

Research papers

1. **Luling Wu**,[#] Jihong Liu,[#] Xue Tian,[#] Robin R. Groleau, Beidou Feng, Yonggang Yang, Adam C. Sedgwick, Hai-Hao Han,* Yang Wang, Han-Min Wang, Fang Huang, Steven D. Bull, Hua Zhang,* Chusen Huang* Yi Zang, Jia Li, Xiao-Peng He, Ping Li,* Bo Tang, Tony D. James,* and Jonathan L. Sessler,* Dual-channel fluorescent probe for the simultaneous monitoring of peroxynitrite and adenosine-5'-triphosphate in cellular applications, *Journal of the American Chemical Society*, **2022**, *144*, 174-183. (The probe is commercially available on MERCK <https://www.sigmaaldrich.com/GB/en/product/mm/sct069>)
2. Nanan Ruan,[#] Qianfang Qiu,[#] Xiaoqin Wei, Jiajia Liua, **Luling Wu**,* Nengqin Jia, Chusen Huang,* Tony D. James,* *De novo* green fluorescent protein probes for capturing latent fingerprints using a portable system, *Journal of the American Chemical Society*, **2024**, *146*, 2072–2079
(ESI highly cited paper, highlighted by BBC <https://www.bbc.co.uk/news/uk-england-somerset-68435495>; RSC Chemistry World <https://www.chemistryworld.com/news/new-spray-on-dyes-can-instantly-reveal-fingerprints-at-crime-scenes/4018872.article>; Eurekalert <https://www.eurekalert.org/news-releases/1035617>)
3. Yanan Gao,[#] Qingjie Bai,[#] Youxiao Ren,[#] Xintian Shao, Mengrui Zhang, **Luling Wu***, Simon E. Lewis Tony D. James, Xiaoyuan Chen*, Qixin Chen*, A Small-molecule drug for self-monitoring mitophagy, *Angewandte Chemie International Edition*, **2025**, *64*, e202421269.
4. Jihong Liu, Wen Zhang,* Chunmiao Zhou, Mengmei Li, Xin Wang, Wei Zhang, Zhenzhen Liu, **Luling Wu**,* Tony D. James,* Ping Li,* and Bo Tang,* Precision navigation of hepatic ischemia-reperfusion injury guided by lysosomal viscosity-activatable NIR-II fluorescence, *Journal of the American Chemical Society*, **2022**, *144*, 13586-13599. (ESI highly cited paper, Supplementary cover)
5. Jihong Liu, Wen Zhang,* Xin Wang, Qi Ding, Chuanchen Wu, Wei Zhang, **Luling Wu**,* Tony D. James,* Ping Li,* and Bo Tang,* Unveiling the crucial roles of O₂^{•−} and ATP in hepatic ischemia–reperfusion injury using dual-color/reversible fluorescence imaging, *Journal of the American Chemical Society*, **2023**, *145*, 19662-19675
6. Minglu Zhang, Shanshan Liang, Meng Wang, Tingfeng Zhang, Jinke Liu, Yuyuan Peng, Hao Fang, Lingna Zheng, Xiao He, Meng Wang, **Luling Wu**,* Tony D. James, Wei Zhao,* Bing Wang,* and Weiyue Feng, Liposomal nanoconfinement enables type I photodynamic conversion for synergistic cancer photothermal-immunotherapy, *Advanced Science*, **2026**, *13*, e15013.
7. Wei Wang,[#] Guanrui Huang,[#] Yeting Zhou, Yue Wang, **Luling Wu**,* Tony D. James, Weili Wang,* Yi Wang*, Design and optimization of caspase-1-responsive fluorescent probes for pyroptosis imaging and anti-pyroptosis drug screening, *Chemical Science*, **2026**, *17*, 585-596.
8. Jia Chen,* Xueqian Wang, Mengrui Zhang, Xue Wang, Ran Wang, Xinxing Lyu, Yunjian Xu, Xintian Shao,* **Luling Wu*** and Tony D. James, Switchable supramolecular polycationic assemblies for tunable antibacterial strategies against antibiotic resistance, *Chemical Science*, **2025**, *16*, 20355-20367.
9. **Luling Wu**,[#] Jihong Liu,[#] Xue Tian, Robin R. Groleau, Steven D. Bull, Ping Li,* Bo Tang,* and Tony D. James,* Fluorescent probe for the imaging of superoxide and peroxynitrite during drug-induced liver injury, *Chemical Science*, **2021**, *12*, 3921-3928.
10. Li Zhao, Simin Jiang, Yanmei He, **Luling Wu**,* Tony D. James, and Junsheng Chen,* Unraveling the fluorescence mechanism of 4-hydroxyisoindoline-1,3-dione for the detection of peroxynitrite, *Physical Chemistry Chemical Physics*

11. Tongxia Jin,[#] **Luling Wu**,[#] Ti Jia, Rongrong Zhao, Chusen Huang,* Mengfang Tang, Weiping Zhu,* Yufang Xu, Tony D. James* and Xuhong Qian,* Simultaneous tracing of protein vicinal dithiols in live cells using an “off-on” fluorescent probe, *Sensors and Actuators B: Chemical*, **2025**, 436, 137685.
12. Huan Li,[#] Chengcheng Wang,[#] Lei Cai, Xiang Yu, **Luling Wu**,* Nannan Yuan, Yiming Zhu, Nengqin Jia, Tony James,* Chusen Huang,* Versatile ratiometric fluorescent probe based on the two-isophorone fluorophore for sensing of nitroxyl, *Industrial & Engineering Chemistry Research*, **2021**, 60, 15913-15920.
13. **Luling Wu**, Xiaolin Li, Chusen Huang* and Nengqin Jia,* Dual-modal colorimetric/fluorescence molecular probe for ratiometric sensing of pH and its application, *Analytical Chemistry*, **2016**, 88, 8332-8338.
14. **Luling Wu**, Xiaolin Li, Yifei Ling, Chusen Huang* and Nengqin Jia,* Morpholine derivative-functionalized carbon dots fluorescent probe for highly selective lysosomal imaging in living cells, *ACS Applied Materials & Interfaces*, **2017**, 9, 28222-28232.
15. Xiaoqin Wei,[#] Yiming Zhu,[#] Xiang Yu, Lei Cai, Nanan Ruan, **Luling Wu**,* Nengqin Jia, Tony D. James,* and Chusen Huang,* Endoplasmic reticulum targeting green fluorescent protein chromophore-based probe for the detection of viscosity, *Chemical Communications*, **2022**, 58, 10727-10730.
16. **Luling Wu**,[#] Xue Tian,[#] Dong Joon Lee, Juyoung Yoon, Chang Su Lim,* Hwan Myung Kim,* and Tony D. James,* Two-photon ESIPT-based fluorescent probe using 4-hydroxyisoindoline-1,3-dione for the detection of peroxynitrite, *Chemical Communications*, **2021**, 57, 11084-11087.
17. **Luling Wu**, Yang Wang, Tony D. James,* Nengqin Jia* and Chusen Huang,* A hemicyanine based ratiometric fluorescence probe for mapping lysosomal pH during heat stroke in living cells, *Chemical Communications*, **2018**, 54, 5518-5521. (front cover)
18. **Luling Wu**, Qingye Yang, Liyuan Liu, Adam C. Sedgwick,* Alexander J. Cresswell,* Steven D. Bull,* Chusen Huang* and Tony D. James*, ESIPT-based fluorescence probe for the rapid detection of hypochlorite (HOCl/CIO⁻), *Chemical Communications*, **2018**, 54, 8522-8525.
19. **Luling Wu**,[#] Yang Wang,[#] Maria Weber, Liyuan Liu, Adam C. Sedgwick,* Steven D. Bull,* Chusen Huang* and Tony D. James,* ESIPT-based ratiometric fluorescence probe for the intracellular imaging of peroxynitrite, *Chemical Communications*, **2018**, 54, 9953-9956.
20. **Luling Wu**,[#] Hai-Hao Han,[#] Liyuan Liu, Jordan E. Gardiner, Adam C. Sedgwick, Chusen Huang* Steven D. Bull,* Xiao-Peng He* and Tony D. James,* ESIPT-based fluorescence probe for the rapid detection of peroxynitrite ‘AND’ biological thiols, *Chemical Communications*, **2018**, 54, 11336-11339.
21. Lei Cai, Huan Li, Xiang Yu, **Luling Wu**,* Xiaoqin Wei, Tony D. James,* and Chusen Huang*, A green fluorescent protein GFP-chromophore based fluorescence probe for the detection of mitochondrial viscosity in living cells, *ACS Applied Bio Materials*, **2021**, 4, 2128–2134.
22. **Luling Wu**, Liyuan Liu, Hai-Hao Han, Xue Tian, Maria L. Odyneec, Lei Feng, Adam C. Sedgwick,* Xiao-Peng He, Steven D. Bull* and Tony D. James,* ESIPT-based fluorescence probe for the ratiometric detection of superoxide, *New Journal of Chemistry*, **2019**, 43, 2875-2877.
23. **Luling Wu**, Jordan E. Gardiner, Lokesh K. Kumawat, Hai-Hao Han, Ruiying Guo, Xin Li,* Xiao-Peng He,* Robert B.

- P. Elmes,* Adam C. Sedgwick,* Steven D. Bull* and Tony D. James*, Coumarin-based fluorescent ‘AND’ logic gate probes for the detection of homocysteine and a chosen biological analyte, *RSC Advances*, **2019**, *9*, 26425-26428.
24. **Luling Wu**,[#] Xue Tian,[#] Hai-Hao Han, Jie Wang, Robin R. Groleau, Paramabhorn Tosuwan, Boontana Wannalerse, Adam C. Sedgwick, Steven D. Bull, Xiao-Peng He* and Tony D. James*, A simple near-infrared fluorescent probe for the detection of peroxyxynitrite, *ChemistryOpen*, **2019**, *8*, 1407-1409.
 25. **Luling Wu**,^{*,#} Xue Tian,[#] Jie Wang, Robin R. Groleau, Hai-Hao Han, Shaun B. Reeksting, Adam C. Sedgwick, Xiao-Peng He, Steven D. Bull and Tony D. James,* Coumarin-based fluorescence probe for the rapid detection of peroxyxynitrite ‘AND’ biological thiols, *RSC Advances*, **2020**, *10*, 13496-13499.
 26. Xue Tian,[#] Lokesh K. Kumawat,[#] Steven D. Bull, Robert B. P. Elmes,* **Luling Wu***, and Tony D. James,* Coumarin-based fluorescent probe for the detection of biothiols and nitroreductase, *Tetrahedron*, **2021**, *82*, 131890.
 27. Mengfang Tang,[#] **Luling Wu**,[#] Dan Wu, Chusen Huang,* Weiping Zhu,* Yufang Xu and Xuhong Qian, An “off-on” fluorescent probe for the detection of cysteine /homocysteine and its imaging in living cells, *RSC Advances*, **2016**, *6*, 34996-35000.
 28. Xiaoting Niu,[#] Yufan Fan,[#] Guanghao Zhu, Hairong Zeng, Bei Zhao, Mengru Sun, Lin Chen, **Luling Wu**, Zhenhao Tian, Tony D. James,* Guangbo Ge*, Rational engineering of isoform-specific hSULT1E1 fluorogenic substrates for functional analysis and inhibitor screening, *Biosensors and Bioelectronics*, **2025**, *275*, 117192
 29. Feng Zhang, Lilin Song, Ruixuan Wang, Bei Zhao, Jian Huang, **Luling Wu**, Yufan Fan, Hong Lin, Zhengtao Jiang, Xiaodi Yang, Hairong Zeng, Xin Yang, Tony D. James,* Guangbo Ge,* Functional Imaging of CYP3A4 at Multiple Dimensions Using an AI-Driven High Performance Fluorogenic Substrate, *Small*, **2025**, 2412178
 30. Junhua Jia, **Luling Wu**, Yu Ding, Chusen Huang,* Weiping Zhu,* Yufang Xu and Xuhong Qian, A DPA-based highly selective and sensitive fluoresescent probe for mercuric ions and its imaging in living cells, *Dalton Transactions*, **2016**, *45*, 9402-9406.
 31. **Luling Wu**, Yifei Ling, Chusen Huang* and Nengqin Jia,* Morpholine derivative-functionalized carbon dots as a fluorescent probe for highly selective lysosome imaging in living cells, *Journal of Controlled Release*, **2017**, *259*, e21. (conference paper)
 32. Adam C. Sedgwick,[#] Wei-Tao Dou,[#] Jin-Biao Jiao, **Luling Wu**, George T. Williams, A. Toby A. Jenkins, Steven D. Bull, Jonathan L. Sessler,* Xiao-Peng He* and Tony D. James*, An ESIPT Probe for the Ratiometric Imaging of Peroxyxynitrite Facilitated by Binding to A β -Aggregates, *Journal of the American Chemical Society*, **2018**, *140*, 14267-14271.

Perspective, Review and Editorial

33. Qianfang Qiu,[#] **Luling Wu**,^{*,#} Robin R. Groleau, Xuanyu Zhu, Tony D. James,* Chusen Huang,* Lighting Up Biology: GFP-Inspired Fluorescent Probes for Sensing and Imaging, *Journal of the American Chemical Society*, **2026**, *148*, 35183–35202.
34. **Luling Wu**,[#] Zilu Li,^{*,#} Kun Wang, Robin R. Groleau, Xiaodi Rong, Xueting Liu, Caiyun Liu, Simon E. Lewis, Baocun Zhu,* and Tony D. James,* Advances in Organic Small Molecule-Based Fluorescent Probes for Precision Detection of Liver Diseases: A Perspective on Emerging Trends and Challenges, *Journal of the American Chemical Society*, **2025**,

35. **Luling Wu**,[#] Jiaguo Huang,[#] Kanyi Pu,* and Tony D. James*, Dual-locked spectroscopic probes for sensing and therapy, *Nature Reviews Chemistry*, **2021**, 5, 406-421. (ESI highly cited paper)
36. **Luling Wu**, Adam C. Sedgwick, Xiaolong Sun, Steven D. Bull, Xiao-Peng He, and Tony D. James*, Reaction-Based Fluorescent Probes for the Detection and Imaging of Reactive Oxygen, Nitrogen, and Sulfur Species, *Accounts of Chemical Research*, **2019**, 52, 2582-2597. (ESI highly cited paper and hot paper)
37. **Luling Wu**,^{*,#} Jihong Liu,[#] Ping Li* and Bo Tang,* Tony D. James,* Two-photon small-molecule fluorescence-based agents for sensing, imaging and therapy within biological systems, *Chemical Society Reviews*, **2021**, 50, 702-734. (front cover, ESI highly cited paper)
38. **Luling Wu**, Chusen Huang,* Ben P. Emery, Adam C. Sedgwick, Steven D. Bull, Xiao-Peng He, He Tian,* Juyoung Yoon*, Jonathan L. Sessler* and Tony D. James*, Förster resonance energy transfer (FRET)-based small-molecule sensors and imaging agents, *Chemical Society Reviews*, **2020**, 49, 5110-5139. (front cover, ESI highly cited paper and hot paper)
39. Jihong Liu,[#] **Luling Wu**,[#] Zhirong Zhu, Chenxu Yan, Yutao Zhang, Ting Yang, Shiyun Xu, Haojian Yang, Shichang Liu, Wenjun Tang, Xiaoyu Ma, Simon E. Lewis, Qi Wang,* Tony D. James,* and Wei-Hong Zhu*, Dual-Responsive Fluorescent probes: advances in biosensing, diagnosis and therapy, *Advanced Functional Materials*, **2025**, e15602
40. Guang Chen^{*,#} Jing Yua,[#] **Luling Wu**,[#] Xinrui Ji, Chao Wang, Siyue Ma, Qing Miao, Linlin Wang, Chen Wang, Simon E. Lewis, Yanfeng Yue,* Zhe Sun,* Yuxia Liu,* Bo Tang,* and Tony D. James,* Fluorescent small molecule donors, *Chemical Society Reviews*, **2024**, 53, 6345-6398
41. Hai-Hao Han, Han-Min Wang, Paramesh Jangili, Mingle Li, **Luling Wu**,* Yi Zang, Adam C. Sedgwick,* Jia Li,* Xiao-Peng He,* Tony D. James* and Jong Seung Kim,* The design of small-molecule prodrugs and activatable phototherapeutics for cancer therapy, *Chemical Society Reviews*, **2023**, 52, 879-920.
42. Baoshuai Wang, Longfang Ren,* Mingli Li, Xi Zhang, Wei Hu,* Fei Cheng,* **Luling Wu**,* Tony D. James,* and Taotao Qiang,* Advances in ferroptosis: Synergistic therapies and fluorescent probes as arrows to target cancer's achilles heel, *Coordination Chemistry Reviews*, **2025**, 541, 216779.
43. Xue Tian,[#] Lloyd C. Murfin,[#] **Luling Wu**,* Simon E. Lewis,* and Tony D. James,* Fluorescent Small Organic Probes for Biosensing, *Chemical Science*, **2021**, 12, 3406-3426. (ESI highly cited paper)
44. **Luling Wu**,* and Tony D. James,* Special issue on “Molecular sensors and molecular logic gates”, *Frontiers of Chemical Science and Engineering*, **2022**, 16, 1-3.
45. Ziyang Shen,[#] Shuang Chao,[#] **Luling Wu**, Huanyu Liu, Yuxin Pei,* Tony D. James* and Zhichao Pei*, Advances in the bioapplications of ionic pillararenes, *Chemical Society Reviews*, **2025**, 54, 8345-8405.
46. Adam C. Sedgwick, **Luling Wu**, Hai-Hao Han, Steven D. Bull,* Xiao-Peng He,* Tony D. James,* Jonathan L. Sessler,* Ben Zhong Tang,* He Tian* and Juyoung Yoon*, Excited-state intramolecular proton-transfer (ESIPT) based fluorescence sensors and imaging agents, *Chemical Society Reviews*, **2018**, 47, 8842-8880. (IF: 40.443, ESI highly cited paper)
47. Junling Yin, Ling Huang, **Luling Wu**, Jiangfeng Li, Tony D. James,* and Weiyang Lin,* Small molecule based fluorescent chemosensors for imaging the microenvironment within specific cellular regions, *Chemical Society Reviews*, **2021**, 50, 12098-12150.

48. Youxin Fu,[#] Xing Zhang,[#] **Luling Wu**, Miaomiao Wu, Tony D. James* and Run Zhang*, Bioorthogonally activated probes for precise fluorescence imaging, *Chemical Society Reviews*, **2025**, *54*, 201-265.
49. Xin Wang,[#] Qi Ding,[#] Robin R. Groleau, **Luling Wu**, Yuantao Mao, Feida Che, Oxana Kotova, Eoin M. Scanlan, Simon E. Lewis,* Ping Li,* Bo Tang,* Tony D. James,* Thorfinnur Gunnlaugsson,* Fluorescent probes for disease diagnosis, *Chemical Reviews*, **2024**, *124*, 7106-7164

Book and book chapters

50. Fluorescent Chemosensors, edited by **Luling Wu**, Adam C. Sedgwick, Xiao-Peng He and Tony D. James, published by the Royal Society of Chemistry, **2023**, DOI: <https://doi.org/10.1039/9781839167324> ISBN (print): 978-1-83916-386-9
51. **Luling Wu**, Adam C. Sedgwick, Xiao-Peng He and Tony D. James,* "Welcome to Fluorescent Chemosensors", Fluorescent Chemosensors, **2023**, DOI: <https://doi.org/10.1039/9781839167324-00001>