



Introduction and Synthesis of Conducting Polymers

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Abstract

The conducting polymers have drawn a vital interest of researchers for quite thirty years attributable to their economical importance, superior stability, lighter weight, higher workability, resistance to corrosion and satisfactory electrical conduction. A number of the applications of polymers include: reversible batteries, electro chromic show devices, light weight reflective or lightweight sending appliances for optical info, sensors and storage for glare reduction systems and sensible windows in cars and buildings, compound lightweight emitting diodes, electrical phenomenon devices, transistors, magnetic force shielding against electro-magnetic interferences and various electronic circuits. This paper describes the overall review of Chalcogenide glass. The synthesis of Chalcogenide glass by different method is described in details. This paper also discuss the different apparatus which is used to characterized the Chalcogenide glasses for example XRD, UV-visible spectrophotometer, EDAX analysis, Photoluminescence spectroscopy, dielectric properties Field Emission Scanning Electron Microscope (FE-SEM), Differential scanning calorimetry.

Keywords: Conducting Polymer, Doping, Polyethylene, Polyaniline, Polypyrrole.

References

1. Anderson, P. W. (1958), *Phys. Rev.*, 109, 1492–1505.
2. Ahonen, H. J. et al., (2000), *Macromolecules*, 33, 6787–6793.
3. Burroughes, J. H. et al., (1988), *Nature*, 335, 137-14.
4. Burroughes, J. H. et al., (1990), *Nature*, 347, 539-541.
5. Bolto, B. A. et al. (1963), *Aust. J. Chem.*, 16, 1090–1103.
6. Chiang, C. K. et al., (1977), *Phys. Rev. Lett.*, 39, 1098–1101.
7. Chiang, C. K. et al., (1978), *J. Chem. Phys.*, 69, 5098-5104.
8. Chiang, C. K. et al., (1978), *J. Am. Chem. Soc.*, 100 1013–1015.
9. Chiang, J. C. and MacDiarmid, A. G. (1986), *Synth. Met.*, 13, 193-205.
10. de Surville, R. et al., (1968), *Electrochim Acta*, 13, 1451-1458.
11. de Leeuw, D. M. et al., (1997), *Synth. Met.*, 87, 53-59.
12. Diaz, A. F. (1981), *Chemica Scripta*, 17, 145–148.
13. Heeger, A. J. (2002), *Physica Scripta*, 102, 30-35.
14. Kanatzidis, M. G. (1990), *Chem. Eng. News*, 68, 36-54.
15. MacDiarmid, A. G. (2001), *Synth. Met.*, 125 11-22.
16. Mamunya, Y. P. et al., (2002), *Eur. Polym. J.*, 38, 1887-1897.
17. Mühlaupt, R. (2004), *Angew. Chem. Int. Ed.*, 43, 1054–1063.
18. McMillan, W. L. (1981), *Phys. Rev. B*, 24, 2739–2743.
19. Menon R., et al., (1998), 2nd ed., Skotheim, Inc. New York, 27.
20. Mohilner, D. M. et al., (1962), *J. Electrochem. Soc.*, 84, 3618.
21. Shirakawa, H. et al., (1977), *J. Chem. Soc. Chem. Commun.*, 13, 578-580.
22. Yasui, T. (1935), *Bull. Chem. Soc. Japan*, 10, 305-311.
23. Ziemelis, et al., (1991), *K. E. Phys. Rev. Lett.*, 66, 2231-2234.