DRUG DELIVERY

Suitable in vitro models for investigating the nanometer-scale safety of drug delivery systems intended for intravenous injection are presented on page 217 by Andreas M. Nystrom and colleagues. The image depicts a macrophage consuming polymer micelles constructed from a dendritic linear hybrid material that is releasing the chemotherapeutic doxorubicin intended for breast cancer therapy. For intravenous-injected drug delivery systems, the first line of immunological defense the particles will meet in vivo are the macrophages, suggesting that these are a good candidate model for toxicity testing. In this work primary cells from healthy blood donors are utilized to evaluate nanoparticle toxicity.

ORGANIC THIN-FILM TRANSISTORS

The image shows a polarized optical microscopy (POM) image of a [5,5]-diphenyl-[2,2]-bithiophene (PTTP) substituted methacrylate. As presented by Zhaokang Hu, Boyi Fu, Avishek Aiyar, and Elsa Reichmanis on page 199, crystallites with a domain size in the micrometer range are consistently observed for a sublimed HPTTPEM film by both POM and atomic force microscopy (AFM), indicative of the strong dependence of the formation of a liquid crystalline phase on parameters such as chemical structure, temperature, and substrate surface. The chemical structure of HPTTPEM is superimposed on the micrograph image. The methacrylate monomers are further polymerized to afford graft polymethacrylates for organic thin-film transistor applications.

Coming soon

Look for these important papers in upcoming issues of Polymer Chemistry

Christopher O. Bounds, Ronald Goetter, John A. Pojman, and Max Vandersall
Preparation and Application of Microparticles Prepared Via the Primary Amine-catalyzed Michael Addition of a Trithiol to a Triacrylate
DOI: 10.1002/pola.25032

Wei Zhang, Hao Lin, Dan Wang, Zengze Chu, Zhihao Shen, Dechun Zou, and Xinghe Fan
Jacketed Homopolymer with Bipolar Dendritic Side Groups and Its Applications in Electroluminescent Devices
DOI: 10.1002/pola.25067

Wei Lu, Dan Chen, Han Jiang, Liming Jiang, and Zhiquan Shen
Polymer-Based Fluoride-Selective Chemosensor: Synthesis, Sensing Property, and Its Use for the Design of Molecular-Scale Logic Devices
DOI: 10.1002/pola.25068

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