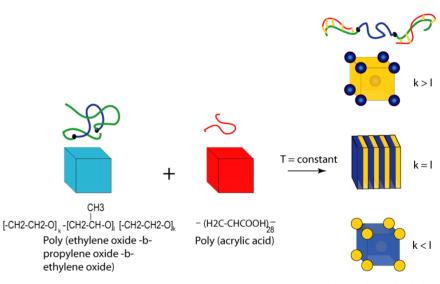
Inexpensive Templates for Nanostructure Fabrication

Researchers at the University of Massachusetts Amherst have discovered a new method of formulating common polymers for industrially generating templates used in precision nanomanufacturing. The researchers found that blending commerciallyavailable tri-block copolymer surfactants with commodity polymers that selectively associate with one of the blocks can yield bulk quantities of polymeric templates with well-ordered periodic nanostructures. Due to the low cost and ready availability of these raw materials, high-volume applications of self-assembled templates at feature sizes of under 5 nanometers are now possible. One use of this discovery is in continuous roll-to-roll processing of nanometer-scale devices and structures on plastic film.



Poly (acrylic acid/ethylene oxide -b- propylene oxide -bethylene oxide/acrylic acid)

Prof. James Watkins, University of Massachusetts Amherst, in collaboration with Eric Lin of the National Institute of Standards and Technology (NIST)





This research supported by the National Science Foundation under Cooperative Agreement CMMI-0531171

