including the treatment of oxidative stress due to environmental pollution (tobacco, indoor and outdoor air pollution by chemical agents or allergens), and as anti–ageing agent.

In one aspect, there is provided a process for *in vitro* preparation of a *Mimosa pudica* cell extract having a mimosine content of less than 5 ng/g dry weight, comprising the following steps:

- a. Provision of sterile plant material of *Mimosa pudica*,
- b. Dedifferentiation of cells from the plant material,
- c. Suspension culture of the undifferentiated cells in a liquid medium for maintaining them in the undifferentiated state,
- d. Propagation culture of an undifferentiated cell biomass in the culture medium,
- e. stopping the propagation and obtaining a cell extract having a mimosine content of less than 5 ng/g dry weight.

In another aspect, there is provided an *in vitro* culture extract of Mimosa pudica cells obtainable by a process as described herein having a mimosine content of less than 5 ng/g dry weight.

In another aspect, there is provided an *in vitro* culture extract of Mimosa pudica cells, characterized in that its mimosine content is less than 5 ng/g dry weight.

In another aspect, there is provided use of the extract as described herein in the manufacture of a medicament for the treatment of inflammatory skin disorders.

In another aspect, there is provided use of a composition comprising an extract as described herein in the manufacture of a medicament for inhibiting thymic stromal lymphopoietin.

In another aspect, there is provided use of a dermatological composition comprising an extract as described herein in an effective amount and at least one dermatological excipient, for the treatment of an inflammatory skin disorder selected from atopic dermatitis, pruritus and itching due to pruritus, eczema and psoriasis.

In another aspect, there is provided use of an extract as described herein for the cosmetic treatment of skin ageing and of skin disorders associated with skin oxidative stress, including oxidative stress due to environmental pollution.

In another aspect, there is provided a cosmetic composition comprising an extract as described herein combined with a cosmetically acceptable excipient.

In another aspect, there is provided a dermatological composition comprising an extract as described herein combined with a dermatologically acceptable excipient.

In another aspect, there is provided use of a composition as described herein for the cosmetic treatment of skin ageing and of skin disorders associated with skin oxidative stress, such as oxidative stress due to environmental pollution.

Thus, the present invention concerns a process for *in vitro* preparation of a *Mimosa pudica* cell extract having a mimosine content of less than 5 ng/g dry weight, comprising the following steps:

- a. Provision of sterile plant material of *Mimosa pudica*,
- b. Dedifferentiation of cells from the plant material,
- c. Suspension culture of the undifferentiated cells in a liquid medium for maintaining them in the undifferentiated state,
- d. Propagation culture of an undifferentiated cell biomass in the culture medium,
- e. stopping the propagation and obtaining a cell extract having a mimosine content of less than 5 ng/g dry weight.

In a particular embodiment, the process according to the invention is characterized in that the *Mimosa pudica* plant material is selected from the group consisting of leaf, stem, petiole, root, seed, flower and bud.

In a particular embodiment, the process according to the invention is characterized in that step b) of dedifferentiation is carried out on a solid medium containing one or more growth factors.

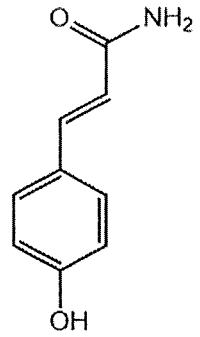
In a particular embodiment, the process according to the invention is characterized in that the one or more growth factors include a hormone selected from the group consisting of auxins, cytokines, gibberellins and mixtures thereof.

In a particular embodiment, the process according to the invention is characterized in that step b) of dedifferentiation is repeated so as to obtain calluses of dedifferentiated cells.

In a particular embodiment, the process according to the invention is characterized in that step c) is carried out in a liquid medium containing one or more growth factors.

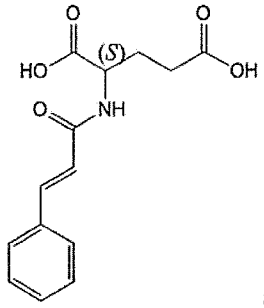
In a particular embodiment, the process according to the invention is characterized in that the one or more growth factors are the same as that or those of the dedifferentiation medium.

In a particular embodiment, the process according to the invention is characterized in that step d) of propagation culture is carried out by successive



P6: Glutamic acid; (*S*)–form, *N*–cinnamoyl

$C_{14}H_{14}NO_5$



and mixtures thereof.

22. The extract according to one of claims 20 or 21, characterized in that the total content of the extract in at least one N–phenylpropenoyl amino acid is comprised between 1 and 50 µg/g dry biomass.

23. The extract according to one of claims 18 to 22, characterized in that the cells are undifferentiated cells.

24. Use of the extract according to one of claims 18 to 23 in the manufacture of a medicament for the treatment of inflammatory skin disorders.

25. Use of the extract according to one of claims 18 to 23 in the manufacture of a medicament for inhibiting thymic stromal lymphopoietin.

26. The use according to claim 24, characterized in that the inflammatory skin disorders are selected from atopic dermatitis, pruritus and itching due to pruritus, eczema and psoriasis.

27. Use of a composition comprising an extract according to one of claims 18 to 23 in the manufacture of a medicament for inhibiting thymic stromal lymphopoietin.

28. Use of a dermatological composition comprising an extract according to one of claims 18 to 23 in an effective amount and at least one dermatological excipient, for the treatment of an inflammatory skin disorder selected from atopic dermatitis, pruritus and itching due to pruritus, eczema and psoriasis.

29. Use of an extract according to one of claims 18 to 23 for the cosmetic treatment of skin ageing and of skin disorders associated with skin oxidative stress, including oxidative stress due to environmental pollution.

30. A cosmetic composition comprising an extract according to one of claims 18 to 23 combined with a cosmetically acceptable excipient.

31. A dermatological composition comprising an extract according to one of claims 18 to 23 combined with a dermatologically acceptable excipient.

32. Use of a composition according to claim 30 for the cosmetic treatment of skin ageing and of skin disorders associated with skin oxidative stress, such as oxidative stress due to environmental pollution.