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Discrimination of Red Wine Age Using Voltammetric Electronic Tongue Based on Multifrequency Large-Amplitude Voltammetry And Pattern Recognition Method

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Three methods of multivariate data analysis (MVAD), principal component analysis (PCA), soft independent modeling of class analogy (SIMCA) and partial least squares discriminating analysis (PLS-DA), were used for processing data from a multifrequency large-amplitude pulse electronic tongue (MLAP-ET) in this paper. The dry red wine samples from the same company, produced by the same type of grape from the same vineyard, but with different vintages were studied using MLAP-ET. The results showed that these three methods were all effective for the data treatment of MLAP-ET to assess the vintage of red wine samples but differ in their discriminating ability. PLS-DA had the best classification property and was most suitable for processing the data from MLAP-ET.

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