
\textbf{Abstract:} This paper introduces \textit{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 \textit{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\textsubscript{ε-Me} has a stereogenic center at the ε-position to control the chirality of the architectures; Adc\textsubscript{β-OMe} has a methoxy substituent at the β-position to control hydrogen bonding. The syntheses of Boc- and Fmoc-protected Adc, Adc\textsubscript{ε-Me}, and Adc\textsubscript{β-OMe} will be described and their efficient coupling to generate oligomers will be discussed.