

A Study on Tree-based Medicinal Substances and Multi-Ethnic Integration in the *Wuti Qingwen Jian*

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Abstract: The *Wuti Qingwen Jian* is a dictionary composed of five languages: Manchu, Chinese, Mongolian, Tibetan, and Uighur. This dictionary not only contains rich content, but also has historical, academic, and practical value. This paper conducts a comparative study on tree-based substances in the *Wuti Qingwen Jian* using modern medicinal works such as Chinese Mongolian Medicine Materia Medica, textbooks such as Mongolian Medicine and Mongolian Prescription Studies, among others. The results show that the *Wuti Qingwen Jian* records 168 types of trees, of which 37 are used in Mongolian medicine, spanning 27 families and 37 genera. Based on parts used for medicinal purposes, the breakdown is: bark (22%), resin (6.5%), seeds (10.91%), fruits (17.4%), seed kernels (4.3%), trunk (2.1%), leaves (8.7%), branches (10.9%), buds (4.3%), heartwood (4.3%), roots (4.3%), fruit peels (2.1%), and seed shells (2.1%). In terms of efficacy, 11 tree species are used to expel yellow water, 17 species are used for clearing heat, and 6 species have pain-relieving properties. In terms of main treatments, tree-based medicinal substances are mostly used for treating yellow water diseases, febrile diseases, and skin diseases. From the perspective of frequently used Mongolian medicine formulas, 22 tree species recorded in the *Wuti Qingwen Jian* are included in Mongolian proprietary medicines. After organizing and analyzing the 168 tree species recorded in the *Wuti Qingwen Jian*, 37 tree-based medicinal substances were identified. The records of these medicinal plants not only reflect the history of interactions, integration, and exchanges among the Han, Mongolian, Tibetan,

Manchu, and Uighur ethnic groups but also demonstrate the proactive attitude of ancient Chinese scholars toward medicinal plants.

Keywords: *Wuti Qingwen Jian*; Tree-based Medicinal Substances; Ethnic Groups; Integration; Research

1. Introduction

The *Wuti Qingwen Jian* is a dictionary composed of five languages: Manchu, Chinese, Mongolian, Tibetan, and Uighur [1]. It is not only rich in content but also holds historical, academic, and practical value [2]. Its value is particularly notable in the study of minority languages. The dictionary is a shared cultural heritage of the peoples of China. This article was written during the late reign of Emperor Qianlong of the Qing Dynasty (1795) and consists of 6 cases and 36 volumes. It is beautifully handwritten on Xuan paper with ink, but not engraved. In 1957, the Minority Publishing House published a photostatic copy of the original in three volumes. The work contains a table of contents, divided into cases, volumes, sections, and categories. It includes 50 sections, such as Heaven, Earth, Emperor, Imperial Edicts, Government, Politics, Rites, Music, Academia, Martial Skills, People, Monks and Daoists, Oddities, Medicine and Sorcery, Arts, Dwellings, Industries, Fire, Fabrics, Clothing, Utensils, Construction, Ships, Carriages, Food, Grains, Fruits, Grasses, Trees, Flowers, Birds, Beasts, Livestock, Scales and Shells, Insects, etc. [1]. This dictionary provides valuable and useful evidence for studying China's economic development, productivity, social relations, social system, education, social customs, national unity, and cultural interrelation. Of

course, it extends far beyond the scope of linguistics and serves as a precious research subject in fields such as history, sociology, ethnology, medicine, and other disciplines [2]. The dictionary records 168 types of trees, of which 37 are used in Mongolian medicine, with detailed descriptions of each tree's shape, leaf color and shape, fruits, distribution areas, sources, and other information. Many of these trees are common and familiar in daily life, such as willows, pines, birches, and prickly ash trees, making it easier to remember the content described in the dictionary and providing significant help for further research. In addition to this, it has greatly contributed to the development of Mongolian medicine by identifying medicinal materials with higher value, promoting research, and creating more effective medicinal treatments.

2. Tree-Based Medicinal Substances in the *Wuti Qingwen Jian*

By using modern medicinal works such as *Chinese Mongolian Medicine Materia Medica* [3], textbooks such as *Mongolian Medicine* [4], we conducted a comparative study of the 37 Mongolian medicinal tree species, focusing on their Chinese names, Mongolian names, medicinal parts, properties, sources, efficacy, and major treatments. See Table 1 for a summary.

According to "Chinese Mongolian Medicine Materia Medica" [4], which cites sources, properties, and therapeutic uses, it was found that among the 37 tree medicines in this dictionary, 22% of the medicinal parts used are bark, 17.4% are fruits, and 10.9% are seeds. Moreover, 46% of the medicinal substances are classified as cool, warm, bitter, and sweet in nature. Therefore, these medicines are highly effective in clearing heat, detoxifying, expelling Xiruusu, reducing swelling, and relieving pain. They have been very effective in treating gout, rheumatism, arthritis, Xiruusu disease, as well as skin diseases such as ringworm, eczema, vitiligo, parasitic diseases, bleeding, and more. Additionally, some trees are considered entirely beneficial, such as Masson Pine, Mulberry, and Elm trees. Taking Masson Pine as an example: 1. Rosin: expels Xiruusu; 2. Pine branches: clear badgan, expel yellow water; 3. Pine cones: clear heat, stop coughing, and dissolve phlegm; 4. Pine needles: stop bleeding; 5. Pine bark: set bones

and stop bleeding; 6. Pine young branches: used with Mucuna for treating cholecystitis; 7. Pine pollen: treats boils, toxic sores, external bleeding, and slow-healing wounds. Nowadays, numerous studies have proven that pine pollen, as a natural, green, pure plant product and healthcare product, has extensive benefits, such as anti-fatigue, anti-aging, regulating digestive function, enhancing the immune system, and treating various diseases like hypertension, ulcerative colitis, prostatitis, and others [5]. More than 2000 years ago, pine pollen was used as a supplement. Nowadays, pine pollen is often considered a food-medicine dual-use product, and the Ministry of Health has recognized pine pollen as a new food, regulated under the management of ordinary food [5].

3. Mongolian Medicine Compound Formulations of Tree Medicines in "*Wuti Qingwenjian*"

Among the 37 tree medicines in "*Wuti Qingwenjian*," 11 tree medicines are recorded in textbooks such as *Mongolian Medicine Formulations* [6], *Mongolian Medicine Formulations* [7], *Common Classic Mongolian Medicine Formulas* [8], *Introduction to Mongolian Medicine Formulation Studies* [9], and other literature [10-13], and are well-known and commonly used clinically for treating diseases. These include Huangbo (Phellodendron), Red Sandalwood, Oak Fruit, Chinaberry, Eucommia, Privet, Sappanwood, Camphor, Honeysuckle, Pine Knot, Tamarisk, Lacquer Resin, and Prickly Ash. See Table 2:

4. Results

4.1 Taxonomic Classification of Tree Medicines in *Wuti Qingwenjian*

The tree medicines in this dictionary are classified by family as follows: one each from the families Taxaceae, Juglandaceae, Ulmaceae, Fagaceae, Eucommiaceae, Moraceae, Loranthaceae, Lauraceae, Berberidaceae, Theaceae, Simaroubaceae, Cupressaceae, Zygophyllaceae, Meliaceae, Anacardiaceae, Sterculiaceae, Elaeagnaceae, Tamaricaceae, and Hippocastanaceae; two from the families Pinaceae, Betulaceae, and Rutaceae; three from the family Salicaceae; and four from the family Fabaceae. In total, 27 families and 37 tree medicines are represented.

Table 1. 37 Tree-Based Medicinal Substances

Mongolian Tree Name	Mongolian Medicine Name	Medicinal Part	Property, Flavor	Source	Efficacy	Major Treatment
nohai huši	Narasun gesiguu	Branch Segment	Warm, sweet, bitter	Branch segments of Pinaceae family: Oil Pine, Masson Pine	Expel yellow water, reduce swelling, relieve pain, clear badgan kheyi	Xiruusu disease, vitiligo, scabies, yellow water sores
tosun narasu	Narasun dabarhai	Resin	Warm, sweet, bitter	Resin from Oil Pine of the Pinaceae family	Expel yellow water, connect bones, relieve pain, heal wounds	Yellow water disease, scabies, ringworm, erysipelas, vitiligo, water sores
uyanggatu modu	Uyanggatu modun ur-e	Seeds	Neutral, sweet	Seeds of the Phoenix tree	Regulate qi, strengthen spleen, aid digestion, stop bleeding	Stomach pain, indigestion, diarrhea, hernia, premature gray hair, children's oral ulcers
ulangan žandan	Ulangan žandan	Heartwood	Cool, salty, astringent	Heartwood of the Fabaceae family: Red Sandalwood	Clear blood heat, reduce swelling	Blood stasis pain, blood heat, postpartum fever, wind-toxin abscesses
tosun hargai	Huragan buger-e	Fruits	Neutral, sweet	Fruits of the Taxaceae family: Torreya plant	Kill parasites, relieve indigestion, nourish kidneys	Filaria disease, kidney kheyi
ilam-a modu	Ilam-a	Fruits, branches, leaves	Cool, sweet, sour	Fruits of the Mulberry tree	Nourish yin, replenish blood, clear bone heat	Blood deficiency, amenorrhea, bone fractures
hailasu	Hailasun durusu	Bark	Neutral, sweet	Bark of the Ulmaceae family: Elm tree	Clear heat, promote urination, heal wounds	Bone fractures, external injuries, febrile diseases, cough, urinary retention
uda modu	Uda in durusu	Bark	Cool, bitter	Bark of the Salicaceae family: Willow tree	Clear heat, detoxify, reduce swelling	Edema, swelling from insect bites
cagan uda	Burgasun turusu	Bark	Cool, bitter	Bark and branches of Basket Willow or Mountain Willow	Reduce swelling, relieve pain, eliminate lung abscesses	Lung abscesses, edema, joint yellow water disease, scabies, measles
huwazuu modu	Huwazuu	Fruit Peel	Warm, pungent	Fruit peel of Rutaceae family: Prickly Ash or Green Prickly Ash	Aid digestion, kill parasites, relieve itching, open meridians	Indigestion, parasitic disease, itching, blocked meridians, ringworm, yellow water sores
boru uliyasu	Agulan Uliyasu	Bark	Cold, bitter	Bark of the Salicaceae family: Small-leaved Poplar or Mountain Poplar	Clear heat, promote rash eruption	Pneumonia, urticaria
carasun modu	Carasun ur-e	Seeds, Resin	Neutral, sweet, astringent	Seeds or resin of the Fagaceae family: Mongolian Oak,	Relieve diarrhea, stop bleeding, expel Xiruusu	Diarrhea, enteritis, hemorrhoid bleeding, white

				Liaodong Oak, Mao Oak	disease	pulse disease
sibur	Dolugan Nabcitu in ur-e	Dry Fruit	Warm, pungent	Fruits of the Sapindaceae family: Sala Tree or Heavenly Master Chestnut	Relieve vomiting, expel badgan	Abdominal distension, indigestion
husu	Husun Uisu	Bark	Neutral, bitter	Bark of the Betulaceae family: Birch Tree	Clear heat, detoxify, stop coughing, promote urination, relax ligaments, unblock blood circulation	Joint yellow water disease, asthma, cough, acute mastitis, dysentery, burns, fever
zerlig husigan modu	Husig-a in cum-e	Kernel	Warm, sweet	Kernel of the Juglandaceae family: Walnut	Moisten intestines, relieve constipation, collect energy, relieve spasms	Constipation, abdominal pain, joint stiffness, ringworm, rashes, scabies
buhe cagan modu	Barur-a	Ripe Fruit	Cool, astringent, bitter, slightly toxic	Dry ripe fruit of the Meliaceae family: Chinaberry	Expel yellow water, kill parasites, relieve pain, clear badgan xila, brighten eyes	Xiruusu disease, rheumatism, gout, ringworm, eczema, vitiligo, skin diseases, turbid heat
horutu boru	Horutu Boru	Bark	Neutral, sweet	Bark of the Eucommiaceae family: Eucommia	Connect bones, strengthen bones, clear heat	Bone fractures, bone inflammation, tendon injuries, bone heat
harhil	Zigde	Ripe Fruit	Cool, sour, slightly sweet	Fruit of the Elaeagnaceae family: Oleaster or Oriental Oleaster	Clear liver heat, strengthen spleen and kidneys, regulate menstruation	Back and leg pain, diarrhea, indigestion, menstrual irregularities
hadhuy-a	Tugur in cum-e	Seed Kernel	Neutral, bitter, sweet	Dry ripe seeds of the Rosaceae family: Peach or Wild Peach	Unblock blood flow, relieve constipation, reduce blood stasis	Amenorrhea, dysmenorrhea, abdominal distension, constipation
hargun-a	Gulesun cum-e	Seed Kernel	Neutral, slightly toxic, bitter	Ripe seeds of the Rosaceae family: Wild Apricot or Northeast Apricot	Expel yellow water, promote hair growth, relieve asthma, expel xila, heal wounds	Cough, asthma, surgical wounds, yellow water disease, hair loss
modun sogsur	Modun Sogsur	Dry stem with leaves	Cold, bitter	Dry stem and leaves of the Santalaceae family: Mistletoe	Clear heat, detoxify, kill sticky substances	Heat, fever, headache, joint pain
uher sunduu	Sunduu Burcag	Fruit	Warm, slightly toxic, pungent	Fruit of the Leguminosae family: Chinese Honeylocust	Relieve soft diarrhea, reduce swelling, detoxify	Pneumonia, liver poisoning, gout, rheumatism, joint swelling, poisoning
šeger	Husid	Seeds	Neutral, sweet	Seeds of the Betulaceae family: Hazelnut	Nourish essence, brighten eyes	Loss of appetite, fatigue, emaciation, blurred vision
burcag cai	Agulan Cai in Ceceg	Flower Bud	Cool, sweet, bitter, pungent	Dry flower buds of the Theaceae family: Camellia	Clear blood heat, stop bleeding, reduce swelling	Hemoptysis, nosebleeds, coughing up blood, blood in stool,

						burns, dysentery
nimbe	Sirinhandanda	Resin	Cool, astringent, sweet, toxic	Resin of the Anacardiaceae family: Lacquer Tree	Expel yellow water, purge strongly, promote skin regeneration, heal wounds	Heat, intestinal heat, yellow water disease, parasitic diseases
harabur	Harabur	Fruit	Cool, sweet, bitter	Fruit of the Oleaceae family: Privet	Clear heat, brighten eyes	Blurred vision, tuberculosis, back and leg pain
zuzagan hobulu	Sir-a Modu	Dry bark	Cool, bitter	Dry bark of the Rutaceae family: Phellodendron amurense or Phellodendron chinense	Expel yellow water, detoxify, clear heat, stop diarrhea, stop bleeding, brighten eyes	Yellow water disease, gout, rheumatism, skin diseases, leprosy, kidney heat, bleeding, hemoptysis, hematochezia, eye diseases
nigursu	Somun Modu	Dry heartwood	Cool, sweet, salty	Dry heartwood of the Fabaceae family: Sappanwood	Clear blood heat, regulate menstruation, promote blood circulation and remove blood stasis	Amenorrhea, abdominal pain, headache, heat in veins, blood stagnation
uyangatu modu	Uyangatu Modun Durusu	Dry bark, root bark	Neutral, bitter, pungent	Bark of the Fabaceae family: Erythrina or Erythrina tree	Expel yellow water, kill parasites, relieve itching, relax tendons and alleviate stiffness	Joint yellow water disease, hemorrhoids, ringworm, boils
amaraltu huzi	Amaraltu Huzi	Resin	Cool, pungent, bitter	Resin of the Styracaceae family: Benzoin or Styrax tree	Kill sticky substances, reduce swelling, heal wounds, relieve sharp pain	Encephalitis, smallpox, hepatitis
zigartu modu	Manggabur	Dry, leaf, root extract	Cool, bitter, pungent, astringent	Extract of dry, leaves, and roots of the Lauraceae family: Camphor tree	Open orifices, clear heat, relieve pain	Chronic infiltrative heat, epidemic, erysipelas, severe heat, toothache
Siracair modu	Orgesutu Sir-a Modu	Root, trunk bark	Cool, bitter	Root and trunk bark of the Berberidaceae family: Yellowwood	Expel yellow water, detoxify, clear heat, stop bleeding, brighten eyes	Yellow water disease, varicose veins, bleeding, ringworm, rash, leprosy, kidney heat, rheumatism, gout
umehei nicugun hobulu	umehei Hobulu in Zimis	Fruit	Cool, bitter, astringent	Fruit of the Simaroubaceae family: Chinese Toon	Stop diarrhea, stop bleeding, clear badgan heat	Dysentery, turbid urine, hematuria, leucorrhea
malasu	Habtagai Malasu	Leaf, young branches, seeds	Cool, leaf: bitter, seeds: sweet	Leaves, seeds, and young branches of the Cupressaceae family: Cypress tree	Leaf: clear lung heat, expel yellow water, Seed: clear heat, expel yellow water	Leaf: lung heat, kidney heat, blood in urine or stool, Seed: kidney, liver heat, skin disease, joint Xiruuusu

						disease
sunduu	Harmag	Seeds	Warm, sweet, sour	Seeds of the Zygophyllaceae family: Nitraria	Aid digestion, brighten eyes, nourish kidneys, strengthen yang	Indigestion, elderly vision loss, kidney deficiency
suhai modu	Suhai	Young branches, leaves	Cool, sweet, astringent	Young branches and leaves of the Tamaricaceae family: Tamarisk	Clear heat, expel Xiruuusu, contract poison spread, promote rash eruption	Chronic heat, hidden heat, blood heat, measles, Xiruuusu disease
dalan halisu	Altan Mögün Ceceg	Flower bud	Cold, sweet, slightly bitter	Flower bud of the Caprifoliaceae family: Honeysuckle or Lonicera	Clear heat, detoxify	Epidemic heat, lung heat, erysipelas, syphilis

4.3 Efficacy of Tree Medicines in *Wuti Qingwenjian*

In terms of efficacy, 11 tree medicines—such as Masson pine, oil pine, oak, chinaberry, wild peach bark, lacquer tree, Phellodendron, yellowwood, cypress, tamarisk, and Erythrina—are used to expel yellow water. Seventeen tree medicines—including red sandalwood, elm, tamarisk, small-leaved poplar, willow, birch bark, Eucommia, oleaster, mistletoe, camellia, privet, Phellodendron, sappanwood, camphor, yellowwood, Chinese toon, and cypress—are used to clear heat. Six tree medicines—including Masson pine, oil pine, basket willow, chinaberry, benzoin tree, and camphor—are used for pain relief. Additionally, these medicines have detoxifying,

swelling-reducing, hemostatic, wound-healing, eyesight-improving, kidney-tonifying, yang-strengthening, insect-killing, and diarrhea-stopping effects.

4.4 Main Diseases Treated by Tree Medicines in *Wuti Qingwenjian*

In terms of main treatments, tree medicines are effective in treating Xiruuusu disease, gout, rheumatism, ringworm, boils, rashes, measles, leprosy, erysipelas, skin diseases, hemorrhoids, menstrual irregularities, bleeding, indigestion, parasitic diseases, bone fractures, carbuncles, severe heat, chronic heat, latent heat, and kidney heat. The majority of these treatments are for Xiruuusu disease, febrile diseases, and skin diseases.

Table 2. Compound Formulations of Tree Medicines

Mongolian Medicine Name	Prescription Name	Efficacy	Major Treatment
sir-a modu	Sir-a modu -3 tang	Stop bleeding	Hemoptysis, nosebleeds
	Sir-a ga -4 tang	Kill sticky substances, clear heat	Kidney and bladder heat, hematuria, gonorrhea
	Sir-a modu -8	Clear heat, consolidate meridians, consolidate essence	Kidney heat, spermatorrhea, gonorrhea, turbid urine, urinary pain
ulagan žandan	žandan-3 tang	Clear heart heat, nourish heart and qi	Lung heat, palpitations, delirium, chest pain
	zungsi-21	Treat treasure disease, treat vomiting, remove blood Xira, regulate constitution	Vomiting, joint pain, latent treasure disease, chronic treasure disease
	cisu zvgsugagci gurgum -8	Stop bleeding	Internal bleeding from treasure disease, surgical wound bleeding, nosebleeds, hemoptysis, hematemesis, menorrhagia
carasun ur-e	ulagan -13tang	Clear blood heat	Mature and immature heat, hypertension, blood heat, lung heat
	gadir-a 11	Clear heat, stop diarrhea	Hot diarrhea, blood Xira heat diarrhea
barur-a	sir-a tang	Clear blood heat, clear blood	New and old blood heat, immature heat, epidemic, fever, blood heat headaches, red eyes, toothaches

	erdeni-7tang	Relax six bases, promote heat maturation, consolidate heat, clear heat	Mild heat, composite heat, smallpox, immature heat, cold, treasure disease
	sengdeng-4tang	Clear heat, expel yellow water, reduce swelling	Gout, rheumatism, joint yellow water disease, edema
	dogul ebesu-7tang	Promote sweating, promote rash eruption, promote heat maturation, clear heat	Epidemic heat, immature heat, influenza, lung heat, qi-blood conflict
	žogeleregulugci-5	Chronic latent heat, clear blood, soften stiffness	Chronic heat, fever, yellow water disease, gout, rheumatism
horutu boru	barildugulugci-25	Treat injuries, relieve pain, set bones, strengthen bone quality	Internal injuries, fractures, tendon injuries, ruptures
harabur	harabur-16	Reduce swelling, expel badgan kheyi, stop coughing, relieve asthma, aid digestion	Indigestion, asthma, chronic bronchitis, dizziness caused by badgan kheyi
	harabur-7	Expel badgan kheyi, regulate stomach fire	Indigestion, gastrointestinal bloating, spleen disease with badgan kheyi
somu modu	somu modu-4tang	Activate blood circulation, dissolve blood stasis, treat blood stasis, amenorrhea	Blood stasis, blood accumulation, amenorrhea
	somu modu-6tang	Regulate stomach fire, dissolve stasis, dispel kidney cold, expel badgan kheyi	Bladder pain, blurred vision, leukorrhea, urinary pain, back and leg pain caused by kidney cold
silgabur	gabur-25	New and old heat, fever, turbid heat, severe heat	Intestinal heat, new and old heat, fever, turbid heat, severe heat, gout, rheumatism, brain hemorrhage
altan linghu-a ceceg	tufiling-7	Clear blood heat, stop bleeding, detoxify	Blood heat headaches, nasal congestion, throat obstruction
balgun-a	balgun-a-7tang	Consolidate toxins, detoxify	Toxic heat, food poisoning, compounded toxins
narasun gesiguu	narasun gesiguu-4tang	Expel kheyi, relieve pain, regulate constitution	Kheyi epidemic, latent kheyi in joints

4.5 Tree Medicines Used in Mongolian Compound Formulations in *Wuti Qingwenjian*

In terms of Mongolian formulations commonly used in clinical practice, Sir-a modu is the main ingredient in Sir-a modu -3 tang, Sir-a ga -4 tang and Sir-a modu -8. ulagan žandan is the main ingredient in žandan-3 tang, zungsi-21, cisu zvgsugagci gurgum -8. carasun ur-e is the ingredient in ulagan -13tang and gadir-a-11. barur-a is the ingredient in sir-a tang erdeni-7tang and dogul ebesu-7tang. horutu boru is the ingredient in žogeleregulugci-5. harabur is the ingredient in harabur-16, harabur-7. Silgabur is the main ingredient in gabur-25. somu modu is the ingredient in somu modu-4tang. narasun gesiguu is the ingredient in narasun gesiguu-4tang, and altan linghu-a ceceg serves as a guide in tufiling-7, somu modu-6tang. balgun-a is the ingredient in balgun-a-7tang. These 22 Mongolian compound formulations are widely used in clinical practice and have shown effective therapeutic results.

5. Conclusion

Although *Wuti Qingwenjian* is not a specialized pharmacopeia, its contribution to the recording of medicinal plants cannot be ignored. After careful review, 37 tree medicines have been identified from the 168 tree species recorded in *Wuti Qingwenjian*. These records of medicinal plants not only reflect the history of exchanges and integration between various ethnic groups, such as the Chinese, Mongolian, Tibetan, Manchu, and Uyghur peoples, but also demonstrate the proactive attitude of ancient Chinese scholars toward medicinal plants. The process of investigation, categorization, summarization, and application is the purpose of studying historical texts. For this reason, Chinese medicinal culture has been able to thrive and expand for thousands of years. On the other hand, the increasing demand for tree medicines throughout history, coupled with inadequate resource protection, or the indiscriminate logging of trees by people, has led some trees with medicinal value to become endangered.

Therefore, while introducing and further researching medicinal trees, attention must also be paid to the protection of domestic resources.

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