

**THE EFFECT OF NANOSCALE PARTICLES AND IONOMER ARCHITECTURE ON  
THE CRYSTALLIZATION BEHAVIOR OF SULFONATED SYNDIOTACTIC  
POLYSTYRENE**

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Dissertation submitted to the faculty of the Virginia Polytechnic Institute and State  
University in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

Macromolecular Science and Engineering

Robert B. Moore, chairman

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January 24, 2010

Blacksburg, Virginia

Keywords: ionomer, semicrystalline ionomer, nanocomposites, polymer crystallization, polymer  
microstructure

## Chapter I

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