Radiation Synthesis of Polyaniline Based Compounds and their Potential Applications

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Submitted by

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In the name of Allah, most gracious, most merciful.

All praise and glory to Allah the almighty who alone made this small objective to be accomplished. I feel honored to glorify his name in the sincerest way through this small accomplishment and ask him to accept my efforts. Peace be upon the prophet, his companions and all who followed him until the day of judgment.

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Noha Deghiedy

DEDICATION

To

Soul of my father,

My mother,

Brothers and sister

Thanks for being a part of my life

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ABSTRACT

Polymers are widely used in all walks of human life and play a vital role in shaping modern man's activities to be as important and comfortable as they are today. The advances in science and technology made in recent decades owe much to development of polymer science. The synthesis and design of new polymeric materials to achieve specific physical properties and specialized applications, and attempt to find interesting applications involving advanced structures and architectures, are in continuous development in the period of the polymer science.

Electrically conducting polymers such as polyacetylene, polypyrrole, polythiophene and polyaniline have been the subject of intensive research due to their useful electronic properties and for their application. The factor that has motivated much of the work on the synthesis of conducting polymers is the need to find newer materials having a wide range of physical properties such as flexibility and processibility, and conductivity close to that of metals to suit many technological applications.

In the present work, an attempt has been made to review the most interesting and fascinating aspects of conducting