



# Is There Any Meaning of Planck's Constant Numbers as Regards to Quantum Superposition via the Chemical Atomic Masses of Nucleotide Bases?

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## Abstract

According to Quantum Perspective Model, this article attempts to researches the relationships between Planck's constant numbers and genetics codes. At first, Planck's constant number after comma is lined up in triplets. Secondly, Planck's constant numbers after comma are converted from decimal number system to binary number system. Thirdly, the outcome of numbers is converted again from binary number system to decimal number system partially. Fourthly, the outcomes of these decimal numbers are summed one by one. Fifthly, the result of addition corresponds to nucleotide bases [Adenine (A), Thymine (T) Guanine (G), Cytosine (C) and Uracil]. Sixthly, from Quantum Perspective Model, the consequence of this conversion corresponds not only with Adenine (A) nucleotide base both also corresponds to Thymine (T) nucleotide base. Lastly, also the first two Planck's constant numbers after comma approximately "67.2" corresponds to nucleotide bases. Namely, the number "66" equals to "Thymine (T)" nucleotide base and also the number "70" equals to "Adenine (A)" nucleotide base. In summary, this result is significant not only with the link between Planck's constant in Quantum Physics as regards Quantum superposition, but also with the link between genetic codes in Biochemistry. In other words, this article is another expression of Planck constant numbers in *Quantum Physics*, both with atomic mass weights in Chemistry and genetic codes in Biochemistry. As a result, this article also revealed not only the relationship between Planck constant numbers and chemical formulas, but also the relationship between Planck constant numbers and acid-base ratio and bony fishes.

## Subject Areas

Biochemistry, Quantum Physics and Mathematics

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## Keywords

Biochemistry, Quantum Superposition, Quantum Physics, Planck's Constant Numbers, Genetic Codes, Nucleotide Bases, Acid-Base Ratio, Bony Fishes, Binary Number Base Systems and Quantum Perspective Model

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## 1. Introduction

An experiment was conducted by Richard A. Hutchins to test if there is a deviation at Planck's constant numbers. As a result of this experiment, it was revealed that Planck constant numbers can change depending on some variables [1].

Before this article; Kevser Köklü researched the relationship between the velocity of light numbers and genetic codes [2]. With respect to Quantum Perspective Model [2], besides this article, the relation with Pi numbers [3] and nucleotide bases were explained by Kevser Köklü and Tahir Ölmez [4]. At the same time; the link between the irrational numbers and genetic codes was researched by Tahir Ölmez. These irrational numbers are golden ratio numbers [5], Euler numbers [6], square root of 2 [7], square root of 3 [8], square root of 5 [9], square root of 7 [10] and square root of 10 [11]. In sum, according to Quantum Perspective Model, the expression of irrational numbers as genetic codes can be found in the summary table. Also, the velocity of light numbers was sequenced not only as ACU [ADENINE(A), CYTOSINE(C) and URACIL(U)] in binary number base system, but also were sequenced as UUATACCTC/UUAUACCTC [Adenine (A), Thymine (T) Guanine (G), Cytosine (C) and Uracil] by Kevser Köklü [3]. Finally, Planck's constant numbers after comma can be sequenced as both Adenine (A) and Thymine (T).

This article attempts to shed lights on the relationship between Planck's constant numbers and chemical formulas and acid-base ratio and bony fishes.

## 2. Methods

In this research, this paper aims to search relations between Planck's constant numbers and binary number base system and chemical formulas of nucleotide bases.

The chemical structures of nucleotide bases consist of Carbon(C), Nitrogen (N), Oxygen (O) and Hydrogen (H) (Wieser E M *et al.*, 2013) [12]. For the representation of nucleotide bases (A, T, C, G and U) in chemical atoms; Please, see **Table 1**.

Planck's constant numbers (h):  $6.6260755 \times 10^{-34}$  J.s. [13].

Planck's constant numbers (h):  $0.66260755 \times 10^{-35}$  J.s.

First of all, please take the Planck's constant numbers after comma (0.66260755) as triplets, just like as triplet genetic codes (662-607-55). Secondly, convert these decimal numbers to binary number base. For example; 662: 1010011011, 607: 1001011111 and 55: 110111. Thirdly, after writing this binary

**Table 1.** Representation of nucleotide bases (A, T, C, G and U) in chemical atoms.

ATOMS/NUCLEOTIDE BASES	C = 6	H = 1	O = 8	N = 7	SUM
ADENINE: C <sub>5</sub> H <sub>5</sub> N <sub>5</sub>	5	5	-	5	70
THYMINE: C <sub>5</sub> H <sub>6</sub> N <sub>2</sub> O <sub>2</sub>	5	6	2	2	66
CYTOSINE: C <sub>4</sub> H <sub>5</sub> N <sub>3</sub> O <sub>1</sub>	4	5	1	3	58
GUANINE: C <sub>5</sub> H <sub>5</sub> N <sub>5</sub> O <sub>1</sub>	5	5	1	5	78
URACIL: C <sub>5</sub> H <sub>4</sub> N <sub>2</sub> O <sub>2</sub>	5	4	2	2	64

**Table 2.** Representation of decimal numbers in binary base for Planck's constant numbers after comma.

DECIMAL NUMBERS	1	2	3	4	5	6	7	15	27	55	607	662
BINARY NUMBERS	1	10	11	100	101	110	111	1111	11011	110111	1001011111	1010011011

numbers one by one, convert this binary numbers to decimal numbers again partially. For example, 662: 1010011011, 607: 1001011111 and (55: 110 111 OR 55: 1 101 11). Fourthly, add the partial decimal numbers respectively just like this. Please, see **Table 2**.

“662”; 10 = 2 and 100 = 4 and 11011 = 27 Totally: 2 + 4 + 27 = 33.

“607”; 100 = 4 and 101 = 5 and 1111 = 15 Totally: 4 + 5 + 15 = 24.

“55”; 110 = 6 and 111 = 7 Totally: 6 + 7 = 13 OR “55”; 1 = 1 and 101 = 5 and 11 = 3 Totally: 1 + 5 + 3 = 9.

Fifthly, add the total results of this numbers respectively (33 + 24 + 13 = 70 OR 33 + 24 + 9 = 66). Finally, see **Table 1** for the equivalents of these numbers. Namely, [Adenine (A): 70 and Thymine (T): 66].

In sum, after this research method with respect to Quantum Perspective Model, some remarkable consequences were reached by this article. This result will be put forth in next pages.

### 3. Discussion

According to Quantum Perspective Model, before this article, the relationship between Fibonacci sequence and genetic codes were studied by T. Negadi [14]. Besides this article, also the relationship between Fibonacci sequence and Euler's numbers were published by Tahir ÖLMEZ [15]. (Remember; Fibonacci sequence: 1, 1, 2, 3, 5, 8, 13, 21, 34 and 55...etc) [15]. If the number “55” is searched in the Fibonacci sequence, you can also see it in the fractions of Planck constants ( $6.6260755 \times 10^{-34}$ ). Let alone this previous similarity of the number “55”, the unchanged ratio of the golden mean numbers can be seen by dividing the numbers “55” and “34” (Remember; 55/34: 1,618) [5]. Interestingly, after looking for the number “55” at the Fibonacci sequence, the position of this number is also *tenth* just like as decimal (10) number base system.

A question might be asked, “Why are Planck Numbers taken as “*triples*”? As an answer to this question: The Universal Genetic Code Table consists of *triple* nucleotide bases [16] In addition, the common feature of “Adenine” and other nucleotide bases in general is that they have at least three atoms [Carbon(C), Nitrogen (N) and Hydrogen (H)] [12]. Not only the total atomic weights of these are fourteen, but also the maximum value number of acid base ratio equals fourteen, too ( $\text{ph} = 14$ ) (Please, see **Table 1**). But the total atomic weight of “Thymine” base atoms is twenty-two. It is nearly about to ratio of Pi numbers ( $22/7$ ).

#### 4. Results

According to Quantum Perspective Model, the Planck’s constant numbers after comma (0.66260755) can be converted from decimal number base system to binary number base system and vice versa. At first, the outcome of this numbers are “70” and “66”. One of the total number of “70” equals to “Adenine (A)” nucleotide base and also the other one equals to “Thymine (T)” nucleotide base (Please, See **Table 1**). Secondly, while calculating Planck’s constant numbers, in the transition from Decimal (10) to Binary (2) Number Based System, according to the Universal Genetic Code Table, codons were taken as *triple* nucleotide base codes and numbers were taken as *triples*. Fourthly, although “Adenine (A)” nucleotide base also consists of *three* atoms [Atomic weights (Carbon (C):6, Nitrogen (N):7 and Hydrogen (H):1] but “Thymine (T)” nucleotide base also consists of Oxygen (O) too. Lastly, the total basic atomic weights of “Adenine (A)” nucleotide base [(C):6+ (N):7 +(H)1:14] also equals “14” to the maximum value number of acid base ratio ( $\text{ph} = 14$ ) (Please, see **Table 1**). Interestingly, the total basic atomic weights of “Thymine (T)” nucleotide base [(C):6+ (N):7 +(H)1+(O)8:22] is also approximately similar to pi numbers ratio “ $22/7$ ”! Besides, Let alone previous results, according to Quantum Perspective Model, also the expression of *Pi numbers* consists of both “Adenine (A)” and “Thymine (T)” nucleotide bases as well. [3] (Remember; Pi numbers (as a  $22/7$ ): UTA [Uracil (U), Thymine (T), Adenine (A)] [14], also (see, **Table 3**). [Remember; Pi numbers (as an extended form): TCGATTATACTGGTTGGTTGTTAACGGTAC] [4].

#### 5. Conclusion

At first, this article attempts to shed lights on the relationships between some fundamental constants just like as Planck’s constant numbers and chemical atomic masses of genetic codes. Secondly, the representation of nucleotide bases (A, T, C, G and U) [18] in chemical atoms was calculated by Kevser Köklü and Tahir ÖLMEZ (See, **Table 1**). These calculations were attributed to Quantum Perspective Model by Kevser Köklü and Tahir ÖLMEZ. Thirdly, before this article, the relationships between velocity of light numbers and genetic codes were studied by Kevser Köklü [2]. Fourthly, the relationships between some irrational numbers and genetic codes were studied by Tahir ÖLMEZ (See, **Table 3**). Fifthly, after this previous research, the relation between Planck’s constant numbers and

**Table 3.** The summary of some irrational numbers and genetic sequences [11].

Irrational Numbers	Genetic Sequence
$\sqrt{2}$ [7]	GGATGTCTATTGAGTGACAA
$\sqrt{3}$ [8]	GGATGACTACGGGTTTAGAAA
$\sqrt{5}$ [9]	ATTTATTCAATACATAACCCCATGA
$\sqrt{7}$ [10]	GATTUCCCAUTAGAGTTAUTAGTTTGATT
$\sqrt{10}$ [11]	ATAAGTCATAAGTGTATTAGTTTAAACTG
Pi Numbers (as a 22/7) [3]	UTA [Uracil (U), Thymine (T), Adenine (A)]
Golden Ratio Numbers (only “618”) [5]	CAAT Box “GGCCAATCT”; TATA Box “TATAAAA”
Pi Numbers (as an extended form) [4]	TCGATTATACTGGTTGGTTGTTAACGGTAC
Euler’s Identity [17]	AAAGGUCCGUUAAUAAGUUAAAUUUAGGU
Euler’s Numbers [6]	AUGUUGAUAUTAAUCATC

nucleotide bases of genetic codes were defined apparently with these results. One of these result signs that Planck’s constant numbers can be expressed as Adenine (A) and Thymine (T) nucleotide bases. The other consequence of this result is the approximately *average* of five nucleotide bases (A, T, C, G and U) is “67.2” (See **Table 1**). The calculation of this average is here. (Totally A: 70+ T: 66+ C: 58+ G: 78+ U:64 = 336 and the average 336/5:67.2). Sixthly, a question can be asked just like as “Why the consequence of Planck’s Numbers are “*twin*”? As an answer to this question: The twin results of Planck Numbers at first can be interpreted as a meaning of “*Quantum Superposition*”. Because, superposition can be thought of as an equation with more than one solution. Based on this Quantum basis, an electron can be said to be in two places at once [19]. Namely, unlike a classical bit, a qubit can be in a superposition both in the “0” state and in the “1” state [20]. Another dazzling information is the function of transistors based on Silicon and Phosphorus atoms (Remember: Respectively, the atomic weight of Silicon is 14 and the atomic weight of Phosphorus is also 15 at the periodic table of elements) [12]. Another explanation of twin result can be “A-T” twin base “pairs”. Because of Adenine (A) and Thymine (T) base pair has two hydrogen bonds [21]. Seventhly, in respect of acid base ratio, the acid base ratio of blood and pure water is seven (ph = 7). The task of hemoglobin in the blood is to carry oxygen from the respiratory organs to the rest of the body [22]. The low pH, which is the unit of measure that reduces the affinity of hemoglobin and describes the degree of acidity or alkalinity of a solution, is called “ROOT EFFECT” and is seen only in the hemoglobin of *fish* [23]. Interestingly, the NCBI (The National Center for Biotechnology Information) results of irrational numbers and genetic codes are also “bony *fish*” (especially *Danio Rerio*) too [11].

Finally, it has been revealed that Planck’s constant numbers have a double striking result as [(Adenine (A) and Thymine (T))] in expressing genetic codes as

chemical atomic masses. According to Quantum Perspective Model, data from this twin result can be meaning of Quantum superposition. In summary, can this article be a sign of a new discovery of the relations between sciences, especially in explaining the foundations of *Quantum Physics*?

### Conflicts of Interest

The author declares no conflicts of interest.

### References

- [1] Hutchin, R.A. (2016) Experimental Evidence for Variability in Planck's Constant. *Optics and Photonics Journal*, **6**, 124-137. <https://doi.org/10.4236/opj.2016.66015>
- [2] Köklü, K. (2019) Is Relativity Theory Also Valid in Biogenetics and Mathematics? *NeuroQuantology*, **17**, 53-58. <https://doi.org/10.14704/nq.2019.17.3.1999>
- [3] Köklü, K. (2019) A Quantum Perspective Model to Genetic Codes through Various Sciences. *NeuroQuantology*, **17**, 15-18. <https://doi.org/10.14704/nq.2019.17.3.1974>
- [4] Ölmez, T. (2021) According to Quantum Perspective Model, Are the Numbers of Pi Also Meaningful in Biochemistry? *International Journal of Natural Sciences: Current and Future Research Trends (IJNSCFRT)*, **11**, 1-10. [https://ijnsfjournal.isrra.org/index.php/Natural\\_Sciences\\_Journal/article/view/1035](https://ijnsfjournal.isrra.org/index.php/Natural_Sciences_Journal/article/view/1035)
- [5] Ölmez, T. (2020) Is There an Aesthetics in Golden Ratio as Regards to the Common Cis-Regulatory Elements versus to Atomic Numbers of Elements with Respect to Quantum Perspective Model? *Neurology and Neuroscience Reports*, **3**, 1-4. <https://doi.org/10.15761/NNR.1000119>
- [6] Ölmez, T. (2020) With Respect to Quantum Perspective Model, Can Euler Numbers be Related to Biochemistry? *Global Journal of Science Frontier Research*, **20**, 7-14. <https://doi.org/10.34257/GJSFRVOL20IS9PG7>
- [7] Ölmez, T. (2021) According to the Binary Number Base System, Are the Square Roots of Two Numbers also Significant in Biochemistry? *Open Access Library Journal*, **8**, e7122. <https://doi.org/10.4236/oalib.1107122>
- [8] Ölmez, T. (2021) What Is the Meaning of the Square Root of the Number Three in Biochemistry? *Open Access Library Journal*, **8**, e7123. <https://doi.org/10.4236/oalib.1107123>
- [9] Ölmez, T. (2021) Can Irrational Numbers (Such as Square Root of the Number Five) Be Reached by Analysis of Genetic Sequences? *Open Access Library Journal*, **8**, e7104. <https://doi.org/10.4236/oalib.1107104>
- [10] Ölmez, T. (2022) Are Irrational Numbers (Like the Square Root of the Number Seven) Applicable to Genetic Sequences? *Open Access Library Journal*, **9**, e8513. <https://doi.org/10.4236/oalib.1108513>
- [11] Ölmez, T. (2022) Can the Irrationality in Mathematics Be Explained by Genetic Codes Expressed in the Square Root of the number Ten? *Novel Research Aspects in Mathematical and Computer Science*, **4**, 17-25. <https://doi.org/10.9734/bpi/nramcs/v4/2120B>
- [12] Wieser, E.M., Holden, N., Coplen, B.T., Böhlke, J.K., Berglund, M. and Brand, W.A., et al. (2013) Atomic Weights of the Elements 2011 (IUPAC Technical Report). *Pure and Application Chemistry*, **85**, 1047-1078. <https://doi.org/10.1351/PAC-REP-13-03-02>
- [13] Szirtes, T. and Rózsa, P. (2007) Chapter 4—Transformation of Dimensions. In: *Ap-*

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- plied Dimensional Analysis and Modeling*, 2nd Edition, Butterworth-Heinemann Press, Oxford, 69-94. <https://doi.org/10.1016/B978-012370620-1.50010-1>
- [14] Negadi, T. (2015) A Mathematical Model for the Genetic Code(s) Based on Fibonacci Numbers and Their q-Analogues. *NeuroQuantology*, **13**, 259-272. <https://doi.org/10.14704/nq.2015.13.3.850>
- [15] Ölmez, T. (2021) Is There a Similarity between Fibonacci Sequence and Euler's Number with Respect to Quantum Perspective Model? *Global Journal of Science Frontier Research*, **20**, Article 33. <https://doi.org/10.34257/GJSFRFVOL20IS9PG35>
- [16] DNA and RNA Codon Tables. [https://en.wikipedia.org/wiki/DNA\\_and\\_RNA\\_codon\\_tables](https://en.wikipedia.org/wiki/DNA_and_RNA_codon_tables)
- [17] Ölmez, T. (2021) According to Quantum Perspective Model, Is Euler's Identity also Meaningful in Biochemistry? *International Journal of Natural Sciences: Current and Future Research Trends*, **9**, 23-28. [https://ijnsconfjournal.isrra.org/index.php/Natural\\_Sciences\\_Journal/article/view/1037/15](https://ijnsconfjournal.isrra.org/index.php/Natural_Sciences_Journal/article/view/1037/15)
- [18] Lodish, H., Berk, A., Zipursky, S.L., Matsudaira, P., Baltimore, D. and Darnell, J. (2018) *Molecular Cell Biology*. 6th Edition, Translation: Geçkil, H., Özmen, M. and Yeşilada, Ö., eds., Palme Publishing, New York, 294-302.
- [19] What Is Superposition and Why Is It Important? <https://scienceexchange.caltech.edu/topics/quantum-science-explained/quantum-superposition>
- [20] Quantum Superposition. [https://en.wikipedia.org/wiki/Quantum\\_superposition](https://en.wikipedia.org/wiki/Quantum_superposition)
- [21] Tropp Burton, E. (2008) *Molecular Biology: Genes to Proteins*. 3rd Edition, Jones and Bartlett Publishers, New York, 20.
- [22] Hemoglobin. <https://en.wikipedia.org/wiki/Hemoglobin>
- [23] Root Effect. [https://en.wikipedia.org/wiki/Root\\_effect](https://en.wikipedia.org/wiki/Root_effect)