YULIAN (LENNA) YAO

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EDUCATION

Shanghai Jiao Tong University B.E. in Materials Science and Engineering *09/2012 - Present*
Overall GPA: 3.75/4.0(88.15/100) Ranking: 4/133

PUBLICATIONS

[1]Zhao, B.*, **Yao, Y.***, Yang, K., et al. **'Mercaptopropionic acid-capped Mn2+:ZnSe/ZnO quantum dots with both downconversion and upconversion emissions for bioimaging applications'** (*These authors contributed equally to this work) *Nanoscale*,2014,6,12345-12349.

[2] Zhao, B., **Yao, Y.**, Gao, M., et al. **'Doped quantum dot@silica nanocomposites for white light-emitting diodes'** *Nanoscale*,2015,7,17231-17236.(Back cover)

RESEARCH EXPERIENCES

Research in **Institute of Composite Materials** (Supervisor: **Wanwan LI**)

Quantum Dots Encoded Microspheres for Suspension Arrays 09/2013 - Present

· Prepared over 30 batches of quantum dots encoded polymer microspheres (magnetic and non-magnetic) of different emission peaks(650nm780nm), conjugated antigen/antibody for detection
· Synthesized gold nano particles of different sizes and shapes with different surface plasmon bands (SPB)
· Grew metalnanoshells on the QD barcodes surface, improved analytical sensitivity up to two order

Mn2+:ZnSe/ZnO Quantum Dots for Bioimaging Applications 09/2013 - 08/2014

· Designed a facile, cost-efficient hyfrothermal route to synthesized MPA stabilized Mn2+:ZnSe/ZnO d-dots with strong emission at ca. 580nm
· Enhanced the photoluminescence quantum yield of Mn2+:ZnSe/ZnO quantum dots to 31%, highest reported value of Mn2+:ZnSe/ZnO quantum dots synthesized by hydrothermal route so far
· exhibited upconversion emission when excited at 800 nm attributed to a two-photon absorption process
· Marked cell nucleolus with low cytotoxicity (greater than 80% cell viability) without surface decoration

Doped ZnSe Quantum Dot for White Light-Emitting Diodes (WLED) 03/2015 - 09/2015

· Synthesized blue, green-yellow and red emitting doped quantum dots to construct WLED with reduced scattering and no reabsorption
· Coated silica shells onto the doped quantum dots to reduce the refractive index (RI) difference by 93%

Glucose Oxidase-Catalyzed Growth of Gold Nanoparticles for enzyme-Linked Immunosorbent Assay (ELISA) Antibody/Antigen Detection 09/2014 - 03/2015

· Synthesized gold nanoparticles with diameter ranging from 5nm to 160nm
· Applied gold nanoparticles to enzyme-linked immunosorbent assay to enhance detection sensitivity

HONORS & SCHOLARSHIP(SELECTED)

National Scholarship of China (top 2%) *2014*
Academic Excellence (Type A) Scholarship of Shanghai Jiao Tong University (SJTU) (top 1%) *2014*
Kwang-Hua Scholarship (Top 5%) *2013*
First Prize of Shanghai Challenge Cup *2015*
Three Good Student of SJTU *2014*
Candidate for Pacemaker to Merit Student (top 15 out of over 30000 students) *2014*
Outstanding Volunteer of Shanghai Science Shop *2013*

EXTRA-CURRICULAR ACTIVITIES(SELECTED)

Head of Youth Volunteer Department *09/2012 - 09/2014*

Organized and participated in over 20 times of voluntary work: Shanghai Marathon volunteer, Shanghai Science and Technology Museum volunteer, science shop volunteer, etc

The Challenge Cup *03/2015 - 06/2015*
Known as the Science and Technology Olympics for College Students

Presented my project - tentative exploration of the properties and application of quantum dotsto experts in Nano

Head of Liaison Department of Sports Union *09/2013 - 09/2014*

Organized over 30 sports associations in SJTU, assisted with the Long-Distance Running Competition

SKILLS

Instrument: fluorospectro photometer, flow cytometry, ultraviolet-visible absorption spectrometry, SEM, TEM, HREM
Software: LaTeX, MATLAB, Abaqus
Language: TOEFL 106, GRE 159+170+3.5, French entry level