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Publisher Taylor & Francis

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Journal of Macromolecular Science, Part A

Publication details, including instructions for authors and subscription information: http://www.informaworld.com/smpp/title~content=t713597274

Cyclopolymers and Cyclopolymerization

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To cite this Article Butler, George B. and Kossler, Ivo(1971) 'Cyclopolymers and Cyclopolymerization', Journal of Macromolecular Science, Part A, 5: 1, 1-2

To link to this Article: DOI: 10.1080/00222337108061021 URL: http://dx.doi.org/10.1080/00222337108061021

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Cyclopolymers and Cyclopolymerization

INTRODUCTION

The polymer literature now includes more than 500 papers dealing with cyclopolymerization and cyclopolymers, the first having appeared in 1957. A wide variety of dienes have been shown to undergo cyclopolymerization. In fact, almost all of the 1,6-dienes corresponding to the well-known vinyl monomers have now been synthesized and studied. Many of the corresponding 1,5-dienes which lead to five-membered rings on cyclopolymerization have also been synthesized and studied. In addition, both homopolymers of 1,4-dienes, which lead to bicyclic structures, and copolymers of 1,4-dienes with monoolefins have been synthesized and studied. Essentially all known methods of initiation of vinyl polymerization have now been used in conjunction with specific dienes in cyclopolymerization. In fact, one monomer, 2,6-diphenyl-1,6-hexadiene, has been shown to undergo cyclopolymerization to form essentially the same polymer by anionic, radical, cationic, and coordination initiation.

The 5th IUPAC Microsymposium held in Prague, Czechoslovakia, September 1-3, 1969, was organized to bring together from all parts of the world representatives of research groups working in the area of cyclopolymers or cyclopolymerization for discussion and for presentation of papers. The Symposium was sponsored by the International Union of Pure and Applied Chemistry and the Institute of Macromolecular Chemistry of the Czechoslovak Academy of Sciences. Although some of the authors who presented papers at the Symposium chose to publish their papers elsewhere, this issue includes many of the papers presented. The plenary papers presented at this Symposium will be published in a forthcoming IUPAC Journal of Pure and Applied Chemistry, as is customary.

This issue also includes several papers that were presented at the IUPAC Symposium on Macromolecular Chemistry in Budapest, Hungary, in August,

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1969. In addition, a few papers have been included in this issue which were presented at earlier meetings.

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