



澳門大學  
UNIVERSIDADE DE MACAU  
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何鴻燊博士醫療拓展基金會  
Dr. Stanley Ho Medical Development Foundation

澳門大學—何鴻燊博士醫療拓展基金會

University of Macau – Dr. Stanley Ho Medical Development Foundation

“揚帆追夢、創啟未來” 2023年度獲資助研究項目

“SET SAIL FOR NEW HORIZONS, CREATE THE FUTURE” FUNDED PROJECT FOR 2023

## 金屬-多酚模塊化基元組裝成可植入超級貼片用於術後腫瘤防治的研究

### Implantable superstructuring patch assembled by metal-phenolic building blocks for postoperative cancer treatment



代教授團隊設計合成了多功能金屬多酚配位納米材料，進一步將納米材料整合到殼聚糖柔性貼片內，原位貼合柔性貼片於術後腫瘤區域，貼片可通過響應週邊微環境緩慢釋放攜帶的納米粒子，實現特異性抗腫瘤免疫激活。以上基於金屬多酚配位納米材料和可植入柔性貼片的相關成果發表在今年的 Nature Communications, Advanced Science, Advanced Functional Materials和ACS Nano等知名期刊上，相關專利也已提交申請。

Prof. DAI's group designed and synthesized multifunctional metal-phenolic coordinated nanoparticles and further integrated the nanoparticles into a chitosan-based flexible patch and implanted the patch to the postoperative tumor area (POTA). The patch could slowly release the nanoparticles in a POTA-responsive mode and achieve tumor-specific immune activation. The above related outputs based on metal-phenolic coordinated nanoparticles and implantable flexible patches have been published in prestigious journals such as Nature Communications, Advanced Science, Advanced Functional Materials and ACS Nano this year, and related patent applications have also been submitted.

代雲路教授  
Prof. Yunlu DAI

代雲路，澳門大學健康科學學院公共衛生及醫藥管理學系副教授，主持國家自然科學基金委優秀青年科學基金，入選2020年全球前2% 頂尖科學家榜單，並榮獲2020/2021學年澳門大學健康科學學院最佳教師(卓越研究)獎。

Yunlu DAI is an Associate Professor at the Department of Public Health and Medicinal Administration, Faculty of Health Sciences, University of Macau and an awardee of the NSFC Excellent Young Scientist Fund. He was featured among the World's Top 2% Scientists List in 2020 and also received the Best Teacher Award (Excellence in Research) of Faculty of Health Sciences, University of Macau in 2020/2021.

