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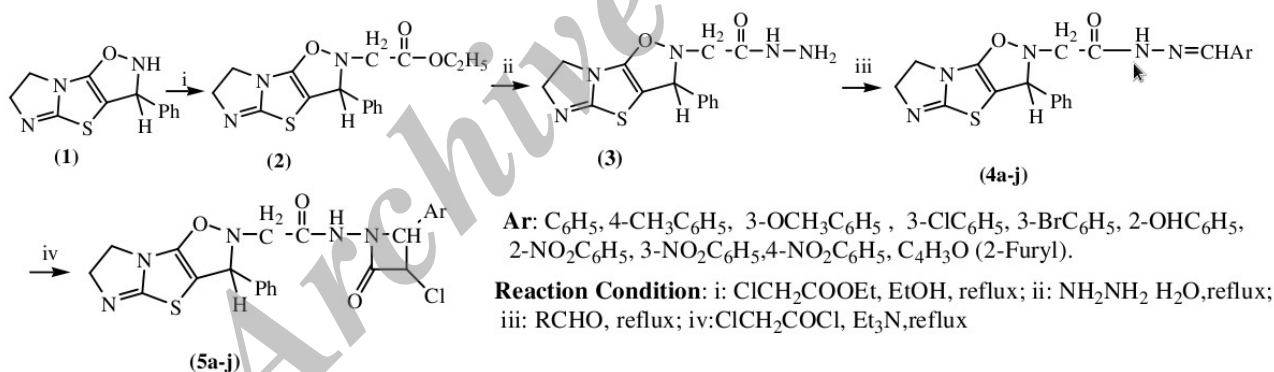
## Synthesis of Some New 2-Azetidinone derivatives and related Schiff Bases from 3-phenyl-2, 3, 6, 7-tetrahydroimidazo [2, 1-b] thiazolo [5, 4-d] isoxazole

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2-Azetidinones, commonly known as  $\beta$ -lactams, are wellknown heterocyclic compounds. A large number of 3-chloro monocyclic  $\beta$ -lactams having substitution at positions 1 and 4 possess powerful anti-bacterial, anti-microbial, sedative, anti-fungal and anti-tubercular activity [1-2]. Herein we described the synthesis of a series of novel  $\beta$ -lactams. The efficient and rapid synthesis of novel  $\beta$ -lactams has been established in good yields starting from 3-phenyl-2, 3, 6, 7-tetrahydroimidazo [2, 1-b] thiazolo [5, 4-d] isoxazole **1** that has been synthesized in recent literature [3]. In the first, 3-phenyl-2, 3, 6, 7-tetrahydroimidazo [2, 1-b] thiazolo [5, 4-d] isoxazole **1** on condensation with ethylchloro acetate yielded ethyl 2-(3-phenyl-3, 6, 7-trihydroimidazo [2, 1-b] thiazolo [5, 4-d] isoxazole-2(3H)-yl) acetate **2**, which on amination with hydrazine hydrate yielded 2-(3-phenyl-3, 6, 7-trihydroimidazo [2, 1-b] thiazolo [5, 4-d] isoxazol -2(3H)-yl) acetohydrazide **3**. Then Compound **3**, on condensation with various aromatic aldehydes was converted to Schiff base derivatives **4a-j**, which upon dehydrative annulation in the presence of chloroacetyl chloride and triethylamine yielded 3-chloro-4-(Aryl)-1-(2-oxo-2-(3-phenyl-5, 6-dihydroimidazo [2, 1-b] thiazolo [5, 4-d] isoxazol -2(3H)-yl) ethylamino) azetidin-2-one **5a-j**, According to the literature [4-5]. All synthesized compounds were characterized by elemental analyses, IR, <sup>1</sup>H-NMR and <sup>13</sup>C-NMR data.



### References

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