

# Abstract

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**Title:** Synthesis and study of hyaluronic acid derivatives modified on carboxyl

**Abstract:** Hyaluronic acid (HA) is a naturally occurring linear polysaccharide. Due to its biocompatibility and non-immunogenicity, HA and its derivatives are widely used in various biological and medical applications. The efficacy of each formulation is strongly related to the molecular weight (MW) of the HA used. Unfortunately, various factors can affect the MW during the manufacturing process. Elevated temperature required during the sterilization process is one significant example, which can lead to a reduction in molecular weight and result in a loss of some desired properties of the final product. This work focuses on the synthesis of HA amides formed on its free carboxyl group and subsequently studying the effect of this modification on the degradation rate at elevated temperature. Three final compounds were prepared by reacting HA with various amines using 4-(4,6-dimethoxy-1,3,5-triazin-2-yl)-4-methylmorpholinium chloride (DMTMM), all of which underwent degradation noticeably faster than native HA.

