

# 履歷(*Curriculum Vitae*)

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## 基本資料

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## 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
台灣大學	教授	化學系	2022/08 – 迄今
清華大學	教授	化學系	2021/08 – 2022/07
清華大學	副教授	化學系	2016/08 – 2021/07
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。我們一方面從有機金屬錯合物的設計與合成著手, 研究活性自由基聚合反應的機理與應用。最近更開發出以有機物為控制劑的新系統, 使得反應更環保, 更經濟, 也更具實用性。基於此系統, 我們進一步合成出各式的嵌段共聚物, 並測試其物性與化性, 評估這些新材料作為各種助劑如: 界面活性劑、乳化劑、增稠劑、接著劑的可能性。未來期望這部分的研究可以產業化, 對國內的產業做出實質的貢獻。

另一方面, 我們也與其他團隊合作, 以多酚酮結構作為基礎, 開發新型態的直線型多氧配基。並以這些多氧配基與銅系金屬進行反應, 形成雙核的銅系錯合物, 探討銅系金屬之間的作用力, 並希望藉由一系列雙核銅系錯合物的比較, 研究銅-銅之間及銅系與過渡金屬之間的鍵結, 甚至進而探討  $f$  軌域的作用力。此外藉由多酚酮結構的延伸, 我們也期望合成出四核的銅系錯合物, 這將會是第一個銅系金屬所形成的直線型金屬串錯合物, 對於有機金屬, 配位化學, 及結構化學都會有很大的貢獻。

## 學術榮譽

2023 環境部化學物質管理署\_綠色化學應用與創新獎

2019 中國化學會\_傑出青年化學家獎章

2019 中華民國高分子協會\_傑出青年高分子科技獎

2019 科技部\_優秀年輕學者研究計畫

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\_第十届冯新德高分子奖最佳文章提名奖

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

## 著作目錄

### 期刊論文

1. Benchaphanthawee, W.; Yang, Z.-W.; Hsu, H.-T.; **Peng, C.-H.\*** "Reversible-Deactivation Radical Polymerization of Vinyl Monomers Mediated by Schiff Bases" *Macromolecules* **2025**, 58, 495.
2. Chen, Y.-C.; Huang, X.-F.; Hsu, H.-T.; Wu, E.-T.; **Peng, C.-H.\***; Huang, M. H.\* "Photocatalyzed dimethylacrylamide polymerization in an aqueous solution using 4-nitrophenylacetylene-modified Cu<sub>2</sub>O crystals" *J. Mater. Chem. A* **2024**, 12, 14792.
3. Lin, X.-J.; Wang, C.-L.; **Peng, C.-H.\***; Liu, H.-J.\*; Wu, Y.-K.\* "A Concise Route to Keto-Bridged Polyphenols by Photo-Fries Rearrangement in Flow" *Chem. Asian J.* **2024**, e202400269.
4. Chang, I.-H.; Lu, H.-H.; Ping, H.; Chang, C.-W.; **Peng, C.-H.\*** "Versatile cobalt(Salen-NEt<sub>2</sub>) for aqueous cobalt-mediated radical polymerization" *J. Chin. Chem. Soc.* **2023**, 70, 1076.
5. Hsieh, Y.-L.; Benchaphanthawee, W.; Teng, H.-H.; Huang, N.; Yang, J.-H.; Sun, J.-R.; Lee, G.-H.; Kungwan, N.\*; **Peng, C.-H.\*** "Ring-opening polymerization of cyclic esters mediated by zinc complexes coordinated with benzotriazo-based imino-phenoxy ligands" *Polymer* **2023**, 267, 125687.
6. Lee, T.-Y.; Lu, H.-H.; Cheng, H.-T.; Huang, H.-C.; Tsai, Y.-J.; Chang, I.-H.; Tu, C.-P.; Chung, C.-W.; Lu, T.-T.\*; **Peng, C.-H.\***; Chen, Y.\* "Delivery of nitric oxide with a pH-responsive nanocarrier for the treatment of renal fibrosis" *J. Control. Release* **2023**, 354, 417.
7. Lin, X.-J.; Huang, S.-P.; Huang, M.-J.; Wang, C.-L.; **Peng, C.-H.\***; Liu, H.-J.\*; Wu, Y.-K.\* "Revisiting the synthesis of bis(2-hydroxy-3,5-di-*t*-butylphenyl)methanone" *J. Chin. Chem. Soc.* **2022**, 69, 1803.
8. Lu, H.-H.; Liu, H. W.; Dinh, T. K.; Huang, C.-H.; Huang, H.-C.; Tseng, Y.-C.; Ku, M.-H.; Wang, F.-S.; Chen, Y.\*; **Peng, C.-H.\*** "pH-Responsive, two-in-one doxorubicin and Bcl-2 siRNA-loaded micelleplexes for triple-negative breast cancer therapy" *Polym. Chem.* **2022**, 13, 5568.
9. Wang, F.-S.; Lin, S.-H.; Zheng, G.-H.; Li, M.-H.; Cheng, Y.-C.; **Peng, C.-H.\*** "Coordination of Azobisisobutyronitrile with Cobalt Complexes in Cobalt-Mediated Radical Polymerization Disclosed by Linear Correlation between the Equilibrium Constant and Half-Wave Potential" *Macromolecules* **2022**, 55, 4276.
10. Chang, C.-W.; Jen, Y.-Y.; Tang, S.-C.; Zhang, P.; Chen, C.; **Peng, C.-H.\*** "Reversible-deactivation radical polymerization of vinyl acetate mediated by tralen, an organomediator" *Polym. Chem.* **2021**, 12, 5159.
11. Benchaphanthawee, W.; **Peng, C.-H.\*** "Organo-Cobalt Complexes in Reversible-Deactivation Radical Polymerization" *Chem. Rec.* **2021**, 21, 3628.
12. Wang, F.-S.; Tsai, Y.-W.; Xie, M.-Q.; **Peng, C.-H.\*** "Computation-Assisted Investigation of Polymer Kinetics: Mechanism of the Hybridization of Cobalt-Mediated Radical Polymerization and Atom Transfer Radical Polymerization" *Macromolecules* **2020**, 53, 10855.
13. Chen, S.-J.; Tang, S.-C.; Zhang, P.; Chen, C.\*; **Peng, C.-H.\*** "Aluminum Tralen Complex Mediated Reversible-Deactivation Radical Polymerization of Vinyl Acetate" *ACS Macro Lett.* **2020**, 9, 1423.
14. Wu, Z.; **Peng, C.-H.\***; Fu, X.\* "Tacticity control approached by visible-light induced organocobalt-mediated radical polymerization: the synthesis of crystalline poly(N, N-dimethylacrylamide) with high isotacticity" *Polym. Chem.* **2020**, 11, 4387.
15. Wu, Z.; Wang, Z.; Wang, B.-W.; **Peng, C.-H.\***; Fu, X.\* "Visible-Light-Induced Living/ Controlled Radical Copolymerization of 1-Octene and Acrylic Monomers Mediated by Organocobalt Complexes" *Macromolecules* **2020**, 53, 212.
16. Chen, Y.-H.; Chen, S.-J.; Li, J.-Q.; Huang, C.; Tang, S.-C.; Lee, G.-H.; Liu, Y.-H.; Cheng, W.-T.; Yeh, C.-Y.; **Peng, C.-H.\*** "Cobalt(II) Phenoxy-Imine Complexes in Radical Polymerization of Vinyl Acetate: The Interplay of Catalytic Chain Transfer and Controlled/Living Radical Polymerization" *J. Polym. Sci., Part A: Polym. Chem.* **2020**, 58, 101.

17. Chang, H.-C.; Li, J.-Q.; Lin, C.-K.; Hsu, Y.-J.; Tu, T.-H.; Hsieh, Y.-L.; Hsu, H.-H.; Lee, G.-H.; Liu, Y.-H.; **Peng, C.-H.\*** "Development of dipyridine based coordinative polymers for reusable heterogeneous catalysts" *J. Chin. Chem. Soc.* **2019**, *66*, 1119.
18. Su, C.-H.; Wu, Z.; Lin, C.-K.; Han, H.-A.; Chen, Y.-A.; Chou, P.-T.; Fu, X.\*; **Peng, C.-H.\*** "Polystyrene with Persistently Enhanced Fluorescence: Photo-Induced Atom Transfer Radical Polymerization Using a Pyrene-Based Initiator" *ChemPhotoChem* **2019**, *3*, 1153.
19. 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.
20. 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.
21. 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)
22. 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.
23. 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<sup>II</sup>(TMP), Co<sup>II</sup>(salen\*), and Co<sup>II</sup>(acac)<sub>2</sub> 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)
24. 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.
25. 謝宜良, 王富生, **彭之皓\*** "有機銻金屬錯合物在分子合成上的應用" *化學* **2015**, *73*, 119.
26. Zhao, Y.; Yu, M.; Zhang, S.; Wu, Z.; Liu, Y.; **Peng, C.-H.\***; Fu, X.\* "A Well-defined Versatile Photoinitiator (salen)Co-CO<sub>2</sub>CH<sub>3</sub> for Visible Light Initiated Living/Controlled Radical Polymerization" *Chem. Sci.* **2015**, *6*, 2979.
27. Hsieh, Y.-L.; Huang, N.; Lee, G.-H.; **Peng, C.-H.\*** "Bipyridine-Phenolate Based Aluminum Complexes Mediated Ring-Opening Polymerization of  $\epsilon$ -Caprolactone and Lactides with A High Stereoselectivity" *Polymer* **2015**, *72*, 281.
28. 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.
29. 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.
30. **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.
31. 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.
32. 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.
33. 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.
34. 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.

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35. Lin, H.-Y.; Zhong, B.-J.; Liu, H.-J.; Wu, Y.-K.; **Peng, C.-H.**; Wang, C.-L.\* "Optimal Compositions in the NDI:Pyrene Charge-Transfer Complexes Revealed by Thermal Analysis and Structural Characterizations" *Cryst. Growth Des.* **2024**, *24*, 2833.
36. Ismayilov, R. H.\*; Valiyev, F. F.; Tagiyev, D. B.; Song, Y.; Medjidov, A. A.; Fatullayeva, P. A.; Tüzün, B.\*; Taslimi, P.; **Peng, C.-H.**; Chien, S.-Y.; Lee, G.-H.; Peng, S.-M. "Trinuclear nickel (II) string complexes and copper (II) coordination polymer with pyrazine modulated unsymmetrical dipyridylamino ligand: Synthesis, structure and bioactivity properties with molecular docking" *J. Mol. Struct.* **2024**, *1037*, 137966.
37. Atayde, Jr., E. C.; Fong, G.-L.; Yeh, J.-Y.; Matsagar, B. M.; Wang, Y.-C.; Chen, D.-C.; **Peng, C.-H.**;

- Li, Y.-P.; Yamauchi, Y.; Ho, K.-C.\*; Wu, K. C.-W.\* "Biomass-Based Discrete Furan Oligomers as Materials for Electrochromic Devices" *ACS Sustainable Chem. Eng.* **2024**, *12*, 459.
38. Chang, W.-T.; Sie, J.-H.; Tsai, Y.-W.; Chen, Y.-W.; **Peng, C.-H.**; Wang, X.\*; Wang, C.-L.\* "Synthesis of polystyrene living nanoparticles (LNPs) in water *via* nano-confined free radical polymerization" *Polym. Chem.* **2020**, *11*, 7349.
  39. Scheutz, G. M.; Rowell, J. L.; Wang, F.-S.; Abboud, K. A.; **Peng, C.-H.**; Sumerlin, B. S.\* "Synthesis of functional 1,2-dithiolanes from 1,3-bis-*tert*-butyl thioethers" *Org. Biomol. Chem.* **2020**, *18*, 6509.
  40. Suzuki, J.; Ishizone, A.; Sato, K.; Imai, H.; Tseng, Y.-J.; **Peng, C.-H.**; Oaki, Y.\* "Amorphous flexible covalent organic networks containing redox-active moieties: a noncrystalline approach to the assembly of functional molecules" *Chem. Sci.* **2020**, *11*, 7003.
  41. Ishioka, S.; Watanabe, K.; Imai, H.; Tseng, Y.-J.; **Peng, C.-H.**; Oaki, Y.\* "Glass-transition-induced color-changing resins containing layered polydiacetylene" *Chem. Commun.*, **2019**, *55*, 11723.
  42. 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.
  43. 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.
  44. 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.
  45. 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.
  46. 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.
  47. 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.
  48. **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.
  49. 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.

## 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.