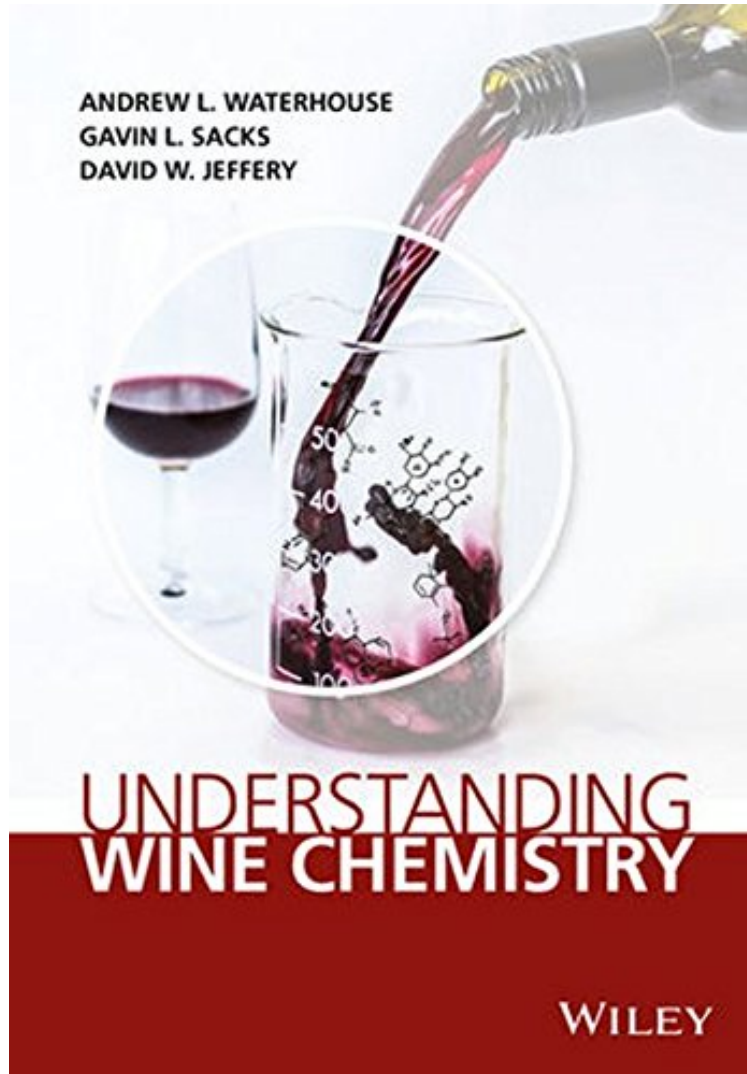


(Download) Understanding Wine Chemistry

Understanding Wine Chemistry

Andrew L. Waterhouse, Gavin L. Sacks, David W. Jeffery
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Andrew L. Waterhouse, Gavin L. Sacks, David W. Jeffery : Understanding Wine Chemistry before purchasing it in order to gauge whether or not it would be worth my time, and all praised Understanding Wine Chemistry:

2 of 2 people found the following review helpful. What is in your wine? By James Shurts Great Book! Very technical, but that is what I wanted. 5 of 5 people found the following review helpful. Although it might be an unnecessary amount of detail for a home winemaker or hobbyist By anonymous This is an exceptionally comprehensive resource for those in the production side of the wine industry or studying Enology or Viticulture. Although it might be an unnecessary amount of detail for a home winemaker or hobbyist, it's a book that will help bridge the gaps between other texts written for this field. However, if you are a home winemaker or hobbyist with a background in chemistry

and you're looking to increase your understanding of wine, this would be the best place to start. Principles and Practices is another great text but this is a thorough overview of wine composition and production.³ of 3 people found the following review helpful. A great scientific read for wine geeks, love it By Billo Naravane This is excellent book on wine chemistry. It has quickly become my go to reference. The authors have done a remarkable job; they have made difficult technical material accessible to someone who has taken freshman level organic chemistry. This is not an easy feat. The layout of the book is fantastic, each key topic is thoroughly explained in digestible chunks of 8-10 pages. Additionally, references are provided should you want to do a really deep dive of the material. If you are a wine geek this book is a must (pun intended).

Wine chemistry inspires and challenges with its complexity, and while this is intriguing, it can also be a barrier to further understanding. The topic is demystified in *Understanding Wine Chemistry*, which explains the important chemistry of wine at the level of university education, and provides an accessible reference text for scientists and scientifically trained winemakers alike. *Understanding Wine Chemistry: Summarizes the compounds found in wine, their basic chemical properties and their contribution to wine stability and sensory properties* Focuses on chemical and biochemical reaction mechanisms that are critical to wine production processes such as fermentation, aging, physiochemical separations and additions Includes case studies showing how chemistry can be harnessed to enhance wine color, aroma, flavor, balance, stability and quality. This descriptive text provides an overview of wine components and explains the key chemical reactions they undergo, such as those controlling the transformation of grape components, those that arise during fermentation, and the evolution of wine flavor and color. The book aims to guide the reader, who perhaps only has a basic knowledge of chemistry, to rationally explain or predict the outcomes of chemical reactions that contribute to the diversity observed among wines. This will help students, winemakers and other interested individuals to anticipate the effects of wine treatments and processes, or interpret experimental results based on an understanding of the major chemical reactions that can occur in wine.

"The book brings some new approaches of chemistry knowledge concerning wine composition, control and production. Each chemical family that can be found in grapes and wines have been studied with updates of the last knowledge in the field including structures and levels in grapes and wines with flavour and taste thresholds. Wine components and their reactions, as well as their role and sensory potential effects are included in a synthetic way. Off-flavours, taints and winemaking itinerary are also listed and updated. Biochemistry deals with major (bio) chemical reactions that occur during alcoholic fermentation and their role in forming secondary odorants and other important compounds in wine. Wine ageing including oak use is well described as well as the most relevant aspects of wine stabilization and fining, additives and processing aids. The book gives updated and accessible reference text for scientists, oenologists and scientifically trained winemakers. The book will be useful for students in the vines and wines field and will attract, researchers and consumers" Professor Pierre-Louis Teissedre, Université de Bordeaux - Institut des Sciences de la Vigne et du Vin, April 2017

About the Author Professor Andrew L. Waterhouse, Department of Viticulture Enology, University of California, Davis, USA. Andrew Waterhouse received his PhD in organic chemistry from UC Berkeley, and has been a wine chemist at the University of California, Davis since 1991. He teaches wine analysis, graduate level wine chemistry, and an online introductory wine course, and is Chair of the Viticulture and Enology graduate studies program. Former graduate students and postdocs are academics, industry scientists and winemakers. His research lab has reported key wine oxidation reactions and has developed new methods to analyse wine components including those using LC-MS with isotope filtering, as well as NMR techniques. The research has focused on wine phenolics, oak compounds and oxidation products. In addition his lab has also been addressing the metabolic products of phenolics. He publishes in numerous international journals in the fields of chemistry and agriculture, and serves as a chief editor at the *Journal of the Science of Food and Agriculture*. See: waterhouse.ucdavis.edu

Dr Gavin Sacks, Department of Food Science, Cornell University, USA. Gavin Sacks received his PhD in analytical chemistry from Cornell University, and following post-doctoral studies in nutritional sciences and biogeochemistry he began as a faculty in food science at Cornell in 2007. He has served as Director of Undergraduate Studies for Cornell's interdepartmental Viticulture and Enology undergraduate major, in which he also teaches courses in wine analysis and in wine flavor chemistry. His research interests include the development of both low-cost and state-of-the-art approaches to analysis of odorants and other organoleptically important compounds; and applying these tools to understanding the role of plant genetics, cultural practices, and post-harvest processing on sensory attributes of foods and beverages, particularly of wine.

Dr David Jeffery, School of Agriculture, Food and Wine, University of Adelaide, USA. David Jeffery received his PhD in synthetic organic chemistry from Flinders University, and has been involved with wine chemistry for over a decade, initially as a researcher at The Australian Wine Research Institute before transitioning to The University of Adelaide in 2010. He teaches wine chemistry to undergraduate and Master level students, delivering topics associated with stabilization, clarification, distillation, wine aroma, polyphenols, and analytical methods. He also helped to develop and deliver a free online wine education course called Wine 101x, offered on the EdX platform. David's research areas extend to on many

aspects of wine chemistry, with special interests in polyphenols and aroma compounds and their precursors. He utilizes his expertise in synthetic organic chemistry and natural product isolation, purification and characterization, along with experience in developing and applying analytical methods, to improve understanding of grape and wine chemistry, particularly in relation to chemical composition and quality.