Issue 2 | ISSN: 2456-3315 IJRTI2302044 International Journal for Research Trends and Innovation

Article · October 2023

CITATIONS
0

READS
57

1 author:

Hiran Das Mahar
RG Govt PG Autonomous College Ambikapur
32 PUBLICATIONS **27** CITATIONS

SEE PROFILE

Introduction to Experimentation on Silicon Based Microbe Synthesis.

H D Mahar[1] , Durgesh Mahar[2], and Divya Mahar[3]

Department of Botany, RG Govt. PG Autonomous College, Ambikapur, C G 497001 India
School of Life Science. Devi Ahilya Vishwavidyalaya, Indore, M P, 452010, India
Technical Assistant, Food Microbiology, FSSAI Branch Erragadda, Hyderabad, India.

Abstract

This paper deals with an introduction to innovative experimentation on silicon-based life particle synthesis. Previous studies on Silicon-based life are kept in mind. In the Lab, 5 mg multi amino acids, and 5 mg multivitamins, is mixed with 5 gm pure silicon powder were made into a liquid paste with 5 ml distal water. It was put in 03 glass tubes. Glass tubes are packed by cello tape; the first of it is put in liquid nitrogen; the second is thermostat adjusting 65 ^{o}C and third in Atm. Temp. 26^{0}C on 19 September 2022 and Result is bserved on 10 February 2023. Simulation of silicon bacteria is discussed.

Key words:
Silicon Bacteria, Xeno biology, Alien , Horta, Lithovore, Star Trek and silicon life.

I INTRODUCTION

Chemistry of life on Earth are organic i.e. Carbon based where,water used as solvent. Here, from water come hydrogen bonds, which give structural stability to large bio molecules (nucleic acids, ATP and NADH). Other biologically important atoms are hydrogen, nitrogen, oxygen and phosphorus,. [1,2]

Silicon is used for the Production of electronic devices, like transistor, integrated circuits, solar cells, computer chips, micro electronics, Great semiconductor used to make concrete and bricks. Silicone Implants, and microchips, Principal ingredient of glass, duplicate organ, robotics dolls and robotics .Silicon has similar chemical properties to Carbon e. g. same number of electrons in the outer shell, i.e.Four bonding sites and both can form complex molecules. Both can form longs chains or polymersMost likely element as a alternative to carbon. This theory was proposed by Julius Scheiner (1891)
Astrophysicist at the University of Potsdam. He was first to theorize about possibility of life based on silicon. Julius Scheiner Thought of Mercury, Venus, and Mars Jupiter, Saturn, and Uranus might contain life[3,4]

James Emerson Reynolds (1983) pointed out that the heat stability of silicon compounds might allow life to exist at very high temperatures and John Haldane(1929) suggested that life might be found deep inside a planet based on partly molten silicate. It's a type of rock that consists of silicon and oxygen and it form most of any terrestrial planet's crust oxidation of iron perhaps providing it with energy[5].

There are literatures in Xeno-biology that Aliens, Horta, Lithovore, and Star Trek can move through rock as easily as humans move through air. It resemble a crystal robotic insect and could consume crystalline vegetation live under very dense and thick atmosphere. Silicon based -life lives on electric energy generated by an internal reactor ,-lives underground, or on planate , comets out of earth having an artificial Intelligence. Robots -can process abstract thoughts and ideas which is non living computational physics . But Aliens, Horta, Lithovore, and Star Trek are suggested alive? [6]

MATERIAL AND METHOD

The synthesis of silicon and silica nano particle composites by the bacterium *Actinobacter* sp. is demonstrated by Sanjay Singh, Umananda et al. [7] Amino acid kit was purchased from Loba Chemie Pvt Ltd. Gehangir Villa, Wodehouse Road Colaba Mmbai India.[8, 9] From the kit 9 amino acids namely 1. Glutamic acid 2. Aspartic acid 3. Argnine 4. Valine 5. Histedine 6. Butyric acid 7. Serine 8 tryptophan and 9. Glycine. Put out and mixed with 5 gram pure Silicon powder. Silicon powder was purchased from Saveer Matrix Nano Pvt Ltd. D-54 Surajpur, Greator Noida India. Multi vitamin capsule is taken from Medical Store at Ambikapur India and vitamine content of 5 capsules are mixed into Silicon and Aminoacids mixture. Then It is made equas paste with 5 ml distil water. Figures 1 aminoacids kit applied in this experiment. Figure 2 represents multi vitamin packet figure 3 and figure 4 represent the mixing these in pure silica powder with distilled water. Figure 5 depicts, that mixture paste is put inside three glass tubes. One of them was put in Liquid Nitrogen Container, Second glass tube is put in thermostat oven at 61^{0}C as represented in figure 6 and third glass tube is put in incubation chamber in room temperature, Thus Silicon Bacteria culture is established for observation after four months.

Figure 1 Aminoacid Kitt

Figure2 Multivitamin

Figure3 Mixed to Silicon Powder

Figure 4 Making paste with disttled water

Figure 5 paste in three Glass Tubes

Figure 6 Tube in Thermostat Oven

Figure7. Liquid Nitrogen

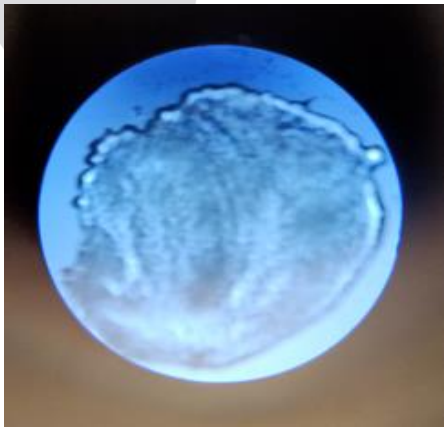

Figure8. Observation Under Microscope

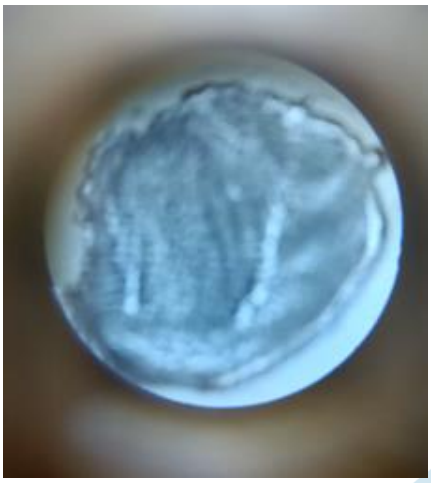

Figure9 dilution of slide by N-Butenol

\

Figure10 Vew of slide of LN Temp.

Figure11 Vew of slide of Env. Temp.

Figure12 Human epithelium in Siliculosis

For the observation of hot , cold and environmental temperature after four months. At first, Slides and incubation stick is sterilized and material tube was opened in aseptic condition. Material tubes, i.e., Silicon mixture with multi amino acid and multivitamin is touched with clean stick and made a layer on slide. Put under high power compound microscope and made photographs. Figure7 represents the putting out material tube from liquid nitrogen container for microscopic study.

RESULT AND DISCUSSION

Figure 08 represents the cryogenic Silicon life but it was very thick, therefore it was made thin by N Butenol. Since, Alcohol is antibacterial, while Butenol is used for cell fixative. Figure 09 represents median thick slide and figure 10 represents the microscopic photo of slide of material tube put in LN container. Figure 11 represents the same method done the final slide of environmental temperature. Liquid Nitrogen_evaporates and lost. Since Nitrogen evaporates in environmental temperature and seems dangerous. But veterinary doctors have LN for an animal's breeding probe. For cryogenic Silicon Based Life, one can put in the innermost bock of a Frizz. Although, Microbes could be clearer in the slide of environmental temperature.

The observation of thermostat was found to be dry Ash of silicon powder. This would be probably needing specific medium like liquid hi Sulfuric acid Or such stable liquid to not be incorporated to make material dry. Although, Microbes could be seen, but confirmation must on thermopiles silicon life. It needs further study. Although, Xeno- biology or Alien's study is suggested nonscientific. [10, 11] Even then, there are abundance of evidence of UFO [12-18]

OBSTACLES FACING SILICON BASED LIFE

Silicon is unstable or very reactive in many conformations. It makes aromatic rings, long chains, multi-ring chains. This property is applied in biosilicon application. But in Large silicon molecules has never occurred in nature. Largest silicon molecules found only consist of 6 silicon atoms. Therefore, it would not be able to form large molecules such as proteins. The enzymes are a form of proteins, without enzymes, the chemical reactions will occur very slowly. Silicon lacks chirality *i.e* a geometric property of element unable to combination of rotation translation, like left and right-handed conformation. But life as we know it utilizes only the right-hand sugars and the left-hand amino acids, and biochemical reactions for life are very specific For many large bio molecules are so precise that a single conformational change (right to left) around one carbon atom would block the reaction [19]

Bob Hazen in NASA Astrobiology Institute limits the number of different reactions available Silicon combines well with other atoms. Its electro negativity is much less than carbon. i.e. Si has -longer bond length and the bonds easier to break when reacted with oxygen, silicon forms a solid Silica. silicon dioxide is a solid (sand), while carbon dioxide is gas. Silicon has a strong

affinity for oxygen, so its hard to stop the oxidation of silicon. Thus it would need a way to get rid of the enormous amount of solid waste. [20, 21]

REQUIREMENT FOR SILICON BASED LIFE

1.A method of converting a simple silicon compound into a more complex and stable one using an energy source, heat, electricity, light,sound?

2.The existence of complex silicon compounds that can serve as energy sources and catalysts for silicon metabolism.

3.Existence of a suitable solvent *e.g.* Methane, Sulfuric Acid, or deep marine.4Areas Where Silicon Based Life is Possible. Like, Oxygen Free Environment, Extremely hot environment, or very low temperature, and High pressure Environment like deep sea. 5Earth's Core, -could explain the formation of deeply buried oil, gas and mineral deposits. if they lived in ancient times. FURTHER SCOPE OF THIS STUDYAlthough we could not maintain hot thermostat and high presser, sulfurous atmosphere, or methane bathtub described as an extremes environment where silicon life is supposed to exists. An ethical issue of Alien is sure to be with harmony conversation. Working with pure Silicon powder is to be carefully operated since it causes disease Siliculosis. Figure 12 represent the human epithelium with Siliculosis. Thermostat incubation un success seems to be any stable medium at high temperature with safety precaution. But what it would be still a doubt. Author could not confirm to cryogenic bacteria at gene level, if Silicon is attached with DNA or not. Therefore, it is the introductory experimentation, and there is much further scope of this study.Silicon bacteria should be carbon free and multivitamin and multi amino acids are carbon based compound. And common bacteria can grow in nutritive medium. Therefore, it needs DNA level of examination..

REFERENCE

1. H. D. Mahar (2022), Mathematical modeling and simulation of 'Life Particle' IJRTI | Volume 7, Issue 7 | ISSN: 2456-3315 PP 1544-1552.
2. Michail Zak: "Particle of Life: Mathematical Abstraction or Reality?" Jet Propulsion Laboratory, California Institute of Technology, Senior Research Scientist, (Emeritus), Cypress, CA, USA; **Series:** Mathematics Research DevelopmentsBISAC:SCI040000. December 2013 https://novapublishers.com/shop/particle-of-life-mathematical-abstraction-or-reality/ Retrieved on 14. 07. 2021.
3. https://archive.org/details/newinternational17gilm/page/622/mode/1up?q=scheiner
4. Retrieved on 03-02-02023
5. Marché, J.D. (2007). Scheiner, Julius. In: , *et al.* The Biographical Encyclopedia of Astronomers. Springer, New York, NY. https://doi.org/10.1007/978-0-387-30400- 7_1230 https://link.springer.com/referenceworkentry/10.1007/978-0-387-30400-7_1230. Retrieved on 03-02-02023.
6. Silicon Based Life Forms https://studylib.net/doc/10240560/silicon-based-life- forms. Retrieved on 03-02-02023
7. https://aliens.fandom.com/wiki/Horta Retrieved on 03-02-02023
8. Sanjay Singh, Umananda M. Bhatta, P. V. Satyam, Alok Dhawan, Murali Sastry‡ and B. L. V. Prasad "Bacterial synthesis of silicon/silica nanocomposites" https://pubs.rsc.org/en/content/articlelanding/2008/jm/b719528a Retrieved on 03-02-02023.
9. ttps://pubs.rsc.org/en/content/articlelanding/2008/jm/b719528a Retrieved on 03-02-02023
11. https://www.nbcnews.com/mach/science/silicon-based-life-may-be-more-just-science- fiction-n748266 Retrieved on 03-02-02023. https://www.daviddarling.info/encyclopedia/S/siliconlife.html. Retrieved on 03-02-02023.
12. https://www.livescience.com/58727-silicon-based-alien-life-possible.html Retrieved on 03-02-02023.
13. https://blame.fandom.com/wiki/Silicon_Life Retrieved on 03-02-02023.
14. https://gizmodo.com/where-is-my-silicon-based-life-5020921 Retrieved on 03-02-02023.Magazine : "Astrobiology"