Special Issue

New Hybrid Materials for Nonlinear Optics

Message from the Guest Editor

All SHG crystals of NLO materials should be non-centrosymmetric. The question of how to enforce the crystal structure noncentrosymmetric without engaging intrinsically chiral molecules still seems to be open, but sometimes the creation of weak chemical interaction, such as hydrogen bonds can be deciding about the symmetry of prepared crystals. On the other hand, the influence of hydrogen bonds on the NLO properties of investigated materials is not clear-cut.

Generally, one way is connected with the synthesis of a new inorganic compound, which features relatively low room for improvements of the strength of the NLO effects, but these compounds have very good optical and physical properties such as the growth of large single crystals and durability. On the other hand, the strategy that employs the synthesis of hybrid materials that comprise two parts, organic and inorganic, also gained high popularity.

In the special issue the completely new papers devoted to strategy to merge organic part that may feature high first hyperpolarizability (☒) with an inorganic component which can act as a modifier of the nonlinear response, but also can impart better physicochemical properties.

Guest Editor

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Deadline for manuscript submissions

closed (31 December 2021)

International Journal of Molecular Sciences

an Open Access Journal by MDPI

Impact Factor 4.9
CiteScore 9.0
Indexed in PubMed

mdpi.com/si/56427

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