

Table S1. The main Spyder 5 modules used in this study (Python 3.11) to optimize a gas sensor array to classify three edible ripening stages of date fruit.

Function	Module
LDA ¹	from sklearn.discriminant_analysis import LinearDiscriminantAnalysis as LDA
SVM ²	from sklearn.svm import SVC
Standardizing	from sklearn.preprocessing import StandardScaler
RF ³	from sklearn.ensemble import RandomForestClassifier
LOOCV ⁴	from sklearn.linear_model import RidgeCV
Feature Selection	from sklearn.feature_selection import SequentialFeatureSelector

¹ Linear Discriminant Analysis

² Support Vector Machine

³ Random Forest

⁴ Leave One Out Cross-Validation