



ELSEVIER

Contents lists available at ScienceDirect

Data in Brief

journal homepage: www.elsevier.com/locate/dib



Data Article

Comparison data of common and abundant terpenes at different grape development stages in Shiraz wine grapes



Pangzhen Zhang^a, Sigfredo Fuentes^a, Tracey Siebert^b,
Mark Krstic^c, Markus Herderich^b, Edward William R. Barlow^a,
Kate Howell^{a,d,*}

^a Faculty of Veterinary and Agricultural Sciences, University of Melbourne, Parkville, VIC 3010, Australia

^b Australian Wine Research Institute, Urrbrae, SA 5064, Australia

^c Australian Wine Research Institute, Mooroolbark, VIC 3138, Australia

^d INRA, UMR1083 SPO, 2, Place Viala, F-34060 Montpellier, France

ARTICLE INFO

Article history:

Received 22 February 2016

Received in revised form

14 April 2016

Accepted 7 July 2016

Available online 14 July 2016

Keywords:

Rotundone

Terpene

Sesquiterpene

Grape ripening

ABSTRACT

Terpenoids were extracted from grape vine bunches during plant development and analysed by GC-MSD. The grapevines analysed were from a commercial harvest of *Vitis vinifera* cv. Shiraz. The terpenoids were analysed from 4 weeks post flowering (wpf) to harvest in one season. The data are presented with the structure of the compound and aroma profile and semi-quantified. The subclass of sesquiterpenes was given special attention, and this data set describes the first analysis of these compounds during ripening of this important economic crop. Sesquiterpenes may have a hitherto described contribution to wine aroma. This data set may provide insight into biosynthetic pathways and aroma chemistry. Interpretation of our data and further discussion can be found in "Terpene evolution during the development of *Vitis vinifera* L. cv. Shiraz grapes" (Zhang et al., 2016) [1].

© 2016 Published by Elsevier Inc. This is an open access article under the CC BY license

(<http://creativecommons.org/licenses/by/4.0/>).

DOI of original article: <http://dx.doi.org/10.1016/j.foodchem.2016.02.125>

* Corresponding author at: Faculty of Veterinary and Agricultural Sciences, University of Melbourne, Parkville, VIC 3010, Australia.

E-mail address: khowell@unimelb.edu.au (K. Howell).

<http://dx.doi.org/10.1016/j.dib.2016.07.010>

2352-3409/© 2016 Published by Elsevier Inc. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

Specifications table

Subject area	<i>Chemistry, Biology</i>
More specific subject area	<i>Aroma chemistry of wine grapes</i>
Type of data	<i>Table</i>
How data was acquired	<i>Gas chromatography- mass spectrometry. An Agilent Technologies 6890 gas chromatograph (GC; Agilent Technologies, Santa Clara, CA) was equipped with a Gerstel MPS2 multipurpose sampler and coupled to an Agilent 5973 mass selective detector (MSD).</i>
Data format	<i>Analyzed</i>
Experimental factors	<i>Grape samples were homogenized and the volatile fractions directly sampled using SPME.</i>
Experimental features	<i>The physiological stages of grapevine ripening were comprehensively sampled, from weeks post flowering (wpf) until physiological ripening. Grape samples were homogenized, extracted and the sesquiterpene fraction qualified and quantified to compare the concentration and accumulation over time.</i>
Data source location	<i>The Old Block, Mount Langi Ghiran 37.31°S, 143.15°E, Victoria, Australia</i>
Data accessibility	<i>Data is with this article</i>

Value of the data

- This data is a comprehensive list of terpenoids from bunches during ripening of wine grapes and is presented by calculating the total peak area of the compound with the total terpenoid peak area. The data is also semi-quantified by presenting as $\mu\text{g } \alpha\text{-copaene equivalents/ mean berry weight in kg}$. The structure of the compound and aroma descriptor (if known) is given.
- Comparison with other vineyard studies to gain insight into the cultivar-dependent synthesis of these compounds is valuable. Understanding the importance of weather and climate, cultural practices and maximizing aroma in wine could be areas of further investigation.
- Absolute quantification by synthesis of the deuterated analogs, importance to aroma of wine and understanding the biosynthetic pathways of terpenoids are possible areas of collaboration for future research.

1. Data

Terpenoids are important plant secondary compounds and wine aroma compounds. Terpenoids were analysed in grapevines (*Vitis vinifera* cv. *Shiraz*) during physiological ripening, from weeks post flowering (wpf) (Table 1).

2. Experimental design, materials and methods

The vineyard is located approximately 15.5 km east to the nearest Bureau of Meteorology (BOM) weather station (Ararat Prison Station, Vic, Australian BOM Station No. 089085). The long-term mean January temperature (MJT) and annual average rainfall recorded at this weather station by February 2015 is 19.1 °C and 584.2 mm, respectively. Therefore, the viticulture region is classified as a cool climate wine region [2]. The MJT and total rainfall from October to harvest for the studied season

Download English Version:

<https://daneshyari.com/en/article/6597479>

Download Persian Version:

<https://daneshyari.com/article/6597479>

[Daneshyari.com](https://daneshyari.com)