

# Structural Phase Transition and Nonlinear Optical Properties in P-Nitroaniline

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## Description

A considerable number of polar organic molecules have been assessed for applications in nonlinear optics including electro optic modulation, second harmonic generation, three dimensional optical data storage, optical switching and optical limiting. Such materials generally contain donor and acceptor groups positioned at either end of a suitable conjugation path. The magnitude of the nonlinear coefficient increases with increasing length of the conjugation path and also with the charge state of the donor/acceptor groups. P-nitroaniline ( $C_6H_7N_2O_2^+$ ,  $HSO_4^-$ ) is one of the simplest molecules having electron donor and acceptor moieties connected by an aromatic ring. It exhibits pronounced solvatochromism and large NLO properties. These and other photochemical features of p-nitroaniline have long been the subject of various investigations. Single-crystal diffraction experiment was carried out using the ...