

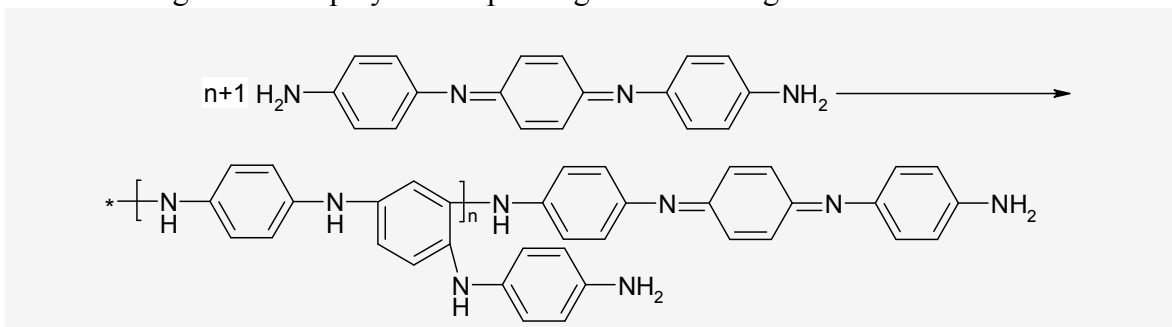
THE SELF CONDENSATION REACTION OF N,N' –BIS(4'-AMINOPHENYL)-1,4-BENZOQUINONE DIIMINE AND INVESTIGATION OF STRUCTURE AND ELECTRIC PROPERTIES OF SYNTHESIZED AND DOPED WITH IODINE COMPOUND

N.Sh. Martikyan, N. A. Durgaryan, A. A. Durgaryan

Yerevan State University Armenia, 375025, Yerevan, A. Manoogian 1,

E-mail- durgaran@ysu.am

Polyaniline and polymers obtained from aromatic amines have a special place among electroactive polymers due to their environmental stability and unique properties [1,2]. We have worked out a new and useful method of synthesizing N,N'-disubstituted quinonedii-
mines using oxidative condensation of p-phenylenediamine(PPDA) in organic medium and particularly, N,N' –bis(4'-aminophenyl)-1,4-benzoquinone diimine was the main product of the condensation of PPDA using molar ratio PPDA/potassium peroxydisulphate 4:1. It was found that with heating the terminal amino and quinone diimine groups of different N,N' –bis(4'-aminophenyl)-1,4-benzoquinone diimine molecules reacted. This is self condensation reaction, which proceeds according to scheme which leads to the formation of oligomers and polymers depending on the heating time.



Obtained compound was oxidized by potassium persulphate. UV, PMR and IR spectral methods we used to prove the structure of obtained compounds. Electric conductivities and conductivity activation energies of both as synthesized and doped with iodine compounds were determined.

References

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2. Xin-Gui Li, Mei-Rong Huang, Wei Duan, Chem. Rev. ,**102**, 2925-3030, 2002.