

البحث الثاني (رقم 2 في قائمة البحوث المقدمه للترقيه و25 في قائمة البحوث الكلية)

Title	Scalable sonochemical synthetic strategy for pyrazolo[1,5-a]pyridine derivatives: First catalyst free concerted [3+2] cycloaddition of alkyne and alkene derivatives to 2-imino-1H-pyridin-1-amines إستراتيجية تخليقية سونوكيميائية قابلة للتطوير لمشتقات بيريدين [1،5-أ] بيريدين: أول اضافته حلقية [3 + 2] بين الألكينات و الاكايينات إلى 1-أمينو-2-إيمينو-بيريدين في ظل ظروف خالية من المواد الحفازة.
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Abstract:

A highly efficient and convenient one-pot sonochemical synthetic strategy has been sophisticated for synthesizing a novel class of polysubstituted pyrazolo[1,5-a]pyridines *via* [3 + 2] cycloaddition of dialkyl acetylenedicarboxylates, ethyl propiolate, and alkenes to 2-imino-1H-pyridin-1-amines under catalyst-free conditions. A series of uniquely substituted pyrazolo[1,5-*a*]pyridines has been synthesized with a very good to excellent yield, and the mechanistic pathway that involves a [3 + 2] annulation process was also proposed. In this study, several spectroscopic tools of analyses were employed for structure elucidation, and the X-ray single-crystal technique was utilized to confirm the proposed mechanism and the regioselectivity.