

البحث السادس (رقم 6 في قائمة البحوث المقدمه للترقية و32 في قائمة البحوث الكلية)

Title	Palladium-Catalyzed Q-Tube-Assisted Protocol for Synthesizing Diaza-dibenzo[<i>a,e</i>]azulene and Diaza-benzo[<i>a</i>]fluorene Derivatives <i>via</i> O ₂ Acid-Promoted Cross-Dehydrogenative Coupling بروتوكول جديد مناسب وفعال لتخليق العديد من مشتقات ديازاديبينزو[<i>a,e</i>]ازولين و ديازاديبينزو[<i>a</i>]فلورين الجديد وذلك باستخدام البلاتيوم كعامل حفاز ومفاعل الضغط العالي (Q-Tube) لتحفيز وتعزيز تفاعلات اقتران نزع الهيدروجين المؤكسد المعززه بواسطه حمض الخليك والاكسجين
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Abstract:

An appropriate and efficient Q-tube-assisted palladium-catalyzed strategy for the synthesis of novel, unparalleled diaza-dibenzo[*a,e*]azulene and diaza-benzo[*a*]-fluorene derivatives has been sophisticated, which includes oxygen and AcOH-induced oxidative C(sp³)-C(sp²) cross-dehydrogenative coupling reactions of 1-amino-2-imino-4-arylpyridine-3-carbonitriles with benzocyclic ketones such as benzosuberone, tetralone, thiochromone, and chromone, respectively. This Q-tube gas purging kit assisted protocol features safe due to easy pressing and sealing, a wide substrate scope, easy workup and purifying phases, and the use of O₂ as a benign oxidant, in addition to being scalable and having a high atom economy. The suggested mechanistic pathway includes a formal dehydrative step followed by palladium AcOH-induced CH(sp³)-CH(sp²) oxidative cross-coupling. In this study, X-ray crystallographic analysis has been used to authenticate the targeted products.