ABSTRACT

TITLE:	Self-Assembly of Size Tagged Triblock Copolymer Brushes Via DNA Hybridization
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ABSTRACT: Triblock copolymer brushes were created using ring opening metathesis polymerization, ROMP. Norbornenyl N-hydroxysuccinimidyl ester (N-NHS) was synthesized as the reactive monomer that will allow an amine modified DNA linker to be attached to the first and third block, while the central block will consist of polyethylene glycol, or PEG, of varying chain lengths and repeating units. These varying PEG chain lengths will allow us to have a size tag that is resolvable via transition electron microscopy, TEM. This will be important to verify that our DNA functionalized triblock polymers are in fact assembling in the pre-programmed fashion, namely an A-B alternating linear structure. Using a palindromic DNA sequence on macromonomer-A that will only hybridize to the sequence on either side of macromolecule-B we expect to form nanoworms or nanosausages.