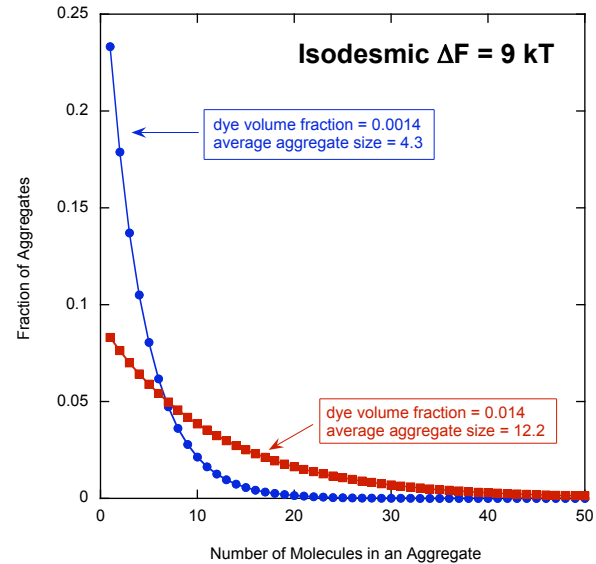


Some dye molecules in solution naturally aggregate into columns. If these columns are concentrated enough, they order into a liquid crystal phase, with the columns tending to align along one direction. Isodesmic aggregation is the leading candidate for this process, *i.e.*, the free energy change for a molecule to join an aggregate is independent of aggregate size. Such a process leads to an exponentially decreasing size distribution.



There is good evidence that in some systems the aggregates have a cross-section of one or two molecules. But other systems possess much larger aggregates, even when the dye concentration is quite low. These larger aggregates can be imaged in a confocal microscope, revealing for one system a length distribution that peaks around 3 μm , rather than the exponential distribution predicted by isodesmic aggregation.

