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Evaluation of wine aromatic compounds by a sensory human panel and an electronic nose.

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A comparative study between the perception and recognition thresholds of volatile components calculated for an electronic nose and a human sensory panel is presented. The electronic nose is home-developed for wine purposes and is based on thin film semiconductor sensors. The human sensory panel is formed by 25 tasters with previous experience in wine tasting. Both systems were trained in parallel to detect 17 volatile compounds involved in aromatic and off-flavor notes (grouped under 9 aromatic descriptors) from the threshold concentrations found in the literature (T) to increasing concentrations (T, 2T, and 4T). The results showed that the perception level of the human nose is superior in relation to the electronic nose, but the electronic nose gave better results in the recognition threshold of the some aroma. According to these results, it can be concluded that the electronic nose could be a useful complementary tool to sensory human panels.

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