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Self-Assembling Helical Rod-Coil Peptoid Amphiphiles

[Yen Jea Lee](#)

Department of Chemistry, School of Physics and Chemistry, Gwangju Institute of Science and Technology, Gwangju 61005, Republic of Korea

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[Solchan Chung](#)

School of Materials Science and Engineering, Gwangju Institute of Science and Technology, Gwangju 61005, Republic of Korea

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[Young Deok Ahn](#)

Department of Chemistry, School of Physics and Chemistry, Gwangju Institute of Science and Technology, Gwangju 61005, Republic of Korea

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[Boyeong Kang](#)

Department of Chemistry, School of Physics and Chemistry, Gwangju Institute of Science and Technology, Gwangju 61005, Republic of Korea

[Search for more papers by this author](#)

[Jae Young Lee](#)

School of Materials Science and Engineering, Gwangju Institute of Science and Technology, Gwangju 61005, Republic of Korea

[Search for more papers by this author](#)

[Jiwon Seo](#)

Corresponding Author

E-mail address: jseo@gist.ac.kr

Department of Chemistry, School of Physics and Chemistry, Gwangju Institute of Science and Technology, Gwangju 61005, Republic of Korea

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[Yen Jea Lee](#)

Department of Chemistry, School of Physics and Chemistry, Gwangju Institute of Science and Technology, Gwangju 61005, Republic of Korea

[Search for more papers by this author](#)

[Solchan Chung](#)

School of Materials Science and Engineering, Gwangju Institute of Science and Technology, Gwangju 61005, Republic of Korea

[Search for more papers by this author](#)

[Young Deok Ahn](#)

Department of Chemistry, School of Physics and Chemistry, Gwangju Institute of Science and Technology, Gwangju 61005, Republic of Korea

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[Boyeong Kang](#)

Department of Chemistry, School of Physics and Chemistry, Gwangju Institute of Science and Technology, Gwangju 61005, Republic of Korea

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[Jae Young Lee](#)

School of Materials Science and Engineering, Gwangju Institute of Science and Technology, Gwangju 61005, Republic of Korea

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[Jiwon Seo](#)

Corresponding Author

E-mail address: jseo@gist.ac.kr

Department of Chemistry, School of Physics and Chemistry, Gwangju Institute of Science and Technology, Gwangju 61005, Republic of Korea

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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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```
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```