Dr. NARAYANA NAGESH

Chief Scientist, CCMB, Hyderabad-500007, Telangana, India.

Date of birth: 31-10-1964. Male.

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➢ Educational Details.

Doctor of Philosophy (Chemistry) 2002-05 "*Studies on the Structure and Interaction of G-Quadruplex DNA with Metal Ions and Drugs".*

Post-Doctoral Experience- With Prof. Edwin A Lewis, Department of Chemistry at North Arizona University, Flagstaff, Arizona, USA. From October, 2006 - September, 2007. *"Studies on Bcl2 Quadruplex DNA interaction with Porphyrins".*

➢ Professional Details.

Joined CCMB as Scientist-B in the year 1990. Serving CCMB now as Chief Scientist.

➢ Research interests and Area of expertise.

About 15-20 years of experience in handling the chemistry aspects and trouble shooting of issues that come across in DNA synthesis and sequencing (Sanger Sequencing technique).

Interested in the studies involving G-quadruplex DNA and its interaction with metals, macromolecules, ligands.

Synthesis and identification of novel organic and inorganic complexes that will improve anti- cancer, pro-apoptotic and anti-cancer cell proliferation activity both under *in vitro* and *in vivo* conditions by topological, pharmacophores modification of synthetic molecules.

Synthesis of aptamers and study their specific interaction. Synthesis of small molecules for the specific interaction with amino acids that gets over expressed under certain disease conditions.

Biophysics, Biochemistry, Chemistry, Medicinal Chemistry and Chemical Biology.

➢ Research Projects.

I. Project in progress now:

1. PI for the CSIR funded MLP project *"mRNA Platforms for Vaccine and Biotherapeutics"*. From 2023-24. It's a project in which CSIR-CCMB and CSIR-IICT are participating. The aim of the project is to test the mRNA vaccine for other infectious diseases (about 1.1 crores).

2. Co-PI in the DBT funded project, 2019-2023 *"Development of novel gene/vaccine delivery vectors derived from novel animal adenoviruses isolated from India".* (70 lakhs)

II. Projects completed till now:

Till now 8 research projects from various funding agencies were obtained and completed. *Through these projects, about 6.5 cr. ECF is generated.*

1. Indo-Swiss Joint Research Project (ISJRP):

Project obtained from- DST March, 2012 to February, 2015. Visited Department of Chemistry, University of Neuchatel, Switzerland as part of the ISJRP project. Prof. Bruno Therrien was the PI from Switzerland side and myself is the PI from Indian side.
Title of the project –"Interaction of organic and organometallic molecules with G-quadruplex DNA and evaluating them as DNMT and HDAC inhibitors".
Papers published under this project – 11.

2. Project obtained from DST during February, 2012 to January, 2015.
Title of the project - "The effect of ITPase, IMPDH, GMPS enzymes on 6 mercapto-purine metabolism and toxicity in childhood acute lympho blastic leukemia."
Papers Published under this project – 3.
Project completed.

3. NanoSHE project: (a XII FYP project). Project obtained from CSIR. Member of the team.

4. MLP Project obtained from CSIR during 2018: Point of care device for Prediabetes detection. Nano-Biosensor and Microfluidics for Healthcare - Affordable Paper-based microfluidic devices for HCV diagnosis.

5. Project obtained from CSIR during 2018 Project title: **"**Multi-analyte Sensing Platforms and Molecular Probes for Detection of Target Biomarkers Using Electrochemical and Optical Methods."

6. Having one **FTT** CSIR, 2020-2022 – with title *"Homocysteine Specific Novel Sensor for Diagnostic Use"* in association with CSIR-CSMCRI and CSIR-CECRI.

7. Nodal PI for the CSIR funded MLP project *"Corona Sample testing project"*. From 2021-22. It's a project in which about 11 CSIR labs are participating.

8. Nodal PI for the CSIR funded MLP project *"mRNA Platforms for Vaccine and Biotherapeutics"*. From 2020-23. It's a project in which about 7 CSIR labs are participating. (2 cr. for CCMB to execute the project. Total project cost is 5.13 cr.).

➢ Students Guided: about 29.

Total about 28 students were guided. They are at different levels of University education.

- Dissertation students: Sixteen (7- M Tech, 2- M Pharm., and 9 - M.Sc., Students)
- Graduate students: Four (one from USA and three from India).
- Summer Trainees: Seven.
- PBST student : One

➢ Examiner for Phd thesis.

I am an external examiner for several PhD thesis in various Institutes/Universities. Till now, I am an external examiner for 8 PhD thesis submissions.

➢ **Reviewer for journals and funding agencies:** Reviewer for several international journals and national/international funding agencies. Few selected journals and funding agencies are mentioned below.

Nature Scientific Reports, Biochimica et Biophysica Acta (BBA) - General Subjects, ChemCom., RSC- Advances, PLoS ONE, Tumor Biology, Bioinorganic Chemistry and Application Journal, Current Analytical Chemistry Journal, Advances in Applied Research, Journal of Nucleic Acids, and several other journals.

Editorial board member for several reputed international journals.

Reviewer for PRIB 2008 international conference, IEEE Congress on Evolutionary Computation, 2010.

Reviewer for the projects submitted to National (CSIR, DST) and International (MRC,UK, Fondazione Cassa di Risparmio di Padova e Rovigo, Italy and Czech Science Foundation, Czech Republic) funding agencies.

Reviewer for projects submitted to TWAS-COMSTECH Research Grants Committee under Pharmaceutical Sciences.

External reviewer for the academic positions in University of Sharjah, Sharjah.

➢ Editorial Board Member.

Editorial board member for several international research journals.

➢ Presentations in the International and National conferences.

Presented the work titled “Exploring the interactions of a c-MYC model G-quadruplex DNA with TMPyP4using thermodynamic and fluorescence” in the ANAS-CHM meeting held at NAU, Flagstaff, USA during 2007.

Oral presentation on “G-quadruplex DNA interaction with drugs- a brief over view” in an US National Conference held at Carefree, AZ, USA and several lectures at National and International conferences.

Received travel fellowship to attend Ist International meeting on Quadruplex DNA held at Louisville, KY, USA.

Poster presentation in Ind International conference G-quadruplex DNA meeting, April 18–21, 2009, Louisville, KY, USA.

Received Indo-Swiss Joint Research Programme (ISJRP) during the year 2012-14 to collaborate with Prof. Bruno Therrien, Department of Chemistry, University of Neuchatel, Neuchatel, Switzerland.

Oral presentation on “Role of G-quadruplex DNA and small molecules in cancer cure, effect of ligand side chain modification in inducing apoptosis an *in vitro* and *in vivo* studies” in the Department of Chemistry, University of Neuchatel, Neuchatel, Switzerland in August, 2012.

The studies on interaction of G-quadruplex DNA with different cationic porphyrins were presented in 246th ACS National Meeting and Exposition September 8-12, 2013, Indianapolis, Indiana USA.

Besides these presentations in international conferences/universities/institutes, several presentations were given in India in various workshops, conferences and meetings.

➢ Achievements.

- M.Sc., – University II rank in the year 1987.
- MPhil.,- University Merit scholarship, from 1987- 1990.
- PhD.,-Received NAU-TRIF award and Arizona Biomedical Research (ABRC) award from USA-2006-2007.
- Got Indo Swiss Joint Research Project (ISJPR) for the visiting Univ. of Nauchatel, Switzerland.
- Elected as a “Fellow of the Telangana Academy of Sciences” (FTAS) during the year, 2022.
- Elected as a “Fellow of Royal Society of Chemistry” (FRSC) during the year 2024.

➢ Institutional Managerial Responsibilities Handled.

- Member of CCMB Management committee for the year 2010-22.
- Chairman for the selection committees to select JRF, SRF candidates for the research projects at CCMB.
- Member of the collegiums for promotions for regular scientists at CCMB.
- Chairman for the CCMB employee's confirmation committee.
- Reporting officer for 5 scientists and reviewing officer for about 43 permanent employees at CCMB.
- Chairman/Member of several institutional management committees.

➢ Awards and recognitions.

- Elected as a Fellow of Telangana Academy of Sciences (TAS) in 2020.
- Elected as a Executive member of National Biodiversity Authority (NBA) during 2023-2024.

➢ Details of Patents filed.

1. Title of the Patent: Synthesis of N-((1-pheny1-9H-pyrido[3,4-b]indo1-3- y1) methy1) cinnamamides as potential Anticancer Agents.

File Reference No: PT-649. **CSIR Ref No.:** 0272NF2015.
Inventors: Ahmed Kamal, Manda Sathish, **Narayana Nagesh**, Nagula Shankaraiah, Sabanis Chetan Dushantrao, Namballa Hari Krishna.
Countries: India, US, UK, Germany, France.
International Patent Classification: C07D 471/04(2006.01); A61K 31/437(2006.01).

2. Title of the Patent: A process for preparing 2-pyrimidyl substituted-2,3-dihydro-1*H*-naphtho[1,2-e][1,3] oxazines.

File Reference No: 201921033132.

Inventors: Rakhi Gajanan Gawali, Raghunath Bhikaji Bhosale, Sachin Pandurang Shirame, **Narayana Nagesh.**
Countries: India.

3. Title of the Patent: Testing the anti-biofouling activity of nanoparticle coated cotton fabrics (This study is completed and patent document is getting ready for submission).

Inventors: Dr. Sunirmal Jana, **Narayana Nagesh**, Malobi Seth and Sandeepta Burgula.

Country: India.

. Couple of most efficient anticancer molecules were synthesized and assayed recently gave promising results. Couple of more Patent document on the anti-cancer molecules, is under preparation.

➢ Contribution addressing National/International issues (societal research):

A. As a part of social responsibility, the whole CSIR family has initiated testing COVID-19 samples across India. At CSIR-CCMB as a Nodal Project Investigator, we have started a programme to test COVID-19 infected persons staying in Telangana and the places around it. In the COVID-19 testing project, I took the responsibility as a for the COVID-19 testing project in which about 12 CSIR laboratories spread all over India were involved in COVID-19 testing. Several lakh of persons from different parts of the country were tested and provided the required information to combat COVID-19 cases in our country.

B. We have also taken a project from CSIR where in about 7 research laboratories were involved in the development of mRNA based COVID-19 vaccine (same technology used by Moderna to develop mRNA based vaccine). In fact the platform developed by us for the preparation of mRNA based vaccines, may be useful to combat not only the viral infections like, COVID-19, but also for effectively fitting with other viral infectious diseases that may arise in future.

C. As part of our FTT research programme, me and my colleagues at CSIR-CSMCRI and CSIR-CECRI has developed a coumarin based synthetic molecule that specifically interact with Homocysteine (Hcy). It is known that Hcy is over produced is patients who are suffering from cardiovascular diseases. Myself and my team at CCMB have carried out several clinical studies to evaluate Hcy levels in human plasma. These studies may be useful for prior identification of cardiovascular problems among Indian population. Prior identification may help to rescue the patient suffering from cardiovascular diseases. Now we are coming up with a electrochemical device to quantitate Hcy in human plasma.

D. We have developed yet another small molecule that specifically interacts with cysteine. The specificity and interaction of the synthetic molecule is useful to quantitate the over expression of a non-essential amino acid that is important for making proteins, and it is crucial for other metabolic functions. Experiments in progress to quantitate cysteine in biological fluids. It has several medical applications.

E. In collaboration with CSIR-CGCRI, Kolkata, we have studied the anti-biofouling activity of nanoparticle coated cotton fabrics. These cotton fabrics are very useful to individuals working in harsh, damp and lower temperatures. The coating on the cotton fabrics will not allow any microorganism to grow and form colonies. It will not allow to any skin infections. These kind of cloths made out of cotton fabrics coated with nanoparticles may be useful to our solders in Indian Army.

➢ Google scholar citation indices (as on 29-08-2024).

Citations - 2949, h- index – 35, i10 index - 72.

Google Scholar link: https://scholar.google.com/citations?user=LyEEME8AAAAJ&hl=enAJ

➢ List of publication.

(Till now, 94 research articles were published in various International/ national peer reviewed journals).

Published about 94 research articles in various national and international high impact journals. The details of publications are provided below, in the reverse chronological order. Several research articles are communicated to various international journals and few are under preparation.

2024

1. Synthesis and Antibacterial Evaluation of new Naphthalimide-Coumarin hybrids against multidrug-resistant S. aureus and M. tuberculosis.(2024) Preeti Rana, Manchella Sai Supriya, Abdul Kalam, Chaitanya Eedulakanti, Grace Kaul, Abdul Akhir, Rachiraju Hema Sindhuja, Deepanshi Saxena, Mohammad Naiyaz Ahmad, Y.V. Madhavi, Arunava Dasgupta, Narayana Nagesh, Sidharth Chopra and Srinivas Nanduri. Journal of Molecular Structure,1307, 137957.

2. A Hydrogen Bonded Non-Porous Organic-Inorganic Framework for Measuring Cysteine in Blood Plasma and Endogenous Cancer Cell. (2024) Ghosh, Riya, Pradhan, Debjani, DEBNATH, SNEHASISH, Mansingh, Arushi, Nagesh, Narayana, Chatterjee, Pabitra. Chemistry - A European Journal,DOI: 10.1002/chem.202401255, e202401255.

3. Development of β-Carboline-Coumarin Based Hybrids as Potential Cytotoxic and Topoisomerase IIα Inhibitors.(2024) Mursalim Ali Khan, Anamika Sharma, Darshana Bora, Rachiraju Hema Sindhuja, Regur Phanindranath, Rakhi Gawali, Narayana Nagesh,* Nagula Shankaraiaha,* ChemistrySelect (Accepted)

2023.

1. Benzimidazole based bis-carboxamide derivatives as promising cytotoxic agents: Design, synthesis, in silico and tubulin polymerization inhibition. (2023) Kritika Laxmikeshav, PoojaSharma, Manisurya Palepu, Pravesh Sharma, Ashutosh Mahale, Joel George, Regur Phanindranath, Manoj P.Dandekar*, Onkar Prakash Kulkarni, **Narayana Nagesh***, Nagula Shankaraiaha*. Journal of Molecular Structure, 1271, 134078.(IF-3.8)

2. Synthesis and cytotoxicity evaluation of DNA-interactive β-carboline indolyl-3-glyoxamide derivatives: Topo-II inhibition and in silico modelling studies. (2023) Jay Prakash Soni, G. Nikitha Reddy, Ziaur Rahman, Anamika Sharma, Akella Spandana,

Regur Phanindranath, Manoj P. Dandekar, **Narayana Nagesh***, Nagula Shankaraiah*. Bioorganic Chemistry, 131, 106313. (IF-5.3)

3. Triazolo-linked benzimidazoles as tubulin polymerization inhibitors and DNA intercalators: Design, synthesis, cytotoxicity and docking studies (2023) Kritika Laxmikeshav, Mone Sayali, Geetanjali Devabattula , Durgesh Gurukkala Valapil, Ashutosh Mahale, Pravesh Sharma, Joel George, Regur Phanindranath, Chandraiah Godugu*, Onkar Prakash Kulkarni, **Narayana Nagesh***, Nagula Shankaraiah*. Archiv der Pharmazie, e2200449, DOI: https://doi.org/10.1002/ardp.202200449.(IF-4.6)

4. Synthesis and Biological Evaluation of 1-Phenyl-4,6-dihydrobenzo[b]pyrazolo[3,4-d] azepin-5(1H)-one/thiones as Anticancer Agents.(2023) Ramulu Parupalli, Ravikumar Akunuri Akella Spandana, Regur Phanindranath, Suneela Pyreddy, Manasa Vadakattu, Sushmitha Bujji, Balakishan Gorre, Venkata Madhavi Yaddanapudi, Velma Ganga Reddy,* **Narayana Nagesh,***, Srinivas Nanduri.*Bioorganic Chemistry, 135, 106478. https://doi.org/10.1016/j.bioorg.2023.106478.(IF-5.3)

5. Design, synthesis, docking studies and biological screening of 2-pyrimidinyl-2, 3-dihydro-1H-naphtho [1, 2-e][1,3] oxazines as potent tubulin polymerization inhibitors. (2023) Rakhi Gawali*, Raghunath Bhosale, **Narayana Nagesh**, Vijay Masand, Shravan Jadhav, Magdi E. A. Zaki, Sami A. Al-Hussain. Journal of Biomolecular Structure & Dynamics, https://doi.org/10.1080/07391102.2023.2266766. (IF-5.5)

6. Benzimidazole derivatives as tubulin polymerization inhibitors: Design, synthesis and in vitro cytotoxicity studies.(2023) Kritika Laxmikeshav, Ziaur Rahman, Ashutosh Mahale, Durgesh Gurukkala Valapil, Pravesh Sharma, Joel George, Regur Phanindranath, Manoj P. Dandekar,* Onkar P. Kulkarni, **Narayana Nagesh,** Nagula Shankaraiaha*. Biorganic and Medicinal Chemistry Letters, 96, 129494. (IF-3.0)

2022.

1. Ready-to-Use Vertical Flow Paper Device for Instrument-free RoomTemperature Reverse Transcription. (2022) Thomas Michael Shiju, Chaturvedula Tripura, Pritam Saha, Arushi Mansingh, Venkatapathy Challa, Ira Bhatnagar, **Narayana Nagesh**, and Amit Asthana. *New Biotechnology*, 68,77-86. (IF-5.1).

2. Synthesis of indolo/pyrroloazepinone-oxindoles as potential cytotoxic, DNA-intercalating and Topo I inhibitors. (2022) Manasa Kadagathur, Arbaz Sujat Shaikh, Biswajit Panda, Joel George, Regur Phanindranath, Dilep Kumar Sigalapalli, Nagesh,A, Bhaled Chandraiah Godugu, **Narayana Nagesh***, Nagula Shankaraiah*, Neelima D.Tangellamudi*. *Bioorganic Chemistry*, 122, 105706. (IF-5.2)

3. Towards the development of reagent-free and reusable electrochemical aptamer-based cortisol sensor.(2022) Gopi Karuppaiah, Jayasudha Velayutham, Shekhar Hansda, **Nagesh Narayana**, Shekhar Bhansali, Pandiaraj Manickam. *Bioelectrochemistry*, 145, 108098. (IF-5.4)

4. Exploration of Mercaptoacetamide-linked Pyrimidine-1,3,4-Oxadiazole Derivatives as DNA Intercalative Topo II inhibitors: Cytotoxicity and Apoptosis Induction.(2022) Arbaz Sujat Shaikh, Kiranmai Gaddam, Parimala Devi G, Priyanka N Makhal, Dileep K Sigalapalli, Ramya Tokala, Vednkat Rao Kaki, Shankaraiah Nagula, **Nagesh Narayana*,** Nagendra Babu Bathini*, Tangellamudi Deena Neelima*. *Bioorganic & Medicinal Chemistry Letters*., 65, 128697.

5. Design, synthesis of DNA-interactive 4-thiazolidinone-based indolo-/ pyrroloazepinone conjugates as potential cytotoxic and topoisomerase I inhibitors. (2022) Manasa Kadagathur, Sandip Patra, Geetanjali Devabattula, Joel George, Regur Phanindranath, Arbaz Sujat Shaikh, Dilep Kumar Sigalapallia Chandraiah Godugu, **Narayana Nagesh***, Neelima D.Tangellamudi*, Nagula Shankaraiaha*. *European Journal of Medicinal Chemistry*, 238, 114465. (IF-6.3)

6. A unique water soluble probe for measuring the cardiac marker homocysteine and its clinical validation.(2022) Snehasish Debnath,Ratish R. Nair,Riya Ghosh, Gaddam Kiranmai,Narsini Radhakishan, **Narayana Nagesh*** and Pabitra B. Chatterjee*. *Chem. Commun.*, 58, 9210-9213 (IF- 6.2).

2021.

1. Development of β-carboline-benzothiazole hybrids *via* carboxamide formation as cytotoxic agents: DNA intercalative topoisomerase IIα inhibition and apoptosis induction.(2021) Ramya Tokalaa, Surbhi Mahajana, Gaddam Kiranmaib, Dilep Kumar Sigalapallia, Sravani Sanaa, Stephy ElzaJohna, **Narayana Nagesh***, Nagula Shankaraiaha*.*Bioorganic Chemistry,* Vol. 106, 104481. (IF-4.8).

2. Benzimidazole-1,2,3-triazole Hybrid Molecules: Synthesis and Study of their Interaction with G-quadruplex DNA. (2021) Kumbhare, Ravindra M.; Padma, Singu; Chilakamarthi , Ushasri; Mahadik, Namita S. ; Bhamidipati, Keerti; Valipenta, Narasimhulu ; Mokale, Santosh; **Narayana, Nagesh***. *RSC Medicinal Chemistry.* (Accepted). (IF-2.5).

3. 3-Functionalised Benzenesulphonamide based 1,3,4-oxadiazoles as Selective Carbonic Anhydrase XIII Inhibitors: Design, Synthesis and Biological Evaluation. (2021) Baijayantimala Swain, Abhay, Priti Singh, Andrea Angeli, Kamtam Aashritha, **Narayana Nagesh**, Claudiu T. Supuran, Mohammed Arifuddin. *Bioorganic and Medicinal Chemistry Letters*, 37, 127856. (IF- 2.42).

4. Design, Synthesis and Biological Evaluation of Hybrid C3-Quinazolinone linked β-carboline Conjugates as DNA Intercalative Topoisomerase I Inhibitors (2021) Yellaiah Tangella, Manda Sathish, Manasa Kadagathur, **Narayana Nagesh*** and Bathini Nagendra Babu*. *J Clin Pharm.,* 5(1), 1020.

5. Targeting Tubulin Polymerization and DNA Binding of 4-Thiazolidinone - umbelliferone Hybrids: Synthesis and Cytotoxicity Evaluation. (2021) Dilep Kumar

Sigalapalli, Gaddam Kiranmai, Ramya Tokala, Chaturvedula Tripura, Ramesh Ambatwar, Saiprasad N. Nunewar, Manasa Kadagathur, Nagula Shankaraiah*, **Narayana Nagesh***, Bathini Nagendra Babu*, Neelima D. Tangellamudi*. *New Journal of Chemistry*. DOI: 10.1039/D1NJ03135J. (IF-3.6)

6. Synthesis and biological evaluation of novel imidazo[1,2-a]pyridine-oxadiazole hybrids as anti-proliferative agents: Study of microtubule polymerization inhibition and DNA binding.(2021) Dilep Kumar Sigalapalli, Gaddam Kiranmai, G Parimala Devi, Ramya Tokala, Sravani Sana, Chaturvedula Tripura, Govinda Shivaji Jadhav, Manasa Kadagathur, Nagula Shankaraiah*, **Narayana Nagesh***, Bathini Nagendra Babu*, Neelima D Tangellamudi*. *Bioorganic and Medicinal Chemisry*, 43, 116277. (IF-3.6).

2020

1. Magnetic bead-amplified voltammetric detection for carbohydrate antigen 125 with enzyme labels using aptamer-antigen-antibody sandwiched assay. (2020) Mohanraj Sadasivam, Arunkumar Sakthivel , **Narayana Nagesh,** Shekhar Hansda, Murugan Veerapandian, Subbiah Alwarappan, Pandiaraj Manickam. *Sensors & Actuators: B. Chemical*, 312, 127985-127991. https://doi.org/10.1016/j.snb.2020.127985. (IF- 7.1)

2. Amberlite IR-120H Catalyzed Synthesis of 1,3-Diphenylpyrazole-chromenoquinolin-6-one Compounds and Their Biological Evaluation.(2020) Jeshma Kovvuri, Burri Nagaraju, C. Ganesh Kumar, Sunitha Rani Routhu, Jitendra Gour, Kishore Mullagiri, **Narayana Nagesh** and Ahmed Kamal. *American Journal of Medicinal Chemistry*, Volume 2(1), Page. 2-16. doi:10.31487/j.AJMC.2020.01.05.

3. Design and Synthesis of β-carboline linked aryl sulfonyl piperazine derivatives: DNA topoisomerase II inhibition with DNA binding and apoptosis inducing ability.(2020) Kesari Lakshmi Manasa, Sowjanya Thatikonda, Dilep Kumar Sigalapalli, Arpita Sagar, Gaddam Kiranmai, Arunasree M Kalle, Mallika Alvala, Chandraiah Godugu*, **Narayana Nagesh*,** Bathini Nagendra Babu*. *Bioorganic Chemistry*, doi: https://doi.org/10.1016/j.bioorg.2020.103983. (IF- 4.8)

4. Review Article: The *β*-carboline alkaloids in cancer therapy- recent advancements in this area. (2020) Kesari Lakshmi Manasa*, Sanam Swetha Yadav, **Narayana Nagesh***. *IOSR Journal Of Pharmacy And Biological Sciences (IOSR-JPBS)*.

5. REVIEW ARTICLE : Recent Insights into β-Carboline Alkaloids with Anticancer Potential. (2020) Lakshmi Manasa K, Swetha Yadav S, Srikanth D, **Narayana Nagesh*** and Mallika Alvalaa. *Modern Approches in Drug Design.* 3(1). *(Accepted).*

6. Design and synthesis of substituted (1-(benzyl)-1*H*-1,2,3-triazol-4-yl)(piperazin-1-yl)methanone conjugates: Study on their apoptosisinducing ability and tubulin polymerization inhibition. (2020) Kesari Lakshmi Manasa, Sowjanya Thatikonda, Dilep Kumar Sigalapalli, Sowmya Vuppaladadium, Ganthala Parimala Devi, Chandraiah Godugu, Mallika Alvala, **Narayana Nagesh,*** and Bathini Nagendra Babu*. *RSC*

Medicinal Chemistry, https://doi.org/10.1039/D0MD00174K *(Accepted).*(IF-2.4)

2019

1. A New Class of Naphthalimides derivatives: Design, synthesis, DNA-interaction and topoisomerase II inhibition studies. (2019) N. Sankara Rao, **Narayana Nagesh,***V. Lakshma Nayak, Satish Sunkari,Ramya Tokala, Gaddam Kiranmai, Phanindranath Regur, Nagula Shankaraiah, and Ahmed Kamal*. *Med. Chem. Commun*.,10,72 –79 (IF-2.5) DOI: 1 0.1039/c 8md00395e. (IF-2.5)

2. Synthesis and Biological Evaluation of Pyrazole Linked Benzothiazole-β-Naphthol Derivatives as Topoisomerase I Inhibitors with DNA Binding Ability. (2019) Burri Nagaraju, Sateesh Avula, Mohd Adil Shareef, Manasa Kadagathur, Jeshma Kovvuri, Sunitha Rani Routhu, **Narayana Nagesh*,** Praveen Reddy Adiyala, C Ganesh Kumar* and Ahmed Kamal.* *Biorganic and Medicinal Chemistry*, 27, 708–720. https://doi.org/10.1016/j.bmc.2019.01.011. (IF-2.9)

3. Synthesis and *in vitro* cytotoxicity evaluation of β-carboline-combretastatin carboxamides as apoptosis inducing agents: DNA intercalation and topoisomerase-II inhibition. (2019) Chetna Jadala, Manda Sathish, T. Srinivasa Reddy, Velma Ganga Reddy, Ramya Tokala, Suresh K. Bhargava, Nagula Shankaraiah,*, **Narayana Nagesh,*** Ahmed Kamal,* *Bioorganic & Medicinal Chemistry,* 27, 3285–3298. (IF-2.8).

4. Design and synthesis of substituted dihydropyrimidinone derivatives as cytotoxic and tubulin polymerization inhibitors.(2019) Sravani Sana, Ramya Tokala, Deepti Madanlal Bajaj, **Narayana Nagesh**, Kiran Kumar Bokara, Gaddam Kiranmai, Uppu Jaya Lakshmi, Swapna Vadlamani, Venu Talla, Nagula Shankaraiah, *Bioorganic Chemistry,* 93 (2019) 103317. (IF- 4.0).

2018

1. Design,synthesis and biological evaluation of new β-carboline-bisindole compounds as DNA binding, photocleavage agents and topoisomerase inhibitors. (2018) Jeshma Kovvuri , Burri Nagaraju, V. Lakshma Nayak, Ravi kumar Akunuri, M.P.Narasimha Rao, Ayyappan Ajitha, **Narayana Nagesh*,** Ahmed Kamal*. *European Journal of Medicinal Chemistry.* Volume 143, 1563-1577. (IF- 4.8).

2. Synthesis of podophyllotoxin linked β-carboline congeners as potential anticancer agents and DNA topoisomerase II inhibitors. (2018) Manda Sathish, Botla Kavitha, V. Lakshma Nayak, Yellaiah Tangella, Ayyappan Ajitha, Shalini Nekkanti, Abdullah Alarifi, Nagula Shankaraiah, **Narayana Nagesh***, Ahmed Kamal*. *European Journal of Medicinal Chemistry.* Volume 144, 557-571. (IF-4.8).

3. Iodine-mediated one-pot intramolecular decarboxylation domino reaction for accessing functionalized 2-(1,3,4-oxadiazol-2-yl)anilines with carbonic anhydrase inhibitory action. (2018) Srinivas Angapelly, P. V. Sri Ramya, Rohini Sodhi,Andrea

Angeli, Krishnan Rangan, **Narayana Nagesh**, Claudiu T. Supuran, Mohammed Arifuddin. *Journal Of Enzyme Inhibition And Medicinal Chemistry, 33(1),615-628. https://doi.org/10.1080/14756366.2018.1443447. (IF-3.6)*

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