

"A Family of *iota*-Amino Acids For The Creation of Nanometer-Scale Molecular Architectures" Nowick, J. S.; Gothard, C.; Kang, S.-W.; Maitra, S. Presented at the 38th National Organic Symposium, Bloomington, IN, June 8, 2003; paper A31.

Abstract: This paper introduces *aminodiphenylmethanecarboxylic acid* (Adc) and its substituted analogues as building blocks for the creation of unnatural oligomers that fold and self-assemble into nanometer-scale molecular architectures, such as rings, knots, and helices. Adc is an *iota*-amino acid, with a fixed distance of 0.95 nm between the amino and carboxyl groups, that is designed to participate in aromatic and hydrogen-bonding interactions. Adc ^{ϵ -Me} has a stereogenic center at the ϵ -position to control the chirality of the architectures; Adc ^{β -OMe} has a methoxy substituent at the β -position to control hydrogen bonding. The syntheses of Boc- and Fmoc-protected Adc, Adc ^{ϵ -Me}, and Adc ^{β -OMe} will be described and their efficient coupling to generate oligomers will be discussed.

