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## Stability evaluation of levosulpiride by RP HPLC method and characterization of its oxidative degradation product by LC-MS/MS

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A rapid, selective and reliable RP HPLC method has been developed for separating levosulpiride from its degradation products and the oxidative degradation product formed was characterised by HR MS/MS analysis. Levosulpiride, the levorotatory enantiomer of the sulpiride is a substantial benzamide derivative. It is chemically N-[[[(2S)-1-Ethylpyrrolidin-2-yl]methyl]-2-ethoxy-5-sulfamoyl benzamide. It is a selective DA<sub>2</sub> receptor blocker at the proximal tract and the chemoreceptor zone. It acts as a prokinetic agent blocking the inhibition and hence allows the cholinergic induced smooth muscle contraction in the myentric plexus. The separation was carried out on a Hibar C18 (250 mm x 4.6 mm, 5μ) column using 10 mM Ammonium Acetate and acetonitrile in the ratio of 20:80% v/v as mobile phase at a flow rate of 1.0 mL/min. The column effluents are monitored by a photodiode array detector at 241 nm. The developed method was validated for accuracy, precision, linearity and range, detection/quantitation limits, specificity/selectivity, robustness and ruggedness. Stress degradation of levosulpiride was performed under acidic, basic, thermal and oxidative conditions. The major degradation product formed under the oxidative condition was isolated by semi preparative HPLC method. The isolated degradation product (LD<sub>1</sub>) was further characterized by HR-MS/MS analysis and the fragmentation pathway was proposed.

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## Formulation and evaluation of herbal oil for the treatment of arthritis

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Rheumatoid arthritis (RA) is a long-term autoimmune disorder that primarily affects joints. It typically results in warm, swollen, and painful joints. Pain and stiffness often worsen following rest. Most commonly, the wrist and hands are involved, with the same joints typically involved on both sides of the body. The disease may also affect other parts of the body. This may result in a low red blood cell count, inflammation around the lungs, and inflammation around the heart. Fever and low energy may also be present. Often, symptoms come on gradually over weeks to months. The concept of use of herbal therapy for the treatment of RA is as ancient as mankind and civilization. Herbal medicine and therapy are now-a-days widely used by the common people because of concept of fewer side effects and with a better safety and security profile as compared to modern allopathic medication. The present work was aimed to formulate herbal oil using various herbs viz., satavari, brahmi, ratanjot, harjod, eucalyptus etc., for the treatment of arthritis. The formulated herbal oil was evaluated and various parameters such as viscosity, saponification value, pH etc., were determined and are reported in this paper.

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