Bioorganic Chemistry 59 (2015) 39–79

Contents lists available at ScienceDirect

Bioorganic Chemistry

journal homepage: www.elsevier.com/locate/bioorg

Reviews

Guanidines from 'toxic substances' to compounds with multiple biological applications – Detailed outlook on synthetic procedures employed for the synthesis of guanidines

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ARTICLE INFO

Article history:
Received 8 December 2014
Available online 30 January 2015

Keywords:
Guanylating agents
Cyanoamines
Thioureas
Dearrangement
Substituted guanidines
Solid phase synthesis
Catalysts
Combinatorial syntheses
Inhibitors
Antagonists
DNA binders

ABSTRACT

Guanidines to begin with, were thought of being harmful substances associated with medical ailment. With the advent of World War I and the impact it left on the populations at large research focus was shifted, towards polymer synthesis and that too on plastics and rubbers which were mostly employed in various artillery equipments. In the surge, to get plastics and rubbers with enhanced mechanical properties, many variedly substituted guanidines used as accelerators in vulcanization of polymers were synthesized using different procedures. Continuous research on guanidines, led scientists to develop different protocols and routes for the synthesis of these compounds, later these were tested for their possible use in various areas and now these are sought for their enhanced biomedical and catalytic applications. This review article presents thirty six different synthetic procedures employed for the synthesis of guanidines over the years including seventy schemes and a brief account on the reported wide ranging applications of some novel guanidines.

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http://dx.doi.org/10.1016/j.bioorg.2015.01.006
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