

**Dr. Anant Ramakant Kapdi (Alexander von Humboldt Fellow) (DST-SERC Fast Track Fellow)
Founding Deputy Director (ICT-IOC BBSR) (Fellow of Royal Society of Chemistry)**

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ADMINISTRATIVE & PROFESSIONAL POSITIONS HELD

- Founding Deputy Director of Institute of Chemical Technology-Indian Oil Campus Odisha, Bhubaneswar from 1st September 2018 to 31st December 2019 (On deputation from ICT, Mumbai)
- Central Placement Chief Coordinator, ICT Mumbai from 1st April 2021 (for 3 years)
- Founding Coordinator of the India-UK Virtual Innovation & Sustainability Chemistry Consortium (Supported by Department of Business Energy and Industrial Safety with 100k pounds)
- Associate Editor of RSC Advances: Royal Society of Chemistry journal from November 2015 till May 2017.

INVITED PROFESSORSHIPS

- **INVITED PROFESSOR** at Institute of Organic and Analytical Chemistry, University de Orleans, France from 16th May 2019 to 16th June 2019. Involves teaching for Ph.D. students for 6 hours on topic of Organometallic Chemistry: Basics to Applications and research talk on 'Rational ligand design for sustainable catalysis: Story of PTABS on 29th May 2019.

EMPLOYMENT HISTORY

- Former Deputy Director of ICT-IOC Bhubaneswar from 1st September 2018 till 31st December 2019.
- UGC-Appointed Assistant Professor of Chemistry in ICT (January 2014 onwards): To carry out independent research in Institute of Chemical Technology, Mumbai
- DST INSPIRE Faculty Award (October 2012 till September 2017; Rs. 83,00,000/-): To carry out independent research in Institute of Chemical Technology, Mumbai on the *Application of Palladacyclic Complexes in Synthesis*. Conducting lectures of M.Sc. Chemistry (Organic and Organometallic Chemistry) and Chemical Engineering First year (Organic and Analytical Chemistry).
- DST-SERC Fast Track Fellow(March 2011 to September 2012; Rs. 25,00,000/-): To carry out independent research in Institute of Chemical Technology, Mumbai on the *Application of Palladacyclic Complexes in Synthesis* under the Fast Track Scheme for Young Scientists. Conducting lectures of M.Sc. Chemistry (Organic and Organometallic Chemistry) and Chemical Engineering First year (Organic and Analytical Chemistry).
- Lecturer and Researcher (1st July 2010 to 28th February 2011): Teaching MSc Organic Students (In-charge of MSc unaided Organic Chemistry practicals) and carrying out independent research in RamnarainRuia College of Science and Arts.

PROFESSIONAL EXPERIENCE

- Responsibility as the Founding Deputy Director of ICT-IOC, Odisha campus, Bhubaneswar from 1st September 2018 till 31st August 2019.
- Alexander von Humboldt Research Cooperation programme visit to Prof. Carola Schulzke at Department of Biochemistry, University of Greifswald, Germany from 15th June 2017 till 10th July 2017.
- Alexander von Humboldt Research Cooperation programme visit to Prof. Carola Schulzke at Department of Biochemistry, University of Greifswald, Germany from 20th July 2016 till 10th August 2016.
- Alexander von Humboldt Research Cooperation programme visit to Prof. Carola Schulzke at Department of Biochemistry, University of Greifswald, Germany from 3rd August 2015 till 15th August 2015.
- DAAD Fellowship for Scientists (Did not avail) - with Prof. Moniek Tromp in Catalysis Research Centre, Technische Universitat Munchen, Germany

- Alexander von Humboldt Fellow Return Fellowship (25th May 2013 to 25th July 2013) - with Prof. Moniek Tromp on *The application of UV-Vis Stopped Flow Technique for Palladium-Mediated Oxidative Homocoupling Reactions.*
- Alexander von Humboldt Fellow (1st June 2008 to 31st March 2010)- with Prof. Lutz Ackermann on *The development of P-stereogenic air stable chiral secondary phosphine oxides for catalysis and C-H activation.*
- Ph.D. in Organic Chemistry, University of York, United Kingdom--(Received on 11th July 2008)- Under the supervision of Prof. Ian Fairlamb and Co-supervision of Prof. Richard Taylor (Title:*The Application of Palladium-Catalysed Cross-Coupling Processes in Synthesis: Towards the Synthesis of Likonide B*)
- MRes., Chemistry. University of York, United Kingdom. (Received on 14th July 2005- Distinction) – Under the Supervision of Prof. Ian Fairlamb(Title: *Novel Palladium(II) Precatalysts for Cross-Coupling Processes.*)
- MSc., Organic Chemistry. Institute of Science, Mumbai University, India. (Received on December 2002-Distinction)
- BSc., Chemistry. RamnarainRuia College, Mumbai University, India. (Received on December 2000-Distinction).
- Ph.D. students guided till date: 10 (Synopsis submitted: 1)
- Ongoing Ph.D. students:6
- Industrially sponsored PhD. Students: 1
- Co-guided Ph.D. students: 1 (Chemical Engineering)
- Research Associates: 3
- M.Sc. project completed: 30

GUEST EDITORSHIP

- Guest editorship for a special issue on ‘Nucleoside/nucleotides or nucleic acid modifications & applications’ for Chemical Records and Asian Journal of Organic Chemistry (2022).

INSTITUTIONAL RESPONSIBILITIES:

- Founding Deputy Director of Institute of Chemical Technology-Indian Oil Campus Odisha, Bhubaneswar from 1st September 2018 to 31st December 2019 (On deputation from ICT, Mumbai)
- Central Placement Chief Coordinator, ICT Mumbai from 1st April 2021 (for 3 years)
- Lead Scientist for Academia Industry interaction between ICT and Syngene (February 2022-) Company sponsored Ph.D. program initiation for improved skill development.
- Editor-In-Chief of Bombay Technologist (Journal of Technological association of ICT- an internal undergraduate journal) since December 2017 till date.
- Member of the Purchase & Procurement Committee of ICT Mumbai (2015-18)
- Committee member for Institutional Handbook Committee: Compilation, Designing, Detailing and Final Compilation handled. (2016-20)
- Departmental placement in-charge (2017- till date)
- Departmental safety committee member (2018 onwards)

AWARDS AND RECOGNITIONS

- **Fellow of Royal Society of Chemistry**, London as **Leaders in the Field category**, 2021
- **British Council UK Education Alumni award finalist 2021-22.**
- C. B. Murarka Best Assistant Professor Award 2018-19: Rolling trophy and prize of Rs. 25,000/-
- **Fellow of Maharashtra Academy of Sciences, 2016**
- Wellcome Trust/DBT India Alliance Early Career Fellow for 2021: Africa-India Research mobility grant fund award: Jan 2021 till Dec 2021 for up to ₹ 3,54,004.00 over 1 month and made to Institute of Chemical Technology, Mumbai for your project titled “Flow-Chemistry Assisted Expedient Synthesis of Antiviral and Anticancer Nucleoside analogues.
- DAAD Fellowship for Scientists with Prof. Moniek Tromp in Catalysis Research Centre, Technische Universitat Munchen, Germany.(not availed)
- Alexander Von Humboldt Fellowship for Postdoctoral Research for carrying out postdoctoral research under the supervision of Prof. Lutz Ackermann in Georg-August-UniversitaetGoettingen, Germany (June 2008 to March 2010).

- Alexander von Humboldt Return Fellowship(25th May 2013 to 25thJuly 2013) - with Prof. Moniek Trompin Catalysis Research Centre, Technische Universitat Munchen, Germany.
- Book Fund Award by Alexander von Humboldt Foundation worth Eur 1,000 (2013).
- Book Fund Award by Alexander von Humboldt Foundation worth Eur 1,000 (2010).
- Young Associate of Maharashtra Academy of Sciences 2012.
- Alexander von Humboldt Equipment Grant 2013 (Euros 16000)
- Prof. N. R. Kamath Book Award for publishing a book on the topic of Strategies for Palladium-Catalyzed Non-Directed and Directed C-H Bond Functionalization. Volume 1: Latest Trends in Palladium Chemistry) Eds. A. R. Kapdi, D. Maiti, Elsevier, New York, 2017 (Rs. 30,000/- award prize)

BOARD OF STUDIES, State & National level committees

- Department of Chemistry, ICT Mumbai
- Board of studies, Humanities and Science department, Thakur education society, Mumbai.
- Board of studies, Humanities and Science department, SRTM University, Nanded
- Board of studies Chemistry department, Somaiya Vidyavihar University, Mumbai.
- Committee member of Special task Force of Govt of Maharashtra for Industrial Safety and Health.
- Core Committee member of RSC backed Industry-Academic Forum
- Committee member of Bureau of Indian Standards (National Standard Body- engaged in the activities of formulating Indian Standards and operating Certification Marks Licence Schemes and other related activities.

MEMBERSHIP OF PROFESSIONAL INSTITUTIONS

- Member of American Chemical Society 30690217 (expired)
- Member of Royal Society of Chemistry (MRSC)-membership no: 359354 (expired)
- Chemical Research Society of India life membership No: 828
- Alexander von Humboldt Alumni Association (Mumbai chapter)
- Life Member of Catalysis Society of India
- Life Member of Indian Society of Chemists and Biologists
- Life Member of Maharashtra Academy of Sciences (Young Associate)
- Life Member of Chemistry Teachers Association of India
- Member of International Society for Nucleosides, Nucleotides, and Nucleic Acids (IS3NA)

PROJECTS SANCTIONED

Government funded:

- *Application of Palladacyclic Complexes in Synthesis.* DST INSPIRE Faculty Award (October 2012 till September 2017; Rs. 83,00,000/-)
- *Application of Palladacyclic Complexes in Aqueous Media:*DST-SERC Fast Track Fellow(March 2011 to September 2012; Rs. 25,00,000/-)-Completed
- ‘*Synthesis and Cellular Evaluation of Novel Palladacyclic Complexes for Breast Cancer*’As a Co-Principal Investigator for a Pilot Project Grant for Young Investigators in Cancer Biology by Department of Bio-Technology for Rs. 25,00,000/- for 3 years 2014-17.
- ‘Development of grafted resins and membranes (extractants) for precious metals’ Principal investigator for a project from Department of Atomic Energy for Rs. 30,00,000/- from 2016-19.
- ‘Metal-mediated One-Pot Sequential (Telescoping) Reactions for the Synthesis of Multifunctional Nucleosides/Nucleotides with Promising Photo- and Biophysical Properties. Extra-Mural research grant from DST-SERB for Rs. 56,00,000/- from July 2017-June 2020.
- ‘*Development of Novel Approaches to Multifunctional C-Nucleosides using Palladium-Catalyzed Coupling Processes in Aqueous Media.*’ Extramural research grant from CSIR for Rs. 25,00,000/- from July 2017 to June 2020.
- Co-PI along with Prof. Padma Devarajan in ‘Targeted drug delivery system of deuterated plumbagin for enhanced bioavailability and augmented anti-cancer efficacy’. Sanctioned by Heavy Water Board for Rs. 99.85 Lacs 04/2021.
- Co-PI with Prof. Ashwin Patwardhan in DST PURSE programme on the Continuous Flow Synthesis of Ciprofloxacin: Fluorinated benzoic acid synthesis for 1.5 crores starting from 04/2021.

Industry funded:

- Greener Approach for synthesis of synthetically important molecules. **GEM Aromatics** (January 2013 till December 2013; Rs. 2,00,000/- and March 2014 to February 2015; Rs. 2,50,000/-)
- *Development of new external donors (especially long chain esters and amides of fatty acid) for Homo-grade propene polymerization.* Reliance Industries Limited, India. (December 2014- November 2015; Rs. 10,90,000/-)
- *Development of efficient processes for commercially useful drugs.* Halcyon Pvt. Ltd. (August 2015 till Jan 2016; Rs. 6,50,000/-)
- *Development of Chemoluminescence molecules for Bio-Conjugation Assays.* Tranasia Pvt. Ltd. (August 2018 to July 2019; Rs. 7,00,000/-)
- Development of efficient synthetic route for HFIP-based commercially relevant molecules. Navin Fluorine International Ltd. (January 2020 to December 2020; Rs. 10,00,000/-)
- *Project with Shogun Organic Pvt. Ltd. For the development of commercial process for agro-based molecules (Rs. 10,00,000/-) Start date: January 2022.*
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International Fund

- Green Approach towards the synthesis of substituted nucleosides. Rasayan Inc. California, U.S.A (January 2013 till December 2021; \$95,000 or Rs. 67,00,000/-)
- Africa-India Mobility fund for project titled “*Flow-Chemistry Assisted Expedient Synthesis of Antiviral and Anticancer Nucleoside analogues*” with Prof. Paul Watts at Nelson Mandela University, South Africa from January 2021 till December 2021 (\$4700 or Rs. 3,44,451)
- *Multi-functional Nucleosides and Nucleotides via Palladium-Mediated Reactions Using Novel Palladacyclic Complexes with Promising Anticancer Activities* Alexander von Humboldt Research Linkage programme in Collaboration with Prof. Carola Schulzke (54,000 euros) 1st July 2015 till 30th June 2018.

Consultancy Projects

- *Development of efficient processes for commercially useful drugs.* Halcyon Pvt. Ltd. (January 2016 till December 2017; Rs. 10,00,000/-) (January 2017 till December 2017; Rs. 10,50,000/-)
- *Development of Chemoluminescence molecules for Bio-Conjugation Assays.* Tranasia Pvt. Ltd. (September 2021 for 1 year; Rs. 12,00,000/-)
- *Consultancy project of Balaji Formalin Pvt. Ltd. Rs. 1,00,000/- for expert opinion on Methanol denaturation (High court ruling)*

RESEARCH COLLABORATIONS

Academic Collaborations:

- Prof. Jose Luis Serrano (Department of Inorganic Chemistry, Universidad Politecnica de Cartagena, Murcia, Spain) on the *Application of Palladacyclic Complexes for the Development of Coupling Reaction in Green Solvents*
- Prof. Ian J. S. Fairlamb (University of York, England) on mechanistic studies in palladium-mediated synthesis.
- Prof. Carola Schulzke (Department of Biotechnology, University of Greifswald, Germany) on X-ray characterization of novel Palladacyclic complexes.
- Prof. Moniek Tromp (Structural Analytic Centre, Technische Universitat Munchen, Germany) on Catalyst Characterization techniques.
- Dr. Prajakta Dandekar Jain (Department of Pharmaceutical Engineering and Technology, ICT Mumbai, India) Palladacycles as anticancer agents
- Dr. Debabrata Maiti (Indian Institute of Technology, Mumbai, India) Novel C-H bond Functionalisation strategies for synthesis.
- Prof. K. Hara (Department of Chemistry, Tokyo Technological University, Japan) Synthesis and characterisation of palladium colloids/nanoparticles for synthesis.
- Prof. Lutz Ackermann Georg-Augustat Universitat, Goettingen, Germany.
- Prof. Fuk Yee Kwong (Department of Chemistry, Chinese University of Hong Kong, Hong Kong, China)
- Prof. Santosh J. Gharpure (Indian Institute of Technology, Bombay, India)
- Prof. Stellios Arseniyadis (Queen Mary University of London, United Kingdom)

Industrial Collaborations

- Halcyon Pvt. Ltd.

- Rasayan Inc, California, United States of America on the metal-mediated modification of nucleotides.
- Gem Aromatics Ltd. On the synthesis of important organic molecules via Greener approach.
- Reliance Industries Limited
- Transasia Pvt. Ltd.
- Navin Fluorine International Limited
- Sapala Organic Pvt Ltd.
- Shogun Organics Pvt. Ltd.

RESEARCH PUBLICATIONS

- 1) **Beeby***, A., Bettington, S., **Fairlamb***, I. J. S., Goeta, A. E., Kapdi A. R. and Thompson, A. L.: A new precatalyst for the Suzuki reaction- a pyridyl-bridged dinuclear palladium complex as a novel source of mono-ligated palladium(0). *New. J. Chem.* **2004**, 28, 600-605. (Cited in *Chem Inform*, **2004**, 35, 103)
- 2) **Fairlamb***, I.J.S., Kapdi, A. R., Lynam, J. M., **Taylor***, R. J. K. and Whitwood, A. C.: Bis (triphenylphosphine) palladium (II) Succinimide- a new precatalyst for Suzuki cross coupling. *Tetrahedron* **2004**, 60, 5711-5718. (Cited in *Chem Inform*, **2004**, 35, 94)
- 3) Chaignon, N., **Fairlamb***, I.J.S., Kapdi, A.R., **Taylor***, R.J.K. and Whitwood, A.C.: Bis (triphenylphosphine) palladium (II) Succinimide an easily prepared precatalyst for Suzuki-Miyaura coupling reactions. *J. Mol. Cat. A: Chem.* **2004**, 219, 191-199. (cited **11 times**)
- 4) **Fairlamb***, I.J.S., Kapdi, A.R. and Lee, A.: η^2 -dba complexes of palladium (0): electron rich dba ligands enhance the reactivity of 'PdLn' catalyst species in Suzuki-Miyaura coupling. *Org. Lett.* **2004**, 6, 4435-4438. (**78 citations**)
- 5) **Fairlamb***, I.J.S., Kapdi, A.R., Lee, A., Sanchez, G., Lopez, G., **Serrano***, J. L., Garcia, L., Perez, J. and Perez. E.: Mono- and binuclear cyclometallated palladium(II) complexes containing bridging (N, O) and terminal (N-) imidate ligands: Air stable, thermally robust and recyclable catalysts for cross-coupling processes. *Dalton Trans.* **2004**, 3970-3981. (cited **27 times**)
- 6) Crawforth, C. M., Burling, S., **Fairlamb***, I.J.S., Kapdi, A.R., **Taylor***, R.J.K. and Whitwood, A. C.: Oxidative addition of N-halosuccinimides to palladium (0): The discovery of neutral palladium (II) imidate complexes which enhance Stille coupling of allylic and benzylic halides. *Tetrahedron* **2005**, 61, 9736-9751. (Cited in *Chem Inform*, **2006**, 37, 57)
- 7) **Fairlamb***, I. J. S., Kapdi, A. R., Serrano, J. L., Taylor R. J. K. and Sanchez, G.: Air stable, phosphine-free anionic palladacyclopentadienyl catalysts: Remarkable halide and pseudohalide effects in Stille coupling. *Adv. Synth. Cat.* **2006**, 348, 405-412. (Cited in *Chem Inform*, **2006**, 37, 52)
- 8) Macé, Y., Kapdi, A. R., **Fairlamb***, I. J. S. and **Jutand***, A.: Influence of the dba substitution on the reactivity of Pd(0) complexes generated from Pd⁰₂(dba-n,n' Z)₃ or Pd⁰(dba-n,n' Z)₂ and PPh₃ in oxidative addition with iodobenzene. *Organometallics* **2006**, 25, 1795-1800. (cited **31 times**)
- 9) **Fairlamb***, I. J. S., Kapdi, A. R., Lee, A. F., McGlacken, G. P., Weissburger F., de Vries, A. H. M. and Schmieder-van de Vondervoort, L.: Exploiting non-innocent (E,E)-dibenzylidene acetone (dba) effects in palladium(0) mediated cross-coupling reactions: modulation of the electronic properties of dba affects catalyst activity and stability in ligand and ligand-free reaction systems. *Chem. Eur. J.* **2006**, 12, 8750 – 8761. (Cited **40 times**)
- 10) **Fairlamb***, I. J. S. and Kapdi, A. R.: Synthesis of substituted dibenzylidene acetone (dba) derivatives. *Synthetic pages* **2004**, 221.
- 11) Burns, M.J., **Fairlamb***, I.J.S., Kapdi, A. R., Sehna, P. and Taylor*, R. J. K.: A simple palladium(II) precatalyst for Suzuki-Miyaura couplings: efficient reactions of benzylic, aromatic and heteroaromatic coupling partners. *Org. Lett.* **2007**, 9, 5397-5400. (Cited in *Chem Inform*, **2008**, 39, 93)
- 12) **Ackermann***, L., Vicente, R., Kapdi, A. R.: Review Article- Transition Metal-Catalyzed Direct Arylations of (Hetero)Arenes via C–H Bond Cleavage. *Angew. Chem. Int. Ed.* **2009**, 48, 9792-9827; *Angew. Chem.* **2009**, 121, 9976–10012. (Cited **209 times**) (Cover Page Article; Cited in *Chem Inform*, **2010**, 41, 243)
- 13) **Ackermann***, L., Weschler, C., Kapdi, A. R., Althammer, A.: Air-Stable DiaminophosphineSulfides as Preligands for Nickel-Catalyzed Cross-Couplings of Fluoroarenes. *Synlett*, **2010**, 294-298. (Cited in *Chem Inform*, **2010**, 41, 76 and *Synfacts*)
- 14) **Ackermann***, L., Potukuchi, H., Kapdi, A.R., Schulzke, C.: Efficient Kumada Cross-Coupling of 2-Pyridyl Grignard Reagent with Aryl Bromides. *Chem. Eur. J.* **2010**, 16, 3300-3303. (Cited in *Chem Inform*, **2010**, 41, 158)
- 15) **Ackermann***, L., Kapdi, A. R., Schulzke, C.: Air-Stable Secondary Phosphine Oxide or Chloride (Pre)Ligands for Cross-Couplings of Unactivated Alkyl Chlorides. *Org. Lett.* **2010**, 12, 2298–

2301.(Cited on Organic Chemistry Portal <http://www.organic-chemistry.org/abstracts/lit2/911.shtm>;
Cited in *Chem Inform*, **2010**, *41*, 47))

- 16) **Ackermann***, L., Kapdi, A. R., Kornhass, C.; Fenner, S., Schulzke, C.: Highly Active Air-Stable Dimeric Palladium(II)- Phosphonite Complex for Efficient Kumada-Corriu Cross-Coupling of (Hetero)Aryl and Alkenyl Tosylates. *Chem. Eur. J.* **2011**, *17*, 2965-2971. (Cited in *Chem Inform*, **2011**, *42*, 86)
- 17) **Ackermann***, L.; Barfusser, S.; Kornhass, C.; Kapdi, A. R. C-H bond Arylations and Benzylations on Oxazol(in)es with a Palladium Catalyst of a Secondary Phosphine Oxide. *Org. Lett.* **2011**, *13*, 3082-3085. (Cited in *Chem Inform*, **2011**, *42*, 131)
- 18) **Kapdi***, A. R.; Taylor, R. J. K.; **Fairlamb***, I. J. S. Highly Regio- and Chemoselective Palladium(0)- Mediated Allylic Substitution of Difunctional Allylic Halides with Phenols. *Tetrahedron Lett.* **2010**, *51*, 6378-6380.
- 19) Sirisha, P.; **Pednekar***, S.; Kapdi, A. R. Facile *p*-TSA Catalyzed One Pot Synthesis of Tetrahydropyrimidinones Derivatives in Water and Under Solventless Condition. *Bull. Catal. Soc. India* **2010**, *9*, 138-141.
- 20) **Kapdi***, A. R. Innocent Or Non-Innocent: Towards Understanding The Role Of DBA In Palladium(0) Mediated Cross-Coupling Reactions. Review article in *Bull. Catal. Soc. India* **2010**, *9*, 12-28.
- 21) **Sánchez***, G.; García, J.; Martínez, M.; Pérez, J.; García, L.; Serrano, J. L.; Kapdi, A. R. Bis(imidate)palladium(II) complexes with labile ligands. Mimics of classical precursors? *Dalton Trans.* **2011**, *40*, 12676-12689. (Cover Page Article)
- 22) Sirisha, P.; **Pednekar***, S.; Kapdi, A. R.; Naik, M. Facile One Pot Synthesis of Pyranobenzopyran and Their Derivatives. *J. Chem. Sci.* **2011**, *123*, 667-672. (cited in *Chem Inform*, **2012**, *43*, 123)
- 23) Santana, M. D.; García-Bueno, R.; García, G.; Sánchez, G.; García, J.; Naik, M.; Pednekar, S.; **Kapdi, A. R.***; Pérez, J.; García, L.; Pérez L.; **Serrano, J. L.***. A new route towards cyclopalladated complexes with saccharinate ligands: luminescence properties and catalytic activity. *Dalton Trans.* **2012**, *41*, 3832-3842.
- 24) **Kapdi, A. R.*** In *Organometallic Aspects of C-H bond activation/functionalization: Specialist Periodical Reports- Organometallic Chemistry* (Eds.: I. J. S. Fairlamb) RSC, *Organomet. Chem.* **2012**, *38*, 47-73 (cited in *Chem Inform*, **2013**, 44).
- 25) **Ackermann***, L., Kapdi, A. R., Kozhuskov, S. I., Potukuchi, H. In *Synthesis via C-H Bond Functionalization: In Handbook of Green Chemistry Series (Green Synthesis)* (Ed.: C. J. Li) Wiley, New Weinheim, **2012**, 259-305.
- 26) **Kapdi, A. R.***, **Fairlamb, I. J. S.*** In *Alkynylzinc and Other Cross-Coupling: C-C Cross-Coupling and Heck Reactions. Science of Synthesis-Houben Weyl Series* (Eds.: G. Molander) Thieme, Invited Book Chapter **2012**.
- 27) **Serrano, J. L.***, Perez, J., Garcia, L., Sanchez, G., Garica, J., Tyagi, K., **Kapdi, A. R.*** New Phospha-Palladacycles: Efficient Catalysts for Formylation of Aryl Chlorides. *RSC Advances* **2012**, *2*, 12237-12244.
- 28) Shah, P. A.; Garcia, J.; Santana, M. D.; Serrano, J. L.; Naik, M.; Pednekar, S.; **Kapdi, A. R.***. [Pd(PPh₃)₂(Saccharinate)₂]- General Catalyst for Suzuki-Miyaura, Negishi cross-coupling and C-H bond functionalization of coumaryl and pyronesubstrates. *Tetrahedron* **2013**, *69*, 1446-1453. (Cited in *Chem Inform*, **2013**, *44*, 136)
- 29) **Kapdi, A. R.***, **Fairlamb, I. J. S.*** Synthesis of Macrocyclic Ketones Exploiting Palladium-Catalyzed Activation of Carboxylic Acids as an Enabling Step. *New J Chem.* **2013**, *37*, 961-964 (cited in *Chem. Inform*, **2013**, 44).
- 30) Kapdi, A. R., Whitwood, A. C., Burns, M. J., **Fairlamb, I. J. S.***. Dinuclearpalladium(0) complexes containing symmetrical and unsymmetrical aryl substituted *E,E*- dibenzylideneacetone ligands: The importance of aryl substituents and 1,4-dien-3-one conformation. *J. Am. Chem. Soc.* **2013**, *135*, 8388-8399.
- 31) **A. R. Kapdi***, C. Jain, T. Padte, U. Shevde, S. Pednekar, C. Fischer and C. Schulzke, Tween-80: A Biodegradable and Recyclable Phase Transfer Catalyst for Microwave Assisted Synthesis of Highly Substituted Dicoumarols. *Int. J. Green Chem. Bioprocess* **2013**, *3*, 17-23.
- 32) **A. R. Kapdi***, A. Karbelkar, M. Naik, S. Pednekar, C. Fischer, C. Schulzke^c and M. Tromp: Efficient Synthesis of coumarin based Tetra and Pentacyclic rings using Phospha-Palladacycles. *RSC Advances* **2013**, *3*, 20905-20912..

- 33) **Kapdi, A. R.**, Chaughule, R. S., *Nanotechnology: Bridging Aspects of Catalysis, Energy and Drug Delivery Contents and Scope: Nanoparticles for Catalysis, Energy and Drug Delivery* (Eds.: R. G. Chaughule and A. R. Kapdi) American Scientific Publishers, **2014**.
- 34) **Kapdi, A. R.*** In *Metal Nanoparticles: Green Catalysis in Water-Nanoparticles for Catalysis, Energy and Drug Delivery* (Eds.: R. G. Chaughule and A. R. Kapdi) American Scientific Publishers, **2014**.
- 35) **Kapdi, A. R.***, Organometallic Aspects of Transition-Metal Catalysed Regioselective C–H Bond Functionalisation of Arenes and Heteroarenes. *Dalton Trans.* **2014**, *43*, 3021-3034 (Invited Article).
- 36) **Kapdi, A. R.***, Gayakhe, V., Sanghvi, Y. S., García, J., Lozano, P., da Silva, I., Pérez, J. and Luis Serrano, J. New water soluble Pd-Imidate complexes as highly efficient catalysts for the synthesis of C5-arylated pyrimidine nucleosides via Suzuki-Miyaura cross-coupling. *RSC Advances* **2014**, *4*, 17567-17572.
- 37) **Kapdi A. R.*** Fairlamb, I. J. S. Anti-cancer palladium complexes: a focus on PdX₂L₂ and palladacycles. Invited article to *Chem. Soc. Rev.* **2014**, *43*, 4751-4777.
- 38) **Kapdi, A. R.**, Dhargar, G., Serrano, J. L., Perez, J., Garcia, L., Fairlamb, I. J. S.* [Pd(C^N)(X)(PPh₃)] palladacycles react with 2,4,6-trifluorophenyl boronic acid without exogenous base to give stable transmetallation products of the type [Pd(C^N)(2,4,6-F₃C₆H₂)(PPh₃)]. *Chem. Commun.* **2014**, *50*, 9859.
- 39) **Kapdi, A. R.*** Prajapati, D. Regioselective Palladium-Catalysed Cross-Coupling Reactions: A Powerful Synthetic Tool. Invited review for Prof. Richard Taylor's 65th Birthday commemoration. *RSC Advances*. **2014**, *4*, 41245.
- 40) **Kapdi, A. R.*** Dhargar, G., Serrano, J. L., Haro, J. D., Lazano, P., Fairlamb, I. J. S. [Pd(Phbz)(X)(PPh₃)] palladacycles promote the base-free homocoupling of arylboronic acids in air at room temperature. *RSC Advances*. **2014**, *4*, 55305-55312.
- 41) **Kapdi, A. R.*** Ardhapure, A., Sanghvi, Y. S. Modulation of the Electronic Properties of Non-innocent (*E,E*)-Dibenzylideneacetone for Palladium(0)-Mediated Heck-Alkenylation of 5-Iodo-2'-deoxyuridine and Scale-up Studies. *Synthesis* **2015**, *47*, 1163-1169.
- 42) **Serrano, J. L.*** Perez, J., Garcia, L., Sanchez, G., Garcia, J., Lozano, P., Zende, V., **Kapdi, A. R.*** N-heterocyclic-carbene complexes readily prepared from di- η -hydroxo-palladacycles catalyze the Suzuki arylation of 9-bromophenanthrene. *Organometallics* **2015**, *34*, 522.
- 43) **Kapdi, A. R.*** Ardhapure, A., Sanghvi, Y. S., Serrano, J. L., Sánchez, J., García, J., Lozano, P. Pd-imidate complexes as recyclable catalysts for the synthesis of C5-alkenylated pyrimidine nucleosides via Heck cross-coupling reaction. *RSC Advances*. **2015**, *5*, 24558-24563.
- 44) **Kapdi, A. R.*** Gayakhe, V., Sanghvi, Y. S., Fairlamb, I. J. S. Catalytic C–H Bond Functionalisation of Purine and Pyrimidine Nucleosides: A Synthetic and Mechanistic Perspective. Accepted to *Chem. Commun.*, **2015**, *51*, 11944-11960. (**Inside cover page article**).
- 45) Prajapati, D., Schulzke, C., Kindermann, M., **Kapdi, A. R.*** Selective Palladium-Catalysed Arylation of Dibromopyridine Using N-Heterocyclic Carbene Ligands. *RSC Advances*. **2015**, *5*, 53073-53085.
- 46) **Kapdi, A. R.**, Akkilagunta, V., Patil, M. Magnetically recyclable iron oxide nanoparticles for the α -cyanation of amines under acid free conditions and the formal synthesis of Praziquantel. *RSC Advances* **2015**, *5*, 54505.
- 47) Zende, V., Schulzke, C., **Kapdi, A. R.*** Pincer CNC bis-N-Heterocyclic Carbenes: Robust Ligands for Palladium-Catalysed Suzuki-Miyaura Arylation of BromoAnthracene and Related Substrates. *Org. Chem. Front.* **2015**, *2*, 1397-1410.
- 48) Gayakhe, V., Ardhapure, A., **Kapdi, A. R.*** Sanghvi, Y. S., Serrano, J. L., Garcia, L., Perez, J., Garcia, J., Fischer, C., Schulzke, C. Water soluble Pd-imidate complexes: Broadly applicable catalysts for the synthesis of chemically modified nucleosides via Pd-catalysed cross-coupling. *J. Org. Chem.* **2016**, *81*, 2713-2729.
- 49) Gayakhe, V., Ardhapure, A., **Kapdi, A. R.*** Sanghvi, Y. S., Serrano, J. L., Schulzke, C. C-C Bond Formation: Synthesis of C5 substituted Pyrimidine and C8 Substituted Purine Nucleosides Using Water Soluble Pd-imidate Complex. *Current Protocols in Nucleic Acid Chemistry*. **2016**, *65*, 1.37.
- 50) Serrano, J. L., Pérez, J. García, L., Pérez, E., Sánchez, G., **Kapdi, A. R.*** A convenient route to prepare mono- and dinuclear 2-Benzoylpyridine palladacycles with imidate ligands. Submitted to *J. Organomet. Chem.* **2016**, *814*, 57-62.
- 51) Bhilare, S., Gayakhe, V., Ardhapure, A., Sanghvi, Y. S., Schulzke, C., Borozdina, Y., **Kapdi, A. R.*** 'Novel Water-Soluble Phosphatriazenes: Versatile Ligands for Suzuki-Miyaura, Sonogashira and Heck Reactions of Nucleosides' *RSC Adv.* **2016**, *6*, 83820.

- 52) Sable, V., Maindan, K., Shejwalkar, P., Hara, K., **Kapdi, A. R.***Active Palladium Colloids via Palladacycle Degradation as Efficient Catalysts for Oxidative Homocoupling and Cross-Coupling of Aryl Boronic Acids.*ACS Omega*, **2017**, 2, 204-217.
- 53) Gayakhe, V., Gholap, A., **Kapdi, A. R.*** In *Mechanistic/ Organometallic Aspects of Palladium Catalyzed C-H Bond Functionalization.: Strategies for Palladium-Catalyzed Non-Directed and Directed C-H Bond Functionalization*. Volume 1: Latest Trends in Palladium Chemistry) Eds. A. R. Kapdi, D. Maiti, Elsevier, New York, **2017**, pp 417-452.
- 54) **Kapdi, A. R.,*Maiti, D.*** Dey, A. Introduction to Non-directed and Directed C-H bond functionalisation: **Strategies for Palladium-Catalyzed Non-Directed and Directed C-H Bond Functionalization**. (Volume 1: Latest Trends in Palladium Chemistry) Eds. Kapdi A. R., Maiti, D. Elsevier, New York, **2017**, pp 1-8.
- 55) Fairlamb, I. J. S., **Kapdi, A. R.*** In *Directed C-H bond functionalization strategies for synthesis.: Strategies for Palladium-Catalyzed Non-Directed and Directed C-H Bond Functionalization*. Volume 1: Latest Trends in Palladium Chemistry) Eds. A. R. Kapdi, D. Maiti, Elsevier, New York, **2017**, pp 9-48.
- 56) Dhangar, G., Serrano, J. L., Schulzke, C., Gunturu, K. C., **Kapdi, A. R.***Palladacycle-Catalyzed Triple Suzuki Coupling Strategy for the Synthesis of Anthracene Based OLED Emitters.*ACS Omega***2017**, 2, 3144-3156.
- 57) Gholap, A., Maity, S., **Maiti, D.,* Schulzke, C., Kapdi, A. R.***Synthesis of 2,3-disubstituted quinazolinones via intramolecular Cu-catalysed C_{sp}³-H activation/cyclisation.*Org. Biomol. Chem.*, **2017**, 15, 7140-7146.
- 58) Lorion, M. M., Maindan, K., Kapdi, A. R.,* Ackermann, L.*Heteromultimetallic Catalysis for Sustainable Organic Syntheses.*Chem. Soc. Rev.*,**2017**, 46, 7399-7420.
- 59) Gayakhe, V., **Kapdi, A. R.**, Borozdina, Y., **Schulzke, C.*** Crystal Structure of 5-(Dibenzofuran-4-yl)-2'-deoxyuridine. *Acta Crystallographica E*. **2017**,E73, 1493-1496.
- 60) Ardhapure, A. **Kapdi, A. R.**, Borozdina, Y., Sanghvi, Y. S., **Schulzke, C.*** Crystal Structure of 8-(4-Methylphenyl)-2'-deoxyadenosine. *Acta Crystallographica E*.**2018**, E74, 1-5.
- 61) Wong, S. M., Choy, P. Y., **Kapdi, A. R.,* Kwong, F. Y.,*** Recent Developments of Palladium-Catalysed Non-Directed Coupling of (Hetero)arenes C-H Bond with C-Z (Z = B, Si, Sn, S, N, and H) bonds. *Org. Chem. Front.***2018**, 5, 288-321.
- 62) Murthy Bandaru, S., Bhilare, S., Chrysochos, N., Gayakhe, V., Trentin, I., Schulzke, C., **Kapdi, A. R.***, Pd/PTABS: Catalyst for Room Temperature Amination of Heteroarenes. *Org. Lett.* **2018**, 20, 473-476.
- 63) Bandaru, S. M., **Kapdi, A. R.** and Schulzke, C. Crystal structure of 4-(Pyrazin-2-yl)morpholine. *Acta Crystallographica E*. **2018**, E74, 137-140.
- 64) Patil, M., Kapdi, A. R., **Vijay Kumar, A.***A Recyclable Supramolecular - Ruthenium Catalyst for the Selective Aerobic Oxidation of Alcohols in water: Application to an on-water Total Synthesis of Brittonin A.*ACS Sustainable Chem.Eng.***2018**, 6, 3264.
- 65) Gayakhe, V., Bhilare, S., Yashmeen, A., **Kapdi, A. R.,*** Fairlamb, I. J. S. In *Transition Metal-Catalysed Modifications of Nucleosides: Palladium-Catalyzed Modification of Nucleosides, Nucleotides and Oligonucleotides*. Volume 2: Latest Trends in Palladium Chemistry) Eds. A. R. Kapdi, D. Maiti, Y. S. Sanghvi. Elsevier, New York, **2018**pgs 167-195.
- 66) Ardhapure, A. V., Gholap, A., **Kapdi, A. R.,*** Schulzke, C. In *Stille Cross-Coupling Reaction: Early years to the current state-of the art.: Palladium-Catalyzed Modification of Nucleosides, Nucleotides and Oligonucleotides*. Volume 2: Latest Trends in Palladium Chemistry) Eds. A. R. Kapdi, D. Maiti, Y. S. Sanghvi. Elsevier, New York, **2018**Pgs 19-36.
- 67) Patil, M., Dedhia, N., Kapdi, A. R., Kumar, A. V. Cobalt(II)/N-hydroxyphthalimide Catalyzed Cross-Dehydrogenative Coupling Reaction at Room Temperature Under Aerobic Condition. *J. Org. Chem.*,**2018**,83, 4477-4490.
- 68) Sanghvi, Y. S., Kapdi, A. R. In Future of Drug Discovery: Importance of modified nucleosides, nucleotides and oligonucleotides: **Palladium-Catalyzed Modification of Nucleosides, Nucleotides and Oligonucleotides**. Volume 2: Latest Trends in Palladium Chemistry) Eds. A. R. Kapdi, D. Maiti, Y. S. Sanghvi. Elsevier, New York, **2018**pgs 1-18.
- 69) Bangde, P., Prajapati, D., Dandekar-Jain, P., **Kapdi, A. R.** New Water soluble N-Heterocyclic carbene palladium complexes as promising anti-tumouragents: investigating DNA and protein interactions.*Chem. Select*, **2018**, 3, 5709-5716.
- 70) Sable, V., Maindan, K., Bhilare, S., **Kapdi, A. R.**, Chrysochos, N., Schulzke, C. An Active Palladium Colloidal Catalyst For the Selective Oxidative Heterocoupling of (Hetero)Aryl Boronic Acids. *Chem.*

Asian J. **2018**, *13*, 2489-2498. as an invited article for the themed issue 'Homogeneous Catalysis from Asia: Emerging scientists'.

- 71) Bhilare, S., Bandaru, S., Kapdi, A. R., Sanghvi, Y. S., Schulzke, C. Pd/PTABS: An Efficient Water Soluble Catalytic System for the Amination of 6-Chloropurine Ribonucleoside and Synthesis of Alogliptin. *Curr. Protoc. Nucleic Acids Chem.* **2018**, *74*, 58.
- 72) Wang, W., Lorion, M., Shah, J., Kapdi, A. R., Ackermann, L. Late stage peptide diversification by position-selective C-H activation. *Angew. Chem. Int. Ed.* **2018**, *57*, 14700-14717.
- 73) Bhilare, S., MuthyBandaru, S., Shah, J., Chrysochos, N., Schulzke, C., Sanghvi, Y. S., Kapdi, A. R. Pd/PTABS: Low Temperature Etherification of Chloroheteroarenes. *J. Org. Chem.* **2018**, *83*, 13088-13102.
- 74) Shelke, Y. G., Yashmeen, A., Gholap, A., Gharpure, S. J., Kapdi, A. R. Homogeneous catalysis: Powerful technology for the modification of Bio-Active molecules. *Chem. Asian J.* **2018**, *13*, 2991-3013.
- 75) Zende, V., Girase, T. S., Chrysochos, N., Kapdi, A. R., Schulzke, C. Crystal structure of 1-butyl-3-(2-((2,3-dihydro-1H-indenyl-5-yl)amino)-2-oxo-ethyl)-1H-imidazol-3-ium chloride. *Acta Crystallographica E.* **2018**, *E74*, 1665-1668.
- 76) **Kapdi, A. R.**,* Rajput, S., Patwardhan, A. V. Dendritic Polymers and Multifunctional Supports. "Applications of One Dimensional Nanomaterials" Ed. Chaughule, R. S. American Scientific Publishers, USA. **2019**.
- 77) Gupta, G., Bhilare, S., Maiti, D., Kapdi, A. R. Miscellaneous applications of Palladacycles. **Palladacycles: Catalysis and Beyond**. Volume 3: Latest Trends in Palladium Chemistry) Eds. A. R. Kapdi, D. Maiti. Elsevier, New York, **2019** pg 371-395.
- 78) Bangde, P., Prajapati, D., Dandekar-Jain, P., Fairlamb, I. J. S., Kapdi, A. R. Palladacycles as potential anticancer agents. **Palladacycles: Catalysis and Beyond**. Volume 3: Latest Trends in Palladium Chemistry) Eds. A. R. Kapdi, D. Maiti. Elsevier, New York, **2019** pg 343-370.
- 79) Bhujbal, Y.B., Vadagaonkar, K. S., Kapdi, A. R. Pd/PTABS: Catalyst for Efficient C-H (Hetero)arylation of 1,3,4-Oxadiazoles Using Bromo(Hetero)arenes, *Asian J. Org. Chem.*, **2019**, *8*, 289-295.
- 80) Zende, V., Girase, T. R., Chrysochos, N., Schulzke, N. Amido-functionalized N-heterocyclic carbene ligands and corresponding palladium complexes: Synthesis, characterization and catalytic activity. *J. Organomet. Chem.* **2019**, *888*, 44-53.
- 81) Girase, T., Kapdi, A. R. Novel Carbazole-based N-Heterocyclic Carbene Ligands for Accessing Synthetically Relevant Stilbenes via Pd-Catalyzed Coupling Processes. *Chem. Asian J.* **2019**, *14*, 2611-2619.
- 82) Murthy Bandaru, S. S., Bhilare, S., Cardozo, J., Chrysochos, N., Schulzke, C., Sanghvi, Y. S., Gunturu, K. C., Kapdi, A. R. Pd/PTABS: Low temperature thioetherification of chloroheteroarenes. *J. Org. Chem.* **2019**, *84*, 8921-8940..
- 83) Sable, V., Sharma, A., Shah, J., Kapdi, A. R. Pd Colloids-Catalyzed General and Selective Oxidative Esterification of Benzylic alcohols. *Chem Asian J.* **2019**, *14*, 2639-2647
- 84) Gupta, G., Shah, J., Vadagaonkar, K., Lavekar, A., Kapdi, A. R. Heterobimetallic Cooperative catalysis for the synthesis of heteroarenes. *Org. Biomol. Chem.* **2019**, *17*, 7596. (Special issue on New Talent in the World)
- 85) Bhilare, S., Shah, J., Gaikwad, V., Gupta, G., Sanghvi, Y. S., Bhanage, B. M., Kapdi, A. R. Pd/PTABS: An efficient catalytic system for the aminocarbonylation of nucleosides. *Synthesis* **2019**, *51*, 4239-4248
- 86) Bhujbal, Y., Vadagoankar, K., Sanghvi, Y. S., Gholap, A., Dandela, R., Kapdi, A. R. HFIP Promoted Low Temperature S_NAr of ChloroHeteroarenes Using Thiols and Amines. *J. Org. Chem.* **2019**, *84*, 15343-15354.
- 87) Girase, T., Bhilare, S., Bandaru S. S. M., Chrysochos, N., Schulzke, C., Sanghvi, Y. S., Kapdi, A. R. Carbazole-Based N-Heterocyclic Carbenes for the Promotion of Copper-Catalyzed Palladium-Free Homo-/Hetero-Coupling of Alkynes and Sonogashira Reactions. *Asian J. Org. Chem.* **2020**, *9*, 274-291.
- 88) Bhilare, S., Shah, J., Kapdi, A. R. 3,5-Diaza-1-azonia-7-phosphatricyclo[3.3.1.1^{3,7}]decane, 1-(4-sulfobutyl)-, inner salt Encyclopedia of Reagents in Organic Synthesis (EROS) **2020**.
- 89) Gupta, G., Girase, T., Kapdi, A. R. Diels-Alder reactions in Ionic Liquids: Encyclopedia of Ionic Liquids. Ed. Bhanage, B. M. Springer, **2020**.
- 90) Girase, T., Patil, K. S., Kapdi, A. R., Gupta, G. R. Palladium acetate/[CPy][Br]: an efficient catalytic system towards the synthesis of biologically relevant stilbene derivatives via Heck cross-coupling reaction. *Chem. Select*, **2020**, *5*, 4251-4262.

- 91) Gholap, A., Bag, S., Pradhan, S., Kapdi, A. R., Maiti, D. Diverse meta-C-H functionalization of free amides. *ACS Catal.*, **2020**, *10*, 5347-5352.
- 92) Shet, H., Bhilare, S., Sanghvi, Y. S., Kapdi, A. R. Development in the synthesis of efficient palladium catalysts for the modification of nucleosides, heteroarenes with commercial scalability. *Molecules*, **2020**, *25*, 1645 (Invited article for a special issue on Transition Metal-Catalyzed Reactions in Heterocyclic Synthesis).
- 93) Ardhapure, A. A., Gayakhe, V., Bhilare, S., Kapdi, A. R., Sanghvi, Y. S., Bag, S. S., Gunturu, C. Extended fluorescent uridine analogues: Synthesis, photo-physical properties and selective interaction with BSA protein. *New J. Chem.* **2020**, 14744-14754.
- 94) Bhilare, S., Kori, S., Shet, H., Balaram, G., Mahendar, K., Sanghvi, Y. S., Kapdi, A. R. Scale-up of a Heck alkenylation reaction: Application to the Synthesis of an Amino-modified nucleoside "Ruth Linker" *Synthesis PSP* **2020**, *52*, 3595-3603.
- 95) Bandaru, S. M., Shah, J. A., Bhilare, S., Schulzke, C., Kapdi, A. R., Hierso, J.C. Phosphine Ligands bearing ferrocenyl skeleton: Advances in catalytic cross-couplings. Book chapter **2020**.
- 96) Shet, H., Bhilare, S., Sanghvi, Y. S., Kapdi, A. R. Tandem homometallic and multimetallic catalysis for nucleoside modification. *Curr. Protoc. Nucleic Acid Chem.* **2020**, *83*, e117.
- 97) Patil, M., Shah, J., Vijay Kumar, A., Kapdi, A. R. Photo-induced sp³ C-H bond arylation, cyanation and nitroalkylation of tetrahydroisoquinolines (THIQs) under visible light irradiation using a combination of NHPI and Rose Bengal. *Chem. Asian J.* **2020**, *15*, 4302-4306.
- 98) Serrano, J. L., Garcia, L., Perez, J., Lozano, P., Correia, J., Sanghvi, Y. S., Kapdi, A. R. Water-soluble imine-palladacycles as phosphine-free efficient precatalysts for low temperature Suzuki-Miyaura synthesis of nucleoside analogues. *Organometallics* **2020**, *39*, 4479-4490.
- 99) Shet, H., Parmar, U., Bhilare, S., Kapdi, A. R. A comprehensive review of the caged phosphines: Synthesis catalysis and future perspective. *Org. Chem. Front.* **2021**, *8*, 1599-1656.
- 100) Chaubey, N., Kapdi, A. R., Maity, B. Organophotoredox-Catalyzed C-H Alkylation of Imidazoheterocycles with Malonates: Total Synthesis of Zolpidem. *Synthesis* **2021**, *53*, 1524-1530
- 101) Bhilare, S., Murthy Bandaru, S., Schulzke, C., Kapdi, A. R. 1,3,5-Triaza-7-phosphaadamantane (PTA) derived caged phosphines for palladium-catalyzed selective functionalization of nucleosides and heteroarenes. *Chem. Rec.* **2021**, *21*, 188-203.
- 102) Shet, H., Kapdi, A. R. Late stage C-H functionalization: Synthesis of natural products and pharmaceuticals. In *Transition-Metal-Catalyzed C-H Functionalization of Heterocycles*. Eds. Punniyamurthy, T., Kumar A. Wiley, New Jersey, **2021**.
- 103) Sable, D., Vadagaonkar, V., Kapdi, A. R., Bhanage, B. M. Utilization of carbon dioxide as C1 source for the synthesis of fine chemicals and value-added chemicals. *Org. Biomol. Chem.* **2021**, *19*, 5725-5757.
- 104) Parmar, U., Somvanshi, D., Kori, S., Desai, A., Dandela, R., Maity, D. K., Kapdi, A. R. Cu(II)/PTABS: Versatile Water-Soluble Recyclable Catalyst System for Pd-Free Room Temperature Amination of Chloroheteroarenes in Water. *J. Org. Chem.* **2021**, *86*, 8900-8925.
- 105) Rajput, S., Muley, S., Kulkarni, K. S., Kapdi, A. R., Patwardhan, A. V. Synthesis of versatile diglycolamide grafted dendritic polymer and using it as a ligand for metal partitioning. *J. Ind. Chem. Soc.* **2021**, *98*, 100084.
- 106) Chaubey, N. R.; Kapdi, A. R. HFIP promoted one-pot thio-heteroarylation of imidazopyridines under metal- and base-free conditions. *Chem. Commun.* **2021**, *57*, 8202-8205.
- 107) Parmar, U., Kapdi, A. R. 3,5-Diaza-1-azonia-7-phosphatricyclo[3.3.1.1^{3,7}]decane, 1-(4-sulfobutyl)-, inner salt Encyclopedia of Reagents in Organic Synthesis (EROS) **2021** (updated).
- 108) Kori, S., Bhujbal, Y., Vadagaonkar, K. S., Kapdi, A. R., Prasad Kommireddy, S., Gharpure, S. Room temperature palladium-catalyzed C-H bond functionalization of benzothiazoles with iodo(hetero)arenes. *Chem. Commun.* **2022**, *58*, 847-850.
- 109) Serrano, J. L., Pérez, A., Pérez, J., Lozano, P., Gaware, S., Kori, S., Dandela, R., Sanghvi, Y. S., Kapdi, A. R. Quadrol- Pd(II) complexes: phosphine-free precatalysts for the room-temperature Suzuki-Miyaura synthesis of nucleoside analogues in aqueous media. *Dalton Trans.* **2022**, *51*, 2370-2384.
- 110) Bangde, Prachi; Pant, Tejal; Prajapati, Dharmendra ; Kapdi, Anant; Jain, Ratnesh; Dandekar, Prajakta, Water soluble NHC palladium complex as anti-cancer agents for triple negative breast cancer cells and study its effect on 3D spheroids. Submitted **2022**
- 111) Kapdi, Anant; Sable, Dhanashri; Gholap, Aniket; Prasad Kommyreddy, SaiDurga; Fartade, Dipak; Gharpure, Santosh; Schulzke, Carola. Heteroatom-Assisted Regio- and Stereoselective Palladium-Catalyzed Carboxylation of 9-Allyl Adenine. Submitted **2022**.

PATENTS

Tiwari, S., Pednekar, S., Kapdi, A. R. 'Tetrazolinohydrazino pyrazolin-5-one, useful antibacterial molecule' Patent filed PCT. IND 2012.

BOOKS EDITED

1. Nanoparticles for Catalysis, Energy and Drug Delivery (American Scientific Publishers, USA) Dr. Anant R. Kapdi and Dr. Ramesh S. Chaughule (2015).
2. "Strategies for Palladium-Catalyzed Non-Directed and Directed C-H Bond Functionalization" Elsevier, New York, 2017. Part I of a III volume series on Latest Trends in Palladium Chemistry. Editor: Dr. A. R. Kapdi and Dr. D. Maiti (2017)
3. "Strategies for Palladium-Catalyzed Modification of Nucleosides, Nucleotides and Oligonucleotides" Elsevier, New York, 2018. Part II of a III volume series on Latest Trends in Palladium Chemistry. Editor: Dr. A. R. Kapdi and Dr. D. Maiti, Dr. Y. S. Sanghvi (2018)
4. "Palladacycles: Catalysis and Beyond" Elsevier, New York, 2019. Part III of a III volume series on Latest Trends in Palladium Chemistry. Editor: A. R. Kapdi and Dr. D. Maiti (To be Published by June 2019)

CONFERENCES, Seminars and invited talks

- 7th International Green Solvents Conference: Hosted by Dechema at **Dresden** from 19th October to 22nd October 2014 (Poster presented: *New water soluble Pd-Imidate complexes: Catalysts for efficient modification of nucleosides in neat water.*)
- 10th International Symposium on Bio-Organic Chemistry: Hosted by Indian Institute of Science and Educational Research, **Pune** from 11th January 2015 till 15th January 2015 (Poster presented: *Pd-Imidate complexes: Catalysts for the synthesis of pyrimidine nucleosides.*)
- 9th Chemical Research Society of India-RSC and 17th CRSI-NSC held from 5th to 8th February 2015 in National Chemical Laboratory, **Pune**. (Poster presented: *Synthesis of Biaryls Using Palladacyclic Complex and its Mechanistic Study.*)
- Invited talk at Institute of Organic and Biomolecular Chemistry, University of **Goettingen**, Germany (Organic Colloquia) on 29th July 2016.
- Attended the 21st International Conference on Organic Synthesis held at IIT Bombay from 11th December to 16th December 2016 as an Organising Committee Member.
- Invited talk at **BARC**, Chembur in the Department of Radiochemistry on "*Sustainable Palladium Catalysis: Bio-applications and Mechanistic Implications*" 11th January 2017.
- Invited talk at New Innovation Centre of **BASF** (Mumbai), at Turbhe on "Sustainable Palladium Catalysis for the Synthesis of Multi-functional Nucleosides in Water" on 5th May 2017.
- Invited talk at Institute fur Organische Chemie, Technical University of **Braunschweig**, Germany titled "Sustainable Palladium Catalysis for the Synthesis of Multi-functional Nucleosides in Water" on 21st June 2017.
- Invited talk at Leibniz Institute for Katalysis (LIKAT), **Rostock**, Germany titled "Sustainable Palladium Catalysis for the Synthesis of Multi-functional Nucleosides in Water" on 29th June 2017.
- Invited talk on "Sustainable Palladium Catalysis for the Synthesis of Multi-functional Nucleosides in Water" at the 'Advances in Catalysis' one day symposium in Department of Chemistry, IIT **Kanpur** on 12th January 2018.
- Invited talk on 'Sustainable Palladium Catalysis: New C-C Bond Forming Technologies and Mechanistic Implications' at Advances in Organometallic and Bio-Organometallic Chemistry, held in K. V. Auditorium, Institute of Chemical Technology, Mumbai on 20 and 21 February 2018.
- Invited talk on 'Phosphatriazenes: Versatile ligands for bio-active molecules modification via sustainable palladium catalysis' at Tokyo University of Technology, Hachioji, **Tokyo**, Japan on 18th May 2018.
- Invited talk on 'Phosphatriazenes: Versatile ligands for bio-active molecules modification via sustainable palladium catalysis' at Nobel Prize exhibition Hall, Department of Chemistry, **Nagoya** University, Nagoya, Japan on 21st May 2018.
- Invited talk on 'Phosphatriazenes: Versatile ligands for bio-active molecules modification via sustainable palladium catalysis' at Department of Chemistry, Osaka University, **Osaka**, Japan on 25th May 2018.

- Invited talk titled ‘Phosphatriazenes: Versatile ligands for bio-active molecules modification via sustainable palladium catalysis’ at IIT **Dhanbad**, Department of Chemistry on 2nd November 2018 at 5.00 p.m.
- Invited talk titled ‘Phosphatriazenes: Versatile ligands for bio-active molecules modification via sustainable palladium catalysis’ at The Chinese University of Hong Kong, **Hong Kong** on 8th January 2019 at 2.00 p.m.
- Invited talk titled ‘Phosphatriazenes: Versatile ligands for bio-active molecules modification via sustainable palladium catalysis’ at Hong Kong Baptist University, **Hong Kong** on 9th January 2019 at 2.00 p.m.
- Invited research talk ‘Phosphatriazenes: Versatile ligands for bio-active molecules modification via sustainable palladium catalysis’ at Indian Oil Corporation **Faridabad** R&D centre on 9th May 2019.
- Invited research talk at Institute of organic and analytical chemistry, ‘Rational Ligand design for sustainable palladium catalysis: Story of PTABS’ University de **Orleans**, France on 29th May 2019.
- Invited research talk at Institute National de Sciences Appliquees, ‘Rational Ligand design for sustainable palladium catalysis: Story of PTABS’ University de **Roeun** (Normandie), France on 7th June 2019.
- Invited research talk at Laboratory Chemistry Coordination of CNRS **Toulouse**, ‘Rational Ligand design for sustainable palladium catalysis: Story of PTABS’ Paul Sabatier University, France on 12th June 2019.
- Invited research talk at Department of Chemistry, University of **Dijon**, ‘Rational Ligand design for sustainable palladium catalysis: Story of PTABS’ France on 14th June 2019.
- Invited research talk at Department of Chemistry, IIT **Bhubaneswar**, ‘Rational Ligand design for providing highly efficient catalytic solutions for academia and industry’ Bhubaneswar on 31st January 2020.
- Invited research talk at Department of Chemistry, IIT **Delhi**, ‘Rational Ligand design for providing highly efficient catalytic solutions for academia and industry’ New Delhi on 13st March 2020.
- Attended the Oxford Synthesis Summer conference (Virtual) held on 27-28th July 2020
- Invited talk at the 57th Annual Convention of Chemists (ACC)-**Indian Chemical Society** (ICS) Recent trends in Chemical Sciences (RTCS 2020) on 29th December 2020 titled ‘Caged phosphines: Fascinating journey from academia to industry.
- Invited talk at the Young Scientists Conclave conducted by the **Indian Chemical Society** with the talk titled: Caged Phosphines: Fascinating Journey from Academia to Industry on 8th August 2021 at 3.00 p.m.
- Invited for attending National Organic Synthesis Trust (NOST) conference held at Leela Palace, Chennai on 25-28 November 2021.
- Invited talk at the Sustainability & Digitalisation in Chemical Sciences: An Industry Academia Conclave organized by DRILS and RSC on 1st and 2nd February 2022. Title of talk: India UK ISCC: Innovation Sustainability Chemistry Consortium.
- Invited talk at International Symposium in Organic Synthesis, organized by Maharaja Sriram Chandra Bhanjdeo University (erstwhile North Orissa University) March 2022. Talk titled: **Caged Phosphines: Controlling Metal Electronics for the Exploration of Novel Synthetic Pathways**
- Invited talk to deliver at the Recent Trends in Green Chemistry & Nanotechnology held at NMU Jalgaon on March 8th 2022. Title of the talk: **Caged Phosphines: Controlling Metal Electronics for the Exploration of Novel Synthetic Pathways**
- Invited talk to deliver at the RSC-CRSI conference held at IIT Guwahati on March 24th 2022. Title of the talk: **Caged Phosphines: Controlling Metal Electronics for the Exploration of Novel Synthetic Pathways**
- Invited talk to deliver a “**Plenary Lecture**” in the SERB sponsored e-Workshop on “Recent Advances in Inorganic Chemistry (AIC-2022)” at IIT Bhubaneswar on March 25-26, 2022. Title of the talk: **Caged Phosphines: Controlling Metal Electronics for the Exploration of Novel Synthetic Pathways**

ORGANIZATION OF CONFERENCE OR EVENTS:

- Convener for the Advances in Organometallic and Bio-Organometallic Chemistry, held in K. V. Auditorium, Institute of Chemical Technology, Mumbai on 20 and 21 February 2018.
- Convener for ChemCareers and One-Day Symposium on Young Talent in Chemical Sciences in India held in Sandy Towers, Bhubaneswar on 21 and 22 November 2019.

- Convener for 1st Virtual ChemCareers in association with RSC on 3rd September 2020 at 3.00 PM.

PUBLIC LECTURES

- **Invited public lecture on 'India's scientific development, the way ahead'** at Vigyan Sarvatra Pujyate- Festival of Science for all organized by Sathaye College, Mumbai on 27th February 2022 at 2.00 p.m.