CHAPTER V

SUMMARY

This study showed that the cimetidine polymorphs A and B could be identified and determined by the Infrared Spectrophotometry. The nujol mull technique was the method of choice in the quantitative determination of polymorph B in its mixture with cimetidine polymorph A because the grinding process in potassium bromide disc technique could cause the alteration of the polymorphic form.

This method was rapid and easy to performed. It was observed that the common excipients in tablet formulations did not have significant interference at the characteristic absorption bands of the polymorphs A and B. The experimental data showed that the manufacturing process and the formulated ingredients did not affect the polymorphism of cimetidine. In order to assure the quality of cimetidine raw material as well as of its product the maximum allowable content of the polymorph B must be specified. In routine analysis of sample, a standard containing the maximum specified content of the polymorph B must be concomittantly determined, and the absorbance ratios compared. The absorbance ratio of sample must be greater than that of the standard.

The method was suitable for routine analysis of cimetidine polymorphs A and B both in raw materials and tablets. The IR spectroscopy could be applied to quantitative determination of polymorphs of other compounds in the research point of view.