B.Sc. Semester-IV
Core Course-IX (CC-IX)
Organic Chemistry-III

III. Heterocyclic Compounds
1. Paal-Knorr Furan Synthesis

Coverage:
1. Paal-Knorr Furan Synthesis

Heterocyclic Compounds
Classification and nomenclature, Structure, aromaticity in 5-numbered and 6-membered rings containing one heteroatom; Synthesis, reactions and mechanism of substitution reactions of: Furan, Pyrrole (Paal-Knorr synthesis, Knorr pyrrole synthesis, Hantzsch synthesis), Thiophene, Pyridine (Hantzsch synthesis), Pyrimidine, Structure elucidation of indole, Fischer indole synthesis and Madelung synthesis), Structure elucidation of quinoline and isoquinoline, Skraup synthesis, Friedlander's synthesis, Knorr quinoline synthesis, Doebner- Miller synthesis, Bischler-Napieralski reaction, Pictet-Spengler reaction, Pomeranz-Fritsch reaction
Derivatives of furan: Furfural and furoic acid.

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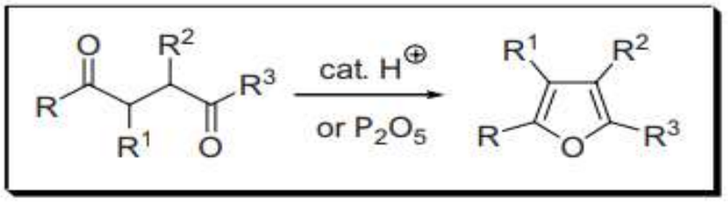
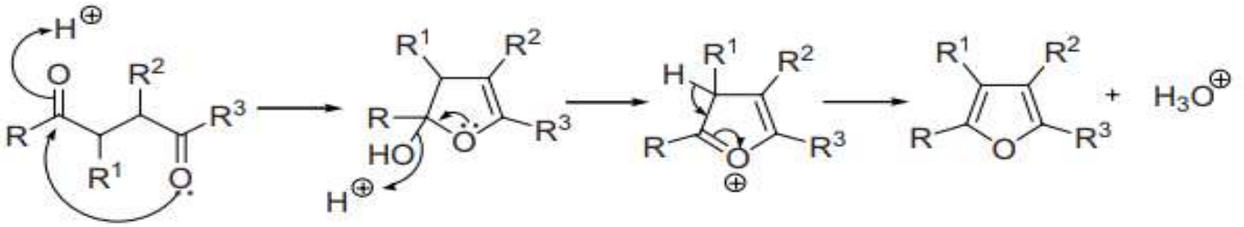
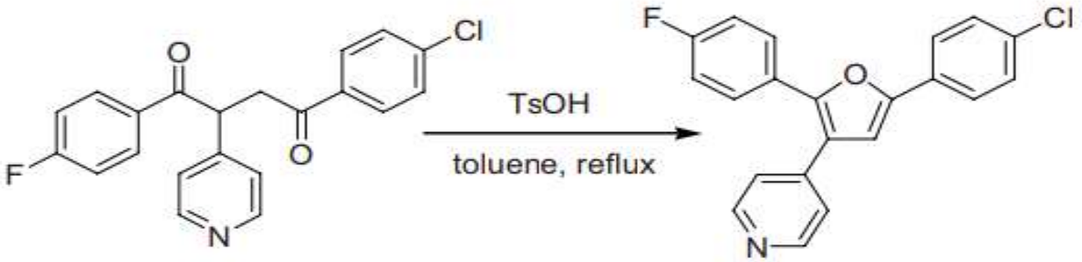
Paal–Knorr furan synthesis

Acid-catalyzed cyclization of 1,4-diketones to form furans.

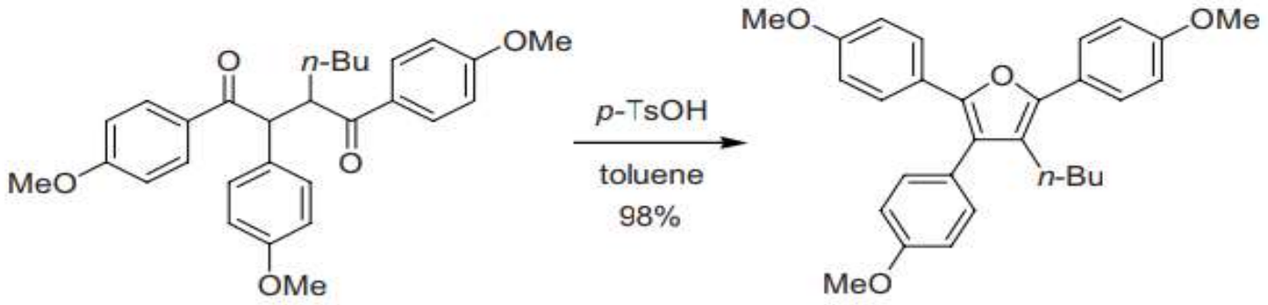




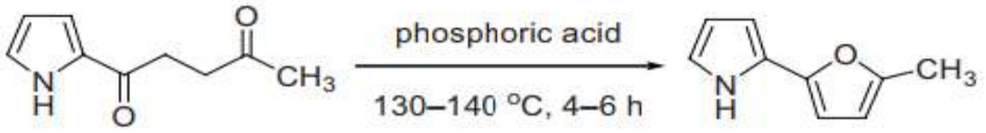
Example 1[3]



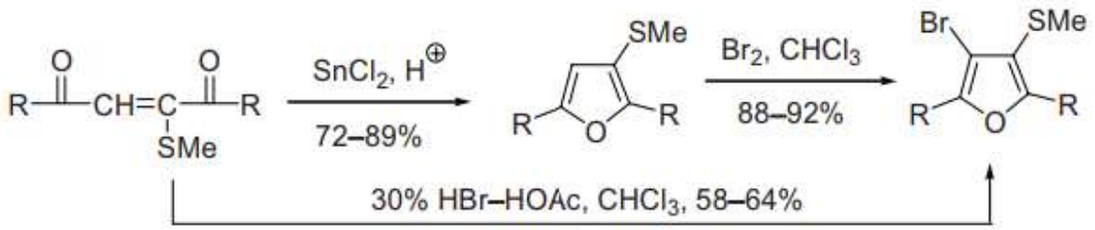
Example 2[6]



Example 3[9]



Example 4[10]



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