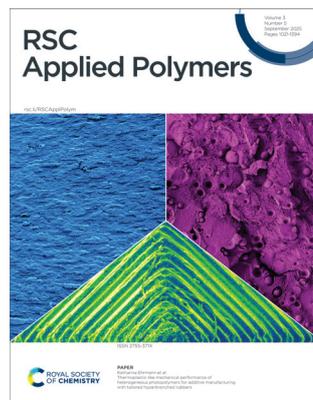


### IN THIS ISSUE

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**Cover**  
See Katharina Ehrmann et al.,  
pp. 1165–1176.

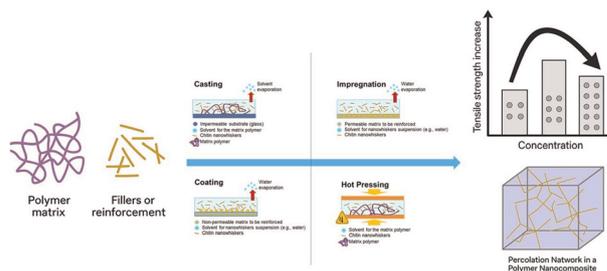
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from *RSC Appl. Polym.*,  
2025, **3**, 1165.

### REVIEWS

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#### Chitin nanowhiskers: a review of manufacturing, processing, and the influence of content on composite reinforcement and property enhancement

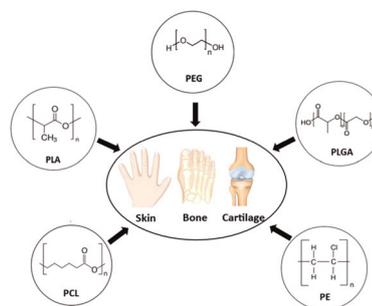
Reshma Panackal Shibu, Mona Jafari, Sophia L. Sagala and Julia L. Shamshina\*



1124

#### Biomolecule-modified synthetic polymers for wound healing and orthopaedic applications

Eun Ju Park, Jiayi Guo, Yew Chin Teo and Peili Teo\*



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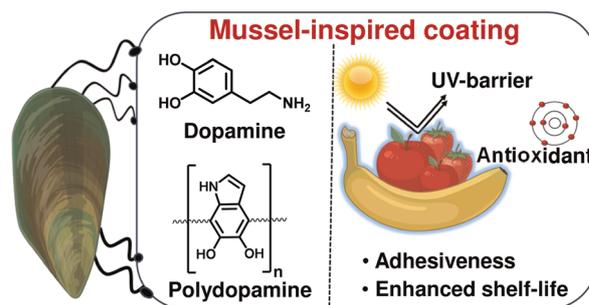


## REVIEWS

1145

**Mussel-inspired biomimetic adhesive coatings for food preservation: a review**

Deepika Gupta, Dimpy Bhardwaj, Ruchir Priyadarshi, Saurav Kumar and Garima Agrawal\*

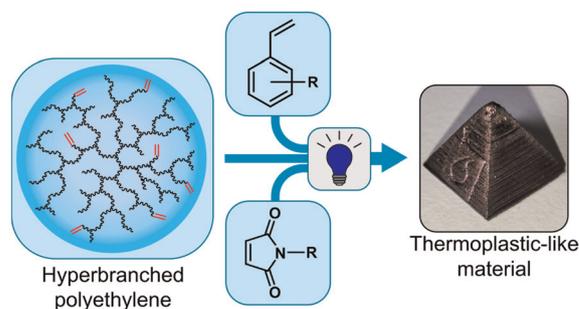


## PAPERS

1165

**Thermoplastic-like mechanical performance of heterogeneous photopolymers for additive manufacturing with tailored hyperbranched rubbers**

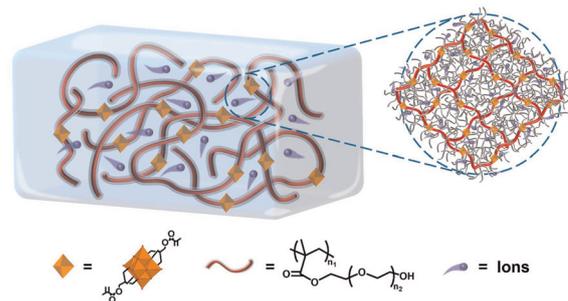
Vojtěch Musil, Dominik Laa, Mojtaba Ahmadi, Jürgen Stampfl, Robert Liska, Jan Merna and Katharina Ehrmann\*



1177

**Metal oxide cluster-integrated polymer networks for robust solid-state single-ion conduction at high temperatures**

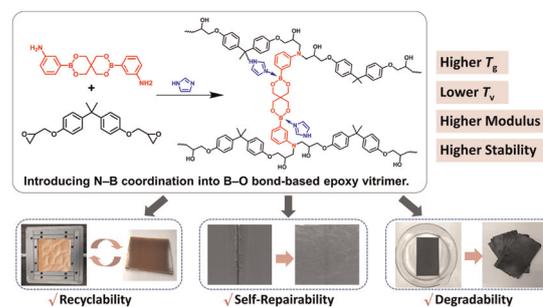
Jie Deng, Litao Ma, Lu Liu, Weigang Sun, Yuan Liu and Panchao Yin\*



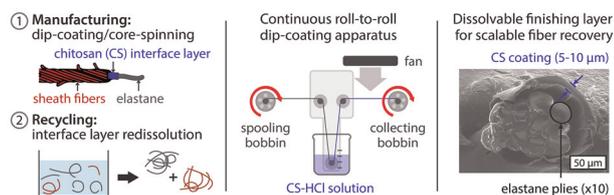
1183

**Reversible B–O bond-based epoxy vitrimers with high thermomechanical and dynamic properties enhanced by intermolecular B–N coordination**

Qi Li,\* Dong Wang, Tianjiao Wang, Yang Zhang, Shiyang Liu, Shiwei Zhang, Zhufeng Hu, Liying Li, Guoyong Wang and Yingmin Zhao



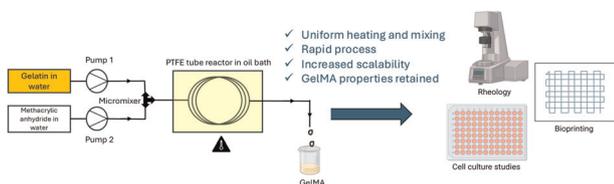
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### A roll-to-roll chitosan finishing strategy for elastane recovery

Eleanor C. Grosvenor, Malachi Cohen, Caterina Czibula, Emma M. Sellin, Kayla T. Ghezzi, Natalie C. Fisher, Jana B. Schaubeder, Sara E. Branovsky, Gabrielle N. Wood, Jeffrey J. Richards and Cécile A. C. Chazot\*

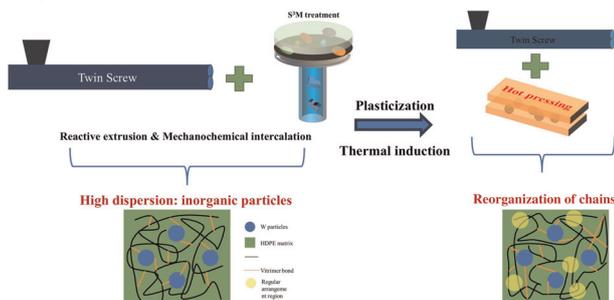
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### Production of gelatin methacrylate by flow chemistry and investigation of its suitability as a biomaterial

Pallavi Sengupta, Emma Salisbury, Anil Kumar, Tanja Junkers\* and Neil R. Cameron\*

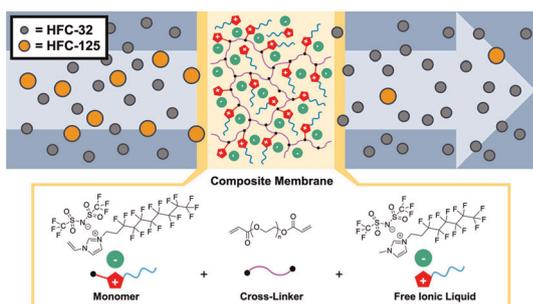
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### Scalable solution for high dispersibility and low heterogeneity of nuclear-shielding high inorganic filler/polymer composites: a vitrimer *via* reactive extrusion & mechanochemical intercalation

Shuangxin Lai, Qianyue Tan, Hongli Xie, Jiliang Gong, Liang Xue, Haiping Liu, Ruiqian Zhang, Yijun Li and Shibing Bai\*

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### Printable fluorinated poly(ionic liquid)-ionic liquid composite membranes for fluorinated gas separation

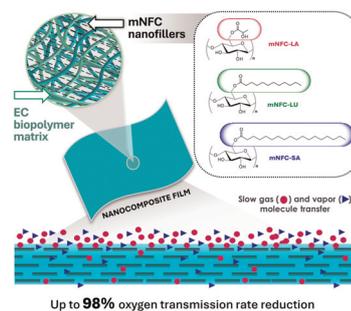
Randinu Pulukkody, Chia-Min Hsieh, Abby N. Harders, Yuniva Mendoza-Apodaca, Mark B. Shiflett and Emily B. Pentzer\*



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### High barrier bio-nanocomposite films of ethyl cellulose integrated with modified nanocellulose: effect of nanocellulose's substituted side chains on film performance

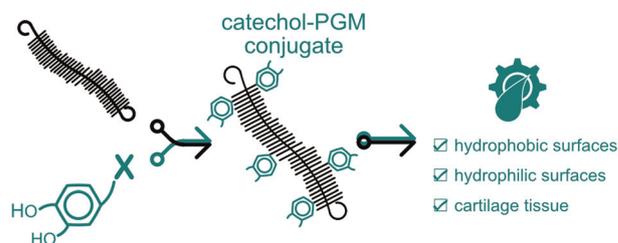
Supattra Klayya, Patcharee Pripdeevech, Emiliano Bilotti, Han Zhang and Nattakan Soykeabkaew\*



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### Improving the lubricity of commercial mucins via conjugation with catechol-like molecules

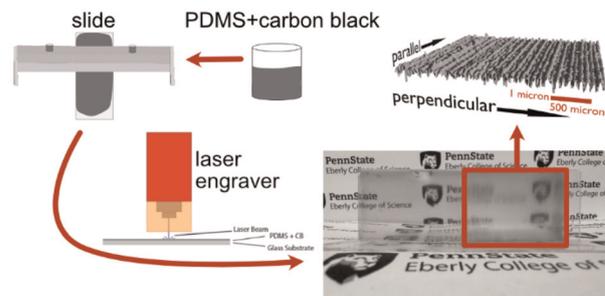
Bernardo Miller Naranjo, Chiara Gunnella, Helena Wagner and Oliver Lieleg\*



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### Photothermal patterning of polydimethylsiloxane

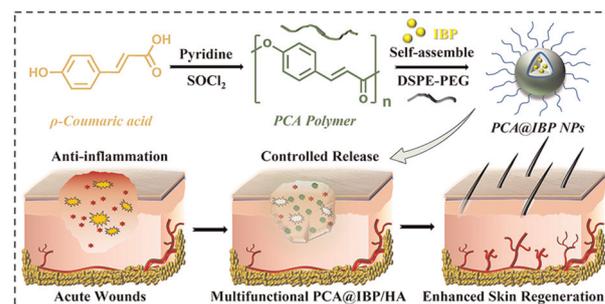
Jacklyn A. DiPietro, Bellamarie Ludwig\* and Benjamin J. Lear\*



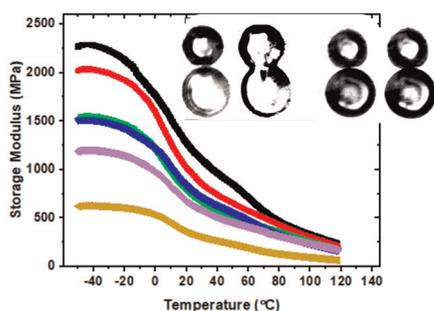
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### Development of poly(*p*-coumaric acid) based nanodrug delivery system incorporating hyaluronic acid for enhanced wound healing

Siyong Wu, Mengfang Yuan, Shuyan Han, Liying Wang,\* Xinru You\* and Jun Wu\*



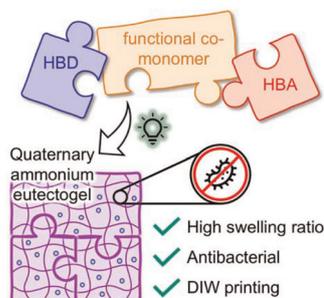
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### Impact of polymer molecular weight blends on the powder bed fusion process and the properties of polypropylene printed parts

Akan George, Jackson S. Bryant, Timothy Taylor, Michael J. Bortner, Christopher B. Williams and Mark D. Dadmun\*

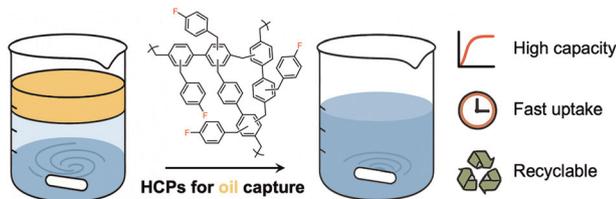
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### Quaternary ammonium eutectogels as a printable, antimicrobial material platform

Alma Nicolau, Zeyu Shao, Alex C. Bissember, Edgar H. H. Wong, Alexandra L. Mutch\* and Stuart C. Thickett\*

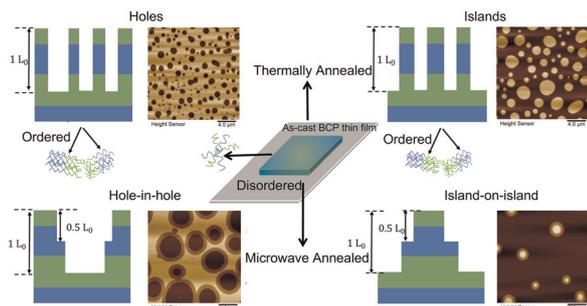
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### Hypercrosslinked polymers for oil adsorption: the influence of porosity and fluorine incorporation

Le Tang, Paul Schweng, Joseph J. Dale and Robert T. Woodward\*

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### Concentric half-domain spacing morphologies and anomalous domain stretching in microwave annealed block copolymer thin films

Ugur Aslan, Maninderjeet Singh, Akhtar Gul, Jack F. Douglas and Alamgir Karim\*

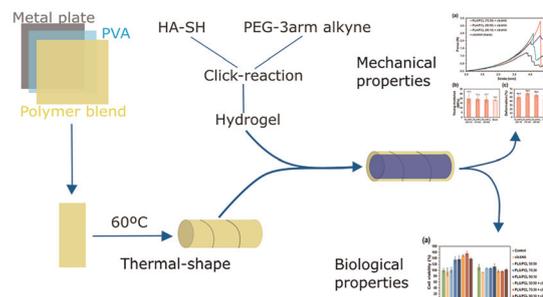


## PAPERS

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### Hydrogel-filled tubular scaffolds for directional tissue regeneration combining shape-memory polyester blends with hyaluronic acid click-hydrogels

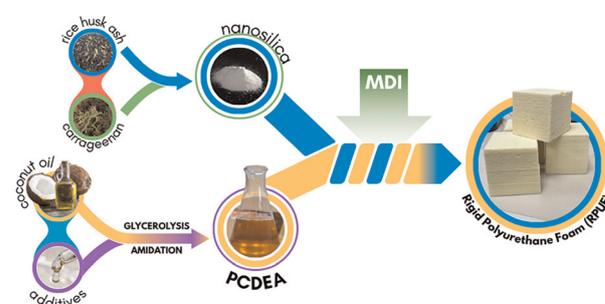
Álvaro Hidalgo-Yerga, Leonor Resina, Jordi Casanovas, Hamidreza Enshaei, Francesc Estrany, José I. Iribarren, Maria M. Pérez-Madrigal\* and Carlos Alemán\*



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### Synthesis of green-based carbon-doped nanosilica for enhanced mechanical properties of coconut oil-based rigid polyurethane foam

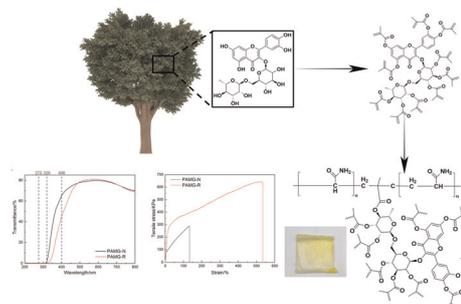
Carlo Kurt F. Osorio, Christine Joy M. Omisol, Dan Michael A. Asequia, Blessy Joy M. Aguinid, Daisy Jane D. Erjeno, Kassandra Jayza Gift D. Tejas, Roger G. Dingcong, Jr., Tomas Ralph B. Tomon, Renzo Miguel R. Hisona, Andrei E. Etom, Ann Pearl G. Triana, Gerard G. Dumancas, Arnold C. Alguno, Joshua B. Zoleta, Roberto M. Malaluan and Arnold A. Lubguban\*



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### Optimization of light-curing ionogels by response surface methodology

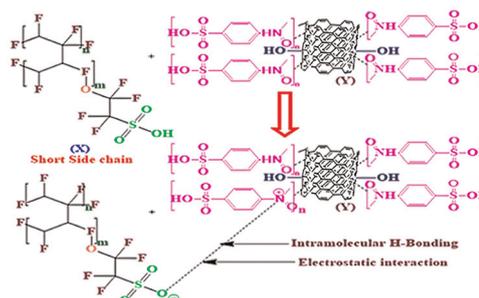
Dejun Peng, Zeyu Zhang,\* Xueyan Shang, Jiguo Zhang and Shixue Ren\*



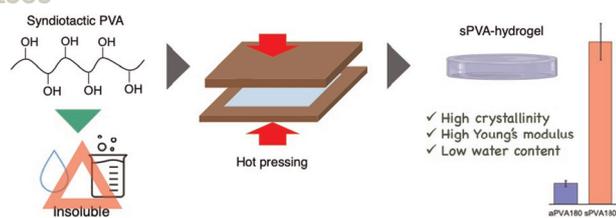
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### Short-side-chain composite membranes with polyaminobenzene sulfonic acid-enriched single-walled carbon nanotubes for polymer electrolyte fuel cells

Baskaran Mohan Dass, Ramya Padmanaban, Aparna Mahalingam, Neeshma Maniprakundil, Harshal Agarwal, Sreekuttan M. Unni, Vishal M. Dhavale and Santoshkumar D. Bhat\*



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## Organic solvent-free gelation of syndiotactic-rich poly(vinyl alcohol)

Yusuke Taoka and Kazuaki Matsumura\*

