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Distribution of potential precursors of 2-aminoacetophenone in grapes (skins, pulps and seeds) of hybrid and *Vitis vinifera* L. varieties.

G. Trenti, T. Nardin, C. Barnaba, T. Roman Villegas, G. Nicolini, R. Larcher

Edmund Mach Foundation

2-aminoacetophenone (AAP) is regarded as one of the main responsible of the well-known sensory deviation named atypical ageing defect (ATA)[1,2], being the presence of indole-3-acetic acid (IAA) and tryptophan (Trp) in musts the principal cause of this aroma defect. Recent studies identify other possible precursors as indole-3-acetaldehyde (IAAld), indole-3-acetonitrile (IAN), indole-3-acetaldoxime (IAOx), indole-3-acetamide (IAM), indole-3-lactic acid (ILA), indole-3-pyruvate (IPA), N-hydroxyl tryptamine (NHT) and tryptamine (TAM)[3]. The investigation of these compounds is an important matter in the quality control of beverages because these molecules are involved in the formation of AAP means avoiding problems during fermentation or wine ageing.

This work aimed to study the distribution of AAP precursors in skins, pulps and seeds of wine grapes focusing on two hybrid grape varieties, Solaris and Cabernet cantor, and on two European ones, Chardonnay and Merlot, using UHPLC-HRMS. In particular, IAA and Trp were quantified, while IAAld, IAN, IAOx, IAM, ILA, IPA, NHT and TAM were tentatively identified establishing their untargeted profiles.

As regards nitrogen compounds, absolute targeted concentrations of the three grape fractions were reported in relation to a kg of grapes by considering the abundance of each part, expressed as a percentage of total berry weight.

Regardless the considered variety, the relative abundance of the precursors in each fraction, expressed as the mean of all samples, ranged up to 100% as an example IAA which was present only in skin , also Trp was mostly present in skin (71 %), followed by Trh (60 %) and Ska (54 %).

References

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[3] Pieck, M.; Yuan, Y.; Godfrey, J.; Fischer, C.; Zolj, S.; Vaughan, D.; Thomas, N.; Wu, C.; Ramos, J.; Celeza, J.L., Genetics, 2015, **201**, 1185-1190.