

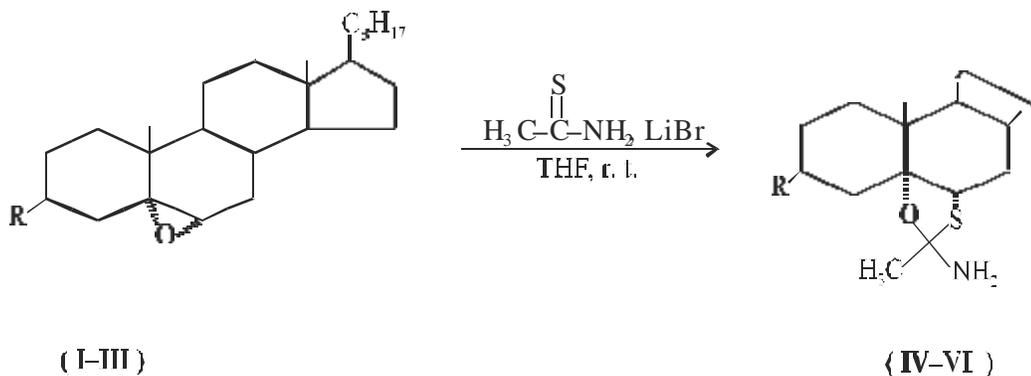
SUMMARY

PART ONE

Stereoselective Synthesis of Steroidal 1,3-Oxathiolanes & 1,3-Oxazolines

(A) Stereoselective Synthesis of Steroidal 1,3-Oxathiolanes

This part describes the stereoselective synthesis of some steroidal oxathiolanes by the reaction of steroidal epoxides with thioacetamide in THF using LiBr as catalyst. Here, we have chosen some easily accessible steroidal epoxides **I-III** for the synthesis.



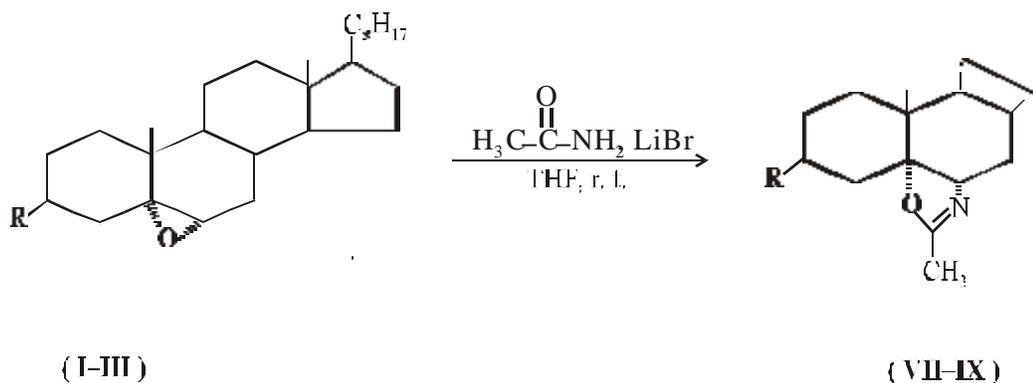
(I, IV) $\text{R} = \text{OAc}$

(II, V) $\text{R} = \text{Cl}$

(III, VI) $\text{R} = \text{H}$

(B) Stereoselective Synthesis of Steroidal 1,3-Oxazolines

This part describes the stereoselective synthesis of some steroidal oxazolines by the reaction of steroidal epoxides with acetamide, in THF by using LiBr as catalyst.



(I, VII) $\text{R} = \text{OAc}$

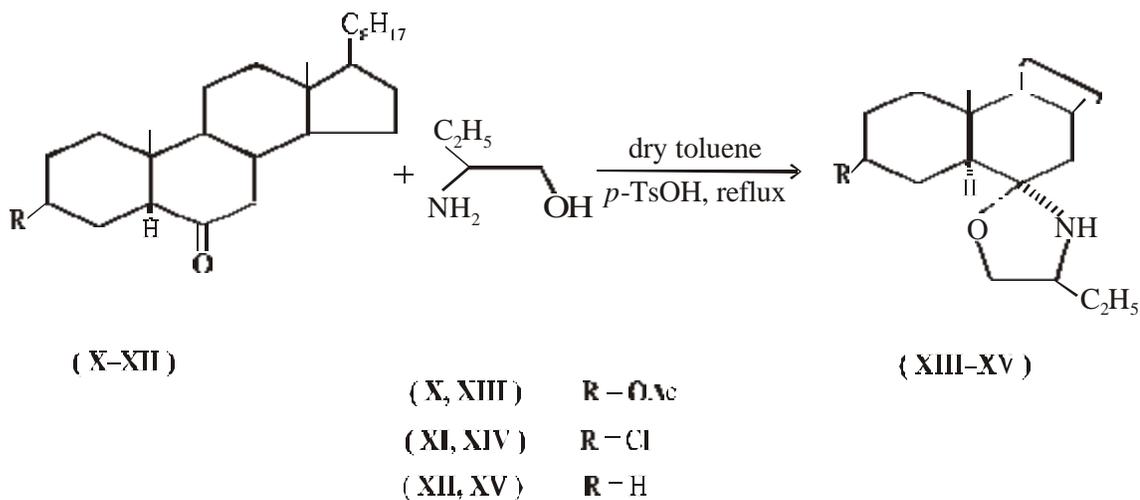
(II, VIII) $\text{R} = \text{Cl}$

(III, IX) $\text{R} = \text{H}$

PART TWO

Stereoselective Synthesis of Steroidal 1,3-Oxazolines

The reaction of 3β -acetoxy- 5α -cholestan-6-one **X**, 3β -chloro- 5α -cholestan-6-one **XI** and 5α -cholestan-6-one **XII** with 2-amino butanol in presence of *p*-TsOH afford 3β -acetoxy- 5α -cholestan-6R-spiro-4-ethyl-1,3-oxazolidine **XIII**, 3β -chloro- 5α -cholestan-6R-spiro-4-ethyl-1,3-oxazolidine **XIV** and 5α -cholestan-6R-spiro-4-ethyl-1,3-oxazolidine **XV**, respectively.

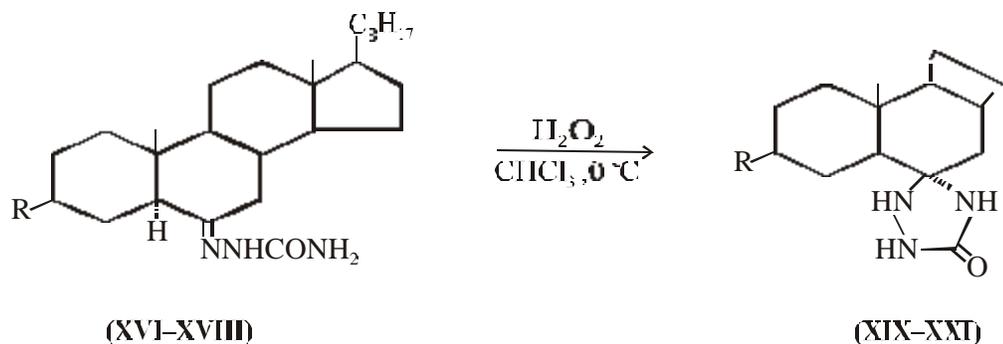


PART THREE

Synthesis of Steroidal 1,2,4-Triazolidin-3-Ones

Some steroidal triazolidinones such as 3β -acetoxy- 5α -cholestan-6-spiro-1,2,4-triazolidin-3-one **XIX**, 3β -chloro- 5α -cholestan-6-spiro-1,2,4-triazolidin-3-one **XX** and 5α -cholestan-6-spiro-1,2,4-triazolidin-3-one **XXI** are prepared by oxidative cyclization of 3β -acetoxy- 5α -cholestan-6-one semicarbazone **XVI**, 3β -chloro- 5α -

cholestan-6-one semicarbazone **XVII** and 5α -cholestan-6-one semicarbazone **VIII** with H_2O_2 at 0°C , respectively .



(XVI, XIX) $\text{R} = \text{OAc}$

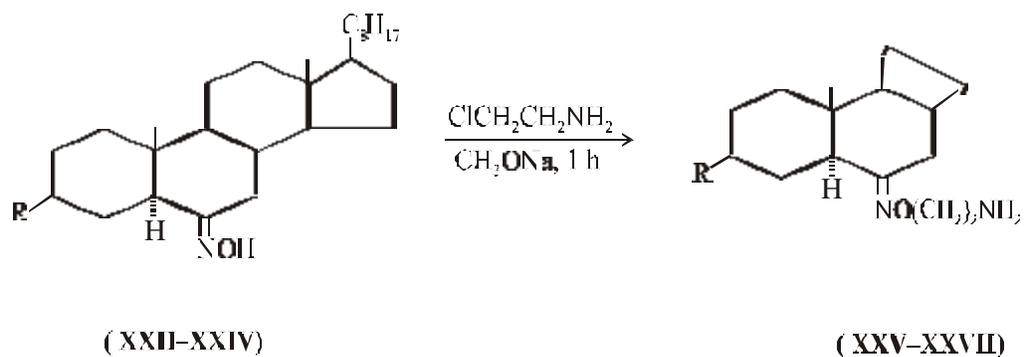
(XVII, XX) $\text{R} = \text{Cl}$

(XVIII, XXI) $\text{R} = \text{H}$

PART FOUR

Synthesis of Steroidal Oxime-Ether Derivatives

Oxime-ether derivatives have been reported as anti-protozoan drugs, which prompted us to undertake the synthesis of some steroidal oxime-ether derivatives **XXV-XXVII** from easily accessible steroidal oximes **XXII-XXIV**.



(XXII, XXV) $\text{R} = \text{OAc}$

(XXIII, XXVI) $\text{R} = \text{Cl}$

(XXIV, XXVII) $\text{R} = \text{H}$