



Curriculum Vitae

Hongzhe SUN, B.Sc, M.Sc., Ph.D.

Department of Chemistry, the University of Hong Kong,
Pokfulam Road, Hong Kong

Tel: (852) 2859-8974

Fax: (852) 2857-1586

E-mail: hsun@hkucc.hku.hk

http://chem.hku.hk/~chemhome/staff/hzsun/hzsun.htm

ACADEMIC QUALIFICATIONS:

- **10/1993~ 09/1996:** Ph.D., Biological Inorganic Chemistry, Birkbeck College, the University of London, Great Britain (Supervisor: Prof. *Peter J Sadler*, FRS)
- **09/1987~ 07/1990:** M.Sc., NMR Spectroscopy, Wuhan Institute of Physics, the Chinese Academy of Sciences, P. R. China

PROFESSIONAL EXPERIENCE:

- **07/2007- Present:** *Professor*, Department of Chemistry, University of Hong Kong
- **12/1998- 06/2007** *Assistant and Associate Professor*, Department of Chemistry, University of Hong Kong
- **10/1996-12/1998:** *GlaxoWellcome Research Fellow*, Department of Chemistry, the University of Edinburgh, Great Britain
- **10/1993~ 09/1996:** *Ph.D. Study*, Bioinorganic Chemistry, the University of London (Birkbeck College, with Prof. Dr. *Peter J Sadler*, FRS), Great Britain
- **08/1990~ 09/1993:** *Research Associate and Lecturer*, Coordination Chemistry Institute, Nanjing University, Nanjing, P.R. China

RESEARCH INTERESTS:

Biological Inorganic Chemistry; Structural Biology of Metalloproteins; Metallomics & metalloproteomics

MEMBERSHIPS:

- Steering Committee of Asian Biological Inorganic Chemistry (2003-)
- Panel Member of National Science Foundation of China (NSFC, Inorganic Chemistry), 2005 & 2008
- Society of Biological Inorganic Chemistry (SBIC)
- Secretary of the *Steering Committee of Asian Biological Inorganic Chemistry* (2006-)
- Editorial Advisory Board of *The Journal of Biological Inorganic Chemistry* (2007-2010, Springer)
- Editorial Board of *Metallomics* (Royal Society of Chemistry, 2008-), *BMC Biochemistry* (BioMed Central and Springer)
- Series Editor, *Metallobiology* (Royal Society of Chemistry, 2010-)

AWARDS:

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| • Outstanding Young Researcher Award, the University of Hong Kong | 2004-2005 |
| • Outstanding Young Scholar Award, National Science Foundation of China (Type 'B') | 2005 |
| • Croucher Senior Research Fellow | 2010-2011 |
| • Outstanding Researcher Award, the University of Hong Kong | 2009-2010 |

REPRESENTATIVE PUBLICATIONS: (Over 100 publications)

1. Tsang CN, Ho KS, **Sun HZ**, Chan WT (2011) "Tracking bismuth drug uptake in single *Helicobacter pylori* cells". *Journal of the American Chemical Society*, doi: 10.1002/chem.201100279 (Published online on April 25).
2. Zeng Y.B., Yang N., **Sun H.Z.*** (2011) "Metal-binding properties of histidine-rich protein, Hpn-like". *Chemistry, a European Journal*, doi: 10.1002/chem.201100279 (Published online on April 21, 2011).
3. Wang XH, Du XB, Li HY, Chan DSB, **Sun HZ** (2011) "The effect of the extracellular domain of human copper transporter (hCTR1) on cisplatin activation" *Angewandte Chemie International Edition*, **50**, 2706-2711.



4. Cun SJ, Sun HZ (2010) "A zinc binding site by negative selection induces metallodrug susceptibility of an essential chaperonin", *Proceedings of the National Academy of Sciences, USA*, **107**, 4943-4948.
5. Xia W, Li HY, Sze KH, Sun HZ (2009) "Structure of a nickel chaperone, HypA from *Helicobacter pylori* reveals two distinct metal binding sites", *Journal of the American Chemical Society*, **131**, 10031-10040.
6. Cun SJ, Li HY, Ge RG, Lin MCM, Sun HZ (2008) "A histidine- and cysteine-rich metal binding domain at the C-terminus of heat-shock protein A from *Helicobacter pylori*: implication for nickel homeostasis and bismuth susceptibility", *Journal of Biological Chemistry*, **283**, 15142-15151.
7. Wang H, Li HY, Cai B, Huang ZX, Sun HZ (2008) "The effect of nitric oxide (NO) on metal release from human metallothionein-3 (MT-3): gradual unfolding of the protein", *Journal of Biological Inorganic Chemistry*, **13**, 411-419.
8. Yang N, Tanner JA, Zheng BJ, Watt RM, He ML, Lu LY, Jiang J-Q, Shum K-T, Lin Y-P, Wong KL, Lin MCM, Kung HF, Sun HZ, Huang JD (2007) "Bismuth complexes inhibit the SARS coronavirus", *Angewandte Chemie International Edition* **46**, 6464-6468.
9. Yang N, Tanner JA, Wang Z, Huang JD, Zheng BJ, Zhu N, Sun HZ (2007) "Inhibition of SARS coronavirus helicase by bismuth complexes", *Chemical Communications* 4413-4415
10. Li HY, Fung KL, Jin DY, Chung SSM, Ching YP, Ng IO, Sze KH, Ko BCB, Sun HZ (2007) "Solution structures, dynamics and lipid-binding of SAM domain from the deleted in liver cancer 2 (DLC2): a Monomeric Structure with Membrane-binding Properties", *Proteins: Structure, Function and Bioinformatics* **67**, 1154-1166.
11. Ge RG, Sun XS, Gu Q, Watt RM, Wong BCY, Xia HHX, Huang JD, He QY, Sun HZ (2007) "A proteomic approach for the identification of bismuth-binding proteins in *Helicobacter pylori*", *Journal of Biological Inorganic Chemistry* **12**, 831-842.
12. Ge RG, Zhang Y, Sun XS, Watt RM, He Q-Y, Huang JD, Wilcox DE, Sun HZ (2006) "Thermodynamic and kinetic aspects of metal binding to the histidine-rich protein, Hpn", *Journal of the American Chemical Society* **128**, 11330-11331.
13. Ge RG, Watt RM, Sun X, Tanner JA, He QY, Huang JD, Sun HZ (2006) "Expression and Characterization of a Histidine-rich Protein: Potential for Ni²⁺ Storage in *Helicobacter pylori*", *Biochemical Journal* **393**, 285-293.
14. Chen R, So MH, Yang J, Deng F, Che C-M, Sun HZ (2006) "Fabrication of bismuth subcarbonate nanotube arrays from bismuth citrate", *Chemical Communications* 2265-2267.
15. Wang H, Zheng Q, Cai B, Li HY, Sze KH, Huang ZX, Wu HM, Sun HZ (2006) "Structure and dynamics of human metallothionein-3 (MT-3)", *FEBS Letters* **580**, 795-800.
16. Li F, Li HY, Kwan MF, Hu LH, Chen GH, He QY, Sun HZ (2005) "Structure, assembly and topology of G185R mutant of the transmembrane domain4 of divalent metal transporter", *Journal of the American Chemical Society* **127**, 1414-1423.
17. Li HY, Li F, Qian ZM, Sun HZ (2004) "Three dimensional structures and topology of the transmembrane domain4 of divalent metal transporter in membrane-mimetic environments", *European Journal of Biochemistry* **271**, 1938-1951.
18. Li W, Jin L, Zhu NY, Deng F, Sun HZ (2003) "Structure of colloidal bismuth subcitrate in dilute HCl: assembly of dinuclear [Bi(cit)₂Bi]²⁻", *Journal of the American Chemical Society* **125**, 12408-12409.
19. Li HY, Li F, Sun HZ, Qian ZM (2003) "Membrane-inserted conformation of transmembrane domain4 of divalent metal transporter", *Biochemical Journal* **372**, 757-766.
20. Yan SC, Wong LK, Chow LMC, Sun HZ (2003) "Rapid reduction of pentavalent antimony by trypanothione: potential relevance to antimonial activation", *Chemical Communications* 266-267.
21. Zhang L, Szeto KY, Wong WB, Sadler PJ, Sun HZ (2001) "Interactions of bismuth with human lactoferrin and recognition of Bi^{III}-lactoferrin by intestinal cells", *Biochemistry* **44**, 13281-13287.
22. Sun HZ, Li HY, Mason AB, Woodworth RC, Sadler PJ (2001) "Competitive binding of bismuth to transferrin and albumin in aqueous solution and blood plasma", *Journal of Biological Chemistry* **276**, 8829-8835.



23. Yan SC, Ding K, Zhang L, **Sun HZ** (2000) "Complexation of antimony(III) to trypanothione", *Angewandte Chemie International Edition* **39**, 4260-4262.

INVITED REVIEWS AND BOOK CHAPTERS:

1. **Sun H.Z.**,* Chai Z.F. (2010) "Metallomics: an integrated science for metals in biology and medicine", *Annual Reports on the Progress of Chemistry, Section A: Inorganic Chemistry* **106**, 20-38.
2. Ge RG, Chu IK, **Sun HZ** (2010) "Nuclear-based metallomics in metal-based drugs" in *Advanced nuclear analytical techniques for metallomics and metalloproteomics* (Edited by C.Y. Chen, Z.F. Chai, YX Gao), Royal Society of Chemistry, 265-298.
3. Sun XS, Tsang CN and **Sun HZ** (2009) "Identification of binding proteins of metallodrugs by (metallo)proteomics", *Metallomics* **1**, 25-31. (*Featured on the cover of the January issue, 2009*)
4. Ge RG, **Sun HZ** (2007) "Bioinorganic chemistry of bismuth and antimony: target sites for metallodrugs", *Accounts of Chemical Research* **40**, 267-274.
5. Yang N, **Sun HZ** (2007) "Biocoordination chemistry of bismuth: recent advances" *Coordination Chemistry Reviews* **251**, 2354-2366.
6. Yan SC, Jin L, **Sun HZ** (2005) "⁵¹Sb- Antimony in medicine" in *'Metallotherapeutics Drugs and Metal-Based Diagnostic Agents: The Use of Metals in Medicine'* (eds. Tiekink E.R.T., Gielen M.), John Wiley, pp. 441-461.
7. **Sun HZ**, Zhang L Szeto KY (2004) "Bismuth in medicine". *Metal Ions in Biological System*, **41**, 333-378.
8. Li F, **Sun HZ** (2004) "Dynamic and kinetic aspects of metallodrugs by NMR" in *Fluxional Organometallic and Coordination Chemistry* (Edited by Gielen M., Willem R., Wrackmeyer B.), John-Wiley, pp. 163-217.
9. **Sun HZ** (2002) "Metallodrugs" in *Encyclopedia of Nuclear Magnetic Resonance: Advances in NMR* (Ed: Grant DM & Harris RK, John Wiley & Sons Ltd.), pp. 413-427.

EDITED BOOK:

1. **Sun HZ**, "The biological chemistry of arsenic, antimony and bismuth", John Wiley & Sons, Chichester, 2011

INVITED LECTURES:

- [1] *Gordon Research Conference (MIM-GRC) on Metals in Medicine*, Colby-Sawyer College, New London, NH 03257, USA, July 23 2002
- [2] "1st Asian Meeting of Bioinorganic Chemistry", March 7-10, 2003, Okazaki, Japan
- [3] "11th International Conference on Biological Inorganic Chemistry" (ICBIC-11), July 19-23, 2003, Cairns, Australia
- [4] Singapore International Chemical-3: *Frontiers in Physical and Analytical Chemistry*, December 15-17, 2003, Singapore
- [5] The 8th International Symposium on Applied Bioinorganic Chemistry, Hong Kong, April, 2004
- [6] 2nd Asian Biological Inorganic Chemistry Conference in conjunction with 3rd Symposium on Advances in Bioinorganic Chemistry, December 5-10, 2004, Goa, India
- [7] 37th International Coordination Chemistry Conference, ICC-37, August, 2006, South Africa (*Keynote Speaker*)
- [8] 1st Georgian Bay Biological Inorganic Chemistry Conference, Parry Sound, Ontario, Canada, May 22-26, 2007
- [9] 13th International Conference on Biological Inorganic Chemistry (ICBIC-13), Vienna, Austria, July 15-20, 2007
- [10] International Symposium on Metallomics 2007 (ISM2007), Nagoya, Japan, November 28- December 1, 2007
- [11] The 4th International Conference on Metals and Genetics (ICMG-4), Paris, France, July 20-24, 2008
- [12] The 9th European Biological Inorganic Chemistry Conference (EUROBIC-9), Wroclaw, Poland, September 2-6, 2008
- [13] 4th Asian Biological Inorganic Chemistry Conference (*Keynote lecture*), Jeju, Korea, November 10-13, 2008



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- [14] European Winter Conference on Plasma Spectrochemistry (*Plenary lecture*), Graz, Austria, February 15-20, 2009
 - [15] 2nd Asian Coordination Chemistry Conference (ACCC2), Nanjing, China, November 1-4, 2009
 - [16] The 13th Beijing Conference and Exhibition on Instrumental Analysis (BCEIA2009), Beijing, China, November 25-28, 2009
 - [17] XI International Symposium on Inorganic Biochemistry”, Kudowa Zdrój, Poland, September 4-8, 2010
 - [18] 5th Asian Biological Inorganic Chemistry Conference, Kaohsiung, Taiwan, November 2-5, 2010
 - [19] The 4th Asia-Pacific Winter Conference on Plasma Chemistry (2010 APWC), Chengdu, Sichuan, China November 26-30, 2010 (*Keynote speaker*)
 - [20] 3rd Asia Pacific Protein Association Conference, Shanghai, P.R. China, May 6-9, 2011

SUPERVISION OF RESEARCH STUDENTS: Graduated: 12 Ph.D. and 2 M.Phil; On-going Students: 9 Ph. D.