



# SYNTHESIS AND COMPLEXATION OF UNSTABLE N-H IMINOFURANE AND IMINOTHIOPHENE DERIVATIVES

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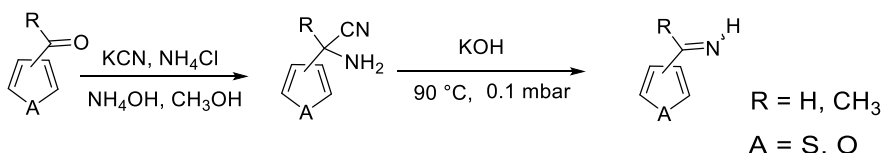
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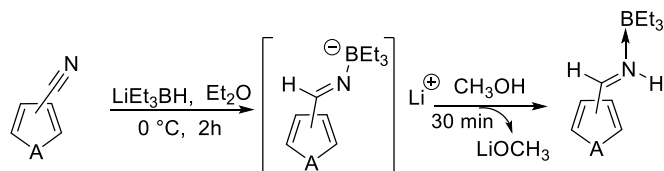
N-H aldimines are kinetically unstable compounds that play a decisive role in organic chemistry, generated in situ in Mannich or Strecker reactions or, in the iminium form, in Diels-Alder cyclizations.<sup>1-3</sup> Several of them have been detected in the interstellar medium.<sup>4</sup> Isolating these species and characterizing them spectroscopically is an interesting way of gaining a better understanding of their physicochemical properties.

We report here the first preparation of N-H imines associated with a furan or thiophene substituent, with the aim of spectroscopically characterizing these species, studying the formation of complexed derivatives and the chemistry of the two forms. The role played by the substituent, which possesses different levels of aromaticity, will be compared with alkylated and arylated N-H imines.

The amines are synthesized in two steps from the carbonyl derivative involved in a Strecker reaction, followed by dehydrocyanation by vaporization of  $\alpha$ -aminonitriles over powdered KOH (Scheme 1).<sup>3</sup> Attempts to form complexes by triethylborane addition failed, but they were obtained from the corresponding nitrile and superhydride ( $\text{LiEt}_3\text{BH}$ ) (Scheme 2).<sup>5</sup> All synthesized products are characterized by  $^1\text{H}$  and  $^{13}\text{C}$  NMR spectroscopy, infrared spectroscopy and mass spectroscopy. The extension of this work to pyrrole derivatives and the study of the chemical reactivity of all these compounds is currently underway.



**Scheme 1:** Synthesis of N-H imines



**Scheme 2:** Preparation of Imine-Triethylborane Complexes

## References

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