# SERVICE PROCESSING METHOD AND APPARATUS

## TECHNICAL FIELD

**[0001]** The present application relates to the field of network technologies, and in particular, to a service processing method and apparatus.

## BACKGROUND

**[0002]** With the rapid development of Internet technologies, more and more services can be processed through the Internet, such as online shopping and online food ordering.

**[0003]** Currently, a user can order food online from restaurants. For example, a user can usually first choose a restaurant, and then select and order foods offered by the restaurant. However, in such case, the user often needs to switch between restaurants when ordering food, which can be complicated, reduces food ordering efficiency, and unnecessarily consumes processing power of mobile terminals.

## SUMMARY

**[0004]** The present application provides a service processing method and apparatus. Specifically, the present application is implemented by using the following technical solutions.

**[0005]** A service processing method is provided, and the method includes: receiving a product order placed by a user, where the product order includes one or more product identifiers; determining a supplier combination that matches the product identifiers, where the supplier combination includes one or more suppliers; determining a recommendation rating of each supplier combination; and recommending, to the user, a supplier combination with a recommendation rating satisfying a predetermined condition.

**[0006]** Optionally, determining a supplier combination that matches the product identifiers includes: determining a set of suppliers within a predetermined distance

from a delivery address; and determining the supplier combination that matches the product identifiers from the set of suppliers.

**[0007]** Optionally, the recommendation rating includes a price recommendation rating and a review recommendation rating; and the recommending, to the user, a supplier combination with a recommendation rating satisfying a predetermined condition includes: recommending, to the user, a first supplier combination with a price recommendation rating satisfying a first condition and a second supplier combination with a review recommendation rating satisfying a second condition.

**[0008]** Optionally, when the recommendation rating is a price recommendation rating, the determining a recommendation rating of each supplier combination includes: for products that correspond to all the product identifiers in the product order, calculating a difference between a quoted price and an average price of the supplier combination, and using the difference as the price recommendation rating of the supplier combination.

**[0009]** Optionally, when the recommendation rating is a review recommendation rating, the determining a recommendation rating of each supplier combination includes: for products that correspond to all the product identifiers in the product order, obtaining a product review score of the supplier combination; and calculating an average review score of the supplier combination for all the products in the product order based on the product review score, and using the average review score as the review recommendation rating of the supplier combination.

**[0010]** A service processing apparatus is provided, and the apparatus includes: an instruction receiving unit, configured to receive a product order placed by a user, where the product order includes one or more product identifiers; a combination determining unit, configured to determine a supplier combination that matches the product identifiers, where the supplier combination includes one or more suppliers; a rating determining unit, configured to determine a recommendation rating of each supplier combination; and a combination recommendation unit, configured to recommend, to the user, a supplier combination with a recommendation rating satisfying a predetermined condition.

**[0011]** Optionally, the combination determining unit specifically determines a set of suppliers within a predetermined distance from a delivery address, and determines the supplier combination that matches the product identifiers from the set of suppliers.

**[0012]** Optionally, the recommendation rating includes a price recommendation

rating and a review recommendation rating; and the combination recommendation unit specifically recommends, to the user, a first supplier combination with a price recommendation rating satisfying a first condition and a second supplier combination with a review recommendation rating satisfying a second condition.

**[0013]** Optionally, when the recommendation rating is a price recommendation rating, for products that correspond to all the product identifiers in the product order, the rating determining unit specifically calculates a difference between a quoted price and an average price of the supplier combination, and uses the difference as the price recommendation rating of the supplier combination.

**[0014]** Optionally, when the recommendation rating is a review recommendation rating, for products that correspond to all the product identifiers in the product order, the rating determining unit specifically obtains a product review score of the supplier combination, calculates an average review score of the supplier combination for all the products in the product order based on the product review score, and uses the average review score as the review recommendation rating of the supplier combination.

**[0015]** It can be seen that the serving terminal in the present application can determine, for a user, a supplier combination that matches product identifiers in a product order of the user, and recommend, to the user, a supplier combination with a recommendation rating satisfying a predetermined condition, so that the user can select from. In the entire process, the user only needs to select a product, the serving terminal recommends, to the user, a supplier combination that matches the product, and the user does not need to switch between a plurality of suppliers. Therefore, online selection efficiency is improved, and processing resources of a user terminal are saved.

## BRIEF DESCRIPTION OF DRAWINGS

**[0016]** FIG. 1 is a flowchart illustrating an example of a service processing method, according to an implementation of the present application.

**[0017]** FIG. 2 is a flowchart illustrating another example of service processing method, according to an implementation of the present application.

**[0018]** FIG. 3 is a structural diagram illustrating an example of a service processing apparatus, according to an implementation of the present application.

**[0019]** FIG. 4 is a structural diagram illustrating an example of a service processing apparatus, according to an implementation of the present application.

## DESCRIPTION OF EMBODIMENTS

**[0020]** Example implementations are described in detail here, and the examples are presented in the accompanying drawings. For the accompanying drawings described in the following descriptions, unless otherwise specified, same numbers in different accompanying drawings represent the same or similar elements. Implementations described in the following examples do not represent all implementations in accordance with the present application. Instead, they are merely examples of apparatuses and methods in accordance with some aspects of the present application that are referred to in the appended claims.

**[0021]** The terms used in the present application are merely for describing specific implementations, and are not intended to limit the scope of the present application. The terms "a" and "the" of singular forms used in the present application and the appended claims are also intended to include plural forms, unless otherwise specified in the context.

**[0022]** It should be understood that, the term "and/or" used here indicates any or all possible combinations including one or more related listed items.

**[0023]** It should be understood that although the terms "first", "second", "third", etc. may be used in the present application to describe various information, the information is not limited by the terms. These terms are only used to differentiate information of the same type. For example, without departing from the scope of the present application, first information can also be referred to as second information, and similarly, second information can also be referred to as first information. Depending on the context, for example, the word "if" used here can be explained as "while" or "when" or "based on determining that".

**[0024]** FIG. 1 is a flowchart illustrating an example of a service processing method, according to an implementation of the present application.

**[0025]** Referring to FIG. 1, the service processing method can be applied to a serving terminal, and the serving terminal can be a server or a server cluster of an online shopping platform. The service processing method can include the following steps.

**[0026]** Step 101: Receive a product order placed by a user, where the product order includes one or more product identifiers.

**[0027]** In this implementation, the user can view a product list provided by an online shopping platform, and place the product order based on the product list. The product list includes products provided by suppliers. For example, if supplier A provides product A1 and product A2, and supplier B provides product B1 and product B2, the product list includes products A1, A2, B1, and B2.

**[0028]** The user can select products based on the product list, and place the product order after selecting the products. The product order includes product identifiers of one or more products selected by the user, and each product identifier corresponds to a unique product.

**[0029]** In this implementation, the products can include conventional physical products purchased online, such as clothes and furniture. The products can also include products that require high instantaneity, such as food. Types of products are not limited in the present application.

**[0030]** Step 102: Determine a supplier combination that matches the product identifiers, where the supplier combination includes one or more suppliers.

**[0031]** Based on step 101, after receiving the product order, the serving terminal can determine the supplier combination that matches the product identifiers. For example, the serving terminal can first determine, based on a delivery address of the user, a set of suppliers within a predetermined distance from the delivery address, and then determine the supplier combination that matches the product identifiers from the set of suppliers.

**[0032]** Step 103: Determine a recommendation rating of each supplier combination.

**[0033]** Based on step 102, after determining the supplier combination that matches the product identifiers, the serving terminal can determine the recommendation rating of each predetermined combination. The recommendation rating can include a price recommendation rating, a review recommendation rating, etc.

**[0034]** Step 104: Recommend, to the user, a supplier combination with a recommendation rating satisfying a predetermined condition.

**[0035]** Based on step 103, the serving terminal can recommend, to the user, the supplier combination with a recommendation rating satisfying the predetermined

condition, so that the user can select from.

**[0036]** It can be seen from the previous descriptions that the serving terminal in the present application can determine, for a user, a supplier combination that matches product identifiers in a product order of the user, and recommend, to the user, a supplier combination with a recommendation rating satisfying a predetermined condition, so that the user can select from. During the process, the user selects the products, the serving terminal recommends, to the user, a supplier combination that matches the products. The user does not need to switch between suppliers. Therefore, online ordering efficiency can be improved, and processing resources of the user terminal can be saved.

**[0037]** FIG. 2 is a flowchart illustrating another example of a service processing method, according to an implementation of the present application.

**[0038]** Referring to FIG. 2, in this implementation, for example, a product is a food order. The product order is a food order, the product identifiers are identifiers of foods, and the product list is a food menu. The service processing method can be applied to a serving terminal, and the serving terminal can be a server or a server cluster of an online food ordering platform. The service processing method can include the following steps.

**[0039]** Step 201: Receive a food order placed by a user, where the food order includes one or more dish identifiers.

**[0040]** In this implementation, a food supplier such as a restaurant or an eatery can register with an online food ordering platform. After successfully registering with the online food ordering platform, the supplier can upload information such as location information, dishes provided, and prices of the dishes to the serving terminal. The serving terminal can generate a menu for the user with reference to dishes provided by suppliers. In this implementation, the serving terminal can determine how to generate the menu according to related technologies. For example, the menu can include Chinese food and Western food, and Chinese food menu can further include cold dishes, hot dishes, specialty food, etc. Certainly, in actual implementations, the serving terminal can also generate a menu by using another method that is not limited in the present application.

**[0041]** In this implementation, when ordering food online, the user can first view a menu provided by the serving terminal, select a dish on the menu, and place a food order after selecting the dish. The food order includes dish identifiers of one or more

dishes selected by the user, and the dish identifier corresponds to a unique dish. For example, if the user selects dishes "seasoned cucumber" and "braised bass", the food order includes a dish identifier of "seasoned cucumber", such as identifier A, and a dish identifier of "braised bass", such as identifier B.

**[0042]** Step 202: Determine a set of suppliers within a predetermined distance from a delivery address.

**[0043]** In this implementation, the serving terminal can determine the set of suppliers based on the delivery address of the user. For example, the set of suppliers can include all suppliers within 3 kilometers or 5 kilometers from the delivery address. Specifically, the serving terminal can determine the set of suppliers based on the delivery address and address information provided by the suppliers during registration.

**[0044]** In this implementation, the delivery address can be included in the food order, and after receiving the food order, the serving terminal can determine the set of suppliers based on the delivery address included in the food order. The delivery address can be determined before the user places the food order. For example, after logging to an online food ordering platform, the user first selects a delivery address, a client terminal sends the delivery address to the serving terminal, and the serving terminal can determine a set of suppliers after receiving the delivery address. In this case, the serving terminal first performs step 202, and then performs step 201. The present application is not limited to this implementation.

**[0045]** Step 203: Determine a supplier combination that matches the dish identifiers from the set of suppliers, where the supplier combination includes one or more suppliers.

**[0046]** In this implementation, the serving terminal can exhaust each supplier in all supplier combinations to determine a supplier combination that matches the dish identifiers. Optionally, the serving terminal can first select a supplier, and then determine whether the supplier matches all the dish identifiers included in the food order. If the supplier matches all the dish identifiers included in the food order, the serving terminal can determine the supplier as the supplier combination. In other words, the supplier combination includes one supplier. If the supplier matches some dish identifiers included in the food order, the serving terminal can select, from other suppliers, one or more suppliers that match other dish identifiers included in the food order, to form a supplier combination that matches all the dish identifiers included in

the food order. In other words, the supplier combination includes a plurality of suppliers.

**[0047]** For example, the dish identifiers included in the food order are identifier A and identifier B. If dishes provided by supplier 1 include "seasoned cucumber" and "braised bass", the serving terminal can determine that supplier 1 matches identifier A and identifier B included in the food order, and determine supplier 1 as a supplier combination. If dishes provided by supplier 2 include "seasoned cucumber", but does not include "braised bass", the serving terminal can determine that supplier 2 matches identifier A, but does not match identifier B, and the serving terminal can select a supplier that matches identifier B from other suppliers in the set of suppliers, that is, a supplier that provides "braised bass", for example, supplier 3. Supplier 3 and supplier 2 are another supplier combination that matches all the dish identifiers in the food order.

**[0048]** In actual implementation, the maximum number of suppliers that can be included in a supplier combination can be predetermined. Specifically, a maximum number of suppliers can be set to, for example, 3. In other words, each supplier combination includes a maximum of three suppliers. The maximum number of suppliers that dynamically changes can alternatively be set based on the number of dish identifiers included in the food order. For example, when the number of dish identifiers included in the food order is less than or equal to 5, the maximum number of suppliers can be set to 3. However, when the number of dish identifiers included in the ordering instruction is greater than 5 and less than 10, the maximum number of suppliers can be set to 4, etc. The present application is not limited to this implementation.

**[0049]** In this implementation, the serving terminal can determine one or more supplier combinations from the set of suppliers, and each supplier combination includes one or more suppliers.

**[0050]** Step 204: Determine a price recommendation rating and a review recommendation rating of each supplier combination. In this implementation, the serving terminal can sequentially determine price recommendation ratings and review recommendation ratings of all the supplier combinations.

**[0051]** The price recommendation rating is used to measure a price of the supplier combination. Specifically, the serving terminal can calculate a quoted price from a supplier combination based on dishes that correspond to the dish identifiers in the

food order. The serving terminal further calculates an average price of the dishes that correspond to all the dish identifiers associated with the dishes in the food order, then calculates a difference between the quoted price and the average price, and uses the difference as the price recommendation rating.

**[0052]** For example, the dish identifiers included in the previous food order are identifier A and identifier B, that is, the user selects "seasoned cucumber" and "braised bass", the supplier combination is supplier 2 and supplier 3, supplier 2 provides "seasoned cucumber", and supplier 3 provides "braised bass". Therefore, the quoted price of the supplier combination is the sum of the price quoted by supplier 2 for "seasoned cucumber" and the price quoted by the supplier 3 for "braised bass". For simplicity of description, M is used to represent the quoted price. The serving terminal further calculates an average price of "seasoned cucumber" and "braised bass". For example, the serving terminal can obtain prices quoted by all suppliers at an online food ordering platform for "seasoned cucumber", and then calculate an average quoted price for "seasoned cucumber". Likewise, the serving terminal also calculates an average quoted price for "braised bass", and adds up the two average prices to obtain an average price of "seasoned cucumber" and "braised bass". For simplicity of description, P is used to represent the average price. Optionally, the difference between the quoted price and the average price can be a difference between M and P, or can be a quotient of M divided by P. The present application is not limited to this implementation.

**[0053]** The review recommendation rating can reflect reviews of other users on a dish that matches a dish identifier that is provided by the supplier combination. Specifically, for each dish corresponding to each dish identifier in the food order, the serving terminal can first obtain dish review scores from the supplier combination, calculate an average review score of the dishes in the food order, and use the average review score as the review recommendation rating of the supplier combination.

**[0054]** For example, the dish identifiers included in the previous food order are identifier A and identifier B, that is, the user selects "seasoned cucumber" and "braised bass", the supplier combination is supplier 2 and supplier 3, supplier 2 provides "seasoned cucumber", and supplier 3 provides "braised bass". The serving terminal can obtain a dish review score of "seasoned cucumber" provided by supplier 2, such as X1, and a dish review score of "braised bass" provided by supplier 3, such as X2, and then divide the sum of the two dish review scores by the number of dishes,

to obtain an average review score. That is, the average review score is equal to (X1+X2)/2.

**[0055]** Step 205: Recommend, to the user, a first supplier combination with a price recommendation rating satisfying a first condition and a second supplier combination with a review recommendation rating satisfying a second condition.

**[0056]** Based on step 204, after determining the price recommendation rating and the review recommendation rating of each supplier combination, the serving terminal can recommend, to the user, the first supplier combination with a price recommendation rating satisfying the first condition and the second supplier combination with a review recommendation rating satisfying the second condition. In this implementation, the first condition and the second condition can be predetermined by a developer. To recommend a supplier combination that provides attractive prices and quality to the user, the first supplier combination with a price recommendation rating satisfying the first condition can often be a supplier combination that offers a lower price, and the second supplier combination with a review recommendation rating satisfying the second condition can often be a supplier combination with good reviews.

**[0057]** For example, the price recommendation rating is P/M. If the price recommendation rating is less than 1, it indicates that the quoted price of the supplier combination is greater than the average price, and the quoted price is relatively high. If the price recommendation rating is greater than 1, it indicates that the quoted price of the supplier combination is less than the average price, and the quoted price is relatively low. In this implementation, the first condition can be set as a price recommendation rating is greater than 1, or one of the top N1 price recommendation ratings, where N1 is a natural number greater than or equal to 1, so that the first supplier combination satisfying the first condition is a supplier combination with a relatively low price.

**[0058]** In addition, for the review recommendation rating, the second condition can be set as having the highest review recommendation rating, or top N2 review recommendation rankings, where N2 is a natural number greater than 1, so that the second supplier combination that satisfies the second condition is a supplier combination with one of the best reviews.

**[0059]** In this implementation, after determining the first supplier combination with a price recommendation rating satisfying the first condition and the second

supplier combination with a review recommendation rating satisfying the second condition, the serving terminal can recommend the first supplier combination and the second supplier combination to the user.

**[0060]** For example, after the user places the food order, the serving terminal determines all supplier combinations that match the dish identifiers, and determines the first supplier combination and the second supplier combination from all the supplier combinations. When all the supplier combinations are returned to the user, the first supplier combination and the second supplier combination are used as preferred supplier combinations and recommended to the user.

**[0061]** It can be seen from the previous descriptions that the serving terminal in the present application can determine, for the user, the supplier combination that matches the dish identifiers in the food order of the user, and recommend, to the user, a supplier combination with a recommendation rating satisfying a predetermined condition, so that the user can select from. During the process, the user only needs to select the dishes, the serving terminal recommends, to the user, a supplier combination that matches the dishes, and the user does not need to switch between a plurality of suppliers. Therefore, online food ordering efficiency can be improved, and processing resources of a user terminal can be saved. The implementation process of the present application is described below with reference to a specific application scenario.

**[0062]** Assume that Xiao Ming invited his friends over, and they decide to order takeout for dinner. An out-of-province friend wants to eat authentic Hangzhou food, but a local friend wants to eat pizza. Xiao Ming opens a third-party food ordering platform through a mobile phone to select Hangzhou cuisine from a menu provided by the platform, and select Fish with West Lake Style, Beggar's Chicken, Madam Sung's Fish Chowder, etc. from a list of Hangzhou dishes. Xiao Ming can also select Western food from the menu provided by the platform, and select Western-style food such as Seafood Pizza and Caesar Salad from a list of Western foods. After selecting the dishes, Xiao Ming can place a food order. The platform can determine, based on the food order, a supplier combination that matches all the dishes selected by Xiao Ming, and determine a recommendation rating of each supplier combination. Assume that a supplier combination with a recommendation rating satisfying a predetermined condition is "Chang's Garden" and "Pizza Hut". The platform can recommend "Chang's Garden" and "Pizza Hut" to Xiao Ming. Xiao Ming can submit an order by

using an ordering option. In the entire process, Xiao Ming does not need to switch between a plurality of restaurants, so that the food ordering efficiency is improved.

**[0063]** In the previous implementation, the third-party ordering platform can implement the previous supplier combination recommendation process by using the service processing solution provided in the method implementation shown in FIG. 1 or FIG. 2. Details are not described here again to avoid duplication in the present application.

**[0064]** Corresponding to the implementations of the previous service processing method, the present application further provides implementations of a service processing apparatus.

**[0065]** The implementation of the service processing apparatus in the present application can be applied to a serving terminal. The apparatus implementation can be implemented by using software, hardware, or a combination of software and hardware. Software implementation is used as an example. As a logical apparatus, the apparatus functions when a processor at the serving terminal reads a corresponding computer program instruction in a nonvolatile memory into a memory. In terms of hardware, FIG. 3 is a structural diagram illustrating a serving terminal that the service processing apparatus according to the present application is located. In addition to the processor, memory, network interface, and the nonvolatile memory shown in FIG. 3, the serving terminal that the apparatus is located in this implementation can often include other hardware based on actual functions of the serving terminal. Details are not described to avoid redundancy.

**[0066]** FIG. 4 is a structural diagram illustrating an example of a service processing apparatus, according to an example implementation of the present application.

**[0067]** Referring to FIG. 4, the service processing apparatus 300 can be applied to the serving terminal shown in FIG. 3, and includes an instruction receiving unit 301, a combination determining unit 302, a rating determining unit 303, and a combination recommendation unit 304.

**[0068]** The instruction receiving unit 301 receives a product order placed by a user, and the product order includes one or more product identifiers.

**[0069]** The combination determining unit 302 determines a supplier combination that matches the product identifiers, and the supplier combination includes one or more suppliers.

**[0070]** The rating determining unit 303 determines a recommendation rating of each supplier combination.

**[0071]** The combination recommendation unit 304 recommends, to the user, a supplier combination with a recommendation rating satisfying a predetermined condition.

**[0072]** Optionally, the combination determining unit 302 specifically determines a set of suppliers within a predetermined distance from a delivery address, and determines the supplier combination that matches the product identifiers from the set of suppliers.

**[0073]** Optionally, the recommendation rating includes a price recommendation rating and a review recommendation rating; and the combination recommendation unit 304 recommends, to the user, a first supplier combination with a price recommendation rating satisfying a first condition and a second supplier combination with a review recommendation rating satisfying a second condition.

**[0074]** Optionally, when the recommendation rating is a price recommendation rating, for products that correspond to all the product identifiers in the product order, the rating determining unit 303 calculates a difference between a quoted price and an average price of the supplier combination, and uses the difference as the price recommendation rating of the supplier combination.

**[0075]** Optionally, when the recommendation rating is a review recommendation rating, for products that correspond to all the product identifiers in the product order, the rating determining unit 303 obtains a product review score of the supplier combination, calculates an average review score of the supplier combination for all the products in the product order based on the product review score, and uses the average review score as the review recommendation rating of the supplier combination.

**[0076]** For implementation process steps and roles of each unit of the apparatus, reference can be made to corresponding process steps in the previous method descriptions. Details are not described here again to avoid duplication.

**[0077]** The apparatus implementations can correspond to the method implementations. Therefore, for related parts, reference can be made to descriptions in the method implementation. The described apparatus implementation is merely an example. The units described as separate parts may or may not be physically separate, and parts displayed as units may or may not be physical units, may be located in one

position, or may be distributed on a plurality of network units. Some or all of the modules can be selected according to actual specifications to achieve the objectives of the technical solutions provided by the present application. A person of ordinary skill in the art may understand and implement the implementations without creative efforts.

**[0078]** The previous descriptions are merely examples of implementations of the present application, but are not intended to limit the present application. Any modification, equivalent replacement, or improvement made without departing from the spirit and principle of the present application should fall within the protection scope of the present application.

## CLAIMS

What is claimed is:

1. A method for ordering food online, the method comprising:

receiving at a computer, information from a plurality of suppliers;

identifying by the computer based on the information, a plurality of food items offered by the plurality of suppliers, wherein at least one food item of the plurality of food items is offered by at least two suppliers of the plurality of suppliers;

generating by the computer, a food item list by categorizing the plurality of food items based on at least one of food type or cooking style;

receiving at the computer, a food order placed by a user, wherein the food order comprises two or more food items in the food item list;

determining by the computer based on the food order, a supplier combination that matches the two or more food items in the food order, the supplier combination comprising two or more suppliers capable of collectively supplying the two or more food items in the food order, wherein each supplier in the supplier combination supplies a different portion of the food order;

determining by the computer, a recommendation rating for the supplier combination; and

recommending by the computer, to the user, the supplier combination with the recommendation rating satisfying a predetermined condition.

2. The method according to claim 1, wherein the two or more suppliers in the supplier combination are within a predetermined distance from a delivery address.

3. The method according to claim 1, wherein the recommendation rating comprises a price recommendation rating and a review recommendation rating; and

recommending, to the user, the supplier combination with the recommendation rating satisfying the predetermined condition comprises: recommending, to the user, a first supplier combination with a price recommendation rating satisfying a first condition and a second supplier combination with a review recommendation rating satisfying a second condition.

4. The method according to claim 3, wherein

if the recommendation rating is a price recommendation rating, determining a recommendation rating of each supplier combination comprises:

for the food items in the food order, calculating a difference between a quoted price from the supplier combination and an average price, and using the difference as the price recommendation rating of the supplier combination.

5. The method according to claim 3, wherein

if the recommendation rating is a review recommendation rating, determining the recommendation rating of each supplier combination comprises:

for the food items in the food order, determining a food review score of the supplier combination; and

calculating an average review score of the supplier combination for all the food items in the food order based on the food review score, and using the average review score as the review recommendation rating of the supplier combination.

6. The method according to any one of claims 1 to 5, wherein the supplier combination comprises a number of suppliers that is smaller or equal to a threshold number of suppliers.

7. A apparatus for processing a service, the apparatus comprising a plurality of modules configured to perform the method of any one of claims 1 to 6.