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(71)Name of Applicant :

**1)JSS College of Pharmacy, Ooty- JSS Academy of Higher Education & Research, Mysuru**

Address of Applicant :“Rocklands”, Post Box No.: 20, Ooty-643001, The Nilgiris, Tamilnadu, India Nilgiris -----  
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Name of Applicant : NA

Address of Applicant : NA

(72)Name of Inventor :

**1)Dr. Kalirajan Rajagopal**

Address of Applicant :Associate Professor & Head, Department of Pharmaceutical Chemistry, JSS College of Pharmacy, JSS Academy of Higher Education & Research, Ooty-643001, The Nilgiris, Tamilnadu Nilgiris -----

**2)Mr. Kannan Raman**

Address of Applicant :Research Scholar, Department of Pharmaceutical Chemistry, JSS College of Pharmacy, JSS Academy of Higher Education & Research, Ooty-643001, The Nilgiris, Tamilnadu Nilgiris -----

**3)Dr. Srikanth Jupudi**

Address of Applicant :Lecturer, Department of Pharmaceutical Chemistry, JSS College of Pharmacy, JSS Academy of Higher Education & Research, Ooty-643001, The Nilgiris, Tamilnadu Nilgiris -----

**4)Dr. Gowramma Byran**

Address of Applicant :Associate Professor, Department of Pharmaceutical Chemistry, JSS College of Pharmacy, JSS Academy of Higher Education & Research, Ooty-643001, The Nilgiris, Tamilnadu Nilgiris -----

**5)Sankaranarayanan Murugesan**

Address of Applicant :Medicinal Chemistry Research Laboratory, Department of Pharmacy, Birla Institute of Technology and Science-Pilani, Pilani Campus, Pilani-333031. Rajasthan. India Jhunjhunu -----

(57) Abstract :

The present invention relates to the development of 3CL protease enzyme inhibitors, specifically the development of novel chromen-3-yl derivatives and their efficacy as inhibitors of SARS-CoV-2 virus 3CL protease enzyme. The present invention is based on In-silico, Synthesis, Characterization and aims to target B.1.1.529, Omicron Variant, and P132H mutant strains of the virus. The chromen-3-yl derivatives have shown promising results as effective inhibitors of the 3CL protease enzyme, which is crucial for the replication of the virus. The present invention provides a novel approach to combat the deadly effects of the SARS-CoV-2 virus by targeting its key enzyme through the use of chromen-3-yl derivatives. Out of the derivatives derived and obtained, K2- CoV- 1, Q2- CoV-4 and K4-CoV-7 showed maximum activity against the SARS-CoV-2 virus 3CL protease enzyme.

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