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Recent Advances in the Synthesis of Polymeric Nanostructured Materials.

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In designing polymeric materials for use in nanotechnology it rapidly becomes apparent that control over all aspects of polymer structure (molecular weight, polydispersity, number and position of functional groups, architecture, etc.) is required if these materials are to be used successfully to create nanostructures in the sub-50 nm size regime. Equally important to the rapid introduction and incorporation of these materials into devices is the development of robust and simple techniques for their synthesis. This presentation will detail recent advances in living polymerizations, Click chemistry and self-assembly strategies for the rapid and efficient synthesis of multi-functional polymeric nanostructures in applications ranging from microelectronics/storage devices to in vivo drug delivery and diagnostics.