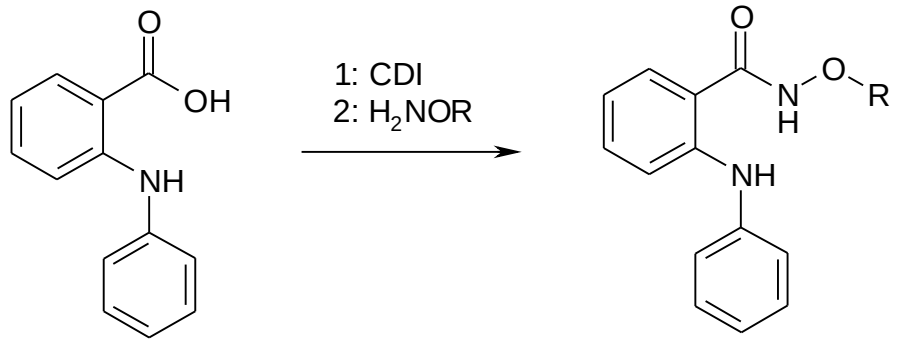
9 Summary

The current study focuses on the synthesis of *N*-substituted *O*-alkyl(aralkyl)-anthranilohydroxamic acids and their cyclization as well as the synthesis of the appropriate free hydoxamic acids.

Within the first part of this work, synthetic pathways yielding *N*-substituted *O*-alkyl(aralkyl)-athranilohydroxamic acids **1** and **9** respectively.

Two different methods were used to synthesize **1** and **9**. In the first method *N*-phenylathranilic acid as starting material was used. This acid was activated by 1,1´-carbonyldiimidazole followed by the addition of the *O*-alkylhydroxylamine to obtain the appropriate *N*-phenyl-*O*-alkyl(aralkyl)-hydroxamic acids **1** **(Scheme 1)**.

Scheme 1:

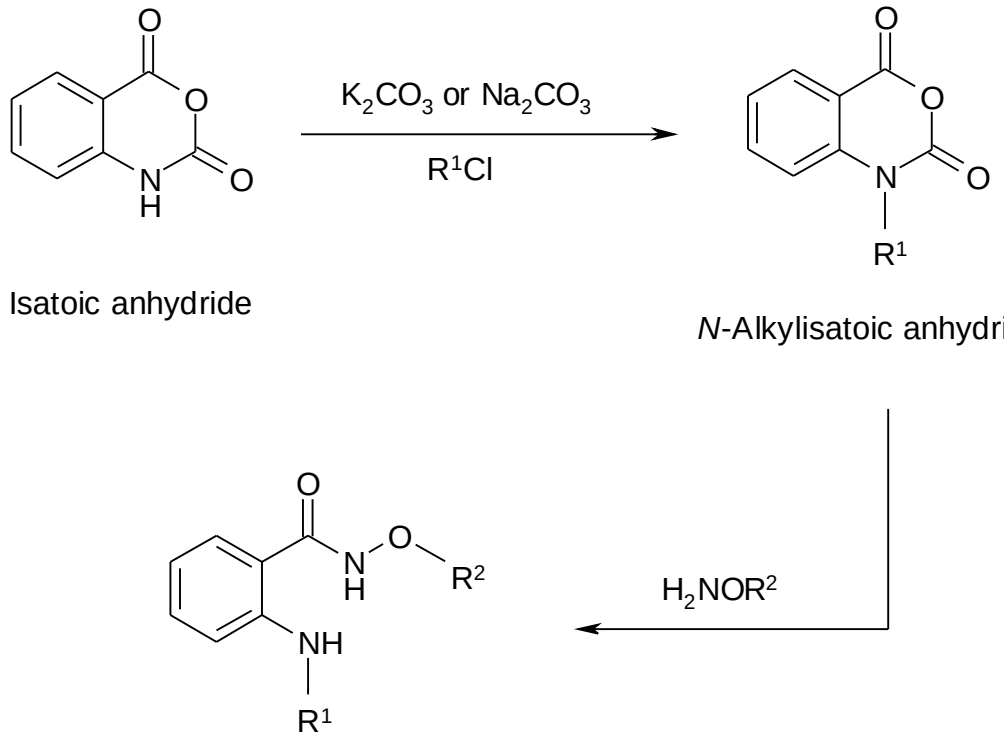


N-Phenylanthranilic acid **1**

The second method describes a procedure starting from isatoic anhydride. First the nitrogen atom of isatoic anhydride was alkylated by alkylhalide in present of a base (e.g. Potasium carbonate or sodium carbonate) and the product was isolated.

After that an *O*-alkylhydroxylamine was added to the appropriate *N*-alkylisatoic anhydride to get the appropriate *N*-alkyl-*O*-alkyl(aralkyl)-anthranilohydroxamic acid **9 (Scheme 2)**.

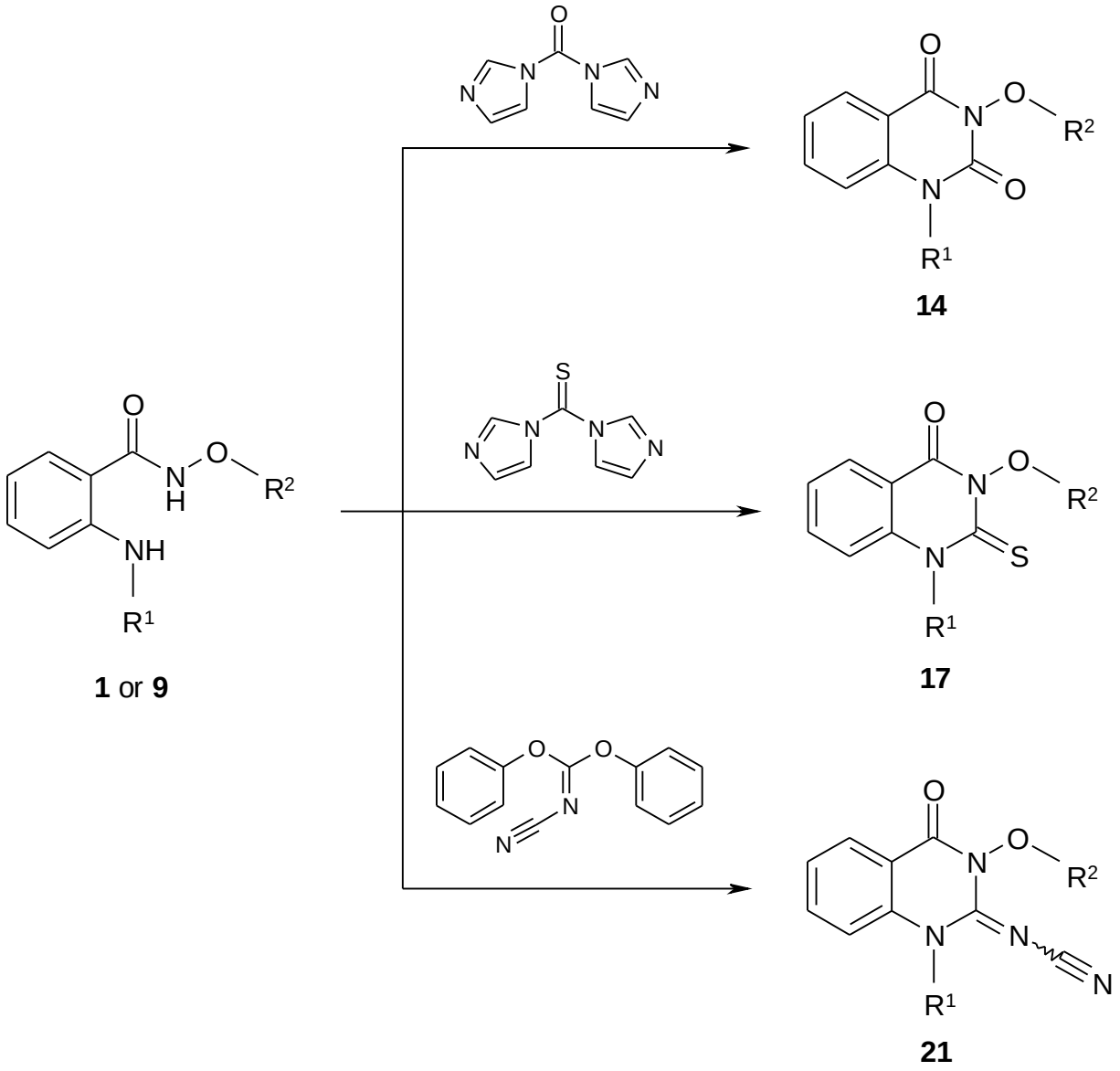
Scheme 2:



In the second part of this work the above mentioned *N*-substituted *O*-alkyl(aralkyl)-anthranilohydroxamic acids **1** and **9** were cyclized using suitable reagents to the appropriate quinazoline **14**, **17** and **21**.

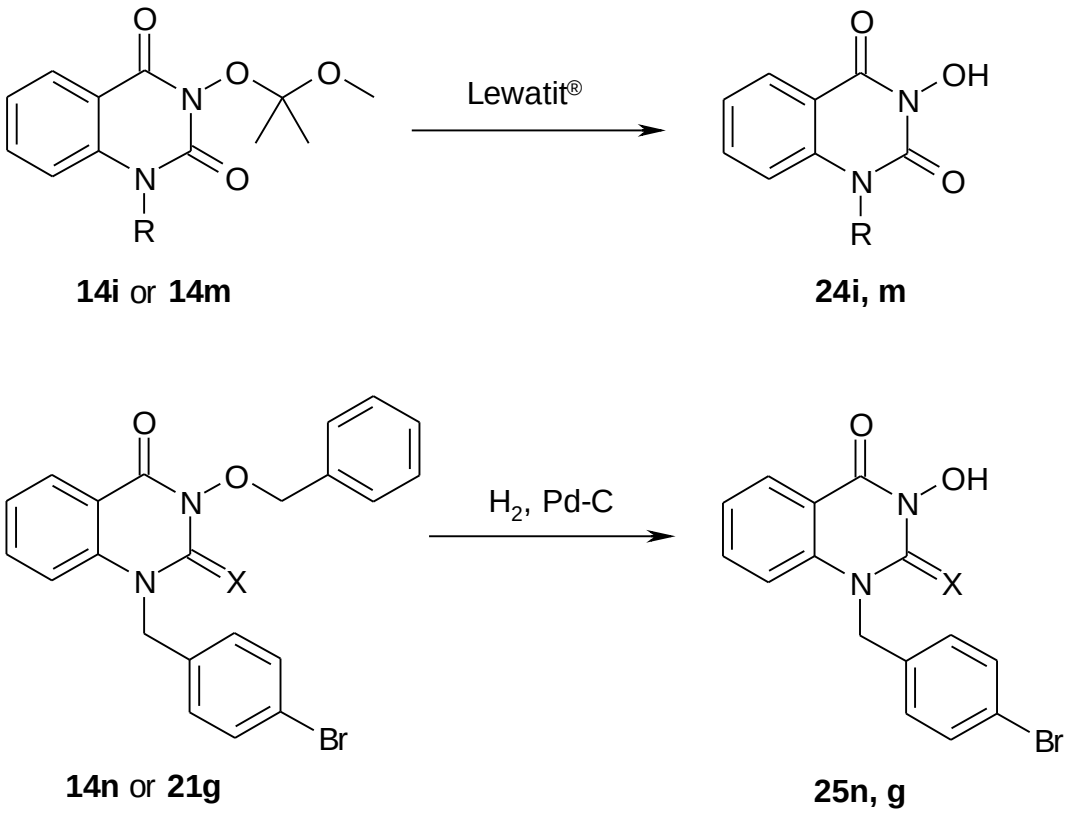
The reagents used were 1,1´-carbonyldiimidazole (CDI), 1,1´-thiocarbonyldiimidazole (TCDI) and diphenyl cyanocarbonimidate **(Scheme 3)**.

Scheme 3:



In the last part of this work the compounds **14i** and **14m** were dealkylated by acidic hydrolysis and the compounds **14n** and **21g** were dealkylated by catalytic hydrogenation to the appropriate free hydroxamic acids **24i**, **24m**, **25n** and **25g** **(Scheme 4)** .

Scheme 4:



14i or **14m** **24i, m**

14n or **21g** **25n, g**

In cooperation with the **Odawara Research Center** of **Nippon Soda Co. (Japan)**, selected compounds were tested regarding their fungicidal, herbicidal, insecticidal and acaricidal properties. The derivatives of Compound **17** gave good fungicidal activity.