

## Synthesis of 3-dicyanovinyl- and 3-(2-dicyanomethylen-3-cyano-2,5-dihydrofuran-4-yl)vinylquinoxaline-2-ones

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### Abstract

A method for the preparation of cyano derivatives of 3-vinyl-7-methylquinoxalin-2-ones – compounds of "acceptor- $\pi$ -bridge" type, which are the precursors of new nonlinear optical (NLO) chromophores possessing high values of first hyperpolarisabilities is presented. The synthesis involves the oxidation of *N*-propyl-3,7-dimethylquinoxaline-2-one by selenium dioxide and subsequent Knoevenagel condensation with malononitrile and 2-cyanomethylene-3-cyano-4,5,5-trimethyl-2,5-dihydrofurans (TCF).

Methyl group of 3-(2-dicyanovinyl)-7-methyl-1-propylquinoxalin-2-one was shown to undergo transformation into bromomethyl under the influence of NBS, opening the way to build the conjugated system and the way to synthesis of new push-pull chromophores with high NLO response.