ChemTech

**International Journal of ChemTech Research**
**CODEN(USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555**
**Vol.11 No.06, pp269-279,2018**

# Formulation and In vitro Evaluation of Solifenacin SuccinateFast Dissolving Drug Delivery Systems

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**Abstract:**The present study was aimed to formulate and evaluate solifenacin succinate fast dissolving drug delivery systems (FDDDs) i.e., fast dissolving tablets (FDTs) and fast dissolving films (FDFs) and comparison of their drug release. Tablet containing drug and excipients were prepared by direct compression and the film by solvent casting method using di-chloromethane and methanol as solvents and HPMC E5 as film forming polymer. Superdisintegrants such as crospovidone (CP), croscarmellose sodium (CCS) and sodium starch glycolate (SSG) alone and also in combinations were incorporated to achieve the aim. Drug excipients interaction studies were carried out by FTIR spectral analysis. The tablets were evaluated for their hardness, wetting time, disintegrating time and dissolution parameters. The film was evaluated for drug content, folding endurance, thickness and in vitro disintegration time. Among all, the tablets having 8% crospovidone met all the evaluation parameters and thus selected as the optimized tablet formulation to compare with film. In vitro drug release of optimized tablet formulation was 95.41% and film was 97.5% in 15 min. Thus film was considered to be the best formulation. We conclude that the fast dissolving drug delivery systems of solifenacin succinate can be successfully prepared which can be a patient friendly dosage form.

**Keywords**: Fast dissolving tablet, fast dissolving film, crospovidone, croscarmellose sodium, sodium starch glycolate, HPMC E5.

**MunagalaGayatriRamya *et al* /International Journal of ChemTech Research, 2018,11(06): 269-279.**

**DOI= http://dx.doi.org/10.20902/IJCTR.2018.110635**

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