

Preparation of Phospholipid Polymers and their Properties
as a New Biocompatible materials.

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A methacrylate monomer having the phospholipid polar group, 2-methacryloyloxyethyl phosphorylchloride(MPC) was prepared by an improved method with good yield. MPC was copolymerized with n-butyl methacrylate(BMA) and glycidylmethacrylate(GMA). The membrane adsorbed water well and became a hydrogel structure even MPC mole fraction in the copolymer was 0.04. The water content of the hydrogel membrane increased with increase of MPC units and rise of temperature. These properties of the hydrogel membrane were attributed to the highly hydrophilic phospholipid polar group in the copolymer. Water soluble organic compounds and proteins whose molecular weights were below 10^4 permeated through the hydrogel membrane. However, the protein could not permeate when the molecular weight was higher than 10^5 .