

A High-Throughput Method for the Determination of Dispersion Stabilities

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Ink jet pigment-based inks usually consist of sub-micron dispersions in an aqueous-based carrier and are normally stabilised using dispersants that coat the pigment particles so preventing them from aggregating and blocking the print head. The dispersant has two main functions: firstly to efficiently disperse the pigment during manufacture (dispersion) and secondly to retain the finely divided state during storage and use (stabilisation). Using traditional techniques, such as ball milling, the formulation of dispersant, solvent and pigment into a dispersion is a time, energy and material intensive process.

In this paper we describe the development of a high-throughput approach to the synthesis, formulation and evaluation of libraries of polymeric dispersants for use in the manufacture of pigment dispersions. This was achieved using parallel synthetic techniques, ultrasonic processing and image analysis of the resulting dispersions.

Reference

'High-throughput method for determining pigment dispersion stability, *Macromolecular Rapid Communications*, **2006**, *27*, 835-840.