



Microbiologists Society, India (MBSI)

STUDENT UNIT

DEPARTMENT OF MICROBIOLOGY

St. Pius X College, Rajapuram

(Aided by Govt. of Kerala)

Kasaragod Dist, KERALA Pin-671532

(KANNUR UNIVERSITY KERALA)

ACTIVITY REPORT 2024-25



Submitted by

Dr. SINOSH SKARIYACHAN

(Life Membership No. MS/LM/695)

MBSI Coordinator

Assistant Professor

Department of Microbiology

St. Pius X College Rajapuram- Kannur University

Kasaragod

Kerala-671 532



Microbiologist Society, India

DEPARTMENT OF MICROBIOLOGY

St. Pius X College, Rajapuram
(Aided by Govt. of Kerala)
Kasaragod Dist, KERALA Pin-671532
(KANNUR UNIVERSITY, KERALA)



The list of activities conducted by the Department of Microbiology, St. Pius X College Rajapuram (Aided by Govt of Kerala), Kasaragod, Kerala, under the aegis of Microbiologist Society India, Professional Society Student Chapter for the year 2024-2025

S. No	Activities	Number of participants /Date
1	Registration of new students for biannual membership to MBSI Registration of new Life members to MBSI	Biannual Membership- 51 (total 127, including previous years) Life Membership-02
2	Distribution of membership certificate to the students of B.Sc Microbiology & B.Sc Life Sciences (Zoology) & Computational Biology)	51 students
3	National seminar on frontiers in Biological Sciences and IPR Jointly organized by the Department of Microbiology & Life Sciences, Kerala Academy of Sciences (KAS), Microbiologists Society, India (MBSI)	22 August 2024 200 Participants
4	Drinking water quality analysis of Kallar Gramapanchayath, Kasaragod	10-20 September 2024
5	Training program on wine making and processing for the final year B.Sc students	10-14 October 2024 01-05 January 2025
6	Special coaching class on various competitive exams and the way to crack such examinations	Every month from June 2024 to March 2025 for 30 Students
7	Industrial visit for final year students - Milma Kasaragod Dairy, Kasaragod and Waste Water Treatment Unit, Kasaragod, Kerala	16-18 October 2024
8	Birthday books donation program to the library by the students of all three batches (I, II & III year B.Sc Microbiology students)	42 Books donated
9	Collaborative research for students in partnership with industry	01-05 November 2024
10	Training in scientific writing and publishing for students	05-06 January 2025 05-07 February 2025

11	Remedial classes and coaching for slow learners	Every month from June to December 2024 for 10 Students
12	Distribution of MBSI Calendar 2025 to various institutions under Kannur University, Kerala	10 Colleges
13	Training program and certificate course on mushroom cultivation and spawn production	04 to 15 February 2025
14	Training and certificate programs on HACCP Level 3, FSSAI-FoSTac Advanced Level 2 and ISO 22000: 2018 IA	52 students undertaken
15	Best student award of the Microbiologist Society, India (Awarded to 02 Students (01 from B.Sc Microbiology & 01 from B.Sc Life Sciences & Computational Biology)	26 March 2025
16	Participation in the MBSI monthly meeting conducted by the state president	The coordinator attended all the MBSI meetings

Dr. Sinosh Skariyachan

MBSI Coordinator

Department of Microbiology, St. Pius X College, Rajapuram

Kasargod, Kerala

PHOTO GALLERIES OF THE ACTIVITIES

MBSI Faculty Life Membership/ Student Membership Certificate Distribution



National Seminar on Frontiers in Biological Sciences and IPR

Jointly organized by the Department of Microbiology & Life Sciences
Kerala Academy of Sciences (KAS)
Microbiologists Society, India (MBSI)

National Seminar on FRONTIERS IN BIOLOGICAL SCIENCES AND IPR

Jointly Organized by
Kerala Academy of Sciences (KAS)
Microbiologists Society, India (MBSI)

Department of Microbiology
Department of Life Sciences & Computational Biology
St. Pius X College, Rajapuram
(Aided by Govt. of Kerala, Affiliated to Kannur University, NAAC 'B' accredited with a grade)
Kasaragod, Kerala

22nd AUGUST 2024
VENUE: Seminar Hall

10.00 AM
Inauguration

Chief Guest
Prof. Dr. G. M. Nair
President, KAS, Former Director, ICSSRI, JNTSR, Kerala Biotechnology Commission, Govt. of Kerala

Seminar Message
Prof. Dr. A. M. Deshmukh
National President, Microbiologists Society, India

Scientific Sessions

Session-1 (10.30 am to 11.45 am)
Dr. A. G. Pandurangam
Former Director, ICSSRI, Assistant/Former Project Biology Center and Research Institute (IC) member, KAS
Topic: *Plant Secondary Metabolites: Sources, Identification and Characterization* (Dr. Nair)

Session-2 (11.45 am to 12.45 pm)
Prof. Rajendra Pankajatta
Head, Science Section, Professor, Dept. of Environmental and Molecular Biology, Central University of Kerala, (Life member, KAS)
Topic: *Microbial Biotechnology: Life Processes*

Session-3 (12.45 pm to 1.45 pm)
Prof. V. B. Samsar Kumar
Head, Dept. of Genetic Science, Central University of Kerala, Life member, KAS
Topic: *The Science of Virus*

Session-4 (1.45 pm to 2.45 pm)
Dr. Sreejith Parameswara Panicker
Assistant Professor, Dept. of Zoology, Kerala University of Health Sciences (KUHS)
Topic: *Significance of Education: Environmental Health in Biological Sciences*

Session-5 (2.45 pm to 3.45 pm)
Dr. Jasmine M. Shah
Assistant Professor, Dept. of Life Sciences, Central University of Kerala, IC member, KAS
Topic: *Epigenetics: The Biochemistry of Genomes*

1.00 pm to 1.45 pm Lunch break

Panel Discussion 1:10 pm to 3:10 pm
Panel Discussion on IPR and Patents in Biological Sciences

Chairman and moderator
Prof. G. M. Nair
President, KAS, Former Director, ICSSRI, Assistant/Former Project Biology Center and Research Institute, Former Member, ICSSRI, National Biotechnology Commission, Govt. of Kerala

Panelists:

1. **Dr. A. G. Pandurangam**
Former Director, ICSSRI, Assistant/Former Project Biology Center and Research Institute (IC member, KAS)
2. **Prof. Rajesh R.**
Professor, Dept. of Computer Science, Central University of Kerala (IC member, KAS)
3. **Prof. Rajendra Pankajatta**
Professor, Dept. of Environmental and Molecular Biology, Central University of Kerala (Life member, KAS)
4. **Prof. V. B. Samsar Kumar**
Head, Dept. of Genetic Science Central University of Kerala (Life member, KAS)
5. **Dr. Sreejith Parameswara Panicker**
Assistant Professor, Dept. of Zoology, University of Kerala (IC member, KAS)
6. **Dr. Sonny Danraj**
Director, Technical Services Department, Bangalore
7. **Dr. Jasmine M. Shah**
Assistant Professor, Dept. of Plant Science, Central University of Kerala (IC member, KAS)

Patrons

Mr. Joseph Pundarikuttan
Manager, St. Pius X College, Rajapuram

Prof. Dr. G. M. Nair
President, KAS

Prof. Dr. A. M. Deshmukh
National President, MBSI

Chairpersons

Dr. Bipin Joseph
IC member, KAS
IC member, MBSI

Dr. R. S. Ramakrishnan
Assistant Professor, IC member, KAS

Convener

Dr. Vinod K. V.
Head, Dept. of Life Sciences, St. Pius X College, Rajapuram

Dr. Shijo Joseph
Head, Dept. of Life Sciences, St. Pius X College, Rajapuram

Organising Secretaries

Dr. Simosh Skariyachan
IC member, KAS
IC member, MBSI

Dr. Jasmine M. Shah
IC member, KAS
IC member, MBSI

Organising Committee Members

Faculty Members

1. **Dr. Adhish K. N.** Dept. of Microbiology, St. Pius X College, Rajapuram
2. **Dr. Sachana K. E.** Dept. of Life Sciences & CSR, St. Pius X College, Rajapuram
3. **Dr. Nair Poopya Jayaram** Dept. of Life Sciences & CSR, St. Pius X College, Rajapuram
4. **Mrs. Ranjith K. V.** Dept. of Microbiology, St. Pius X College, Rajapuram
5. **Ms. Shreya Jyoti** Dept. of Life Sciences & CSR, St. Pius X College, Rajapuram

Student Managers

Mishra A. R. IC member, KAS IC member, MBSI	Deepa Krishna P. IC member, KAS IC member, MBSI	Nithya Shreevani IC member, KAS IC member, MBSI	Sudhakar P. K. IC member, KAS IC member, MBSI	Shrithika T. IC member, KAS IC member, MBSI	Shreya Deshpande IC member, KAS IC member, MBSI
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Contact Details

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IC member, MBSI
Assistant Professor, Dept. of Plant Science, Central University of Kerala
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MBSI Activities- State Level Media Coverage



മാതൃഭൂമി
രാജപുരം കോളേജിൽ ദേശീയ ശാസ്ത്ര സെമിനാർ സമാപിച്ചു

രാജപുരം കോളേജിൽ ദേശീയ ശാസ്ത്ര സെമിനാർ സമാപിച്ചു. കോളേജിലെ വിദ്യാർത്ഥികൾക്കായി സംഘടിപ്പിച്ച ഈ സെമിനാർ വിജയകരമായി അവസാനിച്ചു. പ്രൊഫ. എ.എ.മുഹമ്മദ് ഖാൻ നയിച്ച സെമിനാർ സമാപനം സന്തോഷത്തോടെയാണ്.

23/08/2024 KANHANGAD Pg.15



മലയാളം ടുഡേ
സെന്റ് പയസ് ട്രസ്റ്റ് കോളേജിൽ ദേശീയ സെമിനാർ നടത്തി

കോളേജിലെ വിദ്യാർത്ഥികൾക്കായി സംഘടിപ്പിച്ച ഈ സെമിനാർ വിജയകരമായി അവസാനിച്ചു. പ്രൊഫ. എ.എ.മുഹമ്മദ് ഖാൻ നയിച്ച സെമിനാർ സമാപനം സന്തോഷത്തോടെയാണ്.

2024 AUG 21
 www.malayalamtodayonline.com



RAJAPUTRA NEWS
രാജപുരം സെന്റ് പയസ് ട്രസ്റ്റ് കോളേജിൽ ദേശീയ സെമിനാർ നാളെ

കോളേജിലെ വിദ്യാർത്ഥികൾക്കായി സംഘടിപ്പിച്ച ഈ സെമിനാർ വിജയകരമായി അവസാനിച്ചു. പ്രൊഫ. എ.എ.മുഹമ്മദ് ഖാൻ നയിച്ച സെമിനാർ സമാപനം സന്തോഷത്തോടെയാണ്.

21/08/2024 | KERALA NEWS DESK | media14keralanews@gmail.com

Microbiologists Society of India (MBSI) Membership for each student

Reg. No. : MAH/4814/SAT

Microbiologists Society, India
 C-2/12 Parijatak App, Naikwadi Nagar, Osmanabad - 413501 (M.S) India

Receipt No. **McSoos96** Date: **11/08/2024**

Received with thanks from **St. Pius X College**
Rajapuram a sum of Rs. **4,000/-**

in words **Four thousand only.**

by Cash/Cheque/B.D.No. **Online Transfer**

Towards **Student Unit Collection**

Receiver: *[Signature]*



Microbiology and Life Sciences- 127 Student Members

Drinking water quality analysis of St. Pius X College, Rajapuram

Microbiological Assessment of Water Samples Collected From The College Hostel of St. Pius X College Rajapuram

The water sample was tested at the Microbiology Lab of the Department of Microbiology, St. Pius X College Rajapuram on 17-01-2023.

Objective of the test:
To test the microbiological quality of the drinking water samples collected from the girl's hostel of the St. Pius X College Rajapuram.

Material requirements:
Water samples from various parts of college premises, Glaxovac, streptomycin and chemical, Microbiological dehydrated culture media.

Methodology and results:
There were three water samples (used for drinking purposes) collected from girl's hostel (C宿室 common hostel) of the St. Pius X College and the water samples were tested the water quality analysis by Membrane Filteration (MFC) test (multiple tube fermentation test) at the laboratory of the Department of Microbiology, St. Pius X College, Rajapuram under the supervision of a faculty member of the department. The MFC analysis was carried out the preservative detection of coliform count by the standard protocol prepared by American Public Health Association (APHA, 1995). Provided before an supplementary data and Food and Drug Administration (FDA). The results for the MFC analysis observed in Table 1, which shows that there were no substantial number of coliform counts in all the three sets of tube with the detection of acid and gas. Thus, when the data has compared with the MFC standard table, it was found that the water samples tested were positive as per the standard.

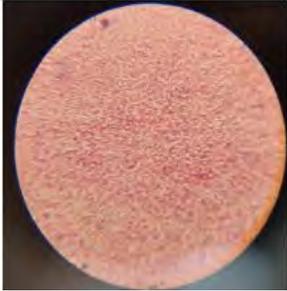
Table 1: Water quality analysis of samples collected from girl's hostel (C宿室 common hostel) of St. Pius X College Rajapuram, Madurai.

S. No.	State of water sample	Time	Location	Size of sample (ml)	Number of tubes with acid or gas production and total gas production	MFC (Coliforms per ml)	95% Confidence Limit
1	Water	10:00 am	Hostel	100	0/5	0	0
2	Water	10:00 am	Hostel	100	0/5	0	0
3	Water	10:00 am	Hostel	100	0/5	0	0

Results
The water samples were tested positive for coliforms. Thus, microbiologically the water is potable (permitted for human consumption).

Supplementary data: Standard MFC table for water quality analysis (APHA, 1995)

Number of tubes with acid or gas production	Number of tubes with acid or gas production	Number of tubes with acid or gas production	Number of tubes with acid or gas production	Number of tubes with acid or gas production	Number of tubes with acid or gas production	Number of tubes with acid or gas production	Number of tubes with acid or gas production	Number of tubes with acid or gas production	Number of tubes with acid or gas production	Number of tubes with acid or gas production	Number of tubes with acid or gas production	Number of tubes with acid or gas production
0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5	5



Training program and certificate course on mushroom cultivation

DEPARTMENT OF MICROBIOLOGY
St. Pius X College Rajapuram
Karaikal, Kerala

MICROBIOLOGISTS SOCIETY, INDIA
Certificate Course on Training Program on
MUSHROOM SPAWN PRODUCTION AND CULTIVATION

- Mushroom spawn production
- Mushroom bed making
- Mushroom cultivation

04 February 2023
10:00 am - 4:30 pm
Microbiology Lab

Dr. Suresh Sankarjyothan (Coordinator) | Dr. Vinod MV (Faculty) | Dr. Biju Joseph (Faculty)



Industrial visit to final-year Microbiology students at Milma Kasaragod Dairy



Industrial visit to final-year Microbiology students at Kerala Water authority, Kasaragod Plant



Microbiology

Training Program on Wine Manufacturing and Processing



Training and certificate program on food safety and standard program


DEPARTMENT OF MICROBIOLOGY
 St. Pius X College Rajapuram
 (Aided by Govt. of Kerala)
 Kasaragod, Kerala


MICROBIOLOGISTS SOCIETY, INDIA
 St. Pius X College Unit

Training and Certification Programs
HACCP LEVEL 3
FSSAI-FoSTaC Advance Level 2
ISO 22000: 2018 IA
 Resource Person



JAMES MATHAI
 Managing Director, FHEMS
 Kolenchery, Kerala

19 - 22 February 2025
 Venue: Seminar Hall




Dr. Sinosh Skariyachan
 Dr. Abhini KN
 Coordinators

Dr. Vinod NV
 HOD

Dr. Biju Joseph
 Principal


DEPARTMENT OF MICROBIOLOGY
 St. Pius X College Rajapuram
 (Aided by Govt. of Kerala)
 Kasaragod, Kerala


MICROBIOLOGISTS SOCIETY, INDIA
 St. Pius X College Unit

Training and Certification Programs
HACCP LEVEL 3
FSSAI-FoSTaC Advance Level 2
ISO 22000: 2018 IA
19-22 February 2025

PROGRAM SCHEDULE

19/02/2025	10:00 a.m. (Seminar Hall)
Welcome	Dr. Sinosh Skariyachan (Coordinator, MBSI)
About the Program	Dr. Vinod NV (Head of the Department)
Inauguration	Dr. Biju Joseph (Principal)
Resource Person	Sri. James Mathai (Director, FHEMS)
Exchange of MoU	Dr. Abhini KN (Coordinator)
Votes of Thanks	Dr. Abhini KN (Coordinator)

Technical Sessions by the Resource Person
 10:30 am onwards (19-22 February 2025)

- HACCP Level 3 Training Program
- FSSAI- FoSTaC Food Safety Supervisor Level 2 Training
- ISO 22000: 2018 IA Training Program




Training and certificate program on food safety and standard program



Functional MoUs with Industries

Food Health and Environment Management Solutions (FHEMS), Ernakulam



Collaborative Research with Industries

Feeders Roots, Calicut



Outcome of the training in scientific writing and publishing for students

SCI indexed journal; Impact factor 2.3, Q2 Ranked)

SAR and QSAR in Environmental Research
Volume 35, 2024 - Issue 12

59 Views
0 CrossRef citations to date
0 Altmetrics

Unveiling the potential of Hamigeran-B from marine sponges as a probable inhibitor of Nipah virus RDRP through molecular modelling and dynamics simulation studies

S. Skariyachan^{1*}, A. Jayaprakash^{2*}, J.J. Kelambeth^{3*}, M.R. Suresh^{4*}, V. Pooshaakkadanveedu⁵, K.M. Kumar⁶, V. Naracham Veethil⁷, R. Kaitheer Edathil⁸, P. Suresh Kumar⁹ & V. Niranjana¹⁰

Pages 1173-1187 | Received 30 Oct 2024 | Accepted 08 Dec 2024 | Published online 08 Jan 2025

Cite this article: <https://doi.org/10.1080/1062936X.2024.2446353>

Full Article | **Figures & Data** | **References** | **Supplemental** | **Citations** | **Metrics** | **Reprints & Permissions** | **Read this article**

ABSTRACT

The Nipah virus (NiV) is an emerging pathogenic paramyxovirus that causes severe viral infection with a high mortality rate. This study aimed to model the effectual binding of marine sponge-derived natural compounds (MSdNCs) towards RNA-directed RNA polymerase (RdRp) of NiV. Based on the functional relevance, RdRp of NiV was selected as the prospective molecular target and 3D-structure, not available in its native form, was modelled. The effectual binding of selected MSdNCs that fulfilled the pharmacokinetics properties were docked against RdRp and the binding energy (BE) of the interaction was compared with the BE of the interaction between standard antiviral compound Remdesivir and RdRp. The stability of the best-docked pose was further confirmed by molecular dynamics (MD) simulation and binding free energy calculations. The current study revealed that the hypothetical RdRp model showed ideal stereochemical features. Molecular docking, dynamic and energy calculations suggested that Hamigeran-B (1R,3aR,9aR)-7-bromo-6-hydroxy-3a,8-dimethyl-1-propan-2-yl-1,2,3,9b-tetrahydrocyclopenta[*a*]naphthalene-4,5-dione) is a potent binder (BE: -6.35 kcal/mol) to RdRp when compared with the BE of Remdesivir and RdRp (-4.98 kcal/mol). This study suggests that marine sponge-derived Hamigeran-B is a potential binder to NiV RdRp.

SAR AND QSAR IN ENVIRONMENTAL RESEARCH
2024, VOL. 35, NO. 12, 1173-1187
<https://doi.org/10.1080/1062936X.2024.2446353>

Taylor & Francis
Taylor & Francis Group

Unveiling the potential of Hamigeran-B from marine sponges as a probable inhibitor of Nipah virus RDRP through molecular modelling and dynamics simulation studies

S. Skariyachan^{1*}, A. Jayaprakash^{2*}, J.J. Kelambeth^{3*}, M.R. Suresh^{4*}, V. Pooshaakkadanveedu⁵, K.M. Kumar⁶, V. Naracham Veethil⁷, R. Kaitheer Edathil⁸, P. Suresh Kumar⁹ and V. Niranjana¹⁰

¹Department of Microbiology, St. Pius X College Rajapuram, Kasaragod, India; ²Department of Life Sciences (Zoology) and Computational Biology, St. Pius X College Rajapuram, Kasaragod, India; ³Department of Bioinformatics, Central University of Pondicherry, Puducherry, India; ⁴Department of Biotechnology, RV College of Engineering, Bengaluru, India

ABSTRACT

The Nipah virus (NiV) is an emerging pathogenic paramyxovirus that causes severe viral infection with a high mortality rate. This study aimed to model the effectual binding of marine sponge-derived natural compounds (MSdNCs) towards RNA-directed RNA polymerase (RdRp) of NiV. Based on the functional relevance, RdRp of NiV was selected as the prospective molecular target and 3D-structure, not available in its native form, was modelled. The effectual binding of selected MSdNCs that fulfilled the pharmacokinetics properties were docked against RdRp and the binding energy (BE) of the interaction was compared with the BE of the interaction between standard antiviral compound Remdesivir and RdRp. The stability of the best-docked pose was further confirmed by molecular dynamics (MD) simulation and binding free energy calculations. The current study revealed that the hypothetical RdRp model showed ideal stereochemical features. Molecular docking, dynamic and energy calculations suggested that Hamigeran-B (1R,3aR,9aR)-7-bromo-6-hydroxy-3a,8-dimethyl-1-propan-2-yl-1,2,3,9b-tetrahydrocyclopenta[*a*]naphthalene-4,5-dione) is a potent binder (BE: -6.35 kcal/mol) to RdRp when compared with the BE of Remdesivir and RdRp (-4.98 kcal/mol). This study suggests that marine sponge-derived Hamigeran-B is a potential binder to NiV RdRp and that the present in silico model provides insight for future drug discovery against NiV infections.

ARTICLE HISTORY
Received 30 October 2024
Accepted 08 December 2024

KEYWORDS
Nipah virus; RdRp; marine sponges; effectual binding; Hamigeran-B; drug discovery

Introduction

Nipah virus (NiV) is a zoonotic virus, which is classified as a biosafety level-4 pathogen and belongs to the genus *Henipavirus* (single-stranded RNA virus) in the *Paramyxoviridae* family [1,2]. The term 'Nipah' originated from Sungai Nipah Village, Malaysia, where the virus was first detected [3]. The genus *Pteropus*, also known as

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*These authors contributed equally.
Supplemental data for this article can be accessed at: <https://doi.org/10.1080/1062936X.2024.2446353>.
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Birthday books donation program to the library



*പിറന്നാൾ മധുരം കോളേജ് ലൈബ്രറിക്ക്
Ashitha T.V
I Microbiology



*പിറന്നാൾ മധുരം കോളേജ് ലൈബ്രറിക്ക്
Nivedya . A
II Microbiology

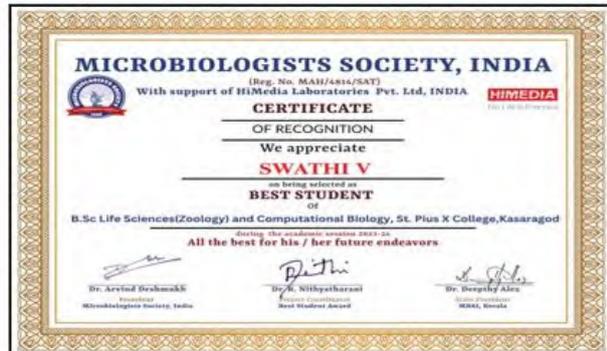


*പിറന്നാൾ മധുരം കോളേജ് ലൈബ്രറിക്ക്
Saranya C
III Microbiology



Number of books donated from the Dept of Microbiology during 2024-25- **42**

MBSI Best Student Award 2025



Distribution of MBSI Calendar-2025 to Various Colleges of Kannur University



Dr. Sinosh Skariyachan

MBSI Coordinator

Department of Microbiology, St. Pius X College, Rajapuram

Kasargod, Kerala
