5-Aminouracil as a Building Block in Heterocyclic Synthesis: Part I. One-pot Synthesis of Pyrimido[5,4-b]quinolin-2,4,9-triones under Microwave Irradiation without Catalyst

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A series of 6,7,8,10-tetrahydropyrimido[5,4-b]quinolin-2,4,9-(1H,3H,5H)-triones 6 were synthesized through one-pot condensation of 5-aminouracil, aldehydes and dimedone in DMF under microwave irradiation without catalyst. The products 6a, d were oxidized to the 7,8-dihydro-pyrimido-[5,4-b]quinolin-2,4,9-(1H,3H,6H)-triones 11a, b. Treatment of 6a, d and/or 11a, b with ethyl iodide in the presence of anhydrous potassium carbonate gave the ethylated derivatives 12a, b and 13a, b, respectively. The structures of the products were confirmed by elemental analyses, IR, MS, $^1$H, and $^{13}$C NMR spectra.

Key words: 5-Aminouracil, Dimedone, Pyrimido[5,4-b]quinolin-2,4,9-triones, One-pot Synthesis, Microwave Irradiation