

Organic Functionalization of SWNT by Cycloaddition Reactions

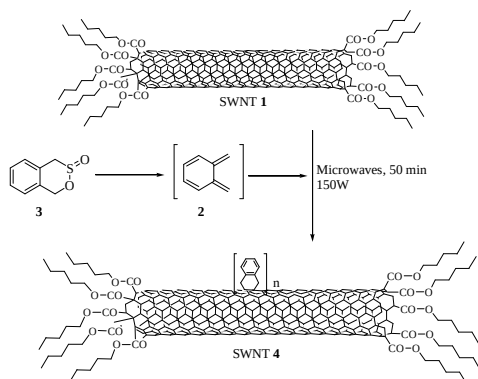
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Over the past few years, interest has focused on the chemical properties of carbon nanotubes and their functionalization is actually a field of great interest.¹ Initially, attempts at functionalization were limited to oxidation reactions² to form shortened nanotubes with carboxylic acid groups on open edges. Haddon and co-workers first reported the use of these acid groups to attach long alkyl chains via amide linkages.³ Later, Sun and co-workers showed that esterification can also be applied to functionalize SWNT.⁴ More recently, reports have appeared on SWNT sidewall functionalizations using fluorine,⁵ diazonium salts,⁶ nitrenes,⁷ organic radicals,⁸ and azomethine ylides.⁹ In this communication, we report our recent advances in functionalization of SWNT sidewall by means of Diels-Alder and 1,3-dipolar cycloaddition reactions.



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