

## Effect of pretreatment on the electrical conductivity of Single-Walled Carbon Nanotube Thin Films

양승보, 공병선, 정희태<sup>1,\*</sup>

한국과학기술원; <sup>1</sup>한국과학기술원 생명화학공학과

(heetae@kaist.ac.kr\*)

We compared the electrical conductivity of pristine, purified, cut and oxygen plasma treated single-walled carbon nanotube (SWNT) films. Purified SWCNTs can be obtained through  $H_2O_2$  and HCl treatment. Cut SWCNTs are obtained by treating purified SWCNTs with piranha solution(4:1 vol/vol, 96%  $H_2SO_4$ /30%  $H_2O_2$ ) mixture. And we treated pristine SWNT with oxygen plasma treatment. After pretreatment, SWNT thin films were prepared using vacuum filtration methods. By comparing the electrical conductivity of SWNT films according to defects, length and transmittance, effect of pretreatment on the electrical conductivity of SWNT films was discussed.