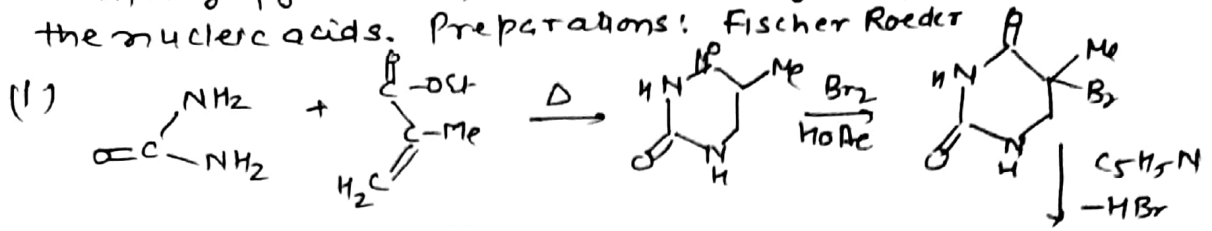
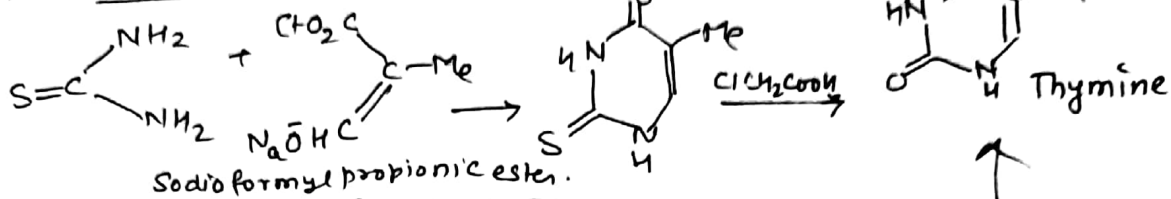
PYRIMIDINE BASES - THYMINE.

Thymine is (5-methyluracil). It is 2,4-dihydroxy-5-methylpyrimidine). It is also a hydrolytic product of the nucleic acids. Preparations: Fischer Roeder

(1)

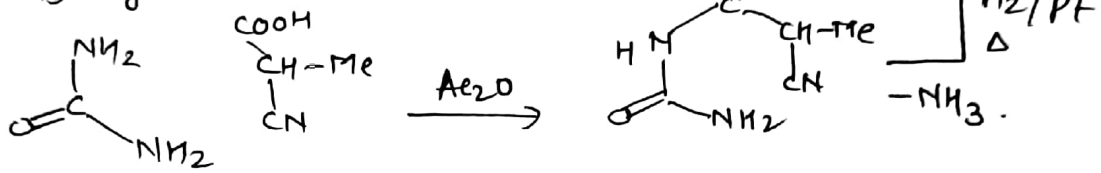


(2) Wheeler and Liddle



Sodioformylpropionic ester.

(3) Bergmann: GOOD METHOD.



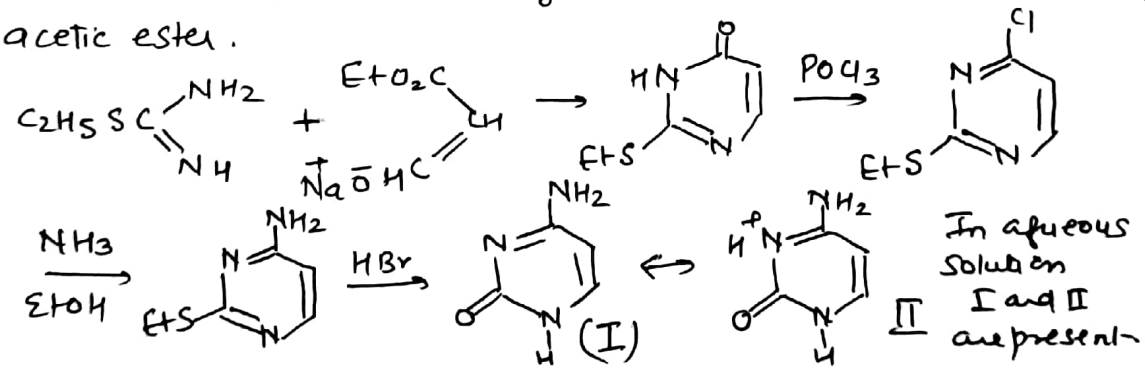
CYTOSINE

(4-aminouracil)

4-amino-2-hydroxypyrimidine)

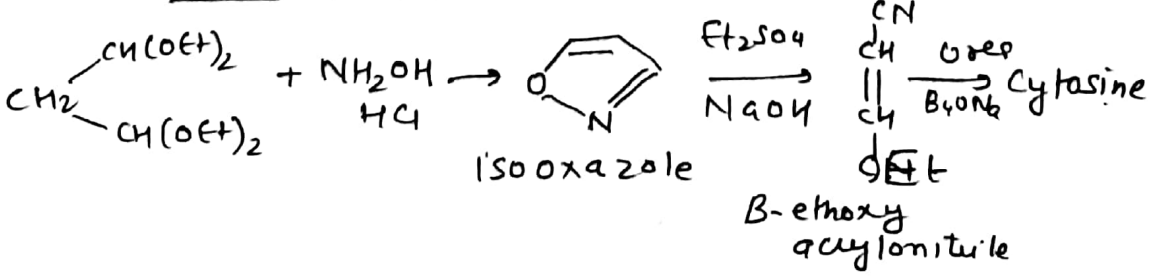
Method of preparation: Wheeler and Johnson's

This method uses S-Ethylisothiourea and Sodioformyl acetic ester.



In aqueous solution I and II are present.

BEST SYNTHESIS: (TARSIO)



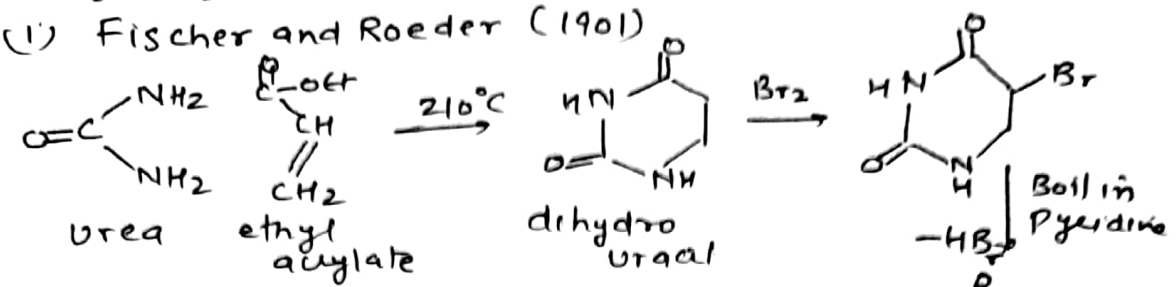
Isooxazole

β-ethoxy acrylonitrile

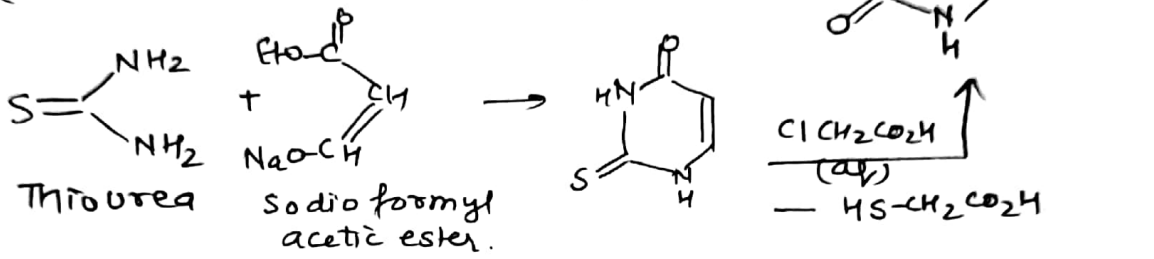
SYNTHESIS OF PYRIMIDINE BASES

URACIL: (2,4-dihydroxypyrimidine) is a hydrolytic product of the nucleic acids. It has been synthesised by many ways, e.g.,

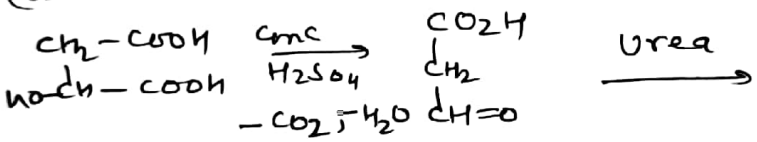
(1) Fischer and Roeder (1901)



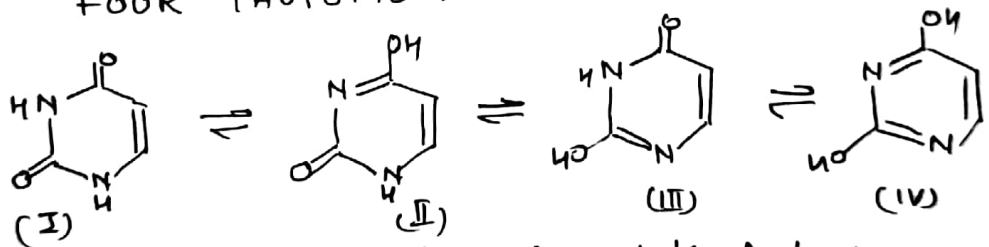
(2) Wheeler and Liddle (1908)



(3) Best method (Davidson et all). (Malic acid - Urea method)



FOUR TAUTOMERIC STRUCTURES ARE POSSIBLE



It has been found that hydroxypyrimidines exists in the keto form more. So it is I.

Mercapto derivatives exists as thiones and amino derivatives as