Commentary
Volume 8:5, 2022

Journal of Experimental Food Chemistry

ISSN: 2472-0542 Open Access

Food Chemistry and their Applications

Jean Paul*

Department of Biological Sciences, Regional University of Cariri, CEP 63105-000, Crato, Ceara, Campus Pimenta, Brazil

Introduction

The study of chemical reactions and interactions between all biological and non-biological components of food is known as food chemistry. As examples of biological substances, consider foods like beef, poultry, lettuce, beer and milk. In terms of its primary constituents, such as carbs, lipids and protein, it is comparable to biochemistry; however, it also encompasses elements like water, vitamins, minerals, enzymes, food additives, tastes and colours. This field of study also includes measures to improve or prevent the way products change when subjected to specific food processing methods. Allowing dairy products to ferment with bacteria that turn lactose into lactic acid is an example of improving a process; inhibiting a process would be to halt the browning of newly cut fruit and vegetables [1].

Description

Wax, fatty acids (including essential fatty acids), phospholipids generated from fatty acids, sphingolipids, glycolipids and terpenoids, including retinoids and steroids, are just a few examples of the wide variety of molecules that fall under the umbrella word "lipid." While some lipids have ring structures, others are linear aliphatic molecules. Others aren't aromatic, while some are. While some are malleable, others are unyielding. The majority of lipids are primarily nonpolar and also contain some polar characteristics. They often have a nonpolar or hydrophobic (or "water-fearing") majority, which means that it has poor interactions with polar solvents like water. They also have a polar or hydrophilic (literally, "loves water") component to their structure, which tends to associate with polar solvents like water.

Food chemistry is one of the many subfields of food science that examines how foods and food products' chemical, physical and functional qualities change throughout the course of various processing steps and storage intervals. Based on contemporary chemistry and biology, the study of food chemistry has advanced quickly in recent years. Recent improvements have mostly been made in the chemical properties of food additives and food components in the context of food quality and safety. Nutraceuticals and functional foods will be included in the development of food chemistry in the future [2]. Foods are a concoction of elements that can provide the body with nutrients that, once metabolised, are primarily utilised to produce energy, heat, replenishment and material for organs and tissues to grow. This ensures the regular performance of critical processes required for the human body's growth. In order to describe foods' nutritional and market values, it is important to understand their chemical makeup and the characteristics of the components that make up each one.

Chemicals are the fundamental building blocks of the entire universe. Chemicals make up all living things, including people, animals and plants. Chemical components make up every food item. Chemicals included in food are generally safe and are frequently beneficial; for instance, nutrients like carbs, protein, fat and fibre are made up of chemical compounds. Many of these come in their natural forms and enhance both our dining pleasure and a well-rounded diet [3]. But chemicals can have a range of toxicological characteristics, some of which could have an impact on both people and animals. Unless we are exposed to them at high quantities and over an extended period of time, these are often not dangerous. By identifying safe levels, scientists contribute to protecting against these negative impacts. Decision-makers are informed by this scientific guidance.

Chemicals like plastic that can leach into food can be found in food packaging materials and containers like bottles, cups and plates that are meant to ease food handling and transportation. Other chemicals may be used to treat crops or farm animals for diseases, or they may occasionally end up in food due to production procedures like heating, cooking, or decontamination. Natural poisons produced by some plants and fungi have the potential to contaminate crops and pose a risk to both human and animal health. Additionally, both naturally occurring and artificial chemical substances that are present in the environment at different concentrations, such as in the soil, water and atmosphere, might expose people. Industrial contaminants like dioxins and PCBs are two examples. Various quantities of naturally occurring chemical substances, such as metals and nitrates, can be found in the soil, water and atmosphere. Because of their prevalence as environmental contaminants, as a result of human activities like farming, industry, or car exhausts, or as a result of food production like high-temperature cooking, they can also appear as residues in food. They can be picked up from the environment or consumed through tainted food or drink [4].

Concepts from rheology, theories of transport processes, physical and mathematical chemical reaction kinetics, quantum mechanics and chemical bonding and interaction forces. Colloidal interactions, disordered/noncrystalline solids, glass transitions, freezing and biopolymer science are among examples. Numerous methods, including dynamic rheometry, optical microscopy and electron MRI, spectroscopy (NMR, FTNIR/IR, NIRS, Raman, ESR and EPR, Fluorescence, FCS, HPLC, microscopy, AFM, light scattering, X-ray diffraction/neutron diffraction GC-MS and other similar analytical methods, as well as knowledge of food attributes and food processing demands understanding of physical chemistry and how it relates to particular foods and food processes. Because chemistry is crucial for enhancing food quality, stability and product development.

The study of chemical reactions and interactions between all biological and non-biological components of food is known as food chemistry. As examples of biological substances, consider foods like beef, poultry, lettuce, beer and milk. In terms of its primary constituents, such as carbs, lipids and protein, it is comparable to biochemistry; however, it also encompasses elements like water, vitamins, minerals, enzymes, food additives, tastes and colours [5].

Conclusion

The study of chemical reactions and interactions between all biological and non-biological components of food is known as food chemistry. As examples of biological substances, consider foods like beef, poultry, lettuce, beer and milk. In terms of its primary constituents, such as carbs, lipids and protein, it is comparable to biochemistry; however, it also encompasses elements like water, vitamins, minerals, enzymes, food additives, tastes and colours. This field of study also includes measures to improve or prevent the way products change when subjected to specific food processing methods. Allowing dairy

***Address for Correspondence:** Jean Paul, Department of Biological Sciences, Regional University of Cariri, CEP 63105-000, Crato, Ceara, Campus Pimenta, Brazil; E-mail: jpaul777@gmail.com*

Date of Submission: 05 July, 2022, Manuscript No. jefc-22-78518; **Editor Assigned:** 11 July, 2022, PreQC No. P-78518; **Reviewed:** 20 July, 2022, QC No. Q-78518; **Revised:** 25 July, 2022, Manuscript No. R-78518; **Published:** 29 July, 2022, DOI: 10.37421/ 2472-0542.2022.8.422

products to ferment with bacteria that turn lactose into lactic acid is an example of improving a process; inhibiting a process would be to halt the browning of newly cut fruit and vegetables.

Acknowledgement

None.

Conflict of Interest

There are no conflicts of interest by author.

References

1. Betancourt, Joseph R. and Marina C. Cervantes. "Cross-cultural medical education in the United States: key principles and experiences." *Kaohsiung J Med Sci* 25 (2009): 471-478.
2. Siegel, Rebecca L., Kimberly D. Miller and Ahmedin Jemal. "Cancer statistics, 2019." *CA Cancer J Clin* 69 (2019): 7-34.
3. Frosch, Michael, Thomas Vogl, Rüdiger Waldherr and Clemens Sorg, et al. "Expression of MRP8 and MRP14 by macrophages is a marker for severe forms of glomerulonephritis." *J Leuko Biol* 75 (2004): 198-206.
4. Solla, Paolo, Antonino Cannas, Federica Carla Ibba and Federico Loi, et al. "Gender differences in motor and non-motor symptoms among Sardinian patients with Parkinson's disease." *J Neurol Sci* 323 (2012): 33-39.
5. Bai, Yongsheng, Claudio Casola, Cédric Feschotte and Esther Betrán, et al. "Comparative genomics reveals a constant rate of origination and convergent acquisition of functional retrogenes in Drosophila." *Genome Biol* 8 (2007): 1-9.

How to cite this article: Paul, Jean. "Food Chemistry and their Applications." J Exp Food Chem 8 (2022): 422.