

DYE AGGREGATE FORMATION INITIATED BY INK JET PRINTING

A. Bodell and S. Williams, School of Print Media, axb0743@rit.edu, sawppr@rit.edu.*

Polymethine dyes are unique molecular organic colorants with the inherent special ability to form ordered aggregates useful to the imaging and security printing industries. Such aggregates form under very specific conditions and can be used in a variety of ways. These conditions could be achieved by formulating an ink jet ink that, when deposited onto paper, forms a functional aggregate. The preferred n-mer form of these aggregates, known as J-aggregates, produce a very narrow absorbance band that is bathochromically shifted when compared to the spectrum associated with its monomeric state. This n-mer form, as ink, opens the door to a new form of security printing, as well as, new ways of recording digital information. Research results will be presented that further the goals of using ink jet methods for printing function molecular nanostructures.