

6º ENCONTRO NACIONAL DE QUÍMICA ORGÂNICA



LIVRO DE RESUMOS

Universidade do Minho, Braga, Portugal

20 a 22 de Julho de 2005

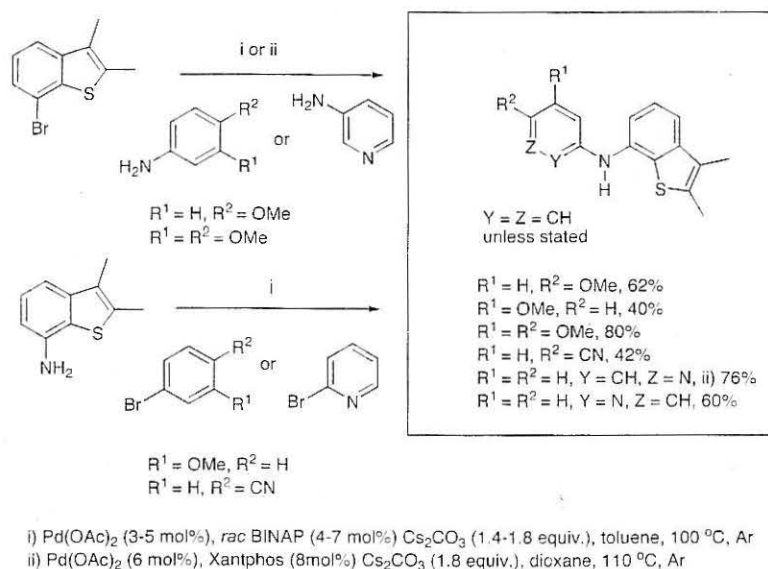
Synthesis of 7-Aryl or Heteroaryl-amino-2,3-dimethylbenzo[*b*]thiophenes by Palladium-Catalyzed C-N Cross Coupling and Anti-oxidant Activity Studies

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In recent years we have been interested in the synthesis of diarylamines in the benzo[*b*]thiophene series functionalizing either the benzene¹ or the thiophene² ring. Here we describe the synthesis of new 7-aryl or heteroaryl-amino-2,3-dimethylbenzo[*b*]thiophenes, reacting, the also prepared,³ 7-bromo or 7-amino-2,3-dimethylbenzo[*b*]thiophenes with anilines and 3-aminopyridine or bromobenzenes and 2-bromopyridine, respectively, under palladium-catalyzed C-N cross-coupling conditions (Scheme).



The coupling products were submitted to anti-oxidant activity studies using two methods, free radical scavenging capacity and reducing power and it was possible to establish some structure-activity relationships. The methoxylated products gave the best results in both methods.

References:

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- 3- A.S. Abreu, N.O. Silva, P.M.T. Ferreira, M.-J.R.P. Queiroz, *Eur. J. Org. Chem.*, **2003**, 1537-1544.