Fabrication and *In Vitro* Assessment of Mucoadhesive Gels for Inner Ear Drug Delivery

Assessing the Validity of the Assay Method:

This test was made to ensure the suitability of the assay method for stability studies, which is achieved by the following method: A known amount of OFX (20 ml) was diluted with equal volume of 1M HCl. Also Known amount of OFX (20ml) was also diluted with equal volume of 1M sodium hydroxide. Also, another Known amount of OFX (20ml) was also diluted with equal volume of hydrogen peroxide. The diluted solutions were left to stand for24 hours. The solutions were finally assayed for drug content spectrophotometrically at λ_{max} 288 nm.

From forced degradation study it is evident that the drug was susceptible to decompose under acidic, basic and oxidative stress conditions since the absorbance in all stressed conditions was decreased ensuring that the decomposition products do not give absorbance at 288 nm. So, spectrophotometric method is valid for stability study of ofloxacin.

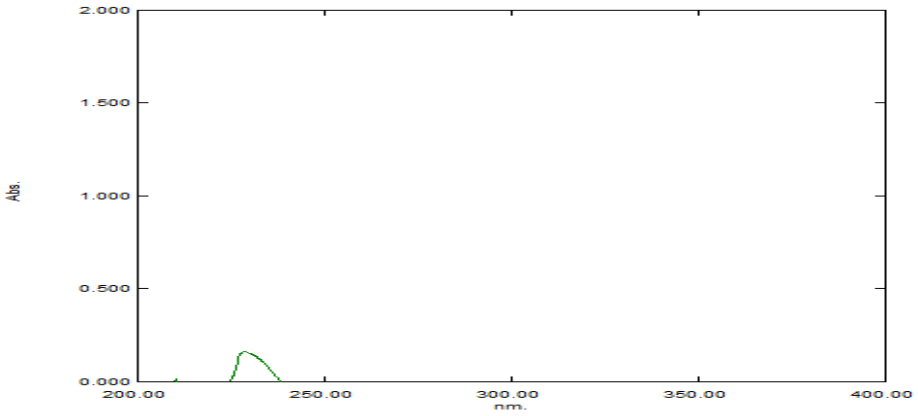

Figure 1. UV Scanning of acid hydrolysis degradation products of ofloxacin.

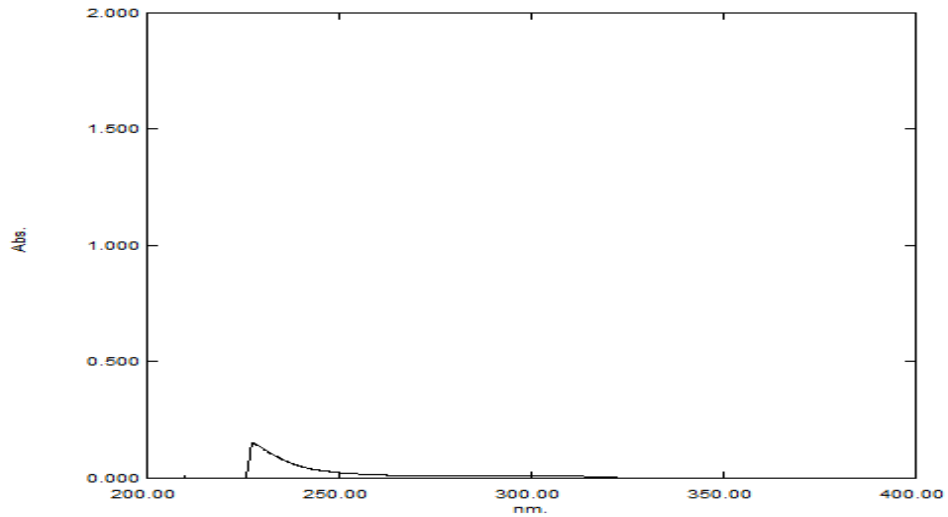

Figure 2. UV Scanning of base hydrolysis degradation products of ofloxacin.

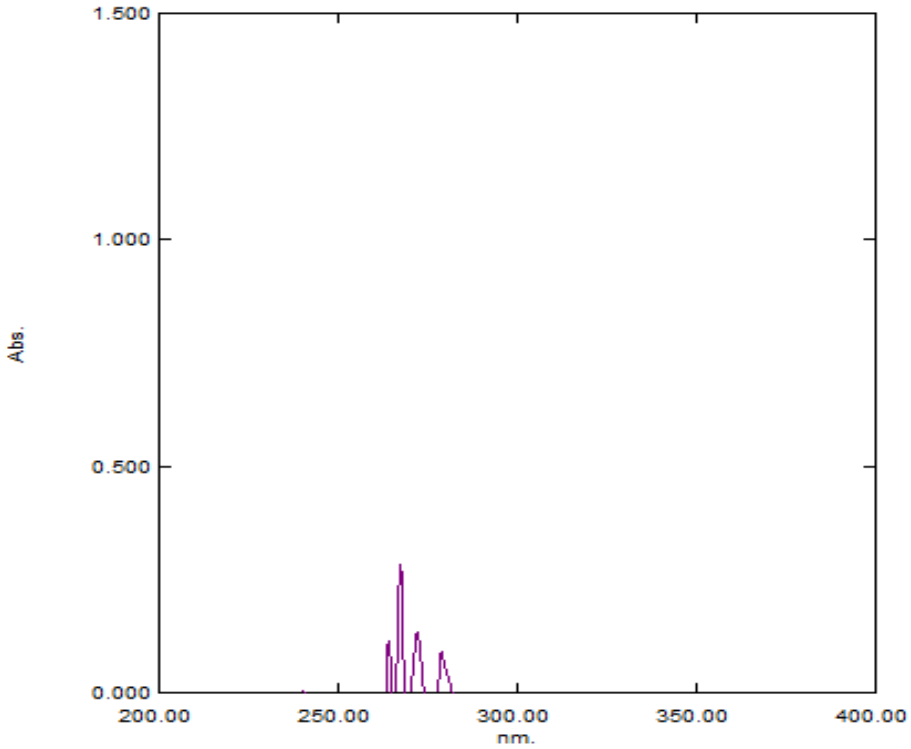

Figure 3. UV Scanning of oxidative hydrolysis degradation products of ofloxacin.