**Identification of novel inhibitor of COVID-19 from ethylated phenyl carbamoyl azozine 1,2,4 Triazoles by using targeting nsp3 protein.**

**Introduction:**

Severe Acute Respiratory Syndrome Coronavirus-2 is a little virus that has caused a pandemic and affected the entire world. In 2019, Wuhan, China served as the source of COVID-19 (ilyas M et al, 2022) and with significant mortality reported, has spread to practically all nations. The World Health Organization (WHO) proclaimed a pandemic on March 12, 2020. (Zhang et al. 2020). Globally, it has led to about 637,404,847 cases and 6,608,893 deaths till November 28, 2022 (WHO). Droplets, nasal secretions or saliva of an infected person can spread it up to 1-2 meters and it can linger on the surface for days (Kompf et al. 2020). It can lead to lung inflammation and heart failure (Abdurrahman et al. 2020) and fever, cough, fatigue, headache, loss of taste and smell. COVID-19 can spread to those who don't exhibit any symptoms in addition to those who are sick. (Chin, et al.2020).

The term "coronavirus" refers to positive-sense, encapsulated, single-stranded RNA virus (Singhal 2020) having to do with the Coronaviridae family (Singhal, et al. 2020) and betacoronavirus genus. Over 90% similarity in the genomic sequence of COVID-19 suggests that it is a bat-derived virus. The coronavirus has the biggest RNA genome of any known RNA viruses, with a size of between 26 and 32 kb, and a particle diameter of about 125 nm. (Ji et al., 2020). The ORF1a and ORF1ab are big polyproteins, four structural proteins spike (S), envelope (E), membrane (M), and nucleocapside (N), and eight accessory proteins (ORF3a, ORF3b, ORF6, ORF7, ORF7b, ORF8a, ORF8b, and ORF9b) make up the SARS-CoV-2 (Yoshimoto, 2020). It also includes four nonstructural proteases, including the primary protease, helicase, and RNA-dependent RNA polymerase (RDRP) and papain like protease (Sen 2020). Two significant NSPs (MPRO and PLPRO) are crucial in the formation of the replication-transcription complex and in controlling numerous aspects of virus replication (Naidoo 2020). When PLPRO cleaves peptide links at three distinct spots, these three protein NSP1, NSP2 and NSP3 are released. (Rut, et al. 2020). In this review article article, we will focus only the NSP3 protein as a potential drug target.

Due to their capacity to create H-bonding and dipole-dipole interaction, triazoles are aromatic five-membered heterocyclic compounds with extraordinary biological target binding potential (Patel V, et al. 2018). Their compounds have anti-inflammatory, anticancer, insecticidal, antiviral, antioxidant, antibacterial, antidepressant, and antihypertensive properties. (Kumar S, et al.2013), antiparasitic, wound healing (Plech T. et al, 2013), antipyretic, anti-HIV and antidiabetic (Shazad A. et al, 2019). Therapeutics helpful in the management of conditions such allergies, chronic inflammation, certain malignancies, and cardiovascular issues (Muzaffar S. et al 2020).

Most researchers are attempting to develop a treatment for those who have this illness, but so far no successful medication has been developed (Sen 2020). Drug development is a drawn-out process, which should be mentioned here. A new medicine's development from the earliest stage to the market could take months, years, or even decades (Augen 2002). A crucial tool in structural molecular biology and computer assisted drug design is molecular docking. Ligand-protein docking seeks to foretell the predominant form of binding between a ligand and a protein with a known three-dimensional structure (Garrett M. et al, 2008). It is an in silico technique, has developed into a flexible and intense method for discovering effective treatments for any illness. Additionally, compared to the wet experimental drug discovery method, this approach is more time and money efficient (Wadood et al. 2013). The ideal approach is computational-based molecular docking and virtual screening to develop a treatment for SARS-CoV-2. The second method involves predicting possible therapeutic compounds' drug-likeness using in silico ADMET and various databases (Sepay et al. 2021), and molecular dynamics study. Our group synthesize the ethylated phenyl carbamoyl azozine derivatives, have a diverse medicinal application, include antibacterial, anti-inflammatory, anticancer, antiparasitic and antiviral activities (Muzaffar S. et al. 2020). We now sought to assess this compound's anticovid actions.