

The Properties of methacrylate based gel polymer electrolytes

Jiri Vondrak,¹ Jiri Michalek,² Milan Pradny,¹
Jakub Reiter,¹ Jana Velicka¹ and Marie Sedlarikova³

¹Institute of Inorganic Chemistry, Academy of Sciences of
Czech Republic
Rez near Prague
Rez near Prague, 250 68
Czech Republic

²Institute of Macromolecular Chemistry, Academy of Sciences
of Czech Republic
Heyrovskeho namesti 2
Praha 6, — 162 06
Czech Republic

³Institute of Electrotechnology, Faculty of Electrical Engineering
and Communications, Brno Technical University
Udolni 53
Brno, 602 00
Czech Republic

Gel electrolytes were prepared by radical crosslinking polymerization of various alkylmethacrylates with the addition of the 0.5 M solution of lithium perchlorate in anhydrous propylene carbonate. Methyl, ethyl, butyl and hexyl methacrylates were tested. The amount of added solution was changed within certain limits. The polymerization was initiated by UV irradiation. The electrolytic conductivity in the range down to -50°C and selected chemical, physical and mechanical properties of the samples were investigated. Some of the gels appeared to be fairly freeze resistant and suitable for electrochromic devices.

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