

Development and validation of stability indicating lc method for the estimation of Fenofibrate

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A stability-indicating LC assay method was developed for the quantitative determination of Fenofibrate (FFB) in pharmaceutical dosage form in the presence of its degradation products and kinetic determinations were evaluated in acidic, alkaline and peroxide degradation conditions. Chromatographic separation was achieved by use of Zorbax C18 column (250 × 4.0 mm, 5 μm). The mobile phase was established by mixing phosphate buffer (pH adjusted 3 with phosphoric acid) and acetonitrile (30:70, v/v). FFB degraded in acidic, alkaline and hydrogen peroxide conditions, while it was more stable in thermal and photolytic conditions. The described method was linear over a range of 1.0-500 μg mL⁻¹ for determination of FFB (r= 0.9999). The precision was demonstrated by relative standard deviation (RSD) of intra-day (RSD= 0.56 – 0.91) and inter-day studies (RSD= 1.47). The mean recovery was found to be 100.01%. The acid and alkaline degradations of FFB in 1M HCl and 1M NaOH solutions showed an apparent zero-order kinetics with rate constants 0.0736 and 0.0698 min⁻¹ respectively and the peroxide degradation with 5% H₂O₂ demonstrated an apparent first-order kinetics with rate constant k = 0.0202 min⁻¹. The t_{1/2}, t₉₀ values are also determined for all the kinetic studies. The developed method was found to be simple, specific, robust, linear, precise, and accurate for the determination of FFB in pharmaceutical formulations.

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Chromatographic studies of methanolic extract of dried pulp of fruit of gamma irradiated and unirradiated *Citrus limon*

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The methanolic extract of dried pulp of fruit (bio-waste remained after juice extraction) of gamma irradiated and unirradiated *Citrus limon* were evaluated for the presence of primary and secondary metabolites by TLC and HPTLC methods. It was found that both the extract contained steroids and flavonoids. These phytoconstituents were confirmed by TLC with the help of spraying reagents. Methanolic extract of both were subjected to TLC and HPTLC studies to estimate the number of phytoconstituents. Various solvent systems were tried, however good resolution was obtained in ethyl acetate : methanol : water system (4 : 2 : 0.5) for both methanolic extract of radiated *Citrus limon* (MERCL) and methanolic extract of unirradiated *Citrus limon* (MEUCL). TLC showed the presence of three spots in MERCL and MEUCL. The same solvent systems were used for HPTLC studies and the plates were scanned at 254 nm and 366 nm.

Biography

Sonali Munne has submitted her thesis for Ph.D degree in Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur, Maharashtra, India. She has published 7 papers in national as well as international journals and presented 3 posters in conferences.

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