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Polymers fit for function
Making emulsions drop by drop

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Cover story

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Designer emulsions using microfluidics

Emulsions – where one liquid is dispersed as droplets in another – are normally made using manual or mechanical agitation. Microfluidics offers a great contrast, making precise droplets one at a time. This opens up new possibilities in cosmetics, pharmaceuticals, and biological screening.

Rhutesh K. Shah, Ho Cheung Shum, Amy C. Rowat, Daeyeon Lee, Jeremy J. Agresti, Andrew S. Utada, Liang-Yin Chu, Jin-Woong Kim, Alberto Fernandez-Nieves, Carlos J. Martinez, and David A. Weitz

Next issue

Materials Today delves into the material support for tissue engineering...

Skin deep

Sheila MacNeil looks at currently available biomaterials that help in wound healing and the regeneration of skin, and assesses the material challenges that still need to be met.

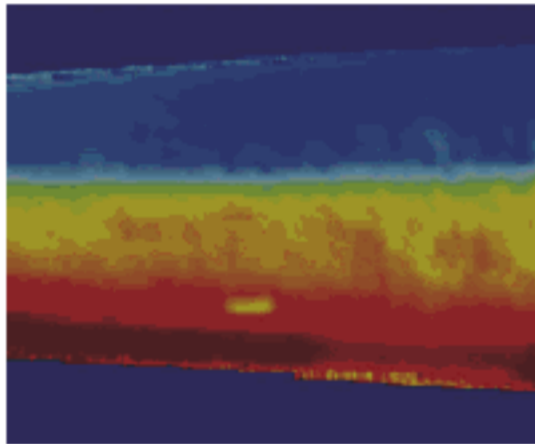
Bone up on tissue engineering

Developments in scaffolds for bone tissue engineering are progressing rapidly, and will find a wealth of clinical applications in our ageing population, says Molly M. Stevens.

Biomaterials that settle nerves

Molly S. Shoichet and colleagues examine recent advances in biomaterials designed to guide neuron growth and proliferation. Scaffolds can provide the necessary physical, chemical, and biological cues for cells.

Polymers fit for function



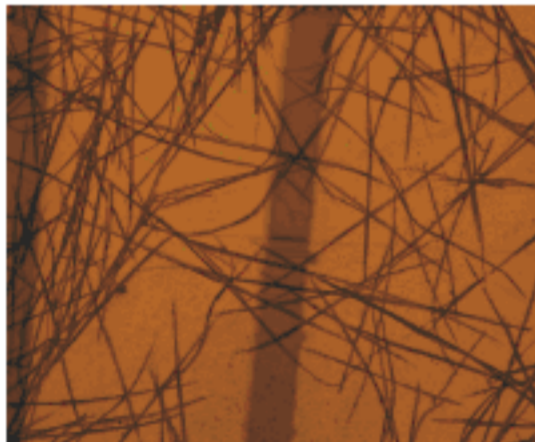
Review

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Metallopolymers with emerging applications

Metal-containing polymers blend the processing advantages of polymers with the activity of metal centers. These exciting new materials are finding applications in areas from sensors and light-emitting devices to nanolithography and catalysis.

Jean-Charles Eloi, Laurent Chabanne, George R. Whittell, and Ian Manners



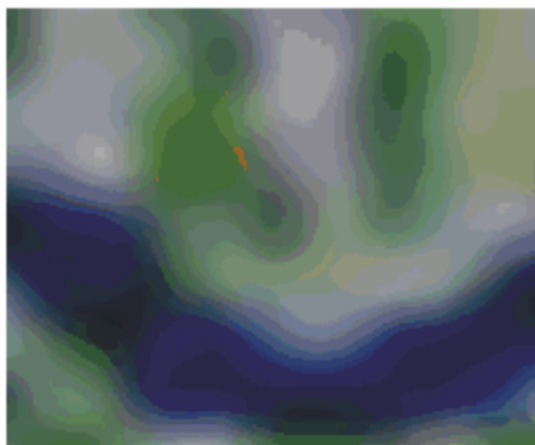
Review

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Introducing organic nanowire transistors

Nanowires of small-molecule semiconductors and conducting polymers are attracting great interest for electronic applications, and particularly high-performance transistors.

Alejandro L. Briseno, Stefan C. B. Mannsfeld, Samson A. Jenekhe, Zhenan Bao, and Younan Xia



Review

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Nanostructured polymers for photonics

The ability to produce polymers with periodic structures holds great promise for applications in photonics and optical data storage, such as anticounterfeiting labels to protect secure documents.

Chantal Paquet and Eugenia Kumacheva