

Chapter three

Material and Method

3.1 powders

3.1.1 Sinag samples

Were prepared from wood burn carbon powder was formed on the steel lath by fumes.

3.1.2 Samples of Waste Petroleum Carbon Powder (WPCP)

In solid form were prepared by crushing it manually to be in a powder form .

3.1.3 Standard sample Multiwall Carbon Nanotube (MCNT)

Were synthesized by LPCVD device model (CV-6SLX).The catalyst used is iron nanoparticles (Fe NPS) having purity 99.99% and size 3nm. The device were annealed at 650°C in a path of flow of 100 sccm of Argon and 50 sccm of hydrogen and then LPCVD growth was carried out by addition of 30 of acetylene for constant timing Of 40 minutes[12].

3.2 Method

Treatment of the new Sinag and Waste Petroleum Carbon Powder (WPCP) samples has been done with conventional acids treatments of non-oxidative and oxidative routs .The reaction rate of all treatments was 2g of carbon powder) reacted with 100ml of acid . For non-oxidative were tested by HCL (36%) the samples have been left to interact for 5h. Oxidative process includes two types of treatment: HNO₃ (63%) and a solution of H₂SO₄:HNO₃ (3:1). All samples were kept under reflux during 5h at temperatures between 45and 50°C (by using incubator model S150 shaking at speed 75).The samples are then removed from the heat path. After this treatment, the liquids were kept overnight in their flasks, and then were filtered with a Millipore membrane to send back SNAG powder. The filtered liquids was collected and the

solid was washed with distil water until neutral pH equal 5. The sort solid was dried in an oven at temperature of 100°C for 12h under air to remove eventual moisture.

3. 3 UV –Visible Spectrometer

The optical characterization is done by using UV mini 1240 spectrophotometer made in a Japanese company called Shimadzu measures two types of fluids and can measure the solids in the form of slides .The device components are: light source – a cell sample – uniform wavelength – Scout – Screen. The powder samples were treated by N, N Dimethyl for Hplc & spectroscopy.



Figure (3.1) UV/V is spectrophotometer