

# 第4回若手ITP講演会、化学科講演会

企画:リーダーシップ養成教育研究センター、共催:理学部化学科

## MOLECULAR ENGINEERING OF FOLDED NANO-ARCHITECTURES



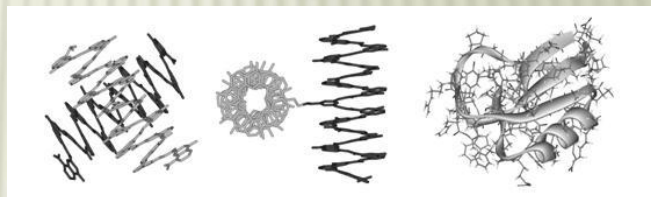
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### Summary

Our group has developed helical foldamers – oligomers that adopt stable helical folded conformations – derived from aromatic amino acids.<sup>1</sup> Some of these folded objects have shown unprecedented conformational stability,<sup>2</sup> and constitute convenient building blocks to elaborate synthetic, very large (protein-sized) folded architectures (Fig. 1).<sup>3</sup> They possess a high propensity to assemble into double, triple and quadruple helices.<sup>4</sup> Cavities can be designed within such synthetic molecules that enable them to act as artificial receptors<sup>5</sup> and molecular motors.<sup>6</sup> Water soluble analogues of these foldamers show promise in nucleic acid recognition.<sup>7</sup>

**Figure 1.** Crystal structure of a large foldamer comprised of two helices of opposite handedness at a 90° angle. The protein crystal structure on the right is shown as the same scale for size comparison.



### References

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場所: 化学科第1講義室(理1-415)

参加費: 無料

事前のお申し込みは不要です。  
学内・学外の皆さま、  
お誘いあわせの上、是非ご参加ください。

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