

عنوان مقاله:

(Chemical Modification of Insoluble Fraction of Persian Gum (Mountain Almond tree gum

محل انتشار:

اولین همایش الکترونیکی نوآوری در فراوری مواد غذایی (سال: 1391)

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خلاصه مقاله:

Persian gum, mountain almond tree (*Amygdalus Scoparia*) exudate, is a transparent edible gum which can be found in different forests of Iran (Fars and Azarbayjan Provinces). This gum has and could have many pharmaceutical, food and industrial applications. However, it is not used in a commercial practice in food production. This gum consists of soluble (% 25–30) and insoluble fractions (% 70–75). Therefore, in the present study, with a view to utilize the gum for broader applications, modification of insoluble fraction was carried out using acrylamide in the presence of sodium hydroxide under different reaction conditions. The effect of insoluble fraction of Persian gum (0.5–1.5g) and acrylamide concentration (0.08–0.112 mol), temperature (30– 60 °C) and time (1–3 h) on solubility increasement, was investigated using response surface methodology (RSM). Maximum solubility (>65%) was obtained in 1.5 % on dry basis of soluble fraction of Persian gum, 0.08 mol acrylamide at 60°C for 3 h. Intrinsic viscosity and molecular weight determination proved modification reaction led to reduction in molecular weight. In addition, effect of pH and electrolytes on rheological properties showed soluble fraction of optimum modified gum is an anionic hydrocolloids

کلمات کلیدی:

Persian gum; Gum modification; Solubility; Intrinsic viscosity; Rheological properties

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