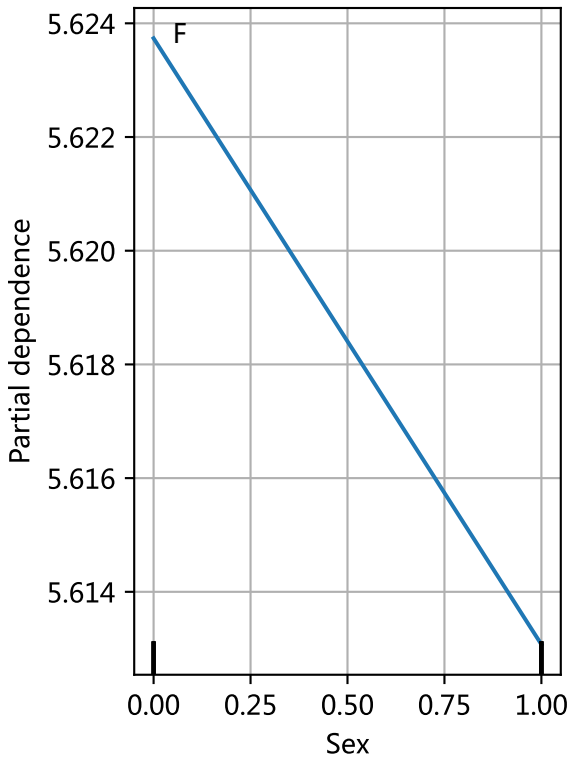


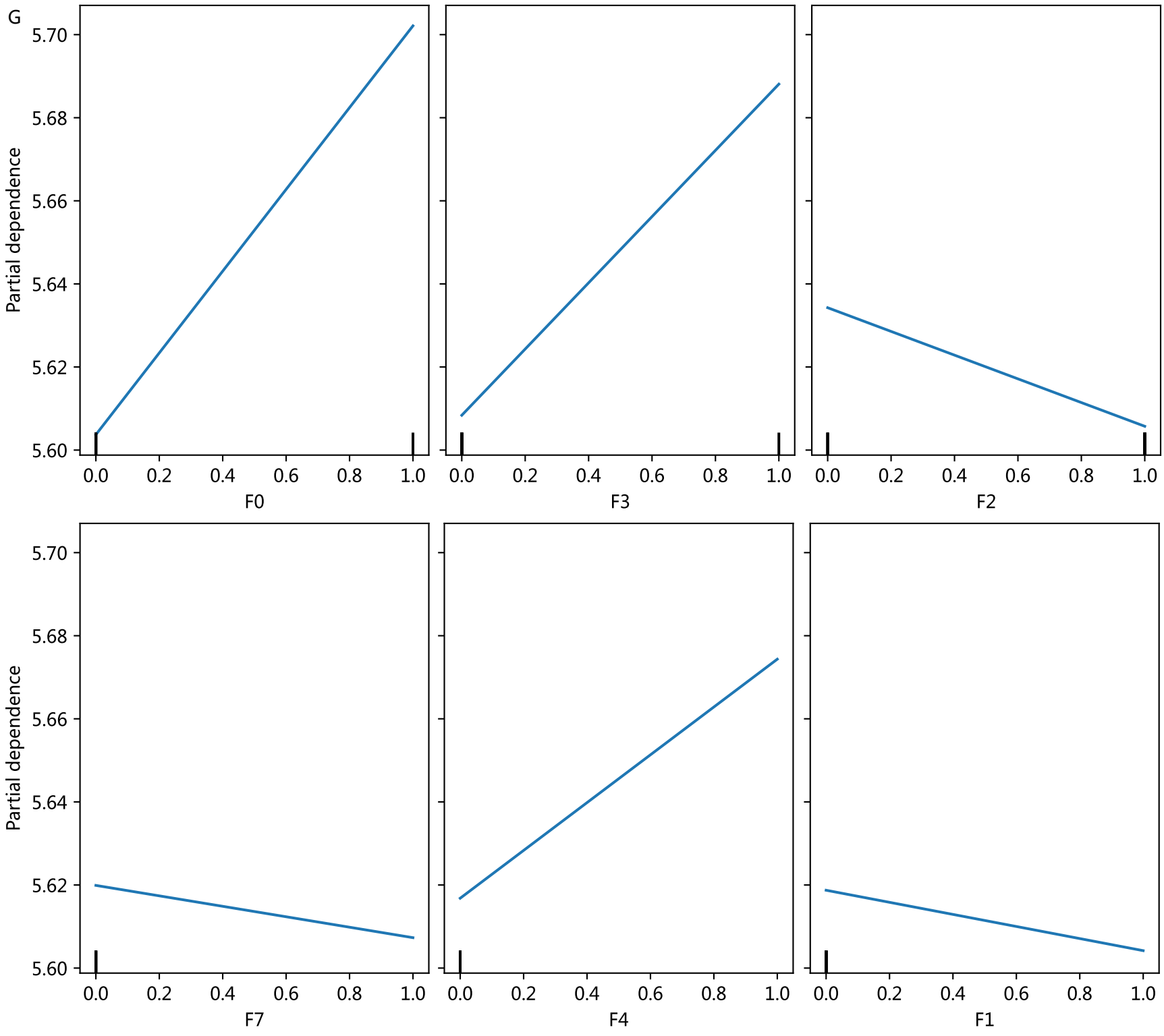












Supplementary Figure 3. Major important features partial dependence (PD) plots with RF. PD plots show the dependence between ADHC and a set of important features. A-G PD plots of level of medical institutions, age, functional classification, cognitive classification, classification of comorbidity count, sex and primary diagnosis.

Supplementary Table 1. The accuracy of RF with stratification by level of medical institutions and sex. Values are the average of resampling 1000 times by bootstrap method. Incorporated all variables, excluding those related to stratification.

RF Model		R ²	RMSE	MAE	MAPE
Level of medical institutions	Level 1	0.3888 (0.3478- 0.4291)	0.1709 (0.1608- 0.1824)	0.1284 (0.1226- 0.1341)	0.0240 (0.0229- 0.0251)
	Level 2	0.6836 (0.6437- 0.7220)	0.2368 (0.2210- 0.2538)	0.1804 (0.1708- 0.1901)	0.0323 (0.0306- 0.0339)
	Level 3	0.5163 (0.4633- 0.5633)	0.2308 (0.2053- 0.2598)	0.1544 (0.1457- 0.1625)	0.0258 (0.0245- 0.0269)
Sex	Male	0.6445 (0.6196- 0.6711)	0.2167 (0.1971- 0.2422)	0.1515 (0.1458- 0.1577)	0.0270 (0.0261- 0.0280)
	Female	0.6188 (0.5914- 0.6441)	0.2625 (0.2399- 0.2881)	0.1842 (0.1754- 0.1940)	0.0320 (0.0306- 0.0335)