Abstract Submitted
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Hierarchical structure and dynamics of oligocarbonate-functionalized PEG block copolymer gels[1] VIVEK PRABHU, GUANGMIN WEI, SAMIM ALI, National Institute of Standards and Technology, Gaithersburg, Maryland, SHRINIVAS VENKATARAMAN, YI YAN YANG, Institute of Bioengineering and Nanotechnology, The Nanos, Singapore, JAMES HEDRICK, IBM Almaden Research Center, San Jose, California — Hierarchical, self-assembled block copolymers in aqueous solutions provide advanced materials for biomaterial applications. Recent advancements in the synthesis of aliphatic polycarbonates have shown nontraditional micellar and hierarchical structures driven by the supramolecular assembly of the carbonate block functionality that includes cholesterol, vitamin D, and fluorene. This presentation shall describe the supramolecular assembly structure and dynamics observed by static and dynamic light scattering, small-angle neutron scattering and transmission electron microscopy in a model pi-pi stacking driven fluorene system. The combination of real-space and reciprocal space methods to develop appropriate models that quantify the structure from the micelle to transient gel network will be discussed.

[1]1) Biomedical Research Council, Agency for Science, Technology and Research, Singapore, 2) NIST Materials Genome Initiative

Vivek Prabhu
National Institute of Standards and Technology

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