# Anthracene-based Molecular Tweezers: Construction of Self-assembled Cyclic Hexamer through Complementary Interactions 

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Numerous well-defined supramolecules based on intrinsic noncovalent interactions (e.g., hydrogen bonds ${ }^{1}$ and $\pi$ interactions ${ }^{2}$ ) have been reported. However, the construction of supramolecules using the host-guest systems is still a formidable challenge. ${ }^{3}$ Here we report the formation of self-assembled cyclic hexamer (1) $)_{6}$ from anthracene-based molecular tweezers 1 through complementary interactions. X-ray analysis revealed that cyclic hexamer (1) $)_{6}$ was exclusively assembled by complementary interactions including $\pi-\pi$ stackings and hydrogen bonds among six units of $\mathbf{1}$. In contrast, $\mathbf{1}$ formed a head-to-head dimeric assembly $(\mathbf{1})_{2}$ in a chloroform solution ( $K_{D}=460 \mathrm{M}^{-1}$ ). Owing to tight packing of six tweezers 1 , hexamer ( 1$)_{6}$ showed a strong blue emission in the solid state ( $\Phi_{\mathrm{F}}=0.33$ ) compared to a weak violet emission of 1 in the solution ( $\Phi_{\mathrm{F}}=0.08$ ). Further structural details and physical properties will be discussed in this presentation.



## References

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