

*Title:* **Study about the behavior of antioxidant compounds for the treatment of degraded manuscripts.**

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Manuscripts are a tool used to study the past, because they contain information about events, beliefs, records and other information of interest.

Most of the manuscripts are made using iron gall ink, it contains vitriol ( $\text{FeSO}_4$ ) and Gallic acid, a compound that reacts forming sulphuric acid and releasing Iron (II) ions. These two compounds promote the degradation of the manuscripts because of the acid-catalysed hydrolysis and the Fenton reaction respectively.

The objective of this work is to study the effect of a deacidification and antioxidant treatment.

To do this, the effects of the deacidification treatment on the acidity and alkalinity of the manuscript and the effects of the emulgent (GEOL) and the antioxidant treatment on the acidity and alkalinity.

The results obtained show that the deacidification treatment tested is effective. The results show that the emulgent used to apply the treatments and the antioxidant treatment doesn't have any major impact on the pH of the manuscripts.

The effects of the antioxidant treatment on the Iron (II) ions will be studied in a next TFG.

**Keywords:** manuscript, deacidification treatment, antioxidant treatment, degradation.