

## The Reasons why the Omicron Virus continues to Pandemic

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### Abstract

We introduce recent virus infectious mechanisms from the viewpoint of amino acids. We focus on the chemical formula and atomic bonding strength involving amino acids resulting in the current pandemic. Furthermore, we refer to how to protect a virus with the water along theoretical ideas and evidence. After they apply higher pressurization to ordinary tap water, the water only possesses the pico-sized particle, which emits far-infrared and terahertz electromagnetic wave besides chemical reduction to viruses and diseases.

### Introduction

In the 20<sup>th</sup> century, Spanish flu was a famous pandemic that occurred in 1918~1920 and was said that 500 million people were infected worldwide, and they reported 50 million or more deaths [1]. Then, the SARS-CoV-2 (severe acute respiratory syndrome) happened in China (Wuhan) in the 21<sup>st</sup> century (Nov. 2002~July, 2003). Furthermore, they first confirmed MERS (middle east respiratory syndrome) in London in 2012. Coronavirus disease 2019 (COVID-19) is a contagious disease caused by a virus, leading to a worldwide disease. They have been approved and distributed in various countries, which have initiated mass vaccination campaigns (COVID-19-Wikipedia) [2].

In modern society, the movement of people is frequent worldwide, meaning the pandemic diffuses fast and comprehensively. COVID-19 is mainly transmitted by the movement of people who breathe in air containing the virus aerosol particles. Survivors of COVID-19 occur in brain injury, and they reported the possibility of broad evidence like cognition, behavior, and psychological problems [3]. Furthermore, viruses and bacteria are fate to a symbiotic relationship with us.

The respiratory syncytial virus is an acute respiratory infection that happens in infancy and is bronchiolitis and pneumonia. There are many infectious diseases like Enterovirus (EV), Zika virus, Nipa virus, and influenzas in the modern world [4].

Here we report the discussion from the viewpoints of basic sciences, which amino acids in the spike protein and the proteins formed by a virus. However, we do not notify each amino acid precisely. The omicron virus spread unusually for more than two years. Therefore, we consider that there may be some variants these days. Furthermore, we notice SIGN water with the virus [5, 6], which plays a role in attacking the virus and discuss precisely.

### *Essential items of virus and amino acid*

A virus is a pathogen that copies itself using another organism's cell containing a protein shell [7] and the nucleus (RNA and DNA). A virus possesses neither biological membrane (cell membrane) nor organelles. Therefore, they call the virus with a particular symbol.

Namely, K417N (omicron), meaning K denotes lysine, which is one of the amino acids, and N shows asparagine of another amino acid that a virus forms from the lysine of a human cell.

The number 417 means the amino radical of the 417<sup>th</sup> in the spike protein a virus uses. Another example is the lambda variant L452Q; L denotes leucine, and Q represents glutamine. The number 452<sup>nd</sup> amino radical in the spike protein. The second essential item is the molecular formula of each amino acid. We will show the formula later.

|       | <i>Country (first)</i> | <i>Variant</i> | <i>Infectivity (conventionally)</i> |
|-------|------------------------|----------------|-------------------------------------|
| alpha | England (2020/9)       | N501Y          | ×1.3~1.7                            |
| beta  | South Africa (2020/5)  | N501Y, E484K   | ×1.5                                |
| gamma | Brazil (2020/11)       | N501Y, E484K   | × 1.4 ~2.2                          |
| delta | India (2020/10)        | L452R          | × 2 ~                               |

**Table 1:** Previous variants (the data from WHO and the National Institute of Infectious.

### *Former virus and characteristics*

Table 1 shows the SARS-CoV-2 Alpha variant and the meaning of N501Y, E484K, etc., shown in Table 2. Infectivity, the more infective people such as years, male or female, precaution are critical issues, of course. However, we consider and research that there is a basic theme;

We start with the structure of the virus. For example, the influenza virus possesses a membrane (called an envelope). The envelope exists at the outset of the virion and covers a capsid with glycoprotein and phospholipid of a lipid bilayer. Moreover, they classify a virus into two categories: DNA virus and RNA virus [8]. The viruses that we focus on here are the SARS virus and RNA virus (and MERS). Now, we may approach a substance in which the CORONAS virus attacks the RNA portion and the number of amino acids.

### *Critical factors of function for the viruses*

First, we notice the radicals like carboxyl (-COOH) and amino (-NH<sub>2</sub>) in amino acids, then the number of each element (carbon, hydrogen, nitrogen, and oxygen) in them. Secondly, we see the change of each element; namely, a virus attacks the spike protein in a body and produces a different amino acid for its life, which changes the number of each atom.

Furthermore, we recognize the pKa number [9], dissociated products more accessible promote to form dissociation constant (acidity constant). It is easier to happen as large as the value.

They describe the formula;  $pK_a = -\log_{10}K_a$

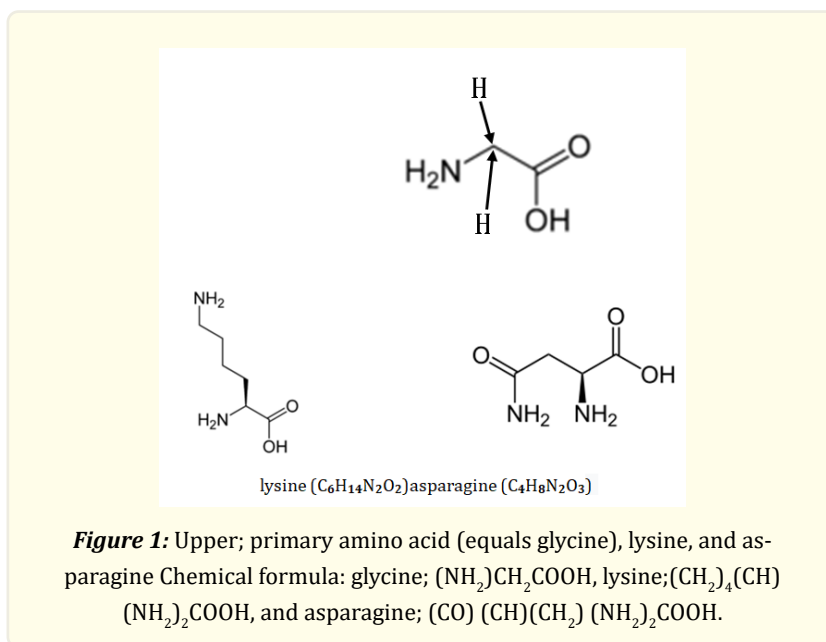
We focus on the virus from lambda and omega, then four variants below in Table 2. We depict precisely the amino acid as necessary.

| <b>Virus</b>              | <b>amino acid, element →</b>                                  | <b>C</b> | <b>H</b> | <b>N</b> | <b>O</b> |
|---------------------------|---|----------|----------|----------|----------|
| Alpha; N501Y              | N: asparagine/Y; tyrosine<br>$C_4H_8N_2O_3$ $C_9H_{11}NO_3$   | 4 / 9    | 8 / 11   | 2 / 1    | 3 / 3    |
| Beta; E484K               | E; glutamic acid/K: lysine<br>$C_5H_9NO_4$ $C_6H_{14}N_2O_2$  | 5 / 6    | 9 / 14   | 1 / 2    | 4 / 2    |
| Delta; L452R              | L; leucine / R: arginine<br>$C_6H_{13}NO_2$ $C_6H_{14}N_4O_2$ | 6 / 5    | 13 / 14  | 1 / 5    | 2 / 2    |
| Lambda; L452Q             | L; leucine /Q: glutamine<br>$C_6H_{13}NO_2$ $C_5H_{10}N_2O_3$ | 6 / 5    | 13 / 10  | 1 / 2    | 2 / 3    |
| Omega; K417N<br>(omicron) | K; lysine / N: asparagine<br>$C_6H_{14}N_2O_2$ $C_4H_8N_2O_3$ | 6 / 4    | 14 / 8   | 2 / 2    | 2 / 3    |
| Variant; G446S            | G; glycine /S: serine<br>$C_2H_5NO_2$ $C_3H_7NO_3$            | 2 / 3    | 5 / 7    | 1 / 1    | 2 / 3    |
| Variant; E484A            | E; glutamic acid/A: alanine<br>$C_5H_9NO_4$ $C_3H_7NO_2$      | 5 / 3    | 9 / 7    | 1 / 1    | 4 / 2    |
| Variant; F490S            | F; Phenyl alanine/S; serine<br>$C_9H_{11}NO_2$ $C_3H_7NO_3$   | 9 / 3    | 11 / 7   | 1 / 1    | 2 / 3    |
| Variant; D614G            | D; aspartic acid/ G: glycine<br>$C_4H_7NO_4$ $C_2H_5NO_2$     | 4 / 2    | 7 / 5    | 1 / 1    | 4 / 2    |

**Table 2:** Amino acids of spike proteins and formed proteins by each virus, and the number of element changes depicted by slash.

**Changes of dissociation constants;** reference of value, [10, 11, 12].

The number of pKa and pKb values is called the dissociation constant. The former relates to  $-COOH$  and  $-NH_2$  for the latter. Figure 1 depicts the basic structure of amino acids. We introduce glycine, which is the simplest amino acid; the formula is  $C_2H_5NO_2$ .

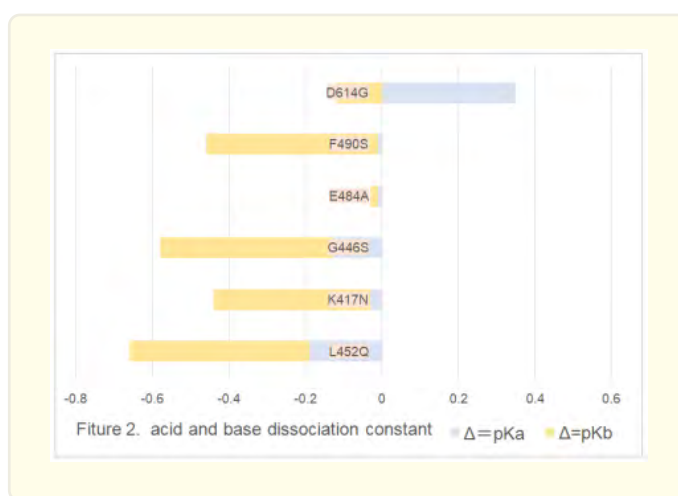


We will discuss the bonding strength in every atomic chain later.

First, it is interesting that we find the change of specific two groups of amino acids in the spike protein and the products the virus forms. For instance, we introduce two examples to proceed with the rule; in the lambda virus, L452Q. (L; leucine and Q; glutamine),  $pK_a = 2.36$ ,  $pK_b = 9.60$  of  $-COOH$  in leucine, and  $pK_a = 2.17$ ,  $pK_b = 9.13$  in glutamine. Then, the difference ( $\Delta$ ) is the value of  $-0.19$  and is  $-0.47$  in leucine, shown in Figure 2.

Secondly, if the values of  $pK_a$  in L452Q, K417N, G446S, and F490S are small, then the  $pK_b$  value indicates a more significant change,  $-0.45$ . These viruses may produce amino acids with only a little oxygen change. A virus wants oxygen,  $2/3$ , as shown in Table 2. Here is a crucial point of countermeasure against the virus with SIGN water, which we will discuss next section.

Before the point, we notice the bonding strength of each atomic chain, like N-H and C-N, an amino group, for instance.



From this graph, we can estimate that L452Q, K417N, G446S, and the virus forms F490S obtaining oxygen the virus may contain, as shown in the last column in Table 2. Namely, the virus requests to get oxygen to produce the amino acid for its life. That is why they may attack the respiratory organ of our body.

Another essential item is an amino acid in our body that virus attacks. We can know the spike protein in the formula like L452Q; the former alphabet describes a spike protein (leucine), and the latter (glutamine) shows the amino acid that the virus generates.

### The bonding strength of each atomic chain

We compare the number of each bonding between the spike protein and product by the virus.

N-H and C-N in the amino group, C=O, C-OH, and C-C in the carboxy group. C-H in the side chain.

We refer to the six kinds of bonding strength as follows [12, 13], although they consider a covalent bond (unit is eV) in order the strength,

- ① C = O; 8.3, ② O - H; 4.6, ③ C - H; 4.3, ④ N-H; 3.9, ⑤ C - OH; 3.7, ⑥ C - C; 3.6, ⑦ C - N; 3.2,

We can assume that amino radicals are subject to alteration. We may understand to compare the bonding strength between atoms; N-H and C-N in the amino radical are 3.9 and 3.2 eV, respectively. Meanwhile, C-OH and C = O, etc., in the carboxy radicals are relatively stronger than amino radicals.

### *Functions of SIGN water to virus and amino acid*

We reported this theme preciously [5, 6]. As the outline, two essential points of SIGN water are functions of chemical reduction from the oxidized cell by pico-sized particle,  $\langle H^+ \sim e^- \rangle$  in the water.

We assume that one of the functions is to build an anti body with reductive property due to infoton.

We discussed the example of L452Q (lambda virus) in COVID-19 [14]. Infoton in SIGN water works for reducing leucine, and then serine is hydrolyzed due to proton and electron of infoton (Amino acids; leucine and serine in the protein of COVID-19).

Here, we introduce K417N after COVID-19. The amino acids change K; lysine to N: asparagine by a virus, omicron. In viewpoint, an omicron virus efficiently produces asparagine which possesses a fewer number of the C-H bonding of immense energy (4.3 eV). This perspective may lead the infectious readily.

Therefore, infoton activates  $NH_2$  in lysine resulting in  $NH_3^+$ , so the virus may not form asparagine. Even though omicron produces asparagine, the amino radical may dissociate since the bonding of C- $NH_2$  cleavage. Farther, infoton can quickly provide an electron to the amino group, leading to hydrolyzed asparagine. We can also apply the essential theory against the virus to other types of variants.

Second, we recommend devices such as LED lights and clothes activated with the SIGN water's information on the body to maintain normal functions, besides introducing various daily experiences.

### *Pieces of evidence from people drinking SIGN water and using the activated LED lights*

This situation may easier perform infoton's work to give proton and electron in  $\langle H^+ \sim e^- \rangle$ . It means that infoton can attack and protect the spike protein in a body.

Many people have proposed sound effects after drinking for one week or more (depending on underlying health conditions) and irradiating the LED lights for ten minutes daily. It is easy to drink and sprinkle SIGN water on the face and into the throat. Furthermore, the device introduced above that the activated ceramics, metal, polyethylene, and cloths with SIGN water can be an excellent way to protect the virus because of the far-infrared and terahertz electromagnetic wave from the infoton.

This idea is just a theory, but many people do not infect virus since 2019.

## Conclusion

We discuss the solid infectious with the recent virus from the standpoint of amino acids in the spike and virus proteins. We stress the chemical bonding strength of each amino acid. Furthermore, we estimate why the omicron virus continues to pandemic from the viewpoint of chemical bonding. Then we refer to how to protect SIGN water with theoretical ideas and evidences. We can maintain a healthy organism by SIGN water and the activated substances. After higher pressurization was applied to ordinary tap water, the water only possessed the pico-sized particle.

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