

履歷 (*Curriculum Vitae*)

彭之皓, 副教授, 清華化學系
Phone: (03)571-5131 ext. 33369
E-mail: chpeng@mx.nthu.edu.tw

基本資料

中英文姓名: 彭之皓 (Chi-How Peng)

聯絡電話: (03)5715131 Ext. 33369

E-mail: chpeng@mx.nthu.edu.tw

現職: 副教授

服務單位: 化學系

主要學歷

學校名稱	國別	系所	學位	起迄年月
賓州大學	美國	化學所	博士	2004/06 – 2009/03
台灣大學	台灣	化學所	碩士	1999/09 – 2001/06
台灣大學	台灣	化學系	學士	1995/09 – 1999/06

經歷

服務機關	職稱	部門/系所	起迄年月
清華大學	副教授	化學系	2016/08 – 迄今
清華大學	智財技轉組組長	產學營運總中心	2015/08 – 2018/07
清華大學	助理教授	化學系	2011/05 – 2016/07
卡內基美濃大學	博士後研究員	化學系	2009/05 – 2011/05
台灣大學	專任助教	化學系	2003/06 – 2004/06

研究領域

本實驗室的研究涵括了無機化學、有機金屬化學、與高分子化學。我們從有機金屬錯合物的設計與催化著手, 研究活性聚合反應(活性自由基聚合、開環聚合、配位聚合)的機理與應用, 並希望能開發出新的催化系統以結合不同種類甚至不同機理的活性聚合反應, 進而合成出各式的嵌段共聚物。利用改變這些共聚物的結構、組成、與官能基, 預期能改善原有材料的物性及化性, 以創造出新一代的高分子複合材料。

學術榮譽

2018 財團法人水木化學文教基金會"傑出青年學者獎"

2016 POLMER 期刊_第十屆馮新德高分子獎最佳文章提名獎

2016 第一屆全球華人青年科學家化學與先進材料論壇_Rising Star for his contribution in Polymer Chemistry

2014 清華大學_傑出學術研究出版獎勵

2012 清華大學_激勵優秀新聘助理教授獎勵

獲邀國際演講

1. Fall Meeting of the Polymer Society of Korea,
2013 October 10-11, Changwon, Korea.
2. 4th Korea-Taiwan Symposium on Chemistry for Sustainable Developments,
2014 January 12-16, Gangwon-do, Korea.
3. 7th Pacific Symposium on Radical Chemistry,

- 2015 July 15-18, Singapore.
4. 2nd Functional Polymeric Materials Conference,
2015 August 05-08, Ascot, UK.
 5. Japan-Taiwan Bilateral Polymer Symposium 2015,
2015 September 02-06, Sapporo, Japan.
 6. 14th Tateshina Conference on Organic Chemistry & 5th International Kyoto Symposium on Organic Nanostructures and Molecular Technology,
2015 November 05-08, Chino & Kyoto, Japan.
 7. International Conference on Advanced Polymeric Materials Commemorating the 40th Anniversary of the Polymer Society of Korea (PSK)
2016 October 04-07, Jeju, Korea

產學合作

經費來源: 台灣矽利科技股份有限公司

執行期間: 101/8~102/2

計畫名稱: 鉑催化矽膠交聯之熟成控制研究

經費來源: 科技部開發型產學合作計畫 (臺灣永光化學工業股份有限公司)

執行期間: 105/2~106/1

計畫名稱: 嵌端共聚材料於數位紡織墨水之應用

經費來源: 臻鼎科技股份有限公司

執行期間: 105/3~105/7

計畫名稱: 負型感光材料中高分子樹脂開發

著作目錄

期刊論文

32. Lu, H.-H.; Huang, C.-H.; Shiue, T.-Y.; Wang, F.-S.; Chang, K.-K.; Chen, Y.; **Peng, C.-H.*** "Highly Efficient Gene Release in Spatiotemporal Precision Approached by Light and pH Dual Responsive Copolymers " *Chem. Sci.* **2019**, *10*, 284.
31. Wang, F.-S.; Wang, T.-F.; Lu, H.-H.; Ao-Ieong, W.-S.; Wang, J.; Chen, H.-L.*; **Peng, C.-H.*** "Highly Stretchable Free-Standing Poly(acrylic acid)-*block*-poly(vinyl alcohol) Films Obtained from Cobalt-Mediated Radical Polymerization" *Macromolecules* **2017**, *50*, 6054.
30. Chi, M.-H.; Su, C.-H.; Cheng, M.-H.; Chung, P.-Y.; **Peng, C.-H.***; Chen, J.-T.* "Shaping the Light: The Key Factors Affecting the Photophysical Properties of Fluorescent Polymer Nanostructures" *Macromol. Rapid Commun.* **2016**, *37*, 2037. (Cover page)
29. 陳世基, 王富生, **彭之皓*** "活性/可控自由基聚合反應" 化工 **2016**, *63*, 25.
28. Wang, F.-S.; Yang, T.-Y.; Hsu, C.-C.; Chen, Y.-J.; Li, M.-H.; Hsu, Y.-J.; Chuang, M.-C.; **Peng, C.-H.*** "The Mechanism and Thermodynamic Studies of CMRP: Different Control Mechanisms Demonstrated by Co^{II}(TMP), Co^{II}(salen*), and Co^{II}(acac)₂ Mediated Polymerization and The Correlation of Reduction Potential, Equilibrium Constant, and Control Mechanism" *Macromol. Chem. Phys.* **2016**, *217*, 422. (Invited paper and Cover page for special issue of Young Talents in Polymer Science)
27. Chen, Y.-J.; Wu, B.-J.; Wang, F.-S.; Chi, M.-H.; Chen, J.-T.*; **Peng, C.-H.*** "Hybridization of CMRP and ATRP: A Direct Living Chain Extension from Poly(vinyl acetate) to Poly(methyl methacrylate) and Polystyrene" *Macromolecules* **2015**, *48*(19), 6832.
26. 謝宜良, 王富生, **彭之皓*** "有機鈷金屬錯合物在聚合物合成上的應用" 化學 **2015**, *73*, 119.
25. Zhao, Y.; Yu, M.; Zhang, S.; Wu, Z.; Liu, Y.; **Peng, C.-H.***; Fu, X.* "A Well-defined Versatile Photoinitiator (salen)Co-CO₂CH₃ for Visible Light Initiated Living/Controlled Radical Polymerization" *Chem. Sci.* **2015**, *6*, 2979.
24. Hsieh, Y.-L.; Huang, N.; Lee, G.-H.; **Peng, C.-H.*** "Bipyridine-Phenolate Based Aluminum Complexes Mediated Ring-Opening Polymerization of ε-Caprolactone and Lactides with A High Stereoselectivity" *Polymer* **2015**, *72*, 281.

23. Hsieh, Y.-L.; Lin, Y.-C.; Lee, G.-H.; **Peng, C.-H.*** "Zinc Complexes Coordinated by Bipyridine-Phenolate Ligands as An Efficient Initiator for Ring-Opening Polymerization of Cyclic Esters" *Polymer* **2015**, *56*, 237.
22. Lin, Y.-C.; Hsieh, Y.-L.; Lin, Y.-D.; **Peng, C.-H.*** "Cobalt Bipyridine Bisphenolate Complex in Controlled/Living Radical Polymerization of Vinyl Monomers" *Macromolecules* **2014**, *47*(21), 7362.
21. **Peng, C.-H.***; Yang, T.-Y.; Zhao, Y.; Fu, X.* "Reversible deactivation radical polymerization mediated by cobalt complexes: recent progress and perspectives" *Org. Biomol. Chem.* **2014**, *12*, 8580.
20. Hsu, C.-S.; Yang, T.-Y.; **Peng, C.-H.*** "Vinyl acetate living radical polymerization mediated by cobalt porphyrins: kinetic–mechanistic studies" *Polym. Chem.* **2014**, *5* (12), 3867.
19. Hsiao, C.-Y.; Han, H.-A.; Lee, G.-H.; **Peng, C.-H.*** "AGET and SARA ATRP of styrene and methyl methacrylate mediated by pyridyl-imine based copper complexes" *Eur. Polym. J.* **2014**, *51*, 12.
18. Liao, C.-M.; Hsu, C.-C.; Wang, F.-S.; Wayland, B. B.; **Peng, C.-H.*** "Living radical polymerization of vinyl acetate and methyl acrylate mediated by Co(Salen*) complexes" *Polym. Chem.* **2013**, *4*, 3098.
17. 王富生, 彭之皓* "新穎高分子合成方法: 原子轉移自由基聚合" 科儀新知 **2013**, *34*, 42.

-----Corresponding Author-----

16. Weng, J.-T.; Yeh, T.-F.; Samuel, A. Z.; Huang, Y.-F.; Sie, J.-H.; Wu, K.-Y.; **Peng, C.-H.**; Hamaguchi, H.; Wang, C.-L. "Cylindrical micelles of a POSS amphiphilic dendrimer as nano-reactors for polymerization" *Nanoscale* **2018**, *10*, 3509.
15. Hung, L.-I.; Chen, P.-L.; Yang, J.-H.; **Peng, C.-H.**; Wang, S.-L. "Transition Metal Titanophosphates with Intercalated Molecular Photoluminescence and Catalytic Properties" *Chem. Eur. J.* **2017**, *23*, 13583.
14. Chi, M.-H.; Chang, C.-W.; Ko, H.-W.; Su, C.-H.; Lee, C.-W.; **Peng, C.-H.**; Chen, J.-T.* "Solvent-Induced Dewetting on Curved Substrates: Fabrication of Porous Polymer Nanotubes by Anodic Aluminum Oxide Templates" *Macromolecules* **2015**, *48*(17), 6241.
13. Zhao, Y.; Zhang, S.; Wu, Z.; Liu, X.; Zhao, X.; **Peng, C.-H.**; Fu, X.* "Visible-Light-Induced Living Radical Polymerization (LRP) Mediated by (salen)Co(II)/TPO at Ambient Temperature" *Macromolecules* **2015**, *48*(15), 5132.
12. Ko, H.-W.; Chi, M.-H.; Chang, C.-W.; Su, C.-H.; Wei, T.-H.; Tsai, C.-C.; **Peng, C.-H.**; Chen, J.-T.* "Fabrication of Multicomponent Polymer Nanostructures Containing PMMA Shells and Encapsulated PS Nanospheres in the Nanopores of Anodic Aluminum Oxide Templates" *Macromol. Rapid Commun.* **2015**, *36*, 439.
11. Wang, Y.; Zhong, M.; Zhu, W.; **Peng, C.-H.**; Zhang, Y.; Konkolewicz, D.; Bortolamei, N.; Isse, A. A.; Gennaro, A.; Matyjaszewski, K.* "Reversible-Deactivation Radical Polymerization in the Presence of Metallic Copper. Comproportionation–Disproportionation Equilibria and Kinetics" *Macromolecules* **2013**, *46*, 3793.
10. **Peng, C.-H.**; Zhong, M.; Wang, Y.; Kwak, Y.; Zhang, Y.; Zhu, W.; Tonge, M.; Buback, J.; Park, S.; Krys, P.; Konkolewicz, D.; Gennaro, A.; Matyjaszewski, K.* "Reversible-Deactivation Radical Polymerization in the Presence of Metallic Copper. Activation of Alkyl Halides by Cu(0)" *Macromolecules* **2013**, *46*, 3803.
9. Zhang, Y.; Wang, Y.; **Peng, C.-H.**; Zhong, M.; Zhu, W.; Konkolewicz, D.; Matyjaszewski, K.* "Copper-Mediated CRP of Methyl Acrylate in the Presence of Metallic Copper: Effect of Ligand Structure on Reaction Kinetics" *Macromolecules* **2012**, *45*, 78.

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8. **Peng, C.-H.**; Kong, J.; Seeliger, F.; Matyjaszewski, K. "Mechanism of Halogen Exchange in ATRP" *Macromolecules* **2011**, *44*, 7546-7557.
7. **Peng, C.-H.**; Li, S.; Wayland, B. B. "Formation and Interconversion of Organo-Cobalt Complexes in Reactions of Cobalt(II) Porphyrins with Cyanoalkyl Radicals and Vinyl Olefins" *Inorg. Chem.* **2009**, *48*, 5039-5046.
6. **Peng, C.-H.**; Li, S.; Wayland, B. B. "Aspects of Living Radical Polymerization Mediated by Cobalt Porphyrin Complexes" *J. Chin. Chem. Soc.* **2009**, *56*(2), 219-233.
5. Li, S.; de Bruin, B.; **Peng, C.-H.**; Fryd, M.; Wayland, B. B.* "Exchange of Organic Radicals with Organo-Cobalt Complexes Formed in the Living Radical Polymerization of Vinyl Acetate" *J. Am. Chem. Soc.* **2008**, *130*, 13373-13381.
4. **Peng, C.-H.**; Scricco, J.; Li, S.; Fryd, M.; Wayland, B. B.* "Organo-Cobalt Mediated Living Radical Polymerization of Vinyl Acetate" *Macromolecules* **2008**, *41*, 2368-2373.

3. **Peng, C.-H.**; Fryd, M.; Wayland, B. B.* "Organocobalt Mediated Radical Polymerization of Acrylic Acid in Water" *Macromolecules* **2007**, *40*, 6814-6819.
2. Wayland, B. B.*; **Peng, C.-H.**; Fu, X.; Lu, Z.; Fryd, M. "Degenerative Transfer and Reversible Termination Mechanisms for Living Radical Polymerizations Mediated by Cobalt Porphyrins" *Macromolecules* **2006**, *39*, 8219-8222.
1. **Peng, C.-H.**; Wang, C. -C.; Lee, H. -C.; Lo, W. -C.; Lee, G. -H.; Peng, S. -M.* " Two Polymeric Linear Tri-nickel(II) Complexes: $[\text{Ni}_3(\mu_3\text{-dpa})_4(\text{C}_4\text{O}_4\text{Me})]_n(\text{BF}_4)_n$ and $[\text{Ni}_3(\mu_3\text{-dpa})_4(\text{N}_3)]_n(\text{PF}_6)_n$ Synthesis, Structural Characterization and Magnetic Properties " *J. Chin. Chem. Soc.* **2001**, *48*, 987-996.

專書

1. Chen, Y.-H.; Lu, H.-H.; Li, J.-Q.; **Peng, C.-H.*** "Catalytic chain transfer polymerization and reversible deactivation radical polymerization of vinyl acetate mediated by cobalt(II) phenoxy-imine complexes" *ACS Symp. Ser.* **2018**, *1284*, 335.
2. **Peng, C.-H.**; Li, S.; Wayland, B. B. "Formation, Dissociation, and Radical Exchange of Organo-Cobalt Complexes in Mediating Living Radical Polymerization" *ACS Symp. Ser.* **2009**, *1024*, 115.
3. Wayland, B. B.*; Fu, X.; **Peng, C.-H.**; Lu, Z.; Fryd, M. "Living radical polymerizations mediated by metallo-radical and organo-transition metal complexes" *ACS Symp. Ser.* **2006**, *944*, 358.

會議論文

1. **Peng, C.-H.**; Zhong, M.; Wang, Y.; Zhang, Y.; Konkolewicz, D.; Magenau, A. J. D.; Matyjaszewski, K. "Supplemental Activator and Reducing Agent: The True Role of Copper(0) in ATRP" *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **2011**, *52(2)*, 586-587.
2. **Peng, C.-H.**; Li, S.; Wayland, B. B. "Formation, Dissociation, and Radical Exchange of Organo-Cobalt Complexes in Mediating Living Radical Polymerization of Vinyl Monomers" *Polym. Prepr. (IUPAC MACRO 2008)* **2008**.
3. Wayland, B. B.; Li, S.; **Peng, C.-H.**; Fryd, M. "Formation, Dissociation, and Radical Exchange of Organo-Cobalt Complexes in Mediating Living Radical Polymerization of Vinyl Monomers" *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **2008**, *49(2)*, 123-124.
4. **Peng, C.-H.**; Wayland, B. B.* "Cobalt porphyrin mediated living radical polymerization of acrylic acid in water" *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **2007**, *48*, 254.
5. **Peng, C.-H.**; Scricco, J.; Fu, X.; Fryd, M.; Wayland, B. B.* "Living radical polymerization of acrylic acid and vinyl acetate mediated by organo-cobalt porphyrin complexes" *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **2006**, *47*, 543.