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## Standardisation of safflower tea for rutin

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Carthamus tinctorius (safflower) is a major medicinal plant cultivated by the farmers of India. The petals of safflower are used as herbal tea by Indians and Chinese for the treatment of rheumatism and cardiovascular disorders. Proper standardisation for the bio-active constituents of herbal preparations is essential as per WHO. In view of this, a rapid and specified reversed-phase high performance liquid chromatography (RP-HPLC) method with photodiode array detector (PDA) at 30°C had been optimised for the determination of rutin in safflower tea of two non-spiny varieties. The sample pretreatment involved boiling of safflower petals in water (3×600 ml) for 30 minutes and subsequent filtration through muslin cloth, the filtrate was later concentrated under reduced pressure and treated with 200 ml methanol which was further concentrated and stored. Chromatographic analysis was carried out by Shimadzu UFLC using phenomenex C-18 reversed-phase column (4.6 mm\*150 mm) packed with 5  $\mu$ m diameter particles, the mobile phase used was acetonitrile – water (20:80) containing 2% formic acid and it was run in isocratic mode. The flow rate and injection volume were 0.8 ml/min and 10  $\mu$ l respectively. Rutin eluted at 5.5 min (retention time) at a detection wavelength of 280 nm. The calibration graphs were linear with r<sup>2</sup>>0.98. The simplicity of this method makes it highly valuable for standardization of various flavonoids present in different safflower varieties and can even be used as one of the quality control parameters.

## Biography

Ammeneni Ramya has completed her M.Pharmacy (Pharmaceutical Chemistry) from Osmania University and presently doing her Ph.D. at BITS, Pilani, Hyderabad Campus in the Department of Pharmacy. She worked as a project intern at Hetero Research foundation R&D, Hyderabad during her M.Pharmacy. She is currently working on a UGC- Project from which she is availing a fellowship.

## Antibacterial activity of Hippophae salicifolia berries extract

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The antibacterial activity of plant extracts has been recognized for many years. In the present study, the antibacterial activity of hydroalcoholic extract of *Hippophae salicifolia* berries of family Elaeagneaceae was evaluated against *Escherichia coli*, *Bacillus subtilis, proteus vulgaris* and *Staphylococcus aureus* by agar well diffusion method. The total phenol, flavonoid, tannin and vitamin C content in hydroalcoholic extract of berries was found to be 1.5 mg/g of gallic acid equivalent, 0.14 mg/g of quercetin equivalent, 7.8 mg/g tannic acid equivalent and 28.9 mg/g ascorbic acid equivalent respectively. The berries extract showed MIC of 5 mcg/ml against *Bacillus subtilus* representing significant antibacterial activity and 6.5 mcg/ml against *Staphylococcus aureus* and *Proteus vulgaris* representing moderate antibacterial activity. The results of the agar-well diffusion method showed that the crude hydroalcoholic extract of the berries at a concentration of 8 mg/ml exhibited an antibacterial activity against the test organisms; *E. Coli, B. subtilis, P. vulgaris* and *S. aureus* with a diameter of the zone of inhibition ranging from 12 mm, 14 mm, 12 mm and 12 mm respectively. Phytochemical screening of berries extract of *Hippophae salicifolia* revealed the presence of phenols, tannins, saponins, flavanoids, phytosterols, carbohydrates, and glycosides. The ability of the berries extract of *Hippophae salicifolia* to inhibit the growth of bacteria is an indication of its antibacterial potential which may be employed in the management of bacterial infections.