Curriculum -Vitae

Anjoy Majhi PHD

Assistant Professor

Department of Chemistry,

Presidency University, Kolkata, WB, India

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Date of Birth: 11th July 1978

RESEARCH EXPERIENCE

Assistant Professor — **02/2013-Present**
Stage III
Department of Chemistry, Presidency University
Kolkata, WB, India

Postdoctoral Fellow — 09/2012-01/2013
Wayne State University, Detroit, MI, USA

Postdoctoral Fellow — 09/2010-09/2012
The University of Texas
M D Anderson Cancer Center, TX, USA

Postdoctoral Fellow — 10/2008-09/2010
University of Houston, TX, USA

Research Associate — 09/2007-08/2008
Inha University, Incheon, South Korea

Ph. D — 01/2004–09/2007
Indian Institute of Chemical Technology
Hyderabad, India
Acharya Nagarjuna University
Guntur, India

Present Project Work:

Ongoing Project:

1. ICMR/DHR Resarch Grant **(As Co-PI)**: "**Molecularly Imprinted Fluorescent Test Strip for Direct, Rapid, and Visual Δ-9 Tetrahydrocannabinol (THC) Detection in Tiny Amount of Bio fluids**". Rs. 28.3 lakhs, 2021-2024

2. SERB-EEQ Research Grant **(As PI)**: "**Design and Development of Novel Small Molecule and Biophysical Studies for Drug Designing Process**". (2019-2022, Sanction Order: **EEQ/2019/000194, 26.11.2019**)

Completed Project As PI:
1. DST-SERB Grant: Development of Novel Thienopyrimidine for Pharmaceutical Composition to Eliminate Human Cancers and Imaging Lead. (Sanction Order no**: SB/FT/CS-188/2012 dated 30.06.2014**)

2. UGC Start up grant: Development of novel protein kinase C (PKC) modulators for early diagnosis of human cancers and Imaging lead. (**F. 30-19/2014 (BSR), F.D. Dy. No. 2161, Dated 19.06.2014**)

Work at M D Anderson Cancer Center and Wayne State University:

Project: a) "Novel histone deacetylase (HDAC) Class III specific radiotracers for PET imaging". In this project I have developed and synthesized novel substrates of HDAC III to find out specific radiotracers. **b) "HDAC II Specific radiotracers for PET Imaging"**. Here I have synthesized library of compound (Inhibitor and Substrate) with different hexanoicanilyde pharmacophore and different acyl group. Additionally I also synthesized 6- ^{18}F(trifluoroacetamido)-1-hexanoicanilide (TFAHA) and 6-^{18}F(fluoroacetamido)-1-hexanoicanilide (FAHA) for PET imaging.

University of Houston (Houston, USA): Synthesize and characterize activator/inhibitors of Protein Kinase C.

1. Protein Kinase C (PKC) modulating bio-activity assay of **Resveratrol** and its analogues. **(**Result published as **"Chemical Modifications of Resveratrol for Improved Protein Kinase C alpha Activity" in Bioorganic and Medicinal Chemistry, 2011).**
2. Synthesis of Curcumin derivatives and their interaction with Protein Kinase C **(**Result published as **"Binding of curcumin and its long chain derivatives to the activator binding domain of novel protein kinase C"in Bioorganic and Medicinal Chemistry, 2010).**

Inha University(South Korea): Brain Korea 21 (BK21) Fellowship: Development of novel methods for synthesis of α-aminonitriles (**Strecker reaction**) from aldehydes, amines and trimethylsilyl cyanide by using hydrated catalyst such as Rhodium (III) iodide hydrate, thallium (III) chloride tetrahydrate and Niobium (V) chloride.

Indian Institute of Chemical Technology, Hyderabad, India/Acharya Nagarjuna University, Guntur, India:
Ph.D Thesis : "*Development of new synthetic methodologies based on Baylis Hillman chemistry along with investigation on novel natural anticancer agents*"

Academic Qualifications:

Ph. D: 01/2004 – 09/2008; Organic Chemistry, Indian Institute of Chemical Technology, Hyderabad, India / Acharya Nagarjuna University, Guntur, India.

M. Sc.: 09/2000 - 09/2002; Organic Chemistry, Jadavpur University, Kolkata, India.

B. Sc.: 08/1996 – 08/2000; Chemistry (Honors), Mathematics, Physics, Jadavpur University, Kolkata, India.

AWARDS AND HONORS

- ***Junior Research Fellowship*** (UGC-CSIR based on national aptitude screening test conducted by Govt. of India) for the period of 2 years. January 2004 to January 2006.
- ***Senior Research Fellowship*** (UGC-CSIR based on national aptitude screening test conducted by Govt. of India) for the period of 3 years. January 2006 to January 2009.
- **Brain Korea 21 (BK21) Fellowship** Inha University, South Korea for the period of 1 year. September 2007 to August 2008.
- **Ph. D degree award,** September 2008 from Acharya Nagarjuna University, Guntur, India.
- ***Post Doctoral Fellowship*** University of Houston, TX, USA 10/2008 -09/2010.
- ***Post Doctoral Fellowship*** The University of Texas, M D Anderson Cancer Center, Houston, TX, USA 09/2010–09/2012.
- ***Post Doctoral Fellowship*** Wayne State University, Detroit, MI, USA 09/2012-01/2013.

Research Guidance For PhD:

1. Dr. Sandip Paul, (Degree Awarded, June 8, 2022)

Book Chapters:

Handbook of Animal Models and its Uses in Cancer Research.
Chapter Title "Detection of Tumors Through Fluorescence Conjugated Dye in Animal Model"- Anjoy Majhi, Sandip Paul, Pinki Saha Sardar. https://doi.org/10.1007/978-981-19-1282-5

List of Publications:

1. Shashi Kanth Boddu, Najeeb Ur Rehman, Tapan Kumar Mohanta, **Anjoy Majhi**, Satya Kumar Avula & Ahmed Al-Harrasi. A review on DBU-mediated organic transformations. **Green Chemistry Letters and Reviews**, 15 (3), 765–795, **2022**. https://doi.org/10.1080/17518253.2022.2132836
2. Jangam Lakshmidevi, Bandameeda Ramesh Naidu, Satya Kumar Avula, **Anjoy Majhi**, Poh Wai Chia, Ahmed Al-Harrasi and Katta Venkateswarlu. A waste valorization strategy for the synthesis of phenols from (hetero)arylboronic acids using pomegranate peel ash extract. **Green Chemistry Letters and Reviews**, 15 (2), 427-436, **2022**. https://doi.org/10.1080/17518253.2022.2082261
3. Sandip Paul, Pritam Roy, Sourav Das, Soumen Ghosh, Pinki Saha Sardar, and **Anjoy Majhi***. "Addressing the Exigent Role of a Coumarin Fluorophore toward Finding the Suitable Microenvironment of Biomimicking and Biomolecular Systems: Steering to

Project the Drug Designing and Drug Delivery Study." **ACS Omega,** 6 (18), 11878-11896 **2021.**

4. Sandip Paul, Raju Ghanti, Pinki Saha Sardar, and **Anjoy Majhi**.***** Synthesis of a Novel Coumarin Derivative and its Binding Interaction with Serum Albumins. **Chemistry of Heterocyclic Compounds 2019, 55(7), 607**.
5. Sandip Paul, Pritam Roy, Pinki Saha Sardar and **Anjoy Majhi**.***** Design, Synthesis, and Biophysical Studies of Novel 1,2,3-Triazole- Based Quinoline and Coumarin Compounds. ***ACS Omega*, 4, (2019) 7213**.
6. R. Bonomi, V. Popov, M. T. Laws, D. Gelovani, **Anjoy Majhi**, A. Shavrin, X. Lu, O. Muzik, N. Turkman, R. Liu, T. Mangner, and J. G. Gelovani. Molecular imaging of Sirtuin1 expression-activity in the rat brain using Positron Emission Tomography/Magnetic Resonance Imaging (PET/MRI) with [18F]-2-fluorobenzoylaminohexanoicanilide. ***J. Med. Chem*., 61 (16), (2018) 7116.**
7. Sandip Paul, Nasim Sepay, Shrabana Sarkar, Pritam Roy, Swagata Dasgupta, Pinki Saha Sardar and **Anjoy Majhi.*** Interaction of Serum Albumins with Fluorescent Ligand 4-Azido Coumarin: Spectroscopic Analysis and Molecular Docking Studies. ***New J. Chem.*** 41 (2017) 15392.
8. **Majhi A***, Holla H, Shinde D, Srinivasulu G, Sai Krishna A, Rao JV and Das B. Two novel polychiral furanopyrans from Orthosiphon diffusus (Benth.). ***Indian Journal of Chemistry Sect. B.*** 2017, 56B (8), 855-861.
9. Pany S, **Majhi A** and Das J. Selective modulation of PKCα over PKCε by curcumin and its derivatives in CHO-K1 cells. ***Biochemistry***. 2016, 55, 2135−2143; DOI: 10.1021/acs.biochem.6b00057.
10. Bonomi R, Mukhopadhyay U, Shavrin A, H-H Yeh, **Majhi A**, Dewage W. S, Najjar A, Xin L, Cisneros GA, Tong PW, Alauddin MM, Liu RS, Mangner JT, Turkman N, Gelovani GJ. Novel Histone Deacetylase Class IIa Selective Substrate Radiotracers for PET Imaging of Epigenetic Regulation in the Brain. ***PLoS ONE.*** *2015;* 10(8): e0133512, doi:10.1371/journal.pone.0133512.
11. Pany S, **Majhi A** and Das J. PKC Activation by Resveratrol Derivatives with unsaturated Aliphatic Chain***. PLoS One***. 2012; 7(12): e52888; doi: 10.1371/journal.pone.0052888.
12. Das J, Pany S, Panchal S, **Majhi A** and Rahman GM. Binding of isoxazole and pyrazole derivatives of curcumin with the activator binding domain of novel protein kinase C ***Bioorganic and Medicinal Chemistry*** 19, 2011, 6196-6202.
13. Das J, Pany S and **Majhi A**. Chemical Modifications of Resveratrol for Improved Protein Kinase C alpha Activity. ***Bioorganic and Medicinal Chemistry*** 19, 2011, 5321-5333.
14. Holla H, Yallamalla S, **Majhi A**, Gannoju S, Balasubramanian S, Arepalli SK, Janapala VR and Das B. Novel cytotoxic constituents of Orthosiphon diffuses. ***Tetrahedron Letters*** 52, 2011, 49-52.

15. **Majhi A**, Rahman GM, Panchal S and Das J. Binding of curcumin and its long chain derivatives to the activator binding domain of novel protein kinase C. ***Bioorganic and Medicinal Chemistry*** 18, 2010,1591-1598.
16. **Majhi A**, Kim SS and Kadam ST. TMEDA Catalyzed Henry (Nitroaldol) Reaction under Metal and Solvent-free Conditions. ***Bull. Korean Chem. Soc.*** 30, 2009, 1767-1770.
17. **Majhi A**, Kim SS and Kadam ST. Rhodium (III) iodide hydrate catalyzed three-component coupling reaction: Synthesis of α-aminonitriles from aldehydes, amines and trimethylsilyl cyanide. ***Tetrahedron*** 64, 2008, 5509-5514.
18. **Majhi A**, Kim SS and Kim HS. Copper perchlorate hexahydrate: A highly efficient catalyst for the cyanosilylation of aldehydes. ***Applied Organometallic Chemistry*** 22, 2008, 407-411.
19. **Majhi A**, Kim SS and Kim HS. Niobium (V) chloride-catalyzed synthesis of α-aminonitriles with simultaneous reaction of aldehydes, amines and trimethylsilyl cyanide. ***Applied Organometallic Chemistry*** 22, 2008, 466-470.
20. **Majhi A**, Kim SS and Kadam ST. Solvent-free synthesis of α-aminonitriles from aldehydes, amines and trimethylsilyl cyanide catalyzed by thallium (III) chloride tetrahydrate. ***Applied Organometallic Chemistry*** 22, 2008, 705-711.
21. Das B, Boddu SK, **Majhi A** and Reddy KR. An efficient chemo- and stereoselective synthesis of enaminones and enaminoesters using (bromodimethyl)sulfonium bromide under solvent-free conditions. ***Heteroatom Chemistry*** 19, 2008, 630-633.
22. Das B, Katta V, Kanaparthy S and **Majhi A**. An efficient and convenient protocol for the synthesis of quinoxalines and dihydropyrazines *via* cyclization-oxidation processes using $HClO_4$·SiO_2 as a heterogeneous recyclable catalyst. ***Tetrahedron Letters*** 48, 2007, 5371-5374.
23. Das B, **Majhi A**, Chowdhury N, Reddy KR and Bommena R One-pot stereoselective synthesis of Cbz-protected β-amino ketones: Three-component coupling of aldehydes, ketones and benzyl carbamate. ***Chemistry Letter*** 36, 2007, 1106-1107.
24. Das B, **Majhi A**, Reddy KR and Katta V. I_2-SiO_2: An efficient heterogeneous catalyst for the Johnson-Claisen rearrangement of Baylis-Hillman adducts. ***Journal of Molecular Catalysis A: Chemical*** 263, 2007, 273-75.
25. Das B, Katta V, **Majhi A**, Siddaiah V and Reddy KR. A facile nuclear bromination of phenol and anilines using NBS in the presence of ammonium acetate as a catalyst. ***Journal of Molecular Catalysis A: Chemical*** 267, 2007, 30-33.
26. Das B, **Majhi A**, Reddy KR and Kanaparthy S. Rare-earth metal triflates catalyzed three-component coupling of aldehydes, ketones or ketoesters and benzyl carbamate: An efficient one-pot stereoselective synthesis of Cbz-protected β-amino carbonyl compounds. ***Journal of Molecular Catalysis A: Chemical*** 274, 2007, 83-86.
27. Das B, **Majhi A** and Banerjee J. Treatment of Baylis-Hillman adducts with triethyl orthoacetate in the presence of heterogeneous catalysts: an interesting method for

stereoselective synthesis of two different types of trisubstituted alkenes. ***Tetrahedron Letters*** 47, 2006, 7619-7623.

28. Das B, Banerjee J, Chowdhury N and **Majhi A**. Synthetic Applications of Baylis-Hillman adducts: A novel and efficient one-pot synthesis of (*E*)-α-methylcinnamic acids and synthesis of potent hypolipidemic agent LK-903. ***Chemical and Pharmaceutical Bulletin-Japan*** 54, 2006, 1725-1727.
29. Das B Katta V, **Majhi A**, Reddy MR, Reddy KN, Rao YK, Ravikumar K and Sridhar B Highly efficient, mild and chemoselective synthesis of enaminones using silica supported perchloric acid under solvent free conditions. ***Journal of Molecular Catalysis A: Chemical*** 246, 2006, 276-281.
30. Das B, Katta V, Krishnaiah M, Holla H and **Majhi A**. A rapid and efficient stereoselective synthesis of (*Z*) - and (*E*) - allyl bromides from Baylis-Hillman adducts using bromo(dimethyl)sulfonium Bromide. ***Helvetica Chimica Acta*** 89, 2006, 1417-1421.
31. Das B, **Majhi A**, Banerjee J and Chowdhury N. A convenient highly stereoselective synthesis of allyl amides from Baylis-Hillman adducts using Amberlyst-15 as a heterogeneous reusable catalyst. ***Journal of Molecular Catalysis A: Chemical*** 260, 2006, 32-34.
32. Das B, Banerjee J, Chowdhury N, **Majhi A** and Holla H. Remarkably Chemoselective Reduction of Unmodified Baylis-Hillman Adducts by $InCl_3$-$NaBH_4$: Application to the Stereoselective Synthesis of Trisubstituted Alkenones including Two Alarm Pheromones. ***Synlett*** 2006, 1879-1882.
33. Das B, Chowdhury N, Banerjee J and **Majhi A**. A facile one-pot stereoselective synthesis of trisubstituted (*E*)-2-methylalk-2-enoic acids from unactivated Baylis-Hillman adducts and a simple access to some important insect pheromones. ***Tetrahedron Letters*** 47, 2006, 6615-6618.
34. Das B, **Majhi A**, Banerjee J, Chowdhury N, Holla H, Kankipati H and Murthy USN An efficient synthesis of 2- benzoxepines from Baylis-Hillman adducts using heterogeneous catalyst. ***Chemical and Pharmaceutical Bulletin-Japan*** 54, 2006, 403-405.
35. Das B, Banerjee J, Chowdhury N, **Majhi A** and Gurram M Synthetic application of the Baylis-Hillman reaction: Simple and convenient synthesis of five important insects pheromones. ***Helvetica Chimica Acta*** 89, 2006, 876-883.
36. Das B, Chowdhury N, Banerjee J, **Majhi A** and Gurram M. A Facile Zn- mediated Stereoselective Synthesis of (*E*)- and (*Z*)-Trisubstituted Alkenes from Baylis–Hillman Adducts in Water and Its Application. ***Chemistry Letters*** 35, 2006, 358-359.
37. Das B, Banerjee J, **Majhi A**, Chowdhury N, Katta V and Holla H Isomerization of the Baylis-Hillman adducts using amberlyst-15 as a heterogeneous reusable catalyst: a simple and efficient stereoselective synthesis of [E]-cinnamyl alcohol derivatives. ***Indian Journal of Chemistry Sect. B*** 45B, 2006, 1729-1733.

38. Das B, **Majhi A**, Banerjee J, Chowdhury N and Katta V. Fe^{3+}-K-10 Montmorillonite Clay Catalyzed Friedel-Crafts Reaction of Unactivated Baylis-Hillman Adducts: An Efficient Stereoselective Synthesis of Trisubstituted Alkenes Containing a Benzyl Substituent. ***Chemistry Letters*** 34, 2005,1492-1493.
39. Das B, **Majhi A**, Banerjee J, Chowdhury N and Katta V. A highly efficient stereoselective synthesis of (Z)- and (E)- allyl iodides from Baylis-Hillman adducts. *Tetrahedron Letters* 46 2005, 7913-7915.
40. Das B, Holla H, Katta V and **Majhi A** Organic reactions in water: An efficient one-pot synthesis of acyloxiranes from Baylis-Hillmann adducts using hypervalent iodine (2005), ***Tetrahedron Letters*** 46 8895-8897.
41. Das R, Geethangili M, **Majhi A**, Das B, Rao YK and Tzeng YM. A new highly oxygenated pseudoguaianolide from a collection of the flowers of parthenium hysterophorus. ***Chemical and Pharmaceutical Bulletin-Japan*** 53, 2005, 861-862.
42. Das B, Banerjee J, Gurram M and **Majhi A**. Organic reaction in water: An efficient zinc mediated stereoselective synthesis of (E)- and (Z)-trisubstituted alkenes using unactivated alkyl halides. ***Organic Letters*** 6, 2004, 3349-3352.
43. Das B, Banerjee J, **Majhi A** and Gurram M. An efficient stereoselective synthesis of (*E*)- and (*Z*)-trisubstituted alkenes from unactivated Baylis-Hillman adducts using $NaBH_4/CuCl_2.2H_2O$. ***Tetrahedron Letters*** 45, 2004, 9225-9227.

Poster Presented at Symposium:

1. Participated and delivered poster presentation on "Design, synthesis of triazole based quinoline and coumarin derivatives and their interaction with serum albumins" in **'Young Scientists' Conference, Kolkata** organized by **India International Science Festival**, Kolkata**,** during November 05-07, 2019.
2. Participated and delivered poster presentation on "Synthesis of a Novel Coumarin Derivative and its Binding Interaction with Serum Albumins" in **3rd Regional Science & Technology Congress**, 18-19 December, 2018 at Bidhannagar College, Kolkata.
3. Participated and delivered poster presentation on "Interaction of 4- Azido coumarin, a fluorescent probe with Biomacromolecular systems" in **International Conference on Complex and Functional Material (ICCFM 2018)**, S. N. Bose National Centre for Basic Sciences, 13 - 16 December, 2018.
4. Participated in **National Conference-Chemistry: Today and Tomorrow (CTT-2018)** at Department of Chemistry, University of Kalyani, 26th to 27th July, 2018
5. Participated and delivered poster presentation on "Design and Synthesis of Fluorescent probe and its interaction with Bovine Serum Albumin and Human Serum Albumin" in **21st**

CRSI National Symposium in Chemistry (CRSI NSC-21). Indian Institute of Chemical Technology, Hyderabad, July, 14-16, 2017.

6. Participated and delivered poster presentation on "Synthesis of novel fluorescent thieno[3,2-d]pyrimidine for Protein Kinase C (PKC) Studies" in **18th CRSI National Symposium in Chemistry.** Institute of Nano Science and Technology (INST), Mohali and Panjab University, Chandigarh. 5 -7 February, 2016.
7. Participated and delivered poster presentation on "Design, Synthesis and Photophysical studies of novel HDAC inhibitor." **National Symposium on Recent Advances in Chemistry & Industry 2016** (with special emphasis on Pharmaceutical Industry) at Indian Chemical Society, Kolkata, 2-3 August, 2016.
8. Synthesis of novel thieno[3,2-d]pyrimidine for Protein Kinase Studies (PKC): **National Conference on "New Frontiers in Chemistry-From Fundamentals to Applications" (NFCFA2015). Anjoy Majhi**, Nasim Sepay. Department of Chemistry, BITS Pilani KK Birla Goa Campus, Goa, 18th -19th Dec, 2015.
9. Two Novel Polychiral Furanopyrans from *Orthosiphon diffusus*: **2nd International Conference on Emerging Trends in Chemical and Pharmaceutical Sciences**. **Anjoy Majhi**, Biswanath Das. CSIR-Indian Institute of Chemical Technology, Hyderabad, 15th - 17th Oct, 2014.
10. Synthesis and Binding of Resveratrol and its Long Chain Derivatives to the Activator Binding Domain of Protein Kinase C; **37th Annual MALTO-Medicinal Chemistry and Pharmacognosy Meeting-in-Miniature. Anjoy Majhi,** Satyabrata Pany and Joydip Das. University of Mississippi, Mississippi, USA, 23-25 May, 2010.
11. Interactions of Protein Kinase C and Curcumin and its Derivatives; **36th Annual MALTO-Medicinal Chemistry and Pharmacognosy Meeting-in-Miniature. Anjoy Majhi**, Shyam Panchal, Ghazi M. Rahman and Joydip Das. University of Tennessee, Memphis, USA, 17-19 May, 2009.
12. Synthetic Applications of Baylis-Hillman Chemistry: Simple accesses to some Important Insect Pheromones, **CSIR and ACS Organized International Conference on Advances in Organic Chemistry and Chemical Biology**, Biswanath Das, Joydeep Banerjee, Nikhil Chowdhury, **Anjoy Majhi** and Harish Holla, Indian Institute of Chemical Technology, Hyderabad, (India), 11-12 Jan., 2006.

Oral Presentation at Symposium:

1. Participated and delivered oral presentation on "Synthesis of a Novel Coumarin Derivative and its Binding Interaction with Serum Albumins" in **26th West Bengal State Science & Technology Congress**, Science City, Kolkata, 28th February and 1st March, 2019.
2. **Development of Novel Analogues of Resveratrol and Genistein as Potent Modulators of Protein Kinase C (PKC). UGC-sponsored two day National seminar on Current Trends in Chemistry**. Department of Chemistry, Sripat Singh College, Jiaganj, Murshidabad, 23rd -24th Dec, 2013