

Title	Intermediate species absorbing in the 500-nm region in nonenzymatic pyridoxal catalysis.
Sub Title	
Author	松島, 美一(Matsushima, Yoshikazu) 小島, 美佐(Kojima, Misa) 永田, 佳子(Nagata, Yoshiko)
Publisher	共立薬科大学
Publication year	1991
Jtitle	共立薬科大学研究年報 (The annual report of the Kyoritsu College of Pharmacy). No.36 (1991. ) ,p.81- 81
JaLC DOI	
Abstract	
Notes	抄録
Genre	Technical Report
URL	<a href="https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AN00062898-00000036-0081">https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AN00062898-00000036-0081</a>

慶應義塾大学学術情報リポジトリ(KOARA)に掲載されているコンテンツの著作権は、それぞれの著作者、学会または出版社/発行者に帰属し、その権利は著作権法によって保護されています。引用にあたっては、著作権法を遵守してご利用ください。

The copyrights of content available on the KeiO Associated Repository of Academic resources (KOARA) belong to the respective authors, academic societies, or publishers/issuers, and these rights are protected by the Japanese Copyright Act. When quoting the content, please follow the Japanese copyright act.

## Intermediate Species Absorbing in the 500-nm Region in Nonenzymatic Pyridoxal Catalysis.\*

Yoshikazu MATSUSHIMA, Misa KOJIMA and Yoshiko NAGATA

松島美一, 小島美佐, 永田佳子

A key step in the action of almost all pyridoxal enzymes is the formation of a quinonoid species, in which the  $\alpha$ -carbon in a Schiff base (aldimine) is deprotonated. Several enzymes have been reported to exhibit an intense absorption band in the 500-nm region of the spectrum, which has been ascribed to the quinonoid species. We reported previously that in methanolic solutions pyridoxal and ethyl alaninate with Al(III) gave an intense absorption band at 488 nm, but not with divalent ions under the same conditions [1].

We now report that the 500-nm absorbing species was formed in the following nonenzymatic reactions in methanol. Isomerization between a ketimine from ethyl pyruvate and PM and an aldimine from ethyl alaninate and PL catalyzed by the 1 : 1 Cu(II) chelates of ethylenediamine(en), dipyridyl(dipy) and tripyridyl(tripy). The quinonoid species were stabilized in the ternary complexes such as Cu(II)-quinonoid-en. The fact that a similar ternary complex was not fully formed with diethylenetriamine(dien) should indicate the coplanarity of the quinonoid species.

---

\* 本報告は "Enzymes Dependent on Pyridoxal Phosphate and Other Carbonyl Compounds as Cofactors", eds. by T. Fukui, H. Kagamiyama, K. Soda and H. Wada, Pergamon, 1991, pp. 371—372. に発表.