Appendix 1. List of publications in 2016 and impact factors

Direction I Analysis and toxicology research of existing, emerging and potential POPs

1. Zhong, Y.H., Chen, Z.F., Liu, S.S., Dai, X.X., Zhu, X.P., Zheng, G.M., Liu, S.G., Liu, G.G., and Cai, Z.W. (2017). Analysis of azole fungicides in fish muscle tissues: Multi-factor optimization and application to environmental samples. Journal of Hazardous Materials *324*, 535-543. 4.836

2. Li, A.J., Schmitz, O.J., Stephan, S., Lenzen, C., Yue, P.Y.K., Li, K.B., Li, H.S., and Leung, K.S.Y. (2016). Photocatalytic transformation of acesulfame: Transformation products identification and embryotoxicity study. Water Research *89*, 68-75. 5.323

3. Yang, L., Li, J.G., Lai, J.Q., Luan, H.M., Cai, Z.W., Wang, Y.B.N., Zhao, Y.F., and Wu, Y.N. (2016). Placental Transfer of Perfluoroalkyl Substances and Associations with Thyroid Hormones: Beijing Prenatal Exposure Study. Scientific Reports *6*. 5.228

4. Yang, L., Wang, Z., Shi, Y., Li, J.G., Wang, Y.X., Zhao, Y.F., Wu, Y.N., and Cai, Z.W. (2016). Human placental transfer of perfluoroalkyl acid precursors: Levels and profiles in paired maternal and cord serum. Chemosphere *144*, 1631-1638. 3.698

5. Tohidi, F., and Cai, Z.W. (2017). Fate and mass balance of triclosan and its degradation products: Comparison of three different types of wastewater treatments and aerobic/anaerobic sludge digestion. Journal of Hazardous Materials *323*, 329-340. 4.836
6. Zhu, Y.S., Wan, Y.J., Li, Y.Y., Zhang, B., Zhou, A.F., Cai, Z.W., Qian, Z.M., Zhang, C.C., Huo, W.Q., Huang, K., *et al.* (2016). Free 5.929

and total urinary phthalate metabolite concentrations among pregnant women from the Healthy Baby Cohort (HBC), China. Environment International *88*, 67-73.

7. Yang, Z.Y., Luo, Q., Liang, Y., and Mazumder, A. (2016). Processes and pathways of ciguatoxin in aquatic food webs and fish poisoning of seafood consumers. Environmental Reviews 24, 144-150. 4.63
8. Wu, Q., Fang, J., Li, S.F., Wei, J.T., Yang, Z.Y., Zhao, H.Z., Zhao, C., and Cai, Z.W. (2017). Interaction of bisphenol A 3,4-quinone metabolite with glutathione and ribonucleosides/deoxyribonucleosides in vitro. Journal of Hazardous Materials *323*, 195-202. 4.836
9. Lai, K.P., Chung, Y.T., Li, R., Wan, H.T., and Wong, C.K.C. (2016). Bisphenol A alters gut microbiome: Comparative metagenomics analysis. Environmental Pollution *218*, 923-930. 4.839
10. Li, S.F., Jin, Y.B., Wang, J., Tang, Z., Xu, S.Q., Wang, T.J., and Cai, Z.W. (2016). Urinary profiling of cis-diol-containing metabolites in rats with bisphenol A exposure by liquid chromatography-mass spectrometry and isotope labeling. Analyst *141*, 1144-1153. 4.033
11. Ma, Y.Q., Cheng, Y.B., Qiu, X.H., Lin, Y., Cao, J., and Hu, D. (2016). A quantitative assessment of source contributions to fine particulate matter (PM2.5)-bound polycyclic aromatic hydrocarbons (PAHs) and their nitrated and hydroxylated derivatives in Hong Kong. Environmental Pollution *219*, 742-749. 4.839
12. Shi, J.C., Li, P., Li, Y.L., Liu, W.H., Zheng, G.J.S., Xiang, L., and Huang, Z.W. (2016). Polychlorinated biphenyls and organochlorine pesticides in surface sediments from Shantou Bay, China: Sources, seasonal variations and inventories. Marine Pollution Bulletin *113*, 585-591. 3.099
13. Tohidi, F., and Cai, Z.W. (2016). Adsorption isotherms and kinetics for the removal of triclosan and methyl triclosan from wastewater using inactivated dried sludge. Process Biochemistry *51*, 1069-1077. 2.529
14. Shi, J.C., Zheng, G.J.S., Wong, M.H., Liang, H., Li, Y.L., Wu, Y.L., Li, P., and Liu, W.H. (2016). Health risks of polycyclic aromatic hydrocarbons via fish consumption in Haimen bay (China), downstream of an e-waste recycling site (Guiyu). Environmental Research *147*, 233-240. 3.088
15. Gao, X., Lin, S.H., Ren, F., Li, J.T., Chen, J.J., Yao, C.B., Yang, H.B., Jiang, S.X., Yan, G.Q., Wang, D., et al. (2016). Acetate functions as 11.329

an epigenetic metabolite to promote lipid synthesis under hypoxia. Nature Communications, 7.

16. Elva Ngai-Yu Lei, Man-Shan Yau, Chi-Chung Yeung, Margaret B Murphy, Ka-Leung Wong, Michael Hon-Wah Lam. Profiling of selected functional metabolites in the central nervous system of marine medaka (Oryzias melastigma) for environmental neurotoxicological assessments. *Archives of Environmental Contamination and Toxicology*, (2016) 1-12 — 2.039

Direction II Establishment of integrated platform of proteomics and metabolomics to study human disease associated with the POPs

1. Zhao, H.Z., Xiang, L., Li, J.F., Yang, Z.Y., Fang, J., Zhao, C., Xu, S.Q., and Cai, Z.W. (2016). Investigation on fragmentation pathways of bisphenols by using electrospray ionization Orbitrap mass spectrometry. Rapid Communications in Mass Spectrometry *30*, 1901-1913. — 2.226
2. Lin, S.H., Liu, T.F., Ming, X.Y., Tang, Z., Fu, L., Schmitt-Kopplin, P., Kanawati, B., Guan, X.Y., and Cai, Z.W. (2016). Regulatory role of hexosamine biosynthetic pathway on hepatic cancer stem cell marker CD133 under low glucose conditions. Scientific Reports *6*. — 5.228
3. Yang, X.Q., Lin, Z.A., Yan, X.P., and Cai, Z.W. (2016). Zeolitic imidazolate framework nanocrystals for enrichment and direct detection of environmental pollutants by negative ion surface-assisted laser desorption/ionization time-of-flight mass spectrometry. Rsc Advances *6*, 23790-23793. — 3.289
4. Xu, I.M.J., Lai, R.K.H., Lin, S.H., Tse, A.P.W., Chiu, D.K.C., Koh, H.Y., Law, C.T., Wong, C.M., Cai, Z.W., Wong, C.C.L., *et al.* (2016). Transketolase counteracts oxidative stress to drive cancer development. Proceedings of the National Academy of Sciences of the United States of America *113*, E725-E734. — 7.06
5. Wong, C.C., Qian, Y., Li, X.N., Xu, J.Y., Kang, W., Tong, J.H., To, K.F., Jin, Y., Li, W.L., Chen, H.R., *et al.* (2016). SLC25A22 Promotes Proliferation and Survival of Colorectal Cancer Cells With KRAS Mutations and Xenograft Tumor Progression in Mice via Intracellular Synthesis of Aspartate. Gastroenterology *151*, 945-+. — 18.187

6. Tang, Z., Cao, T.T., Lin, S.H., Fu, L., Li, S.F., Guan, X.Y., and Cai, Z.W. (2016). Characterization of oncogene-induced metabolic alterations in hepatic cells by using ultrahigh performance liquid chromatography-tandem mass spectrometry. Talanta *152*, 119-126. 4.035
7. Tang, Z., Liu, L.F., Li, Y.L., Dong, J.Y., Li, M., Huang, J.D., Lin, S.H., and Cai, Z.W. (2016). Urinary Metabolomics Reveals Alterations of Aromatic Amino Acid Metabolism of Alzheimer's Disease in the Transgenic CRND8 Mice. Current Alzheimer Research *13*, 764-776. 3.145
8. Wong, M.K., Guan, D.G., Ng, K.H.C., Ho, V.W.S., An, X.M., Li, R.S., Ren, X.L., and Zhao, Z.Y. (2016). Timing of Tissue-specific Cell Division Requires a Differential Onset of Zygotic Transcription during Metazoan Embryogenesis. Journal of Biological Chemistry *291*, 12501-+. 3.43
9. Li, X.N., Wong, C.C., Tang, Z., Wu, J.L., Li, S.F., Qian, Y., Xu, J.Y., Yang, Z.Y., Shen, Y., Yu, J., *et al.* (2017). Determination of amino acids in colon cancer cells by using UHPLC-MS/MS and U-C-13(5) -glutamine as the isotope tracer. Talanta *162*, 285-292. 4.035
10. Shen, Y., Fatemeh, T., Tang, L.H., and Cai, Z.W. (2016). Quantitative metabolic network profiling of Escherichia coli: An overview of analytical methods for measurement of intracellular metabolites. Trac-Trends in Analytical Chemistry *75*, 141-150. 7.487
11. Li, R.S., Ren, X.L., Bi, Y., and Zhao, Z.Y. (2016). Mitochondrial genome of Caenorhabditis nigoni (Rhabditida: Rhabditidae). Mitochondrial DNA Part A *27*, 3107-3108. 1.76
12. Li, R.S., Ren, X.L., Bi, Y., Ho, V.W.S., Hsieh, C.L., Young, A., Zhang, Z.H., Lin, T.T., Zhao, Y.M., Miao, L., *et al.* (2016). Specific down-regulation of spermatogenesis genes targeted by 22G RNAs in hybrid sterile males associated with an X-Chromosome introgression. Genome Research *26*, 1219-1232. 12.68

Direction III Development and application of new biosensing and bioimaging techniques for research on environmental pollution and human health

1. Bai, H.R., Wang, S.J., Liu, J.J., Gao, D., Jiang, Y.Y., Liu, H.X., and Cai, Z.W. (2016). Localization of ginsenosides in Panax ginseng with different age by matrix-assisted laser-desorption/ionization time-of- 2.687

flight mass spectrometry imaging. Journal of Chromatography B-Analytical Technologies in the Biomedical and Life Sciences *1026*, 263-271.

2. Bian, W., Zhang, H., Yu, Q., Shi, M.J., Shuang, S.M., Cai, Z.W., and Choi, M.M.F. (2016). Detection of Ag+ using graphite carbon nitride nanosheets based on fluorescence quenching. Spectrochimica Acta Part a-Molecular and Biomolecular Spectroscopy *169*, 122-127. 2.653
3. Gong, X.J., Paau, M.C., Hu, Q., Shuang, S.M., Dong, C., and Choi, M.M.P. (2016). UHPLC combined with mass spectrometric study of as-synthesized carbon dots samples. Talanta *146*, 340-350. 4.035
4. Kwan, C.S., Chan, A.S.C., and Leung, K.C.F. (2016). A Fluorescent and Switchable Rotaxane Dual Organocatalyst. Organic Letters *18*, 976-979. 6.732
5. Yin, Y.Q., Gao, C.L., Xiao, Q., Lin, G., Lin, Z., Cai, Z.W., and Yang, H.H. (2016). Protein-Metal Organic Framework Hybrid Composites with Intrinsic Peroxidase-like Activity as a Colorimetric Biosensing Platform. Acs Applied Materials & Interfaces *8*, 29052-29061. 7.145
6. Wang, S.J., Bai, H.R., Cai, Z.W., Gao, D., Jiang, Y.Y., Liu, J.J., and Liu, H.X. (2016). MALDI imaging for the localization of saponins in root tissues and rapid differentiation of three Panax herbs. Electrophoresis *37*, 1956-1966. 2.482
7. Wang, S.J., Chen, X.W., Luan, H.M., Gao, D., Lin, S.H., Cai, Z.W., Liu, J.J., Liu, H.X., and Jiang, Y.Y. (2016). Matrix-assisted laser desorption/ionization mass spectrometry imaging of cell cultures for the lipidomic analysis of potential lipid markers in human breast cancer invasion. Rapid Communications in Mass Spectrometry *30*, 533-542. 2.226
8. Hu, C., Lin, S., Li, W.B., Sun, H., Chen, Y.F., Chan, C.W., Leung, C.H., Ma, D.L., Wu, H.K., and Ren, K.N. (2016). A one-step strategy for ultra-fast and low-cost mass production of plastic membrane microfluidic chips. Lab on a Chip *16*, 3909-3918. 5.586
9. Wang, M., Wang, W.H., Kang, T.S., Leung, C.H., and Ma, D.L. (2016). Development of an Iridium (III) Complex as a G-Quadruplex Probe and Its Application for the G-Quadruplex-Based Luminescent Detection of Picomolar Insulin. Analytical Chemistry *88*, 981-987. 5.886
10. Liu, Y., Gong, X.J., Cheng, Z., Shuang, S.M., Choi, M.M.F., Li, C.Z., and Dong, C. (2016). Near-infrared photoluminescence enhancement 3.289

of N-acetyl-L-cysteine (NAC)-protected gold nanoparticles via fluorescence resonance energy transfer from NAC-stabilized CdTe quantum dots. Rsc Advances *6*, 88042-88049.

11. Lu, L.H., Zhong, H.J., He, B.Y., Leung, C.H., and Ma, D.L. (2016). Development of a luminescent G-quadruplex-selective iridium(III) complex for the label-free detection of adenosine. Scientific Reports *6*. 5.228
12. Lu, W.J., Li, Y., Li, R.J., Shuang, S.M., Dong, C., and Cai, Z.W. (2016). Facile Synthesis of N-Doped Carbon Dots as a New Matrix for Detection of Hydroxy-Polycyclic Aromatic Hydrocarbons by Negative-Ion Matrix-Assisted Laser Desorption/lonization Time-of-Flight Mass Spectrometry. Acs Applied Materials & Interfaces *8*, 12976-12984. 7.145
13. Lum, T.S., Ho, C.L., Tsoi, Y.K., Siu, C.H., Yue, P.Y.K., Wong, W.Y., and Leung, K.S.Y. (2016). Elemental bioimaging of platinum in mouse tissues by laser ablation-inductively coupled plasma-mass spectrometry for the study of localization behavior of structurally similar complexes. International Journal of Mass Spectrometry *404*, 40-47. 2.183
14. Lum, T.S., Tsoi, Y.K., Yue, P.Y.K., and Leung, K.S.Y. (2016). Therapeutic drug monitoring using LA-ICP-MS: Initial studies with metallodrugs in mouse whiskers. Microchemical Journal *127*, 94-101. 2.893
15. Wang, Q.W., Lam, P.L., Wong, R.S.M., Cheng, G.Y.M., Lam, K.H., Bian, Z.X., Ho, C.L., Feng, Y.H., Gambari, R., Lo, Y.H., *et al.* (2016). Synthesis of platinum(II) and palladium(II) complexes with 9,9-dihexyl-4,5-diazafluorene and their in vivo antitumour activity against Hep3B xenografted mice. European Journal of Medicinal Chemistry *124*, 537-543. 3.902
16. Lin, S., Yang, C., Mao, Z.F., He, B.Y., Wang, Y.T., Leung, C.H., and Ma, D.L. (2016). A G-pentaplex-based assay for Cs+ ions in aqueous solution using a luminescent Ir(III) complex. Biosensors & Bioelectronics *77*, 609-612. 7.476
17. Ma, Y., Liang, H., Zeng, Y., Yang, H.R., Ho, C.L., Xu, W.J., Zhao, Q., Huang, W., and Wong, W.Y. (2016). Phosphorescent soft salt for ratiometric and lifetime imaging of intracellular pH variations. Chemical Science *7*, 3338-3346. 9.144
18. Qi, L., Li, Q., Hong, X., Liu, L., Zhong, X.X., Chen, Q., Li, F.B., Liu, Q., Qin, H.M., and Wong, W.Y. (2016). Synthesis, characterization 1.66

and luminescent properties of three-coordinate copper(I) halide complexes containing 2-(diphenylphosphino)biphenyl. Journal of Coordination Chemistry *69*, 3692-3702.

19. Siu, C.H., Lee, L.T.L., Yiu, S.C., Ho, P.Y., Zhou, P.W., Ho, C.L., Chen, T., Liu, J.Y., Han, K.L., and Wong, W.Y. (2016). Synthesis and Characterization of Phenothiazine-Based Platinum(II)-Acetylide Photosensitizers for Efficient Dye-Sensitized Solar Cells. Chemistry-a European Journal *22*, 3750-3757. 5.771
20. Ho, P.Y., Siu, C.H., Yu, W.H., Zhou, P.W., Chen, T., Ho, C.L., Lee, L.T.L., Feng, Y.H., Liu, J.Y., Han, K.L., et al. (2016). Molecular engineering of starburst triarylamine donor with selenophene containing pi-linker for dye-sensitized solar cells. Journal of Materials Chemistry C 4, 713-726. 5.066
21. Leung, K.C.F., and Xuan, S.H. (2016). Noble Metal-Iron Oxide Hybrid Nanomaterials: Emerging Applications. Chemical Record 16, 458-472. 3.459
22. Hu, C., Sun, H., Liu, Z.Z., Chen, Y., Chen, Y.F., Wu, H.K., and Ren, K.N. (2016). Freestanding 3-D microvascular networks made of alginate hydrogel as a universal tool to create microchannels inside hydrogels. Biomicrofluidics 10. 2.75
23. Sun, H., Liu, Z.Z., Hu, C., and Ren, K.N. (2016). Cell-on-hydrogel platform made of agar and alginate for rapid, low-cost, multidimensional test of antimicrobial susceptibility. Lab on a Chip 16, 3130-3138. 5.586
24. Leung, K.C.F., Seneviratne, C.J., Li, X., Leung, P.C., Lau, C.B.S., Wong, C.H., Pang, K.Y., Wong, C.W., Wat, E., and Jin, L. (2016). Synergistic Antibacterial Effects of Nanoparticles Encapsulated with Scutellaria baicalensis and Pure Chlorhexidine on Oral Bacterial Biofilms. Nanomaterials *6*. 2.69

Others

1. Bai, F., Deng, J.H., Yang, M.S., Fu, J.X., Ng, J., and Huang, Z.F. (2016). Two chiroptical modes of silver nanospirals. Nanotechnology *27*. 3.573

2. Deng, J.H., Fu, J.X., Ng, J., and Huang, Z.F. (2016). Tailorable chiroptical activity of metallic nanospiral arrays. Nanoscale *8*, 4504-4510. 7.76
3. Deng, J.H., and Huang, Z.F. (2016). Radiative loss-determined circular dichroism of plasmonic nanospirals with bendable stability of chiroptical activity. Rsc Advances *6*, 84348-84353. 3.289
4. Dong, Q.C., Qu, W.S., Liang, W.Q., Tai, F.F., Guo, K.P., Leung, C.W., Lo, Y.H., and Wong, W.Y. (2016). Porphyrin-based metallopolymers: synthesis, characterization and pyrolytic study for the generation of magnetic metal nanoparticles. Journal of Materials Chemistry C *4*, 5010-5018. 5.066
5. Lam, P.L., Lee, K.K.H., Kok, S.H.L., Gambari, R., Lam, K.H., Ho, C.L., Ma, X., Lo, Y.H., Wong, W.Y., Dong, Q.C., *et al.* (2016). Antifungal study of substituted 4-pyridylmethylene-4 '-aniline Schiff bases. Rsc Advances *6*, 104575-104581. 3.289
6. Lam, P.L., Lu, G.L., Choi, K.H., Lin, Z., Kok, S.H.L., Lee, K.K.H., Lam, K.H., Li, H., Gambari, R., Bian, Z.X., *et al.* (2016). Antimicrobial and toxicological evaluations of binuclear mercury(II)bis(alkynyl) complexes containing oligothiophenes and bithiazoles. Rsc Advances *6*, 16736-16744. 3.289
7. Li, X., Pang, K.Y., Ng, T.W., Leung, P.C., Zhang, C.F., Leung, K.C.F., and Jin, L.J. (2016). Cellular Interactions and Formation of an Epithelial "Nanocoating-Like Barrier" with Mesoporous Silica Nanoparticles. Nanomaterials *6*. 2.69
8. Li, X., Wong, C.H., Ng, T.W., Zhang, C.F., Leung, K.C.F., and Jin, L. (2016). The spherical nanoparticle-encapsulated chlorhexidine enhances anti-biofilm efficiency through an effective releasing mode and close microbial interactions. International Journal of Nanomedicine *11*, 2471-2480. 4.32
9. Liu, J.J., Yang, L., and Huang, Z.F. (2016). Chiroptically Active Plasmonic Nanoparticles Having Hidden Helicity and Reversible Aqueous Solvent Effect on Chiroptical Activity. Small *12*, 5902-5909. 8.315
10. Meng, Z.G., Li, G.J., Ng, S.M., Wong, H.F., Yiu, S.C., Ho, C.L., Leung, C.W., and Wong, W.Y. (2016). Nanopatterned L1(0)-FePt nanoparticles from single-source metallopolymer precursors for potential application in ferromagnetic bit-patterned media magnetic recording. Polymer Chemistry *7*, 4467-4475. 5.687