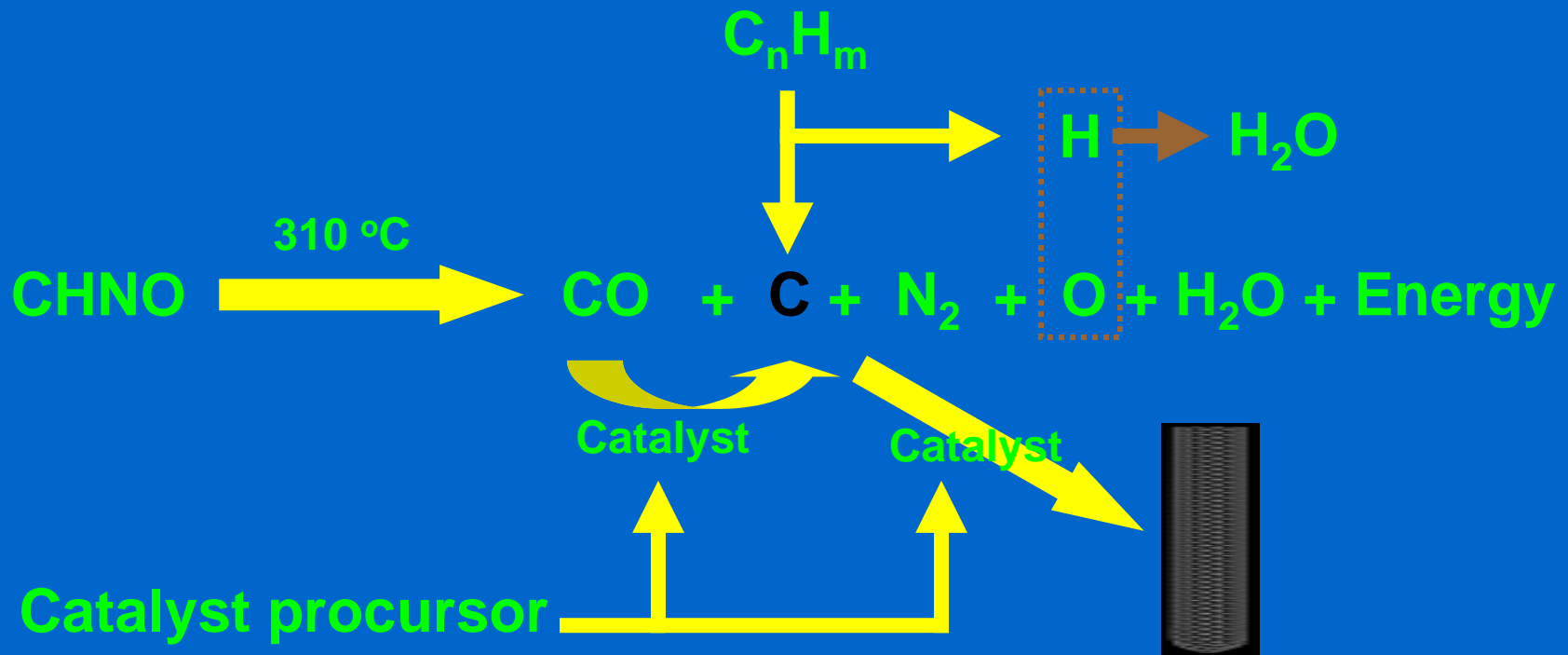


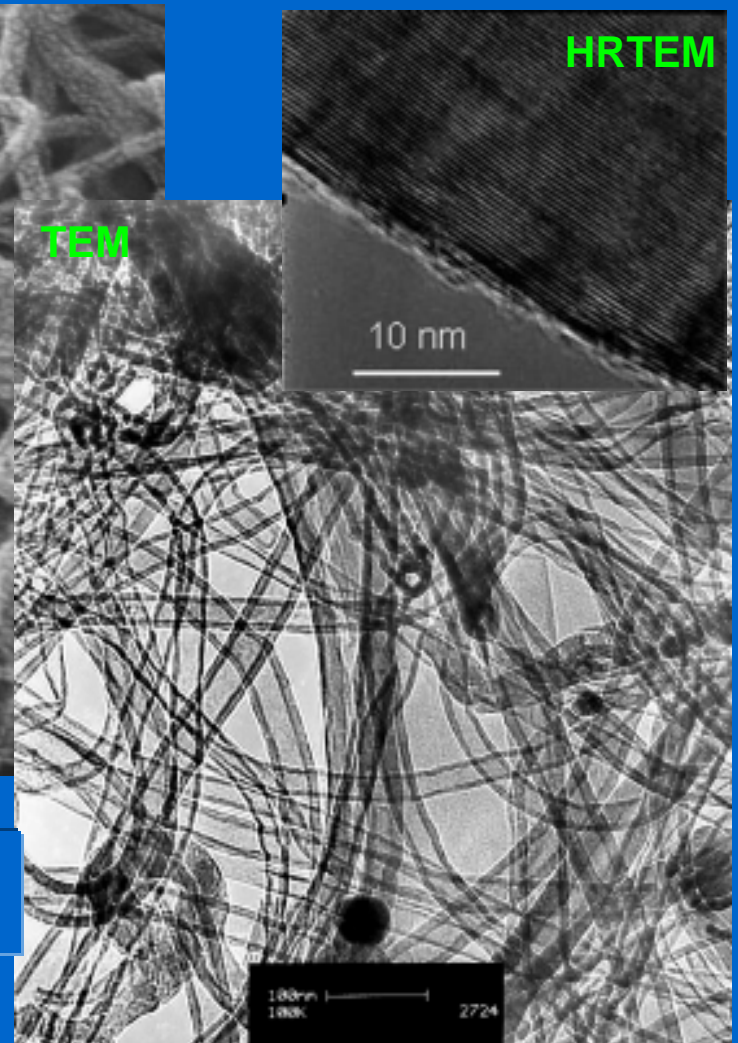
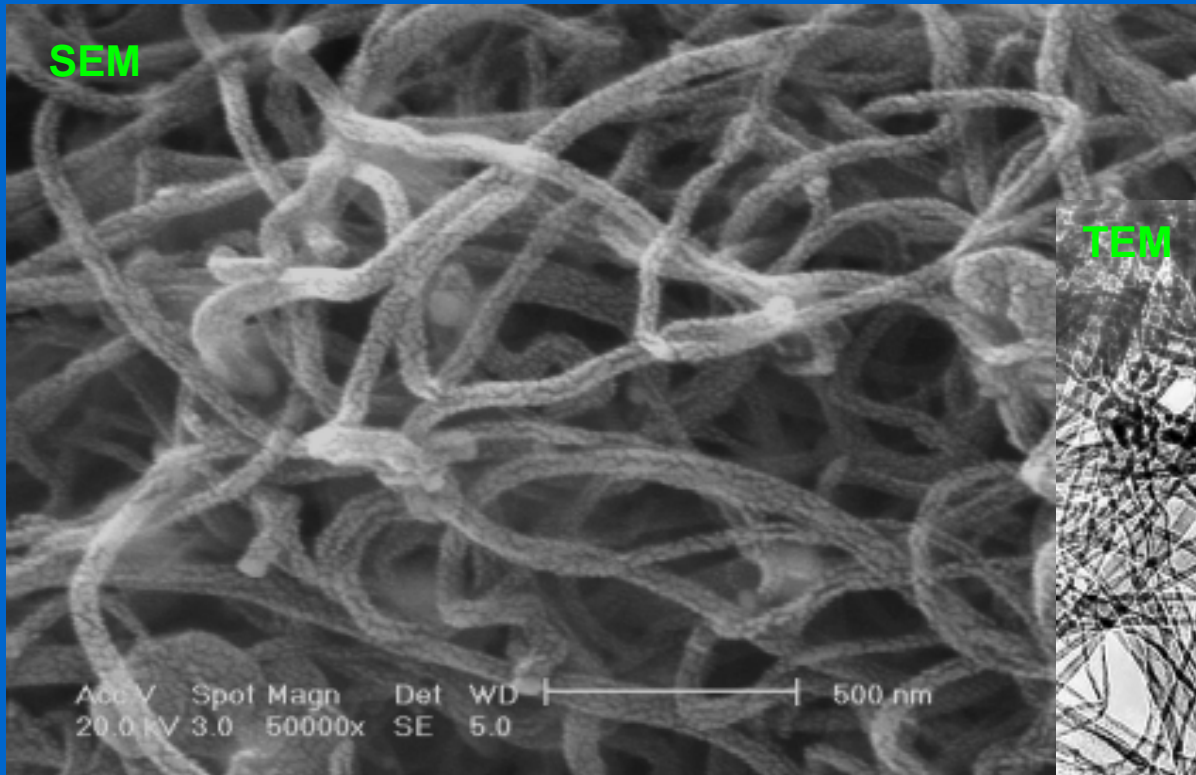
Catalytic Syntheses of Carbon Nanotubes by detonation of CHNO Explosives



CHNO:	picric acid or m-dinitrobenzene
C_nH_m :	paraffin or benzene
Catalyst precursor:	cobalt acetate or nickel formate

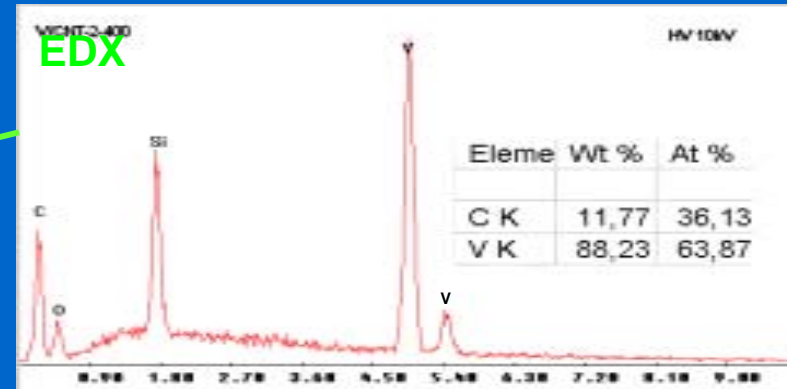
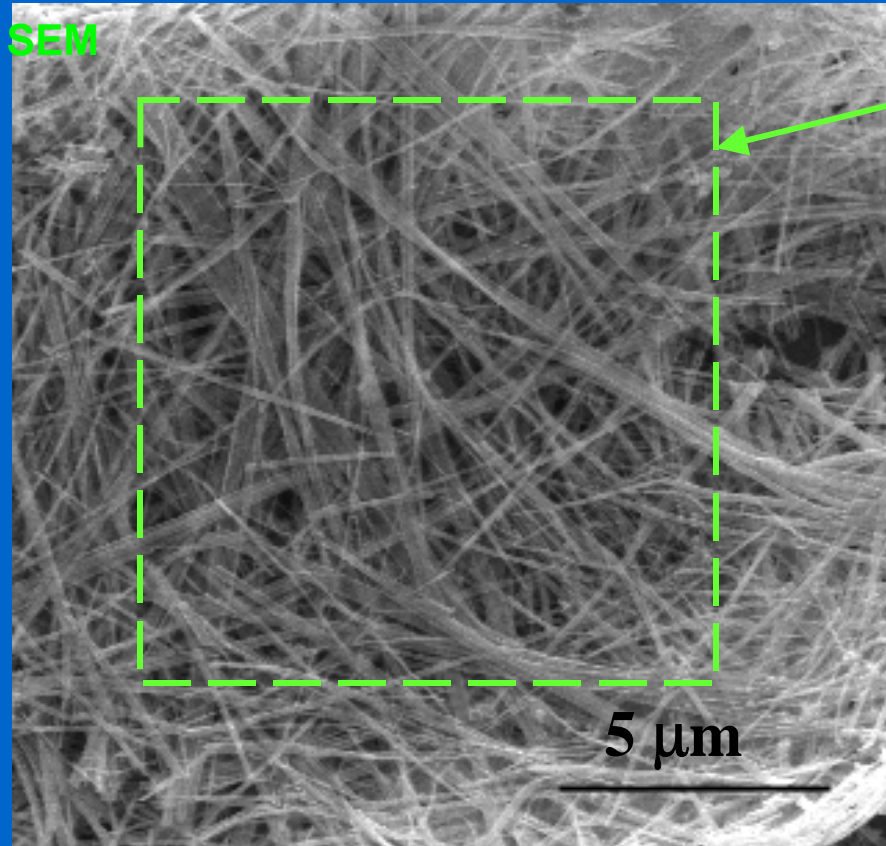
Mixed mechanically

As-synthesized Carbon Nanotubes

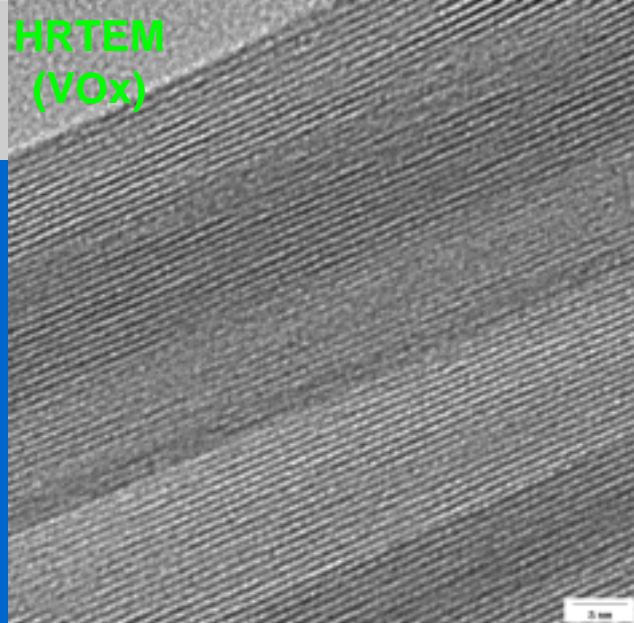


Multi-walled, separated, wide-inner-channeled,
10-50 nm diameter, tens μm long

VOx Nanowire-Carbon Nanotube Composites

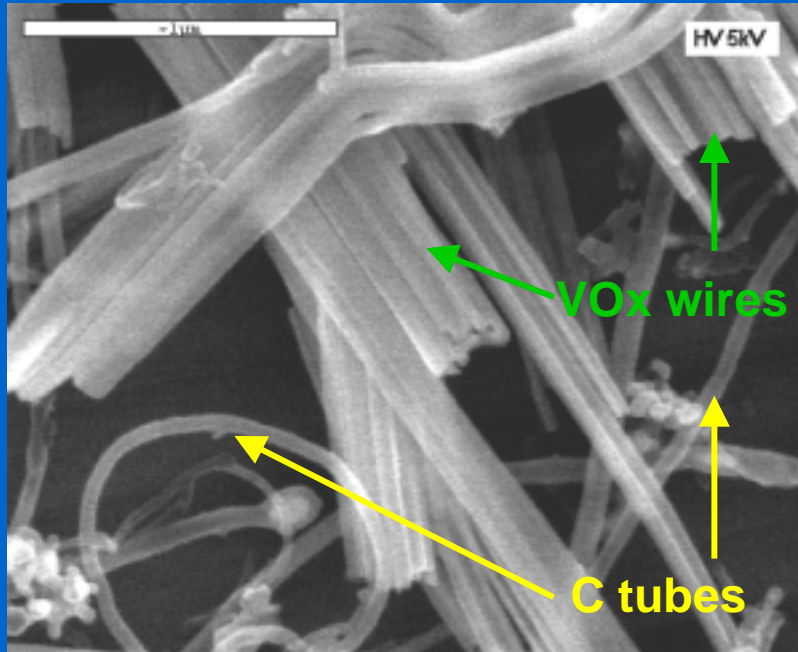


HRTEM
(VOx)

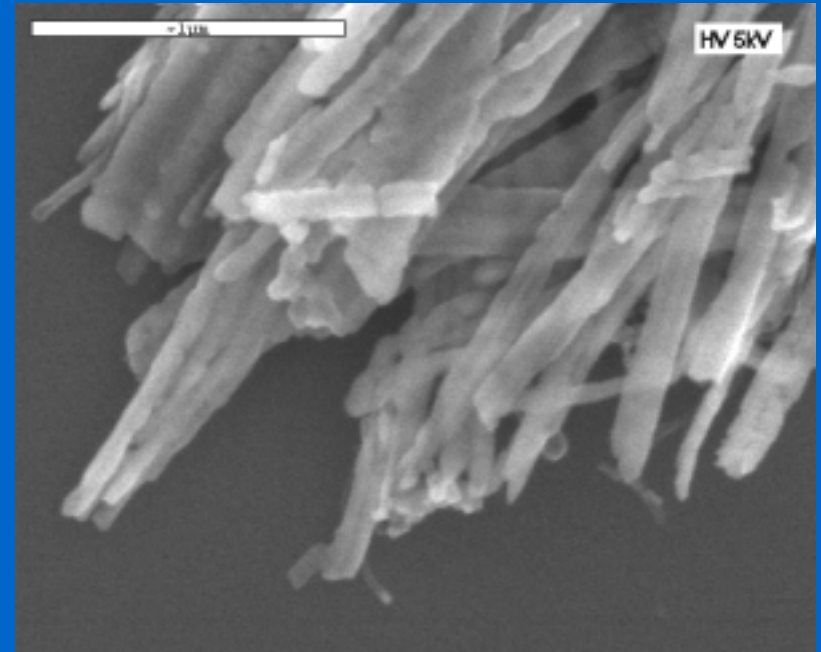


The HRTEM image shows the atomic structure of the VOx nanowire, characterized by a regular array of lattice fringes. A scale bar at the bottom right indicates a length of 2 nm.

Thermal Stability of VOx Nanowire



As-synthesized



Treated at 400 °C in air

After heating-treatment, surfaces are roughed and some wires are condensed.