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Comparative Study of antioxidant activity on aqueous, ethanolic & petroleum ether extract of passiflora incarnate linn. Flower.

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ABSTRACT
To study and compare the antioxidant activity of aq. ethanol & petroleum ether extract of passifloraincarnate linn. flower powder. Plants belonging to the Genus Passiflora have been commonly used intraditional medicine for a variety of health conditions. The major chemical constituents present in these plantsare identified as carbohydrates, alkaloids, glycosides and tannin compounds. Ferric Reducing Antioxidant Power(FRAP) has been used todetermine the antioxidant activity of passiflora incarnate linn.

This plant was used widely in traditional medicinein West India, Mexico, the Netherland, SouthAmerica, Italia and Argentina. One of speciesof this genus named as Passiflora incarnate ismore popular than its other species. Passifloracontains several compounds includingalkaloids, phenols, glycosyl flavonoids andcyanogenic compounds. In some experiments,it has potential effects for treatment of somediseases like anxiety, opiates withdrawal,insomnia, attention-deficit hyperactivitydisorder and cancer. Passion flower is alsoknown as maypop, apricot vine,passion Vine ,and granadilla. It grows as muchas 30ft(10m) tall, with a thick,woody stem.

TAXONOMY

Kingdom:Plantae–Plants

Division: Magnoliophyta – Floweringplants
Class: Magnoliopsida–Dicotyledons
Family: Passifloraceae – Passion-flower family
Genus: Passiflora L.–Passion flower
Species : P.incarnate L.–Purple Passion flower

Flower extract against gram positive and negative bacteria.

I. INTRODUCTION

Passionflower:

The genus Passiflora consists of 500 species that are mostly found in warm and tropical regions. Passiflora comes from Latin word “Passio” that was first time discovered by Spanish discoverers in 1529 and wasdescribedasa symbol for “Passion of Christ”

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Sr.no	Morphological Characters	Observation
1	Stem	herbaceous or woody,generallyclimbi ng,very rarely arborescent.
2	Leaves	Alternate, sometimessimple, entire, lobed orpalmate, sometimescompound, imparipinnate;stipules germinate at thebase of petioles, rarelyabsent; tendril axillary,arisingfromsterilepedicels.
3	Flowers	bisexual or unisexual,regular
4	Stamens	inserted either at the bottom of the perianth,or at the base or top of gynophore.
5	Seeds	Numerous; funicle dilatedinto a pulpycupuliform or saccatearil;testa crustaceous,foveolate,
		easily separable from the membranous endopleura,whichbearsalongitudi nal raphe
6	Ovary	Superior, more or less stipitate, very rarely sessile, unilocular, of 3–5united carpels Containing several or manyanatropous ovules on parietal placentas

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Chemical constituents:-

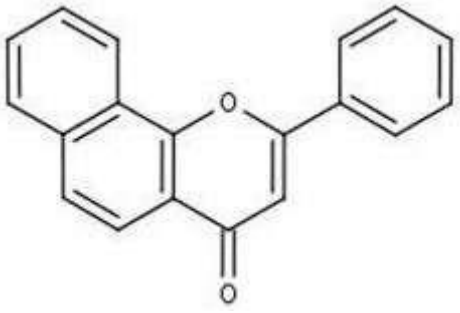
The main chemical constituents of the Passionflower are the flavonoids (0.25%) such asvitexin, isovitexin, orientin, isoorientin,apigenin, kaempferol and quercetin. Theindole alkaloids (0.1%) based on the beta-carboline ring system such as harman, harmin,harmalin, harmoland harmalol. Some other isolated plantconstituents have been identified such asglycosides, carbohydrates, amino acids,benzopyrones, cyanogenic glycosides such asgyanocardin, pyrone derivatives such asmaltol and ethyl maltol. Two importantconstituents like chrysin and tri-substitutedbenzoflavone moiety (BZF) have beenisolated.

Chrysin: C15H10O4 (5, 7-dihydroxy-2-phenyl-(9CI)

Chrysin

Chrysin is a naturally occurring flavonechemically extracted from the blue passionflower (Passifloracaerulea). Chrysin acts as anaromatase inhibitor supplement tobodybuilders and athletes. It has been shownto induce an anti-inflammatory effect, mostlikely by inhibition of COX-2. In rodent in vivostudies, chrysin was found anxiolytic. In herbalmedicine, It is recommended as a remedy foranxiety.Chrysinexhibitedan anxiolyticeffect, which was showed by an increase inlocomotor activity . This effect was linked toGABA benzodiazepine receptors in the brainbecause the anxiolytic effect was blocked byan injection of Flumazenil, which is abenzodiazepine antagonist. Chrysin andapigenin have been shown to inhibit thegrowth of breast carcinoma cells, humanthyroid cancer cells and human prostatetumors.Apigenin is considered antimutagenicbecause itreduces theeffectsofmutagens.

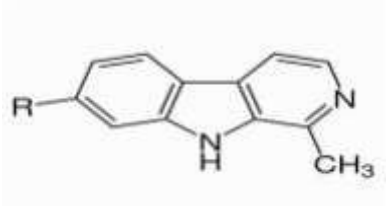
Benzoflavone



The -Naphthoflavone, also known as 5,6-benzoflavone,is a potent agonist of the arylhydrocarbon receptor and an inducer ofdetoxification enzymes as cytochromes P450(CYPs) and uridine 5'-diphospho-glucuronosyltransferases (UGTs) (Chlouchi etal.,2007).

Naphthoflavone is a putativechemopreventiveagent Harmala alkaloids: C13H12N2O (7-Methoxy-1-methyl-9H-pyrido[3,4-b]indole)

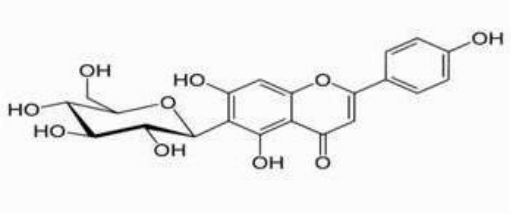
The passiflora family contains small amountsof harmala alkaloids, harmane (passaflorine),and possibly harmine (telepathine),harmaline, harmol, and harmalol. Thepresence of the last four in P. incarnate isdisputed because they are contained in onlyverysmall amounts (0.01%or less)



Isoorientin(Luteolin-8-C-glucoside)

Orientin is a flavone, a chemical flavonoid-likecompound found in the passion flower, theAçaipalmandAnadenantheraperegrina.

Orientin is also reported to be in millets.Isoorientin (or homoorientin) is the luteolin-6-C-glucoside. It can be isolated from thepassion flower,Vitexnegundo, the Açaí palmandSwertiajaponica.



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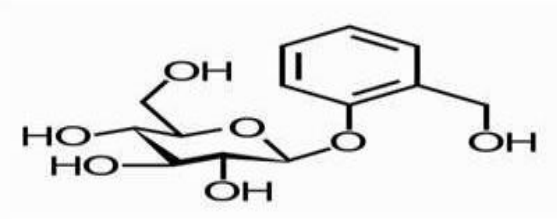
Glycosides

Glycosides are molecules in which a sugar isbound to a Ingale and Hivrale 419 non-carbohydrate moiety, usually a small organicmolecule. Glycosides play numerousimportant roles in living organisms. Manyplants store chemicals in the form of inactiveglycosides which can be activated by enzymehydrolysis (Brito-Arias, 2007). Leaf and stemmaterial of P. edulis contain the newcyanogenic glycosides (2R)–-allopyranosyloxy-2-phenylacetonitrile and (2S)Dallopyranosyloxy-2-phenylacetonitrile , alongwith smaller amounts of (2R)– prunasin, (2S)-sambunigrin. Many different types ofglycosides are present in passion flower suchas apigenin, homoorientin, 7-isoorientin,isoshaftoside, isovitexin, kaempferol, lucenin,luteolin, norientin, passiflorine (named afterthe genus), quercetin, rutin, saponaretin,saponarin,shaftoside,viceninandvitexin.



Otherorganic compounds

Passion flower contains many alkaloids,flavonoids as well as many organiccompounds such as organic acids. This genusis rich in formic, butyric, linoleic, linolenic,malic,myristic,oleicand palmiticacidsaswell as phenolic compounds, and the amino acid -alanine. Some species contain ester such asethyl butyrate, ethyl caproate, n-hexylbutyrateandn-hexylcaproatewhich give the fruits their flavor and appetizingsmell. Sugars, contained mainly in the fruit,are mostly d-fructose, d- glucose andraffinose. Among enzymes, Passiflora wasfound to be rich in catalase, pectin methylesterase and phenolase. Apart fromglycosides, phenols and alkaloids, variousmiscellaneous phyto- constituents which werealsoreportedtobeinP.edulisinclude,EdulansI and II andpectin.

PHARMACOLOGICALASPECTS:

Cannabinoids:

Reversal The newly reported benzoflavone(BZF) moiety from the plant P. incarnate (Linn)has been evaluated in light of traditionalreports on the use of this plant in breakingdown cannabis addiction. In the modern orallopathic system of therapeutics, there hasbeennosuitableremedytocombatthesevere withdrawal effects of various cannabisproducts, including marihuana, marijuana,bhang, hashish, ganja, etc., the world-wideconsumption of which has attained alarmingproportions especially among the youngergeneration. It has been reported that the BZFof P. incarnate, when administeredconcurrentlywithcannabinoids,prevent edthe development of tolerance anddependence of cannabinoids in mice. In thisstudy the mice were given a 10 mg/kg twice-daily dose of delta9-tetrahydrocannabinol(delta9-THC)byoralrouteforsixdaystomakethemdependent uponcannabinoids.

Concurrently, other groups of mice wereadministered delta9- THC along with a 10 or20 mg/kg twice-daily dose of the BZF moietyfromP.incarnateorally for6 days.

Upon measuring locomotor activity during thetreatment regimen, it was noticed that themicereceivingthe

P. incarnate extract and delta9-THC togetherdeveloped significantly less tolerance anddependence,relativetothe micereceiving delta9-THC alone. Even an acuteadministration of the BZF significantly blockedthe expression of withdrawal effects incannabinoid dependence. So these studies,suggested that the BZF may have beneficialroleincannabinoids reversal.

Nicotine

Reversal In light of various reports mentioningthe usefulness of P. incarnate in tobaccoaddiction, studies have been performed usingfour doses (1, 5, 10 and 20 mg/kg) of thebioactive BZF moiety isolated from the aerialparts of P. incarnate. In a 7-day experimentalregimen, mice were given nicotine hydrogentartrate (2 mg/kg) and combinations ofnicotine with four doses of BZF by thesubcutaneous route. At the end of the 7 daysof treatment, naloxone was given to the micefrom all groups to induce a nicotinewithdrawalsyndrome. The mice that had been treated with 10 and20 mg/kg dose of BZF concurrently withnicotine showed a significantly fewer numberof withdrawal jumps relative to the grouptreated with nicotine alone. Separately, in a14-day treatment regimen, mice wereadministered nicotine (2 mg/kg) andcombinations of nicotine with four doses ofBZFbythesubcutaneous route.

Spontaneous physical and behavioural

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signs ofnicotine dependence were observed 3 hoursafter cessation of treatments on the 14th day.Mice administered with combinations ofnicotine and 5, 10 and 20 mg/kg doses of BZF,exhibited less intensity and severity ofwithdrawal effects compared to the micetreated with nicotine alone. Those micetreated with the two highest doses of BZF, incombination with nicotine, showedsignificantly fewer

nicotine-abstinence withdrawal jumps andnormal ambulatory behaviour. BZF treatmentprevented weight loss and resulted in normalperformance in the swimming endurance test,which may be a measure of stress and/ordepression.Similarly,acuteadministrationofas ingle 20mg/kgdoseof BZF preventedsome of the nicotine- withdrawal effects; lowerdoses were almost inert. These studies,although preliminary, suggest that the BZFmay have value in treating nicotine addiction .**AlcoholWithdrawal**

A BZF moiety has been reported recently tobe responsible for the multifarious CNSeffectsof P. incarnate. In the light of the establishedusefulness of the BZF moiety in counteractingthe withdrawal effects of substances likecannabinoids and nicotine by the authors, thebioactive BZF moiety has been tested in micetreated with an addictive dose of ethylalcohol, in order to evaluate its effectivenessin countering alcohol dependence. Thechronicadministrationof P. incarnate with alcohol had betterpreventive effects than the single acutetreatment with P. incarnate in alcohol-dependent mice. These results suggested thatthe treatment of P. incarnate extract could beused as safe and alternative drug for alcoholwithdrawal.

Anticonvulsant

The current therapeutic treatment of epilepsywith modern antiepileptic drugs (AEDs) isassociated with side-effects, dose-related andchronic toxicity, and teratogenic effects, andapproximately30%ofthe patientscontinueto haveseizureswithcurrentAEDstherapy.

Natural products from folk remedies havecontributed significantly in the discovery ofmodern drugs and can be an alternativesource for the discovery of AEDs with novelstructures and better safety and efficacyprofiles. Evidence for anticonvulsant activityof P. incarnate in the clonic seizure ofpentylenetetrazole model has been tested inmice. As the protective effects of P. incarnatein clonic seizure, it suggests that it could beusefulfortreatmentof absence seizure. Furthermore, the important role ofbenzodiazepine receptor in the effects of P.incarnateshouldbe considered.

Antianxiety

Herbal medicines are popularly usedworldwideand couldbeSitasharananoption for treating anxiety if shown to be effectiveand safe. Passion flower extract is one ofthese compounds (35). P. incarnate has beenused to cure anxiety and insomnia since timeimmemorial. A fraction derived from themethanol extract of P. incarnate has beenobserved to exhibit significant anxiolyticactivity in mice using elevated plus-maze(EPM) model of anxiety. The possibility of aphytoconstituent having BZF nucleus as thebasic moiety being responsible for thebioactivityofP. incarnate is highly anticipated

The potential anxiolytic effects of chrysin, aPassiflora extract, and the purportedmodulation of the benzodiazepine receptoron the GABA (A) receptor in laboratory ratshas been tested. It has been hypothesizedthat chrysin decreases anxiety via interactionwith the GABA (A) receptor in laboratory ratsas measured by elevated plus-maze,corticosterone,andcatecholamine assays. Inthisstudy,eachgroupofanimalreceivedan intraperitoneal injection of vehicle (DMSO4%), chrysin, 2 mg/kg, midazolam, 1.5 mg/kg,or flumazenil, 3 mg/kg and chrysin, 2 mg/kg.The EPM was used to evaluate the behavioralcomponent of anxiolysis, and catecholamineand corticosterone assays were examined tomeasure the neurohormonal effects ofanxiety. No statistical difference was foundamong groups in catecholamine andcorticosterone levels. The data suggested thatchrysin may have anxiolytic properties similarto midazolam but to a lesser magnitude at the2mg/kg doseused inthis study (37). Aphrodisiac The isolation of a tri-substituted BZF moiety as the main bioactivephyto-constituent of P. incarnate has been anencouraging breakthrough in elucidating the mode ofaction of this plant, which finds mention inthe ancient ayurvedic medical writings as apromising cure for male- impotence, post-menopausal decline in libido in females,menstrual irregularity, morphinism,alcoholismandtobacco addiction .

BZF speeds up the restoration of sexuality inrats upon cessation of the administration ofsubstances like alcohol, nicotine and alcohol-nicotine combinations, which have

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severedetrimental effects upon male sexuality,fertility andvigour.BZF, thestrongestinhibitor of aromatase enzyme (a member ofcytochrome P-450 enzyme family, i.e.,CYP3A4) prevents the metabolic conversion ofandrogens (testosterone) to its metabolites,thereby, increasing the testosterone levels inthe gonadal tissue, thus, increasing the freetestosterone anddecreasingfreeestrogen.

HORMONAL

The testosterone levels in the plasma have aneffect upon the gonadotropins (luteinizinghormone LH and follicle-stimulating hormoneFSH) which regulate spermatogenesis andmaturation of sperms. BZF, whenadministered concurrently with substanceslike alcohol and nicotine restores sexualvirility, libido and vigour in male rats bymaintaining the blood- testosterone levelshigh (40).The aphrodisiac properties of themethanol extractofleavesof
P. incarnate has been evaluated in mice byobserving the mounting behaviour. So thisstudy suggested that the P. incarnate, maycause sexual desire in human beings as well.

Antiasthmatic

The methanol extract of the leaves of P.incarnate was evaluated for its antiasthmaticeffects against acetylcholine chloride-inducedbronchospasm in guinea-pigs. This may bedue to defective alpha-adrenoceptor functionreported after excessive or continuousadministration of an alpha-receptor agonist .**Antitussive**

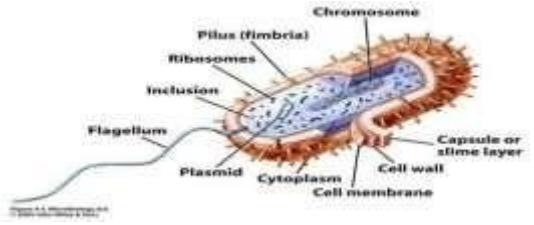
The methanolic extract of leaves of P.incarnate (100 and 200 mg/kg, p.o.) exhibitedsignificant antitussive activity on sulfurdioxide-induced cough in mice, the coughinhibition being comparable to that ofcodeinephosphate.
These results corroborate the folklore claimson the effectiveness of the plant in managing„tough‟coughconditions.Moreover, P. incarnate, that has not been reportedanywhere to possess addiction-liabilities,could present advantages over availablecough-suppressants (opiates, antihistaminic)which, though acting fast, have severaladverse effects including CNS depression,dryness of mouth, blurred vision, severegastrointestinal effects, and burningmicturition.

Further studies are, therefore, necessary toevaluate better the potential of P. incarnateas an effective cough suppressant. AnticancerThe phytochemical composition of passionfruit juice was hypothesized to have valuableanti-cancer activity. Chrysin, a passion flowerextract, may be beneficial because of itspotential to attenuate surgical suppression ofnatural killer (NK) cell activity, therebyminimizingmetastatic spreadofcancer .

Hypertension

Despite improved pharmacotherapies andmechanicaltreatments,cardiovasculardisease remains a principal cause of morbidityand mortality worldwide, with every chancethatthisburdenwillincrease(46).P.incarnate which is an allied species ofPassifloranepalensis has already beenreported to possess antihypertensive effects.The antihypertensive effect of P. incarnate iscontributed due to presence of water solublesubstance isolated as a mercury salt(C10H22O8NHgCl2) (3) and flavonoids. P.nepalensis is used in folklore medicine fortreatinghypertension

BACTERIA



Bacteriastructure:-

The structure of bacteria is known for itssimple body design. Bacteria are single celleda microorganisms with the absence of thenucleus and other cell organelles; hence, theyare classified as prokaryotic organisms. Theyare also very versatile organisms, surviving inextremely inhospitableconditions.

BacteriaUsed

1. S.aureus:

Staphylococcus aureus is a Gram-positivebacterium that typically residesasymptomaticallyintheanteriornaresandthe skin of mammals. Since its discovery in the1880s, it has been recognized as a majoropportunistic pathogen in humans,responsible for various diseases, ranging frommminorskininfectionstoseverebacteremiaand necrotizing pneumonia. Before the era ofantibiotics, the mortality rate of patientsinfectedwithS.aureusexceeded80%.

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1. S.aureus:

2. P.aeruginosa:

Pseudomonas aeruginosa is a Gram-negative,rod-shaped, asporogenous, andmonoflagellated bacterium. It has apearlescent appearance and grape-like ortortilla-like odor. P. aeruginosa grows well at25°Cto37°C, and itsabilitytogrowat42°C helps distinguish it from many otherPseudomonas species. P. aeruginosa is aubiquitous microorganism which has theability to survive under a variety ofenvironmentalconditions.

3. K.pneumoniae:

Klebsiella pneumonia (Friedlander's bacillus) isa rare cause of community-acquiredpneumonia but accounts for a higherproportion of pneumonia acquired in hospital,where patients are more likely to be treatedwith antibiotics that permit this bacterium todominatethepharyngealflora.K.pneumoniaisalsoa particularly
common inhabitant of the oral cavity in thosewith poor dental hygiene and such personsare accordingly at increased risk of Klebsiellapneumonia.

4. S.epidermis:

S.epidermidisisagram-positivebacterium.Its cell wall teichoic acid is formed bypolymerized glycerol, glucose, and N-acetylglucosamine. Staphylococcus epidermidis,normally found on human skin, is capable ofbiofilm formation when it expressespolysaccharide intracellular adhesin (PIA).Production of PIA is a virulence factor that isassociated with S. epidermidis strains found inopportunisticinfections. PhasevariationofPIA can occur by transposition of IS256 intobiosynthetic genes forPIA,icaA, oricaC.

II. MATERIALS&METHODS(EXPERIMENTALWORK)

1. PLANT COLLECTION & EXTRACTIONMETHOD Collectionofflower:-
The fresh flowers of passiflora incarnate werecollected from cultivated farms and the openfields of thane district. Fresh flower wereIdentified and authenticated prior tophotochemical analysis. The flowers wereseparately cut into small bits, and air dried onshadow for two weeks. After dry they Weregrinded into powdered with 1 mm size byusing a Grinder machine before beingsubjected to photochemical screening . Thepowder was stored in air tight container andplacedina cool, dryanddark place.
Powderpreparation:-
The flowers samples were rinsed to discardundesirable particles and the samples

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weredried inside the room by using an electric fanat ambient for five days. Later on, the driedsamples were crushed into coarse powderindividually by using a massive duty blendermachine. The coarse flowers powder samples(300 mg) were poured into the Soxhletapparatus.

Extractionmethod:-

1. Aqueousextraction:-

Materials: - Powdered flowers, Waterdistilled, magnetic stirrer. Magnetic beads.Conical flask.

Procedure:- A properly washed conical flaskwas filled with 250ml of water and accuratelyweighed 30gm of flowers powder was mixedin the flask properly. It was placed on amagnetic stirrer and kept for 48hours. Nowthe whole aqueous extract was separatedusing vacuum filtration (Buchner funnel). Theextract was concentrated by heating directlyand then was finally dried on Hot plate. Abrown colored powder was obtained. Thepowdered extract was collected using ascrapper and was collected and stored in aself-sealablepouch.

2. Ethanol & Petroleumextraction:-Materials: - Powdered flower of passifloraincarnate , Soxhlet apparatus, heating mantle,CottonPlug, Roundbottomflask.

Procedure: - Properly washed and dried theSoxhlet apparatus and filled accuratelyweighted 60 gm. of powdered flower. Thenthe RBF was filled with l50ml of both solventsand fitted with the Soxhlet apparatus. 100mlof solventswas addedtothe thimble directly

.TheSoxhlet extraction was placed on aheating mantle at45-5O0cfor about7 hours.

The extract was then filtered usingsintered glass filter and stored in a conicalflask. The extract was concentrated usingdirectheatWithconstantstirring.

ChemicalTest

Chemical Test	Observation		
	Aqueous	Ethanolic	Petroleum ether
Protein	Present	Present	Absent
Amino acid	Present	Absent	Absent
Alkaloids	Present	Absent	Absent
Glycosides	Present	Present	Present
Flavonids	Absent	Present	Absent
Tannins	Absent	Present	Absent
Steroids	Absent	Absent	Absent
Cyanogenic glycoside	Absent	Absent	Absent
carbohydrate	Present	Absent	Present

AIM:

Using the FRAP test, the scavenging activity of passiflora flower extract was evaluated.

Chemical: Phosphate buffer (monobasic sodium phosphate and dibasic sodium phosphate, 6.6 pH), plant extract concentration 0.1 percent ferric chloride, 10% trichloroacetic acid, and 0.2 M1% potassium ferrocyanide.

• CHEMICAL PROCESS OF MAKING

1. A mixed phosphate buffer with a pH of 6.8

dissolve to make 1000 ml, mix 13.872 g of potassium

dihydrogen phosphate and 35.084 gof disodium hydrogen phosphate with water.

.Store in a cool area.

2. Potassium Ferrocynate, also known as potassium hexacyanoferrate(III) K3Fe(CN)6, is a grade of commercial analytical reagent. Crystal in ruby red.

3. Trichloroacetic acid (Cl3COOH=163.40) is a colourless, very liquescent crystal or crystalline mass with a distinctive, mild to pungent aroma. Its melting point (MP) is about 56 degrees.

Store with light protection.

Produce a trichloroacetic acid solution by dissolving 10g of the acid in enough water.

4. FeCL3 solution at 0.1%

Solution I: Mix 100 ml of hydrochloric acid with the wing of Ng hexahydrate.

Second option: dissolve Potassium ferricyanide in water, 3.5g per 100ml.

Procedure:

1. Take plant extract in different concentrations, 10, 20, 40, and 80. After adding 2.5 ml of phosphate buffer, add 2.5 ml of ferro cyanide at 1%.

2. Combine thoroughly, cover with aluminium foil, and incubate. After 20 minutes of boiling in a water

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bath (at a temperature of 50 degrees Celsius), chill it.
2.5 cc of trichloroacetic acid is added after shaking. After centrifuging, take the upper layer and transfer around 2.5 ml to a new test tube. Add 2.5 ml of distilled water and ferric chloride, and the blue colour will absorb.
Assay for ferrous-reducing antioxidant capacity:
Calculating the antioxidant impactAntioxidant impact (%) = (control absorbance) - (sample absorbance) xl00/(control absorbance).

Antioxidant activity:
Using ascorbic acid as a reference, the FRAP method was used to assess the antioxidant activity of the aqueous, ethanolic, and petroleum ether extracts of the Passifloraincarnata flower.
The aqueous extract's highest antioxidant activity was 96.22 at 80 ug/ml.
The ethanol extract's maximal level of antioxidant activity was 82.83 at 80 ug/ml.
Petroleum ether extract demonstrated the highest percentage of antioxidant activity, which was 97.59 at 80ug/ml.
When comparing the antioxidant activity of the passiflora incarnate flower's aqueous, ethanol, and petroleum ether extracts, it is confirmed that the petroleum ether extract exhibits more powerful antioxidant activity.

1. ResultforAntioxidant:
RecordedunderUVspectrophotometeratawavelengthof 700nm.

%ANTIOXIDANTACTIVITY:

Resultofantioxidant:
Graphicalrepresentationof%antioxidantactivity.

Concentration(µg/ml)	Antioxidanteffect		
	Aqueousextract	Ethanolextract	Petroleumether
10	0.186	0.470	0.463
20	0.178	0.318	0.348
40	0.049	0.316	0.034
80	0.033	0.15	0.021

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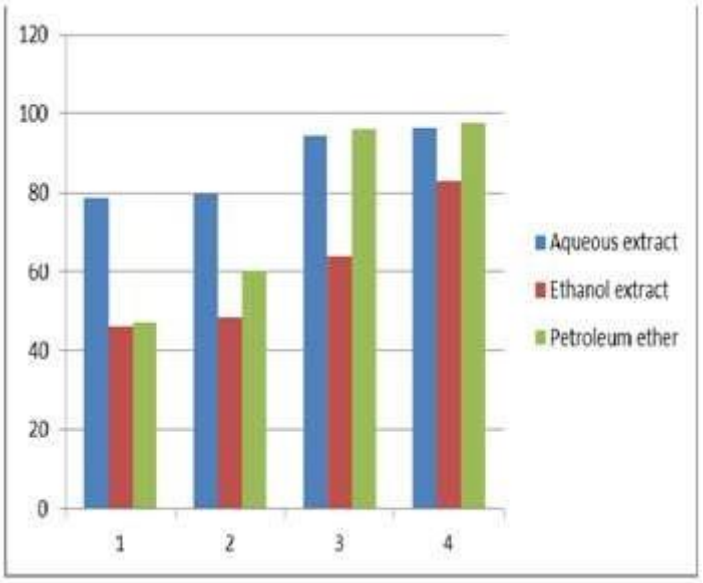
Concentration(µg/ml)	%Antioxidanteffect		
	Aqueousextract	Ethanolextract	Petroleume ther
10	78.71	46.21	47.01
20	79.63	48.58	60.17
40	94.39	63.84	96.16
80	96.22	82.83	97.59



III. DISCUSSION:

1. Chemical test:

Preliminary phytochemical analysis revealedthat the presence of secondary metaboliteslike carbohydrates, protien,aminoacid, alkaloids ,tannin ,glycosides inflower ofpassiflora incarnate.

2. Antioxidant activity:

The scavenging activity of aqueous, ethanol and petroleum ether extract of passiflora incarnate flower extract was determine FRAP method using ascorbicacid as a standard. The maximu m%antioxidantactivitywasshownbyaqueousextractwas 96.22at80ug/ml.Themaximum%antioxidantactivityw asshownbyethanolextractwas 82.83at80ug/ml.Themaximum %antioxidantactivity wasshown by petroleumetherextractwas97.59at 80ug/ml.Whilecomparingthe%antioxidantactivityb etweenaqueous ,ethanolandpetroleumetherextract of passiflora incarnate flower confirms that the petroleum ether extract shows morepotent antioxidantactivityasitshows

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IV. CONCLUSION:

The research mentioned above demonstrates antioxidant properties, while p. incarnate's petroleum ether extract is the only one to demonstrate antibacterial properties.Modern testing and evaluation (pre-clinical and clinical trials) in various medical conditions have proven the medicinal efficacy of P. incarnata, a plant widely employed in Indian system of medicine.

According to these investigations, this natural remedy is a cutting-edge option for drug development and bioprospecting for the treatment of conditions like anxiety, sleeplessness, convulsions, sexual dysfunction, cough, cancer, and postmenopausal syndrome. There are endless opportunities for research into this plant's medical uses and more recent aspects of its function.

Therefore, these plants' phytochemicals and minerals will make it possible to utilise them for therapeutic purposes.

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