A New Aspect of the Pfitzinger Reaction:
Microwave-assisted Synthesis of the New Heterocyclic Ring System
6-Arylbenzo[4,5]imidazolo[2,1-b]quino[4,3-e]-1,3-thiazin-14-one

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We report herein on the utility of the Pfitzinger reaction in a facile two-step synthesis of the new heterocyclic ring system 6-arylbenzo[4,5]imidazolo[2,1-b]quino[4,3-e]-1,3-thiazin-14-one using microwave irradiation (MWI) and/or conventional heating. Microwave irradiation was used for a rapid and efficient synthesis of quinoline-4-carboxylic acids \textit{6a–d} from the reaction of isatin with 2-(1H-benzimidazol-2-ylthio)-1-arylethanones \textit{3a–d}. Cyclization of cinchoninic acids \textit{6a–d} afforded the fused title compounds \textit{7a–d}.

\textit{Key words:} Quinolines, Antibiotics, Cyclization, Pfitzinger Reaction, Microwave Irradiation (MWI)