

研究论文

由 *N*-苯基[1,3]苯并噁嗪正离子与烯烃[4+2]反应合成喹啉并[1,2-*c*][1,3]苯并噁嗪-6-酮衍生物

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摘要 以 $\text{BF}_3 \cdot \text{OEt}_2$ 为催化剂, 在室温下通过4-羟基-*N*-苯基[1,3]苯并噁嗪-2-酮的脱羟基产生 *N*-苯基[1,3]苯并噁嗪正离子, 然后与富电子烯烃发生Diels-Alder反应, 合成出了一系列喹啉并[1,2-*c*][1,3]苯并噁嗪-6-酮和喹啉并[1,2-*c*][1,3]萘并噁嗪-6-酮衍生物.

关键词 [喹啉并\[1,2-*c*\]\[1,3\]苯并噁嗪-6-酮](#) [4-羟基-*N*-苯基\[1,3\]苯并噁嗪-2-酮](#) [*N*-酰基亚铵离子](#)

分类号 [O624.6](#)

Synthesis of Quino[1,2-*c*][1,3]benzoxazin-6-ones by [4+2] Reaction of [1,3]Benzoxazin-2-onium Ions with Olefins

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Abstract The *N*-acyliminium cations are powerful intermediates in the construction of nitrogen-containing heterocycles. They are much more reactive than iminium cations in both intramolecular cyclizations and intermolecular cycloadditions. In this paper, a new and efficient route for the synthesis of quino[1,2-*c*][1,3]benzoxazin-6-ones (3a—3h) and quino[1,2-*c*][1,3]naphthoxazin-6-ones (3i—3j) was developed *via* Diels-Alder reaction of *N*-acyliminium cations with olefins (2a—2d) in moderate and good yields at an ambient temperature. The *N*-acyliminium cations, *N*-phenyl[1,3]benzoxazin-2-onium ion and *N*-phenyl[1,3]naphthoxazin-2-onium ion, are easily prepared by $\text{BF}_3 \cdot \text{OEt}_2$ catalyzed dehydroxylation of 4-hydroxy-3-phenyl[1,3]benzoxazin-2-ones (1a—1c) and 4-hydroxy-3-phenyl[1,3]naphthoxazin-2-one(1d).

Key words [Quino\[1,2-*c*\]\[1,3\]benzoxazin-6-one](#) [4-Hydroxy-*N*-phenyl\[1,3\]benzoxazin-2-one](#) [*N*-acyliminium cation](#)

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