البحث السادس

رقم البحث فى قائمة الأبحاث الكلية (28)

عنوان البحث باللغة الإنجليزية:

Title:

Microwave assisted, one-pot four component designing of 1-butyl-4,5-bis(4-chlorophenyl)-2-aryl-1H-imidazoles

اسم المجلة المنشور بها البحث وسنة النشر

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Abstract:

A novel series of 1-butyl-4,5-bis(p-chlorophenyl)-2-phenyl-1H-imidazole derivatives 5–14 were prepared via one-pot cyclo-condensation of aryl aldehyde derivatives, butylamine, 1,2-bis(4-chlorophenyl)-1,2- ethanedione & CH3COONH4, undergo microwave irradiation employing 4-methylbenzenesulfonic acid (PTSA) as acidic catalyst. Also, the same compounds 1,2,4,5-tetrasubstituted-1H-imidazole products 5–14 were designed under thermal reaction condition. By optimizing the two-reaction method, it was found that under conventional condition (reflux method), the identical products 5–14 were generated in good yields (68–87%) in about 10h. While using the microwave irradiation is an effective and clean technique than the traditional thermal method and gives the same products with higher yields (71–89%) and purity in less time (7–9min). Additionally, we find that the concentration of p-toluenesulfonic acid affects both the reaction time and the yield. The structures of the prepared components were

approved via Infrared spectra, Nuclear Magnetic Resonance and elementals analysis.

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