

## ENCAPSULATION OF ORGANIC MOLECULES IN CARBON NANOTUBES FROM SUPERCRITICAL CARBON DIOXIDE

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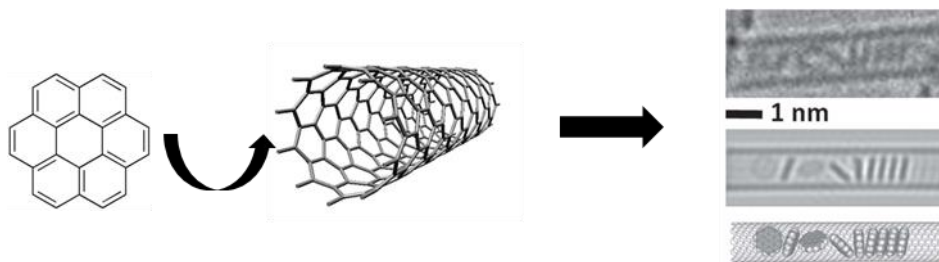
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Carbon nanotubes can act as „nanocontainers” or „nanoreactors” for various molecules. The confined environment enables structures and reactions not observed under ordinary conditions. Organic molecules can be filled into nanotubes by sublimation or nanoextraction from solution. For many organic substances, sublimation is not feasible or is accompanied by unwanted secondary reactions. Most solvents contaminate the tubes and are difficult to remove. Supercritical carbon dioxide is the ideal solvent for nanoextraction, because of the mild conditions and the possibility of evaporating the solvent after completing the encapsulation. We will report filling of single-walled carbon nanotubes with various polyaromatic molecules and their reactions inside the tubes. Characterization was performed by infrared, Raman and photoluminescence spectroscopy and transmission electron microscopy.



### References:

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