Qingsong Fan

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EDUCATION

College of Natural and Agricultural Sciences, UC Riverside — Riverside, USA

Ph.D. in Chemistry — 2017.09 - 2023.06

- Research interests: Synthesis and Assembly of Nanoparticles
- Supervisor: Yadong Yin

School of Materials Science and Engineering, Beijing Institute of Technology — Beijing, China

Bachelor of Science in Materials Science and Engineering — 2013.09 - 2017.06

- Research interests: Organic-inorganic Halide Perovskite
- Supervisor: Haizheng Zhong

WORKING EXPERIENCE

Pritzker School of Molecular Engineering, University of Chicago — Chicago, USA

Postdoctoral Researcher — 2023.07-Now

RESEARCH EXPERIENCE

Synthesis of Core-shell Nanoparticles as the Slow-Release Platform of Zn Ions (Collaboration with Colgate)

Research member, 2022.03 – 2023.06

Synthesis and Fabrication of Photonic Crystals by Colloidal Nanoparticles

Research member, 2017.09 – 2023.06

Fabrication of Smart Devices with Functional Nanomaterials

Research member, 2017.09 – 2023.06

Synthesis of Protected Organic-inorganic Halide Perovskite Nanoparticles with Enhanced Performance

Research member, 2016.06 – 2017.06

PUBLICATION

1) Yang G, **Fan Q**, Chen B, Zhou Q, Zhong H. Reprecipitation synthesis of luminescent $CH_3NH_3PbBr_3/NaNO_3$ nanocomposites with enhanced stability. *J. Mater. Chem. C* **2016**, 4, 11387-11391.
2) Feng J, Yang F, Ye Y, Wang W, Yao X, **Fan Q**, Liu L, Aleisa RM, Guo J, Yin Y. Surface-bound sacrificial electron donors in promoting photocatalytic reduction on titania nanocrystals. *Nanoscale* **2019**, 11, 19512-19519.
3) Zhang X, Li Z, Feng J, Yang F, Wu C, **Fan Q**, Zhou S, Yin Y. Dynamic tuning of optical transmittance of 1D colloidal assemblies of magnetic nanostructures. *Adv. Intell. Syst.* **2019**, 1, 1900099.
4) **Fan Q**, Wu C, Feng J. Zinc (^{30}Zn). Handbook of Synthetic Methodologies and Protocols of Nanomaterials: Volume 1: Solution Phase Synthesis of Nanomaterials **2020** (pp. 309-341).
5) Li B, Chen J, Han L, Bai Y, **Fan Q**, Wu C, Wang X, Lee M, Xin HL, Han Z, Yin Y. Ligand-assisted solid-state transformation of nanoparticles. *Chem. Mater.* **2020**, 32, 3271-3277.
6) Li Z, **Fan Q**, Wu C, Li Y, Cheng C, Yin Y. Magnetically tunable plasmon coupling of Au nanoshells enabled by space-free confined growth. *Nano Lett.* **2020**, 20, 8242-8249.
7) Li Z, Ye Z, Han L, **Fan Q**, Wu C, Ding D, Xin HL, Myung NV, Yin Y. Polarization-modulated multidirectional photothermal actuators. *Adv. Mater.* **2021**, 33, 2006367.
8) Liu Y, **Fan Q**, Zhu G, Shi G, Ma H, Li W, Wu T, Chen J, Yin Y, Guan J. A dual responsive photonic liquid for independent modulation of color brightness and hue. *Mater. Horiz.* **2021**, 8, 2032-2040.
9) **Fan Q**, Li Z, Yin Y. Magnetic assembly of colloidal nanoparticles into responsive photonic crystals. **2021**.
10) Li Y, **Fan Q**, Wang X, Liu G, Chai L, Zhou L, Shao J, Yin Y. Shear-Induced Assembly of Liquid Colloidal Crystals for Large-Scale Structural Coloration of Textiles. *Adv. Funct. Mater.* **2021**, 31, 2010746.
11) Li Z, **Fan Q**, Yin Y. Colloidal self-assembly approaches to smart nanostructured materials. *Chem. Rev.* **2021**, 122, 4976-5067.
12) Jiang Q, Xiao Y, Hong AN, Gao Z, Shen Y, **Fan Q**, Feng P, Zhong W. Bimetallic Metal–Organic Framework Fe/Co-MIL-88 (NH_2) Exhibiting High Peroxidase-like Activity and Its Application in Detection of Extracellular Vesicles. *ACS Appl. Mater. Interfaces.* **2022**, 14, 41800-41808.
13) Wu C, **Fan Q**, Yin Y. Emulsion-confined self-assembly of colloidal nanoparticles into 3D superstructures. *Cell Reports Physical Science*. **2022**, 101162.
14) Wu C, **Fan Q**, Wu W, Liang T, Liu Y, Yu H and Yin Y. Magnetically Tunable One-Dimensional Plasmonic Photonic Crystals. *Nano Lett.* **2023,** 23, 1981–1988.

15) **Fan Q**, Lu Y, Xu S, Xu G, Cai Z, Feng J, Wu C, Brinzari VT, Pan L, Yin Y. Core-shell Nanospheres with Controllable Zinc Ion Release for Time-Sensitive Information Encryption. *Adv. Mater. Technol*. **2023,** 2300469.

16) **Fan Q**, Li Z, Wu C, Yin Y. Magnetic Anisotropy in Colloidal Assembly. *Precision Chemistry* **2023,** doi.org/10.1021/prechem.3c00012

17) Li Z, **Fan Q**, Ye Z, Wu C, Wang Z, Yin Y. A general all-scale magnetic assembly approach to chiral superstructures. *Science* **2023**, 380, 1384-1390.

18) **Fan Q**, Li Z, Li Y, Zhao Y, Zhu C, Yin Y. Assembly Dynamics of Body-Centered-Cubic Crystals from Nanoparticles with Thick Electrical Double Layer. *In preparation.*