

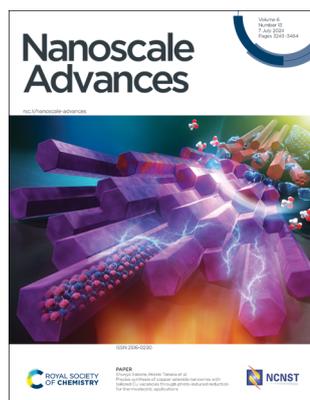
# Nanoscale Advances

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ISSN 2516-0230 CODEN NAADAI 6(13) 3243–3464 (2024)



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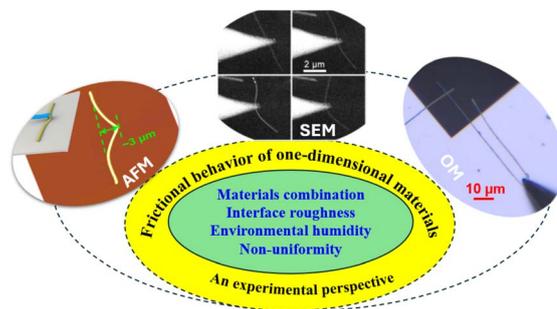
**Inside cover**  
See Yanqi Yang and Mi Li, pp. 3306–3319. Image reproduced by permission of Mi Li from *Nanoscale Adv.*, 2024, 6, 3306.

## REVIEW

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### Frictional behavior of one-dimensional materials: an experimental perspective

Tursunay Yibibulla, Lizhen Hou,\* James L. Mead, Han Huang, Sergej Fatikow and Shiliang Wang\*

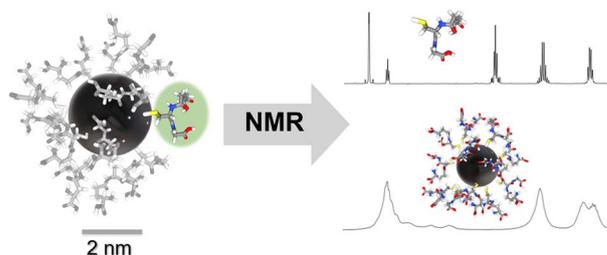


## MINIREVIEW

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### Possibilities and limitations of solution-state NMR spectroscopy to analyze the ligand shell of ultrasmall metal nanoparticles

Natalie Wolff, Christine Beuck, Torsten Schaller and Matthias Epple\*



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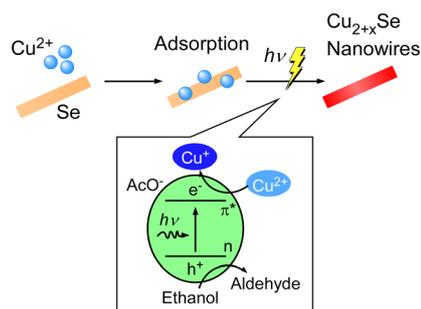
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Fundamental questions  
Elemental answers

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### Precise synthesis of copper selenide nanowires with tailored Cu vacancies through photo-induced reduction for thermoelectric applications

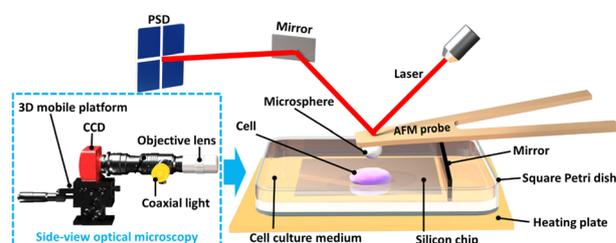
Shunya Sakane,\* Tatsuki Miura, Kazuki Munakata, Yusuke Morikawa, Shunichiro Miwa, Riku Yamanaka, Toshiki Sugai, Akito Ayukawa, Haruhiko Uono and Hideki Tanaka\*



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### Side-view optical microscopy-assisted atomic force microscopy for thickness-dependent nanobiomechanics

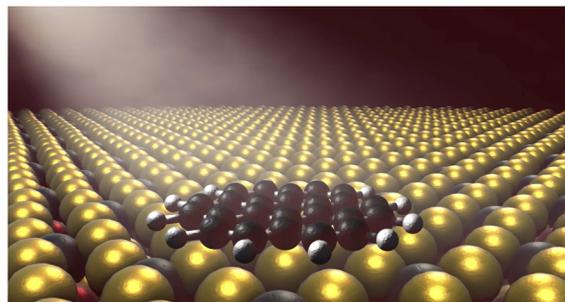
Yanqi Yang and Mi Li\*



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### Towards molecular controlled magnonics

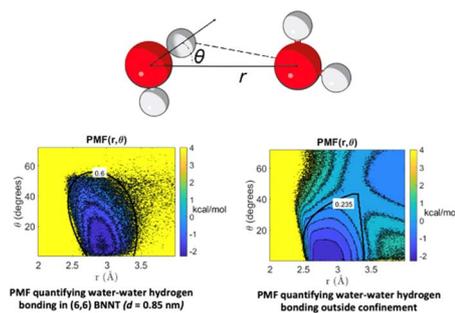
Alberto M. Ruiz, Gonzalo Rivero-Carracedo, Andrey Rybakov, Sourav Dey and José J. Baldovi\*



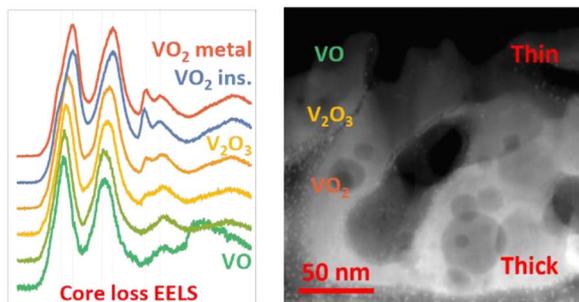
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### Strength, number, and kinetics of hydrogen bonds for water confined inside boron nitride nanotubes

Bhargav Sai Chava and Siddhartha Das\*



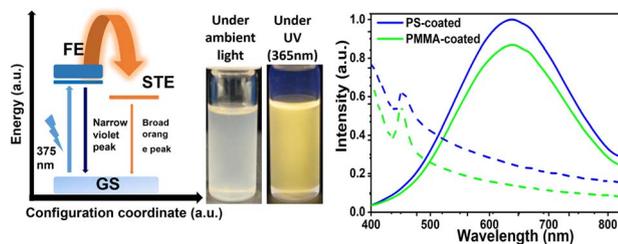
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### Analytical electron microscopy analysis of insulating and metallic phases in nanostructured vanadium dioxide

Jan Krpenský, Michal Horák, Jiří Kabát, Jakub Planer, Peter Kepič, Vlastimil Křápek\* and Andrea Konečná\*

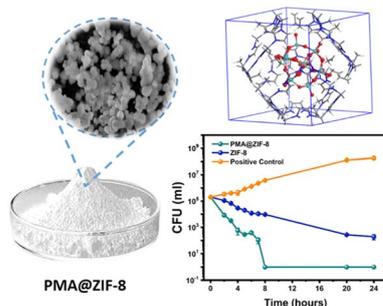
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### Room temperature synthesis of nanocomposite thin films with embedded $\text{Cs}_2\text{AgIn}_{0.9}\text{Bi}_{0.1}\text{Cl}_6$ lead-free double perovskite nanocrystals with long-term water stability, wide range pH tolerance, and high quantum yield

Stevanson Bayer, Jason Ho Yin Yu and Stefan Nagl\*

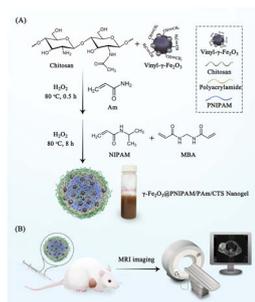
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### Zeolitic imidazolate framework-8 encapsulated with Mo-based polyoxometalates as surfaces with antibacterial activity against *Escherichia coli*

Mariam M. Abdelkhalak, Aya M. Mohamed, Rehab Z. Abdallah, Ghada E. Khedr, Rania Siam and Nageh K. Allam\*

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### Enhancing MRI through high loading of superparamagnetic nanogels with high sensitivity to the tumor environment

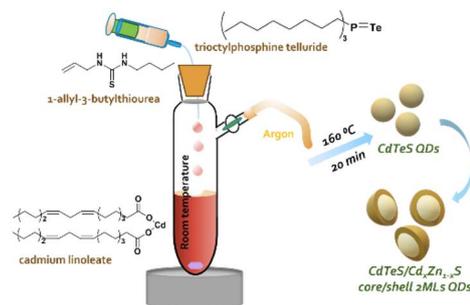
Jinfeng Liao, Liangyu Zhou, Yongzhi Wu, Zhiyong Qian and Pei Li\*



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### Disubstituted thiourea as a suitable sulfur source in the gram-scale synthesis of yellow- and red-emitting CdTeS/Cd<sub>x</sub>Zn<sub>1-x</sub>S core/shell quantum dots

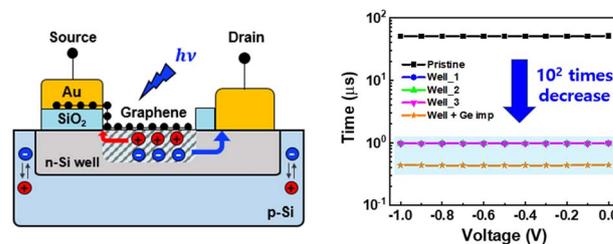
Liudmila Loghina,\* Jakub Houdek, Stanislav Slang, Bozena Frumarova, Miroslav Cieslar and Miroslav Vlcek



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### Demonstration of a low power and high-speed graphene/silicon heterojunction near-infrared photodetector

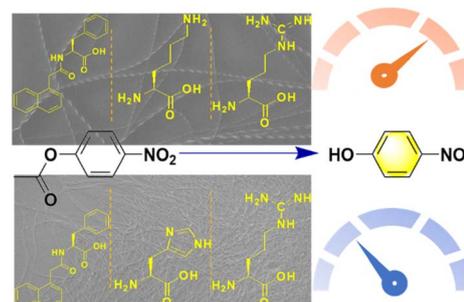
Min Gyu Kwon, Cihyun Kim, Seung-Mo Kim, Tae Jin Yoo, Yongsu Lee, Hyeon Jun Hwang, Sanghan Lee\* and Byoung Hun Lee\*



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### 1-Naphthylacetic acid appended amino acids-based hydrogels: probing of the supramolecular catalysis of ester hydrolysis reaction

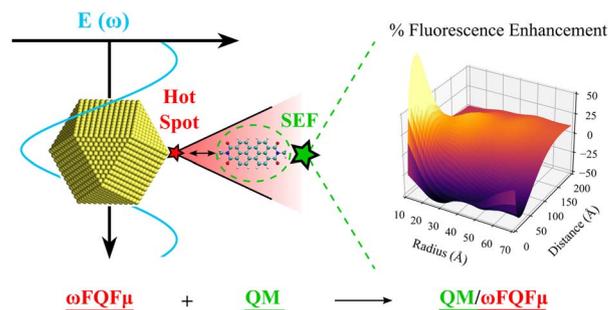
Ruchika Bassan, Biplab Mondal, Mayank Varshney and Subhasish Roy\*



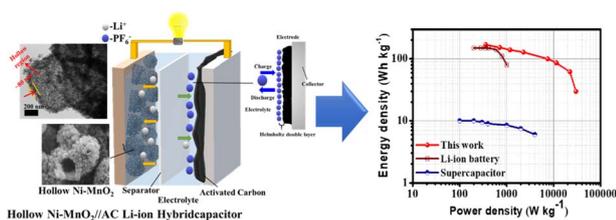
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### Multiscale modeling of surface enhanced fluorescence

Pablo Grobas Illobre, Piero Lafiosca, Teresa Guidone, Francesco Mazza, Tommaso Giovannini\* and Chiara Cappelli\*



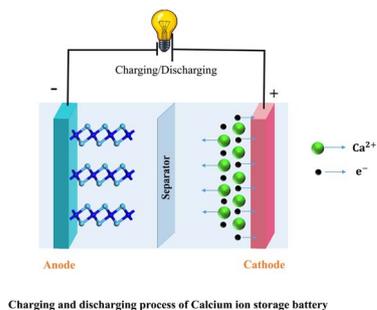
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### Hierarchical hollow porous structures of nickel-doped $\lambda$ - $\text{MnO}_2$ anodes for Li-ion energy storage systems

Venugopal Nulu, Arunakumari Nulu and Keun Yong Sohn\*

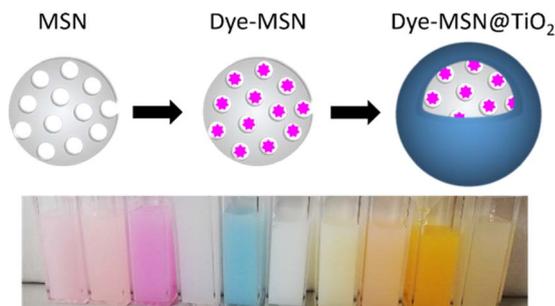
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### Recent advances in Zr and Hf-based MXenes and their hetero-structure as novel anode materials for Ca-ion batteries: theoretical insights from DFT approach

Tanvir Ahmed, Afiya Akter Piya and Siraj Ud Daula Shamim\*

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### Titania-mediated stabilization of fluorescent dye encapsulation in mesoporous silica nanoparticles

Laura Spitzmüller,\* Jonathan Berson, Fabian Nitschke, Thomas Kohl and Thomas Schimmel

