Synthesis of Novel Macrocyclic Peptido-calix[4]arenes and Peptido-pyridines as Precursors for Potential Molecular Metallacages, Chemosensors and Biologically Active Candidates

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Novel macrocyclic dipicolinic acid acylated peptides based on upper rim bridged peptido-calix[4]arenes, peptido-pyridines or hybrid structures of both, were synthesized as potential molecular metallacages and chemosensors. While conventional azide or mixed anhydride (ethyl chloroformate) peptide couplings served well for assembling the L-tyrosine or L-ornithine peptide backbones, the acid chloride of pyridine-2,6-dicarboxylic acid (dipicolinic acid) acid served as the complementary acylating agent. The structure assignment of the new compounds was based on chemical and spectroscopic evidences. Some of these compounds exhibit antimicrobial activities.

Key words: Pyridine-2,6-bisamino Acid, Chiral Macrocycles, Peptido-calix[4]arenes, Antimicrobial Agents