Simultaneous Discrimination of Diameter, Handedness, and Metallicity of Single-Walled Carbon Nanotubes by Chiral Diporphyrin Nanocalipers

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We have been developing host-guest methodology for separation of single-walled carbon nanotubes (SWNTs) according to the handedness and diameter with gable-type chiral diporphyrins, designated as diporphyrin nanotweezers, consisting of two porphyrins and rigid spacer in between [1-13]. In this paper, we will talk about next generation of the host molecules focusing on larger diameter of SWNTs, named “nanocalipers” (Figure 1).

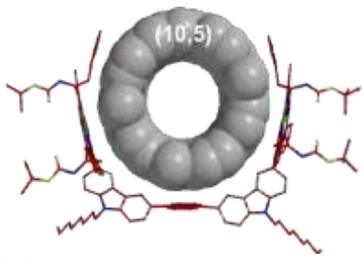

Figure 1. Complex structure of the chiral diporphyrin nanocalipers with (10,5)-SWNTs.

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