Parallel Solution-phase Synthesis of (2*S*,4*E*)-4-(Arylaminomethylidene)pyroglutamic Acids

Jurij Svete[a], Uroš Grošelj[a], Jernej Baškovč[a], Georg Dahmann[b], and Branko Stanovnik[a]

[a] Faculty of Chemistry and Chemical Technology, University of Ljubljana, Aškerčeva 5, P. O. Box 537, 1000 Ljubljana, Slovenia
[b] Boehringer Ingelheim Pharma GmbH & Co. KG, Dept. Chemical Research, 88397 Biberach, Germany

Reprint requests to Prof. Jurij Svete. Fax: +386 1 2419 220. E-mail: jurij.svete@fkkt.uni-lj.si

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A library of twelve *N*(4′)-substituted di-*tert*-butyl (2*S*,4*E*)-4-arylaminomethylidene-5-oxopyrrolidine-1,2-dicarboxylates **6/6′a – l** were prepared in 47 – 90 % yield by parallel acid-catalysed treatment of di-*tert*-butyl (2*S*,4*E*)-4-[(dimethylamino)methylidene]-5-oxopyrrolidine-1,2-dicarboxylate (**4**) with anilines **5a – j**, ethyl glycinate (**5k**), and ethyl β-alaninate (**3l**). Acidolytic deprotection of compounds **6a – c**, **e – j** afforded the corresponding (2*S*,4*E*)-4-arylaminomethylidene-5-oxopyrrolidine-2-carboxylic acids **7a – c**, **e – j** in 39 – 99 % yield. The configuration around the C=C double bond in the enaminones **6** and **7** was determined by NMR spectroscopy.

Key words: Pyroglutamic Acid, Enaminones, Amines, Combinatorial Synthesis, Pyrrolidinone