New Synthesis of Physiologically Active Cyclopropane Derivatives

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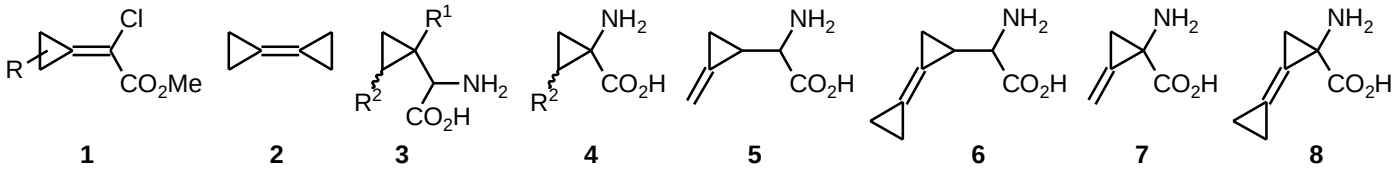
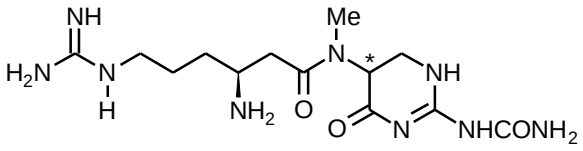
The high reactivities of the versatile multifunctional building block methyl 2-chloro-2-cyclopropylideneacetate **1** (R = H)[1] and its substituted analogues as well as the unusual tetrasubstituted alkene bicyclopropylidene **2**[2] have been utilized to prepare a series of α- and β-amino acids containing cyclopropyl, methylenecyclopropyl and spiropentyl groups. Several of these are natural products, others are conformationally restricted, and some even exotic, analogues of natural products useful for peptidomimetics



1 **2** **3** **4** **5** **6** **7** **8**



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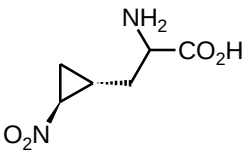

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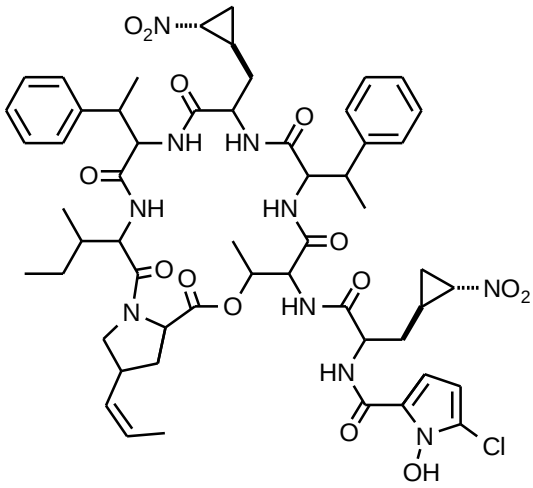

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which promise to be biologically active. In this context, the total synthesis of TAN 1057 A/B **9**, a new dipeptide antibiotic from *flexibacter* sp PK-74 and progress towards the total synthesis of hormaomycin **11**, a physiologically active peptidelactone from *streptomyces griseoflavus* containing the unusual amino acid 3-(*trans*-2'-nitrocyclopropyl)alanine **10**,[4] will be discussed.

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