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Fluorescence spectroscopy of single-walled carbon nanotubes synthesized from alcohol

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Near infrared fluorescence measurements of single-walled carbon nanotubes (SWNTs) catalytically synthesized from alcohol (Alcohol catalytic CVD method, ACCVD) in various experimental conditions were performed. The chirality distribution of SWNTs was determined by measuring fluorescence emitted from isolated SWNTs as a function of excitation wavelength. Compared with HiPco SWNTs, the ACCVD sample had a dominant distribution in higher chiral angle region close to so-called armchair type. The chirality distribution shifted to more armchair side when diameters of SWNTs were smaller. The reason of armchair rich chirality distribution was discussed based on the initial cap structure satisfying "isolated pentagon rule".

[Purification, Separation, and Characterization of Single-Walled Carbon Nanotubes \(SWNT's\) \(sponsored by Advanced Materials & Nanotechnology Subdivision\)](#)

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