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## Chemically Crosslinked N-Vinyl-2-Pyrrolidone/2-Hydroxyethyl Methacrylate (VP/HEMA) Copolymer for the Controlled Release of Cyclic Oligopeptide

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**Abstract:** Crosslinked copolymers of various compositions of N-vinyl-2-pyrrolidone (VP) and 2-hydroxyethyl methacrylate (HEMA) were prepared chemically in the presence of a crosslinking agent. The swelling mechanism was non-Fickian with about 86% conversion of feed composition to crosslinked copolymer. The reactivity ratios  $r_1 = 0.045$  and  $r_2 = 3.07$  for VP and HEMA indicate that HEMA is more reactive than VP in the reaction. Hydrophilicity, hydrophobicity and monomer composition in the copolymer controlled the drug release from the hydrogels.

**Key Words:** N-vinyl-2-pyrrolidone, 2-hydroxyethyl methacrylate, Hydrogels, Drug release

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