

## 鍾 恬

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### 個人簡介

鍾恬博士，現任澳門科技大學醫學院助理教授。研究領域涉及：多糖-脂質共混體系的疏水締合行為及調控機制、聚乳酸改性與載藥技術、多糖基多元載藥醫用材料、以及納米緩釋技術在食品領域的應用等。目前已在*Carbohydrate Polymers*、*Journal of Agricultural and Food Chemistry*、*Food Control*、*Plant Disease*、*Journal of Food Protection*、*Journal of Food Biochemistry*、*RSC Advance*等國際期刊上發表論文30餘篇，獲授權專利2項。

### 教育經歷

2008.09-2013.06	吉林大學 農業生物環境與能源工程專業	工學博士（碩博連讀）
2001.09-2005.07	吉林大學 食品科學與工程專業	工學學士

### 工作經歷

2020.09 至今	澳門科技大學 醫學院	助理教授
2018.08-2019.08	佛羅里達大學 食品與農業科學研究所	國家公派訪問學者
2016.09-2020.08	吉林大學 南方研究院	研究生導師（兼）
2015.09-2020.08	吉林大學珠海學院 藥學與食品科學學院	副教授、教授
2013.07-2015.09	上海交通大學 化學化工學院	博士後

### 社會兼職

廣東省本科高校食品科學類專業教學指導委員會	委員
珠海市第五屆食品安全專家委員會	委員
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發表論文 (2015 年至今, 按時間倒序排列, \* 為通訊作者, # 為共同第一作者)

1. Yu X., **Zhong T.\***, Zhang Y., Zhao X., Xiao Y. \*, Wang L., Liu X., and Zhang X., Design, Preparation, and Application of Magnetic Nanoparticles for Food Safety Analysis: A Review of Recent Advances. *Journal of Agricultural and Food Chemistry*, 2022. In press.
2. Lin Y., Huang R., Sun X., Yu X., Xiao Y., Wang L., Hu W.\*, and **Zhong T.\***, The p-Anisaldehyde/ $\beta$ -cyclodextrin inclusion complexes as a sustained release agent: Characterization, storage stability, antibacterial and antioxidant activity. *Food Control*, 2022: p. 108561.
3. **Zhong T.**, Zhang J., Sun X., Kou J., Zhang Z., Bai J., and Ritenour M. A.\*, The potential of gaseous chlorine dioxide for the control of citrus postharvest stem-end rot caused by *Lasiodiplodia theobromae*. *Plant Disease*, 2021. In press.
4. Lin Y., Huang R., Sun X., Yu X., Xiao Y., Wang L., Hu W.\*, and **Zhong T.\***, The p-Anisaldehyde/ $\beta$ -cyclodextrin inclusion complexes as fumigation agent for control of postharvest decay and quality of strawberry. *Food Control*, 2021: p. 108346.
5. Sun X., Cameron R. G., Plotto A., **Zhong T.**, Ference C. M., and Bai J.\*, The Effect of Controlled-Release Carvacrol on Safety and Quality of Blueberries Stored in Perforated Packaging. *Foods*, 2021. 10(7): p. 1487.
6. **Zhong T.**, Yu X., Xiao Y., Wang L., Tan L.\*, and Huang R. \*, Incorporating lipid microparticles into carboxymethyl cellulose films as secondary carriers for stable loading and sustained releasing of carvacrol. *Results in Materials*, 2021. 11: p. 100205.
7. Wang L., Jin Y., Wu L., and **Zhong T.\***, Hybrid colloidal gels assembled from inorganic and polymeric nanoparticles as a drug-delivery platform. *Chemical Physics Letters*, 2021. 784: p. 139122.
8. Jin Y., Wang L., Liu Y., Liu X., and **Zhong T.\***, Self-assembled drug-polymer micelles with NO precursor loaded for synergistic cancer therapy. *Journal of Polymer Research*, 2021. 28(8): p. 288.
9. Jiang T., Wang L., Ma A., Wu Y., Wu Q., Wu Q., Lu J., and **Zhong T.\***, The hypoglycemic and renal protective effects of *Grifola frondosa* polysaccharides in early diabetic nephropathy. *Journal of Food Biochemistry*, 2020. 44(12): p. e13515.
10. Chen P., Ference C., Sun X., Lin Y., Tan L., and **Zhong T.\***, Antimicrobial Efficacy of Liposome-Encapsulated Citral and Its Effect on the Shelf Life of Shatangju Mandarin. *Journal of Food Protection*, 2020. 83(8): p. 1315-1322.
11. Zhang J., Kou J., Ozbudak E., **Zhong T.**, Pan T., Bai J., Cano L. M., and Ritenour M. A., First Report of *Gilbertella persicaria* Causing Postharvest Soft Rot of Strawberry Fruit in Florida. *Plant Disease*, 2020. 104(10): p. 2736.
12. **Zhong T.\***, Zhang J., Sun X., Kou J., Zhang Z., Bai J., Hu C., Yan J., and Ritenour M. A., The Potential of Chlorine Dioxide Gas for Postharvest *Diplodia* Stem-End Rot Control on Citrus Fruit. *Hortscience*, 2020. 55(9): p. S343-S344.

13. Sun X., Cameron R., Plotto A., **Zhong T.**, Ference C., and Bai J.\*, Blueberry Safety and Integrity Utilizing Encapsulated Carvacrol. *Hortscience*, 2020. 55(9): p. S345-S345.
14. **Zhong T.**, Zhang J., Kou J., Sun X., Bai J., Brecht J. K., Surgent S. A., Plotto A., and Ritenour M. A.\*, The Effect of Chlorine Dioxide (ClO<sub>2</sub>) Gas on Reducing Postharvest Decay Caused by *Rhizopus stolonifer* in Strawberries. *Proceedings of the Florida State Horticultural Society*, 2019. 132.
15. Kou J., Zhang J., **Zhong T.**, Brecht J. K., Surgent S. A., Plotto A., Bai J., Sun X., and Ritenour M. A.\*, Control of Strawberry Postharvest Decay Caused by *Botrytis cinerea* and *Rhizopus stolonifer* Using Essential Oils (Carvacrol and Thymol). *Proceedings of the Florida State Horticultural Society*, 2019. 132.
16. Zhang J., Kou J., **Zhong T.**, Brecht J. K., Surgent S. A., Plotto A., Bai J., Sun X., and Ritenour M. A.\*, A Slow-Release Chlorine Dioxide Gas Treatment Can Reduce Postharvest Decay of Fresh Strawberries. *Proceedings of the Florida State Horticultural Society*, 2019. 132: p. 195.
17. Zhang Z., Hu C., Chu W., **Zhong T.**, Zhang J., Kou J., and Ritenour M. A.\*, The Effect of Chlorine Dioxide Gas on Postharvest Preservation of Citrus Fruit During Ethylene Degreening. *Proceedings of the Florida State Horticultural Society*, 2019. 132.
18. Cai B., **Zhong T.\***, Chen P., Fu J., Jin Y., Liu Y., Huang R.\*, and Tan L., Preparation, characterization and in vitro release study of drug-loaded sodium carboxymethylcellulose/chitosan composite sponge. *PLoS One*, 2018. 13(10): p. e0206275.
19. **Zhong T.\***, Cai B., and Liu Y., Novel biodegradable star copolymer 2pLa-(trimesic acid)-1peg as hydrophilic drug carrier. *Indian journal of pharmaceutical sciences*, 2018. 80(1): p. 10-11.
20. Liu Y., Liu Y., and **Zhong T.\***, Amphiphilic drug-polymer assembled micelles containing acid-cleavable linker for anticancer drug delivery. *Indian journal of pharmaceutical sciences*, 2018. 80(1): p. 12-12.
21. **Zhong T.**, Fu J., Huang R.\*, and Tan L.\*, Core-shell structured nanospheres for photothermal ablation and pH-triggered drug delivery toward synergistic cancer therapy. *RSC Advances*, 2017. 7(43): p. 26640-26649.
22. **Zhong T.**, Huang R.\*, and Tan L.\*, Amphiphilic drug-drug assembly via dual-responsive linkages for small-molecule anticancer drug delivery. *RSC Advances*, 2016. 6(71): p. 66420-66430.
23. **Zhong T.**, Jiao Y., Guo L., Ding J., Nie Z., Tan L.\*, and Huang R.\*, Investigations on porous PLA composite scaffolds with amphiphilic block PLA-b-PEG to enhance the carrying property for hydrophilic drugs of excess dose. *Journal of Applied Polymer Science*, 2016. 134(8): p. 44489.
24. Fu J., **Zhong T.**, Ding J., and Huang R.\*, Preliminary investigation on the high-pressure gas foaming poly-(L-serine)-ester as a nitric oxide donor. *Journal of Investigative Medicine*, 2016. 64(Suppl 8): p. A1-A2.
25. **Zhong T.**, Huang R., Sui S., Lian Z., Sun X., Wan A.\*, and Li H.\*, Effects of ultrasound

treatment on lipid self-association and properties of methylcellulose/stearic acid blending films. *Carbohydrate Polymers*, 2015. 131: p. 415-423.

26. **Zhong T.**, Huang R.\*, Huang J., and Ouyang W.\*, Injection-Molded Soft Magnets Prepared from Fe-Based Metallic Glass: Mechanical and Magnetic Properties. *Journal of Materials Engineering and Performance*, 2015. 24(10): p. 3892-3896.
27. Zhu X.#, **Zhong T.#**, Huang R.\*, and Wan A.\*, Preparation of hydrophilic poly (lactic acid) tissue engineering scaffold via (PLA)-(PLA-b-PEG)-(PEG) solution casting and thermal-induced surface structural transformation. *Journal of Biomaterials Science, Polymer Edition*, 2015. 26(17): p. 1286-1296.
28. Zhu X., Huang R.\*, **Zhong T.**, and Wan A.\*, Striking Dispersion of Recrystallized Poly(ethylene glycol)-Poly(lactic acid) Solvent-Casting Blend. *Polymer Korea*, 2015. 39(6): p. 889-895.

#### 申請專利 (2015 年至今, 按時間倒序排列)

1. 陳沛洲, **鍾恬**, 等. 一種檸檬醛脂質體果蔬抗菌保鮮劑的製備方法.CN110754522A.實質審查
2. 劉焜, **鍾恬**, 等. 一種香蕉抗性澱粉的製備方法. CN201911213094.X.實質審查
3. **鍾恬**, 黃然. 一種纖維素/殼聚糖基納米保鮮載藥海綿的製備方法.CN107383435A.授權
4. 付佳, **鍾恬**, 等. 一種水準可調、揭膜容易的可食膜流延成型裝置.CN206124052U.授權

#### 研究項目

1. 澳門科技發展基金 (FDCT) 面上項目: 多糖基溫濕雙響應智能控釋食品保鮮複合塗膜的開發與應用研究, 2022-2025, 澳門幣 166.3 萬元, PI
2. 澳門科技發展基金 (FDCT) 科技創新提升計劃項目: 基於低濃度二氧化氯的新型氣調保鮮包裝的應用研究, 2022-2023, 澳門幣 31.7 萬元, PI
3. 澳門科技大學研究基金 (FRG) 一般項目: 氣態二氧化氯控釋熏蒸對草莓采後食品安全與品質指標的控制作用研究, 2021-2022, 澳門幣 10 萬元, PI
4. 珠海市產學研合作項目: 納米晶在改良型抗癌藥物中的研發及運用, 2022-2025, 人民幣 100 萬元, co-I
5. 珠海市產學研合作項目: 重度哮喘治療藥物 IL-5 納米抗體及其吸入粉霧劑的研究與開發, 2021-2024, 人民幣 100 萬元, co-I
6. 珠海市基礎與應用基礎課題研究項目: 高通量紙芯片分析平臺的構建及其在優先污染物智能監測中的應用, 2021-2024, 人民幣 10 萬元, co-I