

# Synthesis and Antibacterial Potency of 4-Methyl-2,7-dioxo-1,2,3,4,7,10-hexahydropyrido[2,3-*f*]quinoxaline-8-carboxylic acid, Selected [*a*]-Fused Heterocycles and Acyclic Precursors

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The reaction of 7-chloro-1-cyclopropyl-6-fluoro-8-nitro-4-oxo-1,4-dihydroquinoline-3-carboxylic acid (**7**) with each of sarcosine and (±)-pipecolinic acid afforded the corresponding *N*-(4-oxoquinolin-7-yl)- $\alpha$ -amino acids **8** and **9**. Reductive lactamization of the latter with sodium dithionite gave hexahydropyrido[2,3-*f*]quinoxaline (**10**) and octahydrodipyrido[1,2-*a* : 2,3-*f*]quinoxaline (**11**) derivatives, respectively. Compounds **8**–**11** and their homologs **1**–**6**, accessible from (*S*)-proline, (2*S*, 4*R*)-4-hydroxyproline and (*S*)-tetrahydroisoquinoline-3-carboxylic acid exhibit good to excellent antibacterial activities against *E. coli* and *S. aureus*.

**Key words:** Pipecolinic Acid, Sarcosine, 7-Chloro-8-nitro-4-oxoquinoline-3-carboxylic Acid, S<sub>N</sub>Ar Reactions, Reductive Lactamization, Antibacterial Activity