Exercise on 1-dimentional nanostructured materials

Introduction

1. What is a nanowire? What is a nanotube? Give examples.
2. Why are they (scientifically) interesting?
3. What are their potential applications?
4. How are they made?

Synthesis of Carbon Nanotubes and Nanowires

1. What are the possible structures of the carbon?
2. List the different types of Nanotubes.
3. Briefly introduce the Methods for Fabricating Nanotubes
4. Explain the Arc Discharge method for producing nanotube in details
5. Differentiate between SWCNT and MWCNT
6. What are the main applications of carbon nanotubes?
7. List the advantages and disadvantages of NW and NTs

Synthesis of Nanofibers

1. What is electrospinning?
2. What are the parameters affecting electrospinning?
3. Explain by drawing the effect of concentration and electric potential on fiber diameter.