

A Rational Approach to Nonlinear Optics

조봉래, 고려대 화학과

Organic nonlinear optical materials show considerable potential for applications in optical signal processing, telecommunications, and information storage. Most materials are based on the donor-acceptor substituted dipolar compounds. Various methods have been developed to arrange the dipoles in the solid state in order to achieve maximum bulk nonlinearity. Recently, octupolar molecules have been shown to exhibit large optical nonlinearity. One of the most important advantages of the octupoles over the dipoles is the possibility of the spontaneous arrangement of the molecules in the solid state to exhibit large bulk nonlinearity. This seminar will present the principles, design, synthesis, and the properties of dipolar and octupolar nonlinear optical materials.

