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# Self-Assembling Helical Rod-Coil Peptoid Amphiphiles

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## Abstract

A helical rod-coil motif was employed to design water-soluble peptoid amphiphiles. Prior to this study, this approach was rarely exploited in the construction of amphiphilic peptoids. The helical rod-coil motif enabled complete dissolution of the peptoids **1** and **2** in water. The critical micelle concentration (CMC) of the water-soluble peptoids was measured. Circular dichroism (CD) analysis of each peptoid was performed to confirm the helical secondary structure in solution. Scanning electron microscopy (SEM) revealed the surface morphology of the self-assembled peptoid structures. Water-soluble peptoids comprised helical rod-coil structures provide a variety of self-assembled architectures in aqueous solutions.

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```