

عنوان مقاله:

Synthesis of New 2-Azetidinone Derivatives and Related Schiff Bases from 3-Phenyl-2,3,6,7-tetrahydroimidazo [2,1-b] Thiazolo [5,4-d] Isoxazole

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خلاصه مقاله:

Azetidinones, commonly known as β -lactams, are well-known heterocyclic compounds. Herein we described the synthesis of a series of novel β -lactams. The efficient and rapid synthesis of novel β -lactams has been established in good yields starting from (R)-3-phenyl-2,3,6,7-tetrahydroimidazo [2,1-b] thiazolo [5,4-d] isoxazole 1. First, (R)-3-phenyl-2,3,6,7-tetrahydroimidazo [2,1-b] thiazolo [5,4-d] isoxazole 1 on condensation with ethylchloro acetate yielded Ethyl (R) 2-(3-phenyl-6,7-dihydroimidazo [2,1-b] thiazolo [5,4-d] isoxazol-2(1H)-yl) acetate 2, which on amination with hydrazine hydrate yielded (R) 2-(3-phenyl-6,7-dihydroimidazo [2,1-b] thiazolo [5,4-d] isoxazol-2(1H)-yl) acetohydrazide 3. Then, condensation between compound 3 and various aromatic aldehydes give Schiff base derivatives 4a-j, which upon dehydrative annulation in the presence of chloroacetyl chloride and triethylamine yielded N-((3S,4S)-3-chloro-2-oxo-4-phenylazetidin-1-yl)-2-((R)-3-(Aryl)-6,7-dihydroimidazo [2,1-b] thiazolo [5,4-d] isoxazol-2(1H)-yl) acetamide 5a-j. All synthesized compounds were characterized by elemental analyses, IR, ¹H-NMR and ¹³C-NMR data.

کلمات کلیدی:

Condensation, Synthesis, Schiff bases, 2-Azetidinones, β -Lactam

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