

论文

载毒死蜱液晶系形成影响因素研究

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摘要:

为探讨载毒死蜱液晶体系形成规律,研究了有机溶剂种类、温度、正构醇碳数及无机盐对液晶相形成规律的影响。结果表明:苯(毒死蜱溶剂)环上取代基,有利于液晶“骨架”的形成及维持;高温导致液晶相形成及消失时,体系含水量均上升;随醇链的增长,体系形成液晶相所需最低含水量增加缓慢,而液晶相消失时的最高含水量则先上升后下降;添加无机盐,体系液晶相消失时所需最高含水量随阳离子水合半径降低而降低,说明液晶相结构易于破坏。

关键词: 毒死蜱 溶致液晶 晶相结构

Study of the effects on the formation of the liquid crystal system loading Chlorpyrifos

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Abstract:

Effects of organic solvents, temperature, n-alcohols and inorganic salt on the formation of the liquid crystal phase were investigated to discuss the formation law of the liquid crystal system loading chlorpyrifos. The results showed that the substituent in the phenyl ring was advantageous to the formation and maintenance of the liquid crystal phase. A high temperature could cause the system water content to rise when the liquid crystalline phase formed and vanished. With an increase of the chain length of n-alcohols, the minimum water content for the liquid crystal formation slowly increased. When the liquid crystal phase vanished, the maximum water content first rose and then dropped. It was found that, by adding inorganic salt, the maximum water content needed for the disappearance of the liquid crystal phase decreased with hydrated radius of positive ions decreasing, which showed that the liquid crystal structure was unstable.

Keywords: chlorpyrifos lyotropic liquid crystal crystal phase structure

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