

**Puspitasari, M., 2015. Sintesis, Karakterisasi dan Uji Senyawa Kompleks Co(II)-morin Sebagai Inhibitor Enzim Lipase. Skripsi dibawah bimbingan Dr. Sri Sumarsih, M.Si dan Harsasi Setyawati, S.Si., M.Si., Departemen Kimia, Fakultas Sains dan Teknologi, Universitas Airlangga, Surabaya.**

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### **ABSTRAK**

Telah dilakukan sintesis senyawa kompleks Co(II)-morin yang berasal dari logam  $\text{CoCl}_2 \cdot 6\text{H}_2\text{O}$  dan ligan morin hidrat dengan perbandingan mol sebesar 1 : 3. Penelitian ini dilakukan untuk mengetahui pengaruh senyawa kompleks Co(II)-morin terhadap aktivitas enzim lipase. Karakterisasi senyawa kompleks meliputi uji titik leleh pada 268-270°C, penentuan panjang gelombang maksimum senyawa kompleks sebesar 266 nm pada daerah *ultraviolet* dan 407 nm pada daerah *visible*, serta ikatan logam dengan ligan dalam senyawa kompleks ditunjukkan pada vibrasi ikatan Co-O pada 972,12  $\text{cm}^{-1}$  dan vibrasi ikatan Co-OH pada 455,2  $\text{cm}^{-1}$ . Uji senyawa kompleks Co(II)-morin terhadap aktivitas enzim lipase *Candida rugosa* menunjukkan pada konsentrasi 10, 50 dan 100 ppm Co(II)-morin dapat meningkatkan aktivitas enzim lipase sedangkan pada konsentrasi 1000 ppm Co(II)-morin dapat menghambat aktivitas enzim lipase.

*Kata kunci : Co(II)-morin, lipase, inhibitor, aktivator*

**Puspitasari, M., 2015. Synthesis, Characterization and Assay of Co(II)-morin Complexes Compound as Inhibitor Lipase Enzyme. This Studies Under Guidances from Dr. Sri Sumarsih, M.Si and Harsasi Setyawati, S.Si., M.Si., Department of Chemistry, Faculty of Science and Technology, Airlangga University, Surabaya.**

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### **ABSTRACT**

Complex compounds of Co(II)-morin has performed derived from  $\text{CoCl}_2 \cdot 6\text{H}_2\text{O}$  as metal ion and morin hydrat as ligand with a mol ratio of 1 : 3. This study was conducted to determine the effect complex compounds of Co (II)-morin against lipase enzyme activity. Characterization of complex compounds include melting point tested at 268-270°C, determination the maximum wavelength of complex compounds at 266 nm in the ultraviolet region and 407 nm in the visible region, as well as the bonding metal complexes with ligand in the complex compounds shown in the Co-O bond vibration at  $972,12 \text{ cm}^{-1}$  and Co-OH bond vibration at  $455,2 \text{ cm}^{-1}$ . The assay complex compounds of Co(II)-morin against *Candida rugosa* lipase enzyme activity has demonstrated at 10, 50 and 100 ppm concentration of Co(II)-morin can increase lipase activity meanwhile at 1000 ppm concentration of Co(II)-morin can inhibit lipase activity.

*Keyword : Co(II)-morin, lipase, inhibitor, activator*