

Name: Dr. K. Parthasarathy, Assistant Professor (G-II)

Mailing Address: Department of Organic Chemistry, University of Madras, Guindy Campus, Chennai-25, Tamil Nadu.

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Details of Employment (Past & Present):

- ✓ May 2014 – Present, **Assistant Professor**, Department of Organic Chemistry, University of Madras, Guindy campus, Chennai-25.
- ✓ January 2013 – May-2014, **Alexander von Humboldt Fellow**, Prof. Carsten Bolm's group, RWTH Aachen University, Germany.
- ✓ January 2009 – September 2012, **National Science Council Fellow (NSC)**, Prof. Chien-Hong Cheng's group, National Tsing Hua University, Taiwan.

Educational Qualifications:

- ✓ Ph.D. in Chemistry, 2004-2008, Prof. Chien-Hong Cheng's group, National Tsing Hua University, Taiwan
Title of Ph.D Thesis: "*Transition Metal-Catalyzed Carbon-Carbon Bond Formation and C-H Bond Activation Reactions*"
- ✓ M.Phil. (Organic Chemistry), 2002-2003, Madras University, India.
- ✓ M.Sc. (Physical Chemistry), 1999-2001, Madras University, India
- ✓ B.Sc. (Chemistry), 1996-1999, Pachaiyappa's College for Men (Kanchipuram) – Madras University, India.

Achievements:

Acted as a reviewer for Organic Letters, Journal of Organic Chemistry, Organic Bimolecular Chemistry, Journal of Heterocyclic Chemistry

Acted as a Doctoral committee members for SRM University and Vels University

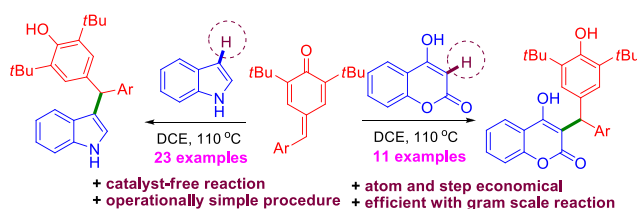
DST-SERB-Young Scientist (for Start-up grant)

January 2013 – May-2014, **Alexander von Humboldt Fellow**, Prof. Carsten Bolm's group, RWTH Aachen University, Germany.

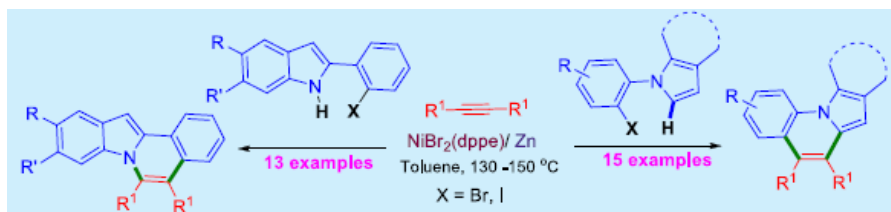
January 2009 – September 2012, **National Science Council Fellow (NSC)**, Prof. Chien-Hong Cheng's group, National Tsing Hua University, Taiwan.

Publications List

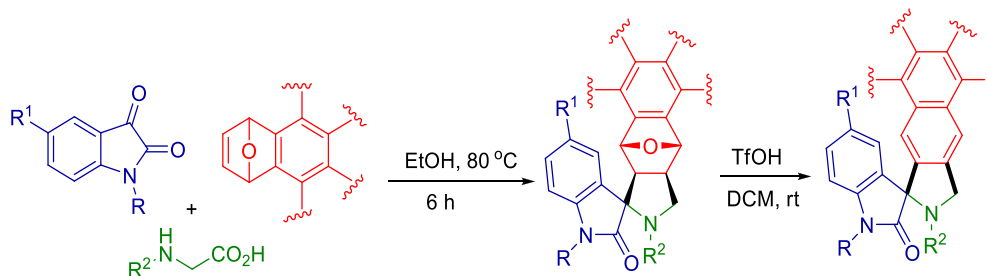
1. Kumaran, S.; Prabhakaran, M.; Mariyammal, N.; **Parthasarathy, K.** Catalyst-free 1,6-Conjugate Addition of Indoles and 4-Hydroxycoumarins to *para*-Quinonemethides: Synthesis of Unsymmetrical Triarylmethanes *Org. Biomol. Chem.*, **2020**, *18*, 7837-7841



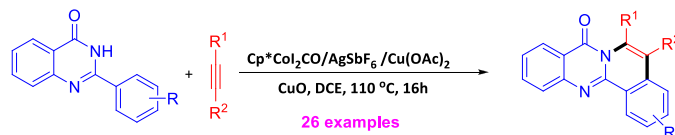
2. Thavasvelan, S. **Parthasarathy, K.** Nickel-Catalyzed Cyclization Strategy for the Synthesis of Pyrroloquinolines, Indoloquinolines, and Indoloisoquinolines *Org. Lett.* **2020**, *22*, 3810–3814.



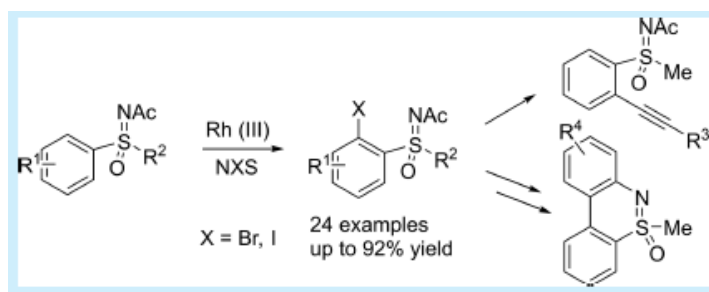
3. Kumaran, S. Saritha, R. Gurumurthy, P. **Parthasarathy, K.** Synthesis of Fused Spiropyrrolidine Oxindoles Through 1,3-Dipolar Cycloaddition of Azomethine Ylides Prepared from Isatins and α -Amino Acids with Heterobicyclic Alkenes *Eur. J. Org. Chem.* **2020**, 2725–2729



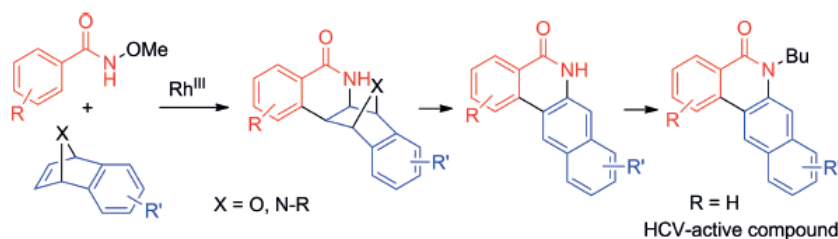
4. Kumaran, S. **Parthasarathy, K.** Cobalt(III)-Catalyzed Synthesis of Fused Quinazolinones by C–H/N–H Annulation of 2-Arylquinazolinones with Alkynes *Eur. J. Org. Chem.* **2020**, 866–869.



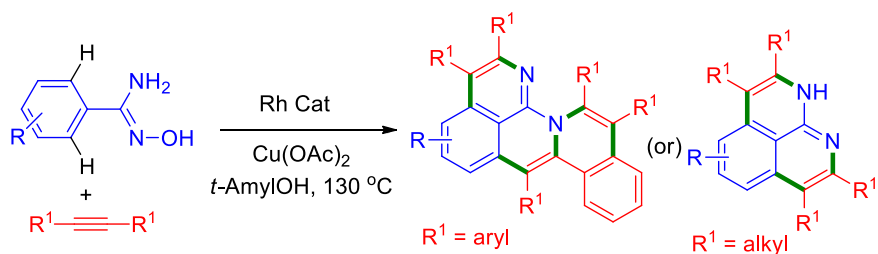
5. Cheng, Y. Dong, W. **Parthasarathy, K.** Bolm C Rhodium(III)-Catalyzed *ortho* Halogenations of N-Acylsulfoximines and Synthetic Applications toward Functionalized Sulfoximine Derivatives *Org. Lett.* **2017**, 19, 726-729



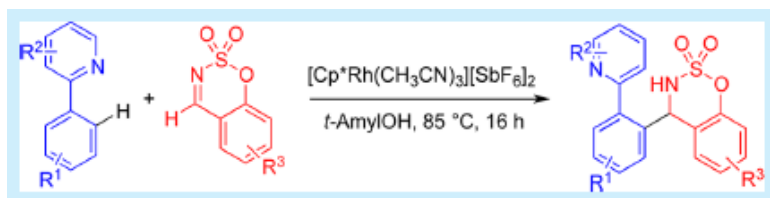
6. Cheng, Y. **Parthasarathy, K.** Bolm C. Rhodium(III)-Catalyzed Annulation of N-Methoxybenzamides with Heterobicyclic Alkenes by C–H Functionalization: Synthesis of Benzo[*b*]phenanthridinones *Eur. J. Org. Chem.* **2017**, 1203–1206.



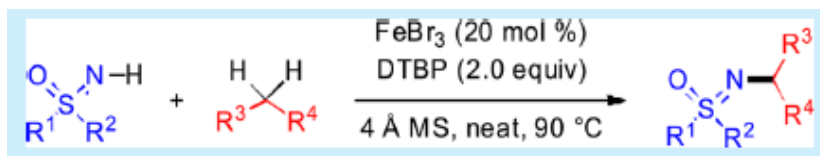
7. Jayakumar, J. **Parthasarathy, K.** Chen, Y.-H. Lee, T.-H. Chuang, S.-C. Cheng C.-H. One-Pot Synthesis of Highly Substituted Polyheteroaromatic Compounds by Rhodium(III)-Catalyzed Multiple C–H Activation and Annulation *Angew. Chem. Int. Ed.*, **2014**, 53, 9889 –9892. (Hot Paper)



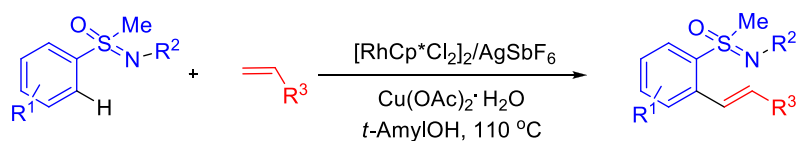
8. **Parthasarathy, K.** Azcargorta, A. R. Cheng, Y. Bolm C. Directed Additions of 2-Arylpyridines and Related Substrates to Cyclic Imines through Rhodium-Catalyzed C–H Functionalization *Org. Lett.* **2014**, *16*, 2538–2541



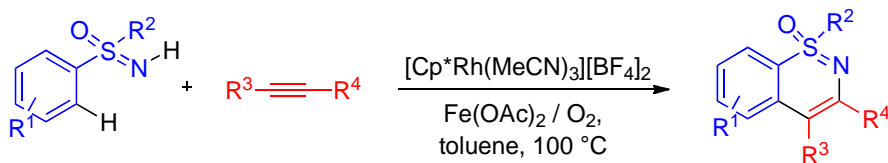
9. Cheng, Y. Dong, W. Wang, L. **Parthasarathy, K.** Bolm C. “Iron-Catalyzed Hetero Cross-Dehydrogenative Coupling of Sulfoximines with Diarylmethanes; A New Route to N-Alkylated Sulfoximines” *Org. Lett.* **2014**, *16*, 2000–2002



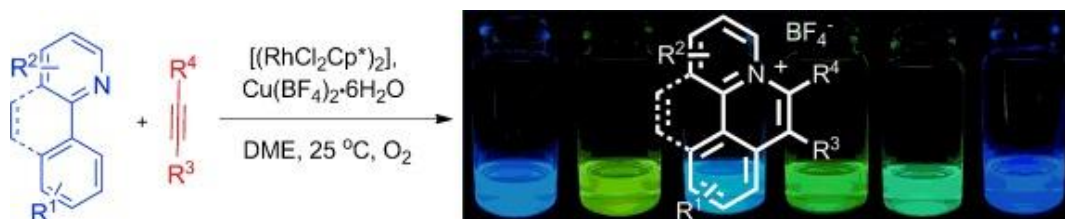
10. **Parthasarathy, K.,** Bolm. C. Rhodium(III)-Catalyzed Selective ortho-Olefinations of N-Acyl and N-Aroyl Sulfoximines by C-H Bond Activation *Chem. Eur. J.* **2014**, *20*, 4896 – 4900



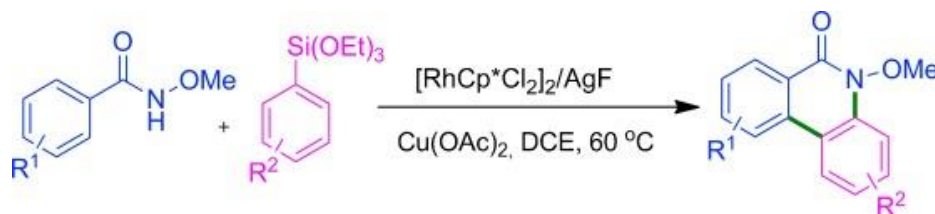
11. Dong, W.–R., Wang, L., **Parthasarathy, K.,** Bolm. C. Rhodium-Catalyzed Oxidative Annulation of Sulfoximines and Alkynes as an Approach to 1,2-Benzothiazines *Angew. Chem. Int. Ed.*, **2013**, *52*, 11573 –11576.



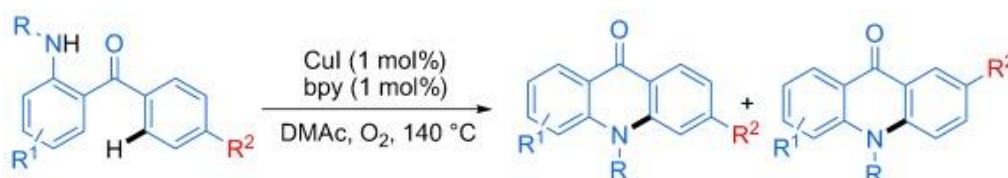
12. Luo, C.-Z., Gandeepan, P., Jayakumar, J., **Parthasarathy, K.**, Cheng, C-H. Rh(III)-Catalyzed C-H Activation: A Versatile Route towards Various Polycyclic Pyridinium Salts, *Chem. Eur. J.* **2013**, *19*, 14181 – 14186.



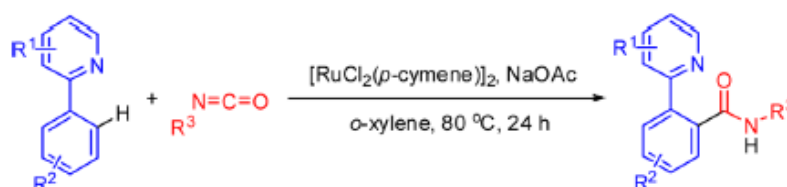
13. Senthilkumar, N., **Parthasarathy, K.**, Gandeepan, P., Cheng, C-H. Synthesis of Phenanthridinones from N-Methoxybenzamides and Aryltriethoxysilanes through Rh(III)-Catalyzed C-H and N-H Bond Activation, *Chem. Asian J.* **2013**, *8*, 2175 – 2181.



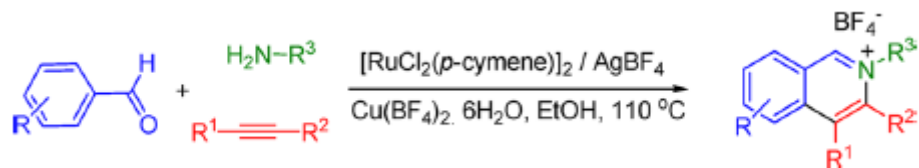
14. Huang, P.-C., **Parthasarathy, K.**, Cheng, C-H. Copper-Catalyzed Intramolecular Oxidative C-H Functionalization and C-N Formation of 2-Aminobenzophenones: Unusual Pseudo-1,2-Shift of the Substituent on the Aryl Ring, *Chem. Eur. J.* **2013**, *19*, 460 – 464.



15. Muralirajan, K., **Parthasarathy, K.**, Cheng, C-H. Ru(II)-Catalyzed Amidation of 2-Arylpyridines with Isocyanates via C-H Activation, *Org. Lett.* **2012**, *14*, 4262-4265.



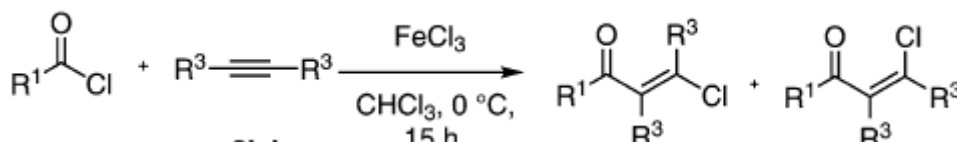
16. **Parthasarathy, K.**, Senthilkumar, N., Jayakumar, J., Cheng, C-H. Ru(II)-Catalyzed C-H Bond Activation for the Synthesis of Substituted Isoquinolinium Salts from Benzaldehydes, Amines, and Alkynes, *Org. Lett.* **2012**, *14*, 3478-3481.



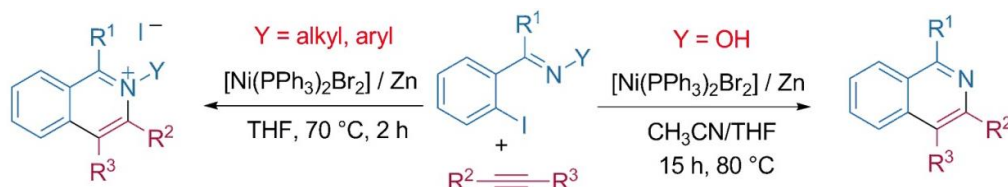
17. **Parthasarathy, K.**, Han, H., Prakash, C, Cheng, C-H. Synthesis of Isochromenones and Oxepines via Pd-Catalyzed Cascade Cyclization of Alkynes and Benzyne Involving C–H Activation, *Chem. Commun.*, **2012**, 48, 6580–6582.



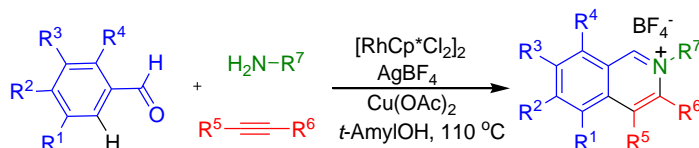
18. Gandeepan, P., **Parthasarathy, K.**, Su, T-H., Cheng, C-H. Iron-Catalyzed Synthesis of β -Chlorovinyl and α,β -Alkynyl Ketones from Terminal and Silylated Alkynes with Acid Chlorides, *Adv. Synth. Catal.* **2012**, 354, 457 – 468.



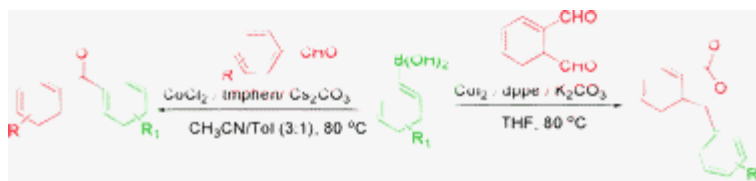
19. Shih, W.-C., Teng, C.-C., **Parthasarathy, K.**, Cheng, C-H. Nickel-Catalyzed Cyclization of *ortho*-Iodoketoximes and -Ketimines with Alkynes: Synthesis of Highly Substituted Isoquinolines and Isoquinolinium Salts. *Chem. Asian J.* **2012**, 7, 306-313. (VIP Article)



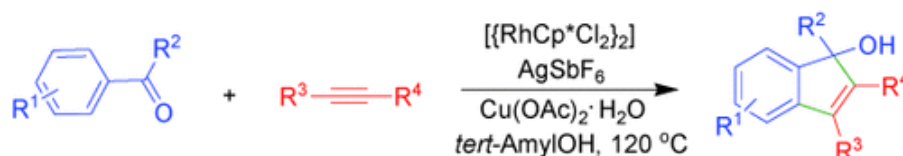
20. Jayakumar, J., **Parthasarathy, K.**, Cheng, C-H. One-Pot Synthesis of Isoquinolinium Salts by Rhodium Catalyzed C-H Bond Activation: Application to the Total Synthesis of Oxychelerythrine. *Angewandte Chemie Int. Ed.* **2012**, 51, 197-200.



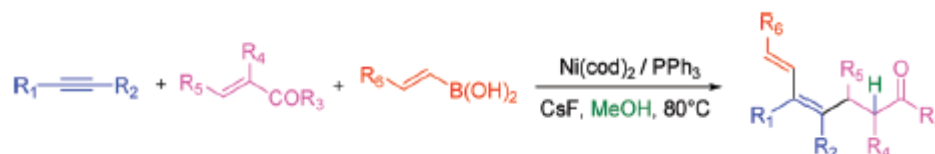
21. Karthikeyan, J., **Parthasarathy, K.**, Cheng, C-H. Synthesis of Biarylketones and Phthalides from Organoboronic Acids and Aldehydes Catalyzed by Cobalt Complexes. *Chem. Commun.*, **2011**, 47, 10461-10463.



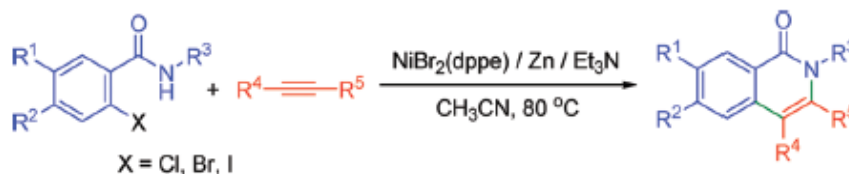
22. Muralirajan, K., **Parthasarathy, K.**, Cheng, C-H. Regioselective Synthesis of Indenols by Rhodium-Catalyzed C-H Activation and Carbocyclization of Aryl Ketones and Alkynes. *Angewandte Chemie Int. Ed.* **2011**, 50, 4169-4172.



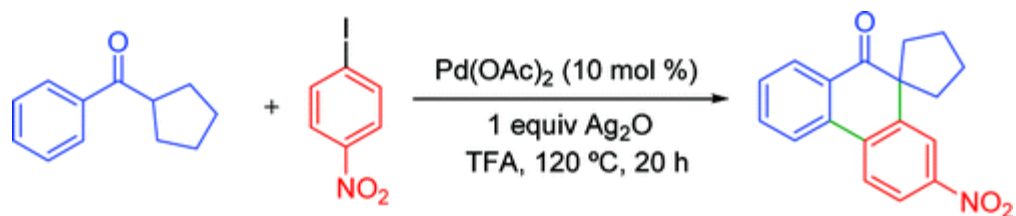
23. Yang, C-M., Jeganmohan, M., **Parthasarathy, K.**, Cheng, C-H. Nickel Catalyzed Three-Component Coupling of Alkynes with Enones and Alkenyl Boronic Acids: A Novel Route to Substituted 1,3-Dienes. *Org. Lett.* **2010**, 12, 3610-3613.



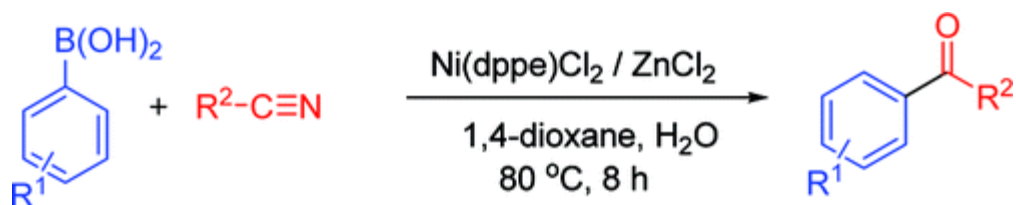
24. Liu, C-C., **Parthasarathy, K.**, Cheng, C-H. Synthesis of Highly Substituted Isoquinolone Derivatives by Nickel-Catalyzed Annulation of 2-Halobenzamides with Alkynes. *Org. Lett.* **2010**, 12, 3518-3521.



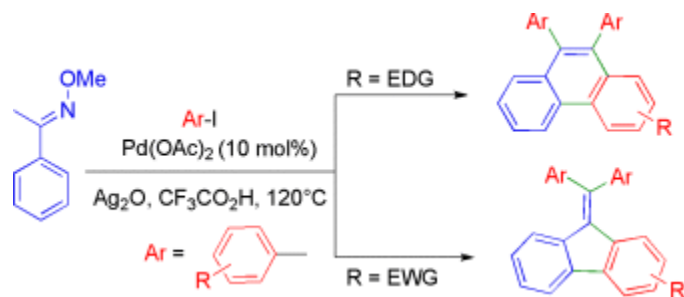
25. Gandeepan, P., **Parthasarathy, K.**, Cheng, C-H. Synthesis of Phenanthrone Derivatives from *sec*-Alkyl Aryl Ketones and Arylhalides via a Palladium Catalyzed Dual C-H Bond Activation and Enolate Cyclization. *J. Am. Chem. Soc.* **2010**, 132, 8569–8571.



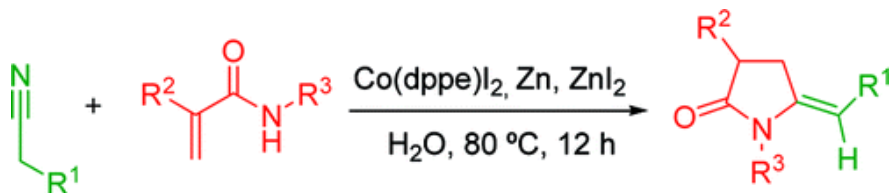
26. Wong, Y-C., **Parthasarathy, K.**, Cheng, C-H. Direct Synthesis of Aryl Ketones by Nickel Catalyzed Addition of Arylboronic Acids to Nitriles. *Org. Lett.* **2010**, *12*, 1736-1739.



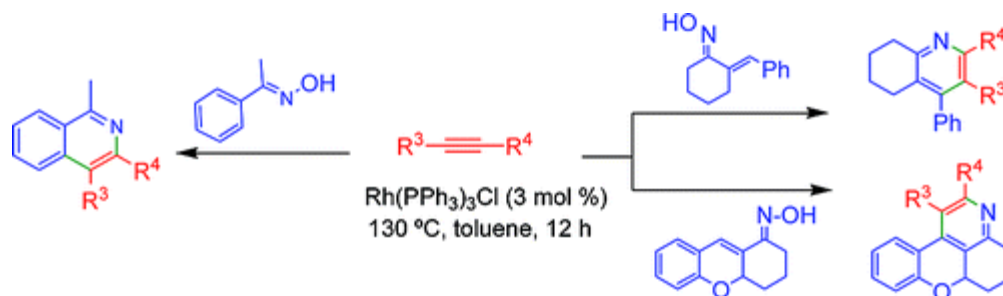
27. Thirunavukkarasu, V. S., **Parthasarathy, K.**, Cheng, C-H. One-Pot Synthesis of Diarylmethylidenefluorenes and Phenanthrenes by Palladium-Catalyzed Multiple C-H Bond Functionalization. *Chem. Eur. J.* **2010**, *16*, 1436-1440.



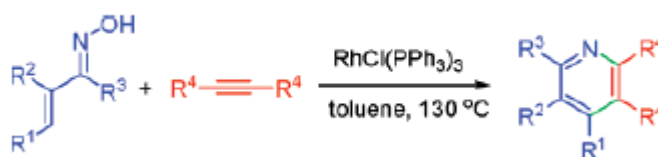
28. Wong, Y-C., **Parthasarathy, K.**, Cheng, C-H. Cobalt-Catalyzed Regioselective Synthesis of Pyrrolidinone Derivatives by Reductive Coupling of Nitriles and Acrylamides. *J. Am. Chem. Soc.* **2009**, *131*, 18252-18253. (Highlighted by *Synfact*)



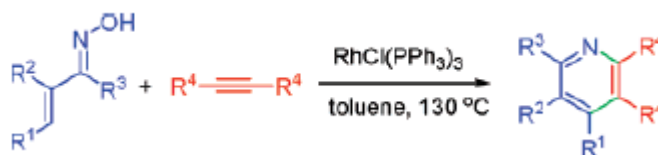
29. **Parthasarathy, K.**, Cheng, C-H. Easy Access to Isoquinolines and Tetrahydroquinolines from Ketoximes and Alkynes via Rhodium-Catalyzed C-H Bond Activation. *J. Org. Chem.* **2009**, *74*, 9359-9364.



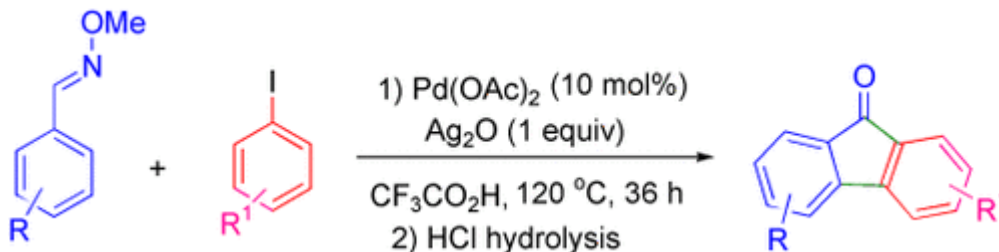
30. **Parthasarathy, K.**, Cheng, C.-H. Rhodium-Catalyzed Gram-Scale Synthesis of Highly Substituted Pyridine Derivatives. *Synthesis*, **2009**, 8, 1400-1402. Practical Synthetic Procedures (**PSP**) (Invited)



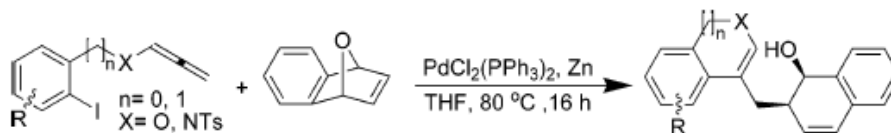
31. **Parthasarathy, K.**, Jeganmohan, M.; Cheng, C.-H. Rhodium-catalyzed one-pot synthesis of substituted pyridines derivatives from α,β -unsaturated ketoximes and alkynes. *Org. Lett.* **2008**, 10, 325-328. (Highlighted by *Synfact*)



32. Thirunavukkarasu, V. S., **Parthasarathy, K.**, Cheng, C.-H. Synthesis of Fluorenones from Aromatic Aldoxime Ethers and Aryl halides by Palladium-Catalyzed Dual C-H Activation and Heck Cyclization. *Angew. Chem. Int. Ed.* **2008**, 47, 9462-9465.

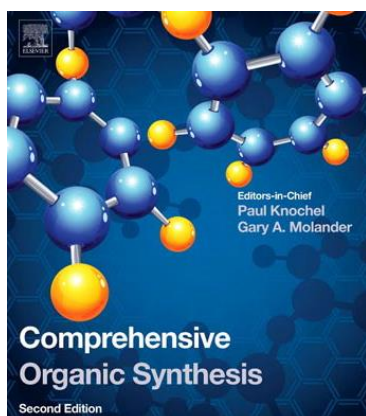


33. **Parthasarathy, K.**, Jeganmohan, M., Cheng, C.-H. Palladium-Catalyzed Multistep Reactions Involving Ring Closure of 2-Iodophenoxyallenes and Ring Opening of Bicyclic Alkenes. *Org. Lett.* **2006**, 8, 621-623.

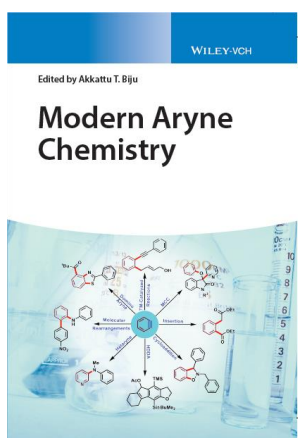


Book Chapter:

1. Parthasarathy, K., Cheng, C.-H. Metal-Mediated and Metal-Catalyzed [2 + 2] Cycloadditions *Comprehensive Organic Synthesis II*, Elsevier, 2014, pp. 222-272.



2. Parthasarathy, K., Jayakumar, J. Jeganmohan, M. Cheng, C.-H. *Transition-Metal-Catalyzed Reactions Involving Arynes and Related Chemistry* Wiley-VCH. 2020, ISBN: 978-3-527-82308-6, In Press.



CONFERENCES ATTENDED

1. **Parthasarathy, K.;** Bolm, C. “Rh(III)-Catalyzed Selective *ortho*-Olefination of N-Acyl and N-Aroyl Sulfoximines by C-H Bond Activation” **Sixth Annual New Year’s Symposium** held in Aachen, Germany, January 10, **2014**. (Poster presentation)
2. **Parthasarathy, K.;** Cheng, C.-H. “Easy Access to Substituted Pyridines and Isoquinolines from Ketoximes and Alkynes by Rhodium-Catalyzed C-H Bond Activation” **Pacificchem 2010** held in Honolulu, Hawaii, USA, December 15-20, **2010**. (Poster presentation)
3. **Parthasarathy, K.;** Wong, Y-C., Cheng, C.-H. “Direct Synthesis of Arylketones by Nickel-Catalyzed Addition of Arylboronic Acids to Nitriles” **ICOMC-24 -International Conference on Organometallic Chemistry** held in Taipei, Taiwan, July 18-23, **2010**. (Poster presentation)
4. **Parthasarathy, K.;** Cheng, C.-H. “Rhodium-Catalyzed One-Pot Synthesis of Substituted Pyridine Derivatives from α,β -Unsaturated Ketoximes and Alkynes” **ICOS-17 -International Conference on Organic Synthesis** held in Korea June 22-27, **2008**. (Poster presentation)
5. **Parthasarathy, K.;** Cheng, C.-H. “Palladium-Catalyzed Multistep Reactions Involving Ring Closure of 2-Iodophenoxyallenes and Ring Opening of Bicyclic Alkenes” *joint KAIST-NTHU junior chemists workshop* held in Korea, February 6-7, **2007**. (Oral presentation)
6. **Parthasarathy, K.;** Cheng, C.-H. “Palladium-Catalyzed Multistep Reactions Involving Ring Closure of 2-Iodophenoxyallenes and Ring Opening of Bicyclic Alkenes” *Annual Chinese Chemical Society & ICCT 2007 Joint Conference*, Hsinchu, Taiwan, **2007**. (Poster presentation)
7. **Parthasarathy, K.;** Cheng, C.-H. “Palladium-Catalyzed Multistep Reactions Involving Ring Closure of 2-Iodophenoxyallenes and Ring Opening of Bicyclic Alkenes” *Post-Conference of 1st International Conference on Cutting Edge Organic Chemistr in Asia*, Hsinchu, Taiwan, **2006**.(Poster presentation)

Project:

1. Metal-Catalyzed Reductive Coupling of Organic π -Components with Organometallic Reagent and the Application in Organic Synthesis
DST-SERB, 2015-2018, Rs. 25,99,791/-
2. Synthesis of Naphthofurans and Benzo[h]chromen-2-ones by Metal-Catalyzed Addition and Cyclization Strategy
DST-PURSE (PHASE II), 2015-2018, Starter Grant, UOM