

Study of the loading and release of furosemide drug in polyvinylpyrrolidone-polyvinyl alcohol hydrogel

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Abstract: The use of PVA based hydrogels as biomaterials has recently gained great importance in view of the low toxicity, non-carcinogenic, and high biocompatibility by many of them. In this work polyvinylalcohol/polyvinylpyrrolidone (PVA-PVP) cross-linked hydrogels were prepared using K2S2O8 in aqueous media. Then, loading and release of furosemide drug was investigated using polyvinylpyrrolidone-polyvinylalcohol hydrogels. The effects of temperature and pH on the loading and release of furosemide drug in polyvinylpyrrolidone-polyvinylalcohol hydrogels were studied. The results showed that the highest loading of the drug was achieved at room temperature after 6 hours. Also, the highest drug release was observed after 6 hours at room temperature in pH = 8. **Key word:** Furosemide, Polyvinylpyrrolidone, Polyvinylalcohol, Hydrogel, Drug release

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