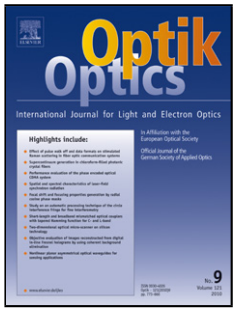

Title: Comments on the paper: 'Growth structural, spectral, optical and mechanical studies of gamma bis glycinium oxalate (GBGOx) new NLO single crystal by SEST method'

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Comments on the paper: 'Growth structural, spectral, optical and mechanical studies of gamma bis glycinium oxalate (GBGOx) new NLO single crystal by SEST method'

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Abstract

The authors of the title paper (Optik, 125 (2014) 1825-1828) claim to have synthesized a new nonlinear optical (NLO) gamma bis glycinium oxalate (GBGOx) crystal by slow evaporation solution technique. In this communication, many points of criticism, concerning the characterization of this so called GBGOx NLO crystal are highlighted to prove that the title paper is completely erroneous.

Keywords: slow evaporation; nonlinear optical; gamma bis glycinium oxalate; characterization; dubious data.

Introduction

Glycine an achiral amino acid, represented by the zwitter ionic formula $^{+}NH_3$-CH_2-COO^{-} exists in three polymorphic modifications namely α- or β- or γ-glycine [1-3]. In accordance with its achiral nature, a majority of the known structurally characterized compounds of glycine are centrosymmetric [4-9]. In spite of this, glycine has been chosen by many research groups as a precursor material for new nonlinear material synthesis. The inappropriate choice of glycine as a precursor for NLO crystal work can be evidenced by the several improperly characterized glycine based compounds, many of which have been extensively commented in the literature [10-22]. The glycine/oxalic acid system has been the subject of recent research and a total of four compounds (Table 1), crystallizing in centrosymmetric space groups are well documented [7-9]. From this reaction system, the authors of the title paper claim to have synthesized a new NLO crystal namely gamma bis glycinium oxalate abbreviated by the code (GBGOx). In the following comment it will be shown that GBGOx is a dubious crystal and the title paper is completely erroneous.