

# Curriculum Vitae

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## ***Educational Data***

- 1991.09–1995.06 B.S. Department of Chemistry, *Tunghai University*, Taichung, Taiwan
- 1995.09–1997.06 M.S. Department of Chemistry, *National Tsing Hua University*, Hsinchu, Taiwan
- 1997.07–1999.06 2<sup>nd</sup> Lieutenant, Army, Taiwan
- 1999.11–2000.07 Research Assistant., Department of Chemistry, *National Tsinghua University*, Hsinchu, Taiwan
- 2000.10–2005.06 Ph.D., Department of Chemistry and Biochemistry, *University of California, Los Angeles*, USA
- 2005.09–2007.06 Postdoctoral Fellow, Institute for Chemical Research, *Kyoto University*, Japan
- 2007.08–2012.07 Assistant Professor, National Chiao Tung University, Hsinchu, Taiwan
- 2012.08–2016.07 Associate Professor, National Chiao Tung University, Hsinchu, Taiwan
- 2016.08–present Professor, National Chiao Tung University, Hsinchu, Taiwan

## **Thesis Title**

- Master Thesis: “Chemistry and Reactivity of C<sub>60</sub>, Phosphines and Acetylenes”  
(Advisor: Prof. Chien-Hong Cheng, National Tsing Hua University, Taiwan)
- PhD Thesis: “Nanosurgery of C<sub>60</sub>”  
(Advisor: Prof. Yves Rubin, UCLA)

## Publication list:

1. Annamalai, P.; Hsiao, H.-C.; Raju, S.; Fu, Y.-H.; Chen, P.-L.; Horng, J.-C.; Liu, Y.-H.; Chuang, S.-C.\* "Synthesis, Isolation, and Characterization of Mono- and Bis-Norbornene Annulated Biarylmines Through Pseudo-Catellani Intermediates" *Org. Lett.* **2019**, *21*, 1182-1186..
2. Raju, S.; Hsiao, H.-C.; Thirupathi, S.; Chen, P.-L.; Chuang, S.-C.\* "Palladium-Catalyzed Benzofulvenation of *o*-Arylanilines through C–H Bond Activation by Using Two Diarylacetylenes as an Implicit Benzofulvene" *Adv. Synth. Catal.* **2019**, *361*, 683-689.
3. Nallapati, S. B.; Chuang, S.-C.\* "Phosphine-catalyzed Reactions with Unsaturated Carbonyl Compounds" *Asian J. Org. Chem.* **2018**, *7*, 1743-1757 (an invited Focus Review).
4. Chiou, M.-F.; Jayakumar, J.; Cheng, C.-H.; Chuang, S.-C.\* "Impact of the Valence Charge of Transition Metals on the Cobalt- and Rhodium-Catalyzed Synthesis of Indenamines, Indenols, and Isoquinolinium Salts: A Catalytic Cycle Involving  $M^{III}/M^V$  [M = Co, Rh] for [4+2] Annulation" *J. Org. Chem.* **2018**, *83*, 7814-7824.
5. Hsieh, C.-M.; Liao, Y.-S.; Lin, Y.-R.; Chen, C.-P.; Tsai, C.-M.; Diao, E. W.-G.; Chuang, S.-C.\* "Low-Temperature, Simple and Efficient Preparation of Perovskite Solar Cells Using Lewis Bases Urea and Thiourea as Additives: Stimulating Large Grain Growth and Providing a PCE up to 18.8%" *RSC Adv.* **2018**, *8*, 19610-19615.
6. Annamalai, P.; Hsu, K.-C.; Raju, S.; Hsiao, H.-C.; Chou, C.-W.; Lin, G.-Y.; Hsieh, C.-M.; Chen, P.-L.; Liu, Y.-H.; Chuang, S.-C.\* "Palladium (II)-catalyzed mono- and bis-alkenylation of *N*-acetyl-2-aminobiaryls through regioselective C–H bond activation" *J. Org. Chem.* **2018**, *83*, 3840-3856.
7. Upadhyay, N. S.; Thorat, V. H.; Sato, R.; Annamalai, P.; Chuang, S.-C.\*; Cheng, C.-H.\* "Synthesis of isoquinolones via Rh-catalyzed C–H activation of substituted benzamides using air as the sole oxidant in water" *Green. Chem.*, **2017**, *53*, 6247-6250.
8. Raju, S.; Annamalai, P.; Chen, P.-L.; Liu, Y.-H.; Chuang, S.-C.\* "Palladium-Catalyzed C–H Bond Activation by Using Iminoquinone as a Directing Group and an Internal Oxidant or a Co-oxidant: Production of Dihydrophenanthridines, Phenanthridines and Carbazoles" *Org. Lett.* **2017**, *19*, 4134-4137.
9. Raju, S.; Annamalai, P.; Chan, F.-W.; Tseng, P.-Y.; Chen, P.-Y.; Kuo, T.-S.; Chuang, S.-

- C.\* "Palladium-Catalyzed Regio- and Stereoselective Hydrosulfonation of Propiolate Esters" *Synthesis* **2017**, *49*, 5007-5016.
10. Hsieh, C.-M.; Yu, Y.-L.; Chen, C.-P.\*; Chuang, S.-C.\* "Effects of the additives n-propylammonium or n-butylammonium iodide on the performance of perovskite solar cells" *RSC Adv.* **2017**, *7*, 55986-55992.
11. Raju, S.; Annamalai, P.; Chen, P.-L.; Liu, Y.-H.; Chuang, S.-C.\* "Iptycenes with an acridinone motif developed through [4+2] cycloaddition of tethered naphthalene and iminoquinone via a radical reaction" *Chem. Commun.* **2017**, *53*, 6247–6250.
12. Annamalai, P.; Chen, W.-Y.; Raju, S.; Hsu, K.-C.; Upadhyay, N. S.; Cheng, C.-H.\*; Chuang, S.-C.\* "Palladium-Catalyzed Selective Aryl Ring C–H Activation of *N*-Acyl 2-Aminobiaryls: Efficient Access of Multiaryl Substituted Naphthalenes" *Adv. Synth. Catal.* **2016**, *358*, 3642–3648.
13. Chuang, S.-C.\*; Sung, S.-P.; Deng, J.-C.; Chiou, M.-F.; Hsu, D.-S. "Multicomponent reactions of phosphines, enynedioates and benzylidene malononitriles generated highly substituted cyclopentenes through an unexpected phosphine  $\alpha$ -addition- $\delta$ -evolution of an anion pathway" *Org. Biomol. Chem.* **2016**, *12*, 2306–2317.
14. Wu, A.-J.; Tseng, P.-Y.; Hsu, W.-H.; Chuang, S.-C.\* "Tricyclohexylphosphine-catalyzed Cycloaddition of Enynoates with [60]Fullerene and the Application of Cyclopentenofullerenes as n-Type Materials in Organic Photovoltaics" *Org. Lett.* **2016**, *18*, 224–227.
15. Tai, H.-C.; Chavan, A. S.; Chuang, S.-C.\* "Nucleophilic Conjugate 1,5-Addition of (*E*)-Hex-2-en-4-ynedioates towards Gilman Reagents: An Access toward  $\beta(\gamma')$ -Substituted Muconates" *Synthesis* **2015**, *47*, 2223–2232.
16. Deng, J.-C.; Chen, W.-Y.; Zhu, C.; Chuang, S.-C.\* "Multicomponent Reactions of Phosphines, Enynedioates and Cinnamaldimines Give  $\gamma$ -Lactams with a 1,3,5-Hexatriene Moiety for Facile  $6\pi$  Electrocyclization: Access to Oxindoles, Isatins and Isoxazolinones" *Adv. Synth. & Catal.* **2015**, *357*, 1453–1462.
17. Chen, C.-P.\*; Huang, C.-Y.; Chuang, S.-C.\* "Highly Thermal Stable and Efficient Organic Photovoltaic Cells with Crosslinked Networks Appending Open-Cage Fullerenes as Additives" *Adv. Funct. Mater.*, **2015**, *15*, 207–213 (Selected as Frontispiece).
18. Deng, J.-C.; Chuang, S.-C.\* "Multicomponent Reactions of Phosphines, Diynedioates

- and Aryl Aldehydes Generated Furans Appending Reactive Phosphorus Ylides through Cumulated Trienoates as Key Intermediates: A Phosphine  $\alpha$ -Addition- $\delta$ -Evolvement of an Anion Pathway” *Org. Lett.* **2014**, *16*, 5792–5795.
19. 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.
20. Deng, J.-C.; Kuo, C.-W.; Chuang, S.-C.\* “Nucleophilic Conjugate 1,3-Addition of Phosphines to Oligoynoates” *Chem. Commun.*, **2014**, *50*, 10580–10583 (Selected as Inside Back Cover).
21. Lin, Y.-W., Deng, J.-C., Hsieh, Y.-Z.; Chuang, S.-C.\* “One-Pot Formation of Fluorescent  $\gamma$ -Lactams Having an  $\alpha$ -Phosphorus Ylide Moiety through Three-Component  $\alpha(\delta')$ -Michael Reaction of Phosphines with an Enyne and *N*-Tosyl Aldimines” *Org. Biomol. Chem.* **2014**, *12*, 162–170.