

MOLECULAR ORGANIC CRYSTALS DAST
AND POM IN THE FORM OF A THIN
CRYSTALLINE FILM AND A NANOCRYSTAL –
THE NEW PROMISING MEDIUM
FOR NLO APPLICATION

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S u m m a r y

We investigate the process of synthesis of the “red” crystalline form of DAST nanocrystals both by the precipitation and impregnation methods. We developed the impregnation method of the preparation of DAST nanocrystals in a UV-cured matrix based on the specific intermolecular interaction between DAST and polymer molecules in a supersaturated methanol solution. The method allows one to produce a highly concentrated (up to 30%) nanocrystal-filled transparent composition. The nanocomposite is suitable to produce photonics structures by the soft lithography method. The formation of an anisotropic nanocomposite by use of the oriented polymeric matrix is investigated. The second-harmonic generation in very thin (about 1 micron) layers confirms the high nonlinear susceptibility of this material.