SYNTHESIS OF 5-HYDROXY-11-(2-HYDROXYPHENYL)-3,3-DIMETHYL-1,2,3,4,5,11-HEXAHYDROINDENO[1,2-B]QUINOLINE-1,10-DIONE

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The aim of this work was synthesis the new asymmetrical polycyclic derivative of N-OH substituted 1,4-dihydropyridin by environmentally friendly method. 5-Hydroxy-11-(2-hydroxyphenyl)-3,3-dimethyl-1,2,3,4,5,11-hexahydroindeno[1,2-b] quinoline-1,10-dione was obtained. The structure of this compound was confirmed by high resolution mass-spectrometry analysis. It was shown that this substance can be used as acid-base titration indicator.

Keywords: organic synthesis, Hanzsch reaction, 5-Hydroxy-3,3-dimethyl-1,2,3,4,5,11-hexahydroindeno[1,2-b]quinoline-1,10-dione.

In this work we synthesized new polycyclic derivative of unsymmetrically substituted 1,4-dihydropyridine which can be used as indicator of the basicity of the medium. To prepare the asymmetric derivative of 1,4-dihydropyridine, we carried out the reaction in two steps. Initially, an unsaturated diketone III was obtained by reacting the indanedione I with salicylic aldehyde II (Knoevenagel condensation), then dimedone IV and hydroxyl-amine hydrochloride were added to the reaction mixture, and through intermediate V pentacycle VII was obtained which was an unsymmetrical derivative of 1,4-dihydropyridine (Fig. 1).

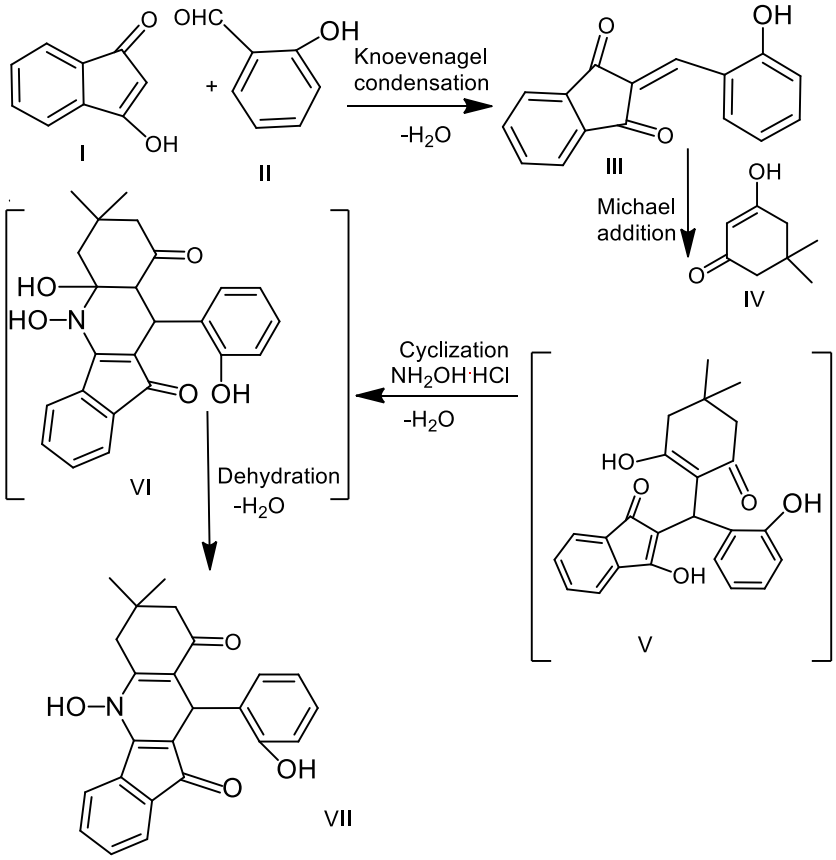

Fig. 1. – Synthesis of 5-Hydroxy-11-(2-hydroxyphenyl)-3,3-dimethyl-1,2,3,4,5,11-hexahydroindeno [1,2-b] quinoline-1,10-dione VII