

水溶性的反式-二苯乙烯基苯型非线性光学材料的合成

李仲辉,夏萍芳,孙康,黄文成

四川教育学院化学系,成都(610041);香港浸会大学化学系香港九龙塘

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摘要 由3, 4, 5-三羟基苯甲酸甲酯经烷基化、还原、氧化和高度立体选择性的 Wadsworth-Emmons反应,合成了两个带六条烷氧基长链的水溶性的反式-二苯乙烯基苯(1a)和(1b),经¹H NMR、MS及元素分析确证其结构。

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Synthesis of water-soluble optically nonlinear materials based on trans-Distyrylbenzene

Li Zhonghui, Xia Pingfang, Sun Kang, Wong Manshing

Department of Chemistry, Sichuan College of Education, Chengdu (610041); Department of Chemistry, Hong Kong Baptist University, Kowloon Tong, Hong Kong

Abstract The 1,4-bis{trans-3,4,5-tri-[2-(2-methoxyethoxy) ethoxy] styryl} benzene (1a) and 1,4-bis {trans-3,4,5-tri-[2-(2-butoxyethoxy) ethoxy] styryl} benzene (1b) of water-soluble optically nonlinear materials have been synthesized by the highly stereoselective Wadsworth-Emmons reaction of the bis-phosphonate with the corresponding 3,4,5-trihydroxybenzaldehydes (2a) and 2b, respectively. The aldehyde 2 was prepared by the alkylation, reduction and oxidation of methyl 3,4,5-trihydroxybenzoate (5). The bis-phosphonate was prepared by the Michaelis-Arbuzov reaction using α , α' -dibromo-p-xylene and triethyl phosphite. All the new compounds were fully characterized with standard spectroscopic techniques.

Key words [DIETHENYLBENZENE](#) [SYNTHESIS](#) [WATER SOLUBILITY](#) [NON LINEAR OPTICS](#) [CHARACTERIZATION](#) [ALKYLATION](#) [REDUCTION](#) [OXIDATION](#) [NUCLEAR MAGNETIC RESONANCE](#) [MASS SPECTRA](#) [ELEMENTAL ANALYSIS](#)

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