

- RAYleigh (UV-Visible-spectrophotometer) UV-2601.
- Ultrasonic, (BRANSON 5210).
- pH meter, (consort C933).
- Pump for filtration of the mobile phase, (GAST).
- Balance, (Sartorius).
- Nylon syringe membrane filters 0.45  $\mu\text{m}$ .
- Volumetric flasks- Class A, (Duran, Germany).
- Adjustable pipettes.
- A Hypersil BDS C18 with 5.0  $\mu\text{m}$  particle size (250 mmx4.6mm) column .

The experimental part was done at University of Petra, Department of Chemistry.

### **2.3 Selection of Detection Wavelength**

UV-VIS scan (250-500 nm) was applied for each solution of esomeprasole and tadalafil. A maximum absorbance was observed for each drug in a range of 281-287 nm. A wavelength at 285 nm was selected for HPLC analysis.

### **2.4 Buffer Preparation**

The buffer solution was prepared by dissolving about 7g of potassium dihydrogen phosphate in 1000 mL of HPLC- grade water. A concentration of 0.05M was obtained.

### **2.5 Mobile Phase Preparation**

400 mL of buffer solution were mixed with 600 mL of acetonitrile, and the pH was adjusted to  $6.00 \pm 0.05$  using phosphoric acid. The mobile phase was filtered through a 0.45  $\mu\text{m}$  membrane filter and degassed by sonication.