

研究论文

以含有阿魏酸和没食子酸的PAM纤维诱导制备聚苯胺纳米棒结构材料

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摘要 为了研究化感物质的缓释载体材料, 分别以含有阿魏酸和没食子酸的聚丙烯酰胺(PAM)纤维诱导, 采用化学氧化聚合法, 以苯胺为单体, 过硫酸铵为氧化剂, 分别合成了阿魏酸、没食子酸掺杂的聚苯胺(PANI)纳米结构材料. 通过红外光谱(IR)、X射线粉末衍射(XRD)以及电子扫描电镜(SEM)对掺杂态PANI的结构和形态进行了表征. 结果表明, 所制备材料确为阿魏酸、没食子酸掺杂的PANI. SEM研究结果表明, PANI的形态表现为纳米棒状, 直径在200~300 nm范围内. 另外, 对纤维中酸含量以及不同氧化剂和苯胺单体摩尔比对PANI电导率的影响进行了探讨.

关键词 [聚苯胺](#) [阿魏酸](#) [没食子酸](#) [纳米棒](#)

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Preparation of Polyaniline Nanorods by Allelochemicals Gallic or Ferulic Acid/PAM Fibers

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Abstract In order to study the slow releasing carrier material of allelochemicals, polyaniline(PANI) doped with gallic acid or ferulic acid was prepared via gallic or ferulic acid/PAM fibers. The structure and morphology of the PANI were characterized by IR spectra, XRD patterns, and SEM images. The results indicate that the products were PANI doped with gallic acid or ferulic acid. And the morphology of the PANI nanorods with diameters of 200—300 nm was obtained. In addition, the changes of the PANI conductivity with content variation of acid in the fibers and the molar ratio of APS to An were investigated.

Key words [Polyaniline](#) [Gallic acid](#) [Ferulic acid](#) [Nanorods](#)

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