

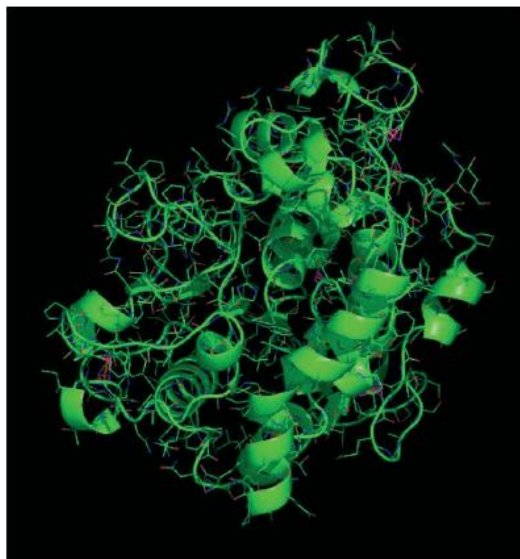


Synthesis and Characterization of Novel Double-Functionalized Surface Modified Thermoplastic Elastomers

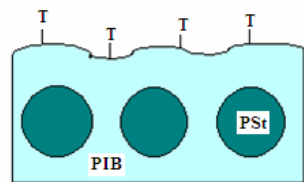


Dendritic (arborescent or tree-like) polyisobutylene-polystyrene block copolymers (*arbIBS*) are the third generation of polyisobutylene (PIB)-based nanostructured biomaterials. The first generation from this class of polymers, linear tri-block polystyrene-*b*-polyisobutylene-*b*-polystyrene (SIBS), is FDA-approved and currently used as the polymeric coating on drug-eluting coronary stents (<http://www.taxus-stent.com/#>, Device Details, Interactive Overview). XPS and AFM studies of SIBS and *arbIBS* biomaterials demonstrated that a 10 nm layer of pure PIB segregated to the surface during self-assembly of the nanostructure. Functionalization of the PIB segments will yield *arbIBS* whose surface is decorated with bioactive groups, further improving biocompatibility. This year we explored functionalization using enzymes as catalysts.

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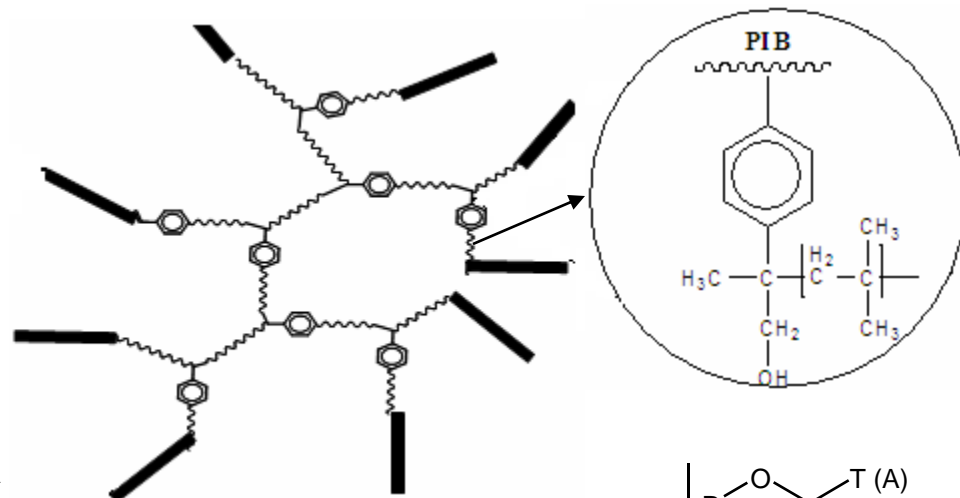


Candida Antarctica lipase B



Thymine

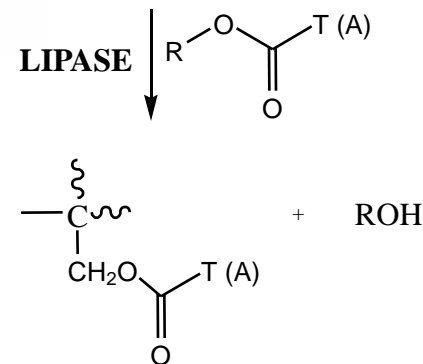
Surface functionalization



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 Elizabeth Foreman
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PDF:
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REU
 Allia Lindsay (2006)
 Victoria Sane (2007)
 Joseph Kasper (2007)



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