

龙眼多糖树脂脱色工艺优化 Optimization of De-coloration Technology for Polysaccharides from Longan Pulp

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摘要: 以脱色率、多糖保留率、蛋白质去除率及3个指标的加权综合评分比较8种树脂对龙眼多糖的脱色效果,并筛选出效果较好的离子交换树脂D301-F,通过单因素和正交试验进一步优化其脱色工艺条件。结果表明:当龙眼多糖溶液质量分数为4%时,选用离子交换树脂D301-F,在料液比为0.16 g/mL、溶液pH值为5、温度为50℃条件下的脱色率可达90.21%,多糖保留率为85.75%,蛋白质去除率为73.12%。龙眼多糖中的色素可能主要以带负电荷的非极性小分子为主,采用离子交换树脂脱色是一种有效的纯化方法。De-coloration rate, polysaccharides holding rate and protein removal rate of eight resins on longan polysaccharides were studied. The results showed that anion exchange resin D301-F presented good de-colorizing effects. De-colorizing experiments were carried out by single experiment and orthogonal experiment. The data indicated that the colorants were most possibly small-molecular-weight substances with negative charge. The optimum technological parameters were as follows: the ratio for resin and crude polysaccharides solution (the mass ratio was 4%) was 0.16 g/mL under the condition of 50℃ and pH value 5. The de-coloration rate was 90.21%, the polysaccharides holding rate was 85.75%, the protein removal rate was 73.12%.

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