

Abstract Submitted
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Single carbon nanotube syringe: A model for the study of liquid transport through individual carbon nanotubes GUANGYU CHAI, Apollo Technologies, Inc. 205 Waymont Court #111, Lake Mary, FL 32746, USA, LEE CHOW, Department of Physics, University of Central Florida, Orlando, FL 32816-2385, USA — The hollow structure of the carbon nanotubes (CNT) and their ability to translocate through plasma membrane of a living cell provide a significant chance to use them as a nano syringe for the delivery of therapeutically active molecules into a live cell. However, the size and the extremely high aspect ratio of the CNTs make the nano syringe device difficult to realize. We successfully prepared a monolithic multiwall CNT with a graphitic shield by chemical vapor deposition technique. The graphitic shield provides a handle which allows the manipulation of the supported CNTs. A single CNT syringe device is fabricated with focused ion beam technique. The well-controlled liquid transport through individual CNT is demonstrated.

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