

SEC-MALLS Study of Hyaluronic Acid and BSA Thermal Degradation in Powder and in Solution

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Abstract : Hyaluronic acid (HA) is an anionic glycosaminoglycan distributed throughout connective, epithelial and neural tissues. The importance of hyaluronic acid increased in the last decades. It has many applications in medicine and cosmetics. Hyaluronic acid has been used in attempts to treat osteoarthritis of the knee via injecting it into the joint. Bovine serum albumin (also known as BSA) is a protein derived from cows, which has many biochemical applications. The aim of our research work was to compare the thermal degradation of hyaluronic acid and BSA in powder and in solution, by determining changes in molar mass and conformation, by using SEC-MALLS (size exclusion chromatography -multi angle laser light scattering). The aim of our research work was to observe the degradation in powder and in solution of different molar mass hyaluronic acid samples, at different temperatures for certain periods. The degradation of the analyzed samples was mainly observed by modifications in molar mass.

Keywords : thermal degradation, hyaluronic acid, BSA, SEC-MALLS

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