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Spectrophotometric analysis of *Syzygium jambolanum* olive oil by UV- visible spectrophotometer

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Abstract

Background: Through this research work preparation of Homoeopathic medicated oil by mixing the Jambolanum mother tincture in olive oil to definite drug and vehicle ratio as given by Pharmacopoeia with quality control done by UV- Visible spectrophotometer.

Methodology: The Homoeopathic Medicated oil were prepared by mixing *Syzygium jambolanum* Q in the Base of olive oil as a vehicle i.e 1 part is a Drug and 9 part is a Vehicle.

Results: The absorbance capacity of *Jambolanum* Q is 0.761 at 663.00 nm, *Jambolanum* olive oil is 3.255 at 670.00 nm.

Keywords: *Syzygium jambolanum*, UV- visible spectrophotometer, quality control

Introduction

Diabetes mellitus (DM), which is the main metabolic confusion of the endocrine framework all around the world, is one of the world's most established sicknesses and is referenced in old literatures [1-4]. DM is brought about by acquired as well as procured lack or deficient emission of the chemical insulin (type I or on the other hand insulin-subordinate DM) or because of an insufficient reaction of target cells to insulin (Type II or non-insulin-subordinate DM) or by a blend of these variables that eventually finishes in hyperglycemia. The presently accessible remedial choices, particularly for the non-insulin-subordinate DM, for example, oral hypoglycemics, and insulin, have impediments of their own and are costly. In milieu of these perceptions, many individuals depend upon option and integral medication for the executives of diabetes, and many plants have been seen to be useful [1-4].

Writing study recommends that of the many plants contemplated, *Syzygium jambolanum* (Syn *Syzygium cumini*, *Eugenia cumini*, *Eugenia jambolana*) or dark plum in English is ostensibly one of the most profoundly concentrated on plants. By and large, the Jamun tree was select to the Indian subcontinent yet is right now tracked down developing all through the Asian subcontinent, Eastern Africa, South Africa, Madagascar, and in the hotter areas of the US in states, for example, Florida [2]. The natural products are the main plant part, and a significant number of the informal names like Java plum, Portuguese plum, Malabar plum, dark plum, Indian blackberry, jaman, jambu, jambul, and jambool are credited to the tree due to this [3].

Antidiabetic Effects of Jamun: Preclinical Observations Innumerable preclinical studies in the recent past have shown that the seed of Jamun possesses antihyperglycemic effects in both types 1 and 2 models of DM in rodents [7-16].

Materials and Methodology

Type of study: Analytical Research work

Site of study: CR4D Center of Research & Development of Parul University, Vadodara, Gujarat

Duration of study: (2 weeks)

Investigational tool: UV- visible spectrophotometer (Double Beam)

Medicinal Product: *Syzygium jambolanum* Q

Vehicle: Olive oil

Preparations

Homoeopathic medicated oil were prepared by the mixing Homoeopathic Mother tincture *Syzygium jambolanum* as 1 part in Virgin olive oil as 9 parts, which undergoes into indirect heating by Hot water bath for atleast (15-20) minutes. Afterwards the sample were analyzed under the UV- visible spectrophotometer (Double Beam).

Preparation of Mother tincture *Syzygium jambolanum* (As per HPI Homoeopathic Pharmacopoeia of India)

Measurements: Drug is taken as 1 part and Vehicle is taken as 9 Parts

Heating: Samples were undergoes into indirect heating by Hot water bath for atleast 15- 20 minutes.

Filling: After heating, cool down the temperature and filled into the hard glass sterile bottles.

Labelling

There should be proper labeling paste on the body of hard glass bottles by mentioning the Nam of preparation, Drug content, vehicle proportion, measurements, Date of Manufacturer, Expiry, indications

Storage: Away from sunlight, stored under cool and dark place, away from the strong smelling bottles.

Analysis: Take 3-4 ml samples in Glass cuvete, under UV- visible spectrophotometer (Double beam)

Results

The absorbance capacity of *Syzygium jambolanum* Q is 0.761 at 663.00 nm, *Syzygium jambolanum* olive oil is 3.255 at 670.00 nm

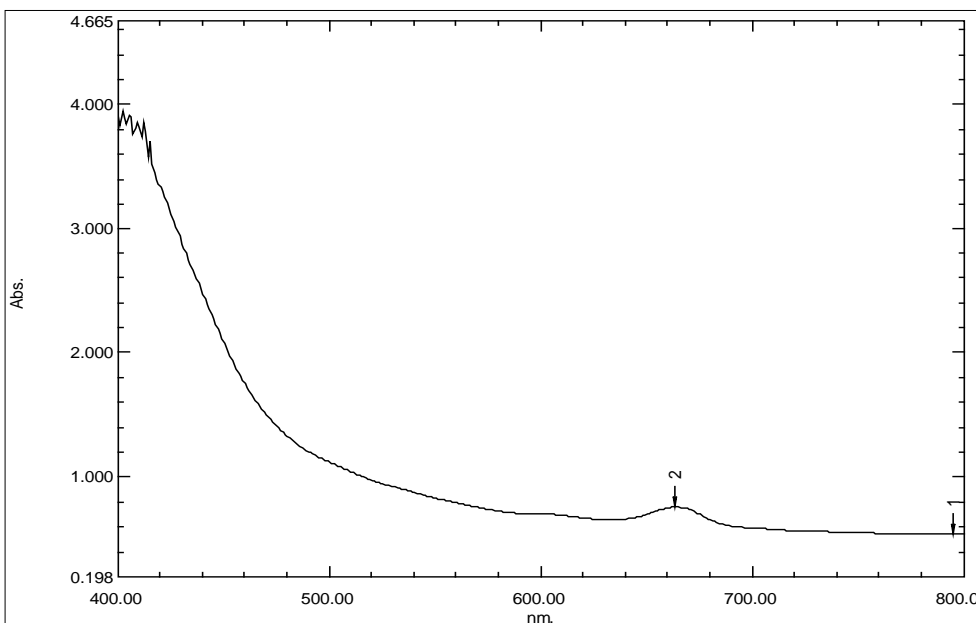


Fig 1: Absorbance capacity of *Syzygium jambolanum* Q

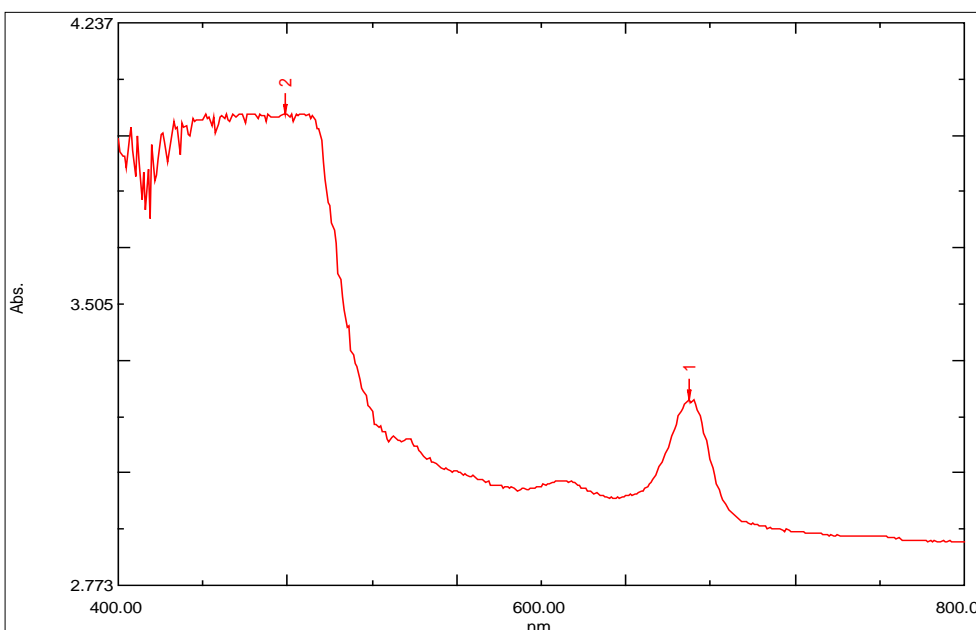


Fig 2: Absorbance capacity of *Syzygium jambolanum* lotion

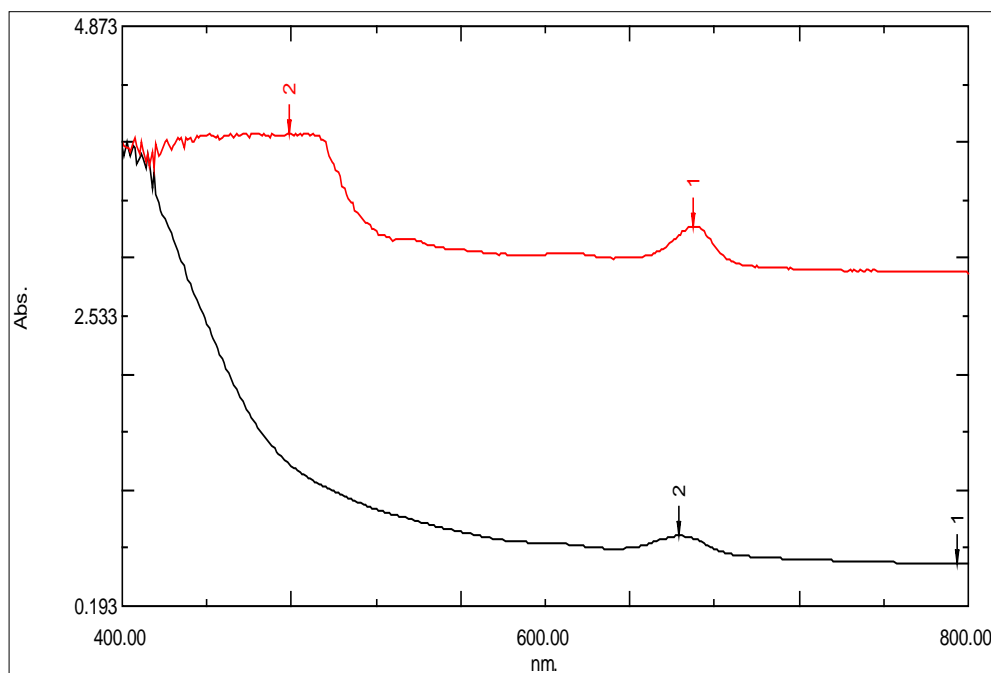


Fig 3: Compare (Overlay) Absorbance capacity of *Syzygium jambolanum* Q and *Syzygium jambolanum* lotion

Conclusion

Through this research work it was found that due to higher viscosity and concentration *Syzygium jambolanum* olive oil gives more absorbance under UV- visible spectrophotometer.

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References

- Mukherjee PK, Maiti K, Mukherjee K, Houghton PJ. Leads from Indian medicinal plants with hypoglycemic potentials. *J Ethnopharmacol* 2006;106:1-28.
- Baliga MS, Bhat HP, Baliga BRV, *et al.* Phytochemistry, traditional uses and pharmacology of *Eugenia jambolana* Lam. (Black plum): A review. *Food Res Int*. 2011;44:1776-1789.
- Warrier PK, Nambiar VPK, Ramankutty C. Indian medicinal plants. Hyderabad, India: Orient Longman Ltd; c1996. p. 225-228.
- Grover JK, Yadav S, Vats V. Medicinal plants of India with anti-diabetic potential. *J Ethnopharmacol*. 2002;81:81-100.
- Helmsta'dter A. Antidiabetic drugs used in Europe prior to the discovery of insulin. *Die Pharmazie*. 2007;62:717-720.
- Helmsta'dter A. *Syzygium cumini* (L.) Skeels (Myrtaceae) against diabetes: 125 years of research. *Die Pharmazie*. 2008;63:91-101.
- Achrekar S, Kaklij GS, Pote MS, Kelkar SM. Hypoglycemic activity of *Eugenia jambolana* and *Ficus bengalensis*: Mechanism of action. *In Vivo* 1991;5:143-147.
- Sharma SB, Nasir A, Prabhu KM, *et al.* Hypoglycaemic and hypolipidemic effect of ethanolic extract of seeds of *Eugenia jambolana* in alloxan-induced diabetic rabbits. *J Ethnopharmacol*. 2003;85:201-206.
- Ravi K, Sekar DS, Subramanian S. Hypoglycemic activity of inorganic constituents in *Eugenia jambolana* seed on streptozotocin-induced diabetes in rats. *Biol Trace Element Res*. 2004;99:145-155.
- Ravi K, Sivagnanam K, Subramanian S. Anti-diabetic activity of *Eugenia jambolana* seed kernels on streptozotocin-induced diabetic rats. *J Med Food*. 2004b;7:187-191.
- Ravi K, Ramachandran B, Subramanian S. Effect of *Eugenia jambolana* seed kernel on antioxidant defense system in streptozotocin-induced diabetes in rats. *Life Sci*. 2004d;75:2717-2731.
- Ravi K, Rajasekaran S, Subramanian S. Antihyperlipidemic effect of *Eugenia jambolana* seed kernel on streptozotocin-induced diabetes in rats. *Food Chem Toxicol*. 2005;43:1433-1439.
- Rathi SS, Grover JK, Vikrant V, Biswas NR. Prevention of experimental diabetic cataract by Indian Ayurvedic plant extracts. *Phyto Res*. 2002;16:774-777.
- Sridhar SB, Sheetal UD, Pai MR, Shastri MS. Preclinical evaluation of the antidiabetic effect of *Eugenia jambolana* seed powder in streptozotocin-diabetic rats. *Braz J Med Biol Res*. 2005;38:463-468.
- Sharma B, Balomajumder C, Roy P. Hypoglycemic and hypolipidemic effects of flavonoid rich extract from *Eugenia jambolana* seeds on streptozotocin induced diabetic rats. *Food Chem Toxicol*. 2008a;46:2376-2383.
- Sharma B, Viswanath G, Salunke R, Roy P. Effects of flavonoid-rich extract from seeds of *Eugenia jambolana* (L.) on carbohydrate and lipid metabolism in diabetic mice. *Food Chem*. 2008b;110:697-705.