



First Laureate Fundamental Research

Project Title: Preparation of triazolidine diones and their application for the synthesis of novel heterocyclic polymers

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Abstract:

Urazole derivatives (1,2,4-triazolidine-3,5-diones) are very interesting five-membered heterocyclic compounds, which at position 4 can provide a wide variety of aliphatic as well as aromatic constituents. There are only few commercially available urazoles. Much efforts has been directed towards methods development for the synthesis of numerous urazoles. The purpose of this investigation was synthesis and characterization of different urazole derivatives with pigment, photoactive and thermal stability properties. In this work a simple and one-pot method for the synthesis of urazole derivatives was developed. All of the urazole derivatives and polymeric materials from them have potential to be used as anticancer drugs, hypolipidemic activity via lowering both serum cholesterol and triglyceride levels, herbicides, pesticides, insecticides and antifungal. They also could be used for the preparation of polymeric materials, manufacture of heat resistant coatings, tire rubbers with high gripability and melamine resins.

The researcher published more than 223, ISI journal papers.