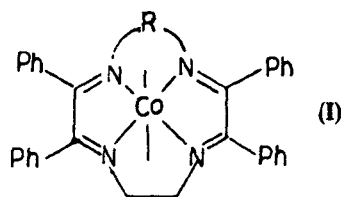


## Synthesis, structural characterization and electrochemistry of cobalt complexes of tetradentate and quinquidentate macrocyclic ligands

M RADHAKRISHNA REDDY, K MOHANA RAJU and  
K HUSSAIN REDDY\*

Department of Chemistry, Sri Krishnadevaraya University, Anantapur 515003,  
India

The stability dependence of Co–C bond in coenzyme B<sub>12</sub> has been attributed to steric influences, especially to the flexing or folding of the equatorial corrin ring. With this in mind, we have studied the synthesis (template method), characterization and reactivity of some cobalt(II) macrocycles(I). Some of these complexes undergo facile one-electron reduction by a variety of reducing agents to the corresponding Co<sup>1</sup> complexes. The Co<sup>1</sup> macrocyclic complexes serve as potent Lewis acids towards a variety of monodentate ligands. The electrochemical and spectral (electronic and resonance) properties of these cobalt(II) complexes are presented.



R=C<sub>2</sub>H<sub>4</sub>, 1,3-C<sub>3</sub>H<sub>6</sub>, 1,2-C<sub>3</sub>H<sub>6</sub>, 1,4-C<sub>4</sub>H<sub>8</sub>, 1,2-C<sub>6</sub>H<sub>4</sub>, 1,3-C<sub>6</sub>H<sub>4</sub>, 2,6-C<sub>5</sub>H<sub>3</sub>N

(I)

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\*For correspondence