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A. POSITIONS AND HONORS

Professional Experience

- 1989-1995 Ph.D. Thesis Research*, Studies on Physical Biochemistry and Electron Transfer of Cytochrome c Chinese Academy of Sciences, Changchun Institute of Sciences, **Advisors: Prof. Shaojun Dong**, Fellow of the Third World Academy of Sciences; **Prof. Tianhong Lu**, Member of Electrochemical Society;
*In collaboration with Prof. T. M. Cotton (Department of Chemistry and Ames Laboratory, Iowa State University)
- 1996-1999 University of Mississippi Medical Center, School of Medicine, Dept. of Biochemistry, **Advisor: Dr. Jonathan B. Chaires**, Member of Biophysical Journal Editorial Board
- 2000-2002 NSF Laboratory for Molecular Sciences, California Institute of Technology, **Advisor: Nobel Laureate Dr. A. H. Zewail**, Director of NSF Laboratory for Molecular Sciences.
- 2002-present *Awardees of the National Science Fund for Distinguished Young Scholars in China and Excellence in "Hundred Talent" Program, a special program of the Chinese Academy of Sciences*, Professor of Chemistry, Director of Laboratory of Chemical Biology.
- 2006.12-2007.5 Visiting Professor, Department of Chemistry and Biochemistry, University of California at Santa Barbara with **Nobel Laureate Dr. Alan J. Heeger**.
- 2004- Vice Chairman of the Academic Committee of Changchun Institute of Applied Chemistry, Chinese Academy of Sciences.

Professional Memberships and Other Experience

- 1996- American Association of Pharmaceutical Scientists
1997-2006 American Chemical Society
2003- Society of Biological Inorganic Chemistry

Honors

- 1993 Top Student Award, Changchun Branch, Chinese Academy of Sciences
1995 President's Award of the Chinese Academy of Sciences

- 2002 National Science Fund for Distinguished Young Scholars in China
 2002 “Hundred Talent” Program of the Chinese Academy of Sciences
 2005 Award of Excellence “Hundred Talent” Program of the Chinese Academy of Sciences
 2006 Advisory Committee of the 3rd Asian Bioinorganic Conference
 2007 Award of National Excellence in New Century Program in China
 2007 2007 Excellent Advisor Award of the Chinese Academy of Sciences
 2008 Keynote Speaker of the 4th Asian Bioinorganic Conference, Korea
 2008 Member of the Expert Panel Committee of the National Science Foundation of China
 (2008-present)
 2009 Organizing Committee of the 13th Asian Chemical Congress (13th ACC)
 2009 Excellent Graduate Advisor Award of the Chinese Academy of Sciences
 2010 Invited Keynote Speaker of 10th European (EUROBIC10) Bioinorganic Conference, Greece
 2010 Plenary Lecturer of the 5th Asian Bioinorganic Conference
 2010 The First Class Prize of Science and Technology Progress of Jilin Province, China

Granted Patents:

1 US patent (Qu, X. et al., US 7339063 B2) and 2 China patents (Qu, X. et al., ZL200410011175.9); (Qu, X. et al., ZL200510016821.5)

B. Published over 110 articles and reviews (including IF>5.0, 58 articles) in peer-reviewed journals, such as *Proc. Natl. Acad. Sci. U. S. A.*; *Angew. Chem.*; *J. Am. Chem. Soc.*; *Nucleic Acids Res.*; *Adv. Mater.*; *J. Biol. Chem.*; *Chemistry & Biology*; *PLoS ONE*; *Small*; *Biomaterials*; *Molecular Pharmacology*; *J. Med. Chem.*; *Biochemistry*; *Chem. Eur. J.*; *Biophysical J.*; *Chem. Comm.*; *ChemBioChem.*; *J. Phys. Chem. B.*; *FEBS Letters*, etc.; Cited over 1200 times (ISI Web of Science data).

SELECTED 25 PUBLICATIONS

- Geng, J., Li, M., Ren, J., Wang, E., **Qu, X.** (Inside Cover Article and Highlighted by C&EN)
 “Polyoxometalates as Inhibitors of the Aggregation of Amyloid Polyoxometalates as Inhibitors of the Aggregation of Amyloid” *Angew. Chem. Intl. Ed.*, **2011**, 50, 4184-4188.
- Chen, C., Geng, J., Pu, F., Yang, X., Ren, J., **Qu, X.**
 “Polyvalent Nucleic Acid/Mesoporous Silica Nanoparticle Conjugates: Dual Stimuli-Responsive Vehicles for Intracellular Drug Delivery” *Angew. Chem. Intl. Ed.*, **2011**, 50, 882-886.
- Zhao, C., Qu, K., Xu, C., Ren, J., **Qu, X.**
 “Triplex Inducer-Directed Self-Assembly of Single-Walled Carbon Nanotubes: A Triplex DNA-Based Approach for Controlled Manipulation of Nanostructures” *Nucleic Acids Research*, **2011**, 39, ASAP (DOI: 10.1093/nar/gkq1347).
- Chen C, Pu F, Huang Z, Liu, Z, Ren J, **Qu, X.**
 “Stimuli-responsive controlled-release system using quadruplex DNA-capped silica nanocontainers” *Nucleic Acids Research*, **2011**, 39, 1638-1644.

5. Song, Y., Feng, L., Ren, J., **Qu, X.**
“Stabilization of Unstable CGC+ Triplex DNA By Single-walled Carbon Nanotubes Under Physiological Conditions” *Nucleic Acids Research*, **2011**, 39, ASAP (DOI: 10.1093/nar/GKR322).
6. Zhao, C., Geng, J., Feng, L., Ren, J., **Qu, X.**
“Chiral metallo-supramolecular complexes selectively induce human telomeric G-quadruplex formation under salt-deficient conditions” *Chem. Eur. J.*, **2011** ASAP(10.1002/chem.201100272).
7. Yu, H., Zhao, C., Chen, Y., Fu, M., Ren, J., **Qu, X.**
“DNA loop sequence as the determinant for chiral supramolecular compound G-quadruplex selectivity” *J. Med. Chem.*, **2010**, 53, 492-498.
8. Geng, J., Zhao, C., Ren, J., **Qu, X.** (Highlighted by Nature China: doi:10.1038/nchina.2010.107)
“Alzheimer's disease amyloid beta converting left-handed Z-DNA back to right-handed B-form” *Chem. Comm.*, **2010**, 38, 7187-7189.
9. Song, Y., Qu, K., Zhao, C., Ren, J., **Qu, X.**
“Graphene Oxide: Intrinsic Peroxidase Catalytic Activity and Its Application to Glucose Detection” *Advanced Materials*, **2010**, 22, 2206-2210.
10. Yu, H., Zhao, C., Chen, Y., Fu, M., Ren, J., **Qu, X.**
“DNA loop sequence as the determinant for chiral supramolecular compound G-quadruplex selectivity” *J. Med. Chem.*, **2010**, 53, 492-498.
11. Peng, Y., Wang, X., Xiao, Y., Feng, L., Zhao, C., Ren, J., **Qu, X.**
“i-Motif Quadruplex DNA-Based Biosensor for Distinguishing Single- and Multiwalled Carbon Nanotubes” *J. Am. Chem. Soc.*, **2009**, 131, 13813-13818.
12. Yu, H., Wang, X., Fu, M., Ren, J., **Qu, X.**
“Chiral metallo-supramolecular complexes selectively recognize human telomeric G-quadruplex DNA” *Nucleic Acids Research*, **2008**, 36, 5695-5703.
13. Yu, H., Ren, J., Chaires, J. B., **Qu, X.**
“Hydration of Drug-DNA Complexes: Greater Water Uptake for Adriamycin Compared to Daunomycin” *J. Med. Chem.*, **2008**, 51, 5909-5911.
14. Xiao, Y., **Qu, X.**, Plaxco, K. W., Heeger, A. H.
“Label-free electrochemical detection of DNA in blood serum via target-induced resolution of an electrode-bound DNA pseudoknot” *J. Am. Chem. Soc.*, **2007**, 129, 11896-11897.
15. Yu, H., Ren, J., **Qu, X.**
“Time-dependent DNA condensation induced by amyloid β -peptide” *Biophysical Journal*, **2007**, 92, 185-192.

16. Li, X., Peng, Y., Ren, J., **Qu, X.**
“Carboxyl-modified single-walled carbon nanotubes selectively induce human telomeric I-motif formation”
Proc. Natl. Acad. Sci. U S A, **2006**, 103, 19658-19663.
Article being selected as: “Top 100 Gene therapy publications for 2006”
Commented by Institute of Physics Publishing (<http://nanotechweb.org/articles/news/>)
17. Li, X., Peng, Y., **Qu, X.**
“Carbon nanotubes selective destabilization of duplex and triplex DNA and inducing B-A transition in solution” *Nucleic Acids Research*, **2006**, 34, 3670-3676.
18. Zhang, H., Yu, H., Ren, J., **Qu, X.**
“Reversible B-Z DNA transition under the low salt condition and non-B form polydApolydT selectivity by a cubane-like europium-L-aspartic acid complex” *Biophysical Journal*, **2006**, 90, 3203-3207.
19. Zhang, H., Yu, H., Ren, J., **Qu, X.**
“PolydA and polyrA self-structured by a europium and amino acid complex”
FEBS Lett., **2006**, 580, 3726-3730.
20. Li, X., Peng, Y., Ren, J., **Qu, X.**
“DNA Flanking Sequence Effect on Charge Transport in Short DNA Duplexes”
Biochemistry, **2006**, 45, 13543-13550.
21. Ren, J., **Qu, X.**, Trent, J. O., Chaires, J. B. (**Cover Article and Highlighted by C&EN: 2002**, 80(25), 36-37)
“Tiny Telomere DNA” *Nucleic Acids Research*, **2002**, 30, 2307-2315.
22. **Qu, X.**, Wan, C., Becker, H. C., Zhong, D., Zewail, A. H.
“The anticancer drug-DNA complex: Femtosecond primary dynamics for anthracycline antibiotics function”
Proc. Natl. Acad. Sci. U S A., **2001**, 98(25), 14212-14217.
23. **Qu, X.**, Chaires, J. B.
“Hydration Changes for DNA Intercalation Reactions” *J. Am. Chem. Soc.*, **2001**, 123, 1-7.
24. **Qu, X.**, Trent JO, Fokt I, Priebe W, Chaires JB (**Cover Article**).
“**From the cover: allosteric, chiral-selective drug binding to DNA**”
Proc. Natl. Acad. Sci. U S A., **2000**, 97, 12032-12037.
Article Commentary: PNAS, 2000, 97, 11685–11687; Scientific American, News in Brief, Oct. 10, 2000;
Chemical & Engineering News, Oc.16, 2000, 78(42), 7-8.
25. **Qu, X.**, Chaires, J. B. “Analysis of drug—DNA binding data. in” *Methods in Enzymology*”,
Numerical computer methods, part C, edited by M. L. Johnson&Ludwig Brand, *Academic Press*, **2000**,
Vol. 321, 353—369.