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器件制备技术及器件物理

基于异烟酸酯类衍生物的超分子盘状液晶构建

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摘要： 将异烟酸酯类棒状小分子代替苯乙烯基吡啶作为质子受体;与对称型盘状质子供体间苯三酚形成了氢键复合超分子盘状液晶结构。通过红外光谱和变温红外光谱表征了氢键的存在及稳定性,并通过POM和DSC研究了复合体系的相转变行为,通过变温XRD详细表征了中间相结构。研究表明,酯键代替乙烯基链接键能够在不影响分子间氢键稳定性的情况下降低体系的有序度,从而得到有序度较低的盘状向列相中间相。

关键词： 超分子 氢键 异烟酸 盘状液晶 盘状向列相

Supramolecular Discotic Liquid Crystals Formed by Hydrogen Bonding of Isonicotinic Acid Derivatives

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Abstract: As a proton acceptor, rod-like isonicotinic acid derivatives could form hydrogen bonds with symmetrical disc-like core phloroglucinol and obtain a supramolecular discotic liquid crystal structure. Temperature dependent FT-IR was used to study the thermal stability of the complexes at the aid of DSC and POM, and the phase structures were confirmed by using X-ray diffraction technique. The results show that the ester-linked bond can reduce the order degree of H-bonded system and induce discotic nematic liquid crystals.

Keywords: supramolecule hydrogen bond isonicotinic acid derivatives discotic liquid crystal discotic nematic

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