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材料物理和化学

二氟亚甲氧基化合物对液晶低温黏度的影响

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摘要:

液晶显示(LCD)的响应速度与液晶材料黏度成反比关系。到目前为止,液晶低温黏度及其低温响应速度对温度依赖性大的问题一直没有解决,成为液晶显示技术与应用发展的瓶颈。文章利用二氟亚甲氧基烷基苯两环液晶化合物作为液晶组分和溶剂,探讨液晶化合物和液晶混合物的低温黏度行为及其对温度的依赖性。实验结果表明:二氟亚甲氧基烷基苯两环液晶化合物不仅能有效降低液晶的低温黏度,减小液晶低温黏度对温度的依赖性,而且可作为液晶溶剂和液晶组分配置液晶组合物,有效地降低液晶材料的低温黏度和减小低温黏度对温度的依赖性。

关键词: 二氟亚甲氧基烷基苯 液晶材料 低温黏度 温度依赖性

Effect of Difluorooxymethylene Alkylbenzene on Properties of Low-Temperature Viscosity

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Abstract:

Response speed of liquid crystal displays(LCD) is contrast to the rotational viscosity of liquid crystal materials. So far, the problem that low-temperature magnitude dependence of viscosity and response time was not been resolved, which has become the bottleneck of development and application of liquid crystal display technology. In this paper, the difluoromethoxymethylene-bridged alkylbenzenes compounds with two aromatic rings were used as liquid crystal components and solvents, to study their behavior of viscosity at different temperature. It was found that compositions not only were super low viscosity and very small temperature dependence, but also can be used as liquid crystal solvent and components to reduce the viscosity and the low-temperature dependence of liquid crystal materials effectively.

Keywords: difluorooxymethylene-bridged alkylbenzenes liquid crystals materials low-temperature viscosity temperature dependence

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