

METHOD FOR SEPARATING EIGHT COMPONENTS IN CHINESE TRADITIONAL MEDICINE COMPOSITION

TECHNICAL FIELD

[0001] The disclosure relates to a method for separating multiple components in a Chinese traditional medicine composition.

BACKGROUND

[0002] The Chinese traditional medicine compound prescription is the main form of Chinese traditional medicine, after thousands of years of clinical use, the compound prescription can obtain a stronger therapeutic effect than a single medicine, which has fully proved the scientific nature of the compound prescription. The medicinal composition of the solution is composed of 13 Chinese traditional medicines such as fructusforsythiae, honeysuckle, herbaephedrae (processed) and the like, has the effects of clearing heat and detoxifying, removing lung hotness, and is used for treating epidemic influenza. Clinical studies prove that the medicinal composition of the solution has definite therapeutic effect and remarkable effect on treating influenza and acute upper respiratory tract infection. To explain a pharmacological effect mechanism of a medicine made of two or more components and scientific content in rules of compatibility among components of a compound medicine, systematic researches on the material basis is very necessary. Accordingly, deep researches are done on chemical components of the pharmaceutical composition in the solution, and eight compounds are separated, which are 10-O-(p-hydroxycinnamoyl)-adonoxosidic acid, aloe-emodin-8-O- β -D-glucopyranoside, quercitrin, matairesinol-4'-O-glucoside, liquiritinapioside, epi-vogeloside, vogeloside and ethyl caffeate, which provides a new quality control method for the composition in the solution.

SUMMARY OF THE INVENTION

TECHNICAL PROBLEM

[0003] The solution provides a method for separating eight compounds in a Chinese traditional medicine composition.

TECHNICAL SOLUTION

[0004] The Chinese traditional medicine composition is prepared from the following raw materials in parts by weight: 200-300 parts of fructusforsythiae, 60-100 parts of ephedra, 40-60 parts of rheum officinale, 200-300 parts of houttuyniacordata, 200-300 parts of honeysuckle, 200-300 parts of isatis root, 60-100 parts of pogostemoncablin, 200-300 parts of

rhizomadryopteriscrassirhizomatis, 60-100 parts of rhodiolarosea, 5-9 parts of menthol, 60-100 parts of semen armeniacaeamarum, 60-100 parts of liquorice and 200-300 parts of gypsum fibrosum.

[0005] An embodiment of the separation method in the solution comprises the following steps of:

[0006] (1) adsorbing the total extract of the Chinese traditional medicine composition by AB-8 macroporous resin, eluting with water, 10% ethanol, 30% ethanol and 50% ethanol in sequence, respectively collecting eluent of each part, and concentrating to obtain extract of each part;

[0007] (2) taking the 50% ethanol elution part extract obtained in step (1), adding reverse-phase silica gel ODS-AQ-HG, naturally airing the mixed sample, loading the sample, separating by using a reverse-phase ODS-AQ-HG open column, and sequentially eluting by using methanol with methanol-water volume ratios of 20:80, 40:60, 60:40, 80:20 and 100% methanol; sequentially obtaining Fr.A-Fr.E;

[0008] (3) taking Fr.A sample obtained in step (2), adding a reverse-phase silica gel ODS-AQ-HG to mix sample, naturally airing the mixed sample ODS, adding the mixed sample ODS into a sample loading column, separating liquid phase prepared by an upper medium-pressure, gradiently separating liquid phase prepared by medium-pressure, wherein the volume ratio of methanol to water is 25:75-60:40, and the flow rate is 25 mL/min, receiving the fractions in equal volume of 500 mL in a conical flask, concentrating under reduced pressure, identifying the combined fractions through a thin layer chromatography plate, and concentrating under reduced pressure again to obtain Fr.A-1 - Fr.A-7;

[0009] (4) mixing the Fr. A-2 sample obtained in the step (3) with silica gel, loading onto a silica gel column, carrying out isocratic separation by using a dichloromethane-methanol volume ratio of 8:1, receiving fractions in equal volume of 50 mL, eluting with a volume of 800 mL, and identifying the combined fractions through thin-layer chromatography plate to obtain Fr.A-1-1 - Fr.A-1-4;

[0010] (5) dissolving the Fr. A-1-2 sample obtained in the step (4) with methanol, adopting high performance liquid chromatography, wherein the volume ratio of methanol to water in the mobile phase is 50:50, the flow rate is 12 mL/min, and detection wavelength is 210 nm, to perform primary separation and respectively collecting chromatographic peaks with retention times of 6-8 min, 9-10 min and 12-13 min, recovering the solvent under reduced pressure, and respectively performing the following separation:

[0011] a chromatographic peak of 6-8 min, further purified by high performance liquid chromatography, wherein the volume ratio of acetonitrile to water in the mobile phase is 25:75, the flow rate is 12 mL/min, and the detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250×20 mm, S-10 μm, under these conditions, collecting the chromatographic peak with retention times of 8-9 min, recovering the solvent under decompression to obtained compound 2: aloe-emodin-8-O-β-D-glucopyranoside;

[0012] a chromatographic peak of 9-10 min, further purified by high performance liquid chromatography, wherein the volume ratio of methanol to water in the mobile phase is 45:55, the flow rate is 12 mL/min, and the detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250×20 mm, S-10 μm, under these conditions, collecting the chromatographic peak with retention times of 21-23 min, recovering the solvent under decompression to obtained compound 3: quercitrin;

[0013] a chromatographic peak of 10-12 min, further purified by high performance liquid chromatography, wherein the volume ratio of acetonitrile to water in the mobile phase is 25:75, the flow rate is 12 mL/min, and the detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250×20 mm, S-10 μm, under these conditions, collecting the chromatographic peak with retention times of 9-10 min, recovering the solvent under decompression to obtained compound 4: matairesinol-4'-O-glucoside;

[0014] (6) dissolving the Fr. A-1-3 sample obtained in the step (4) with methanol, adopting high performance liquid chromatography, wherein the volume ratio of methanol to water in the mobile phase is 30:70, the flow rate is 12 mL/min, and detection wavelength is 210 nm, to perform primary separation and respectively collecting chromatographic peaks with retention times of 10-11 min, 17-19 min and 21-24 min, recovering the solvent under reduced pressure, chromatographic peaks of 17-19 min is for compound 6: epi-vogeloside, chromatographic peaks of 21-24 min is for compound 7: vogeloside, a chromatographic peak of 10-11 min, further purified by high performance liquid chromatography, wherein the volume ratio of acetonitrile to water in the mobile phase is 15:85, the flow rate is 12 mL/min, and the detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250×20 mm, S-10 μm, under these conditions, collecting the chromatographic peak with retention times of 14-16 min, recovering the solvent under decompression to obtained compound 5: liquiritinapioside; and

[0015] (7) dissolving the Fr. A-3 sample obtained in the step (3) with methanol, adopting high performance liquid chromatography, wherein the volume ratio of methanol to water in the mobile phase is 60:40, the flow rate is 12 mL/min, and detection wavelength is 210 nm, to perform primary separation and respectively collecting chromatographic peaks with retention

times of 14-15 min and 19-21 min, and recovering the solvent under reduced pressure, separating out a white precipitate in a dichloromethane-methanol solution with volume ratio of 2:1 from a collecting liquid of chromatographic peak of 19-21 min to obtain a compound 8; a chromatographic peak of 14-15 min, further purified by high performance liquid chromatography, wherein the volume ratio of acetonitrile to water in the mobile phase is 30:70, the flow rate is 12 mL/min, and the detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250×20 mm, S-10 μm, under these conditions, collecting the chromatographic peak with retention times of 18-20 min, recovering the solvent under decompression to obtain compound 1: 10-O-(p-hydroxycinnamoyl)-adoxosidic acid.

[0016] An embodiment of the separation method in the solution comprises the following steps of:

[0017] (1) adsorbing 5 kg the total extract of the Chinese traditional medicine composition by AB-8 macroporous resin, eluting with 150 L water, 87.5 L 10% ethanol, 225 L 30% ethanol and 250 L 50% ethanol in sequence, and concentrating to obtain extract of each part;

[0018] (2) taking 200 g the 50% ethanol elution part extract obtained in the step (1), adding 200 g reversed-phase silica gel ODS-AQ-HG S-50 μm to mix sample, naturally airing the mixed sample ODS, loading the sample, and separating by using a reversed-phase ODS-AQ-HG S-50 μm open column, wherein the sample height ratio is 1:4; eluting with 6 L methanol-water in a volume ratio of 20:80, 7 L in a volume ratio 40:60, 7 L in a volume ratio 60:40, 5 L in a volume ratio 80:20 and 3 L 100% methanol in sequence under reduced pressure to obtain Fr.A-Fr.E;

[0019] (3) taking 50.0 g Fr.A sample obtained in step (2), adding 50 g reverse-phase silica gel ODS-AQ-HG S-50 μm to mix sample, naturally airing the mixed sample ODS, adding the mixed sample ODS into a sample loading column, separating liquid phase prepared by an upper medium-pressure, a separating column filler is ODS-AQ-HG S-50 μm, gradiently separating liquid phase prepared by medium-pressure, wherein the volume ratio of methanol to water is 25:75-60:40, and the flow rate is 25 mL/min, receiving the fractions in equal volume of 500 mL in a conical flask, concentrating under reduced pressure, identifying the combined fractions through a thin layer chromatography plate, and concentrating under reduced pressure again to obtain Fr.A-1 - Fr.A-7;

[0020] (4) mixing 3.2 g Fr. A-2 sample obtained in the step (3) with 6.4 g silica gel of 200-300 mesh, loading onto a silica gel column, the sample height ratio is 1:50, carrying out isocratic separation by using a dichloromethane-methanol volume ratio of 8:1, receiving fractions in equal volume of 50 mL, eluting with a volume of 800 mL, and identifying the combined fractions through thin-layer chromatography plate to obtain Fr.A-1-1 - Fr.A-1-4;

[0021] (5) dissolving the Fr. A-1-2 sample obtained in the step (4) with methanol, the solution is filtered through a 0.45 μm microporous membrane, adopting high performance liquid chromatography, wherein the volume ratio of methanol to water in the mobile phase is 50:50, the flow rate is 12 mL/min, and detection wavelength is 210 nm, to perform primary separation and respectively collecting chromatographic peaks with retention times of 6-8 min, 9-10 min and 12-13 min, recovering the solvent under reduced pressure, and respectively performing the following separation:

[0022] a chromatographic peak of 6-8 min, further purified by high performance liquid chromatography, wherein the volume ratio of acetonitrile to water in the mobile phase is 25:75, the flow rate is 12 mL/min, and the detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250 $\times$ 20 mm, S-10 μm , under these conditions, collecting the chromatographic peak with retention times of 8-9 min, recovering the solvent under decompression to obtained compound 2: aloe-emodin-8-O- β -D-glucopyranoside;

[0023] a chromatographic peak of 9-10 min, further purified by high performance liquid chromatography, wherein the volume ratio of methanol to water in the mobile phase is 45:55, the flow rate is 12 mL/min, and the detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250 $\times$ 20 mm, S-10 μm , under these conditions, collecting the chromatographic peak with retention times of 21-23 min, recovering the solvent under decompression to obtained compound 3: quercitrin;

[0024] a chromatographic peak of 10-12 min, further purified by high performance liquid chromatography, wherein acetonitrile to water in the mobile phase is 25:75, the flow rate is 12 mL/min, and the detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250 $\times$ 20 mm, S-10 μm , under these conditions, collecting the chromatographic peak with retention times of 9-10 min, recovering the solvent under decompression to obtained compound 4: matairesinol-4'-O-glucoside;

[0025] (6) dissolving the Fr. A-1-3 sample obtained in the step (4) with methanol, the solution is filtered through a 0.45 μm microporous membrane, adopting high performance liquid chromatography, wherein the volume ratio of methanol to water in the mobile phase is 30:70, the flow rate is 12 mL/min, and detection wavelength is 210 nm, to perform primary separation and respectively collecting chromatographic peaks with retention times of 10-11 min, 17-19 min and 21-24 min, recovering the solvent under reduced pressure, chromatographic peaks of 17-19 min is for compound 6: epi-vogeloside, chromatographic peaks of 21-24 min is for compound 7: vogeloside, a chromatographic peak of 10-11 min, further purified by high performance liquid chromatography, wherein the volume ratio of acetonitrile to water in the

mobile phase is 15:85, the flow rate is 12 mL/min, and the detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250×20 mm, S-10 μm, under these conditions, collecting the chromatographic peak with retention times of 14-16 min, recovering the solvent under decompression to obtain compound 5: liquiritinapioside; and

[0026] (7) dissolving the Fr. A-1-3 sample obtained in the step (3) with methanol, the solution is filtered through a 0.45 μm microporous membrane, adopting high performance liquid chromatography, wherein the volume ratio of methanol to water in the mobile phase is 60:40, the flow rate is 12 mL/min, and detection wavelength is 210 nm, to perform primary separation and respectively collecting chromatographic peaks with retention times of 14-15 min and 19-21min, and recovering the solvent under reduced pressure, separating out a white precipitate in a dichloromethane-methanol solution with volume ratio of 2:1 from a collecting liquid of chromatographic peak of 19-21 min to obtain a compound 8; a chromatographic peak of 14-15 min, further purified by high performance liquid chromatography, wherein the volume ratio of acetonitrile to water in the mobile phase is 30:70, the flow rate is 12 mL/min, and the detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250×20 mm, S-10 μm, under these conditions, collecting the chromatographic peak with retention times of 18-20 min, recovering the solvent under decompression to obtain compound 1: 10-O-(p-hydroxycinnamoyl)-adonoxosidic acid.

[0027] In one embodiment, the Chinese traditional medicine composition is prepared from the following raw materials in parts by weight:

[0028] 200 parts of fructusforsythiae, 300 parts of honeysuckle, 200 parts of isatis root, 40 parts of rheum officinale, 60 parts of pogostemoncablin, 300 parts of rhizomadryopteriscrassirhizomatis, 100 parts of rhodiolarosea, 9 parts of menthol, 60 parts of ephedra, 100 parts of semen armeniacaeamarum, 200 parts of houttuyniacordata, 100 parts of liquorice and 200 parts of gypsum fibrosum.

[0029] In one embodiment, the Chinese traditional medicine composition is prepared from the following raw materials in parts by weight:

[0030] 300 parts of fructusforsythiae, 200 parts of honeysuckle, 300 parts of isatis root, 60 parts of rheum officinale, 100 parts of pogostemoncablin, 200 parts of rhizomadryopteriscrassirhizomatis, 60 parts of rhodiolarosea, 5 parts of menthol, 100 parts of ephedra, 60 parts of semen armeniacaeamarum, 300 parts of houttuyniacordata, 60 parts of liquorice and 300 parts of gypsum fibrosum.

[0031] In one embodiment, the Chinese traditional medicine composition is prepared from the following raw materials in parts by weight:

[0032] 278 parts of fructusforsythiae, 294 parts of honeysuckle, 285 parts of isatis root, 55 parts of rheum officinale, 95 parts of pogostemoncablin, 290 parts of rhizomadryopteriscrassirhizomatis, 87 parts of rhodiolarosea, 8.5 parts of menthol, 88 parts of ephedra, 80 parts of semen armeniacaeamarum, 284 parts of houttuyniacordata, 95 parts of liquorice and 277 parts of gypsum fibrosum.

[0033] The total extract of the Chinese traditional medicine composition in the scheme is prepared from the following steps of:

[0034] (1) weighing the Chinese traditional medicinal materials according to the weight ratio of the raw material medicines, cleaning and selecting, and crushing as appropriate;

[0035] (2) crushing pogostemoncablin, adding 10 times of water to extract volatile oil, extracting for 8 hours, and collecting the volatile oil for later use; after filtering the extracting solution, discarding the residue, and taking the filtrate for later use;

[0036] (3) extracting fructusforsythiae, ephedra, houttuyniacordata and rheum officinale three times with 12 times of 70% ethanol for 2.5 hours each time, combining and filtering the extracting solutions, recovering ethanol, and taking the filtrate for later use;

[0037] (4) honeysuckle, gypsum fibrosum, isatis root, rhizomadryopteriscrassirhizomatis, liquorice and rhodiolarosea, adding 12 times of water for decocting to boil, adding semen armeniacaeamarum, decocting twice for 1 hour each time, combining and filtering the extracting solutions, combining the obtained filtrate with the filtrate after pogostemoncablin oil extraction in the step (2), concentrating to a clear paste with a relative density of 1.10-1.15 measured at 60°C, adding ethanol to adjust the alcohol concentration to 70%, and refrigerating and standing; filtering and recovering ethanol until no alcohol smell exists to obtain clear paste for later use; and

[0038] (5) combining the clear paste obtained in the step (4) with the alcohol extract obtained in the step (3), concentrating to a clear paste with a relative density of 1.15-1.20 measured at 60°C, and drying to obtain the total extract for later use.

[0039] Advantageous Effects

[0040] The embodiment of the separation method provided by the solution can separate and obtain eight compounds, namely 10-O-(p-hydroxycinnamoyl)-adoxosidic acid, aloe-emodin-8-O-β-D-glucopyranoside, quercitrin, matairesinol -4'-O-glucoside, liquiritinapioside, epi-vogeloside, vogeloside and ethyl caffeate.

DETAILED DESCRIPTION OF ILLUSTRATIVE EMBODIMENTS

[0041] Example 1

[0042] Weighing in proportion: 20 kg fructusforsythiae, 30 kg honeysuckle, 20 kg isatis root, 4 kg rheum officinale, 6 kg pogostemoncablin, 30 kg rhizomadryopteriscrassirhizomatis, 10 kg rhodiolarosea, 0.9 kg menthol, 6 kg ephedra, 10 kg semen armeniacaeamarum, 20 kg houttuyniacordata, 10 kg liquorice and 20 kg gypsum fibrosum, and extracting according to the following processes:

[0043] (1) weighing the Chinese traditional medicinal materials according to the weight ratio of the raw material medicines, cleaning and selecting, and crushing as appropriate;

[0044] (2) crushing pogostemoncablin, adding 10 times of water to extract volatile oil, extracting for 8 hours, and collecting the volatile oil for later use; after filtering the extracting solution, discarding the residue, and taking the filtrate for later use;

[0045] (3) extracting fructusforsythiae, ephedra, houttuyniacordata and rheum officinale three times with 12 times of 70% ethanol for 2.5 hours each time, combining and filtering the extracting solutions, recovering ethanol, and taking the filtrate for later use;

[0046] (4) honeysuckle, gypsum fibrosum, isatis root, rhizomadryopteriscrassirhizomatis, liquorice and rhodiolarosea, adding 12 times of water for decocting to boil, adding semen armeniacaeamarum, decocting twice for 1 hour each time, combining and filtering the extracting solutions, combining the obtained filtrate with the filtrate after pogostemoncablin oil extraction in the step (2), concentrating to a clear paste with a relative density of 1.15 measured at 60°C, adding ethanol to adjust the alcohol concentration to 70%, and refrigerating and standing; filtering and recovering ethanol until no alcohol smell exists to obtain clear paste for later use; and

[0047] (5) combining the clear paste obtained in the step (4) with the alcohol extract obtained in the step (3), concentrating to a clear paste with a relative density of 1.20 measured at 60°C, and drying to obtain the total extract for later use.

[0048] The separation method comprises the following steps:

[0049] 1. Instruments and materials

[0050] Bruker Alpha infrared spectrometer (Bruker, Switzerland); Bruker AVIIIHD 600 nuclear magnetic resonance spectrometer (Bruker, Switzerland); Synapt G2-S Mass spectrometer (Waters, USA); Combi Flash Rf medium and low-pressure preparative liquid chromatograph (Teledyne ISCO, USA); NP7000 preparative liquid chromatograph (Jiangsu Hanbom Science and Technology Co., Ltd.) Milli-Q pure water purifier (Millipore, USA); AL204 analytical electronic balance (Mettler Toledo, USA); YMC ODS-A-HG 50 µm reverse phase silica gel (YMC Corporation, Japan); column chromatography silica gel (100-200 mesh and 200-300 mesh, Qingdao Haiyang Chemical CO., Ltd.); thin-layer chromatography silica gel plate

GF₂₅₄(Qingdao Haiyang Chemical CO., Ltd); YMC-Pack R&D ODS-A (250×20mm, S-10 μm, YMC Corporation, Japan); total extract of the Chinese traditional medicine composition of the solution, (Shijiazhuang Yiling Pharmaceutical Co., Ltd., batch number: B1509001); chromatographically pure acetonitrile, methanol (Adamas Reagent Co., Shanghai); analytical pure reagents (Beijing Chemical Works).

[0051] 2. Extraction and separation

[0052] (1) adsorbing 5 kg the total extract of the Chinese traditional medicine composition by AB-8 macroporous resin, eluting with 150 L water, 87.5 L 10% ethanol, 225 L 30% ethanol and 250 L 50% ethanol in sequence, and concentrating to obtain extract of each part;

[0053] (2) taking 200 g the 50% ethanol elution part extract obtained in the step (1), adding 200 g reversed-phase silica gel ODS-AQ-HG S-50 μm to mix sample, naturally airing the mixed sample ODS, loading the sample, and separating by using a reversed-phase ODS-AQ-HG S-50 μm open column, wherein the sample height ratio is 1:4; eluting with 6 L methanol-water in a volume ratio of 20:80, 7 L in a volume ratio 40:60, 7 L in a volume ratio 60:40, 5 L in a volume ratio 80:20 and 3 L 100% methanol in sequence under reduced pressure to obtain Fr.A-Fr.E;

[0054] (3) taking 50.0 g Fr.A sample obtained in step (2), adding 50.0g reverse-phase silica gel ODS-AQ-HG S-50 μm to mix sample, naturally airing the mixed sample ODS, adding the mixed sample ODS into a sample loading column, separating liquid phase prepared by an upper medium-pressure, a separating column filler was ODS-AQ-HG S-50 μm, gradiently separating liquid phase prepared by medium-pressure, wherein the volume ratio of methanol to water is 25:75-60:40, and the flow rate is 25 mL/min, receiving the fractions in equal volume of 500 mL in a conical flask, concentrating under reduced pressure, identifying the combined fractions through a thin layer chromatography plate, and concentrating under reduced pressure again to obtain Fr.A-1 - Fr.A-7;

[0055] (4) mixing 3.2 g Fr. A-2 sample obtained in the step (3) with 6.4 g silica gel of 200-300 mesh, loading onto a silica gel column, the sample height ratio was 1:50, carrying out isocratic separation by using a dichloromethane-methanol volume ratio of 8:1, receiving fractions in equal volume of 50 mL, eluting with a volume of 800 mL, and identifying the combined fractions through thin-layer chromatography plate to obtain Fr.A-1-1 - Fr.A-1-4;

[0056] (5) dissolving the Fr. A-1-2 sample obtained in the step (4) with methanol, the solution was filtered through a 0.45 μm microporous membrane, adopting high performance liquid chromatography, wherein the volume ratio of methanol to water in the mobile phase was 50:50, the flow rate was 12 mL/min, and detection wavelength was 210 nm, to perform primary separation and respectively collecting chromatographic peaks with retention times of 6-8min, 9-

10min and 12-13min, recovering the solvent under reduced pressure, and respectively performing the following separation:

[0057] a chromatographic peak of 6-8 min, further purified by high performance liquid chromatography, wherein the volume ratio of acetonitrile to water in the mobile phase was 25:75, the flow rate was 12 mL/min, and the detection wavelength was 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250×20 mm, S-10 μm, under these conditions, collecting the chromatographic peak with retention times of 8-9 min, recovering the solvent under decompression to obtained compound 2: aloe-emodin-8-O-β-D-glucopyranoside;

[0058] a chromatographic peak of 9-10 min, further purified by high performance liquid chromatography, wherein the volume ratio of methanol to water in the mobile phase was 45:55, the flow rate was 12 mL/min, and the detection wavelength was 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250×20 mm, S-10 μm, under these conditions, collecting the chromatographic peak with retention times of 21-23 min, recovering the solvent under decompression to obtained compound 3: quercitrin;

[0059] a chromatographic peak of 10-12 min, further purified by high performance liquid chromatography, wherein acetonitrile to water in the mobile phase was 25:75, the flow rate was 12 mL/min, and the detection wavelength was 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250×20 mm, S-10 μm, under these conditions, collecting the chromatographic peak with retention times of 9-10 min, recovering the solvent under decompression to obtained compound 4: matairesinol-4'-O-glucoside;

[0060] (6) dissolving the Fr. A-1-3 sample obtained in the step (4) with methanol, the solution was filtered through a 0.45 μm microporous membrane, adopting high performance liquid chromatography, wherein the volume ratio of methanol to water in the mobile phase was 30:70, the flow rate was 12mL/min, and detection wavelength was 210 nm, to perform primary separation and respectively collecting chromatographic peaks with retention times of 10-11min, 17-19min and 21-24min, recovering the solvent under reduced pressure, chromatographic peaks of 17-19 min is for compound 6: epi-vogeloside, chromatographic peaks of 21-24 min is for compound 7: vogeloside, a chromatographic peak of 10-11 min, further purified by high performance liquid chromatography, wherein the volume ratio of acetonitrile to water in the mobile phase was 15:85, the flow rate was 12 mL/min, and the detection wavelength was 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250×20 mm, S-10 μm, under these conditions, collecting the chromatographic peak with retention times of 14-16 min, recovering the solvent under decompression to obtained compound 5: liquiritinapioside; and

[0061] (7) dissolving the Fr. A-1-3 sample obtained in the step (3) with methanol, the solution was filtered through a 0.45 μm microporous membrane, adopting high performance liquid chromatography, wherein the volume ratio of methanol to water in the mobile phase was 60:40, the flow rate was 12 mL/min, and detection wavelength was 210 nm, to perform primary separation and respectively collecting chromatographic peaks with retention times of 14-15 min and 19-21min, and recovering the solvent under reduced pressure, separating out a white precipitate in a dichloromethane-methanol solution with volume ratio of 2:1 from a collecting liquid of chromatographic peak of 19-21 min to obtain compound 8; a chromatographic peak of 14-15 min, further purified by high performance liquid chromatography, wherein the volume ratio of acetonitrile to water in the mobile phase was 30:70, the flow rate was 12 mL/min, and the detection wavelength was 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250 $\times$ 20 mm, S-10 μm , under these conditions, collecting the chromatographic peak with retention times of 18-20 min, recovering the solvent under decompression to obtained compound 1: 10-O-(p-hydroxycinnamoyl)-adoxosidic acid.

[0062] 3. Structure identification

[0063] 3.1 Structure identification of new compounds

[0064] Compound 1: light yellow powder, UV λ_{max} (MeOH):228, 312 nm. Infrared showed hydroxyl (3330 cm^{-1}), α , β -unsaturated carbonyl (1680, 1630 cm^{-1}) and benzene ring (1603, 1514 cm^{-1}). HR-ESI-MS m/z : 521.1699 [M-H]⁻ (calculated value: 521.1659), in combination with NMR data, the molecular formula of the compound was determined to be C₂₅H₃₀O₁₂. Unsaturation degree is 11.

[0065] ¹H-NMR (DMSO-*d*₆, 600MHz) spectrum (Table 1) showed that the compound contained a pair of trans double bonds δ_{H} 7.56 (1H, d, J =16.2Hz), 6.39 (1H, d, J =16.2Hz) and AB system aromatic hydrogens δ_{H} 7.55 (2H, d, J =8.4Hz), 6.79 (2H, d, J =8.4Hz), chemical shift of hydrogen spectrum was 4.52 (1H, d, J =7.8Hz), presumed to be the terminal hydrogen of sugar.

[0066] ¹³C-NMR (DMSO-*d*₆, 150MHz) spectrum (Table 1) showed that the compound contained two conjugated carbonyl carbons (δ_{C} : 168.4, 167.2) and two distinct fragments, δ_{C} : 116.2 (2C), 130.8 (2C), 160.2 should be para-hydroxyphenyl fragments, δ_{C} : 99.3, 77.6, 77.1, 73.6, 70.4, 61.6 is a glucosyl group fragment.

[0067] By HMBC, double bonds δ_{H} 7.56、6.39 are related to phenyl carbon δ_{C} 125.5, double bonds δ_{H} 6.39 and -CH₂- δ_{H} 4.12 are related to carbonyl group δ_{C} 167.2, and the above fragments are not related to other C and H chemical shifts, and the fragments are presumed to be independent fragments of p-hydroxycinnamoyl, and the remaining part of the sugar-free fragment is presumed to be the core. The unsaturation of the parent nucleus is calculated to be 4

(containing a carbonyl group and a double bond), suggesting that the parent nucleus is a double-ring structure. Through the assignment and connection of HSQC and HMBC, it is speculated that the compound is an iridoid, and the parent nucleus of the compound is determined to be adoxosidic acid through literature search.

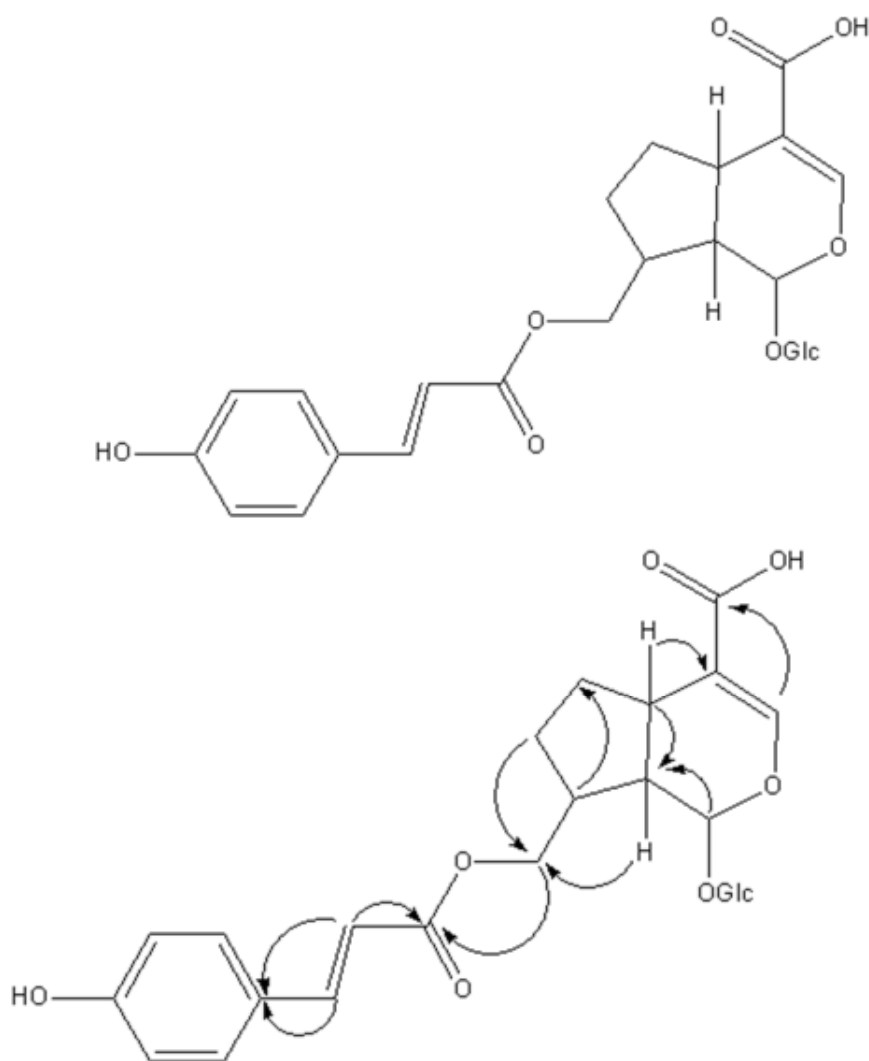
[0068] The remaining fragment was known to be *p*-hydroxycinnamic acid, esterified to the 10-position of the parent core adoxosidic acid. The compound was identified as a new compound (the configuration of which was not yet confirmed in this experiment and will be confirmed in subsequent studies) as 10-*O*-(*p*-hydroxycinnamoyl)-adoxosidic acid by searching the SciFinder and Reaxys databases.

[0069] Table 1 NMR data of compound 1

Carbon site	δ_H	δ_C
1	5.14 (1H, d, $J=6.6$ Hz)	96.5
3	7.40 (1H, s)	151.6
4		111.4
5	2.77 (1H, m)	35.1
6	1.42 (1H, m), 2.09 (1H, m)	32.1
7	1.35 (1H, m), 1.79 (1H, m)	27.6
8	2.25 (1H, m)	40.2
9	1.92 (1H, m)	43.1
10	4.12 (2H, m)	67.1
11		168.4
1'	4.52 (1H, d, $J=7.8$ Hz)	99.3
2'	3.01 (1H, m)	73.6
3'	3.17 (1H, m)	77.1 ^a
4'	3.14 (1H, m)	70.4
5'	3.17 (1H, m)	77.6 ^a
6'	3.43 (1H, d, $J=11.4$ Hz), 3.68 (1H, d, $J=11.4$ Hz)	61.6
1''		125.5
2''6''	7.55 (2H, d, $J=8.4$ Hz)	130.8
3''5''	6.79 (2H, d, $J=8.4$ Hz)	116.2
4''		160.2
7''	7.56 (1H, d, $J=16.2$ Hz)	145.2

8"	6.39 (1H, d, $J=16.2\text{Hz}$)	114.5
9"		167.2

[0070]^[A&G1]^a Chemical shifts may need to be exchanged



[0071] 3.2 Structure identification of known compounds

[0072] Compound 2: yellow powder, ESI-MS m/z : 431 $[\text{M-H}]^-$, in combination with NMR data, the molecular formula of the compound was determined to be $\text{C}_{21}\text{H}_{20}\text{O}_{10}$. $^1\text{H-NMR}$ ($\text{DMSO-}d_6$, 600MHz) δ_{H} : 12.88 (1H, s, OH), 7.89 (1H, dd, $J=1.2, 8.4\text{Hz}$, H-5), 7.86 (1H, t, $J=7.8\text{Hz}$, H-6), 7.72 (1H, dd, $J=1.2, 8.4\text{Hz}$, H-7), 7.66 (1H, brs, H-4), 7.28 (1H, brs, H-2), 5.17 (1H, d, $J=7.8\text{Hz}$, anomeric-H), 4.62 (2H, s, CH_2OH), 3.72~3.23 (Glc-H). $^{13}\text{C-NMR}$ ($\text{DMSO-}d_6$, 150MHz) δ_{C} :

188.8 (C-9), 182.6 (C-10), 162.2 (C-1), 158.7 (C-8), 152.7 (C-3), 136.4 (C-6), 135.3 (C-10a), 132.7 (C-4a), 122.9 (C-7), 121.2 (C-2), 121.0 (C-5), 116.4 (C-8a, C-9a), 100.9 (C-1'), 77.7 (C-5'), 77.0 (C-3'), 73.7 (C-2'), 70.0 (C-4'), 62.5 (CH₂OH), 61.0 (C-6') . The characteristics of hydrogen spectrum and data of carbon spectrum above were consistent with what reported in the literature, and the compound was identified as aloe-emodin-8-O-β-D-glucopyranoside.

[0073] Compound 3: yellow powder, ESI-MS m/z : 447 [M-H]⁻, in combination with NMR data, the molecular formula of the compound was determined to be C₂₁H₂₀O₁₁. ¹H-NMR (DMSO-*d*₆, 600MHz) δ_H : 12.66 (1H, s, 5-OH), 7.31 (1H, d, $J=2.4$ Hz, H-2'), 7.26 (1H, d, $J=2.4$, 8.4Hz, H-6'), 6.87 (1H, d, $J=8.4$ Hz, H-5'), 6.39 (1H, d, $J=2.4$ Hz, H-8), 6.21 (1H, d, $J=2.4$ Hz, H-6), 5.26 (1H, d, $J=1.8$ Hz, anomeric-H), 0.82 (3H, d, $J=6.0$ Hz, CH₃) . ¹³C-NMR (DMSO-*d*₆, 150MHz) δ_C : 178.2 (C-4), 164.6 (C-7), 161.7 (C-5), 157.7 (C-2), 156.9 (C-9), 148.9 (C-4'), 145.6 (C-3'), 134.7 (C-3), 121.5 (C-6'), 121.2 (C-1'), 116.1 (C-5'), 115.9 (C-2'), 104.5 (C-10), 102.3 (C-1''), 99.1 (C-6), 94.1 (C-8), 71.6 (C-4''), 71.0 (C-3''), 70.8 (C-2''), 70.5 (C-5''), 17.9 (C-6'') . The characteristics of hydrogen spectrum and data of carbon spectrum above were consistent with what reported in the literature, and the compound was identified as quercitrin.

[0074] Compound 4: yellow powder, ESI-MS m/z : 519 [M-H]⁻, in combination with NMR data, the molecular formula of the compound was determined to be C₂₆H₃₂O₁₁. ¹H-NMR (DMSO-*d*₆, 600MHz) δ_H : 6.99 (1H, d, $J=8.4$ Hz, H-5), 6.78 (1H, d, $J=1.8$ Hz, H-2'), 6.67 (2H, m, H-5, H-6'), 6.63 (1H, s, H-2), 6.50 (1H, dd, $J=1.8$, 8.4Hz, H-6), 4.84 (1H, d, $J=7.8$ Hz, H-1''), 4.09 (1H, t, $J=7.8$ Hz, H-9a), 3.86 (1H, t, $J=8.4$ Hz, H-9b), 3.72 (6H, d, $J=2.4$ Hz, 2×OCH₃) . ¹³C-NMR (DMSO-*d*₆, 150MHz) δ_C : 178.9 (C-9'), 149.1 (C-3'), 147.9 (C-3), 145.7 (C-4'), 145.4 (C-4), 132.2 (C-1'), 130.0 (C-1), 121.8 (C-6'), 121.2 (C-6), 115.9 (C-5'), 115.6 (C-5), 114.3 (C-2'), 113.1 (C-2), 100.6 (C-1''), 77.4 (C-5''), 77.3 (C-3''), 73.7 (C-2''), 71.1 (C-9), 70.1 (C-4''), 61.1 (C-6''), 56.1 (OCH₃), 56.0 (OCH₃), 46.0 (C-8'), 41.3 (C-8), 37.3 (C-7), 33.9 (C-7') . The data of carbon spectrum above were consistent with what reported in the literature, and the compound was identified as matairesinol-4'-O-glucoside.

[0075] Compound 5: white powder, ESI-MS m/z : 549 [M-H]⁻, in combination with NMR data, the molecular formula of the compound was determined to be C₂₆H₃₀O₁₃. ¹H-NMR (CD₃OD, 600 MHz) δ_H : 7.70 (1H, d, $J=9.0$ Hz, H-5), 7.40 (2H, d, $J=8.4$ Hz, H-2', 6'), 7.09 (2H, d, $J=9.0$ Hz, H-3', 5'), 6.48 (1H, dd, $J=2.4$, 9.0Hz, H-6), 6.34 (1H, d, $J=2.4$ Hz, H-8), 5.46 (1H, d, $J=1.2$ Hz, H-1'''), 5.39 (1H, dd, $J=2.4$, 13.2Hz, H-2), 4.98 (1H, d, $J=7.2$ Hz, H-1''), 4.04 (1H, d, $J=9.6$ Hz, H-5'''a), 3.89 (1H, d, $J=1.2$ Hz, H-2'''), 3.88 (1H, dd, $J=1.2$, 12.0Hz, H-6''a), 3.79 (1H, d, $J=9.6$ Hz, H-5'''b), 2.99 (1H, m, H-3a), 2.74 (1H, dd, $J=2.4$, 16.8Hz, H-3b) . ¹³C-NMR (CD₃OD, 150 MHz) δ_C : 193.2 (C-4), 166.7 (C-7), 165.3 (C-8a), 159.0 (C-4'), 134.3 (C-1'), 129.9 (C-5), 128.8 (C-2', 6'),

117.6 (C-3', 5'), 114.9 (C-4a), 111.8 (C-6), 110.7 (C-1'''), 103.8 (C-8), 100.7 (C-1''), 80.7 (C-2), 80.6 (C-3'''), 78.8 (C-5''), 78.6 (C-2'''), 78.0 (C-2''), 77.9 (C-3''), 75.4 (C-4'''), 71.4 (C-4''), 66.0 (C-5'''), 62.4 (C-6''), 44.9 (C-3) . The characteristics of hydrogen spectrum and data of carbon spectrum above were consistent with what reported in the literature, and the compound was identified as liquiritinapioside.

[0076] Compound 6: white powder, ESI-MS m/z : 387 [M-H]⁻, in combination with NMR data, the molecular formula of the compound was determined to be C₁₇H₂₄O₁₀. ¹H-NMR (CD₃OD, 600 MHz) δ_H : 7.60 (1H, d, J =2.4Hz, H-3), 5.55 (1H, d, J =1.8Hz, H-1), 5.48 (1H, m, H-8), 5.31 (1H, s, H-7), 5.29 (1H, m, H-10a), 5.25 (1H, m, H-10b), 4.67 (1H, d, J =7.8Hz, H-1'), 3.50 (1H, s, 7-OCH₃), 3.18 (1H, m, H-5), 2.63 (1H, m, H-9), 1.85 (1H, dd, J =6.0, 13.2Hz, H-6a), 1.69 (1H, td, J =3.0, 13.8Hz, H-6b) . ¹³C-NMR (CD₃OD, 150 MHz) δ_C : 167.4 (C-11), 154.4 (C-4), 133.3 (C-8), 121.0 (C-10), 105.3 (C-4), 103.3 (C-7), 100.3 (C-1'), 98.5 (C-1), 78.3 (C-5'), 78.0 (C-3'), 74.6 (C-2'), 71.4 (C-4'), 62.6 (C-6'), 57.0 (7-OCH₃), 43.5 (C-9), 30.2 (C-6), 22.8 (C-5) . The characteristics of hydrogen spectrum and data of carbon spectrum above were consistent with what reported in the literature, and the compound was identified as epi-vogeloside.

[0077] Compound 7: white powder, ESI-MS m/z : 387 [M-H]⁻, in combination with NMR data, the molecular formula of the compound was determined to be C₁₇H₂₄O₁₀. ¹H-NMR (CD₃OD, 600 MHz) δ_H : 7.58 (1H, d, J =2.4Hz, H-3), 5.55 (1H, d, J =1.2Hz, H-1), 5.47 (1H, m, H-8), 5.31 (1H, s, H-7), 5.29 (1H, m, H-10a), 5.26 (1H, m, H-10b), 4.66 (1H, d, J =7.8Hz, H-1'), 3.54 (1H, s, 7-OCH₃), 3.16 (1H, m, H-5), 2.67 (1H, m, H-9), 1.97 (1H, m, H-6a), 1.44 (1H, m, H-6b) . ¹³C-NMR (CD₃OD, 150 MHz) δ_C : 167.6 (C-11), 154.1 (C-4), 133.0 (C-8), 121.1 (C-10), 105.4 (C-4), 105.1 (C-7), 99.7 (C-1'), 97.9 (C-1), 78.4 (C-5'), 77.8 (C-3'), 74.7 (C-2'), 71.5 (C-4'), 62.6 (C-6'), 57.1 (7-OCH₃), 43.7 (C-9), 31.7 (C-6), 25.3 (C-5) . The characteristics of hydrogen spectrum were consistent with what reported in the literature carbon, the carbon signal is assigned, and the compound was identified as vogeloside.

[0078] Compound 8: white powder, ESI-MS m/z : 209 [M+H]⁺, in combination with NMR data, the molecular formula of the compound was determined to be C₁₁H₁₂O₄. ¹H-NMR (DMSO-*d*₆, 600MHz) δ_H : 7.46 (1H, d, J =15.9Hz, H-7), 7.04 (1H, brs, H-2), 6.99 (1H, d, J =8.1Hz, H-6), 6.75 (1H, d, J =8.1Hz, H-5), 6.24 (1H, d, J =15.9Hz, H-8), 4.15 (2H, q, J =7.1Hz, H-10), 1.24 (3H, t, J =7.1Hz, H-11) . ¹³C-NMR (DMSO-*d*₆, 150MHz) δ_C : 166.5 (C-9), 148.6 (C-4), 145.0 (C-7), 145.6 (C-3), 121.3 (C-6), 125.3 (C-1), 115.7 (C-5), 114.7 (C-2), 113.9 (C-8), 59.6 (C-10), 14.3 (C-11) . The characteristics of hydrogen spectrum and data of carbon spectrum above were consistent with what reported in the literature, and the compound was identified as ethyl caffeate.

[0079] Example 2

[0080] Weighing in proportion: 30kg fructusforsythiae, 20kg honeysuckle, 30kg isatis root, 6kg rheum officinale, 10kg pogostemoncabin, 20kg rhizomadryopteriscrassirhizomatis, 6 kg rhodiolarosea, 0.5kg menthol, 10kg ephedra, 6 kg semen armeniacaeamarum, 30kg houttuyniacordata, 6 kg liquorice and 30kg gypsum fibrosum, and extracting according to the following processes:

[0081] (1) weighing the Chinese traditional medicinal materials according to the weight ratio of the raw material medicines, cleaning and selecting, and crushing as appropriate;

[0082] (2) crushing pogostemoncabin, adding 10 times of water to extract volatile oil, extracting for 8 hours, and collecting the volatile oil for later use; after filtering the extracting solution, discarding the residue, and taking the filtrate for later use;

[0083] (3) extracting fructusforsythiae, ephedra, houttuyniacordata and rheum officinale three times with 12 times of 70% ethanol for 2.5 hours each time, combining and filtering the extracting solutions, recovering ethanol, and taking the filtrate for later use;

[0084] (4) honeysuckle, gypsum fibrosum, isatis root, rhizomadryopteriscrassirhizomatis, liquorice and rhodiolarosea, adding 12 times of water for decocting to boil, adding semen armeniacaeamarum, decocting twice for 1 hour each time, combining and filtering the extracting solutions, combining the obtained filtrate with the filtrate after pogostemoncabin oil extraction in the step (2), concentrating to a clear paste with a relative density of 1.10 measured at 60°C, adding ethanol to adjust the alcohol concentration to 70%, and refrigerating and standing; filtering and recovering ethanol until no alcohol smell exists to obtain clear paste for later use; and

[0085] (5) combining the clear paste obtained in the step (4) with the alcohol extract obtained in the step (3), concentrating to a clear paste with a relative density of 1.15 measured at 60°C, and drying to obtain the total extract for later use.

[0086] 1. The instrument and materials: This step is the same as that in Example 1. Please refer to the details in Example 1.

[0087] 2. Extraction and separation:

[0088] adsorbing the solution total extract 5 kg the Chinese traditional medicine composition by d-101 macroporous resin, eluting with water, 10% ethanol, 30% ethanol and 50% ethanol in sequence, and concentrating to obtain extract of each part; remaining steps were the same as in Example 1.

[0089] 3. Results identification: this step is the same as that of Example 1, where eight compounds are obtained from the separation, which are identical to those obtained in Example 1.

[0090] Example 3

[0091] The raw material medicine formula is: 27.8 kg fructusforsythiae, 29.4 kg honeysuckle, 28.5 kg isatis root, 5.5 kg rheum officinale, 9.5 kg pogostemoncablin, 29 kg rhizomadryopteriscrassirhizomatis, 8.7 kg rhodiolarosea, 0.85 kg menthol, 8.8 kg ephedra, 8 kg semen armeniacaeamarum, 28.4 kg houttuyniacordata, 9.5 kg liquorice and 27.7 kg gypsum fibrosum, and extracting according to the following processes:

[0092] (1) weighing the Chinese traditional medicinal materials according to the weight ratio of the raw material medicines, cleaning and selecting, and crushing as appropriate;

[0093] (2) crushing pogostemoncablin, adding 10 times of water to extract volatile oil, extracting for 8 hours, and collecting the volatile oil for later use; after filtering the extracting solution, discarding the residue, and taking the filtrate for later use;

[0094] (3) extracting fructusforsythiae, ephedra, houttuyniacordata and rheum officinale three times with 12 times of 70% ethanol for 2.5 hours each time, combining and filtering the extracting solutions, recovering ethanol, and taking the filtrate for later use;

[0095] (4) honeysuckle, gypsum fibrosum, isatis root, rhizomadryopteriscrassirhizomatis, liquorice and rhodiolarosea, adding 12 times of water for decocting to boil, adding semen armeniacaeamarum, decocting twice for 1 hour each time, combining and filtering the extracting solutions, combining the obtained filtrate with the filtrate after pogostemoncablin oil extraction in the step (2), concentrating to a clear paste with a relative density of 1.13 measured at 60°C, adding ethanol to adjust the alcohol concentration to 70%, and refrigerating and standing; filtering and recovering ethanol until no alcohol smell exists to obtain clear paste for later use; and

[0096] (5) combining the clear paste obtained in the step (4) with the alcohol extract obtained in the step (3), concentrating to a clear paste with a relative density of 1.18 measured at 60°C, and drying to obtain the total extract for later use.

[0097] 1. The instrument and materials were the same as that in Example 1.

[0098] 2. Extraction and separation:

[0099] adsorbing the solution total extract 5 kg the Chinese traditional medicine composition by HPD-100 macroporous resin, eluting with water, 10% ethanol, 30% ethanol and 50% ethanol in sequence, and concentrating to obtain extract of each part; remaining steps were the same as in Example 1.

[0100] 3. Results identification

[0101] The step is the same as that in Example 1, where eight compounds are obtained from the separation which are identical to those obtained in Example 1.

[0102] While the foregoing is directed to the preferred examples of the scheme, it is not intended to limit the scheme to the precise form disclosed, and any modification, equivalent replacement or improvement made within the spirit and principle of the present application should be included in the protection scope of the present application.

WHAT IS CLAIMED IS:

1. A method for separating eight components in a Chinese traditional medicine composition, wherein the Chinese traditional medicine composition is prepared from raw materials in parts by weight comprising: 200-300 parts of *fructusforsythiae*, 60-100 parts of *ephedra*, 40-60 parts of *rheum officinale*, 200-300 parts of *houltuyniacordata*, 200-300 parts of *honeysuckle*, 200-300 parts of *isatis root*, 60-100 parts of *pogostemoncablin*, 200-300 parts of *rhizomadryopteriscrassirhizomatis*, 60-100 parts of *rhodiolarosea*, 5-9 parts of *menthol*, 60-100 parts of *semen armeniacaeamarum*, 60-100 parts of *liquorice* and 200-300 parts of *gypsum fibrosum*, wherein the method comprises following steps of:

(1) adsorbing total extract of the Chinese traditional medicine composition by AB-8 macroporous resin, eluting with water, 10% ethanol, 30% ethanol and 50% ethanol in sequence, respectively collecting eluent of each part, and concentrating to obtain extract of each part;

(2) taking the 50% ethanol elution part obtained in step (1), adding reverse-phase silica gel ODS-AQ-HG, naturally airing a mixed sample, loading the sample, separating by using a reverse-phase ODS-AQ-HG open column, and sequentially eluting by using methanol with methanol-water volume ratios of 20:80, 40:60, 60:40, 80:20 and 100% methanol, and sequentially obtaining Fr.A-Fr.E samples;

(3) taking the Fr.A sample obtained in step (2), adding a reverse-phase silica gel ODS-AQ-HG to mix a first sample ODS, naturally airing the mixed first sample ODS, adding the mixed first sample ODS into a sample loading column, separating a liquid phase prepared by an upper medium-pressure, gradiently separating a liquid phase prepared by a medium-pressure, wherein a volume ratio of methanol to water is 25:75-60:40, and a flow rate is 25 mL/min, receiving fractions in equal volume of 500 mL in a conical flask, concentrating under reduced pressure, identifying combined fractions through a thin layer chromatography plate, and concentrating under reduced pressure again to obtain Fr.A-1 - Fr.A-7 samples;

(4) mixing the Fr. A-2 sample obtained in the step (3) with silica gel, loading onto a silica gel column, carrying out isocratic separation by using a dichloromethane-methanol volume ratio of 8: 1, receiving fractions in equal volume of 50 mL, eluting with a volume of 800 mL, and identifying combined fractions through thin-layer chromatography plate to obtain Fr.A-1-1 - Fr.A-1-4 samples;

(5) dissolving the Fr. A-1-2 sample obtained in the step (4) with methanol, adopting high performance liquid chromatography, wherein a volume ratio of methanol to water in a mobile phase is 50:50, a flow rate is 12 mL/min, and a detection wavelength is 210 nm, to perform primary separation and respectively collecting chromatographic peaks with retention

times of 6-8min, 9-10min and 12-13min, recovering the solvent under reduced pressure, and respectively performing following separation:

a chromatographic peak of 6-8 min, further purified by high performance liquid chromatography, wherein a volume ratio of acetonitrile to water in the mobile phase is 25:75, a flow rate is 12 mL/min, and a detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250×20 mm, S-10 μm, under these conditions, collecting the chromatographic peak with retention times of 8-9 min, recovering the solvent under decompression to obtained a compound 2: aloe-emodin-8-O-β-D-glucopyranoside;

a chromatographic peak of 9-10 min, further purified by high performance liquid chromatography, wherein a volume ratio of methanol to water in a mobile phase is 45: 55, a flow rate is 12 mL/min, and a detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250×20 mm, S-10 μm, under these conditions, collecting the chromatographic peak with retention times of 21-23 min, recovering the solvent under decompression to obtained compound 3: quercitrin; and

a chromatographic peak of 10-12 min, further purified by high performance liquid chromatography, wherein a volume ratio of acetonitrile to water in a mobile phase is 25: 75, a flow rate is 12 mL/min, and a detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250×20 mm, S-10 μm, under these conditions, collecting the chromatographic peak with retention times of 9-10 min, recovering the solvent under decompression to obtained compound 4: matairesinol-4'-O-glucoside;

(6) dissolving the Fr. A-1-3 sample obtained in the step (4) with methanol, adopting high performance liquid chromatography, wherein a volume ratio of methanol to water in a mobile phase is 30:70, a flow rate is 12mL/min, and a detection wavelength is 210 nm, to perform primary separation and respectively collecting chromatographic peaks with retention times of 10-11min, 17-19min and 21-24min, recovering the solvent under reduced pressure, chromatographic peaks at 17-19 min is for compound 6: epi-vogeloside, chromatographic peaks at 21-24 min is for compound 7: vogeloside, chromatographic peak of 10-11 min, further purified by high performance liquid chromatography, wherein a volume ratio of acetonitrile to water in a mobile phase is 15:85, the flow rate is 12 mL/min, and a detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250×20 mm, S-10 μm, under these conditions, collecting the chromatographic peak with retention times of 14-16 min, recovering the solvent under decompression to obtained a compound 5: liquiritinapioside; and

(7) dissolving the Fr. A-3 sample obtained in the step (3) with methanol, adopting high performance liquid chromatography, wherein a volume ratio of methanol to water in a mobile phase is 60:40, a flow rate is 12 mL/min, and a detection wavelength is 210 nm, to perform primary separation and respectively collecting chromatographic peaks with retention times of 14-15 min and 19-21 min, and recovering the solvent under reduced pressure, separating out a white precipitate in a dichloromethane-methanol solution with volume ratio of 2:1 from a collecting liquid of chromatographic peak of 19-21 min to obtain a compound 8; and

wherein chromatographic peak of 14-15 min is further purified by high performance liquid chromatography, wherein a volume ratio of acetonitrile to water in a mobile phase is 30:70, a flow rate is 12 mL/min, and a detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250×20 mm, S-10 μm, under these conditions, collecting the chromatographic peak with retention times of 18-20 min, recovering the solvent under decompression to obtain a compound 1: 10-O-(p-hydroxycinnamoyl)-adonixic acid.

2. The method for separating eight components according to claim 1, further comprises the following steps of:

(8) adsorbing 5 kg the total extract of the Chinese traditional medicine composition by AB-8 macroporous resin, eluting with 150 L water, 87.5 L 10% ethanol, 225 L 30% ethanol and 250 L 50% ethanol in sequence, and concentrating to obtain extract of each part;

(9) taking 200 g of the 50% ethanol elution part extract obtained in the step (8), adding 200 g reversed-phase silica gel ODS-AQ-HG S-50 μm to mix a second sample ODS, naturally airing the mixed second sample ODS, loading the mixed second sample ODS, and separating by using a reversed-phase ODS-AQ-HG S-50 μm open column, wherein a sample height ratio is 1:4; eluting with 6 L methanol-water in a volume ratio of 20:80, 7 L in a volume ratio 40:60, 7 L in a volume ratio 60:40, 5 L in a volume ratio 80:20 and 3 L 100% methanol in sequence under reduced pressure to obtain Fr.A-Fr.E samples;

(10) taking 50.0 g of the Fr.A sample obtained in step (9), adding 50 g reverse-phase silica gel ODS-AQ-HG S-50 μm to mix a third sample ODS, naturally airing the mixed third sample ODS, adding the mixed third sample ODS into a sample loading column, separating liquid phase prepared by an upper medium-pressure, wherein a separating column filler is ODS-AQ-HG S-50 μm, gradiently separating liquid phase prepared by medium-pressure, wherein a volume ratio of methanol to water is 25:75-60:40, and a flow rate is 25 mL/min, receiving fractions in equal volume of 500 mL in a conical flask, concentrating under reduced pressure, identifying combined fractions through a thin layer chromatography plate, and

concentrating under reduced pressure again to obtain Fr.A-1 - Fr.A-7 samples;

(11) mixing 3.2 g of the Fr. A-2 sample obtained in the step (10) with 6.4 g silica gel of 200-300 mesh, loading onto a silica gel column, wherein a sample height ratio is 1:50, carrying out isocratic separation by using a dichloromethane-methanol volume ratio of 8:1, receiving fractions in equal volume of 50 mL, eluting with a volume of 800 mL, and identifying combined fractions through thin-layer chromatography plate to obtain Fr.A-1-1 - Fr.A-1-4 samples;

(12) dissolving the Fr. A-1-2 sample obtained in the step (11) with methanol, the solution is filtered through a 0.45 μm microporous membrane, adopting high performance liquid chromatography, wherein a volume ratio of methanol to water in a mobile phase is 50:50, a flow rate is 12 mL/min, and a detection wavelength is 210 nm, to perform primary separation and respectively collecting chromatographic peaks with retention times of 6-8min, 9-10min and 12-13min, recovering the solvent under reduced pressure, and respectively performing following separation:

the chromatographic peak of 6-8 min, further purified by high performance liquid chromatography, wherein the volume ratio of acetonitrile to water in the mobile phase is 25:75, the flow rate is 12 mL/min, and the detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250 $\times$ 20 mm, S-10 μm , under these conditions, collecting the chromatographic peak with retention times of 8-9 min, recovering the solvent under decompression to obtained compound 2: aloe-emodin-8-O- β -D-glucopyranoside;

the chromatographic peak of 9-10 min, further purified by high performance liquid chromatography, wherein the volume ratio of methanol to water in the mobile phase is 45: 55, the flow rate is 12 mL/min, and the detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250 $\times$ 20 mm, S-10 μm , under these conditions, collecting the chromatographic peak with retention times of 21-23 min, recovering the solvent under decompression to obtained compound 3: quercitrin;

the chromatographic peak of 10-12 min, further purified by high performance liquid chromatography, wherein the volume ratio of acetonitrile to water in the mobile phase is 25:75, the flow rate is 12 mL/min, and the detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250 $\times$ 20 mm, S-10 μm , under these conditions, collecting the chromatographic peak with retention times of 9-10 min, recovering the solvent under decompression to obtained compound 4: matairesinol-4'-O-glucoside;

(13) dissolving the Fr. A-1-3 sample obtained in the step (11) with methanol, the solution

is filtered through a 0.45 μm microporous membrane, adopting high performance liquid chromatography, wherein the volume ratio of methanol to water in the mobile phase is 30:70, the flow rate is 12 mL/min, and detection wavelength is 210 nm, to perform primary separation and respectively collecting chromatographic peaks with retention times of 10-11min, 17-19min and 21-24min, recovering the solvent under reduced pressure, chromatographic peaks of 17-19 min is for compound 6: epi-vogeloside, chromatographic peaks of 21-24 min is for compound 7: vogeloside, a chromatographic peak of 10-11 min, further purified by high performance liquid chromatography, wherein the volume ratio of acetonitrile to water in the mobile phase is 15:85, the flow rate is 12 mL/min, and the detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250 $\times$ 20 mm, S-10 μm , under these conditions, collecting the chromatographic peak with retention times of 14-16 min, recovering the solvent under decompression to obtained compound 5: liquiritinapioside; and

(14) dissolving the Fr. A-3 sample obtained in the step (10) with methanol, the solution is filtered through a 0.45 μm microporous membrane, adopting high performance liquid chromatography, wherein the volume ratio of methanol to water in the mobile phase is 60:40, the flow rate is 12 mL/min, and detection wavelength is 210 nm, to perform primary separation and respectively collecting chromatographic peaks with retention times of 14-15 min and 19-21min, and recovering the solvent under reduced pressure, separating out a white precipitate in a dichloromethane-methanol solution with volume ratio of 2:1 from a collecting liquid of chromatographic peak of 19-21 min to obtain a compound 8; a chromatographic peak of 14-15 min, further purified by high performance liquid chromatography, wherein the volume ratio of acetonitrile to water in the mobile phase is 30:70, the flow rate is 12 mL/min, and the detection wavelength is 210 nm, chromatographic column: YMC-Pack R&D ODS-A, 250 $\times$ 20 mm, S-10 μm , under these conditions, collecting the chromatographic peak with retention times of 18-20 min, recovering the solvent under decompression to obtained compound 1: 10-O-(p-hydroxycinnamoyl)-adonixosidic acid.

3. The method for separating eight components according to any one of the claims 1 to 2, wherein the Chinese traditional medicine composition is further prepared from following raw materials in parts by weight:

200 parts of fructusforsythiae, 300 parts of honeysuckle, 200 parts of isatis root, 40 parts of rheum officinale, 60 parts of pogostemoncablin, 300 parts of rhizomadryopteriscrassirhizomatis, 100 parts of rhodiolarosea, 9 parts of menthol, 60 parts of ephedra, 100 parts of semen armeniacaeamarum, 200 parts of houttuyniacordata, 100 parts of

liquorice and 200 parts of gypsum fibrosum.

4. The method for separating eight components according to any one of the claims 1 to 2, wherein the Chinese traditional medicine composition is further prepared from following raw materials in parts by weight:

300 parts of fructusforsythiae, 200 parts of honeysuckle, 300 parts of isatis root, 60 parts of rheum officinale, 100 parts of pogostemoncablin, 200 parts of rhizomadryopteriscrassirhizomatis, 60 parts of rhodiolarosea, 5 parts of menthol, 100 parts of ephedra, 60 parts of semen armeniacaeamarum, 300 parts of houttuyniacordata, 60 parts of liquorice and 300 parts of gypsum fibrosum.

5. The method for separating eight components according to any one of the claims 1 to 2, wherein the Chinese traditional medicine composition is further prepared from following raw materials in parts by weight:

278 parts of fructusforsythiae, 294 parts of honeysuckle, 285 parts of isatis root, 55 parts of rheum officinale, 95 parts of pogostemoncablin, 290 parts of rhizomadryopteriscrassirhizomatis, 87 parts of rhodiolarosea, 8.5 parts of menthol, 88 parts of ephedra, 80 parts of semen armeniacaeamarum, 284 parts of houttuyniacordata, 95 parts of liquorice and 277 parts of gypsum fibrosum.

6. The method for separating eight components according to any one of the claims 1 to 2, wherein the total extract of the Chinese traditional medicine composition is prepared by following steps of:

(15) weighing the Chinese traditional medicine composition according to a weight ratio of the raw materials, cleaning and selecting, and crushing the materials as appropriate;

(16) crushing pogostemoncablin, adding 10 times of water to extract volatile oil, extracting for 8 hours, and collecting the volatile oil for later use; and after filtering extracting solution, discarding the residue, and taking a first filtrate for later use;

(17) extracting fructusforsythiae, ephedra, houttuyniacordata and rheum officinale three times with 12 times of 70% ethanol for 2.5 hours each time, combining and filtering extracting solutions, recovering ethanol, and taking a second filtrate for later use;

(18) honeysuckle, gypsum fibrosum, isatis root, rhizomadryopteriscrassirhizomatis, liquorice and rhodiolarosea, adding 12 times of water for decocting to boil, adding semen armeniacaeamarum, decocting twice for 1 hour each time, combining and filtering the

extracting solutions, combining the obtained a third filtrate with the first filtrate after pogostemoncablin oil extraction in the step (16), concentrating to a clear paste with a relative density of 1.10-1.15 measured at 60°C, adding ethanol to adjust alcohol concentration to 70%, and refrigerating and standing; filtering and recovering ethanol until no alcohol smell exists to obtain clear paste for later use; and

(19) combining the clear paste obtained in the step (18) with the alcohol extract obtained in the step (17), concentrating to a clear paste with a relative density of 1.15-1.20 measured at 60°C, and drying to obtain the total extract for later use.