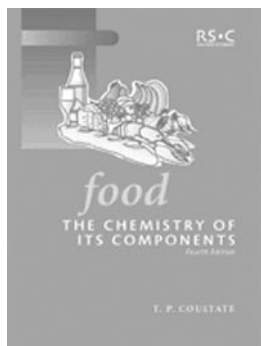


## A Tasty Bit of Chemistry

Juliet A. Gerrard\*



### Food: The Chemistry of its Components

T. P. Coultate

Royal Society of Chemistry,  
Cambridge, U.K.

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Food chemistry is an interesting discipline, full of tensions. It must meet the needs of both food scientists who demand efficient and reliable tests to ensure quality assurance, and academic researchers seeking precise chemical descriptions of food processing. We remain a long way from knowing exactly which molecules, in which concentrations, are required to make a food taste or smell a particular way, or provide a particular mechanical property. This leaves food chemistry sandwiched between the conflicting approaches of its component disciplines. Faced with an analytical challenge in the carbohydrate arena, a chemist will start with a simple sugar molecule and work up; a food scientist, on the other hand, will start with a custard slice and work down; the food chemist must reconcile the two sets of results and create a model of the system consistent with both views. Progress in food chemistry is often made by striking a productive compromise between precise chemical definition and accurate measurement of a particular property of the food in question.

This 'compromise' approach often leads to working definitions that are confusing at best, and irritating at worst, especially to those trained in pure chemistry. Many contemporary food texts focus on the properties of the food itself and gloss over the chemical details, which are often poorly defined. Such accusations cannot easily be levelled at *Food: The Chemistry of its Components*, which provides a breath of chemical rigour to the food chemistry arena. As the title suggests, the emphasis is very much on the chemistry of the food components, and less on how these components interact to make the foodstuff. As such, the text is ideal for the chemist interested in food, although it may irritate the food scientist who would like to know more about how the components interact in a food processing context.

Now in its fourth edition, this book is becoming a classic text and has maintained its traditional structure. After a brief introduction, each chapter tackles a particular food component (sugars, polysaccharides, lipids, proteins, colours, flavours, vitamins, preservatives, undesirables, minerals, and—very important but often overlooked—water) in considerable detail. In each case, plenty of background

chemistry is provided before the attention turns to food. Refreshingly, the chemical basis of some common analytical tests is also included. The author is also undeterred by concepts that are challenging to explain in an introductory text. For example, the discussion of colour measurement is very helpful—clearly outlining the particular challenges that the food matrix poses to the analytical chemist.

In places, quite high level research concepts are included—giving the reader a taste for more, and the further reading section gives an easy entry into the research literature. The shift in gear from the very basic to the very complex can sometimes be quite startling, but is mostly well managed by the use of boxes. In places, the research material presented is not quite up-to-date, but a good flavour of current knowledge is provided throughout, with an impressive level of detail.

*Food: The Chemistry of its Components* is aimed at 'students and teachers of food science and nutrition courses in universities, colleges of further education and school' as well as 'anyone with an interest in food issues.' The writing style is very conversational and easy to read, if a little indulgent with its asides. Those looking for a quick answer to a quick question will be disappointed. However, it doesn't make bad bedtime reading. If you are the sort of person who wonders how many insects it takes to make a bottle of cochineal, or how they make those artificial cherries on the top of cream buns—this book is for you.

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