International Letters of Chemistry, Physics and Astronomy *Online: 2014-04-22*
ISSN: 2299-3843, Vol. 32, pp 174-190
doi:10.18052/www.scipress.com/ILCPA.32.174

Codes 19 and 7 in the Atomic numbers of the chemical elements

Lutvo Kurić

Institute of Economics, University of Sarajevo, Trg Oslobođenja 1, Sarajevo, Bosnia and Herzegovina

E-mail address: lutvokuric@yahoo.com

ABSTRACT

Current science exclusively explores biochemical characteristics of phenomena in the nature. Therefore, it explores only biochemistry but excludes world outside of biochemistry. Unlike that science, we're offering research of the world outside of biochemistry. That's digital image of the world. What exactly is digital image of the world? Digital image of the world is an image in which biochemistry is converted to mathematics. Actually, we convert it to numbers. As soon as we convert to numbers we'll get digital image of the world. In that digital image, there is some very significant scientific information. Those are information in which is given explanation of that reality. That digital image of the world will enable current science to significantly advance it's scientific-research work and to develop top digital technologies in those sciences in a very short time.

***Keywords*:** Digital Periodic Table; Codes 19 and 7; digital chemistry; digital chemical code

1. INTRODUCTION

The subjects of our research are program lawfulness, cybernetic lawfulness, and informational lawfulness in Periodic system Table. In the science, one question has been present for a long time, that is, if there is one unique common connection that links all chemical elements in this Table. The doubt is, if the periodical is only a physical-chemical matter of objective material relationship or maybe a matter of numbers and mathematics. With the goal to find the answers on some of those questions, we have made a decision to do a research on, if in this Table exists program, cybernetic and information lawfulness. Results is: We have discovered that sequences of all elements in this Table conducted, not just according to their chemical and periodical characteristics, but especially according to the program lawfulness, cybernetic lawfulness, and informational lawfulness. In fact, we have discovered the ***digital balance*** in distribution of elements in Periodic system Table is achieved. Here we wish to present our points of views about the program-cybernetics lawfulness in this Table.

2. RESULTS

Results of our research show that the processes of sequencing the chemical elements in the Periodic table are conditioned and arranged not only with chemical and biochemical, but also with program, cybernetic and informational lawfulness too. At the first stage of our research we replaced chemical elements from the Periodic Table with atomic numbers of those elements. This study translates the periodic table of elements from a digital form and explores the idea of improving readers' comprehension and retention of complex information. It is designed to help readers visualize abstract information by actively engaging them in their learning experience. It also helps them understand the interconnectedness of complex systems the periodic table of elements being a prime example by translating digital numerical information into visual patterns that can be detected and compared. Users will hopefully apply this form of learning to other areas as well.

Codes 19 and 7

ALGORITHM

{[SA(R1,2,3,n) x B] - [SB(R1,2,3,n) x A] + (AB)} = ABA;
SA, **S**B = Groups of AB numbers from X to Y
R1,2,3,n = Numbers from X to Y;

Solution:

A = **7**; B = **19**;

(AxBxA) = (7x19x7);

Example:

R = 124;

{[S7(124) x 19] - [S19(124) x 7] + (7x19)} = (7x19x7);

S7(124) = (118+119,+120+121+122+123+124) = 847;

S19(124) = (106+107+108+109..., + 124) = 2185;

{[(847 x 19) – (2185x 7)] + (7 x 19)} = (7 x 19 x 7)

In the digital chemistry numerical values substances associated legality connections and Logout. Here are some examples:

(19 and 7) > 197;
(19 and 07) > 1907;
(7 and 19) > 719;

etc.

Elektrons in atoms

(Fragment 1)

	K	L
	1	2
H	1	0
Li	2	1
Be	2	2
B	2	3
C	2	4
N	2	5
O	2	6
F	2	7
Ne	2	8

1➔1; (2,1) ➔21; (2,2) ➔22; (2,3) ➔23; etc.

(1+21+22+23+24+25+26+27+28) = **197**;

Fragment 2.

H, Li, Be, B, C, N, O, F, Ne > 1,2,2,2,2,2,2,2,2;

1,2,2,2,2,2,2,2,2 > 122222222;

122222222 = (197 * 216) + (719 * 169930)
122222222 = (197 * 935) + (719 * 169733)
122222222 = (197 * 1654) + (719 * 169536)
122222222 = (197 * 2373) + (719 * 169339)
122222222 = (197 * 3092) + (719 * 169142)
122222222 = (197 * 3811) + (719 * 168945)
122222222 = (197 * 4530) + (719 * 168748)

(935-216) = **719**; (1699930-169733) = **197**;

Fragment 3.

Elektrons in atoms
(Fragment 3)

	K	L	M
	1	2	3
Na	2	2 6	1
Mg	2	2 6	2
Al	2	2 6	2 1
Si	2	2 6	2 2
P	2	2 6	2 3
S	2	2 6	2 4
Cl	2	2 6	2 5
Ar	2	2 6	2 6

Na > 2,2,6,1 > 2261;
Mg > 2,2,6,2 > 2262;
Al > 2,2,6,2,1 > 22621;

etc.

462041||140264

(2261+2262+22621+22622+22623+22624+22625+22626)=140264;

140264 = (**197**+**197**+**197**...+ **197**);

Analog code of the number 140264 is number 462041:

462041 = (**197** * 703) + (**719** * 450)
462041 = (**197** * 1422) + (**719** * 253)
462041 = (**197** * 2141) +(**719** * 56)

O r b i t a les

s = 01; p = 03; d = 05; f = 07;

Connection:

01, 03, 05, 07 ➔ 01030507;

1030507 = (197 + 197 + 197 + 197 ....+ 197);

Electrons in orbitales

S = 02; P = 0 6; D= 10; F = 14;

Connection:

02, 06, 10, 14 ➔ 02061014:

2061014 = (197 + 197 + 197 + 197 ...+ 197);

2061014 = (197 x 10462);

Select an element from the periodic table

Example 1

3 Li	10 Ne	➔	**310**
4 Be	09 F	➔	**409**
			719

(310+409)=719;

(310, 409) > 310409;

310 409 = (**197** * **X1**) + (**719** * **X2**)
310 409 = (**197** * **X3**) + (**719** * **X4**)

X1 = 572; **X**2 = 275; **X**3 = 1291; **X**4 = 78;

409 310 = (**197** * **Y**1) + (**719** * **Y**2)
409 310 = (**197** * **Y**3) + (**719** * **Y**4)
409 310 = (**197** * **Y**5) + (**719** * **Y**6)

Y1=147, **Y**2=529, **Y**3=866, **Y**4=332, **Y**5=1585, **Y**6=135;

Example 2.

5 B	08 O	➔	**508**
7 N	06 C	➔	**706**

(508, 706)> 508706;
(706, 508)> 706508;

508706 = (**197** * 626) + (**719** * 536)
508706 = (**197** * 1345) +(**719** * 339)
508706 = (**197** * 2064) + (**719** * 142)
.....
706508 = (**197** * 495) + (**719** * 847)
706508 = (**197** * 1214)+(**719*** 650)
706508 = (**197** * 1933)+(**719** * 453)
706508 = (**197** * 2652)+(**719** * 256)
706508 = (**197** * 3371)+(**719** * 59)

Example 3.

10 Ne	03 Li	➔	1003
9 F	04 Be	➔	904
			1907

(1003+904) =1907;

(1003, 0904) > 10030904;

10030904 = (**719** * 1252) + (**1907** * 4788)
10030904 = (**719** * 3159) + (**1907** * 4069)
10030904 = (**719** * 5066) + (**1907** * 3350)
10030904 = (**719** * 6973) + (**1907** * 2631)
10030904 = (**719** * 8880) + (**1907** * 1912)
10030904 = (**719** * 10787)+ (**1907** * 1193)
10030904 = (**719** * 12694)+ (**1907** * 474)
10030904 = (197 * 1) + (719 * 586) + (1907 * 5039)
10030904 = (197 * 1) + (719 * 2493) + (1907 * 4320)
10030904 = (197 * 1) + (719 * 4400) + (1907 * 3601)
10030904 = (197 * 1) + (719 * 6307) + (1907 * 2882)
10030904 = (197 * 1) + (719 * 8214) + (1907 * 2163)
10030904 = (197 * 1) + (719 * 10121) + (1907 * 1444)
10030904 = (197 * 1) + (719 * 12028) + (1907 * 725)

(3159-1252) = 1907; (4788-4069) = 719;

(5066-3159) = 1907; (4069-3350) = 719;

(6973-5066) = 1907; (3350-2631) = 719;

(8880-6973) = 1907; (2631-1912) = 719;

(10787-8880) = 1907; (1912-1193) = 719;

(12694-100787) = 1907; (1193-474) = 719;

etc.

(1003, 0904) > 10030904;

10030904 = (719 * 1252) + (1907 * 4788)
10030904 = (719 * 3159) + (1907 * 4069)
10030904 = (719 * 5066) + (1907 * 3350)
10030904 = (719 * 6973) + (1907 * 2631)
10030904 = (719 * 8880) + (1907 * 1912)
10030904 = (719 * 10787) + (1907 * 1193)
10030904 = (719 * 12694) + (1907 * 474)
10030904 = (197 * 1) + (719 * 586) + (1907 * 5039)
10030904 = (197 * 1) + (719 * 2493) + (1907 * 4320)
10030904 = (197 * 1) + (719 * 4400) + (1907 * 3601)
10030904 = (197 * 1) + (719 * 6307) + (1907 * 2882)
10030904 = (197 * 1) + (719 * 8214) + (1907 * 2163)
10030904 = (197 * 1) + (719 * 10121) + (1907 * 1444)
10030904 = (197 * 1) + (719 * 12028) + (1907 * 725)
10030904 = (197 * 1) + (719 * 13935) + (1907 * 6)

Example 4.

3 Li	11 Na	➔	311
4 Be	08 O	➔	408
			719

(311 + 408) = 719;

(311, 408) > 311408;

X1 = 161; **X**2 = 389; **X**3 = 880; **X**4 = 192;

311408 = (**197** * 161) + (**719** * 389)
311408 = (**197** * 880) + (**719** * 192)

(408, 311) > 408311;

408311 = (**197** * 558) + (**719** * 415)
408311 = (**197** * 1277)+ (**719** * 218)
408311= (**197** * 1996)+ (**719** * 21)

etc.

Example 5.

11 Na	03 Li	➔	1103
8 O	04 Be	➔	804
Sum			**1907**

(1103 + 804) = 1907;

(1103, 0804) > 11030804;

↓

11030804 = (719 * 1046) + (1907 * 5390)
11030804 = (719 * 2953) + (1907 * 4671)
11030804 = (719 * 4860) + (1907 * 3952)
11030804 = (719 * 6767) + (1907 * 3233)
11030804 = (719 * 8674) + (1907 * 2514)
11030804 = (719 * 10581) + (1907 * 1795)
11030804 = (719 * 12488) + (1907 * 1076)
11030804 = (719 * 14395) + (1907 * 357)
11030804 = (197 * 1) + (719 * 380) + (1907 * 5641)
11030804 = (197 * 1) + (719 * 2287) + (1907 * 4922)
11030804 = (197 * 1) + (719 * 4194) + (1907 * 4203)

(804, 1103) > 8041103;

↓

8041103 = (719 * 861) + (1907 * 3892)
8041103 = (719 * 2768) + (1907 * 3173)
8041103 = (719 * 4675) + (1907 * 2454)
8041103 = (719 * 6582) + (1907 * 1735)
8041103 = (719 * 8489) + (1907 * 1016)
8041103 = (719 * 10396) + (1907 * 297)
8041103 = (197 * 1) + (719 * 195) + (1907 * 4143)
8041103 = (197 * 1) + (719 * 2102) + (1907 * 3424)

Example 6.

4 Be	12 Mg	➔	412
3 Li	07 N	➔	307
			719

(310 + 409) = 719;

Example 7.

12 Mg	04 Be	➔	1204
7 N	03 Li	➔	703
Sum			**1907**

(1204 + 703) = 1907;
etc.

In a similar way we shall calculate chemical codes of other unions of chemical elements. Once we do this, we will find out that all these unions of chemical elements are connected by various bio codes, analogue codes as well as other quantitative features. Connection is one of numerical expressions that connects various corresponding features in biochemistry. It has a very prominent place in the mathematical picture of all processes in biochemistry. This is a recently discovered phenomenon whose role and significance will, I hope, soon be explained by the modern science.

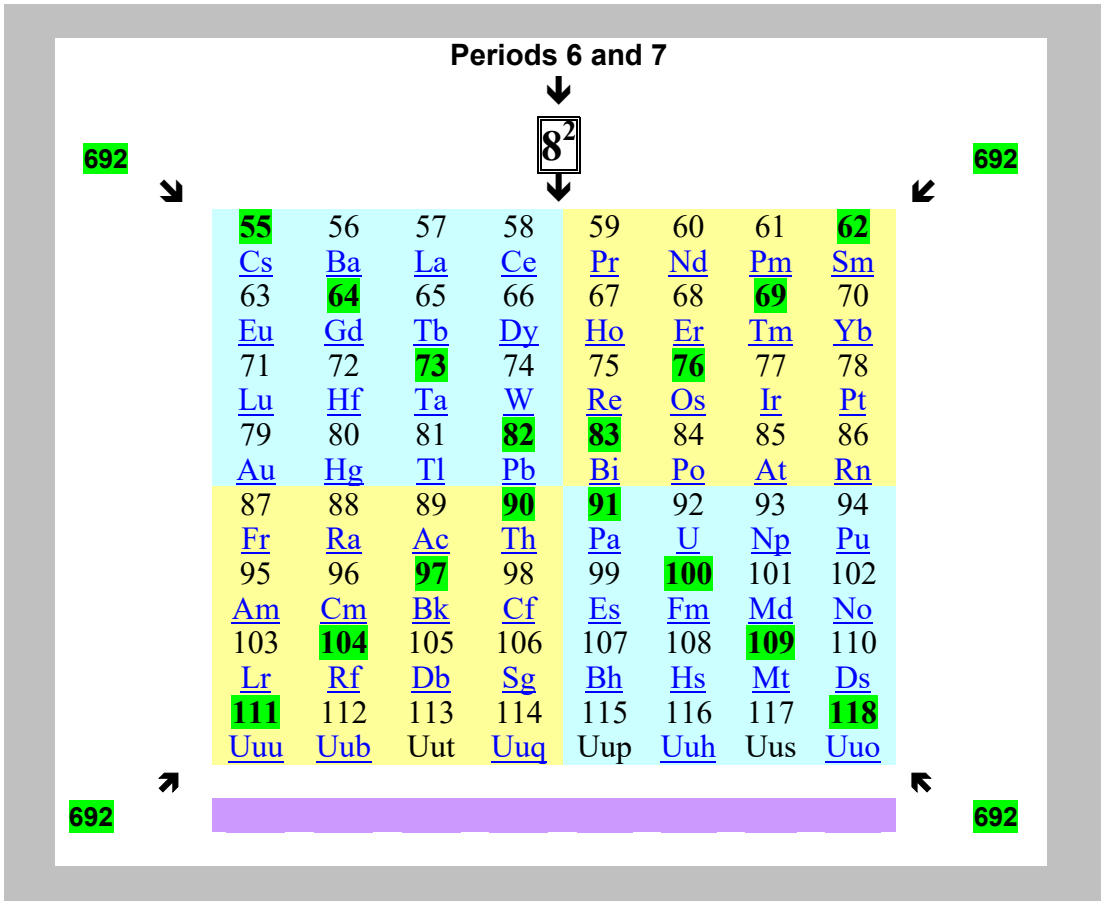
In the previous examples we translated the physical and chemical parameters from the language of biochemistry into the digital language of programmatic, cybernetic and information principles. This we did by using the adequate mathematical algorithms. By using chemical-information procedures, we calculated the numerical value for the information content of molecules. What we got this way is the digital picture of the phenomenon of biochemistry. These digital pictures reveal to us a whole new dimension of this science. They reveal to us that the biochemical process is strictly conditioned and determined by programmatic, cybernetic and information principles. From the previous examples we can see that this protein really has its quantitative characteristics. It can be concluded that there is a connection between quantitative characteristics in the process of transfer of genetic information and the qualitative appearance of given genetic processes.

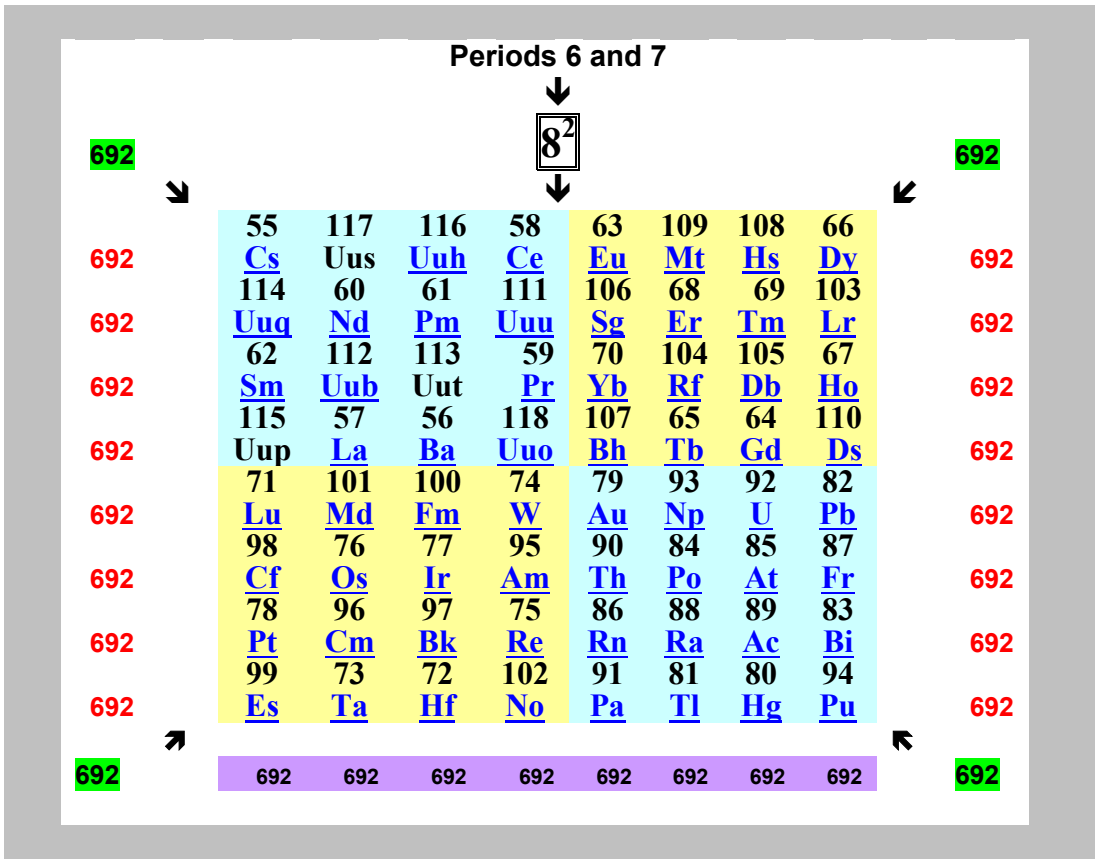
Code 692

The above algorithms enable to decode the digital chemical language and to discover codes that mutually connect the parameters in digital images from Periodic Table – periods 6 and 7.

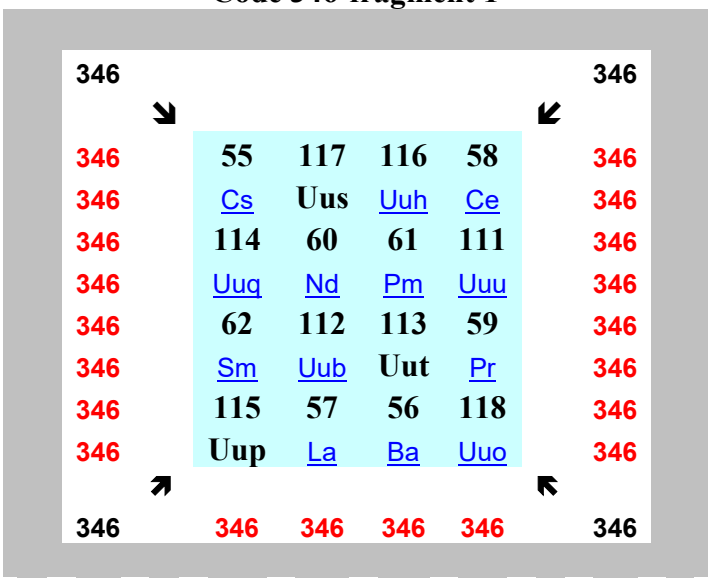
Examples:

Atomic numbers





Code 346-fragment 1



ToeplitzMatrix[(55, 117, 116, 58, 114, 60, 61, 111, 62, 112, 113, 59, 115, 57, 56, 118)]

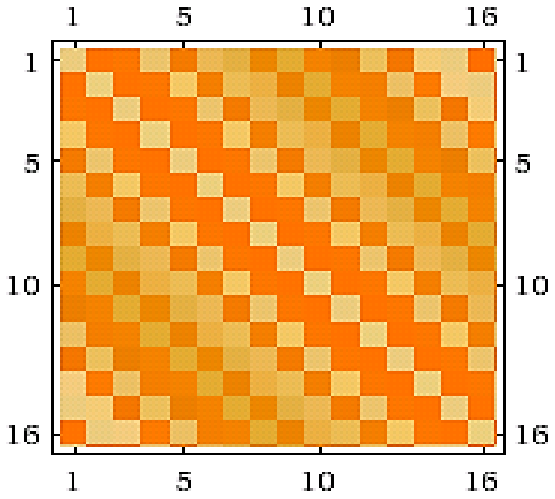
Result:

$$\begin{pmatrix}
55 & 117 & 116 & 58 & 114 & 60 & 61 & 111 & 62 & 112 & 113 & 59 & 115 & 57 & 56 & 118 \\
117 & 55 & 117 & 116 & 58 & 114 & 60 & 61 & 111 & 62 & 112 & 113 & 59 & 115 & 57 & 56 \\
116 & 117 & 55 & 117 & 116 & 58 & 114 & 60 & 61 & 111 & 62 & 112 & 113 & 59 & 115 & 57 \\
58 & 116 & 117 & 55 & 117 & 116 & 58 & 114 & 60 & 61 & 111 & 62 & 112 & 113 & 59 & 115 \\
114 & 58 & 116 & 117 & 55 & 117 & 116 & 58 & 114 & 60 & 61 & 111 & 62 & 112 & 113 & 59 \\
60 & 114 & 58 & 116 & 117 & 55 & 117 & 116 & 58 & 114 & 60 & 61 & 111 & 62 & 112 & 113 \\
61 & 60 & 114 & 58 & 116 & 117 & 55 & 117 & 116 & 58 & 114 & 60 & 61 & 111 & 62 & 112 \\
111 & 61 & 60 & 114 & 58 & 116 & 117 & 55 & 117 & 116 & 58 & 114 & 60 & 61 & 111 & 62 \\
62 & 111 & 61 & 60 & 114 & 58 & 116 & 117 & 55 & 117 & 116 & 58 & 114 & 60 & 61 & 111 \\
112 & 62 & 111 & 61 & 60 & 114 & 58 & 116 & 117 & 55 & 117 & 116 & 58 & 114 & 60 & 61 \\
113 & 112 & 62 & 111 & 61 & 60 & 114 & 58 & 116 & 117 & 55 & 117 & 116 & 58 & 114 & 60 \\
59 & 113 & 112 & 62 & 111 & 61 & 60 & 114 & 58 & 116 & 117 & 55 & 117 & 116 & 58 & 114 \\
115 & 59 & 113 & 112 & 62 & 111 & 61 & 60 & 114 & 58 & 116 & 117 & 55 & 117 & 116 & 58 \\
57 & 115 & 59 & 113 & 112 & 62 & 111 & 61 & 60 & 114 & 58 & 116 & 117 & 55 & 117 & 116 \\
56 & 57 & 115 & 59 & 113 & 112 & 62 & 111 & 61 & 60 & 114 & 58 & 116 & 117 & 55 & 117 \\
118 & 56 & 57 & 115 & 59 & 113 & 112 & 62 & 111 & 61 & 60 & 114 & 58 & 116 & 117 & 55
\end{pmatrix}$$

Dimensions:

16 (rows) × 16 (columns)

Matrix plot:



Properties:

symmetric
toeplitz

Determinant:

43 901 125 126 647 910 651 128 924 864

Trace:

Characteristic polynomial:

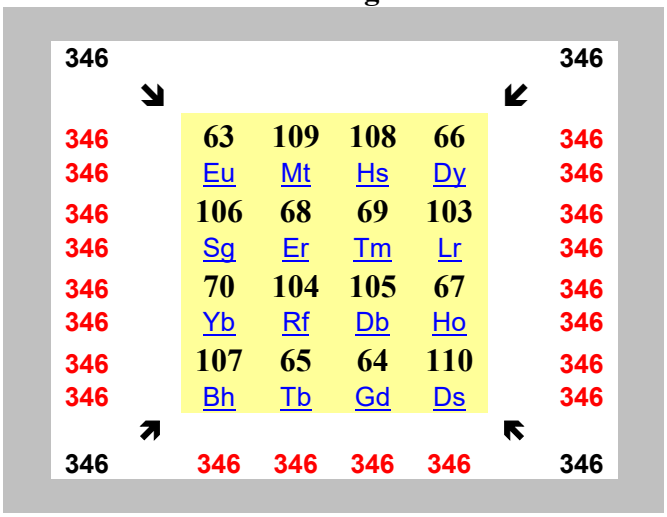
$$x^{16} - 880\,x^{15} - 713\,524\,x^{14} - 76\,434\,864\,x^{13} + 15\,757\,542\,734\,x^{12} + 1\,700\,984\,531\,376\,x^{11} - 102\,866\,420\,996\,892\,x^{10} - 12\,127\,571\,377\,543\,056\,x^{9} + 225\,975\,683\,293\,060\,217\,x^{8} + 35\,552\,646\,836\,638\,054\,400\,x^{7} - 189\,835\,853\,419\,578\,815\,512\,x^{6} - 50\,254\,984\,357\,147\,617\,362\,944\,x^{5} + 78\,149\,407\,858\,982\,890\,588\,704\,x^{4} + 34\,607\,657\,440\,106\,340\,481\,094\,784\,x^{3} - 70\,303\,152\,844\,491\,106\,391\,329\,536\,x^{2} - 9\,413\,817\,698\,002\,551\,546\,495\,835\,008\,x + 43\,901\,125\,126\,647\,910\,651\,128\,924\,864$$

43901125126647910651128924864 = (346+346+346…+ 346);

Condition number:

504.027

Code 346-fragment 2.



Input:

ToeplitzMatrix[{63, 109, 108, 66, 106, 68, 69, 103, 70, 104, 105, 67, 107, 65, 64, 110}]

Result:

63	109	108	66	106	68	69	103	70	104	105	67	107	65	64	110
109	63	109	108	66	106	68	69	103	70	104	105	67	107	65	64
108	109	63	109	108	66	106	68	69	103	70	104	105	67	107	65
66	108	109	63	109	108	66	106	68	69	103	70	104	105	67	107
106	66	108	109	63	109	108	66	106	68	69	103	70	104	105	67
68	106	66	108	109	63	109	108	66	106	68	69	103	70	104	105
69	68	106	66	108	109	63	109	108	66	106	68	69	103	70	104
103	69	68	106	66	108	109	63	109	108	66	106	68	69	103	70
70	103	69	68	106	66	108	109	63	109	108	66	106	68	69	103
104	70	103	69	68	106	66	108	109	63	109	108	66	106	68	69
105	104	70	103	69	68	106	66	108	109	63	109	108	66	106	68
67	105	104	70	103	69	68	106	66	108	109	63	109	108	66	106
107	67	105	104	70	103	69	68	106	66	108	109	63	109	108	66
65	107	67	105	104	70	103	69	68	106	66	108	109	63	109	108
64	65	107	67	105	104	70	103	69	68	106	66	108	109	63	109
110	64	65	107	67	105	104	70	103	69	68	106	66	108	109	63

Determinant:

261 650 853 507 368 426 149 561 024

Trace:

1008

Characteristic polynomial:

$$x^{16} - 1008\,x^{15} - 532\,916\,x^{14} - 46\,003\,440\,x^{13} + 5\,144\,536\,206\,x^{12} + 529\,361\,086\,192\,x^{11} - 12\,670\,199\,759\,452\,x^{10} - 1\,883\,333\,463\,753\,296\,x^{9} + 498\,359\,099\,848\,121\,x^{8} + 2\,668\,612\,487\,762\,321\,216\,x^{7} + 16\,856\,902\,315\,099\,575\,464\,x^{6} - 1\,791\,328\,363\,909\,628\,924\,928\,x^{5} - 11\,431\,609\,119\,849\,611\,155\,808\,x^{4} + 595\,583\,652\,426\,695\,846\,230\,656\,x^{3} + 1\,528\,575\,620\,044\,742\,369\,549\,568\,x^{2} - 83\,393\,811\,383\,529\,938\,306\,606\,976\,x + 261\,650\,853\,507\,368\,426\,149\,561\,024$$

261650853507368426149561024 = (346+346+346... + 346);

Condition number:

665.176

Code 346-fragment 3.

346	↘				↙	346
346		71	101	100	74	346
346		Lu	Md	Fm	W	346
346		98	76	77	95	346
346		Cf	Os	Ir	Am	346
346		78	96	97	75	346
346		Pt	Cm	Bk	Re	346
346		99	73	72	102	346
346		Es	Ta	Hf	No	346
	↗				↖	
346		346	346	346	346	346

ToeplitzMatrix[(71, 101, 100, 74, 98, 76, 77, 95, 78, 96, 97, 75, 99, 73, 72, 102)]

$$\begin{pmatrix}
71 & 101 & 100 & 74 & 98 & 76 & 77 & 95 & 78 & 96 & 97 & 75 & 99 & 73 & 72 & 102 \\
101 & 71 & 101 & 100 & 74 & 98 & 76 & 77 & 95 & 78 & 96 & 97 & 75 & 99 & 73 & 72 \\
100 & 101 & 71 & 101 & 100 & 74 & 98 & 76 & 77 & 95 & 78 & 96 & 97 & 75 & 99 & 73 \\
74 & 100 & 101 & 71 & 101 & 100 & 74 & 98 & 76 & 77 & 95 & 78 & 96 & 97 & 75 & 99 \\
98 & 74 & 100 & 101 & 71 & 101 & 100 & 74 & 98 & 76 & 77 & 95 & 78 & 96 & 97 & 75 \\
76 & 98 & 74 & 100 & 101 & 71 & 101 & 100 & 74 & 98 & 76 & 77 & 95 & 78 & 96 & 97 \\
77 & 76 & 98 & 74 & 100 & 101 & 71 & 101 & 100 & 74 & 98 & 76 & 77 & 95 & 78 & 96 \\
95 & 77 & 76 & 98 & 74 & 100 & 101 & 71 & 101 & 100 & 74 & 98 & 76 & 77 & 95 & 78 \\
78 & 95 & 77 & 76 & 98 & 74 & 100 & 101 & 71 & 101 & 100 & 74 & 98 & 76 & 77 & 95 \\
96 & 78 & 95 & 77 & 76 & 98 & 74 & 100 & 101 & 71 & 101 & 100 & 74 & 98 & 76 & 77 \\
97 & 96 & 78 & 95 & 77 & 76 & 98 & 74 & 100 & 101 & 71 & 101 & 100 & 74 & 98 & 76 \\
75 & 97 & 96 & 78 & 95 & 77 & 76 & 98 & 74 & 100 & 101 & 71 & 101 & 100 & 74 & 98 \\
99 & 75 & 97 & 96 & 78 & 95 & 77 & 76 & 98 & 74 & 100 & 101 & 71 & 101 & 100 & 74 \\
73 & 99 & 75 & 97 & 96 & 78 & 95 & 77 & 76 & 98 & 74 & 100 & 101 & 71 & 101 & 100 \\
72 & 73 & 99 & 75 & 97 & 96 & 78 & 95 & 77 & 76 & 98 & 74 & 100 & 101 & 71 & 101 \\
102 & 72 & 73 & 99 & 75 & 97 & 96 & 78 & 95 & 77 & 76 & 98 & 74 & 100 & 101 & 71
\end{pmatrix}$$

Determinant:

$$31\,048\,638\,601\,988\,636\,367\,552$$

Trace:

1136

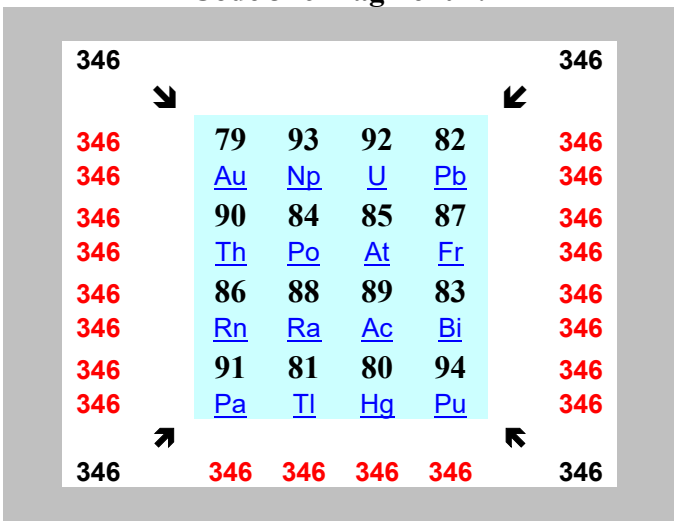
Characteristic polynomial:

$$x^{16} - 1136\,x^{15} - 352\,308\,x^{14} - 23\,847\,984\,x^{13} + 717\,333\,454\,x^{12} + 92\,704\,306\,224\,x^{11} + 539\,331\,038\,820\,x^{10} - 106\,504\,586\,540\,304\,x^{9} - 1\,772\,396\,599\,220\,487\,x^{8} + 41\,950\,653\,357\,483\,648\,x^{7} + 973\,417\,213\,677\,389\,160\,x^{6} - 5\,152\,720\,666\,211\,804\,160\,x^{5} - 174\,858\,756\,070\,682\,432\,736\,x^{4} + 105\,165\,568\,361\,352\,085\,632\,x^{3} + 7\,667\,645\,011\,065\,695\,888\,640\,x^{2} - 29\,421\,027\,191\,229\,579\,785\,088\,x + 31\,048\,638\,601\,988\,636\,367\,552$$

Condition number

1054.56

Code 346-fragment 4.



Making a sequence of all phenomena in Periodic system Table is conducted according to the exact mathematical laws (for such descriptions we can use theory of systems and cybernetics.

The results of our research show that the processes of sequencing the periodic table are conditioned and arranged not only with chemical and biochemical lawfulness, but also with program, cybernetic and informational lawfulness too.

Translation of the chemical language of these table into a digital language may be very useful for developing new methods of predicting of phenomenon in chemistry, biochemistry, genetic, medicine and other natural sciences.

3. CONCLUSIONS

Indeed, the sequencing of the Periodic system Table is determined not only by chemical features, but also by cybernetic and information principles. For this reason, research in this field deals more with the quantitative rather than qualitative characteristics of chemical information and its chemical basis. For the purposes of this paper, specific physical and chemical factors have been selected in order to express the chemical information for chemical elements.

Numerical values are them assigned to these factors, enabling them to be measured. In this way it is possible to determine of a connection really exists between the quantitative ratios in the process of transfer of biochemical information and the qualitative appearance of the chemistry.

To select these factors, preference is given to classical physical and chemical parameters, including the atomic numbers in the relevant chemical elements, their analog values, the position in periodic table, and their frequencies. Going through these parameters, it becomes clear that there is a mathematical relationship between quantitative ratios and the qualitative appearance of the chemical elements and that there is a measurement method that can be used to describe the biochemistry of those elements.

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(Received 14 April 2014; accepted 20 April 2014)