ENIGMAS OF THE GENETIC CODE, ENIGMA 3: A THIRD HIDDEN ARITHMETICAL ALGORITHM (Version 1)

Miloje M. Rakočević

Full professor of Faculty of Science, University of Niš, Serbia;
Now retired, on the Address: Milutina Milankovica 118/ 25
11070 Belgrade, Serbia
E-mail: ~~milemirkov@nadlanu.com~~
www.rakocevcode.rs

Abstract

This third enigma is standing in relation to enigmas 1 & 2, given in our previous two communications. It is relating to total number of atoms (239) in side chains of 23 protein amino acids, within standard genetic code. By this three amino acids (L, S, R) are included twice each.

INTRODUCTORY NOTE

It is known that the balances of atom number and/or nucleon number in amino acid molecules (within genetic code) are determined by the differences for 00, 01, 10 and/or 11, writing in decimal numbering system [see about that in our works; for example, References in Note 1 (version 2) in our site (www.rakocevcode.rs)].

THE PROBLEM

1. Find a new arithmetical algorithm for a connection between 10 and 11 (Table 1), such an arrangement which corresponds to an adequate amino acid arrangement (Table 2).

2. The problem (question) is: which chemical law (which regularity) dictates the arrangement, given in Table 2.

	c'		b'		a		b	c	d	e	f	g
1					**10**							
2					11			-23				
3	-10	=	09	-	(-01)	-	11	=	-12			
4					01					(01)	-45	(35)
5					(-02	-	10	=	-12			
6								-22				
1					**20**							
2					11			-15				
3	01	=	08	-	(09)	-	12	=	-03			
4					01					(03)	-27	(28)
5					(08)	-	10	=	-02			
6								-12				
1					**30**							
2					11			-07				
3	12	=	07	-	(19)	-	13	=	06			
4					01					(05)	-09	(21)
5					(18)	-	10	=	08			
6								-02				
1					**40**							
2					11			01				
3	23	=	06	-	(29)	-	14	=	15	(07)	09	(14)
4					01							
5					(28)	-	10	=	18			
6								08				
1					**50**							
2					11			09				
3	34	=	05	-	(39)	-	15	=	24			
4					01					(09)	27	(07)
5					(38)	-	10	=	28			
6								18				
1					**60**							
2					11			17				
3	45	=	04	-	(49)	-	16	=	33			
4					01					(11)	45	(00)
5					(48)	-	10	=	38			
6								28				

Table 1 (1). From a start of 10-11 follows a specific arithmetical arrangement, which 6th event is a zeroth one at the same time.

	c'	b'	a	b	c	d	e	f	g
1			**60**						
2			11		17				
3	45	= 04 -	(49)	- 16	=	33			
4			01				(11)	45	(00)
5			(48)	- 10	=	38			
6					28				
1			**70**						
2			11		25				
3	56	= 03 -	(59)	- 17	=	42			
4			01				(13)	63	(-07)
5			(58)	- 10	=	48			
6					38				
1			**80**						
2			11		33				
3	67	= 02 -	(69)	- 18	=	51			
4			01				(15)	81	(-14)
5			(68)	- 10	=	58			
6					48				
1			**90**						
2			11		41				
3	78	= 01 -	(79)	- 19	=	60	(17)	99	(-21)
4			01						
5			(78)	- 10	=	68			
6					58				
1			**100**						
2			11		49				
3	89	= 00 -	(89)	- 20	=	69			
4			01				(19)	117	(-28)
5			(88)	- 10	=	78			
6					68				
1			**110**						
2			11		41				
3	100	= 01 +	(99)	- 21	=	78	(21)	135	(-35)
4			01						
5			(98)	- 10	=	68			
6					78				

Table 1 (2). All quantities, appeared in sixth event, one can find in a specific amino acid arrangement (Table 2).

GGU GGC GGA GGG	G	— — UUA UUG	L	AAU AAC — —	N	— — — AUG	M	33	
GCU GCC GCA GCG	A	CUU CUC CUA CUG	L	GAU GAC — —	D	UUU UUC — —	F	38	5
GUU GUC GUA GUG	V	— — AAA AAG	K	AGU AGC — —	S	UAU UAC — —	Y	45	7
CCU CCC CCA CCG	P	CGU CGC CGA CGG	R	UCU UCC UCA UCG	S	— — — UGG	W	48	3
AUU AUC AUA —	I	— — AGA AGG	R	ACU ACC ACA ACG	T	CAU CAC — —	H	49	1
		— — CAA CAG	Q	UGU UGC — —	C			16	
		— — GAA GAG	E					10	

Table 2. A specific amino acid arrangement, correspondent with a specific arithmetical algorithm, given in Table 1, and related to other harmonic structures of the genetic code (Rakočević, 1998, 2004).

REFERENCES

Rakočević, M. M. (1998) The genetic code as a Golden mean determined system, Biosystems 46, 283-291.

Rakočević, M. M. (2004) A harmonic structure of the genetic code, J. Theor. Biol. 229, 221–234.

ADDITIONAL COMMENTS

All my work on the genetic code, published here in viXra, contain a common law - the analogy with quantum physics, the "packaging" of energy in the atom and / or filling out the orbitals by electrons. I will give here only two examples. In Note 2, in Figure 1, shown is the filling of decimal positions in the decimal numeral system (doublets 079/179 and 025/125), with the change of the unit, in one of the positions, analog to the filling of atomic orbitals with one by one of electrons. Another example is an analogy with the quantum of energy in the atom; there are quanta of energy, and here a "quantity" of number of molecules, atoms, nucleons, or other particles. Thus, the quantum of "79" is found again, and twice, in Table 2 of the paper "On the completeness of genetic code", Part IV. (The first case is: amino acids encoded with four or three codons: LVSPTAGR + I = 79 atoms; and for the second case we refer the reader to view directly in the said Table.) However, we also find the quantum of "125" ["On the completeness of genetic code", Part V, Table 2. (The first case: the amino acids encoded by the two or one codons: FYHQNKDEC + MW = 125 atoms; and for the second case we also refer the reader to directly view in the said Table).]

Miloje M. Rakočević

mirkovmile@mts.rs

www.rakocevcode.rs