

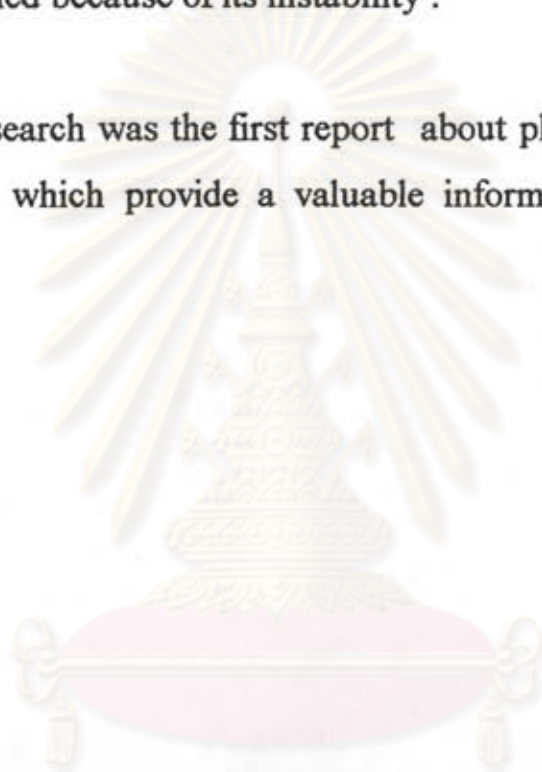
## CHAPTER V

### CONCLUSION

Photolysis of ketoconazole in four organic solvents with free access to air was found that the degradation products occurred when methanol was used as solvent gave better yield than acetone, ethylacetate and chloroform. The process was performed by taking ketoconazole dissolved in appropriate solvents and irradiated with UV lamp (wavelength 254 nm). The progress of reaction was followed by TLC with system 1, 2 and detected spot with reacting with iodine vapour. The isolation and purification of degradation products was performed by column chromatography, using ethylacetate and chloroform : acetone (1 : 1) as eluent. The isolated degradation products, compound A as main compound, was 1-acetyl-4-[4-[[[(1*H*-imidazo [2,1-*a*] 3, 4 - dihydro - 7 - chloro - isoquinolyl) - 6 - spiro - 2' - (1,3-dioxolan-4-yl)] methoxy] phenyl] piperazine. Compound A was white powder that melt at 194 -195 °C. The yield of compound A was 0.66 %. The identification of compound A was based on the data of various spectroscopic techniques, for example, UV, IR, MS, <sup>1</sup>H-NMR, <sup>13</sup>C-NMR, H-HCOSY, C-H COSY. The photolytic mechanism of ketoconazole was proposed via free radical and cyclization.

This mechanism was reported in many studies( Nijhoff and Havinga ,1965 ; Henderson and Zweig ,1967 ; Kharasch and Sharma ,1968 ; Pinhey and Rigby ,1969 ; Robinson and Vernon ,1970 ; Hey , Jones , and Perkins ,1971 ) . Unfortunately , the other degradation products could not purified because of its instability .

This research was the first report about photochemical reaction of ketoconazole which provide a valuable information for the further studies.



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