CURRICULUM VITAE

Dr. M. Sankar

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Academic Qualifications:

Degree	Name of the Institution	Period	Subject	Class
PhD	Department of Chemistry IIT Madras	2001-05	Bioinorganic Chemistry	-
M Sc	School of Chemistry, Madurai Kamaraj University	1999-01	Chemistry	First
B Sc	University of Madras.	1996-99	Chemistry Ancillary: Maths & Physics	First

Research Experience:

Period	Position	University	Research Topic
2015-	Associate Professor	IIT Roorkee	Synthesis and Applications of Porphyrinoids
2011-15	Assistant Professor	IIT Roorkee	-do-
2009-11	JSPS Fellow	Univ. of Tsukuba, Tsukuba, Japan	*'Development of Novel Nanostrucures Based on Nonplanar Porphyrins Toward Photo-functional Materials'* Host: Prof. Takahiko Kojima
2008-09	CNRS Research Fellow	Univ. of Rennes1, Rennes, France	*'Synthesis of Flurophore appended oligomeric porphyrin arrays'* Mentor: Dr. O. Mongin & Prof. M. Blanchard-Desce
2007-08	Postdoctoral Fellow	Univ. of Dijon, Dijon, France	*'Synthesis of Tetraazamacrocycles appended porphyrins'* Advisor: Dr. Alla Lumene and Prof. Roger Guilard
2005-07	Postdoctoral Researcher	Tel-Aviv Univ., Tel-Aviv, Israel	*'Synthesis and Self-assembly of Porphyrinic Network solids'* Guide: Prof. Israel Goldberg
2004-05	Senior Research Fellow	IIT Madras	*'Mixed Substituted Porphyrins: Syntheses, Structures and Their Properties'* Supervisor: Prof. P. Bhyrappa
2001-04	Junior Research Fellow	IIT Madras	-do-

- Development of *Novel synthetic routes for the synthesis of mixed substituted porphyrins via* modified Suzuki coupling reactions and characterized them by the combined use of various spectroscopic techniques and single crystal XRD analysis.

- Carried out various functional group interconversions either at β-pyrrole or *meso*-phenyl positions of electron rich/deficient porphyrin macrocycles and studied their electrochemical redox behavior.

- Experience in syntheses of various porphyrinic synthons and assemble them into supramolecular network structures and study their interesting physicochemical stereochemical properties.

- 'Synthesis of various asymetrically substituted carboxyphenylporphyrins and to test their potentials for materials applications'.

- 'Synthesis of benzopolyazamacrocyles appended porphyrins to use as sugar sensor as well as supramolecular synthon.

- Flurophore appended oligomeric porphyrins for two-photon absorption studies and Photodynamic Therapy (PDT) applications.

Academic Scholarships/Awards/Fellowships received:

- **Qualified in Graduate Aptitude Test in Engineering (GATE)** through national wide held on February 2001 organized by Indian Institute of Technology Kanpur (IITK).

- **Qualified in Council of Scientific and Industrial Research-National Eligibility Test (CSIR-NET)** for research program organized by CSIR, New Delhi held during July 2001.

- **Recipient of State Level Scholarship from Tamil Nadu State Government**, India from June 1993 to June 1996 for four year after qualifying Talent exam organized by State Educational Board.

- **Recipient of merit postdoctoral fellowship from Isreal-US binational scheme** and **French National Centre for Scientific Research (CNRS)** during the period from Dec'05 to Sept'07 and Nov'08 to June'09 respectively.

- **Recipient of merit postdoctoral fellowship from Bourgogne Regional Council** for foreign researchers from Oct'07 to Sept'08.

- **Selected for Japan Society for Promotion of Sciences (JSPS) Fellowship** for foreign scholars

- **'MRSC' Conferred by Royal Society of Chemistry, Cambridge, UK**.

- **Selected for Bhaskara Advanced Solar Energy (BASE) Fellowship for the year 2018**

Research Interests:

- ❖ Synthesis of Novel Porphyrins and their analogues, Supramolecular chemistry, Coordination chemistry, Molecular Recognition, Materials chemistry, Electrochemistry.

Extracurricular activities:

- ❖ Trained in National Cadet Crops (NCC) from July1997-May1999 and participated in Annual Training Camp.
- ❖ Involved in National Service Scheme (NSS) for two years from July1996-July1998 and attended yearly special camp.
- ❖ Trained in Social Service League (SSL) during July1996-May1998 and involved in Campus cleaning.
- ❖ Worked as Secretary for 'hostel administrative council' and also served as Counselor for 'guiding and counseling unit' at IIT-Madras from April 2004-March 2005.

Selected List of Publications

1. N. Chaudhri, N. Grover and **M. Sankar***, Versatile Synthetic Route for *β*-Functionalized Chlorins and Porphyrins by Varying the Size of Michael Donors: Syntheses, Photophysical and Electrochemical Redox Properties" ***Inorg. Chem.*** **2017** *56*, 11532-11542 (Highlighted as HOT paper).

2. M. K. Chahal and **M. Sankar***, β-Dicyanovinyl Substituted Porphyrinogen: Synthesis, Reversible Sensor for Picric acid among Explosives and Unique Sensor for Cyanide and Fluoride ions by Switching between various Porphyrinoid states, ***Dalton Trans.*** **2017**, *46*, 11669-11678.

3. P. Rathi, M. K. Chahal and **M. Sankar***, Highly Electron Deficient Tetrabenzoquinone Appended Ni(II) and Cu(II) Porphyrins: Spectral, Solvatochromism, Electrochemical Redox and Tuneable F^- and CN^- Sensing Properties, ***New J. Chem***. **2017**, *41*, 11962-11968.

4. X. Ke, P. Yadav, L. Cong, R. Kumar, **M. Sankar*** and K. M. Kadish*, "Facile and Reversible Electrogeneration of Porphyrin Trianions and Tetraanions in Nonaqueous Media from Electron Deficient *β*-Substituted Porphyrins" ***Inorg. Chem.*** **2017**, *56*, 8527-8537.

5. P. Yadav, **M. Sankar***, Xiangyi Ke, Lei Cong and K. M. Kadish*, "Synthesis of π-Extended PhenylethynylCorroles and Their Intriguing Electrochemical Redox Properties" ***Dalton Trans.*** **2017**, *46*, 10014-10022.

6. P. Yadav, R. Kumar, A. Kumar and **M. Sankar***, "Mixed Tri *β*-Substituted Push-Pull Porphyrins: Synthesis, Photophysical, Electrochemical and Theoretical studies" ***Eur. J. Inorg. Chem.*** **2017**, 3269-3274.

7. M. K. Chahal, **M. Sankar*** and R. J. Butcher, 'An Insight into Communication between *β*-olefin/phenyl olefin-mediated Acceptors and Porphyrin π-system: Way to establish Porphyrin based Chemodosimeters and Chemosensors' ***Phys. Chem. Chem. Phys***. **2017**, 19, 4530-4540.

8. K. Prakash, S. Manchanda, V. Sudhakar, N. Sharma, **M. Sankar*** and K. Krishnamoorthy*, "Facile Synthesis of *β*-Functionalized 'Push-Pull' Zn(II) Porphyrin for DSSC Applications" ***Dyes Pigm.*** **2017**, *147*, 56-66.

9. Pinky Yadav, Pinki Rathi and **M. Sankar***, 'Facile Generation of A_2B Corrole Radical and Its Spectroscopic Properties' ***ACS Omega*** 2017, *2*, 959-965.

10. P. Yadav, M. S. S. Bharathi, S. Bhattacharya, **M. Sankar*** and S. V. Rao*, "Synthesis and Femtosecond Third Order Nonlinear Optical Properties of Push-Pull *Trans*-A_2B-Corroles" ***Dyes Pigm.*** **2017**, *143*, 324-330.

11. P. Yadav and **M. Sankar***, "Spectroscopic and theoretical studies of anionic corroles derived from phosphoryl and carbomethoxyphenyl substituted corroles" ***Chem. Phys. Lett.*** **2017**, *667*, 107-113.

12. T. A. Dar and **M. Sankar***, "Facile Synthesis of Nitrovanillin Appended Porphyrin and Its Utilization as Potent, Recyclable, Naked-Eye CN^- and F^- Ion Sensor", ***Chemistry Select*** **2017**, *2*, 6778-6783.

13. N. Chaudhri, N. Sawhney, B. Madhusudhan, A. Raghav, **M. Sankar*** and S. Satapati*, "Effect of Functional Groups on Sensitization of Dye Sensitized Solar Cells using Free Base Porphyrins" ***J. Porphyrins Phthalocyanines*** **2017**, *21*, 222-230.

14. P. Sonkar, K. Prakash, M. Yadav, V. Ganesan, **M. Sankar**, R. Gupta and D. K. Yadav 'Co(II)-Porphyrins Decorated Carbon Nanotubes as Catalysts for Oxygen Reduction Reactions: An Approach for Fuel Cell Improvement' ***J. Mater. Chem. A*** **2017**, *5*, 6263-6276.

15. Nitika Grover, Nivedita Chaudhri and **M. Sankar***, 'Facile Conversion of Ni(II) Cyclopropylchlorins into Novel *β*-Substituted Porphyrins through Acid-Catalyzed Ring-Opening Reaction' ***Inorg. Chem***. **2017**, *56*, 424-437.

16. K. Prakash and **M. Sankar***, 'Borylated Porphyrin and its Metal Complexes: Synthesis, Elelcrochemistry and Deprotection-Protection Strategy for Anion Sensing' ***Sensor and Actuators: B Chemical*** **2017**, *240*, 709-717.

17. P. Yadav and **M. Sankar***, 'Facile synthesis, photophysical and electrochemical redox properties of octa- and tetra-carboxamidophenylporphyrins and the first example of amido-imidol tautomerism in porphyrins' ***Dyes Pigm.*** **2017**, *139*, 351-357.

18. Mandeep K. Chahal and **M. Sankar***, 'Switching between Porphyrin, Porphodimethene and Porphyrinogen using Cyanide and Fluoride ions mimicking Volatile Molecular Memory and 'NOR' Logic Gate' ***Dalton Trans.*** **2016**, *45*, 16404-16412.

19. N. Grover, **M. Sankar***, Y. Song and K. M. Kadish*, 'Asymmetrically Crowded 'Push-Pull' Octaphenylporphyrins with Modulated Frontier Orbitals: Syntheses, Photophysical and Electrochemical Redox Properties' ***Inorg. Chem.*** **2016**, *55*, 584-597 (*Highlighted as* ***HOT PAPER*** *and* ***one of the*** *most read article during Jan 2016*).

20. R. Kumar, **M. Sankar***, V. Sudhakar, and K. Krishnamoorthy*, 'Synthesis and Characterisation of Simple Cost-effective *Trans*-A_2BC-porphyrins with Various Donor Groups for Dye-Sensitized Solar Cells" *New. J. Chem.* **2016**, *40*, 5704-5713 (*an Invited article for the themed issue on Nitrogen Ligands*).

21. R. Kumar, A. Saxena and **M. Sankar***, 'Mixed *β*-Bromo/Cyano Tetrasubstituted-*meso*-Tetraphenylporphyrin Cu(II) Complexes: Synthesis and Electrochemical studies' ***J. Porphyrins Phthalocyanines*** **2016**, *20*, 1420-1425.

22. T. A. Dar, M. K. Chahal, A. Kumar and **M. Sankar***, 'Synthesis, Electrochemical and Compexation Studies of Zn(II) Aryloxyporphyrins with Fullerene C_{60}' ***J. Porphyrins Phthalocyanines***, **2016**, *20*, 744-751.

23. M. K. Chahal and **M. Sankar***, Porphyrin Chemodosimeters: Synthesis, Electrochemical Redox Properties and Selective 'Naked-eye' Detection of Cyanide Ions' ***RSC Adv.*** **2015**, *5*, 99028-36.

24. M. K. Chahal and **M. Sankar***, '1,8-Naphthyridine-based Fluorescence Receptor for Picric Acid Detection in Aqueous Media' ***Anal. Methods*** **2015**, *7*, 10272-10279.

25. Ravi Kumar, N. Chaudhary, **M. Sankar*** and M. R. Maurya*, 'Electron Deficient Nonplanar *β*-Octachlorovanadylporphyrin as Highly Efficient and Selective Epoxidation Catalyst for Olefins' ***Dalton Trans.*** **2015**, *44,* 17720-17729.

26. R. Kumar, P. Yadav, P. Rathi and **M. Sankar***, 'Photophysical, electrochemical redox, solvatochromism and anion sensing properties of *β*-tetra- and -octaphenylethynyl substituted *meso*-tetraphenylporphyrins' ***RSC Adv***. **2015**, *5*, 82237-82246.

27. Kamal Prakash, Ravi Kumar and **M. Sankar***, 'Mono- and Tri-*β*-Substituted Unsymmetrical Porphyrins: Synthesis, Structural, Spectral, and Electrochemical Properties' ***RSC Adv.*** **2015**, *5*, 66824-66832.

28. Nivedita Chaudhri, Nitika Grover and **M. Sankar***, 'Asymmetrically *β*-Substituted Porphyrins and Chlorins: Synthesis, Spectroscopic and Electrochemical Redox Properties' ***ECS Transactions*** **2015**, *66*, 11-20 (*Invited Article*).

29. Ravi Kumar, Nivedita Chaudhri and **M. Sankar***, 'Naked eye" Selective Detection of CN^- ions by Electron Deficient Ni(II) Porphyrins and their Reversibility Studies' ***Dalton Trans***. **2015**, *44,* 9149-9157 (One of the "***Most accessed articles" during April 2015***).

30. Mandeep K. Chahal and **M. Sankar***, "1,8-Naphthyridinic fluorescent 'turn-on'and 'turn-off'chemosensors for detecting of F^- and Hg^{2+} ions mimicking INHIBIT molecular logic behaviour" ***Anal. Methods***, 2015, *7,* 4552-4559 (One of the "***Most accessed articles" during May 2015***).

31. Nitika Grover, Pinki Rathi and **M. Sankar***, "Spectral Investigations of *Meso*-tetraalkyl-porphyrin-fullerene host-guest complexes" ***J. Porphyrins Phthalocyanines***, 2015,*19*, 997-1006 (***Selected for cover page illustration***).

32. Ravi Kumar, Pinky Yadav, Amit Kumar and **M. Sankar***, "Facile synthesis and electrochemical studies of diethoxy phosphorylphenyl substituted porphyrin and its metal complexes" ***Chem. Lett.*** 2015, *44*, 914-916.

33. Nivedita Chaudhri and **M. Sankar***, 'Colorimetric Naked-eye" detection of CN^-, F^-, CH_3COO^- and $H_2PO_4^-$ ions by highly nonplanar electron deficient perhaloporphyrins' ***RSC Adv.*** **2015**, *5*, 3269-3275.

34. Ravi Kumar and **M. Sankar***, 'Synthesis, Spectral, and Electrochemical Studies of Electronically Tunable β-Substituted Porphyrins with Mixed Substituent Pattern' ***Inorg. Chem.*** **2014**, *53*, 12706-12719.

35. Pinky Yadav and **M. Sankar***, 'Synthesis, Spectroscopic and Electrochemical studies of Phosphoryl and Carbomethoxy Substituted Corroles and their Anion Detection Properties' ***Dalton Trans***. **2014**, *43*, 14680-14688 (One of the "***Most accessed articles*** ***during August 2014***).

36. J. Michalak, K. P. Birin, **M. Sankar**, E. Ranyuk,Y. Yu. Enakieva, Y. G. Gorbunova, C. Sterna, A. Lemeune and R. Guilard, "Synthesis of porphyrin-*bis*(polyazamacrocycle) triads *via* Suzuki coupling reaction" ***J. Porphyrins Phthalocyanines***, 2014**,** *18*, 35-48.

37. O. Mongin, **M. Sankar**, M. Charlot, M. Youssef and M. Blanchard-Desce 'Strong enhancement of two-photon absorption properties in synergic 'semi-disconnected' multiporphyrin assemblies designed for combined imaging and photodynamic therapy' ***Tetrahedron Lett***. **2013**, *54*, 6474-6478.

38. T. Ishizuka, **M. Sankar** and T. Kojima, 'Control of the spatial arrangements of supramolecular networks based on saddle-distorted porphyrins by intermolecular hydrogen bonding' ***Dalton Trans***. **2013**, *42*, 16073-16079.

39. T. Ishizuka, **M. Sankar**, Y. Yamada, S. Fukuzumi and T. Kojima, 'Porphyrin Nanochannels reinforced by hydrogen bonding' ***Chem. Commun***. **2012**, *48*, 6481-6483.

40. **M. Sankar**, T. Ishizuka, Z. Wang, T. Ma, M. Shiro and T. Kojima, 'Synthesis, Structure and Physicochemical Properties of a Saddle-Distorted Porphyrin with a Peripheral Carboxyl Group' ***J. Porphyrins Phthalocyanines***, **2011,** *15*, 421-432 (*Invited Article*).

41. **M. Sankar**, S. Lipstman and I. Goldberg 'Rational Design of Supramolecular Chirality in Porphyrin Assemblies. The Halogen Bond Case' ***Chem. Commun***. 2008, 1777-1779**.**

42. A. Lemeune, C. Morkos, **M. Sankar** and R. Guilard 'Synthesis of aminopyridine phosphonates *via* palladium catalyzed coupling reaction using pyridylbromide and diethylphosphite' ***Synthesis***, 2008, 1575-1579.

43. S. Lipstman, **M. Sankar** and I. Goldberg 'Supramolecular reactivity of porphyrins with mixed iodophenyl and pyridyl *meso*-substituents'. ***Cryst. Growth Des.*** 2008, **8**, 1682-1688.

44. **M. Sankar,** S. Lipstman, S. George, and I. Goldberg 'Porphyrin Framework Solids. Synthesis and Structure of Hybrid Coordination Polymers of Tetra(*m*/*p*-carboxyphenyl) porphyrins and Lanthanide Bridging Ions'. ***Inorg. Chem.***, 2007, **46**, 5544-5554.

45. S. Lipstman, **M. Sankar**, S. George and I. Goldberg 'Framework coordination polymers of tetra(4-carboxyphenyl)porphyrin and lanthanide ions in crystalline solids'. ***Dalton Trans.***, 2007, 3273-3281.

46. P. Bhyrappa, **M. Sankar** and B. Varghese 'Mixed substituted porphyrins: Structural and electrochemical redox properties'. ***Inorg. Chem.,*** 2006, **45***,* 4136-4149.

47. I. Goldberg, **M. Sankar**, S. George and S. Lipstman 'Self-assembly of uniquely structured porphyrin network solids by charged N-H···Cl and N-H···O hydrogen bonds' ***CrystEngComm.***, 2006, **8**, 784-787.

48. S. Lipstman, **M. Sankar**, S. George and I. Goldberg 'The effects of strong Lewis-base reagents on supramolecular hydrogen bonding of *meso*-Tetra(carboxyphenyl) porphyrins' ***CrystEngComm.***, 2006, **8**, 601-607. (***Selected as hot article in the RSC website****)*

49. S. George, S. Lipstman, **M. Sankar** and I. Goldberg 'Porphyrin network solids: examples of supramolecular isomerism, noncentrosymmetric architectures and competing solvation'. ***CrystEngComm.***, 2006, **8**, 417-424.

50. P. Bhyrappa, **M. Sankar**, B.Varghese and P.Bhavana '*meso*-Tetrathienylporphyrins: steady-state emission and structural properties'. ***J. Chem. Sci.***, 2006, **118**, 393-397.

51. **M. Sankar**, P. Bhyrappa, B. Varghese, K. K. Praneeth, and G. Vaijayanthimala '*Meso*-tetrakis(3´,5´-disubstitutedphenyl)porphyrins: Structural, electrochemical redox and axial ligation properties'. ***J. Porphyrins Phthalocyanines****,* 2005, **9**, 413-422.

52. **M. Sankar**, C. Arunkumar, and P. Bhyrappa 'Unusual solvent dependent electronic absorption spectral properties of Ni(II) and Cu(II) perhaloporphyrins'. ***J. Porphyrins Phthalocyanines***, 2004, **8**, 1343-1355.

Structural Communications on Symmetric and Dissymmetric Porphyrinic Networks:

53. **M. Sankar**, S. Lipstman and I. Goldberg 'Borylated porphyrins: 5,10,15,20-tetrakis(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)porphyrin nitrobenzene disolvate' *Acta Crystallogr.,* 2008, **C64**, o117-o119 (***Selected as cover page article).***

54. **M. Sankar**, S. Lipstman and I. Goldberg 'Hydrogen-bonded assemblies of 20-(4-pyridyl)porphyrin-5^4,10^4,15^4-tribenzoic acid with dimethyl sulfoxide and 4-acetylpyridine in their dimethyl sulfoxide and tetrahydrofuran solvates' *Acta Crystallogr.,* 2007, **C63**, o395-o399.

55. S. Lipstman, **M. Sankar** and I. Goldberg 'The nature of supramolecular interactions in tetrakis(4-iodophenyl)porphyrin and its zinc(II) complex' *Acta Crystallogr.,* 2007, **C63**, m300-m303.

56. S. Lipstman, **M. Sankar** and I. Goldberg 'Interwoven hydrogen-bonded network assembly and supramolecular isomerism of *meso*-5,10,15,20-tetrakis(4-carboxy phenyl)porphyrin as its dimethylformamide solvate' *Acta Crystallogr.,* 2007, **C63**, o371-o373.

57. **M. Sankar**, S. Liptsman and I. Goldbergn 'Clathrate solvates of tetrakis(4-methoxy carbonylphenyl)porphyrin and its zinc(II)-pyridine complex, in which the porphyrin host structures are stabilized by porphyrin-porphyrin stacking and C-H···O attractions. *Acta Crystallogr.,* 2006, **C62**, m140-m143.

58. **M. Sankar**, S. Lipstman and I. Goldberg 'Supramolecular assembly of (methanol)[5-(4'-pyridyl-10,15,20-tris(4'-cyanophenyl)porphyrinato]zinc(II) by intermolecular hydrogen bonding and weak coordination'. *Acta Crystallogr*., 2006, **C62**, m477-m479.

59. **M. Sankar**, S. Lipstman and I. Goldberg 'Poly[[[μ-5,10,15,20-tetrakis(4-methoxy carbonylphenyl)porphyrinato(2-)]zinc(II)] N,N'-dimethylacetamide disolvate]'. *Acta Crystallogr*., 2006, **C62**, m495-m497.

60. S. Lipstman, **M. Sankar** and I. Goldberg 'Hydrogen-bonded supramolecular arrays of aqua[5-(4'-carboxyphenyl)-10,15,20-triphenylporphyrinato]zinc(II) in crystals of its nitrobenzene disolvate'. *Acta Crystallogr*., 2006, **C62**, m538-m540.

61. **M. Sankar**, S. Liptsman and I. Goldberg 'A nitrobenzene and dimethylformamide clathrate of (pyridine)[5,10,15-tris(4-cyanophenyl)-20-(2-quinolyl)porphyrinato] zinc(II)'. *Acta Crystallogr*., 2006, **E62**, m753-m756.

62. S. Lipstman, **M. Sankar** and I. Goldberg 'Tetrakis(3'-chlorophenyl)porphyrinato) zinc(II)'. *Acta Crystallogr*., 2006, **E62**, m782-m784.

63. S. Lipstman, **M. Sankar** and I. Goldberg '[(DMA) (tetraphenylporphyrinato)] zinc(II)'. *Acta Crystallogr*., 2006, **E62**, m2330-m2332.

64. **M. Sankar** and I. Goldberg 'On C-H···O interactions in 3,5-dinitrobenzaldehyde**.** *Acta Crystallogr*., 2006, **E62**, o5842-o5844.

65. **M. Sankar** and I. Goldberg 'Supramolecular assembly of diethyl 5-carboxybenzene 1,3-dicarboxylate' *Acta Crystallogr*., 2006, **E62**, o5878-o5880.

Oral presentation at the International and National Conferences: 17

1. K. Prakash, R. Kumar and **M. Sankar*** 'DSSC and Electrocatalytic Applications of *β*- and *Meso*-Functionalized Porphyrins' invited oral presentation at the 5th Symposium on Biological Inorganic Chemistry (SABIC-5) held at Kolkata, India during January 7-11, 2017.

2. **M. Sankar*** 'Naked-eye Detection of Toxic Anions and Picric Acid using Porphyrinoid Chemosensors and their Reusability Studies' invited lecture at the 6th National Symposium on Advances in Chemical Sciences held at Guru Nanak Dev University, Amritsar during March 6-7, 2017.

3. M. K. Chahal, N. Chaudhri, K. Prakash, R. Kumar, N. Grover, P. Yadav and **M. Sankar*** 'Naked-eye Detection of Toxic Anions using Porphyrinoid Chemosensors and their Reusability Studies' invited oral presentation at the 9th International Conference on Porphyrins and Phthalocyanines (ICPP-9) held at Nanjing, China during July 3-8, 2016.

4. R. Kumar, N. Chaudhri, M. Chahal and **M. Sankar***, 'Ratiometric and Colorimetric 'Naked-eye' Selective Detection of CN^- ions by Porphyrinic Chemosensors and their Reversibility Studies' oral presentation at 6th EuCheMS Conference on Nitrogen Ligands, September 13-17, 2015 at Beaune, France.

5. **M. Sankar***, 'Asymmetric *β*-Substitution: An Inventive Path to Modulate Photophysical and Electrochemical Redox Properties'. Invited Talk delivered at 16th Symposium on Modern Trends in Inorganic Chemistry (MTIC-XVI) held at Jadavpur University, Kolkata, India during December 3-5, 2015.

6. N. Grover, N. Chaudhri, R. Kumar, M. K. Chahal and **M. Sankar*** 'Synthesis and Applications of Asymmetric *β*- and *Meso*-Substituted Porphyrins' an invited talk delivered at Frontiers in Inorganic and Organometallics held at IIT Indore, Simrol, India during April 14-15, 2016.

7. R. Kumar, N. Chaudhri, M. Chahal and **M. Sankar***, 'Ratiometric and Colorimetric 'Naked-eye' Selective Detection of CN^- ions by Porphyrinic Chemosensors and their Reversibility Studies' oral presentation at 6th EuCheMS Conference on Nitrogen Ligands, September 13-17, 2015 at Beaune, France.

8. R. Kumar, N. Grover, N. Chaudhri, K. Praksh and **M. Sankar*** 'Asymmetrically β-Substituted Porphyrins: Synthesis, Photophysical and Electrochemical Redox Properties' oral presentation at the 227th Electrochemical Society (ECS) meeting held at Chicago, USA during May 25-28, 2015.

9. T. Kojima, H. Kajii, **M. Sankar**, T. Ishizuka, H. Kotani, Y. Yamada and S. Fukuzumi 'Formation of Hydrogen-bonded Supramolecular Assemblies Based on Fucntionalised Saddle-distorted Porphyrins' oral presentation at the 227th Electrochemical Society (ECS) meeting held at Chicago, USA during May 25-28, 2015.

10. R. Kumar, N. Grover and **M. Sankar*** 'Synthesis and Studies on β-Substituted Novel Push-Pull Porphyrins' oral presentation at the 8th International Conference on Porphyrins and Phthalocyanines (ICPP-8) held at Istanbul, Turkey during June 22-27, 2014.

11. T. Kojima, **M. Sankar**, H. Kajii, and T. Ishizuka 'Supramolecular Assemblies of Saddle-Distorted Porphyrins with Intermolecular Hydrogen Bonding' oral presentation at the 8th International Conference on Porphyrins and Phthalocyanines (ICPP-8) held at Istanbul, Turkey during June 22-27, 2014.

12. **M. Sankar**, T. Ishizuka, T. Hasobe, K. Ohkubo, S. Fukuzumi and T. Kojima 'Supramolecular Assemblies Composed of Saddle-Distorted Porphyrins with Carboxyl Groups' was presented 221st Electrochemical Society (ECS) Meeting at Settle, Washington, USA during May 6-10, 2012.

13. I. Goldberg, **M. Sankar**, S. George and S. Lipstman **'**Porphyrin assemblies: Rational design of coordination networks and supramolecular chirality**'** was presented as symposium lecture at the 5th International Conference on Porphyrins and Phthalocyanines (ICPP-5) at Moscow, Russia during July 6-11, 2008.

14. I. Goldberg, S. Lipstman, **M. Sankar**, and S. George 'Porphyrin-based framework coordination polymers tailored with lanthanide bridging reagents' an invited lecture presented at the 9th FIGIPAS Meeting in Inorganic Chemistry on "Supramolecular and Coordination Chemistry", July 4-7, 2007, Vienna, Austria.

15. I. Goldberg, S. Lipstman, **M. Sankar** and S. George 'Porphyrin-based framework coordination polymers tailored with lanthanide bridging reagents' an invited lecture presented at the 2007 Meeting of the American Crystallographic Association, July 21-26, 2007, Salt Lake City, Utah, USA.

16. I. Goldberg, S. Lipstman, **M. Sankar** and S. George 'Crystal engineering of porphyrin-based framework solids' an invited lecture presented at the 24th European Crystallographic Meeting, 22-27 August 2007, Marrakech, Morocco.

17. P. Bhyrappa, **M. Sankar**, and B. Varghese, **'**Highly substituted porphyrins: Synthesis and their properties**'** an oral presentation at the 3rd International Conference on

Porphyrins and Phthalocyanines (ICPP-3) held at New Orleans, Lousiana, USA during July 11-17, 2004.

Poster Presentation at the International Conferences: 26

18. R. Kumar and **M. Sankar*** '*β*-Octachlorovanadylporphyrin as Highly Efficient and Selective Epoxidation Catalyst for Olefins' poster presentation at the 9th International Conference on Porphyrins and Phthalocyanines (ICPP-9) held at Nanjing, China during July 3-8, 2016.

19. K. Prakash and **M. Sankar*** 'Boronic Ester Appended Porphyrins as Anion Sensors' poster presentation at the 9th International Conference on Porphyrins and Phthalocyanines (ICPP-9) held at Nanjing, China during July 3-8, 2016.

20. N. Grover, Y. Song, **M. Sankar*** and K. M. Kadish* 'Synthesis, Photophysical, Spectroelectrochemical and Redox Properties of Push-pull Octaphenylporphyrins ' poster presentation at the 9th International Conference on Porphyrins and Phthalocyanines (ICPP-9) held at Nanjing, China during July 3-8, 2016.

21. N. Chaudhri, N. Grover, K. Anshul and **M. Sankar*** 'Facile Synthesis of Unsymmetrical *β*- Substituted Porphyrins *via* Nucleophilic Substitution Reactions' poster presentation at the 9th International Conference on Porphyrins and Phthalocyanines (ICPP-9) held at Nanjing, China during July 3-8, 2016.

22. N. Chaudhri, R. Kumar, M. K. Chahal and **M. Sankar*** 'Colorometric 'Naked-eye Selective Detection of CN^- ions by Porphyrin Chemosensors and Chemodosimeters' poster presentation at the 9th International Conference on Porphyrins and Phthalocyanines (ICPP-9) held at Nanjing, China during July 3-8, 2016.

23. N. Grover and **M. Sankar*** 'N-Confused Porphyrin – A Unique turn on and turn off Anion sensor' poster presentation at the 9th International Conference on Porphyrins and Phthalocyanines (ICPP-9) held at Nanjing, China during July 3-8, 2016.

24. L. Cong, X. Ke, Y. Fang, P. Yadav, **M. Sankar*** and K. M. Kadish* 'Elelctrochemical and Spectroelectrochemical Studies of Phenylethynyl *β*-Substituted Corroles and Porphyrins' poster presentation at the 9th International Conference on Porphyrins and Phthalocyanines (ICPP-9) held at Nanjing, China during July 3-8, 2016.

25. X. Ke, L. Cong, Y. Fang, R. Kumar, **M. Sankar*** and K. M. Kadish* 'Electrogeneration and Electrochemistry of σ-bonded cobalt porphyrins with π-extended systems and/or electron withdrawing pyrrole substituents' poster presentation at the 9th International

Conference on Porphyrins and Phthalocyanines (ICPP-9) held at Nanjing, China during July 3-8, 2016.

26. R. Kumar, V. Sudhakar, K. Krishnamoorthy and **M. Sankar*** 'Cost-Effective *Trans*-A_2BC Porphyrin Zn(II) Complexes for Dye-Sensitized Solar Cell (DSSC) Applications' poster presentation at the international conference on advanced materials for energy, environment and health (ICAM-2016) held at IIT Roorkee, Roorkee, India during March 4-7, 2016.

27. K. Prakash, P. Sonkar, V. Ganesan and **M. Sankar*** 'Effect of functionalized cobalt tetraphenylporphyrins non-covalently coupled with carbon nanotubes for oxygen reduction: An approach for fuel cell improvement' poster presentation at the international conference on advanced materials for energy, environment and health (ICAM-2016) held at IIT Roorkee, Roorkee, India during March 4-7, 2016 (Selected for '*J. Mater. Chem.* B Best Poster Award' sponsored by RSC, Cambridge, UK).

28. N. Chaudhri, N. Sawhney, B. Madhusudhan, **M. Sankar*** and S. Satapathi***** ' Effect of Functional Groups on Sensitization of Dye Sensitized Solar Cells using Free Base Porphyrins' poster presentation at the international conference on advanced materials for energy, environment and health (ICAM-2016) held at IIT Roorkee, Roorkee, India during March 4-7, 2016.

29. R. Kumar and **M. Sankar*,** 'Push-Pull Porphyrins for Dye-Sensitized Solar Cells' poster Presentation at 6th EuCheMS Conference on Nitrogen Ligands, held at Beaune, France during September 13-17, 2015.

30. P. Yadav and **M. Sankar***, 'A_2B Corrole for Selective Colorimetric Detection of Fe^{III} ions' poster Presentation at 6th EuCheMS Conference on Nitrogen Ligands, held at Beaune, France during September 13-17, 2015.

31. N. Chaudhri and **M. Sankar***, 'Synthesis, Spectral and Electrochemical Redox Properties of Porphyrin-based Schiff Bases' poster Presentation at 6th EuCheMS Conference on Nitrogen Ligands, held at Beaune, France during September 13-17, 2015.

32. N. Grover and **M. Sankar***, 'N-Confused Porphyrins-A New Class of Anion Sensors' poster Presentation at 6th EuCheMS Conference on Nitrogen Ligands, held at Beaune, France during September 13-17, 2015.

33. R. Kumar, N. Grover and **M. Sankar*** 'Synthesis and Studies on β-Substituted Novel 'Push-Pull' Porphyrins for Nonlinear Optical (NLO) Applications' poster presentation

at the International Conference on Porphyrins and Phthalocyanines (ICPP-8) held at Istanbul, Turkey during June 22-27, 2014.

34. P. Yadav and **M. Sankar*** 'Synthesis, Electrochemical and Spectroscopic Studies of 5,10,15-Tris (phosphoryl/carbo-methoxyphenyl)corroles' poster presentation at the International Conference on Porphyrins and Phthalocyanines (ICPP-8) held at Istanbul, Turkey during June 22-27, 2014.

35. N. Chaudhri and **M. Sankar*** 'Selective Anion Sensing by Electron Deficient porphyrins' poster presentation at the International Conference on Porphyrins and Phthalocyanines (ICPP-8) held at Istanbul, Turkey during June 22-27, 2014.

36. M. K. Chahal and **M. Sankar*** 'Synthesis and Spectroscopic Studies of Supramolecular Porphyrin-Fullerene Host-guest Assemblies' poster presentation at the International Conference on Porphyrins and Phthalocyanines (ICPP-8) held at Istanbul, Turkey during June 22-27, 2014.

37. **M. Sankar**, T. Ishizuka, K. Ohkubo, K. Hasobe, M. Kawano, S. Fukuzumi and T. Kojima 'Supramolecular Assemblies Composed of Saddle-Distorted Porphyrins having Peripheral Carboxyl Groups' poster presentation at the 7th International Conference on Porphyrins and Phthalocyanines (ICPP-7) at Jeju Island, South Korea during July 1-6, 2012.

38. **M. Sankar**, T. Ishizuka and T. Kojima 'Construction of supramolecular architectures based on novel dodecaphenlporphyrin derivatives' poster presentation at the 60th International Conference on Coordination Chemistry at Osaka (60CCCO), Japan during Sept 26-30, 2010.

39. S. Lipstman, **M. Sankar**, S. George and I. Goldberg 'Porphyrin based coordination polymers bridged by lanthanide ions' poster presentation at the 5th International Conference on Porphyrins and Phthalocyanines (ICPP-5) at Moscow, Russia during July 6-11, 2008.

40. C.M. Douaihy, A. Lemeune, **M. Sankar** and R. Guilard 'Synthesis of aminopyridinephosphonates via palladium catalyzed coupling reaction and their mechanistic pathway' poster presentation at XXIII International Conference on Organometallic Chemistry Conference (ICOMC-08) at Rennes, France during July 14-18, 2008.

41. **M. Sankar,** S. Liptsman, S. George and I. Goldberg**,** 'Synthesis and structures of lanthanide-porphyrin coordination polymers' poster presentation at the 72nd meeting of The Israel Chemical Society during Feb. 6-7, 2007 at Tel-Aviv, Israel.

42. I. Goldberg, S. Lipstman, **M. Sankar** and S. George 'Crystal engineering of porphyrin-based framework solids' an invited lecture presented at the 24th European Crystallographic Meeting during 22th-27th August 2007 at Marrakech, Morocco.

43. P. Bhyrappa and **M. Sankar** 'Highly substituted porphyrins: Synthesis and their properties' an oral presentation at the 3rd International Conference on Porphyrins and Phthalocyanines (ICPP-3) held at New Orleans, Lousiana, USA during 11th-17th July 2004.

Poster Presentation at the National Conferences: 16

44. R. Kumar, N. Chaudhri and **M. Sankar*** 'Selective Cyanide ion Detection by *β*-Substituted Electron Deficient Metalloporphyrins' poster presented at the 17th National Symposium in Chemistry organized by Chemical Research Society of India (CRSI), February 6-8, 2015 at NCL, Pune.

45. K. Prakash, R. Kumar and **M. Sankar*** 'Synthesis, Structural and electrochemical studies on mono and tri- *β*-Substituted Porphyrins ' poster presented at the 17th National Symposium in Chemistry organized by Chemical Research Society of India (CRSI), February 6-8, 2015 at NCL, Pune.

46. R. Kumar, N. Chaudhri and **M. Sankar*** '*β*-Substituted Porphyrins as cyanide Sensors' presented at Royal Society Chemistry (RSC) India Roadshow held at IIT Delhi on 5th Nov 2014.

47. P. Yadav and **M. Sankar*** 'Synthesis, Spectroscopic and Electrochemical Studies of Phosphoryl and Carbomethoxyphenyl Substituted Corroles, and their Anion Detection Properties' presented at Royal Society Chemistry (RSC) India Roadshow held at IIT Delhi on 5th Nov 2014.

48. M. K. Chahal and **M. Sankar*** 'Naphthyridine-based Fluorescent Chemosensors for the Detection of Explosive Nitroaromatics' presented at Royal Society Chemistry (RSC) India Roadshow held at IIT Delhi on 5th Nov 2014.

49. P. Yadav and **M. Sankar*** 'Synthesis of Carboxy and Phosphonic Acid Corroles for Materials Applications' poster presented at the 16th National Symposium in Chemistry

organized by Chemical Research Society of India (CRSI), February 7-9, 2014 at IIT Bombay, India.

50. N. Grover and **M. Sankar*** 'Synthesis of Mixed β-Substituted Push-Pull Porphyrins for Nonlinear Optical (NLO) Application' poster presented at the 16th National Symposium in Chemistry organized by Chemical Research Society of India (CRSI), February 7-9, 2014 at IIT Bombay, India.

51. N. Chaudhri and **M. Sankar*** 'Synthesis and Studies on Sterically Crowed Porphyrins' poster presented at the 16thNational Symposium in Chemistry organized by Chemical Research Society of India (CRSI), February 7-9, 2014 at IIT Bombay, India.

52. R. Kumar and **M. Sankar*** 'Synthesis of β-substituted 'Push-pull' Porphyrins for Nonlinear Optical (NLO) Applications' poster presented at the 15th national symposium on *Modern Trends in Inorganic Chemistry (MTIC-XV)*, December 13-16, 2013 at IIT Roorkee, Roorkee, India.

53. **M. Sankar**, T. Ishizuka and T. Kojima 'Photovoltaic Activities and Photoinduced Electron Transfer (PET) Studies on Hydrogen-Bonded Supramolecular Assemblies Composed of Diprotonated Nonplanar Carboxyporphyrins and Electron Donors' poster presentation at Modern Trends in Inorganic Chemistry-XIV (MTIC-XIV) held at University of Hyderabad, Hyderabad, India during 10-13th Dec 2011.

54. **M. Sankar**, T. Ishizuka, K. Ohkubo, K. Hasobe, M. Kawano, S. Fukuzumi and T. Kojima 'Photoinduced Electron Transfer and Photovoltaic Activity of Hydrogen-Bonded Supramolecular Assemblies Composed of Diprotonated Nonplanar Carboxyporphyrins and Electron Donors' poster presentation at ACCC-3 held at New Delhi, India during 17th-20th Oct 2011.

55. **M. Sankar**, T. Ishizuka and T. Kojima 'Preparation of supramolecular assemblies composed of novel dodecaphenylporphryin derivatives as building blocks' poster presentation at the Japan Chemical Society (JCS) meeting at Tsukuba, Japan during August 30-31, 2010.

56. S. Lipstman, **M. Sankar**, S. George and I. Goldberg 'Synthesis of porphyrin network solids bridged by lanthanide ions' poster presentation at Annual Meeting of Israel Crystallographic Association Meeting at Haifa, Israel during 29th May 2007.

57. **M. Sankar** and P. Bhyrappa**,**'Unusual photo-physical chemical properties of mixed β-pyrrole substituted *meso*-tetraphenylporphyrins' a poster presented at the 7th National

Symposium in Chemistry organized by *CRSI*, February 4-6, 2005 at IACS, Kolkata, India.

58. **M. Sankar** and P. Bhyrappa**,** 'Highly substituted porphyrins: Synthesis and their properties' poster presented at the 6th National Symposium in Chemistry organized by *CRSI*, February 6-8, 2004 at IIT Kanpur, India.

59. **M. Sankar** , P. Bhyrappa and B. Varghese 'Synthesis, structure and properties of novel highly substituted porphyrins' poster presentation at the regional symposium Chemists' Meet 2004 organized by Department of Chemistry at IITM during the period March 26-27, 2004.

60. **M. Sankar** and P. Bhyrappa**, '**Porphyrins with mixed substituents pattern: Synthesis and their Properties' a poster presented at the national symposium on *Modern Trends in Inorganic Chemistry (MTIC-X)*, December 15-17, 2003 at IIT Bombay, India.

Invited Lectures delivered in the workshops: 2

61. **M. Sankar***, 'Synthesis and Applications of Functionalized Porphyrins' invited lecture delivered in the workshop "Molecules & Materials Technology: Interface with R&D and Industries" held at NIT Kurukshetra, Kurukshetra during March 21-26, 2017.

62. **M. Sankar***, 'Role of Porphyrinoids in Nanomedicine' invited lecture delivered in the workshop "Recent Advances in Nanomedicine: From Bench to Bedside" held at IIT Roorkee during June 4-8, 2012.

Declaration

I hereby declare that the information given above is true to the best of my knowledge.

Sincerely yours,

M. Sankar.