Special Extracts from Natural Medicine (raw materials) in Yunnan (II)

11. Rotundine
Rotundine is mainly extracted from tuberous root of stephania of family Menispermaceae and round-leaf stephania and is mainly applied for clinical analgesia and hypnosis.

12. Cepharanthine
Cepharanthine is mainly extracted from tuberous root of oriental stephania root of family Menispermaceae. It can promote bone marrow hyperplasia so as to increase white blood cells and is applied for leucopenia. It can increase white blood cells in peripheral blood. It is found in animal experiments that it has an obvious effect to prevent leucopenia caused by mitomycin without prejudice to mitomycin’s cancer-fighting effect. Its function mechanism is to promote bone marrow hyperplasia and thus increase the number of white blood cells. It can be used for the treatment of agranulocytosis caused by cancer chemotherapy and radiation therapy and leucopenia caused by other reasons.

13. Helicid
Helicid is extracted from fruits of agapetes of family Proteaceae. In its chemical structure, there is the monomer glycoside similar to that in gastrodin. The pharmacological and clinical studies show, helicid has a similar effect as gastrodin on central nervous system, but it has a stronger effect on mitigation, sleeping and pain alleviating than gastrodin. It produces effect quickly for the treatment of headache, dizziness and sleep disorder caused by neurosis, usually taking effect 3-7 days after using the medicine. It also has certain curative effects for primary headaches. It is clinically applied for migrating headache, dizziness and sleep disorder caused by neurosis and for auxiliary treatment of primary headaches.

14. Alstonia total alkaloids
Extracted from leaves of Alstonia scholaris of family Apocynaceae. It is usually used by minority people in Guangdong, Guangxi and Yunnan provinces. It can relieve a cough and reduce phlegm and is mainly applied for the treatment of chronic bronchitis,
cough and others. Modern research shows that many kinds of indoles alkaloids contained are its main effective components.

15. Scoporia acutangula extract
It is made of Scoporia acutangula of hyoscyamus in the nightshade family and Anisodus luridus growing in Yunnan and Tibet. Roots, stems, leaves and seeds of the two kinds of plants have been used as medicines for hundreds of years in Yunnan. It can relieve pain by anesthesia, expel wind and remove damness. It is mainly applied for the treatment of fracture, injuries from falls, joint pain, stomach-ache and gall pain, kidney pain and intestinal angina. The total alkaloid in dry product is up to 1.2%. It is the special resources plant in China producing tropane alkaloid.

16. Palmatine
It is calamus margaritae (fibraurea recicsa) of the family Menispermaceae with the active ingredient of palmatine chloride monomer, i.e., palmatine. It has broad spectrum bacteriostasis and antivirus functions, multiple-pharmacology to obviously increase the number of white blood cell engulf bacteria, good anti-inflammatory effect and the body immunity enhancement function.
Clinically: it can be used for the treatment of gynecological diseases, such as acute or chronic annexitis, acute or chronic pelvic inflammation, acute or chronic cervicitis, endometritis, vulvitis, acute or chronic vaginitis, colpitis mycotica postpartum infection, etc.; it can be used for the treatment of digestive system diseases, such as acute or chronic bacillary dysentery and acute or chronic enteritis; it can be used for the treatment of respiratory system diseases, such as the upper respiratory tract infection, influenza, acute or chronic tracheitis, pneumonia and tonsillitis; it can be used for the treatment of urinary tract diseases, such as urinary tract infection and testitis; it can be used for the treatment of surgical diseases, such as acute or chronic appendicitis, biliary infection and trauma infection; it can also be used for the treatment of conjunctivitis and other eye diseases.

17. Berberine chloride dydrate
Berberine chloride dydrate is a kind of important alkaloid and has a long history being used as a drug in China. It may be extracted from rhizoma coptidis, cortex phellodendri, barberry and other plants. It has a remarkable bacteriostasis effect. The commonly used halomine is also known as berberine hydrochloride. Berberine chloride dydrate can resist
pathogenic microorganism and can inhibit a number kinds of bacteria, such as dysentery bacillus, tubercle bacillus, pneumococcus, typhoid bacillus and diphtheria bacilli, among which, it has a very strong inhibition to dysentery bacillus and is commonly used to treat bacterial gastroenteritis, diarrhea and other gastrointestinal diseases. Modern pharmacology study confirmed that berberine chloride dydrate has significant resistance to heart failure and arrhythmias; it can lower cholesterol, resist vascular smooth muscle growth and improve insulin resistance; it is antiplatelet and anti-inflammatory. Thus, it may have wide and important application prospects in the treatment of cardiovascular system and nervous system diseases. In addition, it also has a significant effect on the treatment of diabetes in combination with other drugs so that it is more and more concerned. Berberine chloride dydrate is also widely applied in animal remedy and other fields.

18. Colchicine
Colchicine is extracted from colchicum of the lily family so that it was named after colchicum. Later, arrowhead growing in Lijiang was found with a higher content of colchicine and thus it became the main raw material for colchicine extraction. Colchicine is mainly used for acute gout but is invalid to general pain, inflammation or chronic gout.

19. Draconis sanguis
Draconis sanguis is resin of fruits and stems of resina draconis of family palm. It can promote blood circulation to remove blood stasis, relieve pains, stop bleeding and promote tissue regeneration. Currently, domestic draconis sanguis is mainly resin of swordleaf dragon tree in lily family or Cambodia dragon tree. Import draconis sanguis is quite rare. Indications: (1) congestion, amenorrhea, dysmenorrheal and postpartum stasis resistance; (2) gynecological mass, abdomen lump, angiographic tingle; (3) injuries from falls, hemostasis swelling pain; (4) injury bleeding and ulcer.

20. Aloe extract
Currently, aloe is planted in large area in Yunnan. Aloe extract is mainly used to: (1) treat constipation, gastrointestinal dysfunction and halitosis to eliminate constipation, expel toxin and lubricate the intestines; (2) women beauty treatment to increase the elasticity of the skin, retain skin moisture, eliminate splash, acne, acne and reduce the wrinkle; (3) acute and chronic gastritis and duodenal ulcer to promote healing; (4) resist electromagnetic radiation,
protect cells, enhance immunity, neutralize the effect of alcoholic drinks and protect the liver.

21. Artesunate
No matter for the research and development or the production of artesunate, Yunnan should be considered as a forthgoer with certain influence in this field. Currently, it is mainly applied as effect antimalarial drug. Meanwhile, it also has anti-leukemia and immune adjustment function.

22. Notoginseng triterpenes
Notoginseng triterpenes is the main active ingredient extracted from Notoginseng above the ground (mainly for the leaf) by modern extraction and separation technologies. Comparing with Notoginsenoside R1, Notoginseng triterpenes is mainly composed of Rb family compounds. It can act as a tranquillizer, reduce blood fat, resist arrhythmias; it is anticoagulant and anti-aging and can enhance immunity.

23. Tea polyphenol
Extracted from tea (or waste or pool quality tea). A lot of waste tea will be generated every year in Yunnan, thus providing adequate raw materials for tea polyphenol production. Tea polyphenol has very wide applications: 1. anticancer; 2. preventing cardiovascular diseases; 3. improving people’s comprehensive immunity ability; 4. other health care treatment efficacy, including (1) the resistance of lipid peroxidation, aging prevention; (2) treatment for heavy metal salt and alkaloid poisoning; (3) preventing of radiation damage and reducing the adverse reaction of radiation; (4) preventing decayed tooth and removing halitosis; (5) digestion aiding; (6) helping beauty &skin care.

24. Tobacco absolute/ nicotine/ solanesol
They are products extracted from tobacco (usually by tobacco scraps or waste tobacco leaf and smoke bar) with different effects and purposes. Tobacco absolute is a kind of essence product mainly used in cigarette and daily use chemicals.

Nicotine, i.e., nicotine, is widely used in medicine, pesticide, chemical industries, etc..
Solanesol is mainly used as an important pharmaceutical intermediate for the synthesis of coenzyme Q10 and vitamin K2.
25. Kunmingshan crab apple extract
Kunmingshan crab apple extract is the root of celastraceae Kunmingshan crab apple. It can expel wind and remove dampness, invigorate blood circulation and stop bleeding, relax muscles and set a broken bone, detoxify and kill insects. It is mainly used to deal with rheumatism, hemiplegia, pain of hernias, dysmenorrheal, menorrhagia, postpartum tormina, haemophilia and acute infectious hepatitis.

26. Tanshinone extract
Main index ingredient of tanshinone extract is tanshinone IIa. In Lijiang and other areas in the western Yunnan, there are rich reserves of Salvia przewalskii of which the content of tanshinone IIa is more than twice of that in Salvia miltiorrhiza so that it is good resource for tanshinone extract.

27. Grape seed extract
Grape seed extract is a kind of new high efficiency natural antioxidant material extracted from grape seeds that can not be produced in human body. It is currently natural substance with the strongest antioxidant and free radicals scavenging effect. Its antioxidant activity is 50 times of Vitamin E and 20 times of Vitamin C. It can effectively remove redundant free radicals in body and has extremely high effect on resisting aging and improving immunity function. It can resist oxidation, resist hypersusceptibility, resist fatigue, build up health, improve subhealth state, delay senility, improve problems of irritability, dizziness, lack of power, memory deficits and other symptoms.

28. Hemsleyadin
Hemsleyadin is extracted from root of radix hemsleyae (largeseed hemsleya root) of the family Cucurbitaceae. Its main ingredients are Hemslecin A (Dihydrocucurbitacin B) and Hemslecin B (Dihydrocucurbitacin F), Hemslecin A accounting a large proportion. Hemsleyadin can carry away heat and toxic materials, resist bacteria and eliminate inflammation, reduce swelling and alleviate pain. It has significant antibacterial effect. It can inhibit Pfeiffer's bacillus, hemolytic streptococcus, staphylococcus aureus, typhoid bacillus, Salmonella choleraesuls and tubercle bacillus with different degree of effect at the concentration of 0.1mg/ml; comparing with chloramphenicol, it has similar function with chloramphenicol for the same concentration; it has better inhibiting effect than chloramphenicol for typhoid bacillus, Shigella shigae and staphylococcus aureus; it is
preliminarily determined to be an alternative of antibiotics. It is clinically used for the treatment of bacterium dysentery, enteritis, bronchitis, acute tonsillitis, etc..

29. Scutelloside
Scutelloside is kind of flavonoid compound extracted from the root of scutellaria. With remarkable biological activity, it has effects of bacteriostasis, diuresis, anti-inflammatory, anti-metamorphosis and spasm relieving. Besides, it also has strong antitumor reaction and other physiological efficiency. It has occupied an important position in clinical medicine. In addition, Scutelloside can absorb ultraviolet ray, remove oxygen free radicals and inhibit the generation of melanin so that it can be used both for medicine and cosmetics as a kind of very good functional hairdressing cosmetic raw material. Clinically, it is mainly used for the treatment of infectious hepatitis, acute biliary infection and lead poisoning.

30. Dendrobium polysaccharides
Five varieties of dendrobium for medicine are included in the Pharmacopoeia of the People's Republic of China (2000), namely, Dendrobium loddigesii Rolfe, Fimbriate Dendrobium Stem, Goldenflower Dendrobium Stem, Dendrobium candidum Wall.ex Lindl and Dendrobium nobile, but in fact, there are many other varieties also being used as drugs. Some others are also used as raw material for extracting some of their indigents. Some of them are usually exported to southeastern Asia, Europe and America areas. They are used for the treatment of heat consuming body fluid, excessive thirst, red tongue with thin coating, deficiency of stomach-Yin, thirst and dry throat, inappetence, stomachache, thin coating of tongue, deficiency of the kidney-Yin and weak vision.

31. Bulleyaconitine A
Bulleyaconitine A has good anti-inflammatory analgesic action and it suitable for the treatment of pain in the terminal stage of the cancer, rheumatism and rheumatoid arthritis, periarthritis of shoulder, pains of shoulder and arm, stiff neck, osteoarthritis, benign joint pain, waist and limbs joint sprains, etc.

32. Gastrodin
Gastrodin is a kind of safe sedative medicine. It can relieve dizziness, relieve pain, help
people to keep calm, promote sleeping, resist convulsion, resist epilepsy, improve cardiovascular function, protect neural, promote the energy metabolism of myocardial cell and have other pharmacological effects. It can be used for the treatment of neurasthenia, neurasthenia syndrome, vascular nervous headache and other diseases (such as migraine, trigeminal neuralgia, occipital big neuralgia, etc.). It can also be used for the brain injury vertigo syndrome, staggers, such as the Meniere's disease, medicinal dizziness, vertigo, sudden deafness, traumatic vestibular neurons inflammation, vertebrobasilar ischemia, etc.

33. **Spirulina**
Spirulina can resist aging, resist oxygen deficiency, resist fatigue, resist radiation, adjust blood-fat, adjust immune and inhibit tumor. It is mainly applied in hyperalkaline food in which the rich alkaline minerals (particularly kalium and calcium) can maintain the balance of PH value in blood, lower cholesterol and relieve of reduce the chance of high blood pressure and heart disease; it can effectively improve symptoms of stomach trouble and resist all kinds of diarrhea and constipation; it can prevent and cure anemia with 1.5 times of carotenoids content of that in carrots, 4 times of vitamin B12 content of that in pig liver and 23 times of iron content of that in spinach; it contains linolenic acid that can not be generated by human body which can facilitate fat metabolism, prevent blood clots, effectively resist cardiovascular and cerebrovascular diseases, prevent fatty liver and cirrhosis, lower blood sugar and prevent diabetes; it can prevent damage to kidney by tranquillizer, antibiotics, carcinostatic agent and others; it can reduce toxicity to kidney by mercury and the drug to protect human body from heavy metal poison; besides, it also has effects of weight losing, beautification, acne and chloasma removing and anti-aging.

34. **Astaxanthin**
The two main functions of astaxanthin are the super oxidation resistance and anti-inflammation. It can protect eyes and the central nervous system, prevent UV radiation, prevent cardiovascular disease, enhance immunity, alleviate sports fatigue, enhance the body's energy metabolism, resist inflammation and infection and inhibit tumor.

35. **L-dopa**
L-dopa is the monomer material extracted from Mucuna pruriens var.utilis of bean family. It enters brain tissue through blood brain barrier to take effect. It can be applied for the treatment of primary paralysis agitans and non-medical primary paralysis agitans.
36. Reserpine
Exists in a variety of plants of devilpepper family with the highest content in Rauvolafia vomitoria up to 1%. Rauvolafia vomitoria now can be planted in mass in Xishuangbanna, Simao and other places.
Reserpine is a kind of adrenergic neurons block antihypertensive agent. While lowering the blood pressure, it can also reduce the heart rate. With slow, gentle and long-lasting effect, it can stabilize the central nervous system for long time as a kind of good sedative medicine.

37. Fructus Phyllanthi
The fresh fruit of Fructus Phyllanthi tastes crisp, sweet, sour and a little astringent, leaving sweet flavor in mouth after swallowing. It has unique medicine value. Early in the Ming Dynasty, Fructus Phyllanthi was recorded in the Compendium of Materia Medica of Li Shizhen that “you may feel relaxed after taking it for long time and it prolong your life”. According to the modern pharmacology study, Fructus Phyllanthi contains a variety of vitamins, amino acids, tannic acid, and minerals. It is identified by the state Ministry of Health to be the homology of medicine and food. Its unique antibacterial, antiviral, anti-aging and anti-aging effects are highly promoted by the beauty field. Recently, a famous domestic medical pharmaceutical company has successfully promoted the N.G whiten and beverage removing unit with Fructus Phyllanthi extract as raw materials.

38. Hibiscetin
Hibiscetin is the phenolic pigment extracted from the eggplant of rose. It is safe for eating and can reduce flower, lower the evil fire, diminish inflammation and detoxify. It is usually used for the coloring of sugars, dried fruit, jam, beverage and other food.

39. Lac dye
Lac dye, also known as lac color, is a kind of pigment contained in the virgin rubber secreted by lac inset on parasite plant. It can be used for the coloring of fruit and vegetable beverage, syrup, lactic acid drinks, tomato products, jam, cold drink, glue sugar, candy, ham, sausage, fish cakes and baking food for red coloring. It is most suitable for the coloring for drinks, candy and jelly free from protein and starch.

40. Radish red
It is extracted from red-core radish. It can increase food flavor and nutrition and is used for
the coloring of beverage, wine, tin cans, glazed fruit and other food.

41. **Dark reddish brown**
It is decocted from white sugar, also known as caramel. As a traditional natural pigment, it is mainly used for the production of canned foods, beverage, candy, soy sauce, chocolate and others.

42. **Safflower oil**
It is a kind of traditional Chinese medicine for external use with effects of promoting blood circulation, wind dispelling, rigidity and pain relieving. It is usually used for the treatment of rheumatism bone pain, numbness, kid crazes, mosquito bites, pathogenic headache, itchy skin and other diseases.

43. **Eucalyptus oil**
It is a kind of essential oil extracted by steam distillation and fine processing from leaves and branches of blue ash and eucalyptus trees. Eucalyptus oil has sterilization effect and is widely used in pharmaceutical products. It can also be added in cough syrup, glue confection, gargle, toothpaste, the air fresher and others for adding fragrance. It can also be used as raw material for the synthesis of other spices. The dressing of some precious metal ores also needs it.

44. **Citronella oil**
Citronella oil, also known as grass oil, is extracted from citronella grass through steam distillation with main ingredients of citronellal, geraniol and citronellol. It can be used for the extraction of citronellal, the synthesis of laurine, geraniol and menthol. It can also be added in pesticide, anophelifuge and soap spices.

45. **Tree moss absolute/extract**
Two kinds of spices extracted from tree flower with unique flavor of liverwort and rich resin flavor. They are usually used for fragrance fixation. Currently, almost all tree moss absolute and extract are produced in Yunnan.

46. **Star anise oil**
It is a kind of volatile oil extracted from fresh leaves, branches or mature seeds of star anise through steam distillation. It is used as raw material for the preparation of candy, toothpaste,
seasoning, imported wines, drugs and synthetic anisic aldehyde. For medical use, it mainly has the effect of promoting digestion and the improvement of inappetence. After essential oil extraction, dregs of a decoction can be used for the extraction of shikimic acid.

47. Radix saussureae lappae oil
It is a kind of advanced essential oil product extracted from radix saussureae lappae, mainly applied for seasoning, cosmetic products, health care, medicine and others.

48. Turpentine
Turpentine takes pine trees rich in pine resin as the raw material. Yunnan pinus khasys is a kind of main resource. It is mainly used for the synthesis of spices, camphor, borneol, terpine resin, pesticides, hormones, repellent, air fresher, senior lubricant, etc.. There are up to 1000 varieties of its synthesis products. Currently, Turpentine has become an important source of renewable raw material for the fine chemical industry. Besides, it is also widely applied in health care and medicine industries. As a kind of skin irritation medicine with strong penetration, it can penetrate into deep tissue to play the stimulation role, promote the blood circulation and also play the disinfection role. It can treat rheumatoid arthritis, have sterilization function and treat idemic encephalitis bacteria, bronchitis and other diseases. Besides, it can also relieve muscle or joint pain.

49. Bay oil
Bay oil is extracted from rose pelargonium mainly produced in Binchuan, Yunnan Province. Bay oil is one of the important kinds of essential oil applied in the flavor industry and is widely applied for the production of perfume, soap, cosmetics and other use in daily chemical products. It may also be used in food and tobacco in small volume.

50. Litsea citrata oil
Litsea citrata oil is a kind of important essential oil used in the flavor industry. It is obtained from fruits of cubeb litsea tree through steam distillation. It is usually used for the preparation of citral and the synthesis of ionone spices and vitamins. It can be sued directly used as cosmetic fragrance and edible fragrance and can be used in the air fresher for flavor regulation.
51. Camphor wood oil
Camphor wood oil is a kind of spice obtained through extraction, processing and distillation from leaves and branches of camphor trees. It is an important chemical raw material and is also applied in medicine, cosmetics and other industries.