

Complex Analysis By Arumugam

Metagenomics

Qin J, Li R, Raes J, Arumugam M, Burgdorf KS, Manichanh C, et al. (March 2010). "A human gut microbial gene catalogue established by metagenomic sequencing"

Metagenomics is the study of all genetic material from all organisms in a particular environment, providing insights into their composition, diversity, and functional potential. Metagenomics has allowed researchers to profile the microbial composition of environmental and clinical samples without the need for time-consuming culture of individual species.

Metagenomics has transformed microbial ecology and evolutionary biology by uncovering previously hidden biodiversity and metabolic capabilities. As the cost of DNA sequencing continues to decline, metagenomic studies now routinely profile hundreds to thousands of samples, enabling large-scale exploration of microbial communities and their roles in health and global ecosystems.

Metagenomic studies most commonly employ shotgun sequencing though...

Article 13 of the Constitution of Singapore

order, public health or the punishment of offenders In the Malaysian case Arumugam Pillai v. Government of Malaysia (1976), the Federal Court construed the

Article 13 of the Constitution of the Republic of Singapore, guarantees a prohibition against banishment and the right to freedom of movement.

Phosphonate

Analysis. 11: 835-842. doi:10.1080/00103628009367083. Abhimanyu S. Paraskar & Arumugam Sudalai (2006). "A novel Cu(OTf)2 mediated three component high yield synthesis

In organic chemistry, phosphonates or phosphonic acids are organophosphorus compounds containing C–PO(OR)₂ groups, where R is an organic group (alkyl, aryl). If R is hydrogen then the compound is a dialkyl phosphite, which is a different functional group. Phosphonic acids, typically handled as salts, are generally nonvolatile solids that are poorly soluble in organic solvents, but soluble in water and common alcohols.

Many commercially important compounds are phosphonates, including glyphosate (the active molecule of the herbicide Roundup), and ethephon, a widely used plant growth regulator. Bisphosphonates are popular drugs for treatment of osteoporosis.

In biochemistry and medicinal chemistry, phosphonate groups are used as stable bioisosteres for phosphate, such as in the antiviral nucleotide...

SMC protein

CS1 maint: multiple names: authors list (link) Haering CH, Farcas AM, Arumugam P, Metson J, Nasmyth K (2008). "The cohesin ring concatenates sister DNA

SMC proteins represent a large family of ATPases that participate in many aspects of higher-order chromosome organization and dynamics. SMC proteins are widely conserved across bacteria, archaea, and eukaryotes. In eukaryotes, they function as the core ATPase subunits of large protein complexes such as condensin, cohesin, and SMC5/6.

The term SMC derives from a mutant strain of *Saccharomyces cerevisiae* named smc1 (stability of mini-chromosomes 1), which was identified based on its defect in maintaining the stability of mini-chromosomes. After the gene product of SMC1 was characterized, and homologous proteins were found to be essential for chromosome structure and dynamics in many organisms, the acronym SMC was redefined to stand for "Structural Maintenance of Chromosomes".

Complement system

11: 607211. doi:10.3389/fimmu.2020.607211. PMC 7770156. PMID 33384694. Arumugam TV, Shiels IA, Woodruff TM, Granger DN, Taylor SM (May 2004). *"The role*

The complement system, also known as complement cascade, is a part of the humoral, innate immune system and enhances (complements) the ability of antibodies and phagocytic cells to clear microbes and damaged cells from an organism, promote inflammation, and attack the pathogen's cell membrane. Despite being part of the innate immune system, the complement system can be recruited and brought into action by antibodies generated by the adaptive immune system.

The complement system consists of a number of small, inactive, liver synthesized protein precursors circulating in the blood. When stimulated by one of several triggers, proteases in the system cleave specific proteins to release cytokines and initiate an amplifying cascade of further cleavages. The end result of this complement activation...

Hao Wu (biochemist)

Pascal; Fontana, Pietro; Dong, Ying; Ma, Xiyu; Miao, Rui; Balasubramanian, Arumugam (2024-06-13). *"ROS-dependent S-palmitoylation activates cleaved and intact*

Hao Wu (Chinese: 吴昊; pinyin: Wú Hào) is a Chinese American biochemist and structural biologist. She is the Asa and Patricia Springer Professor of Structural Biology in the Department of Biological Chemistry and Molecular Pharmacology at Harvard Medical School, and a Senior Investigator in the Program in Cellular and Molecular Medicine at Boston Children's Hospital. Her work focuses on molecular mechanisms of signal transduction in cell death and inflammation in innate immunity. She discovered large, higher-order protein assemblies involved in cell death and immune signaling - structures that, unlike traditional protein complexes, form filaments or circular oligomers and often lack fixed stoichiometry. These assemblies illuminate molecular mechanisms of proximity-driven enzyme activation, threshold...

List of psilocybin mushroom species

Chattopadhyay, Pinaki; Roy, Niranjana; Tanti, Bhaven; Biswas, Pinky Rani; Arumugam, Elangovan; Kezo, Kezhocuyi; Kaliyaperumal, Malarvizhi; Murugadoss, Ramesh;

Psilocybin mushrooms are mushrooms which contain the hallucinogenic substances psilocybin, psilocin, baeocystin and norbaeocystin. The mushrooms are collected and grown as an entheogen and recreational drug, despite being illegal in many countries. Many psilocybin mushrooms are in the genus Psilocybe, but species across several other genera contain the drugs.

Microbiota

Naccarati A, Segata N, Sinha R, Ulrich CM, Brenner H, Arumugam M, Bork P, Zeller G (April 2019). *"Meta-analysis of fecal metagenomes reveals global microbial*

Microbiota are the range of microorganisms that may be commensal, mutualistic, or pathogenic found in and on all multicellular organisms, including plants. Microbiota include bacteria, archaea, protists, fungi, and viruses, and have been found to be crucial for immunologic, hormonal, and metabolic homeostasis of their host.

The term microbiome describes either the collective genomes of the microbes that reside in an ecological niche or else the microbes themselves.

The microbiome and host emerged during evolution as a synergistic unit from epigenetics and genetic characteristics, sometimes collectively referred to as a holobiont. The presence of microbiota in human and other metazoan guts has been critical for understanding the co-evolution between metazoans and bacteria. Microbiota play key...

Aluminylene

doi:10.1002/anie.199508091. ISSN 0570-0833. Dhara, Debabrata; Jayaraman, Arumugam; Härterich, Marcel; Dewhurst, Rian D.; Braunschweig, Holger (2022-05-18)

Aluminylenes are a sub-class of aluminium(I) compounds that feature singly-coordinated aluminium atoms with a lone pair of electrons. As aluminylenes exhibit two unoccupied orbitals, they are not strictly aluminium analogues of carbenes until stabilized by a Lewis base to form aluminium(I) nucleophiles. The lone pair and two empty orbitals on the aluminium allow for ambiphilic bonding where the aluminylene can act as both an electrophile and a nucleophile. Aluminylenes have also been reported under the names alumpylenes and alanediyli.

The +1 oxidation state for aluminium is less stable than heavier group 13 elements, but the lower stability and higher reactivity of aluminium(I) compounds make for interesting chemistry. The first aluminium(I) compound to be isolated was Dohmeier's (AlCp*...

Thiruvalluvar

2000, pp. 454 with footnote 7. Thiruvalluvar Ninaivu Malar, 1935, p. 117. Arumugam, 2014, pp. 5, 15. Iraikkuruvar, 2009, p. 72. Robinson, 1873, pp. 15,

Thiruvalluvar commonly known as Valluvar, was an Indian poet and philosopher. He is best known as the author of the Tirukkural, a collection of couplets on ethics, political and economic matters, and love. The text is considered an exceptional and widely cherished work of Tamil literature.

Almost no authentic information is available about Valluvar, states Kamil Zvelebil – a scholar of Tamil literature. His life and likely background are variously inferred from his literary works by different biographers. There are unauthentic hagiographic and legendary accounts of Valluvar's life, and all major Indian religions, as well as Christian missionaries of the 19th century, have tried to claim him as secretly inspired (crypto-) or originally belonging to their tradition. Little is known with certainty...

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