



Is There Any Explanation for the Chemical Atomic Weights of Protons, Neutrons and Electrons through the Genetic Codes Attributed to Quantum Superposition?

Tahir Ölmez

Department of Social Sciences, Selçuk University, Konya, Turkey

Email: bsonmez3@gmail.com, tolmez123@yahoo.com

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Abstract

This paper attempts to express the atomic weight of proton, neutron and electron with genetic codes. At first, if you take the exact atomic weight of proton, neutron and electron after the comma, you can convert this decimal base numbers to binary number base system. Secondly, after converting process of this numbers, you should sequence this numbers as decimal number base system again. Thirdly, sum this decimal base numbers respectively. Fourthly, total adding processes correspond to genetic codes [**Adenine (A)**, **Thymine (T)**, **Guanine (G)**, **Cytosine (C)** and **Uracil (U)**]. Fifthly, the result explanations of this atomic particle weights can be defined like this: [as the mass of proton equals to **Guanine (G)**:78; the mass of electron equals to **Uracil (U)**: 64 and the mass of neutron equals to “68” both **Adenine (A)** and **Thymine (T)**]. Sixthly, the dual explanation of neutron can be stemmed from *Quantum Superposition*, since the value mass of neutron not only can be sequenced as *Adenine (A)* but also can be sequenced as *Thymine (T)*. Seventhly, interestingly, the atomic weight of Avogadro’s number can be also expressed as “**Uracil (U)**” genetic code. Lastly, let alone this result, average of **proton, neutron and electron** equals to “**Adenine (A)**” genetic code again. In sum, the chemical atomic weight of basic atomic particles can be expressed as nucleotide bases (**A T, G, C and U**).

Subject Areas

Biochemistry, Quantum Physics

Keywords

Biochemistry, Quantum Superposition, Quantum Physics, Atomic Weight of Proton, Atomic Weight of Neutron, Atomic Weight of Electron, Genetic

Codes, Nucleotide Bases, Binary Number Base Systems and Quantum Perspective Model

1. Introduction

The multiple structure of the standard genetic code is derivable from the total number of nucleotides (**A, T, G, C and U**). This number of nucleotides composing 64 triplets of the genetic code table [1]. Instead of genetic code table, the atomic numbers of nucleotide bases were published by Kuria Lutva. Also, this paper mentions about the numeric values for nucleotide bases may be researched by binary coding [2].

Sociologists have developed the concepts of “Social Superposition” as follows: Quantum Superposition. This effort is based on the Quantum physics concept of Superposition (Superposition means any two states can be combined into one, single separate case) had a profound influence on the early sociological classic theory. “Social Superposition” is the social movement of space and time in the human mind [3].

Another paper researched the relationship between the genetic language of hemoglobin and theoretical aspect of cybernetics. Hemoglobin protein sequences were explained by Atomic Genetic Code Table with the numbers of atoms in those nucleotides [4]. Prior to this article, with respect to Quantum Perspective Model Kevser Köklü researched the relationship between the velocity of light numbers and genetic codes [5], even, the relation with Pi numbers [6] and nucleotide bases were also explained by Kevser Köklü too. At last, not only the link between the Planck’s constant numbers [7] and genetic codes but also the link between some irrational numbers and genetic codes were researched by Tahir Ölmez [8]. In this research, this paper aims to search relations between the chemical atomic weight of basic atomic particles and number base systems and chemical formulas of nucleotide bases.

2. Methods

According to Quantum Perspective Model, the representation of genetic codes were explained by chemical formulas of nucleotide bases (A T, G, C and U). With respect to this perspective, the atomic mass of elements were regarded as the calculation of nucleotide bases. But at this paper, not only the atomic masses of elements were ascribed to calculations but also the atomic weights of protons, neutrons and electrons were also ascribed to calculations.

The chemical structures of **nucleotide bases** consist of **Carbon (C), Nitrogen (N), Oxygen (O) and Hydrogen (H)** [9]. For the representation of **nucleotide bases (A, T, C, G and U)** in chemical atoms. (See **Table 1**)

2.1. The Calculation of Exact Atomic Weight of Proton

The atomic weights of proton [10].

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

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

$$1.67262192369 * 10^{-27} \text{ kg}$$

$$0.167262192369 * 10^{-28} \text{ kg}$$

At first, Please take the exact atomic weight of proton after comma (0, **16 72 62 19 23 69**). Secondly, convert this decimal numbers to binary number base. (See **Table 2**) Thirdly, after writing this binary numbers one by one, convert this binary numbers to decimal numbers again partially. For instance [(16:1000; 72:100 1000; 62:11 11 10; 19:100 11; 23:10 11 1 and 69:1000 101)]. Fourthly, sum the partial numbers respectively. For instance [(16 = 16); (72 = 4 + 16 = 20); (62 = 3 + 3 + 2 = 8); (19 = 4 + 3 = 7); (23 = 2 + 3 + 1 = 6) and (69 = 16 + 5 = 21)]. Fifthly, add the total partial decimal numbers (16 + 20 + 8 + 7 + 6 + 21 = 78). Finally, see **Table 1** for the equivalents of this number “78” **Guanine (G)**.

2.2. The Calculation of Exact Atomic Weight of Electron

The atomic weights of electron [11].

$$9.1093837015 * 10^{-31} \text{ kg}$$

$$0.91093837015 * 10^{-32} \text{ kg}$$

At first, Please take the exact atomic weight of proton after comma (0, **91 09 38 37 01 5**). Secondly, convert this decimal numbers to binary number base. (See **Table 3**) Thirdly, after writing this binary numbers one by one, convert this binary numbers to decimal numbers again partially. For instance [(91:10 11011; 09:1001; 38:1001 10; 37:100 101; 01:1 and 5:101)]. Fourthly, sum the partial numbers respectively. For instance [(91 = 2 + 27 = 29); (09 = 9); (38 = 9 + 2 = 11); (37 = 4 + 5 = 9); (01 = 1) and (5 = 5)]. Fifthly, add the total partial decimal numbers (29 + 9 + 11 + 9 + 1 + 5 = 64). Finally, see **Table 1** for the equivalents of this number “64” **Uracil (U)**.

2.3. The Calculation of Exact atomic Weight of Neutron

The atomic weights of neutron [12].

$$0.167492749804 * 10^{-28} \text{ kg}$$

At first, Please take the exact atomic weight of **neutron** after comma (0, **16 74 92 74 98 04**). Secondly, convert this decimal numbers to binary number base. (See **Table 4**) Thirdly, after writing this binary numbers one by one, convert this binary numbers to decimal numbers again partially. For instance [(16:1000; 74:100 1010; 92:10 11 100; 74:100 1010; 98:1 1000 10 and 04:100)]. Fourthly, sum

Table 2. Representation of decimal numbers in binary base for exact atomic weight of proton after comma.

DECIMAL NUMBERS	1	2	3	4	5	16	19	23	62	69	72
<i>BINARY NUMBERS</i>	1	10	11	100	101	1000	100,11	10,11,1	11,11,10	1000,101	100,1000

Table 3. Representation of decimal numbers in binary base for exact atomic weight of electron after comma.

DECIMAL NUMBERS	1	2	4	5	9	27	37	38	91
<i>BINARY NUMBERS</i>	1	10	100	101	1001	11011	100,101	1001,10	10,11011

Table 4. Representation of decimal numbers in binary base for exact atomic weight of neutron after comma.

DECIMAL NUMBERS	1	2	3	4	8	10	16	74	92	98
<i>BINARY NUMBERS</i>	1	10	11	100	1000	1010	1000	100,1010	10,11,100	1,1000,10

the partial numbers respectively. For instance [(16 = 16); (74 = 4 + 10 = 14); (92 = 2 + 3 + 4 = 9); (74 = 4 + 10 = 14); (98 = 1 + 8 + 2 = 11) and (04 = 4)]. Fifthly, add the total partial decimal numbers (16 + 14 + 9 + 14 + 11 + 4 = 68). Finally, see **Table 1** for the approximately equivalents of this number “68” almost nearly to both **Adenine (A): 70** and **Thymine (T): 66**.

2.4. The Calculation of Avogadro's Number

Avogadro's Number [13].

$$0.602214076 \cdot 10^{-24} \text{ mol}^{-1}$$

At first, Please take the exact **Avogadro's Number** after comma (0, 60 22 14 07 6). Secondly, convert only the first two decimal numbers to binary number base. (See **Table 5**) Thirdly, after writing this binary numbers one by one, convert this binary numbers to decimal numbers again partially. For instance [(60:11 1100)]. Fourthly, sum the partial numbers respectively. For instance [60; (11 = 3), (1100 = 12) totally: 3 + 12 = 15]; (22 = 22; (14 = 14); (07 = 7) and (06 = 6)]. Fifthly, add the total partial and normal decimal numbers (15 + 22 + 14 + 7 + 6 = 64). Finally, See **Table 5** for the equivalents of this number “64” **Uracil (U)**.

In sum, after this research method, as regards to Quantum Perspective Model, some important consequences were reached by this article.

3. Results and Discussion

3.1. Results

As for this article, at first, the representation of decimal numbers in binary base for exact atomic weight of *proton* after comma can be expressed with *Guanine (G)* nucleotide base. Secondly, the representation of decimal numbers in binary base for exact atomic weight of *electron* after comma can be expressed with *Uracil (U)*

Table 5. Representation of Avogadro's number after comma with binary and decimal number base system.

DECIMAL NUMBERS	3	6	7	12	14	22	60
BINARY NUMBERS	11	110	111	1100	1110	10010	11,1100

nucleotide base. Thirdly, the representation of decimal numbers in binary base for exact atomic weight of *neutron* after comma can be expressed with both *Adenine (A)* and *Thymine (T)* nucleotide bases. Fourthly, the representation of Avogadro's Number after comma with binary and decimal number base system can be expressed with *Uracil (U)* nucleotide base. Fifthly, not only the representation of Avogadro's Numbers is *Uracil (U)* but also, the representation of exact atomic weight of *electron* is *Uracil (U)*, too. Lastly, the average of Adenine (A):70 and Thymine (T):66 nucleotide bases (70 + 66/2:"68") is also as the same exact value atomic weight of *neutron* after comma"68". As a result, this paper reaches nucleotide bases of Adenine (A), Thymine (T) Guanine (G) and Uracil (U) exception of Cytosine (C). Can this sequence be a novel expression of some constant numbers?

3.2. Discussion

According to Quantum Perspective Model, prior to this article, the relationship between Planck's constant numbers [7] and genetic codes were studied by T. Ölmez. The consequence of this article can be expression of Planck's constant numbers as both **Adenine (A) and Thymine (T)** nucleotide bases. This twin result may be explained by Quantum Superposition. But also the link between some irrational numbers and genetic codes were researched by Tahir Ölmez, too (See **Table 6**).

Table 6. The summary of some irrational numbers and genetic sequences (Revised version).

Irrational Numbers	Genetic Sequence
$\sqrt{2}$ [14]	GGATGTUTATTGAGTGAUAA
$\sqrt{3}$ [15]	GGATGAUTAUGGGTTTAGAAA
$\sqrt{5}$ [16]	ATTTATTUAATAUATAAUUUUATTGA
$\sqrt{7}$ [17]	GATTCUUUACTAGAGTTACTAGTTTGATT
$\sqrt{10}$ [8]	ATAAGTCATAAGTGTATTAGTTTAAAACCTG
Pi Numbers (as a 22/7) [6]	CTA [Cytosine (C), Thymine (T), Adenine (A)]
Pi Numbers (as an extended form) [18]	TUGATTATAUTGGTTGGTTGTTAAUGGTAU
Euler's Identity [19]	AAAGGCUUGCCCAACAAGCCAAACCCAGGC
Euler's Numbers [20]	ACGCCGACACTAACUATU
Golden Ratio Numbers (only "618") [21]	CAAT Box "GGCCAATCT"; TATA Box "TATAAAA"

4. Conclusion

This paper tries to shed lights on the relationship between the atomic weight of proton, neutron and electron and chemical formulas of nucleotide bases [Adenine (A), Thymine (T) Guanine (G), Cytosine (C) and Uracil (U)]. Not only nucleotide bases but also proteins were made up of Carbon (C), Nitrogen (N), Oxygen (O) and Hydrogen (H). Even, molecular weight of proteins was explained by Signal Processing Software [22]. At first, the atomic weight of proton “78” may be defined as *Guanine (G)* nucleotide base. Secondly, the atomic weight of *electron* “64” may be also defined with *Uracil (U)* nucleotide base. Even, thirdly, the atomic weight of *neutron* “68” may be defined with both *Adenine (A)* and *Thymine (T)* nucleotide bases (See **Table 7**). Fourthly, dual atomic result weight of neutron can be stemmed from *Quantum Superposition* [23]. Fifthly, Adenine (A) and Thymine (T) pairs with two (2) hydrogen bonds [24]. Sixthly, also if you add two (2) hydrogen atom to the value of neutron the atomic weight “68”, you can get (68 + 2:70) **Adenine (A)** “70” nucleotide base. Seventhly, also if you subtract two (2) hydrogen atom to the value of neutron the atomic weight “68”, you can get “66” **Thymine (T)** nucleotide base (68-2:66) Eighthly, after the calculated expression of neutron atomic weight with basic atomic particles, the total average number of proton, neutron and electron equals to **Adenine (A)** “70” ($78 + 64 + 68/3 = 70$) (See **Table 1**). Ninthly, Let alone the previous results, the Avogadro Number calculation can also be expressed as the Uracil (U) “64” nucleotide base as a result of the same calculated electron atomic weight. Lastly, not only some constant numbers are related to genetic codes but also the golden ratio numbers [21] and Fibonacci sequence [25] are related to genetic codes, too. In sum, can some constant numbers defined as genetic codes just like as in atomic weights of basic atomic particles (See **Table 7**)?

Table 7. The summary of some constant numbers and genetic codes (revised version).

SOME CONSTANT NUMBERS	GENETIC CODES
The square of the speed of light (c^2) [5]	AUC or CCATAUUTU/CCACAUUTU
Planck’s constant numbers [7]	Adenine (A) or Thymine (T)
Avogadro’s Number	Uracil (U)
The atomic weight of proton	Guanine (G)
The atomic weight of electron	Uracil (U)
The atomic weight of neutron	Adenine (A) or Thymine (T)

Conflicts of Interest

The author declares no conflicts of interest.

References

- [1] Negadi, T. (2011) The Multiplet Structure of the Genetic Code, from One and *Small*

- Number. ArXiv: 1101.2983. <https://arxiv.org/ftp/arxiv/papers/1101/1101.2983.pdf>
- [2] Lutvo, K. (2009) The Atomic Genetic Code. *Journal of Computer Science & Systems Biology*, **2**, 101-116. <https://doi.org/10.4172/jcsb.1000022>
- [3] Gerardi, S. (2018) Quantum Superposition/Social Superposition and Classic Sociological Theory. *Sociology Mind*, **8**, 21-24. <https://doi.org/10.4236/sm.2018.81002>
- [4] Kuric, L. (2014) Codes in the Atomic Weights of Chemical Elements. *International Letters of Chemistry, Physics and Astronomy*, **32**, 11-20. <https://doi.org/10.18052/www.scipress.com/ILCPA.32.11>
- [5] 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>
- [6] 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>
- [7] Ölmez, T. (2022) Is There Any Meaning of Planck's Constant Numbers as Regards to Quantum Superposition via the Chemical Atomic Masses of Nucleotide Bases? *Open Access Library Journal*, **9**, e9482. <https://doi.org/10.4236/oalib.1109482>
- [8] 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>
- [9] Wieser, M.E., Holden, N., Coplen, T.B., Böhlke, J.K., Berglund, M., Brand, W.A., et al. (2013) Atomic Weights of the Elements 2011. *Pure and Application Chemistry*, **85**, 1047-1078. <https://doi.org/10.1351/PAC-REP-13-03-02>
- [10] Proton. <https://en.wikipedia.org/wiki/Proton>
- [11] Electron. <https://en.wikipedia.org/wiki/Electron#:~:text=The%20invariant%20mass%20of%20an,10%E2%88%924%20atomic%20mass%20units>
- [12] Neutron. <https://en.wikipedia.org/wiki/Neutron#:~:text=Even%20though%20it%20is%20not,1.00866491588%20Da>
- [13] Avogadro Constant. https://en.wikipedia.org/wiki/Avogadro_constant
- [14] 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>
- [15] 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>
- [16] 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>
- [17] 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>
- [18] 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.
- [19] 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.

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- https://ijncsfrtjournal.isrra.org/index.php/Natural_Sciences_Journal/article/view/1037/15
- [20] 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/GJSFRFVOL20IS9PG7>
- [21] 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**, 4 p. <https://doi.org/10.15761/NNR.1000119>
- [22] Issac, R.M. (2013) Computation of Molecular Weight of Proteins. In: Third UGC Sponsored National Conference on Modern Trends in Electronic Communication and Signal Processing (NCMES-2013), Kerala, 1-2 August 2013. https://www.researchgate.net/publication/256485516_Computation_of_Molecular_Weight_of_Proteins
- [23] Quantum Superposition. https://en.wikipedia.org/wiki/Quantum_superposition
- [24] Lodish, H., Berk, A., Zipursky, S.L., Matsudaira, P., Baltimore, D. and Darnell, J. (2018) *Molecular Cell Biology*. 6th Edition, Palme Publishing, New York, 294-302.
- [25] 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**, 33.