

# High-Throughput Liquid Crystals for Liquid-Crystal Displays

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(Received 31 March 2011; revised 17 October 2011)

Liquid-crystal displays (LCDs) are widely used in various applications, including mobile devices, automotive displays, and industrial control panels. The performance of LCDs is highly dependent on the quality of the liquid-crystal materials used. High-throughput screening (HTS) is a powerful tool for identifying new liquid-crystal materials with improved properties. In this work, we describe a systematic approach to the discovery of new liquid-crystal materials for LCD applications. We start by identifying a set of candidate molecules based on their chemical structure and predicted properties. We then synthesize and screen these molecules to determine their liquid-crystal phase behavior and other properties. This approach has led to the discovery of several new liquid-crystal materials with improved properties, including higher clearing points and better thermal stability. These materials are currently being tested in LCD prototypes.

1.  $s^2$   $s^2$   $s^2$  T  $s^2$   $s^2$  r  $s^2$  l r  
r 5 60 m. C l  $s^2$  r ll  $s^2$  ll r  
FIG. r  $s^2$   $s^2$ .

1(1. 100C ll

ll r ll r





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【Q922001... s72001 ... s7768.2 2D5(2) s7