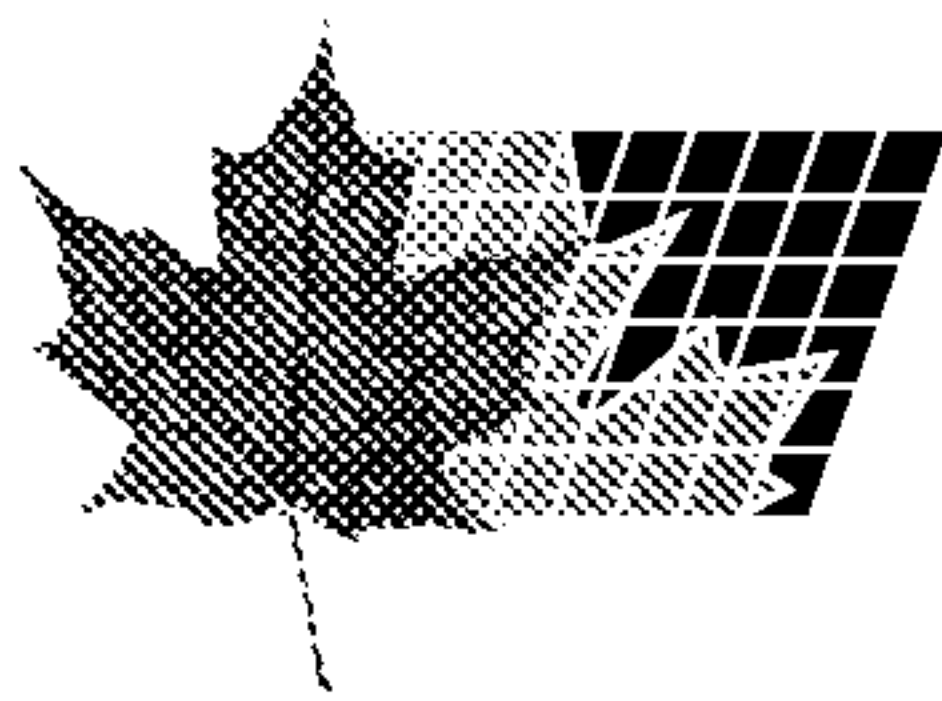




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(54) **BOISSON, COMBINAISON DE CONCENTRES ET PROCEDE DE
PRODUCTION D'UNE BOISSON**

(54) **BEVERAGE, COMBINATION OF CONCENTRATES AND
METHOD FOR PRODUCING A BEVERAGE**

(57) L'invention concerne une nouvelle boisson produisant un effet stimulant, à base de caféine, d'acide ascorbique, de fer sous forme ionique et/ou liée de façon complexe, d'acides stimulants, de sels minéraux, d'édulcorants, d'adjuvants, de vitamines ou d'arômes et d'eau, ladite boisson contenant lesdites substances en un mélange ou en une solution de préférence homogène. Cette boisson se caractérise en ce qu'elle contient au moins une combinaison systémique, à effet synergique, des trois composants de base caféine, acide ascorbique et fer, qui procurent un bien-être durable à une personne ayant bu ladite boisson. Dans cette combinaison est intégré un composant de base additionnel, donc le quatrième, à savoir du 3,5,5-triméthylhexanal. Les proportions pour un litre de boisson de ces quatre composants de base sont les suivantes: caféine: 100 mg/l à 180 mg/l; acide ascorbique: 200 mg/l à 350 mg/l; fer: 5 mg/l à 10 mg/l; 3,5,5-triméthylhexanal: 0,5 µl/l à 1,5 µl/l. L'invention concerne un procédé de production de cette boisson ainsi qu'un concentré approprié à cette production.

(57) The invention relates to a novel beverage with a stimulating effect, based on caffeine, ascorbic acid, iron in an ionic and/or complex-bonded form, organic and inorganic food acids, mineral salts, sweeteners, auxiliary agents, vitamins and flavourings, as well as water. The inventive beverage contains the aforementioned substances in a preferably homogeneous mixture or solution. The invention is characterised in that the beverage has at least one synergetically effective, systematic combination of the three key constituents: caffeine, ascorbic acid and iron, 3,5,5-trimethylhexanal being integrated into the combination as a fourth key constituent. This combination also generates a prolonged feeling of well-being in the person consuming the beverage, and contains the four key constituents in the following proportions, in relation to one liter of the beverage: 100 mg/l to 180 mg/l caffeine, 200 mg/l to 350 mg/l ascorbic acid, 5 mg/l to 10 mg/l iron, and 0.5 µl/l to 1.5 µl/l 3,5,5 -trimethylhexanal. The invention also relates to a method for producing the beverage as well as the corresponding concentrate.



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(54) Title: BEVERAGE, COMBINATION OF CONCENTRATES AND METHOD FOR PRODUCING A BEVERAGE (54) Bezeichnung: GETRÄNK, KONZENTRAT-KOMBINATION SOWIE VERFAHREN ZUR HERSTELLUNG EINES GETRÄNKES (57) Abstract The invention relates to a novel beverage with a stimulating effect, based on caffeine, ascorbic acid, iron in an ionic and/or complex-bonded form, organic and inorganic food acids, mineral salts, sweeteners, auxiliary agents, vitamins and flavourings, as well as water. The inventive beverage contains the aforementioned substances in a preferably homogeneous mixture or solution. The invention is characterised in that the beverage has at least one synergetically effective, systematic combination of the three key constituents: caffeine, ascorbic acid and iron, 3,5,5-trimethylhexanal being integrated into the combination as a fourth key constituent. This combination also generates a prolonged feeling of well-being in the person consuming the beverage, and contains the four key constituents in the following proportions, in relation to one liter of the beverage: 100 mg/l to 180 mg/l caffeine, 200 mg/l to 350 mg/l ascorbic acid, 5 mg/l to 10 mg/l iron, and 0.5 µl/l to 1.5 µl/l 3,5,5 -trimethylhexanal. The invention also relates to a method for producing the beverage as well as the corresponding concentrate.				
(57) Zusammenfassung Die Erfindung betrifft ein neues Getränk mit anregender Wirkung auf Basis von Coffein, Ascorbinsäure, Eisen in ionischer und/oder komplex gebundener Form, organischen und anorganischen Genußsäuren, Mineralsalzen, Süßstoffen, Hilfsstoffen, Vitaminen und Aromen sowie Wasser, welches Getränk die genannten Stoffe in einer, bevorzugt homogenen, Mischung oder Lösung enthält, welches dadurch gekennzeichnet ist, daß es zumindest eine – ein nachhaltiges Wohlbefinden einer das Getränk zu sich nehmenden Person generierende – synergetisch wirksame, systemische Kombination der drei Kern-Komponenten Coffein, Ascorbinsäure und Eisen enthält, in welcher Kombination als zusätzliche, also vierte Kern-Komponente 3,5,5-Trimethylhexanal integriert ist, wobei die genannten vier Kern-Komponenten, jeweils bezogen auf 1 Liter Getränk, in folgenden Zusammensetzungs-Verhältnissen zueinander vorliegen: Coffein 100 mg/l bis 180 mg/l, Ascorbinsäure 200 mg/l bis 350 mg/l, Eisen 5 mg/l bis 10 mg/l, 3,5,5-Trimethylhexanal 0,5 µl/l bis 1,5 µl/l, ein Verfahren zur Herstellung des Getränks sowie das dafür geeignete Konzentrat.				

Beverage, concentrate combination and process for manufacturing
a beverage

5 The present invention relates to a new beverage which substantially belongs to the group of beverages with a stimulating effect, which are still increasingly popular today, especially with younger people and with those engaged in the work world.

The number of beverages offered in this segment of the beverage market, often at a rapid rate of change, is so great that it is difficult to obtain a systematic overview of the state of the art and future developments.

10 However, in principle, it can be assumed that the basis of these beverages, most of which are non-alcoholic, is formed by water, and that the substantial components they contain — alternatively or jointly and in varying quantities — consist of caffeine, mineral salts, food acids and aromatic substances, and sometimes ascorbic acid, the latter of which can often be the
15 factor that determines the acceptance or non-acceptance of a beverage; often this is even determined by the consumer's sex, age and/or social group.

There is quite a large number of publications in which such stimulating beverages or beverage combinations are described, whose desired stimulating effect is due to caffeine, ascorbic acid and iron compounds and which may
20 also contain a number of varying supplementary components individually or in many different combinations. These known supplementary components in beverages include vitamins, magnesium salts, calcium, sodium and/or potassium, sweeteners, organic and/or inorganic acids, fruit aroma compounds, and of course also carbonic acid, etc.

25 Thus, EP 397232 A1 describes beverages fortified with vitamins and minerals, which contain vitamin A in the form of b-carotene, vitamin C and riboflavin. These beverages contain increased quantities of calcium and iron, whereby the iron can be provided in the form of a sugar complex or as a gluconate-ascorbate complex, also as malate, citrate, ascorbate and/or tartrate.
30 The beverages thus described, which are characterized by the high stability of the vitamins, also contain — individually or in various combinations — dextrin, gum arabic, sucrose, fructose, glucose, corn syrup, etc. The beverages also

contain the juices of various native or exotic fruits as well as sugar alcohols, vitamins of the B group, sweeteners, caffeine and carbonated water. Their pH may be 2.5 to 5, for example.

EP 511587 A1 relates to a slimness-promoting "edible" composition
5 which may be produced as a food or a beverage and is said to contribute to the breakdown of fat in the body. It contains at least one amino acid, its digestible salts, at least one xanthine derivate and at least one thiamine compound. The xanthine derivate can be caffeine, theophylline or theobromine. Other components of the formula disclosed therein for a beverage are metal salts,
10 citric acid, citrates, vitamins of the B series, maltol, saccharine, aspartame and/or aromatic substances

WO 91/12734 (PCT/US 91/12734) relates to beverage compositions or concentrates for human consumption which are water-based and contain physiologically important electrolytes, minerals, carbohydrates, sweeteners and
15 food-acid components. The beverages described therein are said to promote in particular the compensation for liquid loss in the body, e.g. as the result of heat or athletic activity.

Some other components of these beverages are iron, sodium, potassium, calcium, magnesium, chloride, bicarbonate, phosphate, vitamin C, vitamin E,
20 fructose, glucose, organic acids such as citric acid, and inorganic acids such as citric acid.

It was now found that the addition or the absence of a single, often completely inconspicuous component can decide how the effect of the beverage (whether it be favourable or unfavourable), the speed at which the
25 effect itself is felt and/or the duration of the effect is subjectively perceived by individual consumers and, of course, eventually by a majority of consumers. Another factor — although in this particular beverage sector perhaps only of secondary importance — is the ability of the beverage to produce a thirst-quenching effect (although in some cases perhaps only subliminally) and to
30 make it last.

The task of the invention was to create a beverage which after being consumed will maintain or moderately increase productivity in the broadest

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sense while generating in the consumer a feeling of general well-being which it is also able to sustain for some time.

In the course of development, a substance known per se was found which in extremely small concentration and in a carefully measured relationship with the other beverage components is able to provide a beverage with the effective characteristics globally specified above.

The object of the invention therefore is a new beverage, in particular a beverage with a stimulating effect, based on caffeine, ascorbic acid, iron in ionic and/or complexed form, organic and inorganic food acids, mineral salts, sweeteners, auxiliary agents, vitamins and aromatic substances as well as water, which beverage contains the above-named substances in a homogeneous mixture or solution characterized in that it contains at least one synergetically effective systemic combination of the three key components caffeine, ascorbic acid and iron —generating a lasting feeling of well-being in a person consuming the beverage — in which combination an additional, i.e. fourth key component is integrated, namely 3,5,5-trimethylhexanal, whereby the four key components are present in the following concentrations in relation to 1 litre of beverage:

	Caffeine	100 mg/l	to	180 mg/l
20	Ascorbic acid	200 mg/l	to	350 mg/l
	Iron	5 mg/l	to	10 mg/l
	3,5,5-trimethylhexanal	0.5 μ g/l	to	1.5 μ g/l

The specific combination which forms the effectiveness centre of the new beverage, namely caffeine, relatively small quantities of iron, ascorbic acid and 3,5,5-trimethylhexanal, which is approved as a food ingredient, if consumed in normal quantities, i.e. in quantities of about up to 1 litre per day, will cause a feeling of well-being while at the same time increasing in consumers their joy of activity and their attention span and improving their ability to concentrate, without the occurrence of the unpleasant side effects of caffeine, namely nervousness or disturbed sleep. As extensive experiments

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have shown, 3,5,5-trimethylhexanal in the beverage is consciously perceived by consumers only when they are first introduced to it in its pure form. Nevertheless, 3,5,5-trimethylhexanal is appreciated or perceived by the limbic system, i.e. the functionally connected groups of phylogenetically older regions in the nucleus and cerebral cortex of the brain. The limbic system is connected with emotions, vegetative reactions and memory functions and is not controlled rationally.

It was found in numerous trials that this desired basic effect was considerably increased by means of carefully measured doses of the co-components of caffeine and ascorbic acid. It was also found that the added iron was able to considerably prolong the duration of the effect.

In summary, it can be stated that while the substance which actually induces the effect and is largely responsible for it is 3,5,5-trimethylhexanal, and while its positive effect with regard to a feeling of well-being did occur without interaction with caffeine, ascorbic acid and iron, this effect was considerably increased through the synergetic participation of the above-named substances, which also meant that the percentage of persons who did actually perceive and appreciate a positive effect on their well-being increased as well.

It was also found that the above-mentioned effect producing a feeling of well-being also depended to quite a large degree on the ratio of the individual key ingredients to each other. It was observed that when the concentration ranges of these key components exceeded or fell short of the stated limits, the effect was not increased and sometimes actually decreased to a noticeable degree.

Thus, an increase in the quantity of one or more individual components, for example, did not produce any further improvements. Thus, an increased amount of caffeine proved to be quite counter-productive.

It was found that the presence of salts of sodium, magnesium, calcium, potassium and iron, known per se, as well as the addition of zinc, did support the effect in terms of a feeling of well-being and stimulation. The presence of zinc should be particularly emphasized, since there is concern about the lack of zinc as a trace element in virtually all population groups.

The full development of the invigorating effect of the beverage, while maintaining the lasting effect of the productivity level increased by its consumption, can be reached when the key components and supplementary components listed individually in Claim 2, in particular the salts, are present, 5 whereby the anions selected with the salts play a specially important role for the effectiveness of the transport in the body and for the acceptance of the components. However, the effect of the quantitative mutual relationships of these salts should also not be neglected by any means. It was already mentioned above that the iron salts produce a synergetic effect in conjunction 10 with the concentrations of caffeine and ascorbic acid.

Of course, consumers expect that a beverage tastes good, even when it is not a purely thirst-quenching drink, and it stands to reason that the expectations and wishes of younger consumers, including children, must be taken into account.

15 In this respect, the presence of the natural and naturidentical sweeteners mentioned in Claim 3, and their additives in the quantities mentioned therein, are a special advantage for the new stimulating beverage.

To ensure a stimulating refreshing effect and to bring the pH value of the beverage into the desired range, it is particularly advantageous when the pH, 20 in at least three of the approved food acids mentioned in Claim 4, lies within the total concentration range named therein.

It is also advantageous to adjust the pH value of the new invigorating beverage within the limits named in Claim 5 and to maintain it until the beverage is consumed.

25 As a kind of antagonist to the caffeine, which acts especially upon the nervous system, it is an advantage if the vitamins of the group named in Claim 6 are introduced — in quantities mentioned therein — into the beverage according to the invention.

An important means of promoting consumer acceptance of the new 30 beverage are the natural and/or naturidentical aromatic substances, mostly fruit aroma compounds according to Claim 7 which are present in the beverage, also providing it with certain supplementary flavours in addition to the main flavour. With regard to the substances listed in Claim 7, it should be noted

that specified exact values concerning quality and relative quantity of the aromatic substances in the finished beverage are not possible. These parameters and parameter conditions sometimes vary quickly from one flavour variety to another, and such changes in consumer taste must be taken into
5 account directly and flexibly.

It should be mentioned here that the 3,5,5-trimethylhexanal provided in the key composition together with the co-components caffeine, ascorbic acid and iron ions, which is the important substance that generates the unexpected feeling of well-being, is essentially an aromatic substance. Its own flavour,
10 odour and/or aroma can be called "diffuse, dry and grass-like". In case of the quantities already mentioned, namely 0.5 to 1.5 mg per litre of beverage, this aromatic substance, which has little attraction when tasted as an individual substance, emphasizes the overall impression desired for the taste or odour in question in a surprisingly pleasant manner, but without being penetrant.
15 However, what is even more important and a complete surprise, and what characterizes the present invention, is the spectacular effect of the 3,5,5-trimethylhexanal which increases the feeling of well-being. Its characteristics are as follows: Empirical formula: $C_9H_{18}O$. Kp: 67-68°/25 mm; Fp: 116° F, d = 0.817 g/cm³; FEMA No. 3524.

20 An immediate refreshing effect of the new beverage can be achieved with carbonic acid concentrations in the range named in Claim 8.

If the beverage is meant to be consumed by children, e.g. below 14 years of age, it is recommended that the caffeine content be lowered to the values shown in Claim 9. Especially in children, it was observed that the
25 beverage had the effect of increasing enthusiasm and the interest in work, even without caffeine.

A particularly positive effect on memory, which was achieved by the addition of ginkgo extract, as described in Claim 10, can round off the new beverage's invigorating spectrum of effects in an advantageous manner.

30 In summary it can be stated that the new beverage, in its basic version as well as in the above-named preferred variations, has a stimulating effect, increasing the physical and mental productivity, the attention span and the ability to concentrate, but that it should by no means be designated as an

“energy drink”, etc. with an explosively quick or rousing effect. The new beverage is not only without the side effects, which are often subjectively perceived as unpleasant, such as nervousness, tingling, sleep disorders, but consumers are able to perceive the feeling of well-being it causes —
5 consciously and without any side effects. Feelings of listlessness are suppressed. This pleasant effect lasts for a long time.

The addition of green-tea extract — see Claim 11 — can also have the effect of increasing the good taste as well as the stimulative effect. Such an addition can even have the advantage of a carcinostatic effect.

10 Another object of the invention is a process for manufacturing the new beverage whose substantial characteristics consist in that to a stream of water forming the basis for the beverage, a stream of a first partial concentrate with one or more sweeteners, auxiliary agents, aromatic substances, fruit aroma compounds and the fourth key component, 3,5,5-trimethylhexanal is added
15 and admixed to the water in a turbulent stream, following which a second stream of a second partial concentrate, containing the three key components caffeine, ascorbic acid and iron compounds, as well as organic and inorganic food acids, salts and vitamins is added to the stream of the intensive mixture of water and the first partial stream, and is admixed in the same turbulent
20 stream until complete homogenization of all components is achieved. The described separation of the concentrate into two batches is an advantage for the production process and leads to a beverage with extremely stable storage characteristics.

Claim 13 describes the preferred ratio between the total amount of the
25 partial concentrates and the amount of water in the new beverage.

Another object of the invention is a concentrate to be supplied to beverage manufacturers and bottlers; it forms the basis for the finished product, which is filled into bottles, cans, containers, etc. and sold to consumers.

30 As Claim 14 indicates, this concentrate consists of two separate partial concentrates, one of which is first added to the water used for the beverage and homogeneously admixed. Subsequently, the other partial concentrate is added in diluted form to the first partial concentrate which is at least largely

homogenized in water, and the final production of the beverage is then accomplished by means of intensive further mixing and complete homogenization of the components.

5 The separation of a concentrate into two batches is actually quite a conventional method and has the advantage that it prevents the absence of individual components in the finished product and the occurrence of inhomogeneous, undesirably cloudy portions, etc.

Especially preferred in connection with the invention are concentrates with the quantities described in Claim 15 derived from the beverage versions
10 described above.

Example:

100 litres of the new beverage were produced in a mixer with agitator, using the concentration quantities shown in Table 1.

Table 1

Partial concentrate 1		Partial concentrate 2			
		quantity per litre of beverage		quantity per litre of beverage	
5	Fruit aroma mixture *) (3 components) Basic version, "tart"	6.7	µl	Organic acid 1 ***)	3.6 g
	Dextrose	22	g	Inorganic acid (phosphoric acid)	0.5 g
10	Fructose	28	g	Trisodium citrate	1.5 g
	Natingin (Bitter compound)	29	mg	Magnesium chloride hexahydrate	1.6 g
	Pectin	105	mg	Calcium chloride dihydrate	1.2 g
15	Aspartame	75	mg	Potassium dihydrogen phosphate	350 mg
	Aroma mixture **) (6 components) Basic taste: fruity				
20	Exotic	512	µl	Sodium chloride	220 mg
	3,5,5-trimethylhexanal	1.3	µl	Iron (III)-oxide saccharate (Merck) (Fe)	82 mg (8)

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5	Zinc sulphate-		
	heptahydrate	33	mg
	Caffeine	160	mg
	Ascorbic acid	310	mg
	Vitamin B5	1.9	mg
	Vitamin B1	0.7	mg
	Vitamin B2	0.8	mg

The sum of all above substances dissolved 10 including water = 75 ml (homogenized under pressure)	The sum of all above including water = 25 ml at slightly raised temperature)
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* all aromatic substances naturidentical tartaric acid, 15 (Grünwald) ** 6 natural aromatic substances 1, naturidentical aromas (all from Firmenich)	*** mixture: citric acid, malic acid - about 1:1:1
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The basis consisted of 97.5 litres of groundwater (of drinking water quality) with a total hardness of 12 dH. Of the homogenized partial concentrate 1, which had been carefully prepared with the same water, 1250 ml were added to the total volume of the water; then the mixture was stirred for 5 minutes.

Subsequently, partial concentrate 2 homogenized in the same manner from a second concentrate vessel was stirred-in within 3 min, and the entire resulting mixture was also stirred again for 5 min. The temperature of the finished product was 17° C. Under sterile conditions, the beverage was filled into 0.5-litre bottles which were provided with a crown cork cap. The bottles were stored at 11° C.

In an oriented small-scale trial, 22 persons aged between 17 and 50 (130 person was 63 years old) were given four 0.5-litre bottles each of the new

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beverage, whose composition is shown in Table 1. The condition was that they had to consume the respective half-litre portions within three days. After feeling an effect, they were to evaluate them individually and subjectively according to the following scale and then enter the results on a test control 5 sheet:

- 0 felt no effect
- 1 felt an effect
- 2 felt a strong effect, and
- 1 felt a negative effect.

10 The following categories of subjective perception were to be evaluated:

- a "I feel better/more balanced after drinking"
- b "I find working/learning easier after drinking"
- c "I feel nervous/tense/restless after drinking"

The following Table 2 shows the test results. The figures indicate the number of test person with the same mark.

Table 2

Dose	1	2	3	4
Effect, mark	-1 0 1 2	1 0 1 2	-1 0 1 2	-1 0 1 2
Category	number of persons			
20 a	2 4 12 4	0 5 12 3	2 4 9 7	0 3 8 12
b	0 5 10 6	2 4 7 9	0 13 10 9	1 4 8 9
c	4 13 4 1	5 15 2 0	6 14 1 1	3 18 0 1

Of course, this test series with such a small number of test persons cannot be of absolutely representative character, but only of informal character, but it certainly confirms that a large majority perceived the effect of the new beverage as positive, such as a feeling of heightened well-being and greater productivity.

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As far as the duration of the new beverage's effect on subjectively felt well-being is concerned, the evaluation of a respective test question has shown that the average was over 1 hour.

CLAIMS

1 1. Beverage with a stimulating effect on the basis of caffeine, ascorbic
2 acid, iron in ionic and/or complexed form, organic and inorganic food acids,
3 mineral salts, sweeteners, auxiliary agents, vitamins and aromatic substances
4 as well as water, which beverage contains the above-named substances
5 preferably in a homogeneous mixture or solution characterized in that it
6 contains at least one synergetically effective systemic combination of the three
7 key components caffeine, ascorbic acid and iron —generating a lasting feeling
8 of well-being in a person consuming the beverage — in which combination an
9 additional, i.e. fourth key component is integrated, namely 3,5,5-
10 trimethylhexanal, whereby the above-named four key components are present
11 in the following concentrations in relation to 1 litre of beverage:

12	Caffeine	100 mg/l	to	180 mg/l
13	Ascorbic acid	200 mg/l	to	350 mg/l
14	Iron	5 mg/l	to	10 mg/l
15	3,5,5-trimethylhexanal	0.5 μ g/l	to	1.5 μ g/l

2. Beverage according to Claim 1, characterized in that in addition to the four key components named therein in the quantitative proportions named therein, it contains as supplementary component the known salts of the group of trisodium citrate, sodium chloride, magnesium chloride and calcium chloride, potassium dihydrogen phosphate, iron salt in the form of iron(II)oxide saccharate and zinc sulphate, whereby these salts, always related to 1 litre of beverage, are present in the following proportions:

8 Quantity per litre of beverage

9	Trisodium citrate	1.0 - 2.0	g
10	Magnesium chloride hexahydrate	1.0 - 2.0	g
11	Calcium chloride dihydrate	0.5 - 1.5	g
12	Potassium dihydrogen phosphate	100 - 450	mg
13	Sodium chloride	100 - 400	mg

14	Iron(III)oxide saccharate (Merck)	50 - 100	mg
15	Zinc sulphate heptahydrate	20 - 40	mg

3. Beverage according to Claims 1 or 2, with a stimulating effect on the basis of caffeine, ascorbic acid, iron in ionic and/or complexed form, organic and inorganic food acids, mineral salts, sweeteners, auxiliary agents, vitamins and aromatic substances as well as water, which beverage contains the above-named substances preferably in a homogeneous mixture or solution, characterized in that it contains at least one synergetically effective systemic combination of the three key components caffeine, ascorbic acid and iron — generating a lasting feeling of well-being in a person consuming the beverage — in which combination an additional, i.e. fourth key component is integrated, namely 3,5,5-trimethylhexanal, whereby the above-named four key components are present in the following concentrations in relation to 1 litre of beverage:

13	Caffeine	100 mg/l	to	180 mg/l
14	Ascorbic acid	200 mg/l	to	350 mg/l
15	Iron	5 mg/l	to	10 mg/l
16	3,5,5-trimethylhexanal	0.5 μ g/l	to	1.5 μ g/l

17 — that preferably, in addition to the above-named four key components in the
18 above-named quantitative proportions, it contains as supplementary component
19 the known salts of the group of trisodium citrate, sodium chloride, magnesium
20 chloride and calcium chloride, potassium dihydrogen phosphate, iron salt in the
21 form of iron(II)oxide saccharate and zinc sulphate, whereby these salts, always
22 related to 1 litre of beverage, are present in the following proportions:

23 **Quantity per litre of beverage**

24	Trisodium citrate	1.0 - 2.0	g
25	Magnesium chloride hexahydrate	1.0 - 2.0	g
26	Calcium chloride dihydrate	0.5 - 1.5	g

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27	Potassium dihydrogen phosphate	100 - 450	mg
28	Sodium chloride	100 - 400	mg
29	Iron(III)oxide saccharate (Merck)	50 - 100	mg
30	Zinc sulphate heptahydrate	20 - 40	mg

31 — and that the beverage also contains dextrose, fructose, saccharose,
 32 aspartame and pectin as sweeteners and auxiliary agents, whereby these
 33 substances are present in the following proportions, related to 1 litre of water:

34 **Quantity per litre of beverage**

35	Dextrose	13 - 30	g
36	Fructose	18 - 32	g
37	Pectin	40 - 120	mg
38	Aspartame	50 - 120	mg

1 4. Beverage according to Claims 1 to 3, characterized in that it
 2 contains at least one organic food acid, selected from the group of citric acid,
 3 tartaric acid, malic acid and lactic acid, whereby these food acids are present
 4 at a total quantity in the range of 1.4 to 6 g per litre of beverage, and that it
 5 contains a quantity of between 0.4 and 0.9 g of phosphoric acid per litre of
 6 beverage.

1 5. Beverage according to one of Claims 1 to 4, characterized in that
 2 its pH value lies in the range of 2.5 to 3.

1 6. Beverage according to one of Claims 1 to 5, characterized in that
 2 it contains vitamins B1, B2 and B6, namely at a total quantity of between 1.5
 3 and 5.0 mg per litre of beverage.

1 7. Beverage according to one of Claims 1 to 6, characterized in that
 2 it contains at least two natural or naturidentical aromatic substances or fruit
 3 aroma compounds at a total quantity of 400 to 1400 μ l aroma concentrate per
 4 litre of beverage.

1 8. Beverage according to one of Claims 1 to 7, characterized in that
2 it has a carbonic acid content of 5 to 7 g per litre of beverage.

1 9. Beverage according to one of Claims 1 to 8, characterized in that
2 it is altered for consumption by children and thus contains caffeine at
3 quantities of only 5 to 30 mg per litre of beverage.

1 10. Beverage according to one of Claims 1 to 9, characterized in that
2 in addition to the components named therein, it contains up to 0.05 to 0.15
3 ml of a ginkgo extract per litre of beverage, with a content of approximately
4 10 mg of ginkgoflavon glycosides per ml.

1 11. Beverage according to one of Claims 1 to 10, characterized in that
2 in addition to the components named therein, it contains between 200 and
3 1000 mg, preferable 200 to 800 mg of green tea extract per litre of beverage.

1 12. Process for manufacturing a beverage according to one of Claims
2 1 to 11, characterized in that to a stream of water forming the basis for the
3 beverage, a stream of a first partial concentrate with one or more sweeteners,
4 auxiliary agents, aromatic substances, fruit aroma compounds and the fourth
5 key component, 3,5,5-trimethylhexanal is added and admixed to the water in
6 a turbulent stream, following which a second stream of a second partial
7 concentrate, containing the three key components caffeine, ascorbic acid and
8 iron compounds, as well as organic and inorganic food acids, salts and
9 vitamins. is added to the stream of the intensive mixture of water and the first
10 partial stream, and is admixed in the same turbulent stream until complete
11 homogenization of all components is achieved.

1 13. Process according to Claim 12, characterized in that the first and
2 the second partial concentrates are added to the stream of water, which forms
3 the basis for the beverage, in the quantities of the components named in Claim

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4 3 per litre of beverage, at a total volume of 100 ml of first plus second partial
5 concentrate per litre of finished product.

1 14. Concentrate combination for the manufacture of a beverage of a
2 composition according to one of Claims 1 to 11 with the components and their
3 quantitative proportions named therein, characterized in that it comprises two
4 partial concentrates to be combined with water as the basis for the above-
5 named beverage, whose first partial concentrate contains sweeteners and
6 auxiliary agents, aroma substances, in particular fruit aroma compounds, and
7 the fourth key component, 3,5,5-trimethylhexanal, and whose second partial
8 component contains the three key components caffeine, ascorbic acid and iron
9 compounds as well as organic and inorganic food acids, salts and vitamins,
10 whereby the mutual quantitative proportions of the key components, the
11 additional components in the first and second concentrates correspond to the
12 quantity ranges or volumes shown in one of Claims 1 to 11.

1 15. Concentrate combination according to Claim 14, characterized in
2 that the first and second partial concentrates contain the respective
3 components in quantities related to 1 litre of beverage, with the total volume
4 of both partial concentrates being 100 ml for the preparation of 1 litre of the
5 finished beverage.