



## **Oxidation of Dipeptide Glycylglycine by Chloramine-T in Aqueous Medium and Comparison with Monomer Glycine: A Kinetic and Mechanistic Study**

**Prameela Kethavath and P. Srinivas\***

1. Department of Chemistry, Dr B R Ambedkar Open University-Hyderabad-33, **INDIA**
2. Department of Chemistry, Osmania University, Hyderabad-500 007, **INDIA**

Email: [prameelachembraou@gmail.com](mailto:prameelachembraou@gmail.com), [sripabba85@yahoo.co.in](mailto:sripabba85@yahoo.co.in)

Received on 9<sup>th</sup> October and finalized on 23<sup>rd</sup> October 2013

---

### **ABSTRACT**

*The kinetics of oxidation reactions of dipeptide glycylglycine (GG) by Chloramine-T (CAT) in aqueous medium to produce aldehyde, ammonia and carbon dioxide, under the condition  $[CAT] \ll [GG]$  at different temperatures (308-318 K) have been studied. The kinetics revealed that the fractional order dependence in  $[GG]$  and first order dependence in  $[CAT]$ . Michealis Menten type mechanism was proposed. Thermodynamic parameters have been evaluated. The rates of oxidation reactions were compared to that of the monomer glycine (Gly).*

**Keywords:** Glycylglycine (GG), Glycine (Gly), Chloramine-T (CAT), Chloramine-B (CAB) and Acetonitrile (ACN).

---