Department of Materials Science and Engineering, NTU

羅世強 (Luo, Shyh-Chyang)

Professor

SCI Papers

1. Chia-Hsuan Lin and **Shyh-Chyang Luo*** "Zwitterionic Conducting Polymers: From Molecular Design, Surface Modification, and Interfacial Phenomenon to Biomedical Applications" [Invited Feature Article] *Langmuir*, **2022**, *38*, 7383-7399.
2. Jing-Ju Huang, Chia-Hsuan Lin, Yukiko Tanaka, Aki Yamamoto, **Shyh-Chyang Luo*** and Masaru Tanaka* "Manipulation of Surface Hydration States by Tuning the Oligo(Ethylene Glycol) Moieties on PEDOT to Achieve Platelet-Resistant Bioelectrode Applications" *Advanced Materials Interfaces*, **2022**, *9*, 2200707.
3. Chengfeng Cai, Jing-Ju Huang, Koki Sano, Yicheng Zhu, Yunhua Zhang, Qing Wu, Bo Zhu, Yasuhiro Ishida,* **Shyh-Chyang Luo**,* and Hsing-An Lin* "A water-soluble corannulene with highly efficient ROS production" *Materials Chemistry and Physics*, **2022**, 281, 125885.
4. Chia-Hsuan Lin and **Shyh-Chyang Luo*** "Combination of AFM and electrochemical QCM-D for Probing Zwitterionic Polymer Brushes in Water: Visualization of Ionic Strength and Surface Potential Effects" *Langmuir*, **2021**, *37*, 12476-12486.
5. Jing-Ju Huang, Hsing-An Lin,* Chi Chen, Po-Wen Tang and **Shyh-Chyang Luo*** "Corannulene-Based Donor-Acceptor-Type Conjugated Polymers with Electrochromic Properties" *Journal of Materials Chemistry C*, **2021**, *9*, 7919-7927.
6. Mei-Hwa Lee, Kuan-Ting Liu, James L. Thomas, Zi-Lin Su, Danny OHare, Thea van Wuellen, Jennifer Modamio Chamarro, Silvia Bolognin, **Shyh-Chyang Luo**,* Jens C. Schwamborn,* Hung-Yin Lin* "Peptide-Imprinted Poly(hydroxymethyl 3,4-ethylenedioxythiophene) Nanotubes for Detection of Synuclein in Human Brain Organoids" *ACS Applied Nano Materials*, **2020**, 3, 8027-8036.
7. Mi Chin, Seiichi Tada, Min-Han Tsai, Yoshihiro Ito* and **Shyh-Chyang Luo*** "Strategy to Immobilize Peptide Probe Selected through in Vitro Ribosome Display for Electrochemical Aptasensor Application" *Analytical Chemistry*, **2020**, *92*, 11260-11267.
8. Jhih-Guang Wu, Shu-Chen Wei and **Shyh-Chyang Luo*** "In Situ Probing Unusual Protein Adsorption Behavior on Electrified Zwitterionic Conducting Polymers" *Advanced Materials Interfaces*, **2020**, *7*, 2000470.
9. Yow-Kuan Lin, Ruo-Ju Tai, Shu-Chen Wei* and **Shyh-Chyang Luo*** "Electrochemical SERS on 2D Mapping for Metabolites Detection" *Langmuir*, **2020**, *36*, 5990–5996.
10. Ya-Qiong Zhang, Hsing-An Lin,* Qi-Chao Pan, Si-Hao Qian, Shu-Hua Zhang, Gao Qiu, **Shyh-Chyang Luo**,* Hsiao-hua Yu,* Bo Zhu* "Tunable Protein/Cell Binding and Interaction to

Neurite Outgrowth of Low-Impedance Zwitterionic PEDOTs" *ACS Applied Materials & Interfaces*, **2020**, *12*, 12362-12372.

11. Masaru Mukai, Chao-Hung Cheng, Wei Ma, Mi Chin, Chia-Hsin Lin, **Shyh-Chyang Luo*** and Atsushi Takahara* "Synthesis of Conductive Polymer Thin Film Having Choline Phosphate Side Group and Their Bioadhesive Properties" *Chemical Communications*, **2020**, *56*, 2691-2694.
12. Tharwat Hassan Mansoure, Hailemichael Ayalew, Wei-Lun Kao, Jing-Jong Shyue, **Shyh-Chyang Luo**,* Yuan-Chung Cheng,* and Hsiao-hua Yu* "Perfluoro-Functionalized Conducting Polymers Enhance Electrocatalytic Oxygen Reduction"*ACS Applied Energy Materials*, **2020**, *3*, 1171-1180.
13. Bor-Shiunn Lee, Yi-Chen Lin, Wei-Chieh Hsu, Cheng-Hung Hou, Jing-Jong Shyue, Shu-Yun Hsiao, Pei-Ju Wu, Ying-Te Lee and **Shyh-Chyang Luo*** "Engineering Antifouling and Antibacterial Stainless Steel for Orthodontic Appliances through Layer-by-Layer Deposition of Nanocomposite Coatings" *ACS Applied Bio Materials*, **2020**, 3, 486-494.
14. Bo-Chang Lai, Jhih-Guang Wu and **Shyh-Chyang Luo*** "Revisiting Background Signals and the Electrochemical Windows of Au, Pt, and GC Electrodes in Biological Buffers" *ACS Applied Energy Materials*, **2019**, *2*, 6808-6816.
15. Min-Han Tsai, Yow-Kuan Lin, and **Shyh-Chyang Luo*** "Electrochemical SERS for in Situ Monitoring the Redox States of PEDOT and Its Potential Application in Oxidant Detection" *ACS Applied Materials & Interfaces*, **2019**, *11*, 1402-1410.
16. Yue Chen and **Shyh-Chyang Luo*** "Synergistic Effects of Ions and Surface Potentials on Antifouling Poly(3,4-ethylenedioxythiophene): Comparison of Oligo(Ethylene Glycol) and Phosphorylcholine" *Langmuir* **2019**, *35*, 1199-1210.
17. Po-Chun Huang, Mo-Yuan Shen, Hsiao-hua Yu, Shu-Chen Wei, and **Shyh-Chyang Luo*** "Surface Engineering of Phenylboronic Acid-Functionalized Poly(3,4-ethylenedi-oxythiophene) for Fast Responsive and Sensitive Glucose Monitoring" *ACS Applied Bio Materials*, **2018**, *1*, 160-167.
18. Hsing-An Lin, Bo Zhu,* Yu-Wei Wu, Jun Sekine, Aiko Nakao, **Shyh-Chyang Luo**,* Yoshiro Yamashita* and Hsiao-hua Yu* "Dynamic Poly(3,4-ethylenedioxythiophene)s Integrate Low Impedance with Redox-switchable Biofunction" *Advanced Functional Materials*, **2018**, 28, 1703890.
19. Jhih-Guang Wu, Shu-Chen Wei, Yue Chen, Jie-Hao Chen and **Shyh-Chyang Luo*** "Critical Study of the Recognition between C-Reactive Protein and Surface-Immobilized Phosphorylcholine by Quartz Crystal Microbalance with Dissipation" *Langmuir* **2018**, 34, 943-951.

Patents

專利名稱	國別	專利號碼	發明人	專利權人	專利期間

α-突觸核蛋白感測薄膜及其製造方法與用途	中華民國	I745993	林宏殷、羅世強、李玫樺、蘇子麟	國立高雄大學	
噻吩類聚合物之拓印電極薄膜的製備方法及用途	中華民國	I668245	林宏殷、羅世強、李玫樺	國立高雄大學	