CURRICULUM VITAE
Yongzhen Zhang, Ph.D.

Education

05/2017 to 07/2021 **Ph.D. in Bio-organic Synthesis**, Leiden Institute of Chemistry, Leiden University, Leiden, the Netherlands. *Advisor: Dr. Jeroen D.C. Codée & Dr. Gijs van der Marel*

Thesis title: Chemical synthesis of fragments of galactosaminogalactan and Pel polysaccharides

- Synthesis and structural analysis of *Aspergillus fumigatus* Galactosaminogalactans (**GAG**) featuring α-galactose (**Gal**), α-galactosamine (**GalN**) and α-*N*-acetyl galactosamine (**GalNAc**) linkages.
- To enable biochemical studies of GAG, a prominent cell wall heteropolysaccharide component of the opportunistic fungal pathogen *A. fumigatus*, we developed a novel synthetic methodology to efficiently assemble a library of 20 GAG-oligomers with incorporating the possible natural structural variations.
- To investigate the conformation and spatial presentation of the synthetic GAGs, we studied their structural properties by nuclear magnetic resonance (**NMR**), assisted by computations using molecular dynamics simulation (**MD**). (Collaborated with Prof. Dr. Jesús Jiménez-Barbero in Basque Research and Technology Alliance).
- To explore the microbiological target activities of the generated oligosaccharides and established structures, we collaborated with Prof. Dr. P. Lynne Howell's group (Biochemistry, University of Toronto) who focuses on the molecular mechanisms and therapeutics of microbial biofilm formation. We structurally and biochemically characterized Agd3, Ega3, Sph3 and PelA in *A. fumigatus* which are required for GAG biosynthesis, maturation or metabolization.
- Agd3 is found to be required for GAG maturation (deacetylation) and thus *A. fumigatus* biofilm formation.
- Ega3 is found to be an active endo-α-1,4-galactosaminidase that disrupts GAG-dependent *A. fumigatus* and Pel-dependent (GAG-like) *Pseudomonas aeruginosa* biofilms.
- Sph3 and PelA are found to retain endo-α-1,4-*N*-acetylgalactosaminidases mechanism that degrades GAG and thus disrupts *A. fumigatus* biofilms.
- We conjugated 6 of the 20 synthetic GAG-oligomers to bovine serum albumin successfully, to explore the anti-fungal vaccine potential of the generated oligosaccharide-conjugates.
- Synthesis and structural analysis of *Pseudomonas aeruginosa* exopolysaccharide **Pel** featuring α-GalN, α-GalNAc, α-glucosamine (**GlcN**) and α-*N*-acetyl glucosamine (**GlcNAc**) linkages.
- We generated a library of structurally varying Pel-oligomers using our di-*tert*-butylsilylidene (**DTBS**)-directed α-glycosylation methodology and reagent-controlled glycosylation strategy to enable the molecular mechanistic studies of *P. aeruginosa* biofilm formation.

- A number of building blocks of 2-amino-2-deoxy-D-mannose were synthesized from common D-glucose precursors using different approaches, expediting the synthesis of microbial glycans containing 2-acetamido-D-manno residues.

08/2011 to 07/2014 **M.Sc. in Medicinal Chemistry**, School of Medicine and Pharmacy, Ocean University of China, Qingdao, Shandong, China. *Advisor: Dr. Ming Li*

Thesis title: Study on the glycosylation reaction of glycosyl 4,5-dienyl ester and synthesis of β-D-mannuronic acid oligosaccharide

- A novel bromodimethyl-sulfonium bromide/silver triflate-promoted glycosylation strategy was developed using a series of glycosyl allenoates as donors.
- A mild and convenient gold(I)-catalyzed glycosylation protocol was developed for direct synthesis of β-mannosides. The approach was then applied to the total synthesis of a novel glycolipid acremomannolipin A which is a potential calcium signal modulator.
- A series of alginate disaccharide, trisaccharide and tetrasaccharide composed of β-1,4-linked mannuronate was synthesized using our optimized Gold(I)-catalyzed glycosylations of mannuronyl ortho-hexynbenzoates.

09/2007 to 06/2011 **B.Sc. in Pharmacy** School of Pharmacy, Yantai University, Yantai, Shandong, China.

Work experience

10/2021 to present **Postdoc –** Department of Pharmacotherapy and Translational Research, College of Pharmacy (COP), University of Florida (UF), Orlando, FL.

- Applied a series of our novel established UPLC-MS/MS assays to quantify the target site penetration of various beta-lactams, beta-lactamase inhibitors and aminoglycosides in multi-drug resistant bacteria. Together with Dr. Bulitta, formed an auxiliary on UPLC-MS/MS-related analyses of target site penetration determinations. Analyzed and interpreted the penetration data, accumulation data, the hollow fiber in vitro infection (HFIM) model data and murine model data using translational Quantitative and Systems Pharmacology (QSP) modeling and Monte Carlo simulations, together with Dr. Jurgen Bulitta and our other collaborators.
- Developing a novel multi-color click-reaction labeling approach combining clickable β-lactam probes with fluorophores to characterize the whole-cell penicillin-binding proteins occupancy patterns in Gram-negative bacteria.
- Determination of tobramycin concentrations in plasma and tracheal aspirate of pediatric patients using latest LC-MS/MS to generate novel and urgently needed data to optimize tobramycin-based therapy for pediatric patients. (Collaboration with Dr. Erik A. Jensen, the Children's Hospital of Philadephia, Philadephia, PA).
- Characterization of aminoglycoside penetration into human lung epithelial lining fluid via population pharmacokinetics.

- Optimizing novel assays to determine the outer membrane permeability of β-lactams and β-lactamase inhibitors as well as the intracellular accumulation of aminoglycosides in resistant *K. pneumoniae* strains to inform rationally optimized dosage regimens.
- Employing latest intracellular target site penetration and receptor binding assays of anti-*M. tuberculosis* agents to provide the mechanistic basis for rational optimization of dosage regimens to generate novel and urgently needed data to optimize antibiotic combination therapies that can successfully combat *M. tuberculosis*.
- Exploring the β-lactam structure - outer membrane permeability relationships and β-lactam structure - target receptors binding relationships via computational chemistry and multivariate data analysis to identify promising antibiotic structure features.
- Optimizing and employing the UPLC-MS/MS methods to assess the in vitro membrane permeability, cell uptake and lysosomal sequestration of 11 inhaled drugs in healthy bronchial and alveolar epithelial cell models. These in vitro data is significantly contributing to the PBPK modeling analyses which are urgently needed to understand and predict pulmonary absorption and tissue retention of inhaled drugs.

10/2014 to 02/2016 **Researcher –** Marine Biomedical Research Institute of Qingdao, Qingdao, China

- Total synthesis of 7-Deoxycholic acid, Sugammadex, Plinabulin, et al. (Custom organic synthesis service)
- Structural optimization of valuable Myricetrin and Plinabulin using different glycosylation strategies.

07/2014 to 09/2014 **Researcher Associate –** Shanghai ChemPartner, Shanghai, China
Chemical modification and structural optimization of antibacterial heterocyclic compounds. (Custom organic synthesis service).

Research interests

Anti-infection pharmaceutical drugs, Carbohydrate chemistry, Quantitative and systems pharmacology (**QSP**) modeling, Pharmacokinetics/Pharmacodynamics (**PK/PD**) modeling, Translational and clinical pharmacology

Researching skills

- **10 years** of experience in the synthesis of various oligosaccharides. Highly proficient in structural characterization software packages: Chemdraw, FTIR, MestReNova, Delta, GlycoWorkbench, Thermo Fisher Scientific Xcalibur™.
- Experitise in extraction, semi-preparative purification and in-depth characterization of unknown compounds using LC, HPLC, FTIR, NMR, and tandem MS technologies.
- Expertise in quantification analysis of pharmaceutical drugs using UPLC-MS/MS. Proficient in quantification analysis softwares: AB Sciex Analyst®, and Agilent MassHunter.

- 2 years of experience in developing PK/PD and QSP modeling in anti-infective pharmacology field. Proficient in modeling, simulation and statistical analysis, software packages (including S-ADAPT-TRAN, Tmolex, MONOLIX, Phoenix WinNonLin, R, NLMIXR, Berkeley Madonna, XLSTAT, SIMCA & GraphPad Prism).

Honors and awards

- 07/2020 Poster award, third prize. Eurocarbo XX congress, Leiden, the Netherlands
- 06/2014 Outstanding graduates of Ocean University of China
- 12/2013 National Scholarship of China, Ocean University of China
- 12/2013 First-class Scholarship of Ocean University of China
- 07/2013 Poster award. International Symposium on Chemical Glycobiology

Professional affiliations

American Society for Microbiology (ASM); European Society of Clinical Microbiology and Infectious Diseases (ESCMID); International Society for Pharmacometrics (IsoP)

RESEARCH GRANTS

GRANT APPLICATIONS – Under Review

Bulitta JB (PD/PI), Drusano GL (Co-I), Lang Y (Co-I), Louie A (Co-I), Boyce J (Co-I), Bonomo R (Co-I), Lee R(Co-I).
Mechanistically optimized beta-lactam combination dosing strategies to combat resistant Klebsiella pneumoniae.
National Institutes of Health, NIH / NIAID, R01 for PA-20-185
07/01/2023 – 06/30/2028, $3,743,664
Role: Postdoc named on grant application

Copik A (PD/PI, Contact), Altomare D (PD/PI), Bulitta JB (Co-I), Lang Y (Co-I).
Bacterial vesicles for stimulation of innate immunity to treat cancer.
National Institutes of Health, NIH / NCI, R01 for PA-22-085 (Microbial-based Cancer Imaging and Therapy - Bugs as Drugs)
07/01/2023 – 06/30/2028, $3,562,020
Role: Postdoc named on grant application

ONGOING PROJECTS – Awarded

1. Bulitta JB (PD/PI, contact), Hochhaus G (PD/PI, non-contact), Cristofoletti R (Co-I)
Feasibility of predicting regional lung exposure from systemic pharmacokinetic data of generic orally inhaled drug products via population pharmacokinetic modeling and non-compartmental approaches
U01FD007936-01, FDA (for RFA-FD-23-017)
07/01/2023 – 06/30/2025, $499,996
Role: Postdoc named on grant

2. Francine (PD/PI), Bulitta JB (Co-I)
Optimizing the dosing of antimalarial drugs through a PK/PD model system
UF PROSPER Seed Grant
6/1/2023 – 5/31/2025, $40,000
Role: Postdoc named on grant

3. Lang Y (PD/PI), Bulitta J (Co-I)
Determination of tobramycin concentrations in plasma and tracheal aspirate of pediatric patients using latest LC-MS/MS
National Institutes of Health, NIH, 1R34HL155690 – Philadelphia Children's Hospital Subcontract
03/01/2022 – 07/31/2024, $60,279 (UF subaward)
Role: Postdoc named on grant

4. Drusano GL (PD/PI), Louie A (Co-I), Bulitta JB (Co-I), Lang Y (Co-I), Kim S (Co-I), Neely M (Co-I), Prideaux B (Co-I)
Optimizing Multi-drug Mycobacterium tuberculosis Therapy for Rapid Sterilization and Resistance Suppression
National Institutes of Health, NIH / NIAID, PA-20-185
12/01/2022 – 11/30/2027, $6,627,424
Role: Postdoc named on grant

5 Cristofoletti R (PD/PI), Hochhaus G (Co-I), Bulitta JB (Co-I), Lang Y (Co-I), Mullin J (Co-I), Le Merdy M (Co-I), AlQaraghuli F (Co-I), Lukacova V (Co-I).

Advancing in vitro and (patho)physiology-based pharmacokinetics models to understand and predict pulmonary absorption and tissue retention of inhaled drugs.
U.S. Food and Drug Administration, FDA, 75F40122C00182.
09/30/2022 – 09/29/2025, $1,844,289.
Role: Postdoc named on grant

6. Tsuji BT (PD/PI), Bulitta JB (PD/PI), Louie A (Co-I), Moya B (Co-I, Drusano GL (Co-I), Chen L (Co-I), Kreiswirth BN (Co-I), Bulman ZP (Co-I)
Novel Strategies for Antibiotic Combinations to Combat Gram-negative Superbugs
National Institutes of Health, NIH / NIAID, 1R01AI148560-01
12/20/2019 – 11/30/2024, $3,920,000
Role: Postdoc.

COMPLETED PROJECTS

1. Bulitta JB (PI), Lee RE (Co-I), Schweizer HP (Co-I), Louie A (Co-I), Moya B (Co-I), Drusano GL (Co-I), Basso KB (Co I), Copik A (Co-I), Bonomo R (Co-I), Balasubramanian V (Co-I)
Combating resistant superbugs by understanding the molecular determinants of target site penetration and binding
National Institutes of Health, NIH / NIAID, 1R01 AI136803-01
8/10/2018 – 7/31/2023, $5,728,000

Role: Postdoc

2. Bulitta JB (PI), Louie A (Co-I), Boyce JD (Co-I), Bonomo R (Co-I), Drusano GL (Co-I)
Next-generation combination dosing strategies to combat resistant Acinetobacter baumannii
National Institutes of Health, NIH / NIAID, 1R01AI130185-01,
11/08/2017 – 10/31/2022, $3,409,000
Role: Postdoc

3. Luna BM (PI), Spellberg B, Bulitta JB (Sub-award PI), Louie A, Drusano GL, and Robert Bonomo.
A Preclinical Mouse Model of Acinetobacter baumannii Infection for Antibacterial Development
U.S. Food and Drug Administration, FDA, BAA-17-00123, HHSF223201710199C
9/25/2017 – 12/31/2021, $996,000 (UF-subaward)
Role: Postdoc

PubMed Bibliography:

https://www.ncbi.nlm.nih.gov/myncbi/collections/mybibliography/?action=citationadd&status=success

Google Scholar Citations: https://scholar.google.com/citations?user=W_29hnEAAAAJ&hl=en

Peer-reviewed Papers

1. Zhou J, Qian Y, Lang Y, **Zhang Y**, Tao X, Moya B, Sayed ARM, Landersdorfer CB, Shin E, Werkman C, Smith NM, Kim TH, Kumaraswamy M, Shin BS, Tsuji BT, Bonomo RA, Lee R, Bulitta JB. Comprehensive stability analysis of 13 β-lactam and β-lactamase inhibitors in in vitro media, and novel supplement dosing strategy to mitigate thermal drug degradation. Antimicrob Agents Chemother. Accepted Jan 6, 2024.
2. Shin E[#], **Zhang Y**[#], Zhou J, Lang Y, Sayed ARM, Werkman C, Jiao Y, Kumaraswamy M, Bulman Z, Luna BM, Bulitta JB. Surprisingly high aminoglycoside penetration into human lung epithelial lining fluid revealed by population pharmacokinetics. Antimicrob Agents Chemother 2024 Jan 3: e0139323. PMID: 38169309
3. Agyeman AA, López-Causapé C, Rogers KE, Lucas DD, Cortés-Lara S, Gomis-Font MA, Fraile-Ribot P, Figuerola J, Lang Y, Franklyn ERT, Lee WL, Zhou J, **Zhang Y**, Bulitta JB, Boyce JD, Nation RL, Oliver A, Landersdorfer CB. Ceftolozane/tazobactam plus tobramycin against free-floating and biofilm bacteria of hypermutable Pseudomonas aeruginosa epidemic strains: resistance mechanisms and synergistic activity: Running title: Ceftolozane/tazobactam plus tobramycin against Pseudomonas biofilm. Int J Antimicrob Agents. 2023 Jun 12:106887. PMID: 37315906
4. **Zhang Y**, Wang L, Overkleeft HS, van der Marel GA, Codée JDC. Assembly of a Library of Pel-Oligosaccharides Featuring α-Glucosamine and α-Galactosamine Linkages. Front Chem. 2022 26;10:842238. PMID: 35155372
5. Lang, Y.; **Zhang, Y.**; Wang, C.; Huang, L.; Liu, X.; Song, N.; Li, G.; Yu, G. Comparison of Different Labeling Techniques for the LC-MS Profiling of Human Milk Oligosaccharides. *Front. Chem*. 2021, 9, 1-16. PMID: 34589467
6. Bamford, N.C.; Mauff F.; Van Loon, J. C.; Ostapska, H.; Snarr, B. D.; **Zhang, Y.**; Kitova, E. N.; Klassen, J. S.; Codée, J. D. C.; Sheppard, D. C., Howell, P. L. Structural and biochemical characterization of the exopolysaccharide deacetylase Agd3 required for *Aspergillus*

fumigatus biofilm formation. *Nat. Commun*. 2020, *11*: 2450. PMID: 32415073

7. Wang, L.; **Zhang, Y.**; Overkleeft, H. S.; van der Marel, G. A.; Codée, J. D. C. Reagent Controlled Glycosylations for the Assembly of Well-Defined Pel Oligosaccharides. *J. Org. Chem*. 2020. PMID: 32375481
8. **Zhang, Y.**; Gomez-redondo, M.; Jimenez-Oses, G.; Arda, A.; Overkleeft, H. S.; van der Marel, G. A.; Jimenez-Barbero, J.; Codée, J. D. C. Synthesis and Structural Analysis of *Aspergillus fumigatus* Galactosamino- galactans Featuring α-Galactose, α-Galactosamine and α-*N*-Acetyl Galactosamine Linkages. *Angew. Chem., Int. Ed*. 2020, *59*, 12746-12750. PMID: 32342633
9. Alex, C.; Visansirikul, S.; **Zhang, Y.**; Yasomanee, J. P.; Codée, J. D. C.; Demchenko, A. V. Synthesis of 2-azido-2-deoxy- and 2-acetamido-2-deoxy-D-manno derivatives as versatile building blocks. *Carbohydr. Res*. 2020, *488*, 107900. PMID: 31901454
10. Bamford, N.; Mauff, F.; Subramanian, A.; Yip, P.; Millan, C.; **Zhang, Y.**; Zacharias, C.; Forman, A.; Nitz, M.; Codée, J. D. C.; Uson, I.; Sheppard, D.; Howell, P. L. Ega3 from the fungal pathogen *Aspergillus fumigatus* is an endo-α-1,4-galactosaminidase that disrupts microbial biofilms. *J. Biol. Chem*. 2019, *294*, 13833-13849. PMID: 31416836
11. Mauff, F.; Bamford, N.; Alnabelseya, N.; **Zhang, Y.**; Baker, P.; Robinson, H.; Codée, J. D. C.; Howell, P. L.; Sheppard, D. C. Molecular mechanism of *Aspergillus fumigatus* biofilm disruption by fungal and bacterial glycoside hydrolases. *J. Biol. Chem*. 2019, *294*, 10760-10772. PMID: 31167793
12. Sun, P.; Wang, P.; **Zhang, Y.**; Li, M. Construction of β-Mannosidic Bonds *via* Gold(I)-Catalyzed Glycosylations with Mannopyranosyl *ortho*-Hexynylbenzoates and Its Application in Synthesis of Acremomannolipin A. *J. Org. Chem*. 2015, *80*, 4164-4175. PMID: 25793552
13. **Zhang, Y.**; Wang, P.; Song, N.; Li, M. Bromodimethyl-sulfonium bromide/silver triflate-promoted glycosylations using glycosyl allenoates as donors. *Carbohydr. Res.* 2013, *381*, 101-111. PMID: 24095942
14. Chen, P.; **Zhang, Y.**; Wang, P.; Li, M. Synthesis of β-D-mannuronic acid disaccharide fragments. *Chinese Journal of Marine drugs*, 2014, *33*, 63-68. (in Chinese)

Conference Presentations

1. **Zhang Y**, Lang Y, Zhou J, Tao X, Sayed AR, Shin E, Werkman C, Smith NM, Tsuji BT, Bulitta JB. First assay and population modeling approach to assess the rate and extent of target site penetration for four β-lactamase inhibitors in Klebsiella pneumoniae carbapenemase-2 (KPC-2) producing *Klebsiella pneumoniae*. American Conference on Pharmacometrics (ACoP 14). National Harbor, MD. Nov 5-8, 2023.
2. Zhou J, Vorbach BS, Lang Y, **Zhang Y**, Bulitta JB, Yanong RP. Population Pharmacokinetics of Enrofloxacin and Florfenicol in the Giant Danio *(Devario aequipinnatus)* Following Oral and Bath Administration. American Conference on Pharmacometrics (ACoP 14). National Harbor, MD. Nov 5-8, 2023.
3. **Zhang Y**, Lang Y, Zhou J, Tao X, Sayed AR, Shin E, Werkman C, Smith NM, Tsuji BT, Bulitta JB. Periplasmic target site penetration rates of four β-lactamase inhibitors in Klebsiella pneumoniae carbapenemase-2 (KPC-2) producing Klebsiella pneumoniae. American Association of Pharmaceutical Scientists (AAPS) 2023. Orlando, FL. Oct 22-25, 2023.

4. Zhou J, Vorbach BS, Lang Y, **Zhang Y**, Yanong RP, Bulitta JB. Population Pharmacokinetics of Enrofloxacin and Florfenicol in the Giant Danio *(Devario aequipinnatus)* Following Oral and Bath Administration. American Association of Pharmaceutical Scientists (AAPS) 2023. Orlando, FL. Oct 22-25, 2023.
5. Zhou J, Lang Y, **Zhang Y**, Sayed AR, Shin E, Werkman C, Louie A, Tsuji BT, Bulman ZP, Drusano GL, Bulitta JB. Intracellular accumulation and washout kinetics of three aminoglycosides (AGS) in a highly AGS-resistant Klebsiella pneumoniae with a 16S rRNA methyltransferase. ASM Microbe. Houston, TX. Jun 15-19, 2023.
6. Sayed AR, Elsayed AAS, Moya B, Cadet KC, Jimenez-Nieves RH, Shin E, Moya B, Lang Y, Zhou J, **Zhang Y**, Werkman C, Tsuji BT, Drusano GL, Bulitta JB. Time-course of whole-cell Penicillin-Binding Protein (PBP) binding and morphological alterations by eleven β-lactam antibiotics in Klebsiella pneumoniae (KP). ASM Microbe. Houston, TX. Jun 15-19, 2023.
7. Jimenez-Nieves RH, Megroz M, Cadet KC, Deveson Lucas D, Wright A, **Zhang Y**, Moya B, Sayed AR, Boyce JD, Bulitta JB. Impact of two chromosomal efflux pumps and two β-lactamases on the susceptibility of 42 β-lactams and β-lactamase inhibitors using eight isogenic in Acinetobacter baumannii (AB) knockout strains. ASM Microbe, Houston, TX; June 15-19, 2023.
8. Jimenez-Nieves RH, Megroz M, Cadet KC, Deveson Lucas D, Wright A, **Zhang Y**, Moya B, Sayed ARM, Boyce JD, Bulitta JB. Impact of two chromosomal efflux pumps and two β-lactamases on the susceptibility of 42 β-lactams and β-lactamase inhibitors using eight isogenic in Acinetobacter baumannii (AB) knockout strains. NIAMRRE Annual Conference, Gainesville, FL; May 16-18, 2023.
9. Shin E, Sayed AR, Lang Y, **Zhang Y**, Zhou J, Oyer JL, Moya B, Elsayed A, Sutaria DS, Shah NR, Werkman C, Jimenez-Nieves RH, Cadet KC, Tao X, Jiao Y, Copik AJ, Bonomo RA, Schweizer HP, Lee RE, Boyce JD, Louie A, Tsuji BT, Barth AL, Zavascki AP, Drusano GL, Bulitta JB. Synergistic penicillin-binding protein (PBP) occupancy patterns in Klebsiella pneumoniae (KP) prospectively validated in a dynamic in vitro hollow fiber infection model. 33rd European Congress of Clinical Microbiology and Infectious Diseases (ECCMID). Copenhagen, Denmark. Apr 15-18, 2023.
10. Werkman C, Shah NR, Megroz M, Oyer JL, Deveson Lucas D, Moya B, Sayed AR, Elsayed A, Wright A, Sutaria DS, Tao X, Lang Y, **Zhang Y**, Zhou J, Shin E, Landersdorfer C, Jimenez-Nieves RH, Cadet K, Jiao Y, Copik AJ, Bonomo RA, Louie A, Drusano GL, Boyce JD, Bulitta JB. Synergistic killing of Acinetobacter baumannii (AB) elicited by simultaneous inactivation of three or all four Penicillin-Binding Proteins (PBPs) among PBP1a, 1b, 2 and 3. 33rd European Congress of Clinical Microbiology and Infectious Diseases (ECCMID). Copenhagen, Denmark. Apr 15-18, 2023.
11. **Zhang Y**, Lang Y, Zhou J, Tao X, Sayed AR, Shin E, Werkman C, Smith NM, Tsuji BT, Bulitta JB. Periplasmic target site penetration rates of four β-lactamase inhibitors in Klebsiella pneumoniae carbapenemase-2 (KPC-2) producing Klebsiella pneumoniae. 33rd European Congress of Clinical Microbiology and Infectious Diseases (ECCMID). Copenhagen, Denmark. Apr 15-18, 2023.
12. Sayed ARM, Elsayed AAS, Moya B, Cadet KC, Jimenez-Nieves RH, Shin E, Lang Y, **Zhang Y**, Werkmena C, Tsuji BT, Drusano GL, Bulitta JB. Whole-cell Penicillin-Binding Protein (PBP) binding of ceftazidime, avibactam and aztreonam and elicited morphological changes in Klebsiella pneumoniae (KP). 33rd European Congress of Clinical Microbiology and Infectious Diseases (ECCMID). Copenhagen, Denmark. Apr 15-18, 2023.
13. Cadet KC, Megroz M, Jimenez-Nieves RH, Deveson Lucas D, Wright A, **Zhang Y**, Moya B, Sayed ARM, Boyce JD, Bulitta JB. The AdeIJK efflux pump and AmpC β-lactamase predominantly contribute to the MICs of 42 β-lactams and β-lactamase inhibitors in wild-type Acinetobacter baumannii (AB) whereas the OXA-51-like β-lactamase and AdeABC pump do not. 33rd European Congress of Clinical Microbiology and Infectious Diseases (ECCMID), Copenhagen, Denmark; April 15-18, 2023.

14. Zhou J, Lang Y, **Zhang Y**, Sayed ARM, Shin E, Werkman C, Louie A, Tsuji BT, Bulman ZP, Drusano GL, Bulitta JB. Intracellular accumulation and washout kinetics of aminoglycosides (AGS) in multidrug-resistant (MDR) *Klebsiella pneumoniae*. AAPS PharmSci 360, Boston; October 16-19, 2022.
15. Sayed ARM, Elsayed AAS, Shah NR, Sutaria DS, Moya B, Cadet KC, Jimenez-Nieves RH, Shin E, Lang Y, Zhou J, **Zhang Y**, Werkman C, Tsuji BT, Louie A, Drusano GL, Bulitta JB. Whole-cell Penicillin-Binding Protein (PBP) binding profiles of avibactam, aztreonam, ceftazidime and elicited morphological changes in Klebsiella pneumoniae (KP). AAPS PharmSci 360, Boston; October 16-19, 2022.
16. **Zhang Y**, Lang Y, Zhou J, Tao X, Sayed A, Shin E, Werkman C, Smith N, Tsuji B, Bulitta J. Periplasmic Target Site Penetration Rates of Two β-lactamase Inhibitors in Klebsiella Pneumoniae Carbapenemase-2 (KPC-2) Producing Klebsiella Pneumoniae (KP) Characterized by A Novel Assay. ASM Microbe 2022, Online and Washington; June 9-13, 2022.
17. Shin E, Sayed ARM, Lang Y, Zhou J, Elsayed A, Sutaria DS, Shah NR, Werkman C, Jimenez-Nieves RH, **Zhang Y**, Cadet KC, Tao X, Jiao Y, Copik AJ, Bonomo RA, Schweizer HP, Lee RE, Boyce JD, Tsuji BT, Drusano GL, Bulitta JB. Synergistic Killing of Klebsiella Pneumoniae By Double β-lactams Combinations Assessed Via Flow Cytometry and Quantitative Systems Pharmacology. ASM Microbe 2022, Online and Washington. June 9-13, 2022.
18. **Zhang Y**, Lang Y, Zhou J, Tao X, Sayed ARM, Shin E, Werkman C, Bulitta JB. A novel assay characterizing the rate of target site penetration of two β-lactamase inhibitors in Klebsiella pneumoniae carbapenemase-2 (KPC-2) producing Klebsiella pneumoniae (KP). 35th Annual UF College of Pharmacy Research Showcase. Gainesville, FL. Feb 7-8, 2022.
19. Zhou J, Lang Y, Franco EJ, Hanrahan KC, **Zhang Y**, Drusano GL, Bulitta JB. A sensitive intracellular UPLC-MS/MS assay in infected ACE2-transfected A529 cells for nucleos(t)ide antivirals to combat SARS-CoV-2. 35th Annual UF College of Pharmacy Research Showcase. Gainesville, FL. Feb 7-8, 2022.
20. **Zhang, Y.**; Overkleeft, H. S.; van der Marel, G. A.; Codée, J. D. C. Assembly of a library of galactosaminogalactan: stereoselective synthesis of oligosaccharides featuring α-galacto- and α-galactosamine linkages from *Aspergillus fumigatus*. The Eurocarbo XX congress, June 30th – July 4th, 2020, Leiden, the Netherlands, poster.
21. **Zhang, Y.**; Overkleeft, H. S.; van der Marel, G. A.; Codée, J. D. C. Assembly of a library of cationic oligosaccharides featuring α-galactosamine linkages. CHAINS, December 5th – 7th, 2017, Eindhoven, the Netherlands, poster.
22. **Zhang, Y.**; Wang, P.; Li, M. Gold catalyzed stereoselective syntheses of β-glycosides of D-mannuronate. International Symposium on Chemical Glycobiology, July, 2013, Shanghai, China, poster.