

Telescopic one-pot synthesis of pyrido[2,3-a]phenazin-5-amines

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ABSTRACT

The synthetic routes to access pyridophenazines are scarce in literature.^{1a-d} Besides, some routes require multi-steps to reagent preparation^{1a-b} and have limited product scope.^{1a-d} Due to their fluorescent properties, pyridophenazines can be employed to determine DNA by fluorescence titration^{1c} and as ligands in the synthesis of photoluminescent Zn(II) and Cd(II) complexes.^{1e} In this work, a telescopic one-pot approach to access pyrido[2,3-a]phenazin-5-amines (**4**) was developed from 8-hydroxyquinolines (**1**), by oxidation, subsequent Michael addition and *o*-phenylenediamine (**3**) condensation (Scheme 1). The synthesized pyrido[2,3-a]phenazin-5-amines showed fluorescent (Figure 1a), solvatochromic (Figure 1b) and metal-ligand behaviors.

Scheme 1. Telescopic synthesis of pyrido[2,3-a]phenazin-5-amines.

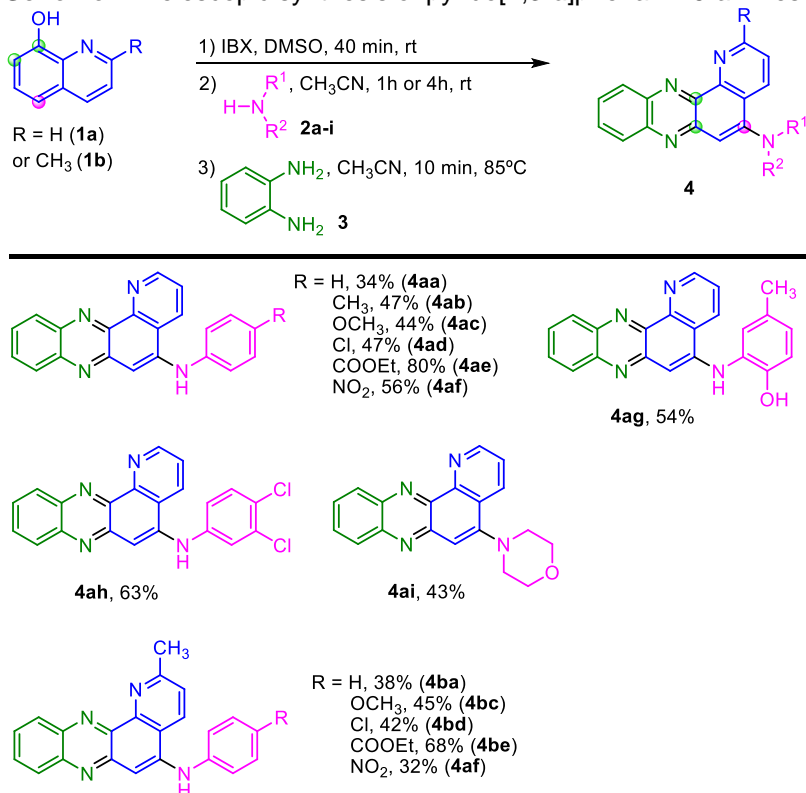


Figure 1a. Fluorescent behavior of **4ae** ($5 \cdot 10^{-4}$ mol/L).

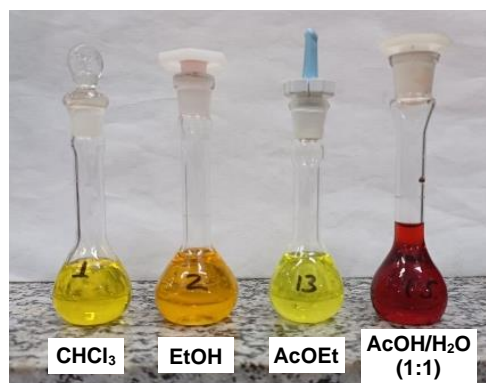


Figure 1b. Solvatochromic behavior of **4ae** (10^{-3} mol/L).

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