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Drugs incorporation in single-wall carbon nanohorns KUMIKO AJIMA, JST-SORST Tsukuba, Japan, MASAKO YUDASAKA, JST-SORST , ALAN MAIGNE, LPS University Paris-Sud, France ; JST-SORST, Tsukuba, Japan, TATSUYA MURAKAMI, KIYOTAKA SHIBA, SORST-JST c/o Cancer Institute Tokyo, Japan, SUMIO IIJIMA, SORST-JST ; NEC, Tsukuba; Meijo University, Nagoya, Japan — To apply single-wall carbon nanohorns (SWNHs) as drug carriers in drug delivery systems, we have been studying the drug incorporation inside SWNHs. We incorporated several drugs in SWNHs (DR@SWNHs) at room temperature by liquid-phase methods, such as Nano-Titration and Nano-Precipitation. Whether DR was inside or outside of SWNHs was judged by X-ray diffraction, and the elements of DR inside SWNHs were identified by energy dispersive X-ray spectroscopy. The release of DR in phosphate-buffered saline was measured with atomic absorption spectroscopy, which indicated slow and fast release processes. The biological integrity of the released DR was studied with cultured cells. These results indicate that SWNHs will be useful for drug carriers.

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