

研究论文

新型X光显影含糖聚合物的合成与表征

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摘要 用自由基本体聚合方法合成了一种新型的X光显影含糖三元共聚物P(2-IEMA-AcGEMA-MMA). 探讨了单体配比和链转移剂用量对聚合物分子量及其分布的影响, 并用FTIR, ^1H NMR和GPC对其结构进行了表征. 研究表明, 改变单体比对聚合物的分子量几乎不产生影响, 但减少链转移剂用量时, 可明显增加三元共聚物的分子量. 聚合物分子量分布一般在2~3之间, 符合自由基聚合产物分子量分布的一般规律. 聚合物具有良好的显影性, 显影效果随着样品厚度的增加而增强.

关键词 [X光显影聚合物](#) [聚甲基丙烯酸甲酯](#) [含糖聚合物](#) [三元共聚物](#)

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Preparation and Characterization of a Kind of New Radiopaque Sugar-containing Terpolymers

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Abstract A kind of new radiopaque sugar-containing terpolymers of poly[2-(2-triiodobenzoyl)oxoethyl methacrylate-co-2-(2',3',4',6'-tetra-*O*-acetyl- β -*D*-glucopyranosyloxy) ethyl methacrylate-co-methyl methacrylate] were synthesized *via* the radical terpolymerization in bulk. A study was carried out towards the effect of changing the monomer feed ratio and the content of the chain transfer agent on the molecular weight and molecular weight distribution of the terpolymers. Their detail chemical composition and structure were characterized *via* FTIR, ^1H NMR and GPC analyses. The feed ratio change shows a little effect on the terpolymer molecular weight, while the decrease of the content of the chain transfer agent obviously increases its molecular weight. The molecular weight distribution is in a range of 2 to 3, in agreement with the radical polymerization principle. The resulting terpolymers indeed possessed the radiopacity altered with the sample thickness.

Key words [Radiopaque polymer](#) [Poly\(methyl methacrylate\)](#) [Sugar-containing polymer](#) [Terpolymer](#)

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