

PUBLICATIONS

Journal articles (Corresponding authors are highlighted with a *. Peer reviewed articles are designated with a ^P after the full citation.)

From Work Conducted During Undergraduate, Graduate and Postdoctoral Periods

1. Li, J.*; Zhang, J.; Huang, X.; Du, S.; Wu, X. "Crystal Structure of An Unusual Four Coordinated Copper (II) Complex Containing 1, 10-Phenanthroline and Salicylic Acid" *Cryst. Res. Technol.* **1995**, *30*, 211-116.^P
2. Li, J.*; Xu, M.; Huang, X.; Zhang, Y. "Spectroscopic and Structural Properties of Dichloro-(L-histidine) Copper (II) Crystal" *Spec. Lett.* **1995**, *28*, 111-118.^P
3. Nakanishi, K.*; Huang, X.; Jiang, H.; Liu, Y.; Fang, K.; Huang, D.; Choi, S.-K.; Katz, E.; Eldefrawi, M.E. "Structure/binding Relation of Philanthotoxins from Nicotinic Acetylcholine Receptor Binding Assay" *Bioorg. Med. Chem.* **1997**, *5*, 1969-1988.^P
4. Huang, X.; Rickman, B.; Borhan, B.; Berova, N.; Nakanishi, K.* "Zinc Porphyrin Tweezer in Host-guest Complexation: Determination of Absolute Configurations of Diamines, Amino Acids, and Amino Alcohols by Circular Dichroism" *J. Am. Chem. Soc.* **1998**, *120*, 6185-6186.^P
5. Huang, X.; Borhan, B.; Berova, N.; Nakanishi, K.* "UV-vis Spectral Changes in the Binding of Acyclic Diamines with a Zinc Porphyrin Tweezer" *J. Ind. Chem. Soc.* **1998**, *75*, 725-728. (Special issue for Prof. Sukh Dev's 75th birthday)^P
6. Berova, N.; Borhan, B.; Dong, J.-G.; Guo, J.; Huang, X.; Karnaukhova, E.; Kawamura, A.; Lou, J.; Matile, S.; Nakanishi, K.*; Rickman, B.; Su, J.; Tan, Q.; Zanze, I. "Solving Challenging Bioorganic Problems by Exciton Coupled CD" *Pure App. Chem.* **1998**, *70*, 377-383.^P
7. Huang, X.; Borhan, B.; Matile, S.; Nakanishi, K.* "Spectroscopic Studies of PhTX Facilitated Cation Movement Across Membranes" *Bioorg. Med. Chem.* **1999**, *7*, 811-814. (Special issue in memory of Sir. Derek H. Barton)^P
8. Jiang, H.; Huang, X.; Nakanishi, K.*; Berova, N.* "Nanogram Scale Absolute Configurational Assignment of Ceramides by Circular Dichroism" *Tetrahedron Lett.* **1999**, *40*, 7645-7649.^P
9. Huang, X.; Nakanishi, K.*; Berova, N.* "Porphyrins and Metalloporphyrins: Versatile Circular Dichroic Reporter Groups for Structural Studies" *Chirality* **2000**, *12*, 237-255.^P
10. Huang, X.; Borhan, B.; Rickman, B. H.; Berova, N.; Nakanishi, K.* "Zinc Porphyrin Tweezer in Host-Guest Complexation: Determination of Absolute Configurations of Primary Monoamines by Circular Dichroism" *Chem.-Eur. J.* **2000**, *6*, 216-224.^P

11. Tsai, C.-Y.; Huang, X.; Wong, C.-H.* "Design and Synthesis of Cyclic Sialyl Lewis X Mimetics: a Remarkable Enhancement of Inhibition by Pre-organizing All Essential Functional Groups" *Tetrahedron Lett.* **2000**, *41*, 9499-9503.^P
12. Huang, X.; Witte, K. L.; Bergbreiter, D. E.; Wong, C.-H.* "Homogenous Enzymatic Synthesis Using a Thermo-Responsive Water-Soluble Polymer Support" *Adv. Synth. Catal.* **2001**, *1*, 675-681.^P
13. Kurtán, T.; Nesnas, N.; Li, Y.-Q.; Huang, X.; Nakanishi, K.*; Berova, N.* "Chiral Recognition by CD-Sensitive Dimeric Zinc Porphyrin Host. 1. Chiroptical Protocol for Absolute Configurational Assignments of Monoalcohols and Primary Monoamines" *J. Am. Chem. Soc.* **2001**, *123*, 5962-5973.^P
14. Kozlov, I.A.; Mao, S.; Xu, Y.; Huang, X.; Lee, L.V.; Sears, P.S.; Gao, C.; Coyle, A.R.; Janda, K.D.; Wong, C.-H.* "Synthesis of Solid Supported Mirror-Image Sugars: A Novel Method for Selecting Receptors for Cellular Surface Carbohydrates" *ChemBioChem.* **2001**, *2*, 741-746.^P
15. Ye, X.-S.; Huang, X.; Wong, C.-H.* "Conversion of the Carboxy Group of Sialic Acid Donors to a Protected Hydroxymethyl Group Yields an Efficient Reagent for the Synthesis of the Unnatural β -linkage" *Chem. Commun.* **2001**, 974-975.^P
16. Solladié-Cavallo, A.*; Marsol, C.; Pescitelli, G.; Di Bari, L.; Salvadori, P.; Huang, X.; Fujioka, N.; Berova, N.; Cao, X.; Freedman, T. B.; Nafié, L. A. "(R)-(+)- and (S)-(-)-1-(9-Phenanthryl)ethylamine: Assignment of Absolute Configuration by CD Tweezer and VCD Methods, and Difficulties Encountered with the CD Exciton Chirality Method" *Eur. J. Org. Chem.* **2002**, 1788-1796.^P
17. Huang, X.; Fujioka, N.; Pescitelli, G.; Koehn, F. E.; Williamson, R. T.; Nakanishi, K.*; Berova, N.* "Absolute Configurational Assignments of Secondary Amines by CD-Sensitive Dimeric Zinc Porphyrin Host" *J. Am. Chem. Soc.* **2002**, *124*, 10320-10335.^P
18. Proni, G.; Pescitelli, G.; Huang, X.; Nakanishi, K.*; Berova, N.* "Configurational Assignment of α -chiral Carboxylic Acids by Complexation to Dimeric Zn-porphyrin: Host/Guest Structure, Chiral Recognition and Circular Dichroism" *Chem. Commun.* **2002**, 1590-1591.^P
19. Zhang, Z.; Niikura, K.; Huang, X.; Wong, C.-H.* "A Strategy for the One-pot Synthesis of Sialylated Oligosaccharides" *Can. J. Chem.* **2002**, *80*, 1051-1054.^P
20. Proni, G.; Pescitelli, G.; Huang, X.; Nakanishi, K.*; Berova, N.* "Magnesium Tetraarylporphyrin Tweezer: a Sensitive Host for Recognition of α -chiral Carboxylic Acids" *J. Am. Chem. Soc.* **2003**, *125*, 12914-12927.^P

21. Balaban, T. S.; Berova, N.; Drain, C. M.; Hauschild, R.; Huang, X.; Kalt, H.; Lebedkin, S.; Lehn, J.-L.; Nifaitis, F.; Pescitelli, G.; Prokhorenko, V. I.; Riedel, G.; Smeureanu, G.; Zeller, J.* “Syntheses and Energy Transfer in Multiporphyrinic Arrays Self-Assembled with Hydrogen-Bonding Recognition Groups and Comparison with Covalent Steroidal Models” *Chem. Eur. J.* **2007**, *13*, 8411-8427.^P

From Work Conducted After Starting Independent Research

22. Jing, Y.; Huang, X.* “Fluorous Thiols in Oligosaccharide Synthesis” *Tetrahedron Lett.* **2004**, *45*, 4615-4618.^P
23. Huang, L.; Wang, Z.; Huang, X.* “One-pot Oligosaccharide Synthesis: Reactivity Tuning by Post-synthetic Modification of Aglycon” *Chem. Commun.* **2004**, 1960-1961.^P
24. Huang, X.*; Huang, L.; Wang, H.; Ye, X.-S.* “Iterative One-Pot Oligosaccharide Synthesis” *Angew. Chem. Int. Ed.* **2004**, *43*, 5221-5224.^P
25. Huang, X.* “Mercuric Bromide” *Electronic Encyclopedia of Reagents in Organic Synthesis*, **2004**, RN00383.
26. Wang, Y.; Huang, X.; Zhang, L.-H.; Ye, X.-S.* “A Four-Component One-Pot Synthesis of α -Gal Pentasaccharide” *Org. Lett.* **2004**, *6*, 4415-4417.^P
27. Huang, L.; Huang, X.* “Methyl Triflate” *Electronic Encyclopedia of Reagents in Organic Synthesis*, **2005**.
28. Huang, L.; Wang, Z.; Li, X.; Huang, X.* “Iterative One-Pot Synthesis of Chitotetraose”, *Carbohydr. Res.* **2006**, *341*, 1669-1679. PMC1994152.^P
29. Huang, L.; Teumelsan, N.; Huang, X.* “A Facile Method for Oxidation of Primary Alcohols to Carboxylic Acids and Its Application in Glycosaminoglycan Syntheses” *Chem. Eur. J.* **2006**, *12*, 5246 - 5252. PMC1986577.^P
30. Wang, C.; Wang, H.; Huang, X.; Zhang, L.-H.; Ye, X.-S.* “Benzenesulfinyl Morpholine: A New Promoter for One-Pot Oligosaccharide Synthesis Using Thioglycosides by Pre-Activation Strategy” *Synlett* **2006**, 2846 - 2850.^P
31. Huang, L.; Huang, X.* “Highly Efficient Syntheses of Hyaluronan Oligosaccharides” *Chem. Eur. J.* **2007**, *13*, 529-540. PMC1820888.^P
32. Wang, Z.; Huang, X.* “Strategies in Oligosaccharide Synthesis” in *Comprehensive Glycoscience. From Chemistry to Systems Biology* **2007**, Editor: [J. P. Kamerling](#), Elsevier, p379-413. (Invited review).^P
33. Wang, Z.; Zhou, L.; El-boubbou, K.; Ye, X.-S.; Huang, X.* “Four Component One-Pot Synthesis of the Tumor-Associated Carbohydrate Antigen Globo-H Based on

Preactivation of Thioglycoside Donors” *J. Org. Chem.* **2007**, 72, 6409 - 6420. PMC2533580.^P

34. Teumelsan, N.; Huang, X.* “Synthesis of Branched Oligomannans and an Unusual Stereochemical Observation” *J. Org. Chem.* **2007**, 72, 8976-8979. PMC2525796.^P

35. Miermont, A.; Zeng, Y.; Jing, Y.; Ye, X.-S.; Huang, X.* “Syntheses of Lewis^X and Dimeric Lewis^X: Construction of Branched Oligosaccharides by a Combination of Pre-activation and Reactivity Based Chemoselective One-Pot Glycosylations” *J. Org. Chem.* **2007**, 72, 8958-8961. PMC2593850.^P

36. El-Boubbou, K.; Gruden, C.; Huang, X.* “Magnetic Glyco-nanoparticles: A Unique Tool for Rapid Pathogen Detection, De-contamination and Strain Differentiation” *J. Am. Chem. Soc.* **2007**, 129, 13392-13393.^P

This publication was highlighted by the following sources:

a. American Chemical Society, News Service, Press Pac, Nov. 14th, 2007

http://portal.acs.org/portal/acs/corg/content?_nfpb=true&_pageLabel=PP_ARTICLEMAIN&node_id=223&content_id=WPCP_007042&use_sec=true&sec_url_var=region1

b. <http://www.nanowerk.com/spotlight/spotid=3522.php>

c. <http://www.physorg.com/news114696140.html>

d. <http://www.sciencedaily.com/releases/2007/11/071119110910.htm>

e. <http://www.nano-biology.net/showabstract.php?pmid=17929928>

f. www.ti.frost.com

37. Srinivasan, B.; Huang, X.* “Functionalization of Magnetic Nanoparticles with Organic Molecules: Loading Level Determination and Evaluation of Linker Length Effect on Immobilization” *Chirality*, **2008**, 20, 265-277. (Special issue dedicated to Prof. Nina Berova)^P

38. Huang, L.; Lu, X.; Huang, X.* “Chemical Syntheses of Hyaluronic Acid Oligosaccharides” in *Chemical Glycobiology*, ACS symposium series 990, Editors: Chen, X.; Halcomb, R. L.; Wang, P. G. **2008**, p29-53.^P

39. Miermont, A.; Barnhill, H.; Strable, E.; Lu, X.; Wall, K. A.; Wang, Q.; Finn, M. G.*; Huang, X.* “Cowpea Mosaic Virus Capsid, a Promising Carrier towards the Development of Carbohydrate Based Anti-tumor Vaccines” *Chem. Eur. J.* **2008**, 14, 4939-4947. PMC2729768.^P

40. Sun, B.; Srinivasan, B.; Huang, X.* “Pre-activation Based One-pot Synthesis of an α -(2,3)-Sialylated Core-Fucosylated Complex Type Bi-antennary N-Glycan Dodecasaccharide” *Chem. Eur. J.* **2008**, 14, 7072-7081. PMC2733368.^P

41. Wang, Z.; Gilbert, M.; Eguchi, H.; Yu, H.; Cheng, J.; Muthana, S.; Zhou, L.; Wang, P. G.; Chen, X.; Huang, X.* “Chemoenzymatic Syntheses of Tumor-Associated Carbohydrate Antigen Globo-H and Stage-Specific Embryonic Antigen 4” *Adv. Synth. Catal.* **2008**, 350, 1717-1728. PMC2842016.^P

42. Wang, Z.; Huang, X.* “*p*-Toluenesulfonyl Chloride” *Electronic Encyclopedia of Reagents in Organic Synthesis*, **2008**.
43. Zeng, Y.; Wang, Z.; Whitfield, D., Huang, X.* “Installation of Electron Donating Protective Groups, a Strategy for Glycosylating Unreactive Thioglycosyl Acceptors using the Pre-activation Based Glycosylation Strategy” *J. Org. Chem.* **2008**, *73*, 7952-7962. PMC2661424.^P
44. Li, X.; Huang, L.; Hu, X.; Huang, X.* “Thio-arylglycosides with Various Aglycon Para-Substituents, a Useful Tool for Mechanistic Investigation of Chemical Glycosylations” *Org. Biomol. Chem.* **2009**, *7*, 117-127. PMC2677192.^P
45. Lu, X.; Kamat, M. N.; Huang, L.; Huang, X.* “Chemical Synthesis of a Hyaluronic Acid Decasaccharide” *J. Org. Chem.* **2009**, *74*, 7608-7617 (JOC Featured Article). PMC2765671.^P
46. Wang, Y.; El-Boubbou, K.; Kouyoumdjian, H.; Sun, B.; Huang, X.; Zeng, X.* “Lipoic Acid Carbohydrate Conjugates, a New Class of Agents for Controlling Nonspecific Adsorption of Blood Serum at Bio-interfaces for Biosensor and Biomedical Applications” *Langmuir*, **2010**, *26*, 4119-4125. PMC3072268.^P
47. Yang, B.; Jing, Y.; Huang, X.* “Fluorous Assisted One-pot Oligosaccharide Synthesis” *Eur. J. Org. Chem.* **2010**, 1290-1298.^P PMCID: PMC3324286.
48. El-Boubbou, K.; Zhu, D.; Vasileiou, C.; Borhan, B.; Prospero, D.; Li, W.; Huang, X.* “Magnetic Glyco-Nanoparticles: A Tool to Detect, Differentiate and Unlock the Glyco-codes of Cancer via Magnetic Resonance Imaging” *J. Am. Chem. Soc.* **2010**, *132*, 4490-4499. PMID: 20201530.^P
- This publication was highlighted by the following sources:
<http://www.physorg.com/news189009438.html>
http://nano.cancer.gov/action/news/2010/mar/nanotech_news_2010-03-18d.asp
http://www.biospace.com/news_story.aspx?NewsEntityId=175175
49. Wang, Z.; Xu, Y.; Yang, B.; Tiruchinapally, G.; Sun, B.; Liu, R.; Dulaney, S.; Liu, J.; Huang, X.* “Preactivation-based One-pot Combinatorial Synthesis of Heparin-like Hexasaccharides for the Analysis of Heparin-Protein Interactions” *Chem. Eur. J.* **2010**, *16*, 8365-8375 (Designated as Very Important Paper by the editor). PMCID: PMC3094016.^P
50. Kamat, M.; El-Boubbou, K.; Zhu, D.; Lansdell, T.; Lu, X.; Li, W.; Huang, X.* “Hyaluronic Acid Immobilized Magnetic Nanoparticles for Active Targeting and Imaging of Macrophages” *Bioconjugate Chem.* **2010**, *21*, 2128–2135. PMID: 20977242.^P

51. Wasonga, G.; Zeng, Y.; Huang, X.* “Pre-activation Based Stereoselective Glycosylations: Stereochemical Control by Additives and Solvent” *Sci. China Chem.* **2011**, *54*, 66-73. PMID: PMC3085458.^P
52. Li, X.; Zhou, H.; Yang, L.; Du, G.; Pai-Panandiker, A. S.; Huang, X.; Yan, B.* “Enhancement of Cell Recognition *in vitro* by Dual-ligand Cancer Targeting Gold Nanoparticles” *Biomaterials*, **2011**, *32*, 2540-2545.^P
53. Deng, C. X.*; Huang, X. “Improved Outcome of Targeted Delivery of Chemotherapy Drug to the Brain using a Combined Strategy of Ultrasound, Magnetic Targeting, and Drug Loaded Nanoparticles” *Therapeutic Delivery* **2011**, *2*, 137-141 (invited review).
54. El-boubbou, K.; Huang, X.* “Glyco-Nanomaterials: Translating Insights from the “Sugar-code” to Biomedical Applications” *Curr. Med. Chem.* **2011**, *18*, 2060-2078 (invited review).^P
55. Wang, Z.; Wasonga, G.; Swarts, B. M.; Huang, X.* “Synthesis of Oligosaccharides by Pre-activation Based Chemoselective Glycosylation of Thioglycosyl Donors” *Carbohydrate Chemistry, Proven Synthetic Methods*, **2011**, *1*, 47-53 (invited review).^P NIHMSID: 367792.
56. Tiruchinapally, G.; Yin, Z.; El-dakdouki, M.; Wang, Z.; Huang, X.* “Divergent Heparin Oligosaccharide Synthesis with Pre-installed Sulfate Esters” *Chem. Eur. J.* **2011**, *17*, 10106 – 10112.^P PMID: PMC3324038.
57. El-dakdouki, M.; El-Boubbou, K.; Zhu, D. C.; Huang, X.* “A Simple Method for the Synthesis of Hyaluronic Acid Coated Magnetic Nanoparticles for Highly Efficient Cell Labeling and *in vivo* Imaging” *RSC Adv.* **2011**, *1*, 1449-1452.^P PMID: PMC3363997.
58. El-dakdouki, M.; Huang, X.* “Biological Applications of Hyaluronic Acid Functionalized Nanomaterials” in *Glyco-Nanotechnology as a Bridge to New Medicines*, ACS symposium series, volume 1091, Editors: Huang, X.; Barchi, J. **2011**, 181-213 (invited review).^P
59. Yin, Z.; Dulaney, S.; Tiruchinapally, G.; Yang, B.; Huang, X.* “A Facile Method for Oxidation of Primary Alcohols to Carboxylic Acids in Carbohydrate Synthesis” *Carbohydrate Chemistry, Proven Synthetic Methods*, volume 2, **2012**, in press (invited review).^P
60. Xu, Y.; Wang, Z.; Liu, R.; Bridges, A. S.; Huang, X.*; Liu, J.* “Directing the Biological Activities of Heparan Sulfate Oligosaccharides Using a Chemoenzymatic Approach” *Glycobiology* **2012**, *22*, 96-106.^P PMID: PMC3230279.
61. Sun, B.*; Yang, B.; Huang, X.* “Total Synthesis of the Aminopropyl Functionalized Ganglioside GM₁” *Sci. China Chem.* **2012**, *55*, 31-35.^P PMID: [PMC3289147](https://pubmed.ncbi.nlm.nih.gov/2289147/).

62. Li, H.; El-dakdouki, M. H.; Zhu, D. C.; Abela, G. S.; Huang, X.*; "Synthesis of β -cyclodextrin Conjugated Superparamagnetic Iron Oxide Nanoparticles for Detection of Cholesterol Crystals" *Chem. Commun.* **2012**, *48*, 3385-3387.^P (Highlighted as the back cover of the issue). NIHMSID: 421102.
63. El-dakdouki, M. H.; Zhu, D. C.; El-Boubbou, K.; Kamat, M.; Chen, J.; Li, W.; Huang, X.* "Development of Multifunctional Hyaluronic Acid Coated Nanoparticles: Targeted Imaging and Drug Delivery to Cancer Cells" *Biomacromolecules*, **2012**, *13*, 1144-1151.^P PMID: PMC3363997.
64. Yin, Z.; Huang, X.* "Recent Development in Carbohydrate Based Anti-cancer Vaccines" *J. Carbohydr. Chem.* **2012**, *31*, 143-186 (invited review).^P PMID: PMC3312792.
65. Dulaney, S. B.; Huang, X.* "Recent Strategies in Heparin/heparan Sulfate Oligosaccharide Synthesis: 2000 – present" *Adv. Carbohydr. Chem. Biochem.* **2012**, *67*, 95-136 (invited review).^P NIHMSID: 461692.
66. Sheng, J.; Xu, Y.; Dulaney, S. B.; Huang, X.*; Liu, J.* "Uncovering a Biphasic Catalytic Mode of C5-epimerase in Heparan Sulfate Biosynthesis" *J. Biol. Chem.* **2012**, *287*, 20996-21002.^P PMID: PMC3375523.
67. Huang, X.* "Foreword" *J. Carbohydr. Chem.* **2012**, *31*, 253-254. Foreword to the Special Issue Dedicated to the 7th Midwest Carbohydrate and Glycobiology Symposium.
68. Yin, Z.; Nguyen, H. G.; Chowdhury, S.; Bentley, P.; Bruckman, M. A.; Miermont, A.; Gildersleeve, J. C.; Wang, Q.*; Huang, X.* "Tobacco Mosaic Virus as a New Carrier for Tumor Associated Carbohydrate Antigens" *Bioconjugate Chem.* **2012**, *23*, 1694-1703.^P PMID: PMC3426870.
69. Yang, B.; Yoshida, K.; Yin, Z.; Dai, H.; Kavunja, H.; El-Dakdouki, M. H.; Sungsuwan, S.; Dulaney, S. B.; Huang, X.* "Chemical Synthesis of Homogeneous Syndecan-1 Heparan Sulfate Glycopeptide" *Angew. Chem. Int. Ed.* **2012**, *51*, 10185-10189.^P PMID: PMC3517022.
70. El-dakdouki, M.; El-boubbou, K.; Kamat, M.; Huang, R.; Abela, G.; Zhu, D. C.*; Huang, X.*; "CD44 Targeting Magnetic Glyconanoparticles for Atherosclerotic Plaque Imaging" *Pharm. Res.* **2013**, in press.^P
71. Kouyoumdjian, H.; Zhu, D. C.; El-dakdouki, M.; Lorenz, K.; Chen, J.; Li, W.; Huang, X.*; "Glyconanoparticle Aided Detection of β -Amyloid by Magnetic Resonance Imaging and Attenuation of β -Amyloid Induced Cytotoxicity" *ACS Chem. Neurosci.* **2013**, in press.^P
72. El-dakdouki, M.; Puré, E.; Huang, X.*; "Development of Drug Loaded Nanoparticles for Tumor Targeting. Part 1: Synthesis, Characterization, and Biological Evaluation in 2D Cell Cultures" *Nanoscale*, **2013**, in press.^P

73. El-dakdouki, M.; Puré, E.; Huang, X.*; “Development of Drug Loaded Nanoparticles for Tumor Targeting. Part 2: Enhancement of Tumor Penetration Through Receptor Mediated Transcytosis in 3D Tumor Models” *Nanoscale*, **2013**, in press.^p
74. Yang, B.; Yoshida, K.; Huang, X.*; “Strategies for One-pot Synthesis of Oligosaccharides” **2013**, submitted.
75. El-dakdouki, M.; El-boubbou, K.; Xia, J.; Kavunja, H.; Huang, X.*; “Methods for Magnetic Nanoparticle Synthesis and Functionalization” **2013**, submitted.
76. Yin, J.; Comellas-Aragones, M.; Chowdhury, S.; Bentley, P.; Kaczanowska, K.; BenMohamed, L.; Gildersleeve, J. C.; Finn, M.G.*; Huang, X.*; “Boosting Immunity to Small Tumor-Associated Carbohydrates with Bacteriophage Q β Capsids” *ACS Chem. Biol.* **2013**, in press.^p

Patents

1. Lukaszew, R. A.; Huang, X. “*Magnetic Nanoparticles and Methods for Detecting Same Using Modulated Surface Plasmon Resonance*” US patent US 8,143,072 B2, **2012**
2. Huang, X.; Zhu, D.; Abela, G. “*Novel Nano-Probes for Molecular Imaging and Targeted Therapy of Diseases*” US provisional patent application, **2009**

Presentations at Scholarly Meetings (For all presentations, the presenters were listed as the first author. * denotes **invited** presentations at meetings.)

1. Nakanishi, K.; Huang, D.; Monde, K.; Tokiwa, Y.; Matile, S.; Jiang, H.; Fang, K.; Huang, X.; Liu, Y.; Usherwood, P.N.R. “Studies on the Binding of Philanthotoxin to the Acetylcholine Receptor” *Abstr. Pap. Am. Chem. Soc.* **1995**, 210:10-Agro, Part 1, Aug. 20.*
2. Nakanishi, K.; Huang, D.; Monde, K.; Tokiwa, Y.; Fang, K.; Liu, Y.; Jiang, H.; Huang, X.; Matile, S.; Usherwood, P.N.R.; Berova, N.; “Philanthotoxins and the Nicotinic Acetylcholine Receptor” *Phytochemicals for Pest Control American Chemical Society Symposium Series* **1997**, Vol. 658, Chapter 26 (pp. 339 - 353)*
3. Huang, X.; Rickman, B. H.; Borhan, B.; Berova, N.; Nakanishi, K. “Determination of the Absolute Configurations of Diamines, Amino Acids, and Amino Alcohols by Circular Dichroism Utilizing Zinc Porphyrin Tweezer” *21st IUPAC International Symposium on the Chemistry of Natural Products* **1998**, pp. 176.
4. Huang, X.; Borhan, B., Rickman, B. H.; Berova, N.; Nakanishi, K. “Zinc Porphyrin Tweezer – A Sensitive and Versatile Circular Dichroism Reporter Molecule for Determining Absolute Configurations of Chiral Amines and Alcohols” *11th International Symposium on Chiral Discrimination* **1999**, Chicago, IL.*

5. Huang, X.; Pescitelli, G.; Fujioka, N.; Proni, G.; Nakanishi, K.; Berova, N.; "Dimeric Metalloporphyrin Hosts for Chiral Recognition Monitored by Circular Dichroism" *14th International Symposium on Chirality* **2000**.
6. Huang, X.; Huang, L.; Jing, Y.; Wang, Z.; Miermont, A. "Studies Towards Assembly of Oligosaccharide Libraries" *Gordon Research Conferences on Natural Products*, **2004**, Tilton, NH.
7. Huang, X.; Huang, L.; Wang, Z. "Studies towards Assembly of Oligosaccharide Libraries" *Ohio Valley Organic Chemistry Symposium*, **2004**, Dayton, OH.
8. Huang, X., Huang, L.; Jing, Y.; Wang, Z.; Miermont, A. "Studies Towards Assembly of Oligosaccharide Libraries" *Gordon Research Conferences in Bioorganic Chemistry*, **2004**, Andover, NH.
9. Huang, X.; Huang, L.; Wang, Z.; Jing, Y.; Ye, X.-S.; "Iterative One-pot Oligosaccharide Synthesis" *229th ACS National Meeting*, **2005**, San Diego, CA.
10. Huang, X.; Huang, L.; Wang, Z.; Jing, Y.; Ye, X.-S.; "Development of New One-pot Oligosaccharide Synthesis Methodologies" *88th Canadian Chemistry Conference* (special symposium in memory of Raymond Lemieux), **2005**, Saskatoon, Canada.*
11. Huang, X.; Huang, L.; Wang, Z.; Jing, Y.; "Development of New One-pot Oligosaccharide Synthesis Methodologies" *Gordon Research Conference on Carbohydrates*, **2005**, Tilton, NH.
12. Huang, L.; Huang, X.; "Highly Efficient Syntheses of Hyaluronan Oligosaccharides" *Gordon Research Conference on Carbohydrates*, **2005**, Tilton, NH.*
13. Huang, X.; Huang, L.; "Highly Efficient Syntheses of Hyaluronan Oligosaccharides" *232nd ACS National Meeting*, **2006**, San Francisco, CA.*
14. Teumelsan, N. H., Huang, X.; "Synthesis of Man5 and Man7 Oligomannoses" *232nd ACS National Meeting*, **2006**, San Francisco, CA.
15. Huang, X.; "Development of Novel One-Pot Oligosaccharide Synthesis Strategies" *2nd Annual Midwest Carbohydrate Symposium*, **2006**, Detroit, MI.*
16. Miermont, A.; Jing, Y.; Huang, X.; "Syntheses of Complex Oligosaccharides via the Iterative One-pot Method and Studies towards Carbohydrate Associated Cancer Antigens" *2nd Annual Midwest Carbohydrate Symposium*, **2006**, Detroit, MI. (Winner of the Best Oral Talk Award)

17. Li, X.; Teumelsan, N.; Huang, L.; Huang, X.; "Reactivity Independent Assembly of Man₅ and Investigation of Reactivity-tuning Through Aglycon Adjustment" *2nd Annual Midwest Carbohydrate Symposium*, **2006**, Detroit, MI.
18. Srinivasan, B.; Huang, X.; "Magnetic Iron Oxide Nanoparticles for Biological Applications: Evaluation of Surface Coverage and Influence of Linker Length on Loading" *2nd Annual Midwest Carbohydrate Symposium*, **2006**, Detroit, MI.
19. Wang, Z.; Zhou, L.; El-Boubbou, K.; Huang, X.; "Iterative One-pot Syntheses of the Tumor-associated Carbohydrate Antigen Globo-H" *2nd Annual Midwest Carbohydrate Symposium*, **2006**, Detroit, MI. (Winner of the Best Poster Award)
20. Wang, Z.; Zhou, L.; El-Boubbou, K.; Huang, X.; "Iterative One-pot Synthesis of the Tumor-associated Carbohydrate Antigen Globo-H" *233rd ACS National Meeting*, **2007**, Chicago, IL.
21. Sun, B.; Zeng, Y.; Huang, X.; "Highly Selective Sialylation and Total Syntheses of Tumor-related Antigens N3 by the Iterative One-pot Synthesis Strategy" *233rd ACS National Meeting*, **2007**, Chicago, IL.
22. Lu, X.; Huang, L.; Sun, B.; Huang, X.; "Highly Efficient Syntheses of Hyaluronic Acid Oligosaccharides" *233rd ACS National Meeting*, **2007**, Chicago, IL.
23. Miermont, A.; Jing, Y.; Huang, X.; "Syntheses of Complex Tumor Associated Carbohydrate Antigens" *233rd ACS National Meeting*, **2007**, Chicago, IL.
24. Srinivasan, B.; Huang, X.; "Evaluation of Surface Coverage and Influence of Linker Lengths on Loading of Magnetic Iron Oxide Nanoparticles" *233rd ACS National Meeting*, **2007**, Chicago, IL.
25. Li, X.; Huang, L.; Huang, X.; "Investigation of Glycosylation Mechanisms: The Effects of Thioglycoside Aglycons on Anomeric Reactivities" *233rd ACS National Meeting*, **2007**, Chicago, IL.
26. Huang, X.; "Highly Efficient Synthesis of Hyaluronic Acid Oligosaccharides" *The International Conference on Hyaluronan (HA-2007)*, **2007**, Charleston, SC.
27. Huang, X.; Lu, X.; Miermont, A.; Srinivasan, B.; Sun, B.; Teumelsan, N.; Zeng, Y.; "Pre-activation Based One-pot Synthesis of Complex Oligosaccharides" *Gordon Research Conference on Carbohydrates*, **2007**, Tilton, NH.*
28. Wang, Z.; Zhou, L.; Huang, X.; "Iterative One-pot Synthesis of the Tumor-associated Carbohydrate Antigen Globo-H" *Gordon Research Conference on Carbohydrates*, **2007**, Tilton, NH.

29. Wang, Z.; Huang, X.; "Iterative One-pot Syntheses of the Tumor-Associated Carbohydrate Antigen Globo-H and SSEA-3" *3rd Midwest Carbohydrate and Glycobiology Symposium*, **2007**, Columbus, OH. (Winner of the Best Oral Talk Award)
30. Miermont, A.; Wang, Q.; Wall, K. A.; Huang, X.; "Cow Pea Mosaic Virus Capsid: a Promising Protein Carrier for Carbohydrate Based Anti-Cancer Vaccine Studies" *3rd Midwest Carbohydrate and Glycobiology Symposium*, **2007**, Columbus, OH.
31. El-boubbou, K.; Gruden, C.; Huang, X.; "Magnetic Glyco-nanoparticles: A Unique Tool for Rapid Pathogen Detection, De-contamination and Strain Differentiation" *3rd Midwest Carbohydrate and Glycobiology Symposium*, **2007**, Columbus, OH. (Winner of the Best Oral Talk Award)
32. Sun, B.; Huang, X.; "Synthesis towards Fucosylated Bi-antennary Complex Type N-glycans" *3rd Midwest Carbohydrate and Glycobiology Symposium*, **2007**, Columbus, OH.
33. Lu, X.; Huang, L.; Huang, X.; "Highly Efficient Synthesis of Hyaluronic Acid Decasaccharide" *3rd Midwest Carbohydrate and Glycobiology Symposium*, **2007**, Columbus, OH.
34. Zhou, L.; Wang, Z.; Huang, X.; "Iterative One-pot Synthesis of the Tumor-Associated Carbohydrate Antigen Globo-H and SSEA-3" *3rd Midwest Carbohydrate and Glycobiology Symposium*, **2007**, Columbus, OH.
35. Zeng, Y.; Miermont, A.; Jing, Y.; Huang, X.; "Synthesis of Lewis Family Oligosaccharides and N₃ Antigen by a Combination of Pre-activation and Reactivity Based Chemoselective One-Pot Glycosylations" *3rd Midwest Carbohydrate and Glycobiology Symposium*, **2007**, Columbus, OH. (Winner of Best Poster Award).
36. Huang, X.; "Carbohydrates, Sweet Molecules of Life" *4th Sino-US Chemistry Professor Conference*, **2008**, Beijing, China.*
37. Huang, X.; Zeng, Y.; Wang, Z. "Why Some Pre-activation Based Glycosylation Reactions Do Not Work and What Can Be Done About It" *4th Midwest Carbohydrate Symposium*, **2008**, Cleveland, OH.*
38. Lu, X.; Huang, L.; Huang, X.; "Total Synthesis of Hyaluronic Acid Decasaccharide" *4th Midwest Carbohydrate Symposium*, **2008**, Cleveland, OH. (Winner of the best oral talk award).
39. Wasonga, G.; Huang, X.; "Pre-activation Based Stereoselective Glycosylation" *4th Midwest Carbohydrate Symposium*, **2008**, Cleveland, OH.
40. Huang, X.; "Magnetic Glyco-nanoparticles, a Useful Tool for Pathogen Detection and Decontamination" *237th ACS National Meeting*, **2009**, Salt Lake City, UT.*

41. Huang, X.; "Magnetic Glyco-nanoparticles, a Useful Tool for Detection of Pathogens and Cancer Cells" *Gordon Research Conference on Bio-organic Chemistry*, **2009**, Andover, NH.
42. Huang, X.; "Development of Pre-activation Based One-pot Oligosaccharide Synthesis Methodology" *238th ACS National Meeting*, **2009**, Washington DC.*
43. Huang, X.; "Magnetic Glyco-nanoparticles, a Useful Tool for Detection and Differentiation of Bacteria and Cancer Cells" *238th ACS National Meeting*, **2009**, Washington DC.*
44. Huang, X.; "Magnetic Glyco-Nanoparticles, a Unique Tool for *In Vitro* and *In Vivo* Detection" nanoKAP Symposium (nano Knowledge, Application and Production) **2009**, Washington DC.*
45. Huang, X.; "Development of CD44 Targeting Nano-probes for Molecular Imaging of Atherosclerosis" *8th International Conference on Hyaluronan*, **2010**, Kyoto, Japan.*
46. Huang, X.; "Magnetic Glyco-nanoparticles: Applications in Cancer Profiling" *6th Sino-US Chemistry Professor Conference*, **2010**, Hangzhou, China.*
47. El-boubbou, K.; Huang, X.; "Targeted Glyco-Magnetic Nanoparticles for Detection and Molecular Imaging of Atherosclerosis" *240th ACS National Meeting*, **2010**, Boston, MA.*
48. Huang, X.; "Magnetic Glyco-nanoparticles: Applications in Cancer Profiling" *240th ACS National Meeting*, **2010**, Boston, MA.
49. El-dakdouki, M.; Huang, X. "Iron Oxide Nanoparticles for Targeted Cancer Therapy and Diagnosis" *The 6th Annual Midwest Carbohydrate and Glycobiology Symposium*, **2010**, Toledo, OH.*
50. Kouyoumdjian, H.; Kamat, K.; El-boubbou, K.; Huang, X.; "Development of Glyco-nanoparticles for Detection of Atherosclerosis and Amyloid Plaques" *The 6th Annual Midwest Carbohydrate and Glycobiology Symposium*, **2010**, Toledo, OH.
51. Huang, X.; "Magnetic glyco-nanoparticles, a tool for in vitro and in vivo detection" International Workshop on Nanobiotechnology Applied to Cancer, the Brazilian Congress of Pediatric Oncology, **2010**, Curitiba, Brazil.*
52. Huang, X.; "Magnetic Glyco-nanoparticles, a Tool for in vitro and in vivo Detection" *241st ACS National Meeting*, **2011**, Anaheim, CA.*
53. Huang, X.; "Virus-like Particles, a New Method to Boost the Immune Responses towards Tumor Associated Carbohydrate Antigens" *241st ACS National Meeting*, **2011**, Anaheim, CA.*

54. Huang, X.; El-dakdouki, M.; Kavunja, H.; El-boubbou, K.; Wang, J.; Zhu, D. C.; “Development of Glyco-nanoparticles for Cancer Cell Profiling and Imaging” *6th Annual Cancer Nanobiology Think Tank*, **2011**, Frederick, MD.
55. Huang, X.; “Development of Nanoparticles for Cancer Cell Imaging and Targeted Delivery” *NCI Cancer Imaging Camp*, **2011**, St. Louis, MO.
56. Huang, X.; Kavunja, H.; El-dakdouki, M.; Wang, J.; “Magnetic Glyco-nanoparticles, a New Tool for Profiling of Carbohydrate Binding Properties of Cancer Cells and Discovery of New Lectins” *Consortium for Functional Glycomics PI Meeting*, **2011**, Bethesda, MD.
57. Kouyoumdjian, H.; Zhu, D. C.; Li, W.; Huang, X. “Sialic Acid Functionalized Nanoparticles for β -Amyloid Detection” *The 7th Annual Midwest Carbohydrate and Glycobiology Symposium*, **2011**, East Lansing, MI.*
58. Yang, B.; Yoshida, K.; Yin, Z.; Hang, D.; El-dakdouki, M.; Huang, X. “Synthesis towards Homogenous Heparan Sulfate Proteoglycan” *The 7th Annual Midwest Carbohydrate and Glycobiology Symposium*, **2011**, East Lansing, MI. (Winner of the best oral talk award)*
59. Dulaney, S.; Wang, Z.; El-dakdouki, M.; Kathawa, J.; Huang, X. “Synthesis of Heparan Sulfate Oligosaccharides” *The 7th Annual Midwest Carbohydrate and Glycobiology Symposium*, **2011**, East Lansing, MI. (Winner of the best poster award)
60. Yin, Z.; Bentley, P.; Miermont, A.; Wang, Q.; Huang, X. “Tobacco Mosaic Virus (TMV) As a Promising Platform for Cancer Vaccine” *The 7th Annual Midwest Carbohydrate and Glycobiology Symposium*, **2011**, East Lansing, MI.
61. Kavunja, H.; El-dakdouki, M.; Wang, J.; Huang, X. “Magnetic Glyco-nanoparticles, a New Tool for Profiling of Carbohydrate Binding Properties of Cancer Cells and Discovery of New Lectins” *The 7th Annual Midwest Carbohydrate and Glycobiology Symposium*, **2011**, East Lansing, MI.
62. Huang, X. “Synthesis of Complex Oligosaccharides and Glyco-conjugates” *243rd ACS National Meeting*, **2012**, San Diego, CA.*
63. Huang, X.; “Magnetic Glyco-nanoparticles, a Tool for Cancer Cell Profiling and Targeted Drug Delivery” *243rd ACS National Meeting*, **2012**, San Diego, CA.*
64. Huang, X. “Magnetic Glyco-nanoparticles, a Tool for *in vitro* and *in vivo* Detections” *8th National Carbohydrate Symposium*, **2012**, Banff, Alberta, Canada.*
65. Huang, X.; El-Dakdouki, M. H.; Li, H.; Zhu, D. C.; Abela, G. S. “Iron Oxide Based Nanoparticles as Selective MR Contrast Agents for the Detection of Atherosclerotic Cholesterol Crystals” *244th ACS National Meeting*, **2012**, Philadelphia, PA.

66. Sheng, J.; Xu, Y.; Dulaney, S. B.; Huang, X.; Liu, J. "Uncovering a Biphasic Catalytic Mode of C5-epimerase in Heparan Sulfate Biosynthesis" *244th ACS National Meeting*, **2012**, Philadelphia, PA.
67. Yang, B.; Yoshida, K.; Yin, Z.; Huang, X.; "Chemical Synthesis of Homogeneous Heparan Sulfate Proteoglycan" *244th ACS National Meeting*, **2012**, Philadelphia, PA.
68. Yin, Z.; Bentley, P.; Wang, Q.; Finn, M. G.; Huang, X.; "Virus-like Particles (VLPs) as Promising Platform for Cancer Vaccine" *244th ACS National Meeting*, **2012**, Philadelphia, PA.
69. Kouyoumdjian, H.; Wang, P.; Huang, X. " β -Amyloids: Novel, MRI-Based Detection Method and Evaluation of the Soluble Tyrosine-Conjugated Glycopeptides via Mass Spectrometry" *The 8th Annual Midwest Carbohydrate and Glycobiology Symposium*, **2012**, Detroit, MI. (Winner of the best poster award)
70. Yang, B.; Yoshida, K.; Huang, X. "Chemical Synthesis of Homogenous Heparan Sulfate Proteoglycan" *The 8th Annual Midwest Carbohydrate and Glycobiology Symposium*, **2012**, Detroit, MI.
71. Dulaney, S.; Wang, Z.; El-dakdouki, M.; Kathawa, J.; Liu, J.; Huang, X. "Accessing a Heparin/HS Library through Chemical and Chemoenzymatic Strategies" *The 8th Annual Midwest Carbohydrate and Glycobiology Symposium*, **2012**, Detroit, MI.
72. Yin, Z.; Bentley, P.; Wang, Q.; Finn, M. G.; Huang, X. "Virus-like Particles as a Promising Platform for Cancer Vaccine" *The 8th Annual Midwest Carbohydrate and Glycobiology Symposium*, **2012**, Detroit, MI.