Curriculum Vitae

Dr. Kaustabh Kumar Maiti

Senior Principal Scientist & Professor, AcSIR

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Educational qualifications

- Ph.D (2001) in Synthetic Organic Chemistry, University of Calcutta, Kolkata, India
- M.Sc (1993) in Pure Chemistry, University of Calcutta, Kolkata, India
- B.Sc (1991) Chemistry (Hons), University of Calcutta

Research and Professional Experience

- **Senior Principal Scientist & Professor, AcSIR:** CSIR –NIIST, Trivandrum; April 2020 – till date

- **Principal Scientist & Associate Professor, AcSIR:** CSIR –NIIST, Trivandrum; April 2015 – April 2020

- **Senior Scientist & Assistant Professor, AcSIR:** CSIR –NIIST, Trivandrum; April 2012 – April 2015
- **Senior Research Fellow:** Singapore Bioimaging Consortium A*STAR, Singapore,

July 2009 - March 2012

- **Postdoctoral Research Associate:** Complex Carbohydrate Research, Centre (CCRC), University of Georgia, USA May 2007 - March 2009

- **Postdoctoral Research Scientist:** Pohang University of Science & Technology (POSTECH), Republic of Korea, April 2003 - April 2007

Industrial Experience

- **Executive (R&D):** Sun Pharma Advanced Research Centre (SPARC), Sun Pharmaceuticals Industries Ltd., Vadodara, Gujarat, October 2000 - March 2003

- **Research Officer:** Alembic Ltd. Vadodara, Gujarat, March 2000 - September 2000

Professional Affiliations

- Indian Chemical Society: – Life member
- Indian Science Congress Association - Life member
- Chemical Research Society of India (CRSI) Life member

Academic achievements

No papers in peer-reviewed Journal (up to July 2024)	102 (Average Impact Factor per paper: 6.53)
No. of Patents (Granted /filed)	15
H-index	30
Citation (Google Scholar as of July 2024)	3425
Ph.D. Produced	10
Ph.D. Supervision (on-going)	8
Postdocs trained	6
M.Sc Project & Internship Supervised	45

Honors and Awards:

- *Service Excellence Award* from Singapore Bioimaging Consortium (SBIC), A*STAR, Singapore, 2011
- *CSIR Technology Award, CSIR*, Ministry of Science and Technology, Govt. of India, 2020

Research interest:

My research interest consists of the interface of chemistry, biology, and nanoscience with an effort of interdisciplinary teamwork and contribution to the healthcare sector focusing on translational research.

A. Area 1: Diagnostics and Nano-theranostics (Nanomedicine) for Clinical Translation

Chronological development of common methods used in molecular biology, biochemistry, cytopathology, and genetics are based on various manipulations of analysis of metabolites e.g., amino acids, nucleic acids and lipids. Modern techniques are explored through various aspects of spectroscopy where **Raman spectroscopy and its modified version i.e., surface-enhanced Raman spectroscopy (SERS)** evolved as a potential ultrasensitive diagnostic tool for a wide range of disease detection and spread over in the healthcare sector. In biomedicine nanoparticles (NPs) were extensively investigated in drug delivery and imaging. Nanomaterials are diverse in their composition and hence can be categorized as carbon, metal and inorganic and organic NPs. Carefully fabricated NPs with cell targeting ligands could be loaded with suitable cargo to assemble 'nanotheranostic' which enables monitoring therapy in a real-time manner to improve the safety and drug efficacy for personalized medicine.

Current Research Interest:

- New Generation Diagnostic Nanoparticle probes: SERS-tags for Label-free / SERS-labelled / SERS-kit for various cancer biomarker detection in multiplexing mode.

(a) Ultrasensitive, non-invasive and early detection of human cancer by SERS and Artificial Intelligence (AI) dual-modality – An early detection technology

(b) Detection of infectious diseases by Label-free SERS and AI

(d) Early detection and monitoring of neurodegenerative disorders, mainly Alzheimer's Diseases using SERS-nanoprobes – A SERS-based immunoassay techniques.

- Multimodal theranostic nano-probes based on SERS & and fluorescence as diagnostic modalities and PDT, PTT, Chemo and immunotherapy.

    (a) Multimodal Cancer therapy by Targeted nano-carrier drug delivery system (Nanomedicine): Chemo-photo; Chemo-immunotherapy
    (b) Combined therapy on diabetic retinopathy using a nano-delivery system

Area 2: Bio-Organic and Medicinal Chemistry

Medicinal plants have demonstrated their potential as a repository of bioactive molecules with promising therapeutic potential and represent an important pool for the identification of novel drug leads. In an attempt to investigate new phytochemical entities (NPCEs), naturally occurring phytomolecules are subjected to semi-synthetic modification which transforms into pharmacologically active NPCEs as a lead candidate for clinical translation. In-depth investigations of underlying molecular mechanisms were ruled out using detailed *in vitro* and *in silico* approaches. Moreover, fundamental structural changes have been observed during many physiological processes which lead to the development of disease (e.g., cancer) progression

Current Research Interest:

- Semi-synthetic modification of bioactive natural products isolated from plants: New Phytochemical Entities (NPCEs) as advanced Hits / Leads in the area of cancer and other non-communicable diseases

- *In vitro* cell-based assays of HIT / Advanced HITs including proteomics and genomics studies to propose the mechanistic pathways that will have the potential for further pre-clinical and clinical trials with Industry support (Pharma and Biotech)

- Phytochemical profiling of marker compounds by evaluation of Raman fingerprints (signature peaks) with their classification viz., alkaloids, steroids, polyphenols, terpenoids, etc.

Area 3: Glycobiology:

Metabolic glycan labeling & glycan associated disorder in a cellular system

Glycosylation is a major post-translational modification prevalent in most eukaryotes. Glycans cover the cell surface and play a decisive role in cell–cell interactions and cell migration during various physiological processes such as fertilization, embryogenesis and immune responses. We are adopting Raman imaging which will be utilized as an alternative technique for glycan detection since it is an ultrasensitive technique in terms of enhanced signal intensity. The idea in this direction is to utilize N alkyl derivatives / N acetyl derivatives of glucose, galactose and mannose analogues are predominantly fit for glycan labelling entities. The Alkyne group will be introduced as the biorthogonal functionality in the glycan precursors since it has the maximum cross-sectional area in SERS when compared to other biorthogonal functional groups, which is metabolically labelled at the terminal site of the glycan chain ended with sialic acid by biosynthetic pathway.

Current Research Interest:

(i) Evaluate aberrant glycosylation behaviors of cancer cells with different metastatic potentials of cancer cells i.e., highly metastatic cancer cells to comparatively lower metastatic to normal cells. The metastatic progression assessment and establish a robust, sensitive, and accurate SERS-based platform

(ii) New Glycan labeling sugar analogues for Metabolic Glycan labeling (MGL) to investigate aberrant glycosylation in cancer cells by Raman imaging

(iii) Investigate new metabolic pathways and correlate with the disease progression by metabolic oligosaccharide engineering (MOE) strategy

Major Projects handled as PI / Co-PI / Project Coordinator

NON-CSIR Project:

Ongoing Projects:

- Project Title: "Development of Spectro-Cytology Screening Technology for Detection of Grades of Cervical Cancer Lesions by Surface Enhanced Raman Spectroscopy (SERS) and Artificial Intelligence "
  - Principal Investigator
  Funding Agency: ICMR Intermediatory Grant; Rs. **3.96 Crore; (March 2024 – March 2028)**

- Project Title: "Design, Synthesis of Novel Naphthalene-Bipyridine appended Iridium (Nap-Ir) Photosensitizer for Targeted Nanoparticle Based Phototherapy in Breast Cancer Model"

  - Principal Investigator
  Funding Agency: SERB-CRG; Rs. **46** Lakhs (Feb 2024- Feb 2027);

- **Project Title: "**Early Detection of Cancers from Blood Samples by Raman Spectroscopy and Artificial Intelligence: Clinical Validation of a Cutting-edge Diagnostic Technique" - ***Principal Investigator***

  Funding Agency: Tata Elxsi (CSR Fund), **88** Lakhs (1 year); (July 2024- June 2025)

- **Project Title:** Development of a sandwich model magnetic capture system for the detection of pancreatic cancer biomarkers in serum by SERS-based immune assay- ***Principal Investigator***

  Funding Agency: ICMR-DHR. **45** Lakhs (3 years) (Nov, 2021 to Nov, 2024)

- **Project Title:** Diagnostic Evaluation of a SERS-Nanoprobe Based Immunosensor for Early Detection of Alzheimer's Disease Biomarkers from Blood
  Principal Investigator

  Funding Agency: **ICMR 102.98** Lakhs (3 year); (April, 2022- March, 2025)

Completed Projects:

- **Project Title: "**Technology for the Early Detection of Cancer from Blood Sample using SERS and Artificial Intelligence- A Novel Technique" ***- Principal Investigator***
  Funding Agency: Tata Elxsi (CSR Fund), **74** Lakhs (1 year); (October 2022- January 2024)

- **Project Title: "**Biocompatible Combined Polymer-Polysaccharide Core-shell VEGF-Targeted Nano-Carrier For Sustained Intraocular Pharmacotherapy Towards Diabetic Retinopathy"***- Principal Investigator***
  Funding Agency: DBT, 51.23 Lakhs (3 year); (September, 2018- June, 2022)

- **Project Title: "**Engineering intelligent theranostic nanocarrier for targeted therapy and diagnosis of cancer"***- Principal Investigator from NIIST***
  Funding Agency: **DST, SERB**, **16.6** Lakhs (3 year); (August, 2018- July, 2021)

- **Project Title:** "Design A Smart Drug-Delivery System Using Activatable Cell-Penetrating Peptides and Scaffold Based Non-peptide Carriers For Targeting Human Cancer" -***Principal Investigator***
  Funding agency**: DST (SERB)** : **27** Lakhs; (June 2013 to May, 2016)

- **Project Title**: "Gold Nanorod Based Targeted Nanoprobe For Cancer Theranostics: Diagnosis By Surface Enhanced Raman Scattering (Sers) And Fluorescence Imaging And Therapy By PDTand PTT"-***Principal Investigator***
  Funding Agency: **DBT**; **84.224** Lakhs (3 years); (March, 2016-Feb, 2019)

- **Project Title:** Engineering Nanostructured Surfaces for Developing SERS Sensing Platform - ***Co-Principal Investigator***
  Funding Agency: **DBT 71.5** Lakhs (3 year); (September, 2018- March, 2022)

- **Project Title**:" Development Of Multiplexing Detection Platform Of Breast Cancer Biomarkers By Non-Invasive Surface Enhanced Raman Scattering (SERS) Nanoprobe"- ***Principal Investigator***

  Funding Agency: **DST Nano Mission**, **37.2** Lakhs (3 years); (August, 2017 – Dec, 2020)

List of CSIR Network Projects: 12th FYP (March, 2012 to March, 2017)

- **Project Title**: Molecules To Materials To Devices (M2D)

  Lab co-ordinator from CSIR-NIIST

  Budget: **831 Lakhs** (NIIST)

  Major Achievement: *Probes for SERS-based detection of cervical cancer (CSIR-NIIST; TRL 4) - These nanoprobes are being validated in clinical samples through active collaboration with Regional Cancer Centre (RCC), Trivandrum (TLR 4)-* ***Project Leader***

- **Project Title**: Nanomaterials: Application and Impact On Safety, Health And Environment (NanoSHE)

  Nodal Scientist from CSIR-NIIST

  Budget: **116 Lakhs**

  Major Achievement: *Gold Nanorod based Theranostic Nanoprobe for Phothermal Chemotherapy to MMP2 expressed cancer tumors* : (TRL3)- Nodal officer from NIIST

- **Project Title**: Natural Products as Affordable Healthcare Agents (NaPaHa)

  Participating Scientist from CSIR-NIIST

  Budget: **413 Lakhs**

  Major Achievement: *Isolation Of Anticancer Agent From Hydnocarpus Wightiana Blume and Its Semi Synthetic Modifications For Enhanced Anticancer Activity* – Participating Scientist from NIIST

CSIR Mission Mode Project (March, 2018- February, 2020)

- **Project Title**: "Nanobiosensors and Microfluodics for Healthcare" **"**Development of SERS-Nanoprobe for Multiplexing Diagnosis of Breast and Lung Cancer Biomarkers in Tumor Tissue Samples By Raman Fingerprint":

  Project Leader - CSIR-NIIST ; Budget: **749 Lakhs** (For CSIR-NIIST)

  CSIR FTT Project (Aug., 2018 – March, 2020)

- **Project Title**: Development of Cellular Sensors: Biocompatible fluorescent molecules for sensing and cellular imaging of pH, Zn^{2+} and reactive oxygen species
  Co-Principal Investigator / Budget : 75 Lakhs

  CSIR FTT Project (June, 2020 – March, 2022)

- **Project Title**: Customized Portable Raman spectrophotometric device for multiplex detection of breast cancer biomarkers
  Co-Principal Investigator / Budget : 132 Lakhs

  CSIR Covid Project (MLP 0047) (June, 2020 – Nov 2020)

- **Project Title**: Development of Ultrasensitive, Rapid and Portable system for COVID-19 screening using Label-free Raman Fingerprinting and AI
  Principal Investigator / Budget : 12 lakhs

  CSIR Covid Project (MLP0048) (Aug, 2020 – March, 2021)

- **Project Title** : Multiplexed lateral-flow device(s) for detection of COVID-19 (CSIR-NllST: COVID-19 ViralRNA detection kit with ultra-bright oligoprobes for the capture and detection of viralRNA via Lateral Flow based devices)
  Co-Principal Investigator / Budget: 39 lakhs

Teaching Experience:

The following courses have taken care of AcSIR Ph.D. students since the 2013 January, session:

(a) Organic Chemistry (Basic & Advanced); (b) Advanced Carbohydrate Chemistry; (c) Natural Products and basic aspects of Medicinal Chemistry; Drug Discovery & Drug Delivery Systems (d) Advances in Nanoscience and Nanobiotechnology; (e) Biomedical Spectroscopy: Diagnostics, Imaging & Sensing; (f) Research Methodology:

Administrative Experience:

Services provided to the Institute to the following Committees:

- ❑ Responsible for Institute: **Healthcare Thematic Research**
- Member: Institute Collegium Committee for Scientist Performance Mapping
- Member: Medical –Healthcare Committee
- Member: Laboratory Strategic Group (LSG) Committee for Project Evaluation
- Chairman: Housekeeping Committee

- ❖ Services Provided for Institute Facility Creation:

Major Equipment:

- Confocal Raman Microscope;
- MALDI-TOF Mass;

Interdisciplinary Chemistry- Biology Interface Research facility

- Biology Lab Set-up for *in vitro* screening and assays (Cell Culture facility)
- Set-up: Diagnostic Research team: Raman scattering-based (SERS) nanoparticle probe for cancer biomarker detection
- Facility for in-house fabrication of portable Raman spectrometer for biomedical applications

Publications, Patents, and Conference Presentations / Invited Talks:

PUBLICATIONS:

102. A Comprehensive Apoptotic Assessment of Niloticin in Cervical Cancer Cells: A tirucallane-type triterpenoid from Aphanamixis polystachya (Wall.) Parker; Anuja G Joseph, Mohanan Biji, Vishnu Priya Murali, DR Sherin, V Alisha, PS Vimalkumar, KV Radhakrishnan*, Kaustabh Kumar Maiti*
RSC Medicinal Chemistry, 2024, doi.org/10.1039/D4MD00318G (Impact Factor: 4.1).

101. IndiFluors: A New Full-Visible Color-Tunable Donor−Acceptor−
Donor (D1−A−D2) Fluorophore Family for Ratiometric pH Imaging during Mitophagy**;**

Subrata Munan, Shamna Kottarathil, Manu M. Joseph, Anal Jana, Mudassar Ali, Koyeli Mapa, Kaustabh Kumar Maiti,* and Animesh Samanta*;
ACS Sensors, 2024, 9, 3502-3510; (Impact Factor: 8.2).

100. Hydrogen Sulfide-Induced Activatable Photodynamic Therapy Adjunct to Disruption of Sub-cellular Glycolysis in Cancer Cells by Fluorescence-SERS Bimodal Iridium Metal-organic Hybrid**;** Shanmughan Shamjith, Vishnu Priya Murali*, Manu M Joesph, Fathima T S, Reghukumar Chandana, Roopasree O Jayarajan and Kaustabh Kumar Maiti*; *ACS Applied Materials and Interfaces*, 2024, Doi.org/10.1021/acsami.4c02761; (Impact Factor: 9.5).

99. Cyclometalated Ir(III) theranostic molecular probe enabled mitochondria-targeted fluorescence-SERS-guided phototherapy in breast cancer cells; Chandana Reghukumar, Shanmughan Shamjith, Vishnu Priya Murali, Pilankatta K. Ramya, Kokkuvayil Vasu Radhakrishnan, Kaustabh Kumar Maiti***,** *Journal of Photochemistry and Photobiology B: Biology*, 2024, 112832; (Impact Factor: 5.4)

98. Exploring a Mitochondria Targeting, Dinuclear Cyclometalated Iridium (III) Complex for Image-Guided Photodynamic Therapy in Triple-Negative Breast Cancer Cells; Nishna Neelambaran, Shanmughan Shamjith, Vishnu Priya Murali, Kaustabh Kumar Maiti*, Joshy Joseph*, *ACS Applied Biomaterials*, 2023, *https://doi.org/10.1021/acsabm.3c00883* (Impact Factor: 4.7)

97. Impact of polymer chain packing and crystallization on the emission behavior of curcumin-embedded poly(L-lactide)s; G. Virat, K. K. Maiti, Amal Raj, and E. Bhoje Gowd *, *Soft Matter*, 2023, *DOI: https://doi.org/10.1039/D3SM00853C* (Impact Factor: 3.4)

96. Isolation of two new stereochemical variants of streptophenazine by cocultivation of *Streptomyces* NIIST-D31, *Streptomyces* NIIST-D47, and *Streptomyces* NIIST-D63 strains in 3C2 combinations; D. K. Induja, A. R. S. Jesmina, Manu M. Joseph, Shanmughan Shamjith, Nagaraja Ingaladal, Kaustabh Kumar Maiti, B. S. Dileep Kumar, Ravi S. Lankalapalli*, *The Journal of Antibiotics*, 2023, DOI: https://doi.org/10.1038/s41429-023-00638-7 (Impact Factor: 3.424)

95. A Cationic Donor-Two-Acceptor Dye-Graphene Quantum Dot Nanoconjugate for Ratiometric Detection of Bisulfite Ions and Monitoring of SO2 Levels in Heat Stressed Cells, Hiremath, Sharanabasava; Thakuri, Ankit; Joseph, Manu; Bhosle, Akhil; Maiti, Kaustabh Kumar Maiti*; Mainak Banerjee*; Amrita Chatterjee*, *ACS Appl. Nano Mater.*, 2023, DOI: https://doi.org/10.1021/acsanm.3c02043; (Impact Factor: 6.14)

94. Dual Mode 'Turn-on' Fluorescence-Raman (SERS) Response probe based on 1H-pyrrol-3(2H)-one scaffold for Monitoring H2S Levels in Biological Samples; Archana Panthalattu Parambil, Shanmughan Shamjith, Jais Kurian, Akila Kesavan, Ashis K. Sen, Paul R. Thangaraj, Kaustabh Kumar Maiti* and Muraleedharan K. Manheri*; Analytical Methods, 2023, DOI: 10.1039/D3AY00282A (Impact Factor: 3.532)

93. Detection of Sialic Acid and Imaging of Cell-Surface Glycan Using a Fluorescence−SERS Dual Probe; Palash Jana, Sudeep Koppayithodi, Madhukrishnan Murali, Monochura Saha, Kaustabh Kumar Maiti,* and Subhajit Bandyopadhyay*; ACS Sensors, 2023, https://doi.org/10.1021/acssensors.2c02849 (Impact Factor: 9.618)

92. Exploration of Phaeanthine: A Bisbenzylisoquinoline Alkaloid Induces Anticancer Effect in Cervical Cancer Cells Involving Mitochondria-Mediated Apoptosis; Alisha Valsan, Murugan Thulasi Meenu, Vishnu Priya Murali, Beutline Malgija, Anuja Gracy Joseph, Prakasan Nisha, Kokkuvayil Vasu Radhakrishnan,* and Kaustabh Kumar Maiti*; ACS Omega, 2023, https://doi.org/10.1021/acsomega.3c01023 (Impact Factor: 4.132)

91. Sortase E-mediated site-specific immobilization of green fluorescent protein and xylose dehydrogenase on gold nanoparticles; Ayilath Susmitha, Jayadev S. Arya, Lekshmi Sundar, Kaustabh Kumar Maiti, Kesavan Madhavan Nampoothiri*; *Journal of Biotechnology*, 367 (2023), 11-19 (Impact Factor: 3.595)

90. A clinically feasible diagnostic spectro-histology built on SERS-nanotags for multiplex detection and grading of breast cancer biomarkers; Vishnu Priya Murali, Varsha Karunakaran, Madhukrishnan Murali, Asha Lekshmi, Shamna Kottarathi, Selvakumar Deepik, Valliamma N. Sarith, Adukkadan N. Ramya, Kozhiparambil G. Raghu, Kunjuraman Sujathan*, Kaustabh Kumar Maiti*; *Biosensors and Bioelectronics*, 227 (2023), 115177 (Impact Factor: 12.54)

89. Monitoring glutathione dynamics in DNA replication (S-phase) using a two-photon reversible ratiometric fluorescent probe; Shayeri Biswas, Sourav Sarkar, Avinash Dhamija, Vishnu Priya Murali*, Kaustabh Kumar Maiti* and Sankarprasad Bhuniya* *J. Mater. Chem. B*, 2023, 11, 1948-1957, (Impact factor: 7.57)

88. Targeted Delivery Polymeric Nanosystem Reinforced by Synergism of Embilin and RPI-1 for Therapeutics of Pancreatic Cancer; Jayadev S. Arya, Manu M. Joseph,* Vishnu Priya Murali, Murukan S. Vidyalekshmi, and Kaustabh Kumar Maiti*; *ACS Appl. Nano Mater*., 2022, 5, 12, 18622–18636 (Impact Factor: 6.14)

87. A non-invasive ultrasensitive diagnostic approach for COVID-19 infection using salivary label-free SERS fingerprinting and artificial intelligence; Varsha Karunakarana, Manu M.Josepha, InduprabhavYadev, HimanshuSharmac, K.Shamna, SumeetSaurav, Remanan Pushpa Sreejith, Veena Anand, Rosenara Beegum, S.Regi David, Thomas Iype, K.L.Sarada Devi, A.Nizarudheen, M.S.Sharmad, Rishi Sharma, Ravindra Mukhiya, Eshwar Thouti, Karuvath Yoosaf, Joshy Joseph, P.Sujatha Devi, S.Savithri, Ajay Agarwal, Sanjay Singh*, Kaustabh Kumar Maiti*; *Journal of Photochemistry and Photobiology B: Biology*, 2022, 112545; (Impact Factor: 6.813)

86. Elucidating cell surface glycan imbalance through SERS guided metabolic glycan labelling: An appraisal of metastatic potential in cancer cells; MadhukrishnanMurali, Vishnu Priya Murali, Manu M.Joseph, Soumya Rajan, Kaustabh Kumar Maiti*, *Journal of photochemistry and photobiology B: Biology*, 2022, 234, 112506 (Impact Factor: 6.813).

85. Libocedroquinone: A Promising Anticancer Lead against Lung Cancer from Calocedrus Decurrens; Santhi Subramanya, Varsha Karunakaran, Selvakumar Deepika, Anuja Joseph Gracy, Veluthoor Sheeba, Karchesy Joseph, Kaustabh Kumar Maiti1, Ramavarma Luxmi Varma, Kokkuvayil Vasu Radhakrishnan*, *Planta Medica International Open,* 2022; 9(1) 54-59 (Impact Factor: 3.35)

84. Porous polysaccharide scaffolds: Proof of concept study on wound healing and stem cell differentiation; Preethi Gopalakrishnan Usha, Sreekutty Jalajakumari, Unnikrishnan Babukuttan Sheela, Deepa Mohan, Archana Meena Gopalakrishnan, Maya Sreeranganathan, Raveendran Kuttan Pillai, Catherine Berry, Kaustabh Kumar Maiti, Sreelekha Therakathinal Thankappan*, *Journal of Bioactive and Compatible Polymers*, 2022; 37 (2) 115-133 (Impact Factor: 1.75)

83. NADH-depletion triggered energy shutting with cyclometalated iridium (III) complex enabled bimodal Luminescence-SERS sensing and photodynamic therapy; Shanmughan Shamjith, Manu M. Joseph, Vishnu Priya Murali, Geetha S. Remya , Jyothi B. Nair, Cherumuttathu H. Suresh, Kaustabh Kumar Maiti*, *Biosensors and Bioelectronics*, 204 (2022) 114087 (Impact Factor: 12.54)

82. Nanotheranostic Probe Built on Methylene Blue Loaded Cucurbituril [8] and Gold Nanorod: Targeted Phototherapy in Combination with SERS Imaging on Breast Cancer Cells; Nisha Narayanan, Jeong Hee Kim, Hema Santhakumar, Manu M. Joseph, Varsha Karunakaran, Shanmughan Shamjith, Giridharan Saranya, Palasseri T. Sujai, Ramapurath S. Jayasree,* Ishan

Barman* and Kaustabh Kumar Maiti* *J. Phys. Chem. B:* 2022, https://doi.org/10.1021/acs.jpcb.1c08609 (Impact Factor: 3.46)

81. An Efficient Molecular Luminophore based on Tetraphenylethylene (TPE) Enabling intracellular Detection and Therapeutic Benefits of Hydrogen Sulfide in Alzheimer's Disease; Adukkadan N. Ramya, Manu M. Joseph, Varsha Karunakaran, Chekrain Valappil Shihas Ahammed, Animesh Samanta, Kaustabh K. Maiti*; *Sensors and Actuators B: Chemical*, 355 (2022), 131118 (Impact Factor: 9.221)

80. Dynamic self-assembly of mannosylated-calix[4]arene into micelles for the delivery of hydrophobic drugs; Padincharapad Sreedevi ,Jyothi B. Nair, Manu M. Joseph, Vishnu Priya Murali, Cherumuttathu H. Suresh, R. Luxmi Varma*, Kaustabh Kumar Maiti* *Journal of Controlled Release*, 2021, 339, 284–296 (Impact Factor: 11.46)

79. De novo design and synthesis of boomerang-shaped molecules and their in silico and SERS-based interactions with SARS-CoV-2 spike protein and ACE2; Amrutham Linet, Manu M.Joseph, Mambatta Haritha, K. Shamna, Sunil Varughese, P. Sujatha Devi,* C. H. Suresh,* Kaustabh Kumar Maiti* and Ishita Neogi* *New J. Chem.*, 2021, 45, 17777 - 17781 (Impact Factor: 3.59)

78. Elucidating Raman Image-Guided Differential Recognition of Clinically Confirmed Grades of Cervical Exfoliated Cells by Dual Biomarker-Appended SERS-Tag; Varsha Karunakaran, Valliamma N. Saritha, Adukkadan N. Ramya, Vishnu Priya Murali, Kozhiparambil G. Raghu, Kunjuraman Sujathan,* and Kaustabh Kumar Maiti*, *Analytical Chemistry*, 2021, 93, 32, 11140–11150, (Impact Factor: 8.008)

77. DNA Condensation Triggered by the Synergistic Self-Assembly of Tetraphenylethylene-Viologen Aggregates and CT-DNA; Sajena Kanangat Saraswathi, Varsha Karunakaran, Kaustabh Kumar Maiti and Joshy Joseph*, *Frontiers in Chemistry*, 2021, DOI: 10.3389/fchem.2021.716771. (Impact Factor: 5.22)

76. Mirabijalones S-W, rotenoids from rhizomes of white Mirabilis jalapa Linn. and their cell proliferative studies; P. Sharathna, V. Alisha, P. Sasikumar, Ajesh Vijayan, F. Ayisha, I.G. Shibi, V.V. Sivan, Kaustabh Kumar Maiti, Ravi S. Lankalapalli, K.V. Radhakrishnan*, *Phytochemistry Letters*, 44 (2021) 178–184.

75. Phthalimide conjugation turns the AIE-active tetraphenylethylene unit non-emissive: its use in turn-on sensing of hydrazine in solution and the solid- and vapour-phase; Sharanabasava D. Hiremath, Ram U. Gawas, Dharmendra Das, Viraj G. Naik, Akhil A. Bhosle, Vishnu Priya Murali, Kaustabh Kumar Maiti, Raghunath Achary, Mainak Banerjee* and Amrita Chatterjee* *RSC Adv.*, 2021, 11, 21269–21278. (Impact Factor: 3.36)

74. Nanohybrids of Magnetically Intercalated Optical Metamaterials for Magnetic Resonance/Raman Imaging and In Situ Chemodynamic/ Photothermal Therapy; Kunnumpurathu Jibin, Marina Victor, Giridharan Saranya, Hema Santhakumar, VishnupriyaMurali, KaustabhK.Maiti, and Ramapurath S. Jayasree* *ACS Appl. Bio Mater.* 2021, DOI: 10.1021/acsabm.1c00510

73. Antiproliferative labdane diterpenes from the rhizomes of Hedychium flavescens Carey ex Roscoe; Santhi Subramanyan, Selvakumar Deepika, Anjitha Ajith, Anuja Joseph Gracy, Mathew Dan, Kaustabh Kumar Maiti1, Ramavarma Luxmi Varma, Kokkuvayil Vasu Radhakrishnan* *Chem Biol Drug Des*. 2021;00:1–6. (Impact Factor: 2.54)

72. Elucidating Gold−MnO2 Core−Shell Nanoenvelope for Real Time SERS-Guided Photothermal Therapy on Pancreatic Cancer Cells; Palasseri T. Sujai, Shanmughan Shamjith, Manu M. Joseph, and Kaustabh Kumar Maiti* *ACS Appl. Bio Mater.* 2021, DOI: 10.1021/acsabm.1c0024

71. Raman Imaging: An Impending approach towards cancer diagnosis; Adukkadan N Ramya, Jayadev S Arya, Murali Madhukrishnan, Shanmughan Shamjith, Murukan S Vidyalakshmi, Kaustabh Kumar Maiti* *Chem. An Asian Journal*, 2021, 16, 409-422 (Impact Factor: 4.85).

70. Amphiphilic fluorescent probe self-encored in plasma to detect pH fluctuation in cancer cell membrane; Arup Podder, Manu M Joseph, Shayeri Biswas, Sanjib Samanta, Kaustabh K. Maiti* and Sankarprasad Bhuniya * *Chem. Commun*., 2021, 57, 607-610 (Impact Factor: 6.06).

69. A single benzene fluorescent probe for efficient formaldehyde sensing in living cells using glutathione as an amplifier; Anal Jana, Manu M.Joseph, Subrata Munan, Shamna K., Kaustabh Kumar Maiti* and Animesh Samanta;* *Journal of photochemistry and photobiology B: Biology*, 2021, 214, 112091 (Impact Factor: 6.81).

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8. Preparation of glycoside, oligosaccharide, and cyclitol molecular transporter analogs with high permeability through biological membranes; By Chung, Sung-Kee; Maiti, Kaustabh Kumar; Lee, Woo Sirl; Jeon, Ock-Youm; Yu, Seok-Ho; **PCT Int. Appl. (2006), WO 2006115312 A1 20061102. | Language: English, Database: CAPLUS**

7. Inositol-based molecular transporters and processes for the preparation thereof; Sung-Kee Chung, Maiti, Kaustabh Kumar, Jeon Ock Youm, Seok-Ho Yu; **PCT Int. Appl.(2005), 58pp. CODEN:PIXXD2 WO 2005/085159 A1 20050915 AN 2005: 1004682 CAPLUS**

6. Inositol based molecular transporters and processes for the preparation thereof; Sung-Kee Chung, Maiti, Kaustabh Kumar, Jeon Ock Youm, Seok-Ho Yu ; **U.S. Pat. Appl. Publ. (2006), 25pp., Pub. No.: US 2006/0280796 A1; Pub. Date: Dec. 14, 2006**

5. Molecular transporters based on sugar or its analogues and processes for the preparation thereof; Sung-Kee Chung, Maiti, Kaustabh Kumar, Jeon Ock Youm, Seok-Ho Yu; **Korea patent, Patent No. 10-0699279, The Application No. 2005-0035410 (2005.04.28).**

4. Molecular transporters based on sugar or its analogues and processes for the preparation thereof; Sung-Kee Chung, Maiti, Kaustabh Kumar, Jeon Ock Youm, Seok-Ho Yu; **PCT Int. Appl.(2006), 74pp. CODEN:PIXXD2 WO 2006/115312 A1 20061102 AN 2006: 1155705 CAPLUS**

3. Molecular transporters based on sugar or its analogues and processes for the preparation thereof; Sung-Kee Chung, Maiti, Kaustabh Kumar, Jeon Ock Youm, Seok-Ho Yu; **U.S. Patent No.: US 7,846,975 B2, A1; Pub. Date: Dec. 7, 2010**

2. Molecular transporters based on alditol or inositol and processes for the preparation thereof; Sung-Kee Chung, Maiti, Kaustabh Kumar, Woo Sirl Lee; **Korea patent, The Application No. 2006-86106 (2006.09.07)**

1. Molecular transporters based on alditol or inositol and processes for the preparation thereof; Sung-Kee Chung, Maiti, Kaustabh Kumar, Woo Sirl Lee; U.S. **Pat. Appl. Publ. (2008), 32pp., Cont.-in-part of U.S. Ser. No. 815,339. CODEN: USXXCO US 2008039421 A1 20080214 Patent written in English.**

Invited Talks / Conference Presentation

55. International conference, "SYMBIOT'24" (Symphony of Medicine, Biological Sciences & OMICS Technologies) organized by the Department of Biotechnology, MIT-MAHE from July to 4th July 2024 at Manipal Institute Technology Campus, Manipal, Karnataka. Guest Speaker, Talk entitled "Advancement of Surface-Enhanced Raman Spectroscopy in Cancer Management" by Dr. K K Maiti

54. 5th National Conference on "*Recent Advancement in Physical Sciences (NCRAPS-2023)* "; Plenary talk organized by the Department of Chemistry, Physics & Mathematics, National Institute of Technology (NIT), Uttarakhand, on 19th December 2023. Talk entitled

"Advancement of Surface-Enhanced Raman Spectroscopy in Cancer Management" by Dr. K K Maiti

53. National Seminar on "Exploring Frontiers in Chemical Innovation (EFCI-2023)"; Invited talk in the Department of Chemistry & Centre for Research, Baselius College, Kottayam, Kerala, on 14th December, 2023. Talk entitled "Advancement of Surface-Enhanced Raman Spectroscopy in Cancer Diagnostic Applications" by Dr. K K Maiti

52. Invited talk in the Department of Chemistry, Bose Institute, Kolkata, an autonomous Institute of DST, Govt. of India on 28th March, 2023. Talk entitled " Advancement of Surface-Enhanced Raman Spectroscopy in Nanotheranostic Applications" by Dr. K K Maiti

51. 21st Prof. K.V. Thomas Endowment Seminar & 4th International Symposium on New Trends in Applied Chemistry (NTAC-2023)" organised by the Postgraduate and Research Department of Chemistry, Sacred Heart College (Autonomous). Thevara, Kochi, Kerala, on 8th February, 2023. Plenary Talk on "Recent Advances in Cancer Nanotheranostics using Surface-enhanced Raman Spectroscopy" by Dr K K Maiti.

50. National Seminar on "Phytochemistry- Uses in Medicine and Industrial Applications,, organized by Fatima Mata National College, Kollam, Kerala on 25th January 2023. Invited Talk on "Exploring New Phytochemical Chemical Entities Towards Anti-Cancer Potential" by Dr K K Maiti

49. National Workshop on "Hands-on Training on the Development of Image-guided Theranostic as Personalized Medicine" organized by Centre for Interdisciplinary Sciences (CIS), JIS Institute of Advanced Studies and Research (JISIASR) Kolkata, JIS University on 20th January 2023. Plenary Talk entitled "Exploring Cancer Nanotheranostics with Surface-enhanced Raman spectroscopy" by Dr K K Maiti

48. 108th Indian Science Congress (ISC) which will be held at Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur, from 3rd to 7th January 2023. Plenary Talk in the session of Natural Products in Healthcare and Industry, titled: "Exploring New Phytochemical Chemical Entities Towards Anti-Cancer Hits" by Dr. K K Maiti

47. Symposium on the Emerging Topics in the Interdisciplinary and Applied Sciences organised by the School of Applied and Interdisciplinary Sciences (SAIS) at IACS, Kolkata from 25 to 26 March 2022. Invited talk on Advancement of Surface Enhanced Raman Spectroscopy in Biomedical Applications by Dr. K. K Maiti.

46. Indian Analytical Science Congress (IASC-2022) organized by Indian society of analytical scientists- Kerala chapter and Indian society of analytical scientists HQ Mumbai from March 10-12 2022.
(1) Label-free discrimination of glioblastoma from necrosis and healthy brain tissue using surface enhanced Raman spectroscopy and artificial intelligence- Poster Presentation: Sreedevi D
(2) Co-Enzyme driven targeted photo therapy for effective cancer management-Oral Presentation : Shamjith S (Best oral presentation)

45. International Webinar on Phytochemistry-Impacts and Applications organized by Kerala academy of sciences from September to December 2021. Development of biocompatible polymer based targeted drug delivery system for the synergic action of Embelin and RPI-1 against pancreatic adenocarcinoma Oral Presentation Arya J.S
(Best Oral- Second prize)

44. Nanomedicine: Biomolecules for Human Health (NBHH- 2021) organised by University of Delhi from 27-28 September 2021.VEGF targeted biocompatible nano drug delivery system to inhibit hyperglycemia induced angiogenesis Oral presentation- Vidhyalekshmi MS

43. Indo-Korean Joint Two-Days Online International Workshop on Advanced Functional Materials Oganised by Centre for Interdisciplinary Sciences (CIS), JIS Institute of Advanced Studies and Research (JISIASR) Kolkata, JIS University, India & Department of Biological and Chemical Engineering, Hongik University, Sejong Campus, Republic of Korea from july15-16. Invited talk on Recent Advances in Cancer Nanotheranostics by Dr. Kaustabh Kumar Maiti

42. Invited Talk in Webinar series " Advances in Biological Science" : Department of Botany, University of Kerala, Thiruvananthapuram, Kerala, 21st August, 2020; Title of the Talk: Molecular Diagnostic Platforms Through Chemistry, Biology and Nanotechnology.

41. ICCHD-2020: International Conference on Chemistry for Human Development Organized by Professor Asima Chatterjee Foundation with University of Calcutta and Heritage Institute of Technology from January 9–11th, 2020 Poster presentations: (I)Biocompactable core Shell polymer based nanocarrier system for the synergestic delivery of embellin and RPI-1to pancreatic adenocarcinoma cells, Arya J. S., Vidya lekshmi MS, V Kaustabh Kumar Maiti. (II) Glycan imbalance in cancer cells monitored by SERS based metabolic labelling Madhukrishnan M., Vishnu Priya Murali, Kaustabh Kumar Maiti (III) Surface charge modulates the internalization vs penetration of nanoparticles: A comprehensive scrutiny on monolayer cells, multicellular spheroids and solid tumor by SERS modality Palasseri T. Sujai, Manu M. Joseph, Giridharan Saranya, and Kaustabh Kumar Maiti (IV) A Two-in-one Theranostic Nanoprobe for The Effective Management of Metastatic Melanoma by Targeted Phototherapy; Shamjith S, Giridharan Saranya , Vishnu Priya Murali , Jyothi B Nair, Manu M Joseph and Kaustabh Kumar Maiti

40. ICEM-14: 14th International Conference on Ecomaterials. Organized by CSIR-NIIST, Thiruvananthapuramin association with National Institute for Materials Science, Japan and Ecomaterials Forum, Japan from Feb 5-7 ,2020 Poster presentation: A Label Free SERS Based Detection of Marker Nucleobases using Complementary Oligonucleotide Strand for Dengue Viral Infection Selvakumar Deepika, Anjitha Ajith, Vishnu Priya Murali, Varsha Karunakaran and Kaustabh Kumar Maiti (Best poster award)

39. National Conference on New Frontiers in Chemistry - From Fundamentals to Applications (NFCFA2019) (on 20-22 December 2019) at Department of Chemistry, BITS Pilani, K K Birla Goa, Poster presentations Novel Lysosome targeted Fluorescent Probes based on Pyrylium core for monitoring intracellular pH Changes in Living Cells, Ahammed Shihas, Manu M Joseph, Ramya A.N.,Animesh Samantha and Kaustabh Kumar Maiti.

38. NANOBIOTECK – 2019, 4th Annual Conference of Indian Society of Nanomedicine, (21st - 23rd November 2019) held at Aerocity, New Delhi as a Delegate. Two Poster presentations, (i) VEGF targeted biocompatible nano-carrier system for the sustained release of drug towards diabetic retinopathy, Vidya lekshmi MS, Arya J.S, Kaustabh Kumar Maiti (ii) Best poster award, Sreedevi P ,Jyothi B Nair, Kaustabh Kumar Maiti.

37. 8th Annual Meeting of Indian Academy of Biomedical Sciences, Organised by CSIR-National Institute for Interdisciplinary Science and Technology, Thiruvananthapuram (Feb 25-27th, 2019); New Phytochemical Entities Derived from Hydnocarpus wightiana Blume Facilitate Mitochondria Mediated Apoptosis Through cyt c Release Monitored By Raman Fingerprint, Invited Talk: Dr. Kaustabh Kumar Maiti. Bimodal Fluorescence-SERS Encoded Nanococktail for the Multiplex Detection of Lung Cancer Biomarkers, Oral Presentation: Saranya Giridharan Engineered Targeted Theranostic Nano Delivery System for Tumor Elimination by Overcoming Drug Resistant Cancer Cells and Cancer Stem Cells, Oral Presentation: Manu M. Joseph. Molecular Probe Based on Tetraphenylethylene (TPE) Utilized for Detection and Signaling Role of Hydrogen Sulfide in Alzheimers Disease, Poster Presentation: Ramya A. N. A Model Study of Label Free SERS Based Detection of Marker Nucleobases Using Complementary Oligonucleotide Strand for Dengue Infection Poster Presentation: Anjitha Ajith. Biogenic Cluster-Encased Gold Nanorods as a Targeted Three-in-One Theranostic Nanoenvelope for SERS-Guided Photochemotherapy against Metastatic Melanoma, Poster Presentation: Sujai P. T. Novel potent anticancer agents derived from hydnocarpin induces mitochondria mediated apoptosis and monitoring cyt c release through Raman fingerprinting, Poster Presentation: Arya J.S. An Effective Diagnostic Nano-Probe for Detection of Alzheimer Biomarker Based on SERS and MRI Dual Modalities, Poster Presentation: Varsha Karunakaran.

36. 31st Kerala Science Congress, Organized by Kerala State Council for Science, Technology and Environment at Fatima Mata National College, Kollam (Feb, 2-3rd, 2019); Exploration of New Phytochemical Entities from Hydnocarpus Wightiana Blume : Evolved as Potent Anticancer Hits inducing Mitochondria mediated Apoptosis through Cyt c Release, Oral

Presentation: Arya J. S. Bimodal Fluorescence-SERS Encoded Nanococktail for the Multiplex Detection of Lung Cancer Biomarkers, Poster Presentation: Saranya Giridharan. A New Insight on Early Diagnosis of Alzheimer's Disease Biomarkers by Label Based SERS Immunosensor, Poster Presentation: Varsha Karunakaran

35. NANOBIOTECK-3rd Annual Conference of Indian Society of Nanomedicine, Organized by Department of Biotechnology, AIIMS, New Delhi (Oct, 25-27th, 2018); Recent Advancement of Biocompatible Diagnostic Surface Enhanced Raman Scattering (SERS)-Nanoprobe for Spectroscopic Detection and Bioimaging of Human Cancer, Oral Presentation: Kaustabh Kumar Maiti; An Ultrasensitive SERS Based Non-Invasive Label Free Diagnosis of Exfoliated Cells from Cervical Pre- Cancerous Lesions by Raman Fingerprinting, Poster Presentation: Varsha Karunakaran

34. International Conference on Trends in Biochemical and Biomedical Research, Organized by Department of Biochemistry, Institute of Science, Banaras Hindu University, Varanasi (Feb, 13-15th, 2018); SERS Assisted Profiling of Molecular and DNA Level Damage during Apoptosis Induced by Targeted Three in One Theranostic Nanoprobe for Metastatic Melanoma, Oral Presentation: Sujai P. T.; Exploring Hydnocarpin wightiana Blume for the Development of New Chemical Entities Towards Cancer Treatment, Oral Presentation: Arya J. S.

33. 30th Kerala Science Congress, Organized by Kerala State Council for Science, Technology and Environment at Government Brennen College, Thalassery, Kannur (Jan, 28-30th, 2018); A New Insight on Non-invasive Label Free Diagnosis of the Cervical Pre-cancers by Metabolomics and Genomics Profiling using Differential SERS Fingerprinting, Oral Presentation: Varsha Karunakaran.

32. Recent Advances in Photonics, Organized by Department of Atomic and Molecular Physics, Manipal University, Manipal (Nov 13, 2017); Emerging Trends in Raman Spectroscopy Towards Biology and Medicine, Invited talk: Kaustabh Kumar Maiti.

31. 6th Asian Biomaterial Congress on Innovative Biomaterials: Technologies for Life and Society, Organised by Sree Chitra Tirunal Institute for Medical Sciences & Technology , Thiruvananthapuram (Oct, 25-27th, 2017); Emerging Trends in Diagnostic and Theranostic Nanoprobe for Cancer Treatment, Invited talk: Kaustabh Kumar Maiti.

30. 8th East Asia Symposium on Functional Dyes and Advanced Materials, Organised by CSIR-National Institute for Interdisciplinary Science and Technology, Thiruvananthapuram (Sep 20-22, 2017); Poster presentation: Saranya Giridharan, Ramya A.N.

29. International Conference on Emerging Trends in Chemical Sciences, Organised by Manipal Institute of Technology at Manipal University (Sep 14-16, 2017); Emerging Trends in Targeted Drug Delivery System (TDDS), Diagnostic and Theranostic Nanoprobe for Cancer Treatment, Invited talk: Kaustabh Kumar Maiti.

28. 2nd International conference on nutraceuticals and chronic diseases, Organized by IIT Guwahati at Bugmallo, Goa (Sep 1-3, 2017); Exploring Anti-cancer Potential of Hydnocarpin-Isoxazole derivatives as New Chemical Entities; Invited talk: Kaustabh Kumar Maiti.

27. 53rd Annual Convention of Chemists, Organized by Indian Chemical Society, Kolkata at Gitam university Visakhapatanam. (Dec 25-27th 2016);Exploring Anti-cancer Potential of Hydnocarpin-Isoxazole derivatives as New Chemical Entities; Poster presentation : Arya J.S , Ramya A.N and Kaustabh Kumar Maiti.

26. National Seminar on Omics & Biomarker Analysis: In disease Pathology 2.0 & Young Investigators Retreat, Organized by Department of Zoology, University of Kerala, (Dec 19-21 st 2016) ; Recent development of Surface Enhanced Raman Scattering (SERS) nanotag for molecular level detection and bioimaging of cancer cells, Invited Talk : Kaustabh Kumar Maiti.

25. Internatinal Conference on Advanced Materials SCICON '16 materials for a better tomorrow; Organized by Department of Sciences, Amrita Vishwa Vidyapeetam Coimbatore (Dec 19-21 st 2016) ; Recent development on Biocompatible Theranostic Surface Enhanced Raman Scattering (SERS) nanoprobe for spectroscopic detection and bioimaging of human cancer : Invited Talk : Kaustabh Kumar Maiti.

24. Symposium on Celebrating 25 years of Harmony with Organic Chemistry (CYHOC-2016), Organized by students of Dr. G . Vijay Nair, (Dec16-17th, 2016); Short Lecture; Exploring hydnocarpin Guanidinium appended dendron conjugate: A promising candidate for anti- Neoplastic effects in chemotherapy; Invited Talk : Kaustabh Kumar Maiti.

23. Internatinal Conference on Current Trends in Biotechnology (ICCB-2016), Organized by School of Biosciences and Technology, VIT University, Vellore in association with the Biotech Research Society , India (Dec, 8-10th, 2016); New Insight of Surface Enhanced Raman Scattering (SERS) nanoprobe for spectroscopic detection and bioimaging of human cancer : Invited Talk : Kaustabh Kumar Maiti.

22. 6th Internatinal Conference on Current Trends in Drug Discovery and Research (CTDDR-2016), Organized by CSIR-CDRI Lucknow (Feb, 25-28th, 2016); Cancer Cell-Specific Induction of Apoptosis By Precise Delivery of Doxorubicin using a dual targeting Dendron based transporter; Poster presentation : Jyothi B Nair, Manu M Joseph and Kaustabh Kumar Maiti.

21. 4th International Conference on Frontiers in Nanoscience and Technology (COCHIN NANO-2016), Organized by CUSAT,Cochin (Feb 20-23rd, 2016); New Insight of

Biocompatible Surface Enhanced Raman Scattering (SERS) Nanotag for Spectroscopic Detection and Bioimaging of Human Cancer;Invited Talk : Kaustabh Kumar Maiti.

20. 18th CRSI National Symposium in Chemistry ; Organized by Punjab University, Chandigarh, India (Feb, 5-6th, 2016); Stimuli Responsive Nanocarrier Drug Delivery System (DDS) For Targeted Delivery of Doxorubicin towards Folate Expressing Cancer Cells; Poster presentation : Ramya A. N, Sujai P. T. Manu M. Joseph and Kaustabh Kumar Maiti.

19. International Seminar on Recent Biochemical Approaches in Therapeutics : RBAT II; Organized by Kerala Univ. Department of Biochemistry, Thiruvananthapuram (December, 9-12th, 2015); Oral presentation: Manu M Joseph.

18. International Seminar on Recent Biochemical Approaches in Therapeutics : RBAT II; Organized by Kerala Univ. Department of Biochemistry, Thiruvananthapuram (December, 9-12th, 2015); Invited Talk :Kaustabh Kumar Maiti.

17. The International Symposium on Photonics Applications and Nanomaterials; Organized by Sree Chitra Tirunal Institute for Medical Sciences & Technology , Thiruvananthapuram (Oct, 28-30th, 2015); A New Insight of Squaraine Based Raman Reporters for Construction of Diagnostic SERS Nano-Probe in Cancer Screening,Poster presentation : Nisha Narayanan, Ramya A N, Varsha Karunakaran and Kaustabh K. Maiti.

16. The International Symposium on Photonics Applications and Nanomaterials; Organized by Sree Chitra Tirunal Institute for Medical Sciences & Technology , Thiruvananthapuram (Oct, 28-30th, 2015); Investigation of Tetra Phenyl Ethylene (TPE) Based Raman Reporters for Construction of SERS Nanoprobe in Prostate Cancer Detection, Poster presentation : Ramya A. N., Manu J., Saranya G., Jyothi B. N., Sujai P. T. and K. K. Maiti.

15. The Ramanbhai Foundation 7th International Symposium on Current Trends in Pharmaceutical Sciences ”Advances in New Drug Discovery & Development”; Organized by Zydus Research Centre, Ahmedabad, India (Feb, 2-4th, 2015); An Efficient Approach on Guanidium Appended Molecular Transporter For Targeted Delivery of Doxorubicin Towards Malignant Cells: A Future Prospect in Cancer Therapy; Poster presentation : Jyothi B Nair, Santhi Maniganda, Varsha Karunakaran, Kaustabh Kumar Maiti.

14. 6th International Conference on Nano Science and Technology (ICONSAT 2014); Organized by Institute of Nano Science and Technology (INST), Mohali, Punjab (March, 2-5th, 2014); New Insight of Squaraine Based Raman Reporters for Construction of Diagnostic SERS Nano-Probe In Cancer Screening; Poster presentation: Nisha N, Jyothi B Nair, Kaustabh Kumar Maiti.

13. 2nd International Conference on Advanced Functional Materials (ICAFM 2014), Organized by CSIR-NIIST, Trivandrum (February, 19-21st, 2014); New Insight of Squaraine Based Raman Reporters for Construction of Diagnostic SERS Nano-Probe In Cancer Screening. Poster presentation: Nisha N, Jyothi B Nair, Kaustabh Kumar Maiti.

12. 27th International Carbohydrate Symposium (ICS27), Organized by Department of Organic Chemistry, Indian Institute of Science, Bangalore, India (January, 12-17th, 2014); Construction of Drug Delivery Vector: Sorbitol Based Carrier Conjugated with Cathepsin B Peptide Sequence targeting Towards Lysosome. Poster presentation; Santhi Maniganda, Vandana, Raghu K.G, Kaustabh Kumar Maiti.

11. National Seminar on Emerging Trends in Chemical Sciences (ETCS-2013): Organized by Department of Chemistry, University of Kerala, Kariavattom, Trivandrum (May, 29-31st, 2013); Development of Highly Sensitive Biocompatable Surface Enhanced Raman Scattering (SERS) Nanotag for Spectroscopic Detection and Bioimaging of Human Cancer); Invited Talk; Kaustabh Kumar Maiti.

10. Nano India 2013 Organized by CSIR-NIIST, Trivandrum and Supported by Nano Mission, DST, New Delhi (February 19-20th, 2013); Development of Highly Sensitive Biocompatible SERS Nanotags for Spectroscopic Detection and Bioimaging of Human cancer in a Murine Xenograft Model" Poster Presentation; Kaustabh Kumar Maiti.

9. 5th Asian Conference on Colloid and Interface Sciences (ACCIS 2013): Organized by Asian Society for colloid and Surface Science (ASCASS), Department of Chemistry, University of North Bengal, Darjeeling, India (November, 20-23rd, 2013); Development of Highly Sensitive Biocompatible Surface Enhanced Raman Scattering (SERS) Nanotag for Spectroscopic Detection and Bioimaging Human Cancer.Oral Presentation; Kaustabh Kumar Maiti.

8. A*STAR CHEMISTRY SYMPOSIUM, A*STAR Scientific Conference; Biopolis, Singapore (November 10th, 2011) ;" Development of Biocompatible SERS Nanotag with Increased Stability for in vivo Cancer Detection", (Invited Talk) Kaustabh Kumar Maiti, Animesh Samanta, Marc Vendrell and Young Tae Chang.

7. A*STAR CHEMISTRY SYMPOSIUM, A*STAR Scientific Conference; Biopolis, Singapore (October 1st, 2009); " Synthesis of Novel Raman Reporters and characterization of their SERS properties in a gold colloid", Poster presentation; Kaustabh Kumar Maiti, Sung Ju Cho and Young Tae Chang.

6. 236th National Meeting and Exposition organized by American Chemical Society (ACS), Philadelphia, USA (August 17-21st, 2008); "Differentially innate immune detection of

peptidoglycan by Toll –like receptor" Oral presentation in Carbohydrate Chemistry Division; Kaustabh K Maiti, Jinkeng Asong, Margreet Wolfert, Douglas Miller, Geert-Jan Boons.

5. 236th National Meeting and Exposition organized by American Chemical Society (ACS), Philadelphia, USA (August 17th-21st, 2008); "Differential recognition of Gram-positive and –negative synthetic peptidoglycan fragments by Toll-like receptor 2" (Poster presented in Medicinal chemistry Division;) Kaustabh K Maiti, Jinkeng Asong, Margreet Wolfert, Douglas Miller, Geert-Jan Boons.

4. The 11th Korea-Japan Joint Symposium On Drug Design and Development, Jeju Island, Korea (May 10-12th, 2006); "Design and Synthetic Studies of Novel Guanidine-containing Molecular-Transporters Using Inosito dimers as Scaffold", (Poster presentation) Kaustabh K. Maiti, Ock-Youm Jeon, Woo Sirl Lee and Sung-Kee Chung.

3. XVII NATIONAL SYMPOSIUM ON ORGANIC CHEMISTRY held in honour of Professor (Mrs.) Ashima Chatterjee on the occasion of her 80th Birth Anniversary, at Science City, Kolkata, India."1,3-dipolar cycloadditions of nitrones to stereoselective cinnamic acid piperidides"; (Poster Presentation) Kaustabh K Maiti, . Avijit Banerji, Sunanda Halder (nee Datta), T.Prange and A. Neuman.

2. International conference on chemistry and 36th annual Convention of Chemists organized by INDIAN CHEMICAL SOCIETY, Calcutta, India (December 11-16th ,1999); "Stereo-and region-selective cycloaddtions of acylic C-aryl-N-methyl nitrones" (Poster presentation) Kaustabh K Maiti, Avijit Banerji, Sunanda Halder (nee Datta), T.Prange and A. Neuman.

1. 84th Indian Science Congress, Delhi University, (January 3 -8th, 1997); "Investigations of the cycloaddition of C,N-Diarylnitrones to 1,4-disubstituted-1,3-diene compounds" (Oral Presentation) Kaustabh Kumar Maiti, Avijit Banerji, Sunanda Halder (nee Datta), T. Prange and A. Neuman.

List of References with contact details:

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Referee IV	Referee V	Referee VI
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