CLAIMS

1- Process for preparing a core-shell microcapsule slurry, wherein the process comprises the steps of:

(i) Admixing a salt and optionally a cross-linker into an aqueous solution comprising at least a protein to form an aqueous phase;

(ii) Dispersing an oil phase comprising a hydrophobic material, preferably a perfume oil or a flavor oil, into the aqueous phase to form an oil-in-water emulsion;

(iii) Adding into the oil-in-water emulsion a cross-linker if such a cross-linker has not yet been added in step (i);

(iv) Applying sufficient conditions to induce the cross-linking of the protein so as to form a core-shell microcapsule in the form of a slurry,

wherein the salt is chosen in the group consisting of $CaCl_2$, calcium acetate, calcium lactate, NaCl, KCl, LiCl, $Ca(NO_3)_2$, $MgCl_2$, $CaBr_2$, CaI_2, NaBr, NaI, $NaNO_3$, KBr, KI, KNO_3, LiBr, LiI, $MgBr_2$ and mixtures thereof.

2- The process according to claim 1, comprising the steps of:

(i) Admixing a salt into an aqueous solution comprising at least a protein to form an aqueous phase;

(ii) Dispersing an oil phase comprising an hydrophobic material, preferably a perfume oil or a flavor oil, into the aqueous phase to form an oil-in-water emulsion;

(iii) Adding into the oil-in-water emulsion a cross-linker; and

(iv) Applying sufficient conditions to induce the cross-linking of the protein so as to form a biopolymer shell.

3- The process according to claim 1 or 2, wherein the protein is used in an amount comprised between 0.5 and 10% based on the total weight of the microcapsules slurry.

4- The process according to any one of the preceding claims, wherein the protein is chosen in the group consisting of milk proteins, sodium caseinate, calcium caseinate, casein, whey protein, hydrolyzed proteins, gelatins, gluten, pea protein, soy protein, silk protein and mixtures thereof.

5- The process according to claim 4, wherein the protein is a mixture of sodium caseinate and whey protein.

6- The process according to any one of the preceding claims, wherein the weight ratio between the salt and the protein is comprised between 0.01:1 to 1:1.

7- The process according to any one of the preceding claims, wherein the cross-linker is an enzyme, preferably transglutaminase.

8- The process according to any one of the preceding claims, wherein the oil phase further comprises a polyfunctional monomer, preferably a polyisocyanate having at least two polyisocyanate groups.

9- The process according to any one of the preceding claims, wherein the process comprises after step (iv) further steps consisting of

(v) optionally, adsorption of at least one mineral precursor on the microcapsule shell;

(vi) applying conditions suitable to induce growth of a mineral layer on the microcapsule shell.

10- The process according to claim 9, wherein the mineral precursor is adsorbed on the microcapsule shell by incubating the core-shell microcapsules in at least one mineral precursor solution, wherein the mineral precursor solution is chosen in the group of iron (II) sulfate solution, iron (III) chloride solution, calcium-based salt solution, phosphate-based salt solution, carbonate based salt solution, titanium-based precursor solution, zinc-based precursor solution, and mixtures thereof.

11- The process according to claim 9 or 10, wherein the microcapsules obtained in step (v) are further incubating in a second oppositely charged mineral precursor solution or in a solution to induce mineralization of the mineral precursor of step (v).

12- A core-shell microcapsule slurry comprising at least one microcapsule made of:

- an oil-based core
- optionally an inner shell made of a polymerized polyfunctional monomer;
- a biopolymer shell comprising a protein, wherein at least one protein is cross-linked; and
- optionally at least an outer mineral layer,

wherein the biopolymer comprises a salt chosen in the group consisting of $CaCl_2$, calcium acetate, calcium lactate, NaCl, KCl, LiCl, $Ca(NO_3)_2$, $MgCl_2$, $CaBr_2$, CaI_2, NaBr, NaI, $NaNO_3$, KBr, KI, KNO_3, LiBr, LiI, $MgBr_2$ and mixtures thereof.

13- The core-shell microcapsule slurry according to claim 12, wherein the protein comprises sodium caseinate.

14- The core-shell microcapsule slurry according to claim 12 or 13, wherein the protein is a mixture comprising sodium caseinate and whey protein.

15- The core-shell microcapsule slurry according to any one of claim 12 to 14, wherein it comprises an inner shell made of a polymerized polyisocyanate having at least two polyisocyanate functional groups.

16- A composition comprising microcapsules as defined in any one of claims 12 to 15, wherein the composition is in the form of a perfumed consumer product, preferably chosen in the group consisting of antiperspirants, hair care products, body care products, oral care products, laundry care products or in the form of a flavored consumer product, preferably chosen in the group consisting of snacks, dairy products, bakery products, savory, confectionary.