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## Preparation of Lidocaine/poly(methylmethacrylate-co-2-hydroxyethylmethacrylate) composite and in vitro application as contact lenses in drug delivery domain

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A series of Lidocaine/poly(methylmethacrylate-co-2-hydroxy-ethyl- methacrylate) (Lid-MMA-co-HEMA) with different monomer compositions was prepared by solvent casting method. Copolymers were synthesized by free radical polymerization in tetrahydrofuran in presence of AIBN as initiator and crosslinked using ethylene glycol dimethacrylate. Copolymers and composites were characterized by differential scanning calorimetry (DSC). The release of Lidocaine from the prepared drug-carrier systems was investigated in neutral pH media, it was revealed from the results obtained that the diffusion of Lidocaine through the copolymer matrix obeys the Fickian model and the dynamic release can be easily controlled through the hydrophilic/hydrophobic character of the MMA/HEMA ratio in the copolymer.

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