



# RSC Advances

At the heart of open access for  
the global chemistry community

## Editor-in-chief

Russell J Cox

Leibniz Universität Hannover, Germany

## We stand for:



**Breadth** We publish work in all areas of chemistry and reach a global readership



**Affordability** Low APCs, discounts and waivers make publishing open access achievable and sustainable



**Quality** Research to advance the chemical sciences undergoes rigorous peer review for a trusted, society-run journal

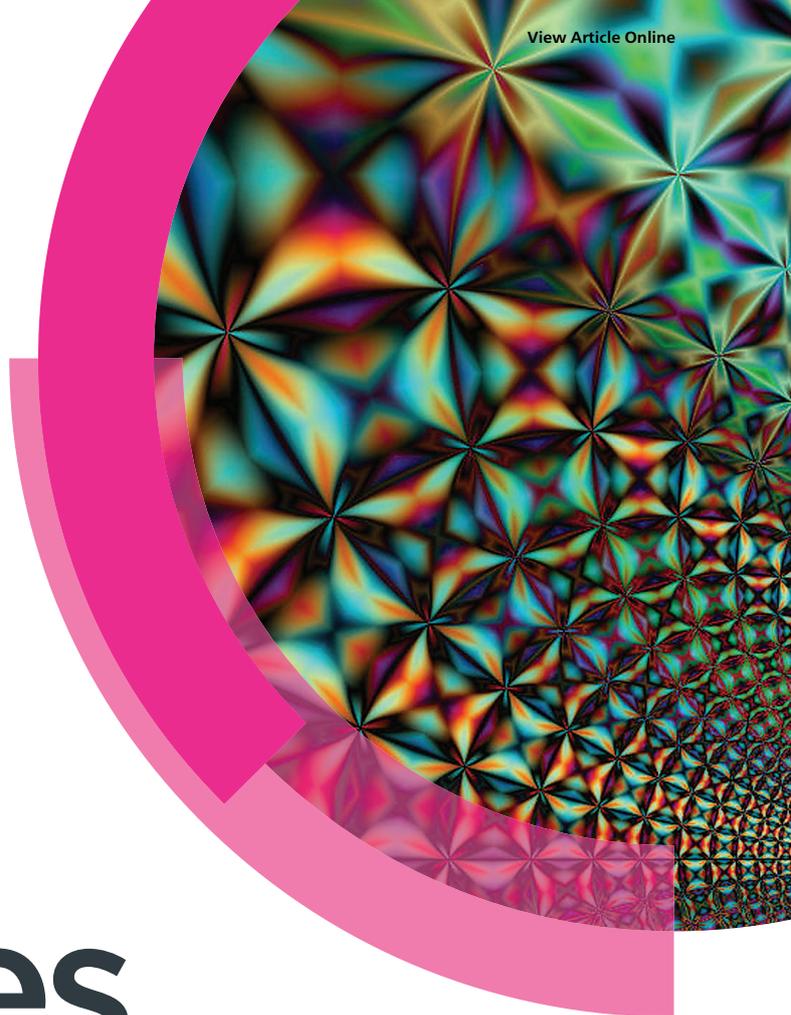


**Community** Led by active researchers, we publish quality work from scientists at every career stage, and all countries

Submit your work now

[rsc.li/rsc-advances](https://rsc.li/rsc-advances)

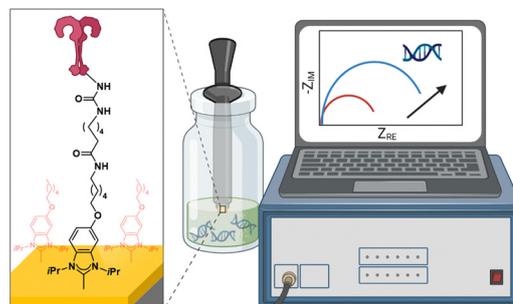
@RSC\_Adv



6063

### Toll like receptor-based electrochemical sensors via N-heterocyclic carbene-modified surfaces: towards improved sensing of DNA molecules

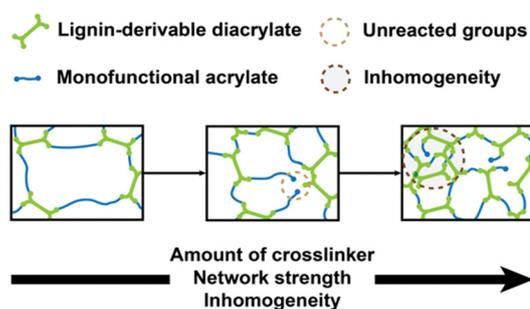
Dianne S. Lee, Mir Pouyan Zarabadi, Hridaynath Bhattacharjee, Lin Qi, Jennifer F. McLeod, Kasra Saeedfar, Ishwar Singh, April Woods, Anastasia Messina, Viola I. Birss,\* Cathleen M. Crudden\* and Zhe She\*



6070

### Engineering lignin-derivable diacrylate networks with tunable architecture and mechanics

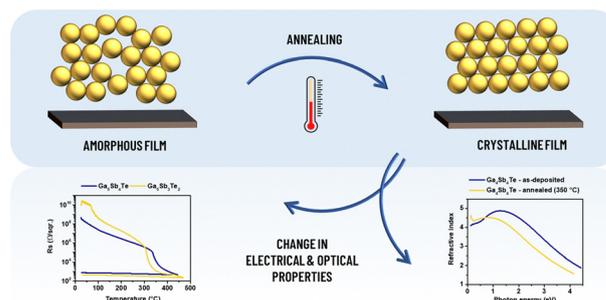
Yu-Tai Wong and LaShanda T. J. Korley\*



6081

### Co-sputtered phase-change Ga-Sb-Te thin films

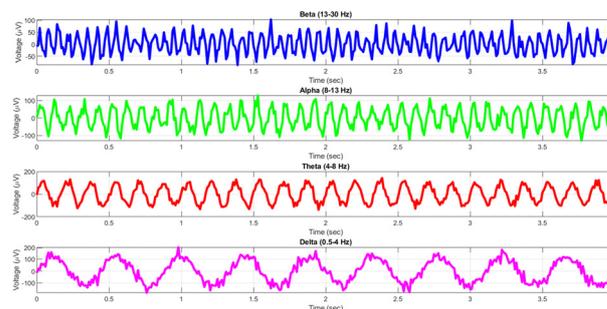
Magdalena Kotrla, Petr Janiček, Jan Gutwirth, Tomáš Halenkovič, Jan Příkryl, Stanislav Šlang, François Cheviré, Virginie Nazabal and Petr Němec\*



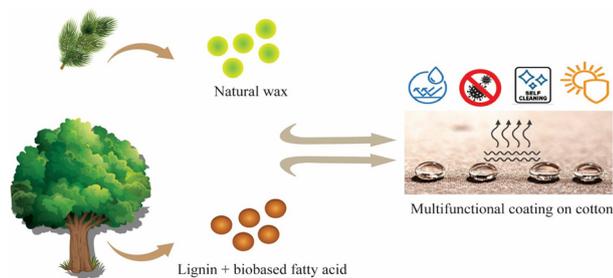
6090

### Spike trains in PANI-proteinoid nanomaterials with different light pulse rates

Panagiotis Mougkogiannis\* and Andrew Adamatzky



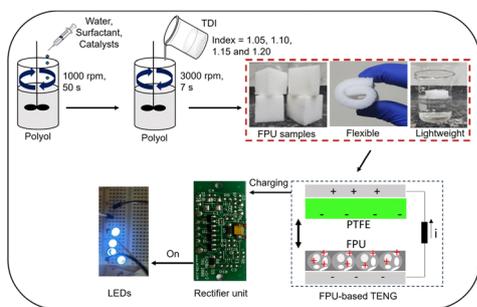
6114



### Thin multifunctional coatings for textiles based on the layer-by-layer application of polyaromatic hybrid nanoparticles

Sahar Babaeipour, Paula Nousiainen, Erfan Kimiaei, Jenni Tienaho, Nadine Kohhuber, Risto Korpinen, Kalle Kaipainen and Monika Österberg\*

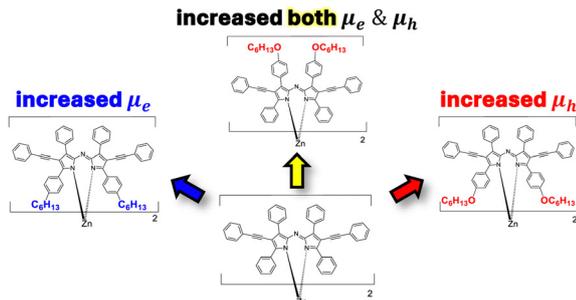
6132



### Effect of density and thickness of flexible polyurethane foam on the performance of triboelectric nanogenerators

Ahmed Abdelhamid Maamoun, Ahmed Adel Mahmoud, David Magdy Naeim, Mustafa Arafa\* and Amal M. K. Esawi

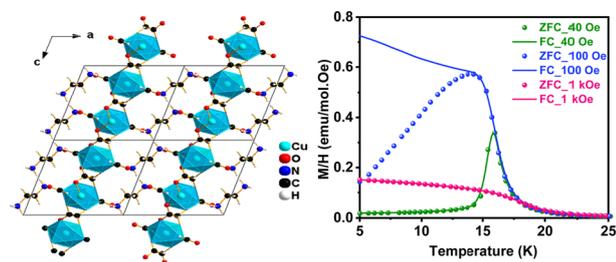
6145



### Tuning the charge transport properties of non-planar zinc(II) complexes of azadipyrromethenes using solubilizing groups

Lexi Knight, Jayvic C. Jimenez, Quynh Tran, Muyuan Zhao, Madison H. Pugh, Christina D. Brancel, Honghu Zhang, Ruipeng Li, Yi Yuan, Yuning Li, Lei Zhu and Geneviève Sauv e\*

6154



### A novel layered Cu-based perovskite metal-organic framework with 1,2-diaminoethane cations: synthesis, crystal structure, and thermal and magnetic properties

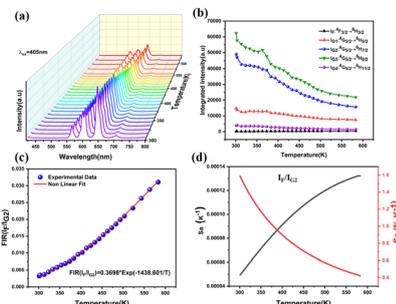
Asmae Ben Abdelhadi, Rachid Ouarsal, Morgane Poupon, Michal Dusek, Juan Pedro Andr s Gonz lez, Luis Lezama, Brahim El Bali, Mohammed Lachkar\* and Abderrazzak Douhal\*



6162

## Exploring luminescence quenching mechanisms and temperature sensing capabilities of $\text{LiSrYW}_3\text{O}_{12}:\text{Sm}^{3+}$ phosphors

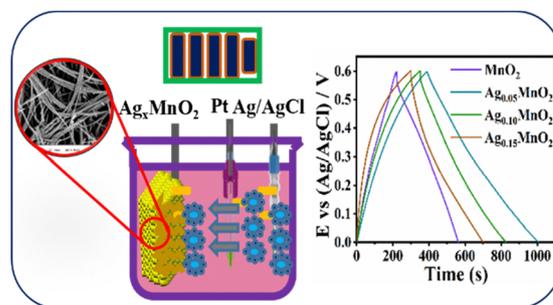
F. Ayachi, K. Saidi and M. Dammak\*



6170

## Electrochemical performance enhancement of $\text{MnO}_2$ nanowires through silver incorporation for next-generation supercapacitors

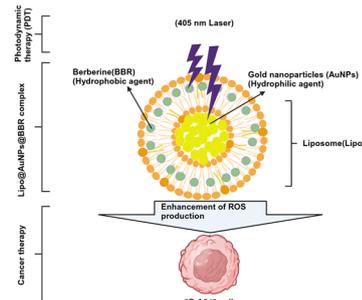
Muhammad Usman Khalid, Sonia Zulfiqar, M. Naziruddin Khan, Imran Shakir, Muhammad Farooq Warsi\* and Eric W. Cochran\*



6185

## Co-delivery of berberine and gold nanoparticles on liposomes for photodynamic therapy against 3D lung cancer cells

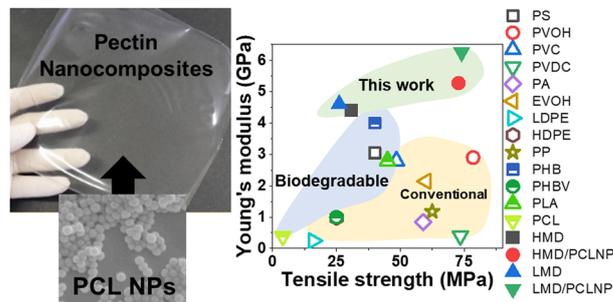
Kave Moloudi, Heidi Abrahamse and Blassan P. George\*



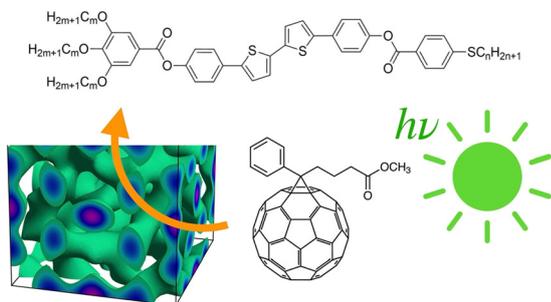
6196

## Strengthening eco-friendly packaging from pectin by filling with poly( $\epsilon$ -caprolactone) nanoparticles and tailoring the degree of methyl-esterification

Marcos Vinicius Lorevice,\* Graziela Solferini Baccarin, Juliana Reghine Souza, Pedro Ivo Cunha Claro, Márcia Regina de Moura, Caio Gomide Otoni\* and Luiz Henrique Capparelli Mattoso



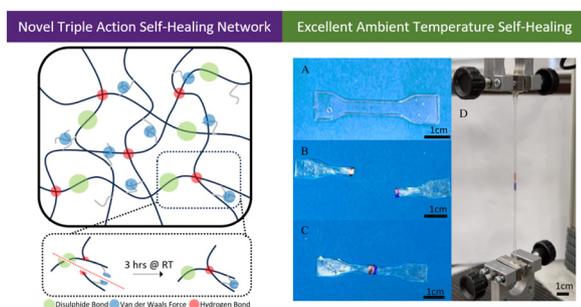
6205



### Effect of fullerene doping on electronic and photovoltaic properties of the cubic bicontinuous phase

Ahmad Murad, Mohamed Alaasar,\* Ahmed F. Darweesh and Alexey Eremin\*

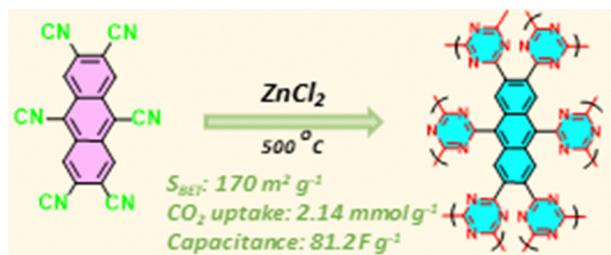
6210



### A bio-based thermoplastic polyurethane with triple self-healing action for wearable technology and smart textiles

Thomas Griggs, Jubair Ahmed, Hamta Majid, Mohan Edirisinghe and Biqiong Chen\*

6222



### High-performance anthracene-linked covalent triazine frameworks with dual functions for CO<sub>2</sub> capture and supercapacitor applications

Ming-Chieh Lin, Shiao-Wei Kuo\* and Mohamed Gamal Mohamed\*

6234



### Synergistic co-adsorptive removal of crystal violet and chromium(vi) from water by pozzolan-charcoal based geopolymer composites

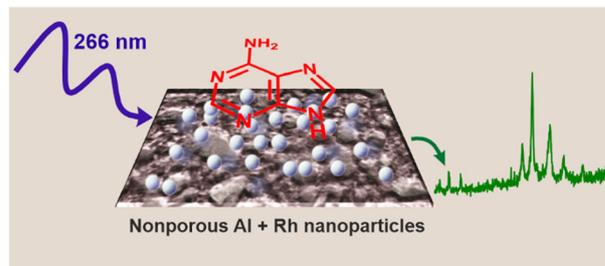
Jacques Madiba Mboka, Hermann Dzoujo Tamaguelon,\* Victor Odhiambo Shikuku, Sylvain Tome, Romain Pokeya, Donald Kamdem Njouond, Fidele Gallo Titini, Aysenur Limon, Christoph Janiak, Marchand Manga Dika, Marie Annie Etoh and David Joh Daniel Dina\*



6248

### Porous aluminum decorated with rhodium nanoparticles: preparation and use as a platform for UV SERS

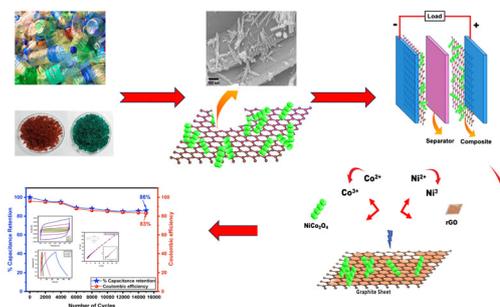
Shrobona Banerjee, Luca Mattarozzi, Nicolò Maccaferri, Sandro Cattarin, Shukun Weng, Ali Douaki, German Lanzavecchia, Anastasiia Sapunova, Francesco D'Amico, Qifei Ma, Yanqiu Zou, Roman Krahne, Janina Kneipp and Denis Garoli\*



6255

### Upcycling waste plastic into 2D-carbon nanomaterials for high-performance supercapacitors by incorporating NiCo<sub>2</sub>O<sub>4</sub>: a sustainable approach to renewable energy

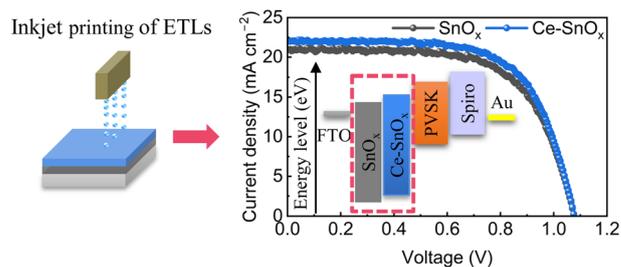
Diksha Bhatt, Mayank Pathak, Nishtha Thakur, Gaurav Tatrari, Tanmoy Rath, Zaher Judeh and Nanda Gopal Sahoo\*



6270

### Inkjet-printed Ce-doped SnO<sub>x</sub> electron transport layer for improved performance of planar perovskite solar cells

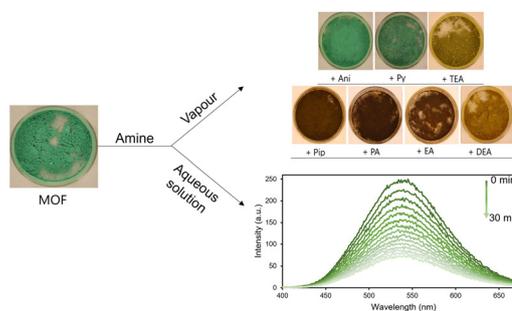
Dongli Lu, Mahboubeh Jamshidi, Chaochao Dun, Jeffrey J. Urban, James M. Gardner and Liubov Belova\*



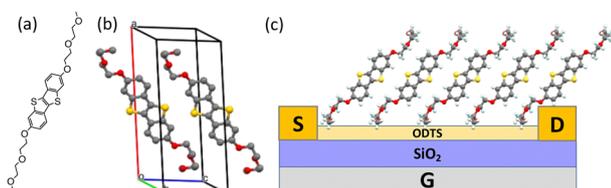
6277

### A water-stable copper-based nanosized metal-organic framework for discriminative sensing of amines

Pablo Álvarez García, Enrique Álvarez Rubiera, David Gutiérrez Armayor, Candela Melendreras, Ana Belen Soldado, José Manuel Costa, Elena Lastra\* and Fco. J. García Alonso\*



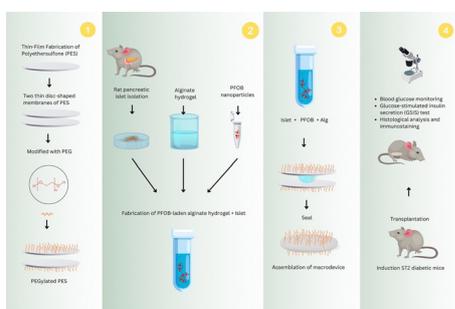
6285



### Impact of hydrophilic side chains on the thin film transistor performance of a benzothieno-benzothiophene derivative

Mindaugas Gicevičius,\* Ann Maria James, Lukas Reicht, Nemo McIntosh, Alessandro Greco, Lamiaa Fijahi, Félix Devaux, Marta Mas-Torrent, Jérôme Cornil, Yves Henri Geerts, Egbert Zojer, Roland Resel and Henning Sirringhaus\*

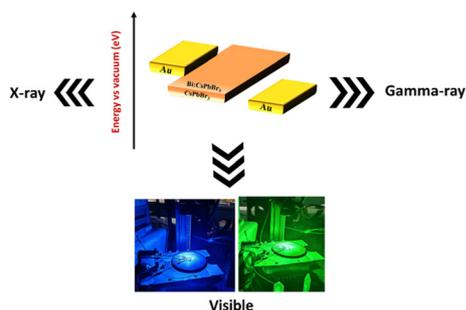
6295



### A thin disc-shaped macrocapsule for transplantation of oxygen carrier-laden alginate hydrogel-encapsulated pancreatic islets in diabetic mice

Nasrin Kakaei, Zhila Izadi,\* Ghobad Mohammadi,\* Abbas Ahmadi,\* Roshanak Amirian and Mohammad Raman Moloudi

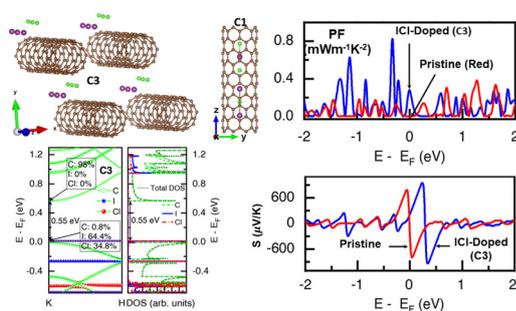
6309



### Preparation of bismuth-doped CsPbBr<sub>3</sub> perovskite single crystals for X-ray and gamma-ray sensing applications

Premkumar Sellan,\* Manigandan Selvan, Abida Perveen, Din Nasrud, Sakthivel Chandrasekar, Pitchaikannu Venkatraman, Devaraj Nataraj, Byung Seong Bae, Damian Chinedu Onwuodiwe and Lei Wei\*

6319



### Thermoelectric property enhancement of single-wall carbon nanotube network by ICI intercalation and filling: a first-principles study

Md. Mafizul Islam and Ahmed Zubair\*



## CORRECTIONS

6330

**Correction: *N,N'*-Substituted quinacridones for organic electronic device applications**

Donia Saadi, Felix Mayr, Cigdem Yumusak, Dominik Wielend, Munise Cobet, Bilge Kahraman, Cristian Vlad Irimia, Yasin Kanbur, Mateusz Bednorz, Kamil Kotwica, Amel Ben Fredj, Samir Romdhane, Markus C. Scharber, Niyazi Serdar Sariciftci and Mihai Irimia-Vladu\*

6331

**Correction: Spike trains in PANI-proteinoid nanomaterials with different light pulse rates**

Panagiotis Mougkogiannis\* and Andrew Adamatzky

6332

**Correction: Plasmonic nanodendrites stabilized with autologous serum proteins for sustainable host specific photothermal tumor ablation**

Mimansa, Smriti Bansal, Pranjali Yadav and Asifkhan Shanavas\*

